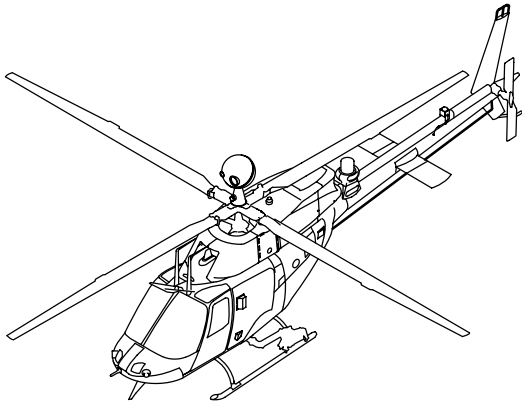

TECHNICAL MANUAL

**AVIATION UNIT AND
INTERMEDIATE
MAINTENANCE
MANUAL**

ELECTRICAL SYSTEM	9
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FUEL SYSTEM	10
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**ARMY MODEL
OH-58D HELICOPTER**

DISTRIBUTION STATEMENT A.

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THIS VOLUME IS ONE OF A SERIES OF SEVEN VOLUMES AND IS INCOMPLETE WITHOUT TM 1-1520-248-23-1, TM 1-1520-248-23-2, TM 1-1520-248-23-3, TM 1-1520-248-23-5, TM 1-1520-248-23-6, AND TM 1-1520-248-23-7.

Headquarters, Department of the Army

28 FEBRUARY 2000

CHANGE

NO. 2

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DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 31 January 2001

Aviation Unit and Intermediate
Maintenance Manual

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OH-58D HELICOPTER**

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i and ii
9-405 through 9-468
10-5 and 10-6
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10-17 through 10-24
10-27 through 10-32
10-37 and 10-38
10-41 through 10-44
10-47 and 10-48
10-53 and 10-54
10-59 through 10-64
10-67 and 10-68
10-73 through 10-76
10-85 through 10-87/(10-88
blank)
Index 1 through Index 74

Insert pages

A and B
i and ii
9-405 through 9-468
10-5 and 10-6
10-9 through 10-14
10-17 through 10-24
10-27 through 10-32
10-37 and 10-38
10-41 through 10-44
10-47 and 10-48
10-53 and 10-54
10-59 through 10-64
10-67 and 10-68
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For

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Remove pages	Insert pages
A/(B blank)	A and B
a through d	a through d
i through xii	i through xii
xv through xxix/(xxx blank)	xv through xxix/(xxx blank)
9-3 and 9-4	9-3 and 9-4
9-7 through 9-48	9-7 through 9-48
9-51 through 9-60	9-51 through 9-59/(9-60 blank)
9-61 through 9-66	-----
9-67 through 9-76	(9-67 blank)/9-68 through 9-76
9-79 through 9-208	9-79 through 9-208
-----	9-208.1/(9-208.2 blank)
9-209 through 9-214	9-209 through 9-214
-----	9-214.1/(9-214.2 blank)
9-215 through 9-218	9-215 through 9-218
-----	9-218.1 through 9-218.3/(9-218.4 blank)
9-219 through 9-268	9-219 through 9-268
9-271 through 9-278	9-271 through 9-278
9-281 through 9-286	9-281 through 9-286
9-289 through 9-308	9-289 through 9-308
9-311 through 9-316	9-311 through 9-316
9-319 through 9-322	9-319 through 9-322

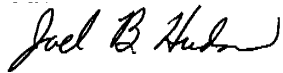
Remove pages	Insert pages
9-325 through 9-332	9-325 through 9-332
9-335 and 9-336	9-335 and 9-336
9-341 and 9-342	9-341 and 9-342
9-345 and 9-346	9-345 and 9-346
9-351 and 9-352	9-351 and 9-352
9-361 and 9-362	9-361 and 9-362
9-365 through 9-404	9-365 through 9-404
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WARNING

HIGH VOLTAGE

The helicopter contains high voltage and shall be electrically grounded when parked. Serious burns and electrical shock can result from contact with exposed electrical wires or connectors.

WARNING

HIGH VOLTAGE

High voltage may be stored in the ignition system after operation of the APU. This high voltage can cause injury or death.

- Do not make contact with exposed wires or connectors.
- Allow at least 5 minutes after operation of the ignition system before disconnecting or removing ignition system components.
- Turn all power switches off before making any connections or disconnections.
- Observe instructions for grounding the power cable to discharge high voltage.
- For artificial respiration, refer to FM 21-11.

WARNING

STRAY VOLTAGE

Stray voltage may exist in electronic equipment installed in the helicopter. These voltages present an explosive hazard to fuel and fuel fumes. Severe injury or death could result.

WARNING

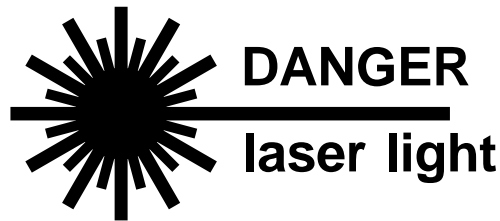
PITOT HEAT

The pitot tube assembly is very hot during and immediately after operation requiring pitot heat. Severe burns will result if contacted by hands or other parts of the body.

WARNING**LUBRICATING OILS HAZARDOUS**

Lubricating oils DOD-L-85734, MIL-L-7808, and MIL-L-23699 contain materials hazardous to health. They can cause paralysis if swallowed. Prolonged contact with skin can cause irritation. Fire can result if oil is exposed to heat or flames.

- Use only in areas with adequate ventilation.
- Wash hands thoroughly after handling.

WARNING

The laser rangefinder/designator (LRF/D) is very dangerous. Looking at the laser beam or its reflection from a shiny surface can cause permanent blindness. Under noncombat conditions, the laser shall be used only in controlled areas and at times specified by a range control officer.

BATTERY ELECTROLYTE

Corrosive battery electrolyte (potassium hydroxide) requires rubber gloves, apron, and face shield when handling leaking batteries. Potassium hydroxide spilled on clothing or other material shall be washed immediately with clean water. If spilled on personnel, severe skin burns will result. Immediately start flushing the affected area with clean water and continue flushing until medical assistance arrives.

**WARNING
RADIATION HAZARD****SELF-LUMINOUS DIALS**

Self-luminous instrument dials contain radioactive materials.

- If glass is broken or case becomes unsealed, avoid personal contact. Injury to personnel could result.
- Forceps or gloves made of rubber or polyethylene shall be used to pick up contaminated material.
- Place material and gloves in a plastic bag. Seal bag and dispose of it as radioactive waste in accordance with AR 755-15 and TM 3-261.
- Repair procedure shall conform to requirements in AR 700-52.

WARNING

DRYCLEANING SOLVENT

Drycleaning solvent is flammable and toxic. It can irritate skin and cause burns.

- Use only in well-ventilated area away from heat and open flame.
- Wear rubber gloves and goggles.
- In case of contact, immediately flush skin or eyes with water for at least 15 minutes.
- Get medical attention for eyes.

WARNING

SOUND LEVEL

Sound pressure levels in this helicopter during operating conditions exceed the Surgeon General hearing conservation criteria. Hearing protection devices, such as aviator helmet or ear plugs or ear sound suppressors, are required to be worn by all personnel in and around the helicopter during its operation.

WARNING

MAIN AND TAIL ROTOR BLADES

Stay clear of turning main and tail rotor blades. Wind gusts, coast down or cyclic movement may cause the main rotor blade to flap down below the height of a person. Dangerous winds are created by the main rotor blades when blades are operated at or near top rpm. Adequate distance must be maintained from main and tail rotor blades during operation. Severe injury or death may result.

WARNING

ARMAMENT

Loaded weapons, or weapons being loaded or unloaded, shall be pointed in a direction which offers the least exposure to personnel or property in the event of accidental firing. Personnel should remain clear of hazardous area of all loaded weapons. Death or severe injury may result.

WARNING

HF ANTENNA

Ensure that HF antenna is not operating while performing maintenance. When operating, HF antenna emits infrared radiation that can cause radiation burns. If exposed to infrared radiation, seek medical aid immediately.

WARNING

ASBESTOS DUST

Avoid creating dust. Breathing asbestos dust may cause serious long-term bodily harm.

LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

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Original 0 . . . 28 February 2000
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TOTAL NUMBER OF PAGES IN THIS VOLUME IS 678, CONSISTING OF THE FOLLOWING:

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
Cover-1	. . . . . 1	9-98 — 9-105	. . . . . 1	9-214.1 Added	. . . . . 1
Cover-2 Blank	. . . . . 0	9-106	. . . . . 0	9-214.2 Blank	. . . . . 1
A — B	. . . . . 2	9-107 — 9-114	. . . . . 1	9-215	. . . . . 1
a — d	. . . . . 1	9-115	. . . . . 0	9-216	. . . . . 0
i	. . . . . 2	9-116	. . . . . 1	9-217	. . . . . 1
ii — xii	. . . . . 1	9-117	. . . . . 0	9-218	. . . . . 0
xiii — xiv	. . . . . 0	9-118 — 9-119	. . . . . 1	9-218.1 — 9-218.3	
xv	. . . . . 1	9-120	. . . . . 0	Added	. . . . . 1
xvi — xvii	. . . . . 0	9-121	. . . . . 1	9-218.4 Blank	. . . . . 1
xviii — xxix	. . . . . 1	9-122	. . . . . 0	9-219	. . . . . 1
xxx Blank	. . . . . 0	9-123 — 9-129	. . . . . 1	9-220	. . . . . 0
9-1 — 9-2	. . . . . 0	9-130	. . . . . 0	9-221	. . . . . 1
9-3	. . . . . 1	9-131 — 9-134	. . . . . 1	9-222 — 9-223	. . . . . 0
9-4 — 9-6	. . . . . 0	9-135	. . . . . 0	9-224	. . . . . 1
9-7 — 9-8	. . . . . 1	9-136 — 9-138	. . . . . 1	9-225	. . . . . 0
9-9	. . . . . 0	9-139	. . . . . 0	9-226	. . . . . 1
9-10 — 9-11	. . . . . 1	9-140 — 9-145	. . . . . 1	9-227	. . . . . 0
9-12	. . . . . 0	9-146	. . . . . 0	9-228 — 9-229	. . . . . 1
9-13	. . . . . 1	9-147 — 9-149	. . . . . 1	9-230	. . . . . 0
9-14	. . . . . 0	9-150	. . . . . 0	9-231	. . . . . 1
9-15 — 9-17	. . . . . 1	9-151 — 9-157	. . . . . 1	9-232	. . . . . 0
9-18	. . . . . 0	9-158	. . . . . 0	9-233	. . . . . 1
9-19 — 9-28	. . . . . 1	9-159 — 9-165	. . . . . 1	9-234	. . . . . 0
9-29	. . . . . 0	9-166	. . . . . 0	9-235	. . . . . 1
9-30 — 9-33	. . . . . 1	9-167	. . . . . 1	9-236 — 9-237	. . . . . 0
9-34	. . . . . 0	9-168	. . . . . 0	9-238	. . . . . 1
9-35 — 9-48	. . . . . 1	9-169 — 9-171	. . . . . 1	9-239	. . . . . 0
9-49 — 9-50	. . . . . 0	9-172	. . . . . 0	9-240	. . . . . 1
9-51 — 9-59	. . . . . 1	9-173 — 9-177	. . . . . 1	9-241	. . . . . 0
9-60 Blank	. . . . . 1	9-178 — 9-179	. . . . . 0	9-242	. . . . . 1
9-61 — 9-66 Deleted	. . . . . 1	9-180 — 9-181	. . . . . 1	9-243	. . . . . 0
9-67 Blank	. . . . . 1	9-182 — 9-183	. . . . . 0	9-244	. . . . . 1
9-68 — 9-69	. . . . . 1	9-184 — 9-188	. . . . . 1	9-245	. . . . . 0
9-70	. . . . . 0	9-189	. . . . . 0	9-246	. . . . . 1
9-71	. . . . . 1	9-190	. . . . . 1	9-247	. . . . . 0
9-72	. . . . . 0	9-191	. . . . . 0	9-248 — 9-249	. . . . . 1
9-73 — 9-76	. . . . . 1	9-192 — 9-194	. . . . . 1	9-250	. . . . . 0
9-77 — 9-78	. . . . . 0	9-195	. . . . . 0	9-251 — 9-253	. . . . . 1
9-79 — 9-81	. . . . . 1	9-196 — 9-198	. . . . . 1	9-254 — 9-255	. . . . . 0
9-82 — 9-83	. . . . . 0	9-199	. . . . . 0	9-256 — 9-266	. . . . . 1
9-84 — 9-87	. . . . . 1	9-200 — 9-208	. . . . . 1	9-267	. . . . . 0
9-88	. . . . . 0	9-208.1 Added	. . . . . 1	9-268	. . . . . 1
9-89 — 9-92	. . . . . 1	9-208.2 Blank	. . . . . 1	9-269 — 9-270	. . . . . 0
9-93	. . . . . 0	9-209	. . . . . 1	9-271 — 9-276	. . . . . 1
9-94 — 9-96	. . . . . 1	9-210	. . . . . 0	9-277	. . . . . 0
9-97	. . . . . 0	9-211 — 9-214	. . . . . 1	9-278	. . . . . 1

* Zero in this column indicates an original page.

LIST OF EFFECTIVE PAGES (Cont)

Page No.	*Change No.	Page No.	*Change No.	Page No.	*Change No.
9-279 — 9-280	.....0	9-380 — 9-390	.....1	10-30	.....2
9-281 — 9-286	.....1	9-391	.....0	10-31	.....0
9-287 — 9-288	.....0	9-392 — 9-401	.....1	10-32	.....2
9-289 — 9-297	.....1	9-402	.....0	10-33 — 10-36	.....0
9-298 — 9-299	.....0	9-403	.....1	10-37	.....2
9-300 — 9-307	.....1	9-404	.....0	10-38 — 10-40	.....0
9-308 — 9-310	.....0	9-405 — 9-418	.....2	10-41 — 10-42	.....2
9-311	.....1	9-419	.....0	10-43	.....0
9-312	.....0	9-420 — 9-421	.....2	10-44	.....2
9-313	.....1	9-422	.....0	10-45 — 10-46	.....0
9-314	.....0	9-423 — 9-426	.....2	10-47	.....2
9-315 — 9-316	.....1	9-427	.....0	10-48 — 10-53	.....0
9-317 — 9-318	.....0	9-428	.....2	10-54	.....2
9-319	.....1	9-429	.....0	10-55 — 10-58	.....0
9-320	.....0	9-430 — 9-436	.....2	10-59 — 10-61	.....2
9-321 — 9-322	.....1	9-437	.....0	10-62	.....0
9-323 — 9-324	.....0	9-438 — 9-441	.....2	10-63	.....2
9-325	.....1	9-442	.....0	10-64 — 10-67	.....0
9-326	.....0	9-443 — 9-446	.....2	10-68	.....2
9-327	.....1	9-447	.....0	10-69 — 10-73	.....0
9-328 — 9-329	.....0	9-448 — 9-468	.....2	10-74 — 10-75	.....2
9-330 — 9-332	.....1	10-1 — 10-4	.....0	10-76 — 10-84	.....0
9-333 — 9-334	.....0	10-5	.....2	10-85 — 10-87	.....2
9-335 — 9-336	.....1	10-6 — 10-8	.....0	10-88 Blank	.....0
9-337 — 9-340	.....0	10-9 — 10-10	.....2	Glossary-1	.....1
9-341	.....1	10-11	.....0	Glossary-2 —	
9-342 — 9-344	.....0	10-12 — 10-13	.....2	Glossary-4	.....0
9-345	.....1	10-14 — 10-17	.....0	Glossary-5	.....1
9-346 — 9-350	.....0	10-18 — 10-19	.....2	Glossary-6 —	
9-351	.....1	10-20 — 10-21	.....0	Glossary-7	.....0
9-352 — 9-360	.....0	10-22 — 10-24	.....2	Glossary-8	.....1
9-361 — 9-3621	10-25 — 10-260	Index 1 — Index 682
9-363 — 9-3640	10-272	Index 69 — Index 74	
9-365 — 9-3781	10-28 — 10-290	Added2
9-3790				

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**AVIATION UNIT AND INTERMEDIATE
MAINTENANCE MANUAL
FOR ARMY MODEL
OH-58D HELICOPTER**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-LS-P, Redstone Arsenal, AL 35898-5230. You may also submit your recommended changes by E-mail directly to ls-lp@redstone.army.mil in the format provided in the back of this manual immediately preceding the hard copy 2028. DA Form 2028's may also be faxed to DSN 788-6546 or commercial fax 256-842-6546. A reply will be furnished to you.

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TABLE OF CONTENTS		PAGE
	HOW TO USE THIS MANUAL	vi
VOLUME 1		
CHAPTER 1	INTRODUCTION	
Section I	General Information.....	1-2
Section II	Equipment Description and Data	1-3
Section III	Principles of Operation.....	1-17
Section IV	Servicing	1-56
Section V	Lubrication.....	1-91
Section VI	Ground Handling and Jacking.....	1-101
Section VII	Mooring	1-124
Section VIII	Hoisting and Sling Loading.....	1-156
Section IX	Preventive Maintenance Inspections	1-165
Section X	Overhaul and Retirement Schedule	1-201
Section XI	Flight Safety Parts	1-203

*This manual together with TM 1-1520-248-23-1, TM 1-1520-248-23-2, TM 1-1520-248-23-3, TM 1-1520-248-23-5, TM 1-1520-248-23-6 and TM 1-1520-248-23-7, all dated 28 February 2000, supersedes TM 55-1520-248-23-1, TM 55-1520-248-23-2, TM 55-1520-248-23-3, TM 55-1520-248-23-4, TM 55-1520-248-23-5, TM 55-1520-248-23-6, TM 55-1520-248-23-7, TM 55-1520-248-23-8-1, TM 55-1520-248-23-8-2, and TM 55-1520-248-23-9, all dated 12 January 1988, including all changes.

TABLE OF CONTENTS (Cont)

PAGE

CHAPTER 2	AIRFRAME	
Section I	Cowlings, Fairings, Access Panels, and Doors	2-2
Section II	Fuselage (Cowlings, Fairings, Access Panels, and Doors)	2-10
Section III	Tailboom	2-354
Section IV	Pylon	2-481

CHAPTER 3	ALIGHTING GEAR	
Section I	Landing Gear	3-1

GLOSSARY	Glossary 1
----------	-------	------------

ALPHABETICAL INDEX	Index 1
--------------------	-------	---------

VOLUME 2

CHAPTER 4	POWERPLANT	
Section I	Engine Assembly	4-2
Section II	Air Induction	4-91
Section III	Exhaust System	4-128
Section IV	Engine Oil System	4-134
Section V	Ignition System	4-179
Section VI	Powerplant Controls	4-180
Section VII	Engine Mounts	4-228
Section VIII	Forward Firewall	4-272
Section IX	Aft Firewall	4-287

CHAPTER 5	ROTORS	
Section I	Main Rotor Hub Blade Assembly	5-2
Section II	Main Rotor Controls	5-161
Section III	Main Rotor Tracking and Dynamic Balancing	5-334
Section IV	Tail Rotor Hub and Blades	5-369
Section V	Tail Rotor Pitch Change Mechanism	5-450

GLOSSARY	Glossary 1
----------	-------	------------

ALPHABETICAL INDEX	Index 1
--------------------	-------	---------

VOLUME 3

CHAPTER 6	DRIVE TRAIN SYSTEM	
Section I	Serviceability Checks	6-2
Section II	Engine to Transmission Driveshaft	6-23
Section III	Transmission	6-31
Section IV	Standpipe Electrical Assembly, Torquemeter System, and Main Rotor Mast Assembly	6-95
Section V	Freewheeling Unit	6-187
Section VI	Tail Rotor Driveshafts	6-239
Section VII	Tail Rotor Gearbox	6-327
Section VIII	Oil System	6-369

TABLE OF CONTENTS (Cont)

PAGE

CHAPTER 7	HYDRAULIC SYSTEM	
Section I	Actuators	7-2
Section II	Hydraulic System Bleeding	7-36
Section III	Hydraulic Filter Assemblies	7-39
Section IV	Hydraulic Hoses, Lines, Tubes, Fittings, and Quick-Disconnects	7-47
Section V	Pressure Switch, Manifolds, and Relief Valve	7-61
Section VI	Hydraulic Solenoid Valve	7-75
Section VII	Hydraulic Reservoir	7-86
Section VIII	Hydraulic Pump	7-108
CHAPTER 8	INSTRUMENT SYSTEMS	
Section I	Engine, Rotor and Transmission Instruments	8-2
Section II	Flight Instruments	8-45
Section III	Pitot-Static Instrument and Air Data Systems	8-59
Section IV	Navigation Instruments	8-77
Section V	Miscellaneous Instruments	8-77
GLOSSARY	.....	Glossary 1
ALPHABETICAL INDEX	.....	Index 1
 VOLUME 4		
CHAPTER 9	ELECTRICAL SYSTEM	
Section I	Avionics Cooling System	9-2
Section II	Avionic System Mounts	9-19
Section III	Direct Current Power and Distribution System	9-44
Section IV	Alternating Current Power and Distribution System	9-98
Section V	Lighting System	9-131
Section VI	Miscellaneous Electrical Equipment	9-175
Section VII	Powerplant and Transmission Electrical Equipment	9-405
Section VIII	Armament Electrical Equipment	9-440
CHAPTER 10	FUEL SYSTEM	
Section I	Fuel System Components	10-2
Section II	Fuel Cell	10-62
GLOSSARY	.....	Glossary 1
ALPHABETICAL INDEX	.....	Index 1
 VOLUME 5		
CHAPTER 11	FLIGHT CONTROLS	
Section I	Rigging	11-2
Section II	Collective Controls	11-55
Section III	Cyclic Control System	11-209
Section IV	Directional Controls	11-417
Section V	Component Inspection	11-521

TABLE OF CONTENTS (Cont)

PAGE

CHAPTER 12	ENVIRONMENTAL CONTROL SYSTEMS	
Section I	Heating System	12-2
Section II	Ventilating System	12-38
CHAPTER 13	MISSION EQUIPMENT	
Section I	Cargo Hook Suspension Assembly	13-2
Section II	Rapid Deployment	13-24
Section III	Rescue Ladder	13-58
CHAPTER 14	EMERGENCY EQUIPMENT	
Section I	Miscellaneous Emergency Equipment	14-2
GLOSSARY	.....	Glossary 1
ALPHABETICAL INDEX	.....	Index 1
 VOLUME 6		
APPENDIX A	REFERENCES	
APPENDIX B	MAINTENANCE ALLOCATION CHART (MAC)	
Section I	Introduction	B-1
Section II	Maintenance Allocation Chart	B-4
Section III	Tool and Test Equipment Requirements	B-26
Section IV	Remarks	B-38
APPENDIX C	HELICOPTER INVENTORY MASTER GUIDE	
APPENDIX D	EXPENDABLE AND DURABLE ITEMS LIST	
APPENDIX E	STORAGE OF HELICOPTER	
Section I	General Information	E-1
Section II	Flyable Storage	E-4
Section III	Short Term Storage	E-8
Section IV	Intermediate Storage	E-17
APPENDIX F	WIRING DATA	
APPENDIX G	WEIGHT AND BALANCE	
Section I	General Information	G-1
Section II	Instructions for Use of Forms and Charts	G-2
Section III	Weighing Instructions	G-26

TABLE OF CONTENTS (Cont)

PAGE

APPENDIX H	ILLUSTRATED LIST OF MANUFACTURED ITEMS (AVUM, AVIM)	
APPENDIX J	RESERVED FOR FUTURE USE	
APPENDIX K	RESERVED FOR FUTURE USE	
APPENDIX L	RESERVED FOR FUTURE USE	
APPENDIX M	ELECTRICAL BONDING PROCEDURES	
Section I	Introduction	M-1
Section II	Equipment Requirements	M-2
Section III	Resistance Requirements	M-2
Section IV	Procedures	M-3
Section V	Test	M-9
APPENDIX N	RESERVED FOR FUTURE USE	
APPENDIX P	STANDARD TORQUE VALUES	
APPENDIX Q	CORROSION CONTROL	
Section I	Introduction	Q-1
Section II	Inspection and Corrosion Prone Areas	Q-2
Section III	Preventive Maintenance	Q-2
Section IV	Processes and Equipment Requirements	Q-4
Section V	Corrosion Prone Areas	Q-4
APPENDIX R	RESERVED FOR FUTURE USE	
GLOSSARY	.....	Glossary 1
ALPHABETICAL INDEX	.....	Index 1
VOLUME 7		
FOLDOUTS	.....	FP-1

HOW TO USE THIS MANUAL

1. GENERAL

To get the job done correctly, you must be able to find all the information you need. Knowing how to use this manual is the key. You should know what is in this manual, how the manual is organized, and how to use it.

2. ORGANIZATION

- a. The complete OH-58D/OH-58D(R) Kiowa Warrior helicopter (AVUM/AVIM) maintenance manual consists of a set of seven volumes. These volumes are numbered as follows: TM 1-1520-248-23-1 through TM 1-1520-248-23-7.
- b. Volumes are made up of chapters. Each chapter is numbered in Arabic numerals (1, 2, 3, etc.). Each chapter has maintenance information on a particular helicopter system.
- c. Chapters are broken down into sections. Sections are numbered in Roman numerals (I, II, III, etc.).
- d. Sections are made up of paragraphs and tasks. The first three sections of Chapter 1 are made up of paragraphs that describe and locate the helicopter systems and components. Other sections throughout the manual are made up primarily of tasks, but all sections contain introductory paragraphs that describe the section contents. Sections cover major parts of a system.
- e. Tasks are detailed descriptions of maintenance procedures. Some tasks are brief. Some are several pages long.
- f. The title of each task contains the name of the component followed by the type of operation that is being described, e.g., Removal, Cleaning, Inspection, Repair, Installation, and others as applicable.
- g. A task starts with an initial setup (content detailed in paragraph 8.) which is followed by a step-by-step procedure on how to perform the task correctly. The steps in the procedures have illustrations to help make things clear.
- h. The words “INSPECT” or “INSPECT” may be seen in a task. “INSPECT” means that the repairer shall stop and check the component. “INSPECT” means that a Technical Inspector (TI) is required. Do not go beyond that point in the procedure until the TI has completed his inspection.
- i. If applicable, a paragraph at the end of a task called “FOLLOW-ON MAINTENANCE” may be seen. The steps listed will be required to place the helicopter in a flyable state following the completion of the maintenance task.
- j. Operational checks and troubleshooting procedures are contained in the three-volume TM 1-1520-248-T manual. A reference to TM 1-1520-248-T will be made if an operational check must be performed to ensure serviceability.

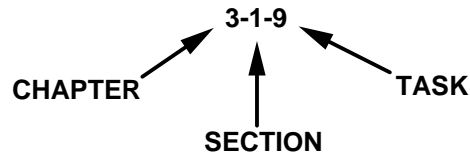
3. PARAGRAPH NUMBERING

- a. Paragraph numbers are assigned to each major information subject.
- b. Paragraphs are individually numbered by chapter and sequence.

4. TASK NUMBERING

Task numbers are in three parts. The first is the chapter number. The second is the section number in that chapter. The third number is the task's actual sequence in the section. Each number is separated by a (-) as shown in the example:

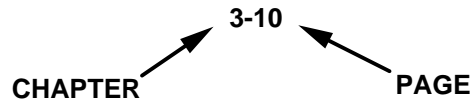
HOW TO USE THIS MANUAL — continued



Task numbers are the most important numbers in the manual. Always use the task number, NOT the page number, to find information.

5. PAGE NUMBERING

Except for front matter (all material that precedes Chapter 1), appendices, glossary, alphabetical index, and foldouts, all page numbering is by chapters. The first number is the number of the chapter; the second number is the number of the page in that chapter. The numbers are separated by a dash as shown in the example:



6. MANUAL INDEX

- a. The alphabetical index for the entire manual is located at the end of each volume of volumes 1 through 6. The index lists all task titles and certain key paragraphs of non-task text in alphabetical order. After you find the title in the index, it tells the task number or paragraph number of that task or text. For example, if you need information on the wire cutter, go to the “C” section of the index and look under “Cutter.”

There you will find:

Cutter (Rapid Deployment), Lower Wire — Removal/Installation 2-2-60

The index tells that the wire cutter information for the lower wire cutter is in Chapter 2, section 2, task 60.

- b. You can find your task in the index, even if you only know a single word in the title. In the sample title above you could also find your tasks by looking under “Wire”. Examples:

Wire Cutter (Rapid Deployment), Lower — Removal/Installation 2-2-60

Or, you could look under “Lower”:

Lower Wire Cutter (Rapid Deployment) — Removal/Installation 2-2-60

In using the manual index, many similar task titles will be encountered. Some titles are similar though in different systems. This is true with shafts, brackets, supports, bearings, etc. The index will provide the name of the correct system to help you avoid going to the wrong paragraph/task.

- c. Any task can be located in the way described. If you know the name, job, part, assembly, procedure, description, etc., you can use one of the words to find the paragraph number in the index.

7. GLOSSARY

- a. A glossary of words used throughout the manual is located just before the alphabetical index in each volume of volumes 1 through 6. Section I of the glossary is the list of abbreviations and acronyms. Abbreviations are shortened terms for words. Acronyms are shortened terms for several words and use only the first letter of each of the words. Abbreviations and acronyms are defined where first used. The glossary provides a good place to check if there is any doubt.

HOW TO USE THIS MANUAL — continued

- b. Section II of the glossary contains definitions of unusual terms that appear in the manual. Many words have more than one meaning. A word that has a certain meaning in everyday language could have a different meaning for the helicopter. This is the reason for the definitions. If you see an unfamiliar word in the manual, check the list of definitions.
- c. Review the glossary periodically to ensure familiarity with the abbreviations, acronyms, and unusual terms.

8. INITIAL SETUP

The first page of each maintenance task in the manual contains the initial setup. Always check the initial setup before starting a task on the helicopter. The initial setup contains information you must know. **DON'T START A TASK UNTIL:**

- You understand the task
- You understand what you are to do
- You understand what is needed to do the work
- You have the things you need.

An example initial setup is shown below. Not all tasks have the headings shown.

Each part of the initial setup is explained by the following subparagraphs (a. through h.). Each subparagraph describes initial setup entries in order of their appearance in the example.

- a. **Title:** The title in the upper border contains the chapter/section/task number and title of the task as listed in the index. The task is performed at the intermediate level if (AVIM) appears in the title.
- b. **This Task Covers:** This entry appears in the border below the title. The task may require one or more operations (such as removal and installation).
- c. **Applicable Configurations:** This entry specifies the model or models for which the task is used, i.e., OH-58D, OH-58D(R), or All.
- d. **Tools:** This heading identifies the list of tool kit(s) by MOS(s). The tools in the kit(s) and any others listed will be all that are required to perform the task. Tasks requiring tools other than those in this tool kit are considered SPECIAL TOOLS. Special tools could be: (1) tools from the shop set; (2) tools from the kits of other MOSs, or (3) tools made especially for the OH-58D helicopter. Special tools will be listed in addition to MOS tool kits when needed. Tool kits and special tools have an item number assigned to them and are located in Appendix B. Appendix B contains a "Tools and Test Equipment Requirements" listing. Each item listed has an Equipment Reference Code. This code is used to clearly identify a tool or item of test equipment, e.g., (B127). It is acceptable to use a torque wrench other than that which is listed as long as the torque range is the same. Example: 1/4 - inch drive torque wrench **30 INCH-POUNDS to 150 INCH-POUNDS** or 3/8 - inch drive torque wrench **30 INCH-POUNDS to 150 INCH-POUNDS**. If a tool or a part will have to be made, it is listed in an index in Appendix H. The index will identify the tool or part by name or part number, and a figure number in Appendix H will be referenced. All information required to construct a part or tool is provided in the figure.

HOW TO USE THIS MANUAL — continued

INITIAL SETUP EXAMPLE

9-6-1. WEIGHT-ON-GEAR SWITCH (RAPID DEPLOYMENT LANDING GEAR) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspection (TI) ■
68F Aircraft Electrician

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Sealing Compound (D179)
Lockwire (D132)
Rubber Gloves (D111)

References:
TM 11-1520-248-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Helicopter on Jacks (Task 1-6-8)

e. **Material:** This heading identifies the list of materials needed to complete the task. Most materials cannot be used on the helicopter a second time; they are expendable. Expendable materials are items such as solvent, grease, oil, hydraulic fluid, etc.

(1) Each expendable has an item number assigned to it and is located in Appendix D. The item number is placed in parentheses following the item name on the initial setup page. A typical example of an expendable item is:

Lockwire (D132)

See the expendable and durable item list in Appendix D for more information about expendable and durable materials.

(2) Some parts are also expendable.

(3) It may be necessary to use a part as a tool to do a step in a task. These parts do not appear in TM 1-1520-248-23P. A typical example would be when a bolt is used to temporarily hold an assembly in place or to align two pieces of material to be fastened.

f. **Personnel Required:** This heading lists the people required to perform the task. It also tells the MOS of each person and the number of persons required. For example:

67S	Scout Helicopter Repairer (2)	■
67S	Scout Helicopter Technical Inspector (TI)	■

This listing would indicate that two 67S repairers and a 67S technical inspector will be needed to complete the task.

IF YOUR MOS IS NOT LISTED IN THE PERSONNEL REQUIRED COLUMN IN THE INITIAL SETUP, CHECK WITH YOUR MAINTENANCE SUPERVISOR FIRST BEFORE STARTING THE TASK.

g. **References:** This heading identifies the list of other technical manuals (TMs) needed to complete a task. The steps in the task will tell you when you must refer to another TM.

HOW TO USE THIS MANUAL — continued

- h. **Equipment Condition:** This heading identifies the list of tasks or parts of tasks that must be accomplished before starting a task. It may require an operation such as jacking the helicopter, or just the tailboom; or removing parts, assemblies, etc. These operations are described in other tasks or technical manuals. The paragraphs or TMs that describe how to do these operations are referenced here. If the job is to be done on the helicopter, the statement “Helicopter Safed” will appear here. The reference will be to Task 1-6-7 where armament safing is described. It is essential that equipment conditions listed in a particular task be followed in sequence so that required conditions are not missed and all required tasks are reviewed prior to start of maintenance.

9. WARNINGS, CAUTIONS AND NOTES

The warnings used in this manual may be in text or icon format. Text warnings are used to describe hazardous situations, and icons are for hazardous materials and certain operations where defined.

Icon warnings are pictorial images which may be used in place of words. The safety summary sheet, which is located immediately after the title page, explains in detail what each icon means.

WARNING AND CAUTION STATEMENTS

WARNING and CAUTION statements are used prior to operating or maintenance procedures, practices, or conditions considered essential to the protection of personnel (WARNING) or equipment and property (CAUTION). A WARNING or CAUTION will apply each time the related step is repeated. Prior to starting any task, the WARNINGS or CAUTIONS included in the text for that task will be reviewed and understood. Refer to the materials list figure at the beginning of the appropriate manual section for material used during maintenance of this equipment. The detailed warnings for hazardous material and operations are listed separately in the safety summary as “Hazardous Materials and Operations Icons”.

HAZARDOUS MATERIALS

This publication describes physical and chemical processes which may require the use of chemicals, solvents, paints, or other commercially available material. The user of this publication should obtain the material safety data sheets (Occupational Safety and Health Administration (OSHA) Form 20 or equivalent) from the manufacturers or suppliers of materials to be used. The user must become completely familiar with the manufacturer/supplier information and adhere to the procedures, recommendations, warnings, and cautions of the manufacturer/supplier for the safe use, handling, storage, and disposal of these materials.

HAZARDOUS MATERIALS WARNINGS

Warnings for hazardous material in this manual are designed to warn personnel of hazards associated with such items when they come in contact with them during actual use. For each hazardous material used, material safety data sheet (MSDS) is required to be provided and available for review by the users. Consult your local safety and health staff concerning any questions on hazardous chemicals, MSDSs, personnel protective equipment requirements, and appropriate handling and emergency procedures.

This Safety Summary gives the complete warnings for hazardous material used in this manual.

NOTES

Notes tell something extra or special a person must know to do the task. They can appear before or after the item they tell about. Notes shall be read and remembered when working on the helicopter.

10. USE OF SHALL, WILL, SHOULD, AND MAY

Within this technical manual the word shall is used to indicate a mandatory requirement. The word will is used to express a declaration of purpose or futurity. The word should is used to indicate a desired result

HOW TO USE THIS MANUAL — continued

or a nonmandatory but preferred method of accomplishment. The word may is used to indicate an acceptable method of accomplishment.

11. TORQUING INFORMATION

- a. An inspector shall be present to verify all torques specified in this manual.
- b. Each hardware fastener (except types used in sheet metal work) is assigned an applied torque.
- c. There are two types of applied torques. They are: special torques and standard torques.
 - (1) Special torques differ from standard torques as determined by engineers who look at each application. Special torques are given in bold type. Torque wrenches and adapters to be used when a special torque is given are listed under Tools in the initial setup.
 - (2) Standard torques are listed in Appendix P. Standard torques not listed in Appendix P can be found in TM 1-1500-204-23. Standard torque applies to all fasteners for which a special torque is not specified.

12. INSPECTION INFORMATION

General inspection information is in the front of each chapter or section for the equipment covered in that chapter or section. Inspection criteria peculiar to a specific part, assembly, or component are in the inspection steps of the removal/installation task for that part, assembly, or component.

13. GENERAL MAINTENANCE INFORMATION

The following are considered standard maintenance practices. Instructions about these practices are not normally included in maintenance procedure task steps.

- a. Lines shall be tagged before they are disconnected. Tubes and parts shall be capped or plugged when they are disconnected.
- b. Used preformed packings, retainers, gaskets, cotter pins, lockwashers, etc., shall be discarded. New parts shall be installed.
- c. Packings shall be lubricated before installation. Specific instructions are provided in each maintenance procedure.
- d. Tubes and related parts shall be tied out of the way with twine, not lockwire.
- e. Disassembly procedures reflect disassembly needed to support total authorized repair. You may not need to disassemble a part as far as described in the task. Follow the steps to disassemble as far as needed to repair/replace worn or damaged parts.
- f. Before a component or the disassembled parts of a component are inspected, they are cleaned as required.
- g. Components and mating surface areas shall be inspected for serviceable condition before installation.
- h. Guide lines shall be used when any item is hoisted overhead.
- i. When a nut is tightened or loosened on a bolt, the bolt head shall be held with a wrench.
- j. When a coupling nut on a line is tightened or loosened, the mating fitting shall be held with a wrench.
- k. A special torque shall be cited when a direction to torque is given. A standard torque is required when no specific torque is given. Standard torque information is located in Appendix P of this manual and TM 1-1500-204-23.

HOW TO USE THIS MANUAL — continued

- l. When torquing hardware, observe compliance with drag torque as required. To determine drag torque, thread nut onto screw or bolt until at least two threads protrude. The nut shall not contact the mating part. The torque necessary to begin turning the nut is the drag torque. Drag torque is explained in more detail in TM 1-1500-204-23.
- m. Chafing is a condition which occurs when two or more components contact each other in such a manner that friction and consequent wear occur. This condition is not acceptable. Proper routing, clamping, and component installation are required.

14. ELECTRICAL WIRING AND CABLING

This technical manual contains removal and installation procedures for wiring harness/cable assemblies that are permanently installed in the helicopter. Wiring harnesses/cable assemblies that can or are normally removed with avionic/electronic equipment are contained in TM 11-1520-248-23. Wiring harnesses/cable assemblies applicable to armament systems are contained in TM 9-1090-214-23&P where these wiring harnesses/cable assemblies are external to the helicopter fuselage.

15. GENERAL REFERENCES

- a. Refer to TM 55-1500-323-24 for all electrical tasks of a general nature not peculiar to the OH-58D helicopter.
- b. Refer to TM 1-1500-204-23 for mechanical tasks of a general nature not peculiar to the OH-58D helicopter.
- c. Refer to TM 1-1520-266-23 for approved nondestructive inspection methods.

16. APPENDICES

The organization and content of Appendices to this manual are provided for reference as required during performance of maintenance tasks.

- Appendix A is a list of References.
- Appendix B is the Maintenance Allocation Chart and Tool and Test Equipment Requirements List.
- Appendix C is the Helicopter Inventory Master Guide.
- Appendix D is an Expendable Supplies and Materials List.
- Appendix E describes Storage of Helicopter.
- Appendix F is Wiring Data.
- Appendix G provides Weight and Balance Data.
- Appendix H provides Locally Manufactured Items Data.
- Appendices J, K and L are reserved for future use.
- Appendix M provides Electrical Bonding Procedures.
- Appendix N is reserved for future use.
- Appendix P provides Standard Torque Values.
- Appendix Q provides Corrosion Control Information.
- Appendix R is reserved for future use.

Table 1. Organization and Content of Appendix A

Organization	Content
References List	List of additional manuals required for use by maintenance personnel in the performance of their duties.

HOW TO USE THIS MANUAL — continued

Table 2. Organization and Content of Appendix B

Organization	Content
Section I	Introduction to Maintenance Allocation Chart.
Section II	Maintenance Allocation Chart.
Section III	Tool and Test Equipment Requirements. Tools and test equipment, including special tools and common tool sets required for each maintenance function as referenced in Maintenance Allocation Chart and individual tasks.
Section IV	List of remarks for each maintenance function as referenced in the Maintenance Allocation Chart.

Table 3. Organization and Content of Appendix C

Organization	Content
Helicopter Inventory Master Guide	Paragraph that provides general information.
Security	Normally, helicopter inventory records are not classified.
Inventoriable Items	List of mission equipment, loose equipment, modification kits, and special environment equipment.
Periods of Inventory	Guidelines on the events and frequency of events that mandate an inventory accounting of listed items.

Table 4. Organization and Content of Appendix D

Organization	Content
Scope	Description of purpose and limits for the Appendix.
Explanation of Columns	Description of the tabular layout by function. Expendable Supplies and Material List in both numerical and alphabetical order.

HOW TO USE THIS MANUAL — continued**Table 5. Organization and Content of Appendix E**

Organization	Content
Section I	General Information including components involved in accidents, Requirements, Storage Categories, Procedures, and Inspection.
Section II	Description of procedures required to store the OH-58D in a flyable state.
Section III	Description of procedures required to store the OH-58D for a short term.
Section IV	Description of procedures required to store the OH-58D for an intermediate period of time.

Table 6. Organization and Content of Appendix F

Organization	Content
Wiring Diagrams	Essential general wiring information about electrical systems and circuits.
Equipment List	Electrical equipment items listed by reference designator, and their nomenclature, location, and access in tabular form.
Wire Repair and Replacement	Wiring repair and replacement data including wire sizes and part numbers, wire construction, marking, soldering, support, and stripping.
Routing and Clamping	Diagrams of OH-58D wire bundle clamping arrangements.

Table 7. Organization and Content of Appendix G

Organization	Content
Section I	General information required for intermediate maintenance personnel to perform their phase of weight and balance control.
Section II	Instruction on proper use of forms and charts required for calculations and documentation of weight and balance data.
Section III	Specific instructions for properly weighing the OH-58D helicopter.

HOW TO USE THIS MANUAL — continued

Table 8. Organization and Content of Appendix H

Organization	Content
Part Number Index	Part numbers arranged in alphanumeric order along with figure reference for each part number.
Illustrations of Locally Manufactured Items	Illustrations of locally manufactured items in sufficient detail to enable their construction.

Appendices J, K and L are reserved for future use.

Table 9. Organization and Content of Appendix M

Organization	Content
Section I	Introduction and general information including intended purpose, definitions, electrical bonding classes, and tools.
Section II	Description of tools required.
Section III	Resistance requirements for each class of bonding.
Section IV	Surface preparation and methods of bonding.
Section V	Testing of completed bonds.

Appendix N is reserved for future use.

Table 10. Organization and Content of Appendix P

Organization	Content
Introduction	General information about the Appendix.
Torque Values	General and specific information about torquing procedures including Torque Tables.
Selection and Use of Torque Wrench	Methods of choosing torque wrenches and procedures and calculations.

HOW TO USE THIS MANUAL — continued

Table 11. Organization and Content of Appendix Q

Organization	Content
Section I	An introduction that explains purpose of Appendix and defines corrosion.
Section II	Explanation of Inspection and Corrosion Prone Areas as to Purpose of Inspection and Responsibilities for Corrosion Control.
Section III	Preventive Maintenance described in terms of Prevention and Preservation.
Section IV	Required references to appropriate manuals for Corrosion Control Processes and Equipment Requirements.
Section V	Description of Corrosion Prone Areas. Provision of and reference to Inspection and Repair Procedures. Data is both tabular and pictorial.

Appendix R is reserved for future use.

SAFETY SUMMARY

1. GENERAL SAFETY INSTRUCTIONS.

This manual contains procedures which, if not followed properly, can cause injury or long-term health hazards to personnel. This safety summary includes general safety precautions and instructions that must be understood and applied during operation and maintenance to ensure personnel safety. Prior to performing any task, the WARNINGS included in that task shall be reviewed and understood.

2. WARNINGS.

WARNINGS are used in this manual to highlight operating or maintenance procedures, practices, conditions, statements which are considered essential to protection of personnel (WARNING). WARNINGS immediately precede the step or procedure to which they apply. WARNINGS consist of four parts: heading (WARNING or icon [see HAZARDOUS MATERIALS WARNINGS]), or statement of the hazard, maintenance precautions, and possible result if disregarded.

WARNING

Highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which, if not strictly observed, could result in injury or long-term health hazards to personnel.

3. HAZARDOUS MATERIALS WARNINGS.

Hazardous Materials Warnings in this manual are provided through use of the Hazard Symbols listed below. Consult the HAZARDOUS MATERIALS DESCRIPTION below or Material Safety Data Sheets (MSDS) (Occupational Safety and Health Administration (OSHA) Form 20 or equivalent) for specific information on hazards, effects, and protective equipment requirements. If you do not have an MSDS for the material involved, contact your supervisor or the base Safety or Bioenvironmental Engineering Office.

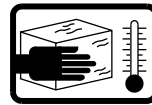
3.1 Hazardous Materials and Operations Icons. Icons are used in this manual to identify dangers associated with hazardous materials and certain conditions. The symbols used and their definitions are as follows.



The abstract bug symbol shows that a material may contain bacteria or viruses that present a danger to your life or health.



The symbol of drops of a liquid onto a hand shows that the material will cause burns or irritation of human skin or tissue.



The symbol of a hand in a block of ice shows that the material is extremely cold and can injure human skin or tissue.



The rapidly expanding symbol shows that the material may explode if subjected to high temperatures, sources of ignition, or high pressure.



The symbol of a person wearing goggles shows that the material will injure your eyes.



The symbol of a flame shows that a material can ignite and burn you.



The symbol of a skull and crossbones shows that a material is poisonous or is a danger to life.



The symbol of three circular wedges shows that the material emits radioactive energy and can injure human tissue or organs.



The symbol of a human figure in a cloud shows that vapors of a material present a danger to your life or health.



The symbol of a lightning bolt shows that you may contact voltage and current that may present a danger to your life or health.



To avoid violent reactions that can cause personal injury, always pour acid into water, never water into acid.



The symbol of a head with the ear highlighted shows that the noise level may injure your hearing.

3.2 Hazardous Materials Description. The following hazardous materials are used in this manual. Each icon represents certain hazards as described above. Beneath the icons is the hazardous material name. Below the icons and material name is a description of the hazardous material. Only the icons and material name are used in the text of the manual. If a full description of the hazardous material is required while performing procedures in this manual, use the material name to locate the appropriate description below.



ACETONE

Acetone is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not smoke while using acetone, and do not use it where others are smoking. Prolonged inhalation of vapor can irritate eyes and mucous membranes and can cause dizziness and headache. If any liquid contacts skin, wash with soap and water. Immediately remove solvent-saturated clothing. If vapors cause drowsiness, go to fresh air. In all cases get immediate medical attention. When handling large quantities of liquid (more than a gallon), use at air-exhausted workbench. Wear approved gloves. Store solvent and dispose of liquid-soaked rags in approved metal safety container. Metal containers of solvent must be grounded to maintain electrical continuity.



ACRYLIC LACQUER

Acrylic lacquer is flammable. Keep away from open flames, sparks, and heat. Overexposure may cause coma, headache, narcotic effect, confusion, depression, irritation of skin, eyes, and respiratory system. Remove contaminated clothing. Wipe off with towel or cloth. Remove remainder with

mineral spirits or lacquer remover and thoroughly wash skin area with soap and water. Immediately flush eyes with water for 15 minutes. If inhaled, move to fresh air. If breathing has stopped perform resuscitation. In all cases get immediate medical attention. When working with acrylic lacquer, wear approved protective gloves, goggles or safety glasses, protective clothing, and approved respirator. Use in a well-ventilated area.



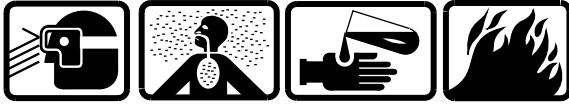
ADHESION PROMOTER

Adhesion promoter is flammable; keep away from sparks, flames, and non-explosion proof devices. Inhalation may cause nose and throat irritation, headache, drowsiness, weakness, or exhaustion. Prolonged or repeated skin contact may cause irritation. Vapor and liquid may cause eye irritation. Ingestion may cause intoxication and gastrointestinal irritation. Prolonged overexposure to ethanol can have adverse effects on liver. If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Remove contaminated clothing and wash with soap and water. Flush eyes with plenty of water for 15 minutes while holding eyelids open. If ingested, dilute with one to two glasses of water or milk. Induce vomiting by sticking finger down throat. In all cases, get immediate medical attention. When working with adhesion promoter, wear approved respirator, goggles, and rubber gloves. Work in well-ventilated area.



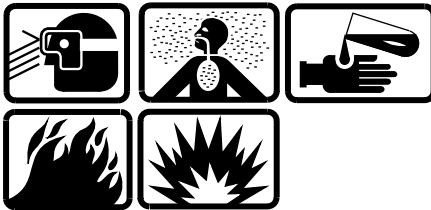
ADHESIVE, EA934NA

Adhesive can cause allergic reaction, skin sensitization, or gastrointestinal irritation. Contact with eyes can cause severe burns. Wash skin immediately with soap and water. Flush eyes with water for at least 15 minutes. Get immediate medical attention in event of eye contact with adhesive. Wash contaminated clothing before reuse. Wear approved respirator in closed area. Work in well-ventilated area using approved rubber gloves and safety glasses or goggles.



**ADHESIVE, MMM-A-1617,
TYPE I, II, OR III**

Adhesive may cause irritation to skin, eyes, and respiratory system. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. When working with adhesive, wear approved protective gloves, goggles or faceshield, and respirator approved for organic solvents. Use in a well-ventilated area away from open flame, spark sources, and heat.



ADHESIVE PRIMER

Adhesive primer is flammable and its vapor is explosive. Keep away from heat, open flame or other sources of ignition. Inhalation will cause irritation to the respiratory tract. Symptoms are headache, nausea, dizziness, and drowsiness. Move to fresh air and administer oxygen. If skin or eyes are affected wash skin with soap and water and flush eyes with water for 15 minutes. In all cases get immediate medical attention. When working with adhesive primer, wear approved respirator, rubber gloves and splashproof goggles and faceshield. Work in well-ventilated area.



ADHESIVE VAPORS

Adhesive vapors may cause irritation of eyes, nose, and respiratory system. Eye and skin contact with material may cause irritation. If ingested, may cause gastric distress. Flush eyes with water for 15 minutes. Wash skin with soap and water. If inhaled, move to fresh air. In all cases get immediate medical attention. Work in a well-ventilated area. Wear approved gloves and safety glasses.



ANTI-ICING/DEICING FLUID

Anti-icing/Deicing fluid contains diluted alcohol. Alcohol is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not use while smoking or while others are smoking. Inhalation of vapors can cause drowsiness, dizziness, and headache. If vapors cause drowsiness, go to fresh air. Contact with skin may cause irritation. If liquid touches skin or eyes, flush thoroughly with water. Remove contaminated clothing.



ANTISEIZE COMPOUND

Antiseize compound is flammable; do not use near open flames, welding areas, or on hot surfaces. When decomposed by heating, toxic gases are released. Do not use while smoking or when others are smoking. Liquid can cause severe skin and eye irritation. Inhalation of vapor can cause drowsiness, headache and unconsciousness. Wash affected skin with soap and water. Flush eyes with water for at least 15 minutes. If drowsiness occurs, go to fresh air. Seek medical attention if overexposed. Use approved respirator, gloves, and goggles for prolonged use. Dispose of liquid soaked rags in an approved, grounded metal safety container.



**CHEMICAL CONVERSION
MATERIALS**

Chemical conversion materials are strongly oxidizing and are a fire hazard in contact with acid, reducing agents, and combustible and

readily oxidizing materials; separate storage is mandatory. Thoroughly rinse rags and containers contaminated with chemical conversion materials and dispose of in a fireproof container. Contact with skin and eyes can cause burns. Breathing of dust or vapors can cause ulceration of mucous membranes. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. If ingested, drink milk of magnesia, aluminum hydroxide gel, or lime water followed by large amounts of water. In all cases get immediate medical attention. Wash contaminated clothing before wearing. When working with chemical conversion materials, wear approved respirator, rubber apron, gloves, and goggles or faceshield in a well-ventilated area away from heat, open flames or sparks. Follow approved toxic waste disposal procedures. Read manufacturers label for additional information.



CHROMIC ACID

Chromic acid is highly reactive; do not mix with organic or oxidizable materials such as paper or wood. When mixing solutions, add acid slowly to water, not water to acid. Any contact with skin, or inhalation of vapors and powder can irritate skin and can cause skin ulcers. Repeated or prolonged exposure can cause permanent injury. If any liquid or powder contacts skin, flush affected area with water, and immediately change contaminated clothing. If skin ulcers appear, get immediate medical attention. When handling dry material or solution at air-exhausted workbench, wear approved gloves, apron, and goggles. When handling dry material or solution at unexhausted workbench, wear approved respirator, gloves, apron, and long sleeves.



CLEANING COMPOUND

Aircraft cleaning compound is flammable and is toxic to the skin by absorption and to the liver and kidneys. It can cause irritation of the eyes and respiratory system, skin irritation and headache. Thoroughly wash skin area with water and immediately flush eyes with water for 15 minutes. If ingested, do not induce vomiting. In all cases

get immediate medical attention. When working with cleaning compound, wear approved chemical cartridge respirator, rubber gloves, safety goggles, and protective clothing. Keep away from heat and open flames. Use in a well-ventilated area.



COMPRESSED AIR

When using compressed air for any cleaning or drying operation, do not exceed 30 psig at the nozzle. Eyes can be permanently damaged by contact with liquid or large particles propelled by compressed air. Inhalation of air-blown particles or solvent vapor can damage lungs. If injury occurs, get immediate medical attention. When using air for drying or cleaning at an air-exhausted workbench, wear approved goggles or faceshield. When using air for drying or cleaning at an unexhausted workbench, wear approved respirator and goggles.



CORROSION PREVENTIVE COMPOUND, MIL-C-11796

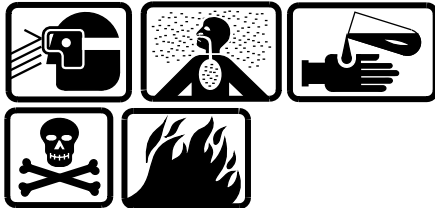
If solution of petrolatum corrosion preventive compound is decomposed by heat, toxic gases are released. Prolonged contact with solution or mist can cause skin irritation. If there is any prolonged contact with skin, wash contacted area with soap and water. If solution contacts eyes, flush eyes with water immediately. Remove saturated clothing. If solution is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling solution, wear approved rubber gloves. If prolonged contact with mist is likely, wear approved respirator.



CORROSION PREVENTIVE COMPOUND, MIL-C-16173

Corrosion preventive compound is combustible; do not use near open flames, near welding areas, or on hot surfaces. Prolonged contact with skin

can cause skin irritation. Prolonged inhalation of vapor can cause dizziness, headache, and intoxication. If there is any prolonged contact with skin, wash affected area with soap and water. If liquid contacts eyes, flush eyes thoroughly with water. Remove contaminated clothing. If vapors cause light-headedness, go to fresh air. If liquid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid or when applying it at air-exhausted workbench, wear approved gloves. When handling liquid or when applying it at unexhausted workbench, wear approved gloves and goggles. Dispose of liquid-soaked rags in approved metal container.



CORROSION PREVENTIVE COMPOUND, MIL-C-27725

Corrosion preventive compound is flammable. Keep away from ignition sources. Overexposure may cause headache, dizziness, nausea, skin drying, eye irritation, and respiratory irritation. Corrosion preventive compound may also cause narcotic effects, shortness of breath and could affect the central nervous system. Thoroughly wash with soap and water and apply emollient cream or lotion and immediately flush eyes with water for 15 minutes. If inhaled move to fresh air. In all cases get immediate medical attention. When working with corrosion preventive compound, wear approved protective gloves, goggles, and clothing. Use in a well-ventilated area. If adequate ventilation is not available, wear approved respirator.



CORROSION REMOVING AND METAL CONDITIONING COMPOUND

Corrosion removing and steel protecting compound causes skin irritation. Avoid contact with skin and eyes. If irritation occurs, get immediate medical attention. Wear approved gloves and goggles or faceshield when handling. Wash hands thoroughly after handling.



DENATURED ETHYL ALCOHOL

Denatured ethyl alcohol and its vapor are flammable and explosive — do not use it where others are smoking. POISON — do not ingest. Ingestion will cause vomiting, stupor, and collapse. Inhalation of vapor may cause headache and drowsiness. If vapors cause drowsiness, go to fresh air. Immediately remove wet clothing. When working with denatured ethyl alcohol, wear approved respirator, gloves, and goggles. If splashing could occur, wear an approved faceshield over the goggles. In case of contact with eyes, flush with water for at least 20 minutes and obtain medical attention. Dispose of liquid soaked rags in approved metal container. Metal containers must be grounded to maintain electrical continuity.



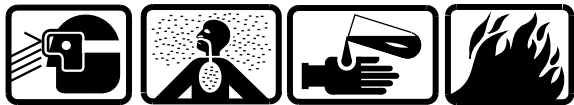
DRILLING OPERATIONS

Metallic structures drilling operations produce airborne metallic dust particles that are harmful to respiratory tract and eyes. Avoid breathing dust and use eye protection when drilling. Avoid composite materials that are toxic to skin, eyes and respiratory tract. When drilling advanced composite materials, avoid inhalation of dust and wear protective gloves and eye protection.



DRY LUBRICANT

Overexposure can cause nausea, vomiting, and irritation of skin, eyes, and respiratory system. If symptoms occur, seek fresh air. Wash affected skin with soap and water. Flush eyes with water for 15 minutes. If ingested do not induce vomiting. In all cases, seek medical attention. Wear approved protective gloves, goggles, and respirator.



DRYCLEANING SOLVENT

Drycleaning solvent is combustible; do not use near open flames, near welding areas, or on hot surfaces. Prolonged contact of skin with liquid can cause skin irritation. Repeated inhalation of vapor can irritate nose and throat and can cause dizziness. If any liquid contacts skin or eyes, immediately flush affected area thoroughly with water. Remove solvent-saturated clothing. If vapors cause dizziness, go to fresh air. In all cases get immediate medical attention. When handling liquid or when applying it in an air-exhausted, partially covered tank, wear approved gloves. When handling liquid or when applying it at an unexhausted, uncovered tank or workbench, wear approved respirator and goggles.



DYNASOLVE 165

Dynasolve 165 contains powerful organic solvents. It is harmful if inhaled or swallowed. Avoid breathing vapors or mist. Keep away from heat and flame. Avoid contact with eyes and skin. Wear gloves, safety goggles, and protective clothing when handling. Use with adequate ventilation. Contact of skin with liquid or inhalation of vapor can cause severe burns, and respiratory system irritation. If any solution, liquid, or vapor contacts skin or eyes, flush affected areas thoroughly with water. Immediately change any contaminated clothing. If vapors are inhaled, go to fresh air. In all cases get immediate medical attention.



ELECTRIC SHOCK

To prevent electric shock, ensure electrical power is off before working on helicopter. Remove watches, rings and other jewelry before working on electrical circuits. Voltage and/or current may be contacted that could present a threat to your health or life. If voltage/current is contacted and

breathing ceases, CPR must be administered by qualified personnel. Seek medical aid. For electrical shock safety steps and procedures, refer to TM 1-1500-204-23 and TB 385-4.



EPOXY PRIMER COATING

Epoxy primer coating is flammable. It contains lead and may cause irritation of nose, throat, eyes, skin, respiratory system, and nervous system. Overexposure may result in headache, narcotic effect, nervousness, drying of skin, and possible death. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. If ingested, do not induce vomiting. In all cases get immediate medical attention. When working with epoxy primer coating wear approved respirator, chemical splash goggles, solvent resistant gloves, apron, protective clothing, and barrier cream. Work in a well-ventilated area.



EPOXY RESIN

Filled epoxy resin may cause skin and eye irritation. Thoroughly wash skin area with soap and warm water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. When working with epoxy resin, wear approved protective gloves and goggles. Use in a well-ventilated area and avoid breathing vapors.



FINGERPRINT REMOVER

Fingerprint remover is flammable. Do not use near heat or flames. Overexposure may cause skin and eye irritation, dizziness, headache and nausea. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. If inhaled, move to fresh air. In all cases get immediate medical attention. When working with fingerprint remover wear approved solvent

resistant gloves, goggles or faceshield, and respirator.



FLUORESCENT PENETRANT

Prolonged or repeated inhalation of powders and vapors of cleaning solvent, developers, and emulsifiers used in fluorescent penetrant inspection can irritate mucous membrane areas of the body. Continual exposure to penetrant inspection materials can irritate the skin. Direct exposure of eyes to light and prolonged exposure of skin to light can inflame and damage eyes and skin. Wear approved neoprene gloves when handling penetrant inspection materials. Keep insides of gloves clean. Store all pressurized spray cans containing penetrants, developers, and emulsifiers in a cool, dry area protected from direct sunlight, heat, and open flames. Temperatures higher than 120 °F (49 °C) may cause pressurized can to burst and cause injury. If direct eye contact with light causes eye problems, get immediate medical attention. When using black light for fluorescent inspections, wear approved safety glasses.



GREASE

Avoid any skin contact with grease. Wash hands thoroughly with soap and water after handling grease.



HYDRAULIC FLUID, MIL-H-5606

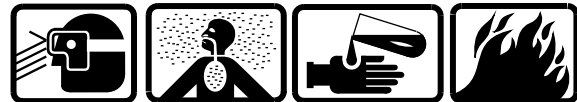
MIL-H-5606 hydraulic fluid is flammable. Flashpoint is 180 °F (82 °C). When hydraulic fluid is decomposed by heat, toxic gases are released. Prolonged contact with liquid or mist can cause skin irritation. If there is any prolonged contact with skin, wash contacted area with soap and water. If liquid contacts eyes, flush eyes with water immediately. Remove saturated clothing. If

fluid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid, wear approved rubber gloves. If prolonged contact with mist is likely, wear approved respirator.



HYDRAULIC FLUID, MIL-H-83282

MIL-H-83282 hydraulic fluid is flammable. Flashpoint is 400 °F (204 °C). When hydraulic fluid is decomposed by heat, toxic gases are released. Prolonged contact with liquid or mist can cause skin irritation. If there is any prolonged contact with skin, wash contacted area with soap and water. If liquid contacts eyes, flush eyes with water immediately. Remove saturated clothing. If fluid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid, wear approved rubber gloves. If prolonged contact with mist is likely, wear approved respirator.



ISOPROPYL ALCOHOL

Isopropyl alcohol is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not use while smoking or while others are smoking. Inhalation of vapors can cause drowsiness, dizziness, and headache. Contact with skin may cause irritation. If liquid touches skin or eyes, flush thoroughly with water. Remove contaminated clothing. If vapors cause drowsiness, go to fresh air. When handling large quantities (greater than 1 gallon), work at air-exhausted workbench or covered tank. Store solvent and liquid-soaked clothes in an approved, grounded metal container.



JET FUEL

Jet fuel is flammable; do not use near open flames, welding areas, or on hot surfaces. Do not

handle or store near strong oxidants, e.g., liquid oxygen or hypochlorite. Do not smoke when using jet fuel and do not use it where others are smoking. Contact of eyes with liquid can cause severe irritation and blurred vision. Inhalation of vapor may cause irritation, headache, nausea, and dizziness. If liquid contacts eyes, flush eyes thoroughly with water for a minimum of 15 minutes. Immediately remove fuel-saturated clothing. If vapors cause dizziness, go to fresh air. If liquid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling large quantities of liquid (more than 1 gallon) at an unexhausted workbench, wear approved respirator and goggles or faceshield. Dispose of liquid-soaked rags in approved metal container. Contaminated clothing shall be laundered prior to reuse. Metal containers of fuel must be closed and grounded to maintain electrical continuity.



LUBRICANT, SOLID FILM

Solid film lubricant is flammable. Do not use near fire or open flame. Lubricant may cause irritation to skin and upper respiratory system. Inhalation may cause a narcotic effect and light headedness. Swallowing may be fatal. Thoroughly wash skin area with soap and water and immediately flush with water for 15 minutes. If ingested, do not induce vomiting. In all cases get immediate medical attention. When working with lubricant, wear approved rubber gloves, respirator, and safety glasses or goggles with unperforated side shields. Work in a well-ventilated area.



LUBRICATING OIL

The laser rangefinder/designator (LRF/D) is very dangerous. Looking at the laser beam or its reflection from a shiny surface can cause permanent blindness. Under noncombat conditions, the laser shall be used only in controlled areas and at times specified by a range control officer.

If lubricating oil is decomposed by heat, toxic gases are released. Prolonged contact with liquid or mist may cause skin irritation. If there is any prolonged contact with skin, wash area with soap and water. If oil contacts eyes, flush eyes with water immediately. Remove saturated clothing. If oil is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid, wear approved rubber gloves. If prolonged contact with mist is likely, wear approved respirator.



LHE CADMIUM SOLUTION

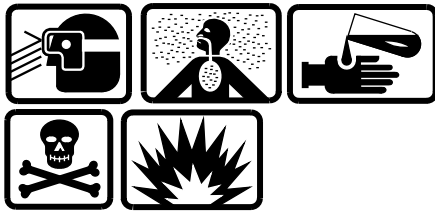
Cadmium brush plating solution is toxic and may cause damage to skin, eyes, and mucous membranes. Overexposure may cause skin sensitization and skin irritation. Thoroughly wash skin area with water and immediately flush eyes with water for 15 minutes. If vapor causes drowsiness, go to fresh air. In all cases get immediate medical attention. Wear approved rubber gloves, apron, boots, goggles or faceshield, and activated carbon respirator. Work in well-ventilated area. Wash hands thoroughly before eating or smoking.



NAPHTHA/NAPHTHALENE

Naphtha/Naphthalene is combustible; do not use it near welding areas, near flames, or on hot surfaces. Avoid prolonged or repeated contact with liquid. Contact of skin with liquid can cause irritation. Inhalation of vapors can cause irritation, giddiness, and drowsiness. If liquid contacts eyes, flush eyes thoroughly with water. If there is any prolonged skin contact, wash contacted area with

soap and water. If vapors cause drowsiness, go to fresh air. Remove solvent-saturated clothing. If liquid is swallowed, do not try to vomit. In all cases get immediate medical attention. When handling liquid in an air-exhausted, partially covered tank, wear approved gloves. When handling liquid in an open, unexhausted container, wear approved rubber gloves and goggles. If contact with vapor is likely, wear an approved respirator. Dispose of liquid-soaked rags in approved metal container. Metal containers of liquid must be grounded to maintain electrical continuity.



NITRIC ACID

Nitric acid is highly reactive; do not mix with combustible organics or other oxidizable materials such as wood, paper, and cloth. When heated, toxic gases are released. When mixing solutions, add acid slowly to water, not water to acid. Contact of skin with liquid or inhalation of mist can cause severe burns, respiratory system irritation, and chronic bronchitis. If any solution, liquid, or mist contacts skin or eyes, flush affected area thoroughly with water for a minimum of 15 minutes. Immediately change any contaminated clothing. If mist is inhaled, go to fresh air. In all cases get immediate medical attention. If handling solution or concentrated liquid in air-exhausted covered tank, wear approved gloves and apron, and wear approved goggles or faceshield. When handling solution or concentrated liquid in open tank, wear approved respirator, full-body clothing, gloves, and goggles.



NOISE HAZARD

Personnel hearing can be PERMANENTLY DAMAGED if exposed to constant high noise levels of 85 dB (A) or greater. Wear approved hearing protection devices when working in high noise level areas. Hearing loss occurs gradually

but becomes permanent over time. Hearing protection is required.



PAINT REMOVER

Paint remover can cause severe burns, narcotic effects, headache, dizziness, and nausea. In some cases it may cause elevated blood pressure, unconsciousness, shock, and death. Contact with eyes may cause blindness. Avoid contact with flammable liquids. Contact with alkali metals, powdered magnesium, and aluminum may cause a violent reaction. Thoroughly wash skin area with water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. When working with paint remover wear approved respirator (manufacturer recommends approved fresh air mask), approved faceshield or goggles, neoprene or Viton gloves, solvent resistant boots, and apron. Work in a well-ventilated area. Read manufacturers label for specific instruction due to variations of each product.



PLASTIC POLISH COMPOUND

Plastic polish compound is flammable. Keep away from heat, open flame or other sources of ignition. Plastic polish compound may be poisonous if inhaled or absorbed through the skin. Vapors may cause dizziness or suffocation and are an irritant to the skin and eyes. Move to fresh air and thoroughly wash skin with water and flush eyes with water for 15 minutes. In all cases, get immediate medical attention. Wear approved safety glasses or goggles and gloves. Use in a well-ventilated area.



POLYURETHANE COATING

Polyurethane coating is flammable. Keep away from open flame, sparks, heat, and organic material. Exposure can cause skin, eye, nose, throat, and respiratory system irritation. Prolonged exposure may cause headache, allergic sensitivity, narcotic effect, nausea, and vomiting. Ingestion causes lead poisoning. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. If inhaled, move to fresh air. In all cases get immediate medical attention. When working with polyurethane coating, wear approved chemical resistant rubber gloves, goggles, respirator, and protective clothing. Use in a well-ventilated area.



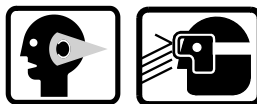
POLYURETHANE CONDUCTIVE COATING

Polyurethane conductive coating is flammable; do not use near open flames, near welding areas, or on hot surfaces. Contact with liquid or vapor can cause skin or eye irritation. Prolonged overexposure can result in kidney and liver damage, headache, nausea, vomiting, dizziness or loss of consciousness. Prolonged occupational overexposure can result also with permanent brain and nervous system damage. Deliberately concentrating and inhaling the contents may be harmful or fatal. After prolonged skin contact, wash contacted area with lukewarm water for 15 minutes. Remove contaminated clothing promptly. If vapors cause dizziness, go to fresh air, in all cases get immediate medical attention. Dispose of contents in approved metal container. Follow approved toxic waste disposal procedures.



RESINS AND HARDENERS

Resins and hardeners are flammable; do not use near open flames, welding areas, or on hot surfaces. When decomposed by heating, toxic fumes are released. Inhalation of vapor can cause irritation, drowsiness, and headache. Contact with eyes can cause severe burns. Flush eyes with water for at least 15 minutes. Wash skin immediately with soap and water. In all cases get immediate medical attention. When mixing or applying liquid in air-exhausted paint spray booth, wear approved gloves and goggles. When mixing or applying liquid in unexhausted work area, wear approved gloves, long sleeves, apron, goggles, and respirator. Metal containers of solution must be grounded to maintain electrical continuity.



RIVETING OPERATIONS

Bucking rivets produces high levels of noise. Hearing can be PERMANENTLY DAMAGED if exposed to constant high noise levels of 85 dB (A) or greater. Wear approved hearing protection devices when working in high noise level areas. Hearing loss occurs gradually but becomes permanent over time. Hearing protection is required. Wear goggles or faceshield when riveting to prevent damaging eyes.



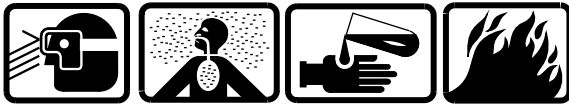
SANDING OPERATIONS

Avoid prolonged or repeated contact with sanding, power grinding, or drilling dust. Inhalation of dust may cause temporary coughing and wheezing, respiratory system irritation, and permanent lung problems. If dust contacts eyes, flush them thoroughly with water. If coughing or wheezing persists, get immediate medical attention. When using an air-exhausted grinding wheel, wear approved respirator and goggles or faceshield.



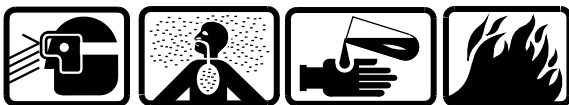
SEALING COMPOUND, MIL-S-22473

Anaerobic sealing compound is flammable; do not use near open flames or welding areas. Avoid prolonged exposure to light. Avoid materials such as peroxide or other strong oxidizing agents, iron rust or carbon monoxide/dioxide. Anaerobic sealing compound can cause dermatitis. It may also cause delayed eye and skin irritations and skin sensitivity. Thoroughly wash skin area with water and immediately flush eyes with water for at least 15 minutes. If ingested, do not induce vomiting. Keep individual calm. In all cases, get immediate medical attention. When working with anaerobic sealing compound, wear approved rubber apron, boots, gloves, and goggles or faceshield in well-ventilated area.



SEALING COMPOUND, MIL-S-8784, MIL-S-8802, MIL-S-83249

Sealing compound is flammable. Do not use near heat, open flames, or sparks. Overexposure can cause irritation of skin and eyes, headache, nausea, vomiting, and systemic problems. Thoroughly wash skin area with soap and water and immediately flush eyes with water for 15 minutes. In all cases get immediate medical attention. Wear approved protective gloves and goggles. Avoid breathing of vapors and prolonged or repeated skin contact.



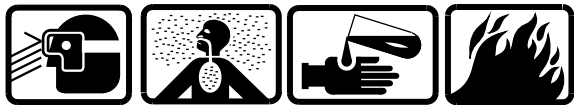
SHELLAC

Shellac is flammable. Keep away from heat, sparks, and open flame. All electrical equipment must be explosion proof. Shellac may cause irritation of eyes, nose, and throat. Headache, intoxication, and drowsiness may occur. In case of skin contact, flush contact area thoroughly with water. For inhalation, remove to fresh air and give oxygen. In all cases, get immediate medical attention. Use shellac in well-ventilated area. When handling wear approved rubber gloves and safety goggles.



SILICONE

Conformal coating is flammable. Do not use near open flame or high temperatures. Repeated or prolonged contact or inhalation of vapors can cause skin and eye irritation, or damage to lungs, blood, liver, kidneys, and nervous system. Existing eye, skin, and respiratory disorders can be aggravated. Short-term inhalation of vapors can cause drowsiness and irritation of nose and throat. Use only in a well-ventilated area. If vapors are inhaled, go to fresh air. Short-term skin contact can cause irritation, redness, and swelling. Wipe off skin contact area and flush with fresh water. Flush eyes with with fresh water for 15 minutes. Get immediate medical attention if irritation develops or ill effects persist. If swallowed, do not induce vomiting. Vomiting can cause serious lung damage. If vomiting occurs, keep head below hips to prevent entry of liquid into lungs. When handling, wear approved protective gloves, goggles, and respirator with organic vapor cartridge. Metal storage containers must be grounded to eliminate static electricity fire hazard.



THINNER

Paint thinner is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using paint thinner, and do not use it where others are smoking. Contact with liquid or vapor can cause skin, nose, throat, and eye irritation, drowsiness, headache, nausea, and vomiting. After any prolonged contact of liquid with skin, wash contacted area with soap and water. Remove solvent-saturated clothing. If vapors cause drowsiness, go to fresh air. In all cases get immediate medical attention. When handling liquid at air-exhausted workbench wear approved gloves, goggles, and long sleeves. When handling liquid or liquid-soaked cloth in open unexhausted area, wear approved respirator, gloves, and goggles. Dispose of liquid-soaked rags in approved metal container. Metal containers must be grounded to maintain electrical continuity.



URETHANE ADHESIVE

Urethane Adhesive Components A and B are flammable. Keep away from heat, sparks, or any source of ignition.

Overexposure to Component A may cause headache, nausea, and skin irritation and is an irritant to the upper respiratory system. In case of skin or eye contact, flush thoroughly with water. If inhaled remove to fresh air. If swallowed give large amounts of water. In all cases get immediate medical attention.

Overexposure to Component B, which is mildly toxic, may cause headache and mild irritation of nose, throat, and eyes. Contact with skin may cause irritation and dryness. Ingestion may cause vomiting and stomach cramps. In case of ingestion, get immediate medical attention. If inhaled remove to fresh air and give artificial respiration. In case of skin contact, remove contaminated clothing and wash with soap and water. Flush eyes immediately with large quantities of water. In all cases get immediate

medical attention. Use in well-ventilated area and wear approved respirator, goggles, and rubber gloves.



ZINC CHROMATE PRIMER

Zinc chromate primer is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using zinc chromate primer, and do not use it where others are smoking. Contact with liquid or vapor can cause skin or eye irritation, dizziness, and headache. Prolonged inhalation can result in kidney and liver damage. After prolonged skin contact, wash contacted area with soap and water. If vapors cause dizziness, go to fresh air. In all cases get immediate medical attention. When handling small quantities (less than 1 gallon), wear approved gloves. When handling large quantities of liquid (greater than 1 gallon), at unexhausted workbench, wear approved respirator, gloves, goggles, apron, and long sleeves. Do not eat, smoke, or carry smoking materials in areas where liquid is handled. Dispose of liquid-soaked rags in approved metal container. Zinc chromate primer contains chromates. Follow approved toxic waste disposal procedures.



ZINC CHROMATE PUTTY

Zinc chromate putty is flammable; do not use near open flames, near welding areas, or on hot surfaces. Do not smoke when using zinc chromate putty, and do not use it where others are smoking. Contact with liquid or vapor can cause skin or eye irritation, dizziness, and headache. Prolonged inhalation can result in kidney and liver damage. After prolonged skin contact, wash contacted area with soap and water. If vapors cause dizziness, go to fresh air. In all cases get immediate medical attention. When handling small quantities (less than 1 gallon), wear approved gloves. Do not eat, smoke, or carry smoking materials in areas where putty is handled. Dispose of putty in approved

metal container. Zinc chromate putty contains chromates. Follow approved toxic waste disposal procedures.

4. SAFETY PRECAUTIONS.

The following safety precautions shall be observed while performing procedures in this manual.

- Dangerous voltages are present at system connectors. Ensure power is OFF prior to connecting or disconnecting cables.
- Do not wear metal frame glasses, rings, watches, or other metal jewelry while working on electronic equipment.
- Some cleaning materials specified herein are flammable and/or toxic. Keep away from open flame or other ignition sources. Provide adequate ventilation and avoid skin/eye exposure.
- Cleaning with compressed air can create airborne particles that may enter eyes or penetrate skin. Pressure shall not exceed 30 psig. Wear goggles. Do not direct compressed air against skin.
- For electrical shock safety steps and procedures, refer to TM 1-1500-204-23 and TB 385-4.

CHAPTER 9

ELECTRICAL SYSTEM

9-1. **ELECTRICAL SYSTEM**

This chapter contains maintenance procedures for maintenance of electrical system components. This chapter contains eight sections.

		Page
Section I	Avionics Cooling System	9-2
Section II	Avionic System Mounts	9-19
Section III	Direct Current Power and Distribution System	9-44
Section IV	Alternating Current Power and Distribution System	9-98
Section V	Lighting System	9-131
Section VI	Miscellaneous Electrical Equipment	9-175
Section VII	Powerplant and Transmission Electrical Equipment	9-405
Section VIII	Armament Electrical Equipment	9-440

Section I. AVIONICS COOLING SYSTEM

9-2. AVIONICS COOLING SYSTEM

9-4. TASK LIST

The task list consists of those tasks required to support unit and intermediate level maintenance.

9-3. INTRODUCTION

This section contains maintenance procedures for avionics cooling system. Standard torques are provided in Appendix P and TM 1-1500-204-23.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
Avionic Cooling System Components — Cleaning/Inspection/Repair	9-1-1	9-3
Avionic Cooling System Blower — Removal	9-1-2	9-8
Avionic Cooling System Blower — Installation	9-1-3	9-11
Avionic Cooling System Motor Intake Duct Assembly — Removal/ Installation	9-1-4	9-14
Avionic Cooling System Thermo Switch (Typical) — Removal/ Installation	9-1-5	9-15
Avionic Cooling System Flexible Air Duct Coupling — Removal/ Installation	9-1-6	9-17

9-1-1. AVIONIC COOLING SYSTEM COMPONENTS — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

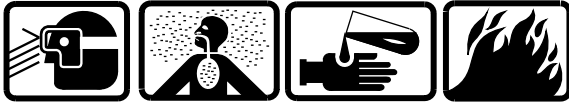
References:
TM 55-1500-345-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Left Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

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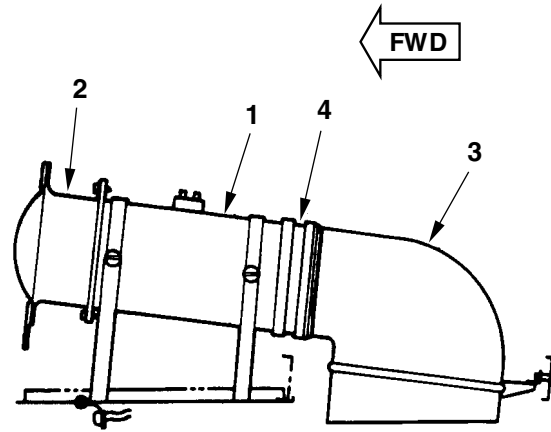
9-1-1. AVIONIC COOLING SYSTEM COMPONENTS — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).



ROTATED APPROXIMATELY 8° CW

INSPECT

4. Inspect blower motor (1) for the following:
 - a. Dents
 - b. Cracks
 - c. Scratches or bare metal
 - d. Security of mounting
 - e. Bent or broken terminal posts
 - f. Cracked terminal block.
5. Inspect intake duct assembly (2), exhaust duct (3), and coupling (4) for the following:
 - a. Cracks
 - b. Tears
 - c. Security of mounting.

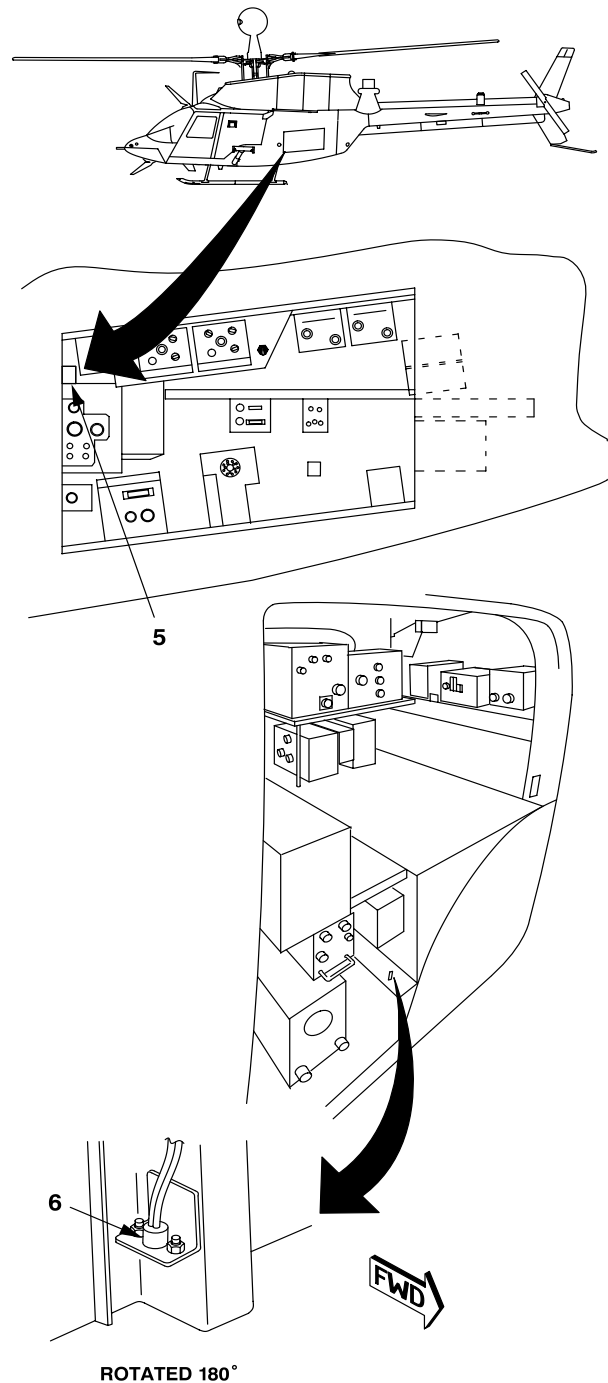
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9-1-1. AVIONIC COOLING SYSTEM COMPONENTS — CLEANING/INSPECTION/REPAIR (CONT)

6. Inspect thermo switches (5) and (6) for obvious damage. No obvious damage allowed.

7. Inspect electrical connectors for bent or broken pins.



406961-1255-2
J1758

GO TO NEXT PAGE

9-1-1. AVIONIC COOLING SYSTEM COMPONENTS — CLEANING/INSPECTION/REPAIR (CONT)

REPAIR

8. Replace blower motor (1) if bent, cracked, terminal is broken, or terminal block is cracked (Tasks 9-1-2 and 9-1-3).



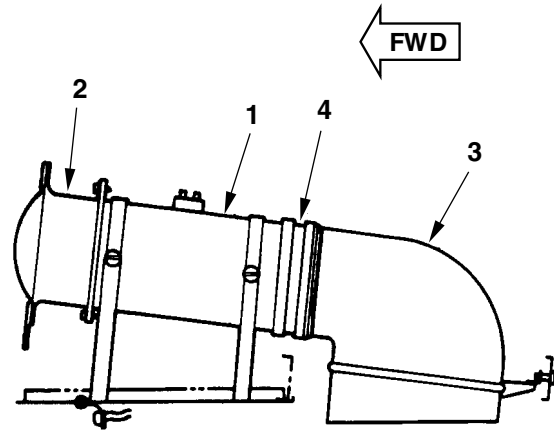
Sanding Operations

9. Repair any scratches using 400 grit sandpaper (D175).

10. Touch up bare metal (TM 55-1500-345-23).

11. Straighten bent terminal.

12. Replace intake duct assembly (2), exhaust duct (3), or coupling (4) if cracked or torn (Task 9-1-4 or 9-1-6).



ROTATED APPROXIMATELY 8° CW

406961-1255-1
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9-1-1. AVIONIC COOLING SYSTEM COMPONENTS — CLEANING/INSPECTION/REPAIR (CONT)

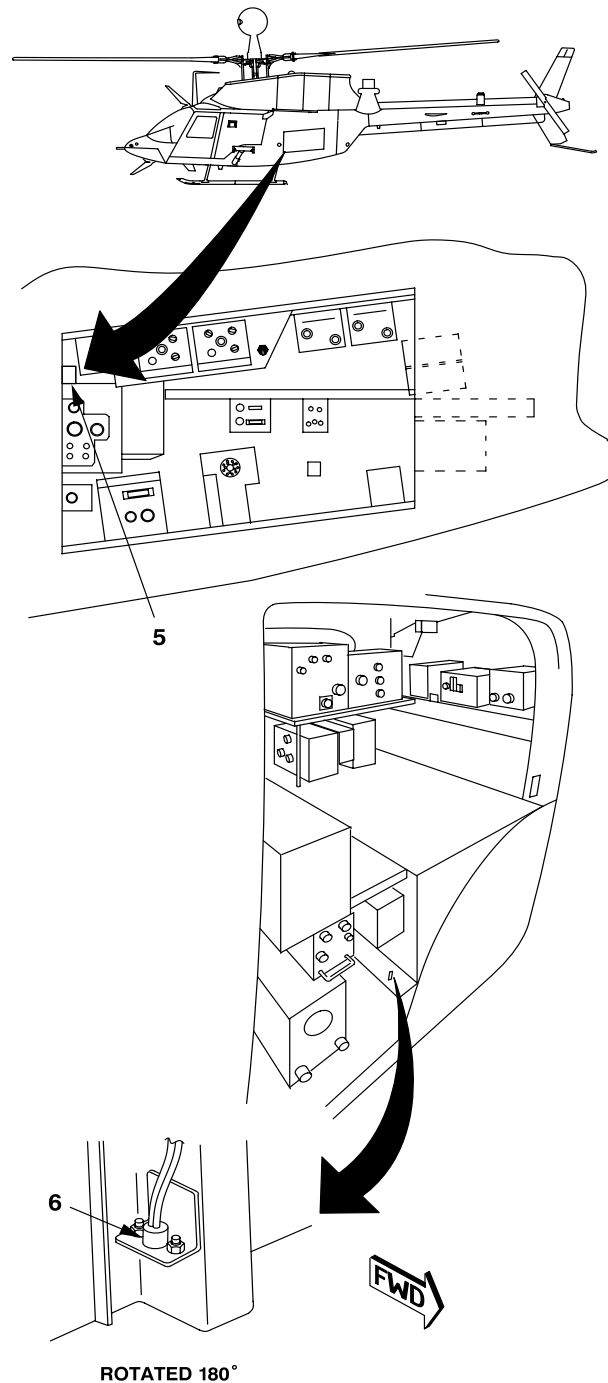
13. Replace thermo switch(es) (5) and (6) if damaged (Task 9-1-5).

14. Straighten bent connector pins. Tighten loose mounting hardware and replace missing mounting hardware.

INSPECT

FOLLOW-ON MAINTENANCE

Install left access door (Task 2-2-6).



406961-1255-2
J1758

END OF TASK

9-1-2. AVIONIC COOLING SYSTEM BLOWER — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6) |
Mast Torque Signal Conditioning Unit Removed (Task 9-7-8)
ATHS or IDM Unit Removed (TM 11-1520-248-23)
Right Access Door Removed (Task 2-2-6) |

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
68F Aircraft Electrician

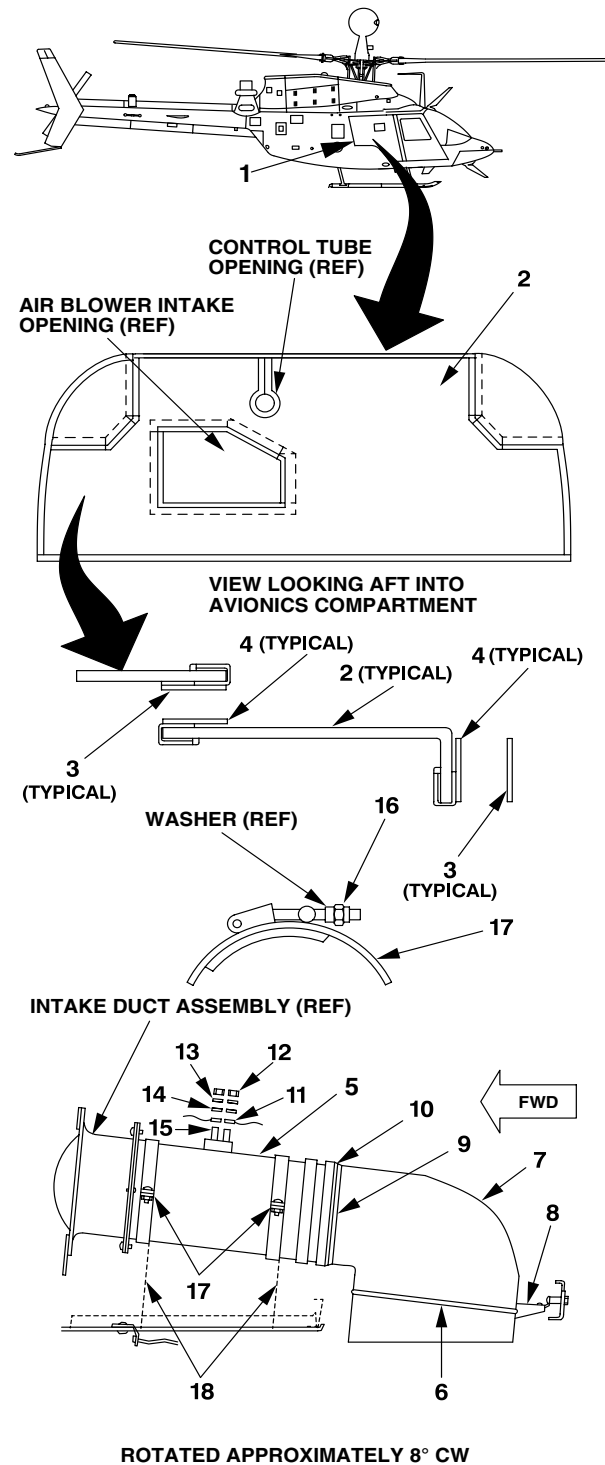
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9-1-2. AVIONIC COOLING SYSTEM BLOWER — REMOVAL (CONT)

NOTE

Ensure hook and pile is separated around blower intake opening and control tube opening before attempting to remove thermo blanket.

1. Pull on thermo blanket (2) in avionics compartment (1) to separate hook (3) (material) from pile (4) (material); start separating hook (3) and pile (4) in right forward corner of compartment.
2. Remove thermo blanket (2) from avionics compartment (1).
3. Open aft electrical compartment to gain access to avionic cooling system blower motor (5).
4. Cut plastic strap (6) securing air outlet duct (7) to bracket (8).
5. Cut plastic strap (9) around aft end of air duct coupling (10).
6. Separate air outlet duct (7) from air duct coupling (10) and remove air outlet duct from immediate work area.
7. Identify and tag two electrical wires (11) on blower motor (5).
8. Remove two nuts (12), lockwashers (13) and washers (14) from electrical terminal posts (15) on blower motor (5).
9. Remove wires (11) from terminal posts (15).
10. Loosen nuts (16) on two metal clamp assemblies (17) enough to permit clamp assemblies to be moved clear of contoured supports (18).



406961-1256-1
J1758

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9-1-2. AVIONIC COOLING SYSTEM BLOWER — REMOVAL (CONT)

11. Working from avionics compartment (1), remove blower motor (5) and attached parts from helicopter.

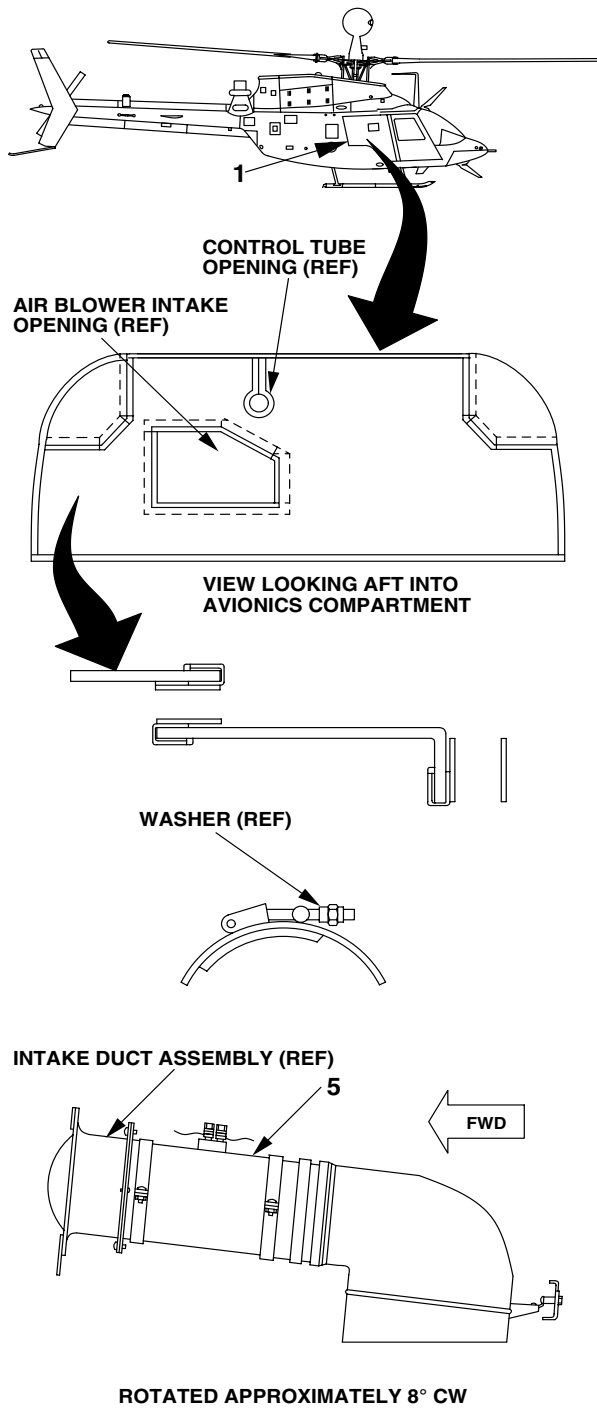
NOTE

If blower motor is not to be reinstalled, intake duct assembly and blower motor attaching hardware shall be removed.

12. Close aft electrical compartment door.

FOLLOW-ON MAINTENANCE

Install right access door (Task 2-2-6).



406961-1256-2
J0652

END OF TASK

9-1-3. AVIONIC COOLING SYSTEM BLOWER — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Tie-Wrap Gun (B62)

Material:
Silicone Adhesive (D36)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 11-1520-248-23
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
ATHS or IDM Unit Removed (TM 11-1520-248-23)
Left Access Door Removed (Task 2-2-6)
Avionic Cooling System Motor Intake Duct Assembly Installed (Task 9-1-4)

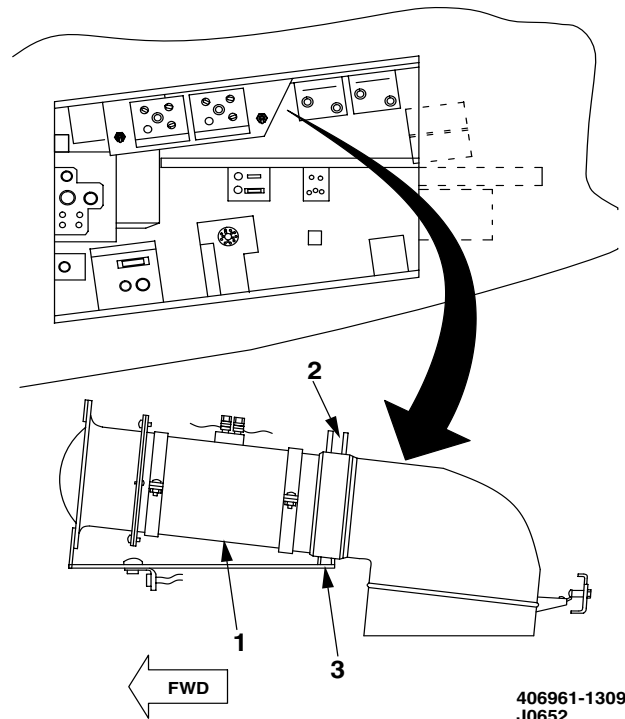


Adhesive

1. Apply a bead of silicone adhesive (D36) around blower motor (1) immediately forward of metal bead (2) on blower motor.

INSPECT

2. Slide new flexible air duct coupling (3) onto blower motor (1) and into permanent installation position.



GO TO NEXT PAGE

9-1-3. AVIONIC COOLING SYSTEM BLOWER — INSTALLATION (CONT)

3. Install plastic strap (4) around air duct coupling (3) just forward of raised metal bead (2) of blower motor (1). Tighten plastic strap with tie-wrap gun (B62).

4. Install two clamp assemblies (5) on blower motor (1) with two washers (6) and two nuts (7) threaded only fingertight.

5. Place blower motor (1) onto contoured supports (8) so that electrical terminal posts (9) are pointing up.

6. Open aft electrical compartment door to gain access to air outlet duct (10).

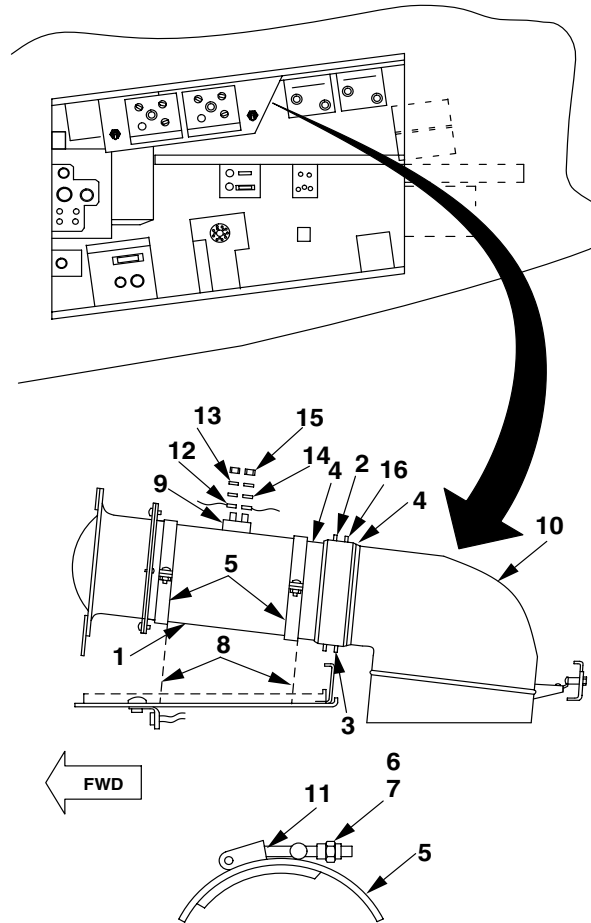
7. Slide both clamp assemblies (5) into position around the contoured supports (8). With clamp assembly locks (11) in position on left side of blower motor (1), tighten nuts (7).

8. Connect and secure two tagged electrical wires (12) to terminal posts (9) on blower motor (1) with two lockwashers (13), washers (14), and nuts (15).

9. Remove identification tags from wires (12).

10. Slide flexible air outlet coupling (3) over forward end of air outlet duct (10) so that air outlet coupling extends aft past raised bead (16) on air outlet duct.

11. Install plastic strap (4) around air duct coupling (3) immediately aft of raised bead (16) on air outlet duct (10). Tighten plastic strap with tie-wrap gun (B62).



406961-1257-1
J0652

GO TO NEXT PAGE

9-1-3. AVIONIC COOLING SYSTEM BLOWER — INSTALLATION (CONT)

12. Install plastic strap (17) around air outlet duct (10) and through bracket (18). Tighten plastic strap with tie-wrap gun (B62).

INSPECT

13. Position thermo blanket (19) in place over equipment in avionics compartment.

NOTE

Ensure that hook and pile around blower intake opening and control tube opening is aligned and pressed together.

14. Press hook (20) (material) into pile (21) (material); start installation in lower left aft corner.

15. Close aft electrical compartment door.

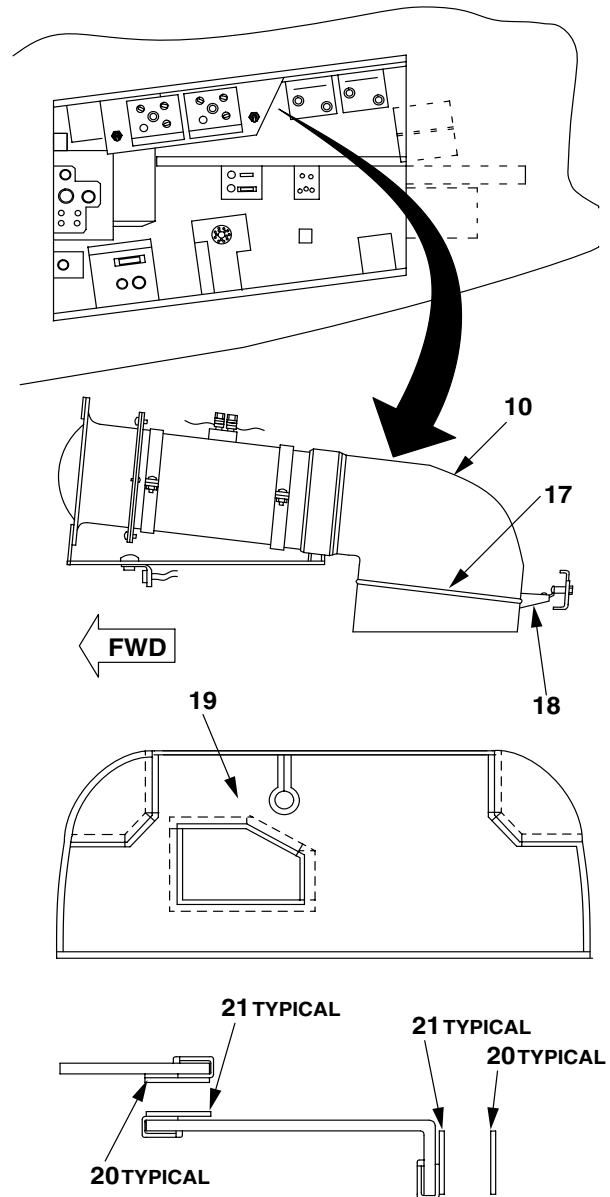
INSPECT

FOLLOW-ON MAINTENANCE

Install AHS or IDM unit (TM 11-1520-248-23).

Perform operational check (TM 1-1520-248-T).

Install left access door (Task 2-2-6).



406961-1257-2
J0652

END OF TASK

9-1-4. AVIONIC COOLING SYSTEM MOTOR INTAKE DUCT ASSEMBLY — REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 67S Scout Helicopter Repairer

Applicable Configurations:
 All

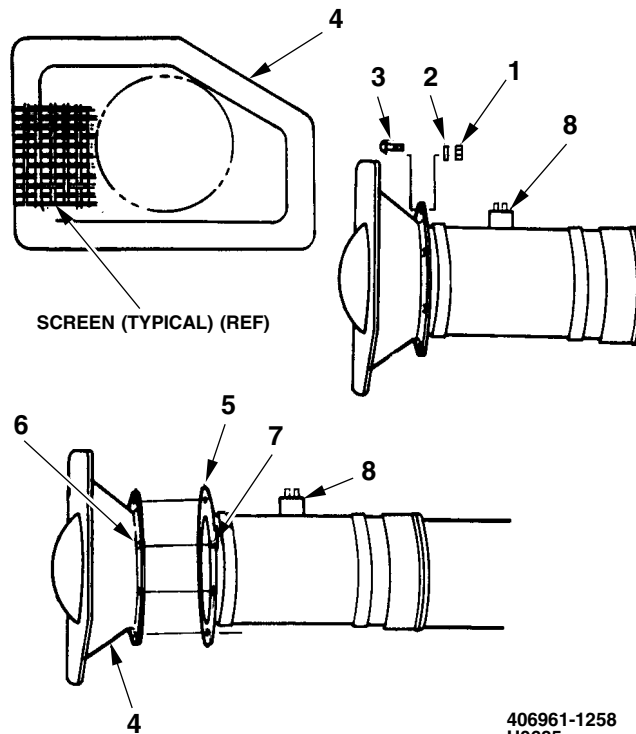
Tools:
 General Mechanic Tool Kit (B178)

REMOVE

1. Remove six nuts (1), washers (2), and screws (3) which secure duct assembly (4) to blower motor flange (5).
2. Remove duct assembly (4).

INSTALL

3. Position serviceable duct assembly (4) in place against blower motor flange (5) and align duct assembly mounting holes (6) with holes (7) in blower motor flange (5) so duct assembly (4) will appear as shown in the illustration when the blower motor terminal posts (8) are pointing up.
4. Secure duct assembly (4) against blower motor flange (5) by installing six screws (3), washers (2), and nuts (1).



406961-1258
 H0685

INSPECT

END OF TASK

9-1-5. AVIONIC COOLING SYSTEM THERMO SWITCH (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

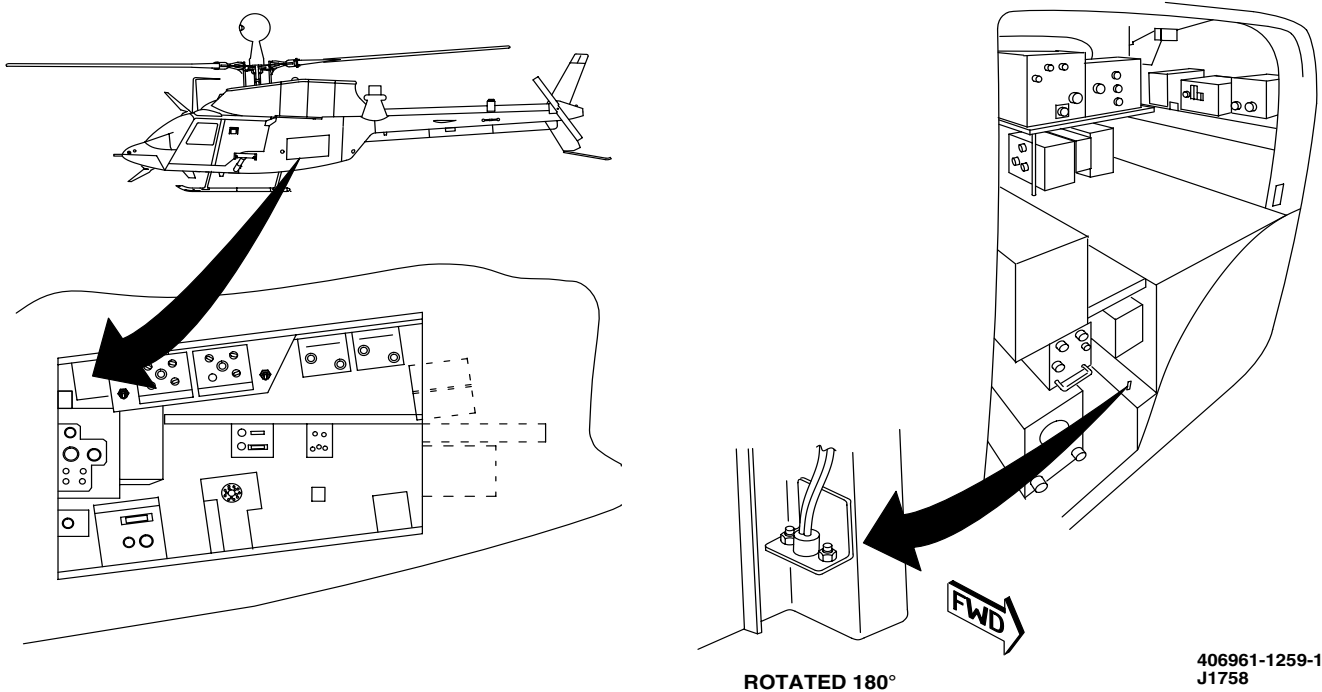
Tools:
Electrical Repairer Tool Kit (B177)
Airframe Repairer Tool Kit (B176)
Heat Gun (Nitrogen) (B60)

Material:
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
68G Aircraft Structural Repairer

References:
TM 11-1520-248-23
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
EGI Removed (TM 11-1520-248-23)
Left Access Door Removed (Task 2-2-6) or Aft Electrical Compartment Door Opened, as Applicable



Avionic Cooling System Thermo Switch

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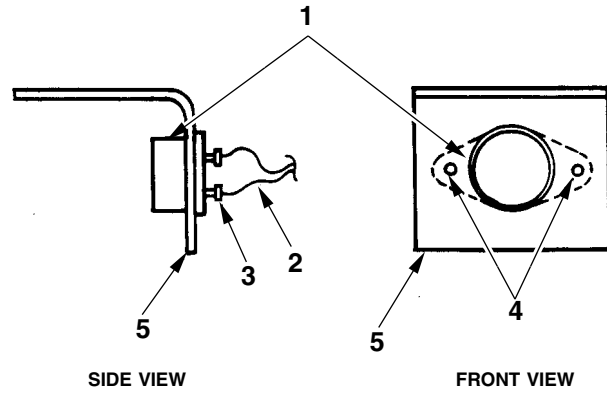
9-1-5. AVIONIC COOLING SYSTEM THERMO SWITCH (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

This task covers the replacement of thermo switch 10S7 or 10S8. Refer to Appendix F for specific location and access for FWD switch (10S7). EGI Unit must be removed (TM 11-1520-248-23).

REMOVE

1. Locate and gain access to applicable thermo switch (1). See figure Avionic Cooling System Thermo Switch.
2. Tag and identify two wires (2) connected to thermo switch (1).
3. Desolder two wires (2) from terminals (3) on thermo switch (1).



406961-1259-2
H0686



Drilling Operations

4. Drill out two rivets (4) holding thermo switch (1) to bracket (5).
5. Remove thermo switch (1) from bracket (5).

INSTALL

6. Position thermo switch (1) into opening in bracket (5), and align with rivet holes.
7. Insert two rivets (4) into holes in thermo switch (1) and bracket (5).
8. Secure rivets (4).
9. Solder tagged wires to correct terminals (3) on thermo switch (1) using heat gun (nitrogen) (B60) and solder (D195).
10. Remove tags from wires (2).

INSPECT

FOLLOW-ON MAINTENANCE

Install EGI Unit (TM 11-1520-248-23).

Install left access door (Task 2-2-6) or close aft electrical compartment door as applicable.

Perform operational check (TM 1-1520-248-T).

END OF TASK

 9-1-6. AVIONIC COOLING SYSTEM FLEXIBLE AIR DUCT COUPLING — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Plastic Scraper (B123)
Tie-Wrap Gun (B62)

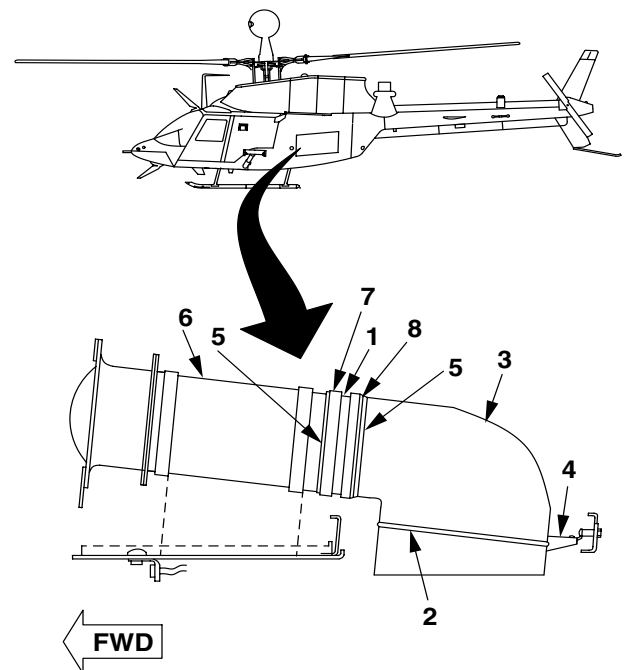
Material:
Silicone Adhesive (D36)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Equipment Condition:
Helicopter Safed (Task 1-6-7)

REMOVE

1. Open aft electrical compartment door to gain access to avionic cooling system flexible air duct coupling (1).
2. Cut plastic strap (2) securing air outlet duct (3) to bracket (4).
3. Cut plastic straps (5) around air duct coupling (1).
4. Remove air outlet duct (3) from air duct coupling (1) and remove air outlet duct from immediate work area.
5. Using knife, cut air duct coupling (1) away from blower motor (6) using care not to cut or scratch metal surface of blower motor.
6. Using plastic scraper (B123), remove old adhesive from blower motor (6).



406961-1260
J0652

GO TO NEXT PAGE

9-1-6. AVIONIC COOLING SYSTEM FLEXIBLE AIR DUCT COUPLING — REMOVAL/INSTALLATION
(CONT)

INSTALL



Adhesive

7. Apply a bead of silicone adhesive (D36) around outside of blower motor (6) immediately forward of metal bead (7).

INSPECT

8. Slide new air duct coupling (1) onto blower motor (6) and into permanent installation position.

9. Slide forward end of air outlet duct (3) into air duct coupling (1) and into permanent position.

10. Install plastic straps (5) around air duct coupling (1) immediately forward of blower motor metal bead (7) and immediately aft of raised bead (8) of air outlet duct (3).

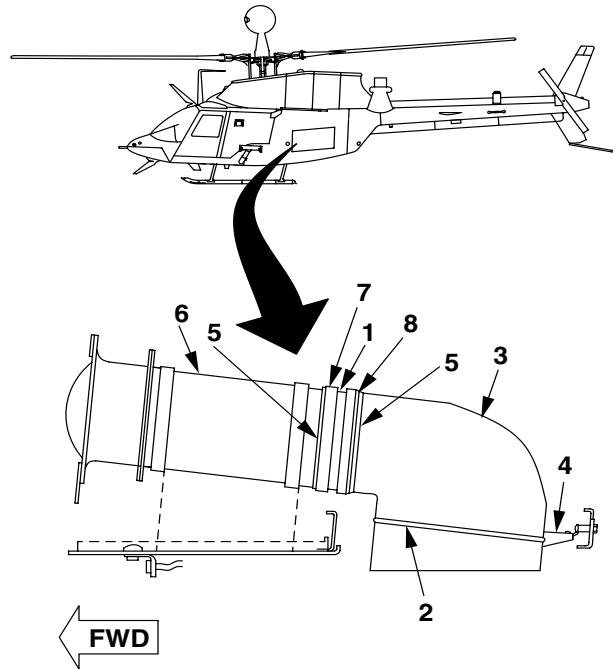
11. Tighten plastic straps (5) with tie-wrap gun (B62).

12. Install plastic strap (2) through bracket (4) to secure air outlet duct (3) to helicopter structure.

13. Tighten plastic straps (2) with tie-wrap gun (B62).

INSPECT

14. Close aft electrical compartment door.



406961-1260
J0652

END OF TASK

Section II. AVIONIC SYSTEM MOUNTS

9-5. AVIONIC SYSTEM MOUNTS

are provided in Appendix P and TM 1-1500-204-23.

9-6. INTRODUCTION

This section contains maintenance procedures for selected avionic system mounts. Standard torques

9-7. TASK LIST

The task list consists of those tasks required to support unit and intermediate level maintenance.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
HF COMSEC Unit Mount — Removal/Installation	9-2-1	9-20
HF RT Unit Mounting Tray — Removal/Installation	9-2-2	9-22
HF Amplifier-Coupler Mounting Tray — Removal/Installation	9-2-3	9-25
VHF FM 1 or 2 RT Unit Mounting Tray — Removal/Installation	9-2-4	9-27
VHF AM RT Unit Mounting Tray — Removal/Installation	9-2-5	9-30
IFF Computer Mount — Removal/Installation	9-2-6	9-32
IFF Transponder Mount — Removal/Installation	9-2-7	9-35
Video Recorder Mounting Rack — Removal/Installation	9-2-8	9-37
Transfer Unit Mounting Bracket — Removal/Installation	9-2-9	9-39
Panel Assembly (COMSEC Units 1 and 2) — Removal/Repair/Installation	9-2-10	9-41

9-2-1. HF COMSEC UNIT MOUNT — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Right Access Door Removed (Task 2-2-6)
HF COMSEC Unit Removed (TM 11-1520-248-23)

Tools:
Electronic Equipment Tool Kit (B244)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-2-1. HF COMSEC UNIT MOUNT — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Gain access to HF COMSEC unit mount (1).
2. Remove eight screws (2) and washers (3).
3. Remove HF COMSEC unit mount (1) from bonding strip (4) and helicopter.

INSTALL

NOTE

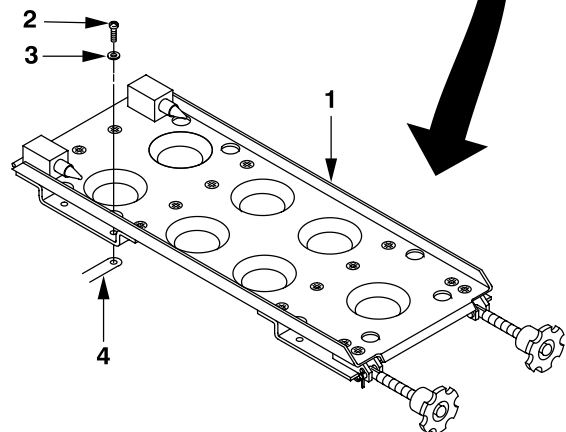
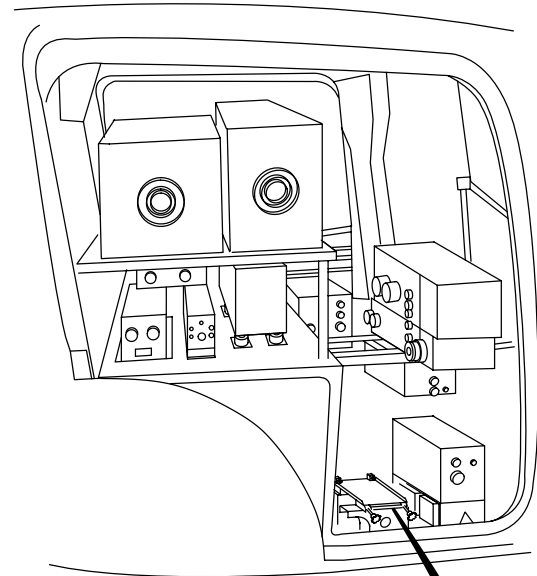
Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

4. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
5. Repair any damage and prepare mating surfaces for Class R-1 electrical bond (Appendix M).
6. Position HF COMSEC unit mount (1) onto mounting surface and align with bonding strip (4) and mounting holes.
7. Install eight washers (3) and screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

- Install HF COMSEC unit (TM 11-1520-248-23).
- Install right access door (Task 2-2-6).



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J1758

END OF TASK

9-2-2. HF RT UNIT MOUNTING TRAY — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Right Access Door Removed (Task 2-2-6)

Tools:
Electronic Equipment Tool Kit (B244)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

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9-2-2. HF RT UNIT MOUNTING TRAY — REMOVAL/INSTALLATION (CONT)

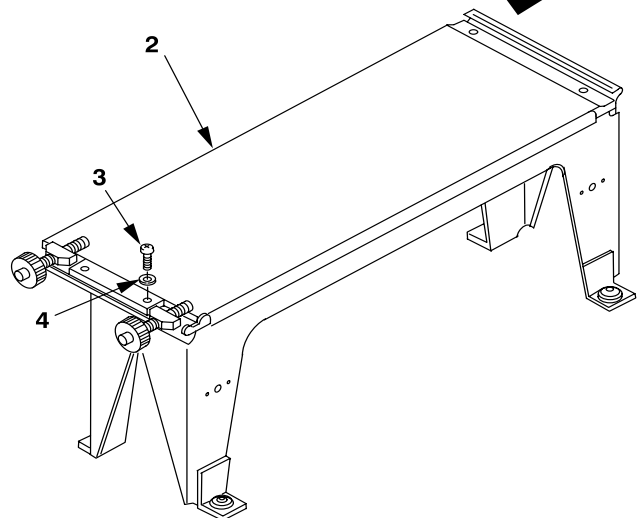
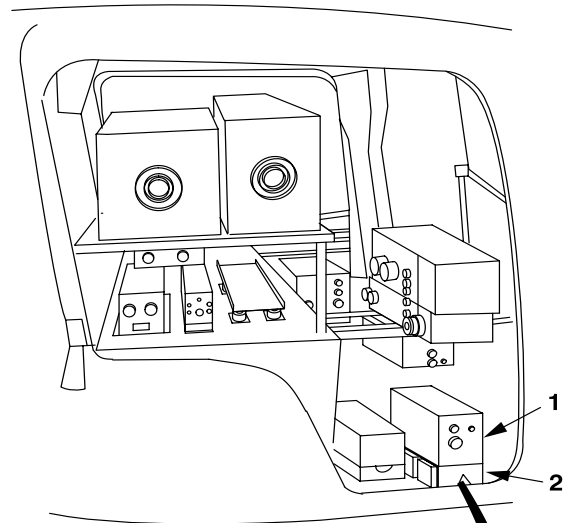
REMOVE

1. Obtain access to HF RT unit mounting area.
2. Remove HF RT unit (1) from mount (2) (TM 11-1520-248-23).
3. Remove four screws (3) and washers (4).

NOTE

Relocation of any obstructing cable assemblies may be accomplished by removing the mounting screw nearest item to be removed.

4. Remove HF RT unit mounting tray (2).



406075-336
J1755

GO TO NEXT PAGE

9-2-2. HF RT UNIT MOUNTING TRAY — REMOVAL/INSTALLATION (CONT)

INSTALL

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

5. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

6. Repair any damage and prepare mating surfaces for Class R-1 electrical bond (Appendix M).

7. Place HF RT unit mount (2) on mounting surface and align with mounting holes.

8. Install four washers (4) and screws (3).

NOTE

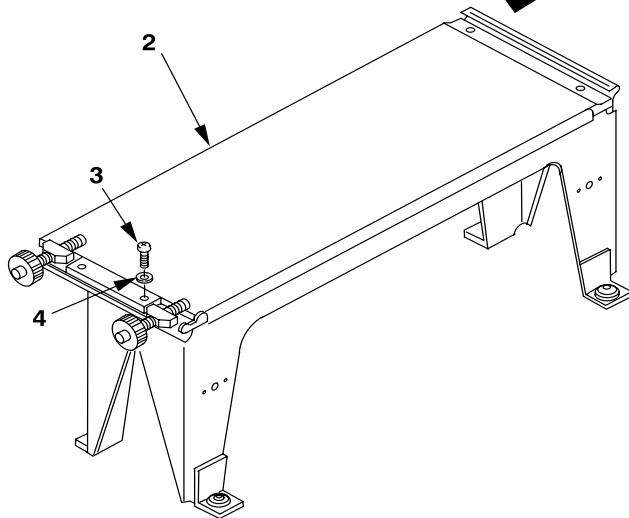
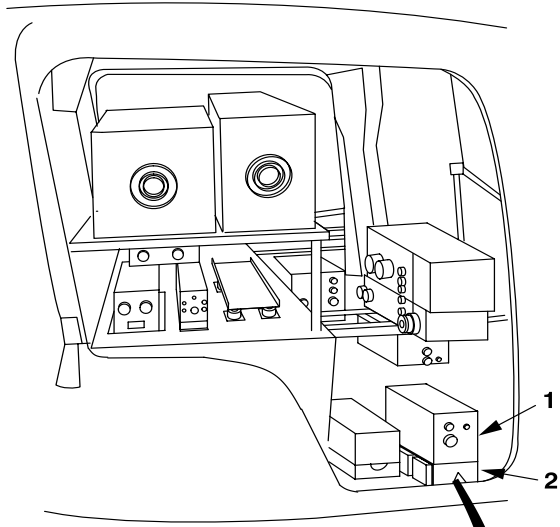
If any cable assembly was relocated during removal, position it in place and install mounting screws.

INSPECT

9. Install HF RT unit (1) (TM 11-1520-248-23).

FOLLOW-ON MAINTENANCE

Install right access door (Task 2-2-6).



406075-336
J1755

END OF TASK

9-2-3. HF AMPLIFIER-COUPLER MOUNTING TRAY — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
VHF FM RT Unit Removed (TM 11-1520-248-23)

Tools:
Electronic Equipment Tool Kit (B244)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-2-3. HF AMPLIFIER-COUPLER MOUNTING TRAY — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to obtain access to HF amplifier-coupler mounting area.

2. Remove HF amplifier-coupler (1) from mounting tray (2) (TM 11-1520-248-23).

3. Remove four screws (3) and washers (4).

4. Remove HF amplifier-coupler mounting tray (2).

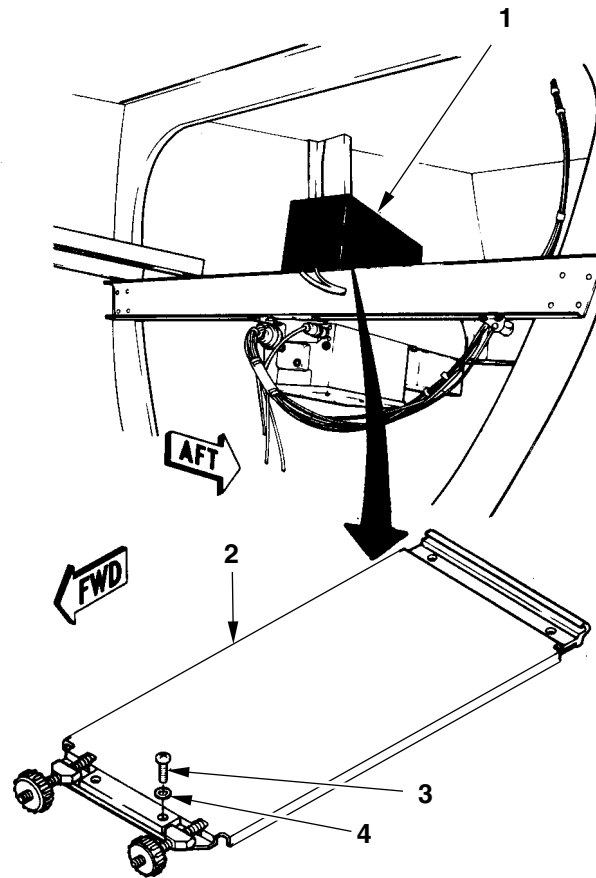
INSTALL

5. Place HF amplifier-coupler mounting tray (2) on mounting surface and align with mounting holes.

6. Install four washers (4) and screws (3).

INSPECT

7. Install HF amplifier-coupler (1) (TM 11-1520-248-23).



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H1133

END OF TASK

9-2-4. VHF FM 1 OR 2 RT UNIT MOUNTING TRAY — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
VHF FM RT 1 or 2 Removed (TM 11-1520-248-23)

Tools:
Electronic Equipment Tool Kit (B244)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-2-4. VHF FM 1 OR 2 RT UNIT MOUNTING TRAY — REMOVAL/INSTALLATION (CONT)

REMOVE

NOTE

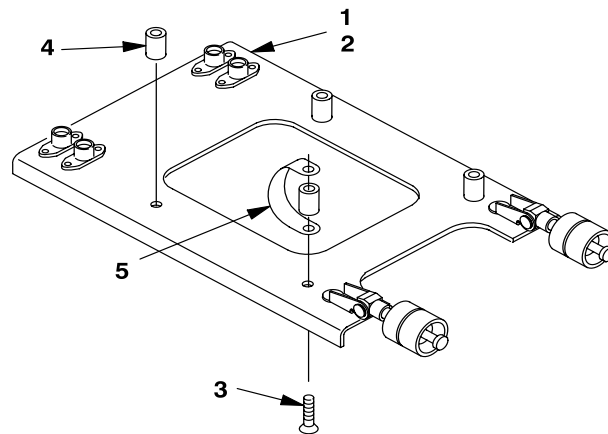
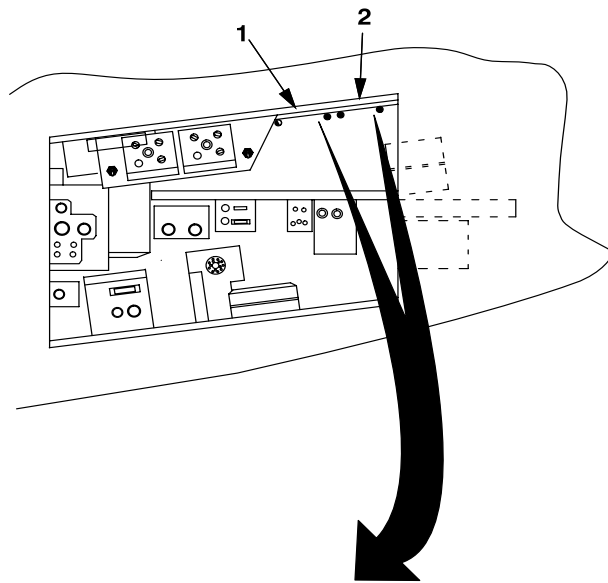
Removal of VHF FM 1 or 2 unit mounting trays is identical.

1. Gain access to VHF FM 1 or VHF FM 2 mounting tray (1 or 2) by opening aft electrical compartment door.
2. Support mounting tray (1 or 2) by hand.
3. Remove four screws (3).

NOTE

Retain four screws and bonding strip for next installation.

4. Remove mounting tray (1 or 2), four spacers (4), and bonding strip (5) from helicopter.



406075-936
J1755

GO TO NEXT PAGE

9-2-4. VHF FM 1 OR 2 RT UNIT MOUNTING TRAY — REMOVAL/INSTALLATION (CONT)

INSTALL

NOTE

- Installation of VHF FM 1 or 2 unit mounting tray are identical.
- Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

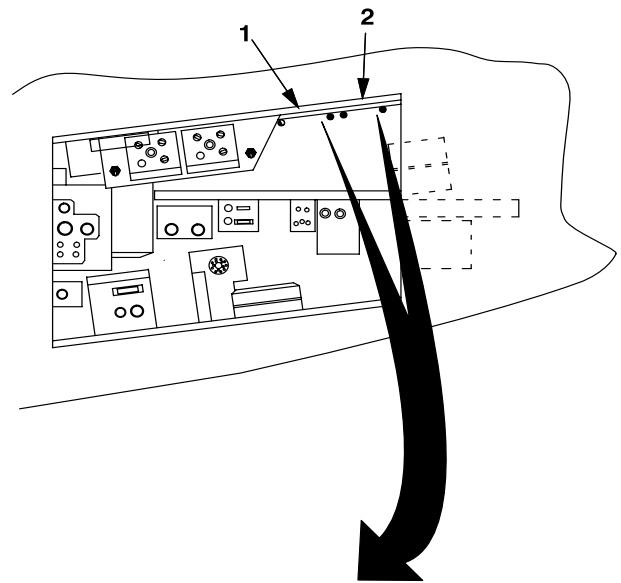
5. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

6. Repair any damage and prepare mating surfaces for Class R-1 electrical bond (Appendix M).

7. Support mounting tray (1 or 2) by hand.

8. Place bonding strip (5) and four spacers (4) on mounting tray.

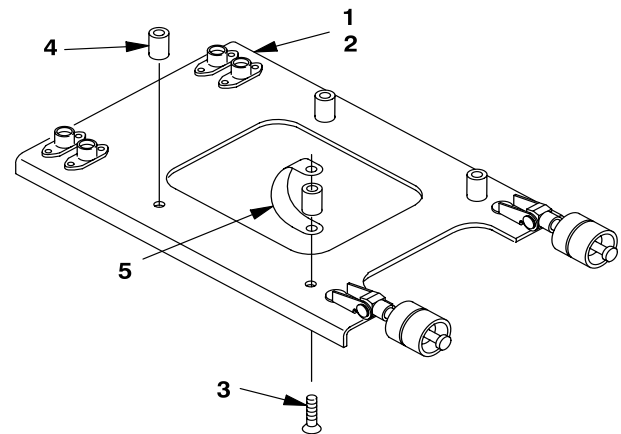
9. Install four screws (3).



INSPECT

FOLLOW-ON MAINTENANCE

Install VHF FM RT 1 or 2 (TM 11-1520-248-23).



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J1755

END OF TASK

9-2-5. VHF AM RT UNIT MOUNTING TRAY — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Right Access Door Removed (Task 2-2-6)
VHF AM RT Removed (TM 11-1520-248-23)

Tools:
Electronic Equipment Tool Kit (B244)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

 9-2-5. VHF AM RT UNIT MOUNTING TRAY — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Gain access to VHF AM mounting tray (1).
2. Support mounting tray (1) by hand.
3. Remove four screws (2) and washers (3).
4. Remove mounting tray (1) and four spacers (4) from helicopter.

INSTALL

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

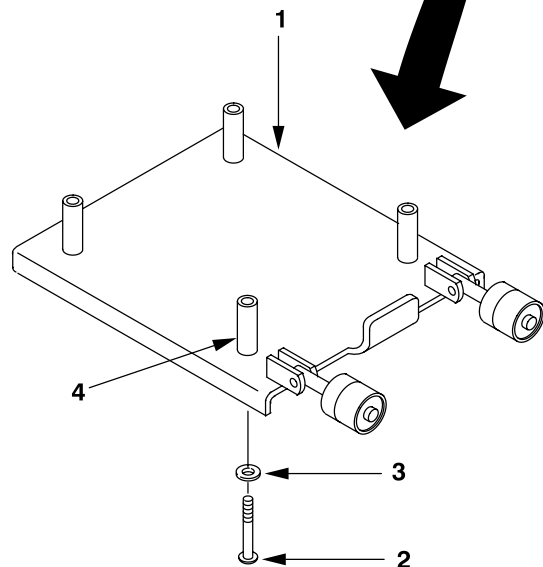
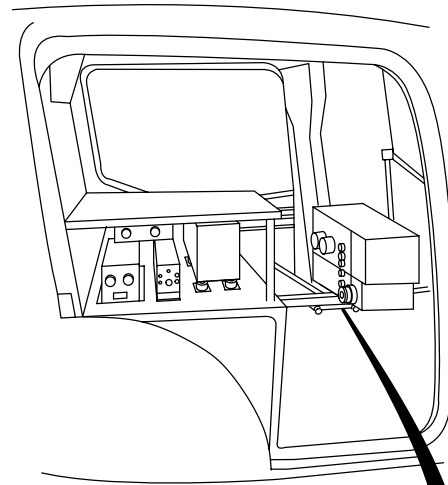
5. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
6. Repair any damage and prepare mating surfaces for Class R-1 electrical bond (Appendix M).
7. Support mounting tray (1) by hand.
8. Place four spacers (4) on mounting tray (1).
9. Install four washers (3) and screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

Install VHF AM RT (TM 11-1520-248-23).

Install right access door (Task 2-2-6).



406075-1130
J1758

END OF TASK

9-2-6. IFF COMPUTER MOUNT — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
IFF Computer Removed (TM 11-1520-248-23)

Tools:
Electronic Equipment Tool Kit (B244)

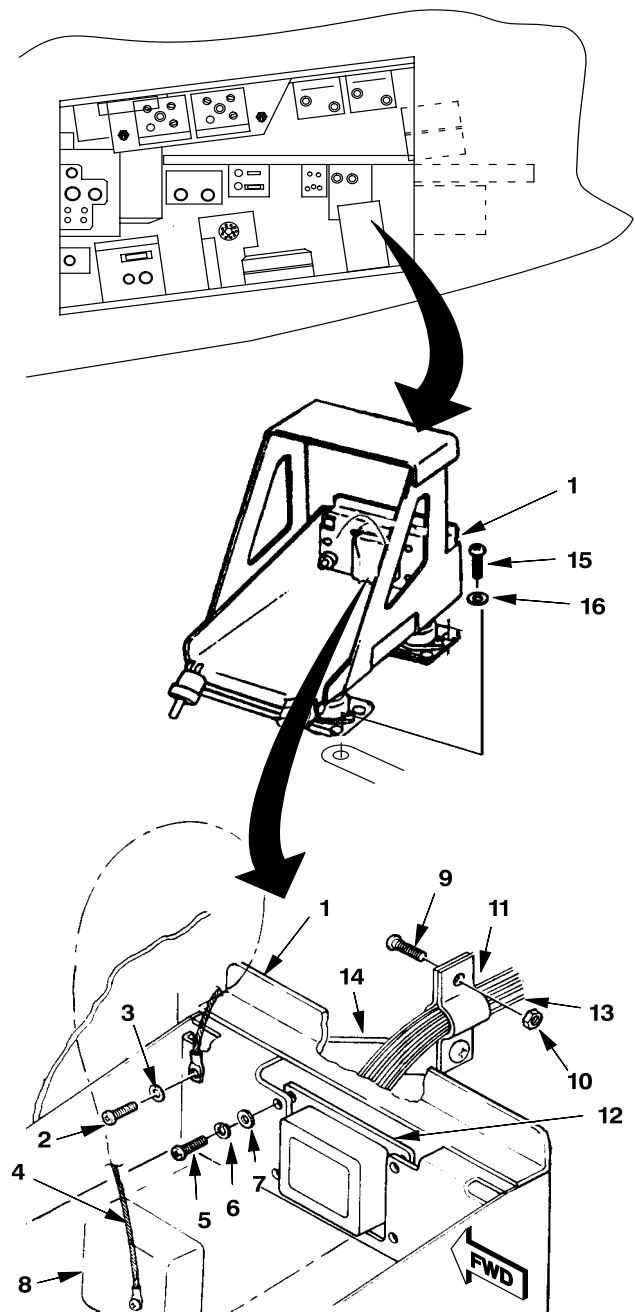
Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-2-6. IFF COMPUTER MOUNT — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to IFF computer mount (1).
2. Remove screw (2) and washer (3) from mount. Remove dust cover wire (4) from screw (2).
3. Insert washer (3) and screw (2) into mount.
4. Remove four screws (5), lockwashers (6), and flat washers (7). Retain hardware.
5. Remove dust cover (8).
6. Remove two screws (9), locknuts (10), and bracket (11).
7. Remove electrical connector (12) and cable assembly (13) from mount (1).
8. Install two screws (9), bracket (11), and two locknuts (10) to wire cable retainer (14) with cable assembly (13) removed.
9. Remove eight screws (15) and washers (16).
10. Remove IFF computer mount (1).

406075-938
J1755

GO TO NEXT PAGE

9-2-6. IFF COMPUTER MOUNT — REMOVAL/INSTALLATION (CONT)

INSTALL

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

11. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

12. Repair any damage and prepare mating surfaces for Class R-1 electrical bond (Appendix M).

13. Position IFF computer mount (1) onto mounting surface and align with bonding strip (17) and mounting holes.

14. Install eight washers (16) and screws (15).

15. Remove two screws (9), locknuts (10), and brackets (11).

16. Place cable assembly (13) and electrical connectors (12) in position.

17. Align electrical connector (12) with mounting holes.

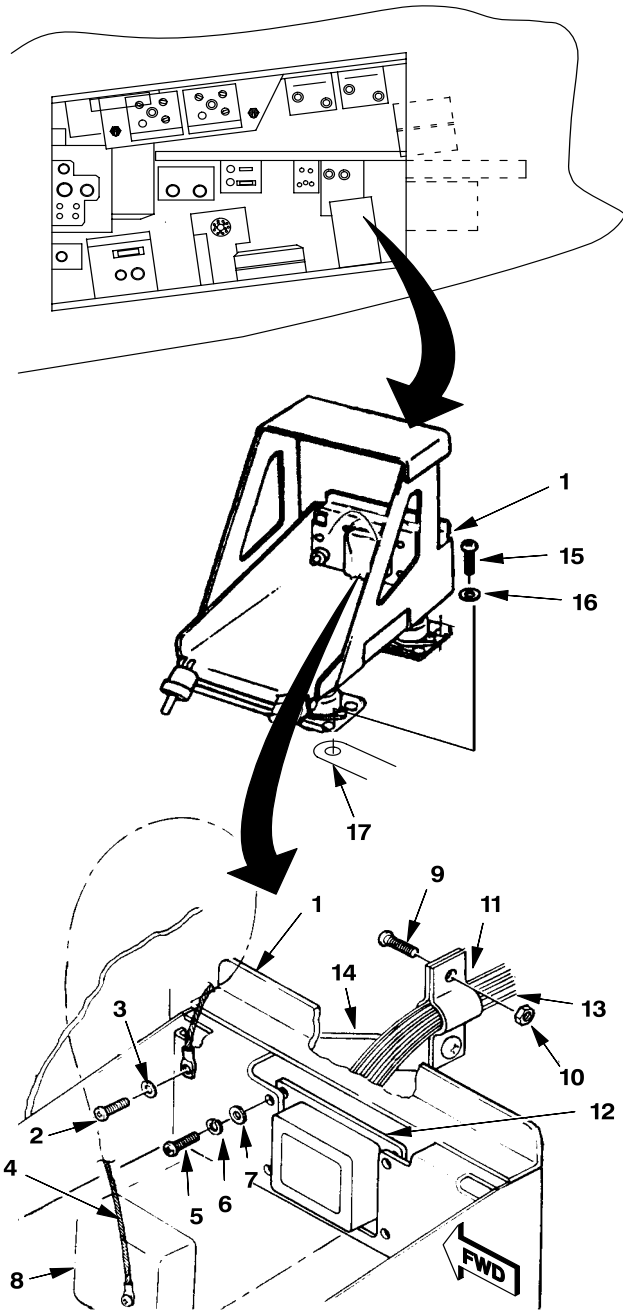
18. Install four flat washers (7), lockwashers (6), and screws (5).

19. Install dust cover wire (4) using washer (3) and screw (2).

20. Install dust cover (8) with dust cover wire (4) at lower right.

21. Place electrical cable assembly (13) in position on wire cable retainer (14).

22. Install two screws (9), bracket (11), and locknuts (10).



406075-939
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INSPECT

FOLLOW-ON MAINTENANCE

Install IFF computer (TM 11-1520-248-23).

END OF TASK

9-2-7. IFF TRANSPONDER MOUNT — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Left Access Door Removed (Task 2-2-6)
IFF Transponder Removed (TM 11-1520-248-23)

Tools:
Electronic Equipment Tool Kit (B244)
#3 Phillips Screwdriver (B124)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-2-7. IFF TRANSPONDER MOUNT — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Gain access to IFF transponder mounting area.
2. Remove four screws (1) and washers (2).
3. Remove IFF transponder mount (3).

INSTALL

NOTE

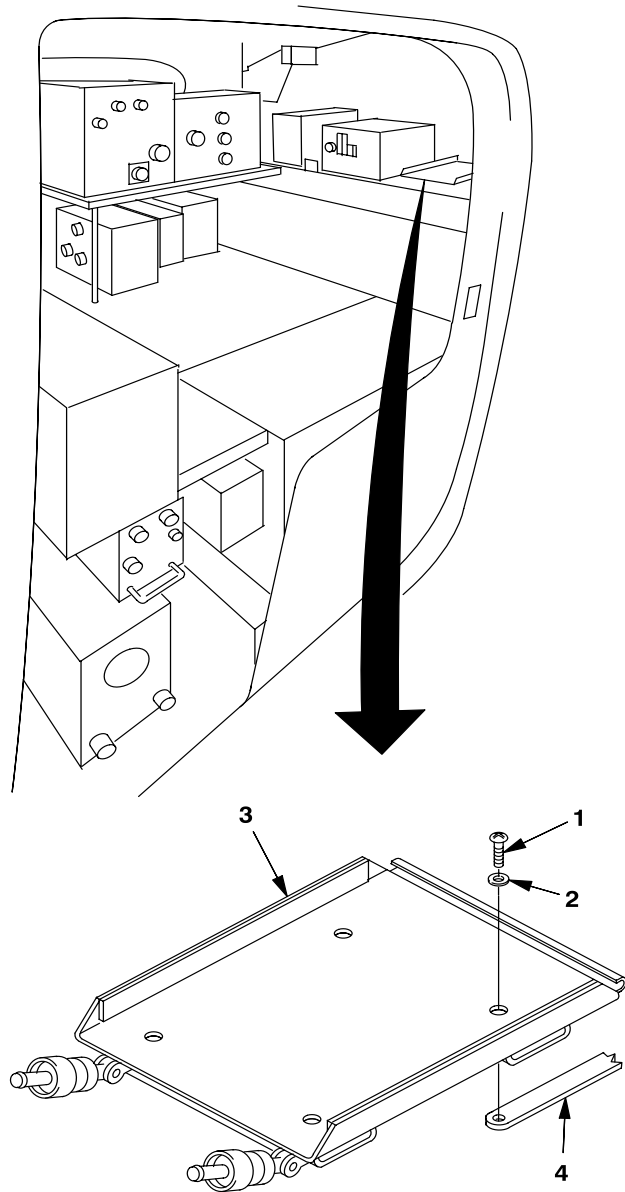
Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

4. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
5. Repair any damage and prepare mating surfaces for Class R-1 electrical bond (Appendix M).
6. Place IFF transponder mount (3) onto mounting surface and align with mounting holes. Ensure that bonding strip (4) is in place over left aft mounting hole.
7. Install four washers (2) and screws (1).

INSPECT

FOLLOW-ON MAINTENANCE

- Install IFF transponder (TM 11-1520-248-23).
- Install left access door (Task 2-2-6).



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J1755

END OF TASK

9-2-8. VIDEO RECORDER MOUNTING RACK — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Video Recorder Removed (TM 11-1520-248-23)

Tools:
Electronic Equipment Tool Kit (B244)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-2-8. VIDEO RECORDER MOUNTING RACK — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove four screws (1) and four washers (2).
2. Remove mounting rack (3) from helicopter.

INSTALL

NOTE

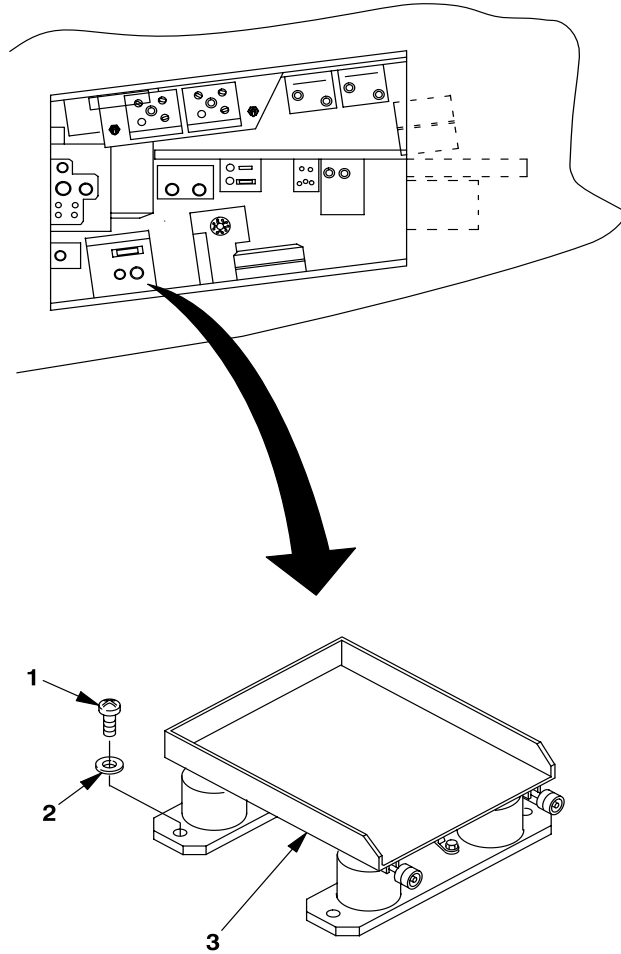
Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

3. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
4. Repair any damage and prepare mating surfaces for Class R-1 electrical bond (Appendix M).
5. Position mounting rack (3) in place and align with mounting holes.
6. Install four washers (2) and four screws (1).

INSPECT

FOLLOW-ON MAINTENANCE

Install video recorder (TM 11-1520-248-23).



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END OF TASK

9-2-9. TRANSFER UNIT MOUNTING BRACKET — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Transfer Unit Removed (TM 11-1520-248-23)

Tools:
Electronic Equipment Tool Kit (B244)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-2-9. TRANSFER UNIT MOUNTING BRACKET — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove two screws (1) and two screws (2).

2. Remove mounting bracket (3) with four spacers (4) and four washers (5) from helicopter.

INSTALL

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

3. Clean and visually inspect mating surfaces which may affect Class R-1 electrical bond.

4. Repair any damage and prepare mating surfaces for Class R-1 electrical bond (Appendix M).

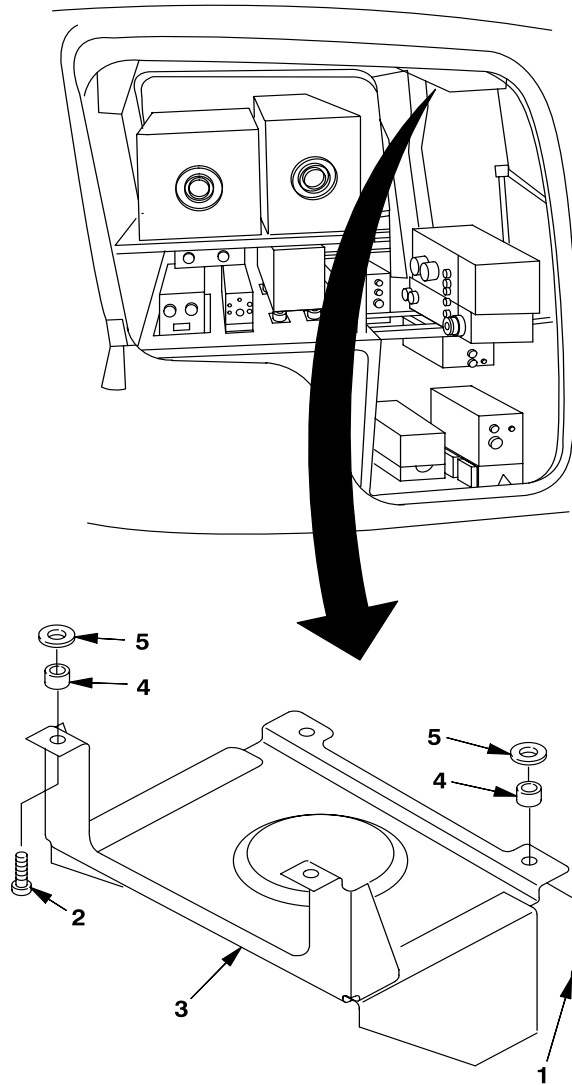
5. Position mounting bracket (3) with four spacers (4) and four washers (5) in helicopter and align holes.

6. Install two screws (2) and two screws (1).

INSPECT

FOLLOW-ON MAINTENANCE

Install transfer unit (TM 11-1520-248-23).



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END OF TASK

9-2-10. PANEL ASSEMBLY (COMSEC UNITS 1 AND 2) — REMOVAL/REPAIR/INSTALLATION

This task covers: Removal, Repair, and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electronic Equipment Tool Kit (B244)

Personnel Required:
68N Avionic Mechanic
67S Scout Helicopter Technical Inspector (TI)

References:
TM 11-1520-248-23
TM 1-1500-204-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
COMSEC Units 1 and 2 Removed (TM 11-1520-248-23)

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9-2-10. PANEL ASSEMBLY (COMSEC UNITS 1 AND 2) — REMOVAL/REPAIR/INSTALLATION (CONT)

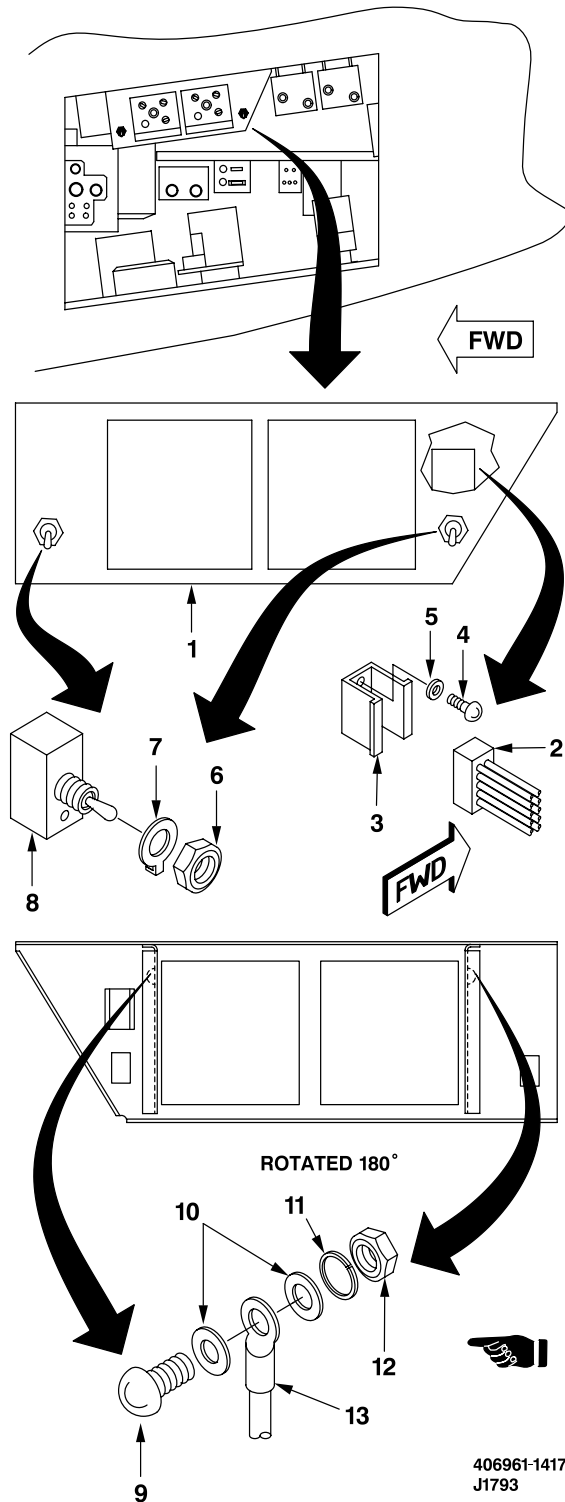
REMOVE

1. Open aft electrical compartment to obtain access to COMSEC units 1 and 2 panel assembly (1).
2. Remove junction module (2) from junction module mounting rack (3).
3. Remove two screws (4), washers (5), and junction module mounting rack (3).
4. Remove jamnut (6) and key lockwasher (7) from each of two NORMAL/OVERRIDE switches (8).
5. Remove NORMAL/OVERRIDE switches (8) from panel assembly (1).
6. Remove screw (9), two washers (10), lockwasher (11), and nut (12) securing each of two grounding wires (13) to panel assembly (1).
7. Remove panel assembly (1) by drilling out rivets per TM 1-1500-204-23.

REPAIR

8. Repair panel assembly (1) per TM 1-1500-204-23.

INSPECT



406961-1417
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GO TO NEXT PAGE

9-2-10. PANEL ASSEMBLY (COMSEC UNITS 1 AND 2) — REMOVAL/REPAIR/INSTALLATION (CONT)

INSTALL

9. Place COMSEC units 1 and 2 panel assembly (1) on mounting surface and align with mounting holes.

10. Install panel assembly (1) using rivets per TM 1-1500-204-23.

11. Install two grounding wires (13) each on panel assembly (1) with screw (9), two washers (10), lockwasher (11), and nut (12).

12. Place two NORMAL/OVERRIDE switches (8) into mounting holes in bracket on side of panel assembly (1).

13. Install key lockwasher (7) and jamnut (6) on each switch (8).

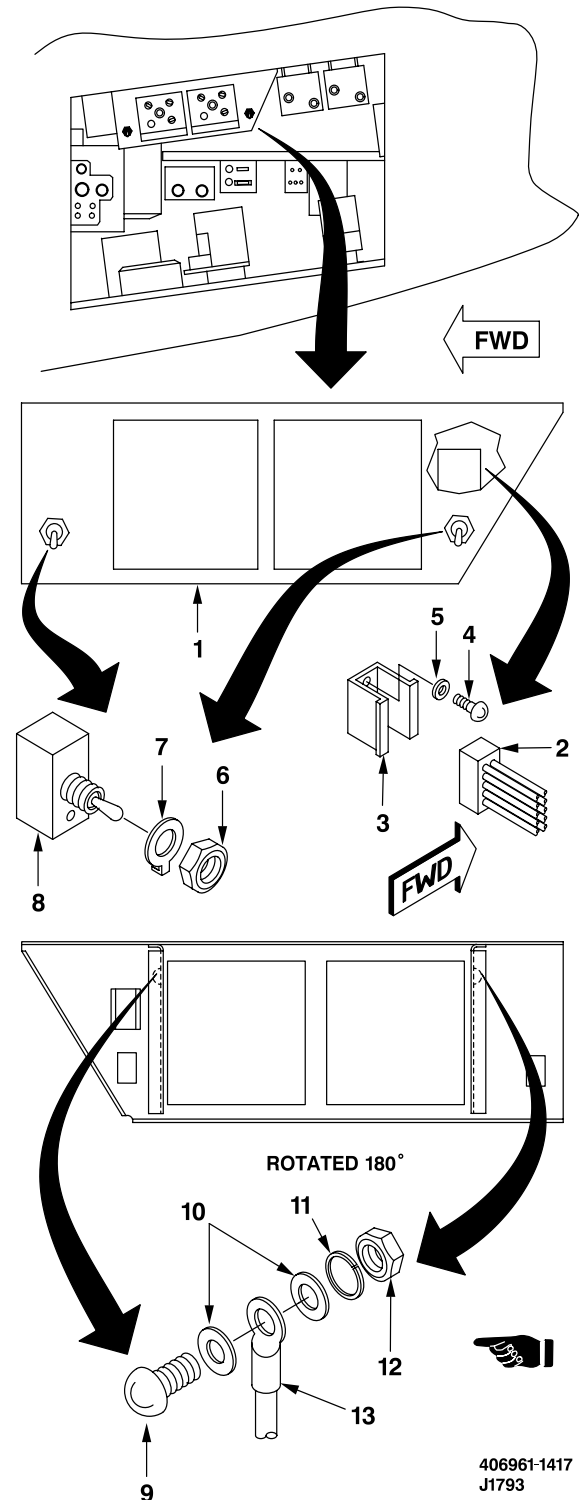
14. Install junction module mounting rack (3) onto support assembly (1) and secure with two screws (4) and washers (5).

15. Plug junction module (2) into junction module mounting rack (3).

INSPECT

FOLLOW-ON MAINTENANCE

Install COMSEC Units 1 and 2 (TM 11-1520-248-23).



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J1793

END OF TASK

Section III. DIRECT CURRENT POWER AND DISTRIBUTION SYSTEM

9-8. DIRECT CURRENT POWER AND DISTRIBUTION SYSTEM

Standard torques are provided in Appendix P and TM 1-1500-204-23.

9-9. INTRODUCTION

This section contains maintenance procedures for direct current power and distribution system.

9-10. TASK LIST

The task list consists of those tasks required to support unit and intermediate level maintenance.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
Starter-Generator Driveshaft — Inspection	9-3-1	9-45
Transformer Rectifier Unit (TRU) — Cleaning/Inspection/Repair	9-3-2	9-46
Transformer Rectifier Unit (TRU) — Removal/Installation	9-3-3	9-48
Transformer Rectifier Unit (TRU) Plate and Brackets — Removal/Installation	9-3-4	9-50
Battery Preheat Indicator Lights — Cleaning/Inspection/Repair	9-3-5	9-52
Battery Preheat Indicator Light — Removal/Installation	9-3-6	9-54
Charger-Monitor — Cleaning/Inspection/Repair	9-3-7	9-56
Charger-Monitor — Removal/Installation	9-3-8	9-58
Deleted	9-3-9	9-60
Deleted	9-3-10	9-65
DC External Power Door Switch — Cleaning/Inspection/Repair	9-3-11	9-68
DC External Power Door Switch — Removal/Installation	9-3-12	9-69
Starter-Generator Brushes — Inspection/Replacement	9-3-13	9-72
Starter-Generator — Removal/Installation	9-3-14	9-75
DC External Power Connector — Cleaning/Inspection/Repair	9-3-15	9-79
DC External Power Connector — Removal/Installation	9-3-16	9-81
Overload Sensing Control — Cleaning/Inspection/Repair	9-3-17	9-85
Overload Sensing Control — Removal/Installation	9-3-18	9-87
Voltage Regulator — Cleaning/Inspection/Repair	9-3-19	9-90
Voltage Regulator — Removal/Installation	9-3-20	9-92
DC Voltage Sensor — Cleaning/Inspection/Repair	9-3-21	9-94
DC Voltage Sensor — Removal/Installation	9-3-22	9-96

 9-3-1. STARTER-GENERATOR DRIVESHAFT — INSPECTION

This task covers: Inspection (Off Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Repairer

Applicable Configurations:
All

References:
TM 1-1520-266-23

Tools:
General Mechanic Tool Kit (B178)

INSPECT

1. Inspect driveshaft splines teeth (2) for wear. Driveshaft spline teeth (2) should measure **0.696 inch** minimum when measured over two **0.0864 inch** diameter pins (Detail A).

NOTE

Inspect only portion of driveshaft (1) that is visible (Detail A).

2. Inspect driveshaft (1) for indications of overheating.

a. Localized or areas of discoloration indicates overheating has occurred.

NOTE

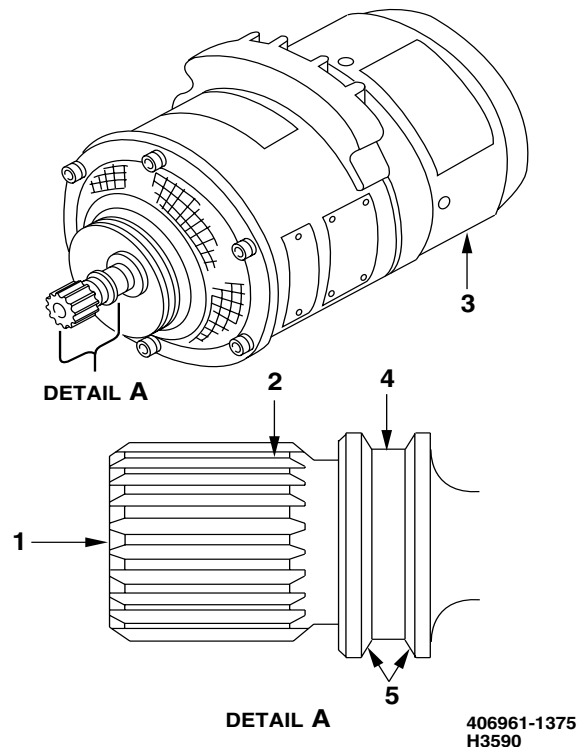
Although discoloration may indicate a weakened driveshaft, the condition may also be present in a serviceable driveshaft.

b. Uniform discoloration along the pencil section of a new driveshaft (1) may be disregarded.

c. If localized or blotchy discoloration of driveshaft (1) is noted, overheating in service is indicated. Replace starter-generator (3) (Task 9-3-14).

d. If slight bluing of driveshaft (1) has occurred, perform magnetic particle inspection or fluorescent penetrant inspection (TM 1-1520-266-23). If no cracks are detected, driveshaft is still serviceable.

e. If black discoloration of driveshaft (1) is present, replace starter-generator (3) (Task 9-3-14).



3. Machined surfaces (4 and 5) of driveshaft (1) to be free of raised edges caused by nicks, scratches or dents.

4. No material removal on driveshaft splines, due to chipping, pitting, or breakage, is acceptable. Replace starter-generator (3) if spline teeth (2) are damaged (Task 9-3-14).

END OF TASK

9-3-2. TRANSFORMER RECTIFIER UNIT (TRU) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

References:
TB 43-0118

Tools:
Electrical Repairer Tool Kit (B177)

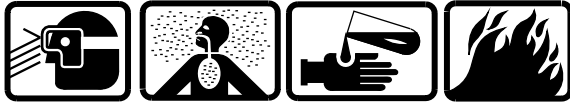
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)

GO TO NEXT PAGE

9-3-2. TRANSFORMER RECTIFIER UNIT (TRU) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

**Drycleaning Solvent**

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

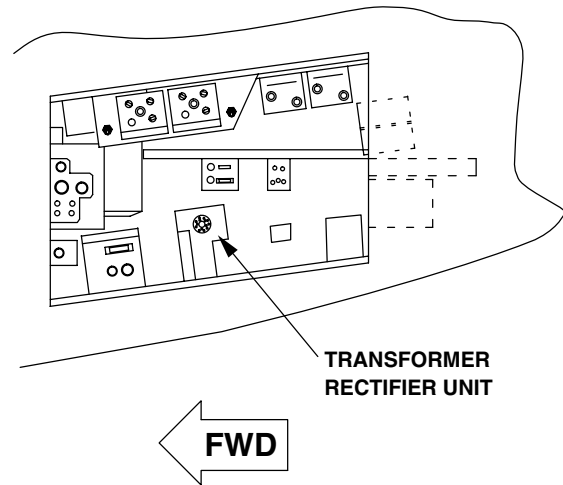
4. Inspect unit for dents or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.
7. Inspect electrical connectors for bent or broken pins, or cracked connector inserts.

REPAIR

8. Replace TRU if cracks or scratches affect operation (Task 9-3-3).

**Sanding Operations**

9. Repair non-penetrating scratches using 400 grit sandpaper (D175).
10. Replace TRU if any scratch penetrates the cover (Task 9-3-3).
11. Touch up bare metal (TB 43-0118).
12. Tighten or replace loose or missing mounting hardware.
13. Straighten bent electrical connector pin(s).

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14. Replace TRU if any electrical connector pin is broken or insert is cracked (Task 9-3-3).

INSPECT

END OF TASK

9-3-3. TRANSFORMER RECTIFIER UNIT (TRU) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Lockwire (D131)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-3-3. TRANSFORMER RECTIFIER UNIT (TRU) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to TRU (1).
2. Remove lockwire securing connector (2) to TRU (1).
3. Disconnect electrical connector (2).
4. Remove two nuts (3), lockwashers (4), and washers (5).
5. Disconnect cable (6).
6. Remove four screws (7), eight washers (8), and four nuts (9) securing TRU (1) to plate (10).
7. Slide TRU (1) toward right side of helicopter away from bus bar (11) and remove.

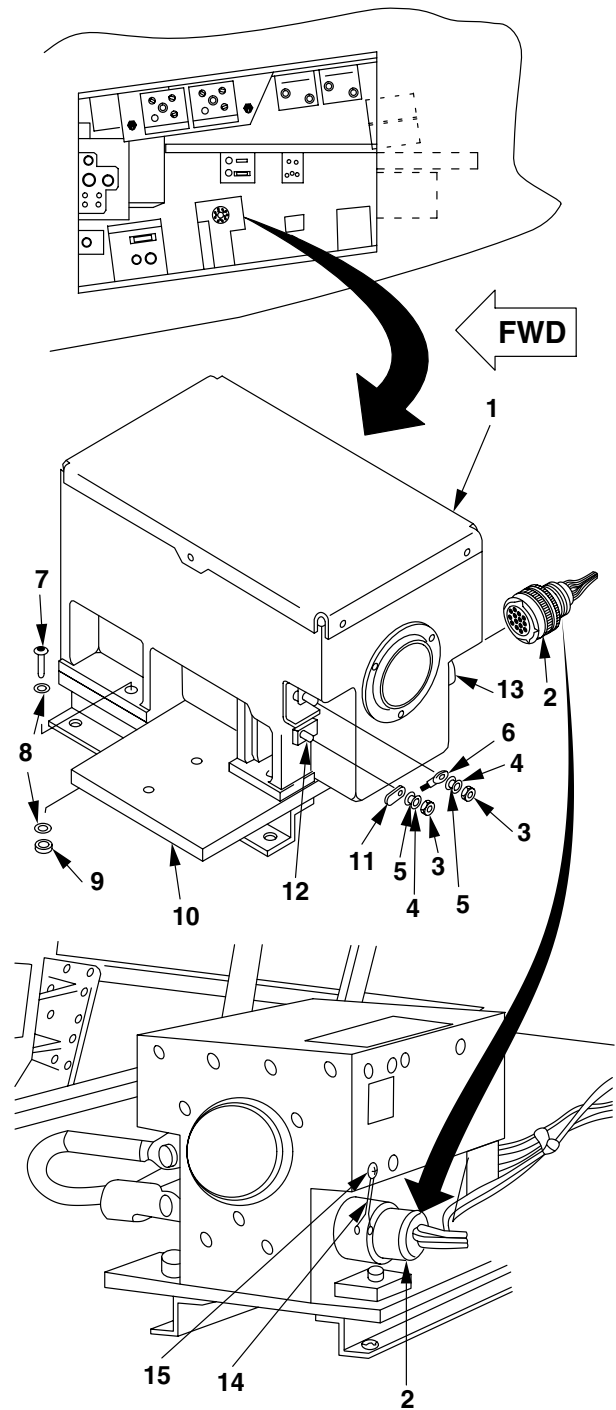
INSTALL

8. Position TRU (1) on plate (10) and align to mounting holes. Ensure bus bar (11) mates with mounting terminal (12).
9. Install eight washers (8), four screws (7), and secure with four nuts (9).
10. Connect cable (6).
11. Visually inspect connectors (2 and 13) for missing or bent pins, corrosion, and cracked housing.
12. Connect connector (2) to receptacle (13).
13. Install two washers (5), lockwashers (4), and nuts (3).
14. Install lockwire (14) (D131) between connector (2) and screw (15).
15. Close aft electrical compartment door.

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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END OF TASK

9-3-4. TRANSFORMER RECTIFIER UNIT (TRU) PLATE AND BRACKETS — REMOVAL/
INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
TRU Removed (Task 9-3-3)
Shunt Removed (9-6-47)

GO TO NEXT PAGE

**9-3-4. TRANSFORMER RECTIFIER UNIT (TRU) PLATE AND BRACKETS — REMOVAL/
INSTALLATION (CONT)**

REMOVE

1. On TRU plate (1) remove 6 nuts (2), 12 washers (3), and 6 screws (4).
2. Remove TRU plate (1) from brackets (5).
3. On brackets (5) remove four screws (6) and washers (7).
4. Remove brackets (5).

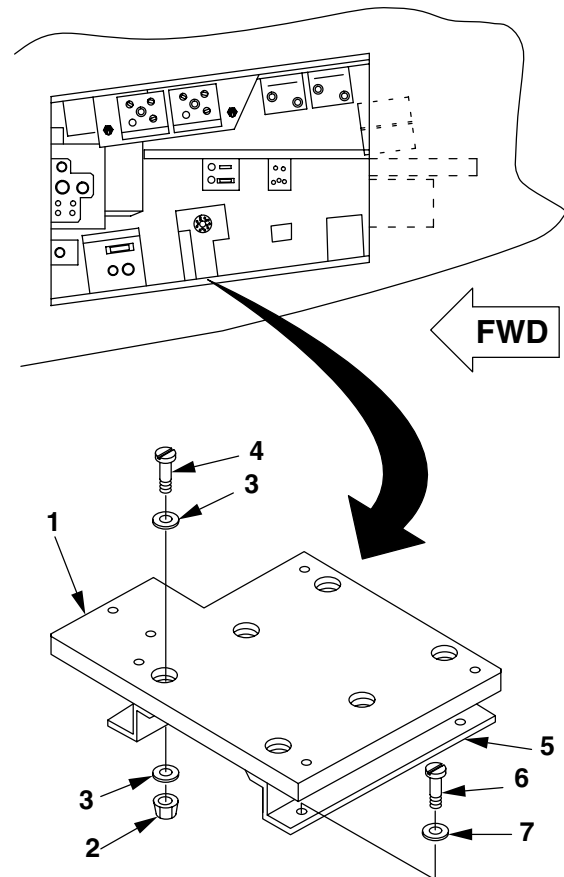
INSTALL

5. Position brackets (5) in place and align to mounting holes.
6. Install four washers (7) and screws (6).
7. Position TRU plate (1) onto brackets (5) and align to mounting holes.
8. Secure TRU plate (1) to brackets (5) using 6 screws (4), 12 washers (3), and 6 nuts (2).

INSPECT**FOLLOW-ON MAINTENANCE**

Install TRU (Task 9-3-3).

Install shunt (Task 9-6-48).



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END OF TASK

9-3-5. BATTERY PREHEAT INDICATOR LIGHTS — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

References:
TM 55-1500-323-24

Tools:
Electrical Repairer Tool Kit (B177)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
Wiping Rag (D164)

GO TO NEXT PAGE

 9-3-5. BATTERY PREHEAT INDICATOR LIGHTS — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

1. Remove moisture, dust, and loose dirt with a wiping rag (D164).

INSPECT

2. Inspect support assembly (1) for cracks. No cracks allowed.

3. Inspect unit for faulty lamps (2).

4. Inspect for condition of wiring.

5. Inspect unit support assembly (1) for security of mounting.

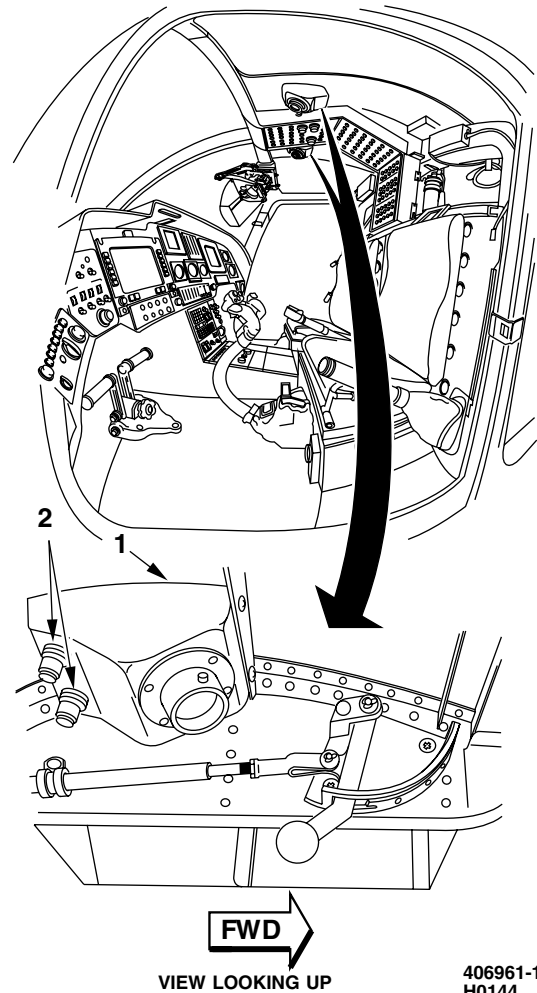
REPAIR

6. Replace support assembly (1) if cracked (Task 9-3-6).

7. Replace faulty lamps (2) (Task 9-3-6).

8. Repair or replace deteriorated or damaged wiring (TM 55-1500-323-24).

9. Tighten loose electrical connections and mounting.

INSPECT

END OF TASK

9-3-6. BATTERY PREHEAT INDICATOR LIGHT — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

References:
(TM 1-1520-248-T)

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

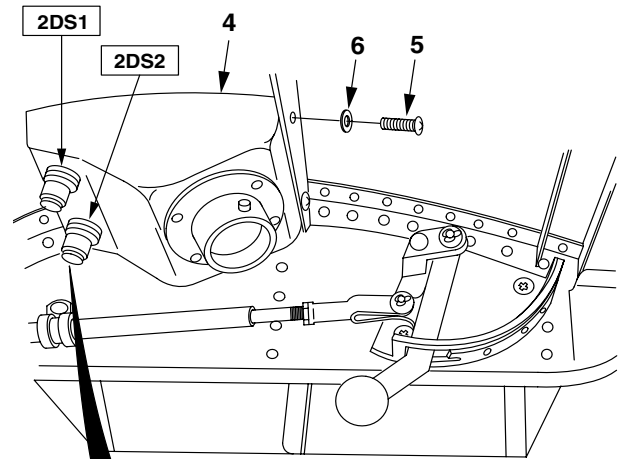
Material:
Solder (D195)

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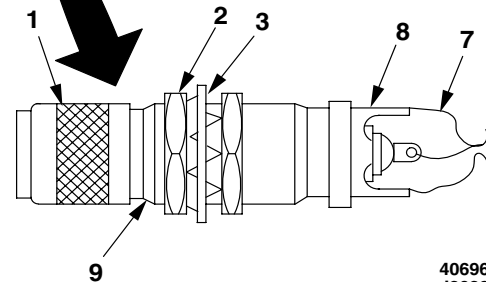
9-3-6. BATTERY PREHEAT INDICATOR LIGHT — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open right crew door to gain access to battery preheat indicator light (2DS1 or 2DS2).
2. Remove lens (1), nut (2), and lockwasher (3).
3. Support the support assembly (4) and remove four screws (5) and grommets (6).
4. Remove the support assembly (4).
5. Identify and tag wires (7).
6. Desolder wires (7) from terminals (8).
7. Remove battery preheat indicator light (9).



VIEW LOOKING UP



406961-1189
J2028

INSTALL

8. Solder wires (7) to correct terminals (8) of battery preheat indicator light (9) using heat gun (nitrogen) (B60) and solder (D195).
9. Remove identification tags from wires.
10. From rear of support assembly (4), insert battery preheat indicator light (9) through mounting hole.
11. Install lockwasher (3), nut (2), and lens (1).

INSPECT

12. Position support assembly (4) in place and align to mounting holes.
13. Install four grommets (6) and screws (5).

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

END OF TASK

9-3-7. CHARGER-MONITOR — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:

All

References:

TB 43-0118

Tools:

Electrical Repairer Tool Kit (B177)

Equipment Condition:

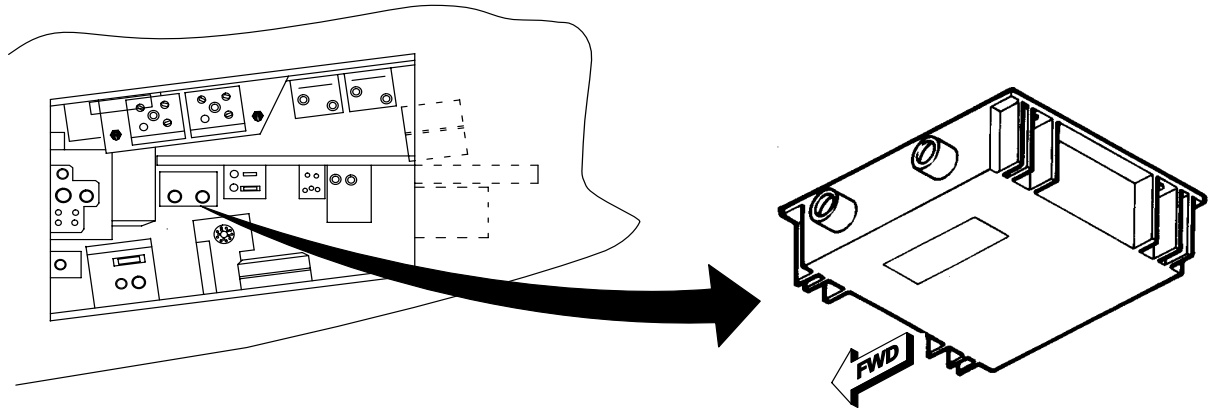
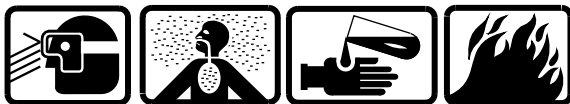
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:

Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)

GO TO NEXT PAGE

9-3-7. CHARGER-MONITOR — CLEANING/INSPECTION/REPAIR (CONT)

406961-1188
J1785**Charger-Monitor****CLEAN****Drycleaning Solvent**

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199). See figure Charger-Monitor.

2. Remove moisture, dust, and loose dirt with a wiping rag (D164).

3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect charger-monitor unit for dents or cracks.

5. Inspect charger-monitor unit for scratches and bare metal.

6. Inspect charger-monitor unit for security of mounting.

7. Inspect electrical connector for bent or broken pins, or cracked connector inserts.

REPAIR

8. Replace charger-monitor if case is cracked or has a dent that affects operation (Task 9-3-8). ■

**Sanding Operations**

9. Repair any scratches using 400 grit sandpaper (D175).

10. Touch up bare metal (TB 43-0118).

11. Tighten or replace missing mounting hardware.

12. Straighten bent electrical connector pin(s).

13. Replace charger-monitor if any electrical connector pin is broken or insert is cracked (Task 9-3-8). ■

INSPECT

END OF TASK

9-3-8. CHARGER-MONITOR — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-3-8. CHARGER-MONITOR — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to charger-monitor (1).

NOTE

If charger-monitor is not going to be reinstalled, connect electrical connector 2PS2P2 to jumper connector 2PS2JA.

2. Disconnect two electrical connectors (2).
3. Support charger-monitor (1) and remove four screws (3) and washers (4).
4. Remove charger-monitor (1).

INSTALL

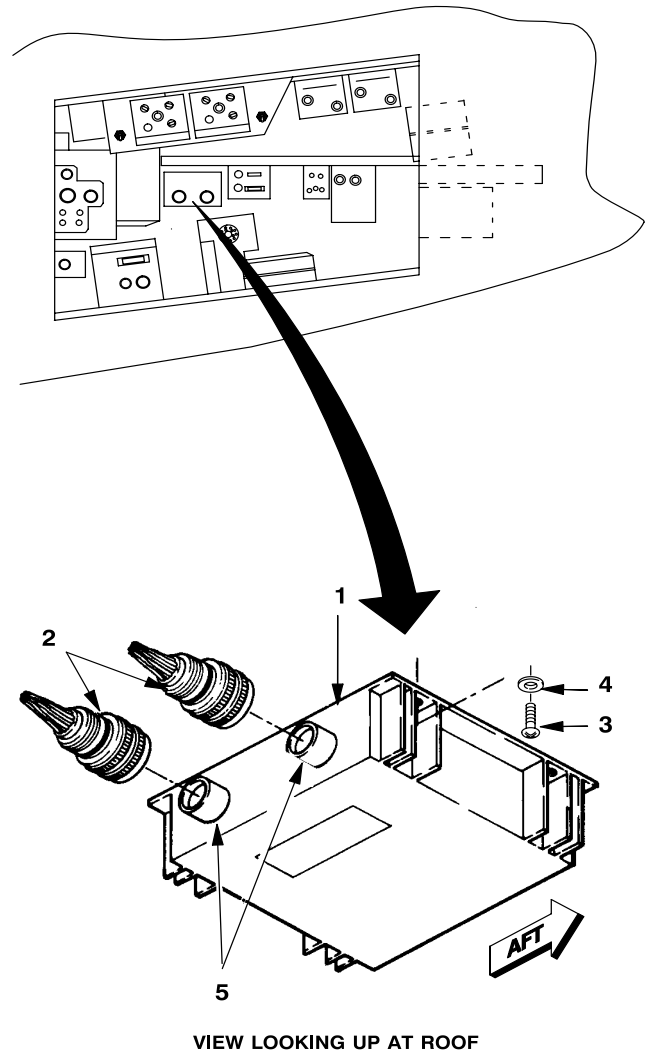
5. Position serviceable charger-monitor (1) in place and align to mounting holes.
6. Support charger-monitor (1) and install four washers (4) and screws (3).
7. Visually inspect electrical connectors (2) and receptacles (5) for corrosion, missing or bent pins, and cracked housing.
8. Connect electrical connectors (2) to receptacles (5).

INSPECT

FOLLOW-ON MAINTENANCE

Close aft electrical compartment door.

Perform operational check (TM 1-1520-248-T).



406961-1187
J1785

9-3-11. DC EXTERNAL POWER DOOR SWITCH — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

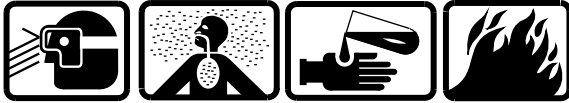
Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Rubber Gloves (D111)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 55-1500-323-24

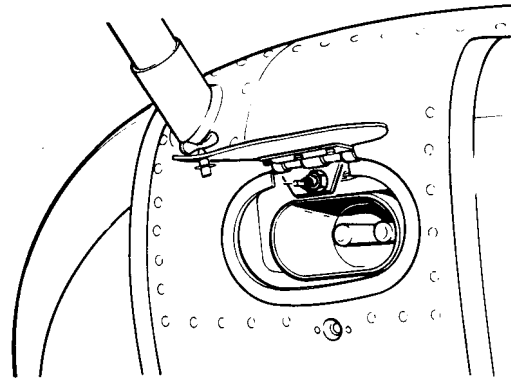
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).



ACCESS DOOR OPEN

INSPECT

3. Inspect unit for security of mounting.

REPAIR

4. Tighten or replace missing mounting hardware.
5. Replace wiring if bare or frayed (TM 55-1500-323-24).

406961-1183
H0151

INSPECT

END OF TASK

9-3-12. DC EXTERNAL POWER DOOR SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Material:
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

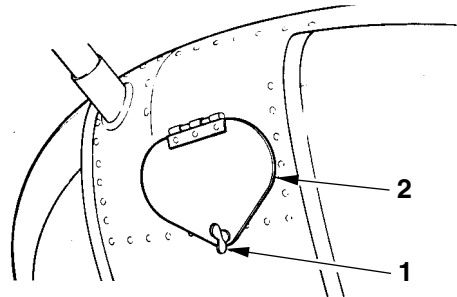
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

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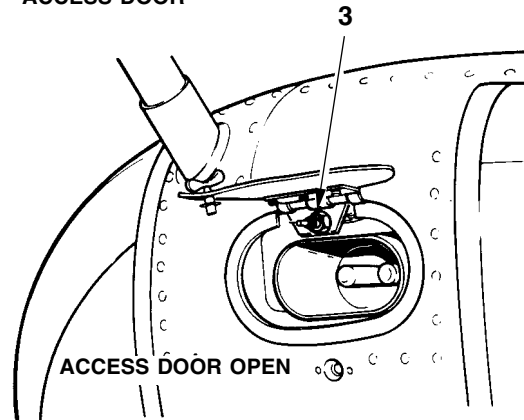
9-3-12. DC EXTERNAL POWER DOOR SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

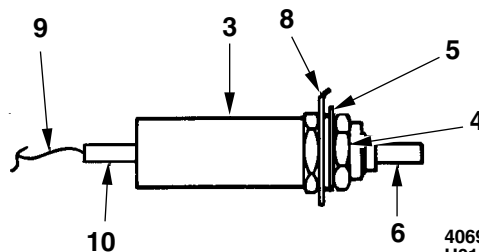
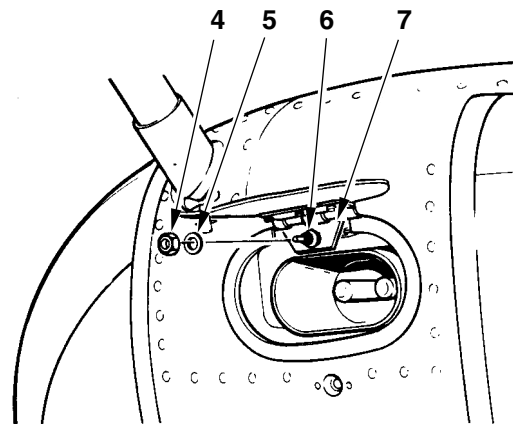
1. Loosen fastener (1).
2. Open dc power receptacle access door (2) to gain access to dc external power door switch (3).
3. Remove nut (4) and lockwasher (5).
4. Push in plunger (6) to clear mounting bracket (7).
5. Remove dc external power door switch (3) from mounting bracket (7).
6. Remove keyway washer (8).
7. Pull dc external power door switch (3) out as far as wires (9) will allow.
8. Identify and tag wires (9).
9. Desolder wires (9) from terminals (10).



DC POWER RECEPTACLE ACCESS DOOR



ACCESS DOOR OPEN



406961-1182-1
H0152

GO TO NEXT PAGE

9-3-12. DC EXTERNAL POWER DOOR SWITCH — REMOVAL/INSTALLATION (CONT)

INSTALL

10. Remove nut (4) and lockwasher (5) from DC external power door switch (3).

11. Solder tagged wires (9) to correct terminals (10) using heat gun (nitrogen) (B60) and solder (D195).

12. Remove identification tags from wires.

13. Push in plunger (6) to clear mounting bracket (7).

14. Position dc external power door switch (3) into mounting hole (11).

15. Align keyway washer (8) to mounting hole (11).

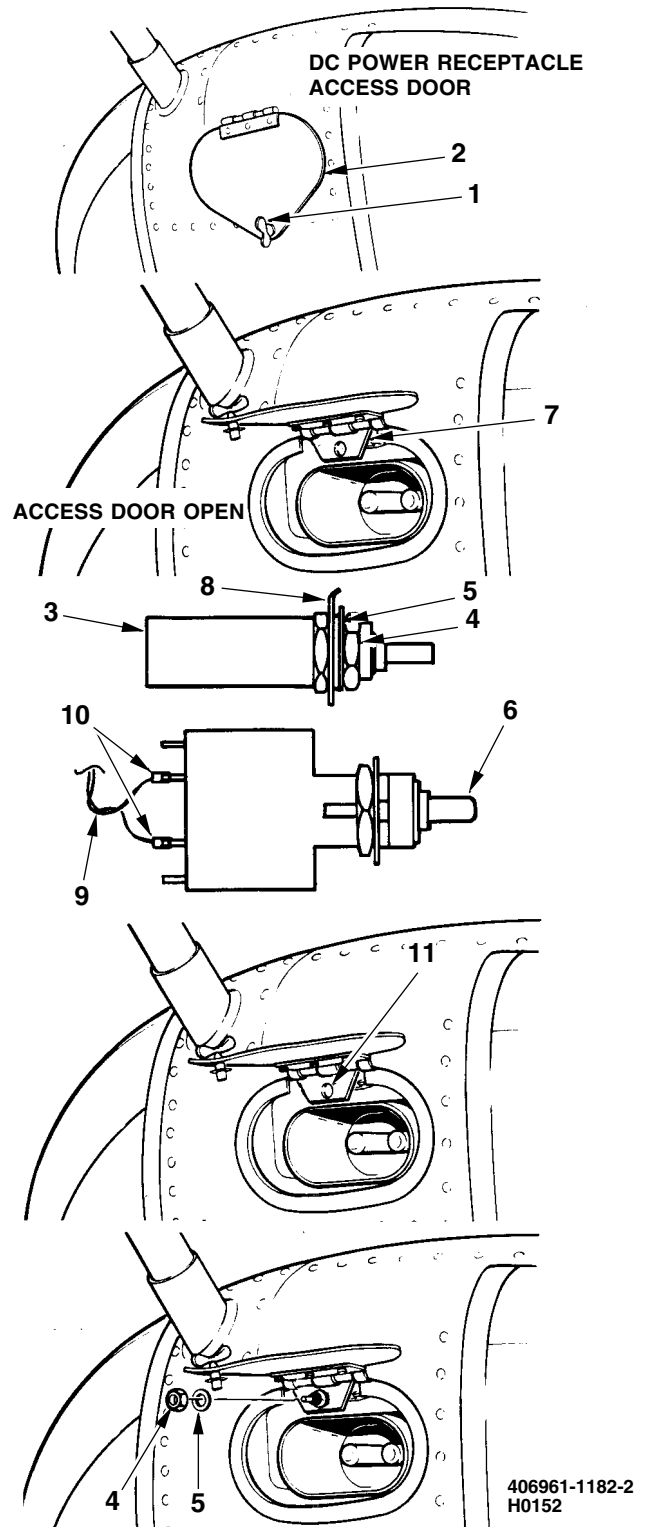
16. Install lockwasher (5) and nut (4).

17. Close dc power receptacle access door (2).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 11-1520-248-23).



END OF TASK

9-3-13. STARTER-GENERATOR BRUSHES — INSPECTION/REPLACEMENT

This task covers: Inspection (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)

Personnel Required:
67S Scout Helicopter Repairer
67S Scout Helicopter Technical Inspector (TI)

Equipment Condition:
Starter-Generator Removed (Task 9-3-14)

GO TO NEXT PAGE

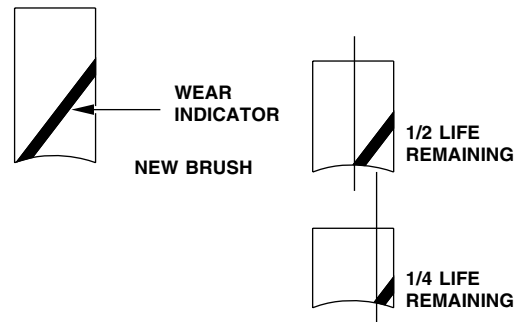
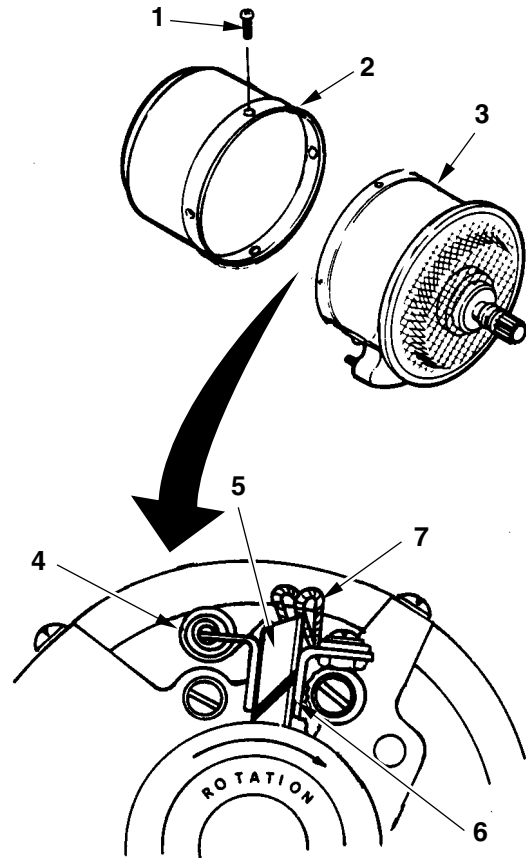
9-3-13. STARTER-GENERATOR BRUSHES — INSPECTION/REPLACEMENT (CONT)

INSPECT

1. Remove four screws (1) and cover (2) from starter-generator (3).
2. Lift retainer spring (4) off brush (5) and pull brush (5) out of brush holder (6).
3. Inspect brush holder (6) for looseness, damage from arcing, or broken hardware.
4. Inspect brush leads (7) for frayed leads or loose mounting hardware.
5. Inspect brushes (5) for wear, cracks, or chips.

NOTE

If brush wear indicates 1/4 or less life remaining, perform steps 6. through 8. If brushes are good, perform steps 7. through 10.



406961-1181-1
H0153

GO TO NEXT PAGE

9-3-13. STARTER-GENERATOR BRUSHES — INSPECTION/REPLACEMENT (CONT)

REPLACE

6. Remove screw (8) and nut (9).

NOTE

It is not necessary to conduct seating or run-in operations due to instant-filming characteristics of brushes.

7. Install brush (5) with top bevel positioned as shown for clockwise armature rotation indicated.

8. Install screw (8) and secure with nut (9).

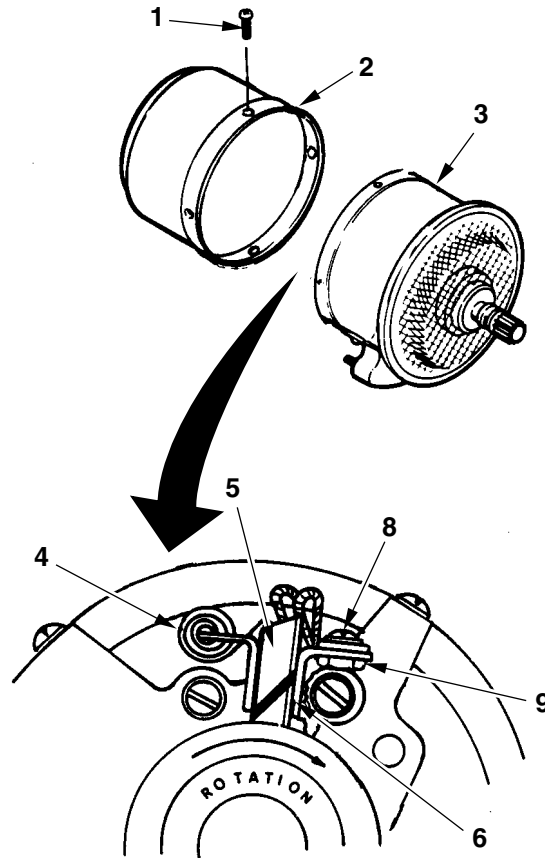
9. Position retainer spring (4) on brush (5).

10. Install cover (2) and four screws (1).

INSPECT

FOLLOW-ON MAINTENANCE

Install starter-generator (Task 9-3-14).



406961-1181-2
H0153

END OF TASK

9-3-14. STARTER-GENERATOR — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Maintenance Stand (B162)
Torque Wrench (B237)

Material:
Drycleaning Solvent (D199)
Lubricating Oil (D140 or D233)
Lockwire (D132)
Zinc Chromate Primer (D161)
Rubber Gloves (D111)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer
Pilot

References:
TM 1-1520-248-T
TM 1-1520-248-10/CL

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-3-14. STARTER-GENERATOR — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Position maintenance stand (B162) and open right engine cowling to gain access to starter-generator (1).

NOTE

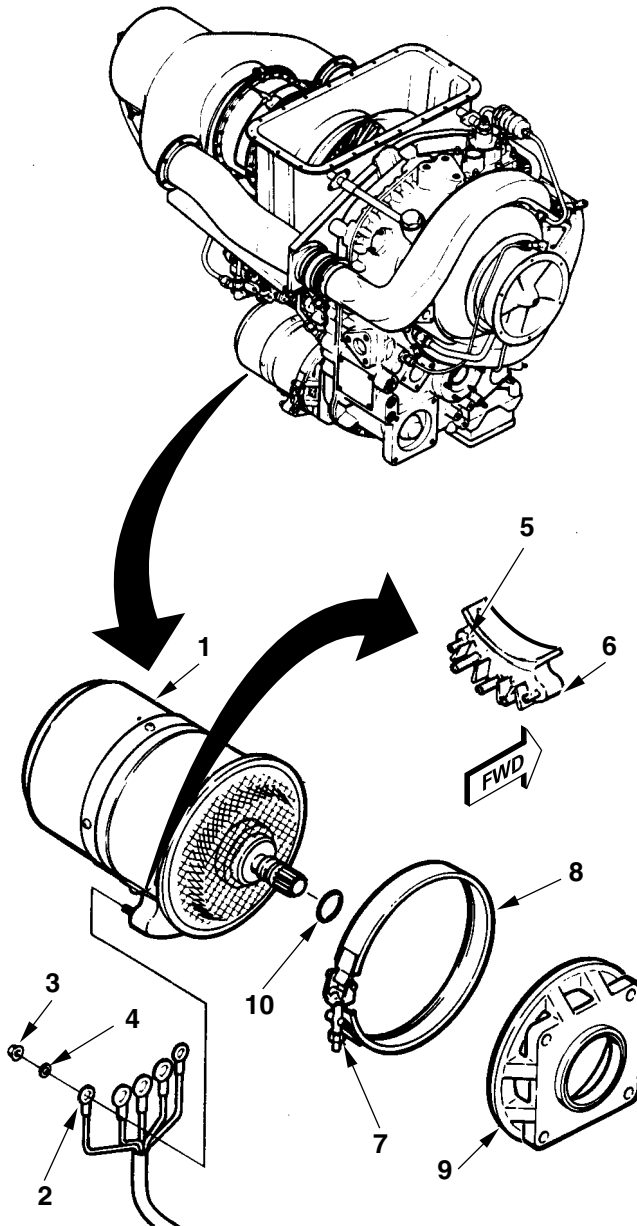
Disconnect generator wiring at electrical connector on engine deck only when the same generator is to be installed.

2. Identify and tag wires (2).
3. Remove five nuts (3) and washers (4) from the lugs (5) on terminal strip (6).
4. Remove wires (2).
5. Remove lockwire from clamp (8).

CAUTION

The weight of the starter-generator must be supported while quick-attach-detach (Q.A.D.) clamp is loosened and removed to prevent damage to the driveshaft. Weight support is required until starter-generator spline shaft is totally disengaged from the accessory drive case splines and engine pad.

6. Remove nut (7) on Q.A.D. clamp (8).
7. Remove starter-generator (1) and Q.A.D. clamp (8) from engine pad (9).
8. Remove and discard packing (10).



406961-1180-1
H0154

GO TO NEXT PAGE

9-3-14. STARTER-GENERATOR — REMOVAL/INSTALLATION (CONT)

INSTALL



Drycleaning Solvent

9. Clean spline shaft (11) of starter-generator (1) and accessory drive gear case splines (not shown) with drycleaning solvent (D199).

10. Install packing (10) on starter-generator spline shaft (11).



Lubricating Oil

11. Lubricate packing (10), spline shaft (11), and drive gear case splines (not shown) with lubricating oil (D140 or D233).



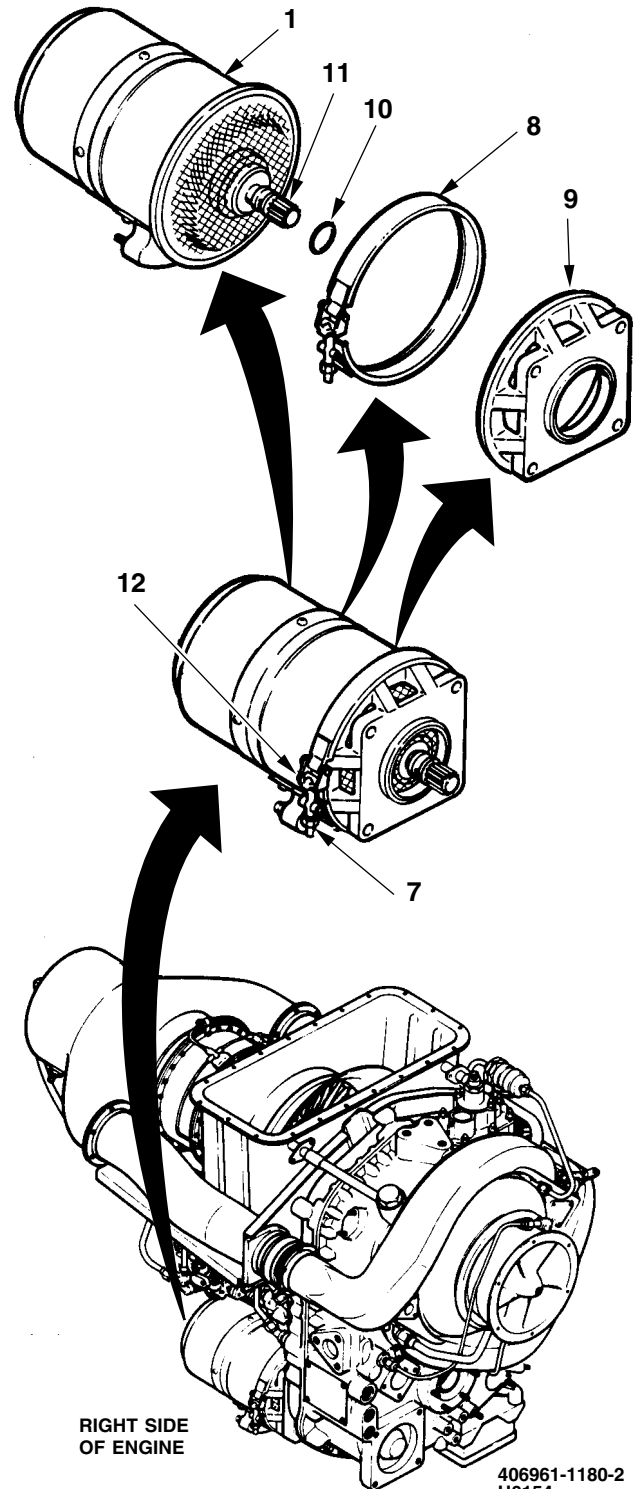
Zinc Chromate Primer

12. Apply coat of unreduced zinc chromate primer (D161) to inside of quick-attach-detach (Q.A.D.) clamp (8) and allow to dry.

CAUTION

To prevent damage to the starter-generator, the weight of the starter-generator must be supported until spline shaft is fully mated with accessory drive case splines through engine pad, and Q.A.D. clamp is in place and nut (7) on clamp fastener (12) is tightened. Starter-generator may fail if these precautions are not complied with.

13. Align starter-generator spline shaft (11) with accessory drive case (not shown) and with engine pad (9).



GO TO NEXT PAGE

9-3-14. STARTER-GENERATOR — REMOVAL/INSTALLATION (CONT)

14. Slide starter-generator (1) into accessory drive case until flush with engine pad (9), which is mounted on the engine in line with the accessory drive case.

NOTE

Ensure terminal strip (6) is centered at the 6 o'clock position.

15. Position Q.A.D. clamp (8) over starter-generator lip (13) and engine pad (9).

NOTE

Tap Q.A.D. clamp with a rubber mallet while applying torque.

16. Secure Q.A.D. clamp (8) by tightening nut (7) on clamp fastener (12). Torque nut (7) **40 TO 50 INCH-POUNDS**.

17. Install lockwire (D132) on clamp (8).

18. Position tagged wires (2) on corresponding lugs (5) of terminal strip (6).

19. Secure wires (2) on terminal strip (6) by installing five washers (4) and five nuts (3).

20. Remove wire identification tags.

INSPECT

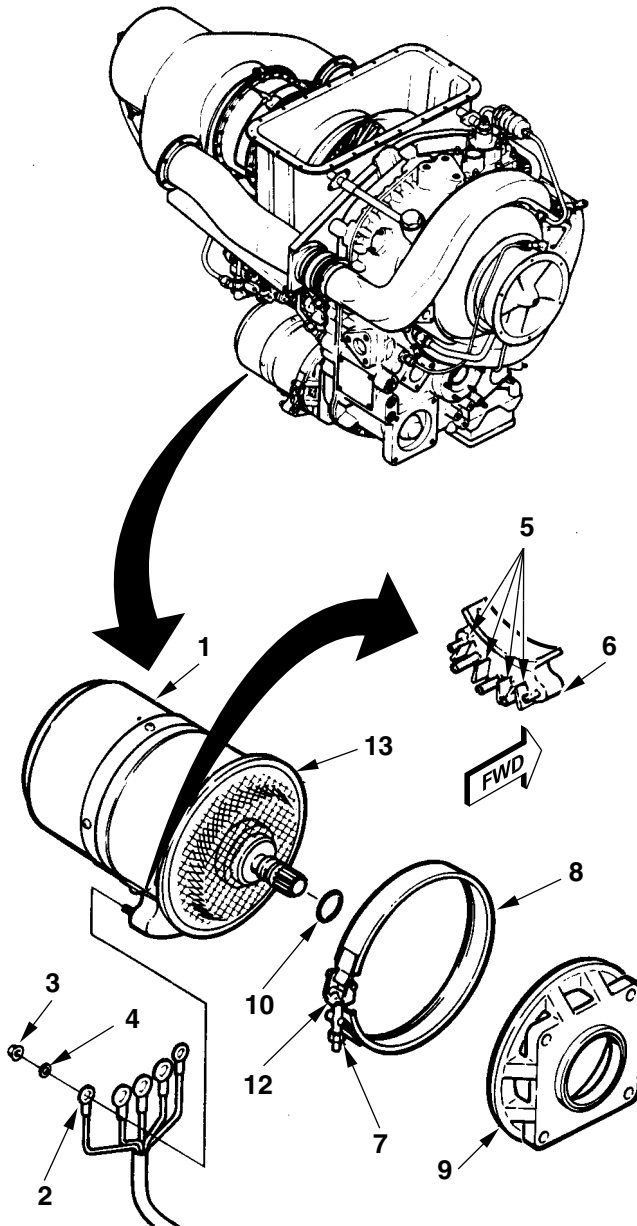
21. Position rubber boots on lugs (5).

22. Close right engine cowling.

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

Pilot perform MOC (TM 1-1520-248-10/CL).



406961-1180-3
H0154

END OF TASK

9-3-15. DC EXTERNAL POWER CONNECTOR — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Rubber Gloves (D111)
Wiping Rag (D164)

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Tools:
Electrical Repairer Tool Kit (B177)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Searchlight Removed (Task 9-5-16)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)

9-3-15. DC EXTERNAL POWER CONNECTOR — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect dc external power connector for dents or cracks.
5. Inspect dc external power connector for security of mounting.
6. Inspect dc external power connector for bent, broken, burned, or corroded pins.

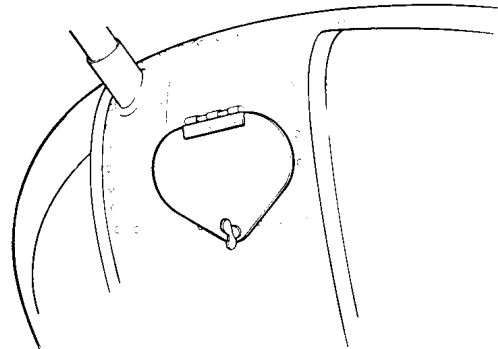
REPAIR

7. Replace dc external power connector if insulator is cracked or broken (Task 9-3-16).
8. Tighten or replace missing mounting hardware.
9. Replace dc external power connector if connector pin(s) is/are bent, broken, burned, or corroded (Task 9-3-16).

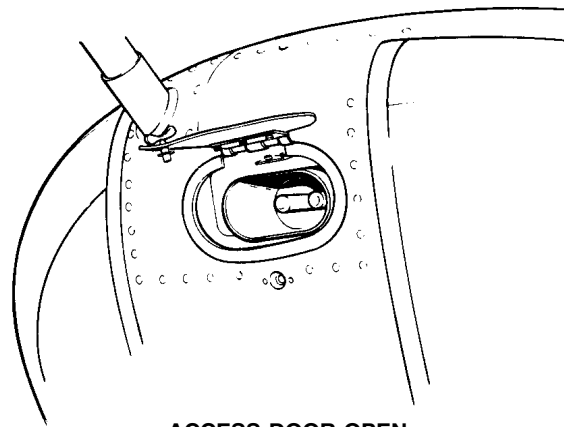
INSPECT

FOLLOW-ON MAINTENANCE

Install searchlight (Task 9-5-19).



DC POWER RECEPTACLE ACCESS DOOR



ACCESS DOOR OPEN

406961-1179
H0155

END OF TASK

9-3-16. DC EXTERNAL POWER CONNECTOR — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Battery Removed (TM 11-1520-248-23)
Searchlight Removed (Task 9-5-16)

GO TO NEXT PAGE

9-3-16. DC EXTERNAL POWER CONNECTOR — REMOVAL/INSTALLATION (CONT)

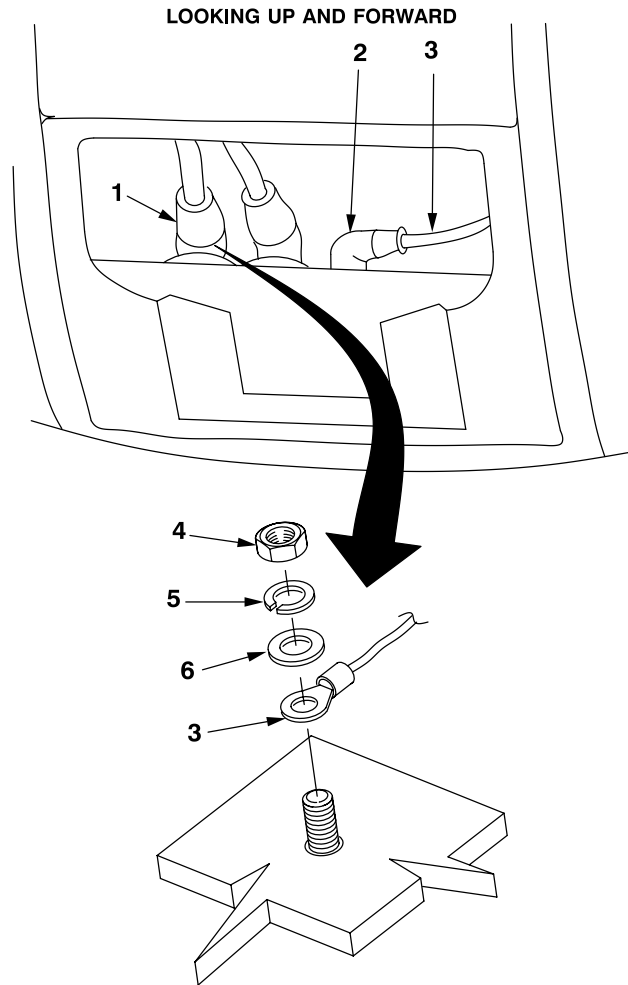
REMOVE

1. Gain access to rear of dc external power connector (1) through searchlight mounting area.
2. Remove three nipples (2) and slide to rear of three wires (3).
3. Tag and identify three wires (3).

NOTE

Access to the two larger nuts should be gained from the battery compartment.

4. Remove three nuts (4), lockwashers (5), washers (6), and three tagged wires (3).



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J2092

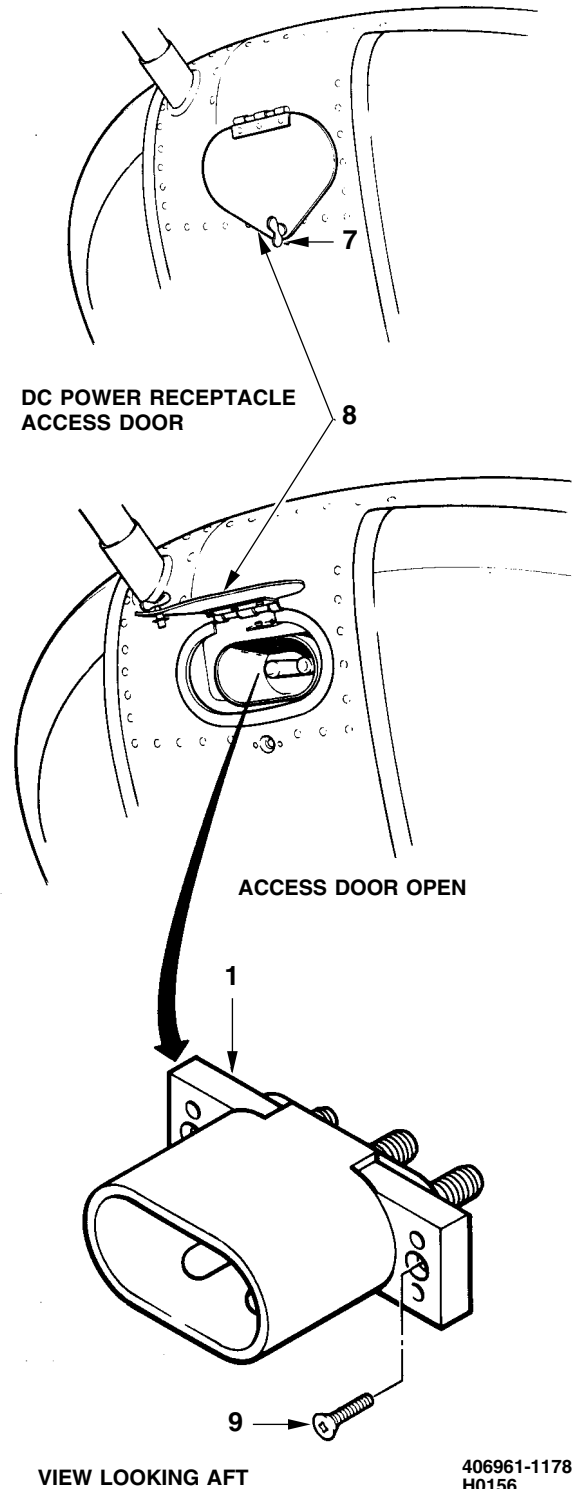
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9-3-16. DC EXTERNAL POWER CONNECTOR — REMOVAL/INSTALLATION (CONT)

5. Loosen fastener (7).
6. Open dc power receptacle access door (8).
7. Remove two screws (9).
8. Remove dc external power connector (1).

INSTALL

9. Position dc external power connector (1) in place and install two screws (9).



GO TO NEXT PAGE

9-3-16. DC EXTERNAL POWER CONNECTOR — REMOVAL/INSTALLATION (CONT)

10. Install three tagged wires (3) to their mating connections.

NOTE

Access to the two larger nuts should be gained from the battery compartment.

11. Install three washers (6), lockwashers (5), and nuts (4).

12. Remove identification tags from wires.

13. Install nipples (2).

14. Close dc power receptacle access door (8) and tighten fastener (7).

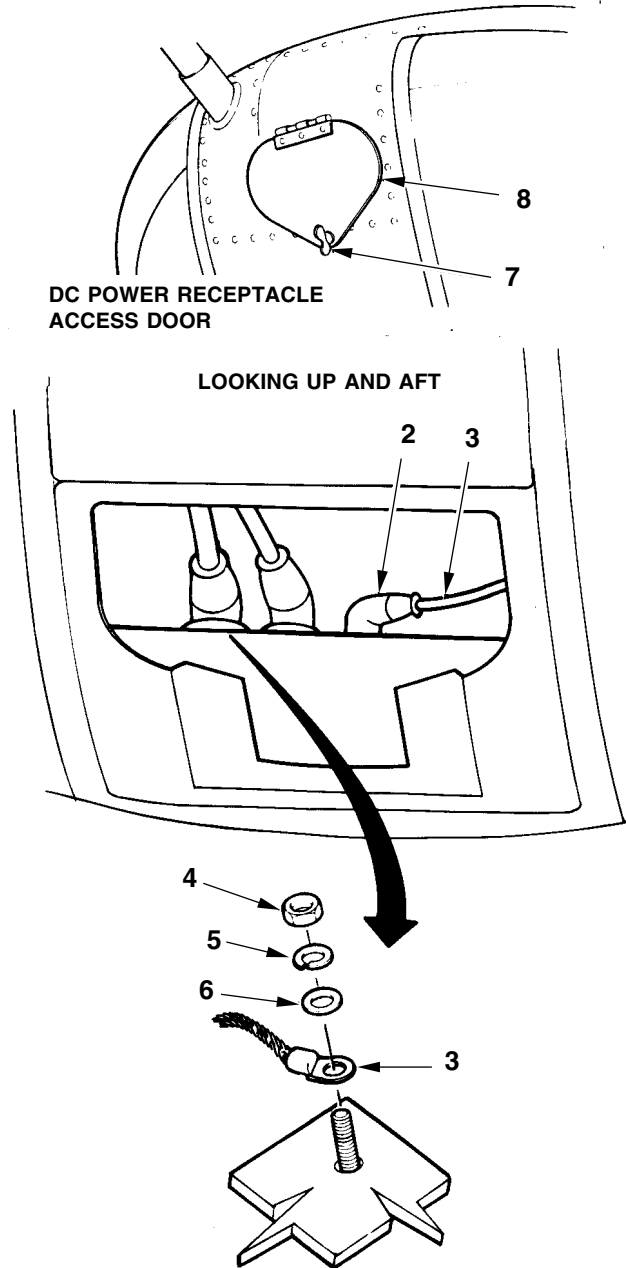
INSPECT

FOLLOW-ON MAINTENANCE

Install battery (TM 11-1520-248-23).

Perform operational check (TM 11-1520-248-23).

Install searchlight (Task 9-5-19).



406961-1178-3
H0156

END OF TASK

9-3-17. OVERLOAD SENSING CONTROL — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Rubber Gloves (D111)
Wiping Rag (D164)

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Tools:
Electrical Repairer Tool Kit (B177)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)

GO TO NEXT PAGE

9-3-17. OVERLOAD SENSING CONTROL — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical terminals with acid swabbing brush (D51).

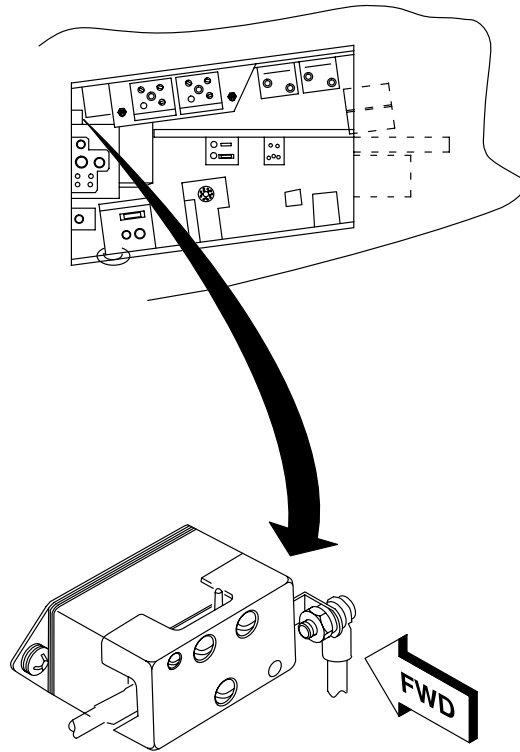
INSPECT

4. Inspect unit for cracks.
5. Inspect unit for security of mounting.
6. Inspect unit for bent or broken terminals.

REPAIR

7. Replace unit if case is cracked (Task 9-3-18).
8. Tighten or replace loose or missing mounting hardware.
9. Replace unit if any electrical terminals are bent, broken, or corroded (Task 9-3-18).

INSPECT



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J1785

END OF TASK

9-3-18. OVERLOAD SENSING CONTROL — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

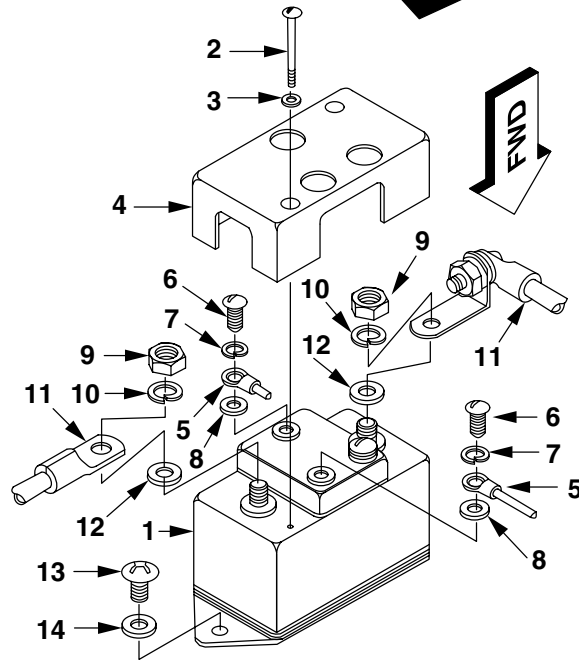
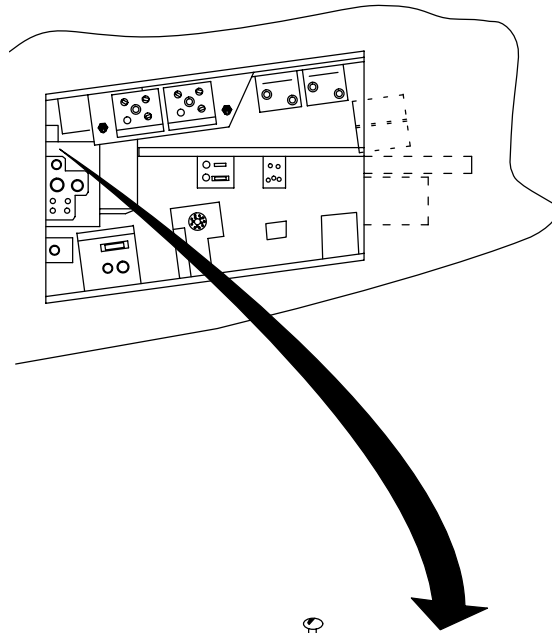
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-3-18. OVERLOAD SENSING CONTROL — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to overload sensing control (1).
2. Remove two screws (2) and washers (3).
3. Remove cover (4).
4. Identify and tag two wires (5).
5. Remove two screws (6) and washers (7).
6. Remove two tagged wires (5) and washers (8).
7. Remove two nuts (9) and washers (10).
8. Remove two connectors (11) and washers (12).
9. Remove two screws (13) and washers (14).
10. Remove overload sensing control (1).



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J0645

GO TO NEXT PAGE

9-3-18. OVERLOAD SENSING CONTROL — REMOVAL/INSTALLATION (CONT)

INSTALL

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

11. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

12. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

13. Position overload sensing control (1) in place and align to mounting holes.

14. Install two washers (14) and screws (13).

15. Remove two screws (2) and washers (3).

16. Remove cover (4).

17. Remove two screws (6) and four washers (7) and (8).

18. Install two wires (5) to correct terminals with washers (8), washers (7), and screws (6).

19. Remove identification tags from wires.

20. Remove two nuts (9) and washers (10).

21. Install two connectors (11) to correct terminal posts with washers(12), washers (10), and nuts (9).

INSPECT

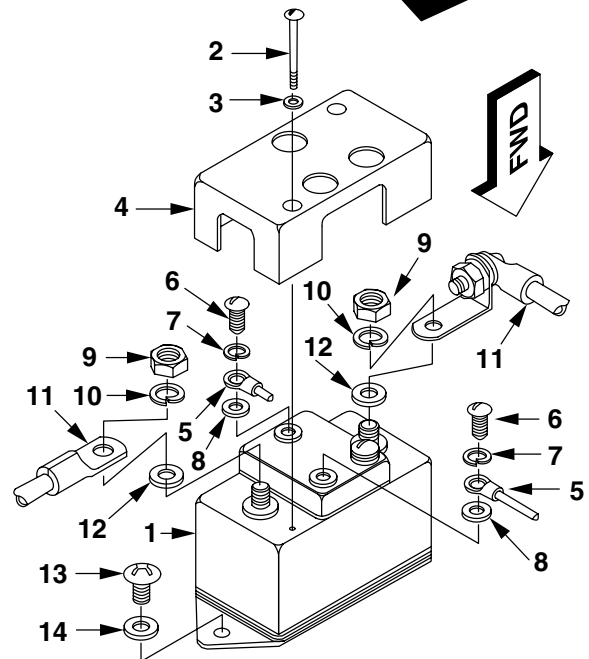
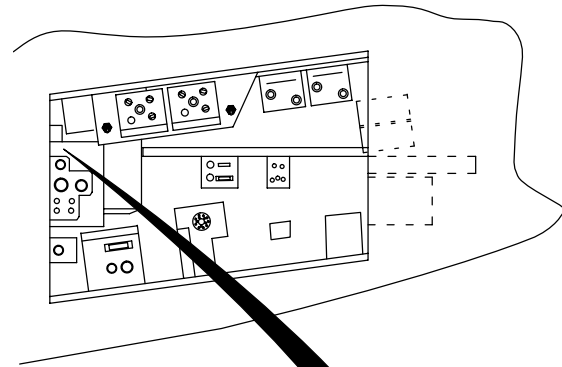
22. Position cover (4) in place and align to mounting holes.

23. Install two washers (3) and screws (2).

24. Close aft electrical compartment door.

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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J0645

END OF TASK

9-3-19. VOLTAGE REGULATOR — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

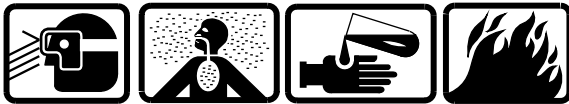
Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)
Sandpaper (D175)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TB 43-0118

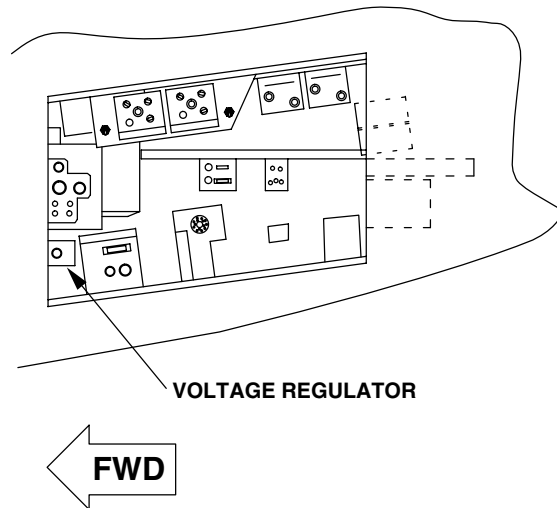
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).



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J0645

INSPECT

4. Inspect unit for dents and/or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.
7. Inspect electrical connectors for bent or broken pins or cracked connector inserts.

GO TO NEXT PAGE

9-3-19. VOLTAGE REGULATOR — CLEANING/INSPECTION/REPAIR (CONT)

REPAIR

8. Replace unit if dents or cracks affect operation.



Sanding Operations

9. Repair any scratches using 400 grit sandpaper (D175).

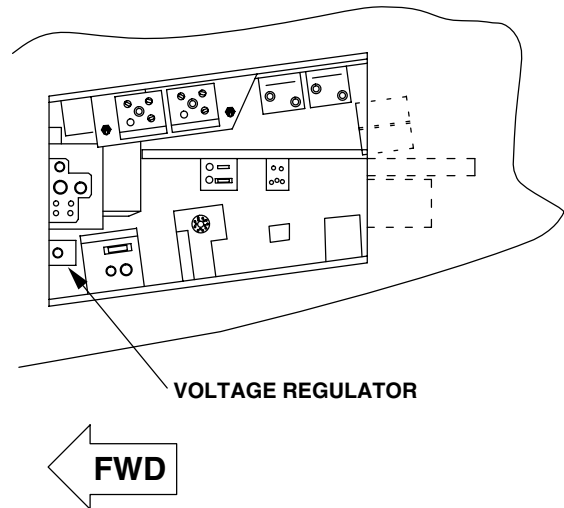
10. Touch up bare metal (TB 43-0118).

11. Tighten or replace loose or missing mounting hardware.

12. Straighten bent electrical connector pin(s).

13. Replace voltage regulator if any electrical connector pin is broken or insert is cracked (Task 9-3-20).

INSPECT



VOLTAGE REGULATOR

FWD

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J0645

END OF TASK

9-3-20. VOLTAGE REGULATOR — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

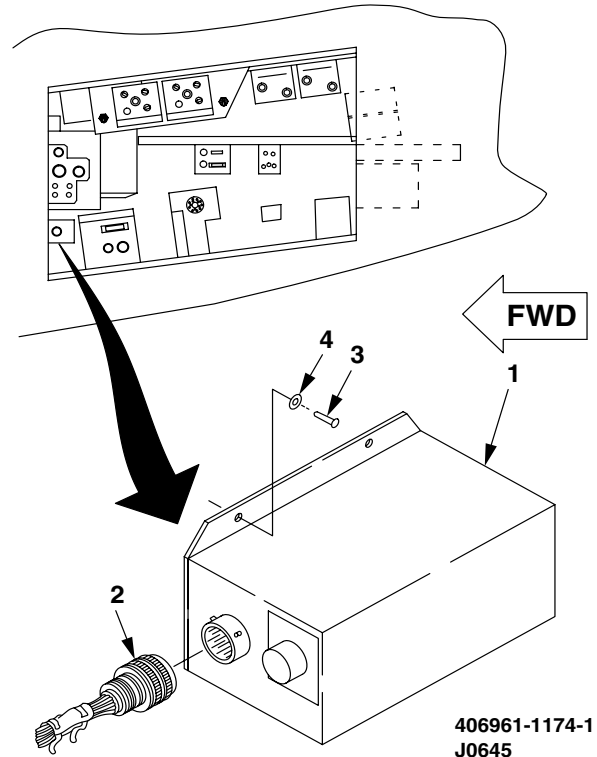
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
Pilot

References:
TM 1-1520-248-10/CL
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

REMOVE

1. Open aft electrical compartment door to gain access to voltage regulator (1).
2. Disconnect electrical connector (2).
3. Support voltage regulator (1) and remove four screws (3) and washers (4).
4. Remove voltage regulator (1).



GO TO NEXT PAGE

 9-3-20. VOLTAGE REGULATOR — REMOVAL/INSTALLATION (CONT)

INSTALL

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

5. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

6. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

NOTE

Ensure bonding strip (5) is positioned between airframe and voltage regulator (1).

7. Position voltage regulator (1) and align to mounting holes.

8. Support voltage regulator (1) and install four washers (4) and screws (3).

9. Visually inspect electrical connector (2) for corrosion and cracked housing.

10. Connect electrical connector (2).

11. Close aft electrical compartment door.

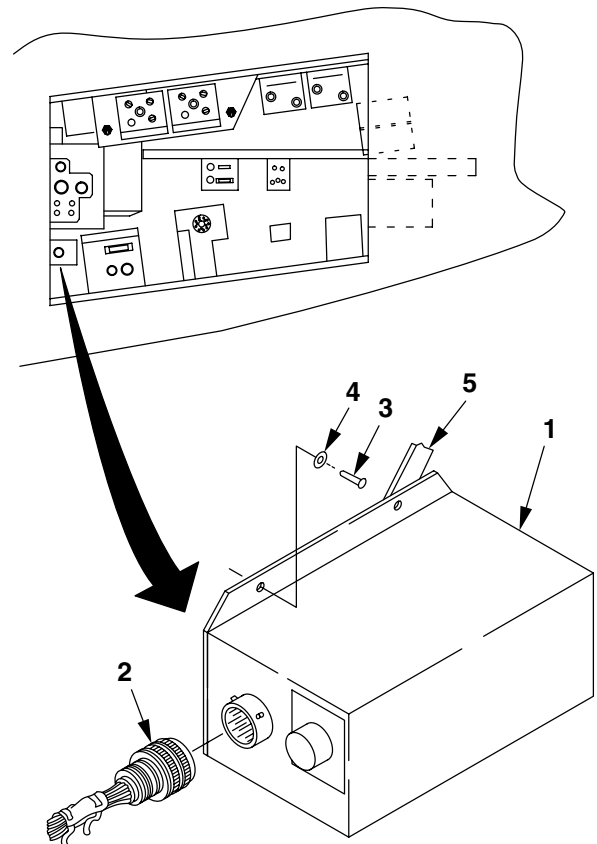
INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

Adjust voltage regulator to required settings in accordance with limits for ambient temperatures. Refer to Starter-Generator and Control operational check (TM 1-1520-248-T).

Pilot perform MOC (TM 1-1520-248-10/CL).



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END OF TASK

9-3-21. DC VOLTAGE SENSOR — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

References:
TB 43-0118

Tools:
Electrical Repairer Tool Kit (B177)

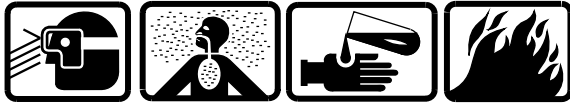
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)
Sandpaper (D175)

GO TO NEXT PAGE

9-3-21. DC VOLTAGE SENSOR — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

**Drycleaning Solvent**

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened in drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

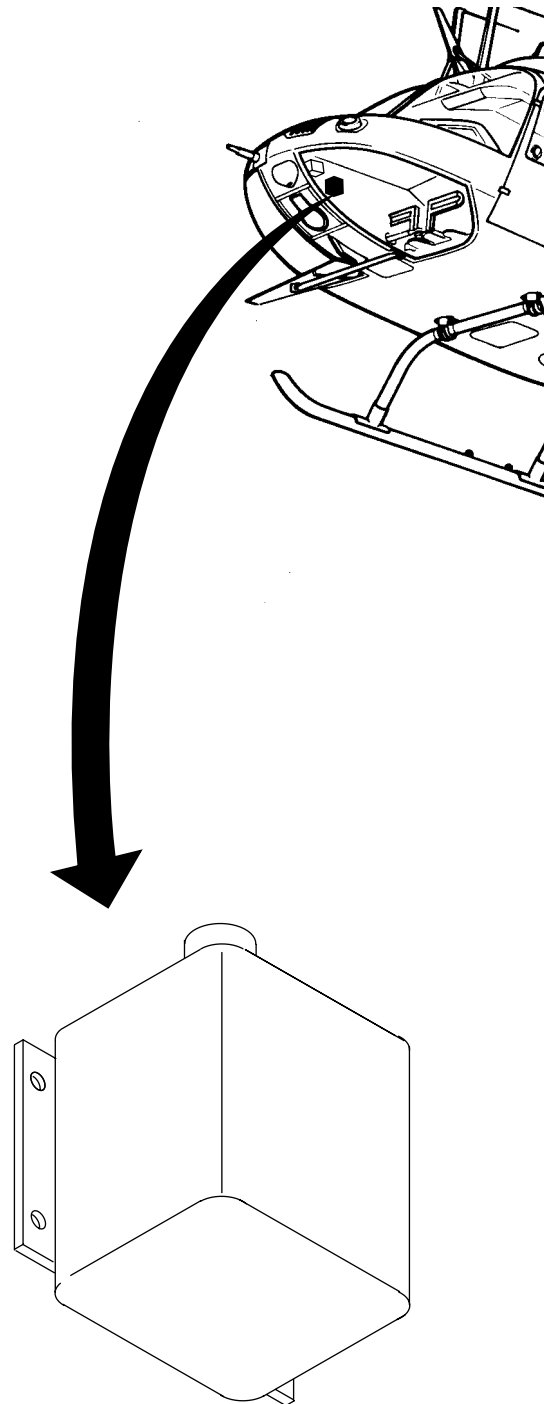
4. Inspect unit for dents and/or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.
7. Inspect electrical connectors for bent or broken pins or connector inserts.

REPAIR

8. Replace unit if dents or cracks affect operation (Task 9-3-22).

**Sanding Operations**

9. Repair any scratches using 400 grit sandpaper (D175).
10. Touch up bare metal (TB 43-0118).
11. Tighten or replace loose or missing hardware.
12. Straighten bent electrical connector pin(s).
13. Replace DC voltage sensor if any electrical connector pin is broken or insert is cracked (Task 9-3-22).

INSPECT406961-1261
H0688

END OF TASK

9-3-22. DC VOLTAGE SENSOR — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-3-22. DC VOLTAGE SENSOR — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open left crew door to gain access to left side of center console.
2. Disconnect electrical connector (1).
3. Support dc voltage sensor (2) and remove four screws (3) and washers (4).
4. Remove dc voltage sensor (2).

INSTALL

NOTE

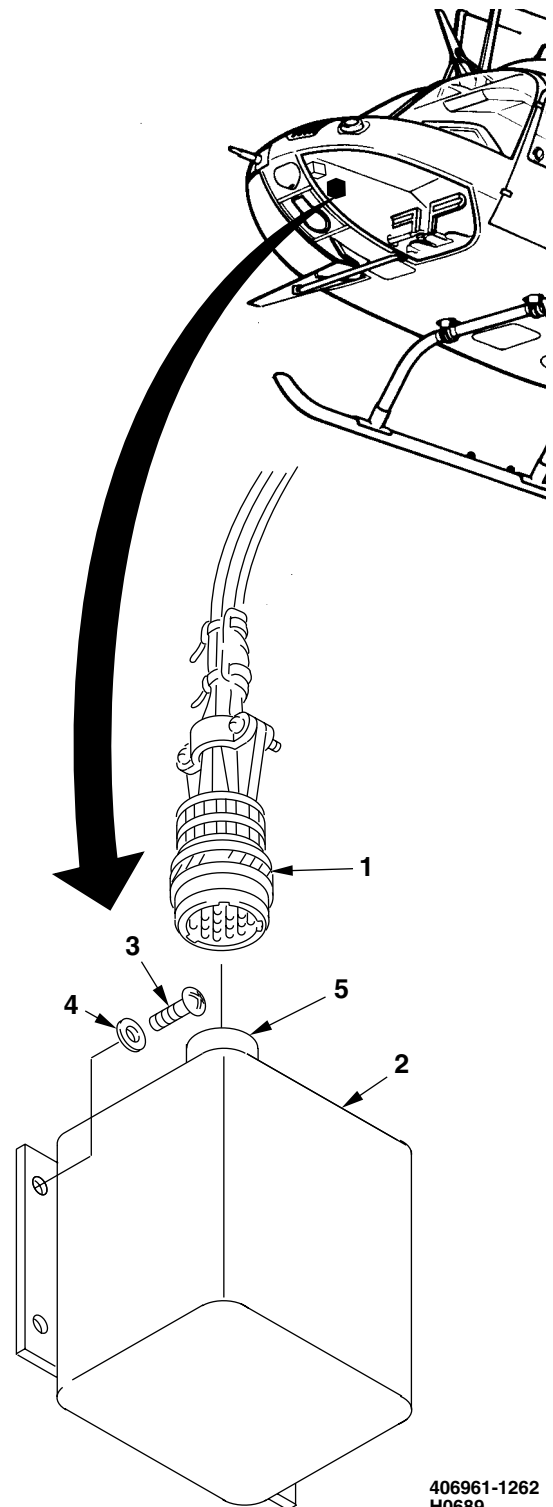
Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

5. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
6. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
7. Support dc voltage sensor (2) and install four washers (4) and screws (3).
8. Connect electrical connector (1).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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END OF TASK

Section IV. ALTERNATING CURRENT POWER AND DISTRIBUTION SYSTEM

9-11. **ALTERNATING CURRENT POWER AND DISTRIBUTION SYSTEM**

Standard torques are provided in Appendix P and TM 1-1500-204-23.

9-12. **INTRODUCTION**

This section contains maintenance procedures for alternating current power and distribution system.

9-13. **TASK LIST**

The task list consists of those tasks required to support unit and intermediate level maintenance.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
AC External Power Door Switch — Cleaning/Inspection/Repair	9-4-1	9-99
AC External Power Door Switch — Removal/Installation	9-4-2	9-101
AC External Power Receptacle — Cleaning/Inspection/Repair	9-4-3	9-103
AC External Power Receptacle — Removal/Installation	9-4-4	9-105
AC External Power Reset Switch — Cleaning/Inspection/Repair	9-4-5	9-109
AC External Power Reset Switch — Removal/Installation	9-4-6	9-110
AC Generator — Cleaning/Inspection/Repair	9-4-7	9-112
AC Generator — Removal	9-4-8	9-114
AC Generator — Installation	9-4-9	9-116
Generator Control Unit — Cleaning/Inspection/Repair	9-4-10	9-119
Generator Control Unit — Removal/Installation	9-4-11	9-121
26V Auto Transformer — Cleaning/Inspection/Repair	9-4-12	9-123
26V Auto Transformer — Removal/Installation	9-4-13	9-125
AC Power Monitor Unit — Cleaning/Inspection/Repair	9-4-14	9-127
AC Power Monitor Unit — Removal/Installation	9-4-15	9-129

9-4-1. AC EXTERNAL POWER DOOR SWITCH — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 68F Aircraft Electrician

Applicable Configurations:
 All

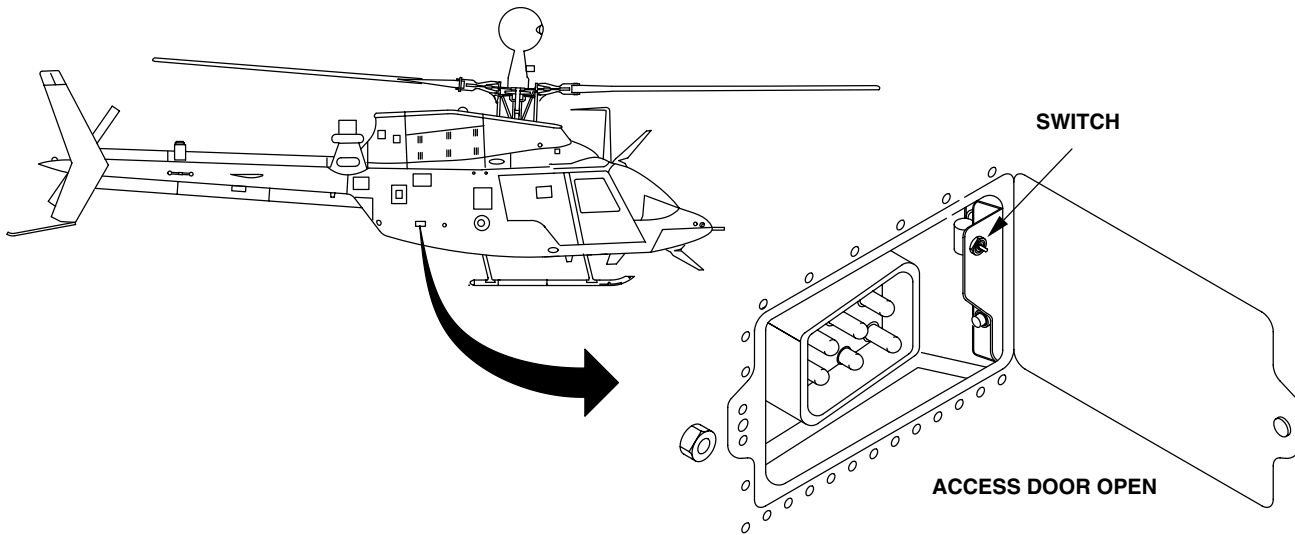
References:
 TM 55-1500-323-24

Tools:
 Electrical Repairer Tool Kit (B177)

Equipment Condition:
 Helicopter Safed (Task 1-6-7)
 Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
 Low-Lint Cleaning Cloth (D67)
 Drycleaning Solvent (D199)
 Acid Swabbing Brush (D51)
 Rubber Gloves (D111)
 Wiping Rag (D164)

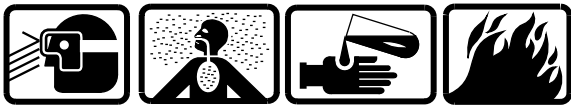
9-4-1. AC EXTERNAL POWER DOOR SWITCH — CLEANING/INSPECTION/REPAIR (CONT)



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AC External Power Door Switch

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199). See figure AC External Power Door Switch.
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical terminals with acid swabbing brush (D51).

INSPECT

4. Inspect switch bracket for dents or cracks.
5. Inspect switch for security of mounting.
6. Inspect electrical terminals for bent or broken contacts.

7. Inspect switch for bare or frayed wiring.

8. Inspect switch for ease of plunger movement.

REPAIR

9. Replace switch if case is dented or cracked (Task 9-4-2).

10. Tighten or replace loose or missing mounting hardware.

11. Straighten bent electrical terminals.

12. Replace switch if any electrical terminal is broken (Task 9-4-2).

13. Replace wiring if bare or frayed (TM 55-1500-323-24).

14. Replace switch if plunger does not move in and out easily (Task 9-4-2).

INSPECT

END OF TASK

9-4-2. AC EXTERNAL POWER DOOR SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Material:
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-4-2. AC EXTERNAL POWER DOOR SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Loosen fastener (1).
2. Open access door (2).
3. Remove nut (3) and lockwasher (4).
4. Push plunger (5) in and remove ac external power door switch (6) from its mounting.
5. Pull ac external power door switch (6) as far out as wiring will allow.
6. Tag and identify wires (7).
7. Desolder wires (7) from terminals (8).
8. Remove keyway washer (9).
9. Note position of jamnut (10) on threaded portion of removed switch (6).

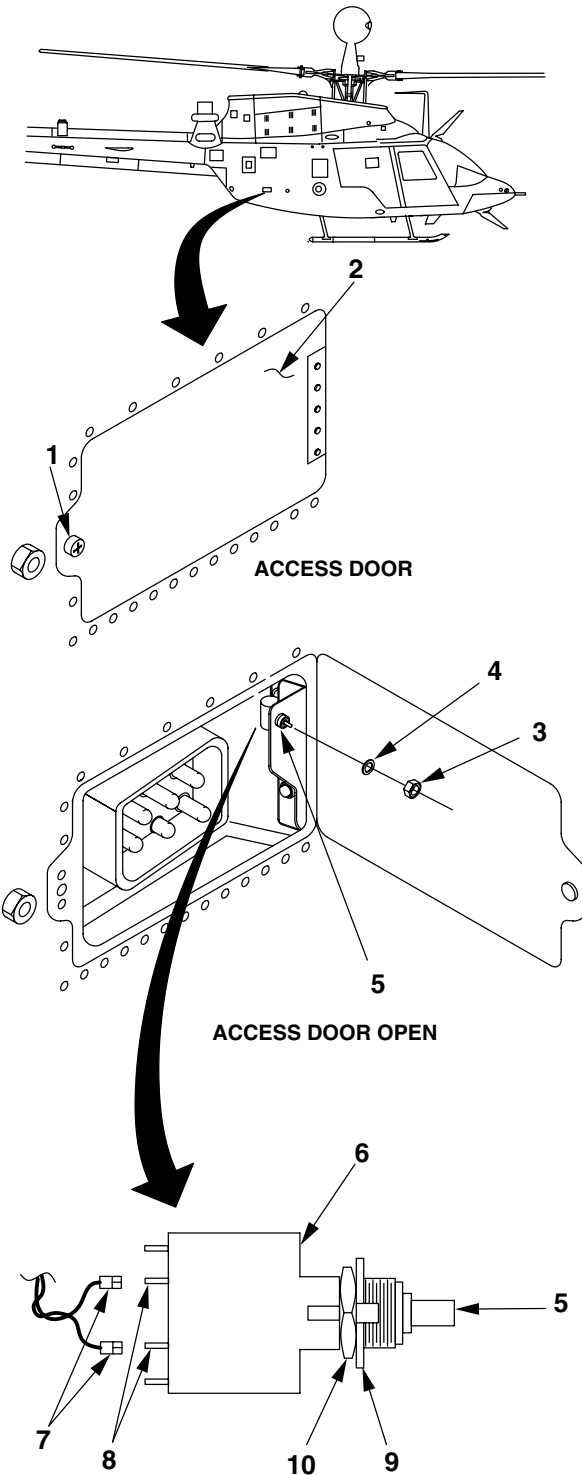
INSTALL

10. Solder wires (7) to correct terminals (8) using heat gun (nitrogen) (B60) and solder (D195).
11. Remove identification tags from wires.
12. Position jamnut (10) on threaded portion of switch (6) as noted on removed switch.
13. Push plunger (5) in and insert ac external power door switch (6) into mounting hole.
14. Align keyway washer (9) to mounting hole.
15. Install lockwasher (4) and nut (3).
16. Close door and check switch actuation. Adjust jamnut (10) as required.
17. Close access door (2).
18. Tighten fastener (1).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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END OF TASK

9-4-3. AC EXTERNAL POWER RECEPTACLE — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Rubber Gloves (D111)
Wiping Rag (D164)

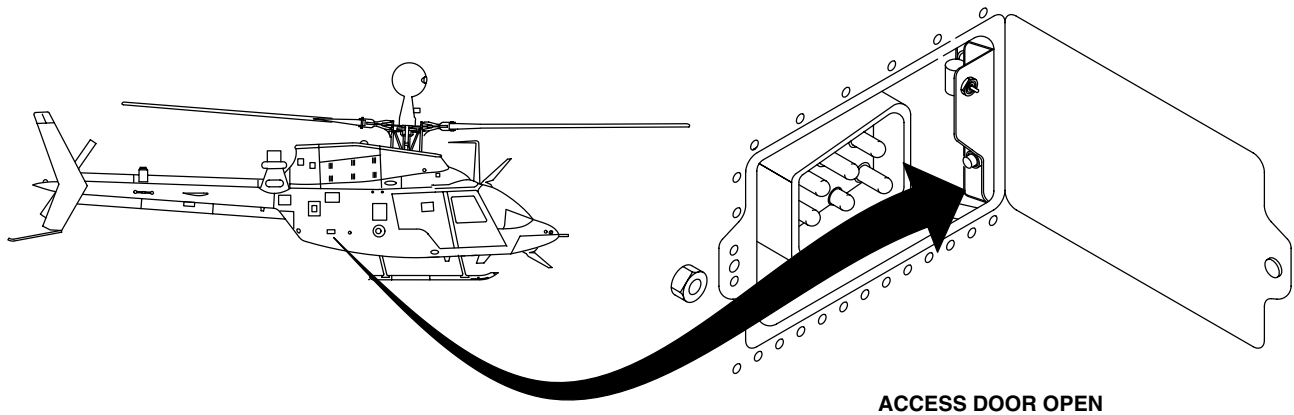
Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Tools:
Electrical Repairer Tool Kit (B177)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)



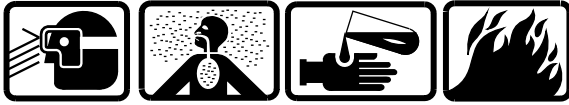
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AC External Power Receptacle

GO TO NEXT PAGE

9-4-3. AC EXTERNAL POWER RECEPTACLE — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199). See figure AC External Power Receptacle.

2. Remove moisture, dust, and loose dirt with a wiping rag (D164). Remove dirt from ac external power receptacle with acid swabbing brush (D51).

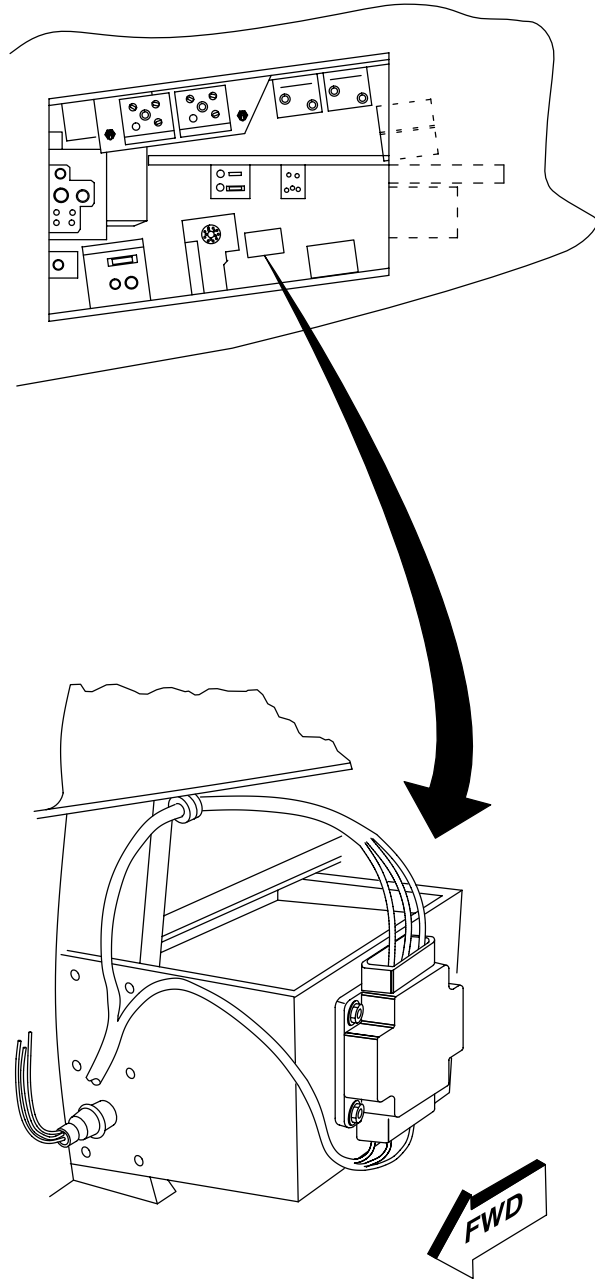
INSPECT

3. Inspect unit for dents or cracks.
4. Inspect unit for security of mounting.
5. Inspect receptacle for discolored, corroded, bent or broken pins, or cracked receptacle inserts.

REPAIR

6. Replace unit if case is dented or cracked (Task 9-4-4).
7. Tighten or replace missing mounting hardware.
8. Replace unit if any electrical receptacle pin is discolored, corroded, broken, or insert is cracked (Task 9-4-4).

INSPECT



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J0646

END OF TASK

9-4-4. AC EXTERNAL POWER RECEPTACLE — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

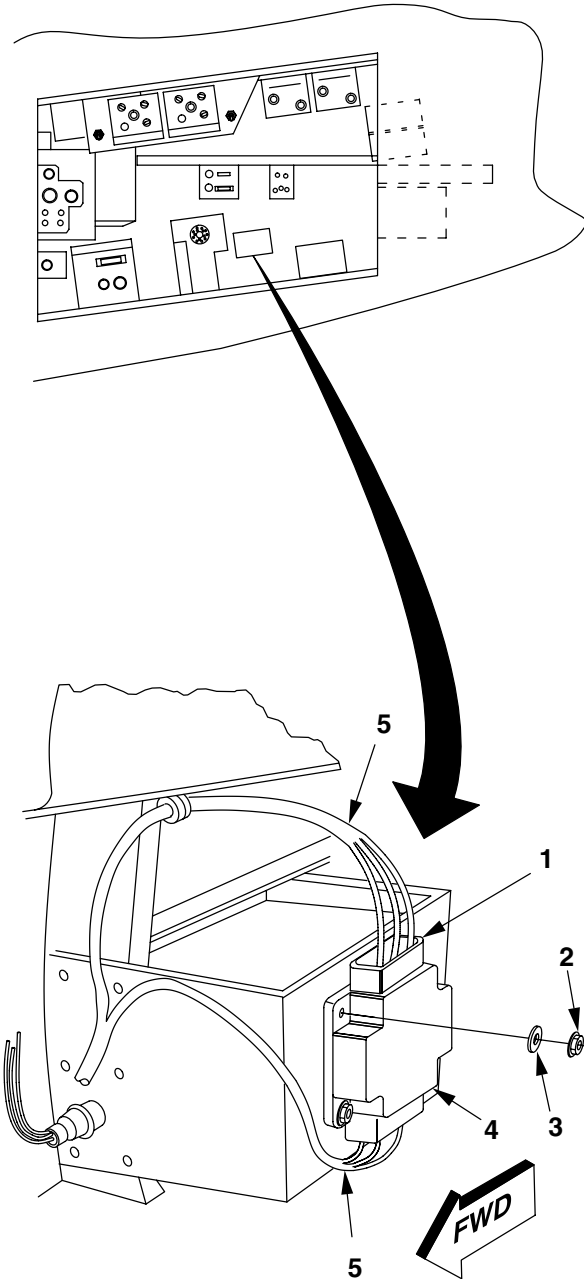
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician (2)

GO TO NEXT PAGE

9-4-4. AC EXTERNAL POWER RECEPTACLE — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to rear of ac external power receptacle (1).
2. Remove four nuts (2) and washers (3).
3. Remove cover (4).
4. Tag and identify six wires (5).



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9-4-4. AC EXTERNAL POWER RECEPTACLE — REMOVAL/INSTALLATION (CONT)

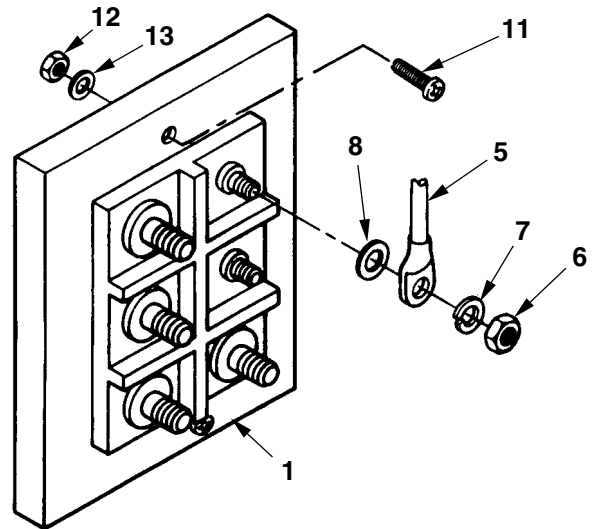
5. Remove six nuts (6), lockwashers (7), wires (5), and washers (8).

6. Loosen fastener (9).

7. Open access door (10) to gain access to ac external power receptacle (1).

8. Remove two screws (11), nuts (12), and washers (13).

9. Remove ac external power receptacle (1).



INSTALL

10. Working through open access door (10), position ac external power receptacle (1) in place.

11. Access aft electrical compartment and install two screws (11).

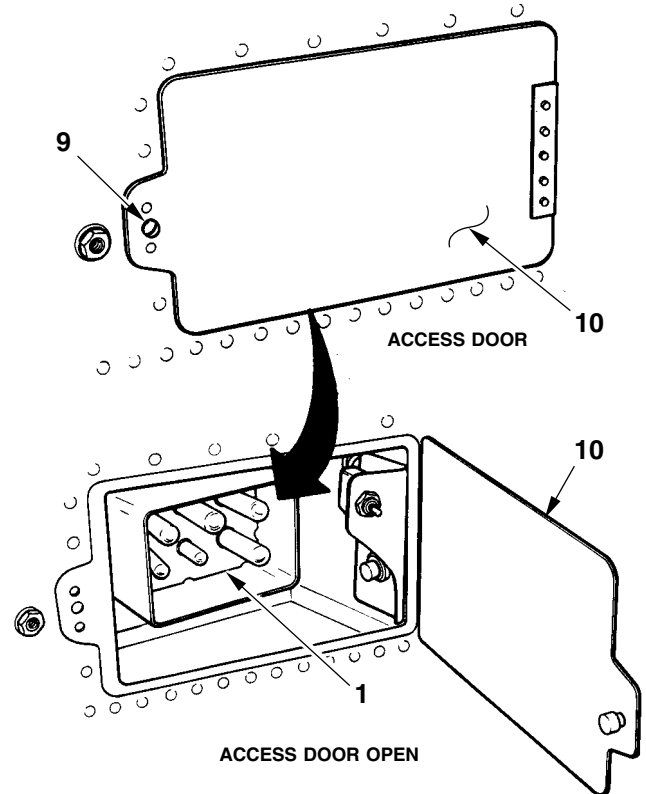
12. Working through open access door (10) install two washers (13) and nuts (12).

13. Install six washers (8).

14. Connect six tagged wires (5) to receptacle (1).

15. Remove identification tags from wires.

16. Install six lockwashers (7) and nuts (6).



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GO TO NEXT PAGE

9-4-4. AC EXTERNAL POWER RECEPTACLE — REMOVAL/INSTALLATION (CONT)

17. Position cover (4) in place and install four washers (3) and nuts (2).

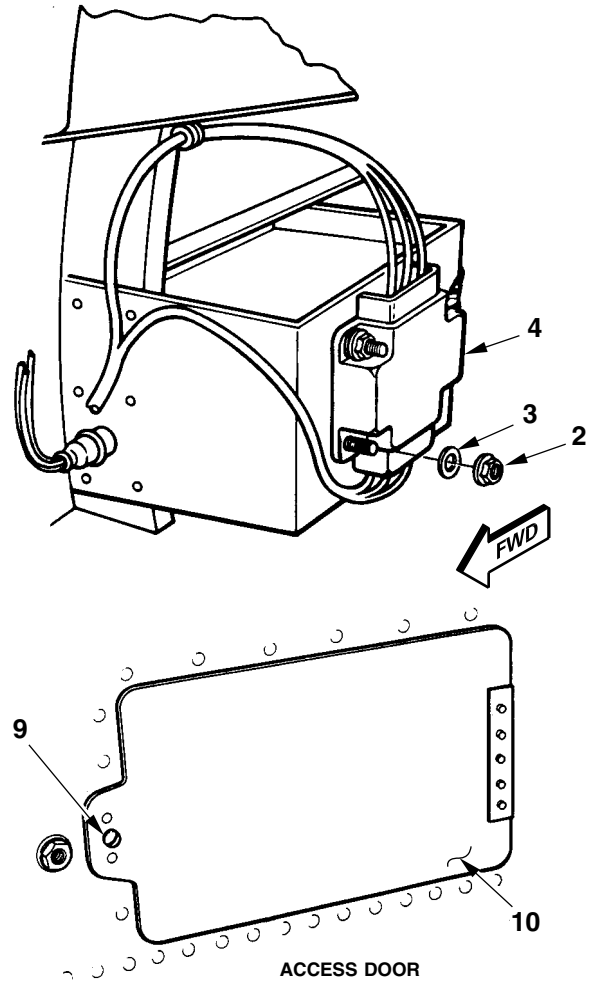
18. Close access door (10) and tighten fastener (9).

19. Close aft electrical compartment door.

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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H0598

END OF TASK

9-4-5. AC EXTERNAL POWER RESET SWITCH — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

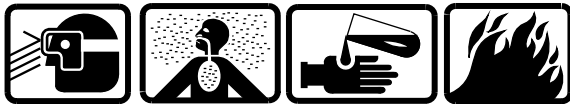
Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Rubber Gloves (D111)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).

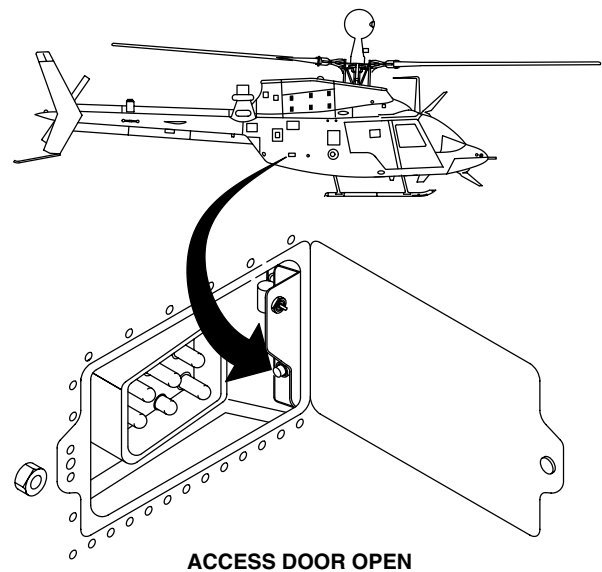
INSPECT

3. Inspect switch for security of mounting.
4. Inspect switch for ease of plunger movement.

REPAIR

5. Tighten or replace missing mounting hardware.
6. Replace switch if plunger does not move in and out easily (Task 9-4-6).

INSPECT



ACCESS DOOR OPEN

406961-1238
J0646

END OF TASK

9-4-6. AC EXTERNAL POWER RESET SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

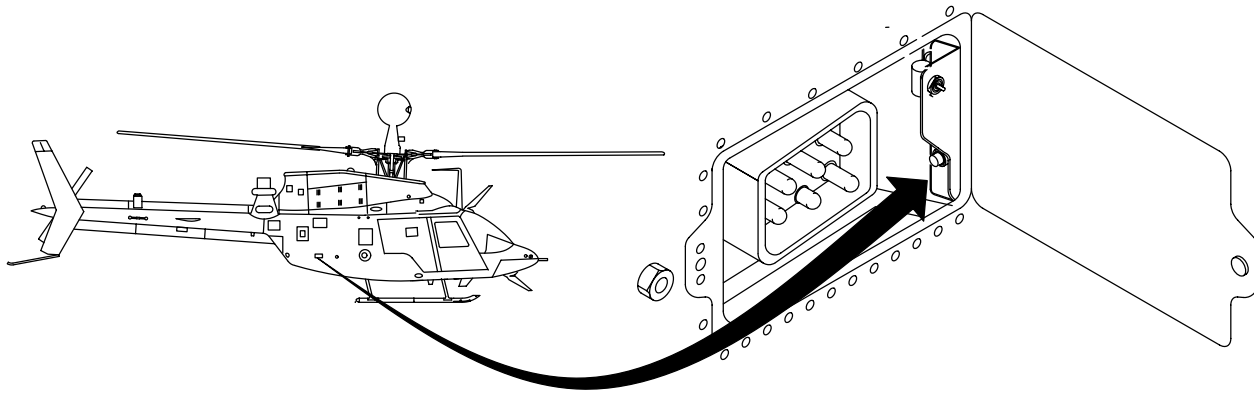
Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Material:
Solder (D195)

Personnel Required:
68F Aircraft Electrician
67S Scout Helicopter Technical Inspector (TI)

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)



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AC External Power Reset Switch

GO TO NEXT PAGE

9-4-6. AC EXTERNAL POWER RESET SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to EXT PWR RESET switch (1).
2. Tag and identify two wires (2).
3. Desolder two tagged wires (2) from terminals (3).
4. Open ac external power access door to gain access to mounting nut (4). See figure AC External Power Reset Switch.
5. Remove mounting nut (4) and lockwasher (5).
6. Access aft electrical compartment and remove EXT PWR RESET switch (1).

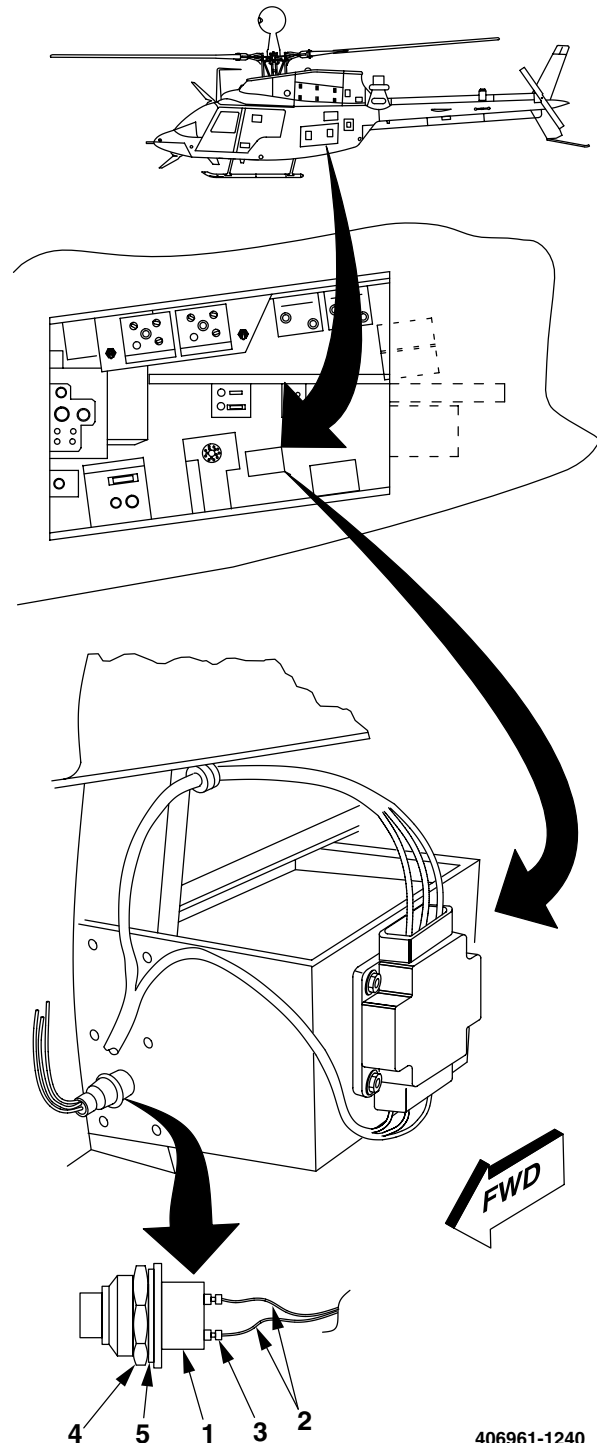
INSTALL

7. Position EXT PWR RESET switch (1) into its mounting and install lockwasher (5) and mounting nut (4).
8. Solder wires (2) to their mating terminals (3) using heat gun (nitrogen) (B60) and solder (D195).
9. Remove identification tags from wires.
10. Close aft electrical compartment door.

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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END OF TASK

9-4-7. AC GENERATOR — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

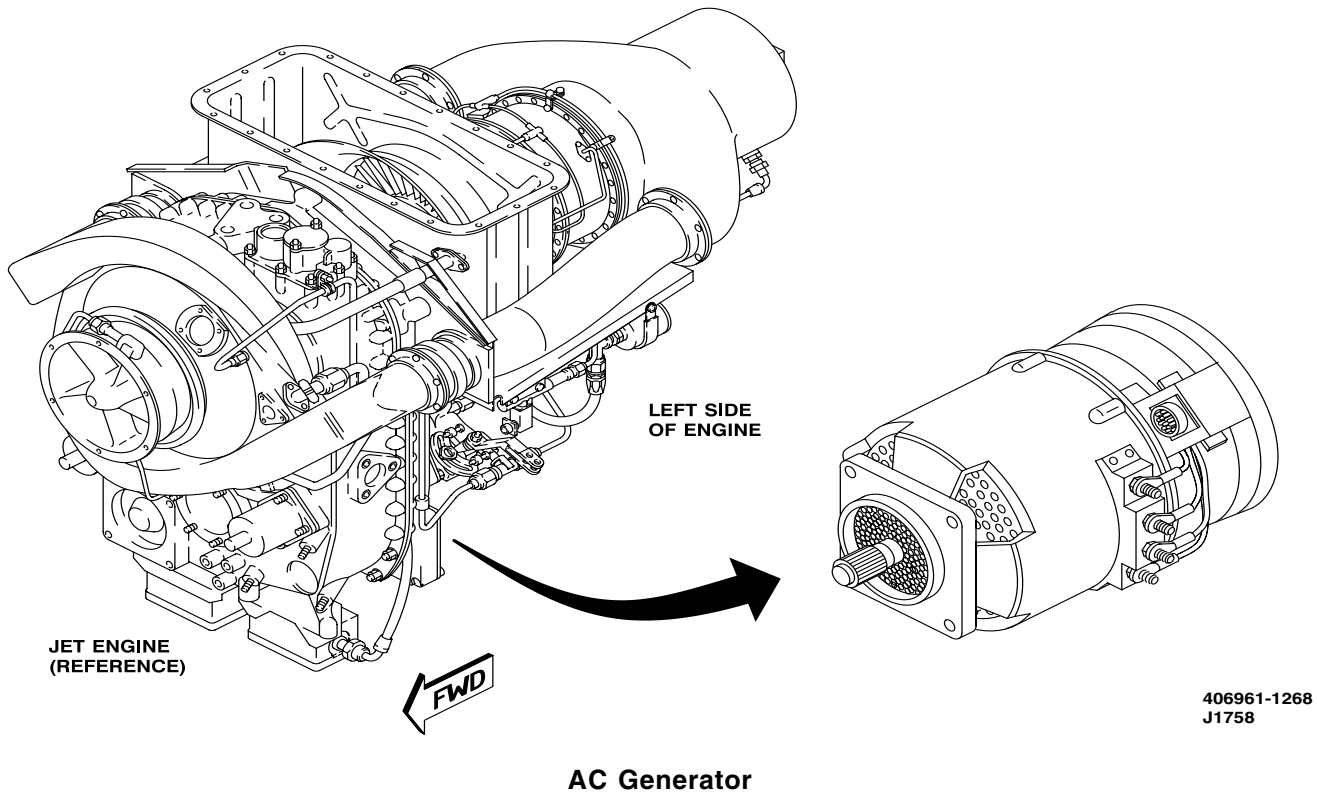
Applicable Configurations:
All

References:
TB 43-0118
TM 55-1500-323-24

Tools:
General Mechanic Tool Kit (B178)

Equipment Condition:
Helicopter Safed (1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

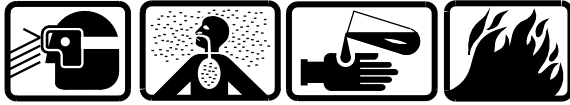
Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)



GO TO NEXT PAGE

9-4-7. AC GENERATOR — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

**Drycleaning Solvent**

1. Remove grease, fungus, and dirt with clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199). See figure AC Generator.
2. Remove moisture, dust, and loose dirt with wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.
7. Inspect electrical connector for bent or broken pins, or cracked connector inserts.
8. Inspect unit for bent or broken lugs.
9. Inspect unit for bare or frayed wiring.

REPAIR

10. Replace unit if case is cracked or dent affects operation (Tasks 9-4-8 and 9-4-9).

**Sanding Operations**

11. Repair any scratches using 400 grit sandpaper (D175).
12. Touch up bare metal (TB 43-0118).
13. Tighten or replace missing mounting hardware.
14. Straighten bent electrical connector pin(s).
15. Replace unit if any electrical connector pin is broken or insert is cracked (Tasks 9-4-8 and 9-4-9).
16. Replace unit if lugs are bent or broken (Tasks 9-4-8 and 9-4-9).
17. Replace wiring if bare or frayed (TM 55-1500-323-24).

INSPECT

END OF TASK

9-4-8. AC GENERATOR — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Repairer

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
General Mechanic Tool Kit (B178)
Crowfoot Wrench (B23)
Maintenance Stand (B162)

GO TO NEXT PAGE

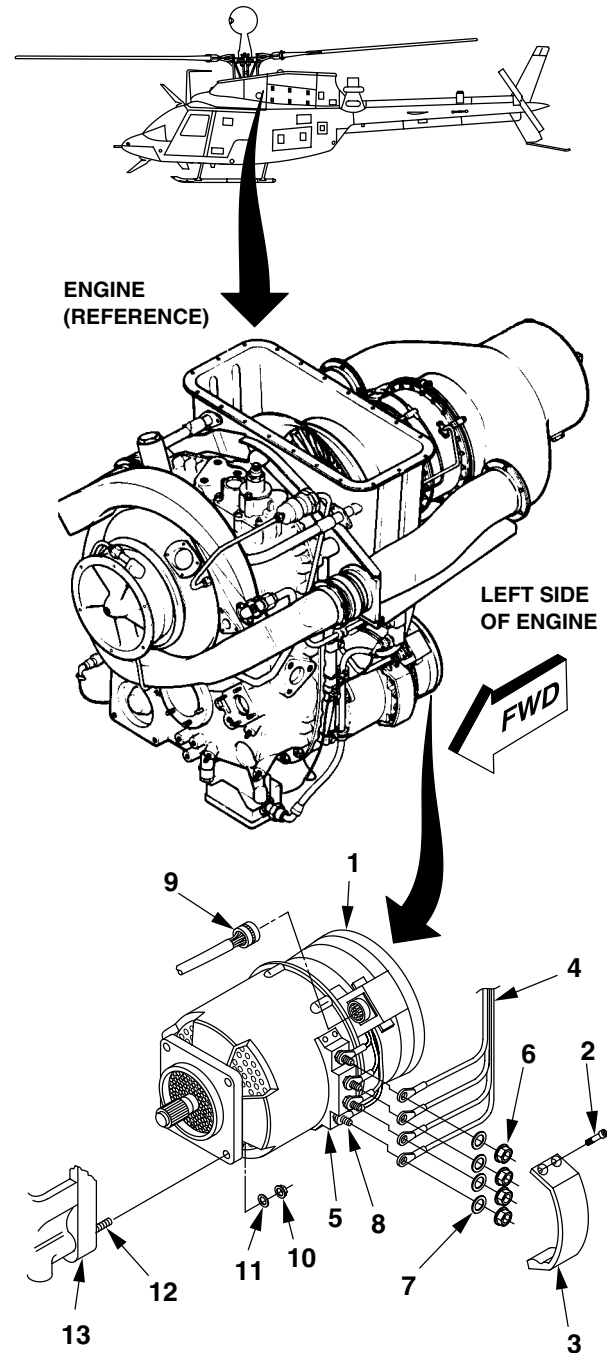
9-4-8. AC GENERATOR — REMOVAL (CONT)

1. Open left engine cowlings to gain access to AC generator (1).
2. Remove four screws (2) and cover (3).
3. Identify and tag four wires (4) connected to terminal strip (5).
4. Remove four nuts (6) and washers (7) from lugs (8) on terminal strip (5).
5. Remove four wires (4) from lugs (8).
6. Disconnect electrical connector (9) from AC generator (1).

CAUTION

The weight of the AC generator must be supported while removing retaining nuts and generator, to prevent damage to the driveshaft and mounting bolts. Weight support is required until generator spline shaft is totally disengaged from the accessory drive case spline and engine pad.

7. Remove four retaining nuts (10) using crowfoot wrench (B23) and washers (11) from generator mounting studs (12).
8. Remove AC generator (1) from accessory drive case splines (not shown) and engine pad (13).
9. Close left engine cowlings.

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END OF TASK

9-4-9. AC GENERATOR — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Maintenance Stand (B162)
Crowfoot Wrench (B23)
Torque Wrench (B239)

Material:
Drycleaning Solvent (D199)
Lubricating Oil (D140 or D233)
Rubber Gloves (D111)
Low-Lint Cleaning Cloth (D67)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer
Pilot

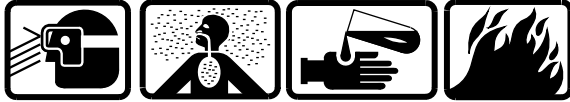
References:
TM 1-1520-248-T
TM 1-1520-248-10/CL

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-4-9. AC GENERATOR — INSTALLATION (CONT)

1. Open left engine cowling to gain access to AC generator mounting area.



Drycleaning Solvent

2. Clean spline shaft (1) of AC generator (2) and accessory drive gear case splines (3) using a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).

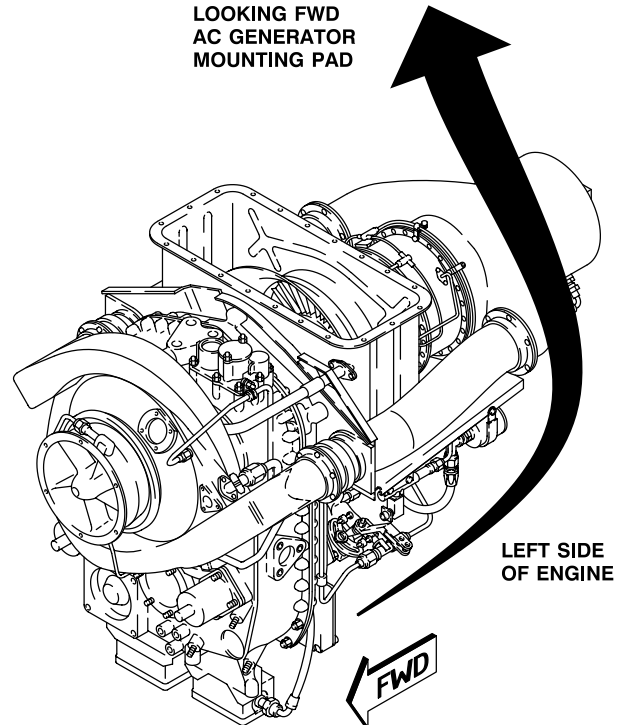
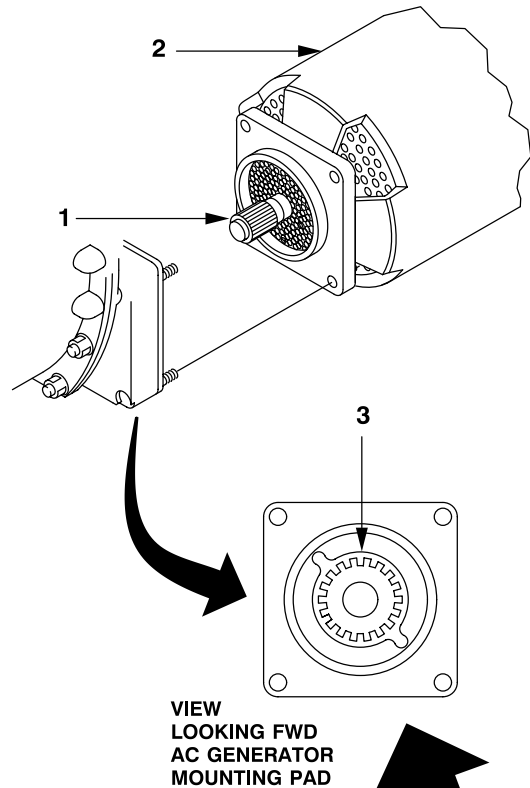


Lubricating Oil

3. Lubricate generator spline shaft (1) and drive gear case splines (3) with lubricating oil (D140 or D233).

CAUTION

The weight of the AC generator must be supported while being aligned on mounting studs and with accessory drive gear case, to prevent damage to the driveshaft and mounting studs. Weight support is required until retaining nuts are tightened on mounting studs.



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GO TO NEXT PAGE

9-4-9. AC GENERATOR — INSTALLATION (CONT)

NOTE

The 250-C30R/3 engine requires the AC generator to be turned 90 °CCW from the 250-C30R and 250-C30R/1 engines AC generator installations, to prevent contact with the Permanent Magnet Alternator (PMA).

4. Align AC generator (2) on mounting studs (4) and with accessory drive gear case splines (3). Position against engine pad (5).

5. Install four washers (6) and nuts (7) on AC generator mounting studs (4).

6. Using crowfoot wrench (B23), torque nuts (7) to **100 TO 140 INCH-POUNDS**.

7. Position four tagged wires (8) on corresponding lugs (9) of terminal strip (10).

8. Secure wires (8) on terminal strip lugs (9) with four washers (11) and nuts (12).

9. Remove wire identification tags.

10. Visually inspect electrical connector (13) and its mating connector for corrosion, missing or bent pins, and cracked housing.

11. Connect electrical connector (13) to mating connector (14).

12. Position cover (15) in place and install four screws (16).

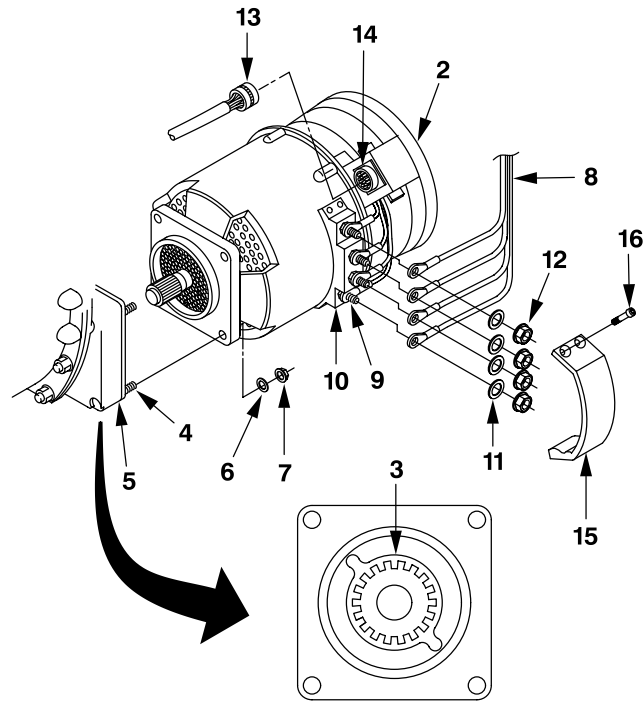
13. Close left engine cowling.

INSPECT

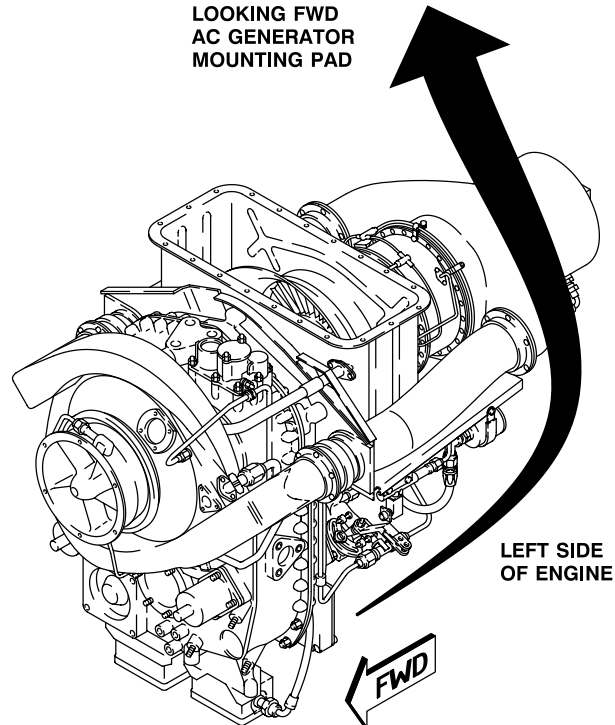
FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

Pilot perform MOC (TM 1-1520-248-10/CL).



VIEW
LOOKING FWD
AC GENERATOR
MOUNTING PAD



406961-1267-2
J1758

END OF TASK

9-4-10. GENERATOR CONTROL UNIT — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TB 43-0118

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-4-10. GENERATOR CONTROL UNIT — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

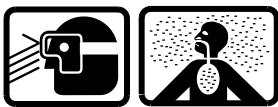
1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.
7. Inspect electrical connectors for bent or broken pins, or cracked connector inserts.

REPAIR

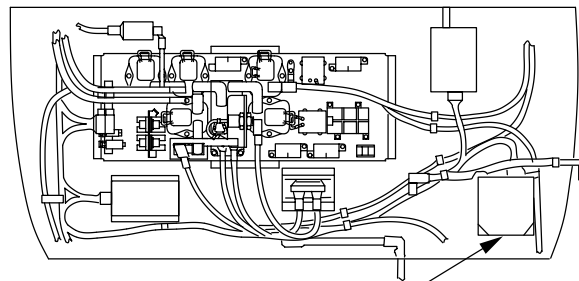
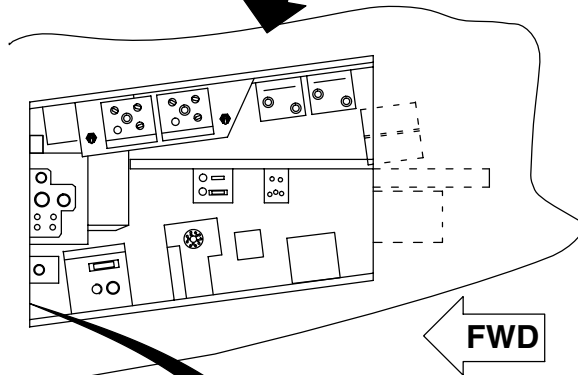
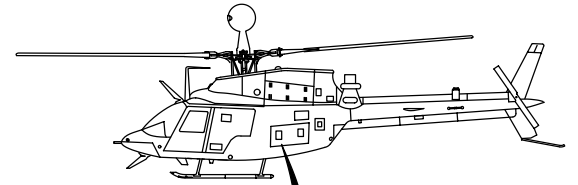
8. Replace unit if case is cracked (Task 9-4-11).
9. Replace unit if case is dented so that it is inoperative (Task 9-4-11).



Sanding Operations

10. Repair any scratches using 400 grit sandpaper (D175).
11. Touch up bare metal (TB 43-0118).
12. Tighten or replace loose or missing mounting hardware.
13. Straighten bent electrical connector pin(s).
14. Replace unit if any electrical connector pin is broken or insert is cracked (Task 9-4-11).

INSPECT



GENERATOR CONTROL UNIT

**VIEW LOOKING FORWARD
AFT ELECTRICAL COMPARTMENT**

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END OF TASK

9-4-11. GENERATOR CONTROL UNIT — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
Pilot

References:
TM 1-1520-248-T
TM 1-1520-248-10/CL

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-4-11. GENERATOR CONTROL UNIT — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to the generator control unit (1).
2. Disconnect electrical connector (2) on top of generator control unit (1).
3. Remove three screws (3) and washers (4) from generator control unit mounting holes.
4. Remove generator control unit (1).

INSTALL

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

5. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
6. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
7. Align generator control unit (1) with mounting holes (5) in bottom forward right corner of the aft electrical compartment.

NOTE

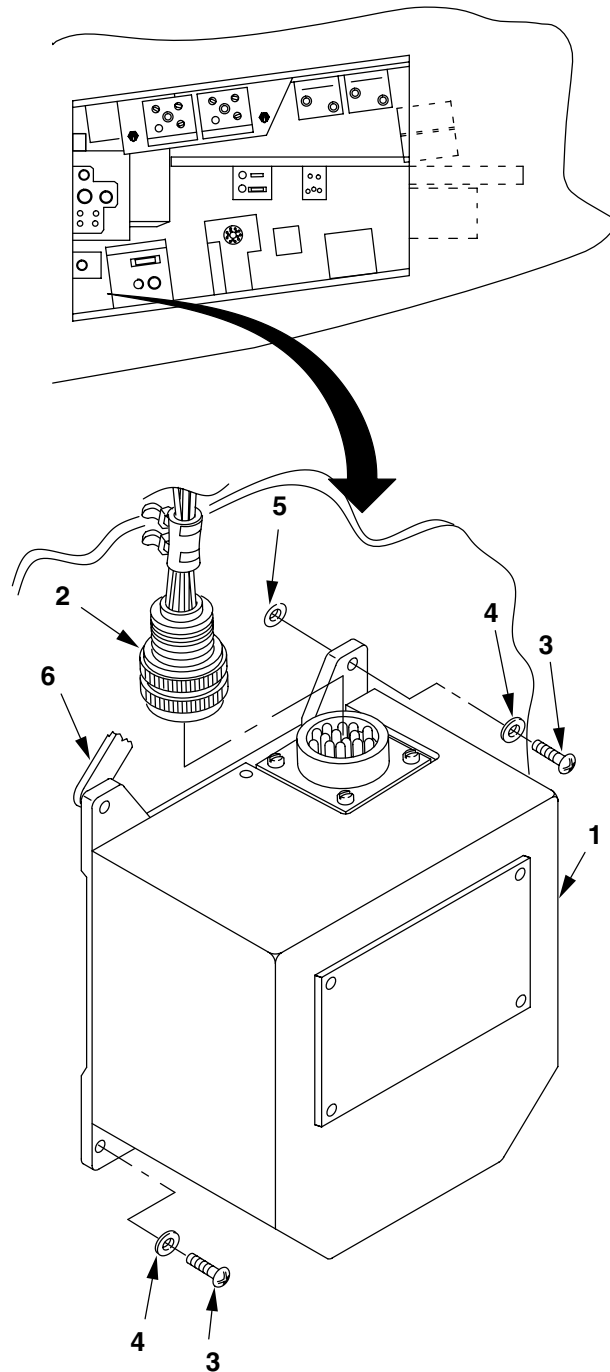
Ensure bonding strip (6) is positioned between airframe and generator control unit (1).

8. Install three washers (4), and screws (3) to secure generator control unit (1).
9. Visually inspect electrical connector (2) and its mating connector for corrosion, missing or bent pins and cracked housing.
10. Connect electrical connector (2) to connector on top of generator control unit (1).
11. Close aft electrical compartment door.

INSPECT

FOLLOW-ON MAINTENANCE

- Perform operational check (TM 1-1520-248-T).
 Pilot perform MOC (TM 1-1520-248-10/CL).



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 J0646

END OF TASK

9-4-12. 26V AUTO TRANSFORMER — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (Off Helicopter)

INITIAL SETUP

Rubber Gloves (D111)
 Sandpaper (D175)
 Wiping Rag (D164)

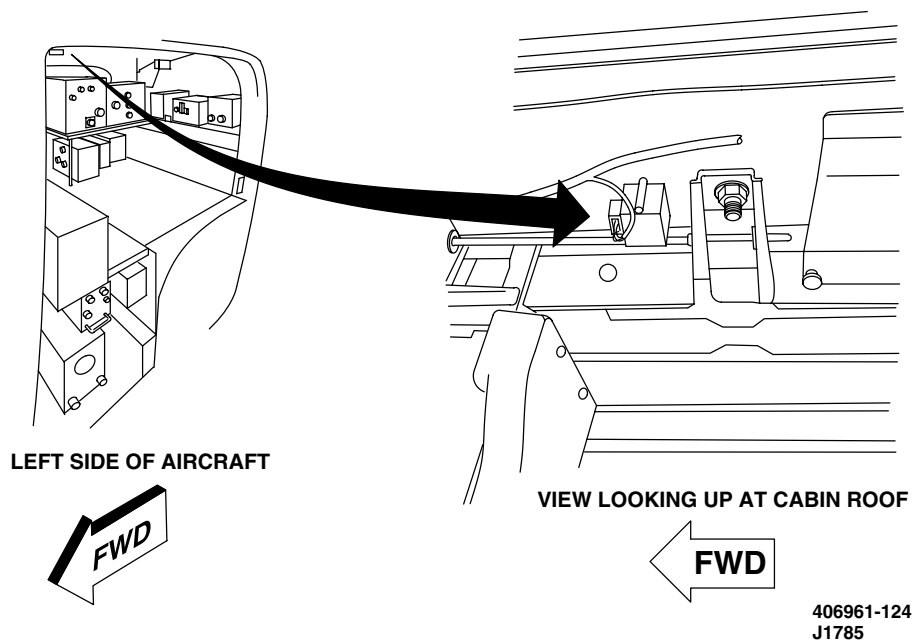
Applicable Configurations:
 All

Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 68F Aircraft Electrician

Tools:
 Electrical Repairer Tool Kit (B177)

References:
 TB 43-0118
 TM 55-1500-323-24

Material:
 Low-Lint Cleaning Cloth (D67)
 Drycleaning Solvent (D199)
 Acid Swabbing Brush (D51)



26V Auto Transformer

GO TO NEXT PAGE

9-4-12. 26V AUTO TRANSFORMER — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199). See figure 26V Auto Transformer.

2. Remove moisture, dust, and loose dirt with a wiping rag (D164).

3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks. No dents or cracks allowed.

5. Inspect unit for scratches and bare metal.

6. Inspect unit for security of mounting.

7. Inspect electrical connectors for bent or broken terminals.

8. Inspect unit for frayed or bare wiring.

REPAIR

9. Replace unit if case is dented or cracked (Task 9-4-13).



Sanding Operations

10. Repair any scratches using 400 grit sandpaper (D175).

11. Touch up bare metal (TB 43-0118).

12. Tighten or replace loose or missing mounting hardware.

13. Replace unit if any electrical connector terminal is broken (Task 9-4-13).

14. Replace wiring if bare or frayed (TM 55-1500-323-24).

INSPECT

END OF TASK

9-4-13. 26V AUTO TRANSFORMER — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Left Access Door Removed (Task 2-2-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-4-13. 26V AUTO TRANSFORMER — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Support 26V autotransformer (1) and remove two screws (2), spacers (3), washers (4), and separate autotransformer (1) from bonding strip (5).
2. Rotate autotransformer (1) to a front view.
3. Remove two screws (6).
4. Remove cover (7).
5. Identify and tag three wires (8).
6. Remove three screws (9).
7. Remove three wires (8) from terminals (10).

INSTALL

NOTE

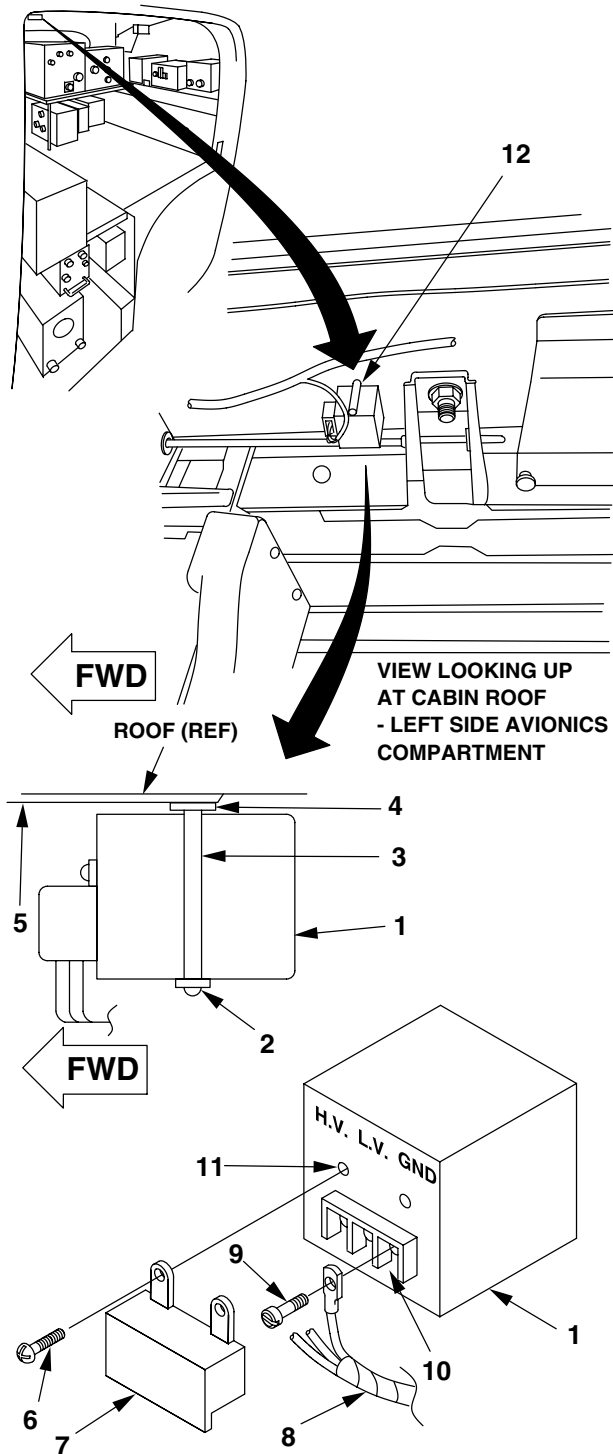
Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

8. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
9. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
10. Connect three wires (8) to corresponding terminals (10) with screws (9).
11. Remove identification tags from wires.
12. Position cover (7) in place and align to mounting holes (11).
13. Install two screws (6).
14. Position 26V autotransformer (1) in place and align to bonding strip (5) and mounting holes (12).
15. Support autotransformer (1) in place and install two washers (4), spacers (3), and screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

- Perform operational check (TM 1-1520-248-T).
- Install left access door (Task 2-2-6).



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END OF TASK

9-4-14. AC POWER MONITOR UNIT — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TB 43-0118

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-4-14. AC POWER MONITOR UNIT — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



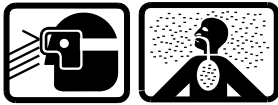
Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for scratches and bare metal.
5. Inspect unit for security of mounting.
6. Inspect electrical connectors for bent or broken pins or cracked connector inserts.

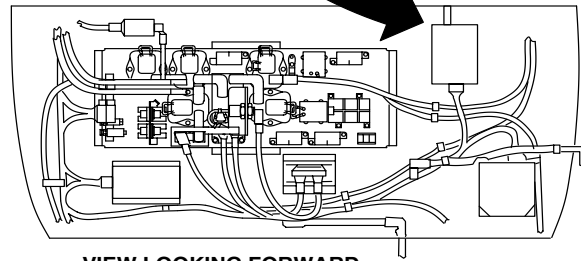
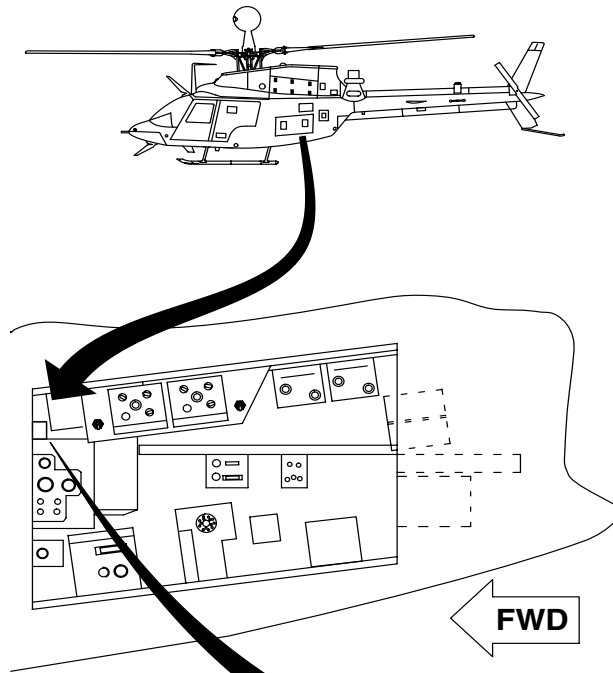
REPAIR



Sanding Operations

7. Repair any scratches using 400 grit sandpaper (D175).
8. Touch up bare metal (TB 43-0118).
9. Tighten or replace loose or missing mounting hardware.
10. Straighten bent electrical connector pin(s).
11. Replace unit if any electrical connector pin is broken or insert is cracked (Task 9-4-15).

INSPECT



FWD

**VIEW LOOKING FORWARD
AFT ELECTRICAL COMPARTMENT**

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J1785

END OF TASK

9-4-15. AC POWER MONITOR UNIT — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-4-15. AC POWER MONITOR UNIT — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to ac power monitor unit (1).
2. Disconnect electrical connector (2).
3. Support ac power monitor unit (1) and remove four screws (3), and washers (4).
4. Remove ac power monitor unit (1).

INSTALL

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

5. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

6. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

NOTE

Ensure bonding strip (5) is positioned between airframe and ac external power control unit (1).

7. Position ac external power control unit (1) in place and align to mounting holes (6).

8. Support ac power monitor unit (1) and install four washers (4), and screws (3).

9. Visually inspect electrical connector (2 and 7) for corrosion, missing or bent pins and cracked housing.

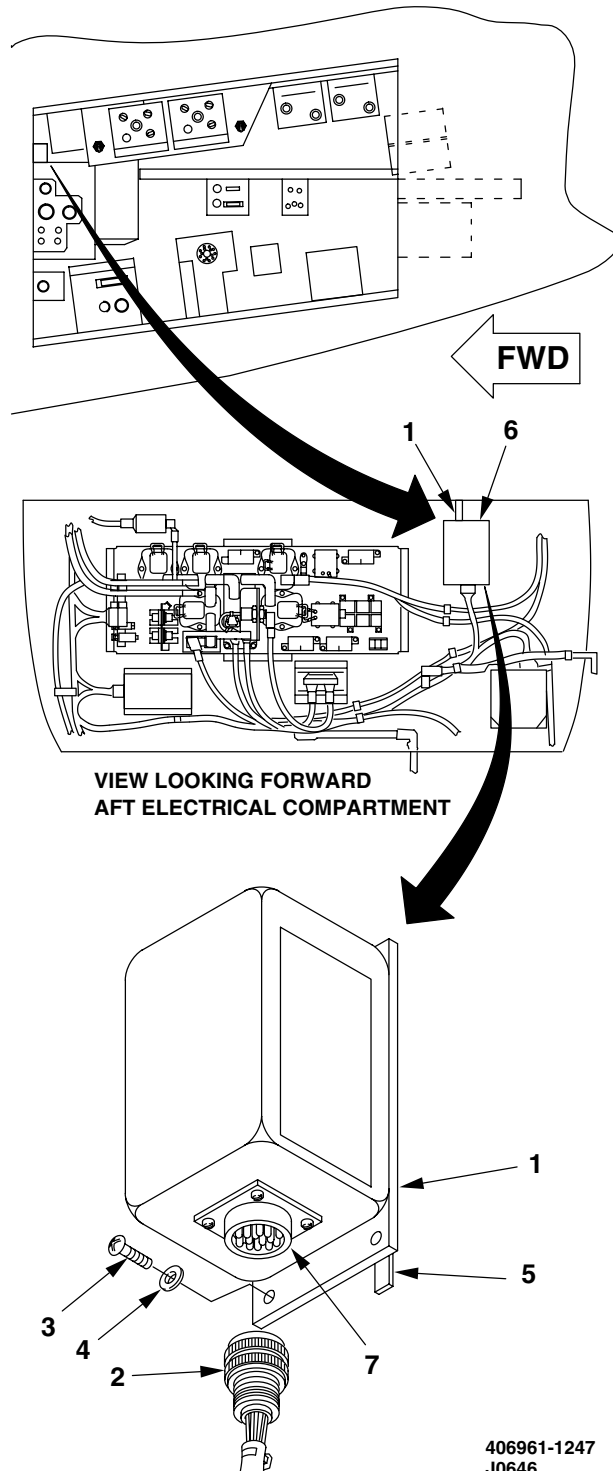
10. Connect electrical connector (2) to electrical connector (7).

11. Close aft electrical compartment door.

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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END OF TASK

Section V. LIGHTING SYSTEM

9-14. LIGHTING SYSTEM

9-16. TASK LIST

The task list consists of those tasks required to support unit and intermediate level maintenance.

9-15. INTRODUCTION

This section contains maintenance procedures for the lighting system. Standard torques are provided in Appendix P and TM 1-1500-204-23.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
Lights (Typical) — Cleaning/Inspection/Repair	9-5-1	9-132
Anticollision Light (Typical) — Removal	9-5-2	9-134
Anticollision Light (Typical) — Installation	9-5-3	9-136
Anticollision Light Flasher — Removal	9-5-4	9-138
Anticollision Light Flasher — Installation	9-5-5	9-140
Floodlight (Typical) — Removal	9-5-6	9-142
Floodlight (Typical) — Installation	9-5-7	9-143
Side Position Light (Typical) — Removal	9-5-8	9-144
Side Position Light (Typical) — Installation	9-5-9	9-145
Tail Position Light — Removal	9-5-10	9-147
Tail Position Light — Installation	9-5-11	9-148
Position Light Dimming Resistor — Removal	9-5-12	9-149
Position Light Dimming Resistor — Installation	9-5-13	9-151
NVG Formation Lights (Typical) — Removal/Installation	9-5-14	9-153
NVG Formation Lights Switch — Removal/Installation	9-5-15	9-155
Searchlight — Removal	9-5-16	9-157
Searchlight — Cleaning/Inspection/Repair	9-5-17	9-159
Searchlight — Corrosion Treatment	9-5-18	9-162
Searchlight — Installation	9-5-19	9-163
Utility Light — Removal	9-5-20	9-165
Utility Light — Installation	9-5-21	9-167
Night Vision Power Converter — Cleaning/Inspection/Repair	9-5-22	9-169
Night Vision Power Converter (Typical) — Removal	9-5-23	9-171
Night Vision Power Converter (Typical) — Installation	9-5-24	9-173

9-5-1. LIGHTS (TYPICAL) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspecting, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician
67S Scout Helicopter Technical Inspector (TI)

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Electrical Repairer Tool Kit (B177)

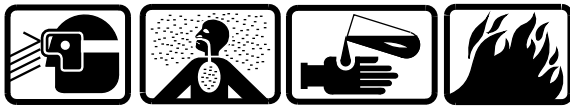
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)

GO TO NEXT PAGE

9-5-1. LIGHTS (TYPICAL) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).

INSPECT

3. Inspect unit for dents or cracks. No dents or cracks allowed.
4. Inspect unit for condition of wiring.
5. Inspect unit for security of mounting.
6. Inspect for cracked or broken lens.

REPAIR

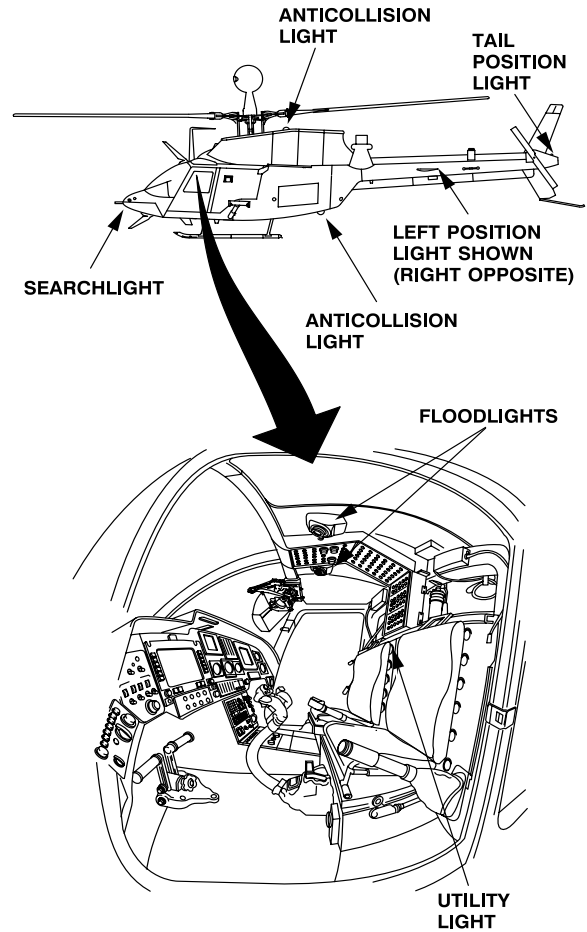
7. Replace unit if case is dented or cracked.
8. Repair or replace deteriorated or broken wiring.
9. Tighten or replace missing mounting hardware.
10. Straighten bent electrical connector pin(s).
11. Replace cracked or broken lens.

INSPECT

FOLLOW-ON MAINTENANCE

Perform the following operational checks as required:

- Floodlights (TM 1-1520-248-T)
- Position Lights (TM 1-1520-248-T)
- Anticollision Lights (TM 1-1520-248-T)
- Searchlight (TM 1-1520-248-T)



406961-1191
J1758

END OF TASK

9-5-2. ANTICOLLISION LIGHT (TYPICAL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

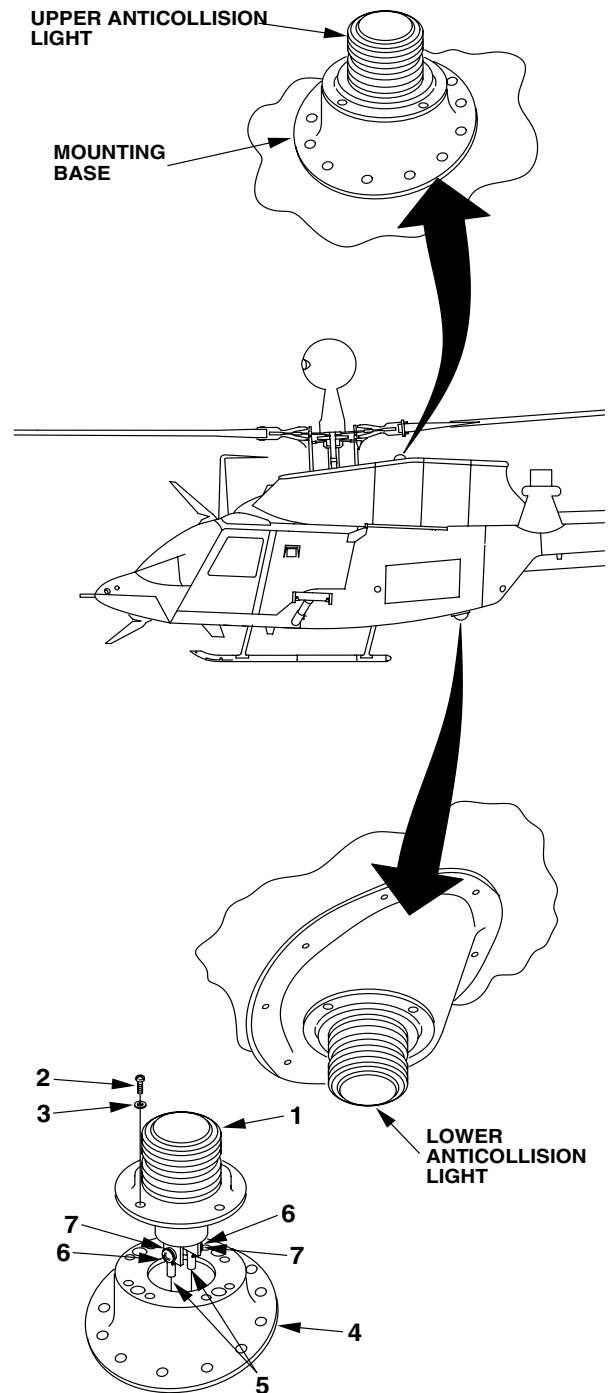
Tools:
Electrical Repairer Tool Kit (B177)

Material:
Masking Tape (D216)

GO TO NEXT PAGE

9-5-2. ANTICOLLISION LIGHT (TYPICAL) — REMOVAL (CONT)

1. Support anticollision light (1) and remove four mounting screws (2) and washers (3).
2. Separate anticollision light (1) from mounting base (4) to gain access to wiring.
3. Tag and identify two wires (5).
4. Remove two screws (6) and washers (7).
5. Disconnect two tagged wires (5).
6. Remove anticollision light (1).
7. Cap or tape ends of two wires (5).
8. Cover opening with masking tape (D216).



406961-1212
J0647

END OF TASK

9-5-3. ANTICOLLISION LIGHT (TYPICAL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-5-3. ANTICOLLISION LIGHT (TYPICAL) — INSTALLATION (CONT)

1. Remove cover from opening or mounting area.
2. Remove caps or tape from ends of tagged wires (1).

NOTE

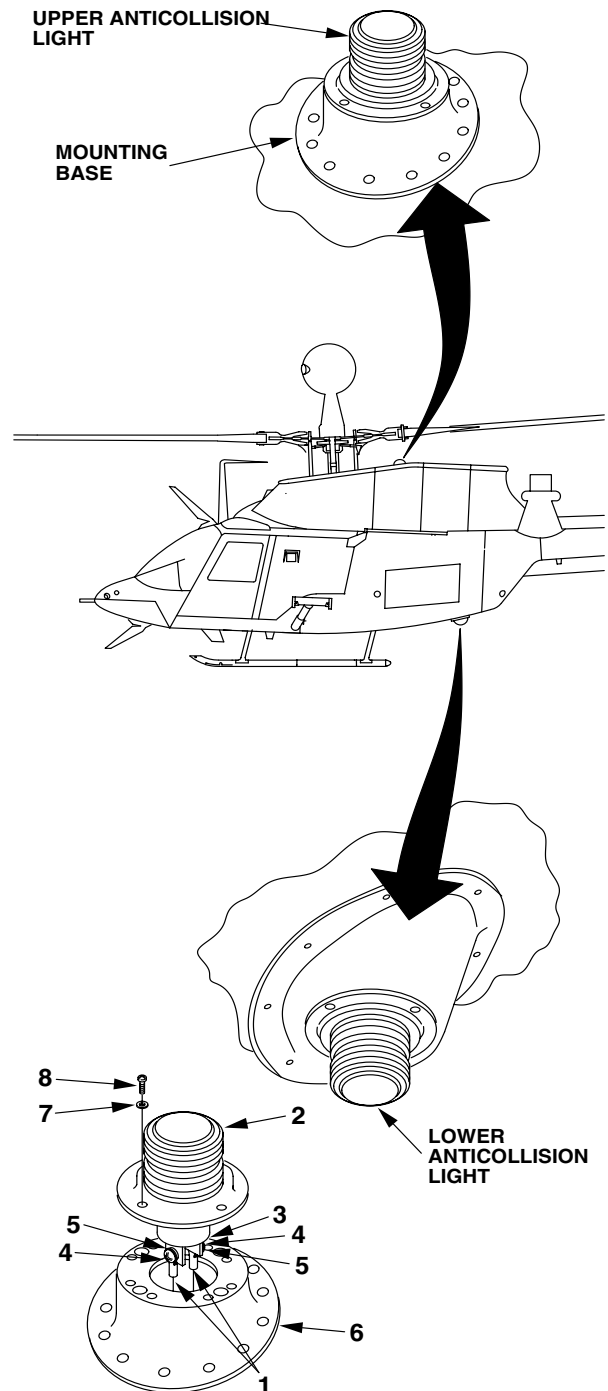
Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

3. Clean and visually inspect mating surfaces for damage which may affect Class H electrical bond.
4. Repair any damage and prepare mating surfaces for Class H electrical bond per Appendix M.
5. Position anticollision light (2) near mounting area.
6. Connect two tagged wires (1) to terminals (3) with screws (4) and washers (5).
7. Remove identification tags from wires.
8. Position anticollision light (2) on mounting base (6).
9. Install four washers (7) and mounting screws (8).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1211
J0647

END OF TASK

9-5-4. ANTICOLLISION LIGHT FLASHER — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

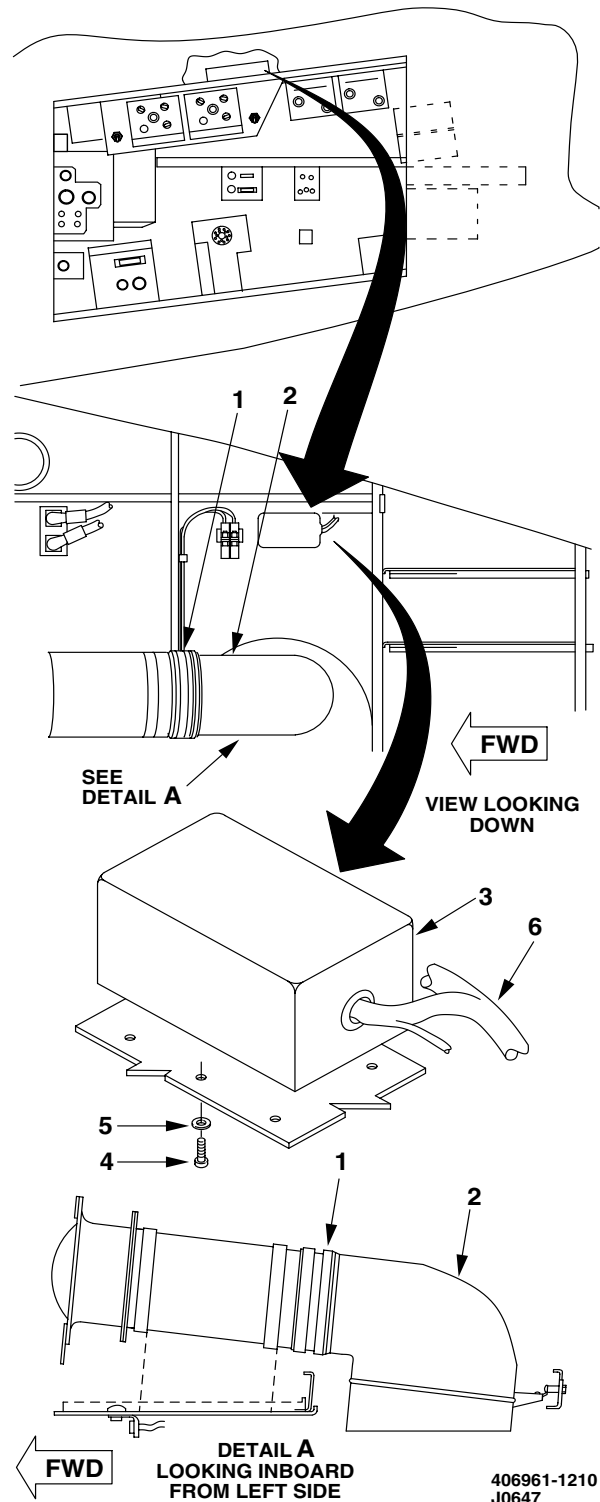
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-5-4. ANTICOLLISION LIGHT FLASHER — REMOVAL (CONT)

1. Open aft electrical compartment door.
2. Cut aft strap (1) on compartment cooling duct (2). Remove duct to gain access to anticollision light flasher (3).
3. Identify and tag wires (6).
4. Disconnect anticollision light flasher electrical wires at splices and at the ground terminal.
5. Cap or tape electrical wire ends.
6. Remove four mounting screws (4) and washers (5).
7. Remove anticollision light flasher (3).
8. Close aft electrical compartment door.



406961-1210
J0647

END OF TASK

9-5-5. ANTICOLLISION LIGHT FLASHER — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-5-5. ANTICOLLISION LIGHT FLASHER — INSTALLATION (CONT)

1. Open aft electrical compartment door to gain access to anticollision light flasher mounting area.

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

2. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

3. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

4. Position anticollision light flasher (1) and align to mounting holes.

5. Install four washers (2) and mounting screws (3).

6. Remove caps or tape from electrical wires (4).

7. Splice anticollision light flasher electrical wires to correct wires, install appropriate heat shrink tubing and apply heat using heat gun (nitrogen) (B60).

8. Install terminal on ground wire.

9. Install ground wire on ground stud.

10. Remove identification tags from wires.

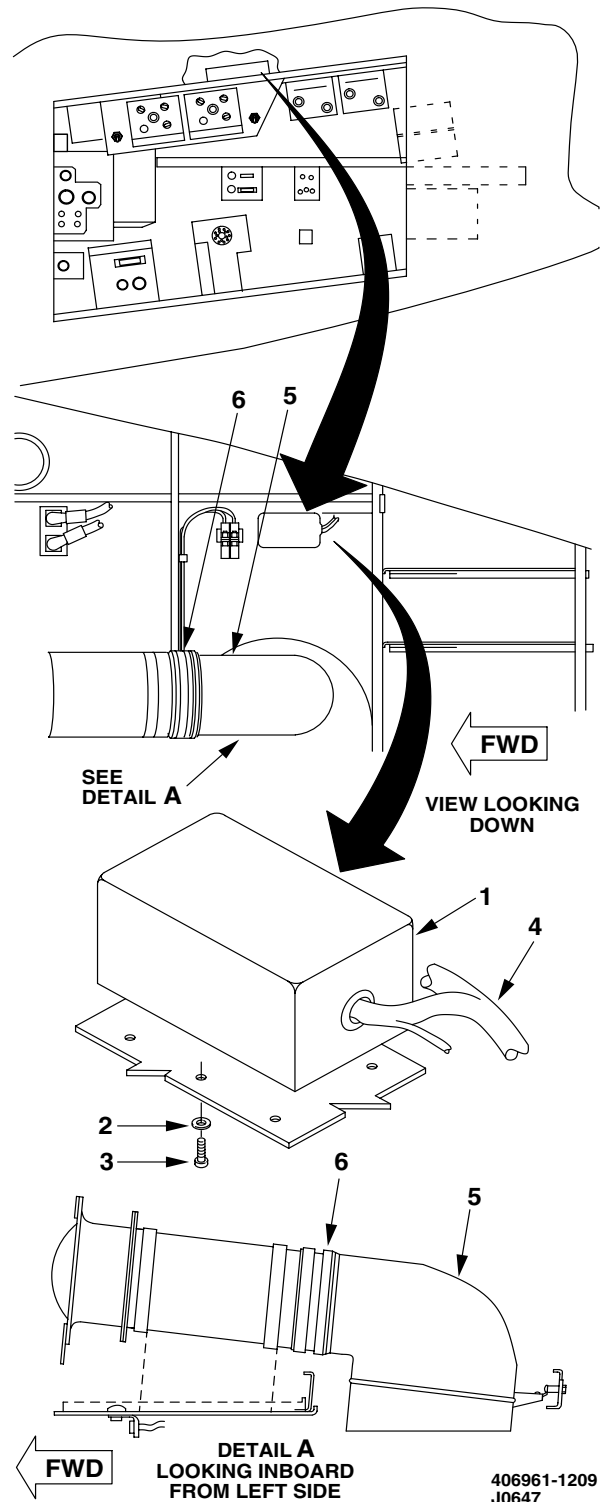
11. Install compartment cooling duct (5) with strap (6).

INSPECT

12. Close aft electrical compartment door.

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1209
J0647

END OF TASK

9-5-6. FLOODLIGHT (TYPICAL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

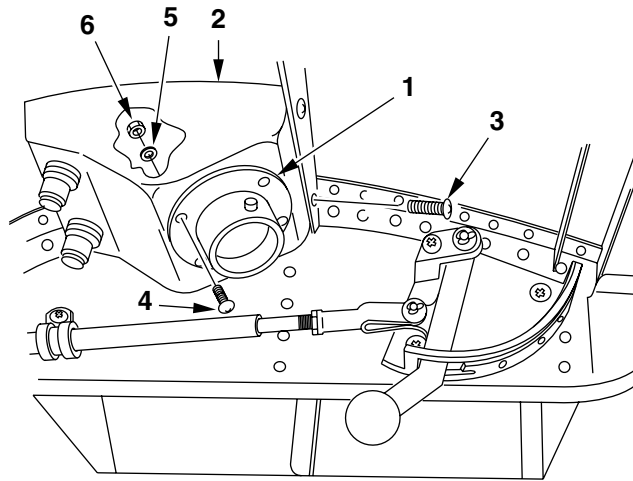
Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

1. Open crew door as applicable to gain access to left (white) or right (green) floodlight.
2. Support floodlight (1) and support bracket (2), and remove four screws (3).
3. Lower support bracket (2) with floodlight (1) to gain access to back of floodlight (1).
4. Tag and identify wires.
5. Disconnect electrical wires from terminals on back of floodlight (1).
6. Cap or tape wire ends.
7. Remove four screws (4), washers (5), and nuts (6).
8. Remove floodlight (1).
9. Position support bracket (2) on mounting area and align to mounting holes.
10. Install four screws (3).
11. Close crew door.



VIEW LOOKING UP
CREW COMPARTMENT

406961-1208
H0166

END OF TASK

9-5-7. FLOODLIGHT (TYPICAL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

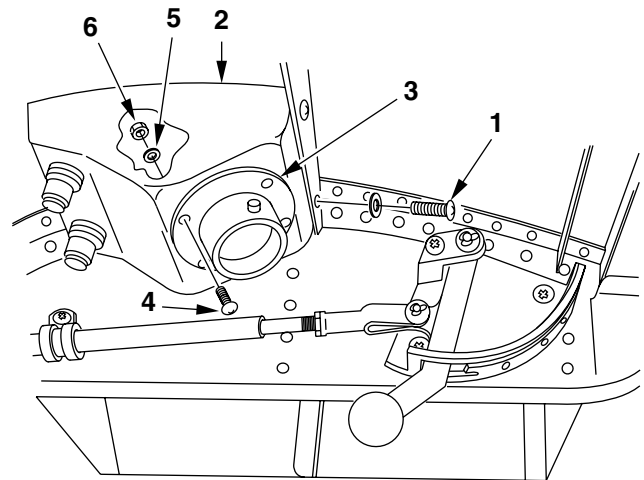
Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

1. Open crew door as applicable to gain access to left (white) or right (green) floodlight mounting area.
2. Remove four screws (1) and lower support bracket (2).
3. Position and align floodlight (3) on support bracket (2).
4. Install four screws (4), washers (5), and nuts (6).
5. Remove caps or tape from tagged wire ends and connect electrical wiring to the mating terminals on back of the floodlight (3).
6. Remove identification tags from wires.
7. Position and align support bracket (2).
8. Install four screws (1).



VIEW LOOKING UP
CREW COMPARTMENT

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

406961-1207
H0167

END OF TASK

9-5-8. SIDE POSITION LIGHT (TYPICAL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

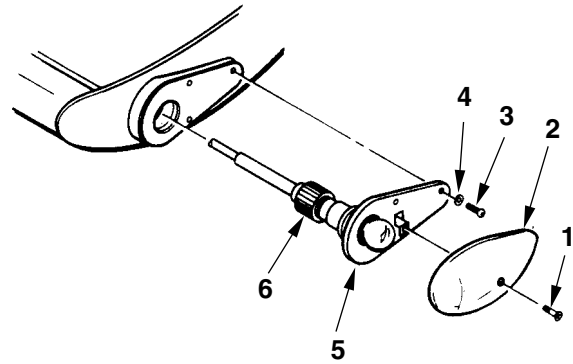
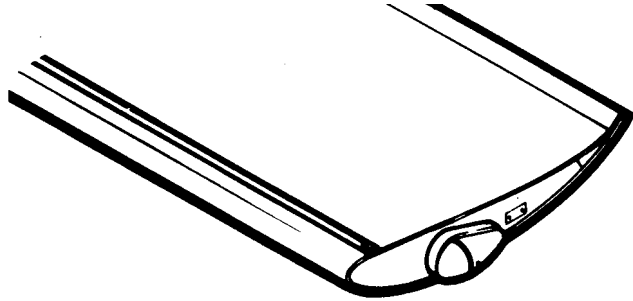
Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Plastic Scraper (B123)
Electrical Repairer Tool Kit (B177)

Material:
Masking Tape (D216)

1. Remove old sealing compound around mounting surfaces using plastic scraper (B123).
2. Remove screw (1).
3. Remove lens cover (2).
4. Remove three screws (3) and washers (4).
5. Pull light fixture (5) out of horizontal stabilizer far enough to access connector (6).
6. Disconnect connector (6).
7. Remove light fixture (5).
8. Tape or cap connector (6).
9. Cover opening with masking tape (D216).



406961-1206
H0168

END OF TASK

9-5-9. SIDE POSITION LIGHT (TYPICAL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

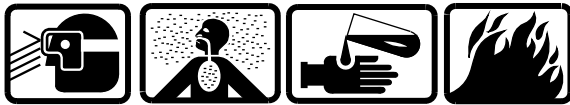
Tools:
Electrical Repairer Tool Kit (B177)

Material:
Acetone (D2)
Rubber Gloves (D111)
Wiping Rag (D164)
Sealing Compound (D185)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

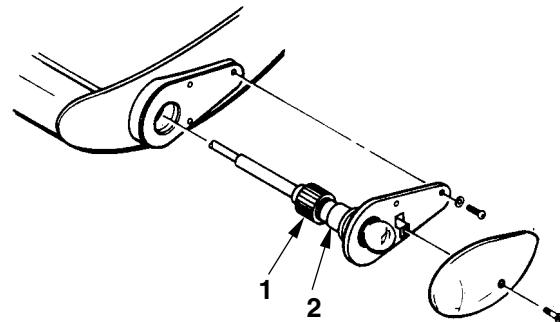
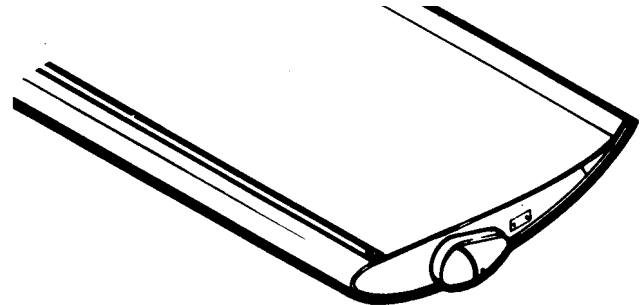
**Acetone**

1. Clean mounting surface with acetone (D2) and wiping rag (D164).
2. Remove cover from opening on edge of horizontal stabilizer.
3. Remove tape or cap from connector (1).

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

4. Clean and visually inspect mating surfaces for damage which may affect Class H electrical bond.
5. Repair any damage and prepare mating surfaces for Class H electrical bond per Appendix M.
6. Connect connector (1) to base of side position light (2).



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H0169

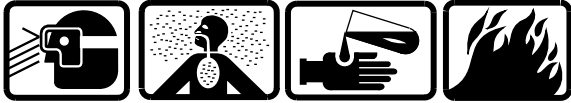
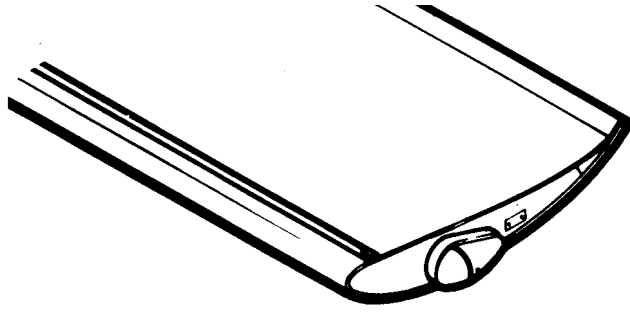
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9-5-9. SIDE POSITION LIGHT (TYPICAL) — INSTALLATION (CONT)

7. Position side position light in place and align to mounting holes.

8. Install three washers (3) and screws (4).

9. Install lens cover (5) and screw (6).



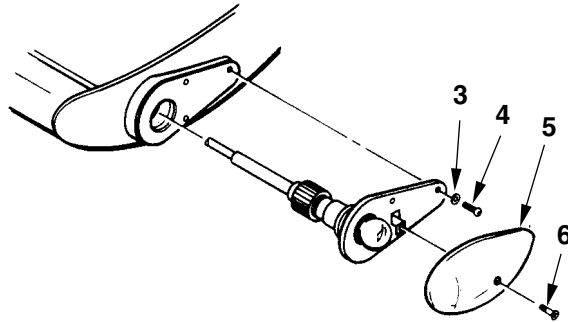
Sealing Compound

10. Apply sealing compound (D185) around mounting surface of lens cover (5).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1205-2
H0169

9-5-10. TAIL POSITION LIGHT — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

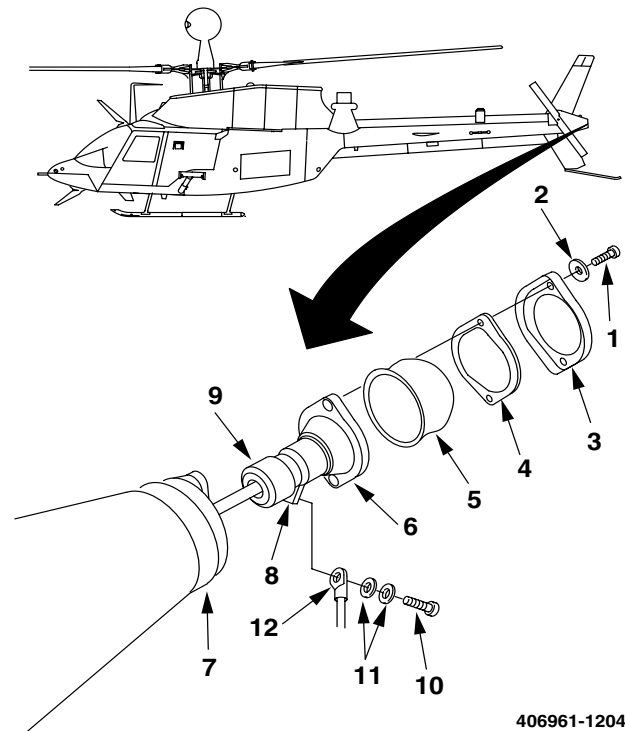
Tools:
Electrical Repairer Tool Kit (B177)

Material:
Masking Tape (D216)

Personnel Required:
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

1. Remove two mounting screws (1) and washers (2).
2. Remove mounting base (3) and retainer spring (4).
3. Remove lens (5).
4. Pull tail position light (6) from mounting base (7) to gain access to ground terminal (8) and connector (9).
5. Remove screw (10), two washers (11), and wire (12).
6. Disconnect connector (9).
7. Tape or cap connector (9) and end of wire (12).
8. Remove tail position light (6).
9. Cover opening with masking tape (D216).



406961-1204
J0647

END OF TASK

9-5-11. TAIL POSITION LIGHT — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

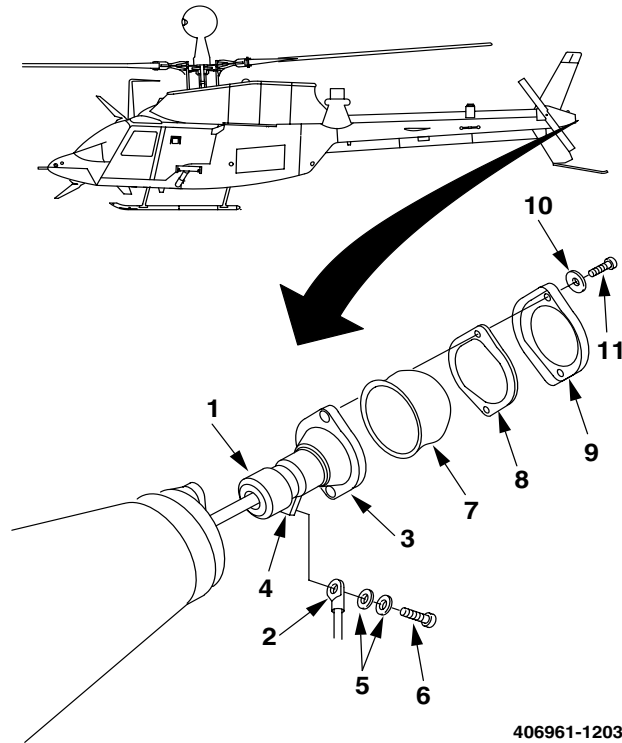
Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

1. Remove cover from opening of mounting area.
2. Remove tape or cap from connector (1) and end of wire (2).
3. Connect connector (1) to base of tail position light (3).
4. Position bonding wire (2) to ground terminal (4) and install two washers (5) and screw (6).
5. Position tail position light (3) in place and align to mounting holes.
6. Install lens (7), retainer spring (8), mounting base (9), two washers (10), and screws (11).



406961-1203
J0647

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

END OF TASK

9-5-12. POSITION LIGHT DIMMING RESISTOR — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

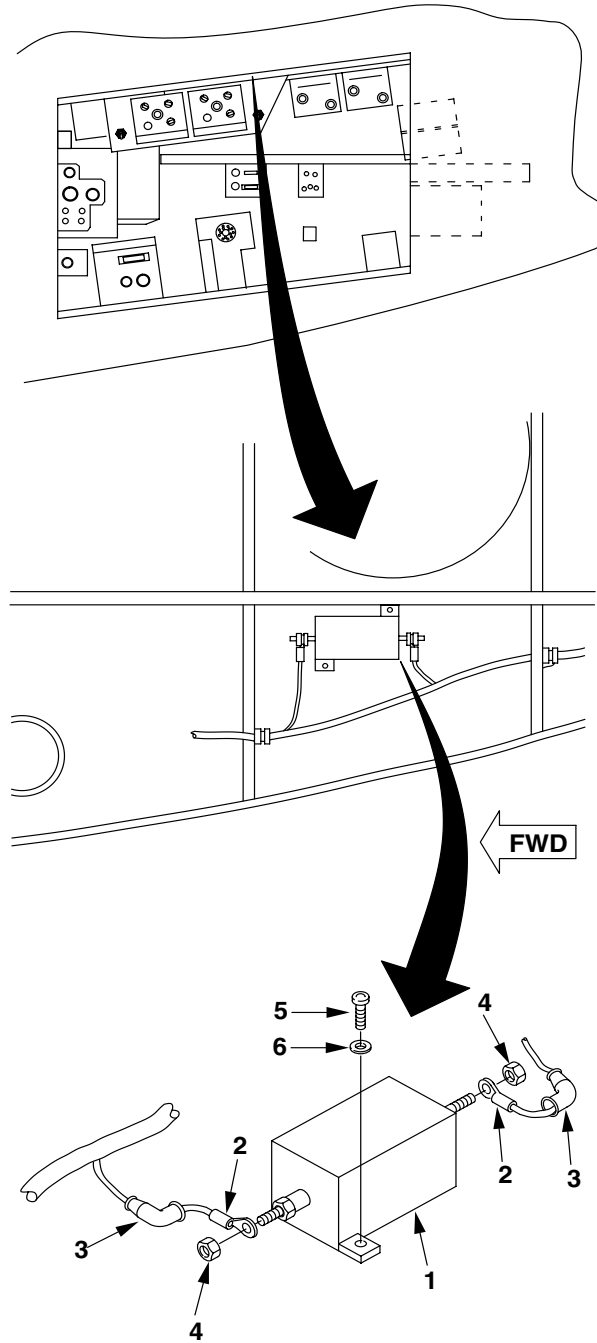
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-5-12. POSITION LIGHT DIMMING RESISTOR — REMOVAL (CONT)

1. Open aft electrical compartment door to gain access to position lights dimming resistor (1).
2. Tag and identify connectors (2).
3. Remove two nipples (3), nuts (4), and connectors (2) from position lights dimming resistor (1).
4. Cap or tape connectors (2).
5. Remove two mounting screws (5) and washers (6).
6. Remove position lights dimming resistor (1).
7. Close aft electrical compartment door.



406961-1202
J0647

END OF TASK

9-5-13. POSITION LIGHT DIMMING RESISTOR — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-5-13. POSITION LIGHT DIMMING RESISTOR — INSTALLATION (CONT)

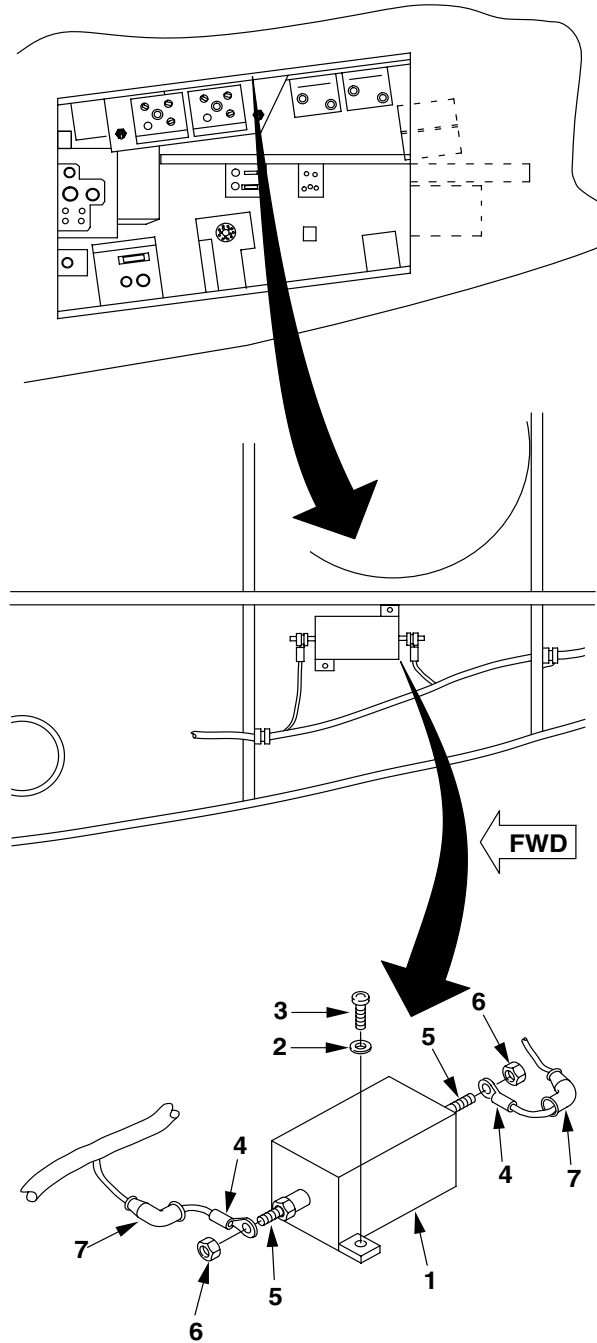
1. Open aft electrical compartment door to gain access to position light dimming resistor (1) mounting area.
2. Place position light dimming resistor (1) on mounting area and align mounting holes.
3. Install two washers (2) and screws (3).
4. Remove caps or tape from tagged wires (4).
5. Connect tagged wires (4) to correct terminal post (5).
6. Remove identification tags from wires.
7. Install two nuts (6) and nipples (7).

INSPECT

8. Close aft electrical compartment door.

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1201
J0647

END OF TASK

9-5-14. NVG FORMATION LIGHTS (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 68F Aircraft Electrician

Applicable Configurations:
 All

References:
 TM 1-1520-248-T

Tools:
 Electrical Repairer Tool Kit (B177)

Equipment Condition:
 Helicopter Safed (Task 1-6-7)
 Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
 Sealant (D180)

9-5-14. NVG FORMATION LIGHTS (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVAL

1. Open POS LT circuit breaker on overhead console panel.
2. Remove two mount screws (1) and washers (2).
3. Remove mounting base (3).
4. Remove lens (4).
5. Pull NVG formation light (5) away from helicopter far enough to access wires (6).
6. Disconnect wires (6) from splices and remove NVG formation light (5).

INSTALL

7. Connect wires (6) to splices.

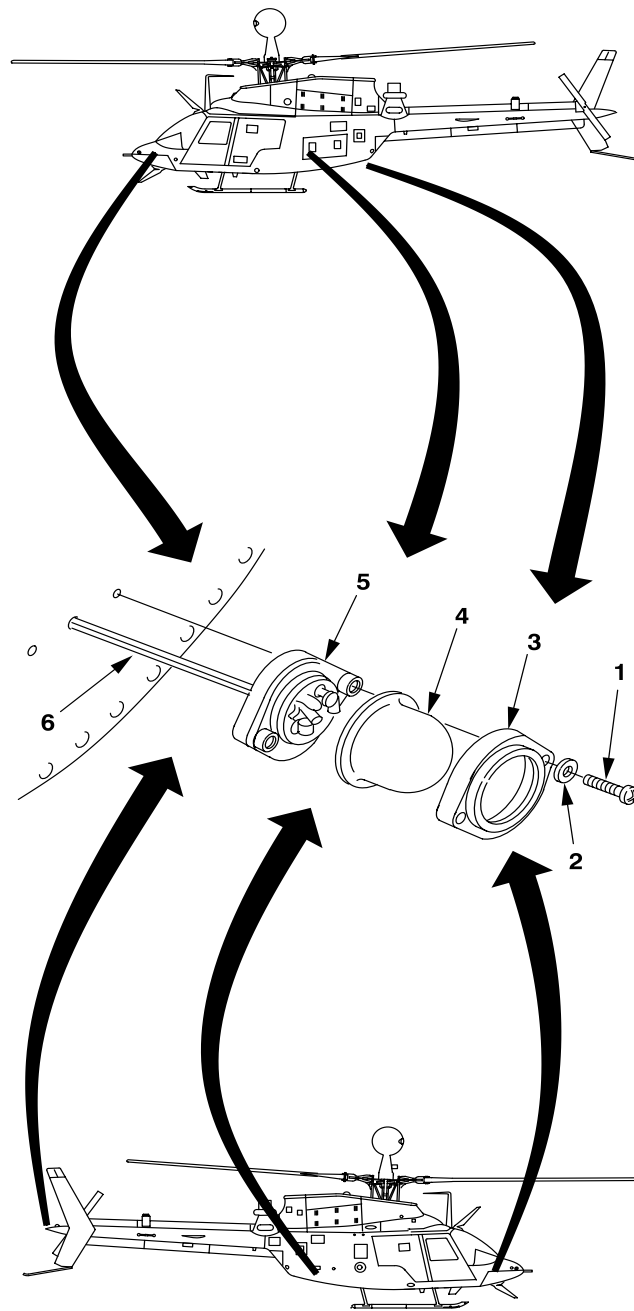
INSPECT

8. Position NVG formation light (5) in place and align mount holes.
9. Install lens (4), mounting base (3), two washers (2), and two mount screws (1).
10. Close POS LT circuit breaker on overhead console panel.
11. Apply sealant (D180) to mounting base (3)

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1392-1
J1785

END OF TASK

9-5-15. NVG FORMATION LIGHTS SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
68F Aircraft Electrician
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-5-15. NVG FORMATION LIGHTS SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove two screws (1) and washers (2) from switch mount (3).
2. Tag and identify two wires.
3. Remove two screws (4) and washers (5) securing wires to terminals.
4. Remove switch knob (6).
5. Remove switch retaining nut (7) lockwasher (8) and key washer (9).
6. Remove switch (10) from switch mount (3).

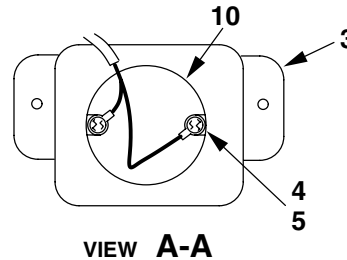
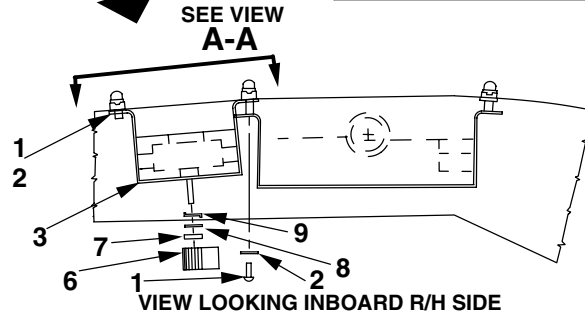
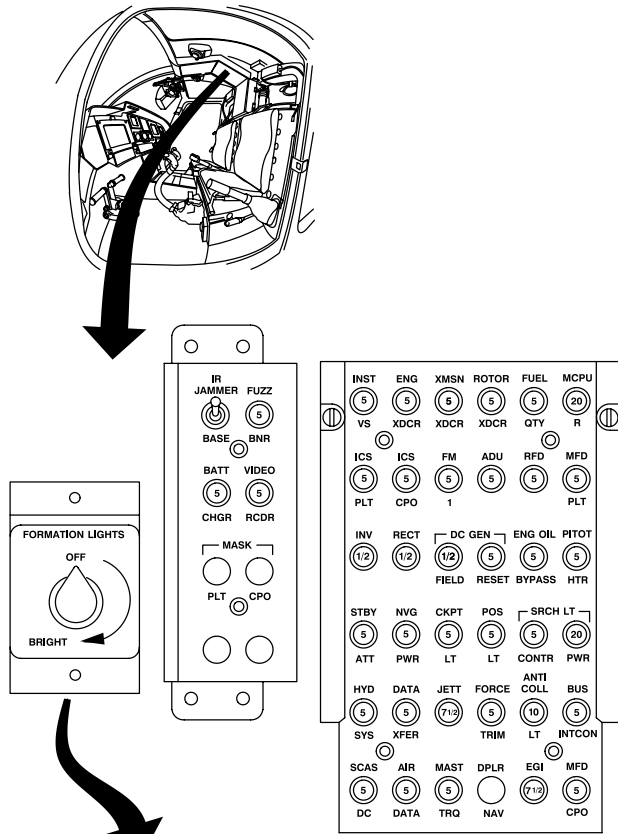
INSTALL

7. Install switch (10) into mounting hole from rear of mount (3).
8. Align keyway of switch (10) and install key washer (9) and lockwasher (8).
9. Install switch retaining nut (7).
10. Install switch knob (6).
11. Connect two wires to terminals with two screws (4) and washers (5).
12. Remove identification tags from wires.
13. Position mount (3) and secure with two screws (1) and washers (2).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406875-205
J1758

END OF TASK

9-5-16. SEARCHLIGHT — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Repairer

Applicable Configurations:
All

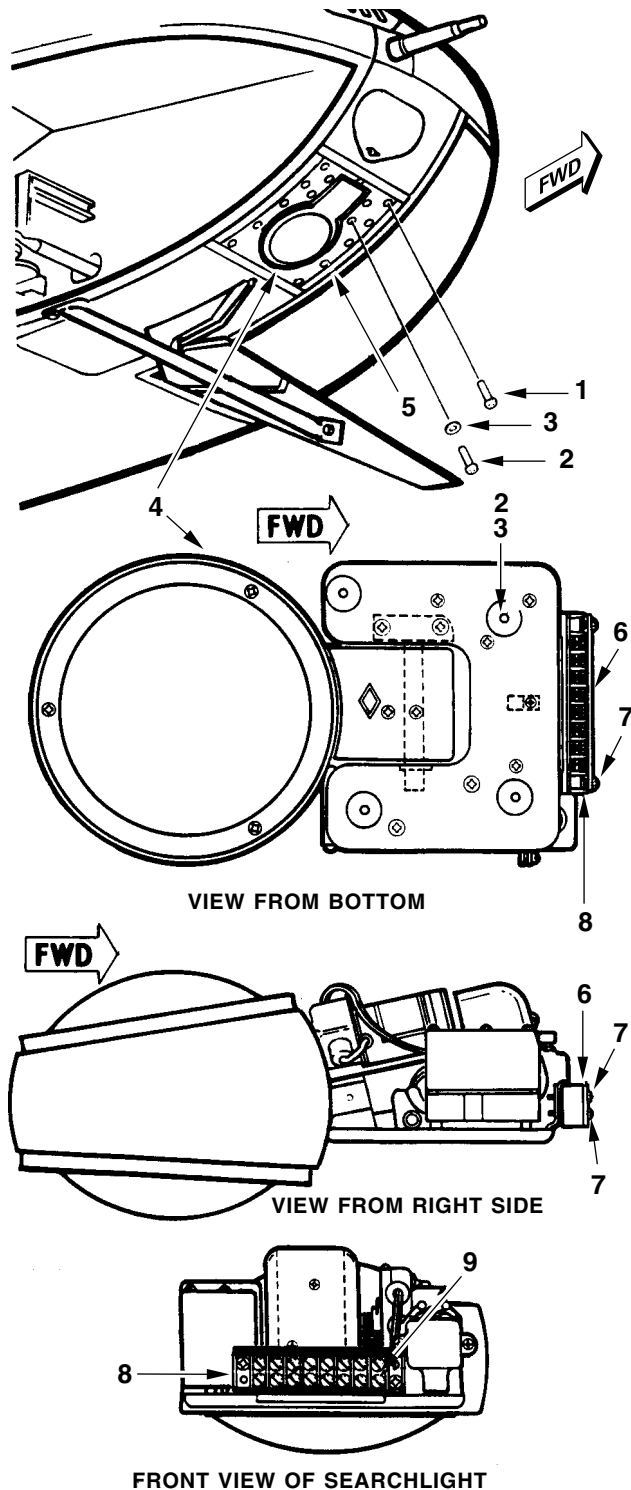
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
General Mechanic Tool Kit (B178)

GO TO NEXT PAGE

9-5-16. SEARCHLIGHT — REMOVAL (CONT)

1. Approach searchlight mounting area from underneath the nose of the helicopter.
2. Support searchlight assembly and remove 12 screws (1).
3. Remove four screws (2) and washers (3).
4. Support searchlight (4) with hand and remove panel (5).
5. Lower searchlight (4) to gain access to terminal board and cover (6).
6. Remove two screws (7) from terminal board cover (6).
7. Remove terminal board cover (6).
8. Identify and tag wires connected to terminal board (8).
9. Remove eight screws (9) on terminal board (8).
10. Remove wires from terminal board (8) and cap or tape wire ends.
11. Remove searchlight (4).



406961-1200
H0174

END OF TASK

9-5-17. SEARCHLIGHT — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Torque Wrench (B235)

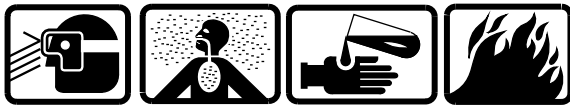
Material:
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)

Rubber Gloves (D111)
Wiping Rag (D164)
Retaining Compound (D170)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI) ■
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Searchlight Removed (Task 9-5-16)

CLEAN

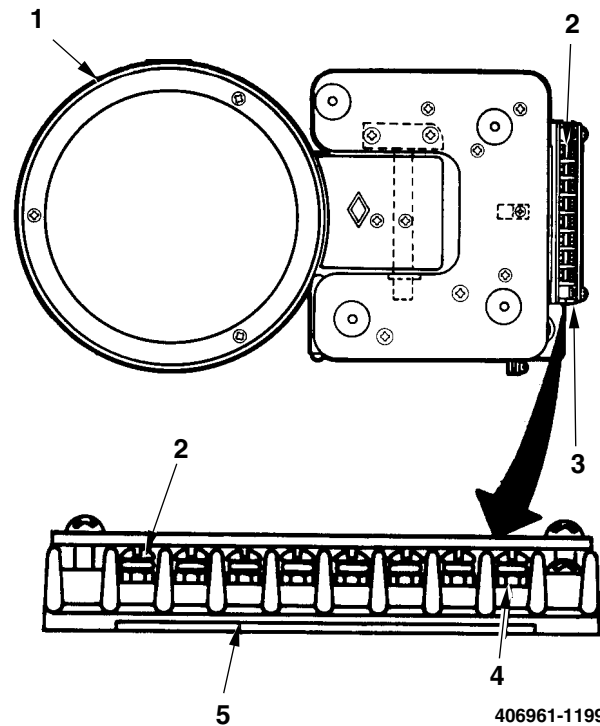


Drycleaning Solvent

1. Clean searchlight (1) with wiping rag (D164) dampened with drycleaning solvent (D199).

2. Apply drycleaning solvent (D199) to eight electrical terminals (2) using an acid swabbing brush (D51) on terminal board (3) of searchlight (1).

3. Use drycleaning solvent (D199) and an acid swabbing brush (D51) to clean end of locking screws (4) and metal backstops (5) of terminal board (3).



406961-1199-1
H0175

GO TO NEXT PAGE

9-5-17. SEARCHLIGHT — CLEANING/INSPECTION/REPAIR (CONT)

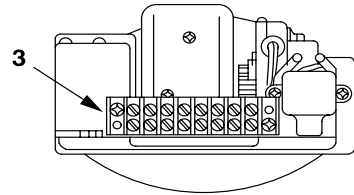
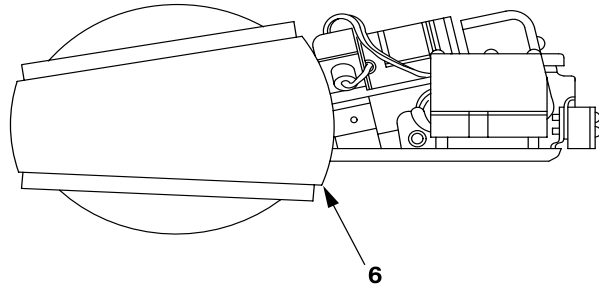
INSPECT

4. Check terminal board (3) for cracks or damaged threads.

WARNING

To prevent injury to personnel, flight operations with a loose searchlight canopy (6) are not permitted.

5. Check for movement of searchlight canopy (6) on shaft. If any movement is noted, replace searchlight (Task 9-5-19).



FRONT VIEW SEARCHLIGHT

406961-1199-2
J2229

GO TO NEXT PAGE

 9-5-17. SEARCHLIGHT — CLEANING/INSPECTION/REPAIR (CONT)

REPAIR

6. Remove two setscrews (7) from searchlight (1).

**Sealing Compound**

7. Apply retaining compound (D170) to setscrews (7).

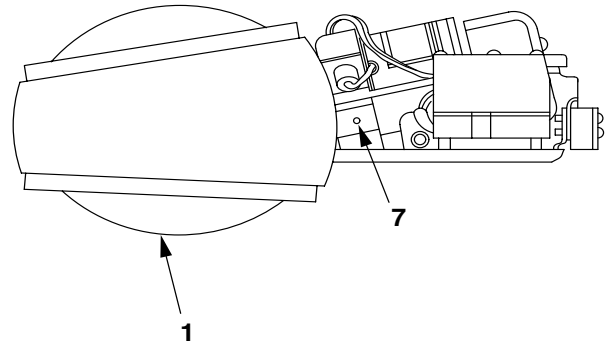
8. Install two setscrews (7) on shaft.

9. Torque setscrews (7) **18 TO 20 INCH-POUNDS.**

INSPECT

FOLLOW-ON MAINTENANCE

Install searchlight (Task 9-5-19).



406961-1199-3
J2229

END OF TASK

9-5-18. SEARCHLIGHT — CORROSION TREATMENT

This task covers: Corrosion Treatment (Off Helicopter)

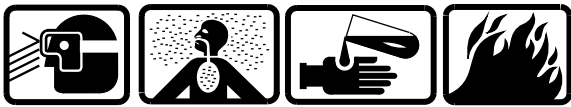
INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)

Material:
Drycleaning Solvent (D199)
Corrosion Preventive Compound (D81)
Crocus Cloth (D90)
Rubber Gloves (D111)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Repairer



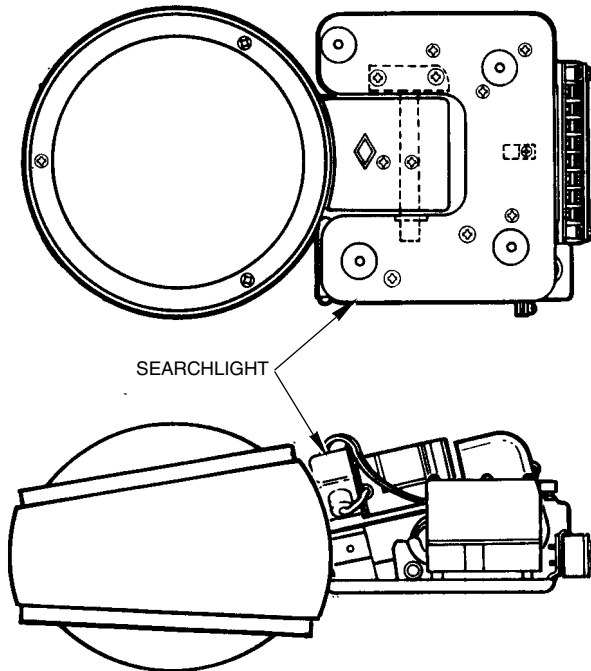
Drycleaning Solvent

1. Clean searchlight with wiping rag (D164) dampened with drycleaning solvent (D199).
2. Examine metal parts of searchlight for remnants of corrosion.
3. Remove remaining corrosion with crocus cloth (D90).
4. Remove any cleaning residue with wiping rag (D164) saturated with drycleaning solvent (D199).



Corrosion Preventive Compound

5. Apply thin coat of corrosion preventive compound (D81) to metal parts of searchlight.



406961-1198
H0176

END OF TASK

9-5-19. SEARCHLIGHT — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
General Mechanic Tool Kit (B178)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

GO TO NEXT PAGE

9-5-19. SEARCHLIGHT — INSTALLATION (CONT)

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

1. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
2. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
3. Support searchlight (1) near opening under nose of helicopter.
4. Remove caps or tape from wire ends.
5. Install tagged wires to correct terminals on terminal board (2).
6. Remove identification tags from wires.
7. Tighten eight screws (3) on terminal board (2).
8. Position terminal board cover (4) in place on terminal board (2).
9. Secure terminal board cover (4) to terminal board (2) with two screws (5).
10. Position panel (6) in opening under nose of helicopter.

NOTE

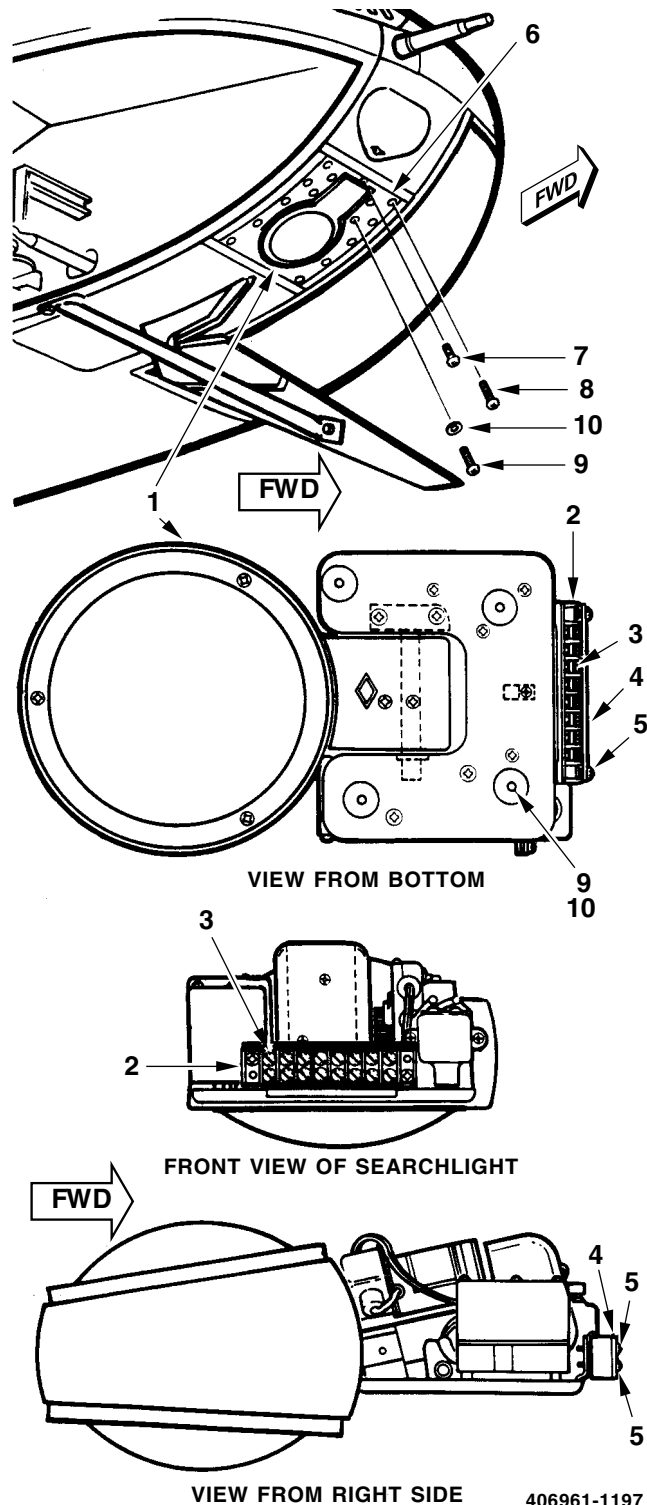
When installing screws, ensure that screws (7) are installed in proper place. Screws (7) are longer and could interfere with the searchlight terminal board if installed incorrectly.

11. Secure panel with screw (7) and 11 screws (8).
12. Position searchlight (1) into position in panel (6).
13. Secure searchlight (1) with four screws (9) and washers (10).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1197
H0177

END OF TASK

9-5-20. UTILITY LIGHT — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

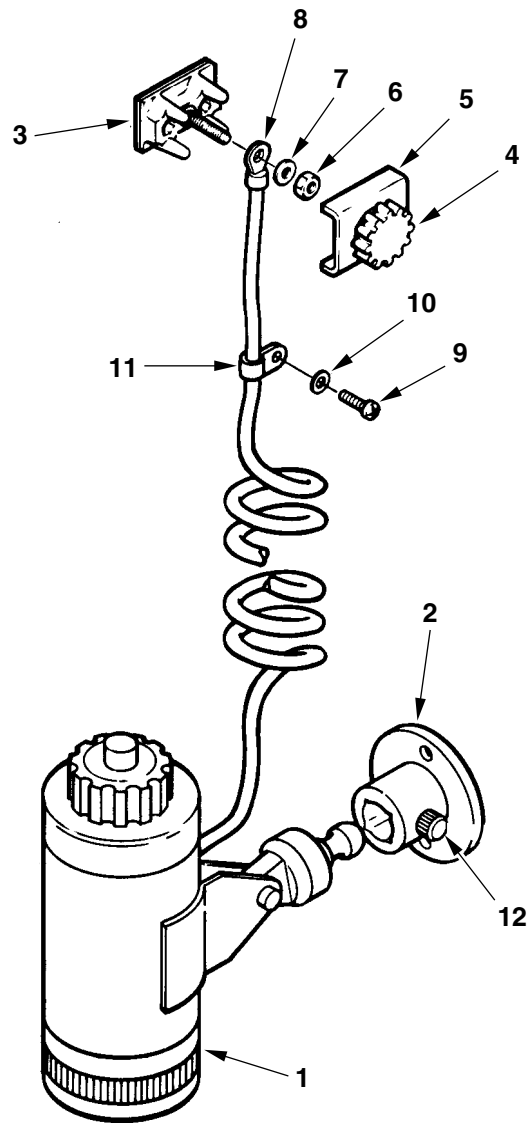
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-5-20. UTILITY LIGHT — REMOVAL (CONT)

1. Open left crew door to gain access to utility light (1), base (2), and terminal board (3).
2. Turn knurled knob (4) counterclockwise and remove cover (5) from terminal board (3).
3. Remove nut (6), washer (7), and wire (8) from terminal board (3).
4. Remove screw (9), washer (10), and ground lug (11).
5. Loosen lockscrew (12) on base (2) until utility light (1) can be removed from base (2).
6. Remove utility light (1).
7. Close left crew door.



406961-1196
H0178

END OF TASK

9-5-21. UTILITY LIGHT — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-5-21. UTILITY LIGHT — INSTALLATION (CONT)

1. Open left crew door to gain access to utility light (1) mounting area.

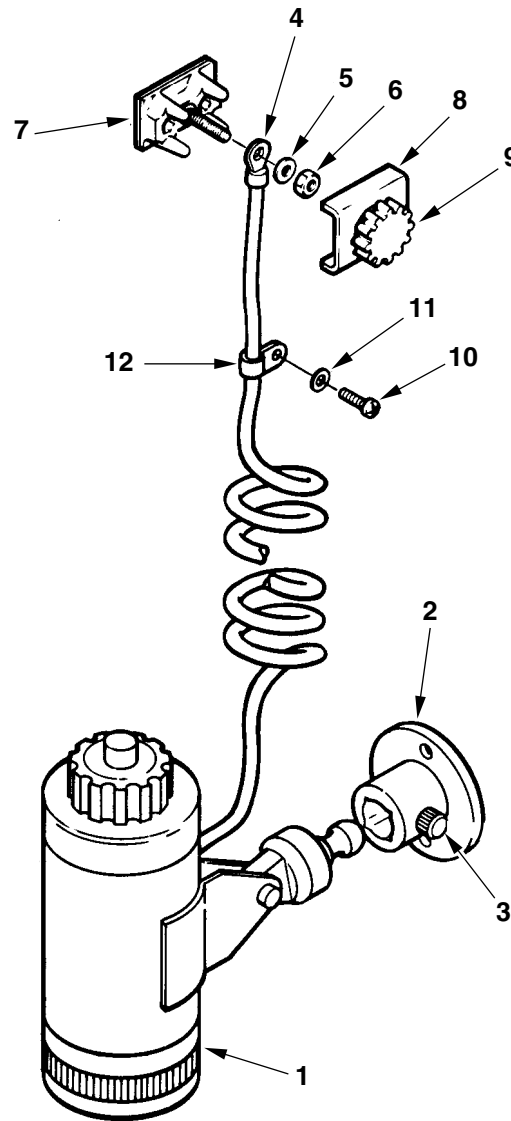
2. Insert mounting post of utility light (1) into the base (2).

3. Tighten lockscrew (3) until tight enough to hold utility light (1) securely in base (2).

4. Install wire (4), washer (5), and nut (6) on terminal board (7).

5. Install cover (8) on terminal board (7). Turn knob (9) clockwise until cover (8) is tight and secure.

6. Install screw (10), washer (11), and ground lug (12).



INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

406961-1195
H0179

END OF TASK

9-5-22. NIGHT VISION POWER CONVERTER — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 68F Aircraft Electrician

Applicable Configurations:
 All

References:
 TB 43-0118
 TM 55-1500-323-24

Tools:
 Electrical Repairer Tool Kit (B177)

Material:
 Low-Lint Cleaning Cloth (D67)
 Drycleaning Solvent (D199)
 Rubber Gloves (D111)
 Sandpaper (D175)
 Wiping Rag (D164)

Equipment Condition:
 Helicopter Safed (Task 1-6-7)
 Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

9-5-22. NIGHT VISION POWER CONVERTER — CLEANING/INSPECTION/REPAIR (CONT)

1. Open crew door as applicable to gain access to CPG or pilot night vision power converter.

CLEAN



Drycleaning Solvent

2. Remove grease, fungus and dirt with a clean low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).

3. Remove moisture, dust, and loose dirt with a wiping rag (D164).

INSPECT

4. Inspect unit for scratches and bare metal.
5. Inspect unit for security of mounting.
6. Inspect electrical wiring and connectors for condition.

REPAIR

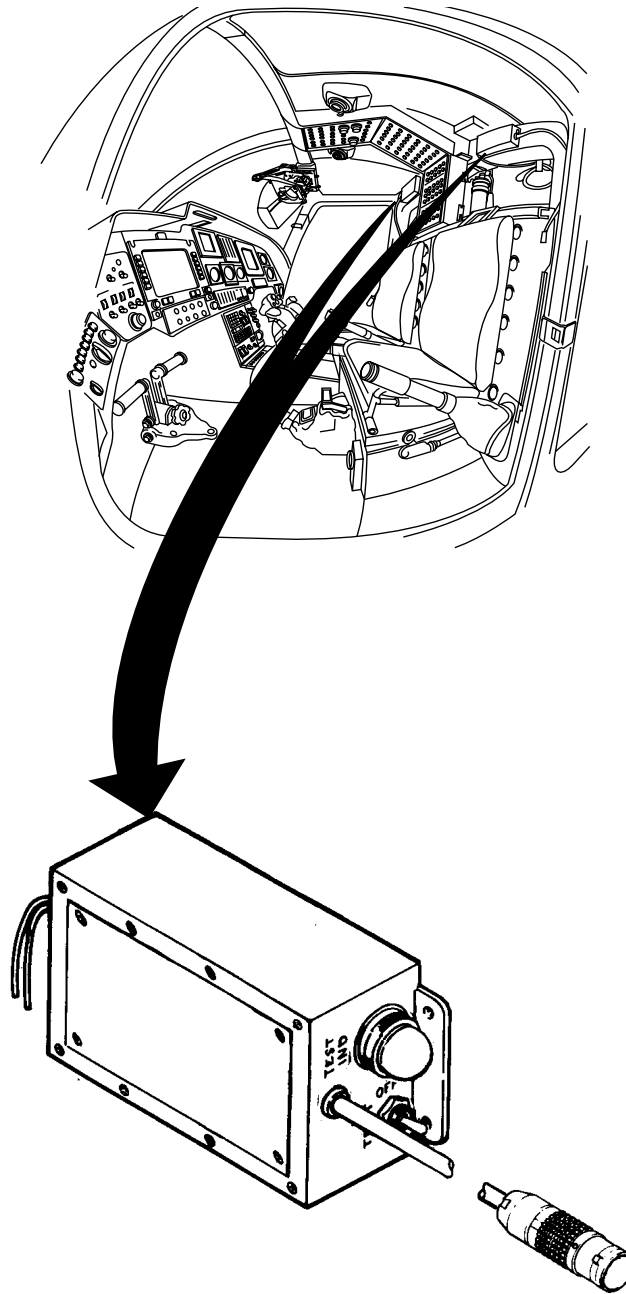


Sanding Operations

7. Remove any scratches using 400 grit sandpaper (D175).
8. Touch up bare metal (TB 43-0118).
9. Tighten or replace missing mounting hardware.
10. Straighten bent electrical connector pin(s).
11. Replace electrical wiring or connectors if broken or deteriorated (TM 55-1500-323-24).

INSPECT

12. Close left crew door.



406961-1194
H0180

END OF TASK

9-5-23. NIGHT VISION POWER CONVERTER (TYPICAL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

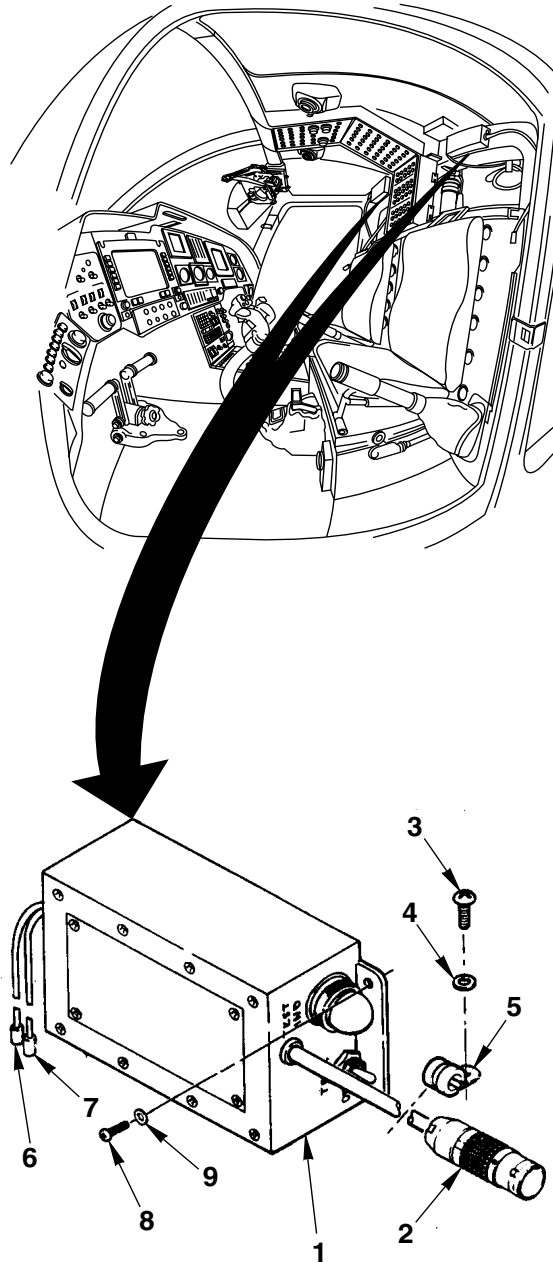
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-5-23. NIGHT VISION POWER CONVERTER (TYPICAL) — REMOVAL (CONT)

1. Open crew door as applicable to gain access to CPG or pilot night vision power converter (1).
2. Disconnect electrical connector (2).
3. Remove screw (3), washer (4), and clamp (5).
4. Tag and identify two wires (6).
5. Disconnect wires (6) at inline connectors (7).
6. Remove four screws (8) and washers (9).
7. Remove night vision power converter (1).
8. Close crew door.



406961-1193
H0181

END OF TASK

9-5-24. NIGHT VISION POWER CONVERTER (TYPICAL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-5-24. NIGHT VISION POWER CONVERTER (TYPICAL) — INSTALLATION (CONT)

1. Open crew door as applicable to gain access to CPG or pilot night vision power converter (1).

NOTE

Check for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

2. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

3. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

4. Position night vision power converter (1) in place and install four washers (2) and screws (3).

5. Install two tagged wires (4) to their inline connectors (5).

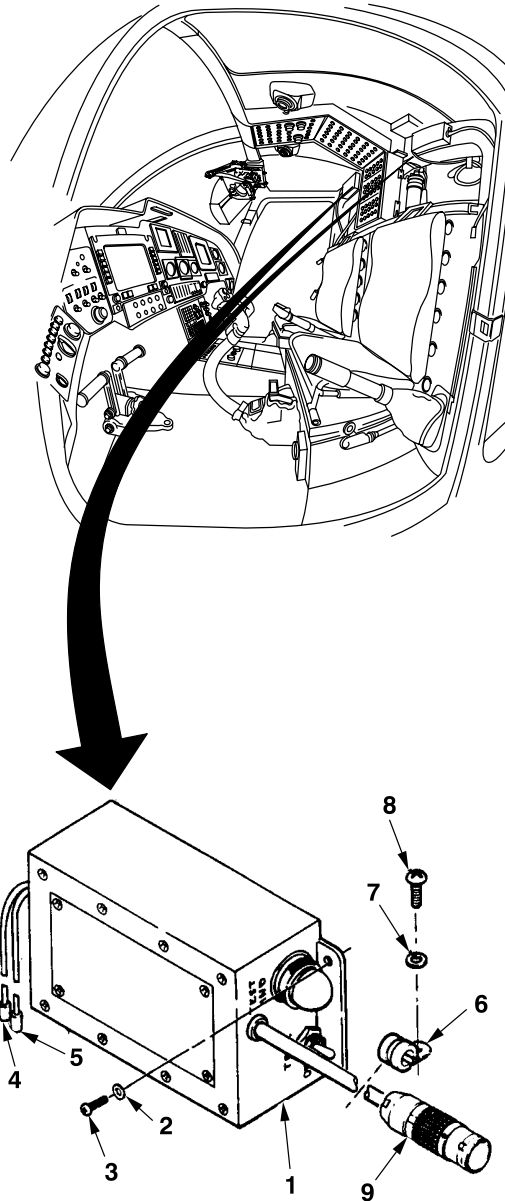
6. Remove identification tags from wires.

7. Position clamp (6) in place and install washer (7) and screw (8). Connect connector (9).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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J2028

END OF TASK

Section VI. MISCELLANEOUS ELECTRICAL EQUIPMENT

9-17. MISCELLANEOUS ELECTRICAL EQUIPMENT

torques are provided in Appendix P and TM 1-1500-204-23.

9-18. INTRODUCTION

This section contains maintenance procedures for miscellaneous electrical equipment. Standard

9-19. TASK LIST

The task list consists of those tasks required to support unit and intermediate level maintenance.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
Weight-On-Gear Switch (Rapid Deployment Landing Gear) — Removal/Installation	9-6-1	9-178
Miscellaneous Electrical Equipment — Cleaning/Inspection/Repair	9-6-2	9-181
Circuit Breakers (Typical) — Cleaning/Inspection/Repair	9-6-3	9-184
Integrally Lit Panel (Typical) — Cleaning/Inspection/Repair	9-6-4	9-186
Overhead Console — Lowering	9-6-5	9-188
Overhead Console — Raising	9-6-6	9-190
Circuit Breaker in Overhead Console (Typical) — Removal/Installation	9-6-7	9-192
Circuit Breaker in Center Post Circuit Breaker Panel (Typical) — Removal/Installation	9-6-8	9-194
Lighting Control Knob (Overhead Console-Typical) — Removal/Installation	9-6-9	9-198
Switch (Forward Overhead Console-Typical) — Removal/Installation	9-6-10	9-200
Transformer (Forward Overhead Console-Typical) — Removal/Installation	9-6-11	9-203
Integrally Lit Panel (Overhead Console or Center Post Circuit Breaker Panel-Typical) — Removal	9-6-12	9-206
Electrical Connections (Overhead Console and Center Post Circuit Breaker Panel-Typical) — Inspection	9-6-13	9-209
Integrally Lit Panel (Overhead Console or Center Post Circuit Breaker Panel-Typical) — Installation	9-6-14	9-212
Digital Fuel Control Panel (OH-58D) — Removal	9-6-15	9-215
Digital Fuel Control Panel (OH-58D) — Installation	9-6-16	9-217
AUTO/MAN Switch (FADEC) (OH-58D(R)) — Removal/Installation	9-6-16.1	9-218.1
Integrally Lit Panel (Digital Fuel Control Panel) (OH-58D) — Removal	9-6-17	9-219
Integrally Lit Panel (Digital Fuel Control Panel) (OH-58D) — Installation	9-6-18	9-221
Integrally Lit Panel Connector (Digital Fuel Control Panel) (OH-58D) — Removal/Installation	9-6-19	9-223
Pushbutton Switch (Digital Fuel Control Panel-Typical) (OH-58D) — Removal/Installation	9-6-20	9-225
Toggle Switch (Digital Fuel Control Panel) (OH-58D) — Removal/Installation	9-6-21	9-227
SCAS Control Panel — Removal	9-6-22	9-229
SCAS Control Panel — Installation	9-6-23	9-231

LIST OF TASKS (CONT)

TASK	TASK NUMBER	PAGE NUMBER
Integrally Lit Panel (SCAS Control Panel) — Removal	9-6-24	9-233
Integrally Lit Panel (SCAS Control Panel) — Installation	9-6-25	9-235
SCAS Pitch and Roll Engage Switch — Removal/Installation	9-6-26	9-237
SCAS Yaw Engage Switch — Removal/Installation	9-6-27	9-239
SCAS Test Switch — Removal/Installation	9-6-28	9-241
SCAS Force Trim Switch — Removal/Installation	9-6-29	9-243
SCAS Power Switch — Removal/Installation	9-6-30	9-245
Hydraulic System Switch — Removal/Installation	9-6-31	9-247
Circuit Breaker (DC Equipment Electrical Assembly-Typical) — Removal	9-6-32	9-249
Circuit Breaker (DC Equipment Electrical Assembly-Typical) — Installation	9-6-33	9-251
Remote Control Circuit Breaker — Removal	9-6-34	9-253
Remote Control Circuit Breaker — Installation	9-6-35	9-256
Circuit Breaker (Nose Compartment-Typical) — Removal	9-6-36	9-260
Circuit Breaker (Nose Compartment-Typical) — Installation	9-6-37	9-262
Diode (Typical) — Removal/Installation	9-6-38	9-264
Dimming Control (Console or Instrument) — Removal/Installation	9-6-39	9-268
Dimming Control (Console or Instrument) — Balancing	9-6-40	9-273
Integrally Lit Panel (Pilot Collective Stick) — Removal/Installation	9-6-41	9-276
Switch (Pilot Collective Stick-Typical) — Removal/Installation	9-6-42	9-278
Cargo Release Switch (Pilot Collective Stick Control Panel) — Removal/Installation	9-6-43	9-281
Heater Overheat Switch — Removal/Installation	9-6-44	9-283
Relay (Typical) — Removal/Installation	9-6-45	9-285
Socket (Typical) — Removal/Installation	9-6-46	9-293
Shunt (Typical) — Removal	9-6-47	9-297
Shunt (Typical) — Installation	9-6-48	9-301
Terminal Board (Typical) — Removal/Installation	9-6-49	9-305
Terminal Junction Mount (Typical) — Removal/Installation	9-6-50	9-307
Junction Block (Typical) — Removal/Installation	9-6-51	9-311
Ground Module (Typical) — Removal/Installation	9-6-52	9-313
Switch (Cyclic Grip-Typical) — Removal/Installation	9-6-53	9-316
Keylock Switch — Removal/Installation	9-6-54	9-322
Pitch Rate Sensor — Cleaning/Inspection/Repair	9-6-55	9-327
Pitch Rate Sensor — Removal/Installation	9-6-56	9-330
Roll Rate Sensor — Cleaning/Inspection/Repair	9-6-57	9-332
Roll Rate Sensor — Removal/Installation	9-6-58	9-335
Data Bus Coupler or Terminator (OH-58D) — Cleaning/Inspection/Repair	9-6-59	9-337
Data Bus Coupler or Terminator (OH-58D(R)) — Cleaning/Inspection/Repair	9-6-60	9-341
Data Bus Coupler or Terminator (Typical) (OH-58D) — Removal/Installation	9-6-61	9-345
Data Bus Coupler or Terminator (Typical) (OH-58D(R)) — Removal/Installation	9-6-62	9-351
Resistor or Capacitor on Terminal Junction (Typical) — Removal/Installation	9-6-63	9-362

LIST OF TASKS (CONT)

TASK	TASK NUMBER	PAGE NUMBER
Fuel Quantity Control Unit — Removal/Installation	9-6-64	9-365
CPG Channel Select Switch — Removal/Installation	9-6-65	9-367
Integrally Lit Panel (CPG Channel Select Switch) — Removal	9-6-66	9-369
Integrally Lit Panel (CPG Channel Select Switch) — Installation	9-6-67	9-370
Integrally Lit Panel (CPG Auxiliary Control Panel) — Removal	9-6-68	9-371
Integrally Lit Panel (CPG Auxiliary Control Panel) — Installation	9-6-69	9-372
Switch (CPG Auxiliary Control Panel-Typical) — Removal/ Installation	9-6-70	9-373
Integrally Lit Panel (Pilot MFD Auxiliary Control Panel) — Removal	9-6-71	9-374
Integrally Lit Panel (Pilot MFD Auxiliary Control Panel) — Installation	9-6-72	9-375
Switch (Pilot MFD Auxiliary Control Panel-Typical) — Removal/ Installation	9-6-73	9-376
Integrally Lit Panel (MMS Control Panel) — Removal	9-6-74	9-377
Integrally Lit Panel (MMS Control Panel) — Installation	9-6-75	9-378
Footswitch (Typical) — Removal/Installation	9-6-76	9-380
Weight-On-Gear Switch — Removal/Installation	9-6-77	9-383
Electrical Connector (Beneath CPG Seat) — Removal/Installation	9-6-78	9-386
Circuit Breaker (28 VDC AUX RCPT) — Removal/Installation	9-6-79	9-388
MMS Control Panel — Removal/Installation	9-6-80	9-390
Auxiliary Circuit Breaker Panel — Lowering	9-6-81	9-392
Auxiliary Circuit Breaker Panel — Raising	9-6-82	9-393
Circuit Breaker (Auxiliary Circuit Breaker Panel-Typical) — Removal/Installation	9-6-83	9-394
Pilot Cyclic Grip — Removal/Installation	9-6-84	9-396
EMI Electrical Connector — Removal/Installation/Repair	9-6-85	9-398
Weight-On-Gear Interrupt Switch — Removal/Installation	9-6-86	9-400
ICS Engage Switch (OH-58D) — Removal/Installation	9-6-87	9-401
Remote ICS Switch (OH-58D(R)) — Removal/Installation	9-6-88	9-403

9-6-1. WEIGHT-ON-GEAR SWITCH (RAPID DEPLOYMENT LANDING GEAR) — REMOVAL/
INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:

All

References:

TM 11-1520-248-23
TM 1-1520-248-T

Tools:

Electrical Repairer Tool Kit (B177)

Equipment Condition:

Helicopter Safed (Task 1-6-7)
Helicopter on Jacks (Task 1-6-8)

Material:

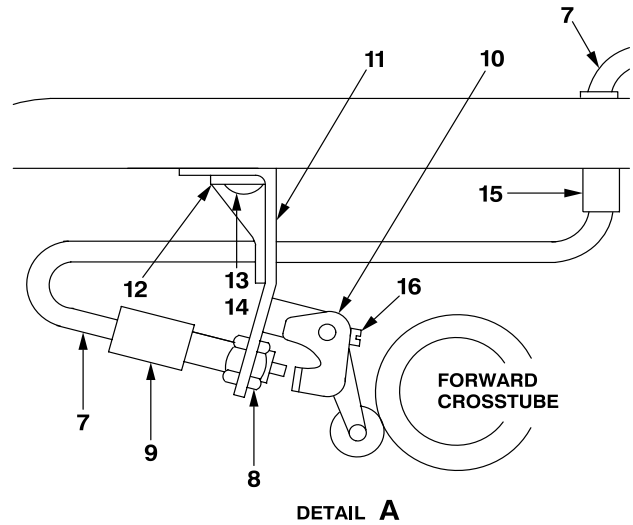
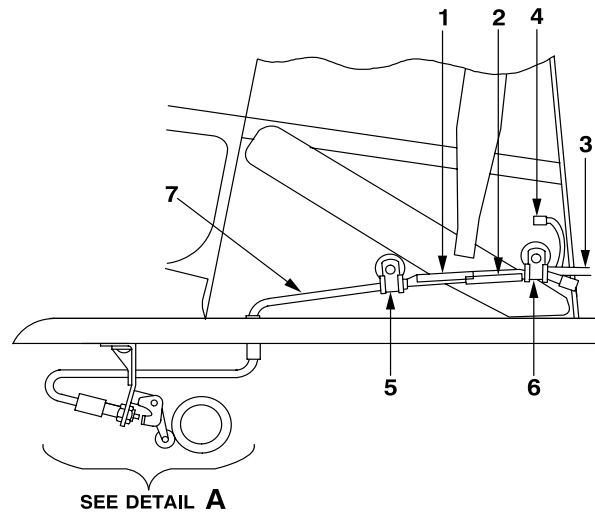
Sealing Compound (D180)
Lockwire (D131)
Rubber Gloves (D111)

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9-6-1. WEIGHT-ON-GEAR SWITCH (RAPID DEPLOYMENT LANDING GEAR) — REMOVAL/
INSTALLATION (CONT)

REMOVE

1. Gain access to splices 3431J3 (1), 3431J4 (2), and 3410J3 (3).
2. Tag wires, disconnect splices, and remove nut (4) from ground stud.
3. Loosen clamps (5 and 6) and pull switch cable (7) through bottom of fuselage from below cabin.
4. Remove nut (8) from switch (9). Remove roller arm (10) from switch (9). Remove switch (9) from bracket (11).
5. Remove bracket (11) and block (12) by removing two screws (13) and washers (14).
6. Remove bushing (15).
7. Remove lockwire from roller arm adjustment screw (16).



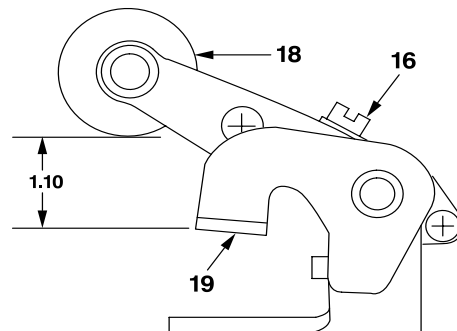
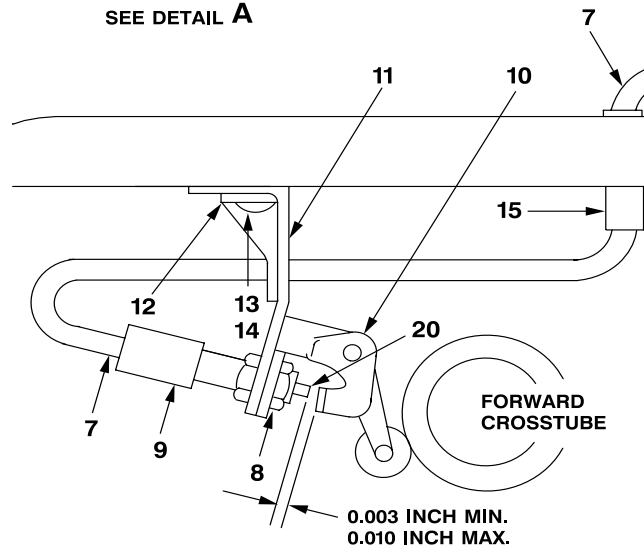
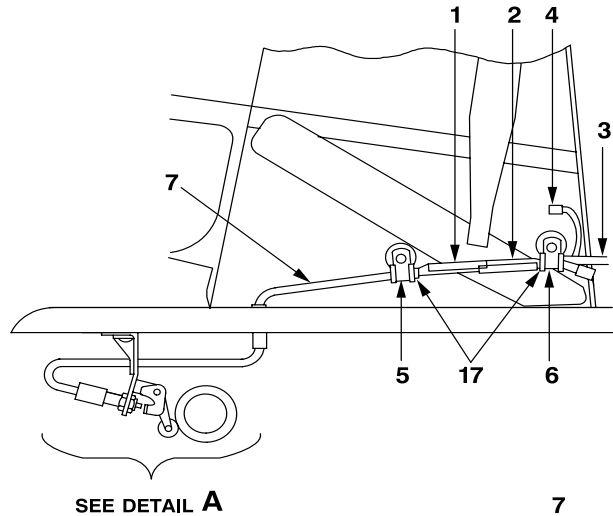
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J2200

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9-6-1. WEIGHT-ON-GEAR SWITCH (RAPID DEPLOYMENT LANDING GEAR) — REMOVAL/
INSTALLATION (CONT)

INSTALL

8. Install bracket (11) and block (12) with two screws (13) and washers (14).
9. Insert bushing (15) into hole in bottom of fuselage.
10. Insert switch cable (7) through bushing (15) and clamps (5 and 6).
11. Place insulation tubing (17) over switch cable (7) at clamps (5 and 6).
12. Adjust roller arm (10) with screw (16) to **1.10 inches** between bottom of roller (18) and end of roller arm plunger (19).
13. Secure screw (16) with lockwire (D131).
14. Position switch (9) into bracket (11) hole. Position roller arm (10) onto switch (9) threads. Install nut (8) on switch (9) threads.
15. Adjust switch (9) for a distance of **0.003 inch to 0.010 inch** between roller arm plunger (19) and switch plunger (20) and tighten nut (8).
16. Remove slack in switch cable (7) by pulling up through bushing (15).
17. Connect splices (1, 2, and 3) to wires tagged in step 2. Connect ground wire to ground stud with nut (4). Remove tags from wires.
18. Put weight on landing gear and adjust switch (9), if required, until switch is activated.
19. Remove weight from gear and verify that switch (9) resets to OPEN with weight off landing gear.
20. Tighten clamps (5 and 6).



Sealing Compound

21. Apply sealing compound (D180) around bushing (15).

INSPECT

FOLLOW-ON MAINTENANCE

Remove jacks (Task 1-6-8).

Perform CDS interface operational check (TM 1-1520-248-T).

406530-21
J2200

END OF TASK

9-6-2. MISCELLANEOUS ELECTRICAL EQUIPMENT — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Acid Swabbing Brush (D51)
 Rubber Gloves (D111)
 Wiping Rag (D164)

Applicable Configurations:
 All

Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 68F Aircraft Electrician

Tools:
 Electrical Repairer Tool Kit (B177)
 Ohmmeter (B99)

Equipment Condition:
 Helicopter Safed (Task 1-6-7)
 Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

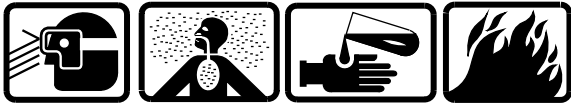
Material:
 Low-Lint Cleaning Cloth (D67)
 Drycleaning Solvent (D199)

9-6-2. MISCELLANEOUS ELECTRICAL EQUIPMENT — CLEANING/INSPECTION/REPAIR (CONT)

NOTE

This task will be performed during maintenance of miscellaneous electrical equipment. Circuit breaker panels may be lowered or removed (Task 9-6-5 or Tasks 9-6-7 and 9-6-8), connectors may be disconnected, and covers removed for access as depicted.

CLEAN

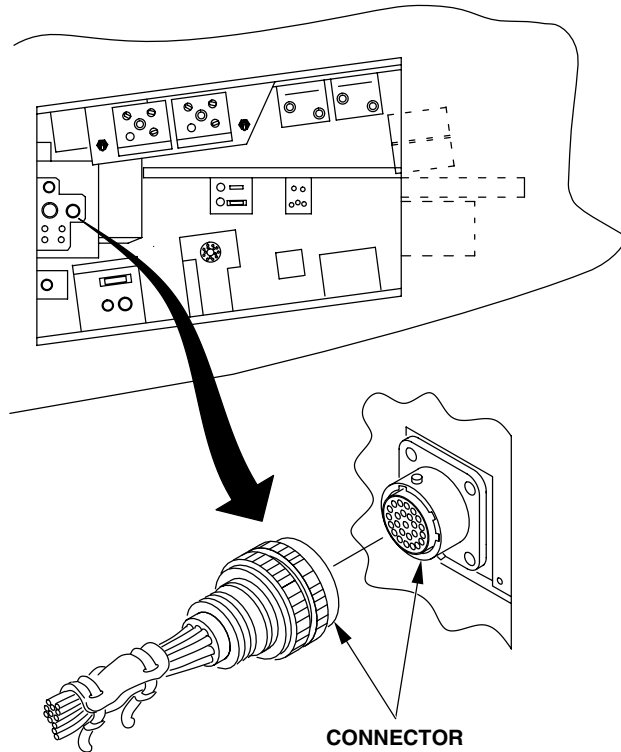


Drycleaning Solvent

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect rheostats and transformer (light control) for security, corrosion, burned element, damaged wiper, and cracks.
5. Inspect switches for weak detents, security, and corrosion.
6. Inspect electrical connectors for security; corroded, damaged, or faulty contacts; cracked inserts; faulty insulation; and broken wires.
7. Inspect leads and wiring for loose terminals, chafing, corrosion, deteriorated condition, faulty or damaged insulation, excessive mechanical stress, broken strands, damaged shielding, shorted shielding, incorrect routing, and security and condition of mounting.



406961-1216-1
J0648

GO TO NEXT PAGE

9-6-2. MISCELLANEOUS ELECTRICAL EQUIPMENT — CLEANING/INSPECTION/REPAIR (CONT)

8. Inspect control panels for security, surface damage, cracks, dents, corrosion, and deterioration of paint.

9. Inspect shunts and bus bars for corrosion, security, deep scratches, physical damage, deformity and discoloration (indicating excessive overloading).

10. Inspect relays for loose connections, damaged or broken contact pins or terminals, damage to case or insulation between contact pins and evidence of corrosion, pits, or discoloration (indicating arcing due to loose connections, internal shorting, or excessive overloading).

11. Inspect terminal boards, junctions and modules for cracks, corrosion, security, damaged threads, and damaged or broken contact pins.

12. Visually check diodes for loose connection and broken leads. Check suspected faulty diode front-to-back conductivity ratio using standard ohmmeter (B99).

REPAIR

13. Tighten or properly install any loose or improperly installed mounting hardware.

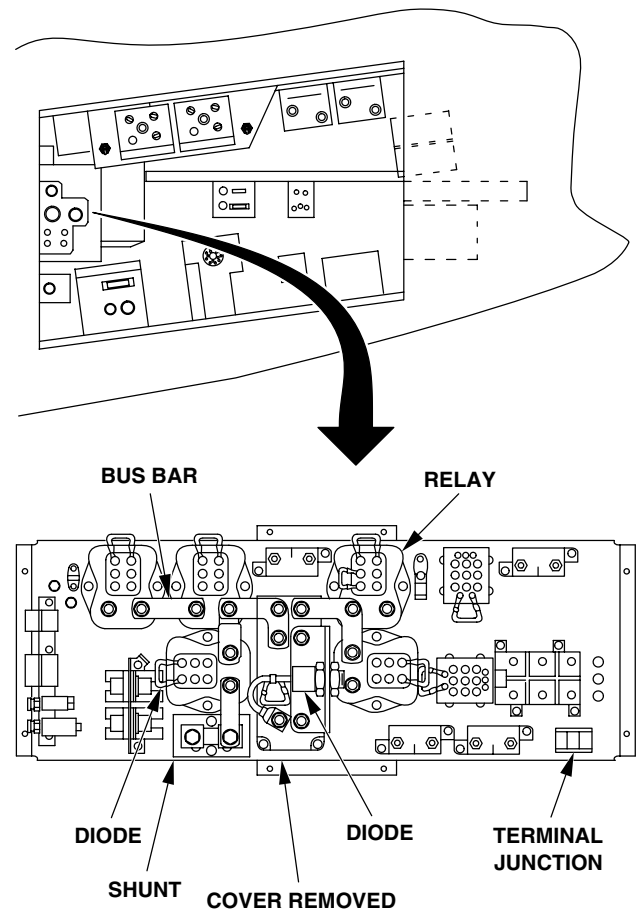
14. Repair or replace defective wire(s).

15. Tighten loose electrical connections.

16. Straighten bent electrical connector pin(s).

17. Touch up painted surfaces on control panels/components as required.

18. Replace component if any inspection requirements are not met.

INSPECT

406961-1216-2
J0648

END OF TASK

9-6-3. CIRCUIT BREAKERS (TYPICAL) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Rubber Gloves (D111)
Wiping Rag (D164)

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Tools:
Electrical Repairer Tool Kit (B177)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)

GO TO NEXT PAGE

9-6-3. CIRCUIT BREAKERS (TYPICAL) — CLEANING/INSPECTION/REPAIR (CONT)

NOTE

This task will be performed during maintenance of miscellaneous electrical equipment. Circuit breaker panels may be lowered or removed (Task 9-6-5 or Tasks 9-6-7 and 9-6-8).

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

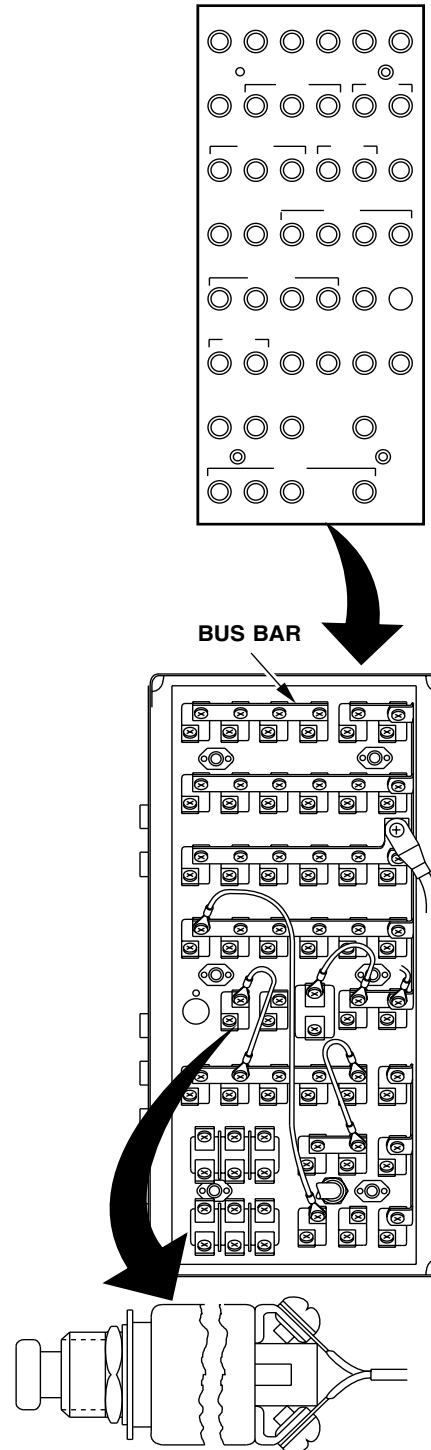
INSPECT

4. Inspect circuit breakers for reset retention and actuation.
5. Inspect for corrosion and security.
6. Inspect for cracked or broken circuit breakers.

REPAIR

7. Repair is limited to tightening or properly installing any loose or improperly installed mounting hardware and connections.
8. Replace circuit breaker if any inspection requirements are not met (Task 9-6-7 or 9-6-8).

INSPECT



406961-1217
H0084

END OF TASK

9-6-4. INTEGRALLY LIT PANEL (TYPICAL) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Sandpaper (D175)
Black Acrylic Lacquer (D124)

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Tools:
Electrical Repairer Tool Kit (B177)

References:
TB 43-0118

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-6-4. INTEGRALLY LIT PANEL (TYPICAL) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

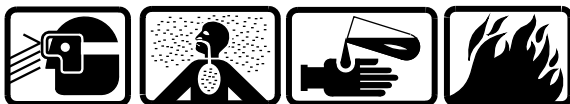
4. Inspect for scratches, chipped edges, cracked panel, and illegible placards.
5. Inspect for missing mounting screws.

REPAIR



Sanding Operations

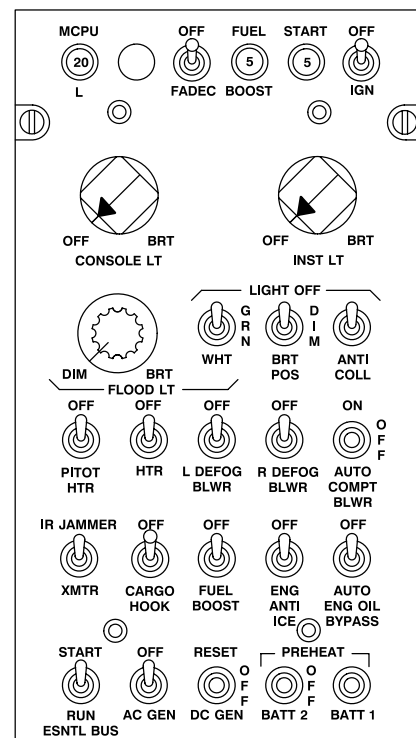
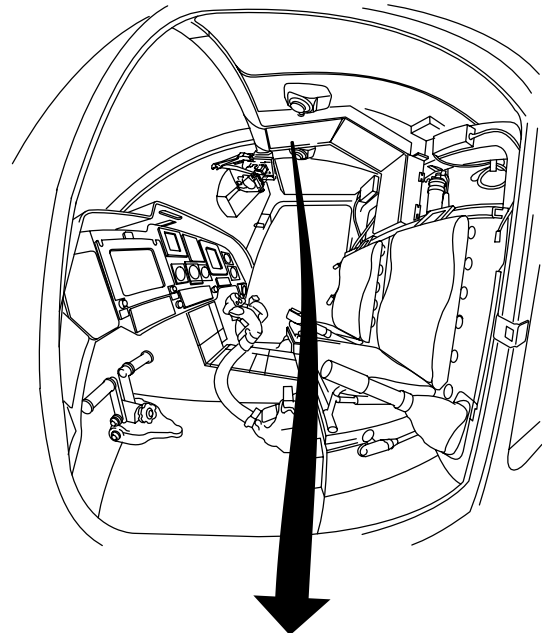
6. Sand scratches or chipped edges that do not affect operation of the panel with 400 grit sandpaper (D175).



Acrylic Lacquer

7. Touch up scratches or chipped edges with black acrylic lacquer (D124). (Refer to TB 43-0118.)
8. Replace missing mounting screws.
9. Replace integrally lit panel if any inspection requirements are not met.

INSPECT



406961-1218
J1758

END OF TASK

9-6-5. OVERHEAD CONSOLE — LOWERING

This task covers: Lowering Overhead Console (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-5. OVERHEAD CONSOLE — LOWERING (CONT)

1. Open either crew door to gain access to forward (1) and aft (2) overhead consoles.

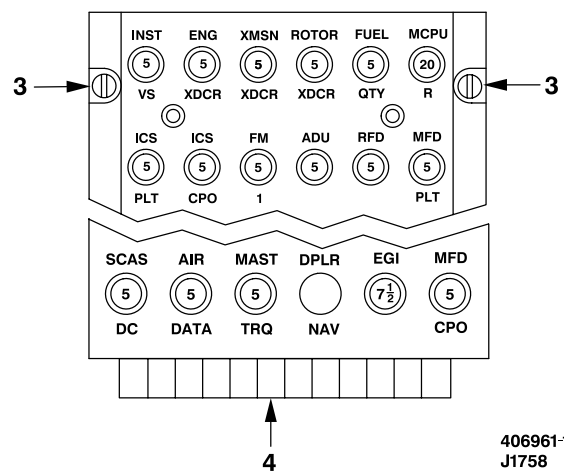
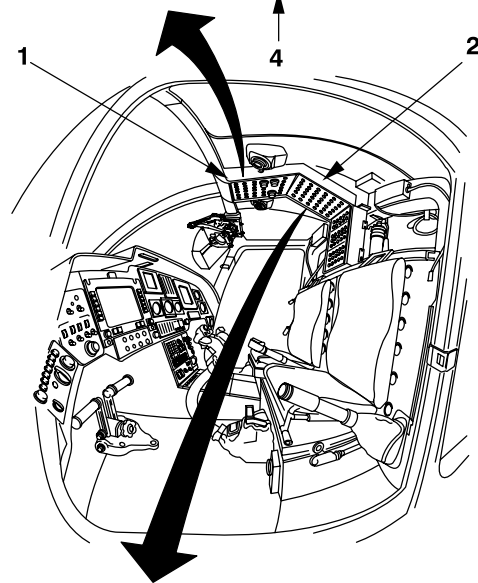
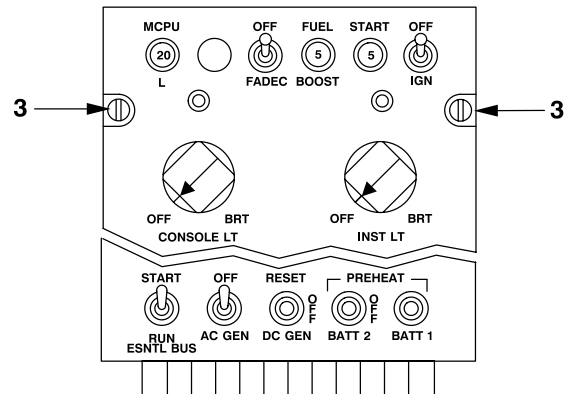
2. Support forward overhead console (1) and unlock two spring locks (3) in forward overhead console (1).

3. Lower rear of forward overhead console (1) as far as hinge (4) at front of console allows.

4. Support aft overhead console (2) and unlock two spring locks (3) in aft overhead console (2).

5. Lower front of aft overhead console (2) as far as hinge (4) at rear of console allows.

6. Close crew door.



406961-1219
J1758

END OF TASK

9-6-6. OVERHEAD CONSOLE — RAISING

This task covers: Raising Overhead Console (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-6. OVERHEAD CONSOLE — RAISING (CONT)

1. Open either crew door to gain access to lowered forward (1) and aft (2) overhead consoles.

2. Raise rear forward overhead console (1) and support in place.

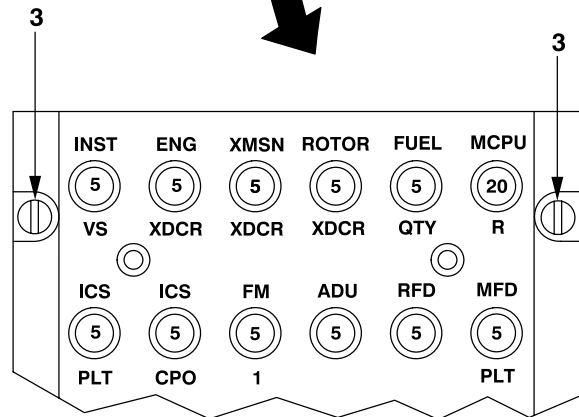
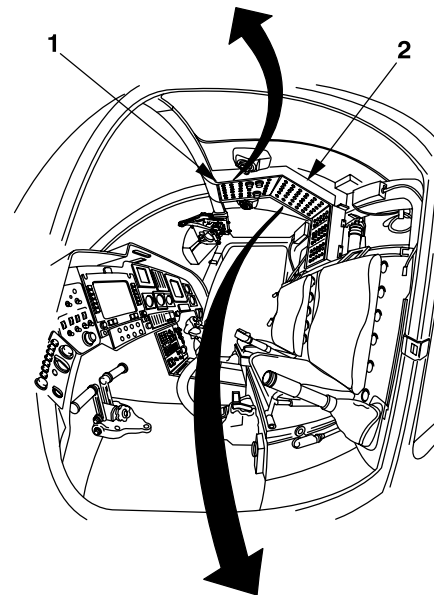
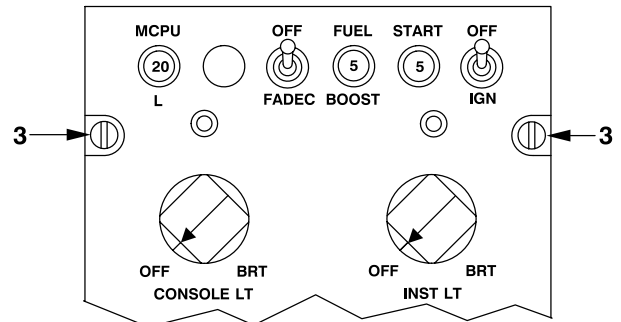
3. Lock two spring locks (3) with screwdriver to secure forward overhead console in place.

4. Raise front of aft overhead console (2) and support in place.

5. Lock two spring locks (3) with screwdriver to secure aft overhead console.

INSPECT

6. Close crew door.



406961-1220
J1758

END OF TASK

9-6-7. CIRCUIT BREAKER IN OVERHEAD CONSOLE (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Integrally Lit Panel Removed From Overhead Console (Task 9-6-12)
Overhead Console Lowered (Task 9-6-5)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-7. CIRCUIT BREAKER IN OVERHEAD CONSOLE (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open either crew door to gain access to aft overhead console (1).
2. Tag and identify wires (2) to terminals (3) of circuit breaker (4).
3. Remove two screws (5) and lockwashers (6) from terminals (3).
4. Remove wires (2) from terminals (3).
5. Remove mounting nut (7) and internal tooth lockwasher (8) on front of component mounting panel (9) from circuit breaker (4).
6. Remove keyway washer (10) with circuit breaker (4) from the back of component mounting panel (9).

INSTALL

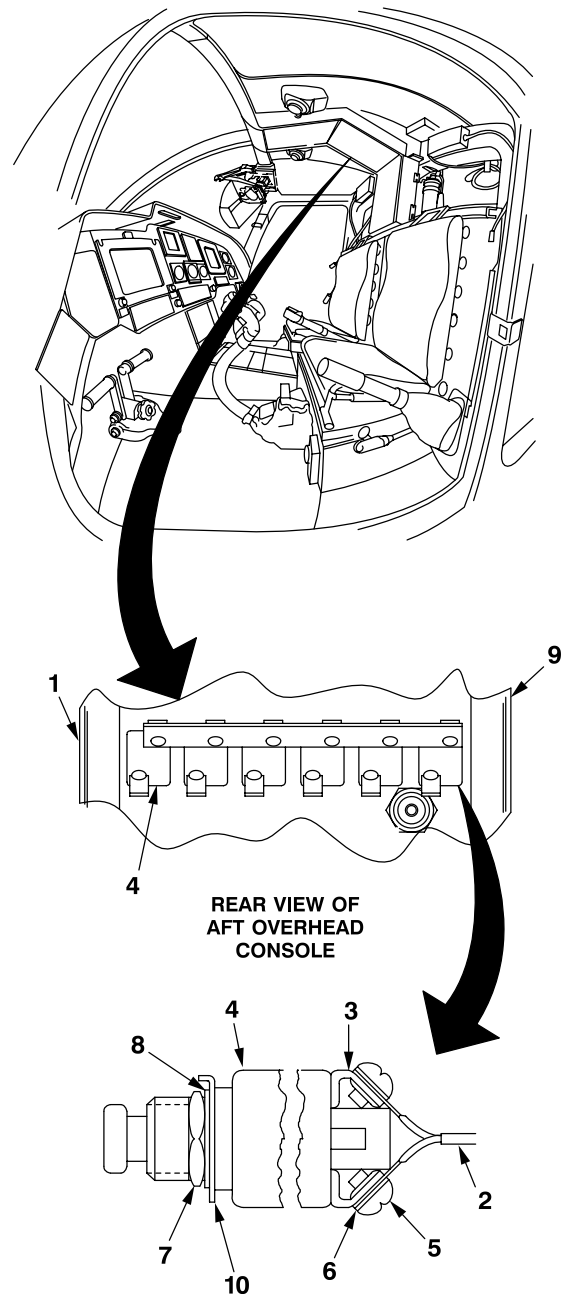
7. Remove mounting nut (7), internal tooth lockwasher (8), and screws (5) and lockwashers (6) from serviceable circuit breaker (4).
8. Insert serviceable circuit breaker (4) with keyway washer (10) into mounting hole from back side of component mounting panel (9).
9. Align key on keyway washer (10) with small guide hole in backside of component mounting panel (9) and insert key into guide hole.
10. Install internal tooth lockwasher (8) and mounting nut (7) on circuit breaker (4).
11. Tighten mounting nut (7) against the front of component mounting panel (9).
12. Position wires (2) on terminals (3).
13. Install and tighten two screws (5) and lockwashers (6) at terminals (3) of circuit breaker (4).
14. Remove identification tags from wires.

INSPECT

FOLLOW-ON MAINTENANCE

Raise overhead console (Task 9-6-6).

Install integrally lit panel on overhead console (Task 9-6-14).



406961-1221
J2200

END OF TASK

9-6-8. CIRCUIT BREAKER IN CENTER POST CIRCUIT BREAKER PANEL (TYPICAL) — REMOVAL/
INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

Tools:
Electrical Repairer Tool Kit (B177)

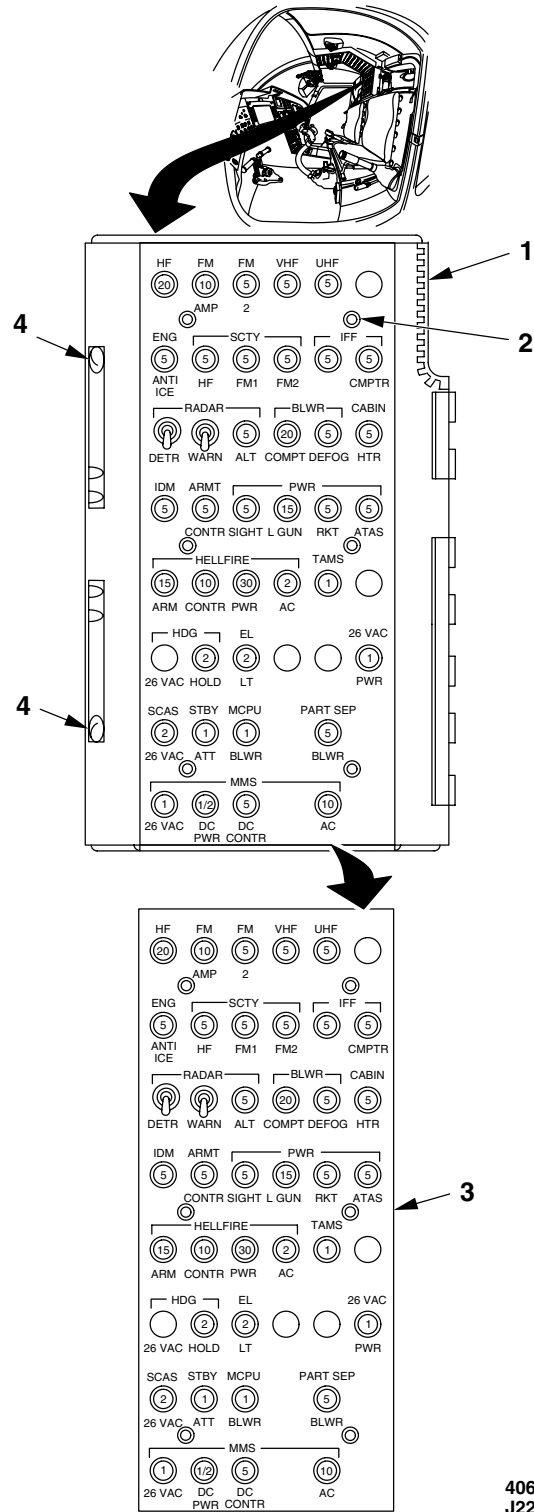
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

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9-6-8. CIRCUIT BREAKER IN CENTER POST CIRCUIT BREAKER PANEL (TYPICAL) — REMOVAL/ INSTALLATION (CONT)

REMOVE

1. Open right crew door to gain access to center post circuit breaker panel (1).
2. Remove six screws (2).
3. Remove integrally lit panel (3).
4. Loosen two fasteners (4) and open center post circuit breaker panel (1).



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J2200

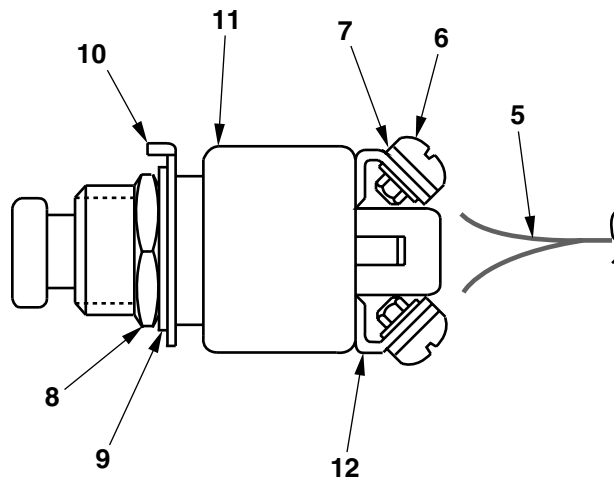
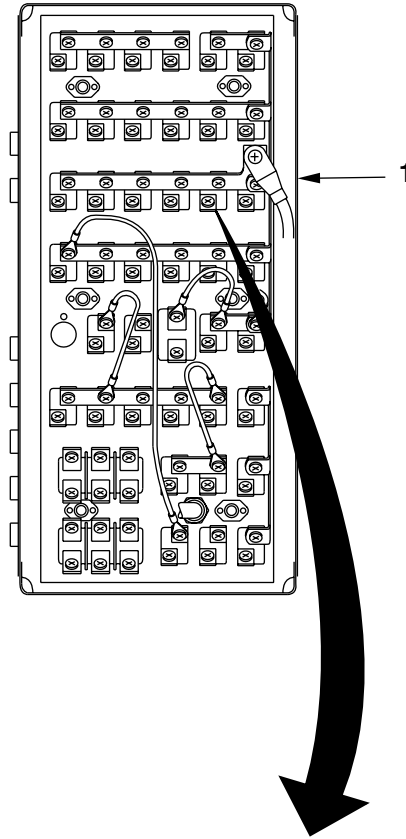
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9-6-8. CIRCUIT BREAKER IN CENTER POST CIRCUIT BREAKER PANEL (TYPICAL) — REMOVAL/INSTALLATION (CONT)

5. Tag and identify wires (5).
6. Remove two screws (6) and lockwashers (7).
7. Remove nut (8) and internal tooth lockwasher (9).
8. Remove keyway washer (10) with circuit breaker (11).

INSTALL

9. Remove nut (8), lockwasher (9), two screws (6), and lockwashers (7) from serviceable circuit breaker (11).
10. Insert serviceable circuit breaker (11) through mounting hole from rear of center post circuit breaker panel (1) and align keyway washer (10) to mounting hole.
11. Install lockwasher (9) and nut (8).
12. Connect tagged wires (5) to correct terminals (12) and install two lockwashers (7) and screws (6).
13. Remove identification tags from wires.



406961-1222-2
H0089

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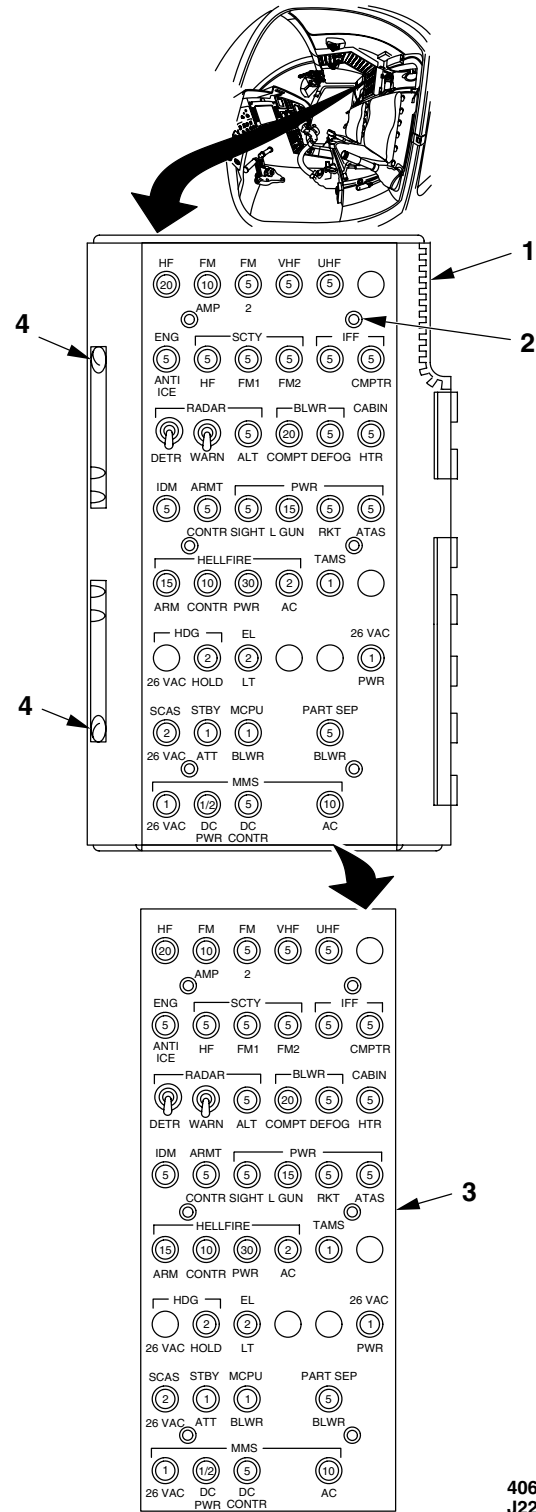
9-6-8. CIRCUIT BREAKER IN CENTER POST CIRCUIT BREAKER PANEL (TYPICAL) — REMOVAL/ INSTALLATION (CONT)

14. Close center post circuit breaker panel (1).
15. Tighten two fasteners (4).
16. Position integrally lit panel (3) in place and align to mounting holes. Install six screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

Go to TM 1-1520-248-T and perform operational check of applicable system(s).



END OF TASK

9-6-9. LIGHTING CONTROL KNOB (OVERHEAD CONSOLE-TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-9. LIGHTING CONTROL KNOB (OVERHEAD CONSOLE-TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open either crew door to gain access to forward overhead console (1).
2. Loosen setscrew (2) in lighting control knob (3).
3. Remove lighting control knob (3).

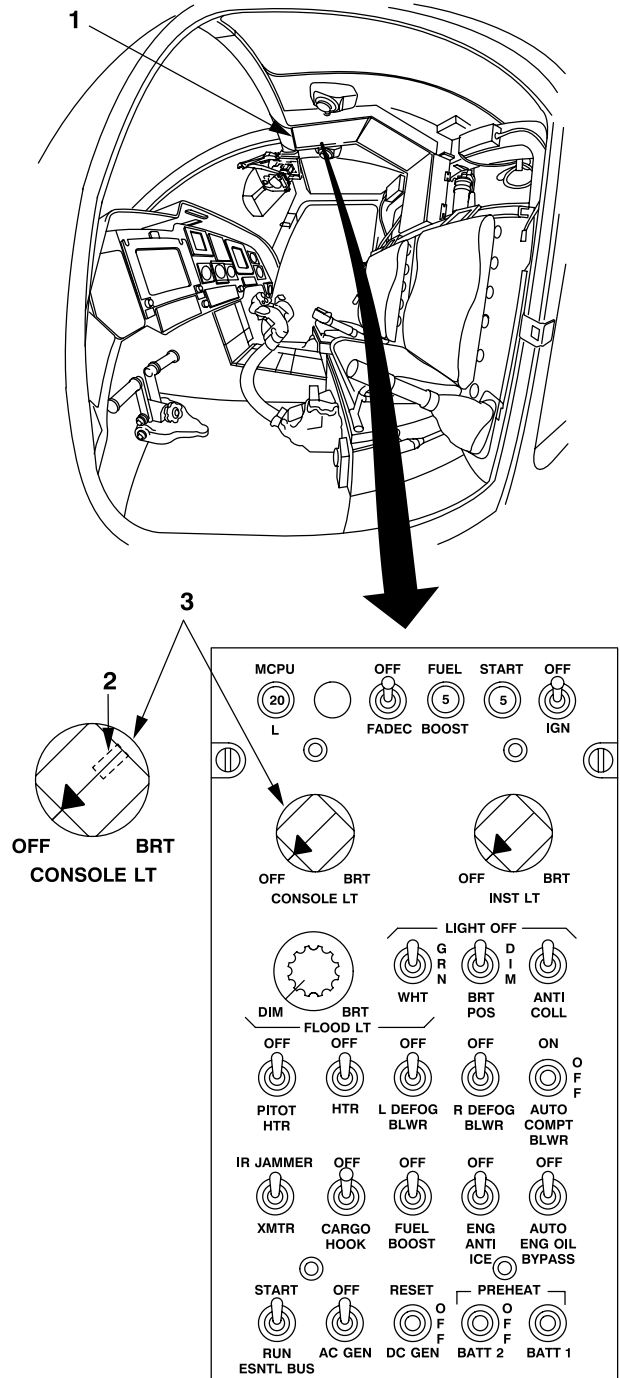
INSTALL

4. Position lighting control knob (3) onto shaft and align to indexing on forward overhead console (1).
5. Tighten setscrew (2) in lighting control knob (3).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1223
J1758

END OF TASK

9-6-10. SWITCH (FORWARD OVERHEAD CONSOLE-TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Integrally Lit Panel Removed From Overhead Console (Task 9-6-12)
Overhead Console Lowered (Task 9-6-5)

Tools:
Electrical Repairer Tool Kit (B177)

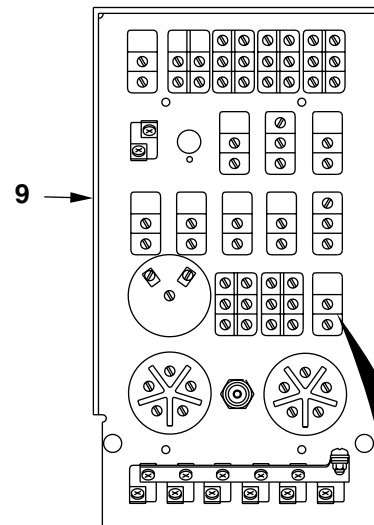
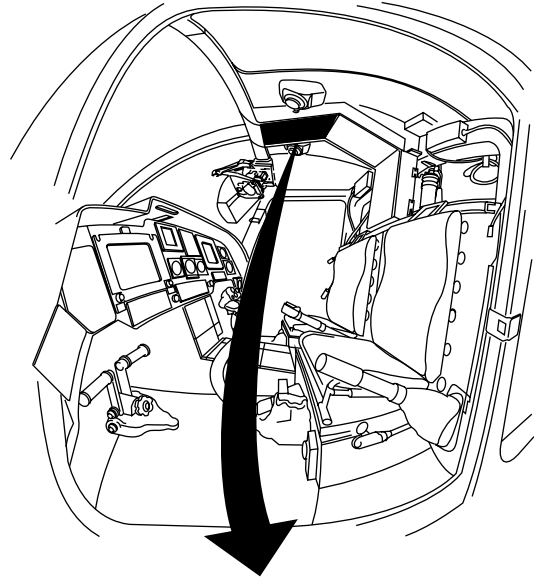
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

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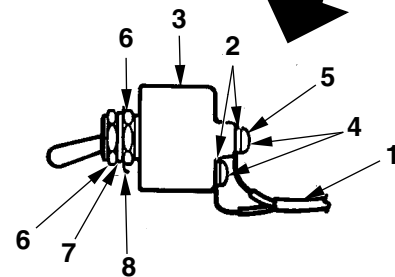
9-6-10. SWITCH (FORWARD OVERHEAD CONSOLE-TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open either crew door to gain access to forward overhead console.
2. Identify and tag wires (1) to terminals (2) of switch (3).
3. Remove two screws (4) and lockwashers (5) on terminals (2).
4. Remove wires (1) from terminals (2).
5. Remove outside nut (6), lockwasher (7), and locking ring (8).
6. Remove switch (3) and inside nut (6) from component mounting panel (9).



REAR VIEW OF FORWARD OVERHEAD CONSOLE



ROTATED 90°
COUNTER CLOCKWISE

406961-1224
H0091

GO TO NEXT PAGE

9-6-10. SWITCH (FORWARD OVERHEAD CONSOLE-TYPICAL) — REMOVAL/INSTALLATION (CONT)

INSTALL

7. Remove two screws (4), lockwashers (5), outside nut (6), lockwasher (7), locking ring (8), and inside nut (6) from switch (3).

8. Install switch (3) and inside nut (6) from rear of panel (9) in mounting hole.

9. Align key of locking ring (8) with keyway of switch (3) and position key into alignment hole on component mounting panel (9). Install lockwasher (7) and outside nut (6).

NOTE

Inside nut (6) shall be adjusted on the switch (3) so only three threads are visible when outside nut (6) is tightened.

10. Adjust inside nut (6) and tighten outside nut (6).

11. Position wires (1) to correct terminals (2).

12. Install two screws (4), lockwashers (5), and tighten at terminals (2).

13. Remove identification tags from wires.

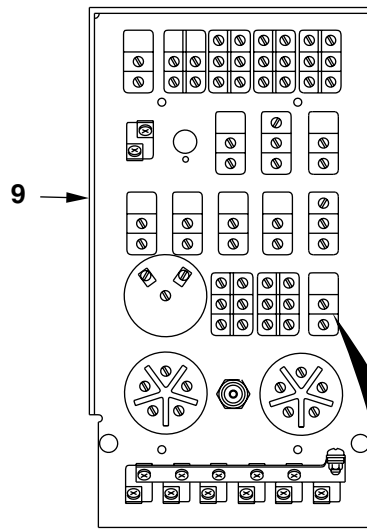
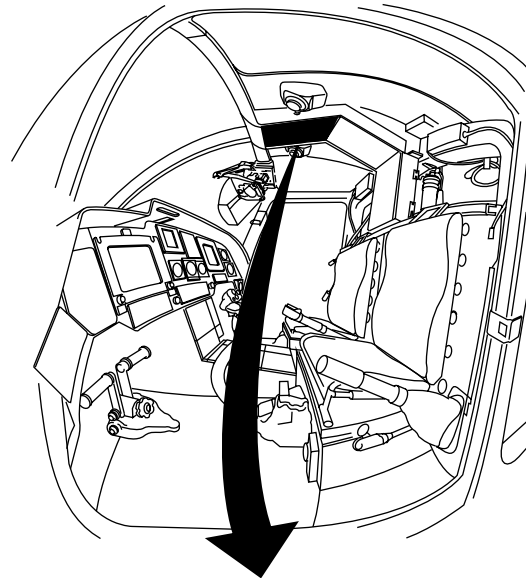
INSPECT

FOLLOW-ON MAINTENANCE

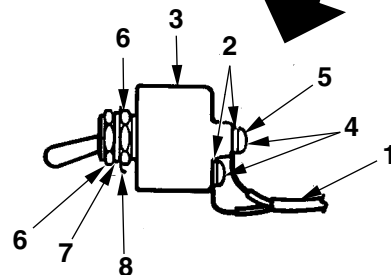
Raise overhead console (Task 9-6-6).

Install integrally lit panel in overhead console (Task 9-6-14).

Perform operational check (TM 1-1520-248-T).



REAR VIEW OF FORWARD OVERHEAD CONSOLE



ROTATED 90° COUNTER CLOCKWISE

406961-1224 H0091

END OF TASK

9-6-11. TRANSFORMER (FORWARD OVERHEAD CONSOLE-TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Integrally Lit Panel Removed From Overhead Console (Task 9-6-12)
Overhead Console Lowered (Task 9-6-5)

Tools:
Electrical Repairer Tool Kit (B177)

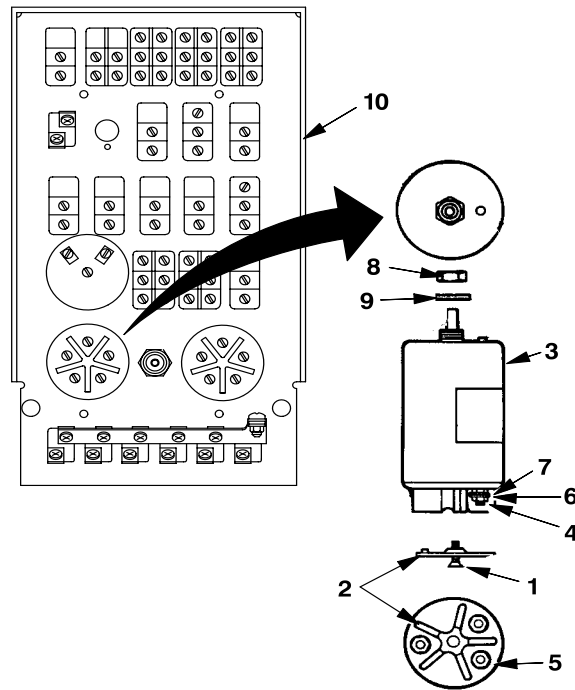
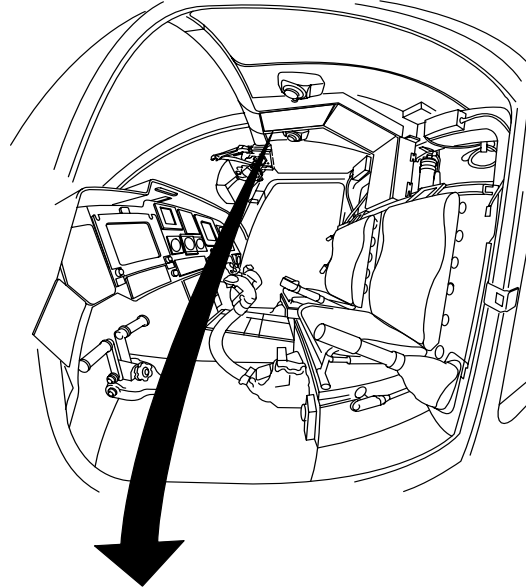
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-11. TRANSFORMER (FORWARD OVERHEAD CONSOLE-TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open either crew door to gain access to forward overhead console.
2. Remove screw (1) and terminal cover (2) at bottom of transformer (3).
3. Identify and tag wires to terminals (4) of transformer (3).
4. Remove nut (5), lockwasher (6), and washer (7) from each terminal (4).
5. Remove wires from terminals (4).
6. Remove nut (8) and lockwasher (9) from top of transformer (3).
7. Remove transformer (3) from component mounting panel (10).



406961-1225-1
J1785

GO TO NEXT PAGE

9-6-11. TRANSFORMER (FORWARD OVERHEAD CONSOLE-TYPICAL) — REMOVAL/INSTALLATION (CONT)

INSTALL

8. Insert shaft (11) of transformer (3) into mounting hole from rear of component mounting panel (10).

9. Align transformer nonturn device (12) with hole in component mounting panel (10) and insert nonturn device into hole.

10. Install lockwasher (9) and nut (8) on transformer (3).

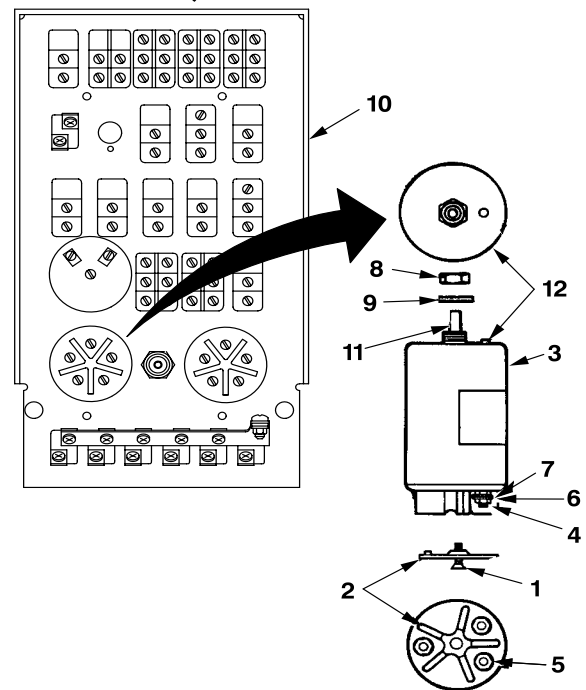
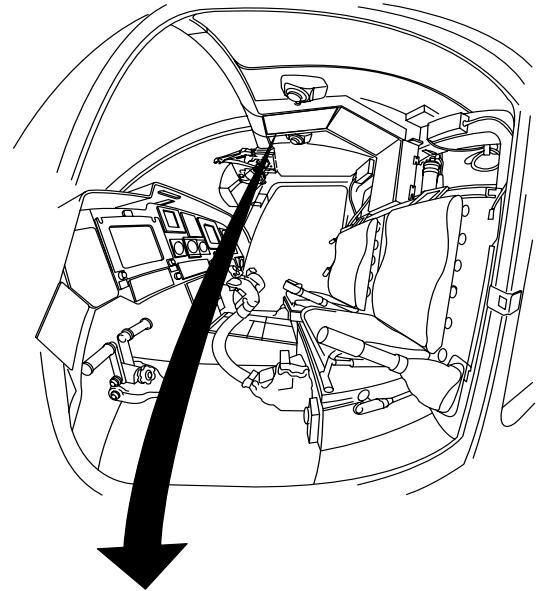
11. Tighten nut (8) against component mounting panel (10).

12. Connect wires to correct terminals (4) of transformer (3) and remove identification tags from wires.

13. Install washer (7), lockwasher (6), and nut (5) on each terminal (4).

14. Tighten nuts (5).

15. Insert screw (1) into terminal cover (2) and tighten screw in transformer (3).



INSPECT

FOLLOW-ON MAINTENANCE

Raise overhead console (Task 9-6-6).

Install integrally lit panel on overhead console (Task 9-6-14).

Perform operational check (TM 1-1520-248-T)

406961-1225-2
J2200

END OF TASK

9-6-12. INTEGRALLY LIT PANEL (OVERHEAD CONSOLE OR CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-12. INTEGRALLY LIT PANEL (OVERHEAD CONSOLE OR CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — REMOVAL (CONT)

1. Forward overhead console panel.

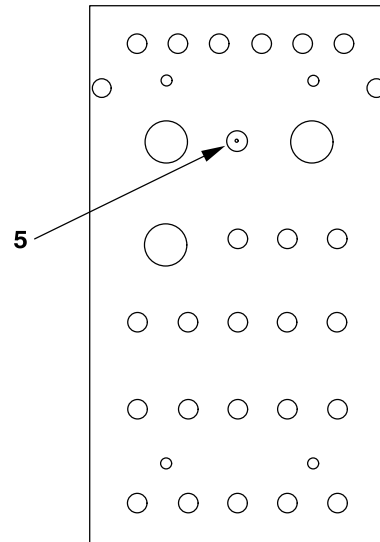
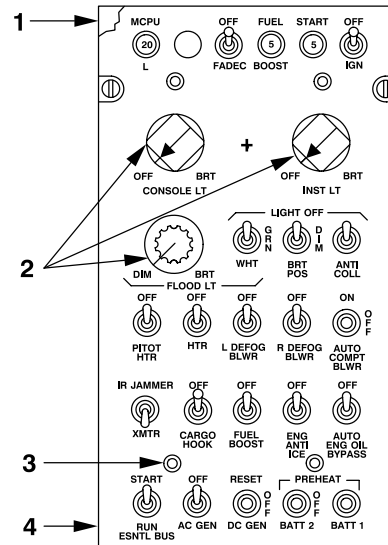
a. Open either crew door to gain access to forward overhead console panel (1).

b. Loosen setscrews from three lighting control knobs (2).

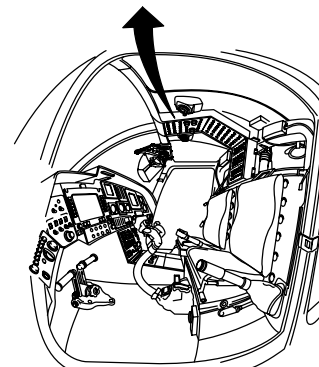
c. Remove three lighting control knobs (2).

d. Remove four screws (3).

e. Remove integrally lit panel (4) by separating panel (4) from lighting connector (5) and forward overhead console panel (1).



FORWARD OVERHEAD CONSOLE PANEL



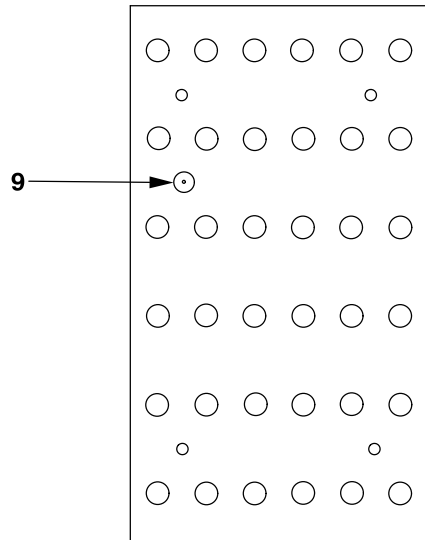
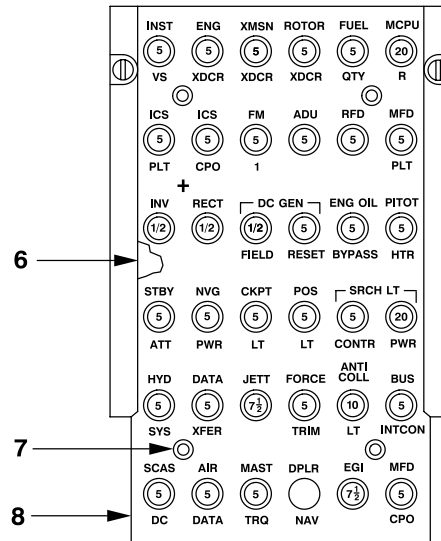
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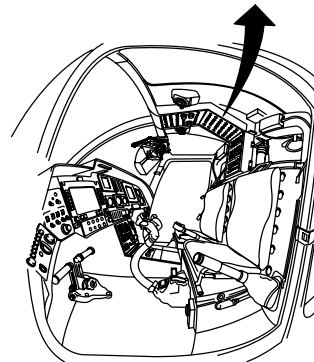
9-6-12. INTEGRALLY LIT PANEL (OVERHEAD CONSOLE OR CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — REMOVAL (CONT)

2. Aft overhead console panel.

- a. Open either crew door to gain access to aft overhead console panel (6).
- b. Remove four screws (7).
- c. Remove integrally lit panel (8) by separating panel (8) from lighting connector (9).



AFT OVERHEAD CONSOLE PANEL



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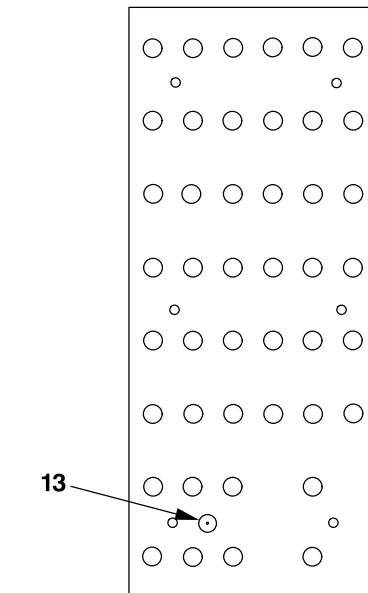
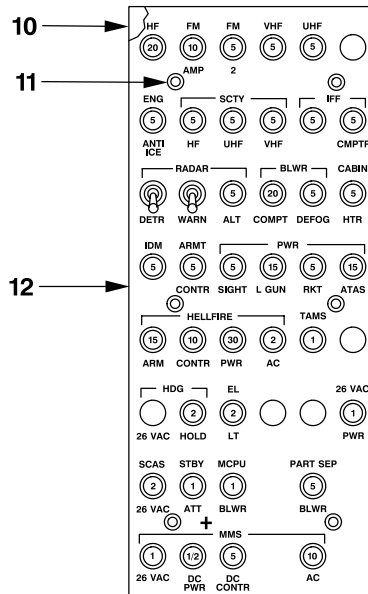
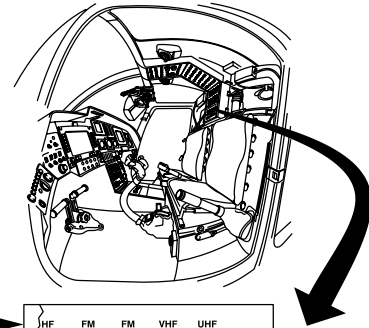
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9-6-12. INTEGRALLY LIT PANEL (OVERHEAD CONSOLE OR CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — REMOVAL (CONT)

3. Center post circuit breaker panel.

- a. Open either crew door to gain access to center post circuit breaker panel (10).
- b. Remove six screws (11).
- c. Remove integrally lit panel (12) by separating panel (12) from lighting connector (13) and center post circuit breaker panel (10).

4. Close crew door.



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J2703

END OF TASK

9-6-13. ELECTRICAL CONNECTIONS (OVERHEAD CONSOLE AND CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — INSPECTION

This task covers: Inspection (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Overhead Console Lowered (Task 9-6-5)
Overhead Console Integrally Lit Panel Removed (Task 9-6-12)
Center Post Circuit Breaker Panel Open (Task 9-6-8)

GO TO NEXT PAGE

9-6-13. ELECTRICAL CONNECTIONS (OVERHEAD CONSOLE AND CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — INSPECTION (CONT)

INSPECT

1. Aft overhead console panel.

a. Inspect aft overhead console panel (1) for loose bus bar screw connection(s) (2) (typical).

b. Tighten bus bar screw connection(s) (2), if necessary.

c. Inspect for loose circuit breaker screw connection(s) (3) (typical).

d. Tighten circuit breaker screw connection(s) (3), if necessary.

e. Inspect for loose switch screw connection(s) (4) (typical).

f. Tighten switch screw connection(s) (4), if necessary.

g. Inspect components for loose mounting nuts (5) (typical).

h. Tighten mounting nuts (5) if necessary.

2. Forward overhead console panel.

a. Inspect forward overhead console panel (6) for loose bus bar screw connection(s) (2) (typical).

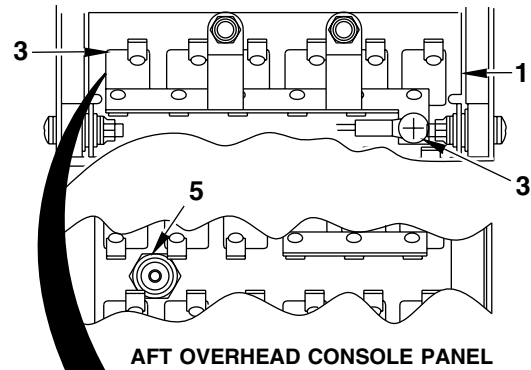
b. Tighten bus bar screw connection(s) (2), if necessary.

c. Inspect for loose circuit breaker screw connection(s) (3) (typical).

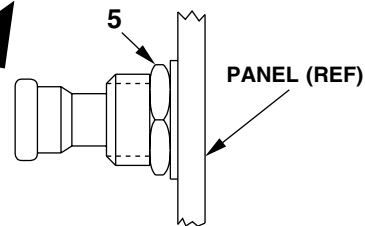
d. Tighten circuit breaker screw connection(s) (3), if necessary.

e. Inspect components for loose mounting nuts (5) (typical).

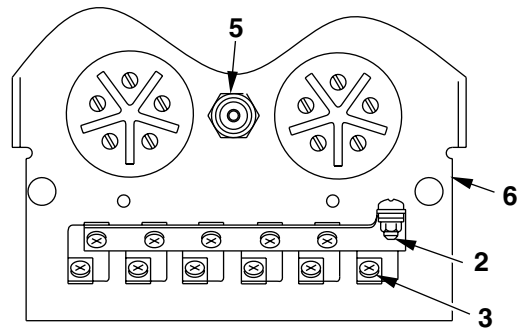
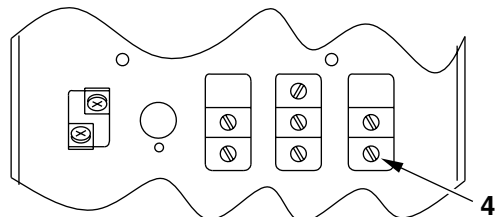
f. Tighten mounting nuts (5) if necessary.



AFT OVERHEAD CONSOLE PANEL



SIDE VIEW OF FRONT



FORWARD OVERHEAD CONSOLE PANEL

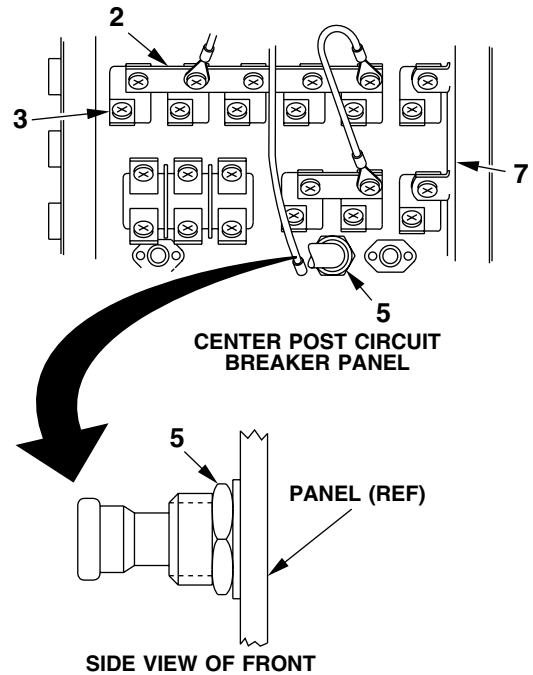
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9-6-13. ELECTRICAL CONNECTIONS (OVERHEAD CONSOLE AND CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — INSPECTION (CONT)

3. Center post circuit breaker panel.

- a. Inspect center post circuit breaker panel (7) for loose bus bar screw connection(s) (2) (typical).
- b. Tighten bus bar screw connection(s) (2), if necessary.
- c. Inspect for loose circuit breaker screw connection(s) (3) (typical).
- d. Tighten circuit breaker screw connection(s) (3), if necessary.
- e. Inspect components for loose mounting nuts (5) (typical).
- f. Tighten mounting nuts (5) if necessary.


 406961-1227-2
 H0094

INSPECT
FOLLOW-ON MAINTENANCE

Raise overhead console (Task 9-6-6).

Close center post circuit breaker panel (Task 9-6-8).

END OF TASK

9-6-14. INTEGRALLY LIT PANEL (OVERHEAD CONSOLE OR CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:

TM 1-1520-248-T

Applicable Configurations:

All

Equipment Condition:

Helicopter Safed (Task 1-6-7)

Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:

Electrical Repairer Tool Kit (B177)

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)

68F Aircraft Electrician

GO TO NEXT PAGE

9-6-14. INTEGRALLY LIT PANEL (OVERHEAD CONSOLE OR CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — INSTALLATION (CONT)

INSTALL

1. Forward overhead console panel.

a. Open either crew door to gain access to forward overhead console panel (1).

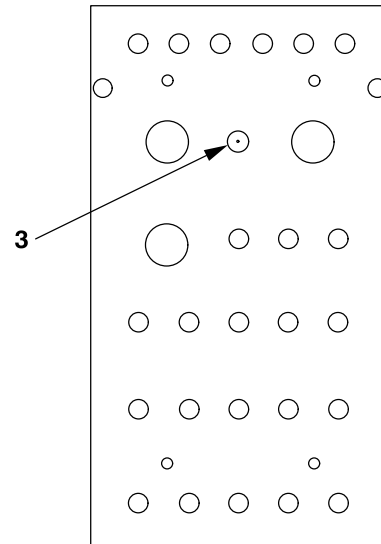
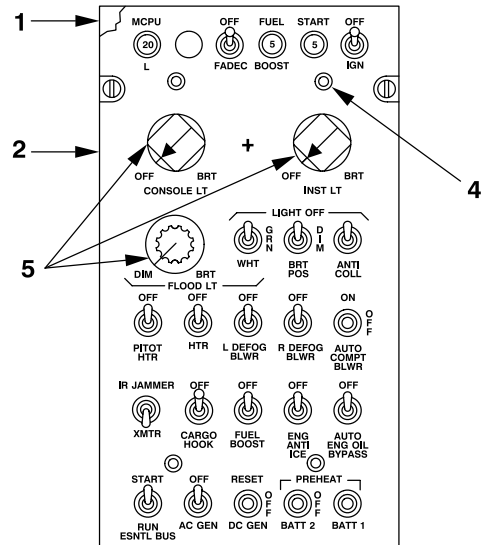
b. Align integrally lit panel (2) with forward overhead console panel (1) and lighting connector (3).

c. Press integrally lit panel (2) into lighting connector (3).

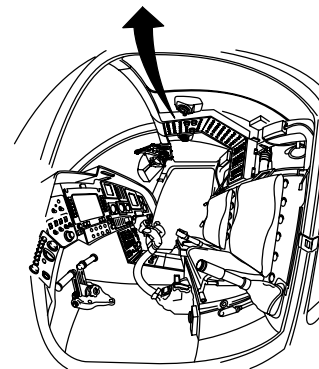
d. Install four screws (4).

e. Position three lighting control knobs (5) on forward overhead console panel and align to indexing on integrally lit panel (2).

f. Tighten setscrews in three lighting control knobs (5).



FORWARD OVERHEAD CONSOLE PANEL



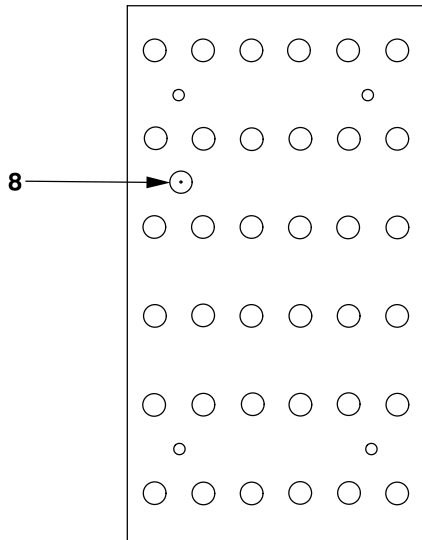
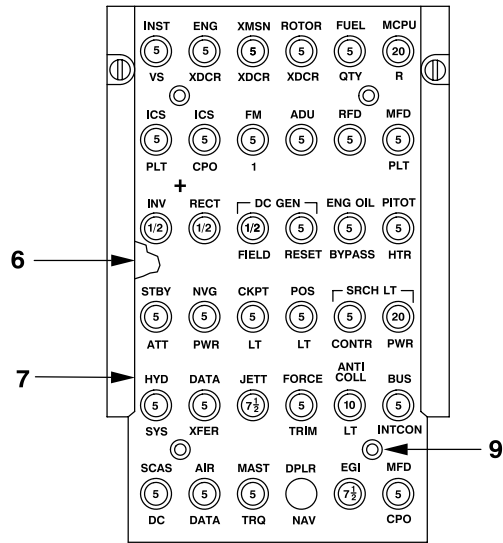
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J2703

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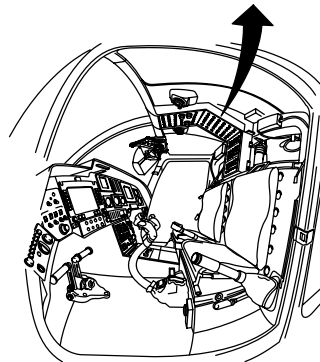
9-6-14. INTEGRALLY LIT PANEL (OVERHEAD CONSOLE OR CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — INSTALLATION (CONT)

2. Aft overhead console panel.

- a. Open either crew door to gain access to aft overhead console panel (6).
- b. Align integrally lit panel (7) with aft overhead console panel (6) and lighting connector (8).
- c. Press integrally lit panel (7) into lighting connector (8).
- d. Install four screws (9).



AFT OVERHEAD CONSOLE PANEL



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J2703

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9-6-14. INTEGRALLY LIT PANEL (OVERHEAD CONSOLE OR CENTER POST CIRCUIT BREAKER PANEL-TYPICAL) — INSTALLATION (CONT)

3. Center post circuit breaker panel.

a. Open either crew door to gain access to center post circuit breaker panel (10).

b. Align integrally lit panel (11) with center post circuit breaker panel (10) and lighting connector (12).

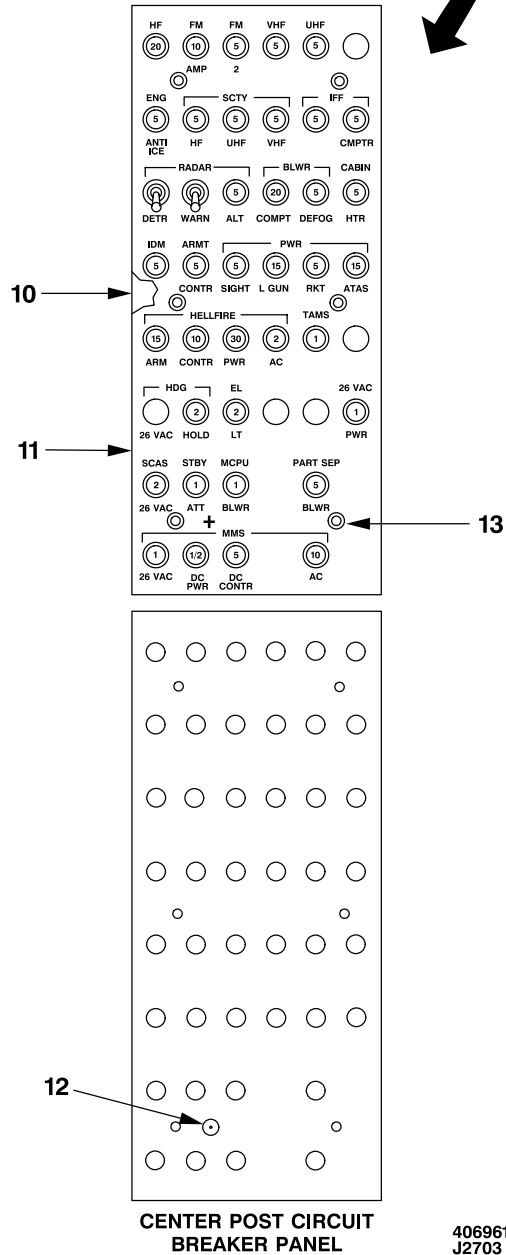
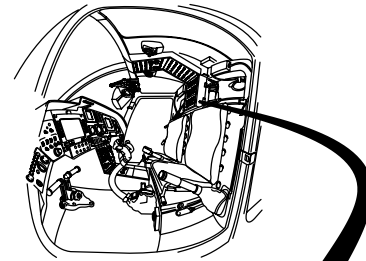
c. Press integrally lit panel (11) into lighting connector (12).

d. Install six screws (13).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



CENTER POST CIRCUIT BREAKER PANEL

406961-1425-6
J2703

END OF TASK

9-6-15. DIGITAL FUEL CONTROL PANEL (OH-58D) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
OH-58D

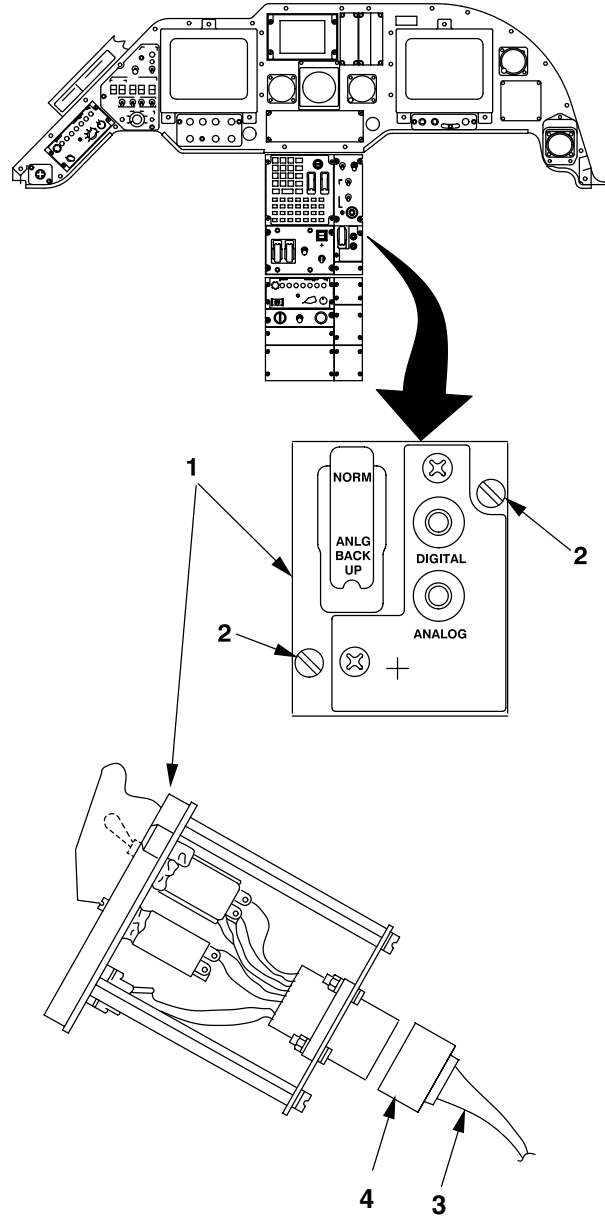
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-15. DIGITAL FUEL CONTROL PANEL (OH-58D) — REMOVAL (CONT)

1. Open left or right crew door to gain access to digital fuel control panel (1).
2. Loosen two fasteners (2).
3. Lift fuel control panel (1) out as far as cable (3) will permit.
4. Disconnect electrical connector (4).
5. Remove digital fuel control panel (1).
6. Close crew door.



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J2028

END OF TASK

9-6-16. DIGITAL FUEL CONTROL PANEL (OH-58D) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
OH-58D

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-16. DIGITAL FUEL CONTROL PANEL (OH-58D) — INSTALLATION (CONT)

INSTALL

1. Open left or right crew door to gain access to digital fuel control panel (1) mounting.

NOTE

A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

2. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

3. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

4. Visually inspect electrical connectors (2) and (3) for corrosion, missing or bent pins, and cracked housing.

5. Connect electrical connector (2) to electrical connector (3).

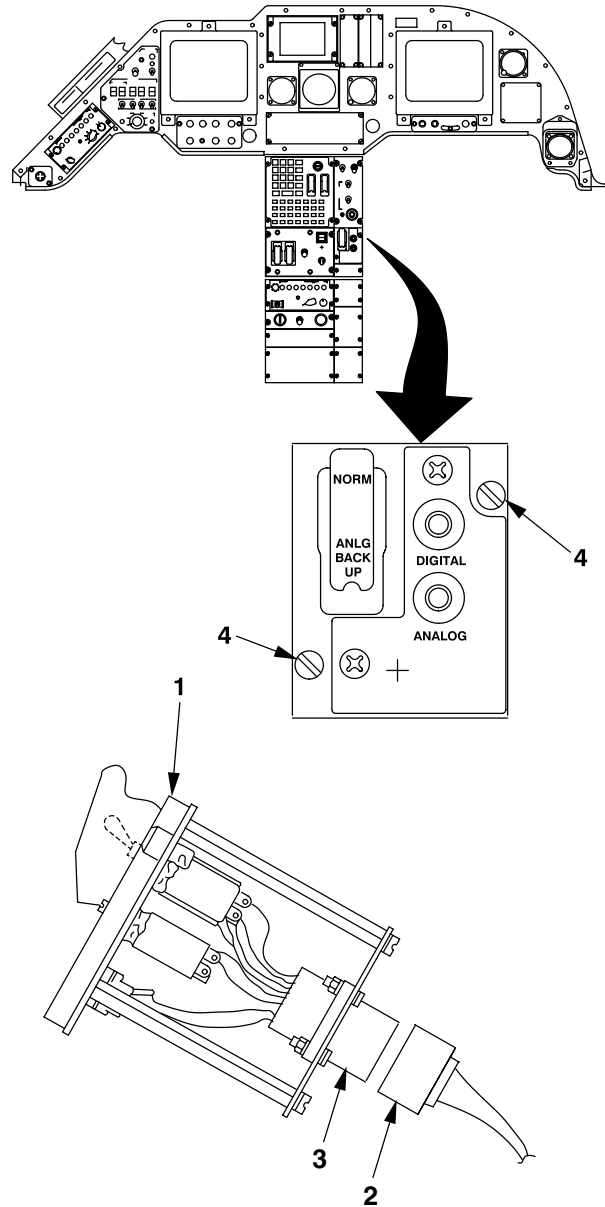
6. Align fuel control panel (1) to mounting holes.

7. Tighten fasteners (4).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1230
J2028

END OF TASK

9-6-16.1. AUTO/MAN SWITCH (FADEC) (OH-58D(R)) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D(R)

Tools:
Electrical Repairer Tool Kit (B177)
Extraction Tool (B247)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
68N Avionic Mechanic

References:
TM 1-1427-779-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Multifunction Keyboard Removed
(TM 1-1427-779-23)
Multiparameter Display Removed (Task 8-1-4)
Standby Airspeed Indicator Removed
(Task 8-2-6)

GO TO NEXT PAGE

9-6-16.1. AUTO/MAN SWITCH (FADEC) (OH-58D(R)) — REMOVAL/INSTALLATION (CONT)

REMOVE

CAUTION

- To prevent damage to AUTO/MAN switch, switch shall be in AUTO (out or unlatch) position before removal.
- To prevent damage to AUTO/MAN switch, disassembly of pushbutton lens cap LED shall not be attempted; lamps are not replaceable.

1. Roll edges of rubber seal (1) out of mount flange (2).

CAUTION

To prevent damage to AUTO/MAN switch, only a moderate amount of pressure shall be applied to pushbutton lens cap during extraction.

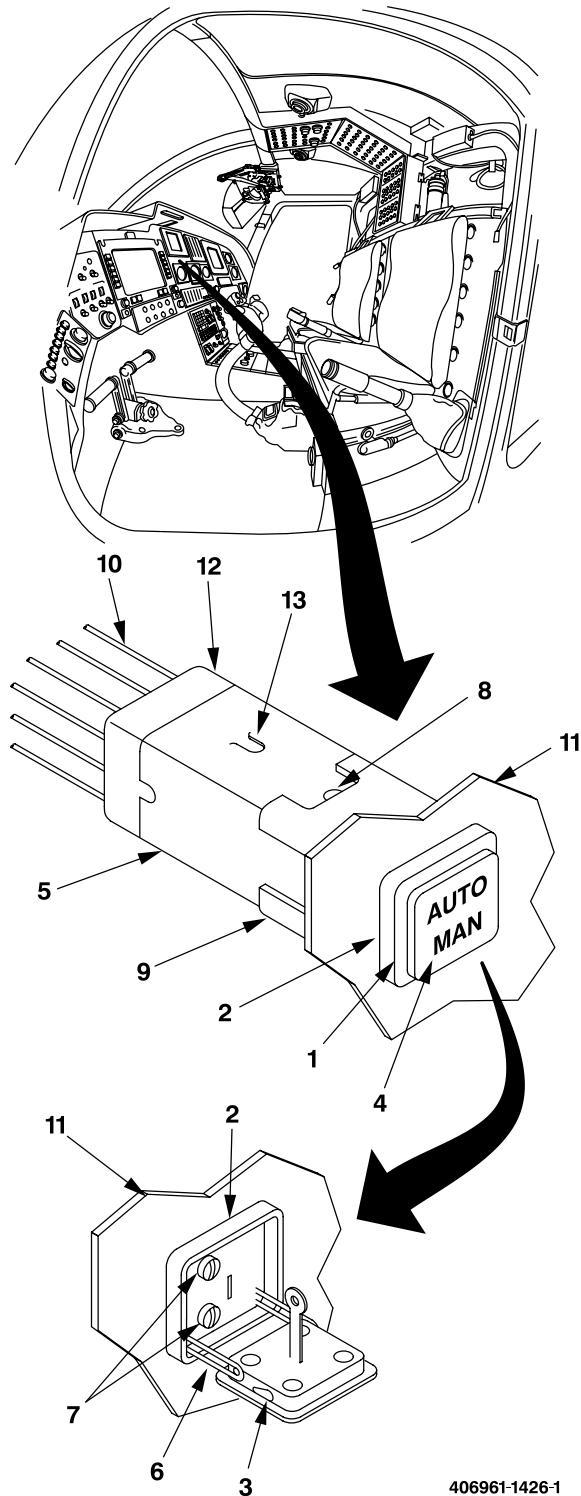
2. Grasp extraction slots (3) in side edge of pushbutton lens cap (4) with fingernails and pull out from AUTO/MAN switch (5) to limit of retainer tracks (6) and allow cap to rotate 90° where it is held by the retaining tracks (6).

3. Loosen two integral screws (7) inside AUTO/MAN switch (5) until integral mounting hardware tangs (8) disengage from mounting sleeve (9).

4. Slide mounting sleeve (9) off AUTO/MAN switch (5) onto wires (10) and remove.

5. Pull AUTO/MAN switch (5) away from instrument panel (11) far enough to access electrical connector (12).

6. Insert extraction tool (B247) releasing locking tabs (13) and remove electrical connector (12) from AUTO/MAN switch (5) by holding wires (10) and extraction tool (B247) firmly in one hand and rock gently side to side to extract electrical connector (12) from AUTO/MAN switch (5).



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J1897

GO TO NEXT PAGE

9-6-16.1. AUTO/MAN SWITCH (FADEC) (OH-58D(R)) — REMOVAL/INSTALLATION (CONT)

INSTALL

7. Position electrical connector (12) into AUTO/MAN switch (5) with key slots (14) properly aligned.

NOTE

Electrical connector requires a moderate amount of force to seat properly and should be accompanied by an audible click when locking tabs fully seat over the module locking it in place.

8. Press electrical connector (12) into AUTO/MAN switch (5) until locking tabs (13) snap into place.

9. Position AUTO/MAN switch (5) in instrument panel (11).

10. Place mounting sleeve (9) over wires (10) and slide up onto AUTO/MAN switch (5).

CAUTION

To prevent deforming the switch housing, integral screws shall not be overtightened. A tight fit to the instrument panel is all that is required.

11. Tighten two integral screws (7) in AUTO/MAN switch (5) until integral mounting hardware tangs (8) have engaged from mounting sleeve (9) and AUTO/MAN switch (5) is tight in instrument panel (11).

12. Rotate pushbutton lens cap (4) on retainer tracks (6) and push into AUTO/MAN switch (5).

13. Reseat rubber seal (1) in mount flange (2) groove.

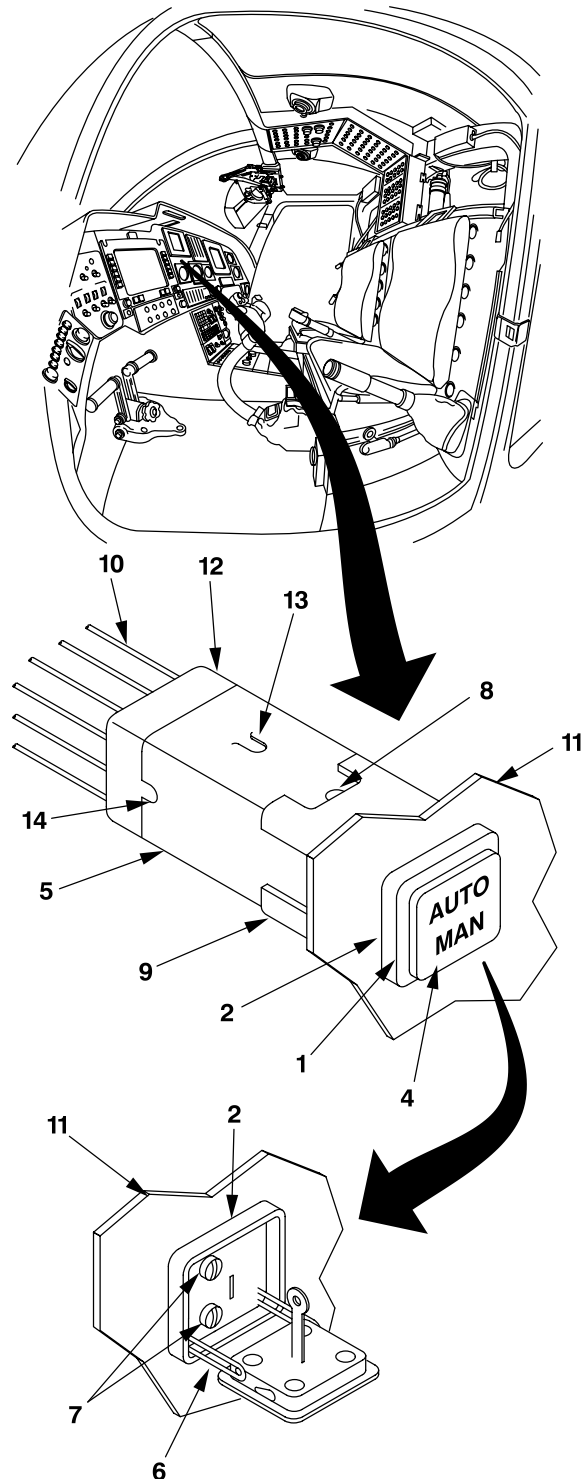
INSPECT

FOLLOW-ON MAINTENANCE

Install standby airspeed indicator (Task 8-2-7).

Install multiparameter display (Task 8-1-4).

Install multifunction keyboard (TM 1-1427-779-23).



406961-1426-2
J1897

END OF TASK

9-6-17. INTEGRALLY LIT PANEL (DIGITAL FUEL CONTROL PANEL) (OH-58D) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
OH-58D

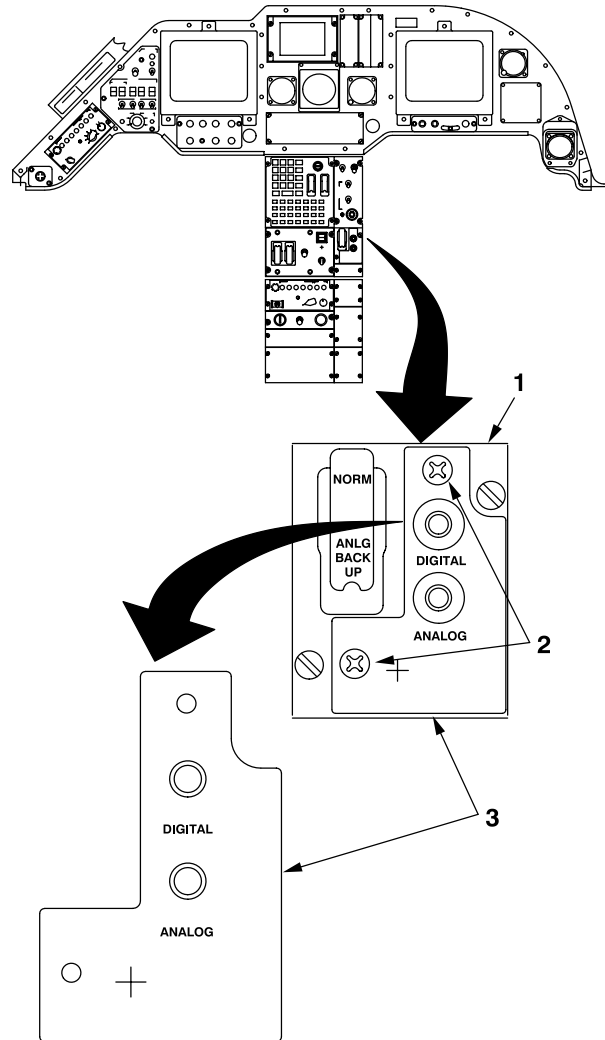
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-17. INTEGRALLY LIT PANEL (DIGITAL FUEL CONTROL PANEL) (OH-58D) — REMOVAL (CONT)

1. Open left or right crew door to gain access to digital fuel control panel (1).
2. Remove two screws (2).
3. Lift integrally lit panel (3) from digital fuel control panel (1).
4. Close crew door.



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J2028

END OF TASK

9-6-18. INTEGRALLY LIT PANEL (DIGITAL FUEL CONTROL PANEL) (OH-58D) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
OH-58D

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

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9-6-18. INTEGRALLY LIT PANEL (DIGITAL FUEL CONTROL PANEL) (OH-58D) — INSTALLATION (CONT)

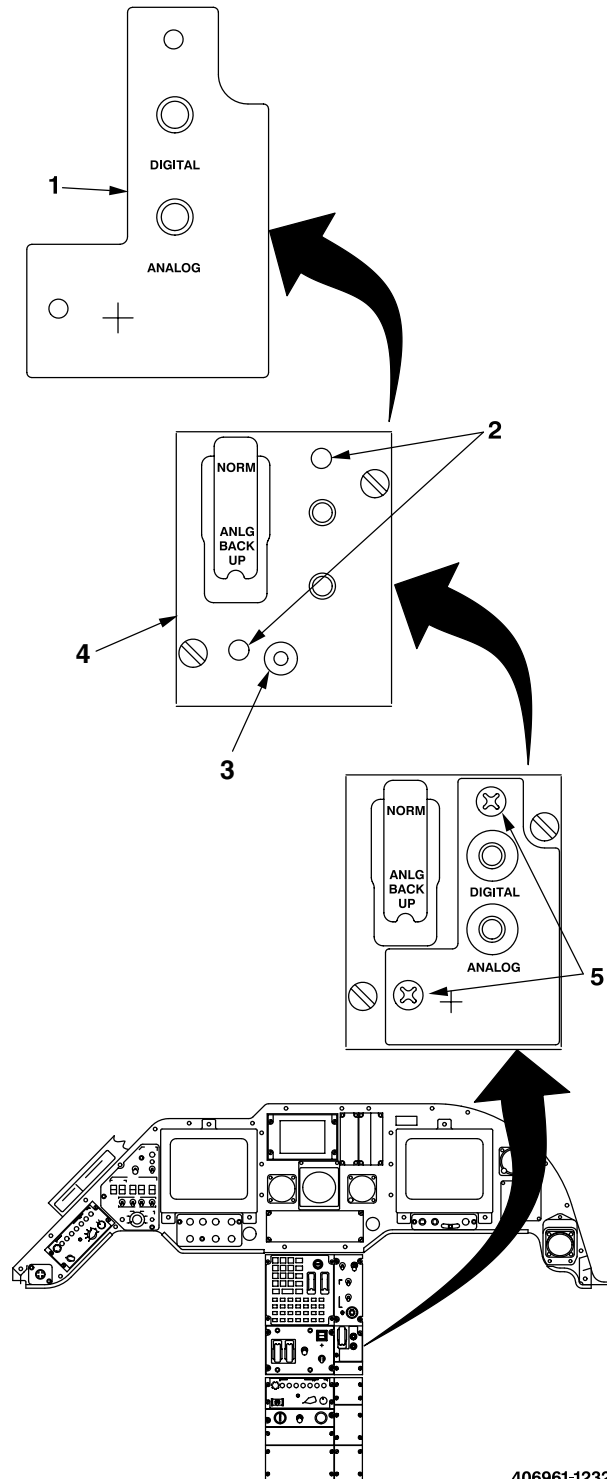
INSTALL

1. Open left or right crew door to gain access to digital fuel control panel mounting area.
2. Align integrally lit panel (1) to mounting holes (2) and connector (3) on digital fuel control panel (4).
3. Install and tighten two screws (5).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1232
J2028

END OF TASK

9-6-19. INTEGRALLY LIT PANEL CONNECTOR (DIGITAL FUEL CONTROL PANEL) (OH-58D) —
REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Material:
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Integrally Lit Panel Removed From Fuel Control
Panel (Task 9-6-17)

GO TO NEXT PAGE

9-6-19. INTEGRALLY LIT PANEL CONNECTOR (DIGITAL FUEL CONTROL PANEL) (OH-58D) —
REMOVAL/INSTALLATION (CONT)

REMOVE

1. Tag and identify wires (1) soldered to connector terminals (2).
2. Using soldering iron (B159), desolder wires (1) from connector terminals (2).
3. Remove nut (3) and internal tooth lockwasher (4) from connector (5).
4. Lift connector (5) from front of panel.

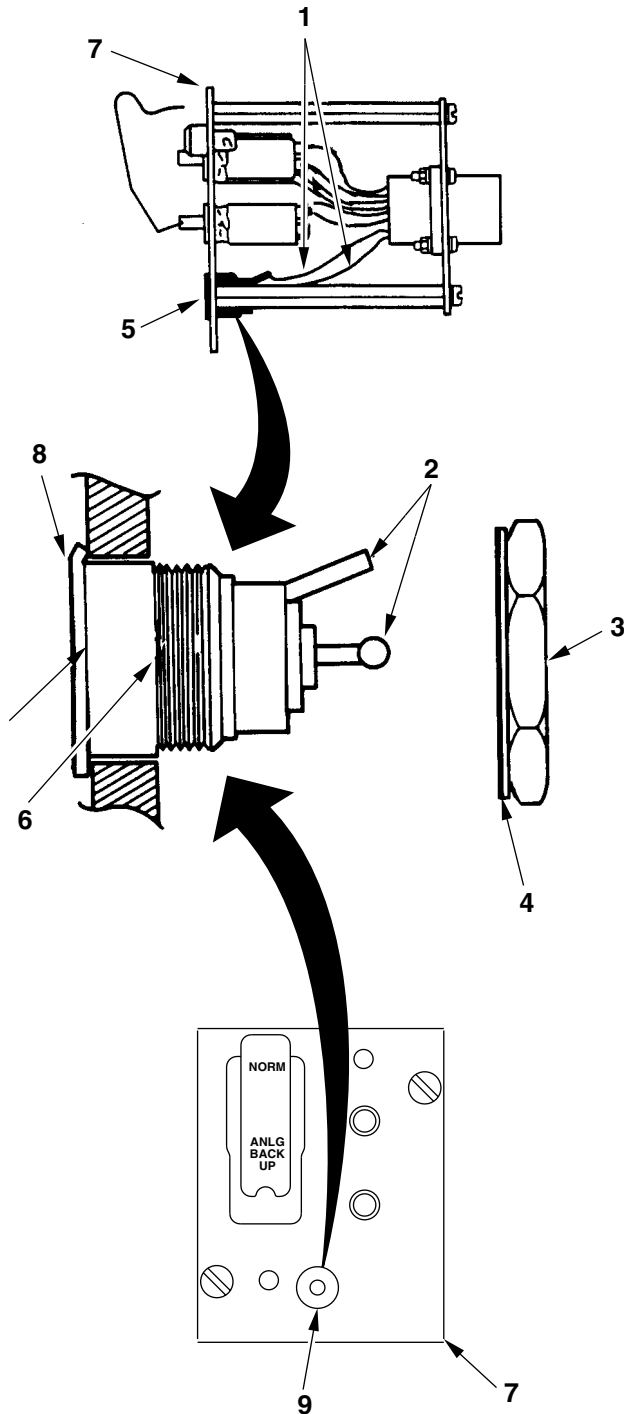
INSTALL

5. Insert threaded portion (6) of connector (5) through front of fuel control panel (7) and align key (8) to hole (9).
6. Install internal tooth lockwasher (4) and nut (3) to connector (5) and tighten.
7. Using soldering iron (B159), solder correct wires (1) to correct terminals (2) using solder (D195).
8. Remove identification tags from wires.

INSPECT

FOLLOW-ON MAINTENANCE

Install integrally lit panel on digital fuel control panel (Task 9-6-18).



406961-1214
H0100

END OF TASK

9-6-20. PUSHBUTTON SWITCH (DIGITAL FUEL CONTROL PANEL-TYPICAL) (OH-58D) —
REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Material:
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Integrally Lit Panel Removed From Digital Fuel
Control Panel (Task 9-6-17)

GO TO NEXT PAGE

9-6-20. PUSHBUTTON SWITCH (DIGITAL FUEL CONTROL PANEL-TYPICAL) (OH-58D) —
REMOVAL/INSTALLATION (CONT)

REMOVE

1. Tag and identify wires (1).
2. Using soldering iron (B159), desolder wires (1) from terminals (2).
3. Remove nut (3) and lockwasher (4).
4. Remove switch (5) from rear of panel (6).

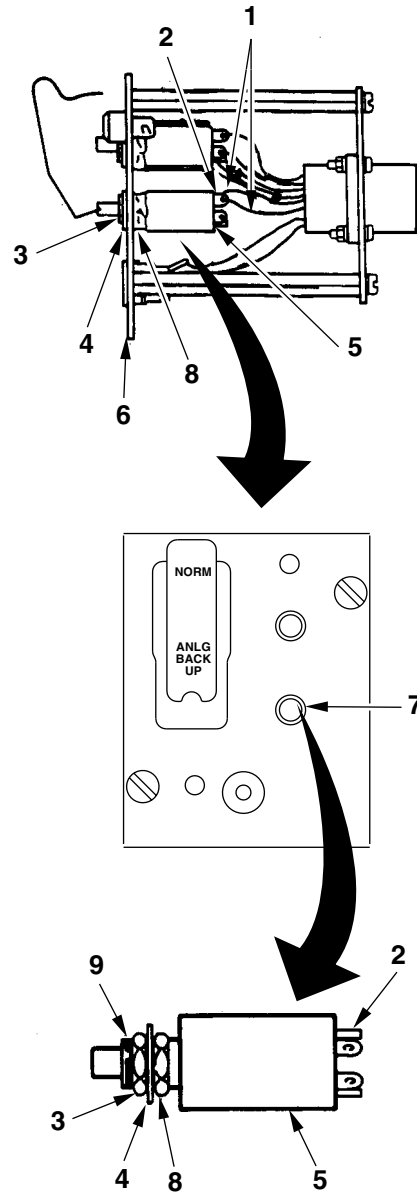
INSTALL

5. Install switch (5) from rear of panel (6) into mounting hole (7).
6. Install lockwasher (4) and nut (3) onto switch (5).
7. Alternately tighten nut (3) and nut (8) until nut (3) is flush with threads (9).
8. Using soldering iron (B159), and solder (D195), solder correct wires (1) to terminals (2).
9. Remove identification tags from wires.

INSPECT

FOLLOW-ON MAINTENANCE

Install integrally lit panel on digital fuel control panel (Task 9-6-18).



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H0101

END OF TASK

9-6-21. TOGGLE SWITCH (DIGITAL FUEL CONTROL PANEL) (OH-58D) — REMOVAL/
INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D

Tools:

Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Personnel Required:

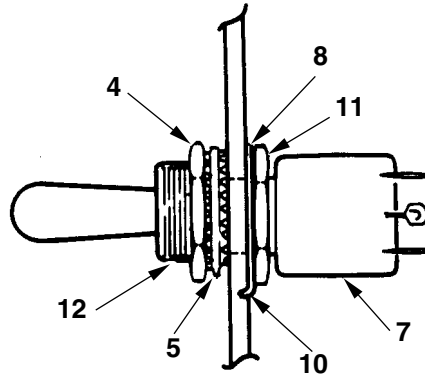
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

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9-6-21. TOGGLE SWITCH (DIGITAL FUEL CONTROL PANEL) (OH-58D) — REMOVAL/
INSTALLATION (CONT)

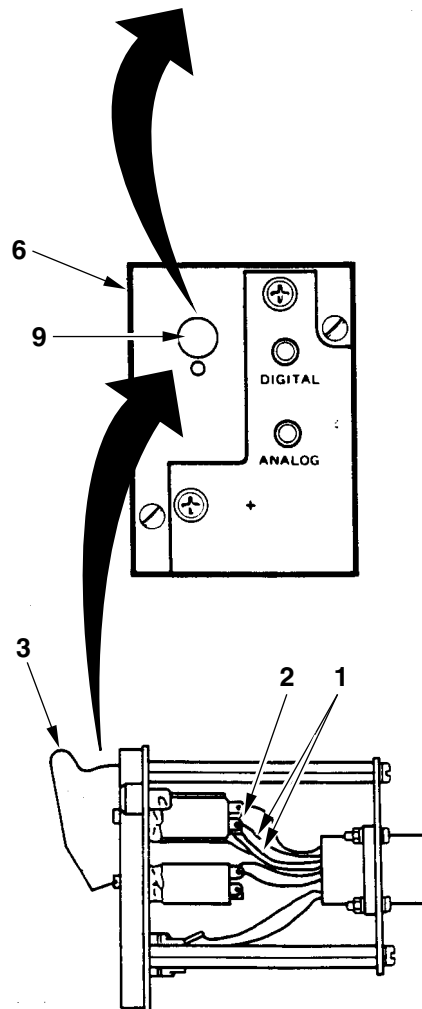
REMOVE

1. Tag and identify wires (1).
2. Using soldering iron (B159), desolder wires (1) from terminals (2).
3. Open switch guard (3) to gain access to mounting nut (4).
4. Remove mounting nut (4) and lockwasher (5).
5. Remove switch guard (3) from front of panel (6).
6. Remove switch (7) and locking ring (8) from rear of panel (6).



INSTALL

7. Remove mounting nut (4) and lockwasher (5) from switch (7).
8. Install switch (7) in mounting hole (9) from rear of panel (6) and ensure locking ring (8) has key (10) facing rear of panel (6).
9. Align locking ring (8) to panel hole (9).
10. Install switch guard (3), lockwasher (5), and mounting nut (4).
11. Adjust jamnut (11) and mounting nut (4) until mounting nut (4) is flush with switch threads (12).
12. Ensure switch guard (3) is centered and mounting nut (4) is tightened.
13. Using soldering iron (B159), identify and solder correct wires (1) to terminals (2) using solder (D195).
14. Remove identification tags from wires.



406961-1113-2
H0183

INSPECT

END OF TASK

9-6-22. SCAS CONTROL PANEL — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

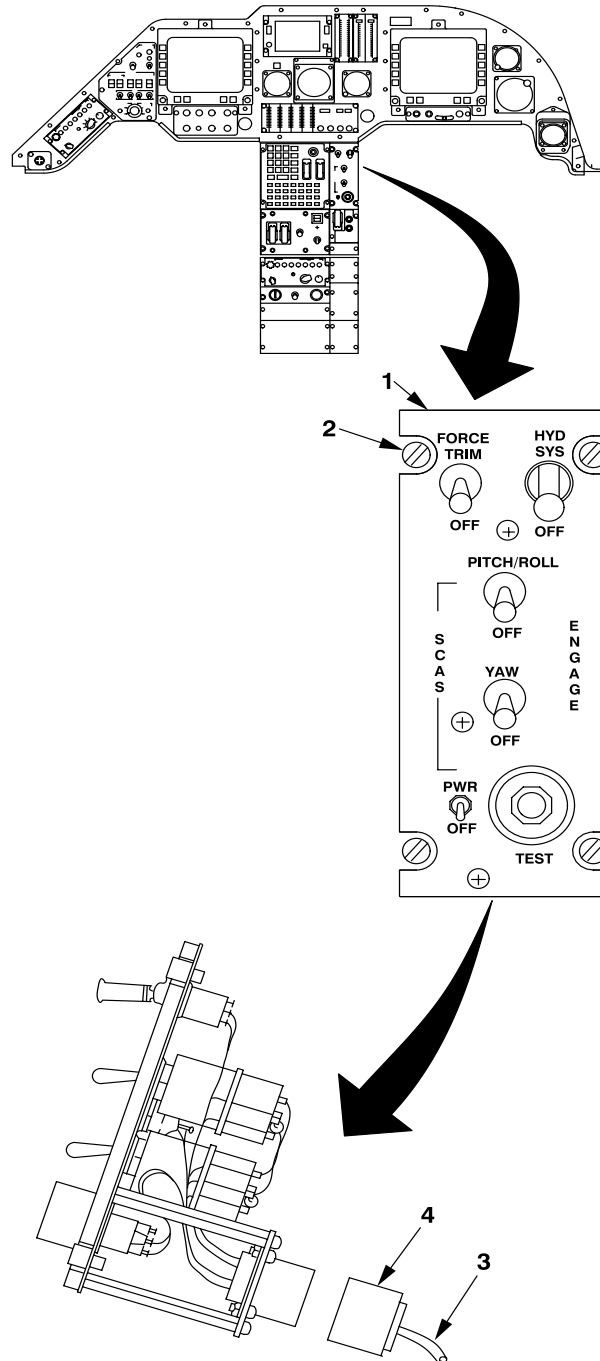
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-22. SCAS CONTROL PANEL — REMOVAL (CONT)

1. Open right crew door to gain access to SCAS control panel (1).
2. Loosen four fasteners (2).
3. Lift control panel (1) out as far as cable (3) will permit.
4. Disconnect electrical connector (4).
5. Remove SCAS control panel (1).
6. Close crew door.



406961-1114
J2028

END OF TASK

9-6-23. SCAS CONTROL PANEL — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-23. SCAS CONTROL PANEL — INSTALLATION (CONT)

INSTALL

1. Open right crew door to gain access to SCAS control panel mounting.

2. Visually inspect electrical connectors (1) and (2) for corrosion, missing or bent pins, and cracked housing.

NOTE

A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

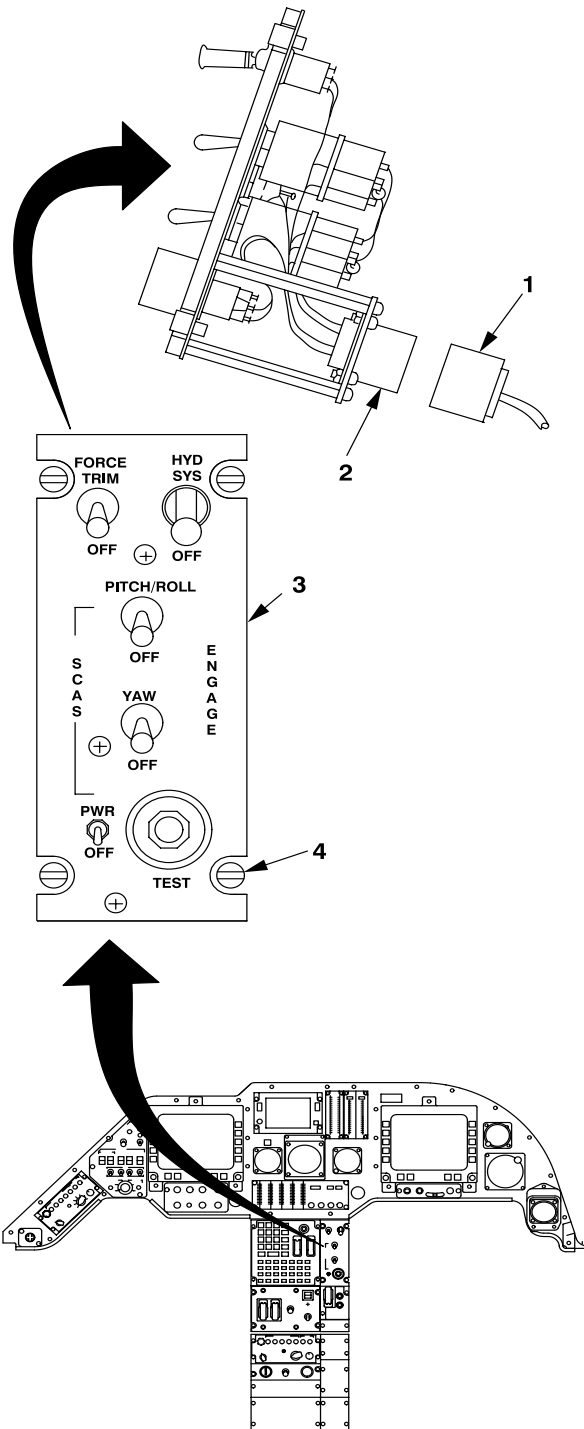
3. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

4. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

5. Connect electrical connector (1) to electrical connector (2).

6. Position SCAS control panel (3) into mounting and align mounting holes.

7. Tighten four fasteners (4).



INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

406961-1115
J2200

END OF TASK

9-6-24. INTEGRALLY LIT PANEL (SCAS CONTROL PANEL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

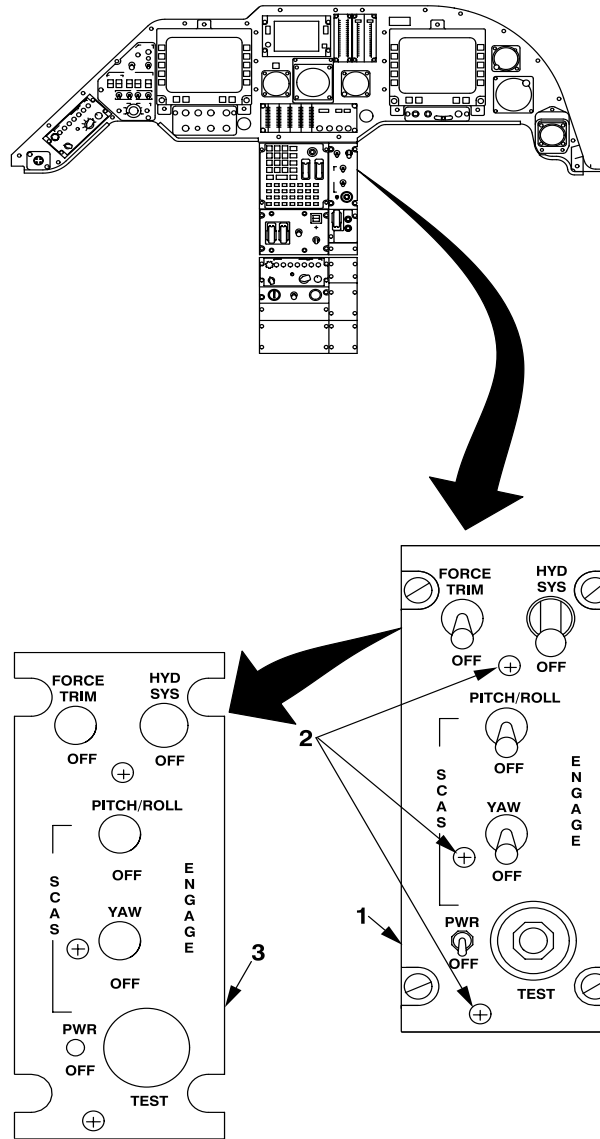
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-24. INTEGRALLY LIT PANEL (SCAS CONTROL PANEL) — REMOVAL (CONT)

1. Open right crew door to gain access to SCAS control panel (1).
2. Remove three screws (2).
3. Lift integrally lit panel (3) from SCAS control panel (1).
4. Close crew door.



406961-1116
J2028

END OF TASK

9-6-25. INTEGRALLY LIT PANEL (SCAS CONTROL PANEL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-6-25. INTEGRALLY LIT PANEL (SCAS CONTROL PANEL) — INSTALLATION (CONT)

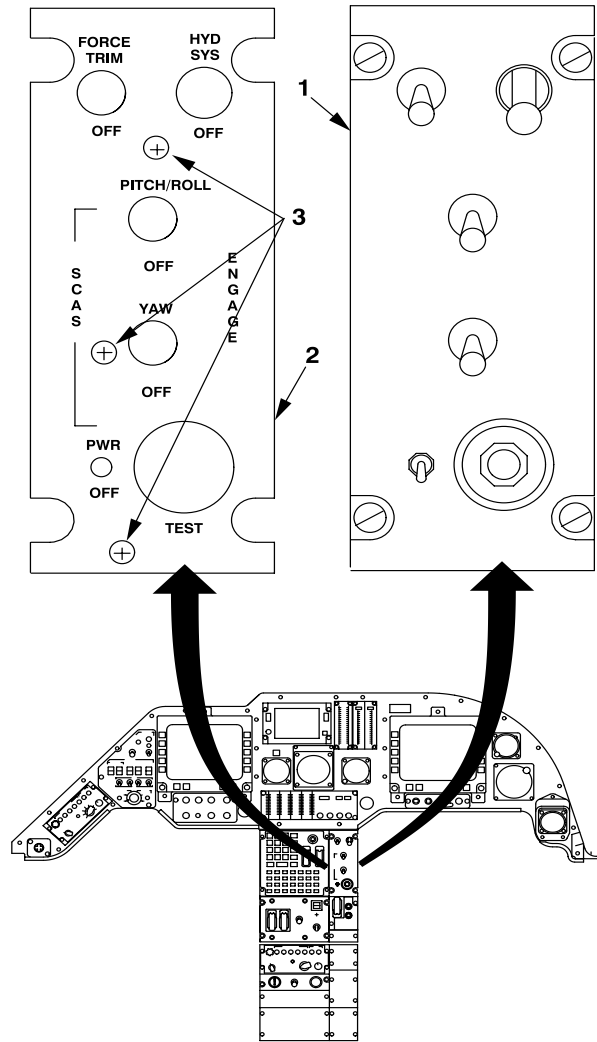
INSTALL

1. Open right crew door to gain access to SCAS control panel (1).
2. Position integrally lit panel (2) onto SCAS control panel (1) and align mounting holes.
3. Install and tighten three screws (3).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1117
J1785

END OF TASK

9-6-26. SCAS PITCH AND ROLL ENGAGE SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Material:
Acid Swabbing Brush (D51)
Solder (D195)
Conformal Coating (D72)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

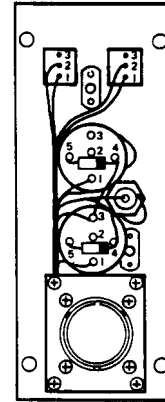
Equipment Condition:
SCAS Control Panel Removed (Task 9-6-22)
SCAS Control Panel Integrally Lit Panel
Removed (Task 9-6-24)

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9-6-26. SCAS PITCH AND ROLL ENGAGE SWITCH — REMOVAL/INSTALLATION (CONT)

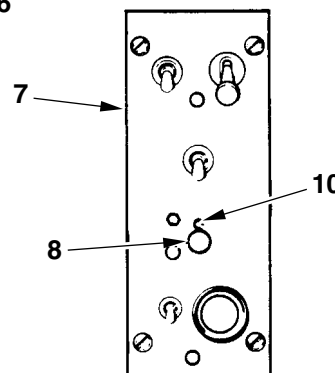
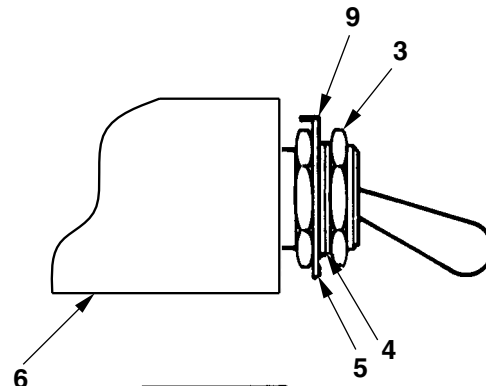
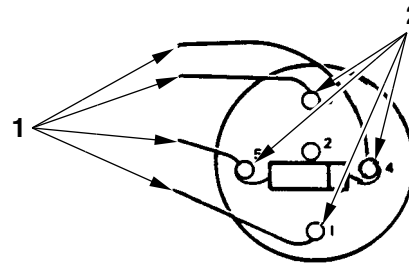
REMOVE

1. Identify and tag wires (1).
2. Using soldering iron (B159), desolder wires (1) from terminals (2).
3. Remove nut (3), lockwasher (4), and keying washer (5).
4. Remove switch (6) from rear of panel (7).



INSTALL

5. Insert switch (6) into mounting hole (8) from rear of panel.
6. Install keying washer (5), lockwasher (4), and nut (3).
7. Align tab (9) to mounting hole (10) and tighten nut (3).
8. Using soldering iron (B159), solder correct wires (1) onto terminals (2) using solder (D195).
9. Remove identification tags from wires.



Silicone

10. Using an acid swabbing brush (D51), apply conformal coating (D72) to terminals (2).

INSPECT

406961-1118
H0221

END OF TASK

9-6-27. SCAS YAW ENGAGE SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Material:
Acid Swabbing Brush (D51)
Solder (D195)
Conformal Coating (D72)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

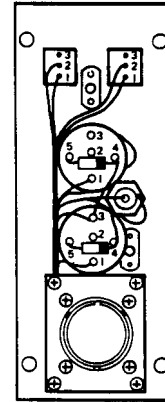
Equipment Condition:
SCAS Control Panel Removed (Task 9-6-22)
SCAS Control Integrally Lit Panel Removed
(Task 9-6-24)

GO TO NEXT PAGE

9-6-27. SCAS YAW ENGAGE SWITCH — REMOVAL/INSTALLATION (CONT)

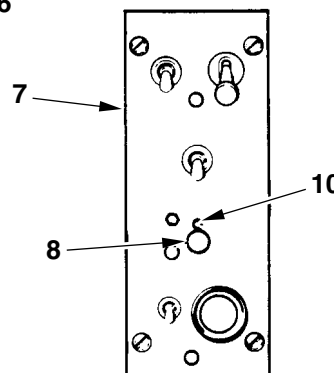
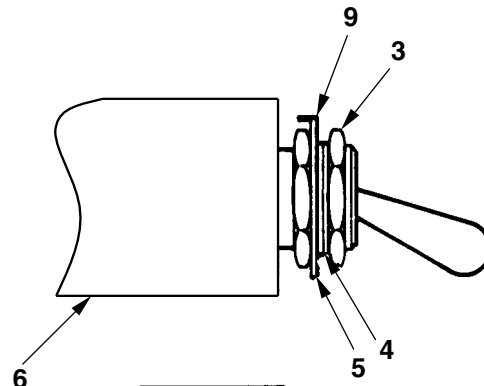
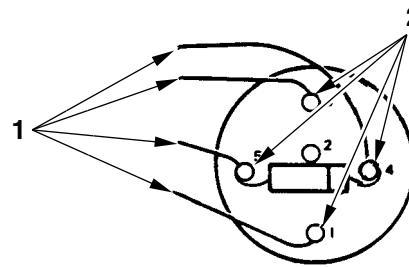
REMOVE

1. Identify and tag wires (1).
2. Using soldering iron (B159), desolder wires (1) from terminals (2).
3. Remove nut (3), lockwasher (4), and keying washer (5).
4. Remove switch (6) from rear of panel (7).



INSTALL

5. Insert switch (6) from rear of panel (7) into mounting hole (8).
6. Install keying washer (5), lockwasher (4), and nut (3).
7. Align tab (9) to mounting hole (10) and tighten nut (3).
8. Using soldering iron (B159), solder correct wires (1) onto terminals (2) using solder (D195).
9. Remove identification tags from wires.



Silicone

10. Using an acid swabbing brush (D51), apply conformal coating (D72) to terminals (2).

INSPECT

406961-1119
H0222

END OF TASK

9-6-28. SCAS TEST SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Material:
Acid Swabbing Brush (D51)
Solder (D195)
Conformal Coating (D72)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

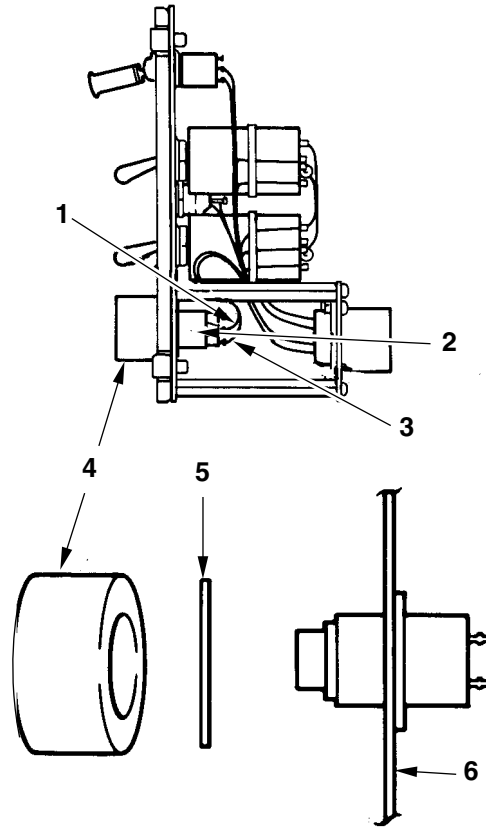
Equipment Condition:
SCAS Control Panel Removed (Task 9-6-22)
SCAS Control Integrally Lit Panel Removed
(Task 9-6-24)

GO TO NEXT PAGE

9-6-28. SCAS TEST SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Tag and identify three wires (1) at switch (2).
2. Using soldering iron (B159), desolder three wires (1) at terminals (3).
3. Unscrew and remove shield (4).
4. Remove lockwasher (5).
5. Remove switch (2) from rear of plate assembly (6).



INSTALL

6. Install switch (2) in mounting hole from rear of plate assembly (6).
7. Install lockwasher (5).
8. Install and tighten shield (4).
9. Using soldering iron (B159), solder correct wires (1) to terminals (3) using solder (D195).
10. Remove identification tags from wires.



Silicone

11. Using an acid swabbing brush (D51), apply conformal coating (D72) to terminals (3).

INSPECT

406961-1120
H0223

END OF TASK

9-6-29. SCAS FORCE TRIM SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Material:
Acid Swabbing Brush (D51)
Solder (D195)
Conformal Coating (D72)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
SCAS Control Panel Removed (Task 9-6-22)
SCAS Control Integrally Lit Panel Removed
(Task 9-6-24)

GO TO NEXT PAGE

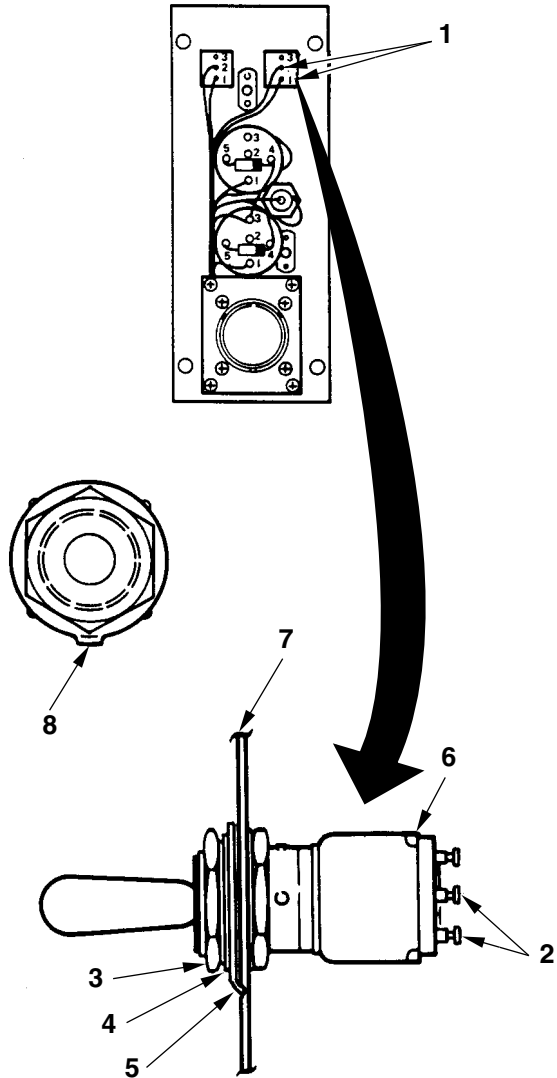
9-6-29. SCAS FORCE TRIM SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Tag and identify wires (1).
2. Using soldering iron (B159), desolder wires (1) at terminals (2).
3. Remove mounting nut (3), lockwasher (4), and key washer (5).
4. Remove switch (6) from rear of plate assembly (7).

INSTALL

5. Install switch (6) in mounting hole from rear of plate assembly (7).
6. Align keyway (8) of switch (6) and install key washer (5) and lockwasher (4).
7. Install and tighten mounting nut (3).
8. Using soldering iron (B159), solder correct wires (1) to terminals (2) using solder (D195).
9. Remove identification tags from wires.



Silicone

10. Using an acid swabbing brush (D51), apply conformal coating (D72) to terminals (2).

406961-1121
H0224

INSPECT

END OF TASK

9-6-30. SCAS POWER SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Material:
Acid Swabbing Brush (D51)
Solder (D195)
Conformal Coating (D72)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

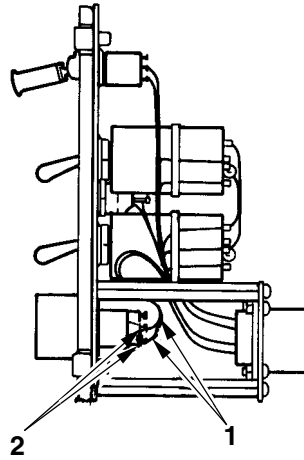
Equipment Condition:
SCAS Control Panel Removed (Task 9-6-22)
SCAS Control Integrally Lit Panel Removed
(Task 9-6-24)

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9-6-30. SCAS POWER SWITCH — REMOVAL/INSTALLATION (CONT)

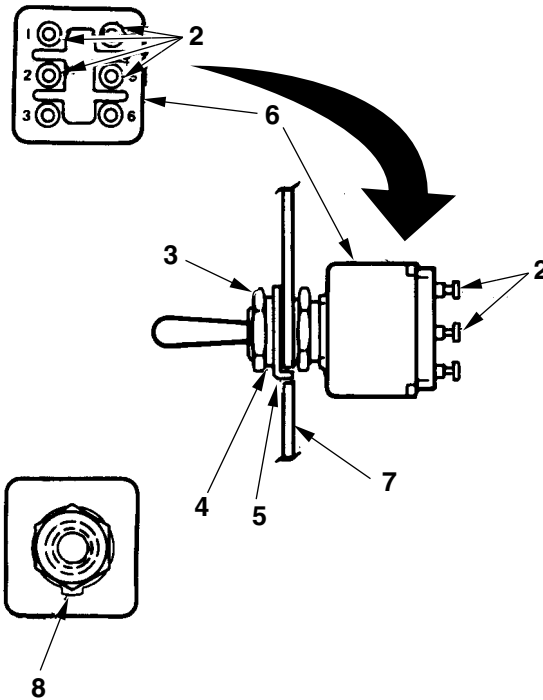
REMOVE

1. Tag and identify wires (1).
2. Using soldering iron (B159), desolder wires (1) at terminals (2).
3. Remove nut (3), lockwasher (4), and key washer (5).
4. Remove switch (6) from rear of plate assembly (7).



INSTALL

5. Install switch (6) in mounting hole from rear of plate assembly (7).
6. Align keyway (8) of switch (6) and install key washer (5) and lockwasher (4).
7. Install and tighten nut (3).
8. Using soldering iron (B159), solder correct wires (1) to terminals (2) using solder (D195).
9. Remove identification tags from wires.



Silicone

10. Using an acid swabbing brush (D51), apply conformal coating (D72) to terminals (2).

INSPECT

406961-1122
H0225

END OF TASK

9-6-31. HYDRAULIC SYSTEM SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (B159)

Material:
Acid Swabbing Brush (D51)
Solder (D195)
Conformal Coating (D72)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
SCAS Control Panel Removed (Task 9-6-22)
SCAS Control Integrally Lit Panel Removed
(Task 9-6-24)

GO TO NEXT PAGE

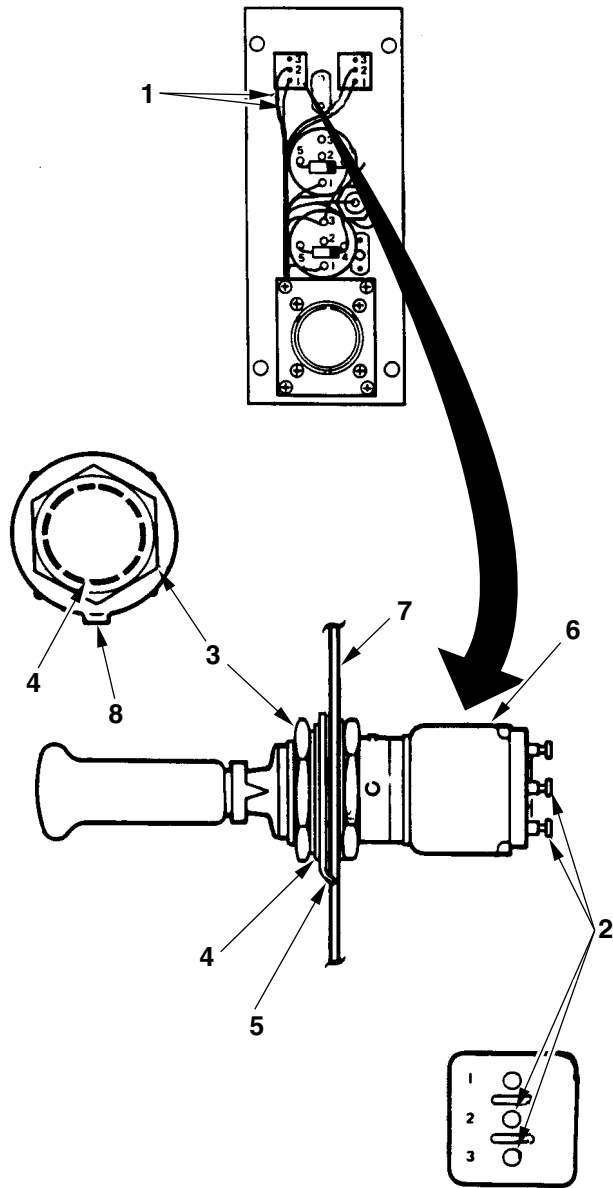
9-6-31. HYDRAULIC SYSTEM SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Tag and identify wires (1).
2. Using soldering iron (B159), desolder wires (1) at terminals (2).
3. Remove nut (3), lockwasher (4), and locking ring (5).
4. Remove switch (6) from rear of plate assembly (7).

INSTALL

5. Install switch (6) in mounting hole from rear of plate assembly (7).
6. Align keyway (8) of switch (6) and install locking ring (5) and lockwasher (4).
7. Install and tighten hex nut (3).
8. Using soldering iron (B159), solder correct wires (1) to terminals (2) using solder (D195).
9. Remove identification tags from wires.



Silicone

10. Using an acid swabbing brush (D51), apply conformal coating (D72) to terminals (2).

INSPECT

406961-1123
H0226

END OF TASK

9-6-32. CIRCUIT BREAKER (DC EQUIPMENT ELECTRICAL ASSEMBLY-TYPICAL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

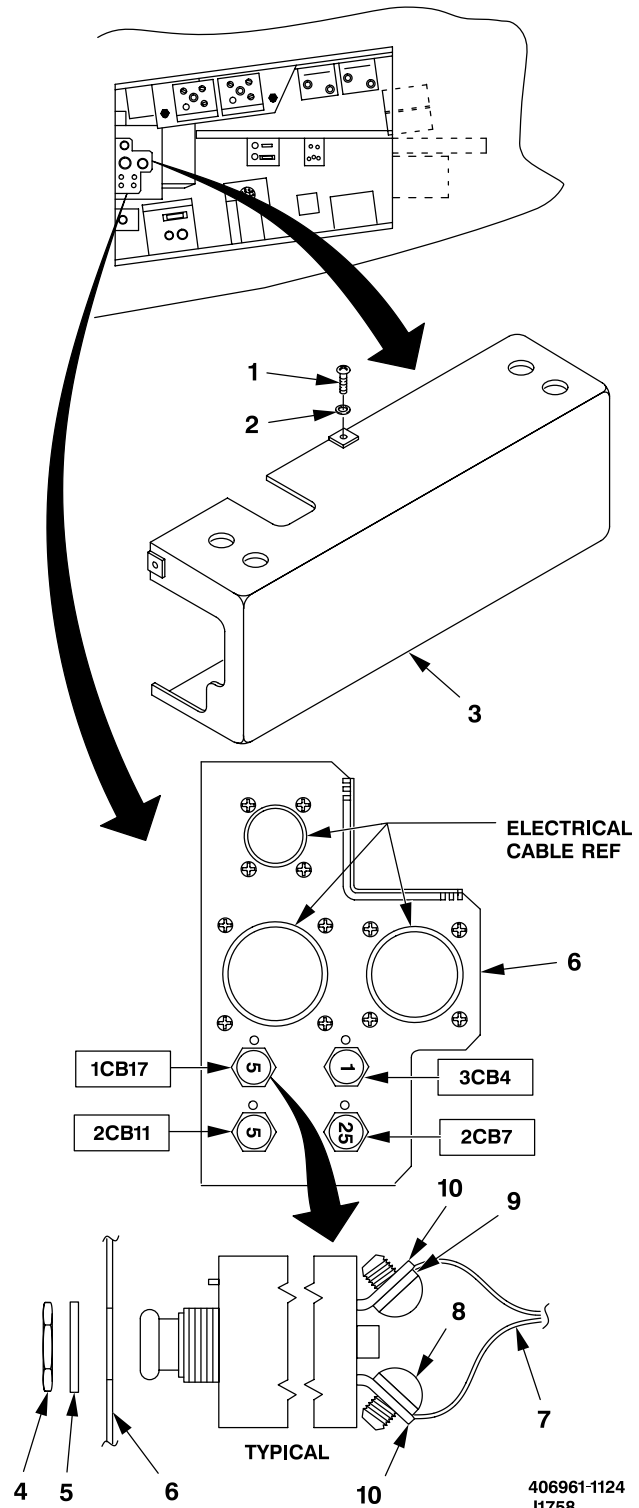
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-32. CIRCUIT BREAKER (DC EQUIPMENT ELECTRICAL ASSEMBLY-TYPICAL) — REMOVAL (CONT)

1. Open aft electrical compartment door to gain access to START VOLT (1CB17), BATT CHGR (2CB7), RECT VOLTS (2CB11), or CDS INV VOLT (3CB4) circuit breaker.
2. Remove six screws (1) and washers (2).
3. Remove cover assembly (3).
4. Remove nut (4) and lockwasher (5) from selected circuit breaker.
5. Remove selected circuit breaker from rear of panel (6) and pull it out as far as wiring (7) will allow.
6. Identify and tag wires (7) on selected circuit breaker.
7. Remove two screws (8) and lockwashers (9) from terminals (10).
8. Remove selected circuit breaker.
9. Close aft electrical compartment door.



END OF TASK

9-6-33. CIRCUIT BREAKER (DC EQUIPMENT ELECTRICAL ASSEMBLY-TYPICAL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-33. CIRCUIT BREAKER (DC EQUIPMENT ELECTRICAL ASSEMBLY-TYPICAL) — INSTALLATION (CONT)

INSTALL

1. Open aft electrical compartment door to gain access to START VOLT (1CB17), BATT CHGR (2CB7), RECT VOLTS (2CB11), or CDS INV VOLT (3CB4) circuit breaker mounting area.

2. Remove nut (1), lockwasher (2), two screws (3), and lockwashers (4) from selected circuit breaker.

3. Connect wires (5) to correct terminals (6) by installing two lockwashers (4) and screws (3).

4. Remove identification tags from wires.

5. From rear of panel (7), insert selected circuit breaker into mounting hole.

6. Align key (8) in mounting hole and install lockwasher (2) and nut (1).

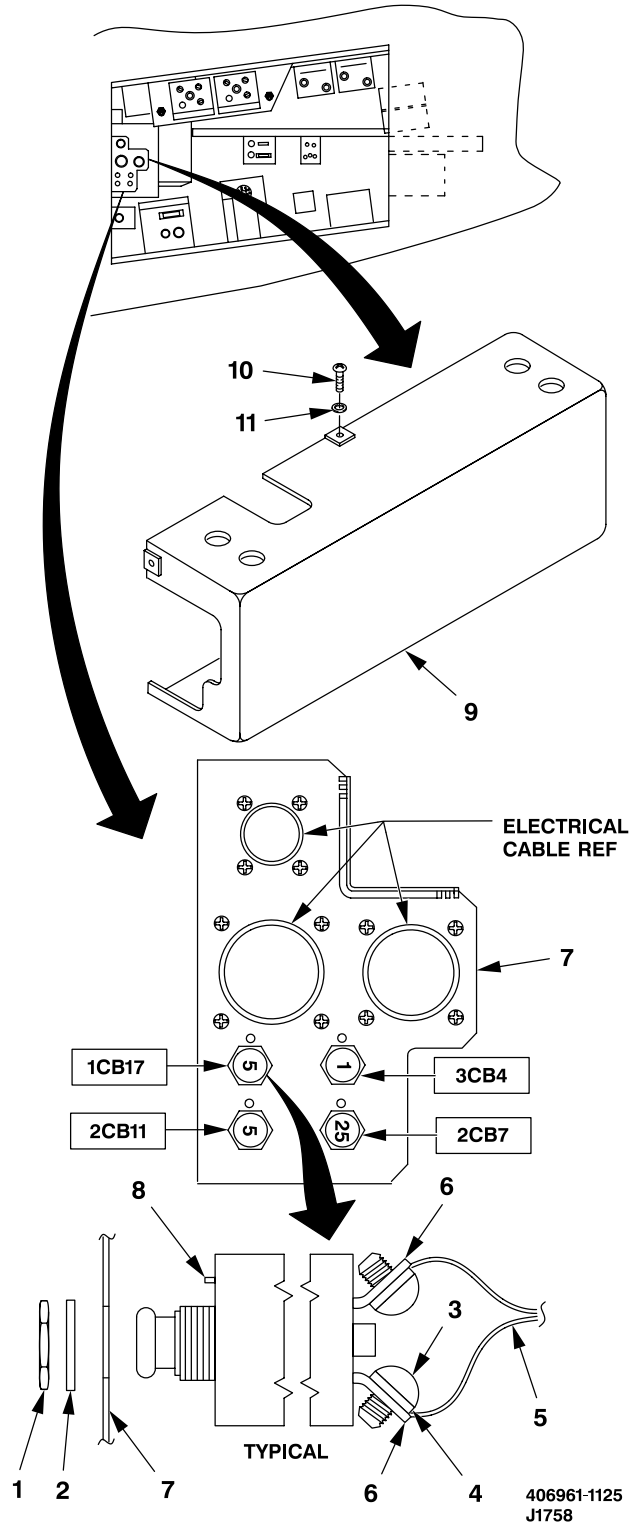
7. Position cover assembly (9) in place and align to mounting holes.

8. Install six screws (10) with washers (11).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



END OF TASK

9-6-34. REMOTE CONTROL CIRCUIT BREAKER — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

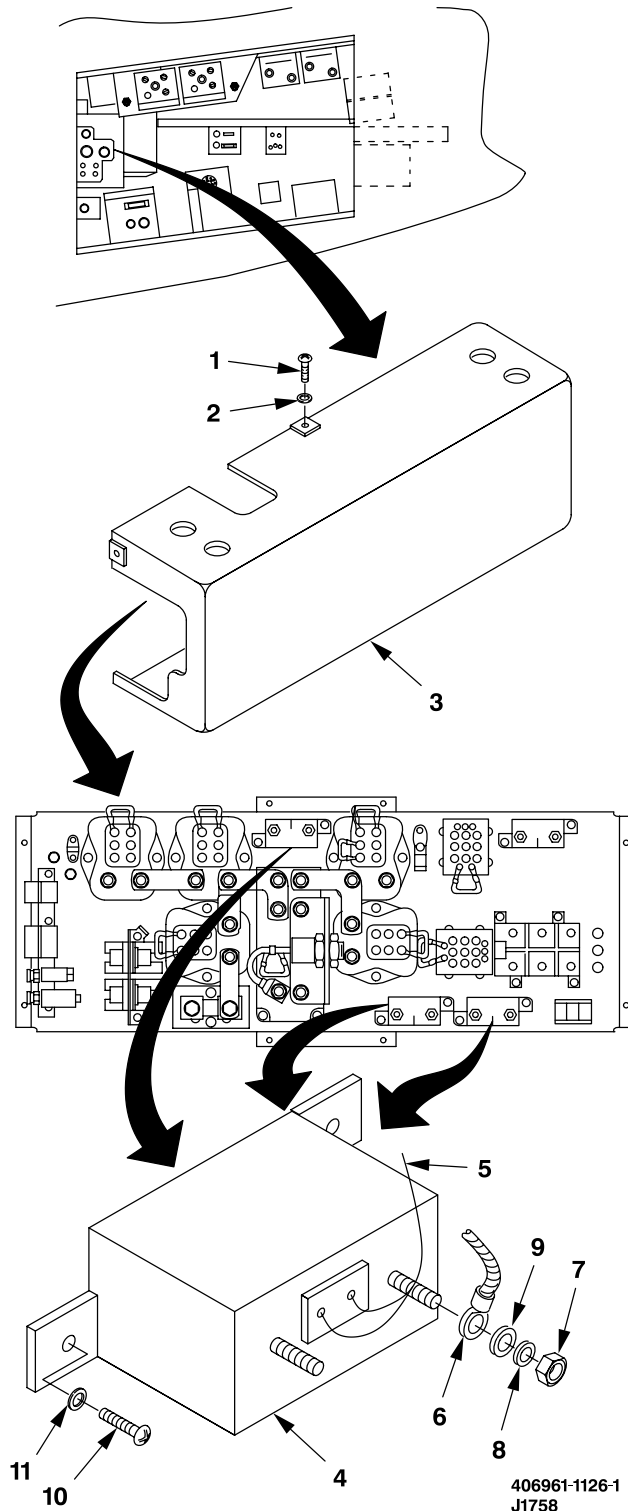
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)
Electrical Connector Kit (B80)

GO TO NEXT PAGE

9-6-34. REMOTE CONTROL CIRCUIT BREAKER — REMOVAL (CONT)

1. Open aft electrical compartment door to gain access to RCCB 2CB1, 2CB3, 3CB1 or 3429CB3.
2. Remove six screws (1) and washers (2).
3. Remove cover assembly (3).
4. Remove 2CB1, 3CB1, or 3429CB3 (4) as follows:
 - a. Tag and identify wires (5).
 - b. Remove tagged wires (5) using connector kit (B80).
 - c. Tag and identify terminal lug (6).
 - d. Remove two nuts (7), lockwashers (8), and washers (9).
 - e. Remove tagged terminal lug (6).
 - f. Remove two screws (10) and washers (11).
 - g. Remove RCCB (4).



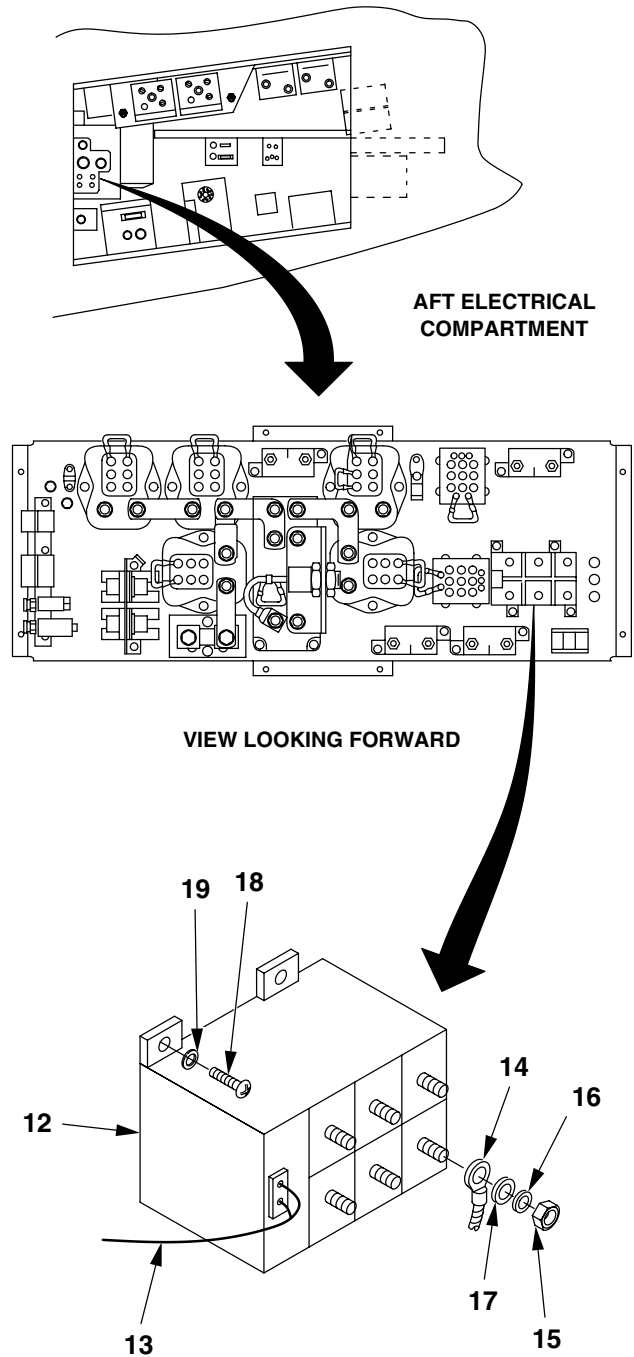
GO TO NEXT PAGE

9-6-34. REMOTE CONTROL CIRCUIT BREAKER — REMOVAL (CONT)

5. Remove 2CB3 (12) as follows:

- a. Tag and identify two wires (13).
- b. Remove two wires (13) using connector kit (B80).
- c. Tag and identify terminal lugs (14).
- d. Remove six nuts (15), lockwashers (16), and washers (17).
- e. Remove tagged terminal lugs (14).
- f. Remove four screws (18) and washers (19).
- g. Remove RCCB 2CB3 (12).

6. Close aft electrical compartment door.



406961-1126-2
J0648

END OF TASK

9-6-35. REMOTE CONTROL CIRCUIT BREAKER — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Connector Kit (B80)
Electrical Repairer Tool Kit (B177)
Torque Wrench (B235)
Torque Wrench (B237)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-6-35. REMOTE CONTROL CIRCUIT BREAKER — INSTALLATION (CONT)

1. Open aft electrical compartment door to gain access to the RCCB mounting area for RCCB 2CB1, 2CB3, 3CB1 or 3429CB3.

2. Install RCCB (1) as follows:

a. Position RCCB (1) in place and align to mounting holes.

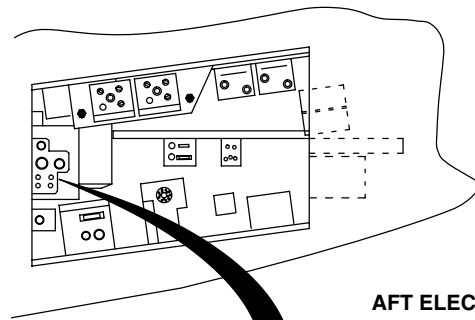
b. Support RCCB (1) and install two washers (2) and screws (3).

c. Install terminal lugs (4) in their proper position.

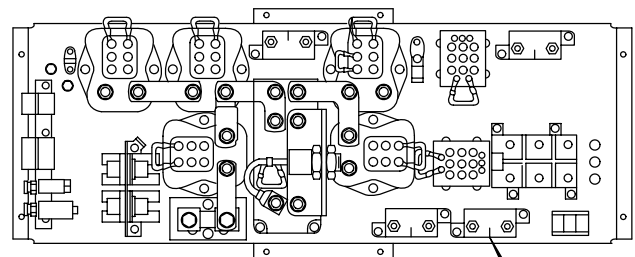
d. Install two washers (5), lockwashers (6), and nuts (7). Torque nuts **20 TO 25 INCH-POUNDS**.

e. Insert wires (8) into their proper connections using connector kit (B80).

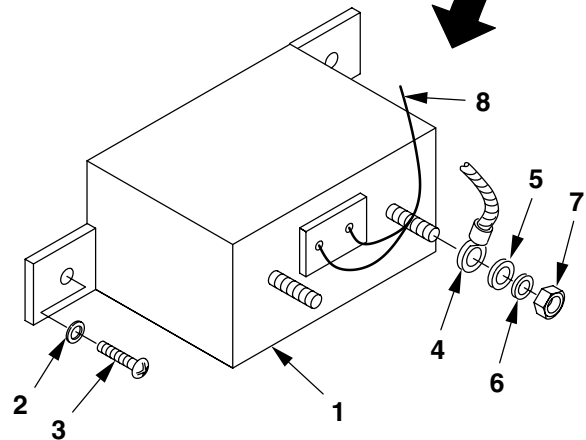
f. Remove identification tags from terminal lugs and wires.



AFT ELECTRICAL COMPARTMENT



VIEW LOOKING FORWARD

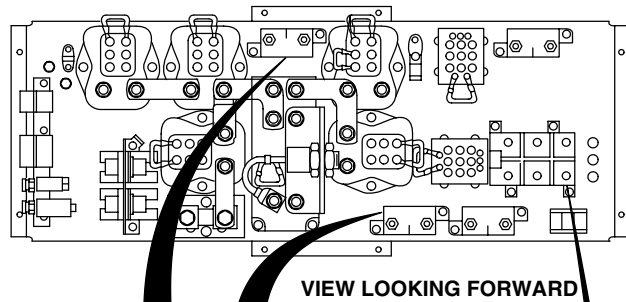
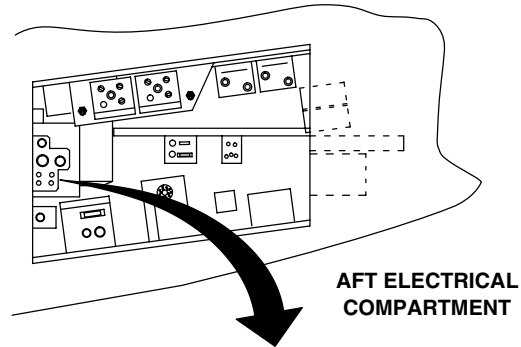
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J0648

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9-6-35. REMOTE CONTROL CIRCUIT BREAKER — INSTALLATION (CONT)

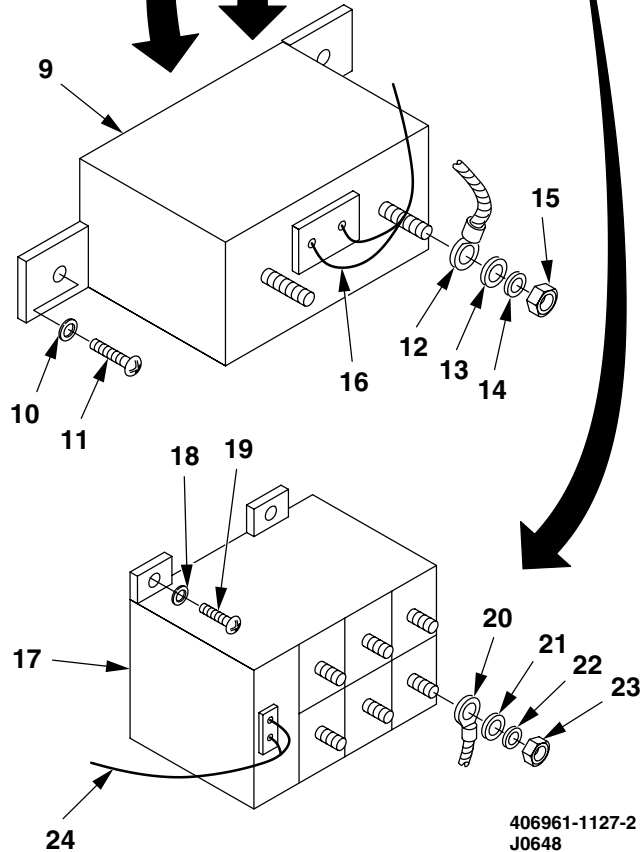
3. Install RCCB 3CB1 or 3429CB3 (9) as follows:

- a. Position RCCB (9) in place and align to mounting holes.
- b. Support RCCB (9) and install two washers (10) and screws (11).
- c. Install terminal lugs (12) in their proper position.
- d. Install two washers (13), lockwashers (14), and nuts (15). Torque nuts **45 TO 55 INCH-POUNDS**.
- e. Insert wires (16) into their proper connections using connector kit (B80).
- f. Remove identification tags from terminal lugs and wires.



4. Install RCCB 2CB3 (17) as follows:

- a. Position RCCB (17) in place and align to mounting holes.
- b. Support RCCB (17) and install four washers (18) and screws (19).
- c. Install terminal lugs (20) to their proper position.
- d. Install six washers (21), lockwashers (22), and nuts (23). Torque nuts **20 TO 25 INCH-POUNDS**.
- e. Insert two wires (24) into their proper connections using connector kit (B80).
- f. Remove identification tags from terminal lugs and wires.



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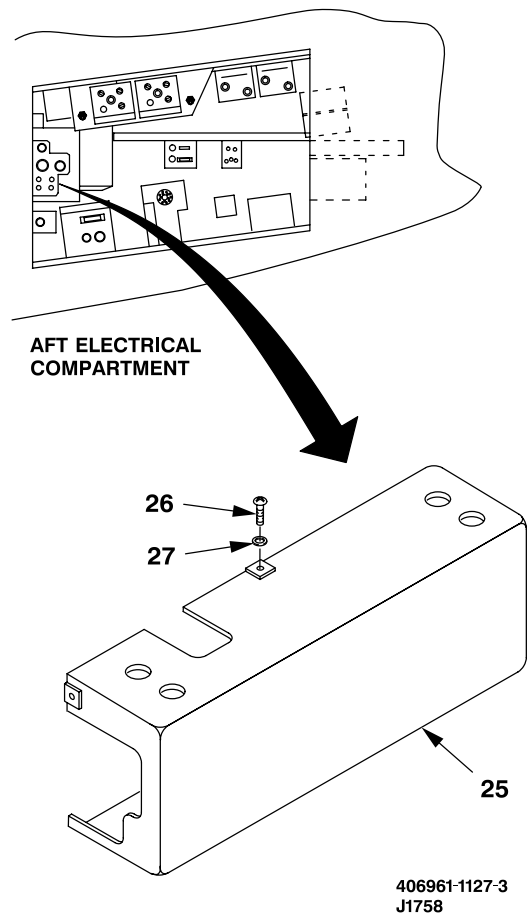
9-6-35. REMOTE CONTROL CIRCUIT BREAKER — INSTALLATION (CONT)

g. Position cover assembly (25) in place and align to mounting holes.

h. Support cover assembly (25) and install six screws (26) and washers (27).

INSPECT

5. Close aft electrical compartment door.



END OF TASK

9-6-36. CIRCUIT BREAKER (NOSE COMPARTMENT-TYPICAL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-36. CIRCUIT BREAKER (NOSE COMPARTMENT-TYPICAL) — REMOVAL (CONT)

1. Loosen two fasteners (1) and raise battery access door (2) to gain access to VOLTAGE MONITOR (1CB15) or 9TH CELL (2CB9) circuit breaker.

2. Remove nut (3) and lockwasher (4).

3. Remove circuit breaker (5) and keyway washer (6) from rear of panel (7) and pull it out as far as wiring will allow.

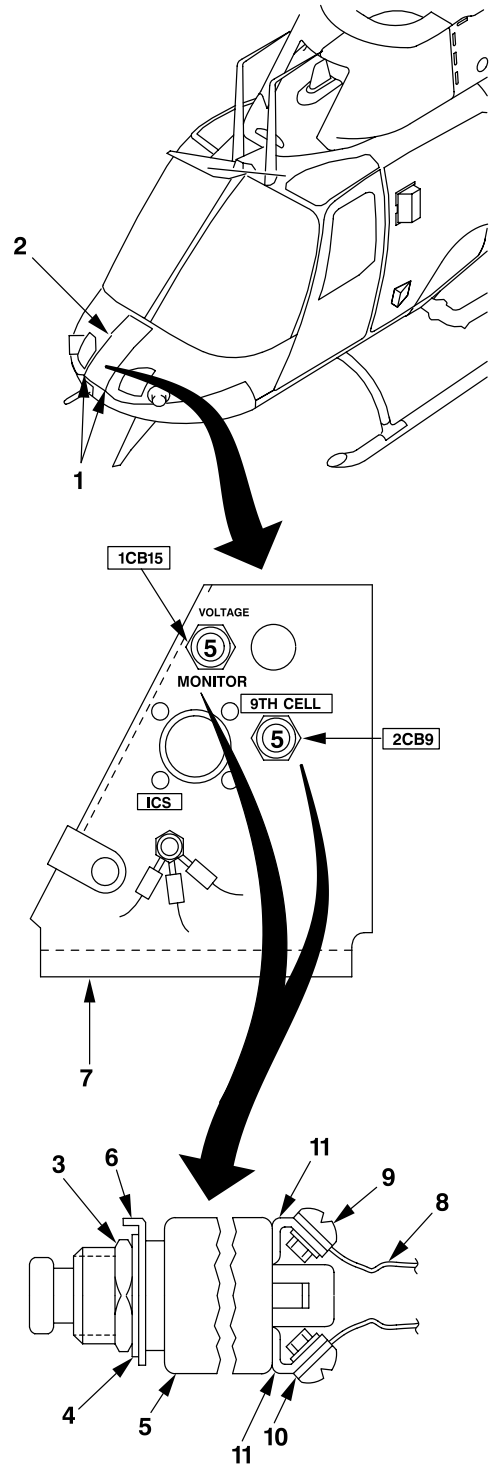
4. Identify and tag wires (8).

5. Remove two screws (9), lockwashers (10), and wires (8) from terminals (11).

6. Remove circuit breaker (5).

7. Lower battery access door (2).

8. Tighten two fasteners (1).



406961-1128
J1755

END OF TASK

9-6-37. CIRCUIT BREAKER (NOSE COMPARTMENT-TYPICAL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-37. CIRCUIT BREAKER (NOSE COMPARTMENT-TYPICAL) — INSTALLATION (CONT)

INSTALL

1. Loosen two fasteners (1) and raise battery access door (2) to gain access to VOLTAGE MONITOR (1CB15) or 9TH CELL (2CB9) circuit breaker.

2. Remove nut (3), lockwasher (4), two screws (5), and lockwashers (6) from serviceable circuit breaker (7).

3. Connect wires (8) to correct terminals (9) by installing two lockwashers (6) and screws (5).

4. Remove identification tags from wires.

5. Insert serviceable circuit breaker (7) and keyway washer (10) from rear of panel (11) into mounting hole.

6. Align keyway washer (10) to receiving hole and install lockwasher (4) and nut (3).

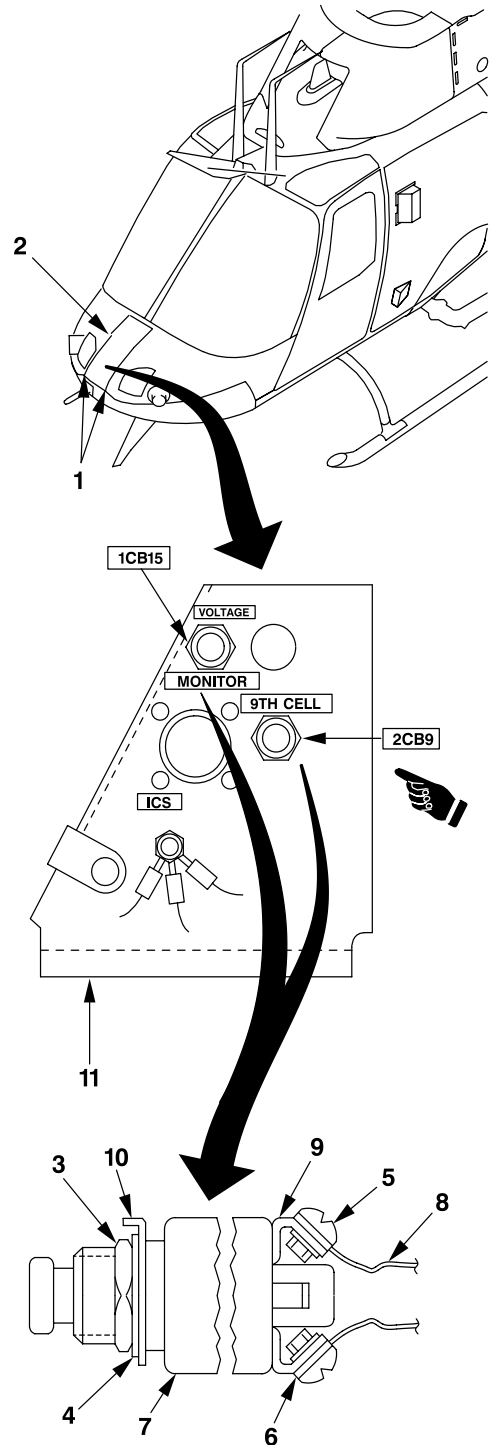
7. Lower battery access door (2).

8. Tighten two fasteners (1).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1129
J1758

END OF TASK

9-6-38. DIODE (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

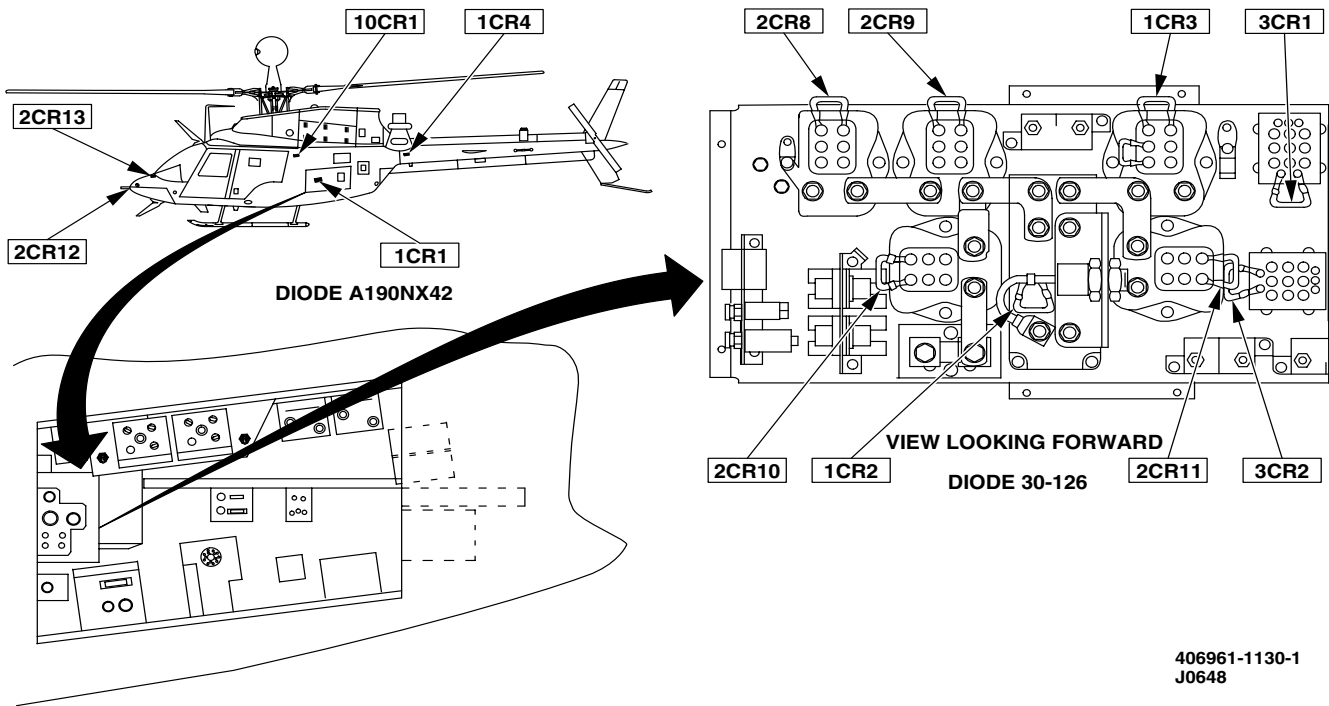
References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)
Electrical Connector Kit (B80)

Personnel Required:
68F Aircraft Electrician
67S Scout Helicopter Technical Inspector (TI)



406961-1130-1
J0648

Diodes

GO TO NEXT PAGE

9-6-38. DIODE (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

This task covers the replacement of 30-037, 30-126, 70H60A, and A190NX42 diodes. Refer to Appendix F for specific location and access.

REMOVE

1. Type 30-037 diode (pin terminals).
 - a. Locate and gain access to applicable diode mounting area.
 - b. Pull pins (1) out of module sockets using connector kit (B80).

INSTALL

NOTE

Refer to applicable wiring diagram for correct orientation of diode.

2. Push correct pins (1) into correct module sockets using connector kit (B80).

INSPECT

REMOVE

3. Type 30-037 diode (lug terminals).
 - a. Locate and access diode mounting area.
 - b. Remove two nuts (2) and washers (3).
 - c. Remove diode.

INSTALL

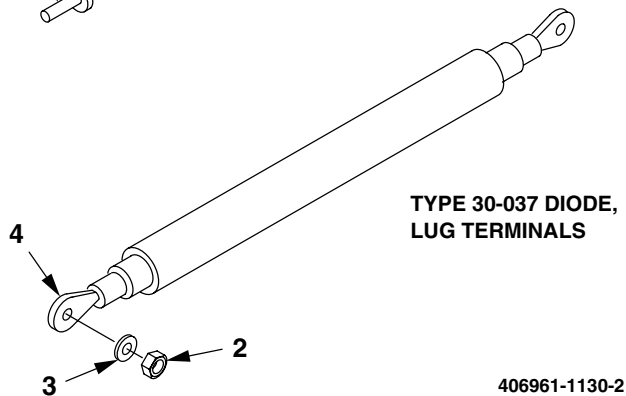
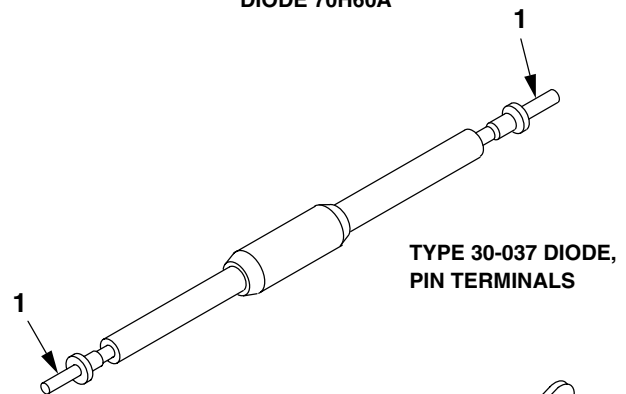
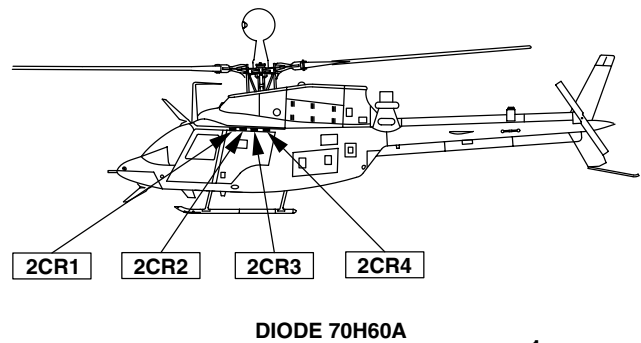
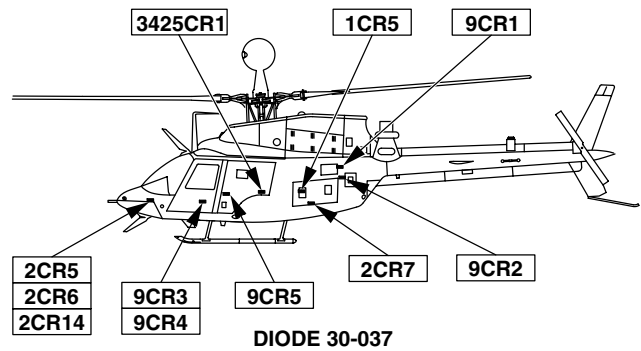
NOTE

Refer to applicable wiring diagram for correct orientation of diode.

4. Install correct lug terminals (4) on correct mounting studs. Install two washers (3) and nuts (2).

INSPECT

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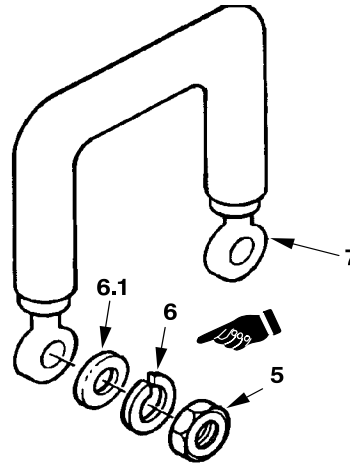


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J0648

9-6-38. DIODE (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

5. Type 30-126 diode.
 - a. Locate and access diode mounting area.
 - b. Remove two nuts (5), lockwashers (6), and washers (6.1).
 - c. Remove diode.



TYPE 30-126 DIODE

INSTALL

NOTE

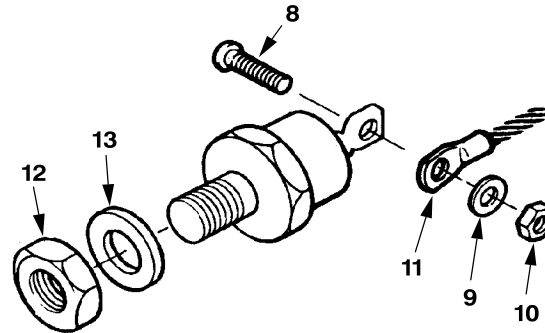
Refer to applicable wiring diagram for correct orientation of diode.

6. Install correct terminals (7) on correct mounting studs. Install two washers (6.1), lockwashers (6), and nuts (5).

INSPECT

REMOVE

7. Type 70H60A diode.
 - a. Locate and access diode mounting area.
 - b. Remove screw (8), washer (9), and nut (10).
 - c. Remove terminal lug (11).
 - d. Remove nut (12) and washer (13).
 - e. Remove diode.



TYPE 70H60A DIODE

406961-1130-3
J2791

INSTALL

8. Install diode in mount.
 - a. Install washer (13) and nut (12).
 - b. Install terminal lug (11), screw (8), washer (9), and nut (10).

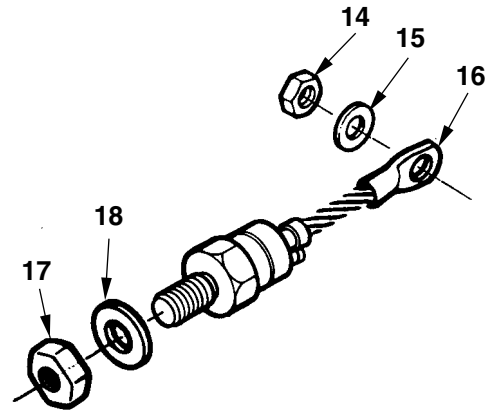
INSPECT

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 9-6-38. DIODE (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

9. Type A 190NX42 diode.
 - a. Locate and access diode mounting area.
 - b. Remove nut (14) and washer (15).
 - c. Remove lug (16) from terminal.
 - d. Remove nut (17) and washer (18).
 - e. Remove diode.



TYPE A 190NX42 DIODE

INSTALL

10. Install diode.
 - a. Install washer (18) and nut (17).
 - b. Install lug (16) on correct terminal.
 - c. Install washer (15) and nut (14).

406961-1130-4
H0233INSPECT

FOLLOW-ON MAINTENANCE

Close access door/panel(s) as applicable.

Perform operational check (TM 1-1520-248-T).

END OF TASK

9-6-39. DIMMING CONTROL (CONSOLE OR INSTRUMENT) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Pilot Collective Stick Cover Removed (Task 11-2-3)

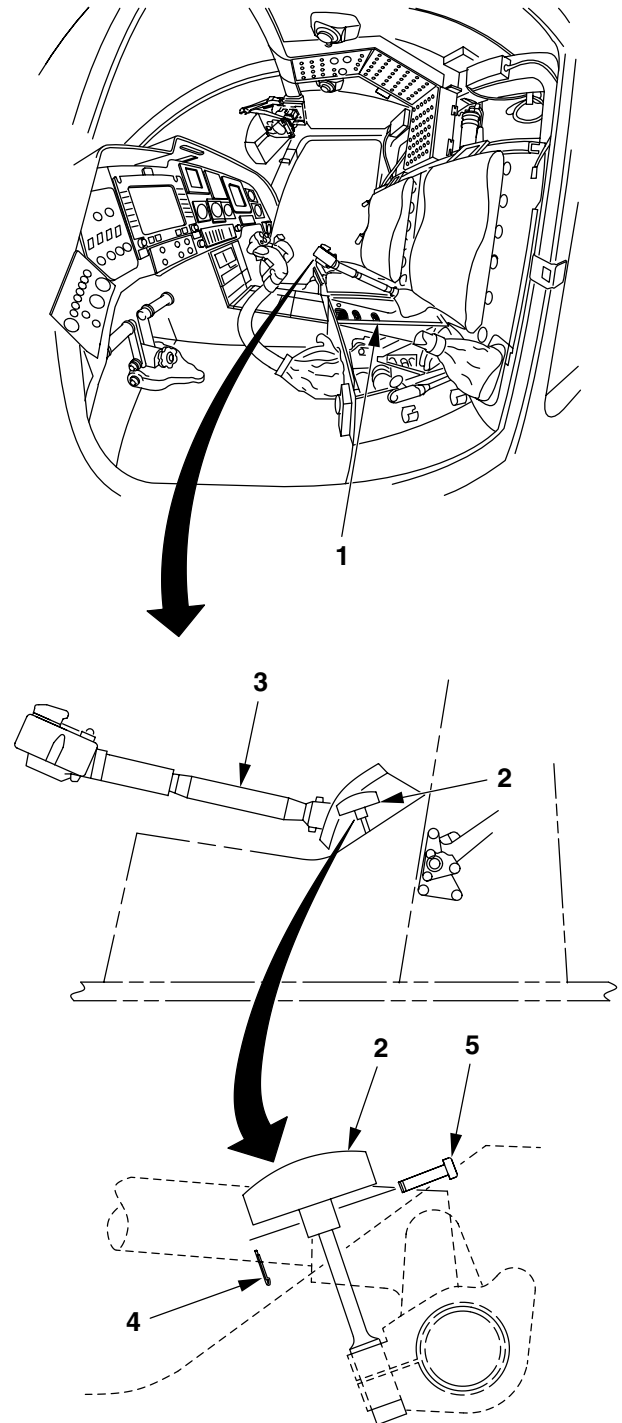
Material:
Solder (D195)

GO TO NEXT PAGE

9-6-39. DIMMING CONTROL (CONSOLE OR INSTRUMENT) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open left crew door to gain access to selected dimming control (1).
2. Rotate knob (2) to loosen collective friction.
3. Raise collective stick (3) as high as possible.
4. Rotate knob (2) to tighten collective friction.
5. Remove cotter pin (4), straight pin (5), and knob (2).

406961-1166-1
J0648

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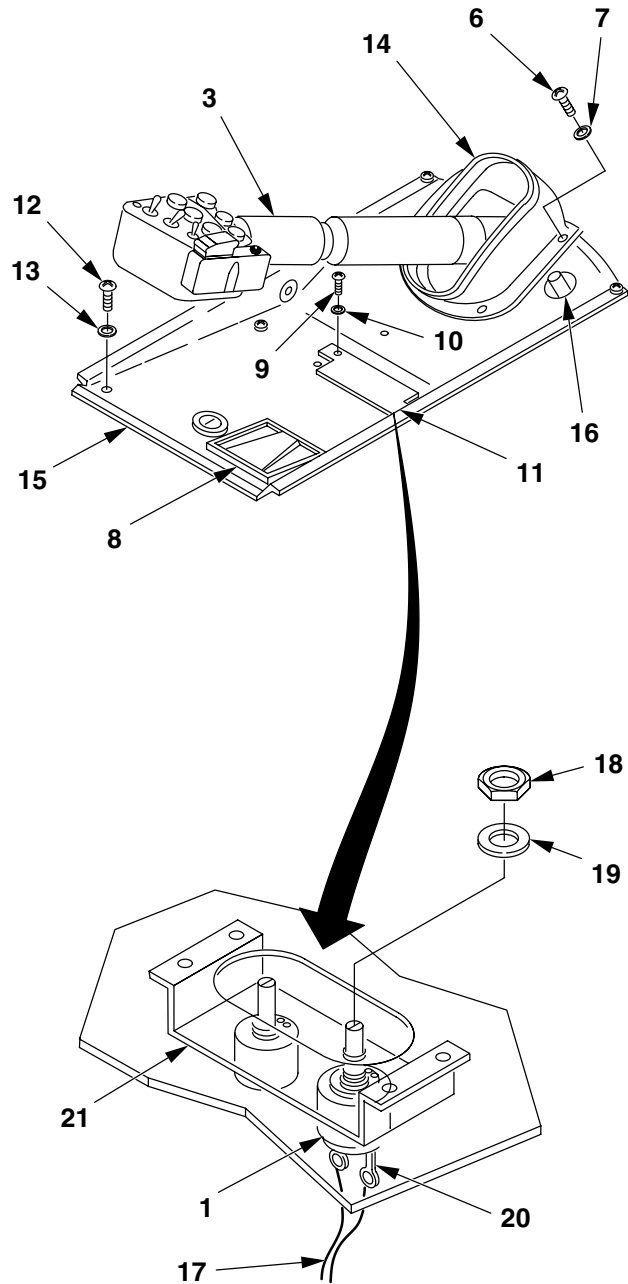
9-6-39. DIMMING CONTROL (CONSOLE OR INSTRUMENT) — REMOVAL/INSTALLATION (CONT)

6. Remove five screws (6) and washers (7).
7. Lift up ashtray (8) and remove (If installed).
8. Remove two screws (9) and washers (10).
9. Remove cover (11).
10. Remove seven screws (12) and washers (13).
11. Slide cover (14) forward over collective stick (3) until it is out of the way.

CAUTION

Care shall be taken not to break wires or connections.

12. Lift rear of cover (15) over shaft (16) and pull aft approximately **0.5 inch**.
13. Rotate cover (15) to gain access to wires (17).
14. Brace or support cover (15).
15. Remove nut (18) and lockwasher (19).
16. Tag and identify two wires (17).
17. Desolder two tagged wires (17) from terminals (20) using heat gun (nitrogen) (B60).
18. Remove selected dimming control (1) from bottom of support (21).



406961-1166-2
J0648

GO TO NEXT PAGE

9-6-39. DIMMING CONTROL (CONSOLE OR INSTRUMENT) — REMOVAL/INSTALLATION (CONT)

INSTALL

19. Solder correct wires (17) to mating terminals (20) using solder (D195) with heat gun (nitrogen) (B60).

20. Remove identification tags from wires.

21. Position selected dimming control (1) through bottom of support (21) and align key (22) to mating hole.

22. Install lockwasher (19) and nut (18).

23. Balance dimming control (1) (Task 9-6-40).

24. Support cover (15) and remove support (21).

25. Insert shaft (16) through rear of cover (15).

26. Position cover (15) in place and align to mounting holes.

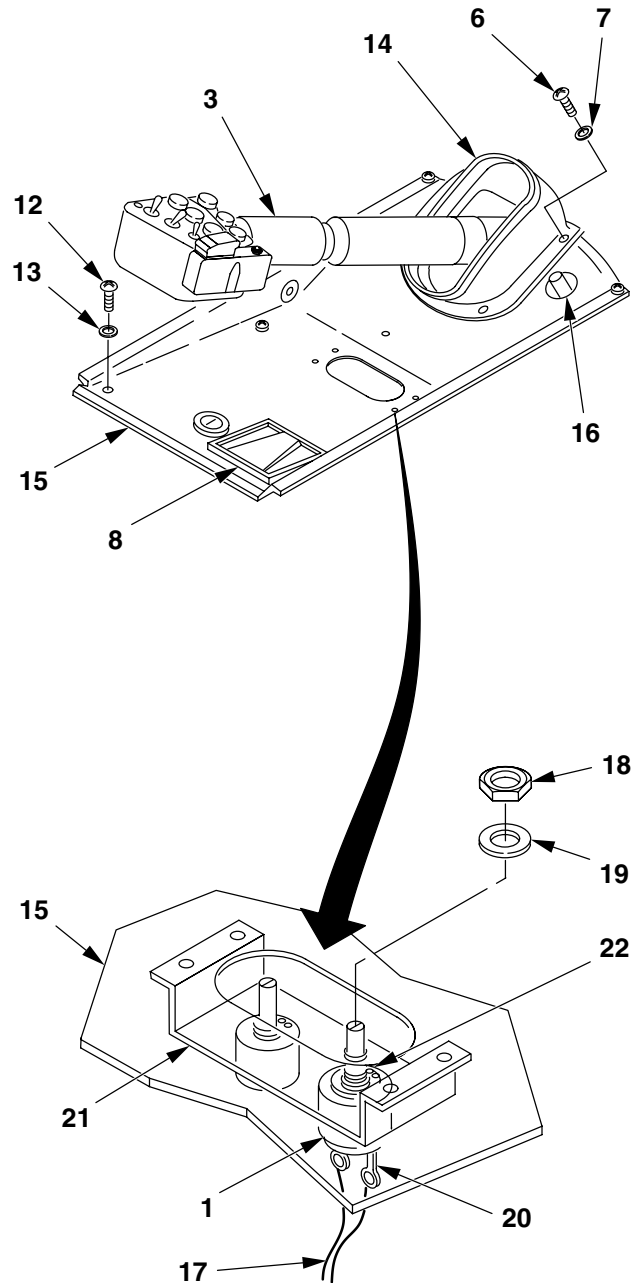
27. Install seven washers (13) and screws (12).

28. Install ashtray (8) (If previously removed).

29. Slide cover (14) aft on collective stick (3).

30. Position cover (14) in place and align to mounting holes.

31. Install five washers (7) and screws (6).

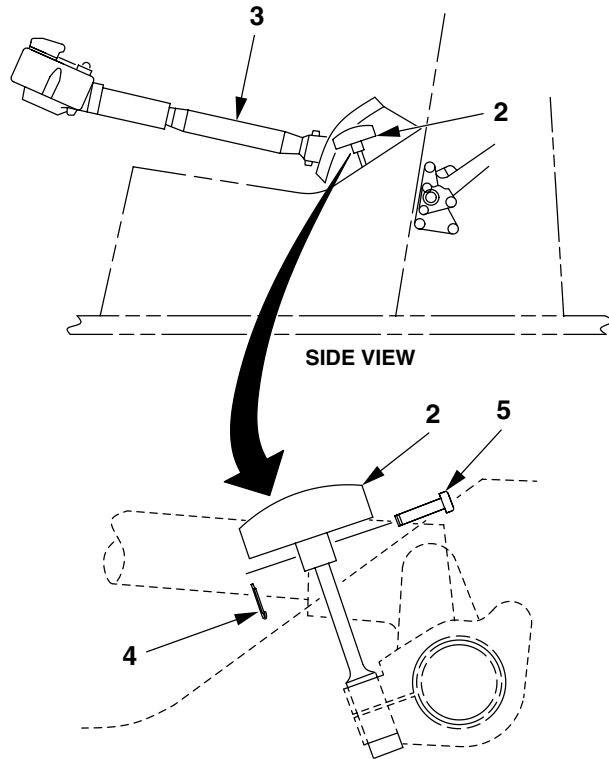


406961-1166-3
J0648

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9-6-39. DIMMING CONTROL (CONSOLE OR INSTRUMENT) — REMOVAL/INSTALLATION (CONT)

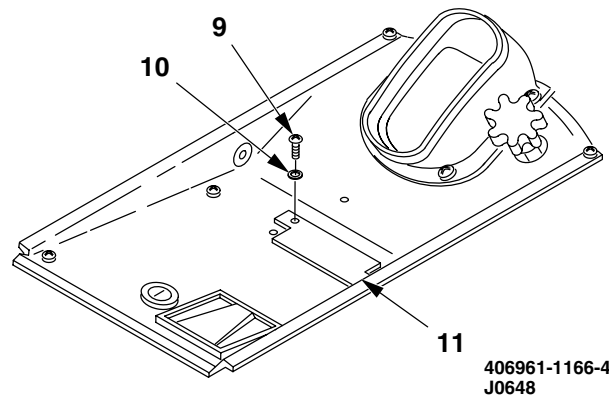
32. Position knob (2) in place and align to mounting hole.
33. Install straight pin (5) and cotter pin (4) through pin (5).
34. Position cover (11) in place and align to mounting holes.
35. Install two washers (10) and screws (9).
36. Loosen knob (2) and lower collective stick (3).
37. Tighten knob (2).



INSPECT

FOLLOW-ON MAINTENANCE

- Perform operational check (TM 1-1520-248-T).
 Install pilot collective stick boot (Task 11-2-3).



406961-1166-4
 J0648

END OF TASK

9-6-40. DIMMING CONTROL (CONSOLE OR INSTRUMENT) — BALANCING

This task covers: Balancing Dimming Control (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Integrally Lit Panel (SCAS Control Panel) Removed (Task 9-6-24)
Integrally Lit Panel (Pilot MFD Auxiliary Control Panel) Removed (Task 9-6-71)

Tools:
Digital Multimeter (B98)
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

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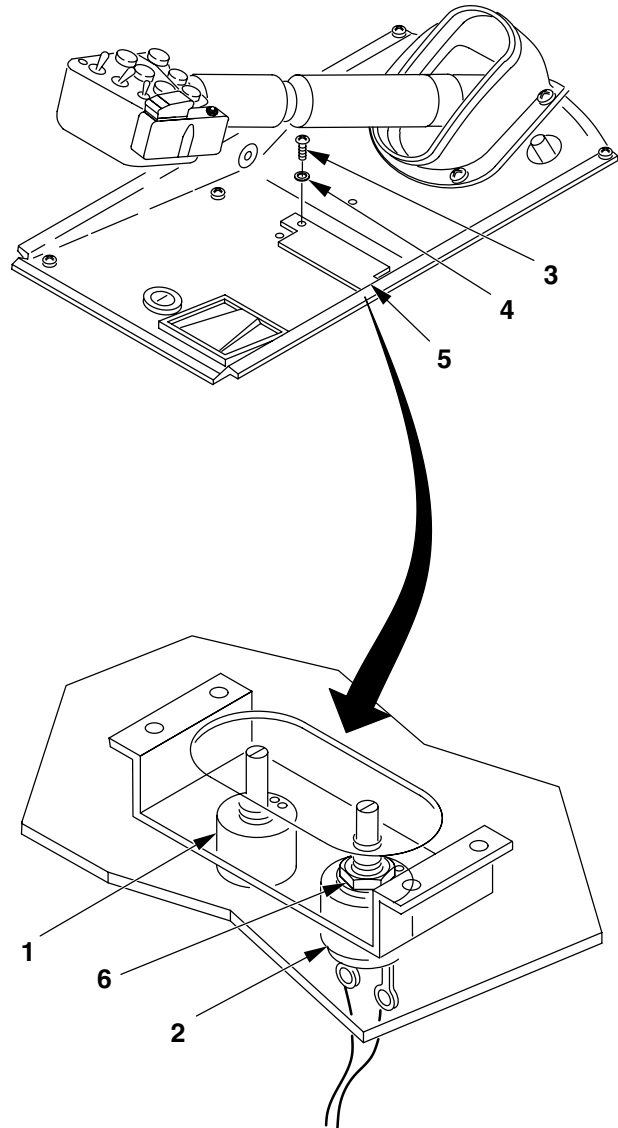
9-6-40. DIMMING CONTROL (CONSOLE OR INSTRUMENT) — BALANCING (CONT)

BALANCE

1. Gain access to dimming control (1) or (2) by removing two screws (3), washers (4), and cover plate (5).

2. Loosen locknut (6) on shaft of dimming control (1) or (2) as applicable.

3. Turn on external ac electrical power (Task 1-6-6).



406961-1131-1
J0648

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9-6-40. DIMMING CONTROL (CONSOLE OR INSTRUMENT) — BALANCING (CONT)

NOTE

For console dimming control proceed to step 6. For instrument dimming control continue with step 4.

4. Turn INST LT control (7) clockwise from OFF to BRT on forward overhead console panel (8).



Electric Shock

5. Rotate shaft of dimming control (1) to obtain output voltage of 68.5 Vac measured between lighting circuit pin (9) for pilot MFD auxiliary control panel (10) and aircraft ground using digital multimeter (B98) and proceed to step 8.

6. Turn CONSOLE LT control (11) clockwise from OFF to BRT on forward overhead console panel (8).



Electric Shock

7. Rotate shaft of dimming control (2) to obtain output voltage of 54.1 Vac measured between lighting circuit pin (12) on SCAS control panel (13) and aircraft ground using digital multimeter (B98).

8. Tighten locknut (6) of shaft of dimming control (1) or (2) as applicable.

9. Turn off external ac electrical power (Task 1-6-6).

10. Install cover panel (5); secure with two washers (4) and screws (3).

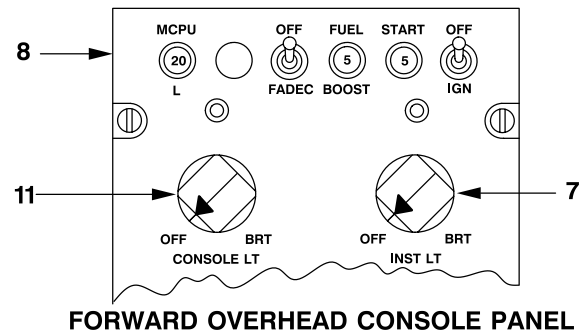
INSPECT

FOLLOW-ON MAINTENANCE

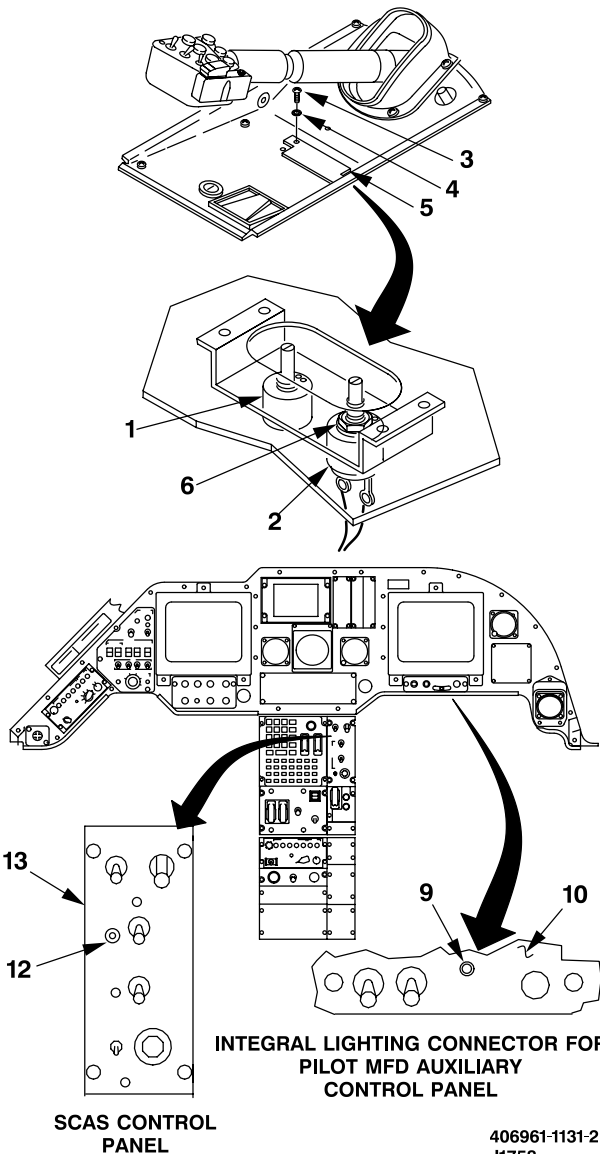
Install integrally lit panel (SCAS control panel) (Task 9-6-25).

Install integrally lit panel (pilot MFD auxiliary control panel) (Task 9-6-72).

Perform operational check (TM 1-1520-248-T) as applicable.



FORWARD OVERHEAD CONSOLE PANEL



SCAS CONTROL PANEL

INTEGRAL LIGHTING CONNECTOR FOR PILOT MFD AUXILIARY CONTROL PANEL

406961-1131-2
J1758

END OF TASK

9-6-41. INTEGRALLY LIT PANEL (PILOT COLLECTIVE STICK) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-41. INTEGRALLY LIT PANEL (PILOT COLLECTIVE STICK) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open right crew door to gain access to pilot collective stick (1).
2. Remove three screws (2).
3. Remove integrally lit panel (3).

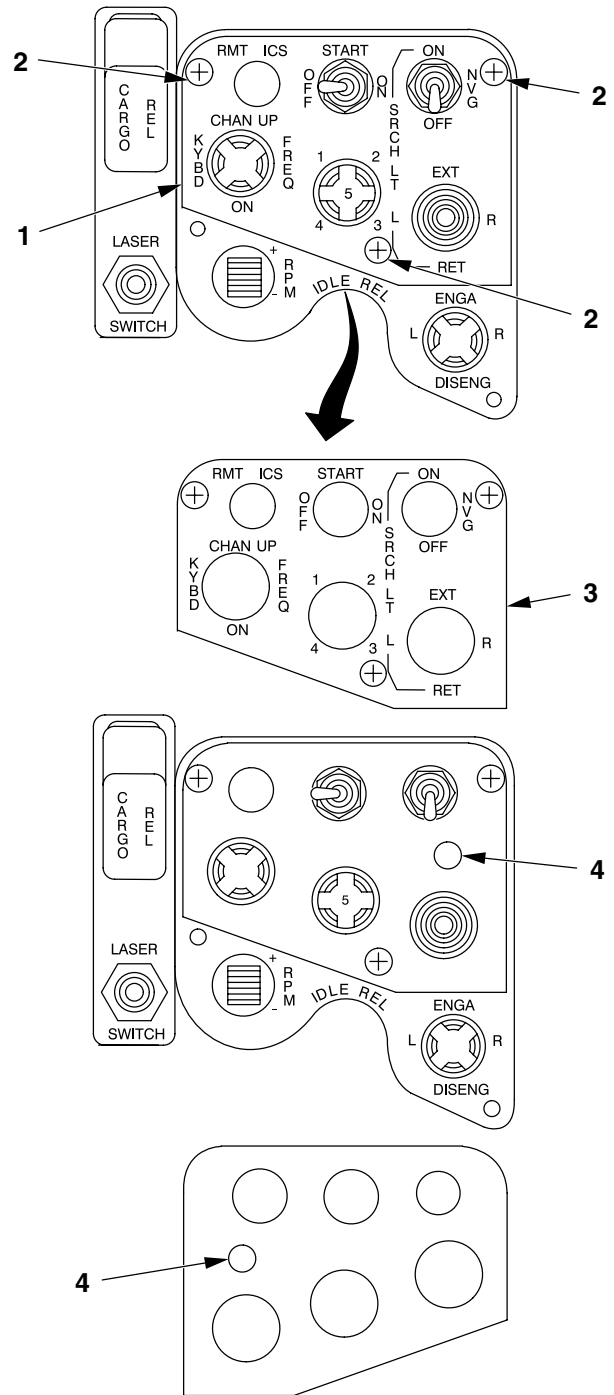
INSTALL

4. Inspect electrical connectors (4) for bent or missing pins.
5. Ensure electrical connectors (4) are properly mated.
6. Install integrally lit panel (3) on collective stick (1) and align integrally lit panel (3) to mounting holes.
7. Install three screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



COLLECTIVE STICK CONTROL BOX
TYPICAL - OH-58D(R) SHOWN

406961-1132
J0648

END OF TASK

9-6-42. SWITCH (PILOT COLLECTIVE STICK-TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

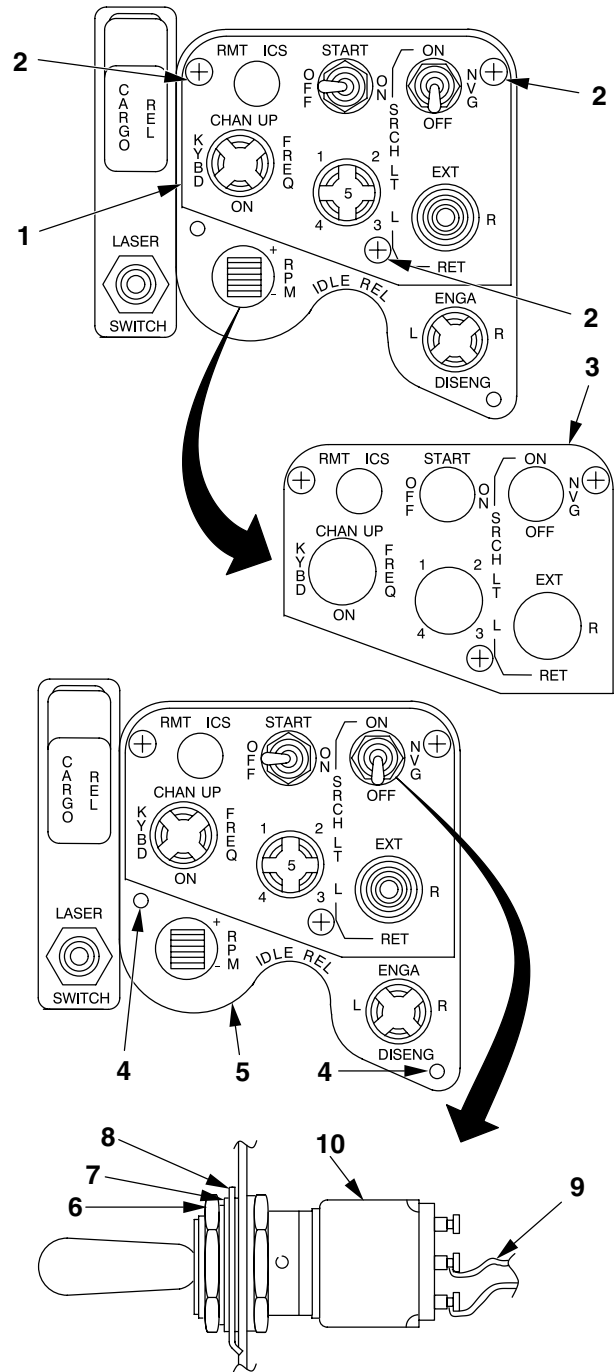
Material:
Solder (D195)

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9-6-42. SWITCH (PILOT COLLECTIVE STICK-TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open right crew door to gain access to pilot collective stick (1).
2. Remove three screws (2).
3. Remove integrally lit panel (3).
4. Remove two screws (4).
5. Lift plate (5) out of collective stick as far as wiring will permit.
6. Remove nut (6), lockwasher (7), and key washer (8).
7. Tag and identify wires (9).
8. Desolder wires (9) with heat gun (nitrogen) (B60).
9. Remove switch (10).



COLLECTIVE STICK CONTROL BOX
TYPICAL - OH-58D(R) SHOWN

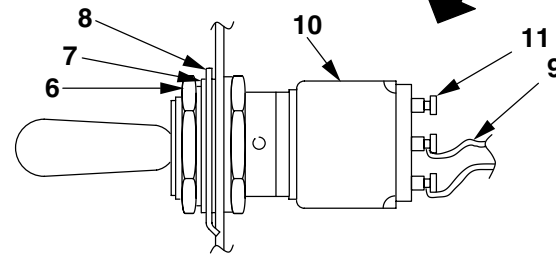
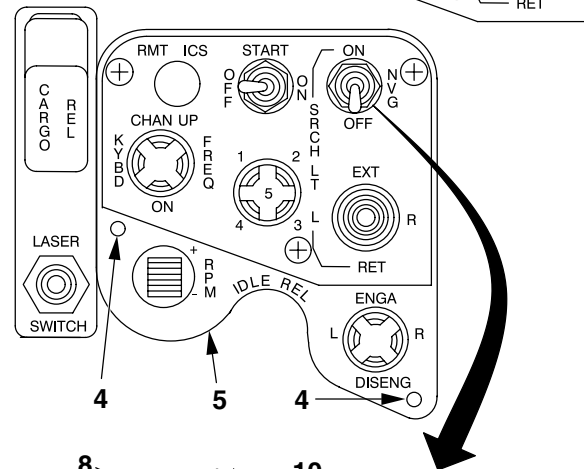
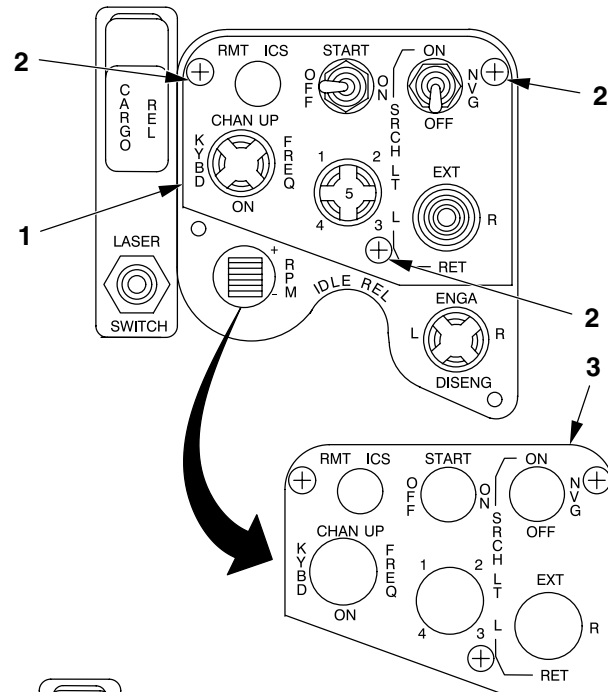
406961-1133-1
J2200

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9-6-42. SWITCH (PILOT COLLECTIVE STICK-TYPICAL) — REMOVAL/INSTALLATION (CONT)

INSTALL

10. Remove nut (6), lockwasher (7), and key washer (8) from serviceable switch (10).
11. Insert switch into mounting hole from rear of plate (5).
12. Install key washer (8) on switch (10) and align to mounting hole.
13. Install lockwasher (7) and nut (6).
14. Solder wires (9) to correct terminals (11) using solder (D195) with heat gun (nitrogen) (B60).
15. Remove wire identification tags.
16. Lower plate (5) into collective stick and align to mounting holes.
17. Install two screws (4).
18. Ensure electrical connectors are properly mated.
19. Install integrally lit panel (3) on collective stick (1) and align integrally lit panel (3) to mounting holes.
20. Install three screws (2).



COLLECTIVE STICK CONTROL BOX
TYPICAL - OH-58D(R) SHOWN

406961-1133-2
J2200

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

END OF TASK

**9-6-43. CARGO RELEASE SWITCH (PILOT COLLECTIVE STICK CONTROL PANEL) — REMOVAL/
INSTALLATION**

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

Tools:
Electrical Repairer Tool Kit (B177)

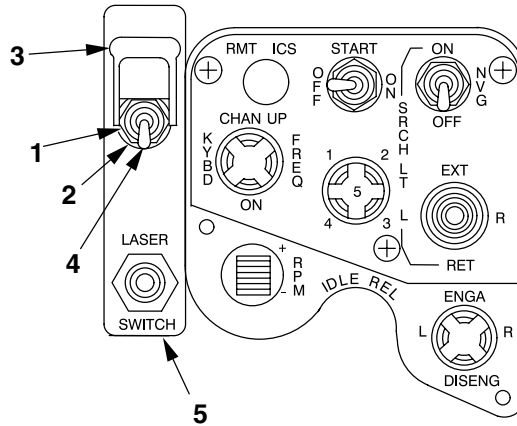
Personnel Required:
68F Aircraft Electrician
67S Scout Helicopter Technical Inspector (TI)

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9-6-43. CARGO RELEASE SWITCH (PILOT COLLECTIVE STICK CONTROL PANEL) — REMOVAL/INSTALLATION (CONT)

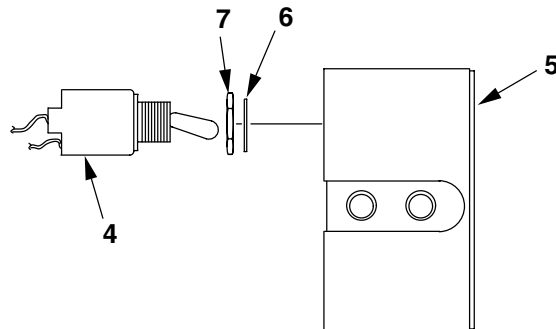
REMOVE

1. Remove nut (1), washer (2), and switch guard (3) from cargo release switch (4).
2. Remove cargo release switch (4) from switch support (5).
3. Remove keywasher (6) and jamnut (7) from cargo release switch (4).
4. Tag wires on cargo release switch (4) and disconnect wire harness.



INSTALL

5. Connect wire harness to cargo release switch (4) and remove tags.
6. Install jamnut (7) and keywasher (6) on cargo release switch (4).
7. Position cargo release switch (4) onto switch support (5).
8. Install switch guard (3), washer (2), and nut (1) on cargo release switch (4).



INSPECT

FOLLOW-ON MAINTENANCE

Perform electrical operations check (TM 1-1520-248-T).

406706-26
J2878

END OF TASK

9-6-44. HEATER OVERHEAT SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)
Electrical Connector Kit (B80)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-44. HEATER OVERHEAT SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open aft electrical compartment door to gain access to heater overhear switch (1).
2. Tag and identify wires (3).
3. Cut wires (2) at point three (3).
4. Remove heater overhear switch (1).

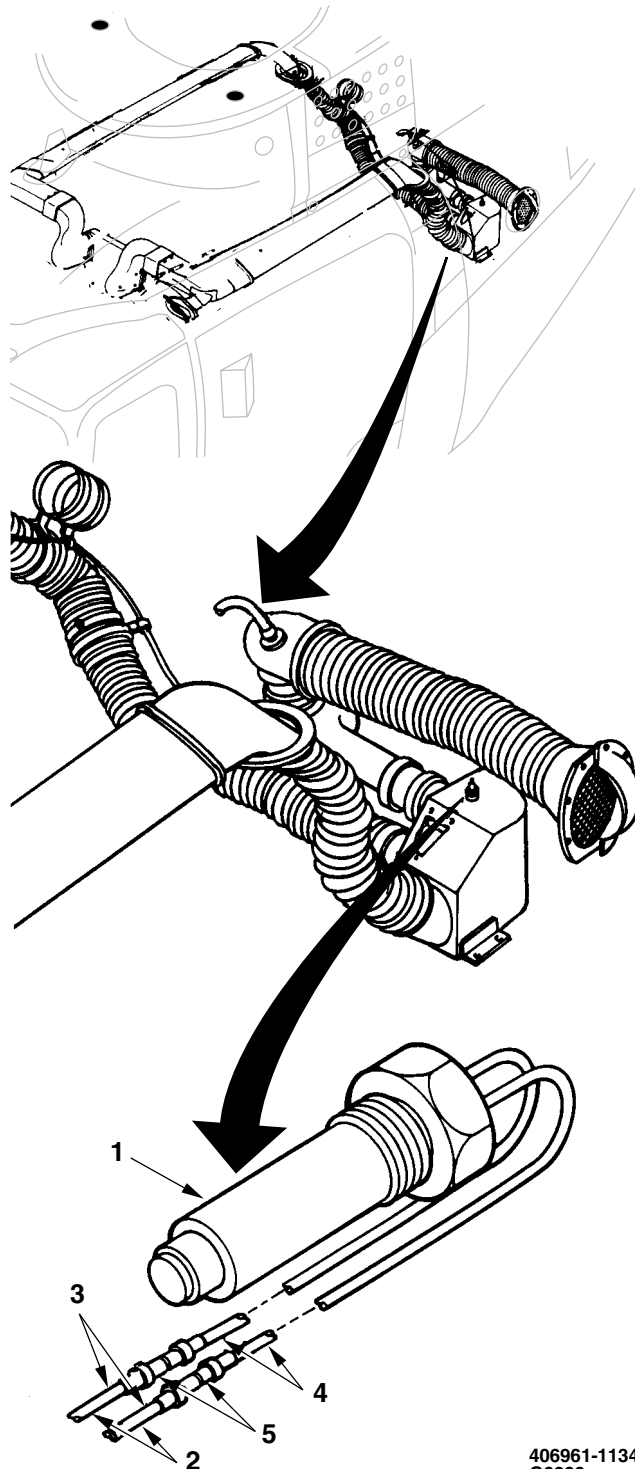
INSTALL

5. Install heater overhear switch (1).
6. Strip ends of wires (2 and 4).
7. Using electrical connector kit (B80), install splices (5) on correct ends of wires (2 and 4).
8. Remove identification tags from wires.

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1134
G6299

END OF TASK

9-6-45. RELAY (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:

Electrical Repairer Tool Kit (B177)
Torque Wrench (B235)
Torque Wrench (B238)

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:

TM 1-1520-248-T

Equipment Condition:

Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-6-45. RELAY (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

This task covers the replacement of 110-146-1, M6106/19-017, 110-128-1, MS27401-16, 406-075-846, M6101-9-002, and 214-175-132 relays. Refer to Appendix F for specific location and access.

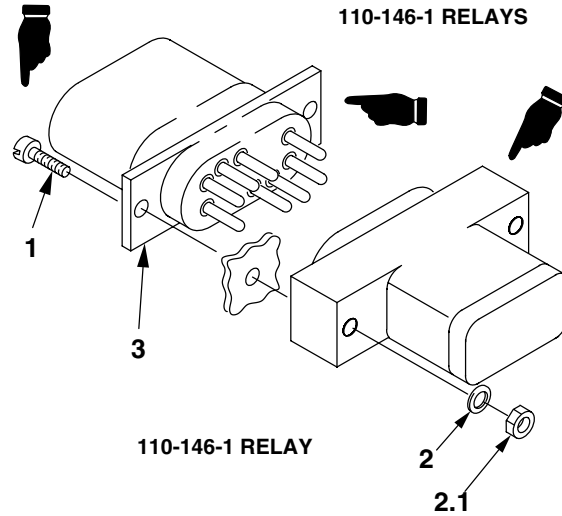
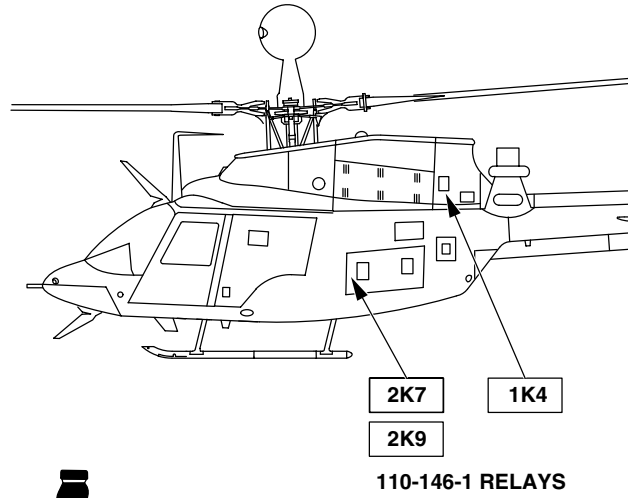
REMOVE

1. 110-146-1 Relay.
 - a. Locate and access relay mounting area.
 - b. Remove two screws (1), washers (2), and nuts (2.1).
 - c. Remove relay (3).

INSTALL

2. 110-146-1 Relay
 - a. Position relay (3) in place and align to mounting holes.
 - b. Install two nuts (2.1), washers (2) and screws (1).

INSPECT



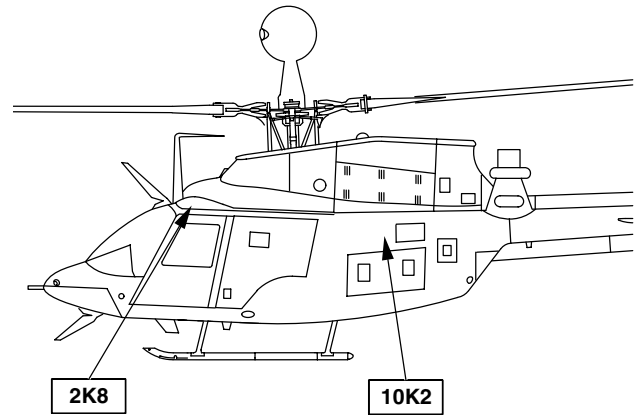
406961-1135-1
J0648

GO TO NEXT PAGE

9-6-45. RELAY (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

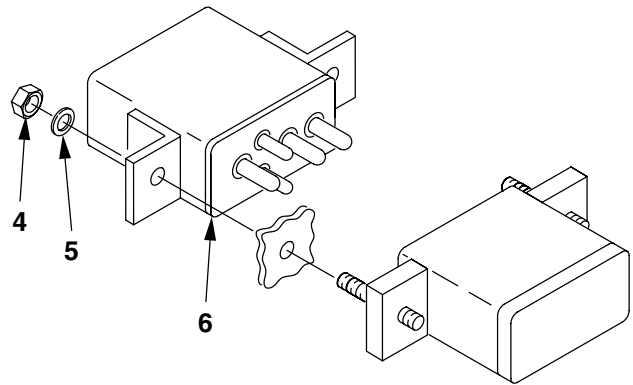
3. M6106/19-017 Relay.
 - a. Locate and access relay mounting area.
 - b. Remove two nuts (4) and washers (5).
 - c. Remove relay (6).



M6106/19-017 RELAYS

INSTALL

4. M6106/19-017 Relay
 - a. Position relay (6) in place and align to mounting holes.
 - b. Install two washers (5) and nuts (4).



M6106/19-017 RELAY

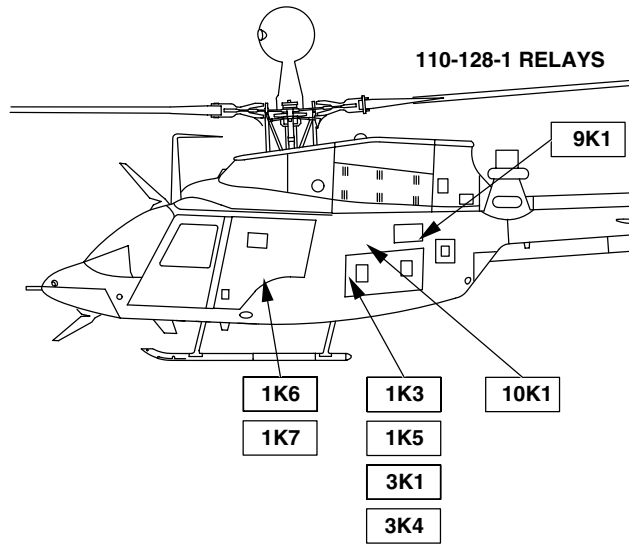
406961-1135-2
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9-6-45. RELAY (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

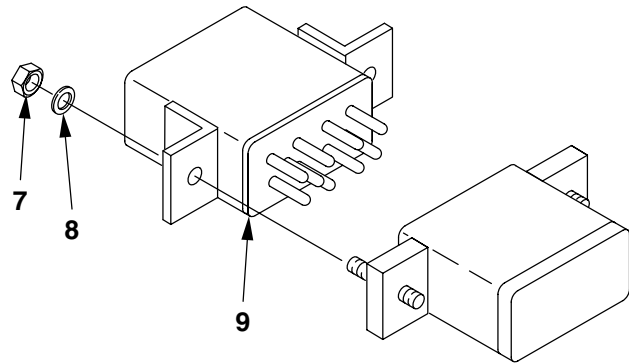
5. 110-128-1 or MS27401-16 Relay.
 - a. Locate and access relay mounting area.
 - b. Remove two nuts (7) and washers (8).
 - c. Remove relay (9).



INSTALL

6. 110-128-1 or MS27401-16 Relay
 - a. Position relay (9) in place and align to mounting holes.
 - b. Install two washers (8) and nuts (7).

MS27401-16 RELAYS



110-128-1 OR MS27401-16 RELAY

406961-1135-3
J0648

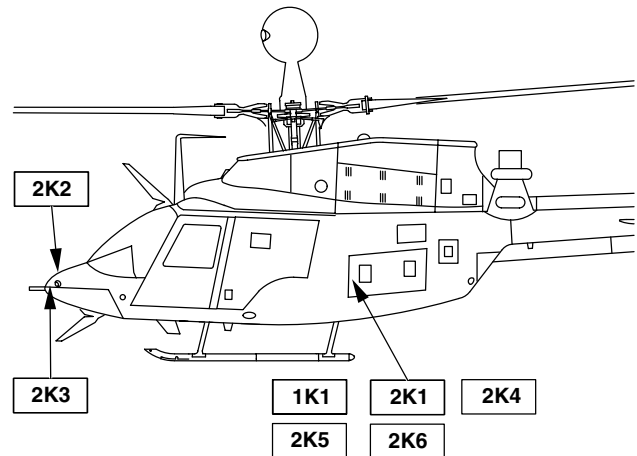
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9-6-45. RELAY (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

7. 406-075-846 Relay.

- a. Locate and access relay mounting area.
- b. Tag and identify wires (10).
- c. Remove nut (11), lockwasher (12), and washer (13) that secures each tagged wire (10).
- d. Remove tagged wires (10).
- e. Remove nut(s) (14), lockwashers (15), and washers (16) that secure connecting bus bar(s) (17).
- f. Remove nut(s) and washer(s) from remaining length of connecting bus bar(s) (17).
- g. Remove connecting bus bar(s) (17).
- h. Remove two screws (18) and washers (19).
- i. Remove relay (20).

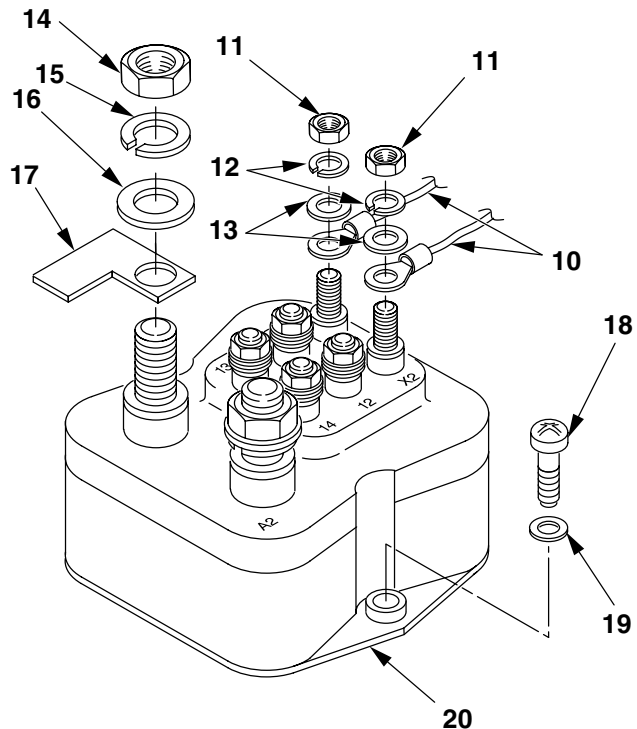


406-075-846 RELAYS

INSTALL

8. 406-075-846 Relay.

- a. Position relay (20) in place and align to mounting holes.
- b. Install two washers (19) and screws (18).
- c. Position connecting bus bar(s) (17) in place and install washers (16), lockwashers (15) and nut(s) (14). Torque nuts **95 TO 110 INCH-POUNDS**.
- d. Install washers and nut(s) on remaining length of connecting bus bar(s) (17).
- e. Install each tagged wire (10) with washer (13), lockwasher (12), and nut (11). Torque nuts **7.5 INCH-POUNDS**.
- f. Remove identification tags from wires.



406-075-846 RELAY

406961-1135-4
J0648

INSPECT

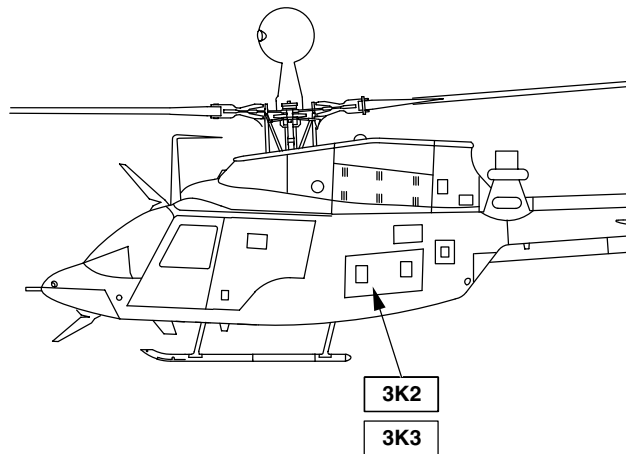
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9-6-45. RELAY (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

9. M6106/9-002 Relay.

- a. Locate and access relay mounting area.
- b. Tag and identify wires (21).
- c. Remove screws (22), nuts (23), lockwashers (24), washers (25), and tagged wires (21).
- d. Remove four screws (26) and washers (27).
- e. Remove relay (28).

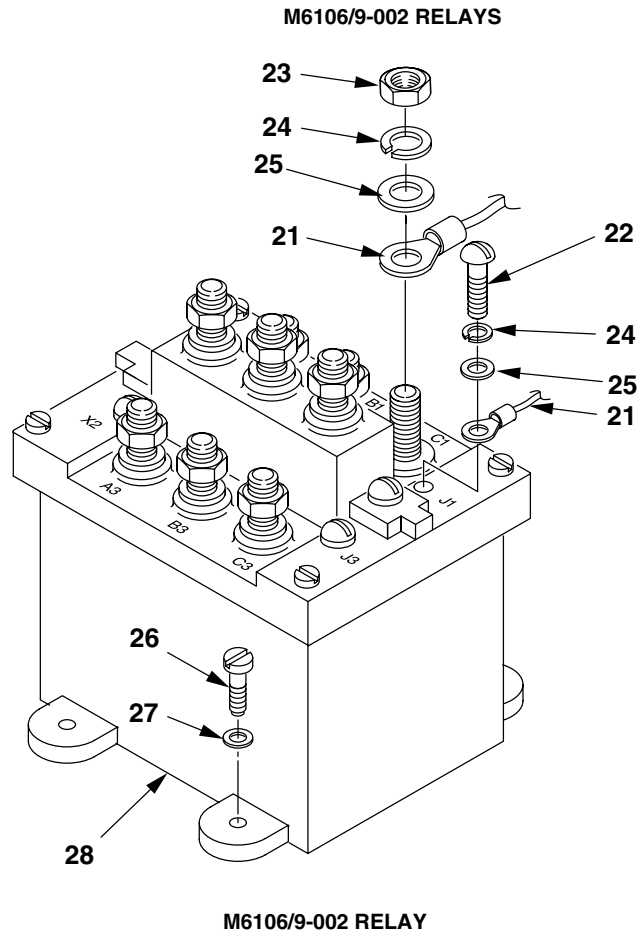


INSTALL

10. M6106/9-002 Relay.

- a. Position relay (28) in place and align to mounting holes.
- b. Install four washers (27) and screws (26).
- c. Install tagged wires (21), washers (25), lockwashers (24), nuts (23), and screws (22).
- d. Remove identification tags from wires.

INSPECT



406961-1135-5
J0648

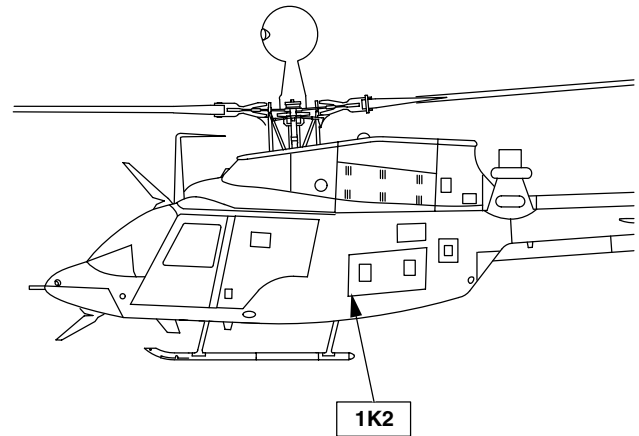
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9-6-45. RELAY (TYPICAL) — REMOVAL/INSTALLATION (CONT)

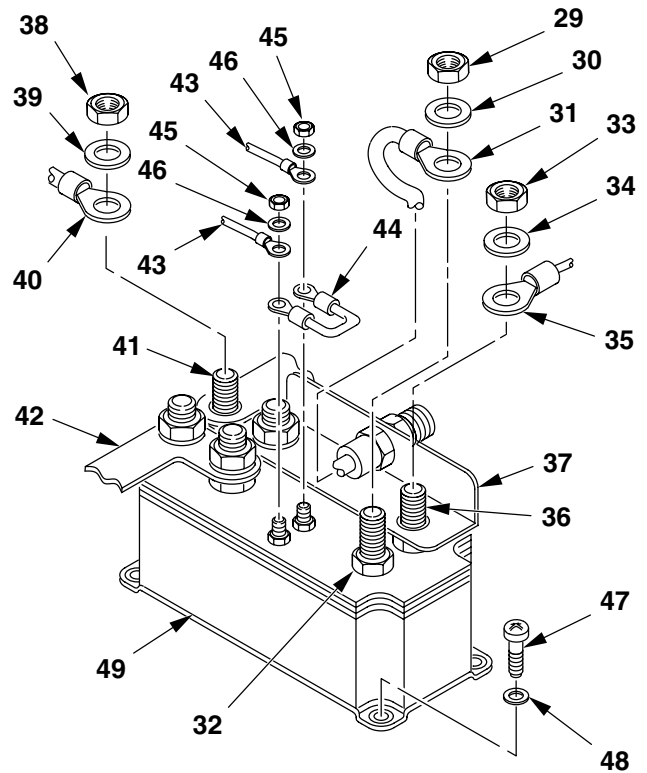
REMOVE

11. 214-175-132 Relay.

- a. Locate and access relay mounting area.
- b. Remove nut (29) and washer (30) and lift lug (31) off of stud (32).
- c. Remove two nuts (33) and washers (34) and lift lug (35) off of stud (36).
- d. Remove bus bar (37).
- e. Remove nut (38), washer (39), and lug (40) from stud (41).
- f. Remove remaining two nuts and washers from two bus bars (42).
- g. Remove two bus bars (42).
- h. Tag and identify wires (43) and diode (44) ends.
- i. Remove two nuts (45), washers (46), tagged wires (43), and diode (44).
- j. Remove four screws (47) and washers (48).
- k. Remove relay (49).



214-175-132 RELAY



214-175-132 RELAY

406961-1135-6
J0648

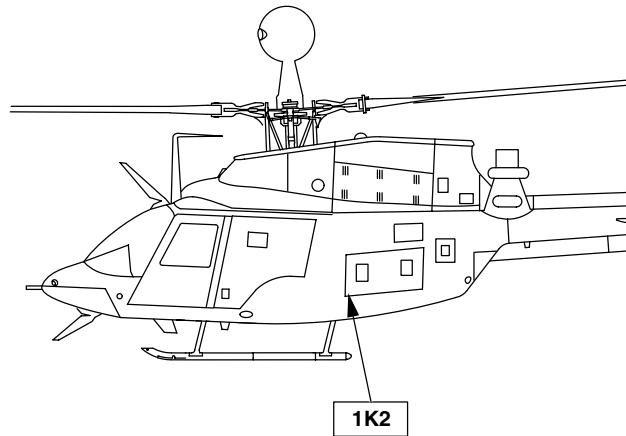
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9-6-45. RELAY (TYPICAL) — REMOVAL/INSTALLATION (CONT)

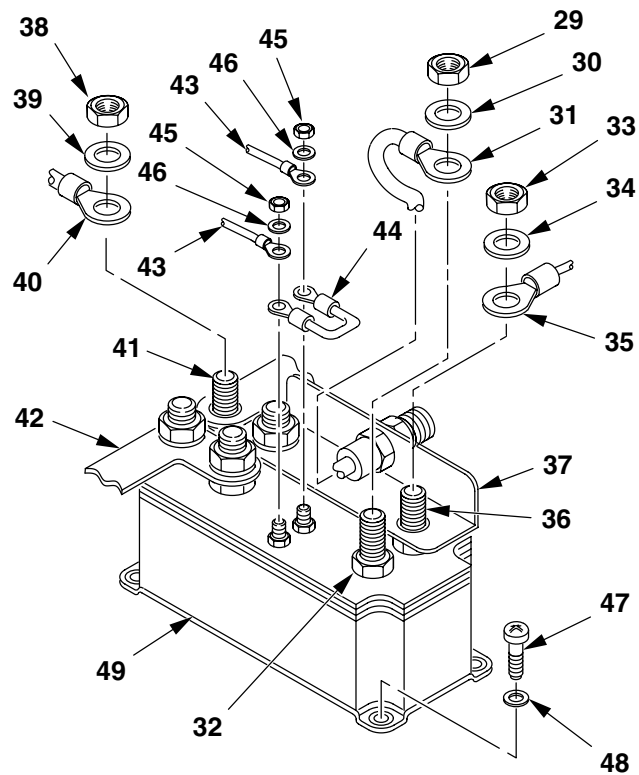
INSTALL

12. 214-175-132 Relay.

- a. Position relay (49) in place and align to mounting holes.
- b. Install four washers (48) and screws (47).
- c. Install diode (44), tagged wires (43), two washers (46), and nuts (45). Torque nuts **18 TO 19 INCH-POUNDS**.
- d. Remove identification tags from wires.
- e. Install two bus bars (42).
- f. Install lug (40) on stud (41).
- g. Install three washers (39) and nuts (38) on two bus bars (42). Torque nuts **95 TO 110 INCH-POUNDS**.
- h. Position bus bar (37) in place and install lug (35) on stud (36).
- i. Install two washers (34) and nuts (33). Torque nuts **95 TO 110 INCH-POUNDS**.
- j. Install lug (31) on stud (32).
- k. Install washer (30) and nut (29). Torque nuts **95 TO 110 INCH-POUNDS**.



214-175-132 RELAY



214-175-132 RELAY

406961-1135-6
J0648

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

END OF TASK

9-6-46. SOCKET (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Connector Kit (B80)
Electrical Repairer Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-46. SOCKET (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

- 120-076-3 or MIL-S-12883/41-02 sockets are used with 110-128-1 or MS27401-16 relays. 120-118-1 sockets are used with 110-146-1 relays and SO-1063-9033 sockets are used with M6106/19-017 relays.
- Refer to Appendix F for specific location and access.

REMOVE

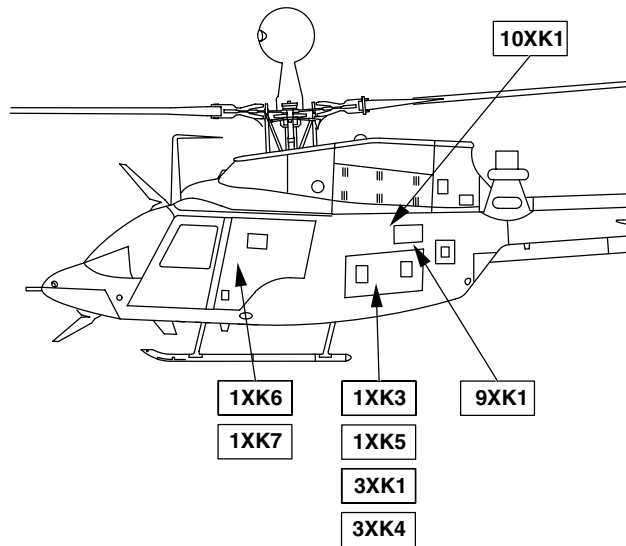
1. 120-076-3 or MIL-S-12883/41-02 Sockets.
 - a. Locate and access socket mounting area.
 - b. Remove relay (Task 9-6-45).
 - c. Tag and identify socket wires.
 - d. Remove tagged socket wires from socket (1) using connector kit (B80).
 - e. Remove two nuts (2) and washers (3) from studs (4).
 - f. Remove socket (1) from structure.

INSTALL

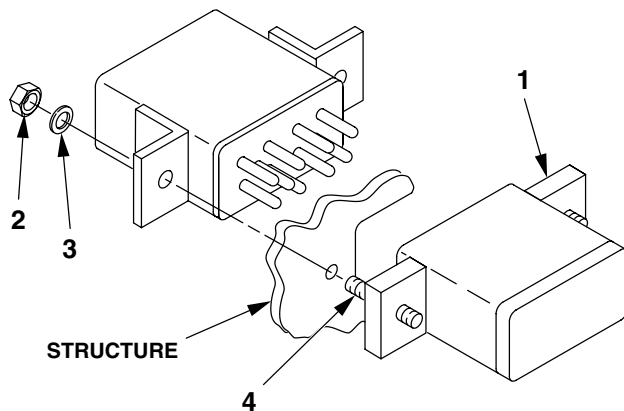
2. 120-076-3 or MIL-S-12883/41-02 Sockets.
 - a. Position socket (1) onto mounting area and insert studs (4) into mounting holes of structure.
 - b. Install two washers (3) and nuts (2) on studs (4).
 - c. Install tagged socket wires in proper pin locations in socket (1) using connector kit (B80).
 - d. Remove identification tags from wires.
 - e. Install relay (Task 9-6-45).

INSPECT

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120-076-3 OR MIL-S-12883/41-02 SOCKETS



120-076-3 OR MIL-S-12883/41-02 SOCKET

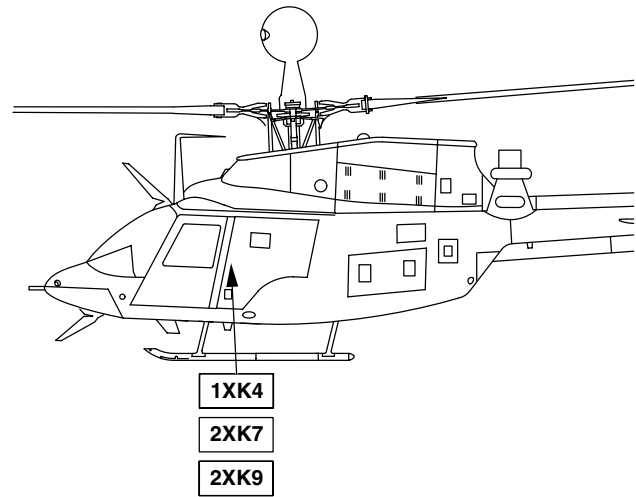
406961-1136-1
J0648

9-6-46. SOCKET (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

3. 120-118-1 Sockets.

- a. Locate and access socket mounting area.
- b. Remove associated 110-146-1 relay (Task 9-6-45).
- c. Tag and identify socket wires.
- d. Remove tagged socket wires from socket (1) using connector kit (B80).
- e. Remove two nuts (2), flat washers (3) and screws (4).
- f. Remove socket (1) from panel.

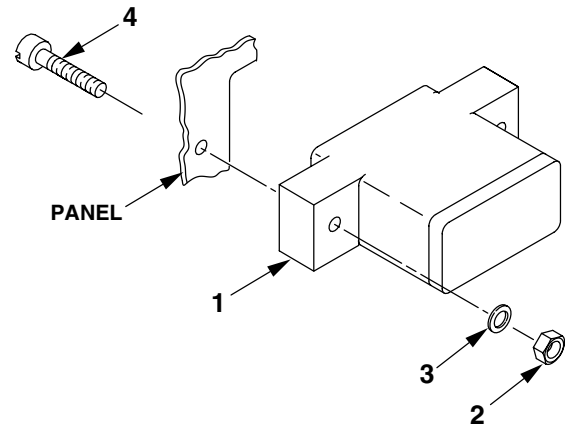


120-118-1 SOCKETS

INSTALL

4. 120-118-1 Sockets.

- a. Position socket (1) onto mounting hole in panel.
- b. Install two screws (4), flat washers (3) and nuts (2).
- c. Install tagged socket wires in proper pin locations of socket (1) using connector kit (B80).
- d. Remove identification tags from wires.
- e. Install 110-146-1 relay (Task 9-6-45).



120-118-1 SOCKET

INSPECT

406961-1136-2
J0648

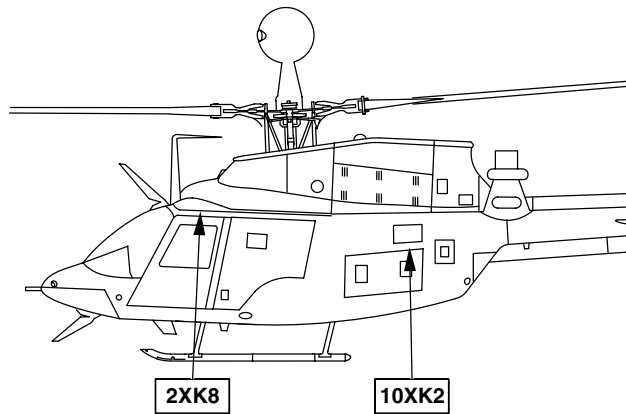
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9-6-46. SOCKET (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

5. SO-1063-9033 Socket.

- a. Locate and access socket mounting area.
- b. Remove associated M6106/19-017 relay (Task 9-6-45).
- c. Tag and identify socket wires.
- d. Remove tagged socket wires from socket (1) using connector kit (B80).
- e. Remove two nuts (2) and washers (3).
- f. Remove socket (1) from structure.

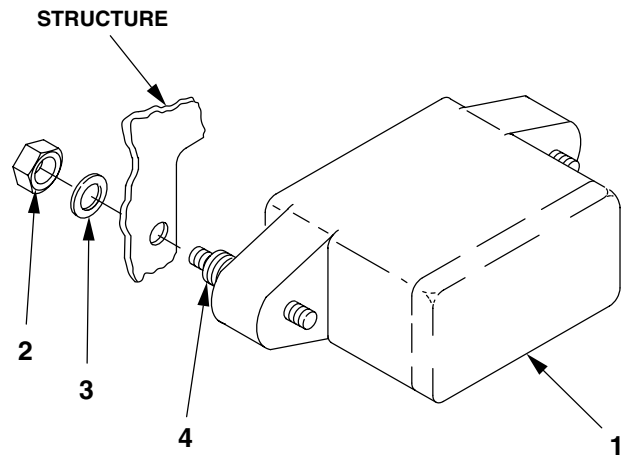


SO-1063-9033 SOCKETS

INSTALL

6. SO-1063-9033 Socket.

- a. Position socket (1) onto mounting hole of structure and insert studs (4) in mounting holes of structure.
- b. Install two washers (3) and nuts (2) on studs (4).
- c. Install tagged socket wires in proper pin locations of socket (1) using connector kit (B80).
- d. Remove identification tags from wires.
- e. Install M6106/19-017 relay on socket (1) (Task 9-6-45).



SO-1063-9033 SOCKET

406961-1136-3
J0648

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

END OF TASK

9-6-47. SHUNT (TYPICAL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

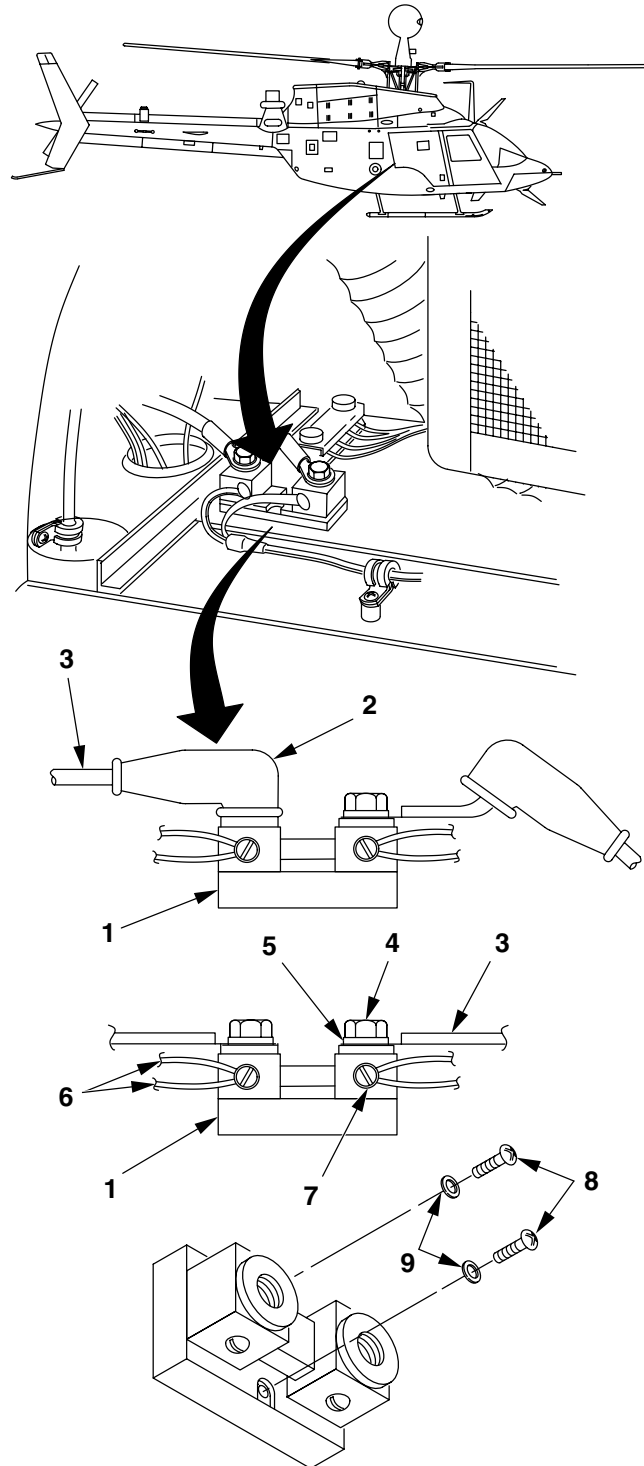
Personnel Required:
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-47. SHUNT (TYPICAL) — REMOVAL (CONT)

1. 2R1.

- a. Gain access to shunt 2R1 (1).
- b. Lift two nipples (2) and pull back on cables (3). Tag and identify cables (3).
- c. Remove two bolts (4), and lockwashers (5).
- d. Disconnect two electrical cables (3).
- e. Tag and identify four wires (6).
- f. Remove two screws (7).
- g. Remove tagged wires (6).
- h. Remove two screws (8) and washers (9).
- i. Remove shunt 2R1 (1).



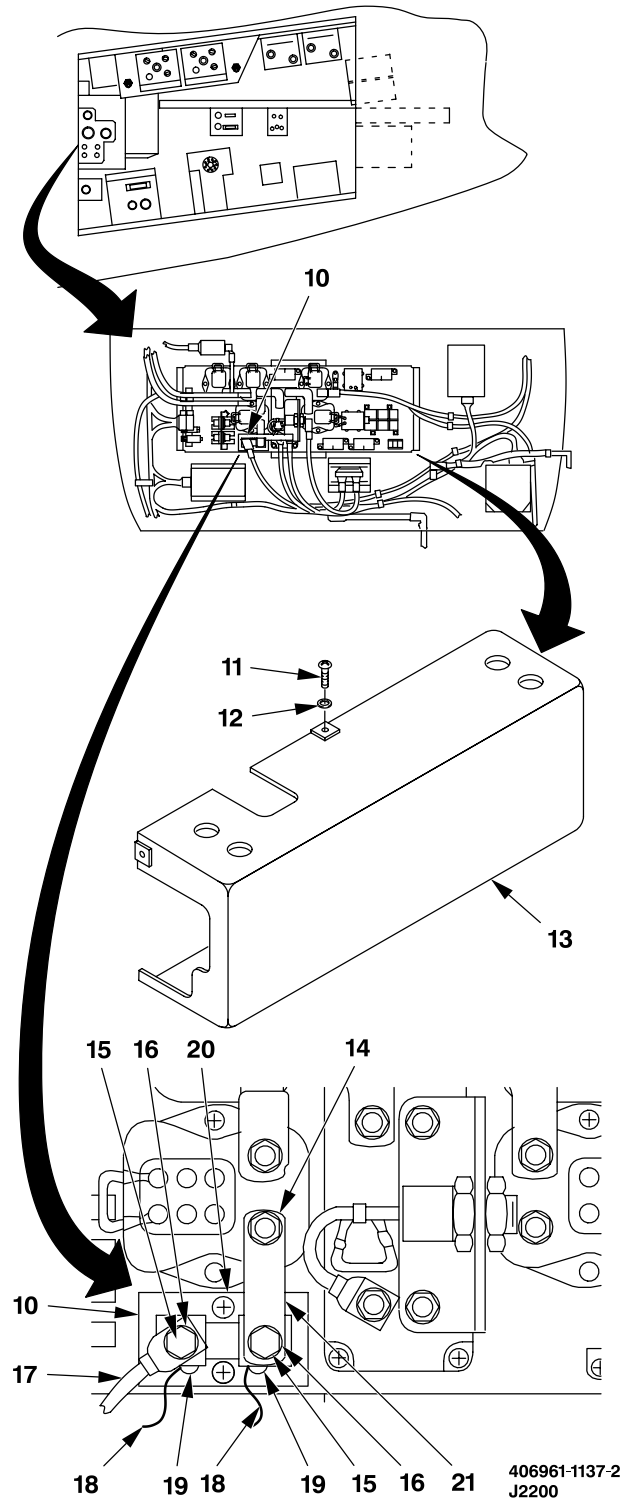
406961-1137-1
J2200

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9-6-47. SHUNT (TYPICAL) — REMOVAL (CONT)

2. 2R2.

- a. Open aft electrical compartment door to gain access to shunt 2R2 (10).
- b. Remove six screws (11) and washers (12).
- c. Remove cover assembly (13).
- d. Loosen nut (14).
- e. Remove bolts (15) and lockwashers (16) and remove cable (17).
- f. Tag and identify two wires (18).
- g. Remove two screws (19).
- h. Remove tagged wires (18).
- i. Remove two screws (20).
- j. Rotate bus bar (21) out of the way and remove shunt 2R2 (10).



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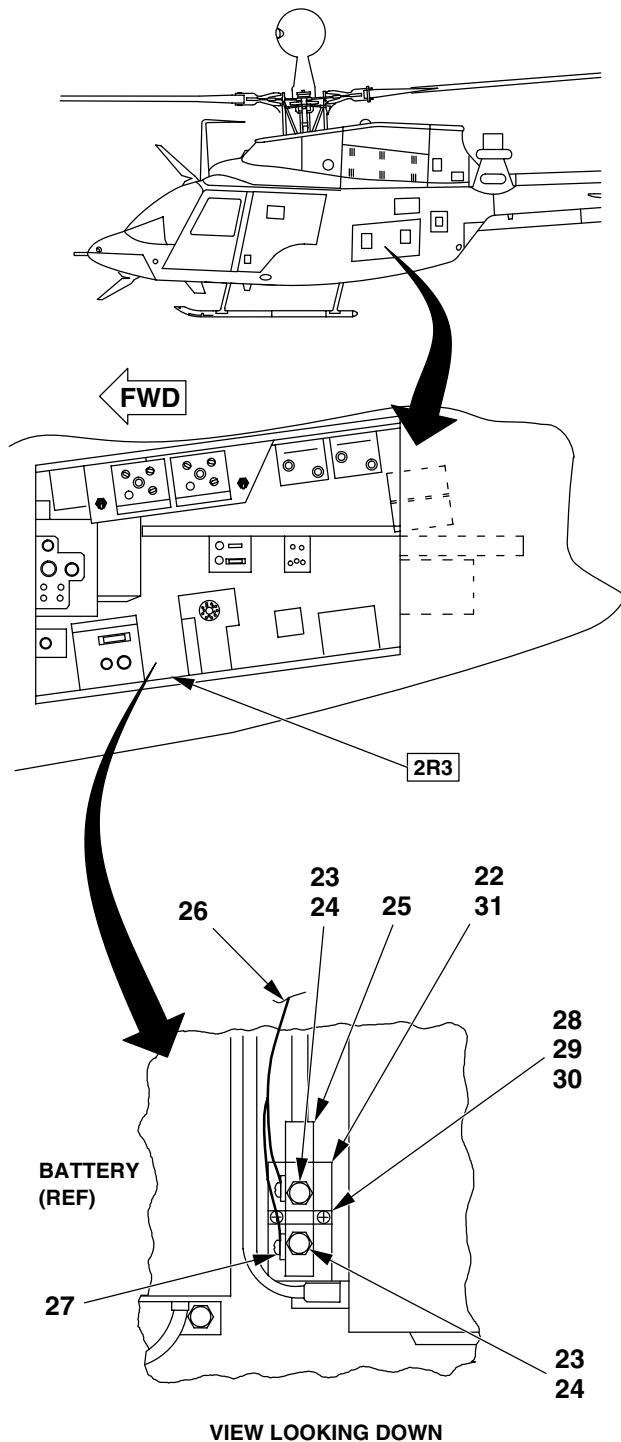
9-6-47. SHUNT (TYPICAL) — REMOVAL (CONT)

3. 2R3.

- a. Open aft electrical compartment door to gain access to shunt 2R3 (22).
- b. Remove two bolts (23) and lockwashers (24).
- c. Disconnect cable (25) and move it to the left.
- d. Tag and identify two wires (26).
- e. Remove two screws (27).
- f. Remove two tagged wires (26).
- g. Remove two screws (28), washers (29), and nuts (30).
- h. Slide shunt 2R3 (22) back and lift out. Remove shim (31) from under shunt.

FOLLOW-ON MAINTENANCE

- Install right access door (Task 2-2-6).



406961-1137-3
J0648

END OF TASK

9-6-48. SHUNT (TYPICAL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

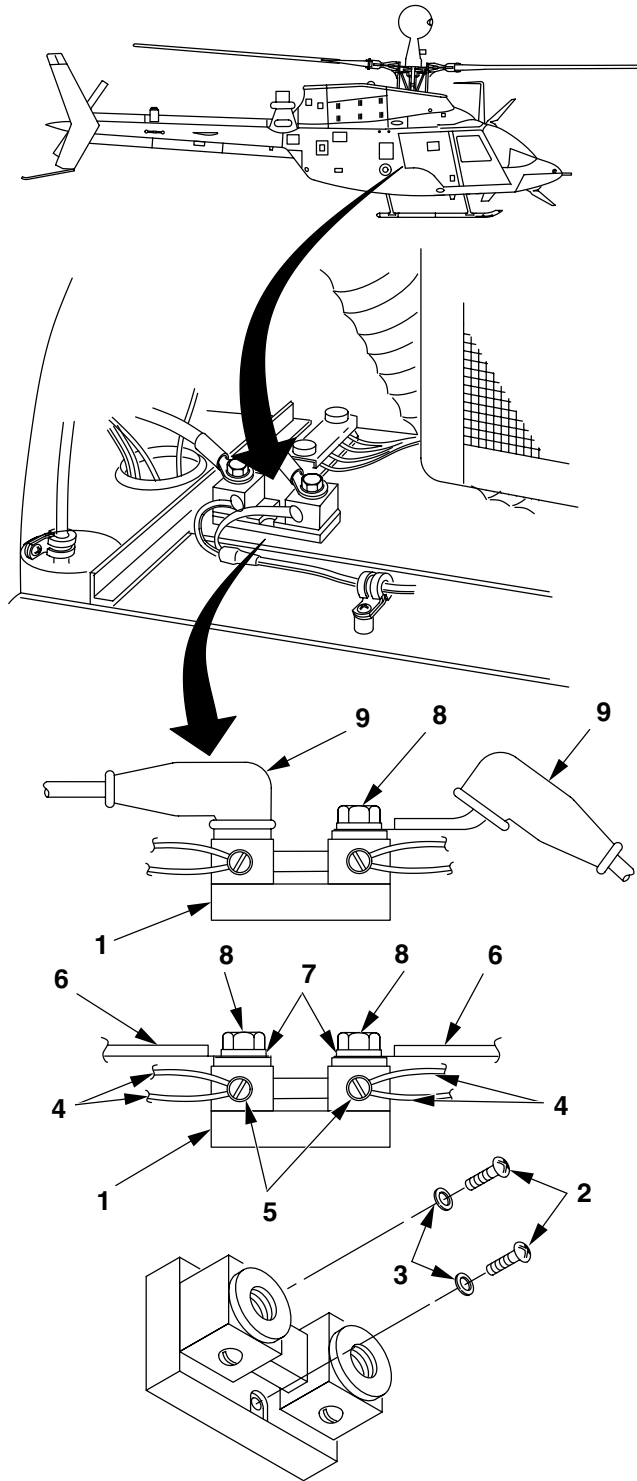
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9-6-48. SHUNT (TYPICAL) — INSTALLATION (CONT)

1. 2R1.

- a. Gain access to shunt 2R1 (1) mounting area.
- b. Position shunt 2R1 (1) in place and align to mounting holes.
- c. Install two screws (2) and washers (3).
- d. Connect four tagged wires (4) by installing two screws (5).
- e. Remove identification tags from wires.
- f. Connect two electrical cables (6).
- g. Install two lockwashers (7) and bolts (8).
- h. Install two nipples (9) over bolts (8).

INSPECT



406961-1138-1
J0648

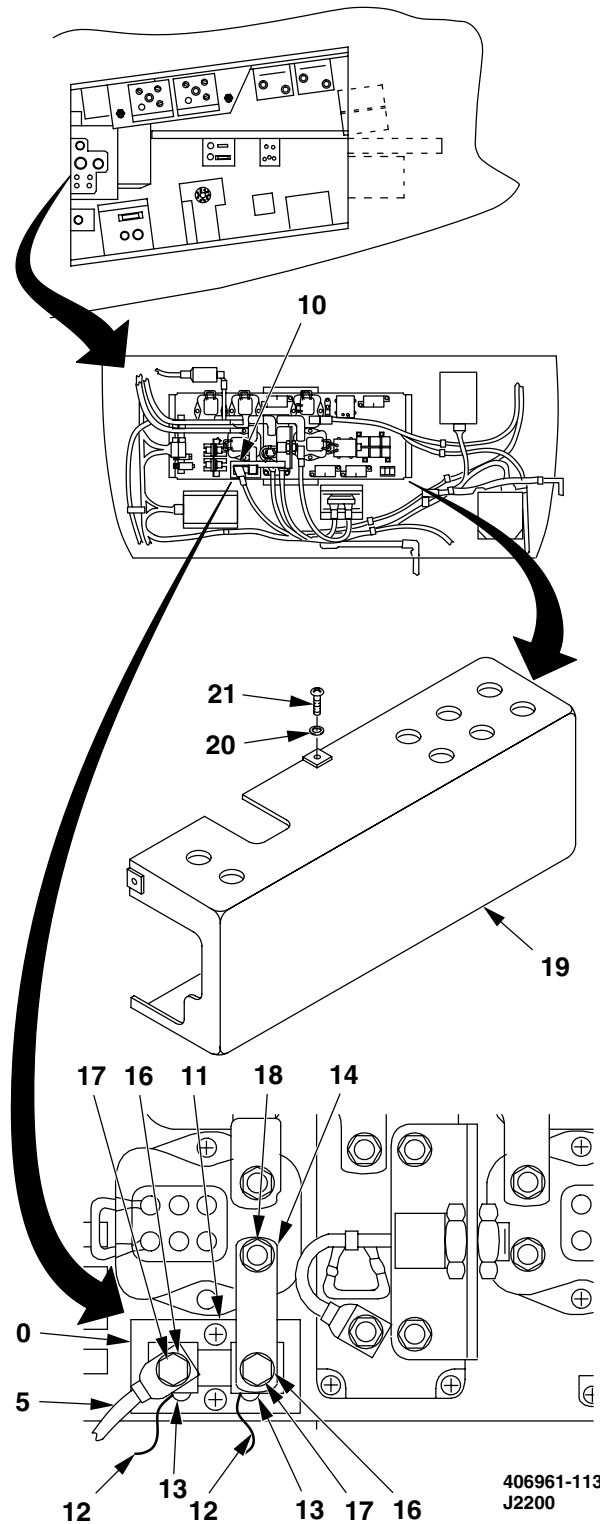
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9-6-48. SHUNT (TYPICAL) — INSTALLATION (CONT)

2. 2R2.

- a. Open aft electrical compartment door to gain access to shunt 2R2 (10) mounting area.
- b. Position shunt 2R2 (10) in place and align to mounting holes.
- c. Install two screws (11).
- d. Connect two tagged wires (12) by installing two screws (13).
- e. Remove identification tags from wires.
- f. Align bus bar (14) to mounting hole on shunt 2R2 (10).
- g. Connect cable (15) and bus bar (14) by installing lockwashers (16) and bolts (17).
- h. Tighten nut (18).
- i. Position cover assembly (19) in place and install six washers (20) and screws (21).

INSPECT



406961-1138-2
J2200

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9-6-48. SHUNT (TYPICAL) — INSTALLATION (CONT)

3. 2R3.

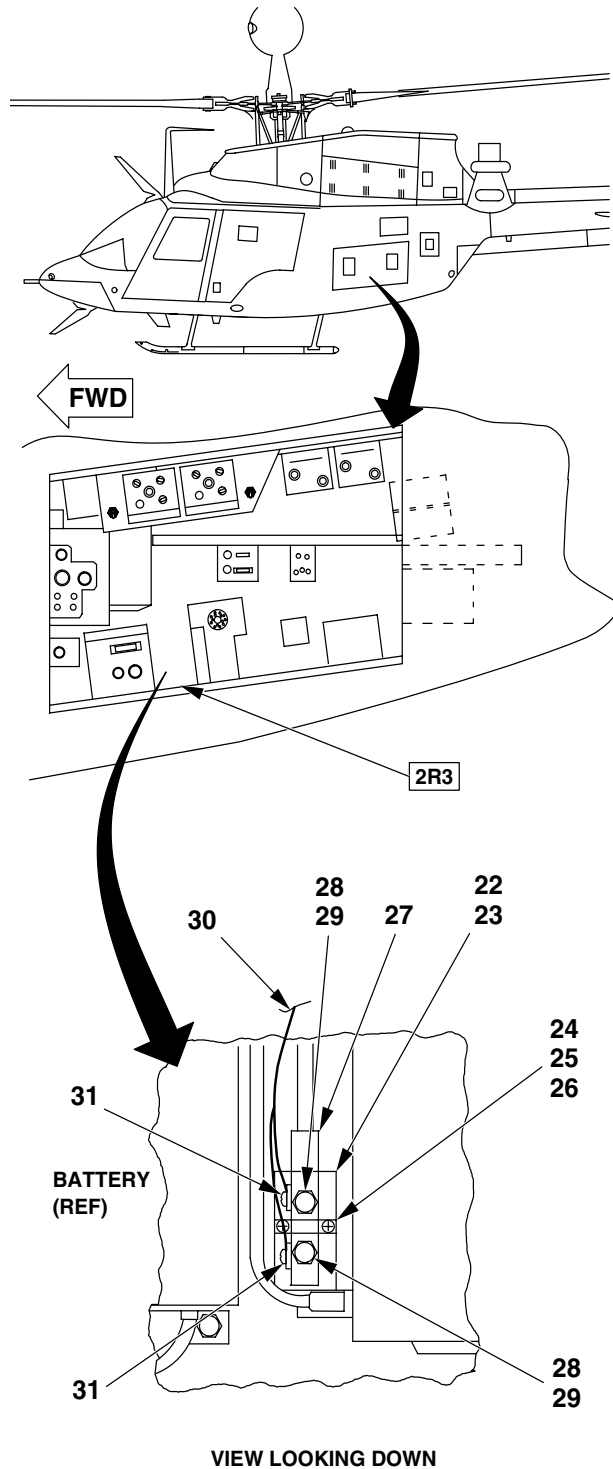
- a. Open aft electrical compartment door to gain access to shunt 2R3 (22) mounting area.
- b. Position shim (23) under shunt 2R3 (22) and align to mounting holes.
- c. Install two mounting screws (24) and washers (25) and secure with nuts (26).
- d. Connect cable (27) by installing lockwasher (28) and bolt (29).
- e. Connect two tagged wires (30) by installing two screws (31).
- f. Remove identification tags from wires.

INSPECT

FOLLOW-ON MAINTENANCE

Install right access door (Task 2-2-6).

Perform operational check (TM 1-1520-248-T).



406961-1138-3
J2200

END OF TASK

9-6-49. TERMINAL BOARD (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-49. TERMINAL BOARD (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

This task covers the replacement of 8TB3 only. For replacement of any other terminal board refer to Appendix F for specific location and access.

REMOVE

1. Open left crew door to gain access to terminal board (1).
2. Remove knob (2) and cover (3). Tag and identify lugs (4).
3. Remove nut (5), washer (6), two lugs (4), and insulating strip (7).
4. Lower aft overhead console (Task 9-6-5) to obtain access to screws (8).
5. Remove two nuts (9), screws (8), and washers (10).
6. Remove terminal board (1).

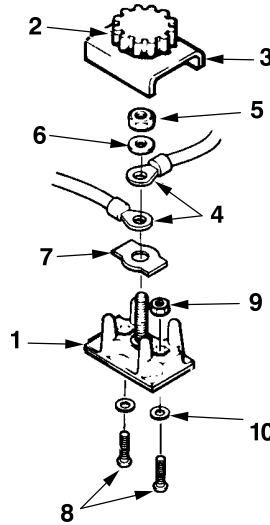
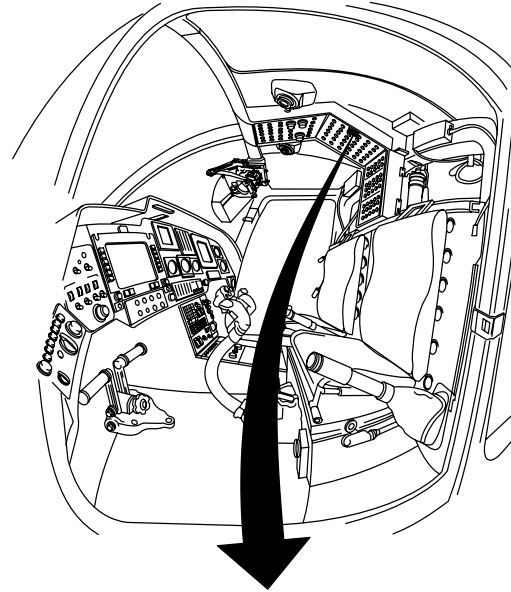
INSTALL

7. Remove nut (5), washer (6), and insulating strip (7) from serviceable terminal board (1).
8. Position serviceable terminal board (1) in place and align to mounting holes.
9. Install two screws (8), washers (10), and nuts (9).
10. Raise aft overhead console (Task 9-6-6).
11. Install insulating strip (7), lugs (4), washer (6), and nut (5).
12. Remove identification tags from terminal lugs.
13. Install cover (3) and knob (2).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1139
J2200

END OF TASK

9-6-50. TERMINAL JUNCTION MOUNT (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)
Electrical Connector Kit (B80)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

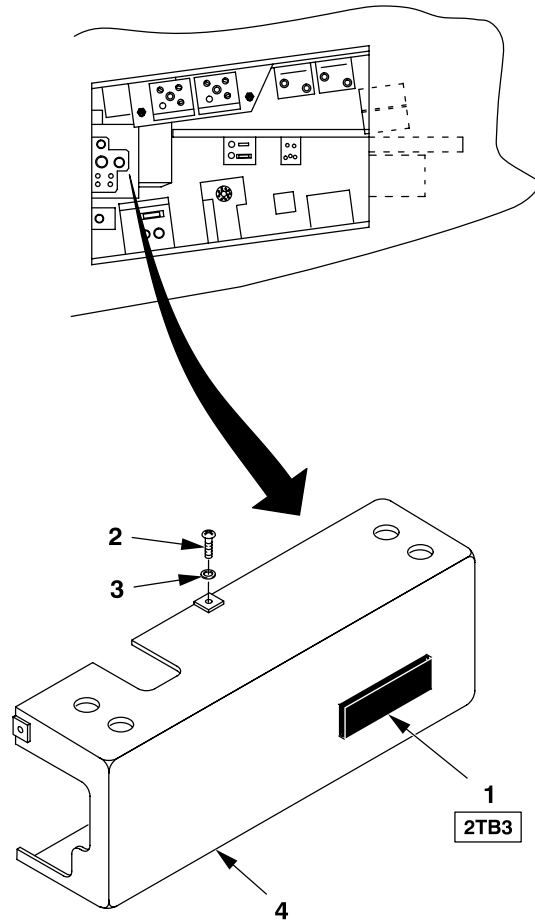
9-6-50. TERMINAL JUNCTION MOUNT (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

This task covers the replacement of 2TB3 only. For replacement of any other terminal junction, refer to following locator art and Appendix F for specific location and access.

REMOVE

1. Open aft electrical compartment door to gain access to terminal junction 2TB3 (1).
2. Remove six screws (2) and washers (3).
3. Remove cover (4).



406961-1140-1
J1758

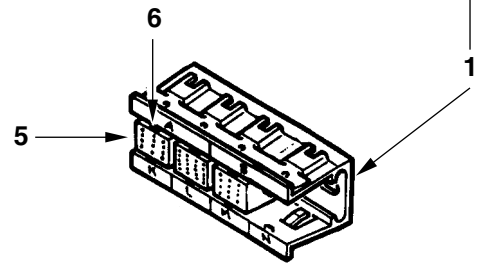
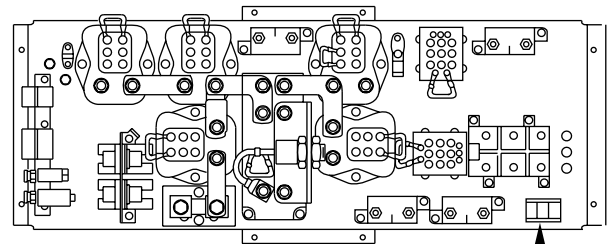
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9-6-50. TERMINAL JUNCTION MOUNT (TYPICAL) — REMOVAL/INSTALLATION (CONT)

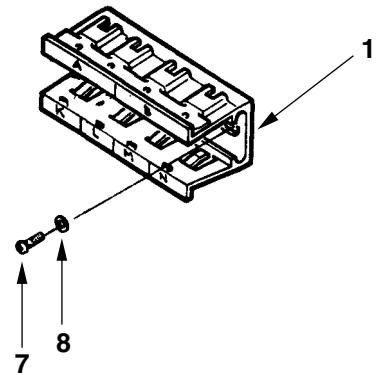
4. Remove three modules (5) by inserting module extraction tool (Part of B80) into six slots (6) and pulling modules out.
5. Remove two screws (7) and washers (8).
6. Remove terminal junction 2TB3 (1).

INSTALL

7. Position serviceable terminal junction 2TB3 (1) in place and align to mounting holes.
8. Install two screws (7) and washers (8).
9. Install three modules (5) by pushing module into terminal junction 2TB3 (1) until a loud audible click is heard.



WIRING NOT SHOWN



406961-1140-2
H0238

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9-6-50. TERMINAL JUNCTION MOUNT (TYPICAL) — REMOVAL/INSTALLATION (CONT)

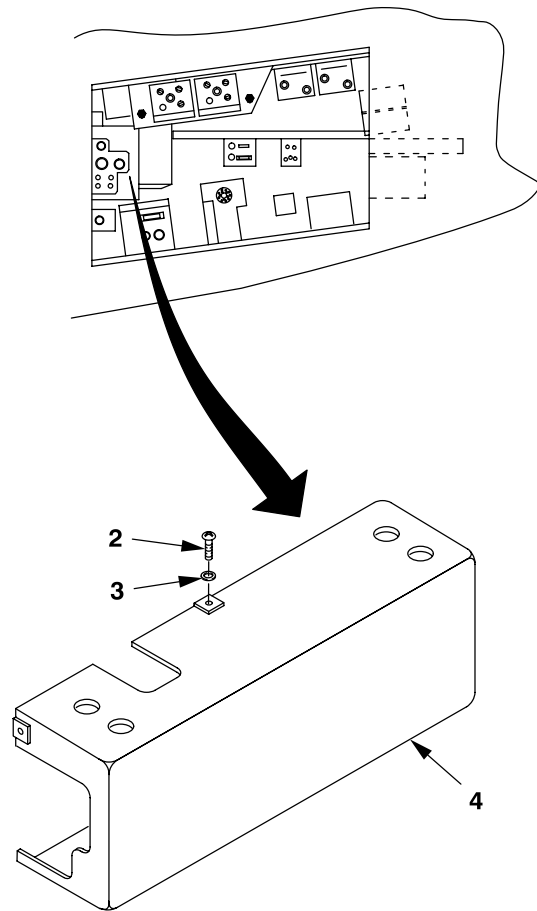
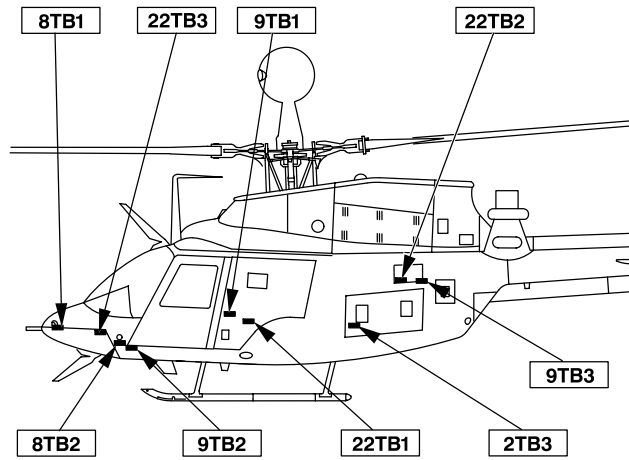
10. Position cover (4) in place and align to mounting holes.

11. Install six washers (3) and screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1140-3
J1758

END OF TASK

9-6-51. JUNCTION BLOCK (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-51. JUNCTION BLOCK (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

This task covers the replacement of 2TB2 only. For replacement of any other junction block, refer to Appendix F for specific location and access.

REMOVE

1. Gain access to junction block 2TB2 (1).
2. Remove three knobs (2) and cover (3).
3. Remove nut (4), lockwasher (5), washer (6), three cables (7), washer (6), and nut (8).
4. Remove two screws (9), washers (10), junction block 2TB2 (1), and insulator (11).
5. Remove bolt (12).

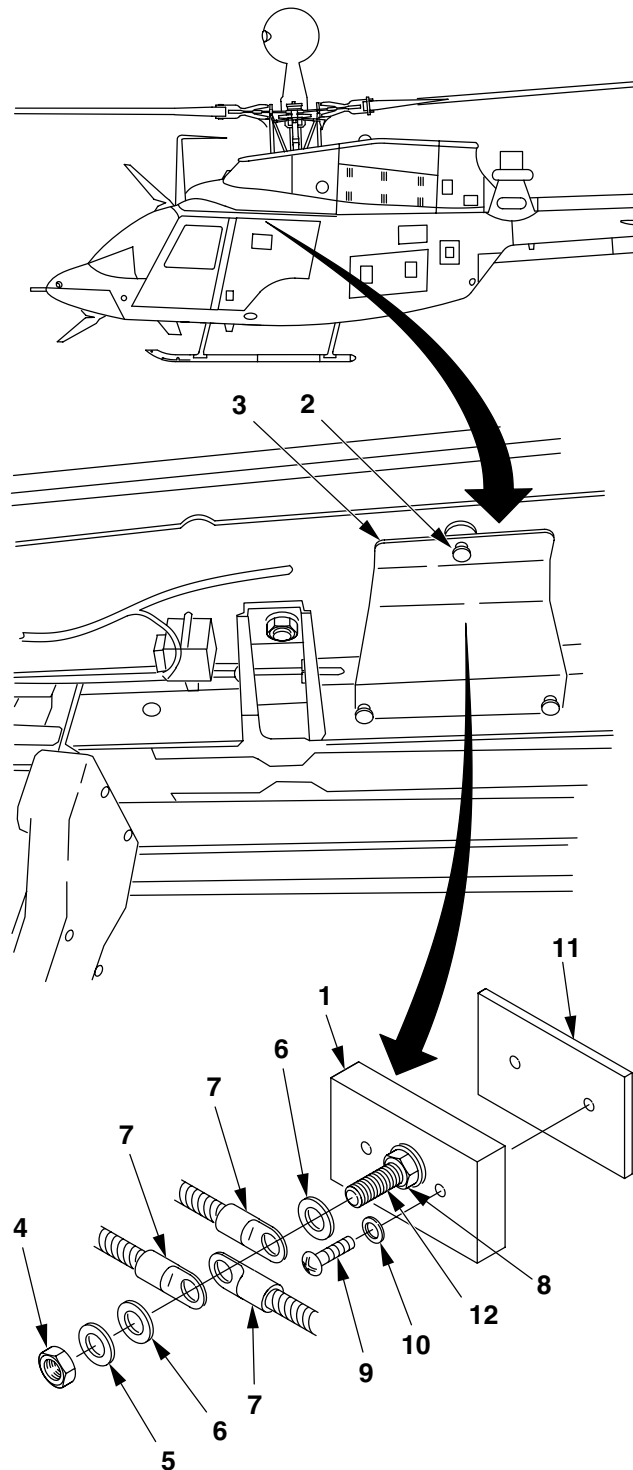
INSTALL

6. Install bolt (12) through counterbored hole in serviceable junction block 2TB2 (1).
7. Install nut (8) on bolt (12).
8. Position serviceable insulator (11) onto rear of serviceable junction block (1) and position to mounting area by aligning to mounting holes.
9. Support serviceable junction block 2TB2 (1) and install two washers (10) and screws (9).
10. Install washer (6), three cable connectors (7), washer (6), lockwasher (5), and nut (4).
11. Install cover (3) and three knobs (2).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1141
J2200

END OF TASK

9-6-52. GROUND MODULE (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

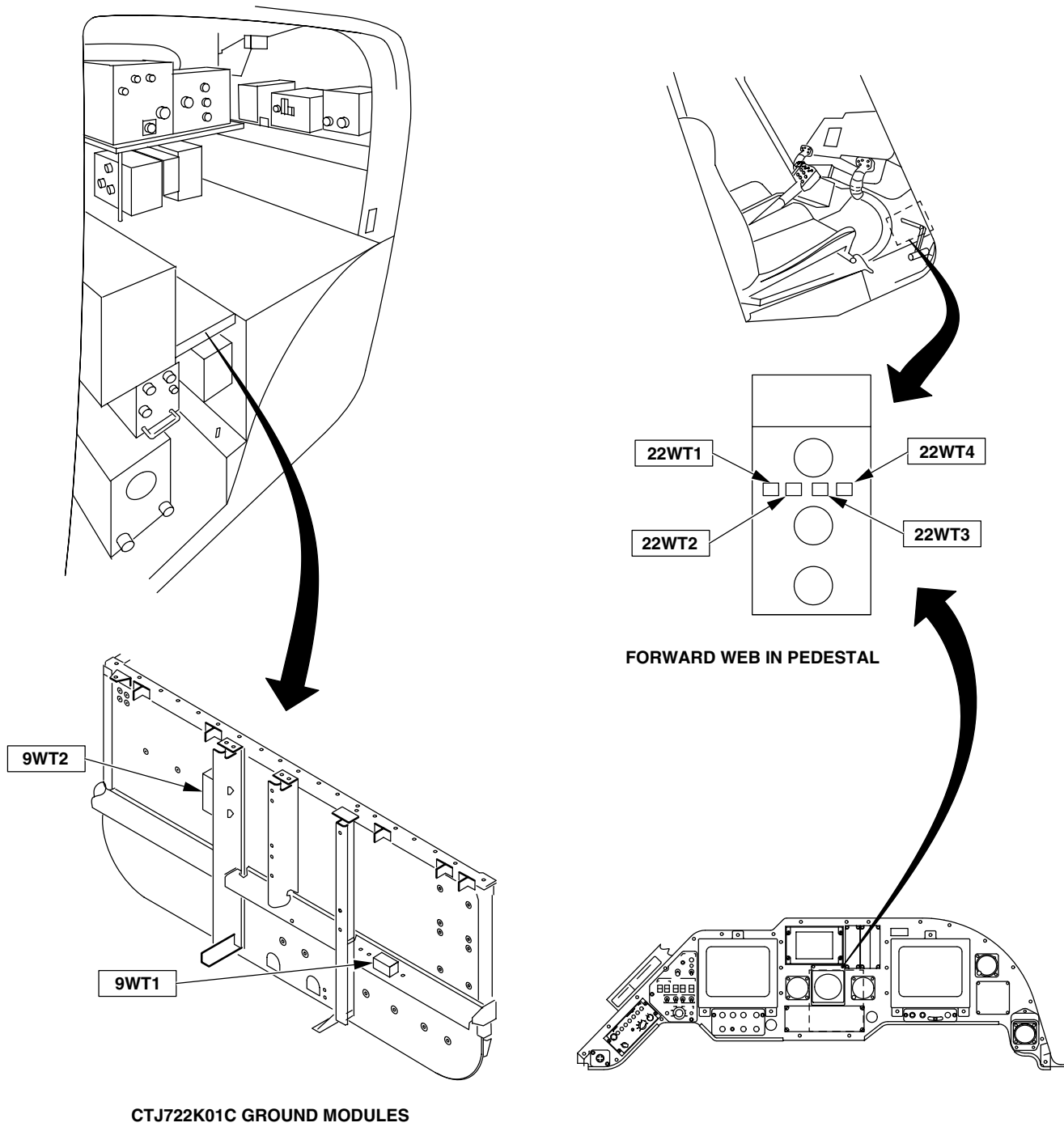
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)
Electrical Connector Kit (B80)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-52. GROUND MODULE (TYPICAL) — REMOVAL/INSTALLATION (CONT)



406961-1142-1
J1758

Ground Module — Typical

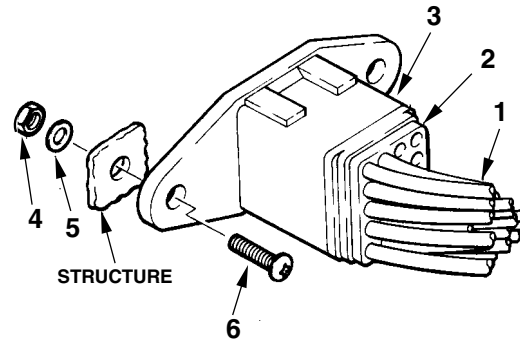
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9-6-52. GROUND MODULE (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

This task covers the replacement of CTJ722K01C ground module. Refer to Appendix F for specific location and access.

1. Locate and access ground module mounting area. See figure Ground Module — Typical.
2. Identify and tag wires (1).
3. Remove contacts (2) from ground module (3) using connector kit (B80).
4. Remove contacts (2) from wires (1) as required.
5. Remove two nuts (4), washers (5), and screws (6).
6. Remove ground module (3).



CTJ722K01C GROUND MODULE

INSTALL406961-1142-2
H0240

7. Position ground module (3) onto mounting area and align to mounting holes.
8. Install two screws (6), washers (5), and nuts (4).
9. Install contacts (2) on wires (1) as required.
10. Install contacts (2) in ground module (3) using connector kit (B80).
11. Remove identification tags from wires.

INSPECT**FOLLOW-ON MAINTENANCE**

Perform operational check (TM 1-1520-248-T).

END OF TASK

9-6-53. SWITCH (CYCLIC GRIP-TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Soldering Iron (25 Watt Maximum) (B159)
Heat Gun (Nitrogen) (B60)
Switch Remover (Workaid) (H-30)
Drive Pin Punch Set (B131)

Material:
Solder (D195)
Adhesive Brush (D51)
Vinyl Adhesive (D34)
Drycleaning Solvent (D199)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
68J Aircraft Armament/Missile Systems
Technical Inspector (TI)
68J Aircraft Armament/Missile Systems
Repairer

References:
TM 1-1520-248-T
TM 9-1090-214-23&P

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-6-53. SWITCH (CYCLIC GRIP-TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

This task covers the replacement of the ICS/RADIO, TRIM REL, and TV/TIS switches.

REMOVE ICS/RADIO SWITCH

NOTE

ICS/RADIO switch must be removed first to ensure sufficient slack for removal of all other switches.

1. Remove ICS/RADIO switch (1) from grip (2) as follows:
 - a. Using a pointed instrument, remove the vinyl adhesive from screw and pin cavities.

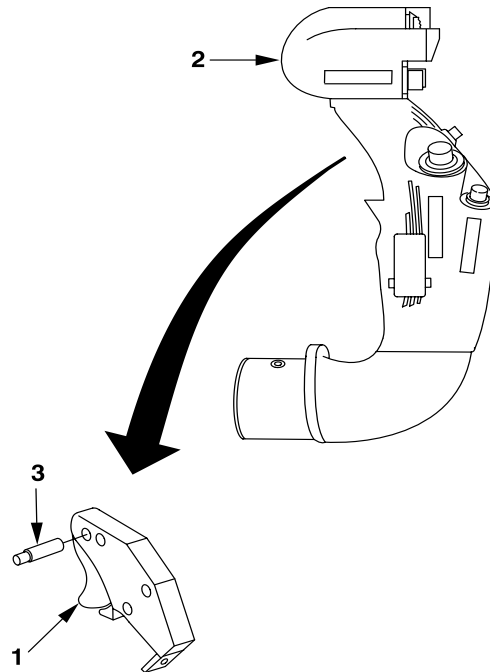
CAUTION

To prevent damage to switch or grip, care shall be taken when removing pin (3). Pin (3) has a larger fluted end. Pin shall be tapped from one side of grip while looking for exposure of fluted end. If no movement is noted, pin (3) must be tapped from other side of grip to remove.

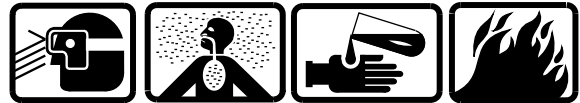
- b. Using a 3/32 drive pin punch (Part of B131) and a hammer, tap pin (3) from drilled hole to release switch (1). Remove switch by pulling out and up.
 - c. Tag wires and using heat gun (B60), desolder wires from terminals on switch (1).

INSTALL ICS/RADIO SWITCH

2. Install ICS/RADIO switch (1) in grip (2) as follows:
 - a. Using heat gun (B60) and solder (D195), solder tagged wires to terminals on switch (1).
 - b. Install switch (1) in grip (2) by pushing switch (1) in and down. Align holes in switch (1) with holes in grip (2).
 - c. Press pin (3) through drilled holes to secure switch.



406961-1269-2
J1758



Adhesive

- d. Apply vinyl adhesive (D34) to pin cavities.



Drycleaning Solvent

- e. Remove excess vinyl adhesive with wiping rag (D164) dampened in drycleaning solvent (D199).

INSPECT

GO TO NEXT PAGE

9-6-53. SWITCH (CYCLIC GRIP-TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE TRIM REL SWITCH

3. Remove TRIM REL switch (4) from grip (2) as follows:

NOTE

ICS/RADIO switch must be removed.

a. Using pointed instrument, remove vinyl adhesive from screw cavities.

b. Remove two screws (5) and lift off center cover (6).

CAUTION

To prevent permanent damage to components and disfigurement of the molded plastic of the grip, extreme care must be used in applying heat to the area around the switch.

c. Heat immediate area around switch (4) using heat gun (B60). (Heat loosens vinyl adhesive (D34) used to retain switch.) Hold heat gun **6 to 8 inches** away from grip and heat specific area for 10 to 20 seconds. Remove heat.

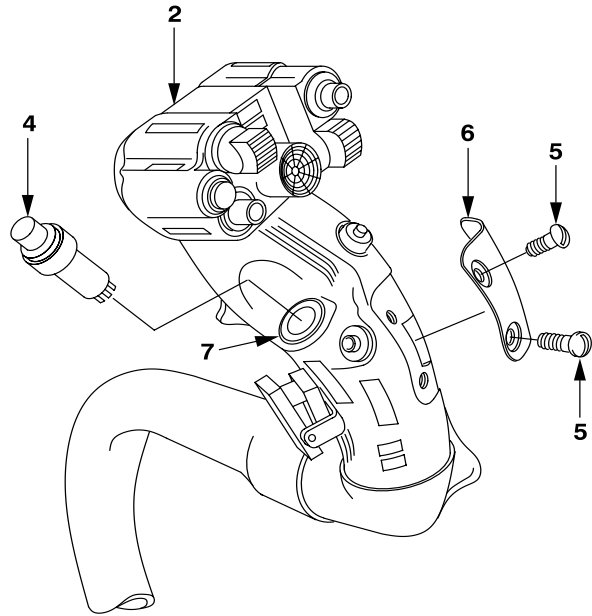
d. Using switch remover workaid (H-30), push switch (4) from rear.

NOTE

If switch (4) does not move out of mounting easily, repeat step c.

e. Grasp switch (4) from front and pull straight out sufficiently to expose wiring connections.

f. Tag wires and using heat gun (B60), desolder wires from terminals on switch (4).



406961-1269-4
J1758

GO TO NEXT PAGE

9-6-53. SWITCH (CYCLIC GRIP-TYPICAL) — REMOVAL/INSTALLATION (CONT)

INSTALL TRIM REL SWITCH

4. Install TRIM REL switch (4) in grip (2) as follows:

- a. Using heat gun (B60) and solder (D195) solder tagged wires to terminals on switch (4).
- b. Remove identification tags from wires.

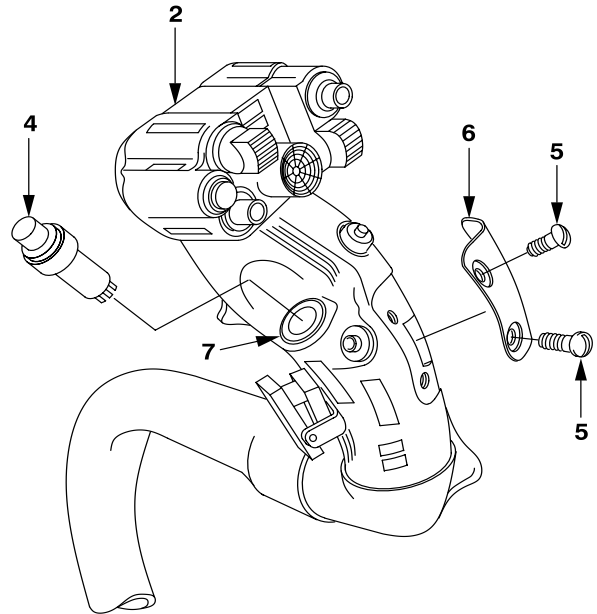


Adhesive

c. To retain switch (4), apply vinyl adhesive (D34) to switch flange (7) with acid swabbing brush (D51).

d. Push switch (4) straight into mounting flange (7).

e. Install cover (6) and two screws (5) on grip (2).



406961-1269-4
J1758



Drycleaning Solvent

f. Remove excess vinyl adhesive with wiping rag (D164) dampened in drycleaning solvent (D199).

INSPECT

GO TO NEXT PAGE

9-6-53. SWITCH (CYCLIC GRIP-TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE TV/TIS SWITCH

5. Remove the TV/TIS switch (8) from grip (2) as follows:

NOTE

ICS/RADIO switch must be removed.

a. Detach right switch module (9) by removing screws (10 and 11).

CAUTION

To prevent permanent damage to components and disfigurement of the molded plastic of the grip (2), extreme care must be used in applying heat to the area around the switches.

b. Heat immediate area around switch (8) using heat gun (B60). (Heat loosens vinyl adhesive (D34) used to retain switch.) Hold heat gun **6 to 8 inches** away from grip (2) and heat specific area for 10 to 20 seconds. Remove heat.

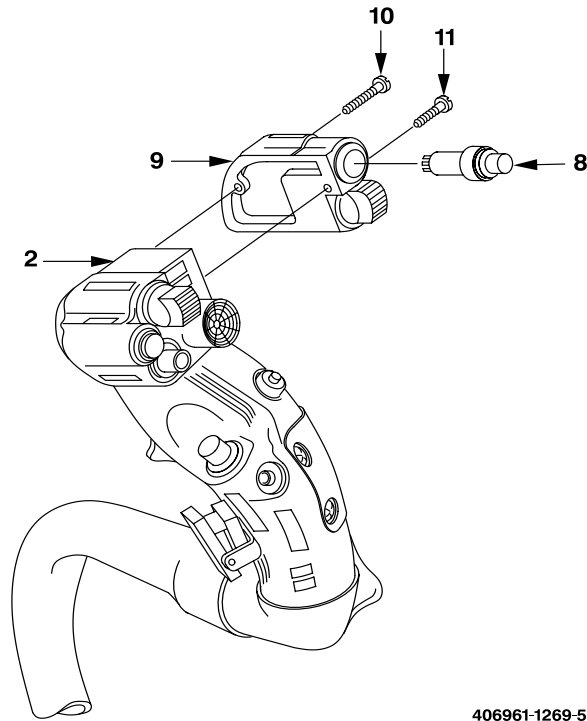
c. Using switch remover, workaid (H-30), push switch (8) from rear.

NOTE

If switch (8) does not move out of mounting easily, repeat step b.

d. Grasp switch (8) from front and pull straight out sufficiently to expose wiring connections.

e. Tag wires and using heat gun (B60), desolder wires from terminals on switch (8).



406961-1269-5
J1758

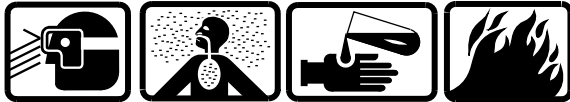
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9-6-53. SWITCH (CYCLIC GRIP-TYPICAL) — REMOVAL/INSTALLATION (CONT)

INSTALL TV/TIS SWITCH

6. Install TV/TIS switch (8) in grip (2) as follows:

- a. Using heat gun (B60) and solder (D195), solder tagged wires to terminals on switch (8).
- b. Remove identification tags from wires.



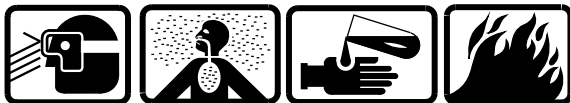
Adhesive

- c. To retain switch (8), apply vinyl adhesive (D34) to switch flange (12) with acid swabbing brush (D51).
- d. Push switch (8) straight into mounting flange (12).

NOTE

The screws (10 and 11) that hold the module (9) in place are of different lengths. Screw (11) is shorter than screw (10). Screw (11) shall be placed in front portion of module (9).

- e. Install module (9) and two screws (10 and 11) on grip (2).



Drycleaning Solvent

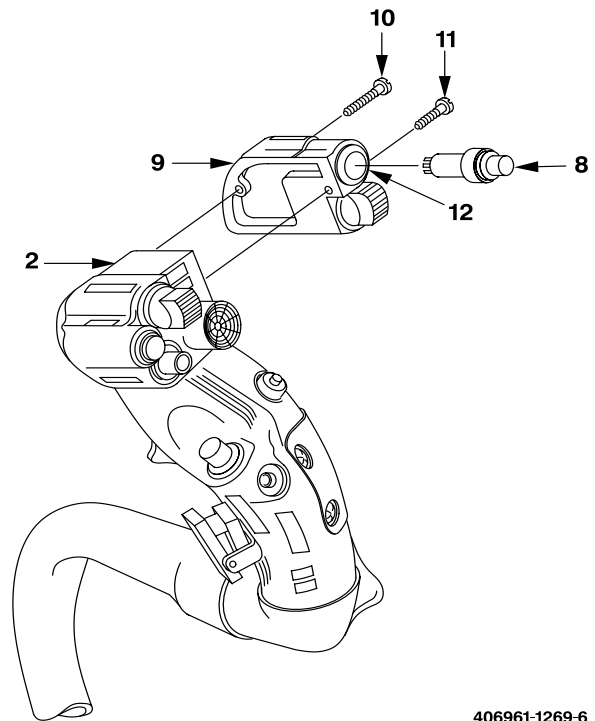
- f. Remove excess vinyl adhesive with wiping rag (D164) dampened in drycleaning solvent (D199).

INSPECT

FOLLOW-ON MAINTENANCE

Perform applicable operational check of switches as follows:

- Armament switches (TM 9-1090-214-23&P).
- All other switches (TM 1-1520-248-T).



406961-1269-6
J1758

END OF TASK

9-6-54. KEYLOCK SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Electrical Connector Kit (B80)
Heat Gun (Nitrogen) (B60)

Material:
Tiedown Strap (D206)
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

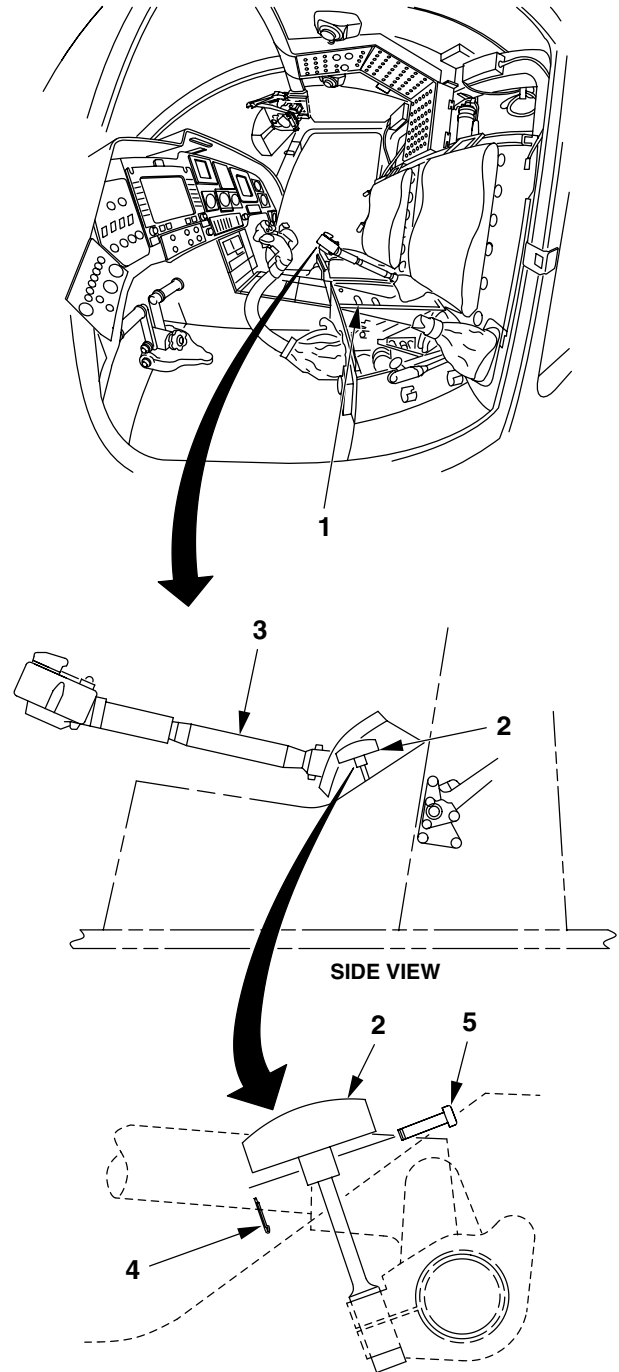
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Pilot Collective Stick Cover Removed (Task 11-2-3)

GO TO NEXT PAGE

9-6-54. KEYLOCK SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

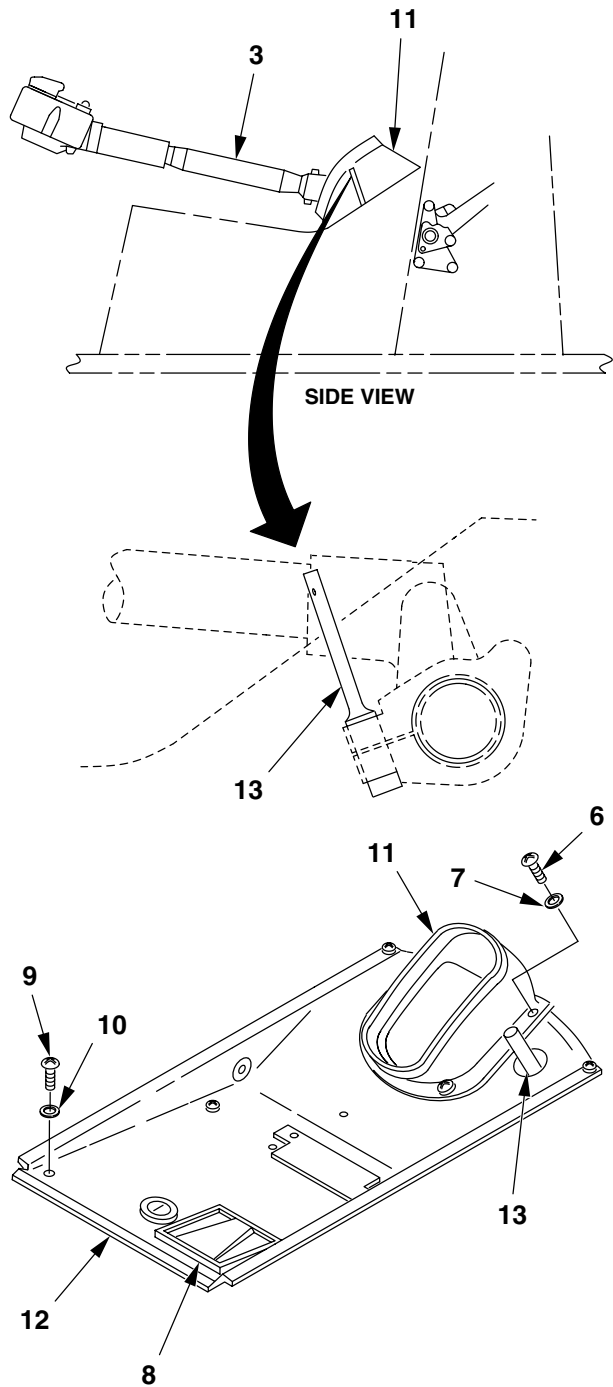
1. Open left crew door to gain access to keylock switch (1).
2. Rotate knob (2) to loosen collective friction.
3. Raise collective stick (3) as high as possible.
4. Rotate knob (2) to tighten collective friction.
5. Remove cotter pin (4), straight pin (5), and knob (2).

406961-1143-1
J0648

GO TO NEXT PAGE

9-6-54. KEYLOCK SWITCH — REMOVAL/INSTALLATION (CONT)

6. Remove five screws (6) and washers (7).
7. Lift up ashtray (8) and remove.
8. Remove seven screws (9) and washers (10).
9. Slide cover (11) forward over collective stick (3) until it is out of the way.
10. Lift rear of cover (12) over shaft (13) and pull aft approximately **0.5 inch**.



406961-1143-2
J2200

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9-6-54. KEYLOCK SWITCH — REMOVAL/INSTALLATION (CONT)

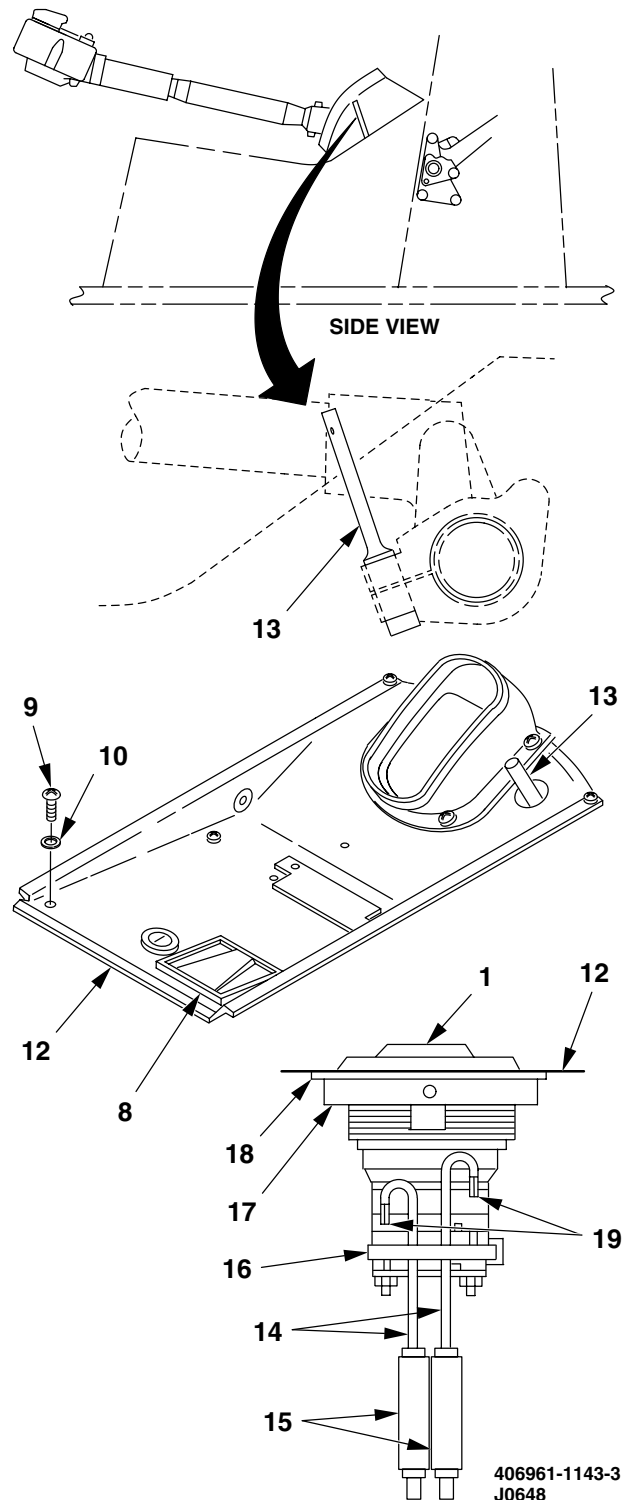
CAUTION

To avoid placing excessive strain on nearby wiring, care shall be taken when tilting cover toward pilot seat.

11. Lift and tilt cover (12) toward pilot seat as far as practical to gain access to wires (14).
12. Brace or support cover (12).
13. Tag and identify two wires (14). Using electrical connector kit (B80), disconnect inline connectors (15).
14. Cut and remove tiedown strap (D206) (16).
15. Remove nut (17) and lockwasher (18).
16. Remove keylock switch (1) from top of cover (12).
17. Desolder two tagged wires (14) from terminals (19) using heat gun (nitrogen) (B60).

INSTALL

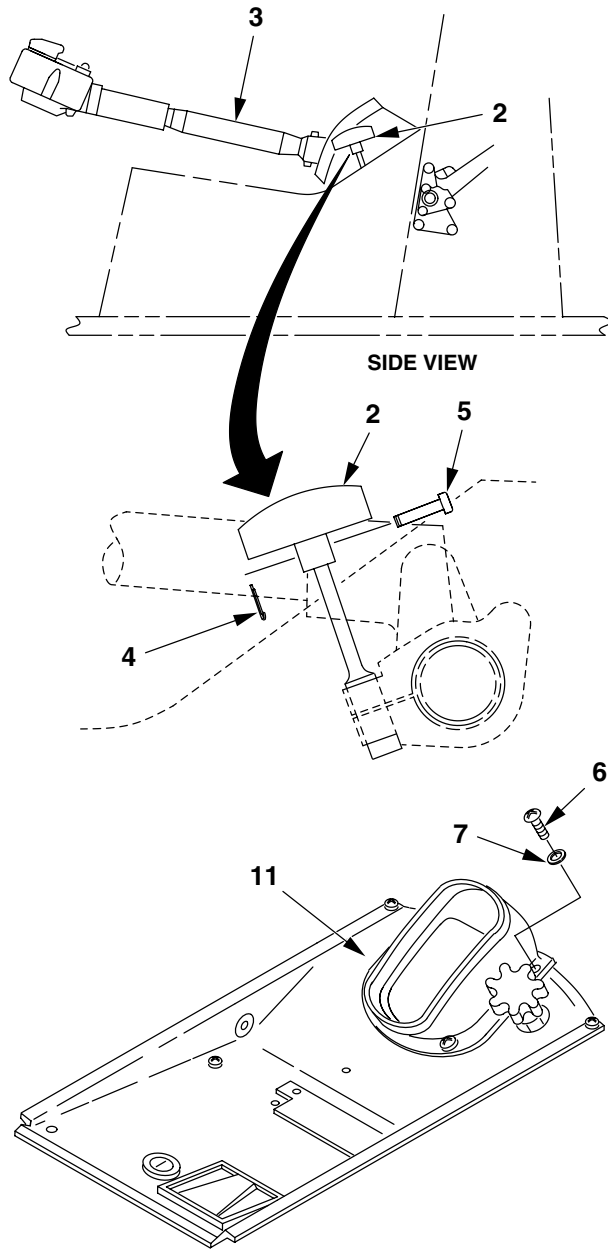
18. Solder two tagged wires (14) to mating terminals (19) using heat gun (nitrogen) (B60) and remove identification tags from wires.
19. Insert keylock switch (1) from front of cover (12) into mounting hole.
20. Install lockwasher (18) and nut (17).
21. Install tiedown strap (D206) (16).
22. Using electrical connector kit (B80), connect inline connectors (15).
23. Support cover (12) and remove brace.
24. Insert shaft (13) through rear of cover (12).
25. Position cover (12) in place and align to mounting holes.
26. Install seven washers (10) and screws (9).
27. Install ashtray (8).

406961-1143-3
J0648

GO TO NEXT PAGE

9-6-54. KEYLOCK SWITCH — REMOVAL/INSTALLATION (CONT)

28. Slide cover (11) aft on collective stick (3).
29. Position cover (11) in place and align to mounting holes.
30. Install five washers (7) and screws (6).
31. Position knob (2) in place and align to mounting hole.
32. Install straight pin (5) and cotter pin (4) through pin (5).
33. Loosen knob (2) and lower collective stick (3).
34. Tighten knob (2).



INSPECT

FOLLOW-ON MAINTENANCE

Perform MOC (TM 1-1520-248-T).

Install pilot collective stick cover (Task 11-2-3).

406961-1143-4
J2200

END OF TASK

9-6-55. PITCH RATE SENSOR — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)
Zinc Chromate Primer (B161)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

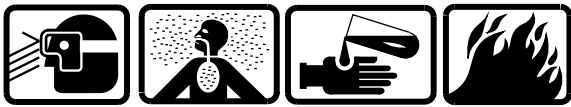
References:
TM 11-1520-248-23
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
HF COMM Receiver Transmitter Removed
(TM 11-1520-248-23)

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9-6-55. PITCH RATE SENSOR — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

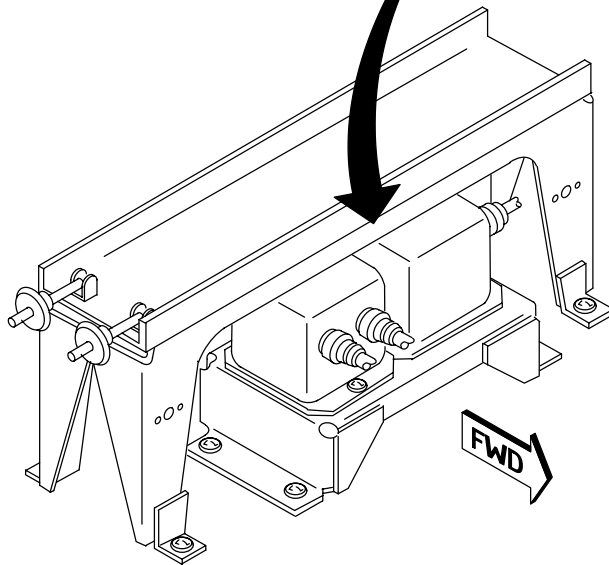
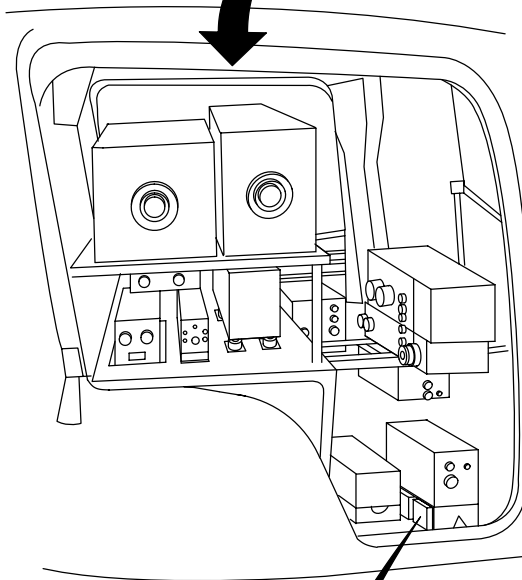
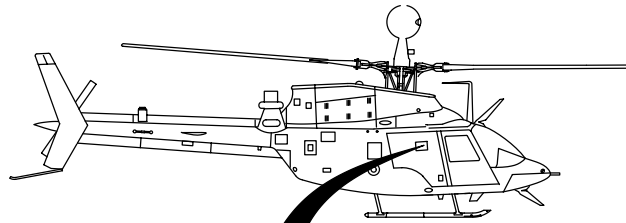


Drycleaning Solvent

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect pitch rate sensor for dents or cracks.
5. Inspect pitch rate sensor for scratches and bare metal.
6. Inspect pitch rate sensor for security of mounting.
7. Inspect electrical connectors for bent or broken pins or cracked connector inserts.



406961-1144
J1758

GO TO NEXT PAGE

9-6-55. PITCH RATE SENSOR — CLEANING/INSPECTION/REPAIR (CONT)

REPAIR

8. Replace pitch rate sensor if case is dented or cracked.



Sanding Operations

9. Repair any scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

10. Touch up bare metal using zinc chromate primer (D161).

11. Tighten or replace missing mounting hardware.

12. Straighten bent electrical connector pin(s).

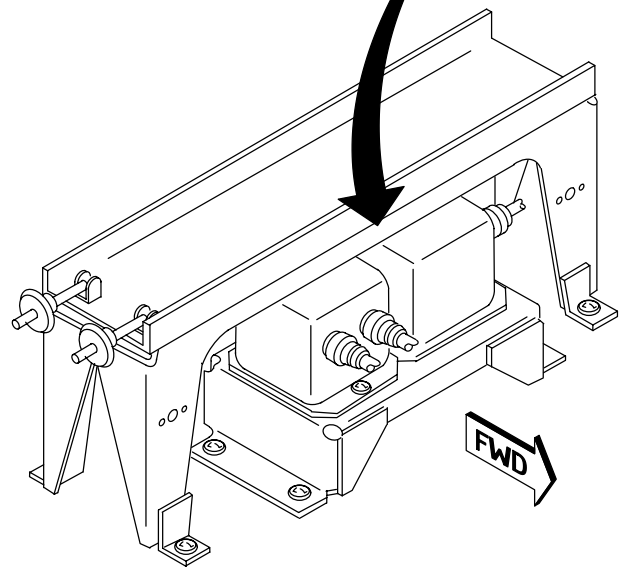
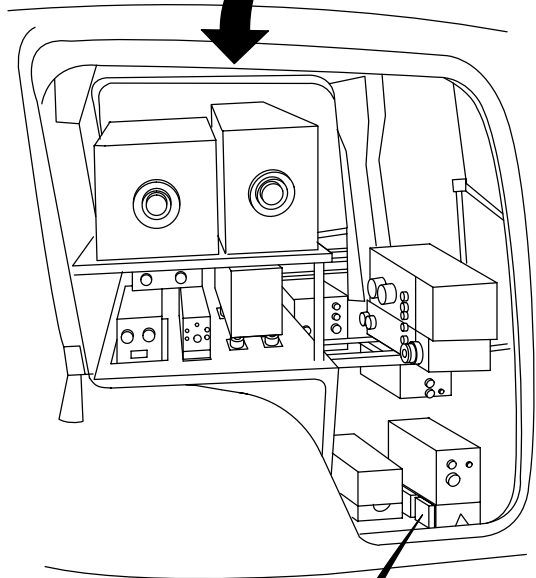
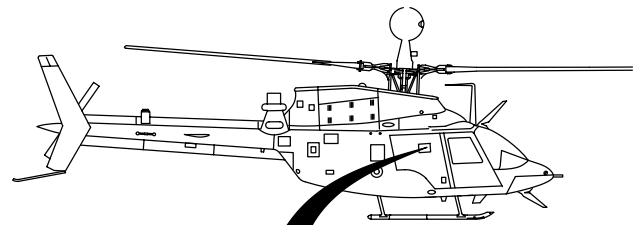
13. Replace pitch rate sensor if electrical connector pin is broken or insert is cracked.

INSPECT

FOLLOW-ON MAINTENANCE

Install HF COMM receiver transmitter (TM 11-1520-248-23).

Perform operational check (TM 1-1520-248-T).



406961-1144
J1758

END OF TASK

9-6-56. PITCH RATE SENSOR — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:

TM 1-1520-248-T
TM 11-1520-248-23

Applicable Configurations:

All

Equipment Condition:

Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
HF COMM Receiver Transmitter Removed
(TM 11-1520-248-23)

Tools:

Electrical Repairer Tool Kit (B177)

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-6-56. PITCH RATE SENSOR — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Gain access to pitch rate sensor (1).
2. Remove four screws (2) from bracket assembly (3).
3. Remove bracket assembly (3).
4. Tag and identify two electrical connectors (4).
5. Disconnect two tagged electrical connectors (4).
6. Remove three screws (5) and washers (6).
7. Remove pitch rate sensor (1).

INSTALL

8. Position pitch rate sensor (1) in place and align to mounting holes.
9. Install three washers (6) and screws (5).
10. Visually inspect electrical connectors (4) for corrosion, missing or bent pins, and cracked housing.
11. Connect tagged electrical connectors (4) to correct connectors on pitch rate sensor (1).
12. Remove identification tags from electrical connectors.

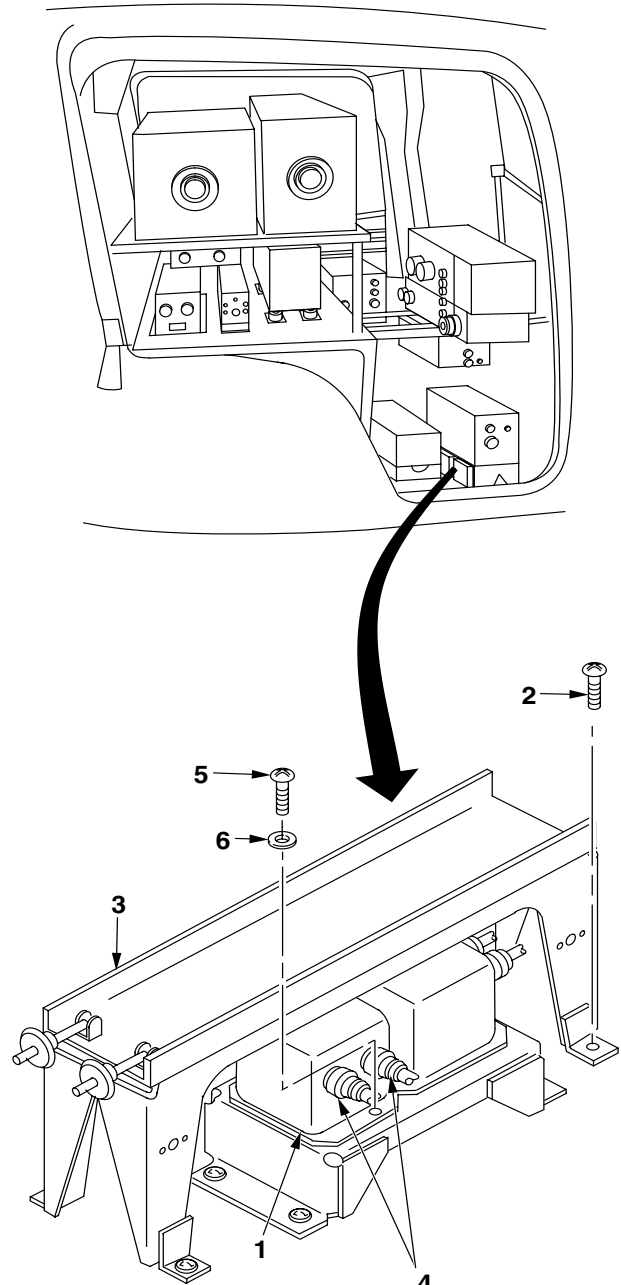
INSPECT

13. Position bracket assembly (3) in place and align to mounting holes.
14. Install four screws (2).

FOLLOW-ON MAINTENANCE

Install HF COMM receiver transmitter (TM 11-1520-248-23).

Perform operational check (TM 1-1520-248-T).



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J1758

END OF TASK

9-6-57. ROLL RATE SENSOR — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

References:
TM 11-1520-248-23

Tools:
Electrical Repairer Tool Kit (B177)

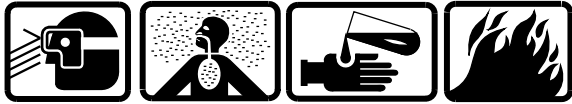
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
HF COMM Receiver Transmitter Removed
(TM 11-1520-248-23)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)
Zinc Chromate Primer (D161)

GO TO NEXT PAGE

9-6-57. ROLL RATE SENSOR — CLEANING/INSPECTION/REPAIR (CONT)

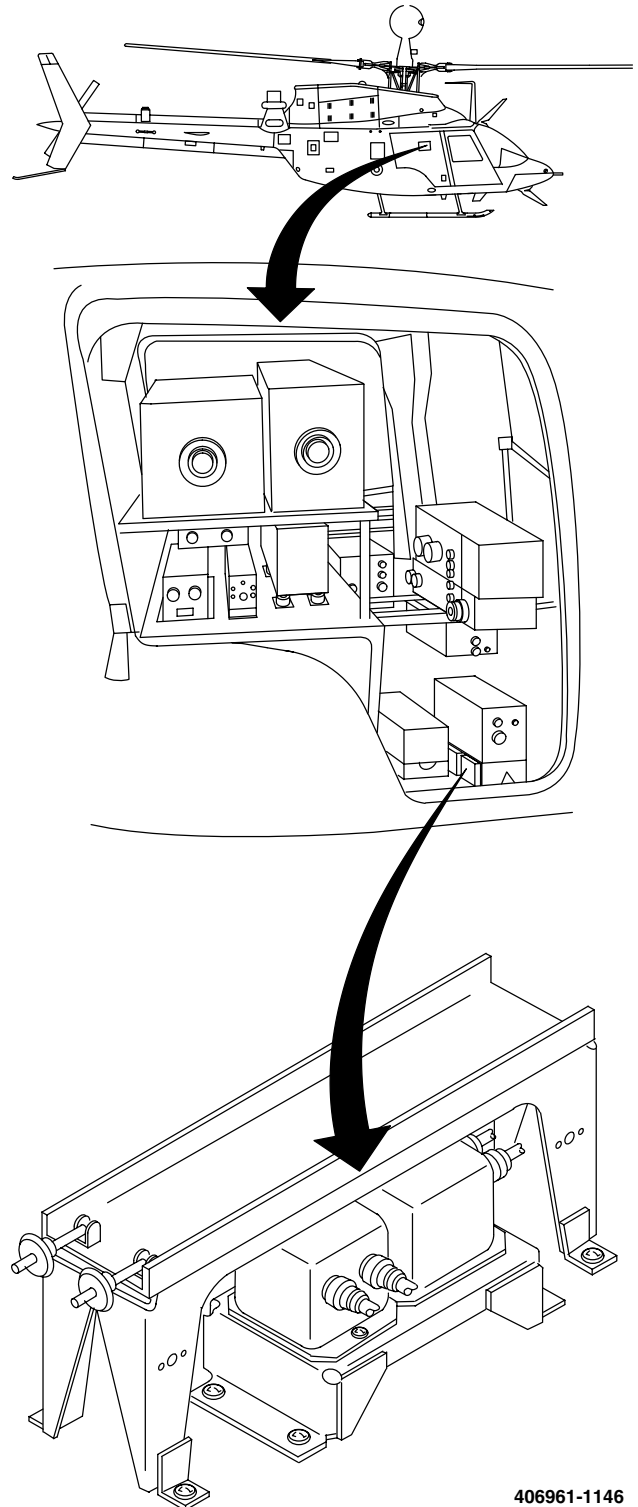
CLEAN

**Drycleaning Solvent**

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect roll rate sensor for dents or cracks.
5. Inspect roll rate sensor for scratches and bare metal.
6. Inspect roll rate sensor for security of mounting.
7. Inspect electrical connectors for bent or broken pins or cracked connector inserts.

406961-1146
J1758

GO TO NEXT PAGE

9-6-57. ROLL RATE SENSOR — CLEANING/INSPECTION/REPAIR (CONT)

REPAIR

8. Replace roll rate sensor if case is dented or cracked.



Sanding Operations

9. Repair any scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

10. Touch up bare metal using zinc chromate primer (D161).

11. Tighten or replace missing mounting hardware.

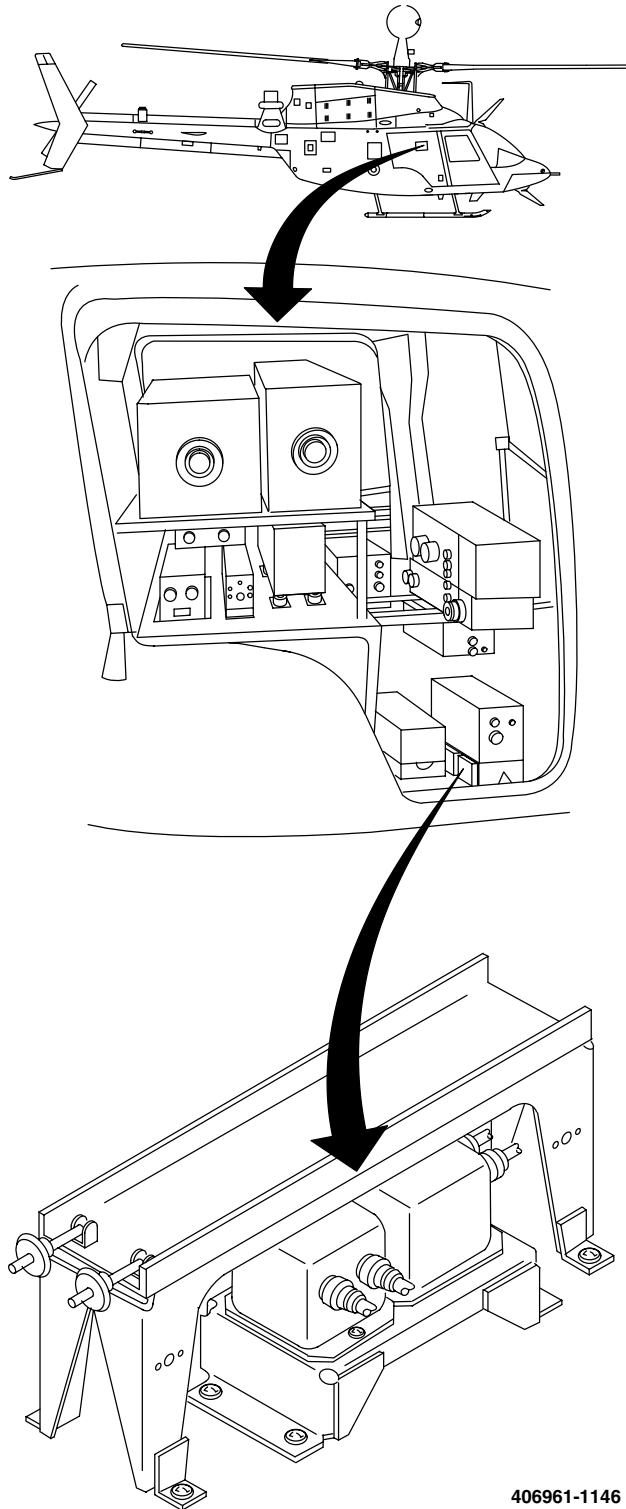
12. Straighten bent electrical connector pin(s).

13. Replace roll rate sensor if electrical connector pin is broken or insert is cracked.

INSPECT

FOLLOW-ON MAINTENANCE

Install HF COMM receiver-transmitter (TM 11-1520-248-23).



406961-1146
J1758

END OF TASK

9-6-58. ROLL RATE SENSOR — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T
TM 11-1520-248-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
HF COMM Receiver Transmitter Removed
(TM 11-1520-248-23)

GO TO NEXT PAGE

9-6-58. ROLL RATE SENSOR — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Gain access to roll rate sensor (1).
2. Remove four screws (2) from bracket assembly (3).
3. Remove bracket assembly (3).
4. Tag and identify two electrical connectors (4).
5. Disconnect two tagged electrical connectors (4).
6. Remove three screws (5) and washers (6).
7. Remove roll rate sensor (1).

INSTALL

8. Position roll rate sensor (1) in place and align to mounting holes.
9. Install three washers (6) and screws (5).
10. Visually inspect electrical connectors (4) for corrosion, missing or bent pins, and cracked housing.
11. Connect tagged electrical connectors (4) to correct connectors on roll rate sensor (1).
12. Remove identification tags from electrical connectors.

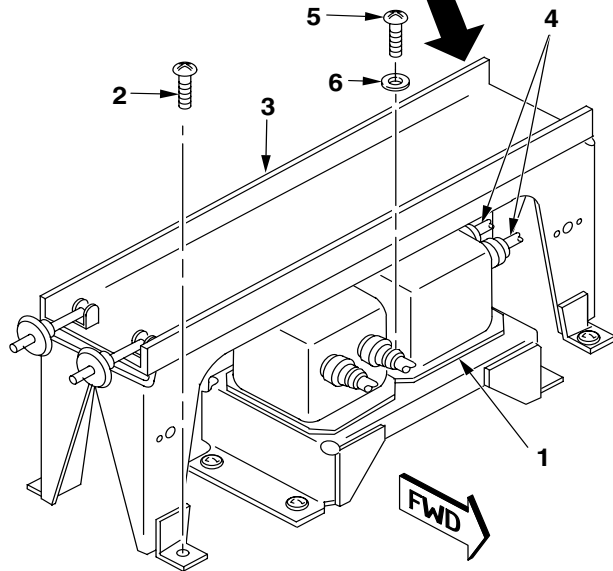
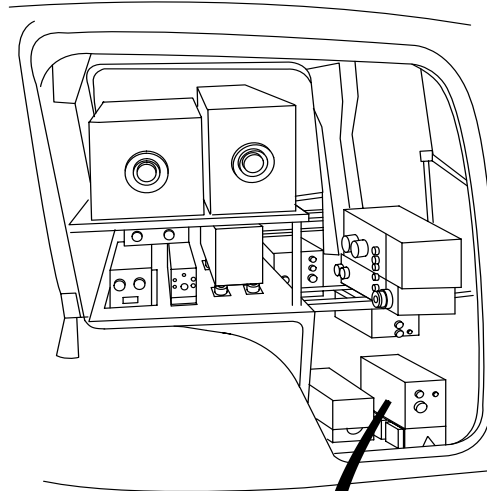
INSPECT

13. Position bracket assembly (3) in place and align to mounting holes.
14. Install four screws (2).

FOLLOW-ON MAINTENANCE

Install HF COMM receiver transmitter (TM 11-1520-248-23).

Perform operational check (TM 1-1520-248-T).



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J1758

END OF TASK

 9-6-59. DATA BUS COUPLER OR TERMINATOR (OH-58D) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)

CLEAN**NOTE**

It may be necessary to access one or all couplers and terminators. The figure Data Bus Couplers/Terminators — Locator and reference designators shall be used to locate components.

1. Access area to locate coupler or terminator.
2. Remove grease, fungus, and dirt with low-lint cleaning cloth (D67).
3. Remove moisture, excessive dust, and loose dirt with wiping rag (D164).

INSPECT

4. Inspect data bus coupler or terminator for cracks and dents.

5. Inspect data bus coupler or terminator for security of mounting.

REPAIR

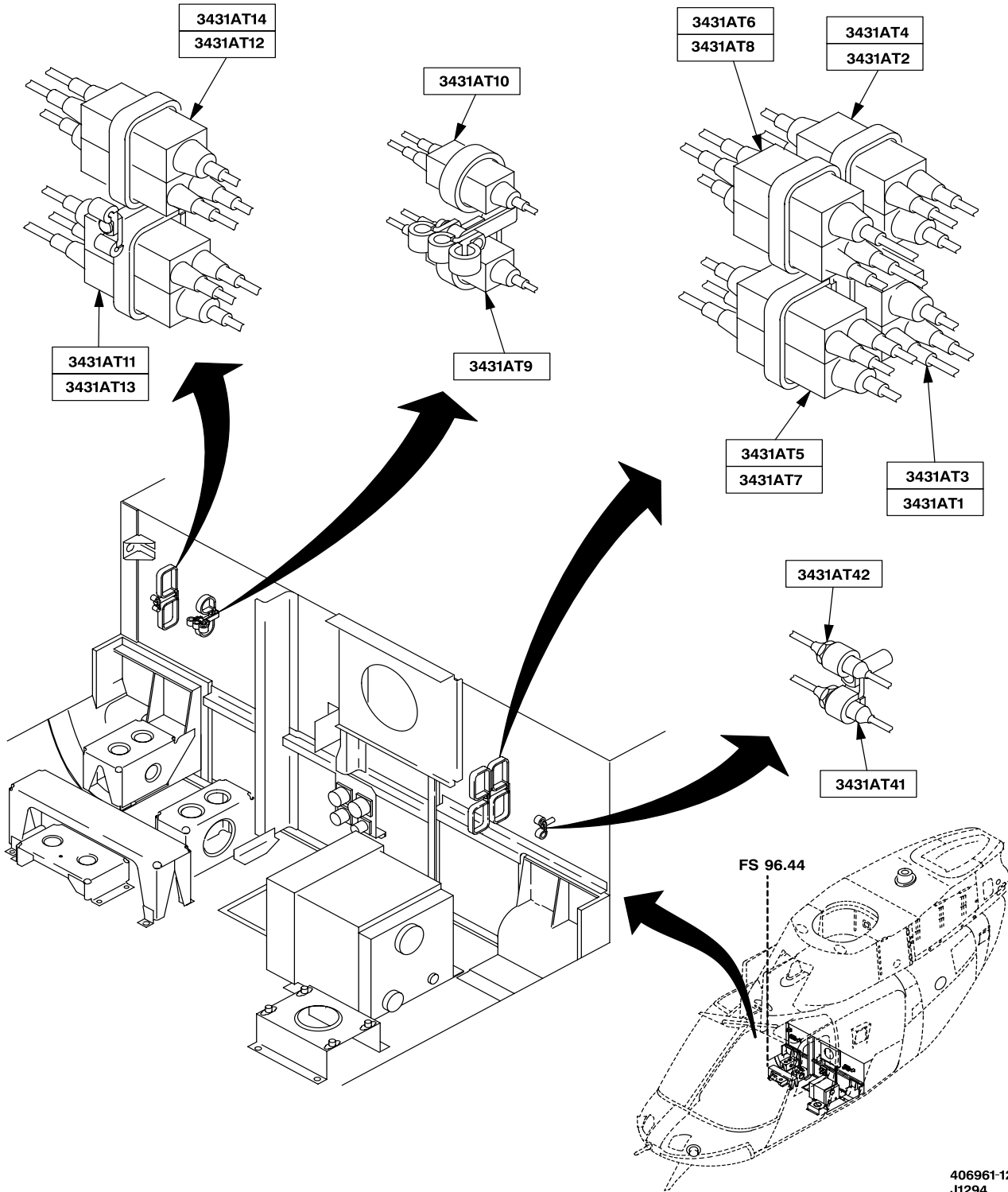
6. Replace data bus coupler or terminator if case is dented or cracked (Task 9-6-61).

7. Tighten or replace missing mounting hardware.

INSPECT

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9-6-59. DATA BUS COUPLER OR TERMINATOR (OH-58D) — CLEANING/INSPECTION/REPAIR (CONT)

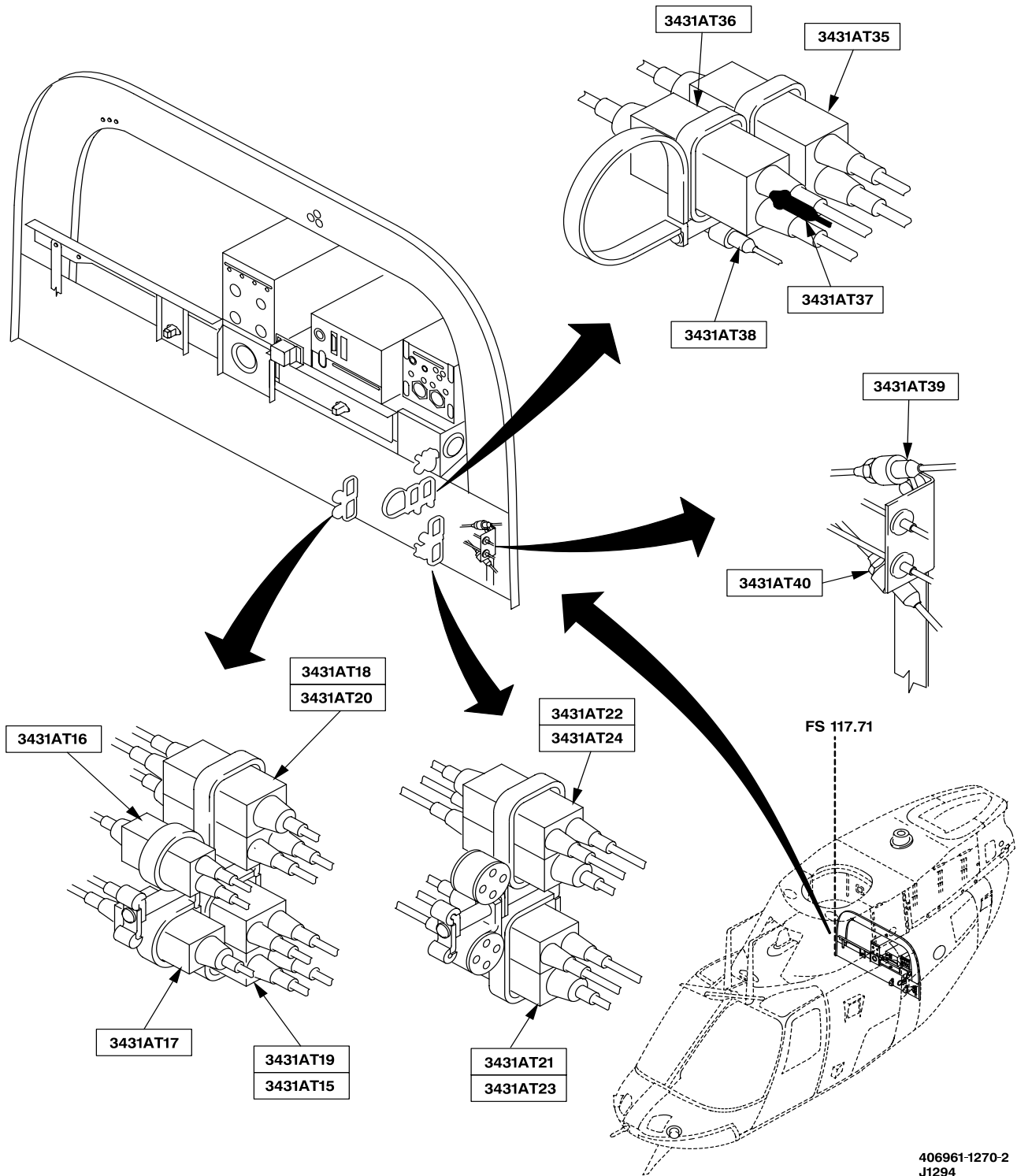


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J1294

Data Bus Couplers/Terminators — Locator (Sheet 1 of 3)

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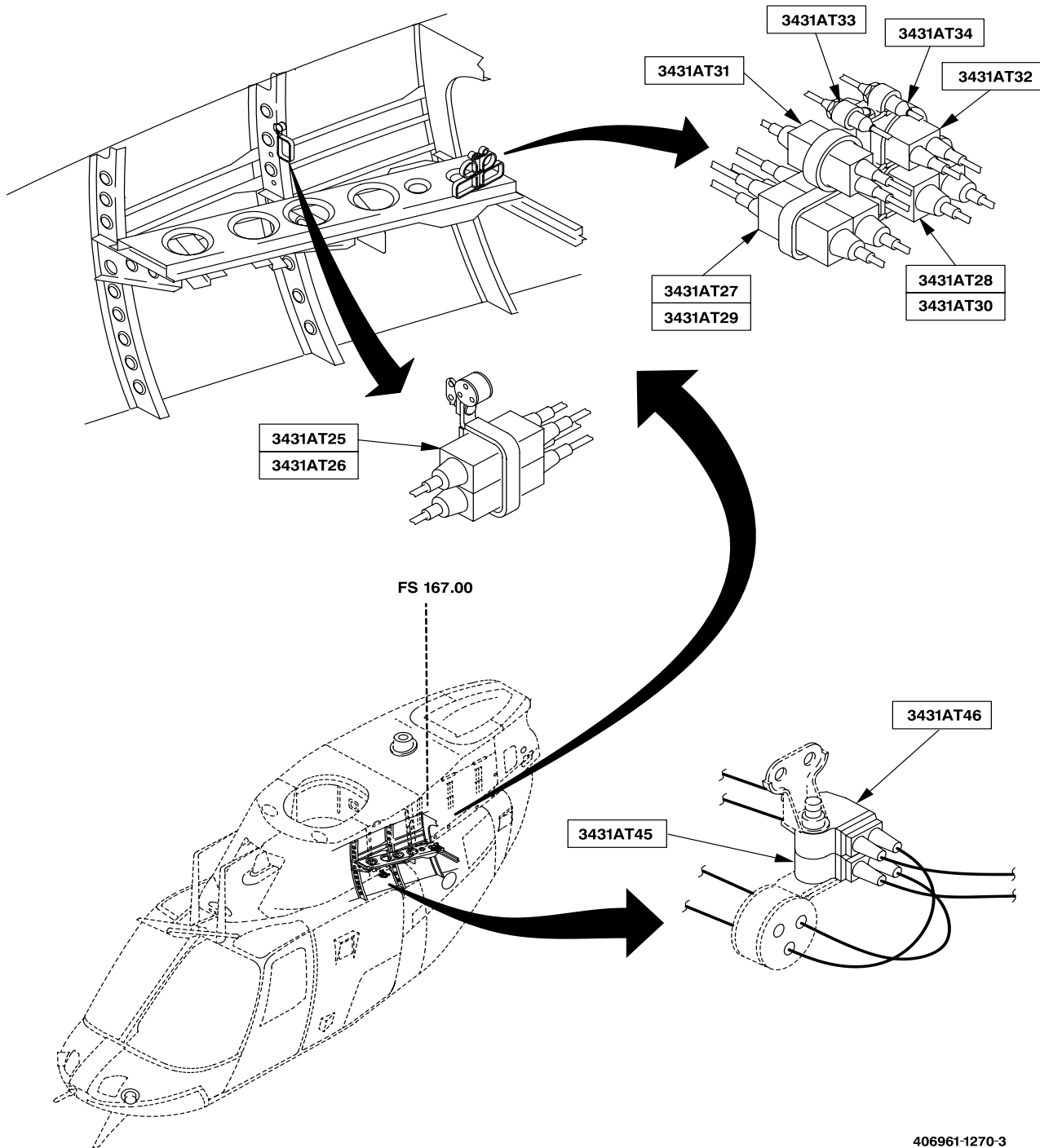
9-6-59. DATA BUS COUPLER OR TERMINATOR (OH-58D) — CLEANING/INSPECTION/REPAIR (CONT)



Data Bus Couplers/Terminators — Locator (Sheet 2 of 3)

GO TO NEXT PAGE

9-6-59. DATA BUS COUPLER OR TERMINATOR (OH-58D) — CLEANING/INSPECTION/REPAIR (CONT)



406961-1270-3
J1294

 9-6-60. DATA BUS COUPLER OR TERMINATOR (OH-58D(R)) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D(R)

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Wiping Rag (D164)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)

CLEAN
NOTE

It may be necessary to access one or all couplers and terminators. The figure Data Bus Couplers/Terminators — Locator and reference designators shall be used to locate components.

1. Using figure Data Bus Couplers/Terminators — Locator, locate components as required.
2. Remove grease, fungus, and dirt with low-lint cleaning cloth (D67).
3. Remove moisture, excessive dust, and loose dirt with wiping rag (D164).

INSPECT

4. Inspect data bus coupler or terminator for cracks and dents.
5. Inspect data bus wiring and electrical connectors for damage.

6. Inspect data bus coupler or terminator for security of mounting.

REPAIR

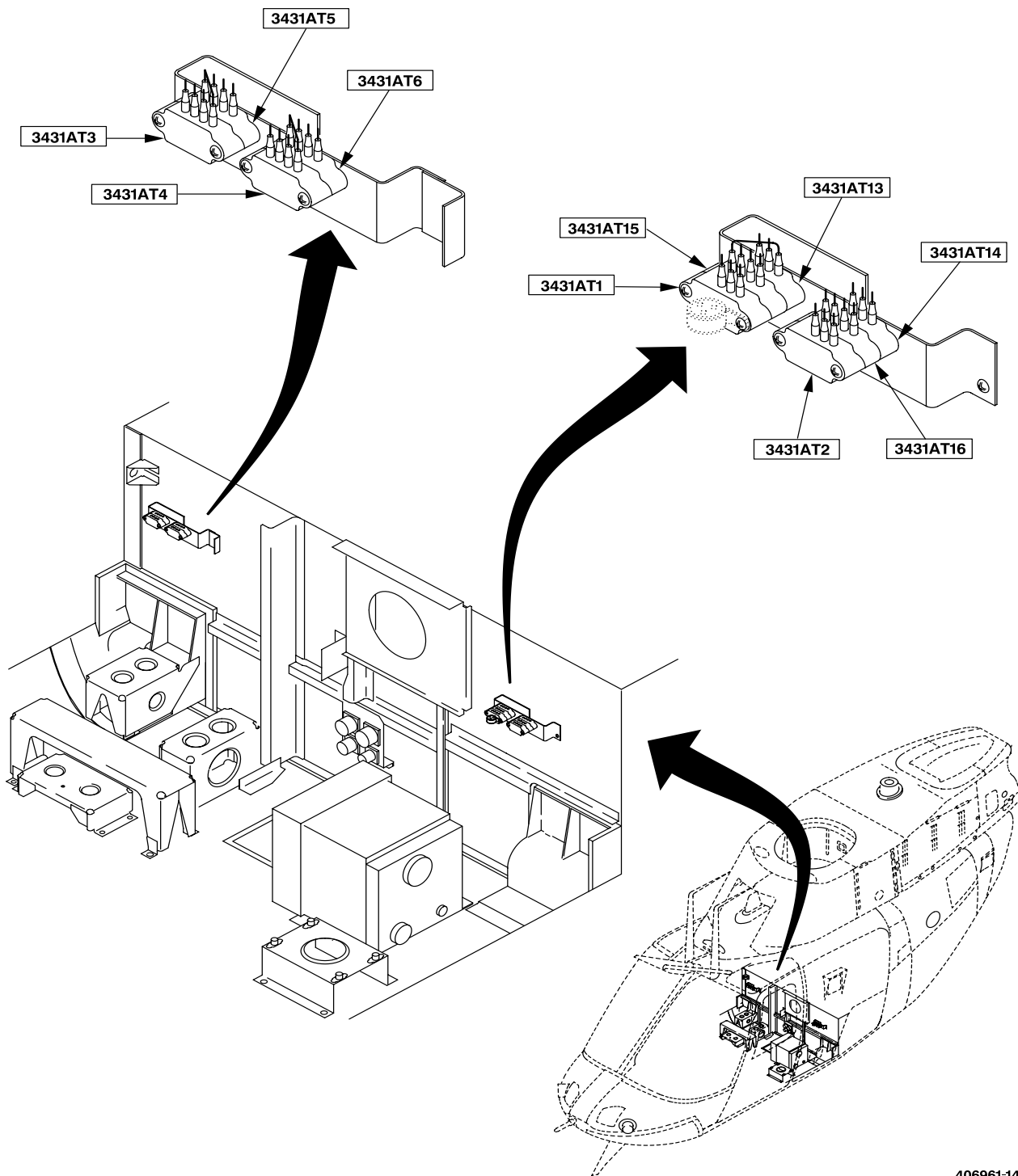
7. Replace data bus coupler or terminator if case is dented or cracked (Task 9-6-62).
8. Tighten or replace loose or missing mounting hardware.
9. Replace data bus wiring if damaged (Task 9-6-62).

INSPECT
FOLLOW-ON MAINTENANCE

Perform MOC as applicable for system (TM 1-1520-248-T).

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9-6-60. DATA BUS COUPLER OR TERMINATOR (OH-58D(R)) — CLEANING/INSPECTION/REPAIR (CONT)

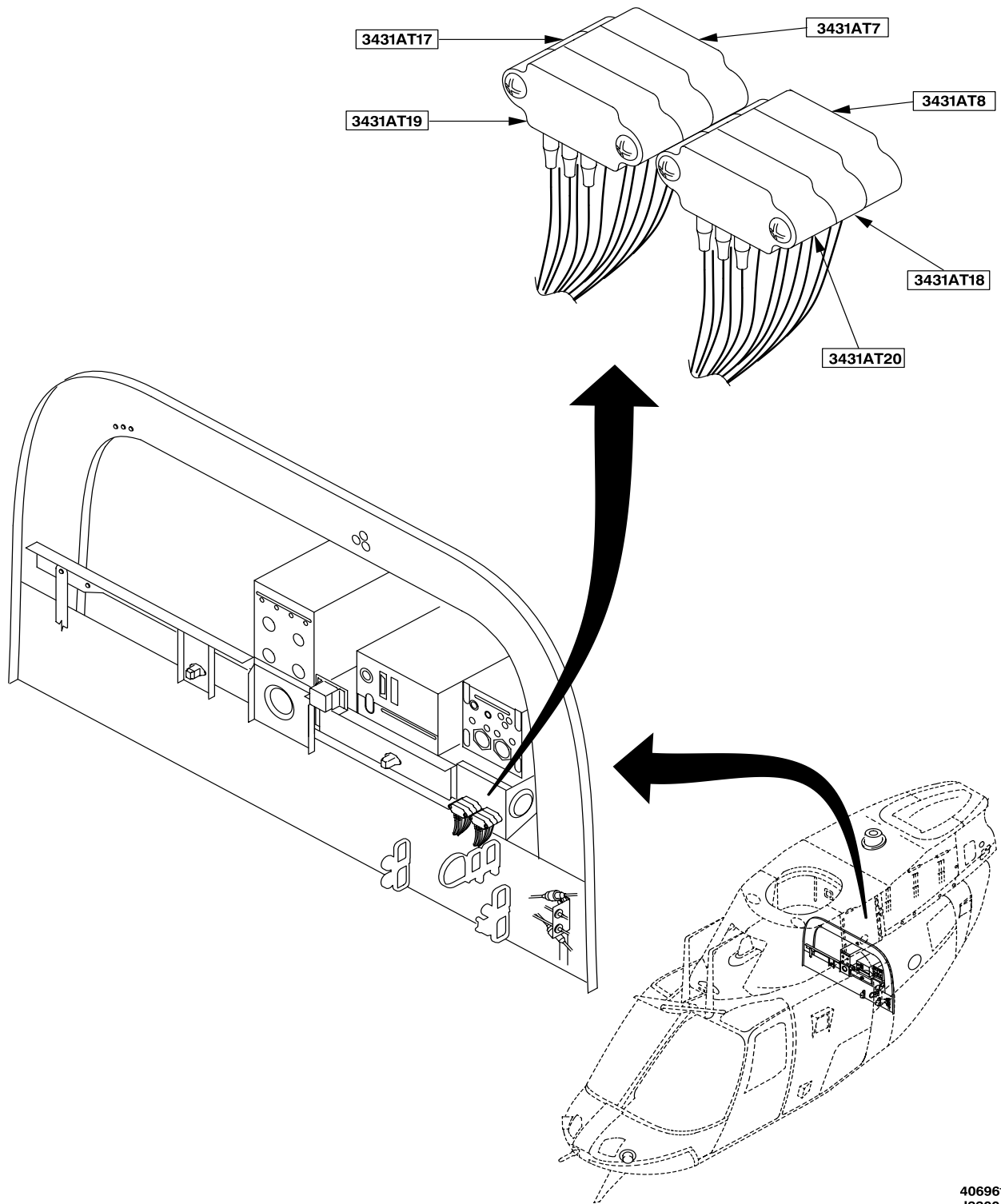


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J1297

Data Bus Couplers/Terminators — Locator (Sheet 1 of 3)

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9-6-60. DATA BUS COUPLER OR TERMINATOR (OH-58D(R)) — CLEANING/INSPECTION/REPAIR
(CONT)

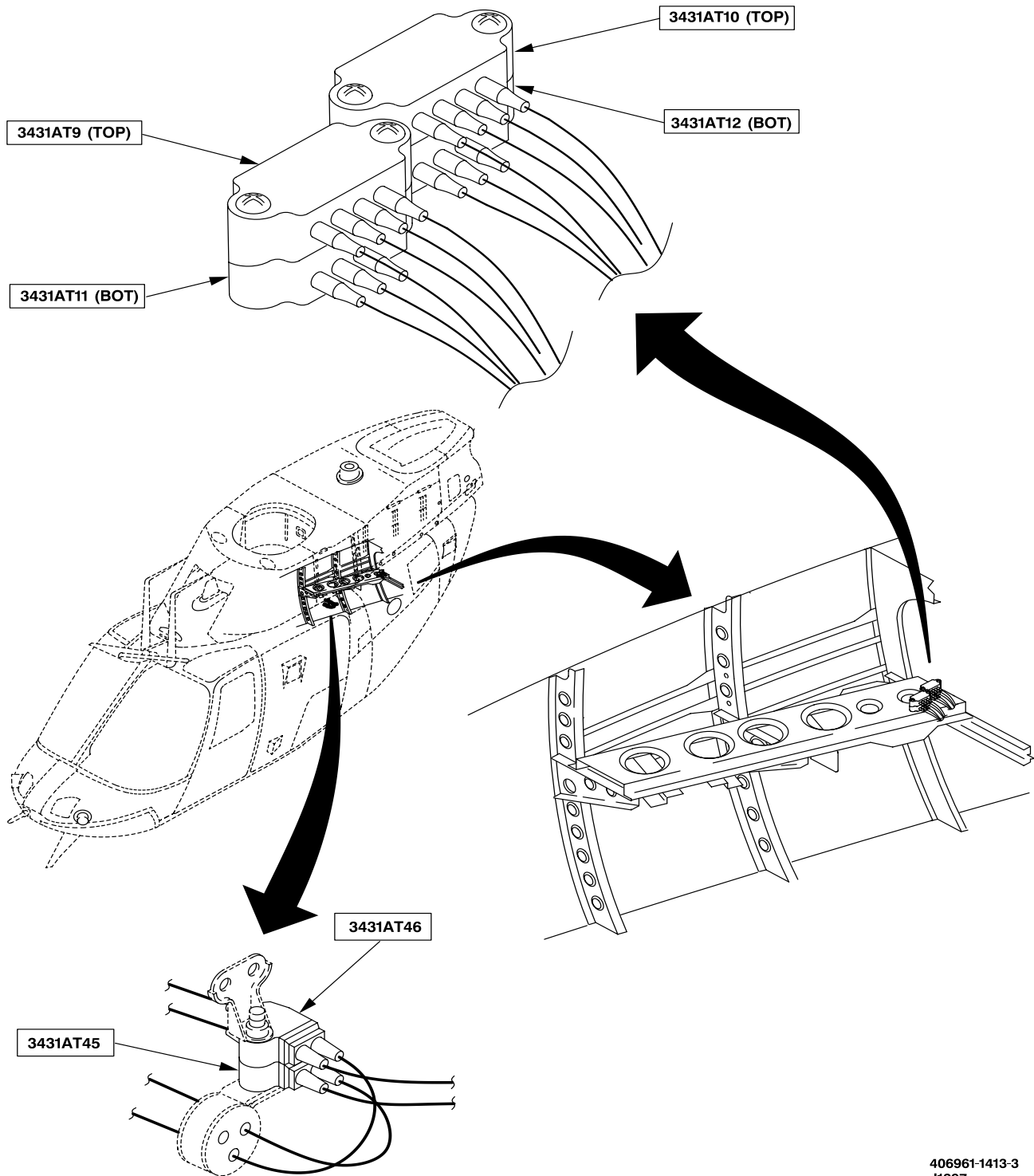


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J2200

Data Bus Couplers/Terminators — Locator (Sheet 2 of 3)

GO TO NEXT PAGE

9-6-60. DATA BUS COUPLER OR TERMINATOR (OH-58D(R)) — CLEANING/INSPECTION/REPAIR (CONT)



406961-1413-3
J1297

Data Bus Couplers/Terminators — Locator (Sheet 3 of 3)

END OF TASK

9-6-61. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Lockwire (D131)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-6-61. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D) — REMOVAL/INSTALLATION (CONT)

NOTE

Data bus coupler 3431AT26 will be used as task example. Variations in location, mounting hardware, and equipment connections will occur when replacing other units.

REMOVE

1. Open aft electrical compartment door to gain access to selected data bus coupler (3431AT26) (1). See figure Data Bus Couplers/Terminators — Locator.

2. Visually follow each coupling cable (2) away from the data bus coupler (1) to locate coupling connector (3).

3. Remove lockwire (4) from coupling connector (3) and connector (5).

4. Loosen nut (6) on coupling connector (3).

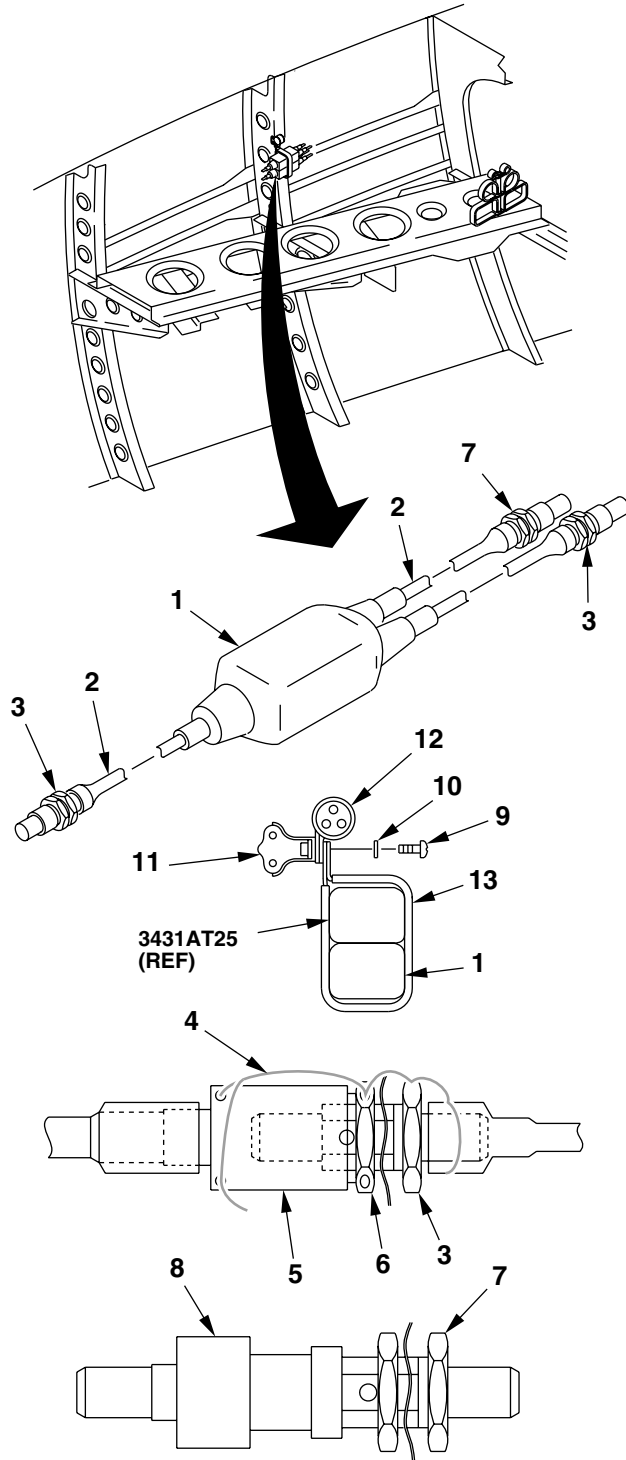
5. Disconnect coupling connector (3) from connector (5).

6. Disconnect coupling connector (7) from connector (8).

7. Remove screw (9) and washer (10) from nut (11).

8. Remove clamp (12) and clamp (13) holding data bus coupler (1).

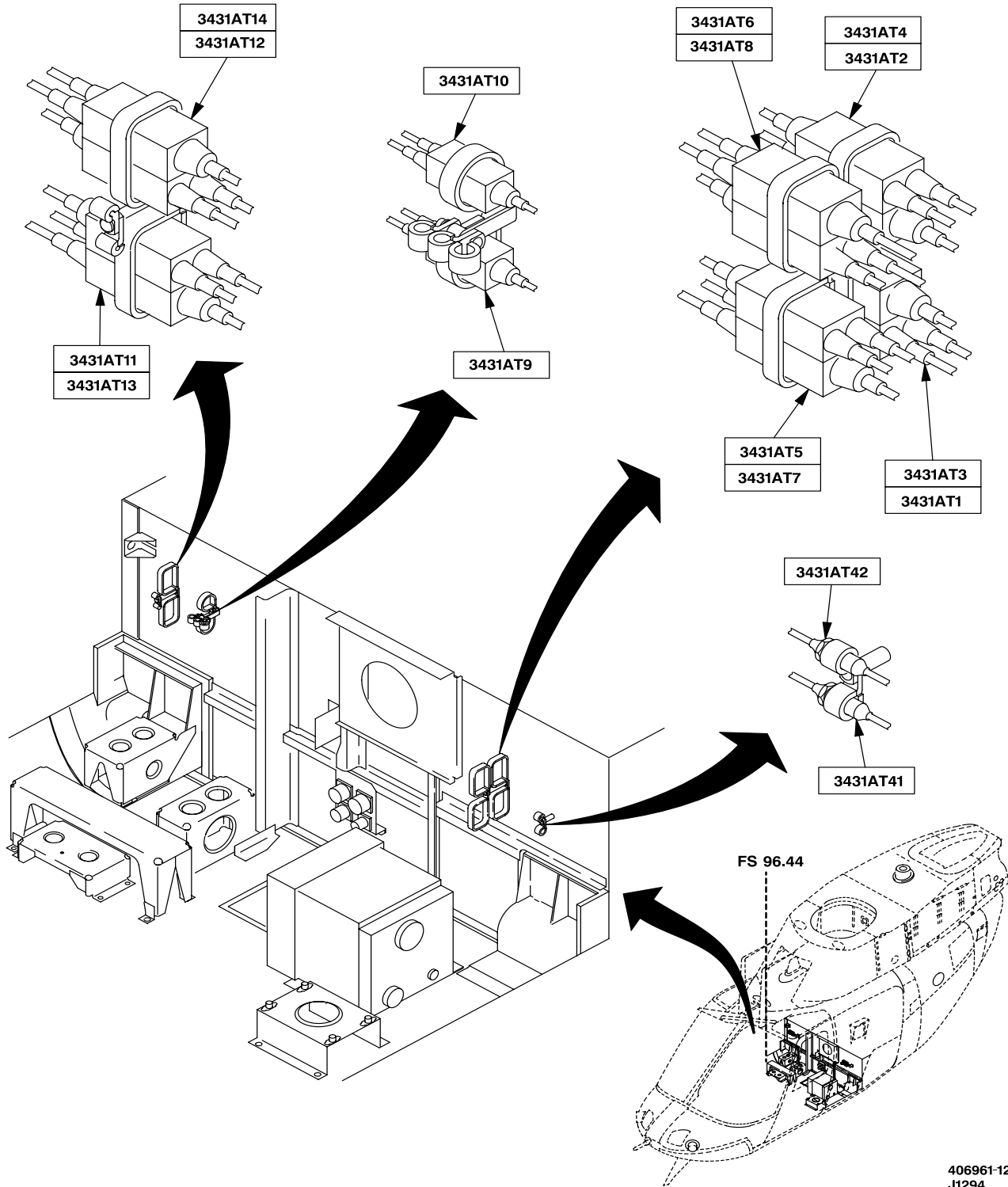
9. Remove data bus coupler (1).



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H1136

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9-6-61. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D) — REMOVAL/INSTALLATION (CONT)

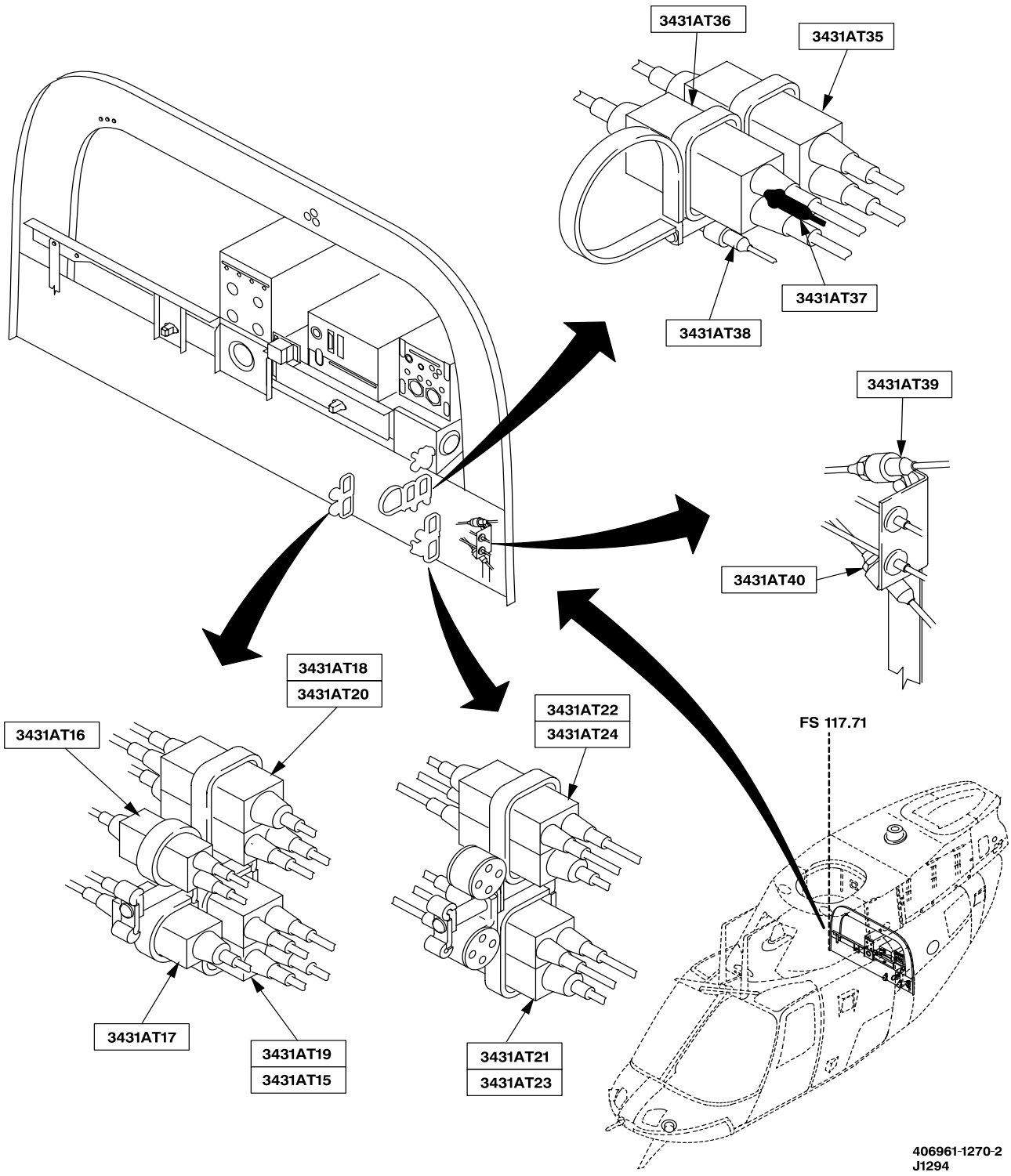


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J1294

Data Bus Couplers/Terminators — Locator (Sheet 1 of 3)

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9-6-61. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D) — REMOVAL/INSTALLATION (CONT)

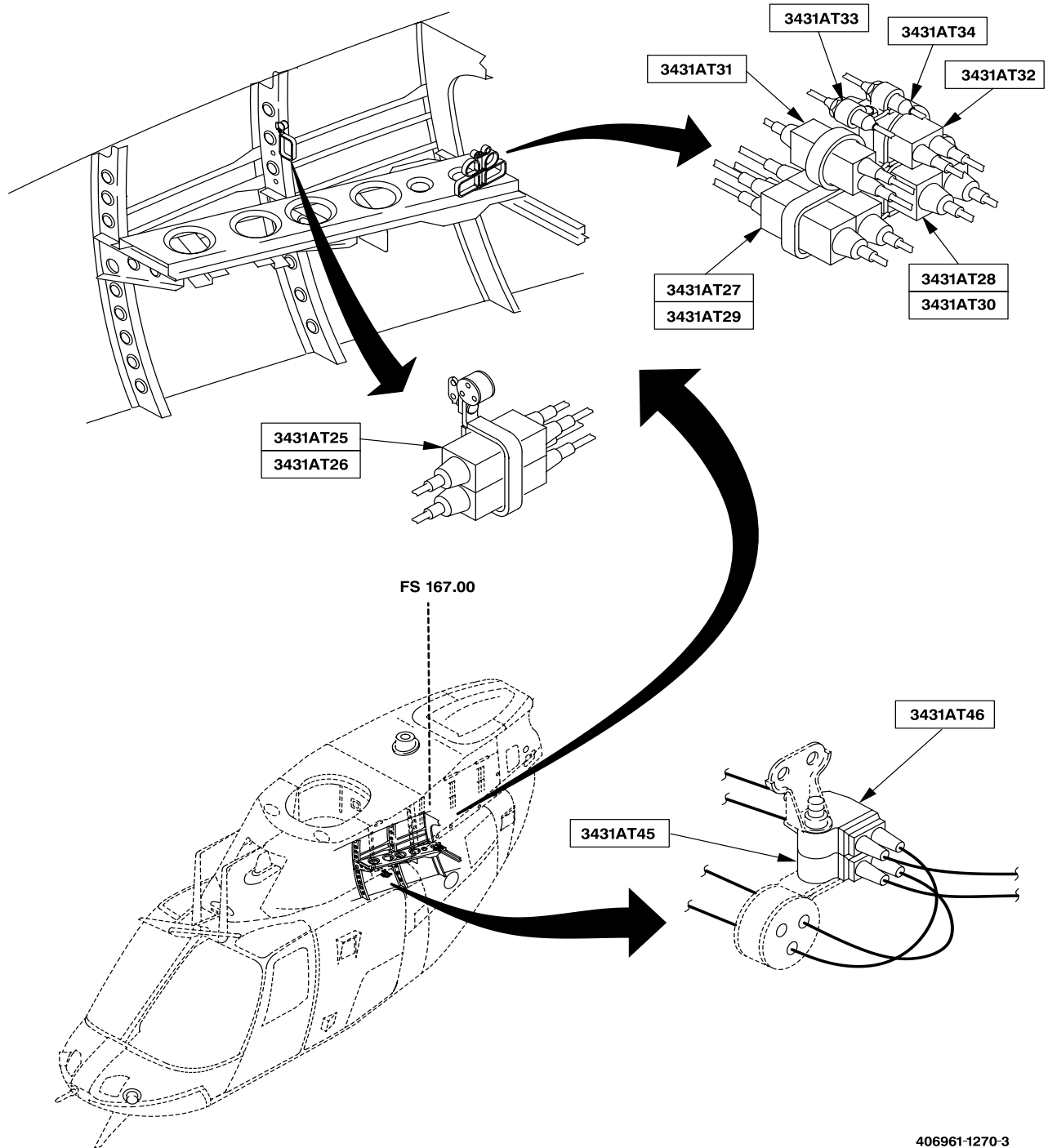


406961-1270-2
J1294

Data Bus Couplers/Terminators — Locator (Sheet 2 of 3)

GO TO NEXT PAGE

9-6-61. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D) — REMOVAL/INSTALLATION (CONT)



406961-1270-3
J1294

Data Bus Couplers/Terminators — Locator (Sheet 3 of 3)

GO TO NEXT PAGE

9-6-61. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D) — REMOVAL/INSTALLATION (CONT)

INSTALL

10. Position data bus coupler (1) into clamp (13). See figure Data Bus Couplers/Terminators — Locator.

11. Install screw (9) with washer (10) through clamps (13) and (12) in nut (11).

12. Connect coupling connector (3) to connector (5).

13. Tighten nut (6).

NOTE

Lockwire shall not be tightened where it will cut into insulating tubing.

14. Lockwire (D131) connector (3) to connector (5).

a. Wrap one turn of lockwire (D131) around connector (3).

b. Put lockwire (D131) through nut (6) and connector (5).

c. Twist wire per MS33540.

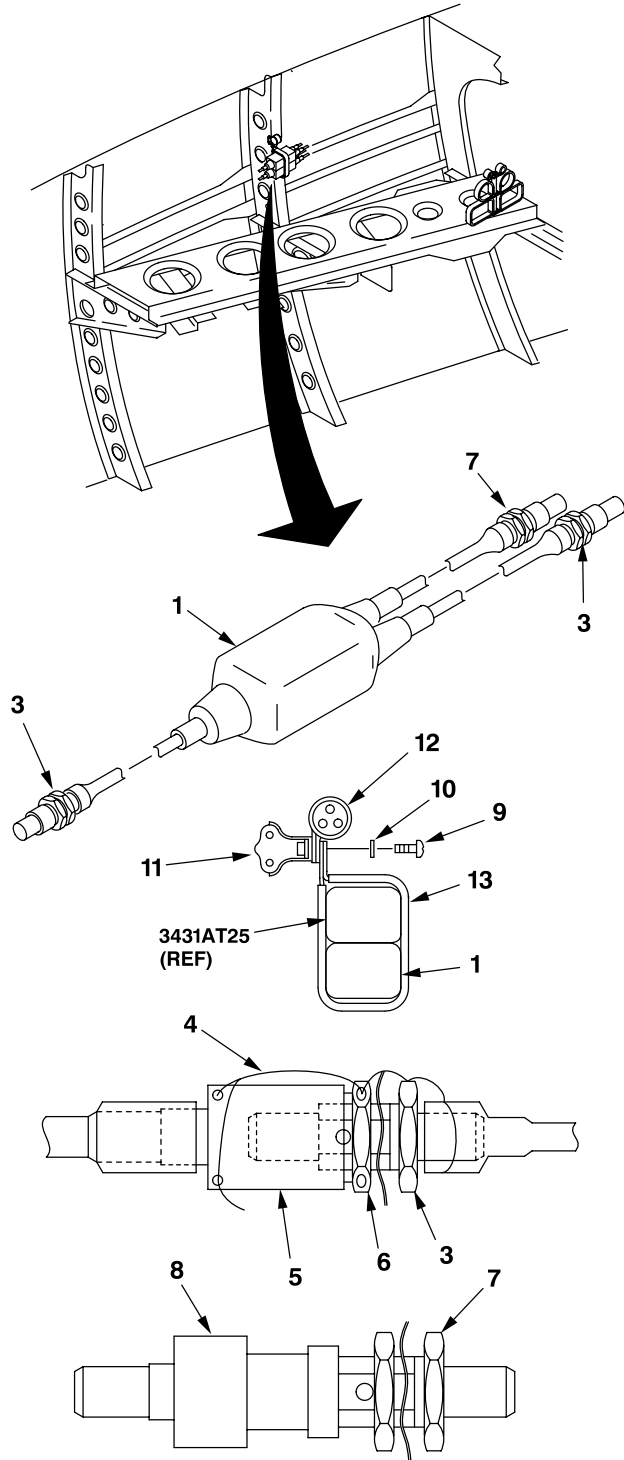
15. Lockwire (D131) connector (3) to nut (6).

16. Connect coupling connector (7) to connector (8).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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J2200

END OF TASK

9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/
INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D(R)

Tools:

Heat Gun (Nitrogen) (B60)
Electrical Connector Kit (B80)
Electrical Repairer Tool Kit (B177)
Heat Gun Fixture (Holding Tool) (B43)

Material:

Lockwire (D131)

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:

TM 1-1520-248-T

Equipment Condition:

Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

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9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/INSTALLATION (CONT)

NOTE

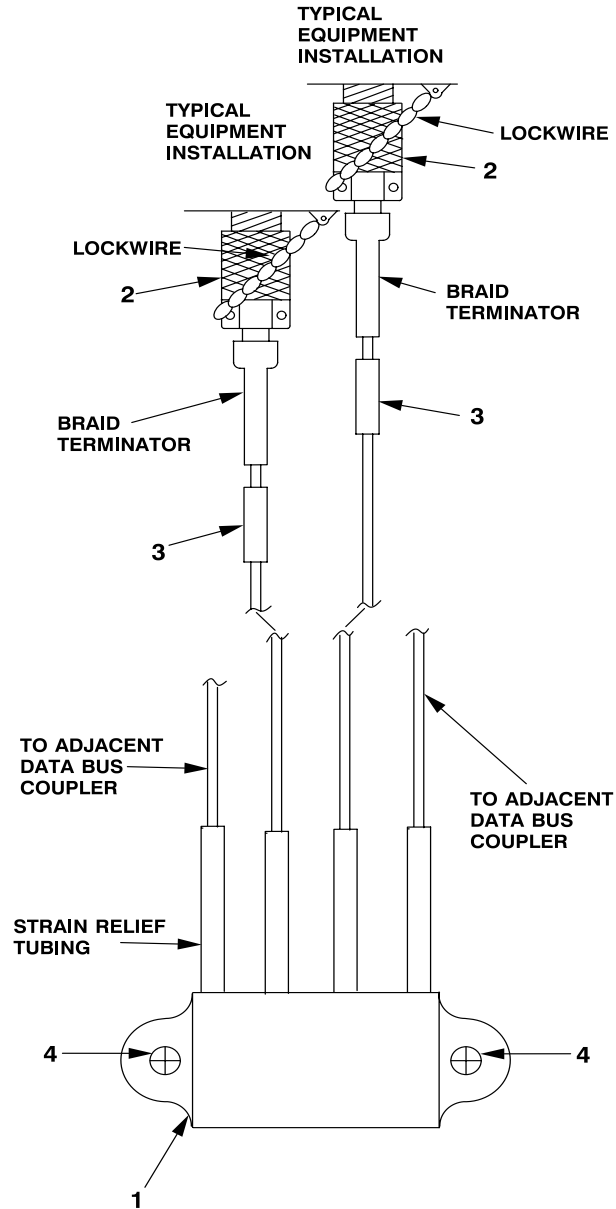
Data bus coupler or terminator replacement is typical. Variations in location, mounting hardware, and equipment connections will occur when replacing other units.

REMOVE

1. Open appropriate electrical compartment door to gain access to defective data bus coupler (1). See figure Data Bus Couplers/Terminators — Locator.
2. Visually follow each data bus cable away from the data bus coupler (1) to locate coupling connector (2).
3. Remove lockwire and disconnect connectors (2) at all typical equipment installations.
4. Remove connectors (2) from ends of old data bus wires and retain parts for reinstallation.
5. Remove old reference designator tags (3) from ends of wires for defective data bus coupler (1).
6. Remove defective data bus coupler (1) from helicopter.
7. Install new data bus coupler (1) in helicopter. Route new data bus cable through same clamps as original.
8. Install reference designator tags (3) over new data bus cables as applicable.

NOTE

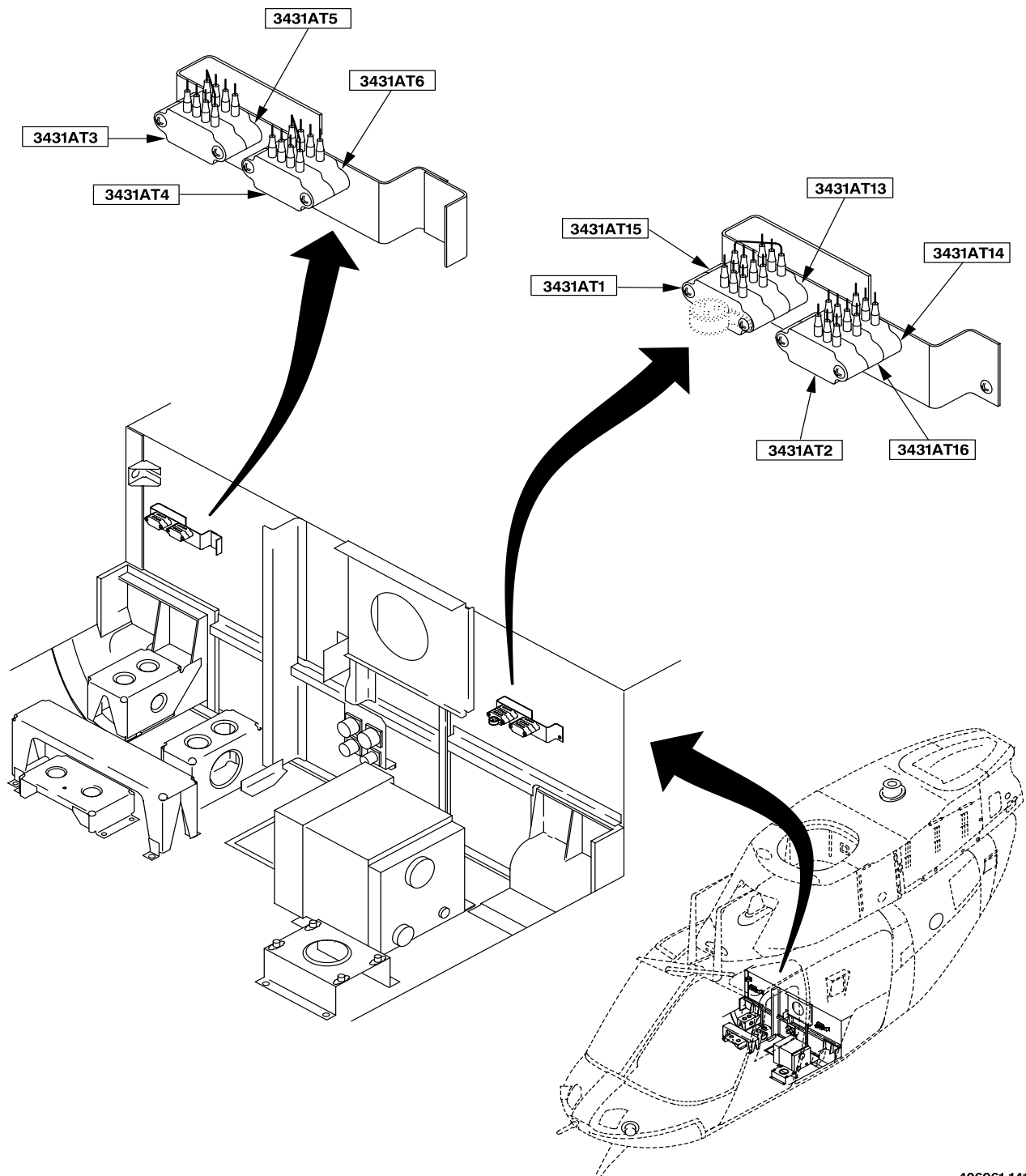
- Data bus cable stubs need to be at least **12 inches**.
 - Only the data bus cables that connect to adjacent data bus couplers will be cut. Others will need to remain long enough to reach equipment to which terminating.
9. Cut data bus cable connecting to the adjacent data bus couplers **12 inches** from defective data bus coupler.
 10. Remove screws (4) and remove data bus coupler (1).



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J2200

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9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/
INSTALLATION (CONT)

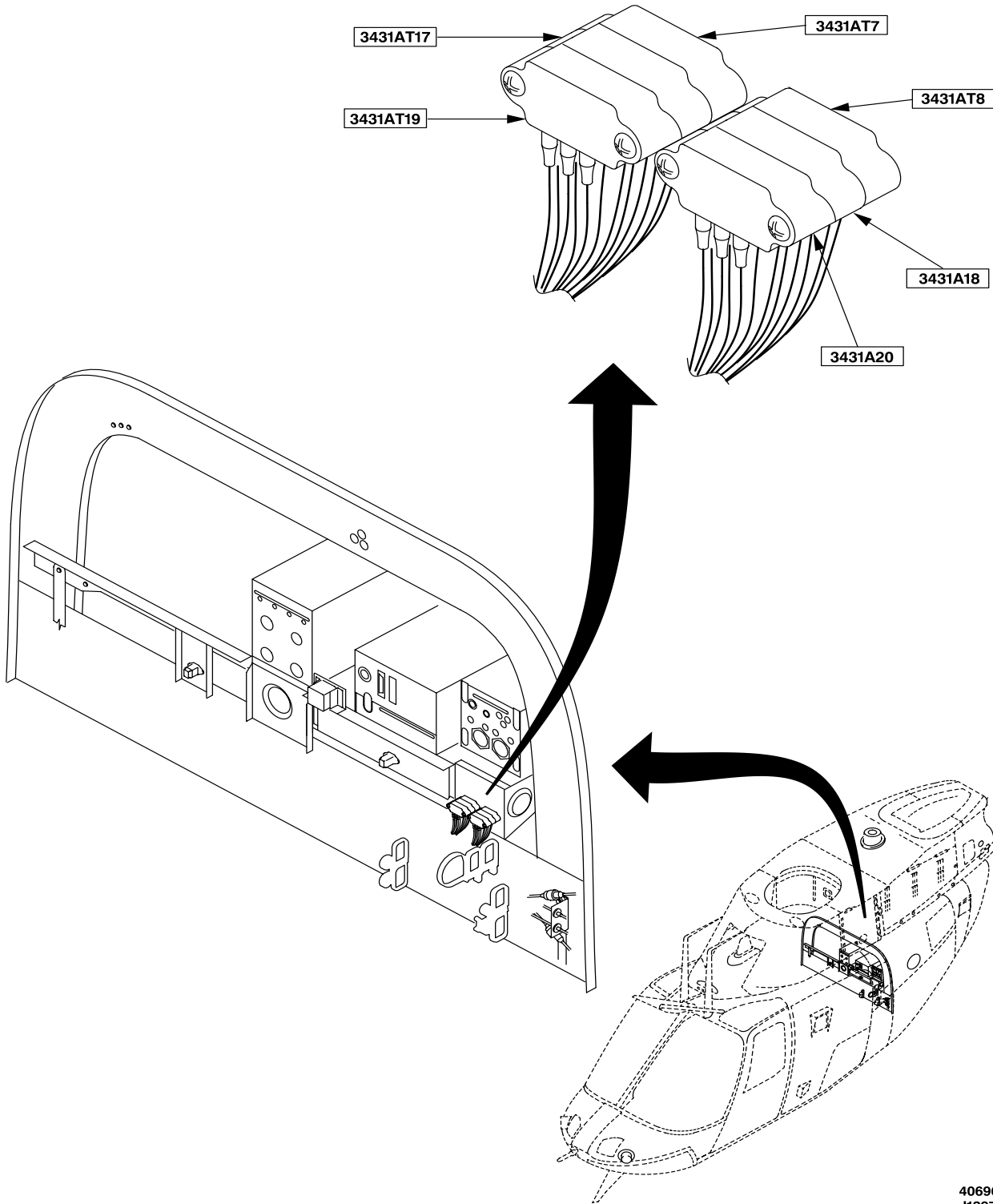


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J1297

Data Bus Couplers/Terminators — Locator (Sheet 1 of 3)

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9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/
INSTALLATION (CONT)

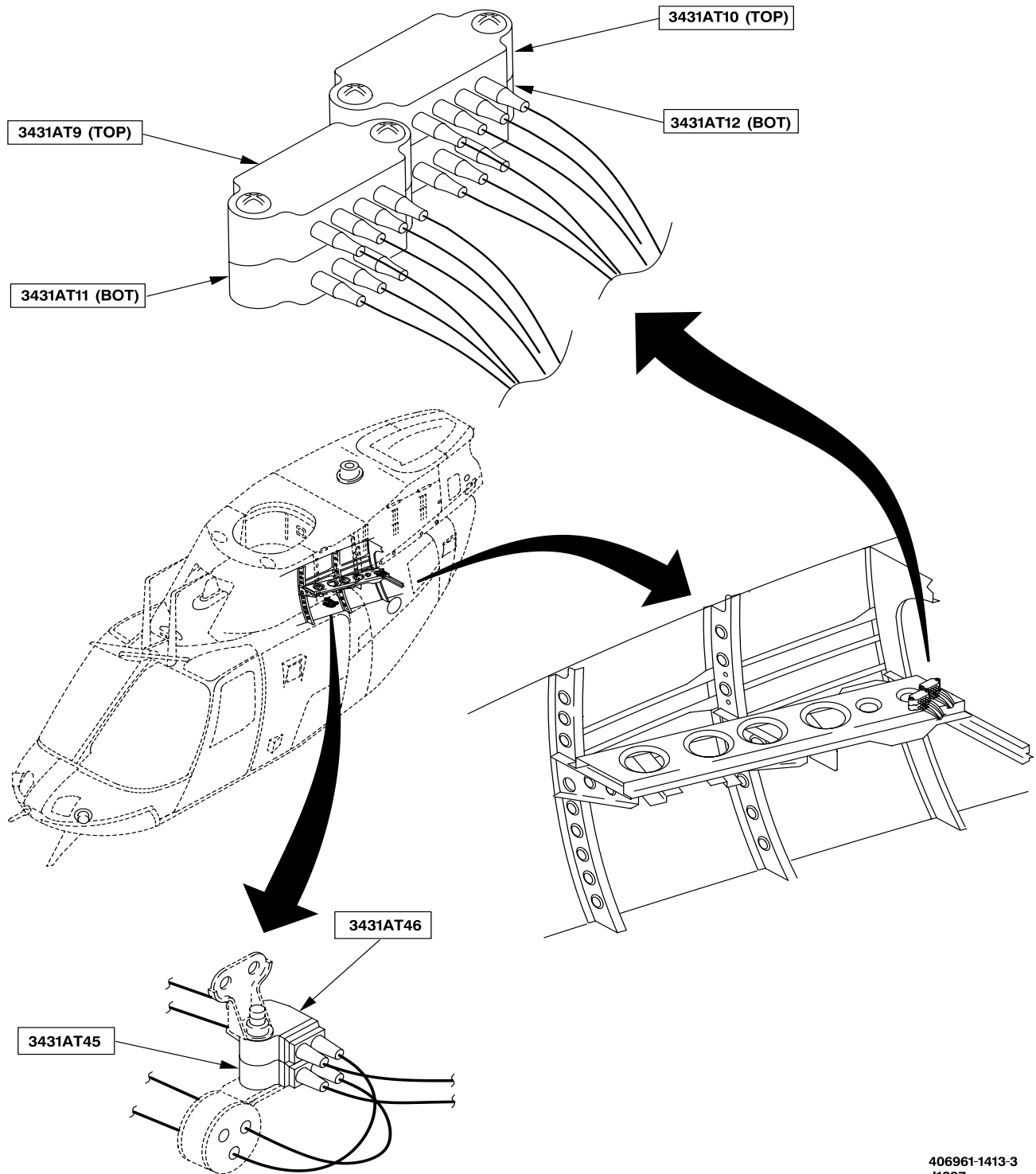


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J1297

Data Bus Couplers/Terminators — Locator (Sheet 2 of 3)

GO TO NEXT PAGE

9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/
INSTALLATION (CONT)



406961-1413-3
J1297

Data Bus Couplers/Terminators — Locator (Sheet 3 of 3)

GO TO NEXT PAGE

9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/
INSTALLATION (CONT)

INSTALL SPLICES

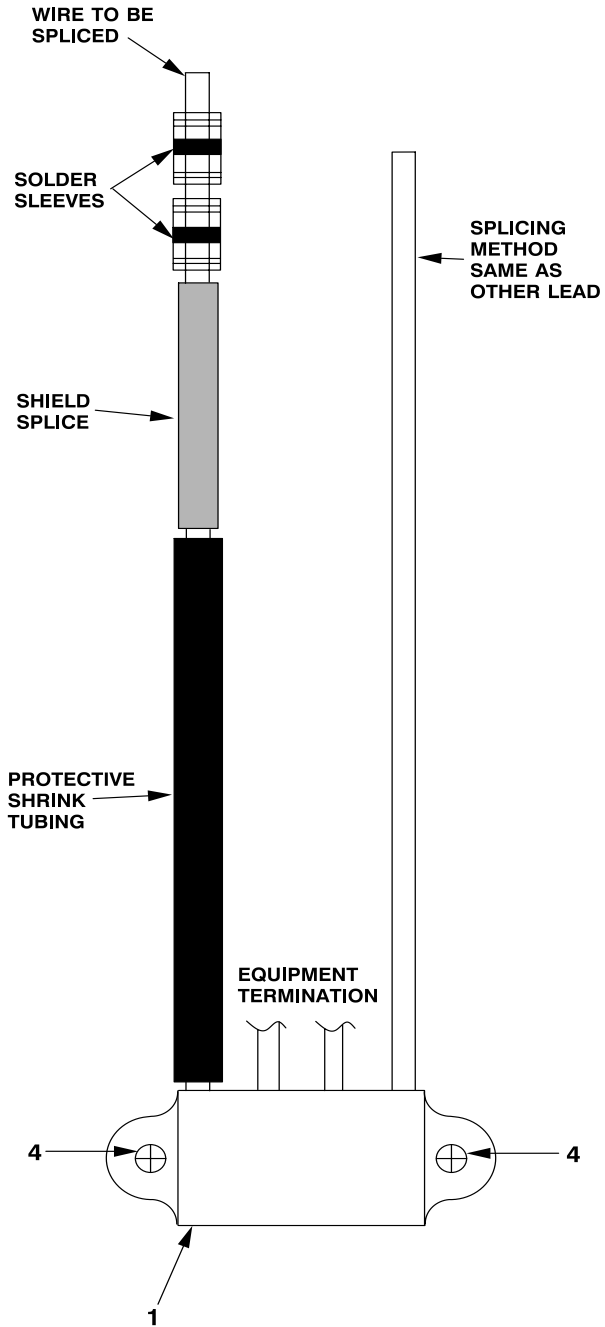
11. Install data bus coupler (1) with screws (4).

12. Cut wires on new data bus coupler (1) to be spliced to adjacent data bus couplers **12 inches** away from new data bus coupler to match the data bus cable that was retained in helicopter.

NOTE

- If any wire from original data bus coupler was capped and stowed, same wire from replacement data bus coupler shall be capped and stowed in the same manner at the same location.
- Following procedure may also be used to replace a defective section of data bus cable.

13. Slide protective shrink tubing, shield splice, and solder sleeves down over wires nearest data bus coupler.



406375-2-2
J2200

GO TO NEXT PAGE

9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/INSTALLATION (CONT)

14. Score data bus cable jacket at A and B.

NOTE

Jacket at points X will remain in place at this time so cable shield will not fray and make splicing operation more difficult than it has to be.

15. Remove data bus cable jacket at C (View A).

16. Trim shield flush with jacket at point X as shown.

17. Strip insulation off of primary conductors **1/4 inch** as shown.

18. Slide sealing sleeves over primary conductors as shown (View B).

19. Place crimp barrels over primary conductors until wire is visible in inspection hole.

20. Using crimping tool (Part of B80), crimp barrels on end with wire inserted.

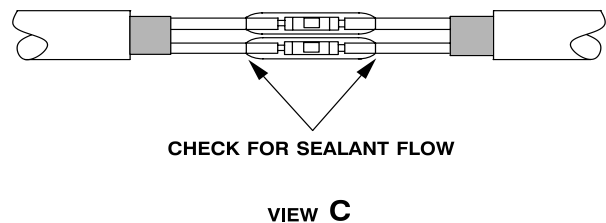
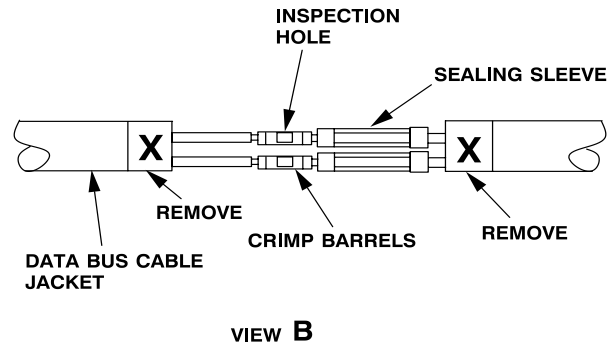
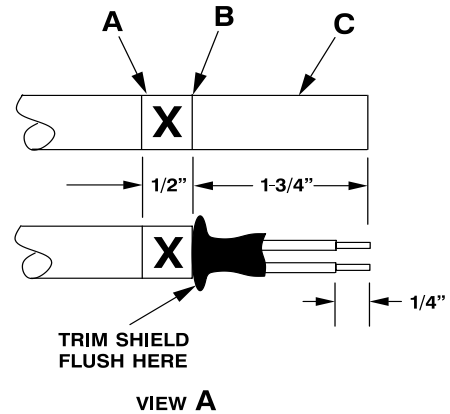
21. Insert wire into other end of crimp barrels and using crimping tool (Part of B80), crimp barrels.

22. Remove data bus cable jacket at point X.

INSPECT

23. Slide sealing sleeves down over crimp barrels and using heat gun (B60), heat per standard practices.

24. Sealant should be observed to flow evenly, and primary conductors splice should be environmentally sealed (View C).



NOTE: ALL DIMENSIONS ARE IN INCHES.

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J1306

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9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/
INSTALLATION (CONT)

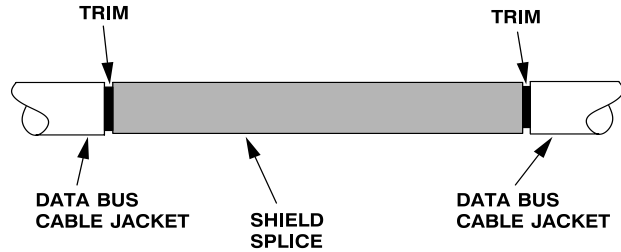
25. Slide shield splice down over splice area and trim as shown (View D).

26. Slide solder sleeves down over data bus cable jacket and shield splice as shown (View E).

27. Using heat gun (B60), heat solder sleeves per standard practices and check that environmental seals are made and that solder melted properly.

28. Center protective shrink tubing over splice area and using heat gun (B60), heat per standard shop practices (View F).

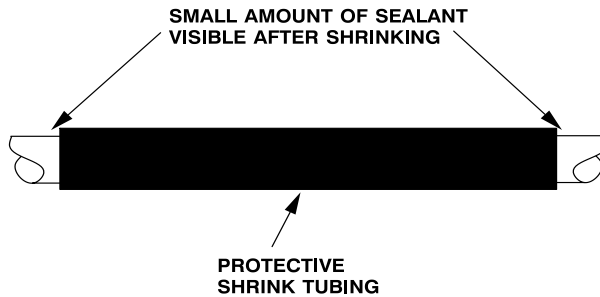
29. Ensure that some sealant has come out around junction of protective shrink tubing and data bus cable jacket.



VIEW D



VIEW E



VIEW F

INSPECT

INSTALL CONNECTORS

NOTE

Installation of connectors is typical. Procedures described are for installation of DK-621-0011 and DK-621-0033 series connectors used on OH-58D and OH-58D(R) helicopters.

30. Following figure, Data Bus Coupling Connector Replacement, details procedure for replacement of connectors attaching data bus cable to equipment.

31. Connect electrical connector(s) on data bus cable to equipment as applicable.

32. Install lockwire (D131) through electrical connector on data bus cable and component.

INSPECT

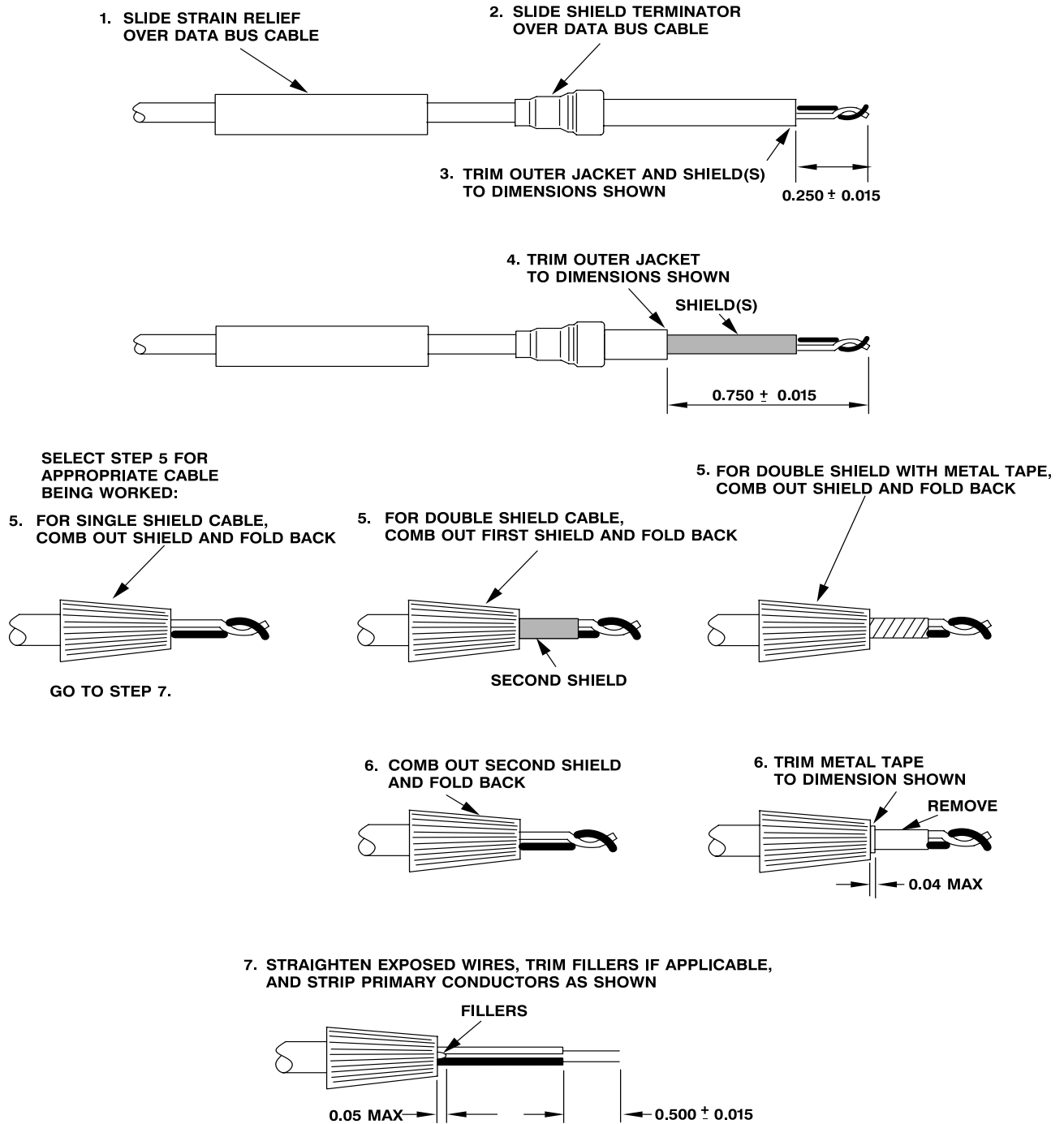
FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

406375-2-4
J1306

GO TO NEXT PAGE

9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/INSTALLATION (CONT)



NOTE: ALL DIMENSIONS ARE IN INCHES.

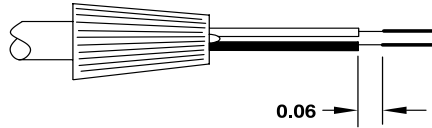
406375-3-1
J2200

Data Bus Coupling Connector Replacement (Sheet 1 of 3)

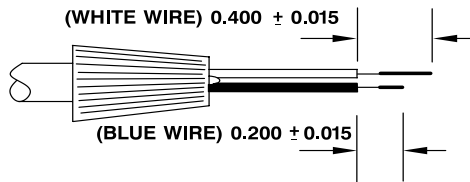
GO TO NEXT PAGE

9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/
INSTALLATION (CONT)

8. PRE-TIN STRANDED WIRES OF PRIMARY CONDUCTORS.



9. TRIM WHITE AND BLUE WIRES TO DIMENSIONS SHOWN.



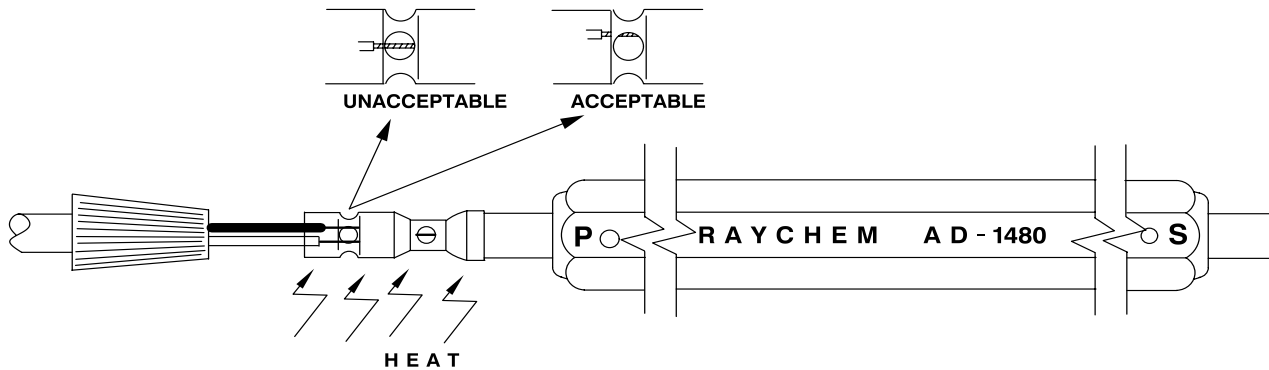
10. INSERT WHITE WIRE INTO INNER INSULATING SLEEVE OF CONTACT.

11. INSERT BLUE WIRE BETWEEN TWO INSULATING SLEEVES.

CAUTION

TO PREVENT FAILURE OF REPAIR, USE OF EXCESSIVE HEAT
MUST BE AVOIDED.

12. INSTALL HOLDING TOOL AND, USING HEAT GUN, APPLY HEAT UNTIL BOTH SOLDER
PREFORMS HAVE MELTED AND FLOWED.



NOTE: ALL DIMENSIONS ARE IN INCHES.

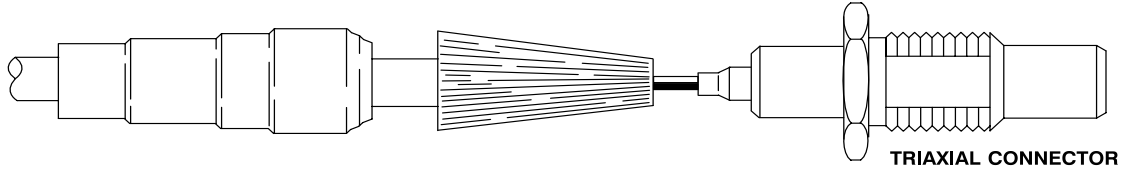
406375-3-2
J2200

Data Bus Coupling Connector Replacement (Sheet 2 of 3)

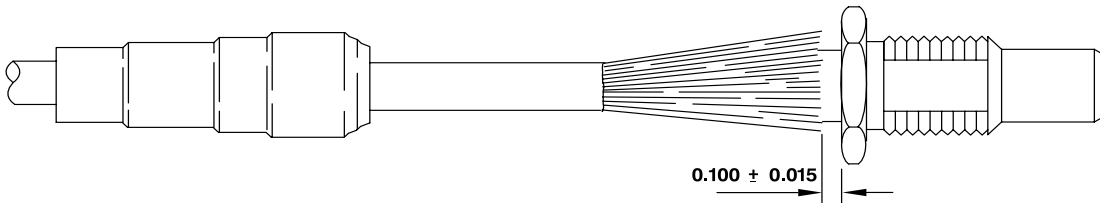
GO TO NEXT PAGE

9-6-62. DATA BUS COUPLER OR TERMINATOR (TYPICAL) (OH-58D(R)) — REMOVAL/INSTALLATION (CONT)

13. INSERT CONTACT INTO REAR OF CONNECTOR UNTIL RETENTION CLIP LOCKS INTO INSULATOR.



14. COMB SHIELD(S) FORWARD AND TRIM AS REQUIRED TO DIMENSIONS SHOWN.

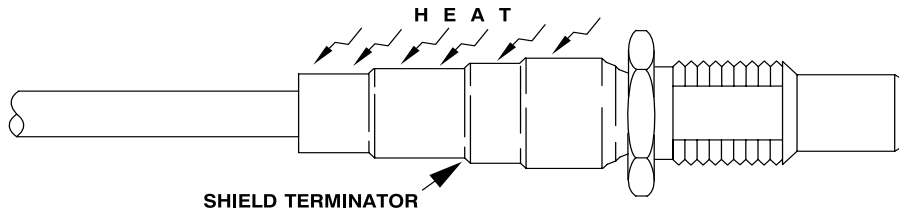


15. PUSH SHIELD TERMINATOR UP ON CONNECTOR UNTIL IT BOTTOMS.

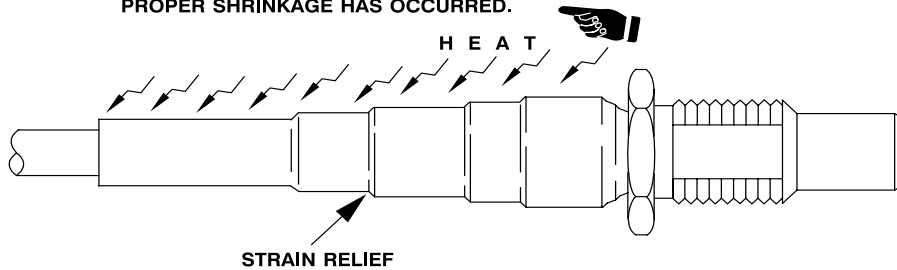
CAUTION

TO PREVENT FAILURE OF REPAIR, USE OF EXCESSIVE HEAT MUST BE AVOIDED.

16. USING HEAT GUN APPLY HEAT UNTIL SOLDER MELTS AND FLOWS.



17. SLIDE STRAIN RELIEF OVER SHIELD TERMINATOR AND APPLY HEAT UNTIL PROPER SHRINKAGE HAS OCCURRED.



NOTE: ALL DIMENSIONS ARE IN INCHES.

406375-3-3
J2200

9-6-63. RESISTOR OR CAPACITOR ON TERMINAL JUNCTION (TYPICAL) — REMOVAL/
INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Electrical Connector Kit (B80)
Electrical Repairer Tool Kit (B177)
Insert-Extract Tool (B197)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

GO TO NEXT PAGE

9-6-63. RESISTOR OR CAPACITOR ON TERMINAL JUNCTION (TYPICAL) — REMOVAL/INSTALLATION (CONT)

NOTE

Procedure is identical for resistor or capacitor. Proper polarity of capacitor connections shall be followed.

REMOVE

1. Gain access to terminal junction (1).
2. Locate module M on terminal junction (1).
3. Locate selected component to be replaced.
4. Slide white end of insert-extract tool (B197) over and along the selected component into the insert cavity until it engages the contact and a positive resistance is felt.
5. Pull both the insert-extract tool (B197) and the contact wire assembly out of the module.
6. Repeat steps 4. and 5. for other end of selected component.

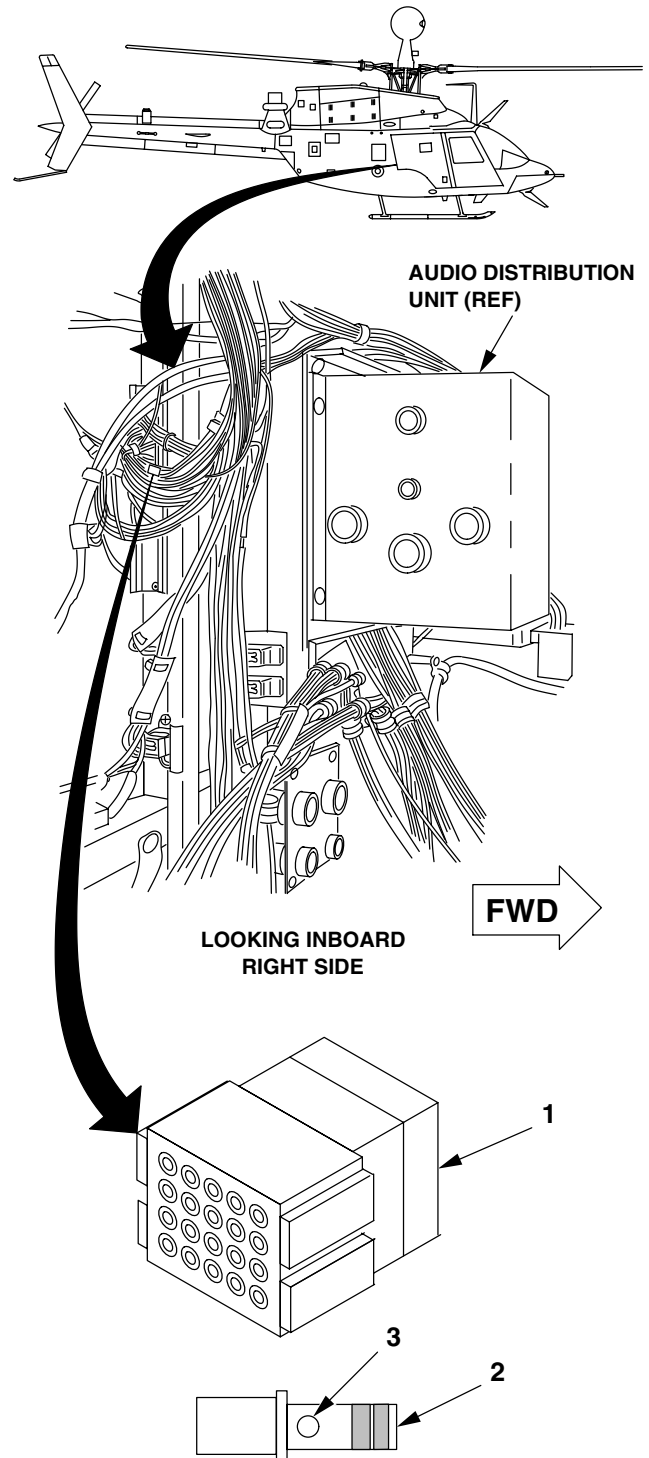
INSTALL

7. Position contact (2) into crimping tool (Part of B80).
8. Insert end wire of selected component into contact (2) and past inspection hole (3).
9. Squeeze the crimp tool (Part of B80).

NOTE

The crimp tool will only release the contact when the full crimping cycle has been performed.

10. Verify a proper crimp by looking into the inspection hole (3). Wire should be visible.
11. Repeat steps 7., 8., and 9. for other end of wire of selected component.



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J0648

GO TO NEXT PAGE

9-6-63. RESISTOR OR CAPACITOR ON TERMINAL JUNCTION (TYPICAL) — REMOVAL/
INSTALLATION (CONT)

12. Place shoulder (4) of contact (2) against colored half of insert-extract tool (B197).

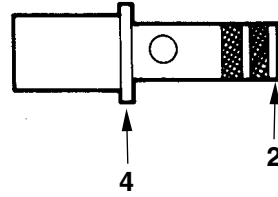
13. Insert contact (2) into mating insert cavity until a firm stop is evident.

14. Repeat steps 12. and 13. for other contacts (2) of selected component.

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1150-2
H0261

END OF TASK

9-6-64. FUEL QUANTITY CONTROL UNIT — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 9-1090-214-23&P

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Armament Electronic Unit (AEU) Removed (TM 9-1090-214-23&P)

Tools:
Electrical Repairer Tool Kit (B177)
Ohmmeter (B99)

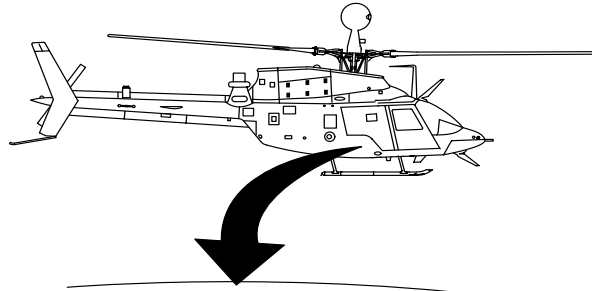
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

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9-6-64. FUEL QUANTITY CONTROL UNIT — REMOVAL/INSTALLATION (CONT)

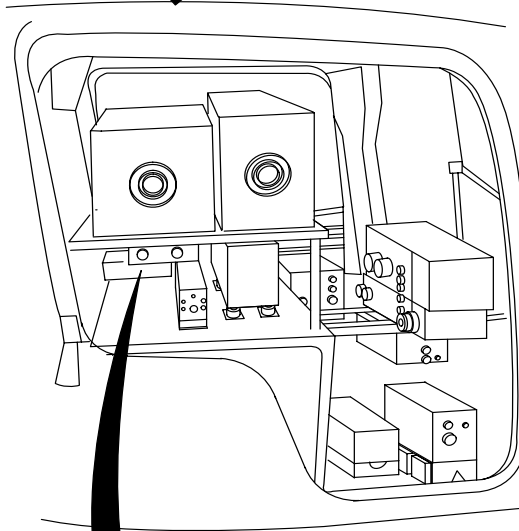
REMOVE

1. Gain access to fuel quantity control unit (1).
2. Disconnect electrical connector (2).
3. Remove four screws (3) and washers (4).
4. Remove fuel quantity control unit (1).



INSTALL

5. Prepare mating surfaces (lower surface of fuel quantity control unit and exposed surface of aircraft shelf surrounding threaded inserts for fuel quantity control unit mounting screws) for Class R-1 electrical bond per Appendix M. (A Class R-1 electrical bond has a maximum DC resistance of 2.5 milliohms.) Following completion of surface preparation, position fuel quantity control unit (1) onto shelf and align to mounting holes.



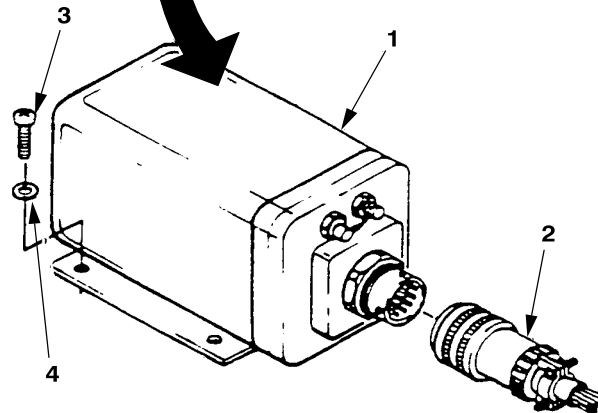
6. Install four washers (4) and screws (3).
7. Inspect electrical connector (2) for damaged or misaligned pins.
8. Connect electrical connector (2) to fuel quantity control unit (1).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (Task 10-2-5).

Install armament electronic unit (AEU) (TM 9-1090-214-23&P).



406961-1283
J1755

END OF TASK

9-6-65. CPG CHANNEL SELECT SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Material:
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

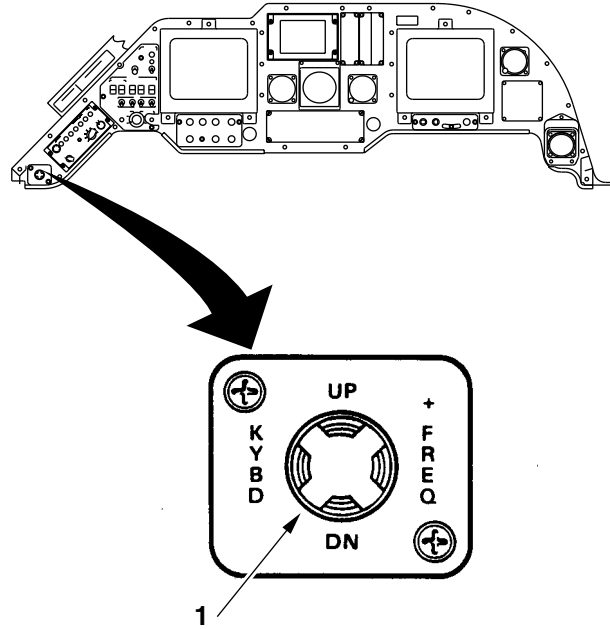
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

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9-6-65. CPG CHANNEL SELECT SWITCH — REMOVAL/INSTALLATION (CONT)

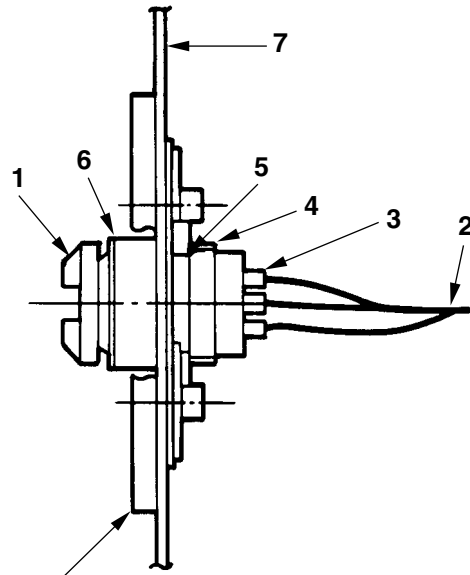
REMOVE

1. Open left crew door to gain access to CPG channel select switch (1).
2. Tag and identify five wires (2).
3. Desolder five wires (2) from terminals (3) using heat gun (nitrogen) (B60).
4. Remove nut (4), lockwasher (5), and spacer (6).
5. Remove CPG channel select switch (1) and spacer (6) from front of instrument panel (7).



INSTALL

6. Insert CPG channel select switch (1) and spacer (6) through front of instrument panel (7).
7. Install lockwasher (5) and nut (4).
8. Solder five tagged wires (2) to their mating terminals (3) using heat gun (nitrogen) (B60) and solder (D195).
9. Remove identification tags from wires.



INTEGRALLY LIT
PANEL (REF)

SIDE VIEW

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

406961-1254
H0263

END OF TASK

9-6-66. INTEGRALLY LIT PANEL (CPG CHANNEL SELECT SWITCH) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

1. Open left crew door to gain access to CPG channel select switch.

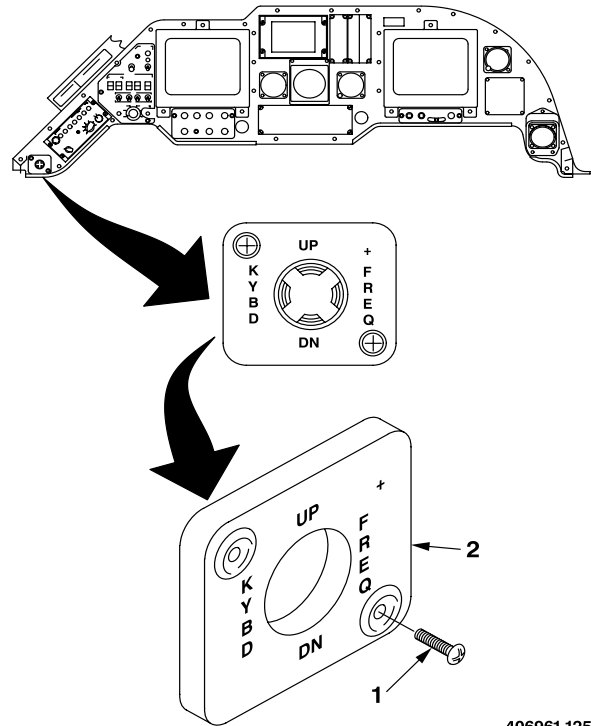
2. Remove two screws (1).

CAUTION

To prevent damage to integrally lit panel, care shall be used when separating it from instrument panel.

3. Pull out on integrally lit panel (2) and remove.

4. Close left crew door.



406961-1253
J2028

END OF TASK

9-6-67. INTEGRALLY LIT PANEL (CPG CHANNEL SELECT SWITCH) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

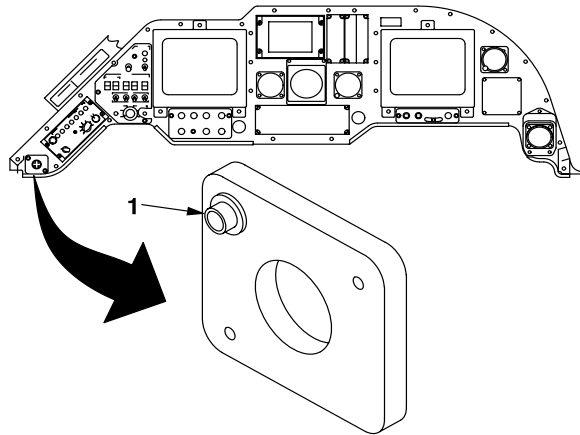
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

1. Open left crew door to gain access to CPG channel select switch.
2. Visually inspect electrical connector (1) and its mating connector for missing or bent pin, corrosion, and cracked housing.
3. Connect electrical connector (1) to its mating connector.
4. Install two screws (2).

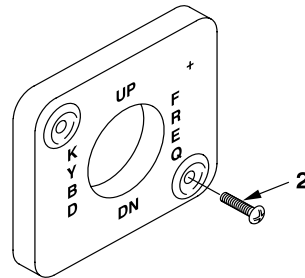
INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



REAR OF INTEGRALLY LIT PANEL



406961-1252
J2028

END OF TASK

9-6-68. INTEGRALLY LIT PANEL (CPG AUXILIARY CONTROL PANEL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

1. Open left crew door to gain access to CPG auxiliary control panel.

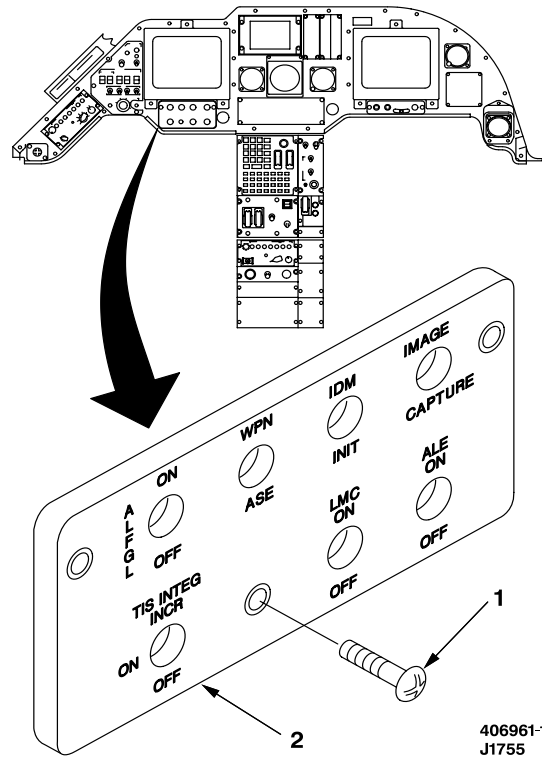
2. Remove three screws (1).

CAUTION

To prevent damage to integrally lit panel, care shall be used when separating it from instrument panel.

3. Pull out on integrally lit panel (2) and remove.

4. Close left crew door.



END OF TASK

9-6-69. INTEGRALLY LIT PANEL (CPG AUXILIARY CONTROL PANEL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

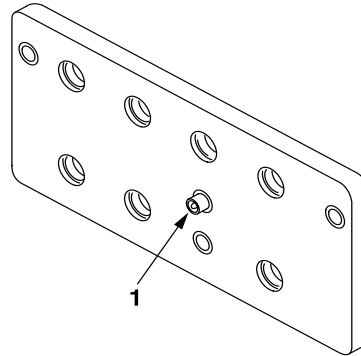
Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

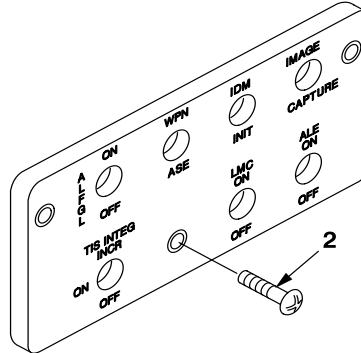
Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

1. Open left crew door to gain access to CPG auxiliary control panel.
2. Visually inspect electrical connector (1) and its mating connector for missing or bent pin, corrosion, and cracked housing.
3. Connect electrical connector (1) to its mating connector.
4. Install three screws (2).



REAR OF INTEGRALLY LIT PANEL



406961-1250
J1755

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

END OF TASK

 9-6-70. SWITCH (CPG AUXILIARY CONTROL PANEL-TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Material:
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

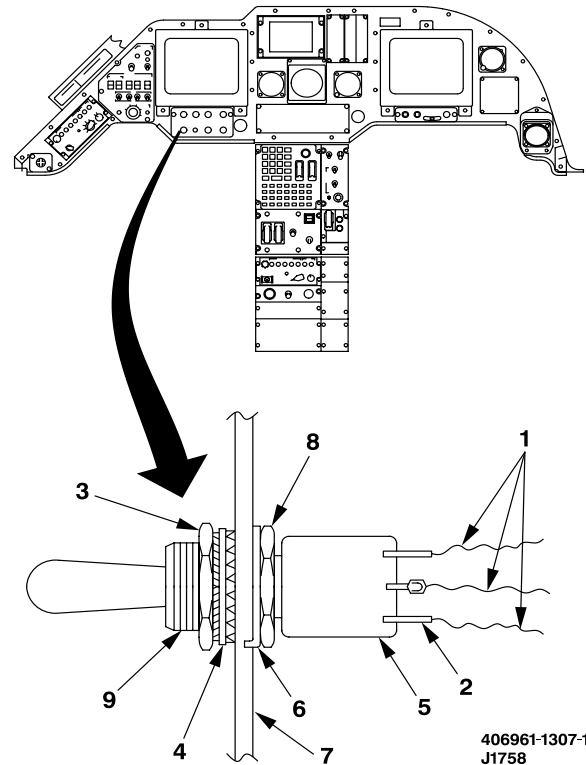
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Integrally Lit Panel Removed (Task 9-6-68)

REMOVE

1. Tag and identify wires (1).
2. Desolder wires (1) from terminals (2) using heat gun (nitrogen) (B60).
3. Remove mounting nut (3) and lockwasher (4).
4. Remove switch (5) and locking ring (6) from rear of instrument panel (7).

INSTALL

5. Remove mounting nut (3) and lockwasher (4) from switch (5).
6. Install switch (5) from rear of instrument panel (7) and ensure locking ring (6) has key facing rear of instrument panel (7).
7. Align locking ring (6) key with hole.
8. Adjust jamnut (8) and mounting nut (3) until mounting nut (3) is flush with switch threads (9).
9. Solder correct wires (1) to terminals (2) using heat gun (nitrogen) (B60) and solder (D195).



406961-1307-1
J1758

10. Remove identification tags from wires.

INSPECT**FOLLOW-ON MAINTENANCE**

Perform operational check (TM 1-1520-248-T).

Install integrally lit panel (Task 9-6-69).

END OF TASK

9-6-71. INTEGRALLY LIT PANEL (PILOT MFD AUXILIARY CONTROL PANEL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

1. Open right crew door to gain access to pilot auxiliary control panel.

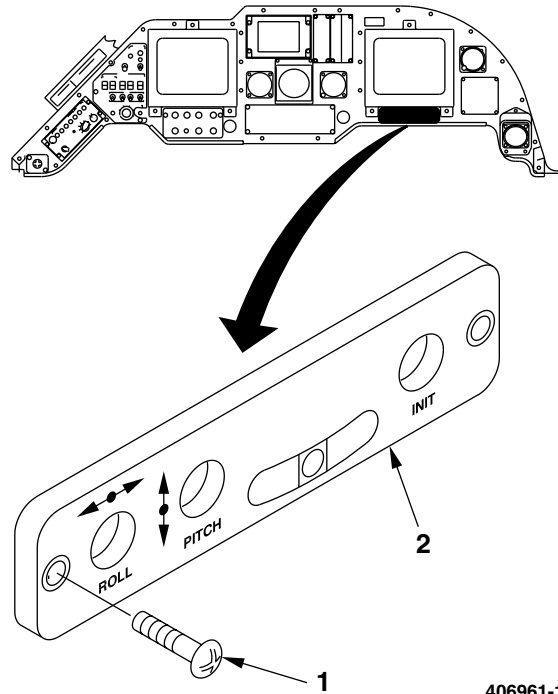
2. Remove two screws (1).

CAUTION

To prevent damage to integrally lit panel, care shall be used when separating it from instrument panel.

3. Pull out integrally lit panel (2) and remove.

4. Close right crew door.



406961-1249
H0268

END OF TASK

9-6-72. INTEGRALLY LIT PANEL (PILOT MFD AUXILIARY CONTROL PANEL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

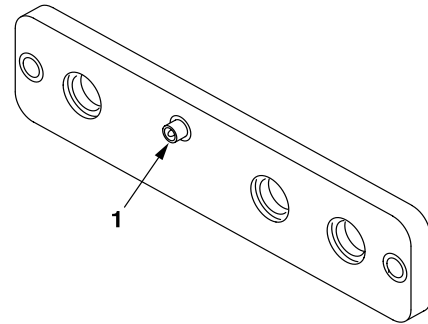
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

1. Open right crew door to gain access to pilot auxiliary control panel.
2. Visually inspect electrical connector (1) and its mating connector for missing or bent pin, corrosion, and cracked housing.
3. Connect electrical connector (1) to its mating connector.
4. Install two screws (2).

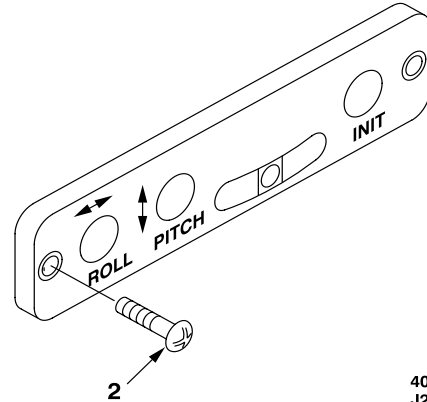
INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



REAR OF INTEGRALLY LIT PANEL



406961-1248
J2028

END OF TASK

9-6-73. SWITCH (PILOT MFD AUXILIARY CONTROL PANEL-TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Material:
Solder (D195)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Integrally Lit Panel Removed (Task 9-6-71)

REMOVE

1. Tag and identify wires (1).
2. Desolder wires (1) from terminals (2) using heat gun (nitrogen) (B60).
3. Remove mounting nut (3) and lockwasher (4).
4. Remove switch (5) and locking ring (6) from rear of instrument panel (7).

INSTALL

5. Remove mounting nut (3) and lockwasher (4) from switch (5).
6. Install switch (5) from rear of instrument panel (7) and ensure locking ring (6) has key facing rear of instrument panel (7).
7. Align locking ring (6) into hole.
8. Adjust jamnut (8) and mounting nut (3) until mounting nut (3) is flush with switch threads (9).
9. Solder correct wires (1) to terminals (2) using heat gun (nitrogen) (B60) and solder (D195).

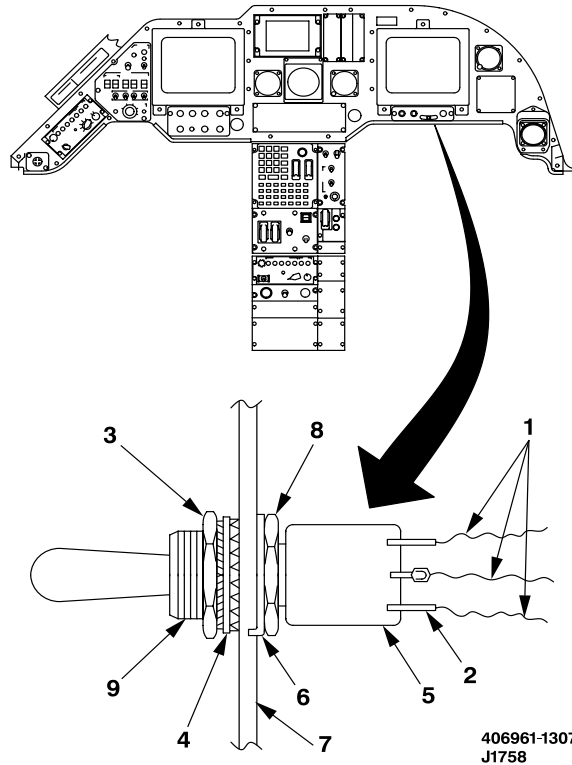
10. Remove identification tags from wires.

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

Install integrally lit panel (Task 9-6-72).



END OF TASK

9-6-74. INTEGRALLY LIT PANEL (MMS CONTROL PANEL) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

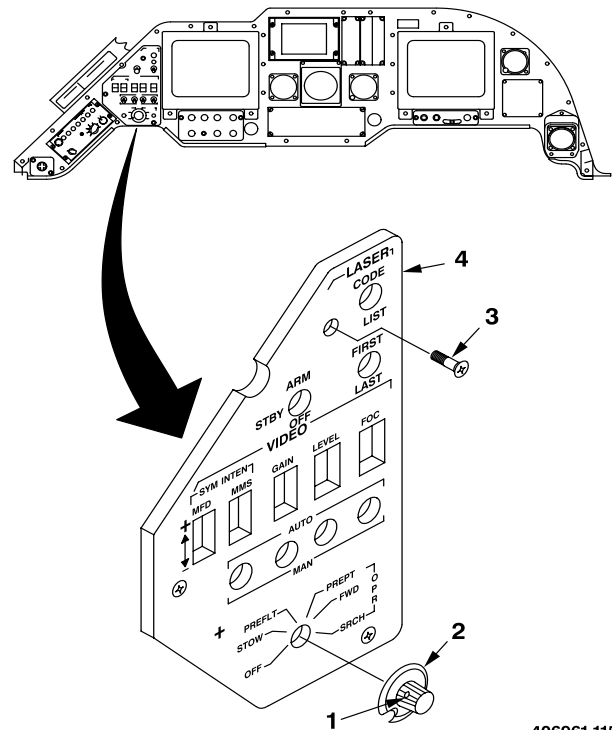
Tools:
Electrical Repairer Tool Kit (B177)

1. Open left crew door to gain access to mast mounted sight control panel.
2. Remove Allen screw (1) from knob (2).
3. Remove knob (2).
4. Remove three screws (3).

CAUTION

To prevent damage to integrally lit panel, care shall be used when separating it from instrument panel.

5. Pull out on integrally lit panel (4) and remove.
6. Close left crew door.



406961-1151
J2028

END OF TASK

9-6-75. INTEGRALLY LIT PANEL (MMS CONTROL PANEL) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

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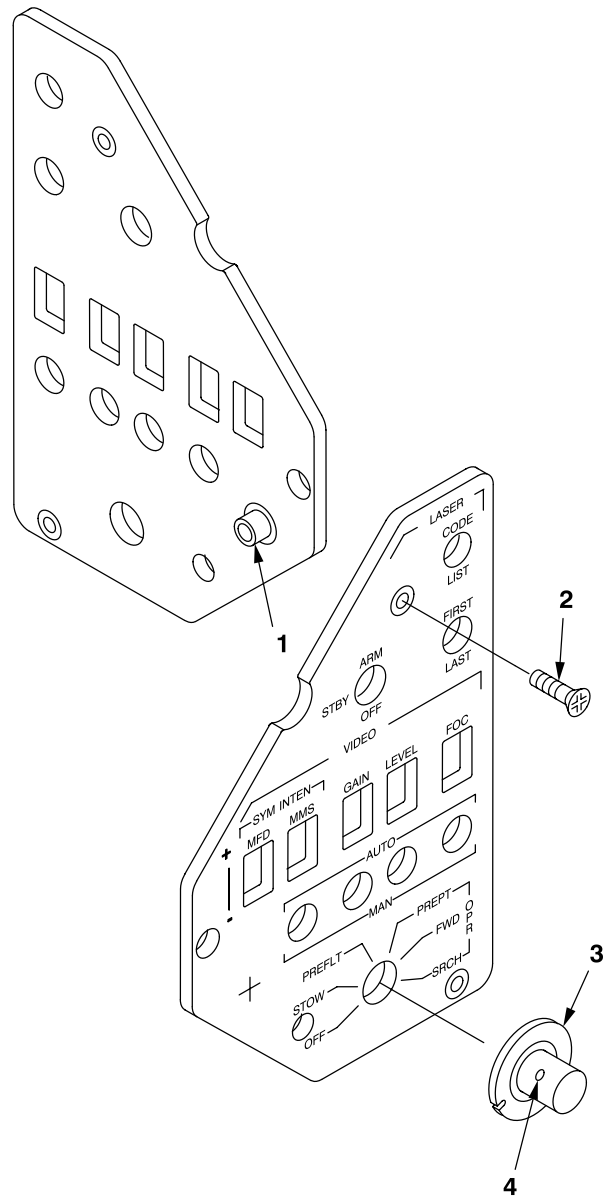
9-6-75. INTEGRALLY LIT PANEL (MMS CONTROL PANEL) — INSTALLATION (CONT)

1. Open left crew door to gain access to mast mounted sight control panel.
2. Visually inspect electrical connector (1) and its mating connector for missing or bent pin, corrosion, and cracked housing.
3. Connect electrical connector (1) to its mating connector.
4. Install three screws (2).
5. Position knob (3) in place and install Allen screw (4).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



406961-1152
J2200

END OF TASK

9-6-76. FOOTSWITCH (TYPICAL) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electronic Equipment Tool Kit (B244)

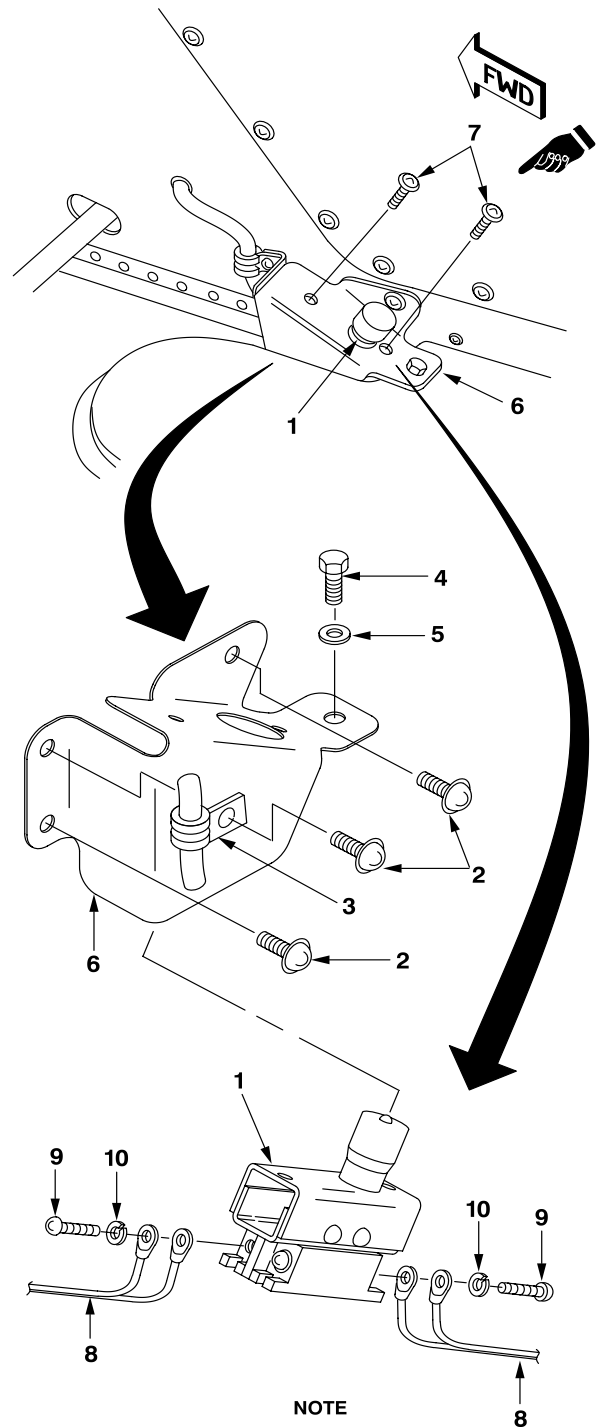
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68N Avionic Mechanic

GO TO NEXT PAGE

9-6-76. FOOTSWITCH (TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open left or right crew door to gain access to desired foot switch (1).
2. Remove three screws (2), cable clamp (3), bolt (4), and washer (5).
3. Remove bracket (6) as far as wiring will allow.
4. Remove two screws (7).
5. Remove foot switch (1) from bracket (6).
6. Identify and tag four wires (8).
7. Remove two screws (9) and lockwashers (10).
8. Remove four tagged wires (8).



NOTE
 CPG FOOT SWITCH SHOWN,
 PILOT OPPOSITE

406961-1153
 J2255

GO TO NEXT PAGE

9-6-76. FOOTSWITCH (TYPICAL) — REMOVAL/INSTALLATION (CONT)

INSTALL

NOTE

- If a new switch is being installed and has a bus bar installed, remove the bus bar and the lower attachment screw or ground side of switch.
- Two wires are connected to terminal 1 and two wires are connected to the ground terminal on the terminal 1 side of the foot switch (see TM 11-1520-248-23). Remove tags from wires as they are installed.

9. Connect four wires (8) to their mating terminals and install two lockwashers (10) and screws (9).

10. Remove identification tags from wires.

11. Position foot switch (1) in bracket (6) and align to mounting holes.

12. Install two screws (7).

13. Position bracket (6) in place and align to mounting holes.

NOTE

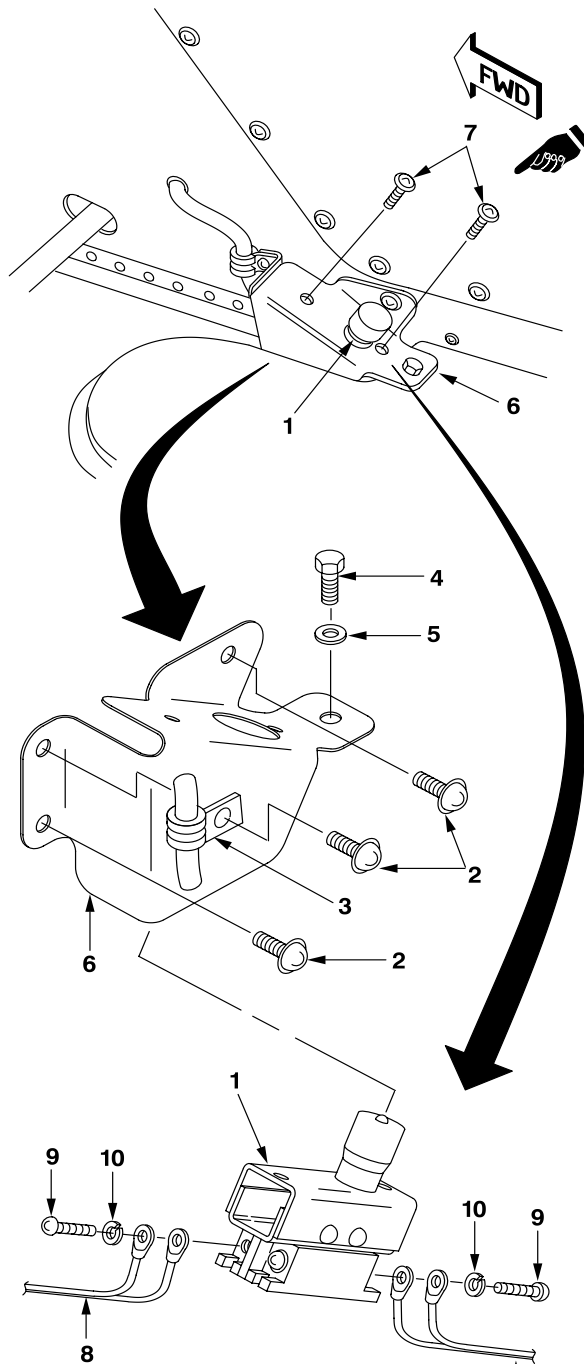
The cable clamp is attached to the top forward screw.

14. Install washer (5), bolt (4), cable clamp (3), and three screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

Perform ICS operational check (TM 11-1520-248-23).



NOTE
CPG FOOT SWITCH SHOWN,
PILOT OPPOSITE

406961-1153
J2255

END OF TASK

9-6-77. WEIGHT-ON-GEAR SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Sealant (D180)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T
TM 11-1520-248-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Helicopter On Jacks (Task 1-6-8)
Left Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-6-77. WEIGHT-ON-GEAR SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

NOTE

If roller-type weight-on-gear switch is installed, refer to Task 9-6-1 for removal procedures.

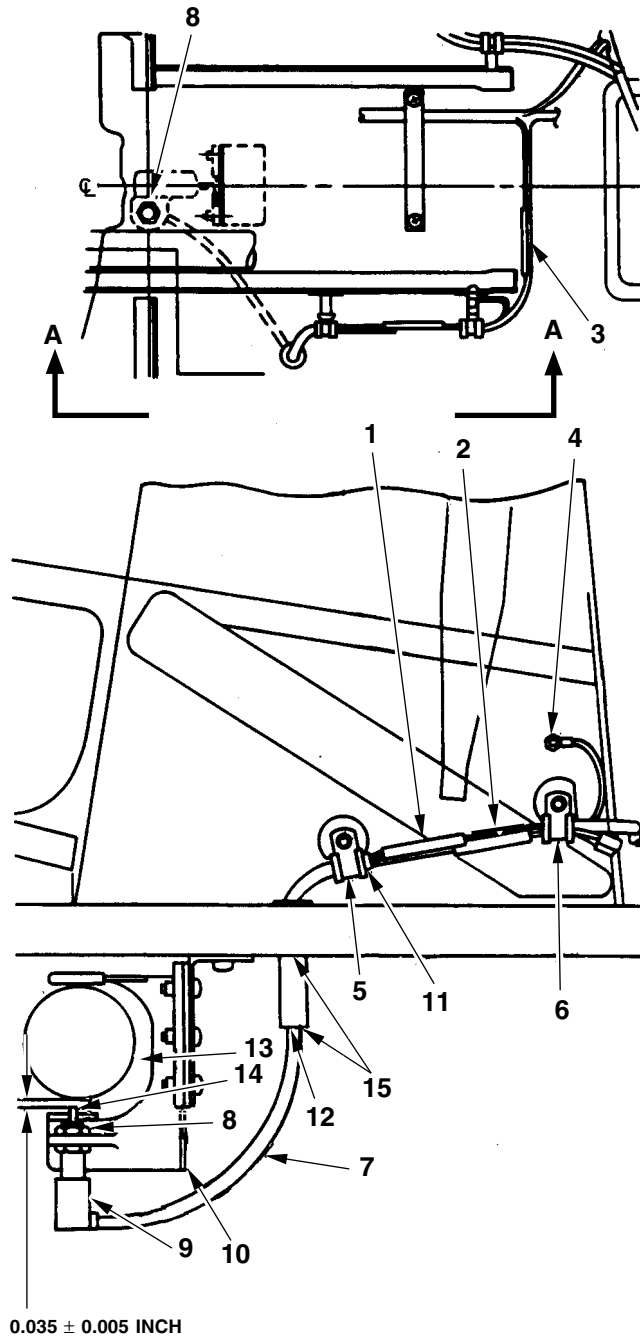
1. Gain access to splices 3431J3 (1), 3431J4 (2), and 3410J3 (3).
2. Tag wires and disconnect splices and remove nut (4) from ground stud.
3. Loosen clamps (5 and 6) and pull weight-on-gear switch cable (7) through bottom of fuselage from below cabin.
4. Remove nut (8) from weight-on-gear switch (9), and remove switch and cable assembly from slider (10).

INSTALL

NOTE

If roller-type weight-on-gear switch is to be installed, refer to Task 9-6-1.

5. Place insulating tubing (11) over switch cable (7).
6. Insert bushing (12) into hole in bottom of fuselage.
7. Insert weight-on-gear switch cable (7) through bushing (12) and clamps (5 and 6).
8. Position weight-on-gear switch (9) into slider (10) hole and place nut (8) on switch thread.
9. Adjust switch for a distance of **0.035 ± 0.005 inch** between forward crosstube (13) and switch plunger (14) and tighten nut (8).
10. Remove slack in weight-on-gear switch cable (7) by pulling through bushing (12).
11. Connect splices (1, 2, and 3) and ground wire (4) and remove tags.
12. Tighten clamps (5 and 6).



SECTION A - A



Sealing Compound

13. Seal (15) around bushings with sealant (D180).

GO TO NEXT PAGE

9-6-77. WEIGHT-ON-GEAR SWITCH — REMOVAL/INSTALLATION (CONT)

INSPECT

FOLLOW-ON MAINTENANCE

Remove helicopter from jacks (Task 1-6-8).

Perform CDS interface operational check (TM 1-1520-248-T).

Perform IFF operational check (TM 11-1520-248-23).

■ Install left access door (Task 2-2-6).

END OF TASK

9-6-78. ELECTRICAL CONNECTOR (BENEATH CPG SEAT) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
CPG Seat Removed (Task 2-2-33 or 2-2-34)

Tools:
Electrical Connector Kit (B80)
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-6-78. ELECTRICAL CONNECTOR (BENEATH CPG SEAT) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove cap (1) from connector (2).
2. Remove four screws (3) and retainer (4).
3. Remove connector (2) from mounting hole and tag wires (5).
4. Remove wires (5) from connector (2) using connector kit (B80).

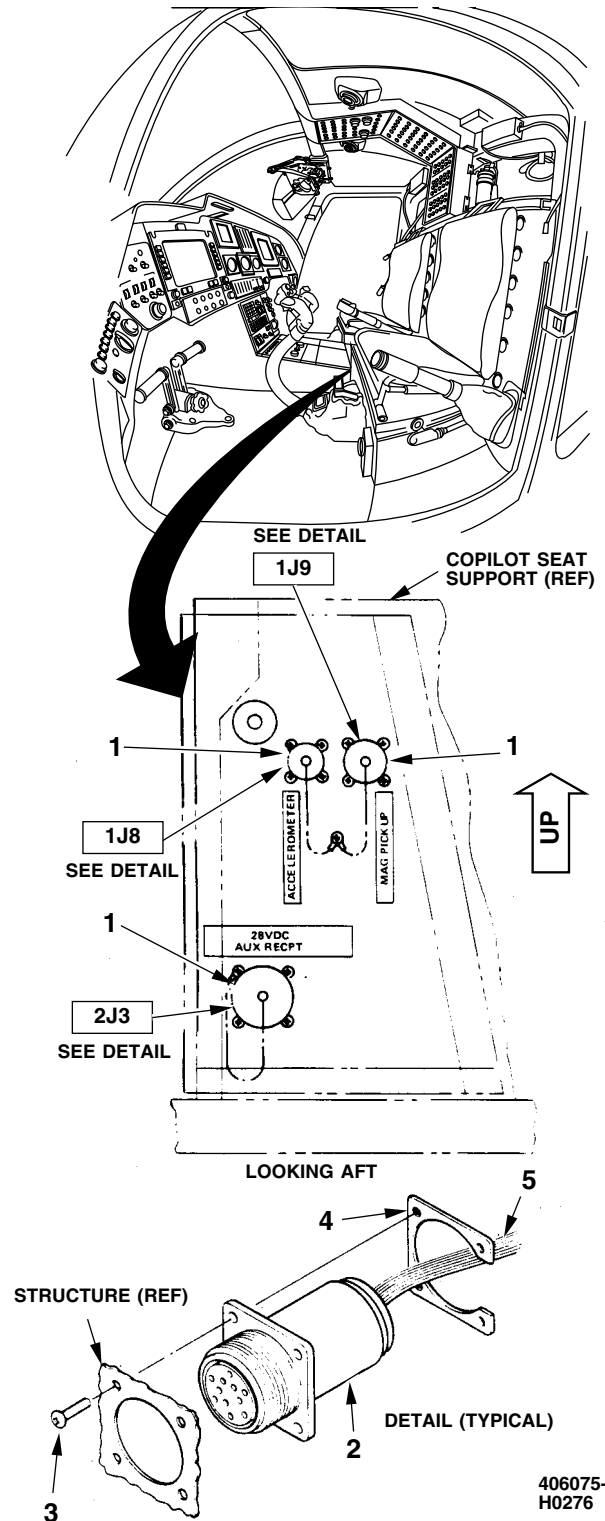
INSTALL

5. Connect tagged wires (5) to connector (2) using connector kit (B80). Remove tags.
6. Position retainer (4) onto connector (2) and position connector (2) into mounting hole.
7. Secure connector (2) to structure using four screws (3).

INSPECT

FOLLOW-ON MAINTENANCE

Install CPG seat (Task 2-2-33 or 2-2-34).



END OF TASK

9-6-79. CIRCUIT BREAKER (28 VDC AUX RCPT) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-6-79. CIRCUIT BREAKER (28 VDC AUX RCPT) — REMOVAL/INSTALLATION (CONT)

REMOVE

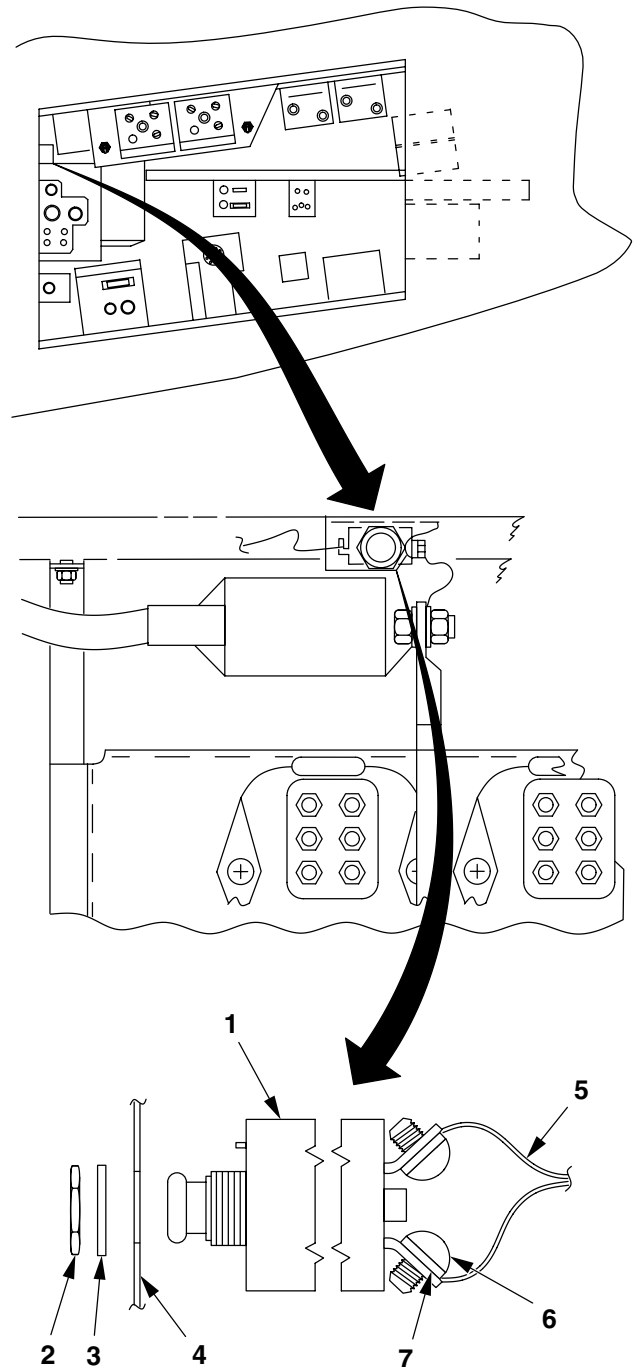
1. Open aft electrical compartment door to gain access to 28 VDC AUX RCPT circuit breaker (1).
2. Remove nut (2) and lockwasher (3) from circuit breaker (1).
3. Remove circuit breaker (1) from structure (4) and pull it out as far as wiring will allow.
4. Tag wires (5).
5. Remove two screws (6), lockwashers (7), and wires (5).
6. Remove circuit breaker (1).

INSTALL

7. Install circuit breaker (1) into mounting hole on structure (4).
8. Align keyway of circuit breaker (1) and install lockwasher (3) and nut (2).
9. Connect tagged wires (5) to circuit breaker (1) using two screws (6) and lockwashers (7).
10. Remove identification tags from wires.

INSPECT

11. Close aft electrical compartment door.



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J0648

END OF TASK

9-6-80. MMS CONTROL PANEL — REMOVAL/INSTALLATION

This task covers: Removal (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
68F Aircraft Electrician
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-6-80. MMS CONTROL PANEL — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Open left crew door to gain access to mast mounted sight control panel (1).
2. Remove MMS integrally lit panel (2) (Task 9-6-74).
3. Remove three screws (3) attaching MMS control panel (1) to instrument panel.
4. Disconnect electrical connector (4) and remove MMS control panel (1).

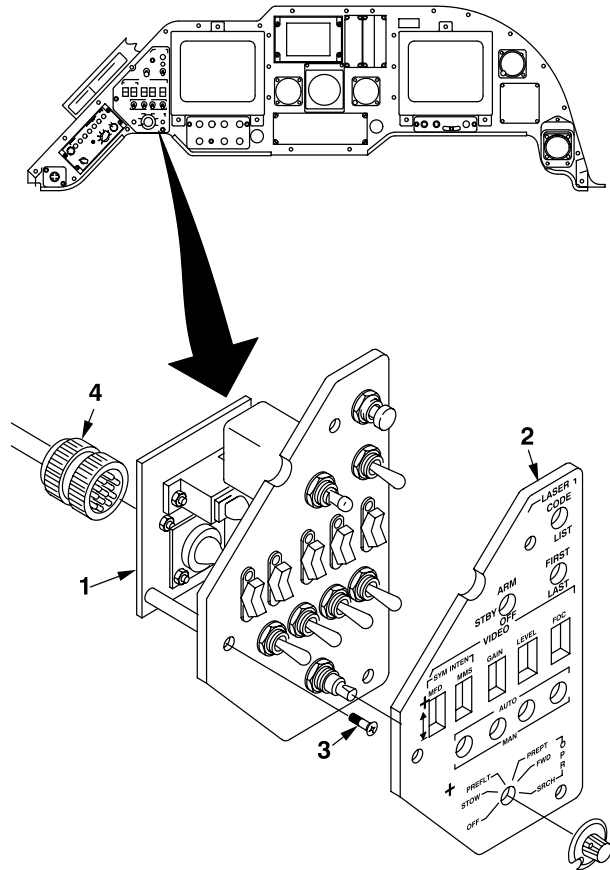
INSTALL

5. Connect electrical connector (4) to receptacle on rear of MMS control panel (1).
6. Position MMS control panel (1) and secure with three screws (3).
7. Install MMS integrally lit panel (2) (Task 9-6-75).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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J2132

END OF TASK

9-6-81. AUXILIARY CIRCUIT BREAKER PANEL — LOWERING

This task covers: Lowering Auxiliary Circuit Breaker Panel (On Helicopter)

INITIAL SETUP

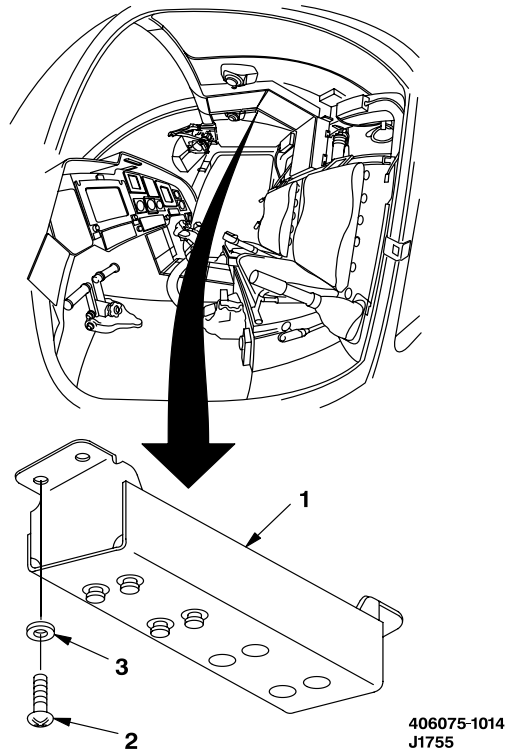
Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

1. Open either crew door to gain access to auxiliary circuit breaker panel (1).
2. Remove four screws (2) and four washers (3).
3. Lower auxiliary circuit breaker panel (1) and allow to hang down.
4. Close crew door.



END OF TASK

9-6-82. AUXILIARY CIRCUIT BREAKER PANEL — RAISING

This task covers: Raising Auxiliary Circuit Breaker Panel (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

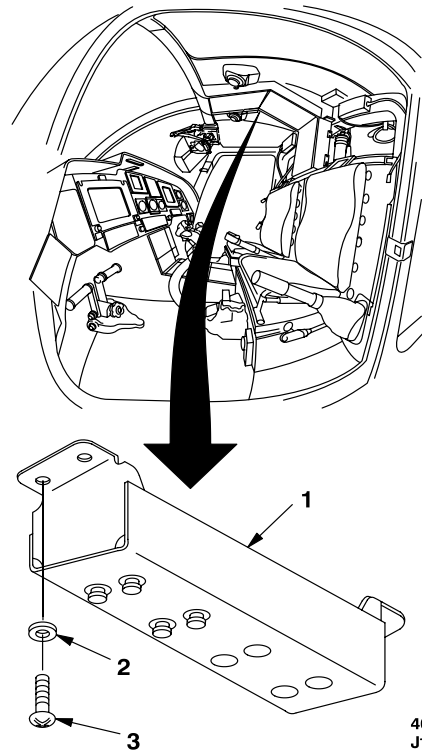
1. Open either crew door to gain access to auxiliary circuit breaker panel (1).

2. Raise auxiliary circuit breaker panel (1) and align to mounting holes.

3. Install four washers (2) and four screws (3).

INSPECT

4. Close crew door.



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J1755

END OF TASK

9-6-83. CIRCUIT BREAKER (AUXILIARY CIRCUIT BREAKER PANEL-TYPICAL) — REMOVAL/
INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)
Auxiliary Circuit Breaker Panel Lowered (Task
9-6-81)
Integrally Lit Panel Removed (Typical)(Task 9-
6-12)

GO TO NEXT PAGE

9-6-83. CIRCUIT BREAKER (AUXILIARY CIRCUIT BREAKER PANEL-TYPICAL) — REMOVAL/INSTALLATION (CONT)

REMOVE

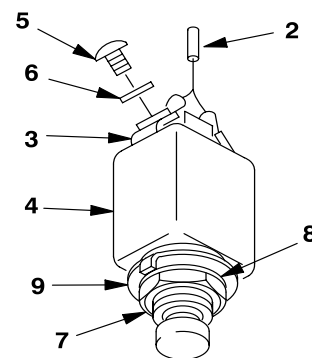
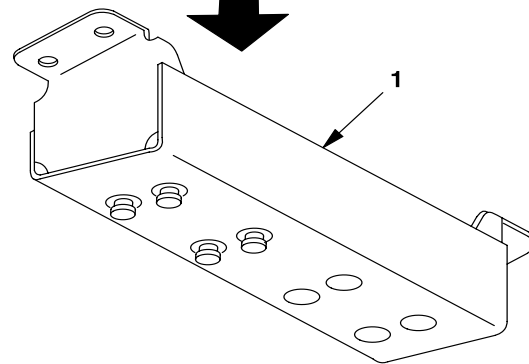
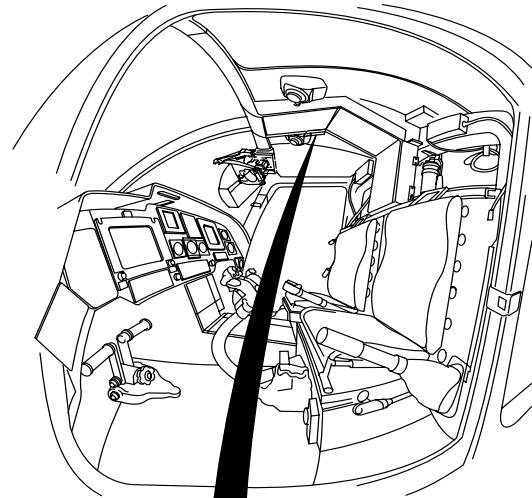
1. Open either crew door to gain access to auxiliary circuit breaker panel (1).
2. Tag and identify wires (2) to terminals (3) of circuit breaker (4).
3. Remove screws (5) and lockwashers (6) from terminals (3).
4. Remove wires (2) from terminals (3).
5. Remove mounting nut (7) and internal tooth lockwasher (8) on front of auxiliary circuit breaker panel from circuit breaker (4).
6. Remove keyway washer (9) with circuit breaker (4) from auxiliary circuit breaker panel (1).

INSTALL

7. Remove mounting nut (7), internal tooth lockwasher (8), screws (5), and lockwashers (6) from serviceable circuit breaker (4).
8. Insert serviceable circuit breaker (4) with keyway washer (9) into mounting hole from back side of auxiliary circuit breaker panel (1).
9. Align key on keyway washer (9) with small guide hole in backside of component mounting panel and insert key into guide hole.
10. Install internal tooth lockwasher (8) and mounting nut (7) on circuit breaker (4).
11. Tighten mounting nut (7) against the front of the auxiliary circuit breaker panel (1).
12. Position wires (2) on terminals (3).
13. Install and tighten screws (5) and lockwashers (6) at terminals (3) of circuit breaker (4).
14. Remove identification tags from wires.

INSPECT**FOLLOW-ON MAINTENANCE**

Raise auxiliary circuit breaker panel (Task 9-6-82).



406075-1016
J1755

END OF TASK

9-6-84. PILOT CYCLIC GRIP — REMOVAL/INSTALLATION

This task covers: Removal and Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Cord (D75)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrical Repairer

References:
TM 55-1500-323-24

Equipment Condition:
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Pilot Cyclic Stick Assembly Removed (Task 11-3-57)

GO TO NEXT PAGE

9-6-84. PILOT CYCLIC GRIP — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove electrical connector (1) from wire bundle at bottom of cyclic stick tube (2) (TM 55-1500-323-24).

2. Remove nut (3), three washers (4), and bolt (5) from cyclic grip (6) and cyclic stick tube (2).

3. Pull cyclic grip (6) from top of cyclic stick tube (2) and carefully pull wire bundle from cyclic stick tube (2).

INSTALL

4. Install cord (D75) around wire bundle and insert cord (D75) into cyclic stick tube (2).

5. Carefully pull wire bundle through cyclic stick tube (2) using cord (D75).

6. Remove cord (D75) from wire bundle.

7. Insert cyclic grip (6) into top end of cyclic stick tube (2).

8. Align bolt hole in cyclic stick tube (2) and cyclic grip (6).

9. Install bolt (5) with one washer (4) under head through cyclic grip (6) and cyclic stick tube (2).

10. Install two washers (4) and nut (3) on bolt (5).

NOTE

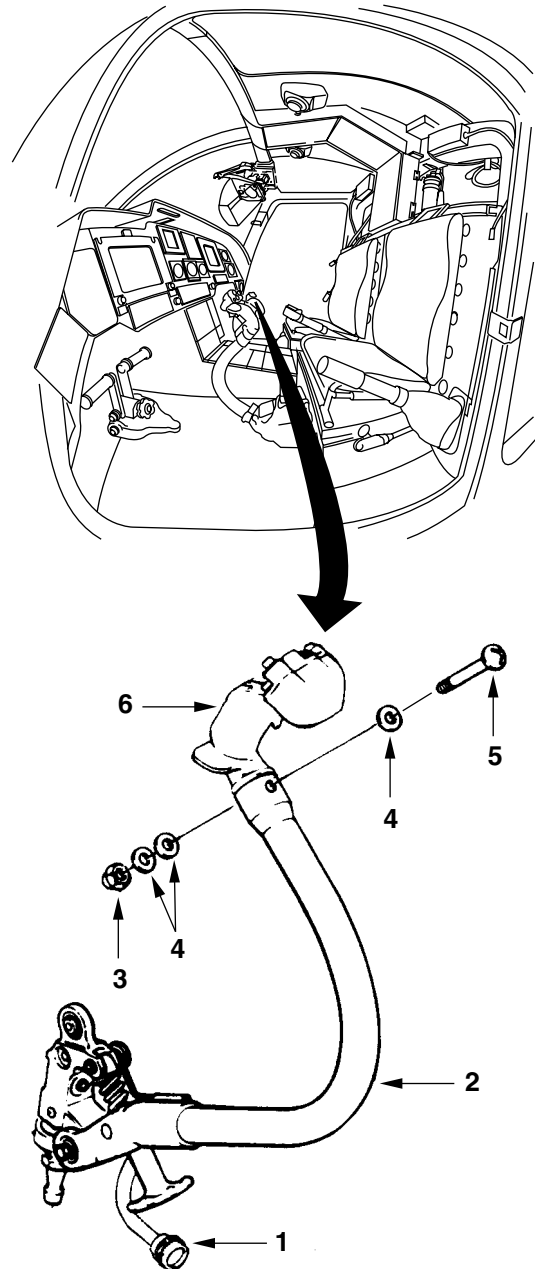
Refer to pilot cyclic grip wiring diagram foldout to ensure proper installation of wire pins into electrical connector (1).

11. Install electrical connector (1) on wire bundle at bottom of cyclic stick tube (2) (TM 55-1500-323-24).

INSPECT

FOLLOW-ON MAINTENANCE

Install pilot cyclic stick assembly (Task 11-3-57).

406301-1
H0102

END OF TASK

9-6-85. EMI ELECTRICAL CONNECTOR — REMOVAL/INSTALLATION/REPAIR

This task covers: Repair (Off Helicopter)

INITIAL SETUP

Marker Band (D47)
 Electrical Insulator Sleeve (D191)

Applicable Configurations:
 All

Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 68F Aircraft Electrician
 Pilot

Tools:
 Electrical Repairer Tool Kit (B177)
 Electrical Connector Kit (B80)
 Band-It Tool (B193)
 Heat Gun (Nitrogen) (B60)

References:
 TM 55-1500-323-24
 TM 1-1520-248-10

Material:
 Tiedown Strap (D206)
 Insulation Tape (D215)

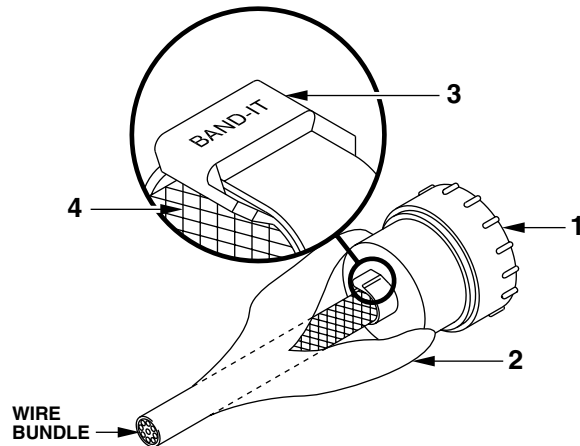
REMOVE

1. Disconnect EMI electrical connector (1).

CAUTION

To prevent damage to wiring or wiring insulation when cutting insulation boot material with a sharp tool, extreme care shall be taken.

2. Remove insulation boot (2) and discard.
3. Cut band (3) securing EMI shielding (4) and slide shielding away from electrical connector (1).
4. Disassemble electrical connector (1) (TM 55-1500-323-24).
5. Remove electrical connector (1).



406075-1451-1
 H4362

GO TO NEXT PAGE

 9-6-85. EMI ELECTRICAL CONNECTOR — REMOVAL/INSTALLATION/REPAIR (CONT)

INSTALL

6. Position insulation boot (2) over wire bundle and EMI shielding (4).

CAUTION

If electrical connector is removed from wire bundle or completely depinned an electrical insulator sleeve shall be installed over wire bundles.

NOTE

Proper electrical bond shall exist between EMI shielding (4) and electrical connector (1).

7. Position EMI shielding (4) over wire bundle and electrical connector (1).

8. Secure EMI shielding (4) to electrical connector (1) using band (3) (double looped) (D47) and Band-It tool (B193).

9. Bond insulation boot (2) to electrical connector (1) by heat shrinking (TM 55-1500-323-24).

10. If an insulation boot (2) is not available, perform the following:

a. Wrap insulation tape (D215) over EMI shielding (4) and band (3) (D47).

b. Secure both ends of insulation tape (D215) with tiedown straps (D206).

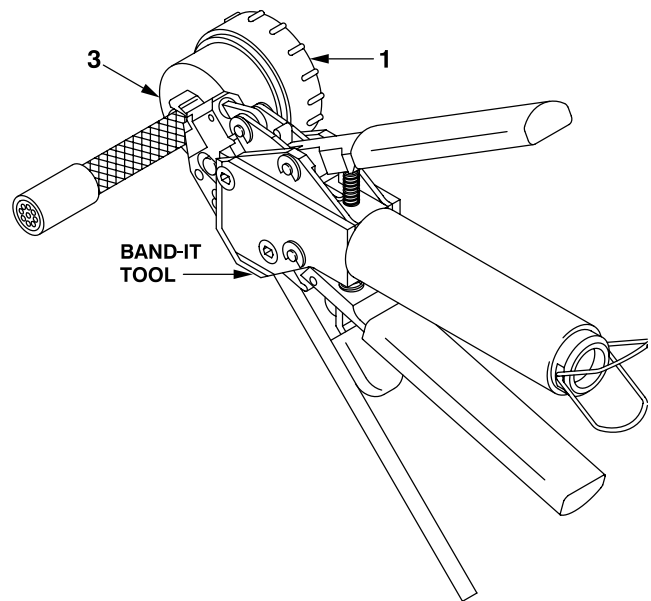
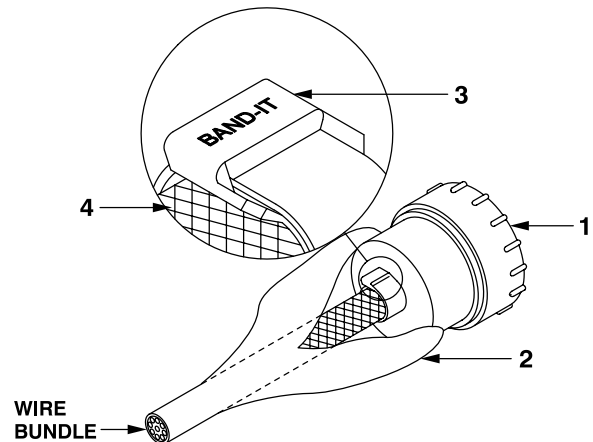
REPAIR

11. Disassemble electrical connector (1) and repair defective wire(s) (TM 55-1500-323-24).

12. Repair electrical connector (1) (TM 55-1500-323-24).

INSPECT**FOLLOW-ON MAINTENANCE**

█ Pilot perform MOC (TM 1-1520-248-10).



406075-1451-2
J2200

END OF TASK

9-6-86. WEIGHT-ON-GEAR INTERRUPT SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)
Heat Gun (Nitrogen) (B60)

Material:
Solder (D195)
Conformal Coating (D72)
Acid Swabbing Brush (D51)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 11-1520-248-23

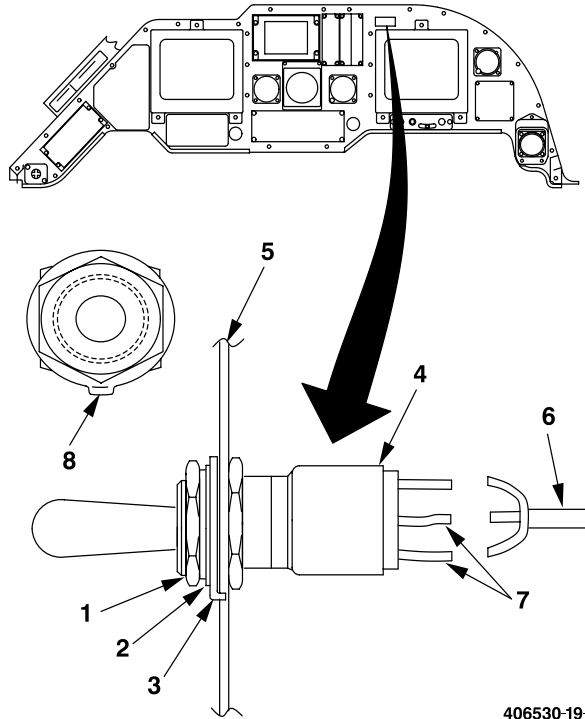
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

REMOVE

1. Remove mounting nut (1), lockwasher (2), and key washer (3) from switch (4).
2. Tag and identify wires (6 and 7).
3. Desolder harness wires (6) from switch wires (7) using heat gun (nitrogen) (B60).
4. Remove switch (4) from rear of instrument panel (5).

INSTALL

5. Solder harness wires (6) to switch wires (7) using heat gun (nitrogen) (B60) and solder (D195). Refer to wiring diagram in Volume 7 as necessary. Remove tags from wires.



406530-19-1
J2200



Silicone

6. Using acid swabbing brush (D51), apply conformal coating (D72) to switch terminals at wire (7) ends.
7. Install switch (4) in mounting hole from rear of instrument plate assembly (5).
8. Align keyway (8) of switch (4) and install key washer (3) and lockwasher (2).

9. Install and tighten mounting nut (1).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

END OF TASK

9-6-87. ICS ENGAGE SWITCH (OH-58D) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
OH-58D

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
68F Aircraft Electrician
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-6-87. ICS ENGAGE SWITCH (OH-58D) — REMOVAL/INSTALLATION (CONT)

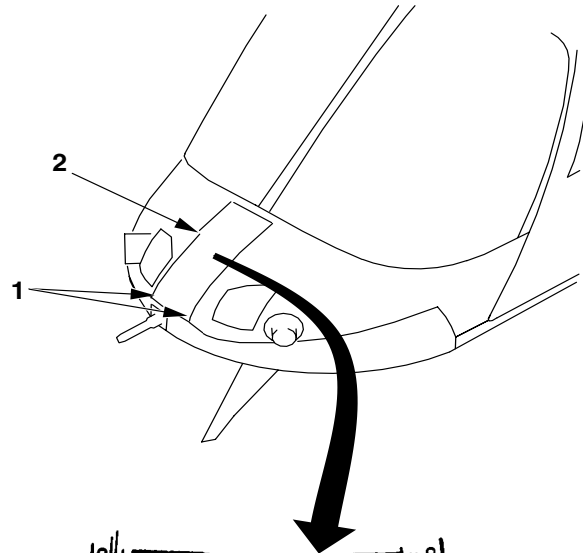
REMOVE

1. Loosen two fasteners (1) in battery access door (2).

2. Raise battery access door (2) to gain access to ICS ENGA switch (3).

3. Remove nut (4), lockwasher (5), and locking ring (6) and remove ICS ENGA switch (3) from bracket (7).

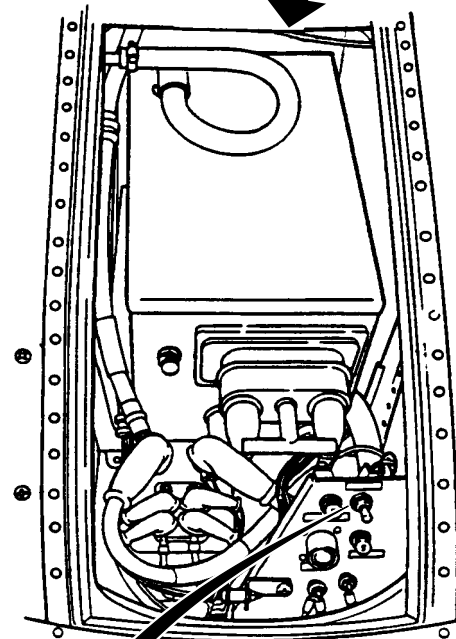
4. Tag and remove wiring from ICS ENGA switch (3).



INSTALL

5. Connect wiring to ICS ENGA switch (3) and remove tags.

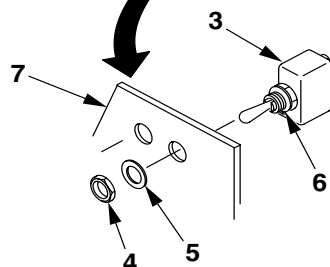
6. Secure ICS ENGA switch (3) to bracket (7) with locking ring (6), lockwasher (5), and nut (4).



INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 11-1520-248-23).



406075-1486
J0420

END OF TASK

9-6-88. REMOTE ICS SWITCH (OH-58D(R)) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
OH-58D(R)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
68F Aircraft Electrician
67S Scout Helicopter Technical Inspector (TI)

GO TO NEXT PAGE

9-6-88. REMOTE ICS SWITCH (OH-58D(R)) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Loosen four fasteners (1) on panel (2) containing REMOTE ICS switch (3).
2. Tag and remove wiring from REMOTE ICS switch (3).
3. Remove nut (4), lockwasher (5), and locking ring (6) and remove REMOTE ICS switch (3) from panel (2).

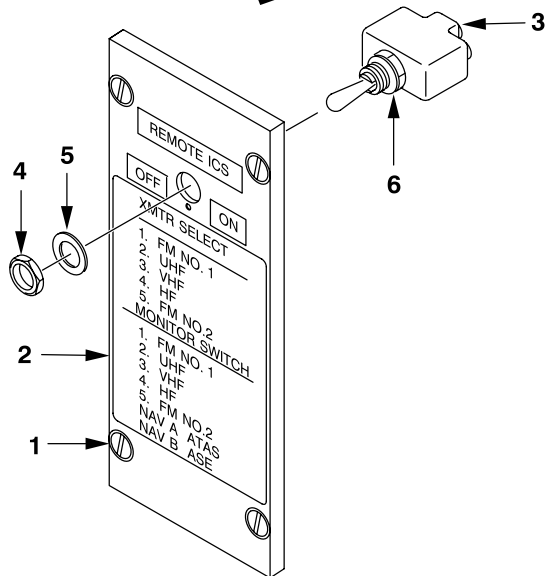
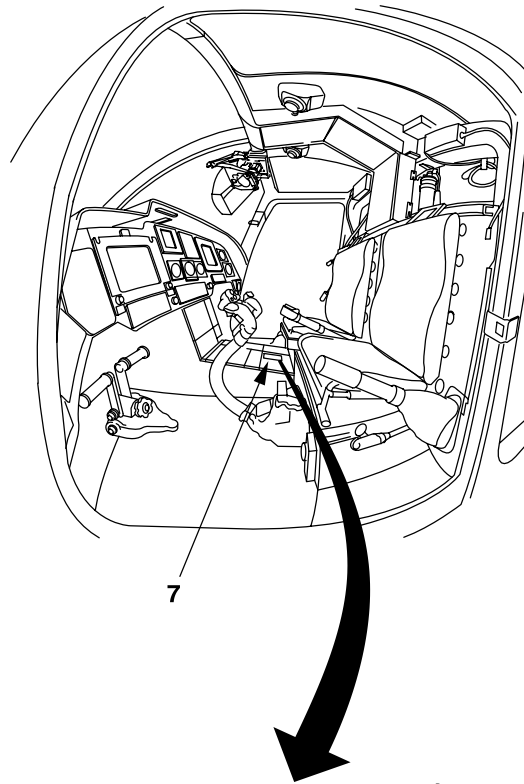
INSTALL

4. Secure REMOTE ICS switch (3) to panel (2) with locking ring (6), lockwasher (5), and nut (4).
5. Connect wiring to REMOTE ICS switch (3) and remove tags.
6. Secure panel (2) containing REMOTE ICS switch (3) to pedestal (7).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 11-1520-248-23).



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J1512

END OF TASK

Section VII. POWERPLANT AND TRANSMISSION ELECTRICAL EQUIPMENT

9-20.

POWERPLANT AND TRANSMISSION ELECTRICAL EQUIPMENT

Standard torques are provided in Appendix P and TM 1-1500-204-23.

9-22. TASK LIST

9-21. INTRODUCTION

The task list consists of those tasks required to support unit and intermediate level maintenance.

This section contains maintenance procedures for powerplant and transmission electrical equipment.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
Electronic Supervisory Control (OH-58D) — Cleaning/Inspection/Repair	9-7-1	9-406
Electronic Control Unit (ECU) (OH-58D(R)) — Cleaning/Inspection/Repair	9-7-2	9-408
Electronic Supervisory Control (OH-58D) — Removal	9-7-3	9-410
Electronic Control Unit (ECU) (OH-58D(R)) — Removal	9-7-4	9-412
Electronic Supervisory Control (OH-58D) — Installation	9-7-5	9-414
Electronic Control Unit (ECU) (OH-58D(R)) — Installation	9-7-6	9-416
Signal Conditioning Unit (Mast Torque) — Cleaning/Inspection/Repair	9-7-7	9-418
Signal Conditioning Unit (Mast Torque) — Removal	9-7-8	9-420
Signal Conditioning Unit (Mast Torque) — Installation	9-7-9	9-421
Signal Conditioning Unit and Chain (TAMS) — Cleaning/Inspection/Repair	9-7-10	9-423
Signal Conditioning Unit (TAMS) — Removal	9-7-11	9-426
Signal Conditioning Unit (TAMS) — Installation	9-7-12	9-428
Cover and Chain (TAMS Signal Conditioning Unit) — Removal/Installation	9-7-13	9-430
TAMS Linear Variable Differential Transformer (LVDT) — Cleaning/Inspection/Repair	9-7-14	9-432
TAMS Linear Variable Differential Transformer (LVDT) — Removal/Installation	9-7-15	9-434
Static Calibration (TAMS)	9-7-16	9-436

9-7-1. ELECTRONIC SUPERVISORY CONTROL (OH-58D) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)
Zinc Chromate Primer (D161)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
Maintenance Test Pilot

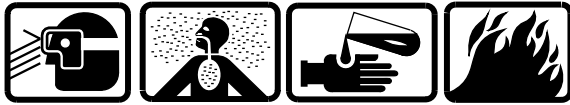
References:
TM 55-1500-345-23
TM 1-1520-248-T
TM 1-1520-248-MTF

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-7-1. ELECTRONIC SUPERVISORY CONTROL (OH-58D) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.

REPAIR

7. Inspect electrical connectors for bent or broken pins or cracked connector inserts.
8. Replace unit if case is cracked (Tasks 9-7-3 and 9-7-5).
9. Replace unit if case has dent that affects operation (Tasks 9-7-3 and 9-7-5).



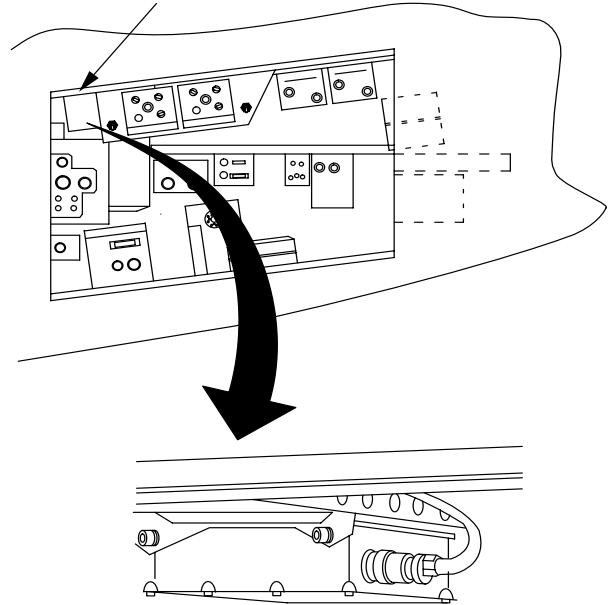
Sanding Operations

10. Remove minor scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

ELECTRONIC SUPERVISORY UNIT



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J2095

11. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).
12. Tighten or replace loose or missing mounting hardware.
13. Straighten bent electrical connector pin(s).
14. Replace unit if electrical connector pin is broken or insert is cracked (Tasks 9-7-3 and 9-7-5).

INSPECT

FOLLOW-ON MAINTENANCE

- Perform operational check (TM 1-1520-248-T).
- Perform power assurance check (TM 1-1520-248-MTF).

END OF TASK

9-7-2. ELECTRONIC CONTROL UNIT (ECU) (OH-58D(R)) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D(R)

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)
Wiping Rag (D164)
Zinc Chromate Primer (D161)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
Maintenance Test Pilot

References:
TM 55-1500-345-23
TM 1-1520-248-T
TM 1-1520-248-MTF

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-7-2. ELECTRONIC CONTROL UNIT (ECU) (OH-58D(R)) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.
7. Inspect electrical connectors for bent or broken pins or cracked connector inserts.

REPAIR

8. Replace unit if case is cracked (Tasks 9-7-4 and 9-7-6).
9. Replace unit if case has dent that affects operation (Tasks 9-7-4 and 9-7-6).

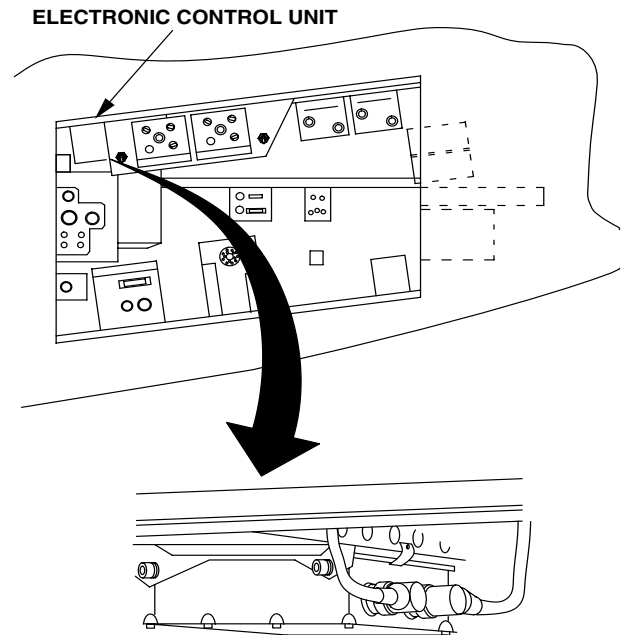


Sanding Operations

10. Remove minor scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer



406961-1156
J0972

11. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).
12. Tighten or replace loose or missing mounting hardware.
13. Straighten bent electrical connector pin(s).
14. Replace unit if electrical connector pin is broken or insert is cracked (Tasks 9-7-4 and 9-7-6).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

Perform power assurance check (TM 1-1520-248-MTF).

Maintenance test pilot perform MOC/MTF (TM 1-1520-248-MTF).

END OF TASK

9-7-3. ELECTRONIC SUPERVISORY CONTROL (OH-58D) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
OH-58D

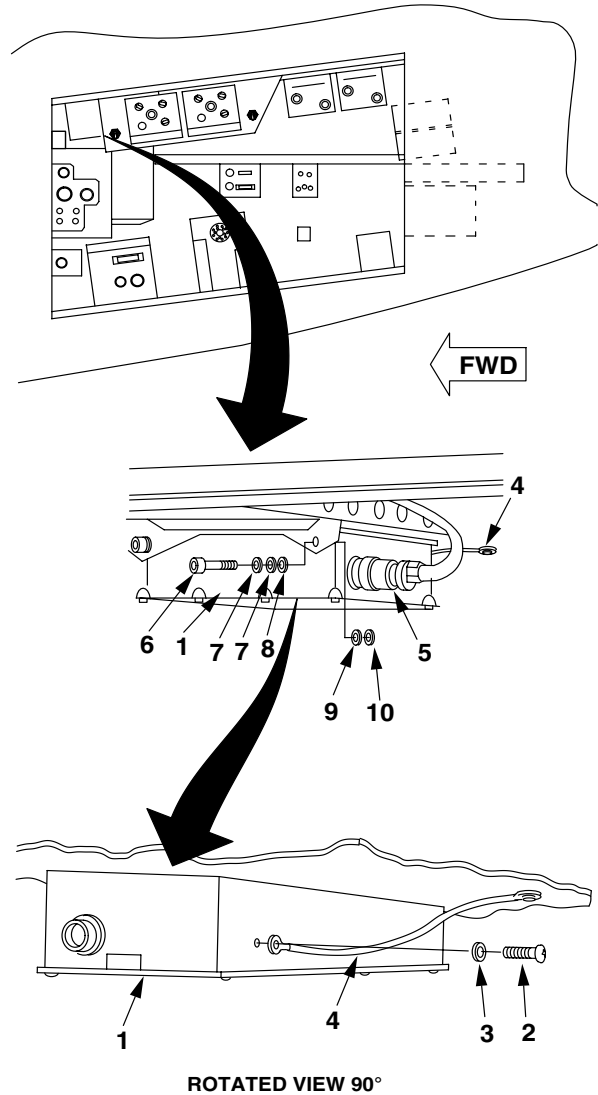
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-7-3. ELECTRONIC SUPERVISORY CONTROL (OH-58D) — REMOVAL (CONT)

1. Open aft electrical compartment door to gain access to electronic supervisory control (1).
2. Remove screw (2), washer (3), and ground strap (4) from electronic supervisory control (1).
3. Disconnect electrical connector (5).
4. Support electronic supervisory control (1) and remove four bolts (6), eight washers (7), four bumpers (8), four bumpers (9), and four washers (10).
5. Remove electronic supervisory control (1).
6. Close aft electrical compartment door.



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J0651

END OF TASK

9-7-4. ELECTRONIC CONTROL UNIT (ECU) (OH-58D(R)) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
OH-58D(R)

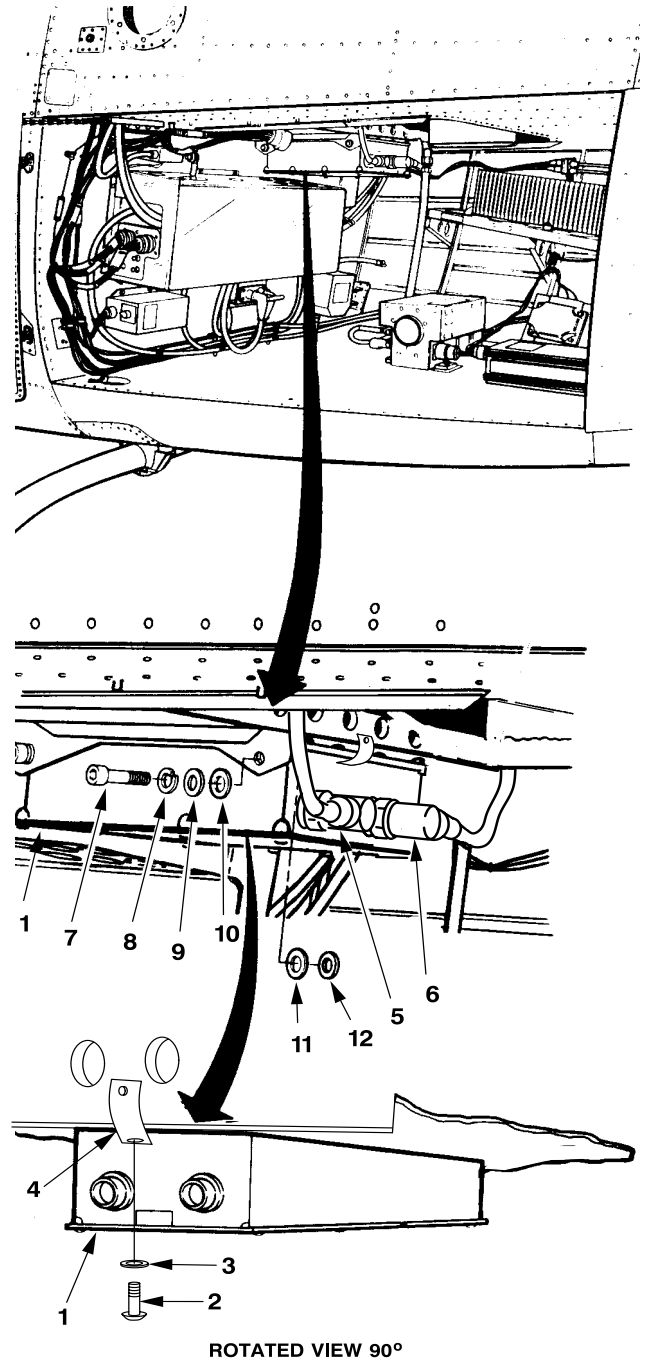
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-7-4. ELECTRONIC CONTROL UNIT (ECU) (OH-58D(R)) — REMOVAL (CONT)

1. Open aft electrical compartment door to gain access to electronic control unit (1).
2. Remove screw (2), washer (3), and ground strap (4) from electronic control unit (1).
3. Disconnect electrical connectors (5 and 6).
4. Support electronic control unit (1) and remove four bolts (7), lockwashers (8), washers (9), bumpers (10), bumpers (11), and washers (12).
5. Remove electronic control unit (1).
6. Close aft electrical compartment door.



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J0972

END OF TASK

9-7-5. ELECTRONIC SUPERVISORY CONTROL (OH-58D) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
Maintenance Test Pilot

References:
TM 1-1520-248-MTF
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
All Circuit Breakers — Closed (Overhead Console/Center Post Circuit Breaker Panel, Nose and Aft Electrical Compartment)
All Switches — OFF

GO TO NEXT PAGE

9-7-5. ELECTRONIC SUPERVISORY CONTROL (OH-58D) — INSTALLATION (CONT)

1. Open aft electrical compartment door to gain access to electronic supervisory control mounting area.

CAUTION

To prevent damage to equipment, it shall be verified that correct electronic supervisory control for engine is installed.

2. Position serviceable electronic supervisory control (1) in place and align to mounting holes.

3. Support electronic supervisory control (1) and install four washers (2), four bumpers (3), four bumpers (4), eight washers (5), and four bolts (6).

4. Visually inspect electrical connectors (7 and 8) for corrosion, missing or bent pins, and cracked housing.

5. Connect electrical connector (7) to electrical connector (8).

6. Position ground strap (9) to electronic supervisory control (1) and install washer (10) and screw (11).

7. Perform check for Class R-1 electrical bond. (Refer to Appendix M.)

INSPECT

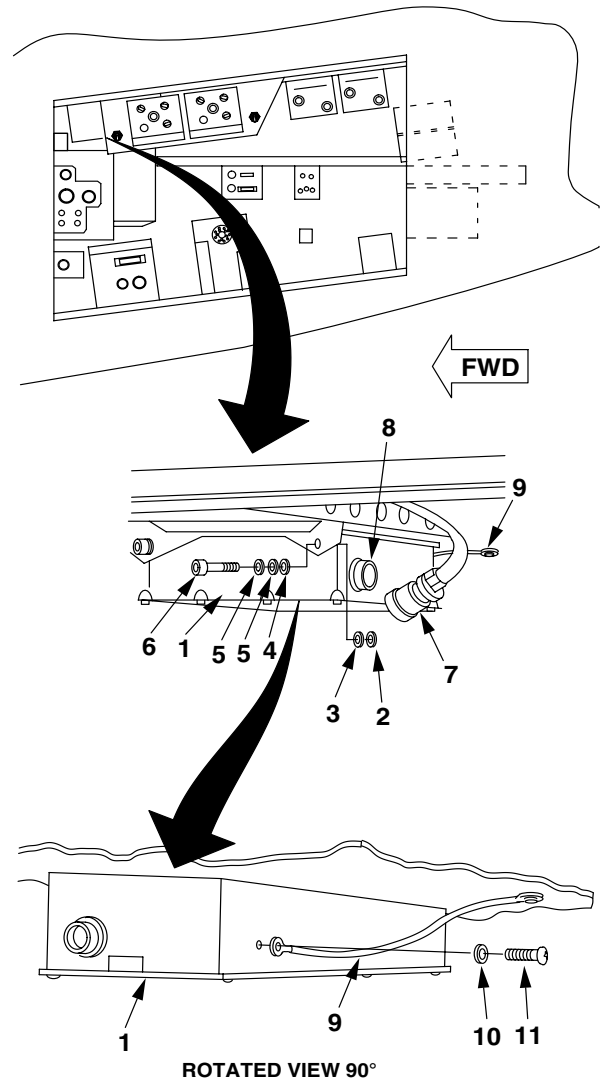
8. Close aft electrical compartment door.

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

Perform power assurance check (TM 1-1520-248-MTF).

Maintenance test pilot perform MOC/MTF (TM 1-1520-248-MTF).



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J2266

END OF TASK

9-7-6. ELECTRONIC CONTROL UNIT (ECU) (OH-58D(R)) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
OH-58D(R)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 1-1520-248-T
TM 1-1520-248-MTF

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-7-6. ELECTRONIC CONTROL UNIT (ECU) (OH-58D(R)) — INSTALLATION (CONT)

INSTALL

1. Open aft electrical compartment door to gain access to ECU mounting area.

CAUTION

Correct ECU application for engine shall be verified before installation.

2. Position serviceable ECU (1) in place and align to mounting holes.

3. Support ECU (1) and install four washers (2), bumpers (3), bumpers (4), washers (5), lockwashers (6), and bolts (7).

4. Visually inspect electrical connectors (8, 9, 10, and 11) for corrosion, missing or bent pins, and cracked housing.

5. Connect electrical connector (8) to electrical connector (9).

6. Connect electrical connector (10) to electrical connector (11).

7. Position ground strap (12) to ECU (1) and install washer (13) and screw (14).

8. Perform check for Class R-1 electrical bond. (Refer to Appendix M.)

INSPECT

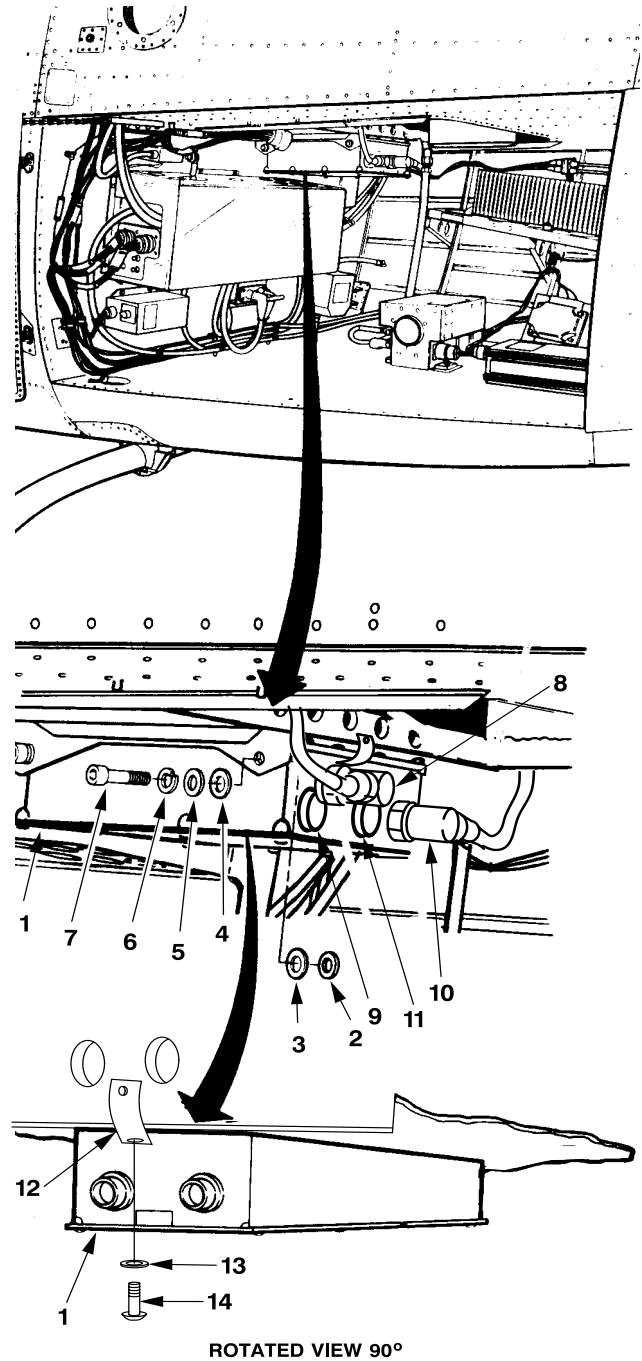
9. Close aft electrical compartment door.

FOLLOW-ON MAINTENANCE

Perform power assurance check (TM 1-1520-248-MTF).

Perform operational check (TM 1-1520-248-T).

Maintenance test pilot perform MOC/MTF (TM 1-1520-248-MTF).



ROTATED VIEW 90°

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J0972

END OF TASK

9-7-7. SIGNAL CONDITIONING UNIT (MAST TORQUE) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)

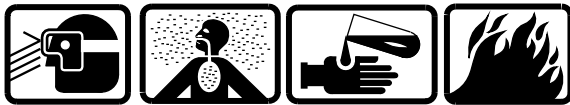
Wiping Rag (D164)
Zinc Chromate Primer (D161)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 55-1500-345-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

CLEAN



Drycleaning Solvent

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199). See figure Mast Torque Signal Conditioning Unit.

2. Remove moisture, dust, and loose dirt with a wiping rag (D164).

3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.
7. Inspect electrical connectors for bent or broken pins or cracked connector inserts.

REPAIR

8. Replace unit if case is cracked (Tasks 9-7-8 and 9-7-9).
9. Replace unit if case has a dent that affects operation (Tasks 9-7-8 and 9-7-9).

GO TO NEXT PAGE



Sanding Operations

10. Remove minor scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

11. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).

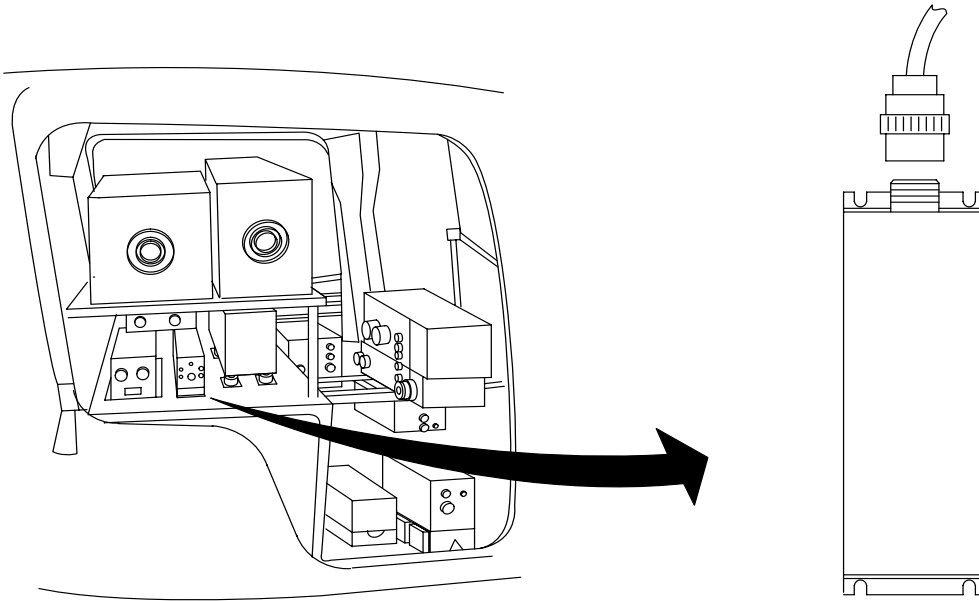
12. Tighten or replace loose or missing mounting hardware.

13. Straighten bent electrical connector pin(s).

14. Replace unit if electrical connector pin is broken or insert is cracked (Tasks 9-7-8 and 9-7-9).

INSPECT

9-7-7. SIGNAL CONDITIONING UNIT (MAST TORQUE) — CLEANING/INSPECTION/REPAIR (CONT)



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J1755

Mast Torque Signal Conditioning Unit

END OF TASK

9-7-8. SIGNAL CONDITIONING UNIT (MAST TORQUE) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

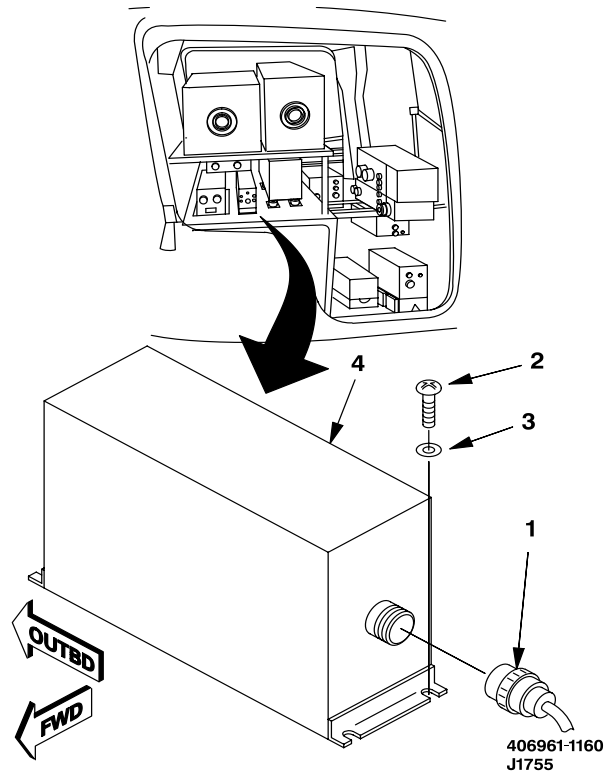
Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

1. Disconnect electrical connector (1).
2. Remove four screws (2) and four washers (3).
3. Remove signal conditioning unit (4).



END OF TASK

9-7-9. SIGNAL CONDITIONING UNIT (MAST TORQUE) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-7-9. SIGNAL CONDITIONING UNIT (MAST TORQUE) — INSTALLATION (CONT)

NOTE

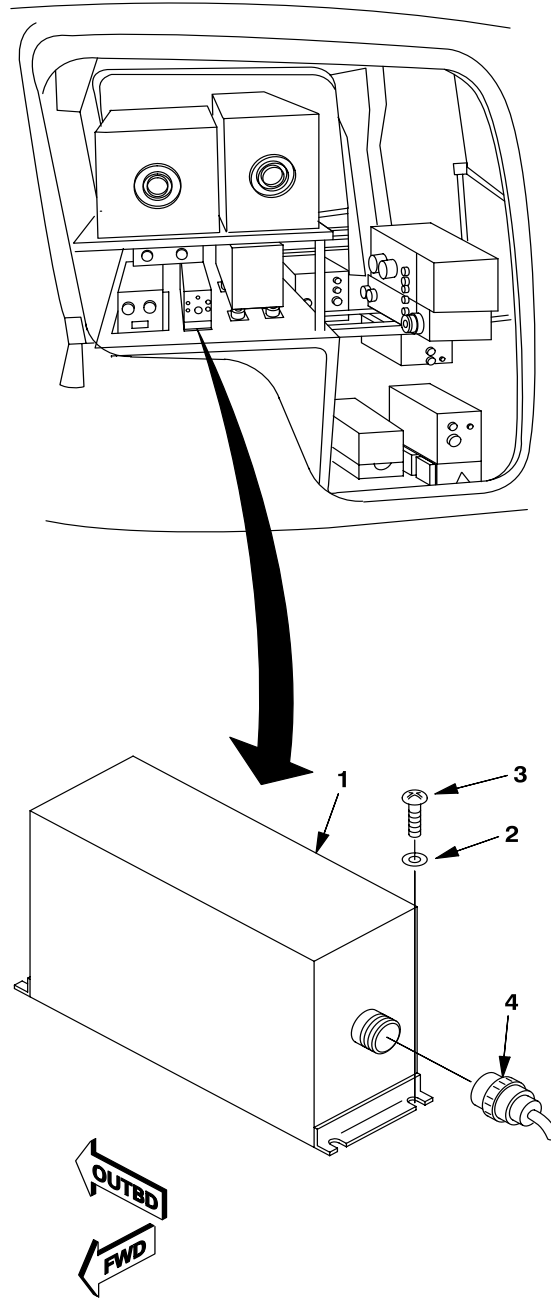
A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

1. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
2. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
3. Position signal conditioning unit (1) into helicopter.
4. Install four washers (2) and four screws (3).
5. Connect electrical connector (4).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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J1755

END OF TASK

9-7-10. SIGNAL CONDITIONING UNIT AND CHAIN (TAMS) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Wiping Rag (D164)
Zinc Chromate Primer (D161)

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Tools:
Electrical Repairer Tool Kit (B177)

References:
TM 55-1500-345-23

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Sandpaper (D175)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

GO TO NEXT PAGE

9-7-10. SIGNAL CONDITIONING UNIT AND CHAIN (TAMS) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

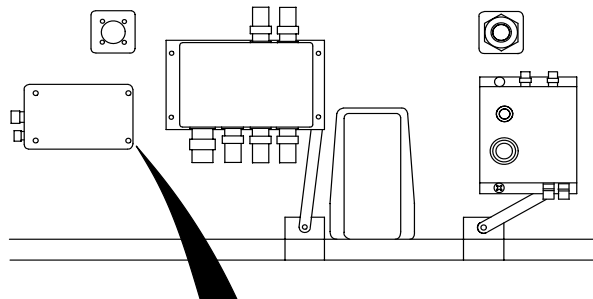
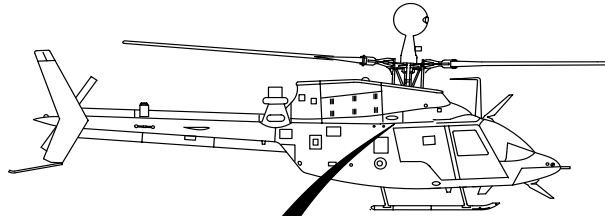


Drycleaning Solvent

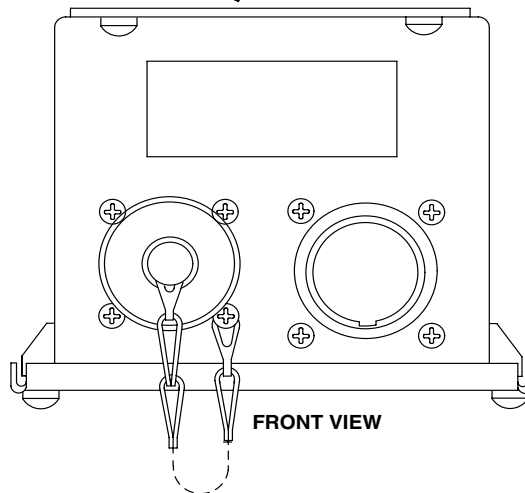
1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for missing hardware and security of mounting.
7. Inspect electrical connectors for bent or broken pins or cracked connector inserts.
8. Inspect chain and cover for security and condition.



VIEW LOOKING UP AT ROOF



FRONT VIEW

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J0651

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9-7-10. SIGNAL CONDITIONING UNIT AND CHAIN (TAMS) — CLEANING/INSPECTION/REPAIR (CONT)

REPAIR

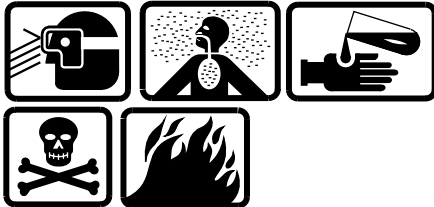
9. Replace unit if case is cracked (Tasks 9-7-11 and 9-7-12).

10. Replace unit if case has a dent that affects operation (Tasks 9-7-11 and 9-7-12).



Sanding Operations

11. Repair minor scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

12. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).

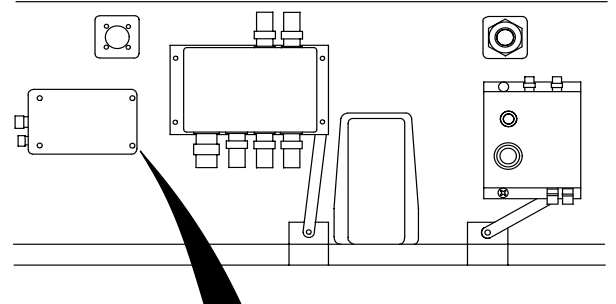
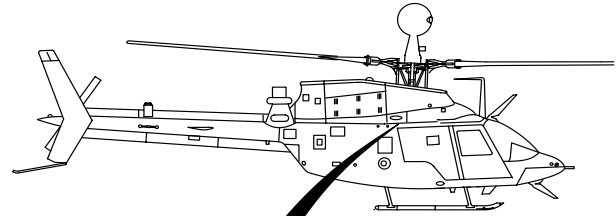
13. Tighten or replace loose or missing mounting hardware.

14. Straighten bent electrical connector pin(s).

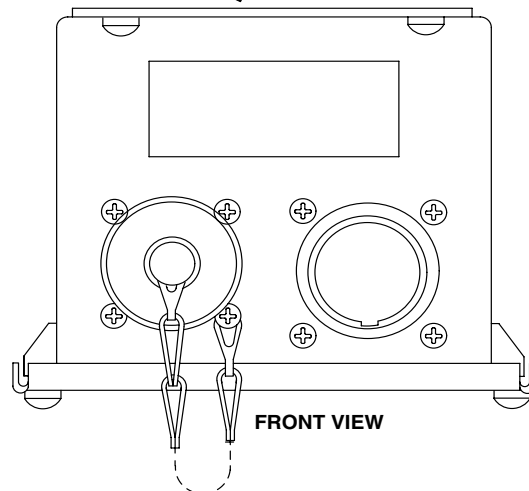
15. Replace unit if electrical connector pin is broken or insert is cracked (Tasks 9-7-11 and 9-7-12).

16. Replace cover and chain if chain is broken or missing (Task 9-7-13).

INSPECT



VIEW LOOKING UP AT ROOF



FRONT VIEW

406961-1162
J0651

END OF TASK

9-7-11. SIGNAL CONDITIONING UNIT (TAMS) — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
68F Aircraft Electrician

Applicable Configurations:
All

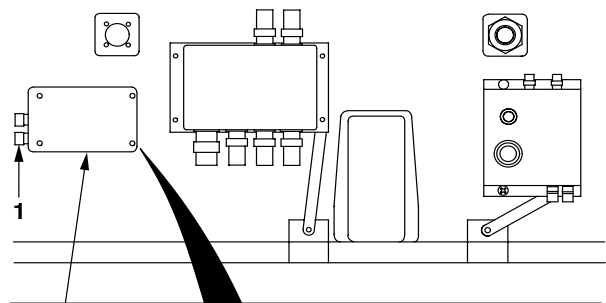
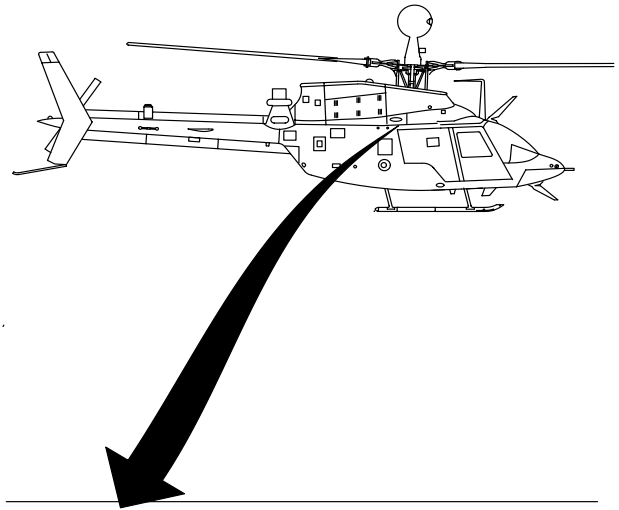
Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

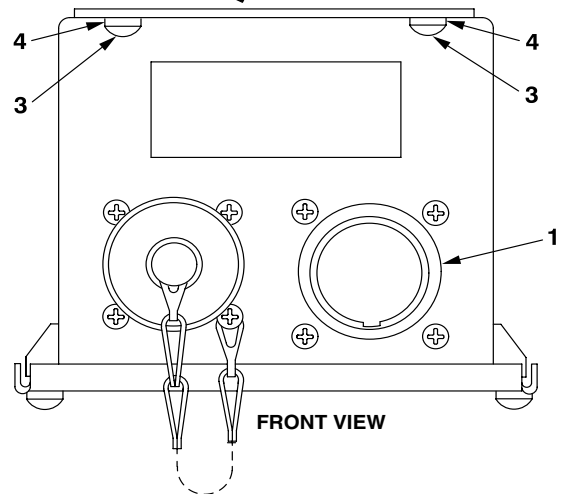
GO TO NEXT PAGE

9-7-11. SIGNAL CONDITIONING UNIT (TAMS) — REMOVAL (CONT)

1. Disconnect electrical connector (1).
2. Support signal conditioning unit (2) with one hand and remove three screws (3) and washers (4).
3. Remove signal conditioning unit (2).



VIEW LOOKING UP AT ROOF



406961-1173
J2266

END OF TASK

9-7-12. SIGNAL CONDITIONING UNIT (TAMS) — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-7-12. SIGNAL CONDITIONING UNIT (TAMS) — INSTALLATION (CONT)

NOTE

A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

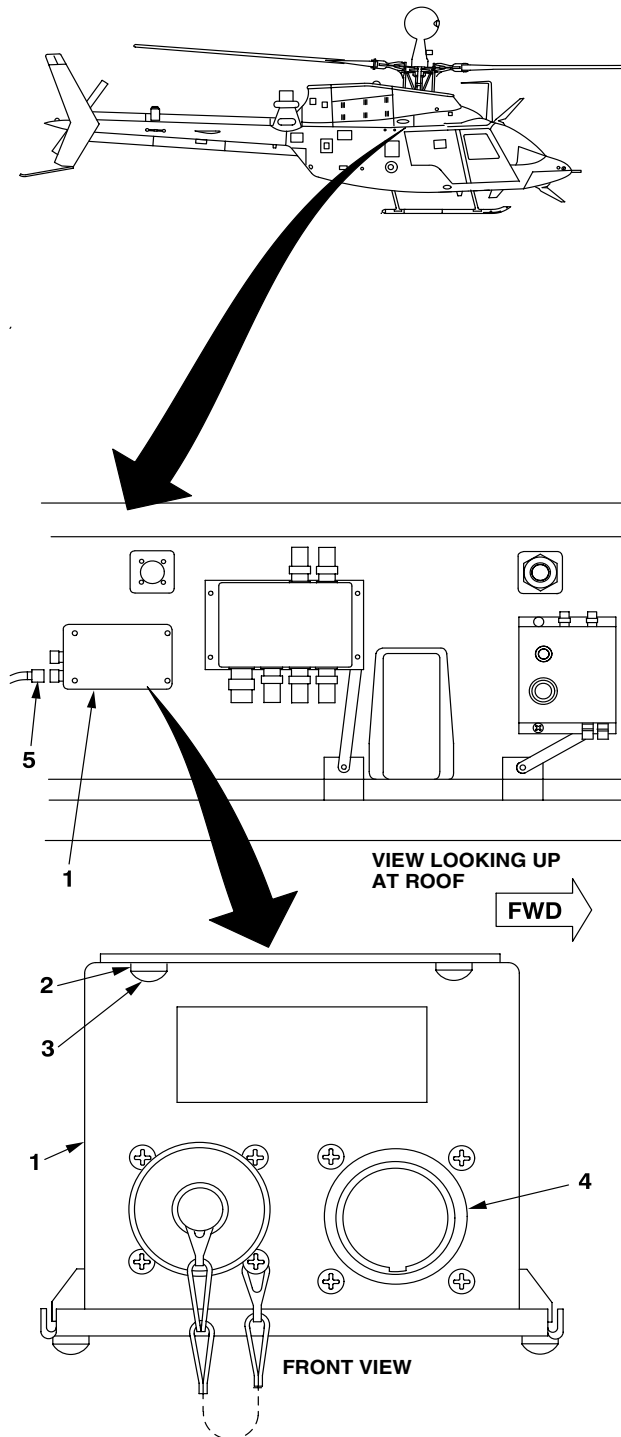
1. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
2. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
3. Align signal conditioning unit (1) with mounting holes.
4. Support signal conditioning unit (1) with one hand and install three washers (2) and screws (3).
5. Visually inspect electrical connectors (4) and (5) for corrosion, missing or bent pins, and cracked housing.
6. Connect mating electrical connector (5) to unit electrical connector (4).

INSPECT

FOLLOW-ON MAINTENANCE

Perform static calibration (TAMS) (Task 9-7-16).

Perform operational check (TM 1-1520-248-T).



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J2266

END OF TASK

9-7-13. COVER AND CHAIN (TAMS SIGNAL CONDITIONING UNIT) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

Tools:
Electrical Repairer Tool Kit (B177)

GO TO NEXT PAGE

9-7-13. COVER AND CHAIN (TAMS SIGNAL CONDITIONING UNIT) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Gain access to signal conditioning unit (1).
2. Remove screw (2).
3. Remove cover (3).

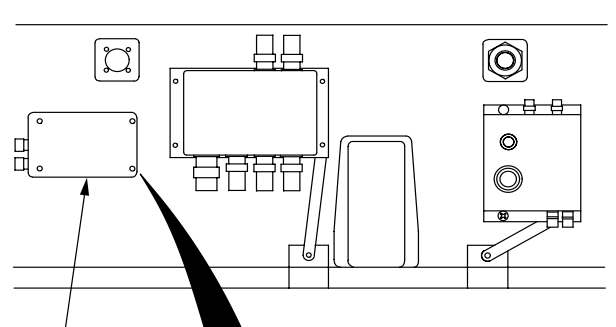
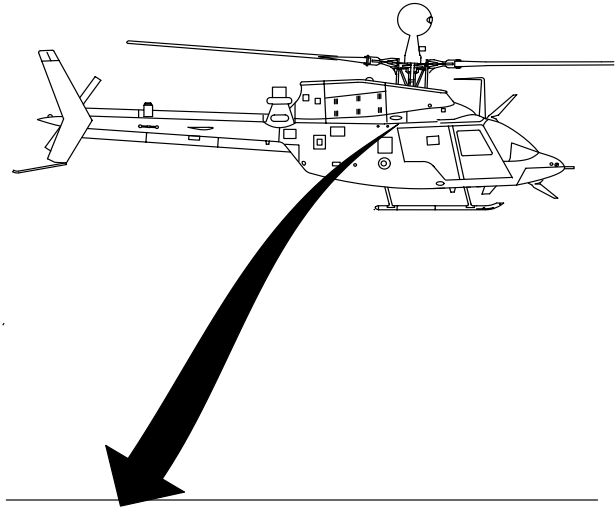
INSTALL

4. Install cover (3) with chain (4).
5. Align loose end of chain (4) from cover (3) with mounting hole.
6. Install and tighten screw (2).

INSPECT

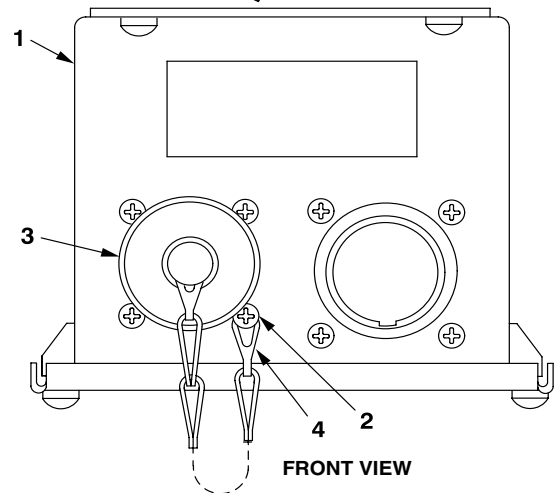
FOLLOW-ON MAINTENANCE

- Install right access door (Task 2-2-6).



VIEW LOOKING UP AT ROOF

FWD →



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J2266

END OF TASK

9-7-14. TAMS LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT) — CLEANING/
INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Rubber Gloves (D111)
Wiping Rag (D164)

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

Tools:
Electrical Repairer Tool Kit (B177)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)
Forward Fairing Removed (Task 2-2-47)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)

GO TO NEXT PAGE

 9-7-14. TAMS LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT) — CLEANING/
 INSPECTION/REPAIR (CONT)

CLEAN

**Drycleaning Solvent**

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connector with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks.
5. Inspect unit for security of mounting.
6. Inspect electrical connector for bent or broken pins or cracked connector inserts.

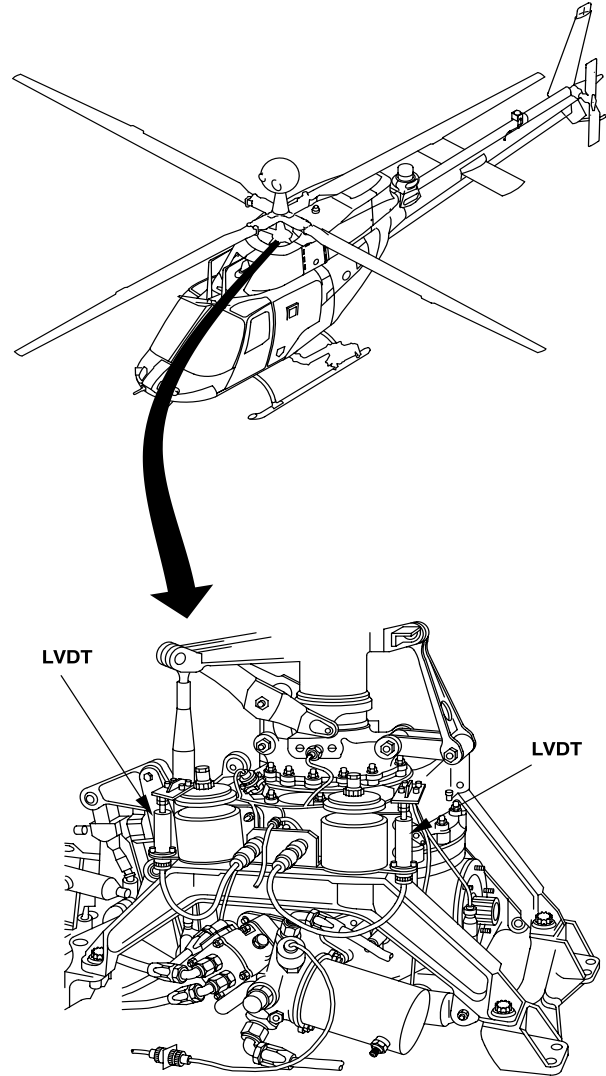
REPAIR

7. Replace unit if case is dented or cracked (Task 9-7-15).
8. Tighten or replace loose or missing hardware.
9. Straighten bent electrical connector pin(s).
10. Replace unit if electrical connector pin is broken or insert is cracked (Task 9-7-15).

INSPECT

FOLLOW-ON MAINTENANCE

1. Install forward fairing (Task 2-2-47).

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END OF TASK

9-7-15. TAMS LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT) — REMOVAL/
INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)
Forward Fairing Removed (Task 2-2-47)

Tools:
Electrical Repairer Tool Kit (B177)
Maintenance Stand (B162)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

GO TO NEXT PAGE

9-7-15. TAMS LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove four screws (1) and washers (2) and remove top target support (3).
2. Remove three screws (4), washers (5), and nuts (6) from mount (7).
3. Disconnect electrical connector (8) and remove LVDT (9).

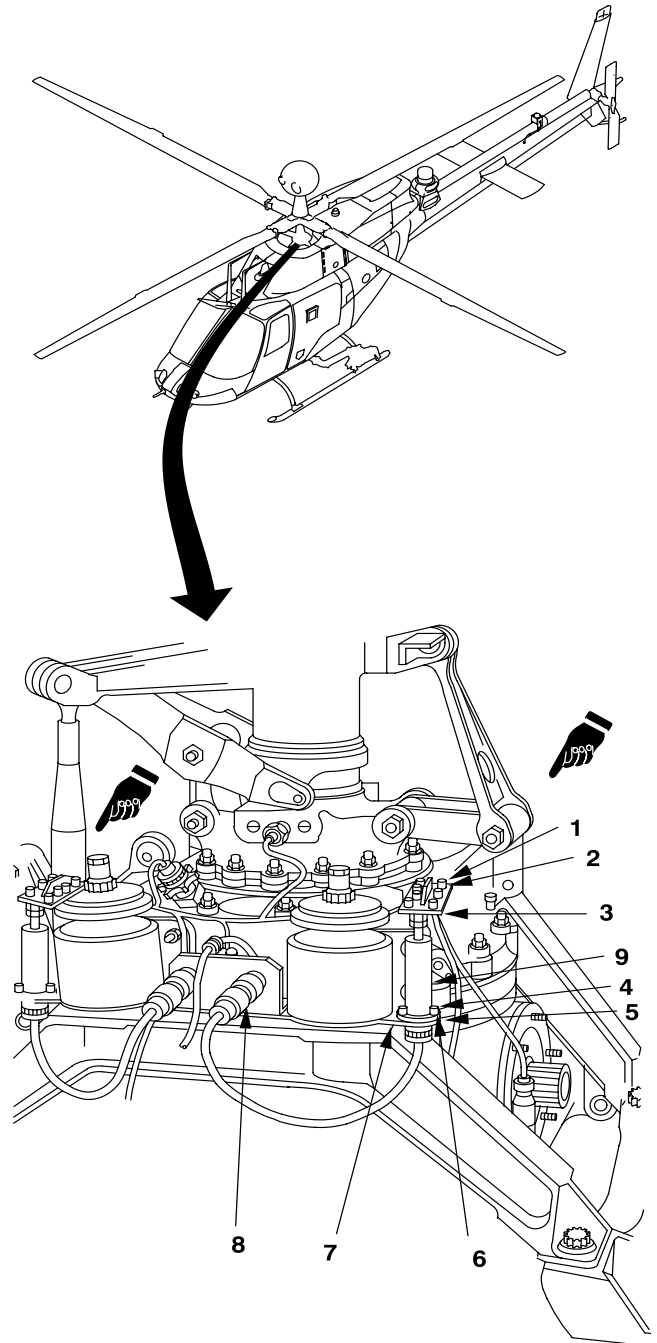
INSTALL

4. Align LVDT (9) to mounting holes in mount (7).
5. Install three screws (4), washers (5), and nuts (6).
6. Visually inspect electrical connector (8) and mating connector for corrosion, missing or bent pins, and cracked housing.
7. Connect electrical connector (8).
8. Align top target support (3) to mounting holes. Install four washers (2) and screws (1).

INSPECT

FOLLOW-ON MAINTENANCE

- Install forward fairing (Task 2-2-47).
- Perform operational check (TM 1-1520-248-T).
- Perform static calibration (TAMS) (Task 9-7-16).



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END OF TASK

9-7-16. STATIC CALIBRATION (TAMS)

This task covers: Calibrating TAMS (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

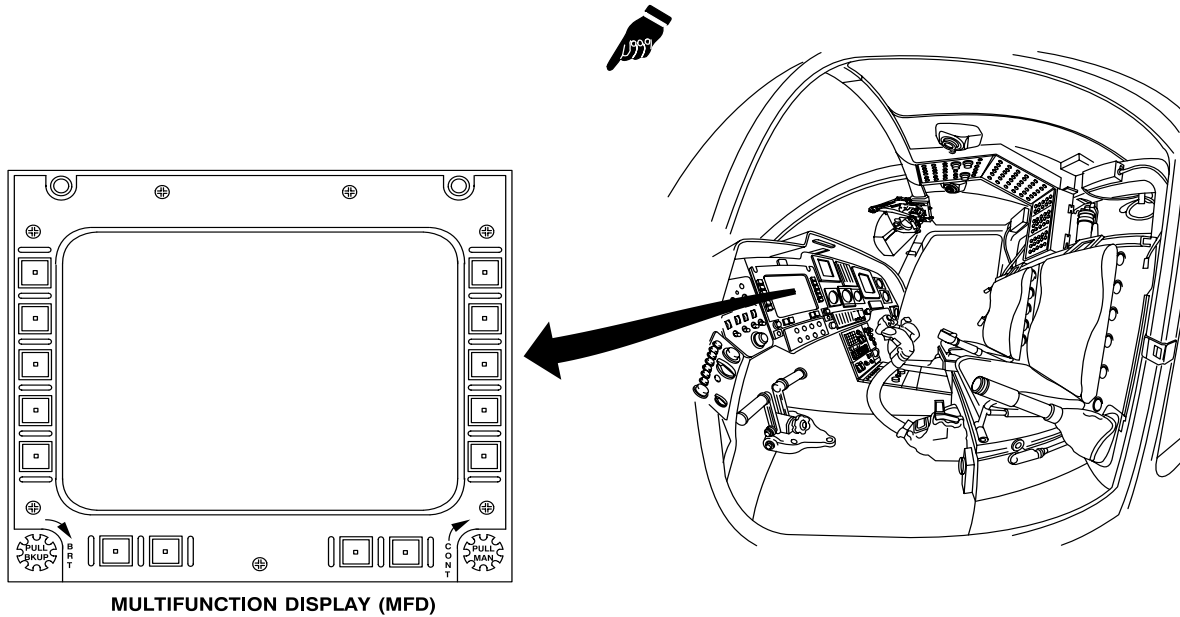
Equipment Condition:
APU Connected
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
All Circuit Breakers Closed (Overhead and Center Post Circuit Breaker Panels)
All Switches Off
Helicopter Safed (Task 1-6-7)

Tools:
APU

Personnel Required:
68F Aircraft Electrician

1. For cockpit component location, see figure CPG MFD — Locator.

2. For circuit breaker location see Circuit Breaker — Locator.

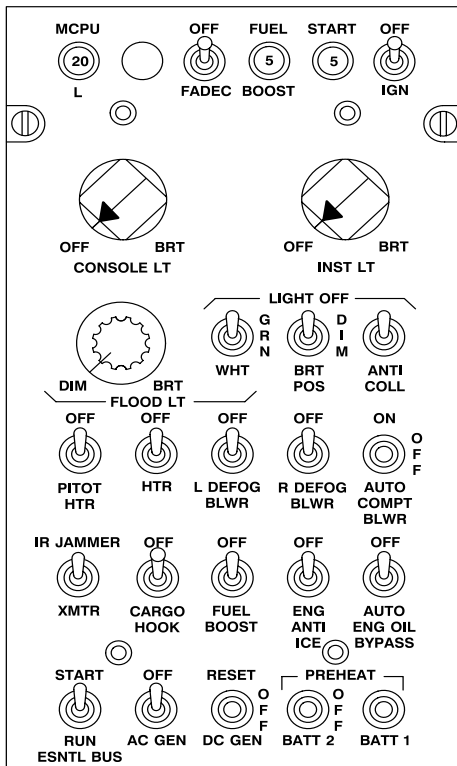


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J2878

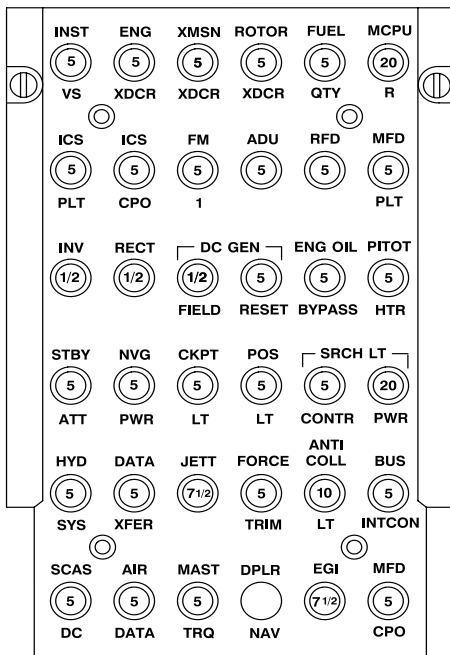
CPG MFD — Locator

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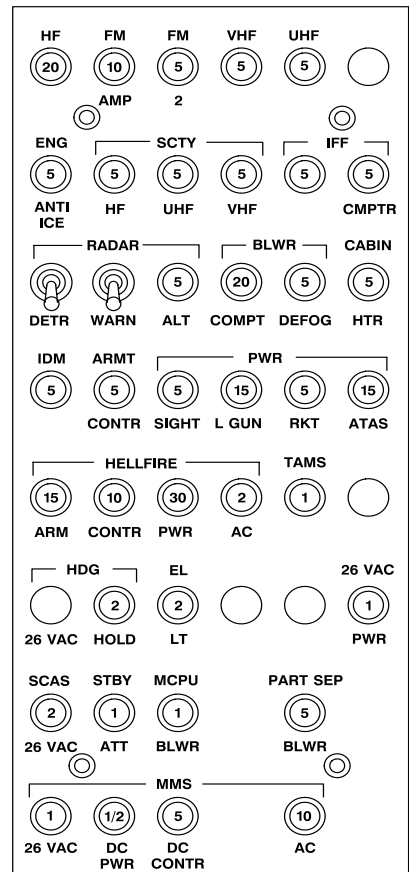
9-7-16. STATIC CALIBRATION (TAMS) (CONT)



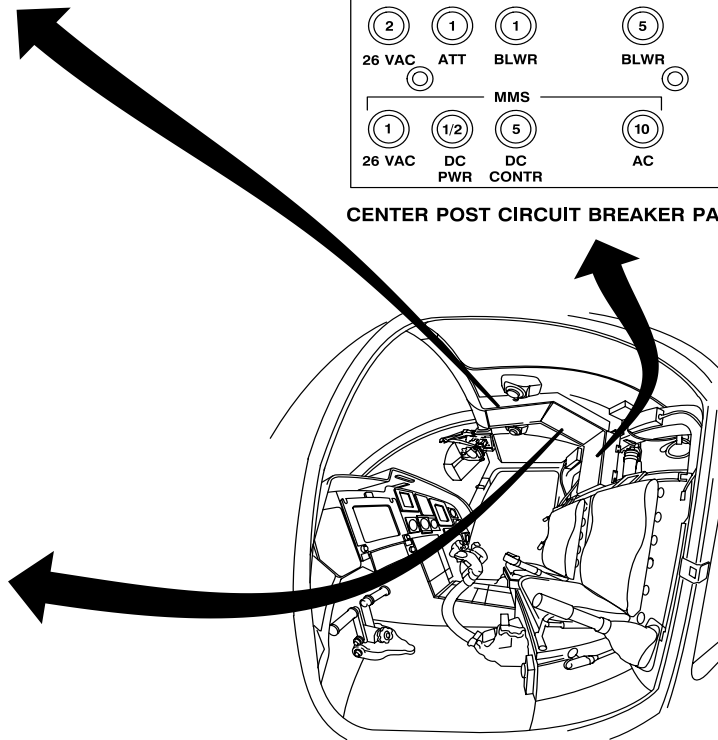
FORWARD OVERHEAD CONSOLE PANEL



AFT OVERHEAD CONSOLE PANEL



CENTER POST CIRCUIT BREAKER PANEL



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J1758

Circuit Breaker — Locator

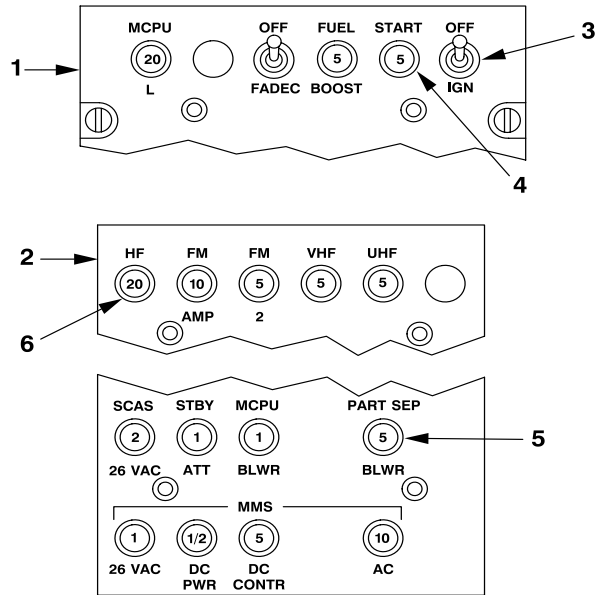
GO TO NEXT PAGE

9-7-16. STATIC CALIBRATION (TAMS) (CONT)

3. Open left crew door to gain access to CPG crew station.

4. On forward overhead console (1) and center post circuit breaker panels (2), open following circuit breakers:

- IGN (3)
- START (4)
- PART SEP BLWR (5)
- HF (6).



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J1758

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9-7-16. STATIC CALIBRATION (TAMS) (CONT)

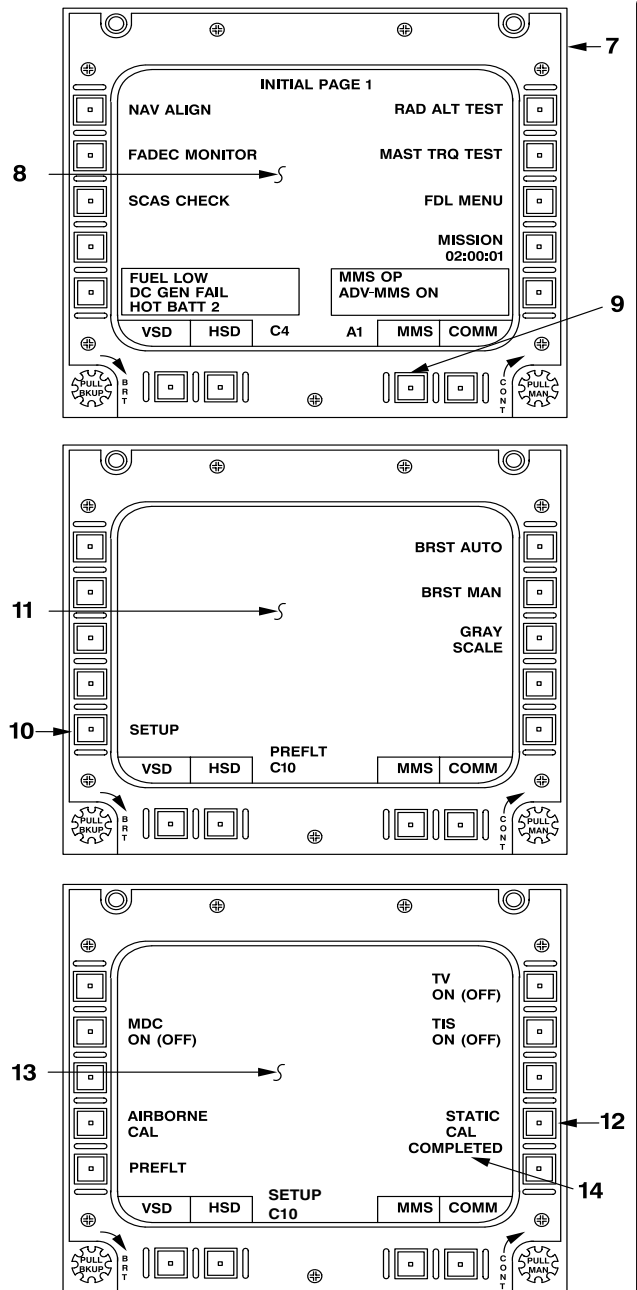
NOTE

MMS does not need to be powered up for this procedure. Rotor shall be stopped.

5. Apply dc external power (Task 1-6-5). Allow 30 seconds for warmup of CPG MFD (7).
6. Verify that CPG MFD (7) displays an INITIAL PAGE (8) and the image is clear and legible.
7. Press MMS MODE key (9) on CPG MFD (7).
8. Press SETUP key (10) on PREFLT page (11) on CPG MFD (7).
9. Press STATIC CAL key (12) on set-up page (13) on CPG MFD (7).
10. Verify text COMPLETED (14) is displayed below STATIC CAL.
11. Return to INITIAL PAGE 1 (8).
12. Turn off dc external power (Task 1-6-5).

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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J2266

END OF TASK

Section VIII. ARMAMENT ELECTRICAL EQUIPMENT

9-23. ARMAMENT ELECTRICAL EQUIPMENT

are provided in Appendix P and TM 1-1500-204-23.

9-24. INTRODUCTION

This section contains maintenance procedures for armament electrical equipment. Standard torques

9-25. TASK LIST

The task list consists of those tasks required to support unit and intermediate level maintenance.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
Armament Control Panel — Removal/Installation	9-8-1	9-441
Integrally Lit Panel on Armament Control Panel — Removal/Installation	9-8-2	9-443
Armament Electronics Unit (AEU) — Cleaning/Inspection/Repair	9-8-3	9-445
Armament Electronics Unit (AEU) — Removal/Installation	9-8-4	9-448
Interface Electronics Assembly (IEA) — Cleaning/Inspection/Repair	9-8-5	9-450
Interface Electronics Assembly (IEA) — Removal/Installation	9-8-6	9-452
Interface Electronics Assembly (IEA) Shock Mount — Removal/Installation	9-8-7	9-454
Missile Sight Subsystem Electronics Unit (MSSEU) — Cleaning/Inspection/Repair	9-8-8	9-457
Missile Sight Subsystem Electronics Unit (MSSEU) — Removal/Installation	9-8-9	9-459
Remote Hellfire Electronics (RHE) — Cleaning/Inspection/Repair	9-8-10	9-461
Remote Hellfire Electronics (RHE) — Removal/Installation	9-8-11	9-463
Rocket Remote Assembly (RRA) — Cleaning/Inspection/Repair	9-8-12	9-465
Rocket Remote Assembly (RRA) — Removal/Installation	9-8-13	9-467

9-8-1. ARMAMENT CONTROL PANEL — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

68J Aircraft Armament/Missile Systems
Repairer

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

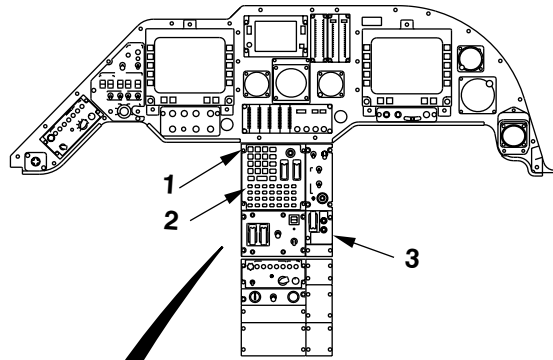
Personnel Required:
■ 68J Aircraft Armament/Missile Systems
Technical Inspector (TI)

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9-8-1. ARMAMENT CONTROL PANEL — REMOVAL/INSTALLATION (CONT)

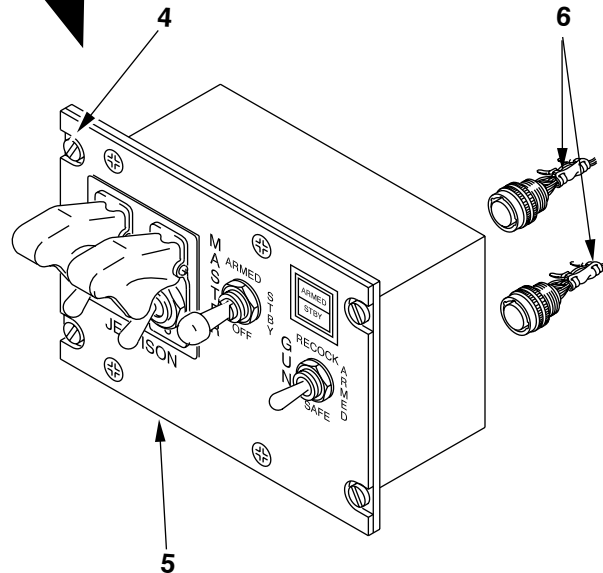
REMOVE

1. Open left or right crew door to gain access.
2. Loosen four fasteners (1).
3. Lift multifunction keyboard (MFK) (2) from pedestal (3) as far as cable will permit.
4. Loosen four fasteners (4).
5. Lift control panel (5) from pedestal (3) as far as cable will permit.
6. Disconnect electrical connectors (6).
7. Remove control panel (5).



INSTALL

8. Connect electrical connectors (6).
9. Position control panel (5) into pedestal (3).
10. Tighten fasteners (4).
11. Position MFK (2) into pedestal (3).
12. Tighten fasteners (1).



INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).

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H0751

END OF TASK

9-8-2. INTEGRALLY LIT PANEL ON ARMAMENT CONTROL PANEL — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

68J Aircraft Armament/Missile Systems
Repairer

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

Personnel Required:
■ 68J Aircraft Armament/Missile Systems
Technical Inspector (TI)

GO TO NEXT PAGE

9-8-2. INTEGRALLY LIT PANEL ON ARMAMENT CONTROL PANEL — REMOVAL/INSTALLATION
(CONT)

REMOVE

1. Open left or right crew door to gain access to armament control panel (1).
2. Remove four screws (2) and washers (3).
3. Lift integrally lit panel (4) from armament control panel (1).

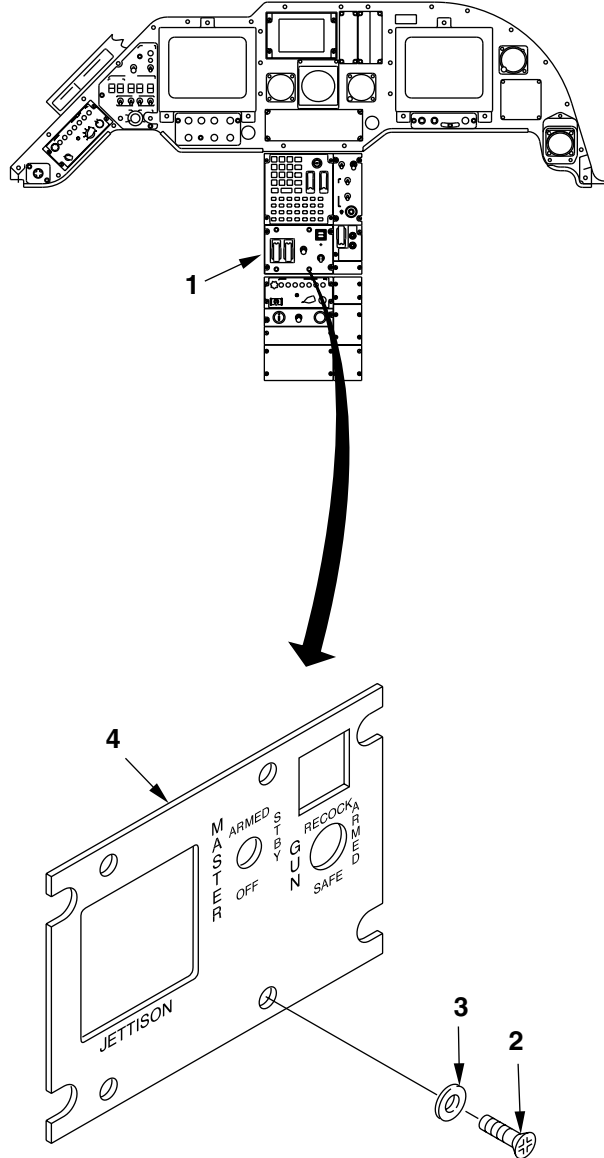
INSTALL

4. Position integrally lit panel (4) onto armament control panel (1).
5. Install four washers (3) and screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

Perform operational check (TM 1-1520-248-T).



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H0752

END OF TASK

9-8-3. ARMAMENT ELECTRONICS UNIT (AEU) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)
Zinc Chromate Primer (D161)

Personnel Required:
68J Aircraft Armament/Missile Systems
Technical Inspector (TI)
68J Aircraft Armament/Missile Systems
Repairer

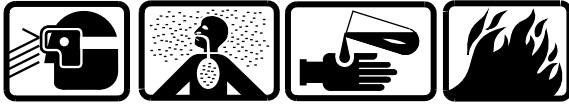
References:
TM 55-1500-345-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

GO TO NEXT PAGE

9-8-3. ARMAMENT ELECTRONICS UNIT (AEU) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

1. To accomplish the following steps, see figure Armament Electronics Unit — Locator.
2. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
3. Remove moisture, dust, and loose dirt with a wiping rag (D164).
4. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

5. Inspect unit for dents or cracks.
6. Inspect unit for scratches and bare metal.
7. Inspect unit for security of mounting.
8. Inspect electrical connectors for bent or broken pins and cracked connector inserts.

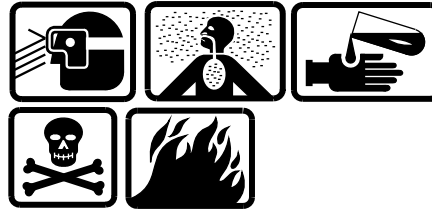
REPAIR

- 9. Replace unit if case is cracked (Task 9-8-4).
- 10. Replace unit if case has dent that affects operation (Task 9-8-4).



Sanding Operations

11. Repair minor scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

12. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).
13. Tighten or replace loose or missing mounting hardware.
14. Straighten bent electrical connector pin(s).
15. Replace unit if electrical connector pin is broken or insert is cracked (Task 9-8-4). ■

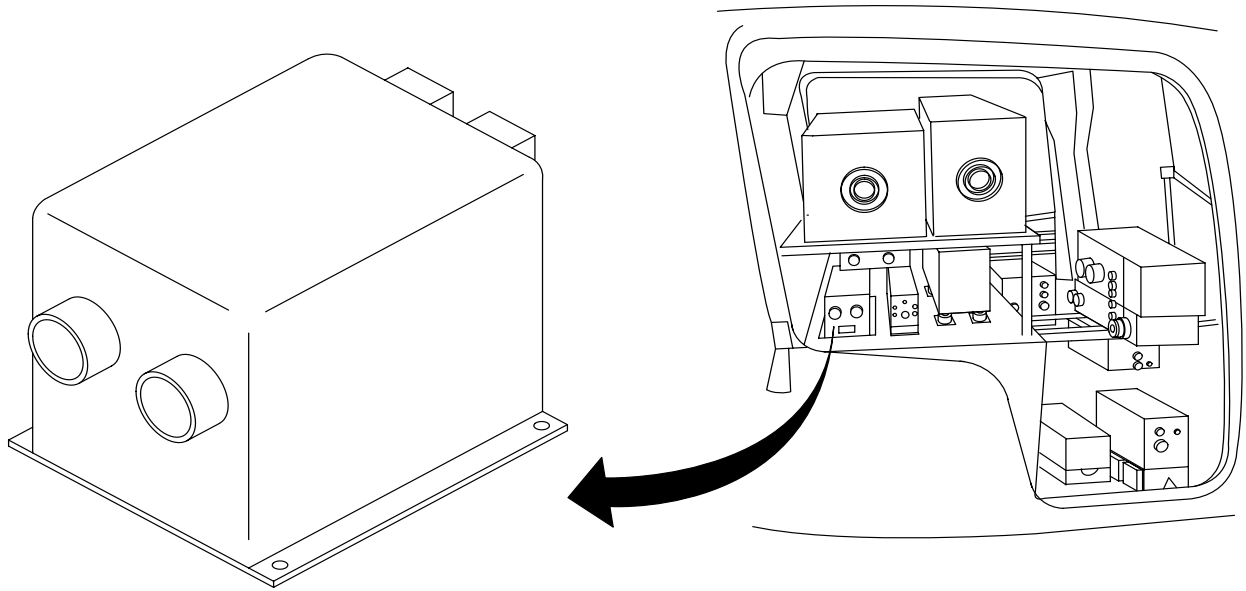
INSPECT

FOLLOW-ON MAINTENANCE

- Install right access door (Task 2-2-6). ■

GO TO NEXT PAGE

9-8-3. ARMAMENT ELECTRONICS UNIT (AEU) — CLEANING/INSPECTION/REPAIR (CONT)



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Armament Electronics Unit — Locator

END OF TASK

9-8-4. ARMAMENT ELECTRONICS UNIT (AEU) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

68J Aircraft Armament/Missile Systems
Repairer

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

Personnel Required:
68J Aircraft Armament/Missile Systems
Technical Inspector (TI)

GO TO NEXT PAGE

 9-8-4. ARMAMENT ELECTRONICS UNIT (AEU) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Disconnect electrical connectors (1) from AEU (2).
2. Remove four screws (3) and washers (4).
3. Remove AEU (2) from helicopter.

INSTALL

NOTE

A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

4. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.

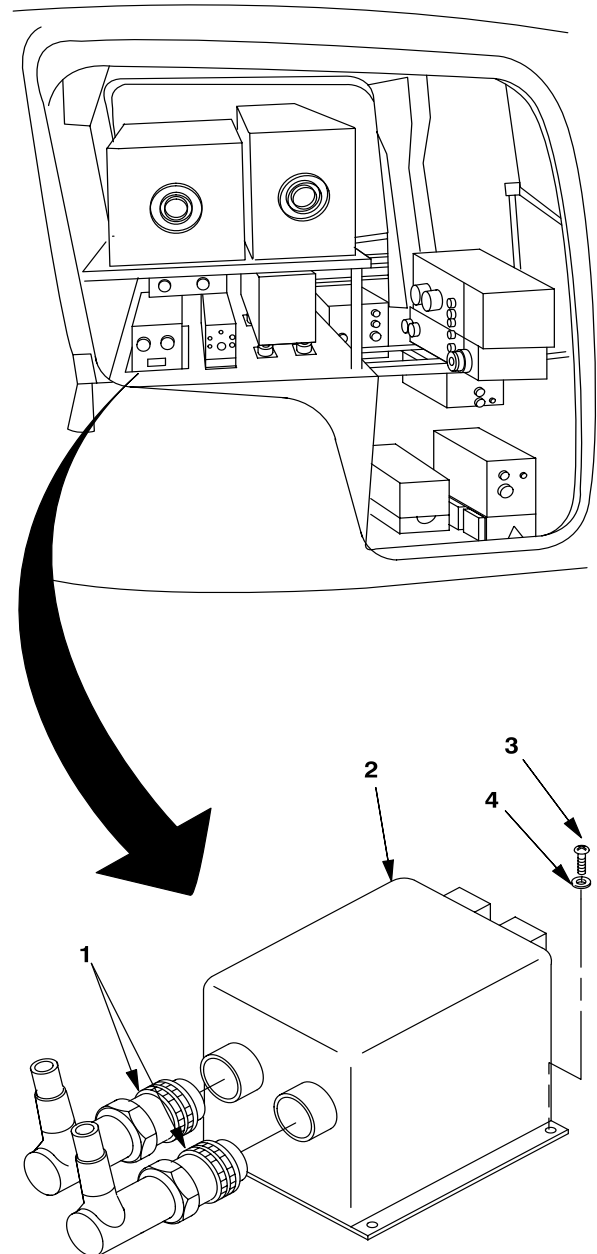
5. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

6. Position AEU (2) into helicopter.
7. Install four washers (4) and screws (3).
8. Connect electrical connectors (1).

INSPECT**FOLLOW-ON MAINTENANCE**

1. Install right access door (Task 2-2-6).

Perform operational check (TM 1-1520-248-T).



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J1755

END OF TASK

9-8-5. INTERFACE ELECTRONICS ASSEMBLY (IEA) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

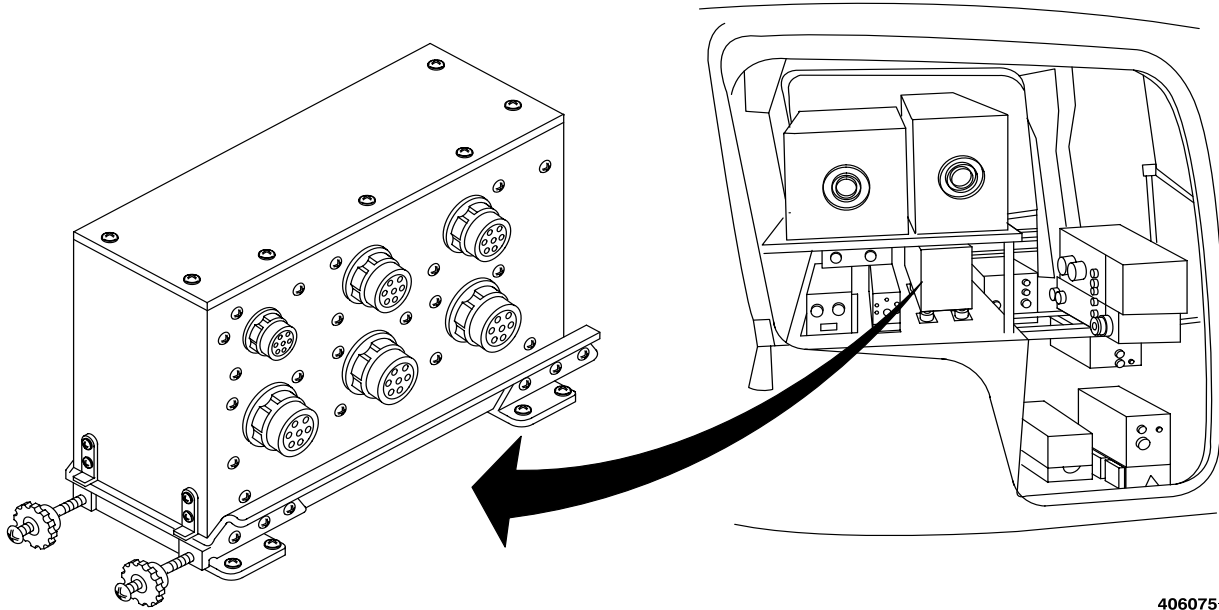
Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)
Zinc Chromate Primer (D161)

Personnel Required:
68J Aircraft Armament/Missile Systems
Technical Inspector (TI)
68J Aircraft Armament/Missile Systems
Repairer

References:
TM 55-1500-345-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)



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J1755

Interface Electronics Assembly

GO TO NEXT PAGE

9-8-5. INTERFACE ELECTRONICS ASSEMBLY (IEA) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

**Drycleaning Solvent**

1. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).
2. Remove moisture, dust, and loose dirt with a wiping rag (D164).
3. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

4. Inspect unit for dents or cracks.
5. Inspect unit for scratches and bare metal.
6. Inspect unit for security of mounting.
7. Inspect electrical connectors for bent or broken pins and cracked connector inserts.

REPAIR

- 8. Replace unit if case is cracked (Task 9-8-6).
- 9. Replace unit if case has dent that affects operation (Task 9-8-6).

**Sanding Operations**

10. Remove minor scratches using 400 grit sandpaper (D175).

**Zinc Chromate Primer**

11. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).
12. Tighten or replace loose or missing mounting hardware.
13. Straighten bent electrical connector pin(s).
14. Replace unit if electrical connector pin is broken or insert is cracked (Task 9-8-6). ■

INSPECT

FOLLOW-ON MAINTENANCE

- Install right access door (Task 2-2-6). ■

END OF TASK

9-8-6. INTERFACE ELECTRONICS ASSEMBLY (IEA) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

68J Aircraft Armament/Missile Systems
Repairer

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

Personnel Required:
68J Aircraft Armament/Missile Systems
Technical Inspector (TI)

GO TO NEXT PAGE

9-8-6. INTERFACE ELECTRONICS ASSEMBLY (IEA) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Disconnect electrical connectors (1) from IEA (2).
2. Loosen retaining knobs (3).
3. Pull IEA (2) from mount (4).

INSTALL

NOTE

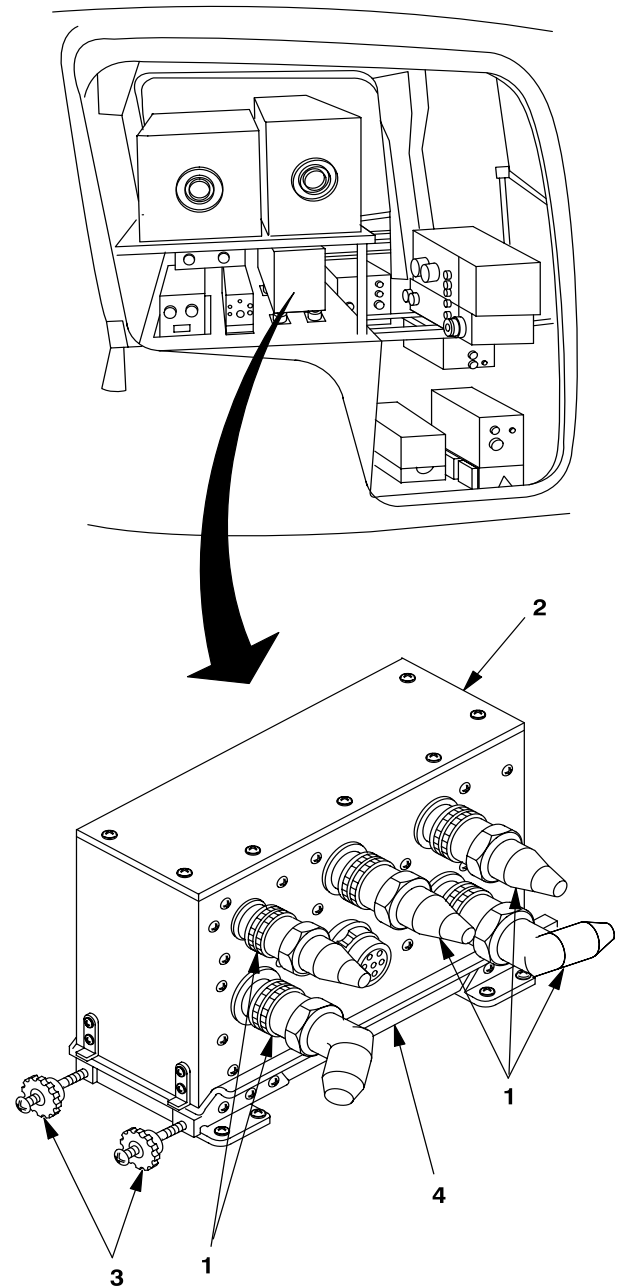
A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

4. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
5. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
6. Position IEA (2) into mount (4).
7. Tighten retaining knobs (3).
8. Connect electrical connectors (1).

INSPECT

FOLLOW-ON MAINTENANCE

- Install right access door (Task 2-2-6).
- Perform operational check (TM 1-1520-248-T).



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END OF TASK

9-8-7. INTERFACE ELECTRONICS ASSEMBLY (IEA) SHOCK MOUNT — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

68J Aircraft Armament/Missile Systems
Repairer

Applicable Configurations:
All

Equipment Condition:

Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Interface Electronics Assembly Removed
(Task 9-8-6)

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Personnel Required:
68J Aircraft Armament/Missile Systems
Technical Inspector (TI)

GO TO NEXT PAGE

9-8-7. INTERFACE ELECTRONICS ASSEMBLY (IEA) SHOCK MOUNT — REMOVAL/INSTALLATION (CONT)

REMOVE

CAUTION

To prevent damage to equipment by rotation of each shock mount, an open end wrench may be used on shock mount flats while removing screws securing equipment tray to shock mounts.

1. Remove four screws (1) and washers (2) securing tray (3) to shock mounts (4).
2. Remove 16 screws (5) and washers (6) securing shock mounts (4) and bonding strip (7) to aircraft structure.
3. Remove tray (3) and shock mounts (4) from helicopter.

INSTALL

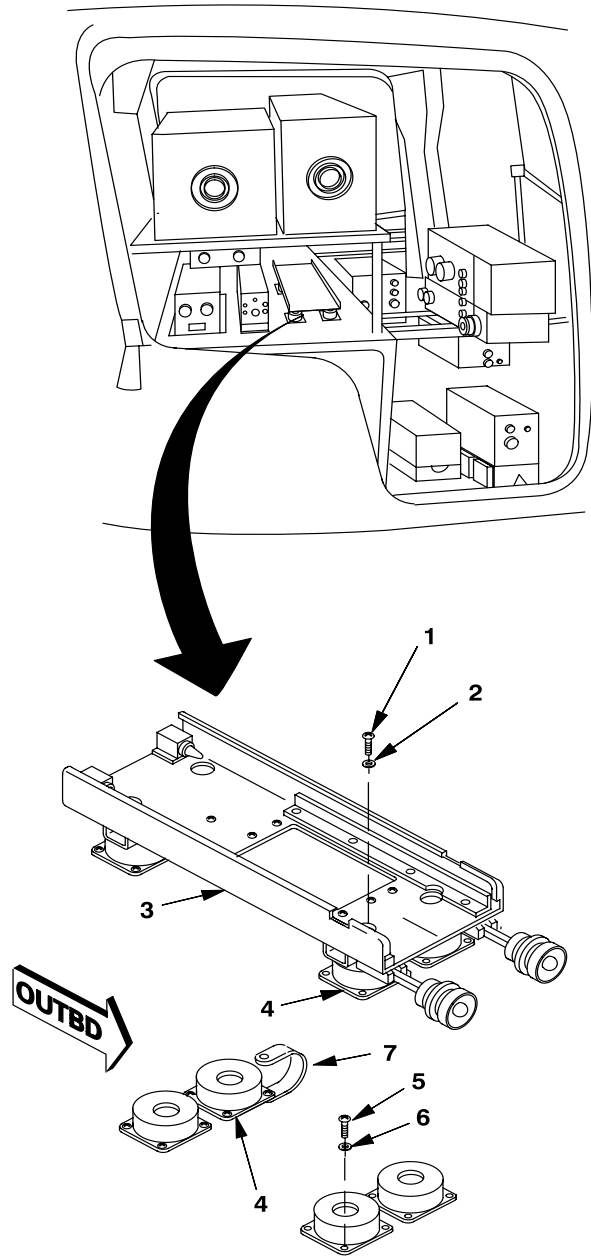
NOTE

A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

4. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
5. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.

NOTE

If using a new shock mount assembly, step 1 shall be performed before continuing.



406075-919
J1755

GO TO NEXT PAGE

9-8-7. INTERFACE ELECTRONICS ASSEMBLY (IEA) SHOCK MOUNT — REMOVAL/INSTALLATION (CONT)

NOTE

In step 6 the screw and washer that secures the bonding strips to the aircraft structure are not installed at this time; these will be installed in step 7.

6. Install shock mounts (4) on aircraft structure with 15 washers (6) and screws (5) but do not tighten.

7. Place tray (3) in position to permit bonding strips (7) to be inserted under the loose shock mounts (4) and install remaining washer (6) and screw (5) and tighten all screws.

CAUTION

To prevent damage to equipment by rotation of each shock mount, an open end wrench may be used on shock mount flats while installing screws securing equipment tray to shock mounts.

8. Position tray (3) onto shock mounts (4).

9. Insert the other end of bonding strap between tray (3) and shock mount (4) and install four washers (2) and screws (1).

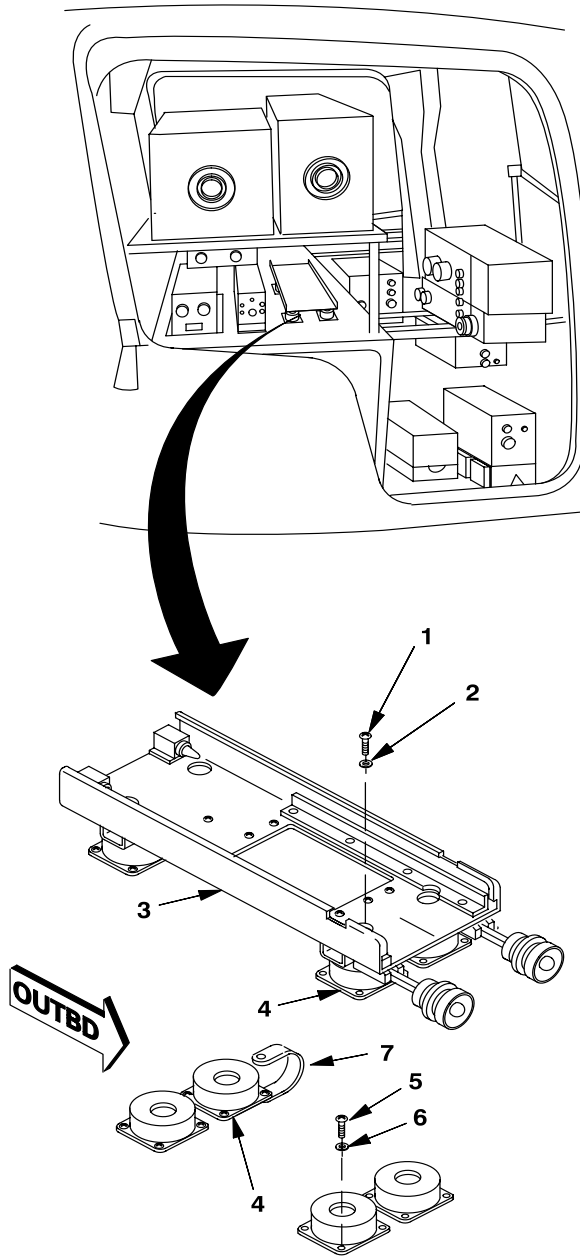
INSPECT

FOLLOW-ON MAINTENANCE

Install interface electronics assembly (Task 9-8-6).

Install right access door (Task 2-2-6).

Perform operational check of IEA (TM 1-1520-248-T).



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END OF TASK

9-8-8. MISSILE SIGHT SUBSYSTEM ELECTRONICS UNIT (MSSEU) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Armament Repairer Supplemental Tool Kit (B186)

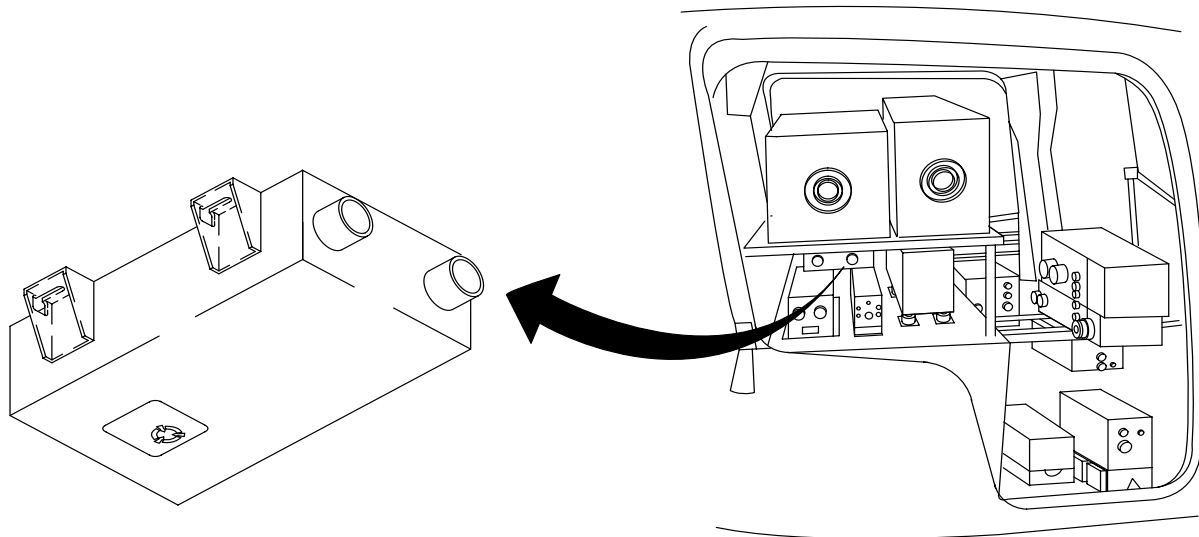
Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)
Zinc Chromate Primer (D161)

Personnel Required:
68J Aircraft Armament/Missile Systems Technical Inspector (TI)
68J Aircraft Armament/Missile Systems Repairer

References:
TM 55-1500-345-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)

1. For location of MSSEU, see figure Missile Sight Subsystem Electronics Unit — Locator.



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Missile Sight Subsystem Electronics Unit — Locator

GO TO NEXT PAGE

9-8-8. MISSILE SIGHT SUBSYSTEM ELECTRONICS UNIT (MSSEU) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

2. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).

3. Remove moisture, dust, and loose dirt with a wiping rag (D164).

4. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

5. Inspect unit for dents or cracks.
6. Inspect unit for scratches and bare metal.
7. Inspect unit for security of mounting.
8. Inspect electrical connectors for bent or broken pins or cracked connector inserts.

REPAIR

- 9. Replace unit if case is cracked (Task 9-8-9).
- 10. Replace unit if case has dent that affects operation (Task 9-8-9).



Sanding Operations

11. Remove minor scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

12. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).

13. Tighten or replace loose or missing mounting hardware.

14. Straighten bent electrical connector pin(s).

15. Replace unit if electrical connector pin is broken or insert is cracked (Task 9-8-9). ■

INSPECT

FOLLOW-ON MAINTENANCE

Install right access door (Task 2-2-6). ■

END OF TASK

9-8-9. MISSILE SIGHT SUBSYSTEM ELECTRONICS UNIT (MSSEU) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

68J Aircraft Armament/Missile Systems
Repairer

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Right Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

Personnel Required:
■ 68J Aircraft Armament/Missile Systems
Technical Inspector (TI)

GO TO NEXT PAGE

9-8-9. MISSILE SIGHT SUBSYSTEM ELECTRONICS UNIT (MSSEU) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Disconnect two electrical connectors (1) from MSSEU (2).
2. Support MSSEU (2) and loosen four screws (3) securing MSSEU to shelf.
3. Remove MSSEU (2).

INSTALL

NOTE

A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

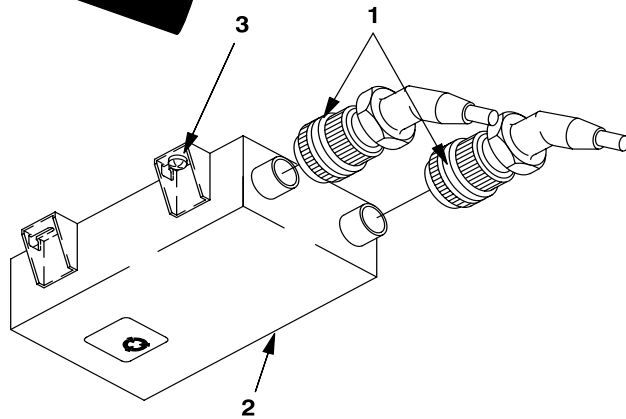
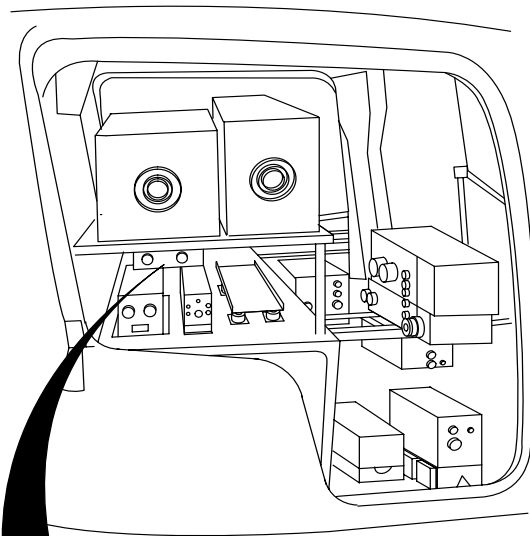
4. Clean and visually inspect mating surfaces for damage which may affect Class R-1 bond.
5. Repair any damage and prepare mating surfaces for Class R-1 bond per Appendix M.
6. Position MSSEU (2) under shelf and tighten four screws (3).
7. Connect two electrical connectors (1).

INSPECT

FOLLOW-ON MAINTENANCE

Install right access door (Task 2-2-6).

Perform ATAS operational check (TM 1-1520-248-T).



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END OF TASK

9-8-10. REMOTE HELLFIRE ELECTRONICS (RHE) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

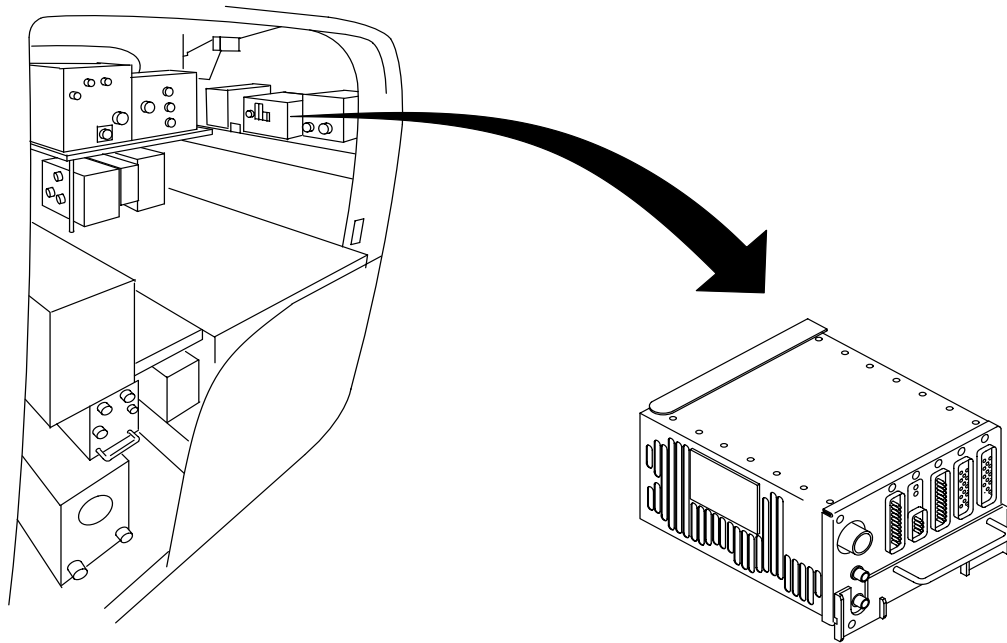
Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)
Zinc Chromate Primer (D161)

Personnel Required:
68J Aircraft Armament/Missile Systems
Technical Inspector (TI)
68J Aircraft Armament/Missile Systems
Repairer

References:
TM 55-1500-345-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Left Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

1. For location of RHE, see figure Remote HELLFIRE Electronics — Locator.



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J1758

Remote HELLFIRE Electronics — Locator

GO TO NEXT PAGE

9-8-10. REMOTE HELLFIRE ELECTRONICS (RHE) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

2. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).

3. Remove moisture, dust, and loose dirt with a wiping rag (D164).

4. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

- 5. Inspect unit for dents or cracks.
- 6. Inspect unit for scratches and bare metal.
- 7. Inspect unit for security of mounting.
- 8. Inspect electrical connectors for bent or broken pins and cracked connector inserts.

REPAIR

- 9. Replace unit if case is cracked (Task 9-8-11).
- 10. Replace unit if case has dent that affects operation (Task 9-8-11).



Sanding Operations

11. Remove minor scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

12. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).

13. Tighten or replace loose or missing mounting hardware.

14. Straighten bent electrical connector pin(s).

15. Replace unit if electrical connector pin is broken or insert is cracked (Task 9-8-11). ■

INSPECT

FOLLOW-ON MAINTENANCE

Perform HELLFIRE operational check (TM 1-1520-248-T) ■

Install left access door (Task 2-2-6). ■

END OF TASK

9-8-11. REMOTE HELLFIRE ELECTRONICS (RHE) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

68J Aircraft Armament/Missile Systems
Repairer

Applicable Configurations:
All

References:
TM 1-1520-248-T

Tools:
Armament Repairer Supplemental Tool Kit
(B186)

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Left Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-
6-6)

Personnel Required:
68J Aircraft Armament/Missile Systems
Technical Inspector (TI)

GO TO NEXT PAGE

9-8-11. REMOTE HELLFIRE ELECTRONICS (RHE) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Disconnect electrical connectors (1) from RHE (2).
2. Remove two screws (3) and washers (4).
3. Slightly lift and slide RHE (2) from shelf.

INSTALL

NOTE

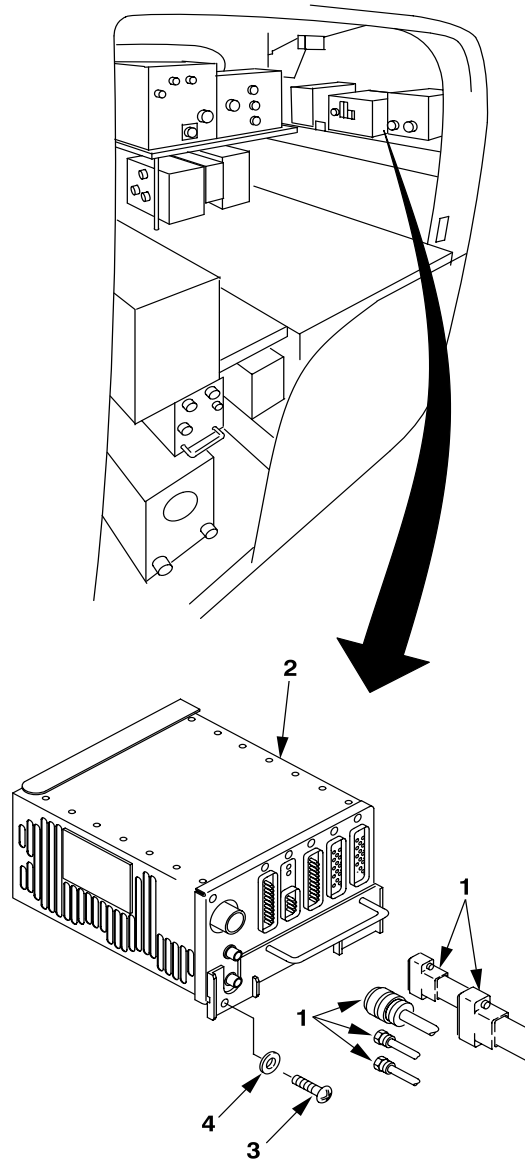
A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

4. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
5. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
6. Position RHE (2) onto shelf and install two washers (4) and screws (3).
7. Connect electrical connectors (1).

INSPECT

FOLLOW-ON MAINTENANCE

- Install left access door (Task 2-2-6).
- Perform HELLFIRE operational check (TM 1-1520-248-T).



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END OF TASK

9-8-12. ROCKET REMOTE ASSEMBLY (RRA) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Armament Repairer Supplemental Tool Kit (B186)

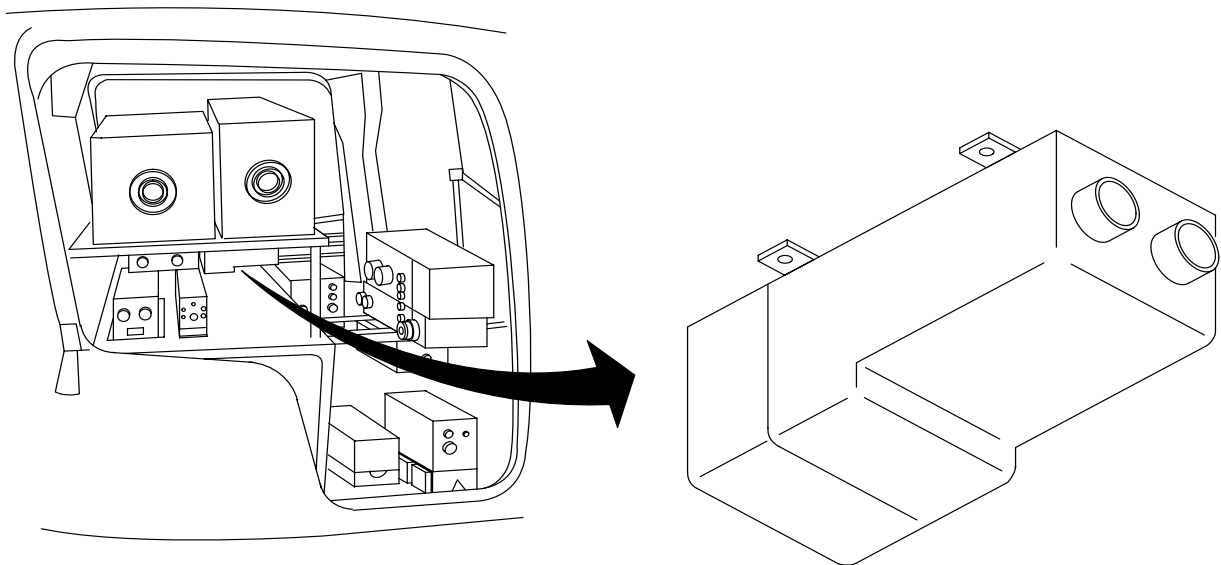
Material:
Low-Lint Cleaning Cloth (D67)
Drycleaning Solvent (D199)
Acid Swabbing Brush (D51)
Rubber Gloves (D111)
Wiping Rag (D164)
Zinc Chromate Primer (D161)

Personnel Required:
68J Aircraft Armament/Missile Systems Technical Inspector (TI)
68J Aircraft Armament/Missile Systems Repairer

References:
TM 55-1500-345-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Left Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Interface Electronics Assembly Removed (Task 9-8-6)

1. For location of RRA, see figure Rocket Remote Assembly — Locator.



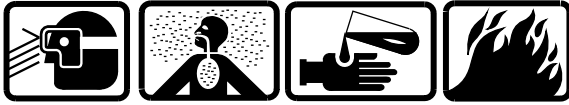
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Rocket Remote Assembly — Locator

GO TO NEXT PAGE

9-8-12. ROCKET REMOTE ASSEMBLY (RRA) — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Drycleaning Solvent

2. Remove grease, fungus, and dirt with a low-lint cleaning cloth (D67) dampened with drycleaning solvent (D199).

3. Remove moisture, dust, and loose dirt with a wiping rag (D164).

4. Remove dirt from electrical connectors with acid swabbing brush (D51).

INSPECT

5. Inspect unit for dents or cracks.

6. Inspect unit for scratches and bare metal.

7. Inspect unit for security of mounting.

8. Inspect electrical connectors for bent or broken pins and cracked connector inserts.

REPAIR

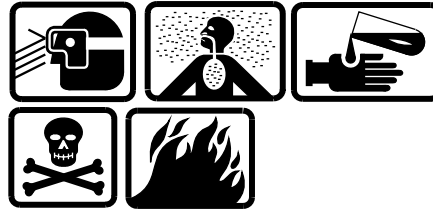
9. Replace unit if case is cracked (Task 9-8-13).

10. Replace unit if case has dent that affects operation (Task 9-8-13).



Sanding Operations

11. Remove minor scratches using 400 grit sandpaper (D175).



Zinc Chromate Primer

12. Using zinc chromate primer (D161), touch up bare metal (TM 55-1500-345-23).

13. Tighten or replace loose or missing mounting hardware.

14. Straighten bent electrical connector pin(s).

15. Replace unit if electrical connector pin is broken or insert is cracked (Task 9-8-13).

INSPECT

FOLLOW-ON MAINTENANCE

Install left access door (Task 2-2-6).

END OF TASK

9-8-13. ROCKET REMOTE ASSEMBLY (RRA) — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 1-1520-248-T

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Left Access Door Removed (Task 2-2-6)
Electrical Power Removed (Tasks 1-6-5 and 1-6-6)
Interface Electronics Assembly Removed (Task 9-8-6)

Tools:
Armament Repairer Supplemental Tool Kit (B186)

Personnel Required:
■ 68J Aircraft Armament/Missile Systems Technical Inspector (TI)
68J Aircraft Armament/Missile Systems Repairer

GO TO NEXT PAGE

9-8-13. ROCKET REMOTE ASSEMBLY (RRA) — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Disconnect three electrical connectors (1) from RRA (2).
2. Support RRA (2) and remove four screws (3) and washers (4) securing RRA to shelf.
3. Remove RRA (2).

INSTALL

NOTE

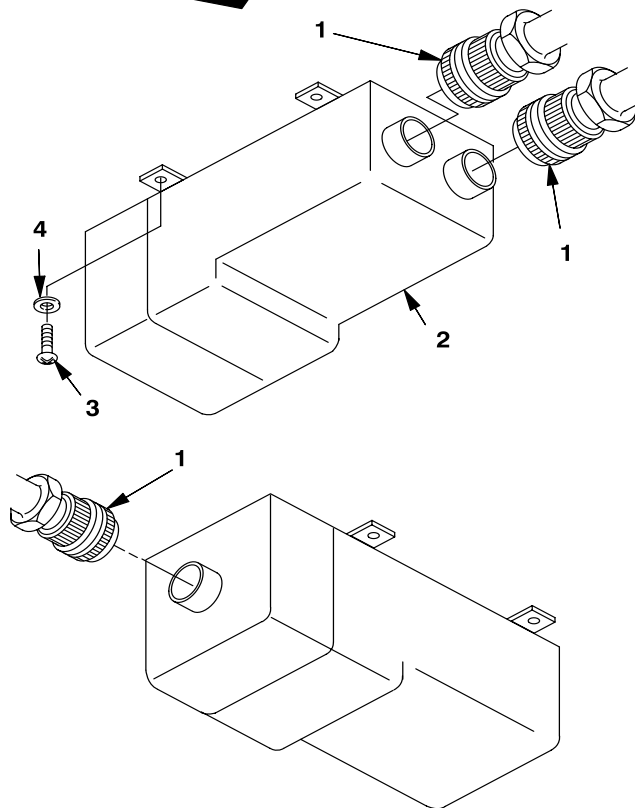
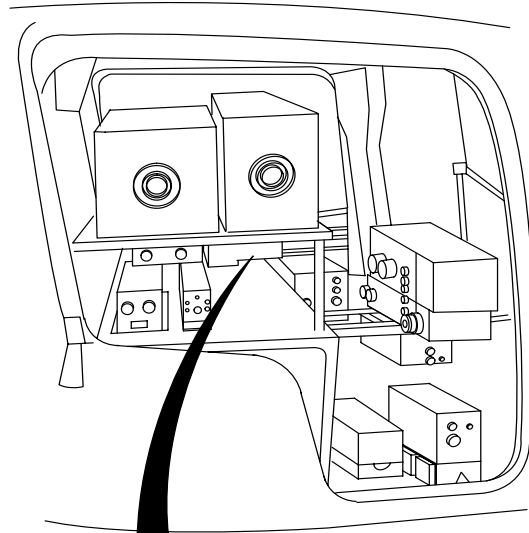
A check shall be made for conditions which may affect resistance of electrical bond (dirt, grease, paint, corrosion).

4. Clean and visually inspect mating surfaces for damage which may affect Class R-1 electrical bond.
5. Repair any damage and prepare mating surfaces for Class R-1 electrical bond per Appendix M.
6. Position RRA (2) under shelf.
7. Install four washers (4) and screws (3).
8. Connect three electrical connectors (1).

INSPECT

FOLLOW-ON MAINTENANCE

Install interface electronics assembly (Task 9-8-6).
 Perform operational check (TM 1-1520-248-T).



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END OF TASK

CHAPTER 10

FUEL SYSTEM

10-1. **FUEL SYSTEM**

This chapter contains maintenance procedures for the fuel system. The chapter is divided into two sections.

		Page
Section I	Fuel System Components	10-2
Section II	Fuel Cell	10-62

Section I. FUEL SYSTEM COMPONENTS

10-2. FUEL SYSTEM COMPONENTS

torques are provided in Appendix P and TM 1-1500-204-23.

10-3. INTRODUCTION

This section contains: maintenance procedures for removing, cleaning, inspecting, repairing, and installing fuel system components. Standard

10-4. TASK LIST

The task list lists those tasks required to support unit and intermediate level maintenance.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
Fuel Shutoff Lever — Removal	10-1-1	10-3
Fuel Shutoff Lever — Cleaning/Inspection/Repair	10-1-2	10-5
Fuel Shutoff Lever — Installation	10-1-3	10-7
Fuel Shutoff Lever and Valve — Rigging	10-1-4	10-9
Fuel Shutoff Valve — Removal/Installation	10-1-5	10-13
Fuel Shutoff Valve — Inspection	10-1-6	10-16
Control Cable — Removal/Installation	10-1-7	10-20
Engine Vent and Fuel Supply Hoses — Removal/Installation	10-1-8	10-23
Fuel System Hoses — Cleaning/Inspection	10-1-9	10-28
Fuel Cell Vent Hose — Inspection	10-1-10	10-29
Fuel Cell Vent Hose — Removal/Installation	10-1-11	10-30
Fuel Pressure Switch — Removal/Installation	10-1-12	10-33
Fuel Probe — Removal/Installation	10-1-13	10-35
Fuel Sump — Removal	10-1-14	10-38
Fuel Sump — Cleaning/Inspection	10-1-15	10-40
Fuel Sump — Installation	10-1-16	10-41
Boost Pump — Removal	10-1-17	10-43
Boost Pump — Cleaning/Inspection	10-1-18	10-45
Boost Pump — Installation	10-1-19	10-46
Defuel Valve — Removal/Installation	10-1-20	10-48
Defuel Valve — Cleaning/Inspection/Repair	10-1-21	10-50
Sump Valve — Removal/Installation	10-1-22	10-53
Sump Valve — Cleaning/Inspection/Repair	10-1-23	10-55
Receiver Assembly — Removal/Inspection/Repair/Installation	10-1-24	10-58
Check Valve — Removal/Installation	10-1-25	10-61

10-1-1. FUEL SHUTOFF LEVER — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Repairer

Applicable Configurations:
All

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Overhead Console Lowered (Task 9-6-5)

Tools:
General Mechanic Tool Kit (B178)

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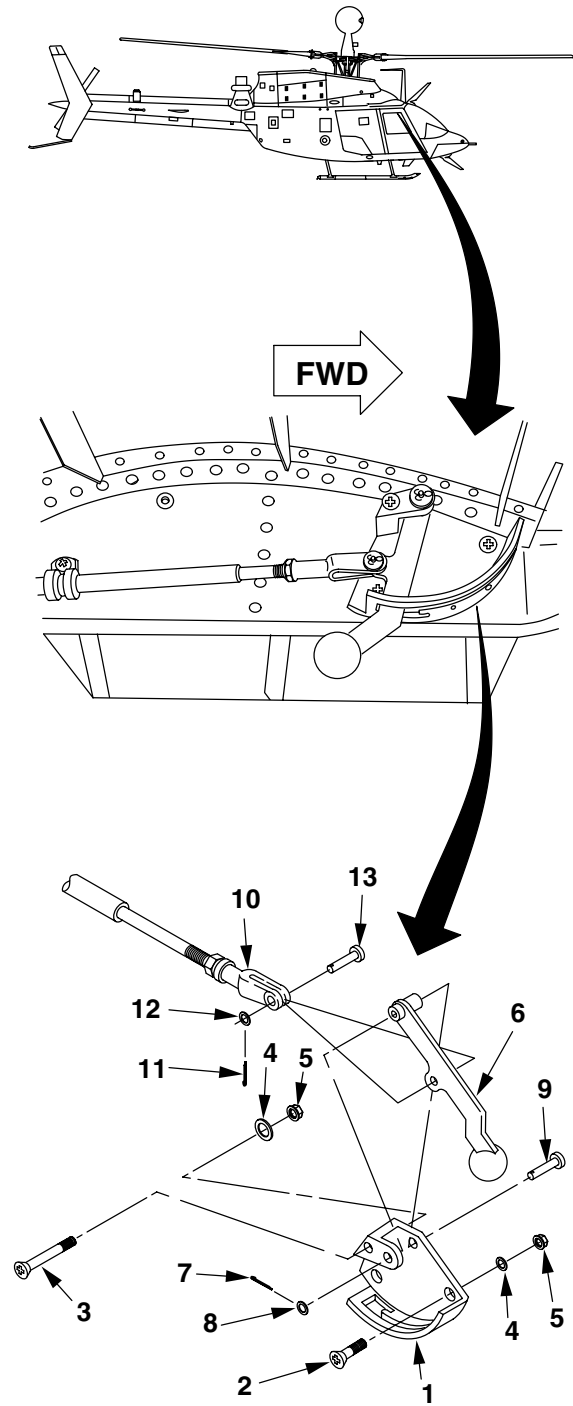
10-1-1. FUEL SHUTOFF LEVER — REMOVAL (CONT)

REMOVAL

1. Remove support (1) by removing two screws (2), one screw (3), three washers (4), and three nuts (5).

2. Separate lever (6) from support (1) by removing cotter pin (7), washer (8), and pin (9).

3. Disconnect clevis (10) by removing cotter pin (11), washer (12), and pin (13).



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END OF TASK

10-1-2. FUEL SHUTOFF LEVER — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Airframe Repairer Tool Kit (B176)
Heat Lamp (B91)
Reamer (B115)
Hand Arbor Press (B107)

Material:
Zinc Chromate Primer (D161)
Wiping Rag (D164)

Personnel Required:
68G Aircraft Structural Repairer
67S Scout Helicopter Technical Inspector (TI) ■

References:
TM 1-1500-344-23

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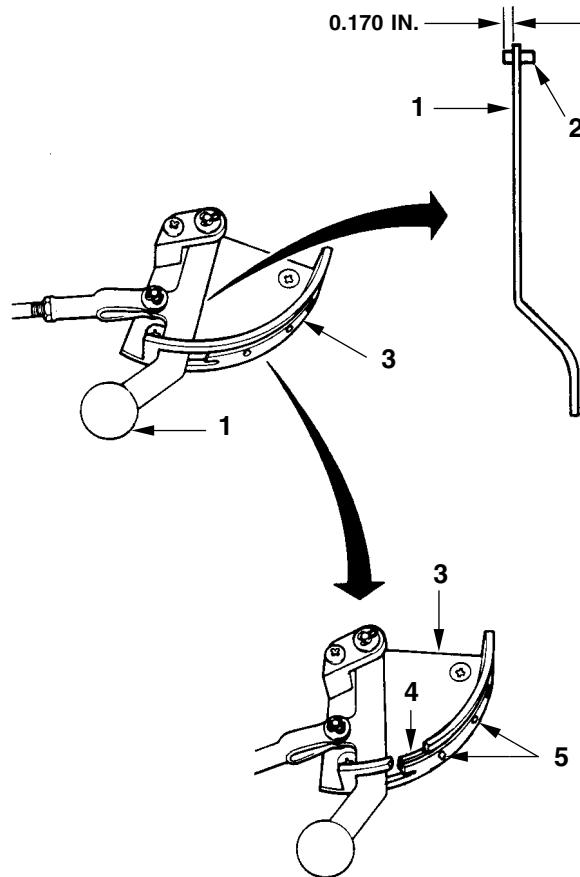
10-1-2. FUEL SHUTOFF LEVER — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

1. Wipe parts with clean wiping rag (D164).

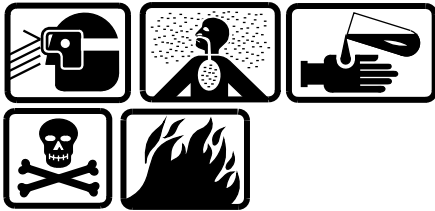
INSPECT

2. Inspect the following components:
 - a. Threaded parts for thread damage.
 - b. Lever (1) for cracks, corrosion, and loose or damaged bushing (2).
 - c. Support (3) for cracks or corrosion.
 - d. Wear strip (4) on support (3) for loose or missing rivets (5) and wear.



REPAIR

3. Repair lever (1) as follows:
 - a. Support lever (1) and press out defective bushing (2) using hand arbor press (B107).



Zinc Chromate Primer

- b. Coat replacement bushing (2) O.D. with primer (D161).
- c. Use heat lamp (B91) on lever (1).
- d. Support lever (1) and press in bushing (2) to **0.170 inch** dimension as shown.
- e. Using reamer (B115), ream hole in bushing (2) **0.190 to 0.192 inch** diameter.

4. Remove corrosion and treat corrosion damage (TM 1-1500-344-23).

INSPECT

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END OF TASK

10-1-3. FUEL SHUTOFF LEVER — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Equipment Condition:
Helicopter Safed (Task 1-6-7)

GO TO NEXT PAGE

10-1-3. FUEL SHUTOFF LEVER — INSTALLATION (CONT)

1. Install lever (1) on support (2) with pin (3), washer (4), and cotter pin (5) through pin (3).

2. Install support (2) in helicopter with two screws (6), one screw (7), three washers (8), and three nuts (9).

NOTE

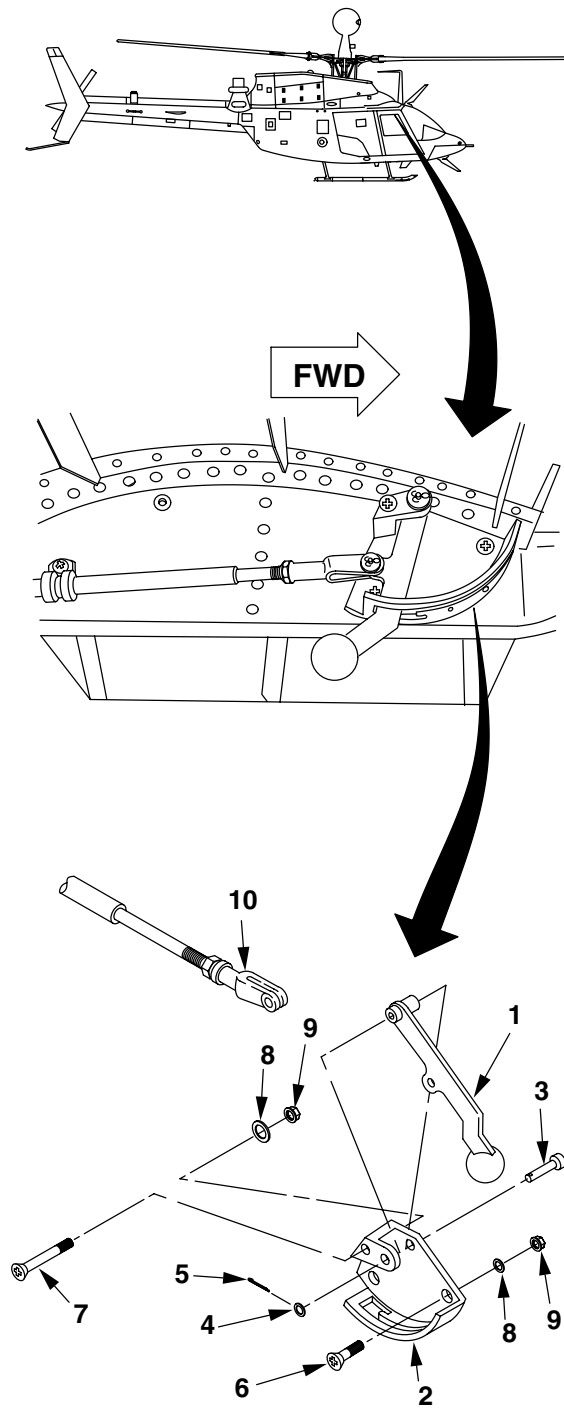
Shutoff valve shall be rigged before connecting clevis (10) to lever (1).

INSPECT

FOLLOW-ON MAINTENANCE

Rig fuel shutoff lever and valve (Task 10-1-4).

Raise overhead console (Task 9-6-6).



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END OF TASK

 10-1-4. FUEL SHUTOFF LEVER AND VALVE — RIGGING

This task covers: Rigging (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
 ■ General Mechanic Tool Kit (B178)
 ■ Torque Wrench (B237)

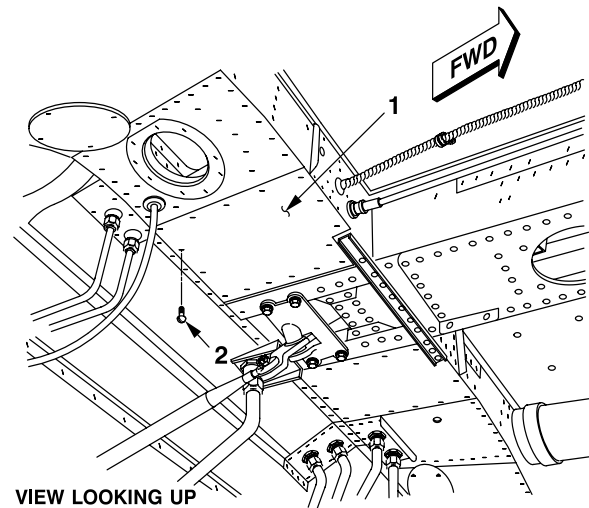
Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 67S Scout Helicopter Repairer
 Pilot

References:
 TM 1-1520-248-10
 TM 1-1520-248-CL

Equipment Condition:
 Helicopter Safed (Task 1-6-7)

RIGGING

1. Remove access panel (1) by removing 16 screws (2).



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GO TO NEXT PAGE

10-1-4. FUEL SHUTOFF LEVER AND VALVE — RIGGING (CONT)

2. Remove cotter pin (3), washer (4), and pin (5), and disconnect clevis (6) from fuel shutoff valve arm (7).

3. Verify control cable (8) is properly located by checking for **4.2 ± 0.2 inches** between bulkhead and end of metal cable sheath. If adjustment of control cable (8) is required, refer to Task 10-1-6.

4. Remove cotter pin (9), washer (10), and pin (11), and disconnect clevis (12) from lever (13).

5. Loosen jamnut (14) on control cable (8).

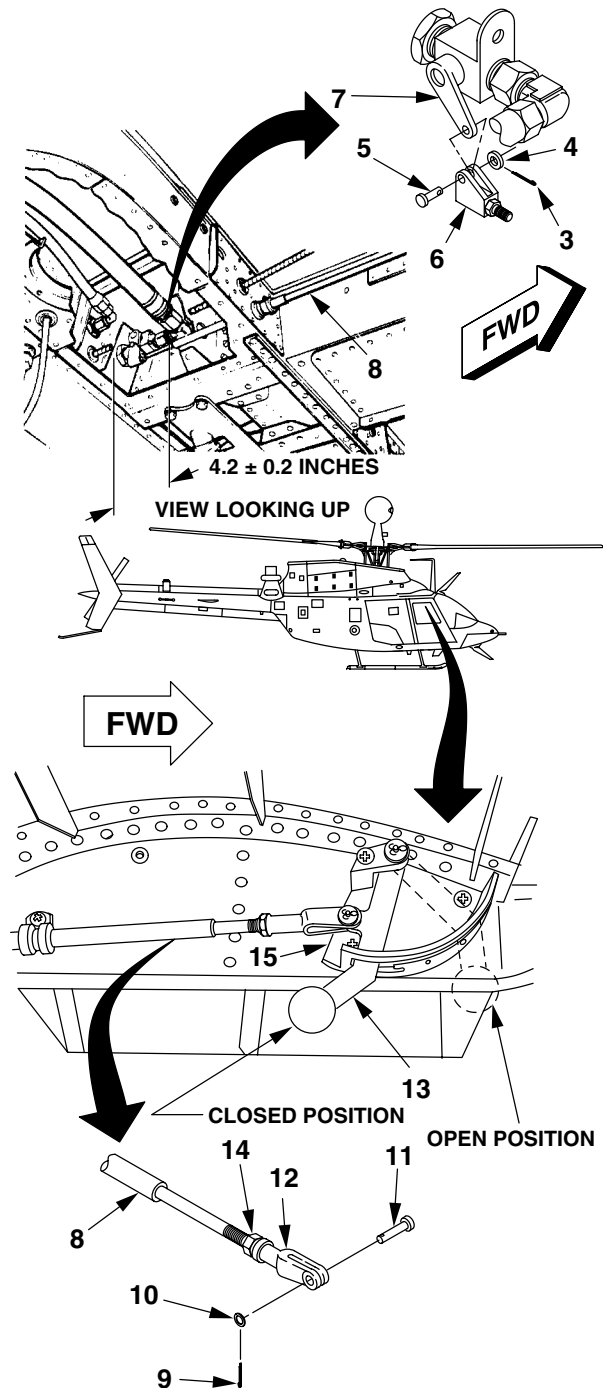
6. Adjust clevis (12) on control cable (8) until inspection hole of clevis (12) is covered by threads of control cable (8).

7. Connect clevis (12) to lever (13) with pin (11), washer (10), and new cotter pin (9) through pin (11).

8. Torque jamnut (14) **50 TO 70 INCH-POUNDS** against clevis (12) on control cable (8).

9. Position lever (13) to the forward detent (open position) in support (15).

10. Position fuel shutoff valve arm (7) to its full forward mechanical stop.

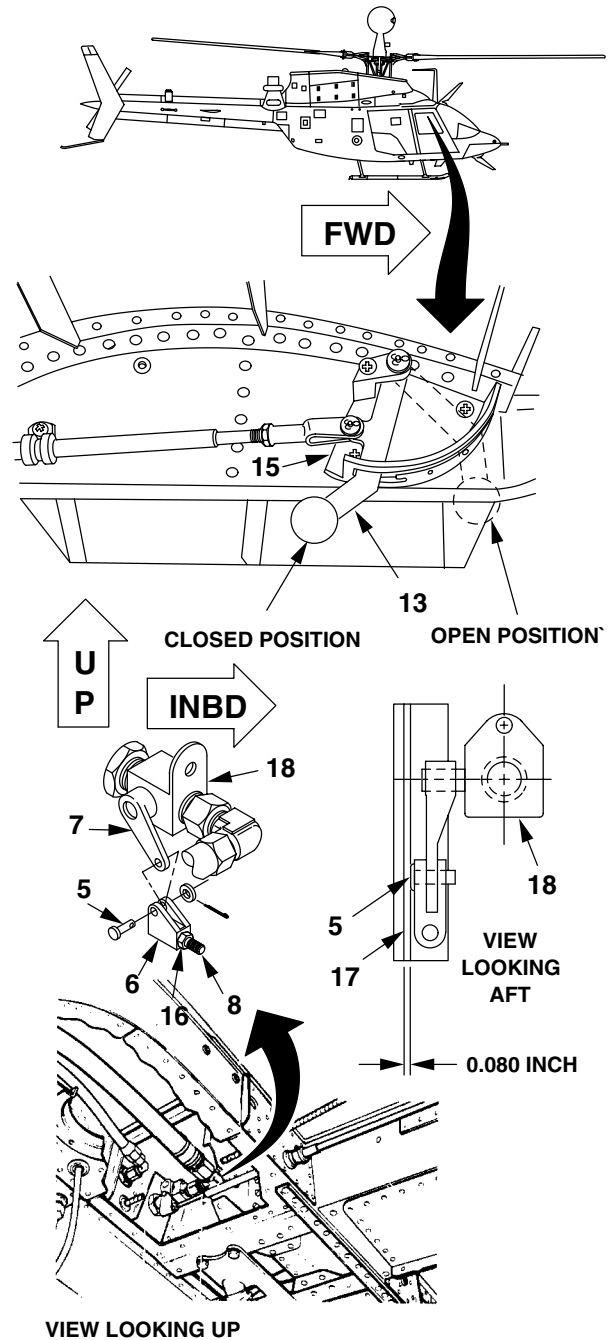


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10-1-4. FUEL SHUTOFF LEVER AND VALVE — RIGGING (CONT)

11. Loosen jamnut (16) on control cable (8).
12. Adjust clevis (6) on control cable (8), as required, to align the clevis attachment hole and cover the inspection hole in clevis (6) with threads of control cable (8).
13. Connect clevis (6) to fuel shutoff valve arm (7) with pin (5).
14. Position lever (13) to the aft mechanical stop (closed position) in support (15).
15. Check for a clearance of **0.080 inch** between the head of pin (5) and clip (17).
16. If clearance is not attainable, loosen fuel shutoff valve (18) from bulkhead and reposition to attain clearance.



406060-615-2
J2271

GO TO NEXT PAGE

10-1-4. FUEL SHUTOFF LEVER AND VALVE — RIGGING (CONT)

RIGGING CHECK

17. Position lever (13) to the forward detent (open position) in the support (15).

18. Remove pin (5) and verify the fuel shutoff valve arm (7) is within **0.060 inch** of its forward mechanical stop. If not, adjust clevis (6), as required, to attain dimension.

19. Install pin (5) with head facing outboard.

20. Position lever (13) to the aft mechanical stop (closed position) in support (15).

21. Remove pin (5) and verify the fuel shutoff valve arm (7) is against its aft mechanical stop. If not, adjust clevis (6), as required, and install pin (5) with head facing outboard.

22. Torque jamnut (16) **50 TO 70 INCH-POUNDS** on control cable (8) against clevis.

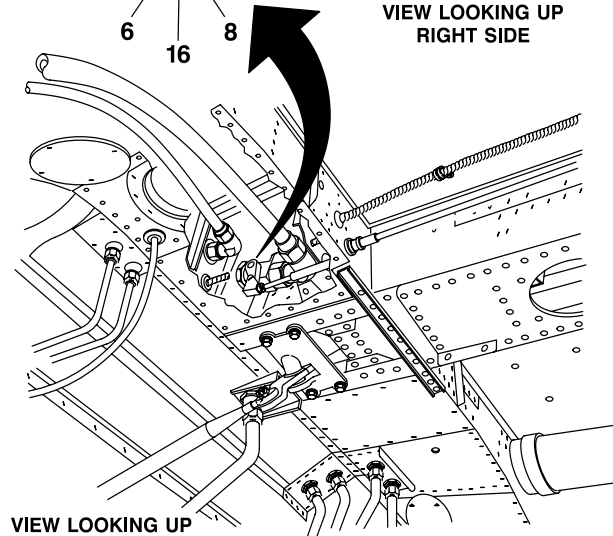
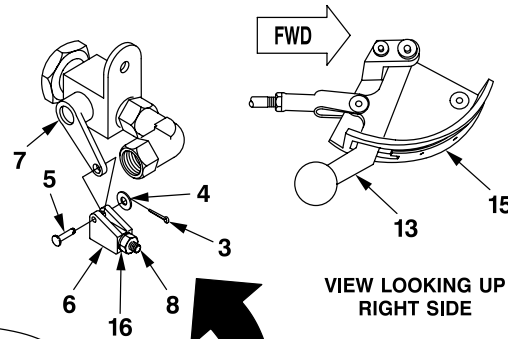
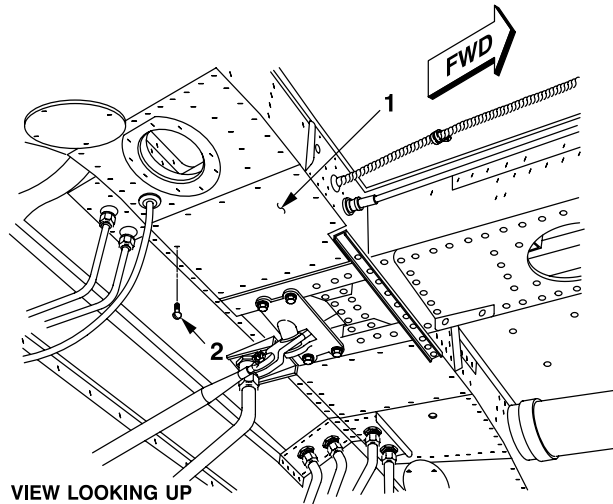
23. Install washer (4) onto pin (5) and secure with new cotter pin (3) through pin (5).

24. Position access panel (1) onto structure and install 16 screws (2).

INSPECT

FOLLOW-ON MAINTENANCE

Pilot perform MOC (TM 1-1520-248-10/CL).



406060-405
J1749

END OF TASK

10-1-5. FUEL SHUTOFF VALVE — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

12 Qt. Plastic Pail (or suitable substitute)
(B101)

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Tools:

General Mechanic Tool Kit (B178)
Open End Wrench (B216)
Open End Wrench (B219)
■ Torque Wrench (B241)

Equipment Condition:
Helicopter Safed (Task 1-6-7)

GO TO NEXT PAGE

10-1-5. FUEL SHUTOFF VALVE — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove access panel (1) by removing 16 screws (2).



Jet Fuel

2. Using suitable container (B101), disconnect fuel inlet hose (3) from elbow fitting (4).

3. Remove elbow fitting (4) from valve (5).

4. Disconnect control cable (6) by removing cotter pin (7), washer (8), and pin (9).

5. Remove screw (10) and washer (11) attaching mount bracket (12) to lower side of fuselage structure (not shown).

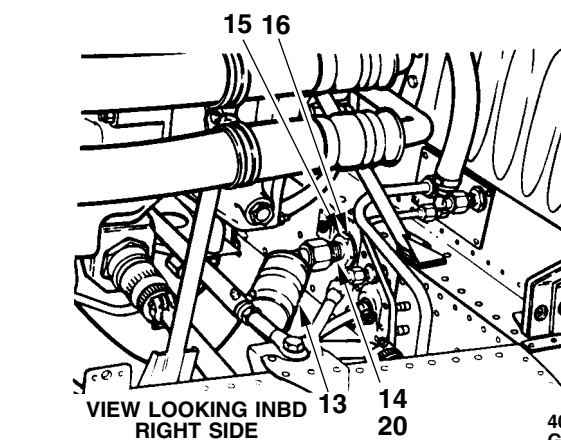
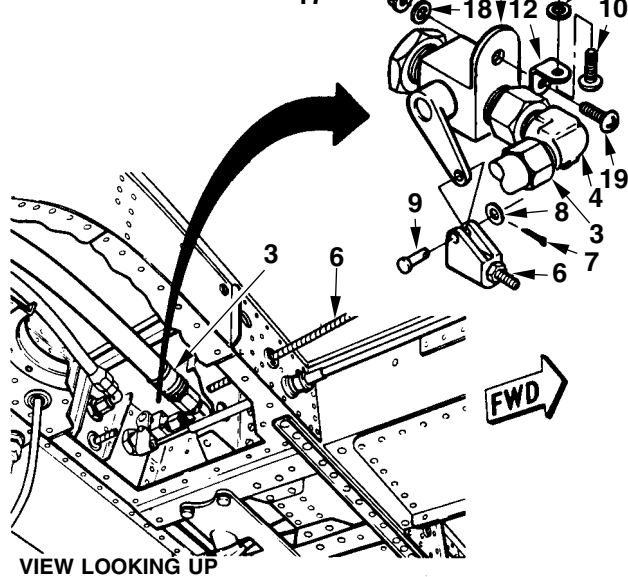
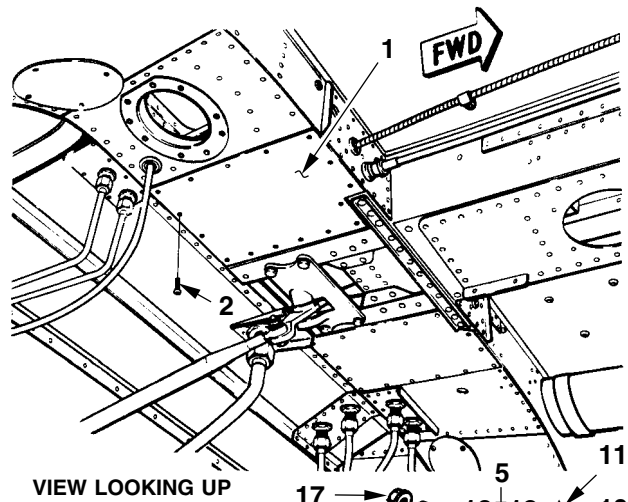
6. Open right engine cowl. Disconnect fuel hose (13) from fuel valve outlet bulkhead fitting (14).

7. Remove jamnut (15) and washer (16). Remove valve (5).

8. Remove nut (17), washer (18), and screw (19) with mount bracket (12) from valve (5).

9. Remove bulkhead fitting (14) from valve (5). Remove and discard packing (20).

10. Using approved caps and plugs, protect all open hoses and components from contamination.



406060-44
G1944

GO TO NEXT PAGE

10-1-5. FUEL SHUTOFF VALVE — REMOVAL/INSTALLATION (CONT)

INSTALL

11. Remove caps and plugs protecting hoses and components.

12. Install bulkhead fitting (14) on valve (5) with new packing (20).

13. Install bracket (12) with screw (10) and washer (11) on lower side of fuselage structure (not shown).

14. Install valve (5) in position with screw (19), washer (18), and nut (17).

15. Install washer (16) and jamnut (15) on bulkhead fitting (14).

16. Position valve arm (21) aft in closed position and fuel shutoff lever (22) to a position of **0.30 inch** from full aft.

17. Adjust control cable (6) and clevis (23) to fit with locknut (24), install pin (9) and washer (8), and install cotter pin (7) through pin (9).

18. Tighten locknut (24).

19. Connect fuel inlet hose (3) to elbow fitting (4).

20. Torque hose (3) **265 TO 285 INCH-POUNDS**.

21. Connect fuel hose (13) at engine compartment bulkhead fitting (14).

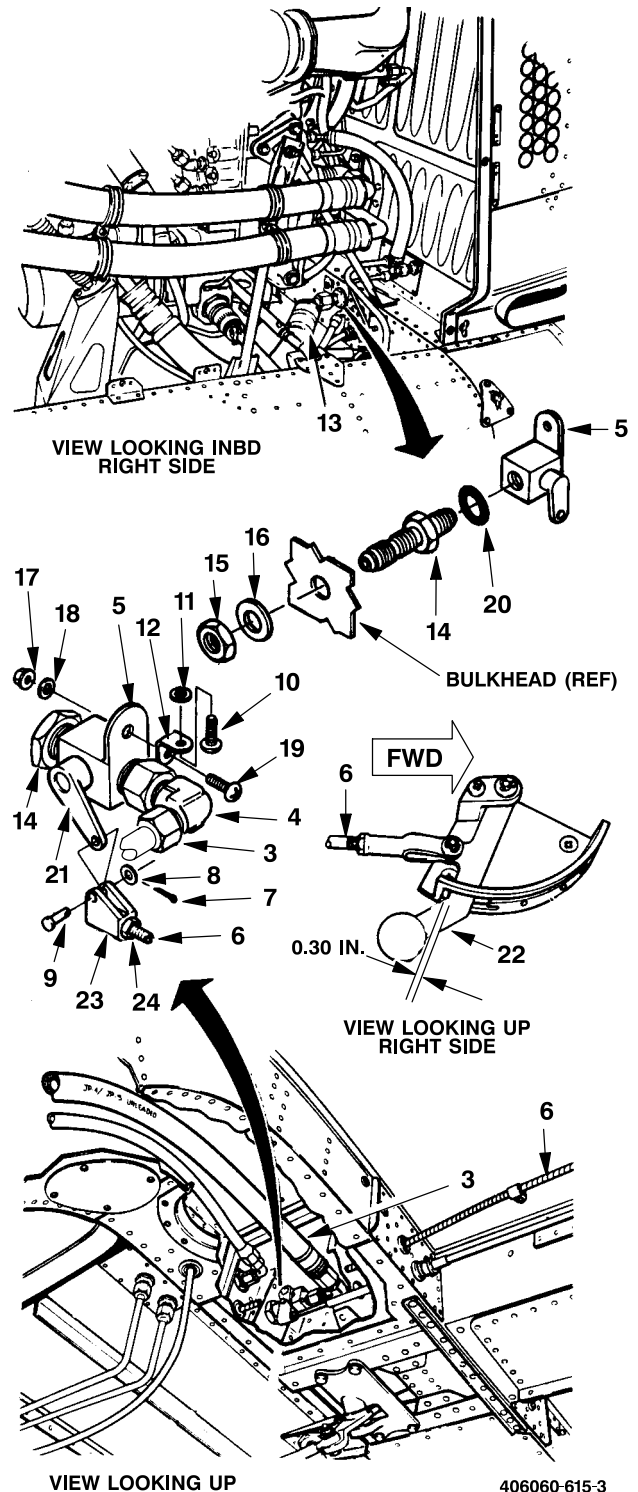
22. Torque hose (13) **265 TO 285 INCH-POUNDS**.

INSPECT

23. Close engine cowl.

FOLLOW-ON MAINTENANCE

Rig fuel shutoff lever and valve (Task 10-1-4).



406060-615-3
J2271

END OF TASK

10-1-6. FUEL SHUTOFF VALVE — INSPECTION

This task covers: Inspect Fuel Shutoff Valve (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Open End Wrench (B216)
Open End Wrench (B219)
Torque Wrench (B241)
12 Qt. Plastic Pail (or suitable substitute)
(B101)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

References:
TM 11-1520-248-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)

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10-1-6. FUEL SHUTOFF VALVE — INSPECTION (CONT)

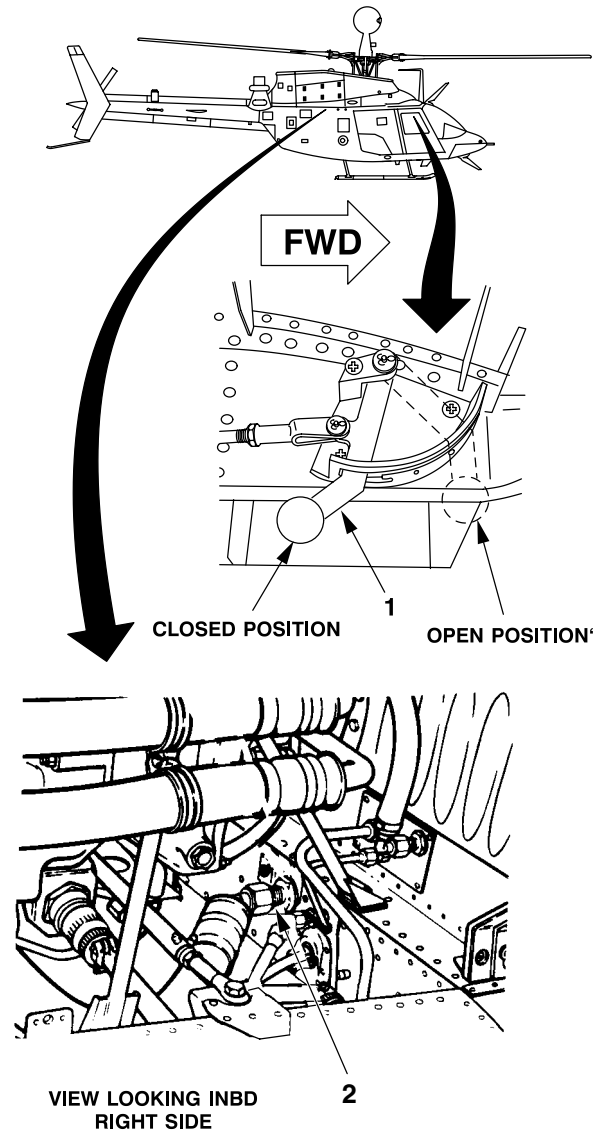
INSPECT

1. Open right engine cowl.
2. Position fuel shutoff lever (1) to aft detent (OFF position).



Jet Fuel

3. Position suitable container (B101) and disconnect outlet fuel hose fitting (2).

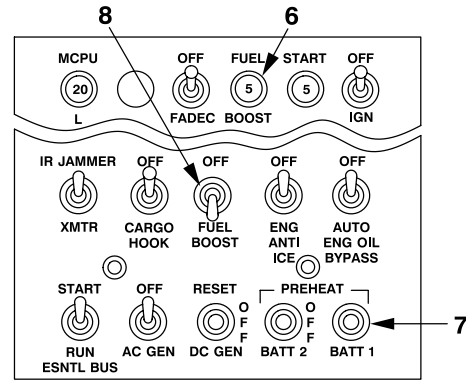


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J2274

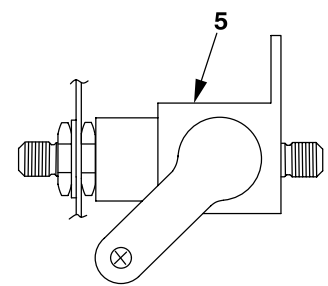
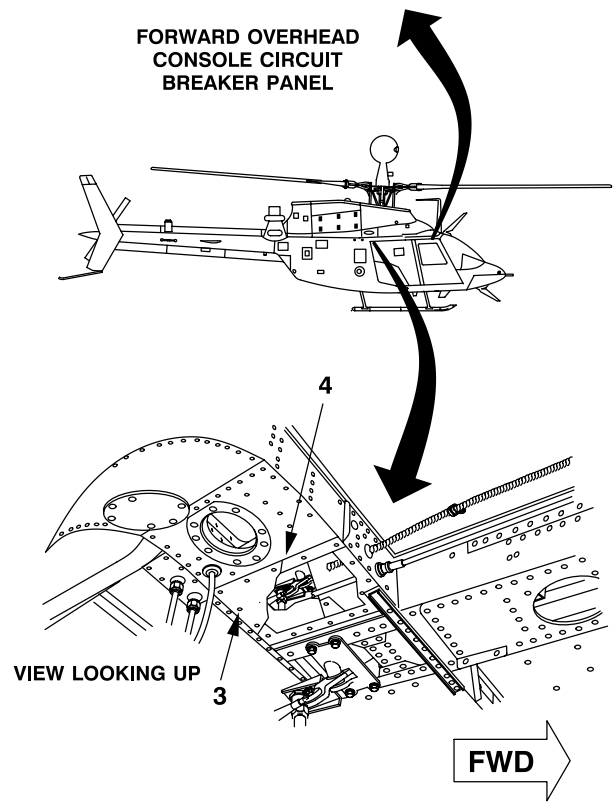
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10-1-6. FUEL SHUTOFF VALVE — INSPECTION (CONT)

4. Remove 16 screws (3).
 5. Remove cover (4).
 6. Visually inspect fuel shutoff valve (5) for internal damage, foreign objects, restrictions to fuel path, and valve operation. Replace fuel shutoff valve that does not pass inspection.
- WARNING**
- To prevent fire hazard, ensure fuel shutoff valve is in closed (OFF) position.
7. Connect battery (TM 11-1520-248-23).
 8. Close FUEL BOOST circuit breaker (6).
 9. Turn BATT 1 switch (7) to BATT 1 position.
 10. Position FUEL BOOST switch (8) to FUEL BOOST.



FORWARD OVERHEAD
CONSOLE CIRCUIT
BREAKER PANEL



406060-614-2
J2274

GO TO NEXT PAGE

10-1-6. FUEL SHUTOFF VALVE — INSPECTION (CONT)

11. Check that FUEL BOOST FAIL caution disappears on both MFDs.

NOTE

Fuel shutoff valve shall be replaced if leakage exceeds 2.0 fluid ounces per minute or 59.0 cubic centimeters per minute.

12. Check for fuel leakage at engine compartment bulkhead fitting (9).

13. Position FUEL BOOST switch (8) to OFF.

14. Position BATT 1 switch (7) to OFF.

15. Open FUEL BOOST circuit breaker (6).

16. Disconnect battery (TM 11-1520-248-23).

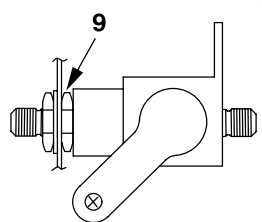
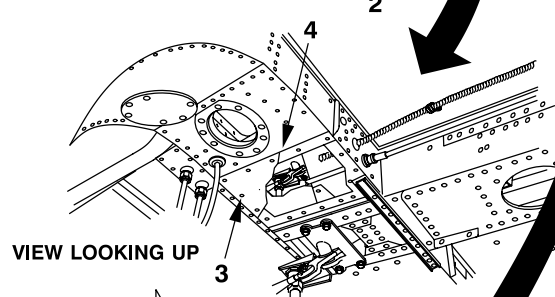
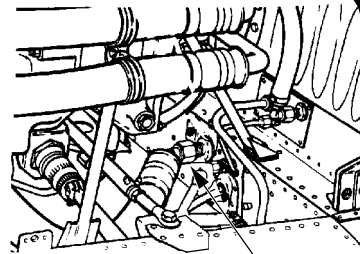
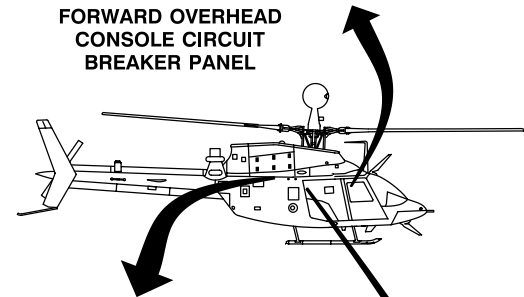
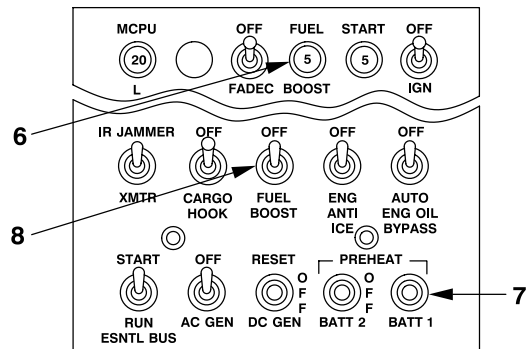
17. Connect outlet fuel hose (2).

18. Torque outlet fuel hose fitting (2) **265 TO 285 INCH-POUNDS.**

19. Close engine cowl.

20. Install cover (4) with 16 screws (3).

INSPECT



406060-614-3
J2274

END OF TASK

10-1-7. CONTROL CABLE — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Applicable Configurations:

All

Equipment Condition:

Helicopter Safed (Task 1-6-7)

Tools:

General Mechanic Tool Kit (B178)

GO TO NEXT PAGE

10-1-7. CONTROL CABLE — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove access panel (1) by removing 16 screws (2).
2. Disconnect control cable (3) at fuel shutoff valve (4) by removing cotter pin (5), washer (6), and pin (7).
3. Remove clevis (8) and jamnut (9) from control cable (3).
4. Remove three clamps (10), screws (11), washers (12), spacers (13), and nuts (14) securing control cable (3) to structure.
5. Disconnect control cable (3) at fuel shutoff lever (15) by removing cotter pin (16), washer (17), and pin (18).
6. Remove clevis (19) and jamnut (20) from control cable (3).

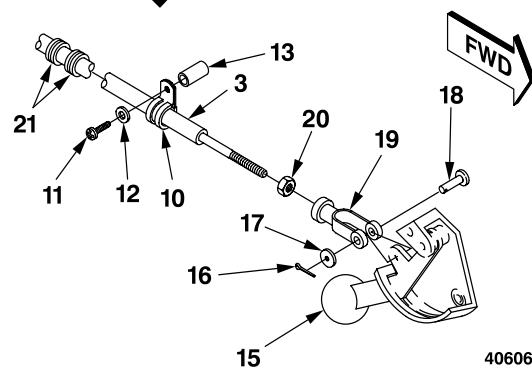
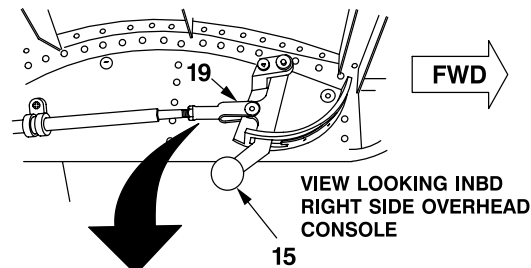
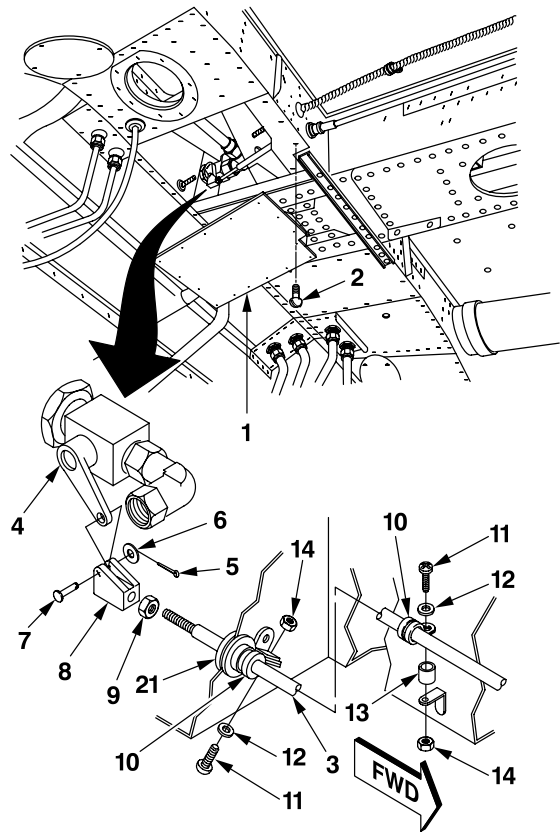
NOTE

If grommet (21) is allowed to fall inside of structure channel above pilot seat, it cannot be easily retrieved.

7. Remove control cable (3) from structure.

INSPECT

8. Inspect control cable (3) for the following:
 - a. Worn or damaged end fitting threads.
 - b. External damage to control cable (3) that would interfere with cable function.
 - c. Binding of control cable in sleeve.



406060-46
J1758

GO TO NEXT PAGE

10-1-7. CONTROL CABLE — REMOVAL/INSTALLATION (CONT)

INSTALL

9. Install control cable (3) through grommets (21) in structure between fuel shutoff valve (4) and fuel shutoff lever (15).

10. Install clevis (8) with jamnut (9) and clevis (19) with jamnut (20) on control cable (3) ends.

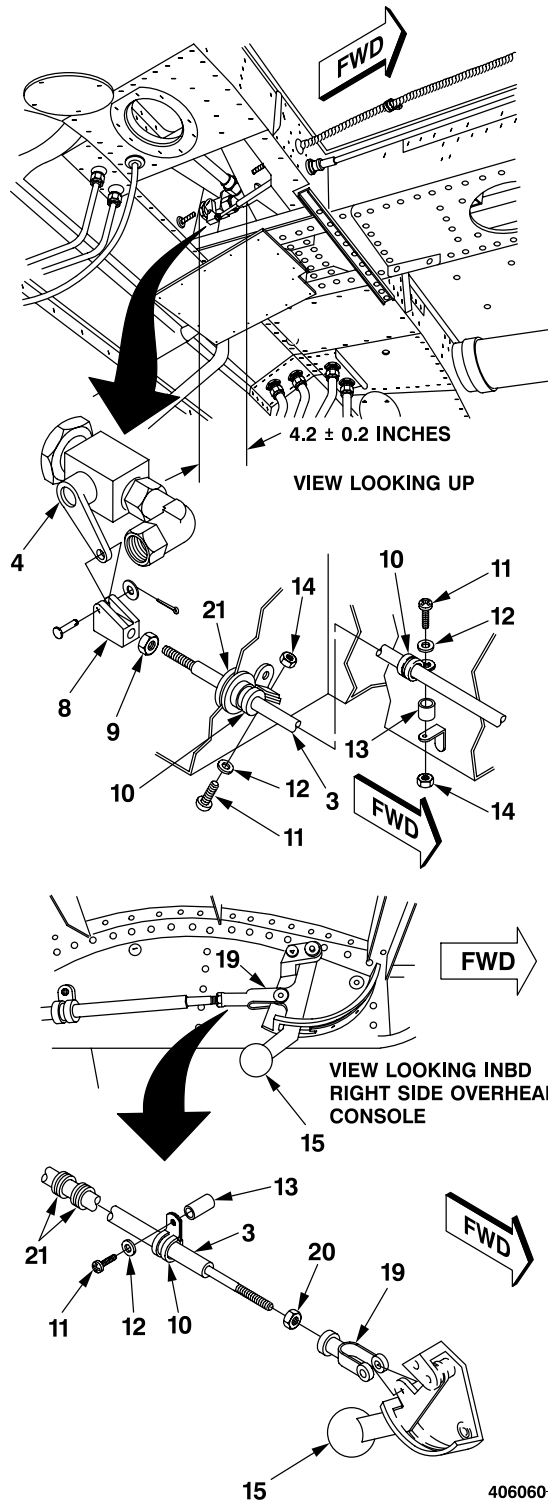
11. Adjust control cable (3) for **4.2 ± 0.2 inches** between bulkhead and end of metal cable sheath.

12. Install three clamps (10) with screws (11), spacers (13), washers (12), and nuts (14).

INSPECT

FOLLOW-ON MAINTENANCE

Rig fuel shutoff lever and valve (Task 10-1-4).



406060-411
J1758

END OF TASK

10-1-8. ENGINE VENT AND FUEL SUPPLY HOSES — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Material:
Sealing Compound (D184)

Applicable Configurations:
All

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Tools:
General Mechanic Tool Kit (B178)
Open End Wrench (B219)
Plastic Scraper (B123)
■ Torque Wrench (B241)
Ohmmeter (B99)

Equipment Condition:
Helicopter Safed (Task 1-6-7)

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10-1-8. ENGINE VENT AND FUEL SUPPLY HOSES — REMOVAL/INSTALLATION (CONT)

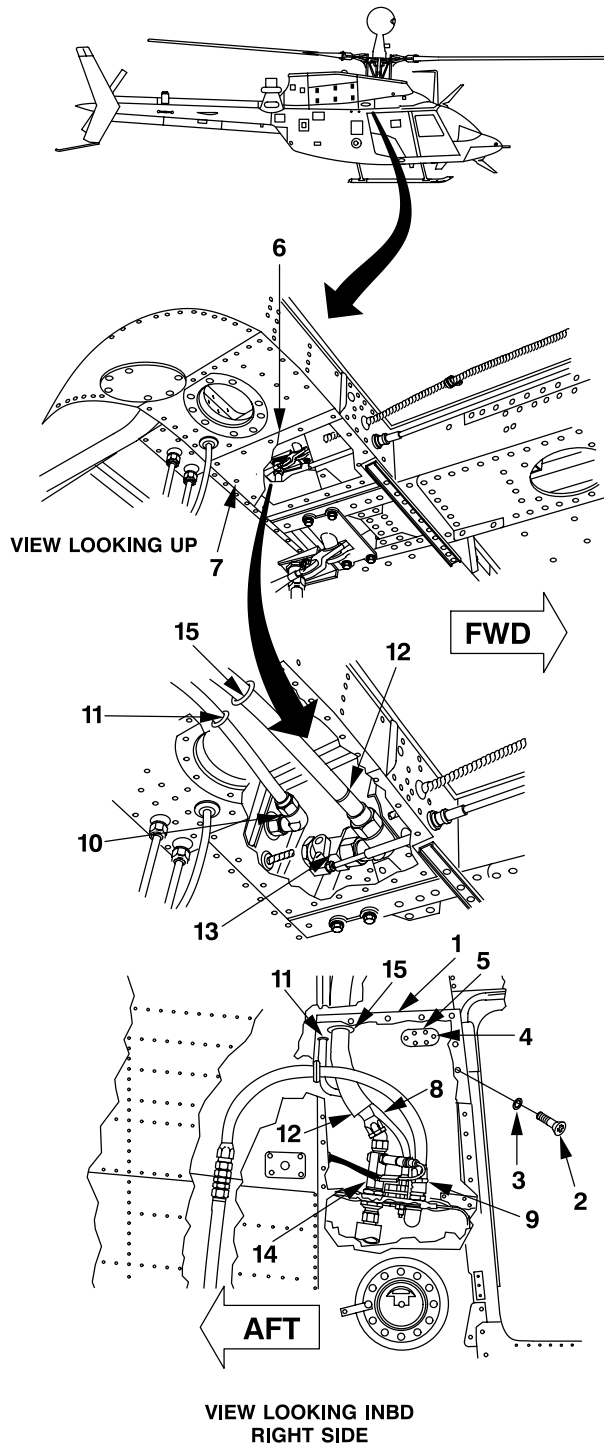
REMOVE

1. Remove access panel (1), 24 screws (2), and washers (3). Remove six screws (4) and remove access panel (5).
2. Remove access panel (6) and 16 screws (7).
3. Disconnect forward end of hose (8) from vent adapter (9).
4. Disconnect aft end of hose (8) from union (10).
5. Remove hose (8) and grommets (11).



Jet Fuel

6. Disconnect upper end of hose (12) from fuel shutoff valve (13).
7. Disconnect lower end of hose (12) from valve (14).
8. Remove hose (12) and grommets (15).



406060-49
J2283

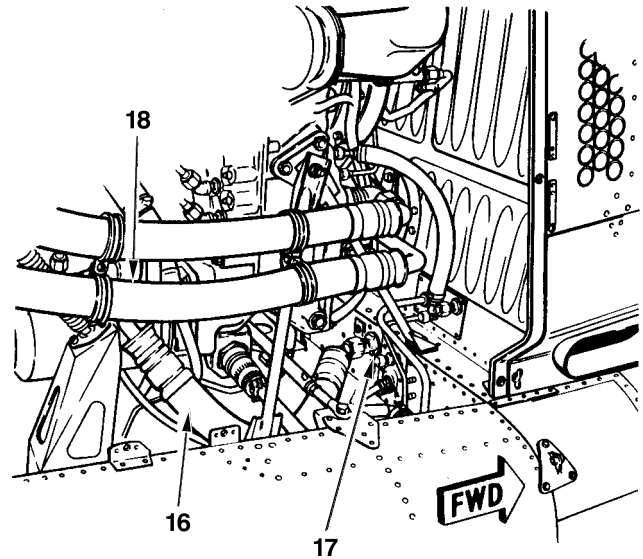
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10-1-8. ENGINE VENT AND FUEL SUPPLY HOSES — REMOVAL/INSTALLATION (CONT)

9. Open right side engine cowl door.
10. Disconnect forward end of hose (16) from bulkhead union (17).
11. Disconnect aft end of hose (16) from fitting (18) on engine.
12. Remove hose (16) from engine compartment.

NOTE

For fabrication of new hose assemblies, refer to Task 10-1-11.



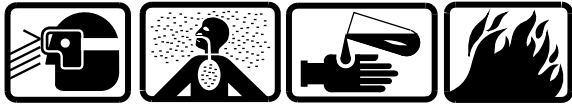
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J2283

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10-1-8. ENGINE VENT AND FUEL SUPPLY HOSES — REMOVAL/INSTALLATION (CONT)

INSTALL

13. Use plastic scraper (B123) to clean dried sealing compound or other foreign matter from areas adjacent to holes in structure prior to application of sealing compound.



Sealing Compound

14. Apply sealing compound (D184) and install grommets (11 and 15).

15. Position hose (12) through grommets (15) and structure.

16. Connect lower end of hose (12) to tank breakaway valve (14).

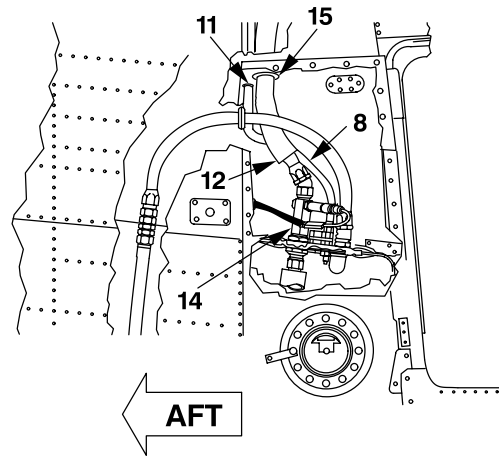
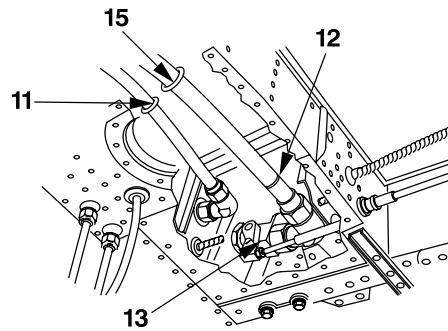
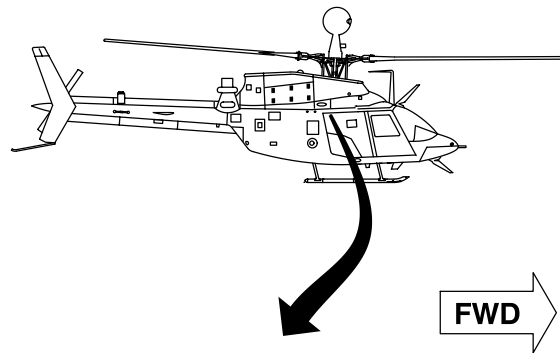
17. Torque hose (12) **265 TO 285 INCH-POUNDS.**

18. Connect upper end of hose (12) to fuel shutoff valve (13).

19. Torque hose (12) **265 TO 285 INCH-POUNDS.**

20. Install clamp assembly as required.

21. Position hose (8) through grommets (11) and structure.



VIEW LOOKING INBD
RIGHT SIDE

406060-337
J2283

GO TO NEXT PAGE

10-1-8. ENGINE VENT AND FUEL SUPPLY HOSES — REMOVAL/INSTALLATION (CONT)

NOTE

If adapter (9) has been removed, mating surfaces of adapter and fuel cell mounting plate shall be prepared for Class H electrical bond per Appendix M.

- 22. Connect forward end of hose (8) to engine vapor vent adapter (9).

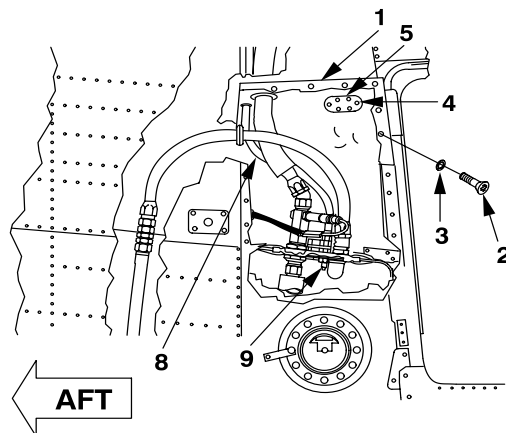
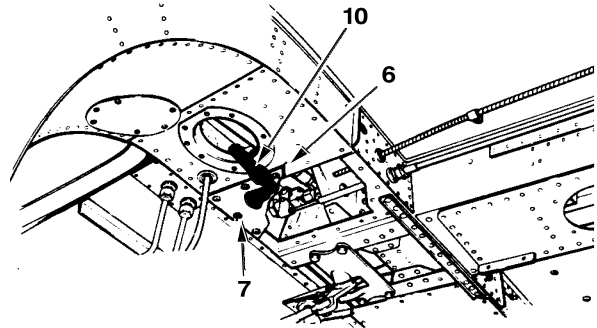
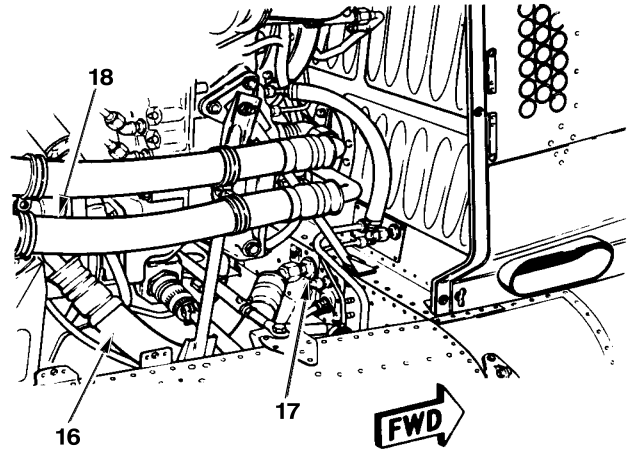
NOTE

If union (10) has been removed, mating surfaces of union and aircraft structure shall be prepared for Class H electrical bond per Appendix M.

- 23. Connect aft end of hose (8) to union (10).
- 24. Connect forward end of hose (16) to bulkhead union (17) in right side engine compartment.
- 25. Torque forward end of hose (16) **265 TO 285 INCH-POUNDS**.
- 26. Connect aft end of hose (16) to union (18) on engine.
- 27. Torque aft end of hose (16) **265 TO 285 INCH-POUNDS**.
- 28. Pressure test hose assemblies and check for leaks with boost pump pressure.

INSPECT

- 29. Install access panel (6) with 16 screws (7).
- 30. Install access panel (5) with six screws (4).
- 31. Install access panel (1) above fuel receiver with 24 washers (3) and screws (2).
- 32. Close right side engine cowl door.



VIEW LOOKING INBD
RIGHT SIDE

406060-48
J2283

END OF TASK

10-1-9. FUEL SYSTEM HOSES — CLEANING/INSPECTION

This task covers: Cleaning and Inspection (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

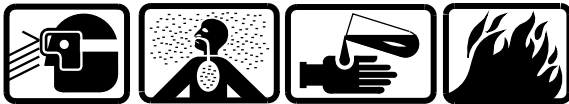
Tools:
General Mechanic Tool Kit (B178)

Material:
Drycleaning Solvent (D199)
Wiping Rag (D164)
Rubber Gloves (D111)

Personnel Required:
67S Scout Helicopter Repairer

References:
TM 1-1500-204-23

CLEAN



Drycleaning Solvent

1. Clean fuel hoses using solvent (D199) and brush. Dry with wiping rag (D164).

INSPECT

2. Inspect fuel hoses for damaged threads, cracks, abrasions, and cuts (TM 1-1500-204-23).

3. Replace defective and unserviceable parts. No repairs authorized.

END OF TASK

 10-1-10. FUEL CELL VENT HOSE — INSPECTION

This task covers: Inspection (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)

Material:
Rubber Gloves (D111)

Personnel Required:
67S Scout Helicopter Repairer

Equipment Condition:
Helicopter Safed (Task 1-6-7)

INSPECT

**Jet Fuel**

1. Gain access to closed circuit refueling (CCR) receptacle on right side of helicopter.
2. Open CCR base assembly to allow visual inspection of fuel cell interior.
3. Using flashlight and mirror, locate fuel cell vent tube at top of fuel cell and inspect as follows:

NOTE

Upper fuel cell roof above the CCR receptacle may have a sagging appearance, but as long as cell roof does not touch vent hose, cell is serviceable.

a. If upper fuel cell roof is not making contact with fuel cell vent hose, return helicopter to service.

b. If upper fuel cell roof is making contact with fuel cell vent hose and causes vent hose to bend, inspect vent hose for evidence of cracks or kinks, paying particular attention to area of vent hose around attachment fitting. If vent hose is damaged, replace vent hose (Task 10-1-12) and fuel cell (Task 10-2-1).

END OF TASK

10-1-11. FUEL CELL VENT HOSE — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Applicable Configurations:

All

Equipment Condition:

Helicopter Safed (Task 1-6-7)

Tools:

General Mechanic Tool Kit (B178)

Open End Wrench (B219)

Ohmmeter (B99)

■ Torque Wrench (B241)

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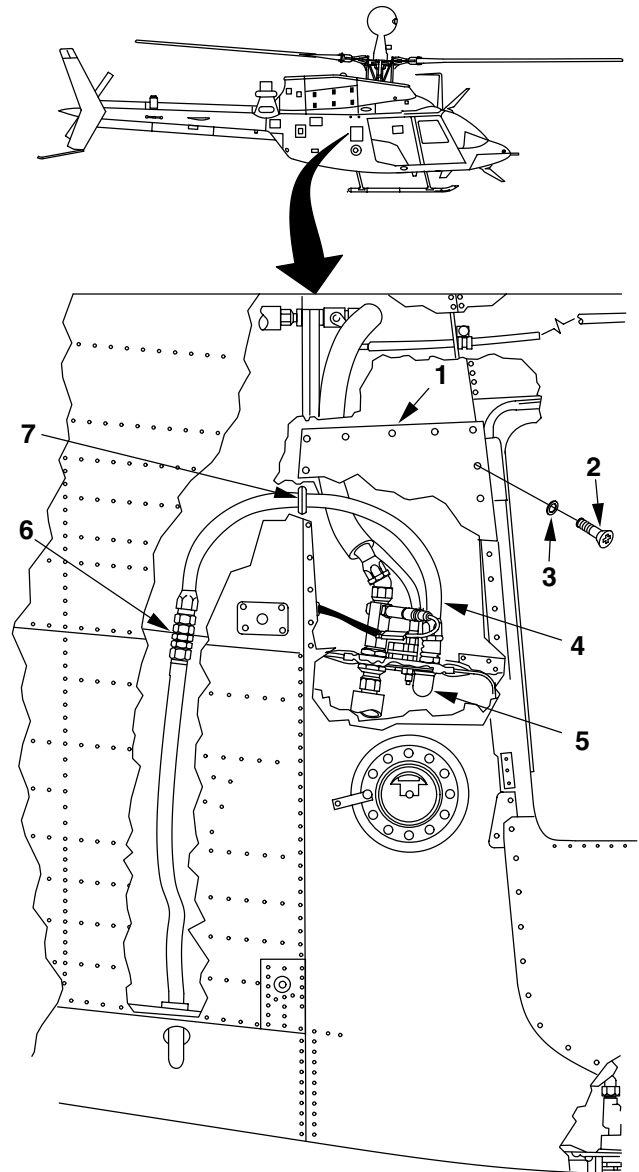
10-1-11. FUEL CELL VENT HOSE — REMOVAL/INSTALLATION (CONT)

REMOVE



Jet Fuel

1. Remove access panel (1) above receiver by removing 24 screws (2) and 24 washers (3).
2. Disconnect vent hose (4) at vent elbow (5).
3. Disconnect aft end of vent hose (4) at union (6) in aft fuselage.
4. Remove hose (4) from grommet (7) in bulkhead.



VIEW LOOKING INBD
RIGHT SIDE



406060-50
J0654

GO TO NEXT PAGE

10-1-11. FUEL CELL VENT HOSE — REMOVAL/INSTALLATION (CONT)



Jet Fuel

INSTALL

5. Position vent hose (4) into structure hole through grommet (7).

NOTE

If union (6) has been removed, mating surfaces of union and aircraft structure shall be prepared for Class H electrical bond per Appendix M.

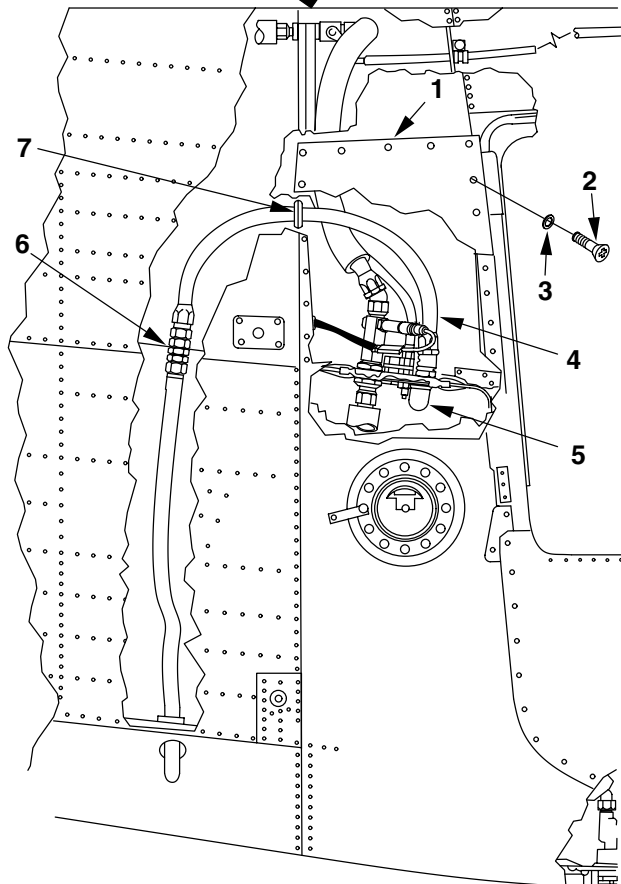
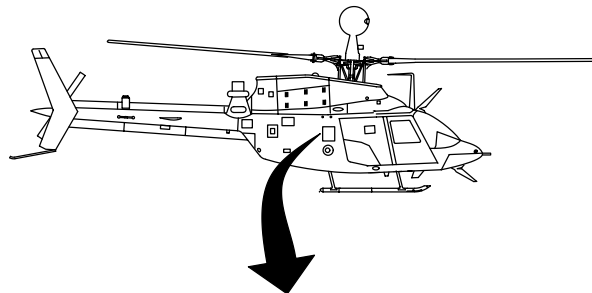
6. Connect aft end of vent hose (4) to union (6) in aft fuselage and torque **265 TO 285 INCH-POUNDS**.

7. Connect forward end of vent hose (4) to vent elbow (5) and torque **265 TO 285 INCH-POUNDS**.

INSPECT

FOLLOW-ON MAINTENANCE

Install access panel (1) with 24 washers (3) and 24 screws (2).



VIEW LOOKING INBD
RIGHT SIDE



406060-50
J0654

END OF TASK

10-1-12. FUEL PRESSURE SWITCH — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Ohmmeter (B99)

Material:
JP-8 Fuel (D110)
Lockwire (D132)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Equipment Condition:
Helicopter Safed (Task 1-6-7)

GO TO NEXT PAGE

10-1-12. FUEL PRESSURE SWITCH — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove access panel (1) above receiver by removing 24 screws (2).
2. Disconnect electrical connector (3) from switch (4).
3. Cut lockwire and remove switch (4) from fitting (5). Remove and discard packing (6).

INSTALL

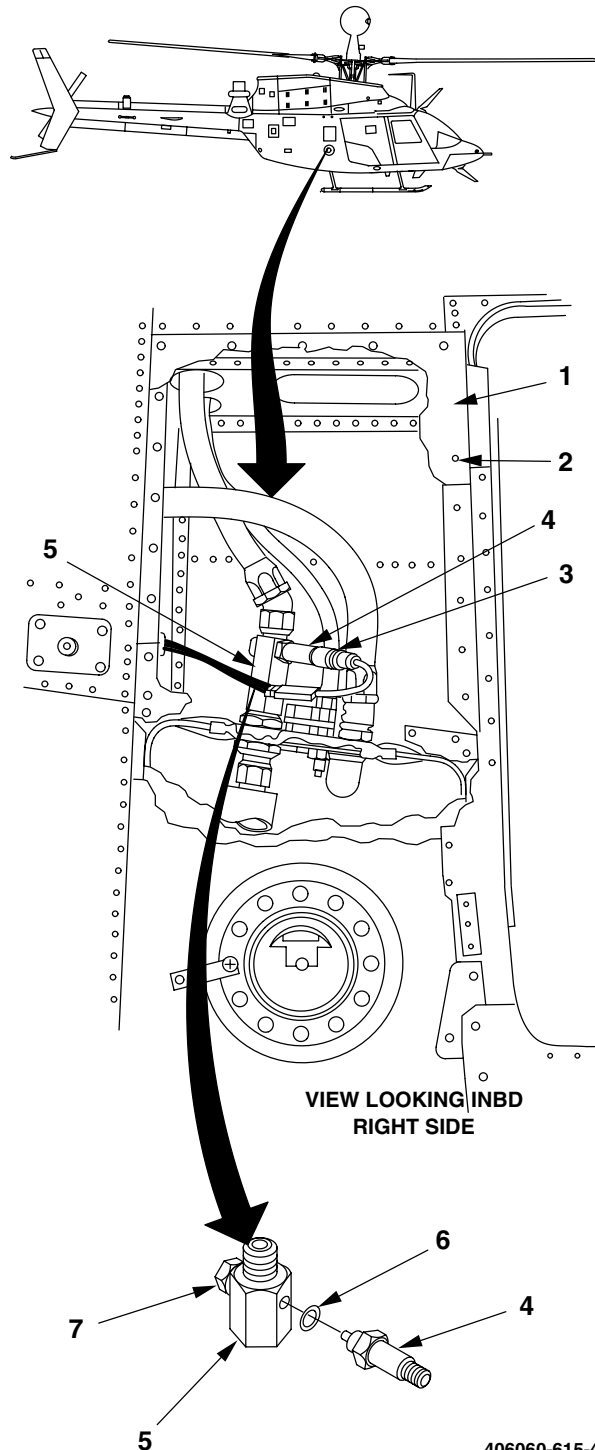


Jet Fuel

4. Lubricate packing (6) with fuel (D110) and install on switch (4).
5. Prepare mating surface of switch and fitting for Class H electrical bond per Appendix M. Install switch (4) in fitting (5) and secure to adjacent plug (7) with lockwire (D132).
6. Connect electrical connector (3).
7. Functional test pressure switch by placing FUEL BOOST switch to FUEL BOOST and observe that no leakage exists and that FUEL BOOST FAIL caution disappears on both MFDs.

INSPECT

8. Install access panel (1) with 24 screws (2).



406060-615-4
J2271

END OF TASK

10-1-13. FUEL PROBE — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

References:
TM 11-1520-248-23

Applicable Configurations:
All

Equipment Condition:
Communications Equipment Removed
(TM 11-1520-248-23)
Helicopter Safed (Task 1-6-7)

Tools:
General Mechanic Tool Kit (B178)
Torque Wrench (B236)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

GO TO NEXT PAGE

10-1-13. FUEL PROBE — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Remove three screws (1) and plastic cover (2).

NOTE

All wires and terminals shall be tagged and identified.

2. Remove six screws (3), six washers (4), and six wires (5) from fuel probe (6).

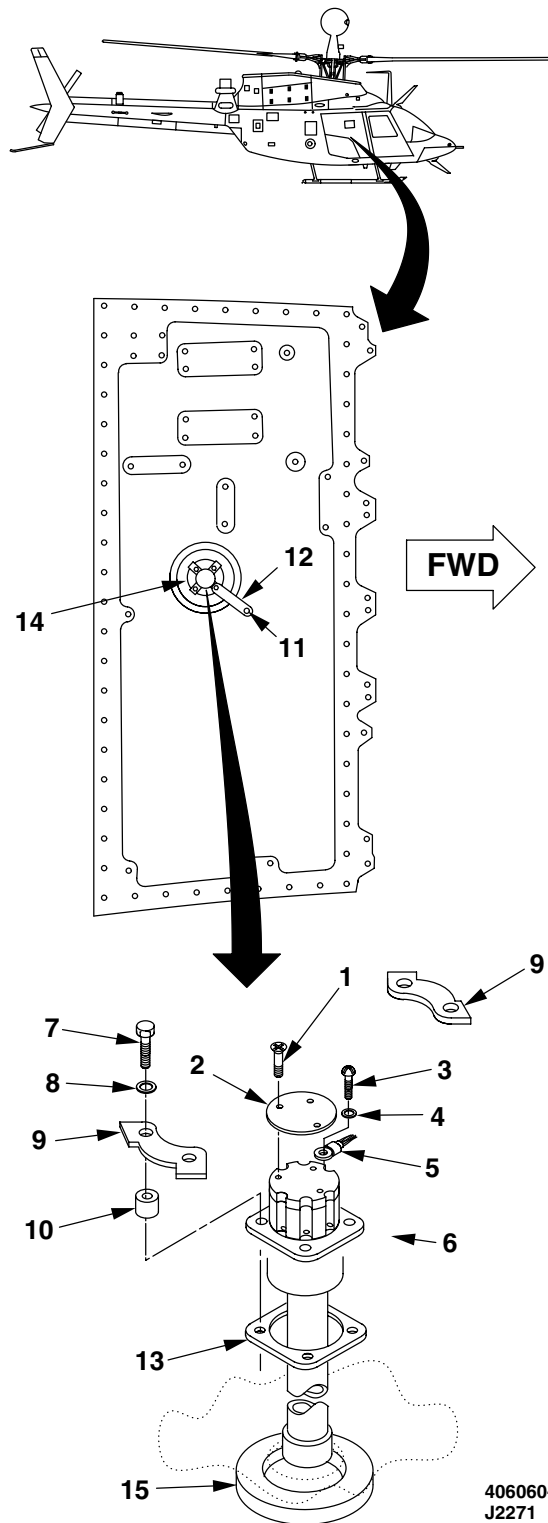
3. Remove four screws (7), four washers (8), two retainers (9), and four spacers (10).

4. Loosen screw (11) and move grounding strap (12) to clear fuel probe (6).

5. Remove probe (6) and gasket (13) from fuel cell fitting (14). Discard gasket.

6. Remove seal (15) from fuel cell.

7. Cover fuel cell opening to prevent entry of foreign material.



406060-615-5
J2271

GO TO NEXT PAGE

10-1-13. FUEL PROBE — REMOVAL/INSTALLATION (CONT)

INSTALL

8. Remove temporary cover and install seal (15) in fuel cell.
9. Install gasket (13) and fuel probe (6) in fuel cell fitting (14).
10. Position ground strap (12) on forward right screw hole of fuel probe (6).
11. Install four spacers (10), two retainers (9), four washers (8), and four screws (7).
12. Torque four screws (7) **30 TO 40 INCH-POUNDS**.
13. Connect six wires (5) with six washers (4) and six screws (3).
14. Remove identification tags from wires.
15. Install plastic cover (2) with three screws (1).
16. Tighten screw (11).

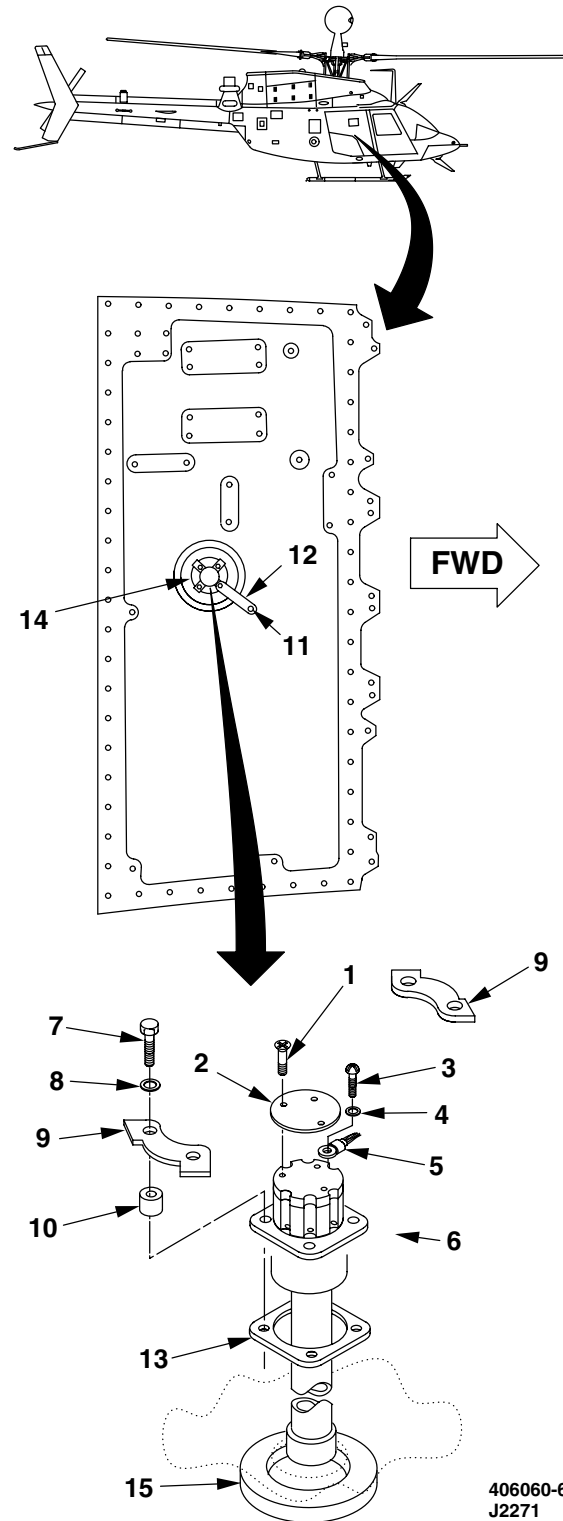
INSPECT

FOLLOW-ON MAINTENANCE

Check fuel probe and indicating system electrical wiring (Task 10-2-4).

Service fuel system (Task 1-4-1 or 1-4-2).

Install communications equipment (TM 11-1520-248-23).



406060-615-5
J2271

END OF TASK

10-1-14. FUEL SUMP — REMOVAL

This task covers: Removal (Off Helicopter)

INITIAL SETUP

Personnel Required:
67S Scout Helicopter Repairer

Applicable Configurations:
All

Equipment Condition:
Fuel Cell Removed (Task 10-2-1)

Tools:
General Mechanic Tool Kit (B178)
Open End Wrench (B216)
Open End Wrench (B219)

GO TO NEXT PAGE

10-1-14. FUEL SUMP — REMOVAL (CONT)

1. Remove nut (1), washer (2), and terminals (3) from terminal board (4). Tag and identify terminals.

2. Remove bolt (5), washer (6), and clamp (7) from boost pump (8).

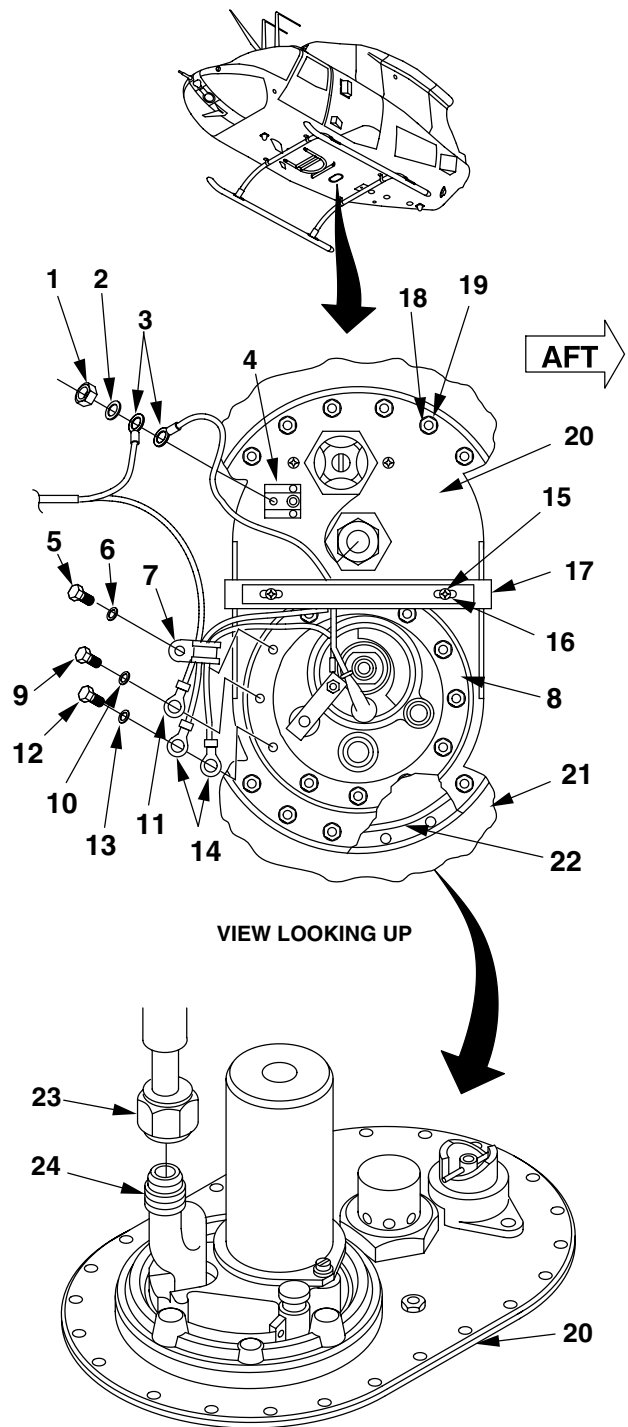
3. Remove bolt (9), washer (10), and terminal (11) from boost pump (8). Tag and identify terminal.

4. Remove bolt (12), washer (13), and terminals (14) from boost pump (8). Tag and identify terminals.

5. Remove two screws (15), two washers (16), and retainer (17).

6. Remove 24 bolts (18) and 24 washers (19) from sump assembly (20) and lower sump assembly from fuel cell (21). Remove and discard packing (22).

7. Disconnect fuel hose (23) at check valve (24). Remove sump assembly (20).



406060-27
J0654

END OF TASK

10-1-15. FUEL SUMP — CLEANING/INSPECTION

This task covers: Cleaning and Inspection (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)

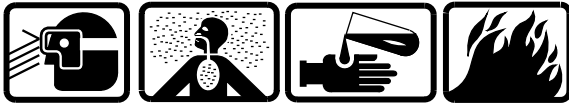
Material:
Drycleaning Solvent (D199)
Wiping Rag (D164)
Rubber Gloves (D111)

Personnel Required:
67S Scout Helicopter Repairer

CLEAN



Jet Fuel



Drycleaning Solvent

1. Clean fuel sump using solvent (D199). Dry with wiping rag (D164).

INSPECT

2. Inspect fuel sump for cracks, dents, and corrosion.

3. Replace fuel sump if defective or unserviceable. No repairs authorized.

END OF TASK

10-1-16. FUEL SUMP — INSTALLATION

This task covers: Installation (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:

General Mechanic Tool Kit (B178)
Torque Wrench (B237)
■ Torque Wrench (B241)

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Equipment Condition:

Fuel Cell Removed (Task 10-2-1)

GO TO NEXT PAGE

10-1-16. FUEL SUMP — INSTALLATION (CONT)

WARNING

To prevent engine surging/flameout when fuel level is below top of cartridge type fuel boost pump housing with pump inoperative, ensure umbrella check valve (rubber plug) is installed in top center of boost pump housing.

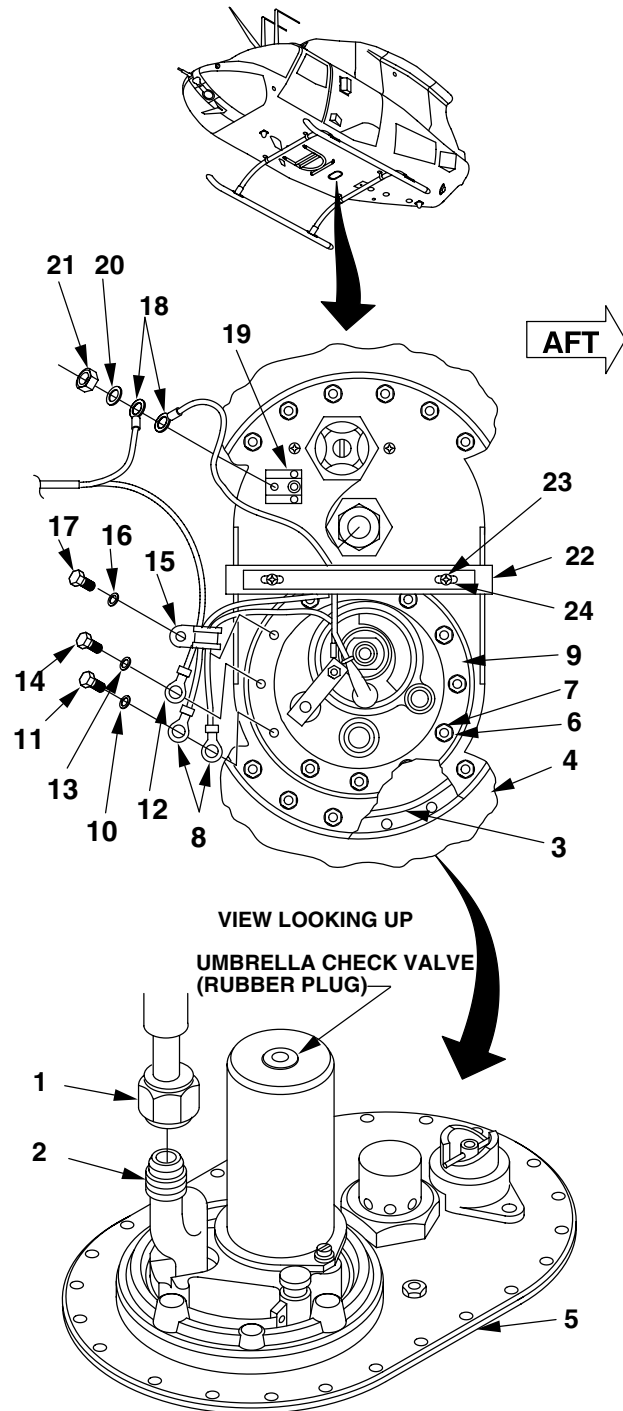
1. Connect fuel hose (1) to check valve (2) and torque **265 TO 285 INCH-POUNDS**.
2. Install packing (3) in groove of fuel cell (4).
3. Install sump assembly (5) in fuel cell (4) with 24 bolts (6) and 24 washers (7).
4. Torque bolts (6) **65 TO 75 INCH-POUNDS**.
5. Identify and install terminals (8) on boost pump (9) with washer (10) and bolt (11).
6. Identify and install terminal (12) on boost pump (9) with washer (13) and bolt (14).
7. Install clamp (15) on boost pump (9) with washer (16) and bolt (17).
8. Identify and install terminals (18) on terminal board (19) with washer (20) and nut (21).
9. Remove identification tags from terminals.
10. Install retainer (22) with two screws (23) and two washers (24).

INSPECT

FOLLOW-ON MAINTENANCE

Install fuel cell (Task 10-2-1).

Service fuel system (Tasks 1-4-1 or 1-4-2).



406060-28
J0654

END OF TASK

10-1-17. BOOST PUMP — REMOVAL

This task covers: Removal (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Helicopter Defueled (Task 1-4-3 or 1-4-4)

GO TO NEXT PAGE

10-1-17. BOOST PUMP — REMOVAL (CONT)

1. Remove sump access panel (1) located on lower fuselage by removing eight screws (2) and eight washers (3).

2. Disconnect electrical leads (4 and 5). Tag and identify electrical leads.

NOTE

Position of boost pump flange to sump plate should be marked to aid reassembly.

3. Remove two screws (6), two washers (7), and retainer (8).

4. Remove bolt (9), washer (10), and clamp (11) from boost pump (12).

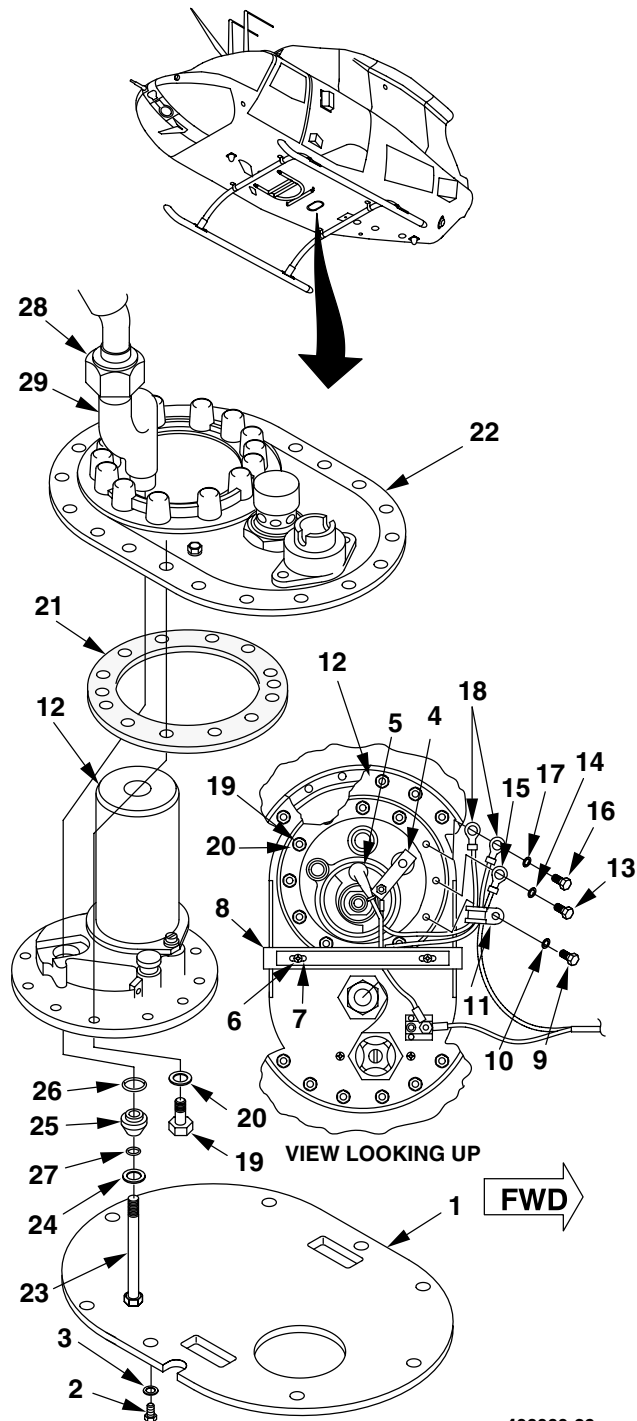
5. Remove bolt (13), washer (14), and terminal (15) from boost pump (12). Tag and identify terminals.

6. Remove bolt (16), washer (17), and two terminals (18) from boost pump (12). Tag and identify terminals.

7. Remove the remaining nine bolts (19) and nine washers (20) to detach boost pump (12) and gasket (21) from sump plate (22).

8. Lower boost pump (12) approximately **6 inches** from fuel cell. Cut lockwire and remove bolt (23), washer (24), plug (25), packing (26), and packing (27) attaching fuel hose (28) and check valve (29) to boost pump (12). Discard packings.

9. Remove boost pump (12) and discard gasket (21).



406060-29
J0654

END OF TASK

 10-1-18. BOOST PUMP — CLEANING/INSPECTION

This task covers: Cleaning and Inspection (Off Helicopter)

INITIAL SETUP

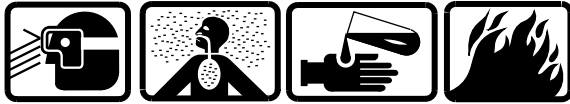
Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)

Material:
Drycleaning Solvent (D199)
Wiping Rag (D164)
Rubber Gloves (D111)
Acid Swabbing Brush (D51)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

CLEAN



Drycleaning Solvent



Jet Fuel

1. Clean boost pump using drycleaning solvent (D199) and acid swabbing brush (D51). Dry with wiping rag (D164).

INSPECT

2. Inspect boost pump for thread damage. No damage allowed.

3. Replace defective or unserviceable boost pump. No repairs authorized.

INSPECT

END OF TASK

10-1-19. BOOST PUMP — INSTALLATION

This task covers: Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Torque Wrench (B237)

Material:
Lockwire (D132)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer
Maintenance Test Pilot

References:
TM 1-1520-248-MTF

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Helicopter Defueled (Task 1-4-3 or 1-4-4)

GO TO NEXT PAGE

10-1-19. BOOST PUMP — INSTALLATION (CONT)

WARNING

To prevent engine surging/flameout when fuel level is below top of cartridge type fuel boost pump housing with pump inoperative, ensure umbrella check valve (rubber plug) is installed in top center of boost pump housing.

1. Install gasket (1) on boost pump flange (2).
2. Install packings (3 and 4) on plug (5).
3. Install bolt (6), washer (7), and plug (5) with packings (3 and 4) attaching check valve (8) to boost pump (9). Torque bolt **50 TO 70 INCH-POUNDS** and secure with lockwire (D132).

NOTE

Ensure alignment marks made on sump plate during removal task are aligned for installation.

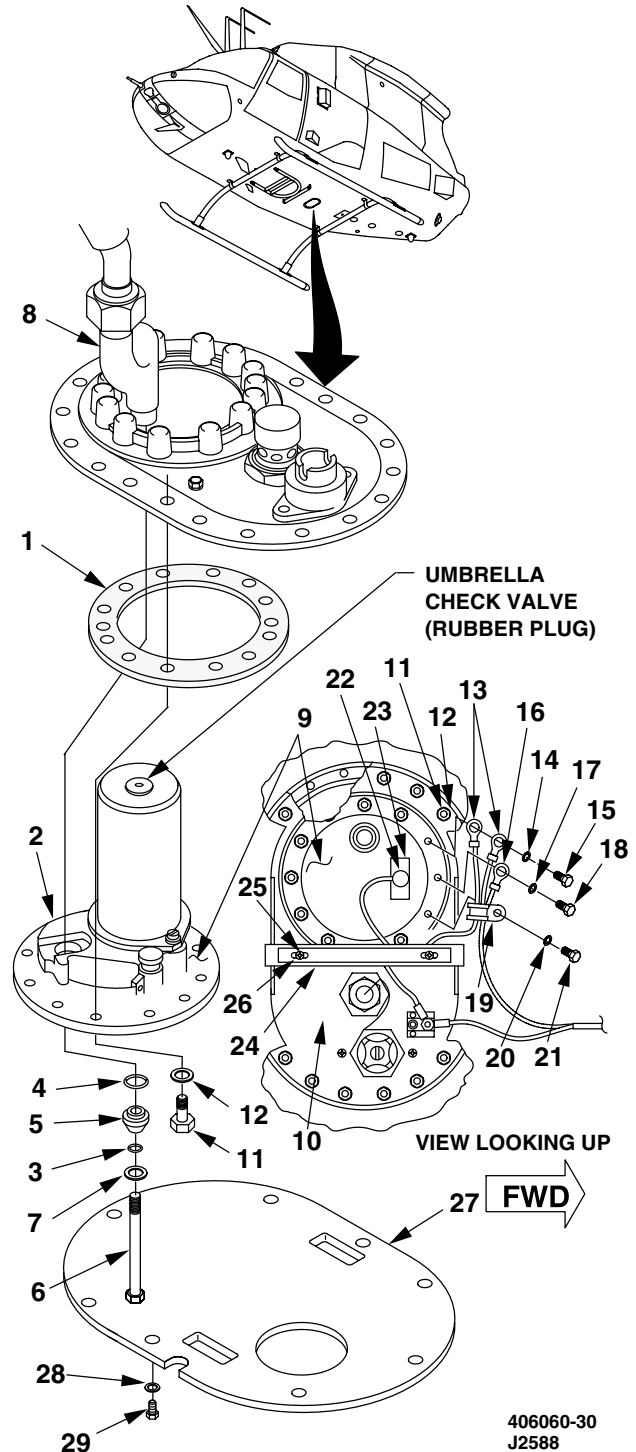
4. Align boost pump (9) with alignment marks on sump plate (10) and install with nine bolts (11) and washers (12).
5. Torque bolts (11) **65 TO 75 INCH-POUNDS**.
6. Identify and install two terminals (13) on boost pump (9) with washer (14) and bolt (15).
7. Identify and install terminal (16) on boost pump (9) with washer (17) and bolt (18).
8. Install clamp (19) on boost pump (9) with washer (20) and bolt (21).
9. Identify and connect electrical leads (22 and 23).
10. Remove identification tags from wires.
11. Install retainer (24) with two screws (25) and two washers (26).
12. Install sump access panel (27) on lower fuselage by installing eight washers (28) and eight screws (29).

INSPECT

FOLLOW-ON MAINTENANCE

Service fuel system (Task 1-4-1 or 1-4-2).

Maintenance test pilot perform MOC/MTF (TM 1-1520-248-MTF).



END OF TASK

10-1-20. DEFUEL VALVE — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Open End Wrench (B222)
Crowfoot Wrench (B32)

Material:
Lockwire (D132)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer
Maintenance Test Pilot

References:
TM 1-1520-248-MTF

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Helicopter Defueled (Task 1-4-3 or 1-4-4)
Boost Pump Removed (Task 10-1-17)

GO TO NEXT PAGE

10-1-20. DEFUEL VALVE — REMOVAL/INSTALLATION (CONT)

REMOVE

1. Cut lockwire between defueling valve (1) and sump valve (2).
2. Cut lockwire between defueling valve (1) and defueling valve nut (3).
3. Remove valve nut (3) and defueling valve (1) with packing (4) from sump assembly (5). Discard packing.

INSTALL

4. Install packing (4) on defueling valve (1). Install defueling valve on sump assembly (5) with defueling valve nut (3).
5. Secure valve nut (3) to adjacent bolthead and defueling valve (1) to sump valve (2) with lockwire (D132).

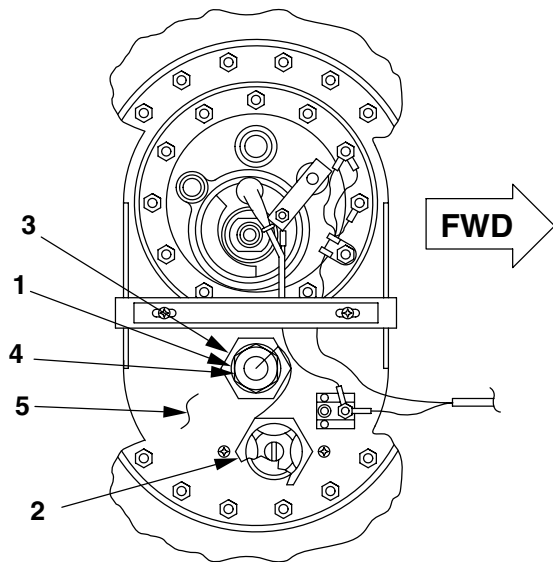
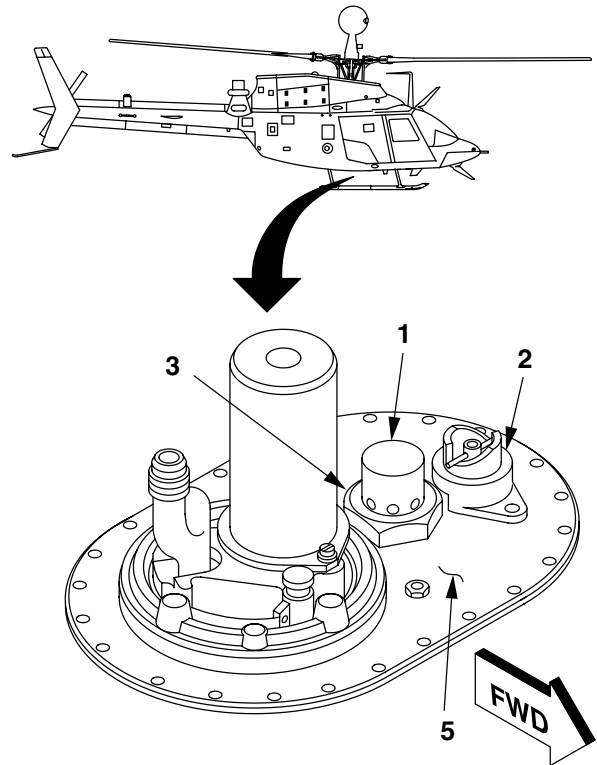
INSPECT

FOLLOW-ON MAINTENANCE

Install boost pump (Task 10-1-19).

Fuel helicopter (Task 1-4-2).

Maintenance test pilot perform MOC/MTF (TM 1-1520-248-MTF).



VIEW LOOKING UP

406060-33
J0654

END OF TASK

10-1-21. DEFUEL VALVE — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)

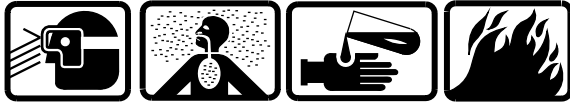
Material:
Drycleaning Solvent (D199)
Wiping Rag (D164)
Lockwire (D132)
Rubber Gloves (D111)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

GO TO NEXT PAGE

10-1-21. DEFUEL VALVE — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN

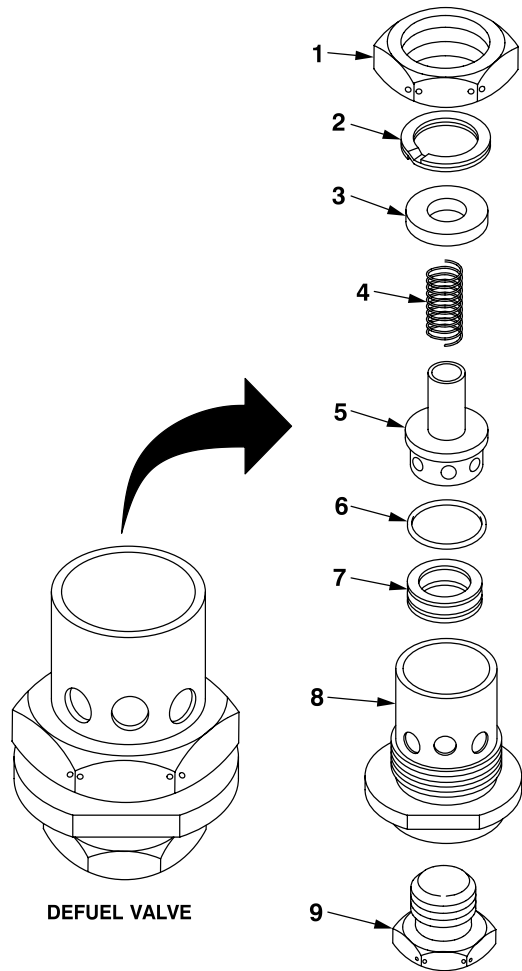


Drycleaning Solvent

1. Clean defuel valve with drycleaning solvent (D199).
2. Wipe defuel valve dry with wiping rag (D164).

INSPECT

3. Disassemble defuel valve for visual inspection.
 - a. If installed, remove nut (1).
 - b. Remove ring (2).
 - c. Remove cap (3), spring (4), and poppet (5). Remove and discard packing (6).
 - d. Remove seal (7) from body (8). Discard seal.
 - e. Cut lockwire between plug (9) and body (8).
 - f. Remove plug (9).



DEFUEL VALVE

406060-322
J1749

GO TO NEXT PAGE

10-1-21. DEFUEL VALVE — CLEANING/INSPECTION/REPAIR (CONT)

4. Inspect nut (1) for damage to threads and lockwire holes. None allowed.

5. Inspect ring (2) for deformity. None allowed.

6. Inspect cap (3) for grooves or deformity. None allowed.

7. Inspect spring (4) for length of **1.25 (+0.062, -0.00) inches**. Replace if not within tolerance.

8. Inspect poppet (5) for grooves, burrs, scoring, and scratches. None allowed.

9. Inspect body (8) for damaged threads and lockwire holes. No damage allowed.

10. Inspect body (8) for cracks, scoring, and deformity. No damage allowed.

11. Inspect plug (9) for damaged threads and lockwire holes. No damage allowed.

12. Replace any part other than the body (8) that fails inspection.

13. If body (8) fails inspection, replace complete valve.

REPAIR

NOTE

Repair consists of replacing defective parts.

14. Install plug (9) in body (8). Lockwire (D132) plug (9) to body (8).

15. Install seal (7) in body (8).

16. Install packing (6) on poppet (5).

17. Install poppet (5) into body (8).

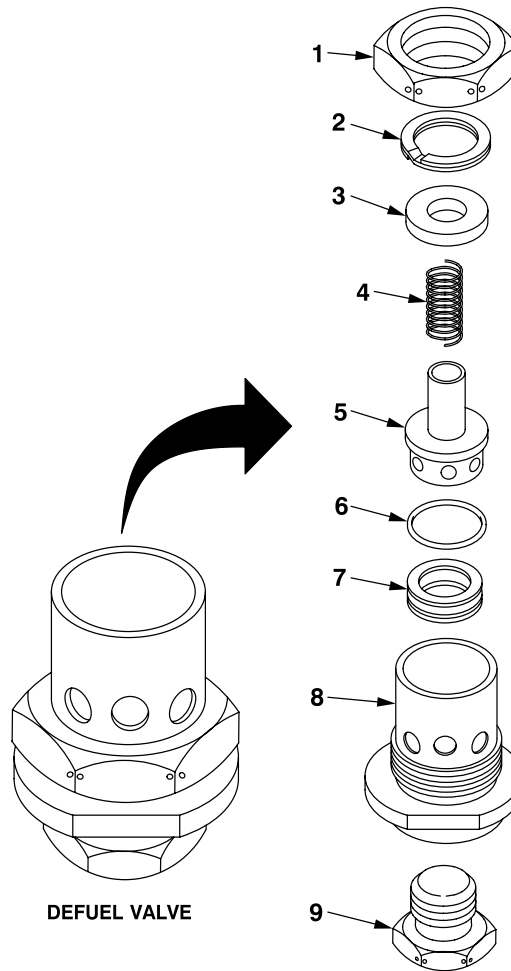
18. Install spring (4) on poppet (5).

19. Install cap (3) in body (8).

20. Install ring (2) in body (8).

21. If removed, install nut (1).

INSPECT



406060-322
J1749

END OF TASK

10-1-22. SUMP VALVE — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Open End Wrench (B221)

Material:
Lockwire (D132)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer
Maintenance Test Pilot

References:
TM 1-1520-248-MTF

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Helicopter Defueled (Task 1-4-3 or 1-4-4)

GO TO NEXT PAGE

10-1-22. SUMP VALVE — REMOVAL/INSTALLATION (CONT)

REMOVE



Jet Fuel

1. Cut lockwire and remove body (1) of sump valve (2) and packing (3). Discard packing.

NOTE

If mounting flange requires removal, proceed with steps 2. and 3.

2. Remove boost pump (Task 10-1-17).
3. Remove two screws (4), two washers (5), seal (5.1), two spacers (6), two washers (7), two nuts (8), and mounting flange (9). Remove flange from sump assembly (10) through boost pump hole.

INSTALL

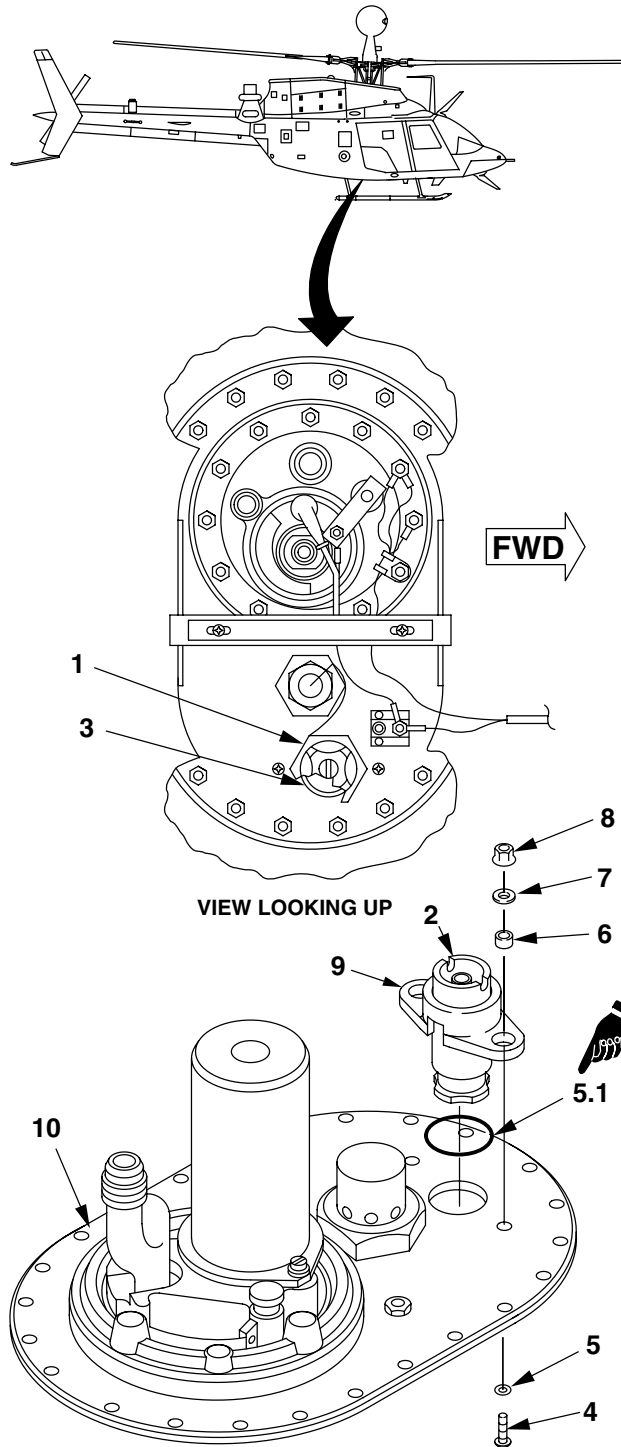
4. Install mounting flange (9) through boost pump hole on sump assembly (10). Secure mounting flange to sump assembly (10) with two screws (4), two washers (5), seal (5.1), two spacers (6), two washers (7), and two nuts (8).
5. Install packing (3) on body (1). Screw valve (2) into mounting flange (9) until hexagonal part contacts sump plate (10).
6. Secure valve (2) with lockwire (D132).
7. Install boost pump (Task 10-1-19).

INSPECT

FOLLOW-ON MAINTENANCE

Service fuel system (Task 1-4-1 or 1-4-2).

Maintenance test pilot perform MOC/MTF (TM 1-1520-248-MTF).



406060-35
J0654

END OF TASK

10-1-23. SUMP VALVE — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection, and Repair (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Retaining Ring Pliers (B105)

Material:
Acetone (D2)
Wiping Rags (D164)
Rubber Gloves (D111)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

GO TO NEXT PAGE

10-1-23. SUMP VALVE — CLEANING/INSPECTION/REPAIR (CONT)

CLEAN



Acetone

1. Clean sump valve with acetone (D2).
2. Wipe sump valve dry with wiping rag (D164).

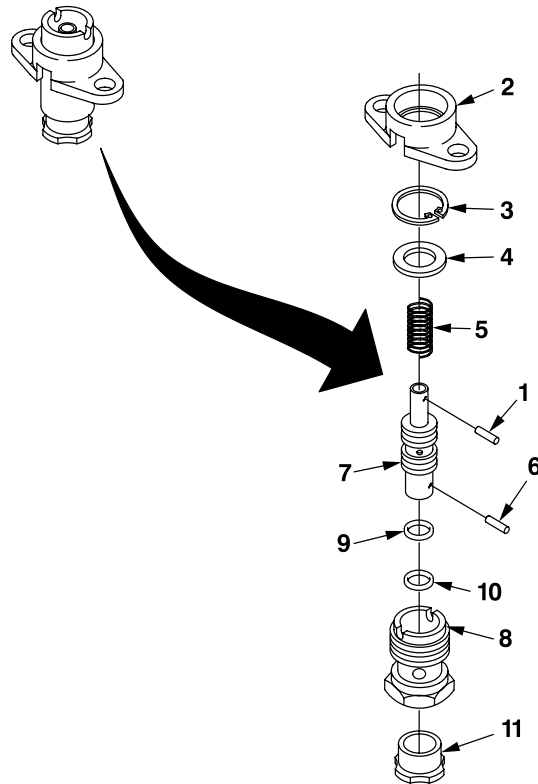
WARNING

To prevent physical injury, spring-loaded retaining ring shall be removed carefully.

3. Remove roll pin (1), nut (2), and retaining ring (3).
4. Remove retainer (4), spring (5), and roll pin (6).
5. Remove poppet (7) from body (8). Remove and discard packings (9 and 10).
6. Remove handle (11).

INSPECT

7. Inspect roll pins (1 and 6) for deformity. None allowed.
8. Inspect nut (2) for damaged threads. None allowed.
9. Inspect retaining ring (3) for deformity. None allowed.
10. Inspect retainer (4) for deformity or grooves. None allowed.
11. Inspect spring (5) for free length of **1.625 inches**. Replace if not within tolerance.



406060-36
J1749

GO TO NEXT PAGE

 10-1-23. SUMP VALVE — CLEANING/INSPECTION/REPAIR (CONT)

12. Inspect poppet (7) for grooves, burrs, scoring, and scratches. None allowed.

13. Inspect body (8) for damaged threads. No damage allowed.

14. Inspect body (8) for cracks, scoring, and deformity. None allowed.

15. Inspect handle (11) for damaged threads. None allowed.

16. Replace any part other than the body (8) that fails inspection.

17. If body (8) fails inspection, replace complete sump valve.

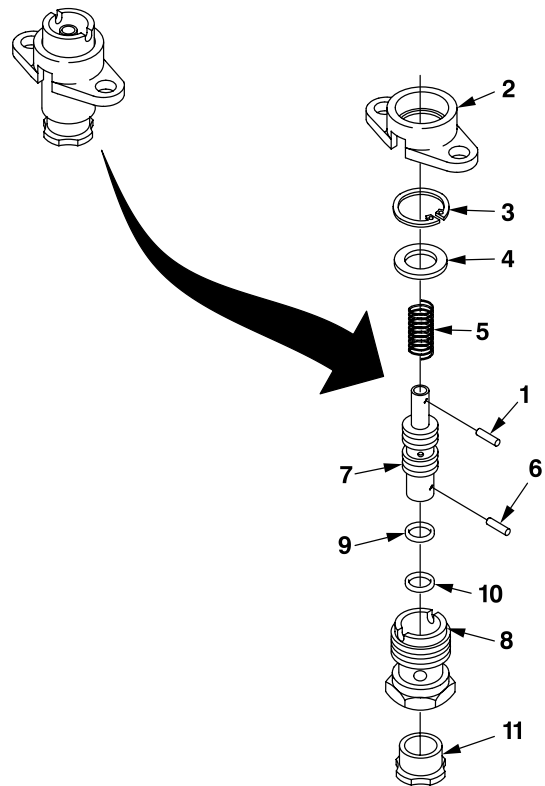
REPAIR

NOTE

Repair consists of replacing defective parts.

18. Install handle (11) in body (8).
19. Install packings (9 and 10) in body (8).
20. Install poppet (7) in body (8).
21. Insert roll pin (6) into poppet (7).
22. Install spring (5) on poppet (7).
23. Install retainer (4) in body (8).
24. Install ring (3) in body (8).
25. Install nut (2) on body (8).
26. Insert roll pin (1) in poppet (7).

INSPECT



406060-36
J1749

END OF TASK

10-1-24. RECEIVER ASSEMBLY — REMOVAL/INSPECTION/REPAIR/INSTALLATION

This task covers: Removal, Inspection, Repair, and Installation (On Helicopter)

INITIAL SETUP

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)

67S Scout Helicopter Repairer

Applicable Configurations:

All

Equipment Condition:

Helicopter Safed (Task 1-6-7)

Tools:

General Mechanic Tool Kit (B178)

Torque Wrench (B237)

GO TO NEXT PAGE

10-1-24. RECEIVER ASSEMBLY — REMOVAL/INSPECTION/REPAIR/INSTALLATION (CONT)

REMOVE

1. Remove 12 screws (1) and 12 washers (2).
2. Loosen screw (3) and rotate grounding strip (4) away from receiver (5).
3. Remove retainer (6), receiver (5), and packing (7).
4. Cover opening in fuel cell.

INSPECT

5. Inspect receiver (5) for damage.
6. Replace receiver (5) if found unserviceable.



Jet Fuel

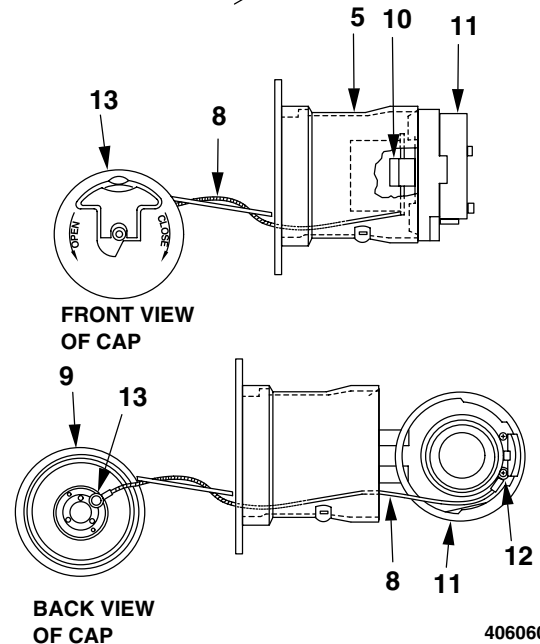
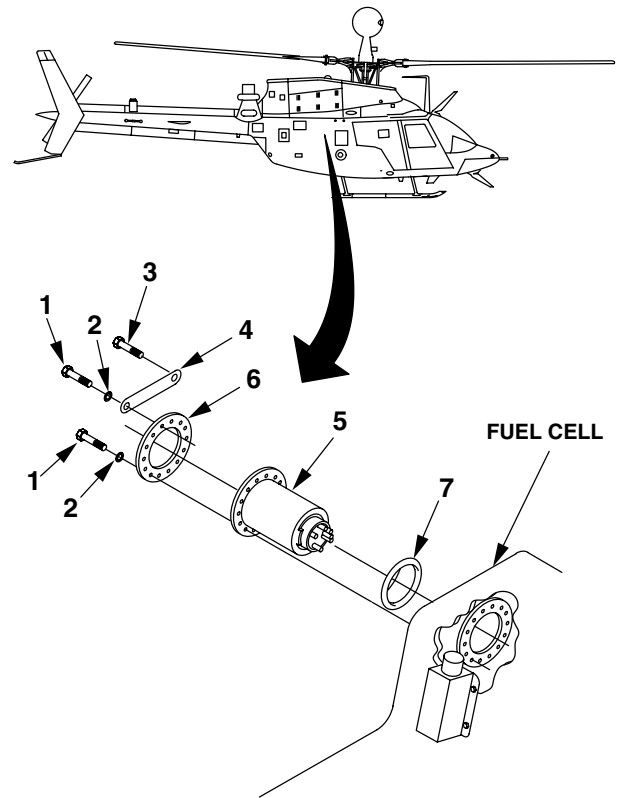
7. Visually check for leaks during refueling.

NOTE

No cleaning is authorized.

REPAIR

8. Replace packing (7).
9. Replace wire rope (8) as follows:
 - a. Remove cap (9) and release latch (10) to open module (11).
 - b. Remove screw (12) and disconnect hook (13) to remove wire rope (8).
 - c. Install new wire rope (8) with hook (13) to cap (9) and with screw (12) to module (11).



406060-615-6
J2271

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10-1-24. RECEIVER ASSEMBLY — REMOVAL/INSPECTION/REPAIR/INSTALLATION (CONT)

INSTALL

10. Position packing (7) into grooves of fuel cell.

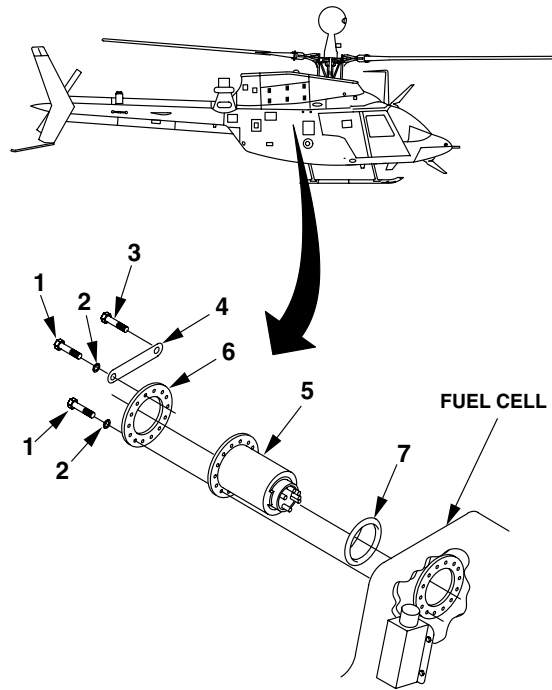
11. Insert receiver (5) into fuel cell opening and install retainer (6) and 12 screws (1) and 12 washers (2). Torque screws **65 TO 75 INCH-POUNDS**.

12. Position grounding strip (4) over retainer (6) and secure screw (3).

INSPECT

FOLLOW-ON MAINTENANCE

Fuel helicopter (Task 1-4-1 or 1-4-2).



406060-615-7
J2271

END OF TASK

 10-1-25. CHECK VALVE — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
 ■ General Mechanic Tool Kit (B178)
 ■ Torque Wrench (B241)

Personnel Required:
 67S Scout Helicopter Technical Inspector (TI)
 67S Scout Helicopter Repairer

Equipment Condition:
 Helicopter Safed (Task 1-6-7)
 Boost Pump Removed (Task 10-1-17)

REMOVE

1. Disconnect fuel hose (1) from check valve (2).
2. Remove check valve (2).

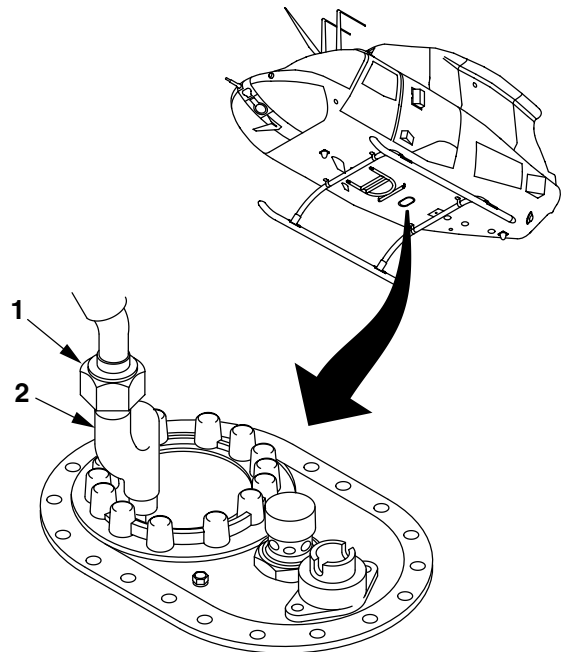
INSTALL

3. Install check valve (2).
4. Connect fuel hose (1) to check valve (2) and torque **265 TO 285 INCH-POUNDS**.

INSPECT

FOLLOW-ON MAINTENANCE

Install boost pump (Task 10-1-19).



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END OF TASK

Section II. FUEL CELL

10-5. FUEL CELL

are provided in Appendix P and TM 1-1500-204-23.

10-6. INTRODUCTION

This section contains: maintenance procedures for removing, inspecting, checking, and installing fuel cell and related components. Standard torques

10-7. TASK LIST

The task list lists those tasks required to support unit and intermediate level maintenance.

LIST OF TASKS

TASK	TASK NUMBER	PAGE NUMBER
Fuel Cell — Removal/Installation	10-2-1	10-63
Fuel Cell (AVIM) — Cleaning/Inspection/Repair	10-2-2	10-71
Fuel Cell Support Assemblies — Cleaning/Inspection/Repair/ Replacement	10-2-3	10-72
Electrical Wiring/Cabling (Avionics Compartment) — Removal/ Installation	10-2-4	10-78
Fuel Indicating System — Checking	10-2-5	10-86

10-2-1. FUEL CELL — REMOVAL/INSTALLATION

This task covers: Removal and Installation (On Helicopter)

INITIAL SETUP

68N Avionic Mechanic
Maintenance Test Pilot

Applicable Configurations:
All

References:

FM 10-67-1
TM 1-1500-204-23
TM 1-1520-248-MTF
TM 9-1240-778-23
TM 11-1520-248-23

Tools:

Electrical Repairer Tool Kit (B177)
General Mechanic Tool Kit (B178)
Open End Wrench (B219)
Open End Wrench (B216)
Open End Wrench (B218)
Open End Crowfoot (B31)
Deep Socket (B156)
Open End Wrench (B220)
Torque Wrench (B241)
Ohmmeter (B99)
Putty Knife (B90)
Polypropylene Strap (B164)

Equipment Condition:

Helicopter Safed (Task 1-6-7)
Helicopter Defueled Task (1-4-3 or 1-4-4)
Avionics Equipment Removed From Top of
Fuel Cell Removable Panel as Required (TM
11-1520-248-23)
Fuel Probe Removed (Task 10-1-13)
Receiver Assembly Removed (Task 10-1-24)
Fuel Cell Vent Hose Removed (Task 10-1-11)
Engine Vent and Fuel Supply Hoses Removed
(Task 10-1-8)
Fuel Pressure Switch Removed (Task 10-1-12)
Boost Pump Removed (Task 10-1-17)
Fuel Sump Removed (Task 10-1-14)
Electrical Wiring and Cabling in Avionics
Compartment Removed (Task 10-2-4)

Material:

Talcum Powder (D211)
Sealing Compound (D184)

Personnel Required:

67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

GO TO NEXT PAGE

10-2-1. FUEL CELL — REMOVAL/INSTALLATION (CONT)

WARNING

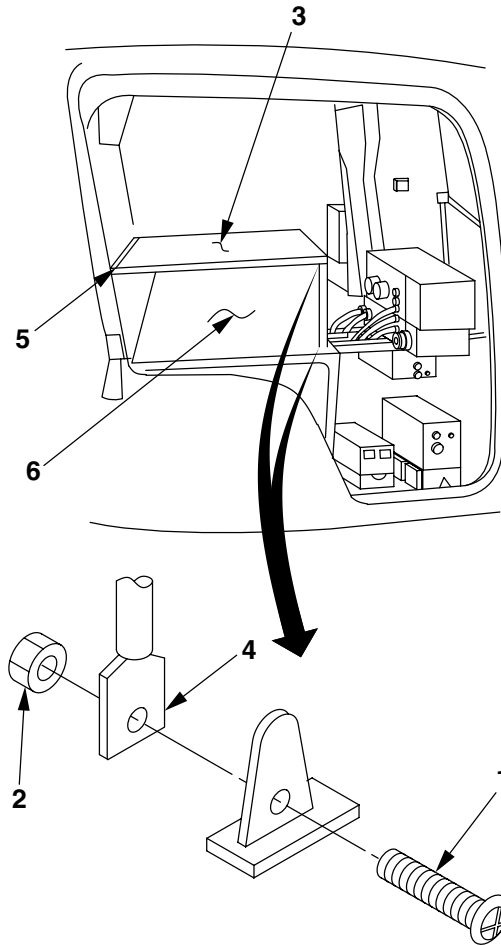
- To prevent injury to personnel, task shall be performed in a well-ventilated area.
- All precautions in FM 10-67-1, Aircraft Refueling Field Manual shall be observed.

CAUTION

To prevent damage to cell, fuel cell shall be handled with extreme care during removal. All openings shall be covered to prevent entry of foreign material.

REMOVE

1. Open left and right access doors to obtain access to avionics compartment.
2. Remove each of two screws (1) and nuts (2) from electronics shelf (3) leg supports (4). Retain hardware.
3. Remove 11 screws (5) from aft edge of electronics shelf (3). Retain hardware.
4. Remove and store electronics shelf (3) from avionics compartment to obtain access to top of fuel cavity cover (6).



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GO TO NEXT PAGE

10-2-1. FUEL CELL — REMOVAL/INSTALLATION (CONT)

5. Remove wire harness (7) and clamps (8) from fuel cavity cover panel (6).

6. Position and secure harness (7) so it will not interfere with panel and cell removal.



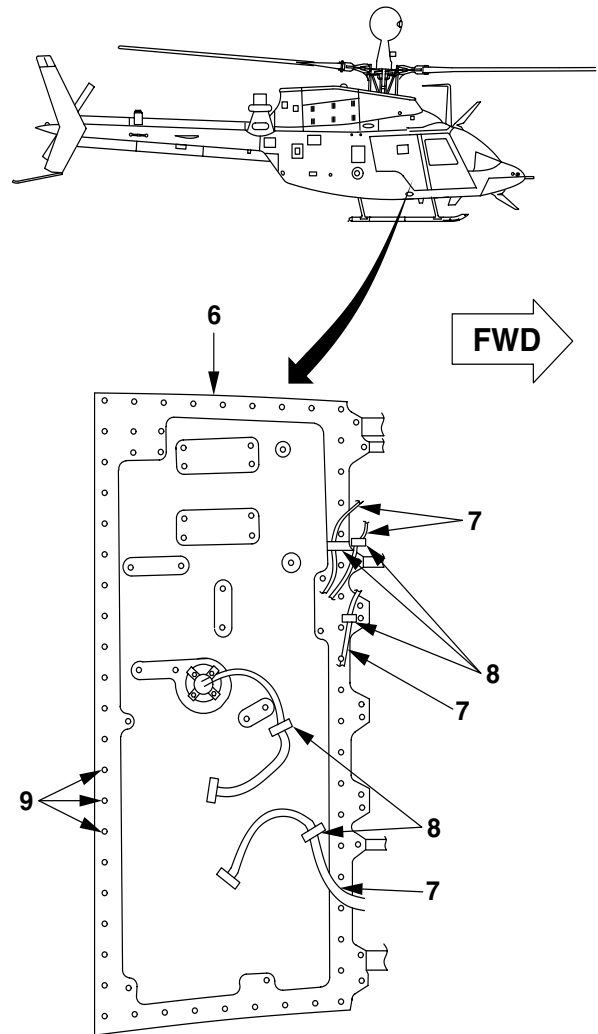
Jet Fuel

CAUTION

To prevent damage to beveled edge of honeycomb fuel cell cover panel, putty knife shall not be inserted too far.

7. Remove fuel cavity cover panel (6) by removing 54 screws (9). Use putty knife (B90) to break Proseal bond.

8. Clean sealing compound from around edge of cover panel and lip of cell cavity.



VIEW LOOKING DOWN
FUEL CAVITY COVER

406060-73-1
J0655

GO TO NEXT PAGE

10-2-1. FUEL CELL — REMOVAL/INSTALLATION (CONT)

9. Remove internal vent tube (10).

CAUTION

To prevent damage to fuel cell, tools shall not be dropped onto or into fuel cell.

10. Disconnect fuel pump discharge hose (11) from breakaway valve (12) inside fuel cell (13). Remove hose from fuel cell.

11. Remove breakaway valve jamnut (14) and washer (15) inside fuel cell (13). Remove breakaway valve (12) and packing (16). Discard packing.

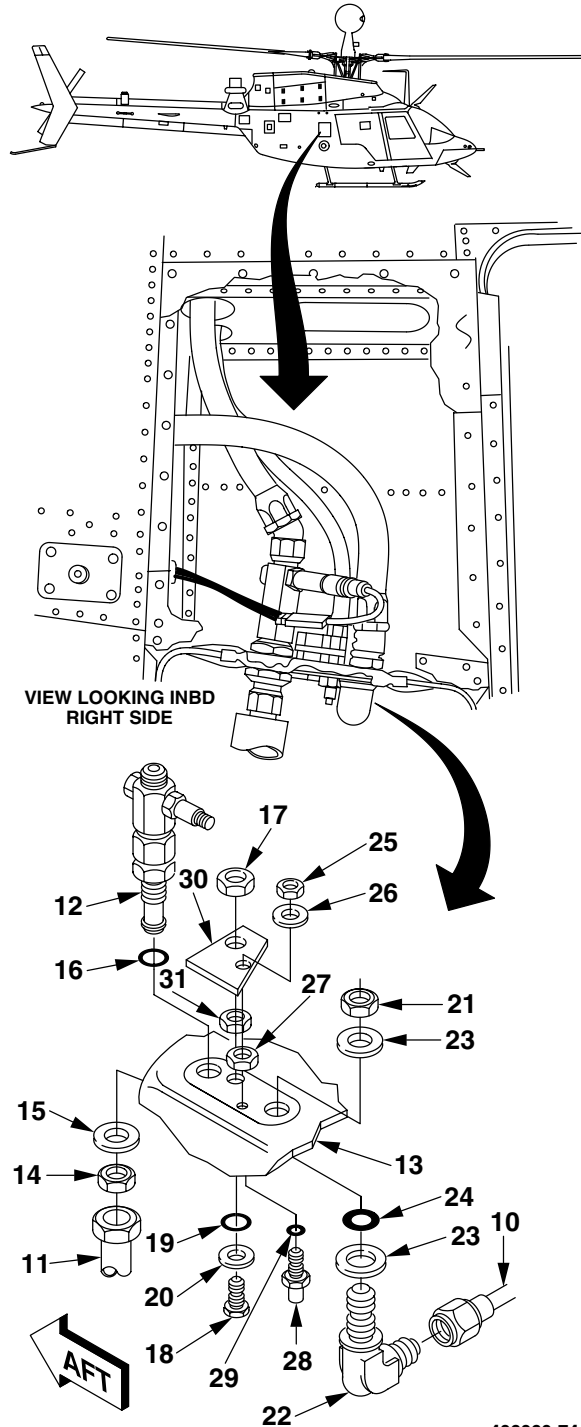
12. Remove jamnut (17), plug (18), packing (19), and washer (20). Discard packing. See step 14.

13. Remove vent jamnut (21). Remove vent elbow (22), two washers (23), and packing (24). Discard packing.

14. Remove jamnut (25), washer (26), nut (27), engine vapor vent adapter (28), and packing (29). Discard packing. Remove retainer (30) and jamnut (31).

CAUTION

- To prevent damage to fuel cell, when cell has been exposed to low temperatures, sufficient time shall be allowed for cell materials to reach temperature of about 70 °F.
- To prevent damage to wire bundle stand-off and fiberglass ducting, fuel cell shall be kept collapsed as much as possible during removal. Fuel cell shall not be allowed to expand until clear of helicopter.



406060-74
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GO TO NEXT PAGE

 10-2-1. FUEL CELL — REMOVAL/INSTALLATION (CONT)

15. Remove fuel cell (13) from cavity through panel opening by first collapsing the upper right hand corner of the fuel cell (13). This is best accomplished by one mechanic pushing inward on fuel receiver ring while another mechanic pushes downward on the middle of the cell from the right side of helicopter. Then have the assisting mechanic aid in rolling the fore and aft edges of cell toward the middle. Carefully rotate cell until pump plate becomes visible, then remove cell from cavity through right side of helicopter.

16. Remove fuel sump (Task 10-1-14).

INSTALL

NOTE

Fuel sump plate shall be installed on fuel cell prior to installation of fuel cell due to inaccessibility of fuel sump hole on bottom of fuselage (Task 10-1-16).

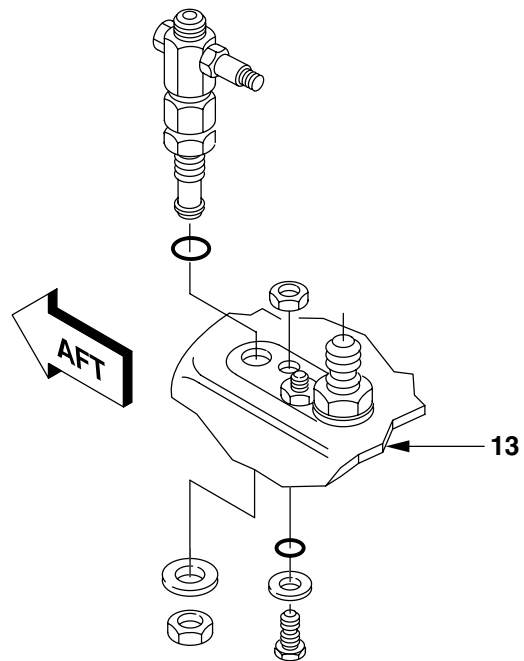
17. Install fuel sump (Task 10-1-16).

18. Dust fuel cell cavity and exterior of fuel cell (13) with talcum powder (D211).

CAUTION

To prevent damage, a cold fuel cell shall not be folded. Folding may crack or damage a cold cell. If required, heat lamps may be used to warm fuel cell for approximately 2 hours prior to folding. Temperature shall not exceed 125 °F.

19. Fold fuel cell (13) smaller than cavity and cinch it down using polypropylene strap (B164).



406060-615-8
J2271

GO TO NEXT PAGE

10-2-1. FUEL CELL — REMOVAL/INSTALLATION (CONT)

CAUTION

To prevent damage to fuel cell walls, fuel cell cavity and exterior shall be free of foreign material.

20. Install fuel cell (13) in cavity and push into place.

21. Remove polypropylene strap from around fuel cell (13) and adjust fuel cell.

22. Prepare mating surfaces of valve and fuel cell mounting plate for Class H electrical bond per Appendix M. Install breakaway valve (12), packing (16), washer (15), and nut (14).

23. Install plug (18), washer (20), packing (19), and jamnut (31).

24. Install fuel pump discharge hose (11) on lower end of breakaway valve (12) inside fuel cell (13).

25. Torque fuel pump discharge hose (11) **265 TO 285 INCH-POUNDS**.

26. Install vent elbow (22), two washers (23), packing (24), and nut (21) in aft hole.

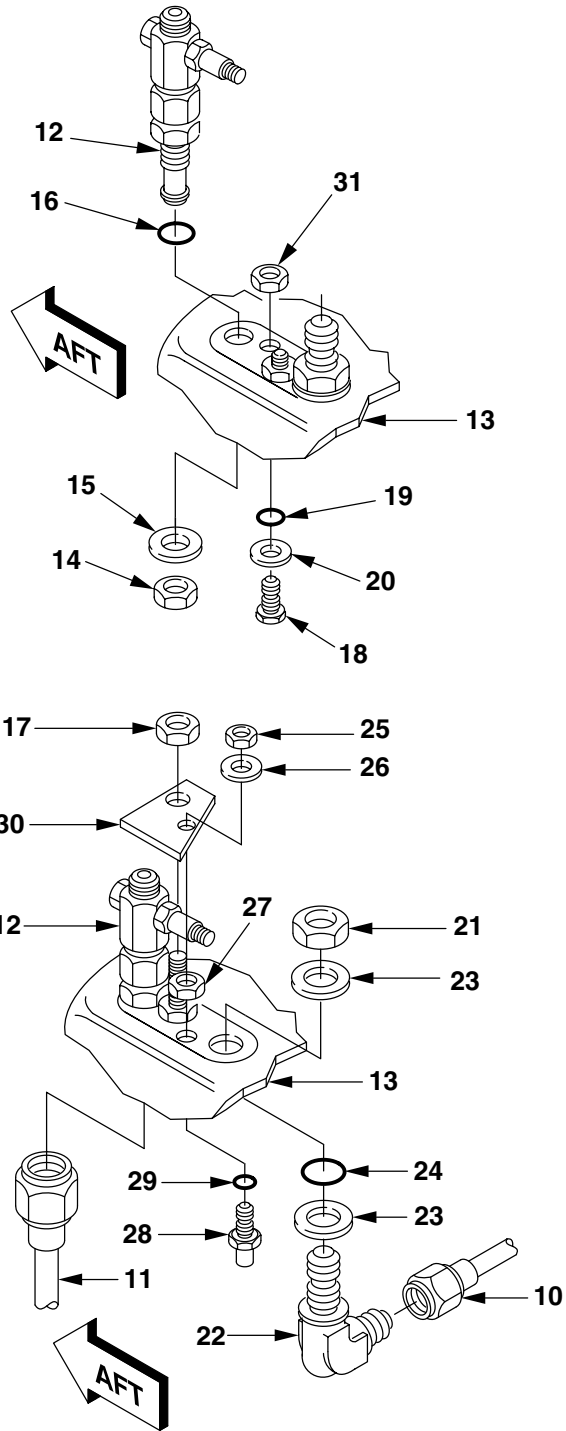
CAUTION

To prevent damage to vent tube, opposite end of vent tube inside fuel cell shall be inserted into built-in saddle of cell.

27. Install internal vent tube (10) inside fuel cell (13) and connect to vent elbow (22).

28. Prepare mating surfaces of adapter and fuel cell mounting plate for Class H electrical bond per Appendix M. Install engine vapor vent adapter (28), packing (29), and nut (27).

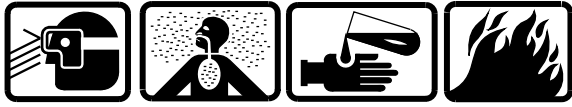
29. Install retainer (30), jamnut (17), washer (26), and jamnut (25).



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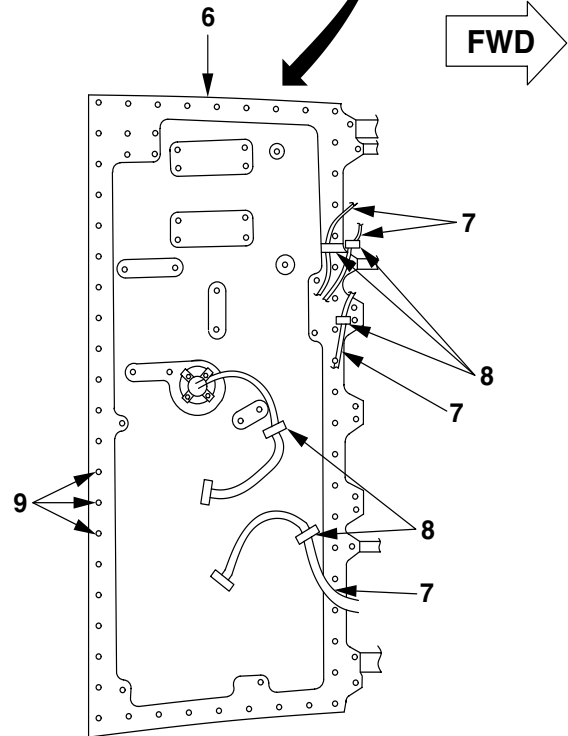
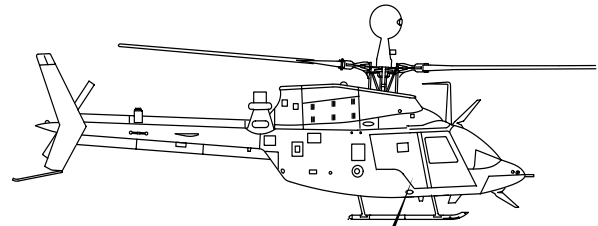
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10-2-1. FUEL CELL — REMOVAL/INSTALLATION (CONT)



Sealing Compound

30. Apply bead of sealing compound (D184) around edge of panel.
31. Install fuel cavity cover panel (6) with 54 screws (9).
32. Install wiring harness (7) and clamps (8).



**VIEW LOOKING DOWN
FUEL CAVITY COVER**

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J0655

GO TO NEXT PAGE

10-2-1. FUEL CELL — REMOVAL/INSTALLATION (CONT)

33. Replace electronics shelf (3) in avionics compartment.

34. Install 11 screws (5) along aft edge of electronics shelf (3).

35. Install each of two screws (1) and nuts (2) in electronics shelf (3) leg support (4).

INSPECT

FOLLOW-ON MAINTENANCE

Install fuel pressure switch (Task 10-1-12).

Install engine vent and fuel supply hoses (Task 10-1-8).

Install fuel cell vent hose (Task 10-1-11).

Install fuel probe (Task 10-1-13).

Install receiver assembly (Task 10-1-24).

Install boost pump (Task 10-1-19).

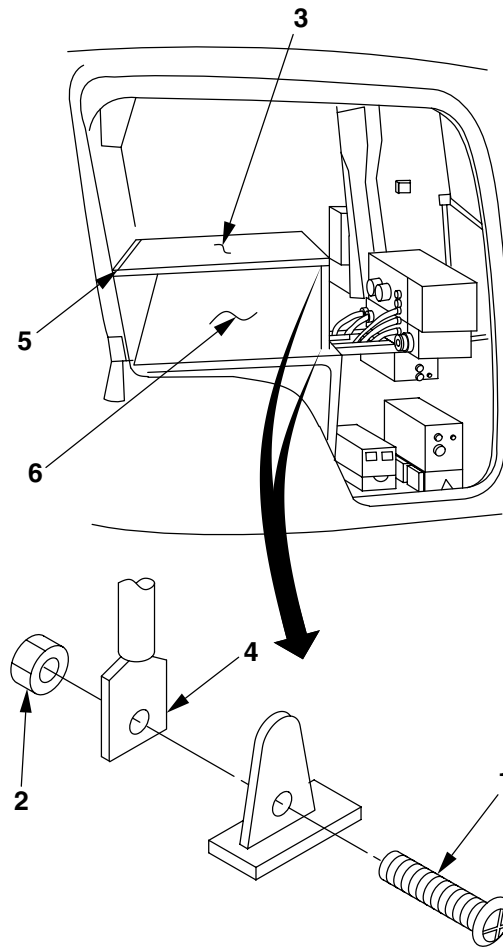
Install electrical wiring and cabling in avionics compartment (Task 10-2-4).

Test fuel system for leaks (TM 1-1500-204-23).

Fuel helicopter (Task 1-4-1 or 1-4-2).

Install avionics equipment (TM 11-1520-248-23 and TM 9-1240-778-23).

Maintenance test pilot perform MOC/MTF (TM 1-1520-248-MTF).



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J0655

END OF TASK

10-2-2. FUEL CELL (AVIM) — CLEANING/INSPECTION/REPAIR

This task covers: Cleaning, Inspection and Repair (Off Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Material:
Low-Lint Cleaning Cloth (D67)
Wiping Rag (D164)
Denatured Alcohol (D38)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

References:
TM 1-1500-204-23

CLEAN

WARNING

To prevent serious burns, hot water above 160 °F shall not be used to clean fuel cell.

1. Remove all fungus growth from fuel cell with a low-lint cleaning cloth (D67) and warm water.
2. Dry fuel cell using low-lint cleaning cloth (D67).



Denatured Ethyl Alcohol

CAUTION

To prevent damage to components, soaps or strong detergents shall not be used when cleaning fuel cell.

3. Wipe the cell clean with wiping rag (D164) moistened with denatured alcohol (D38).

INSPECT

NOTE

Refer to TM 1-1500-204-23 for condition and inspection limits of bladder-type or self-sealing fuel cells.

REPAIR

4. Test or prepare for storage bladder-type and self-sealing fuel cells in accordance with instructions outlined in TM 1-1500-204-23.
5. Replace damaged helical threaded inserts in accordance with instructions outlined in TM 1-1500-204-23.

INSPECT

END OF TASK

10-2-3. FUEL CELL SUPPORT ASSEMBLIES — CLEANING/INSPECTION/REPAIR/REPLACEMENT

This task covers: Cleaning, Inspection, Repair, and Replacement (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
General Mechanic Tool Kit (B178)
Putty Knife (B90)

Material:
Adhesive (D15)
Sealing Compound (D184)
Wiping Rag (D164)
Aliphatic Naphtha (D141)

Adhesive (D21)
Aromatic Naphtha (D142)
NOPCOFOAM (D145)
Acetone (D2)
Rubber Gloves (D111)
Epoxy Resin (D168)

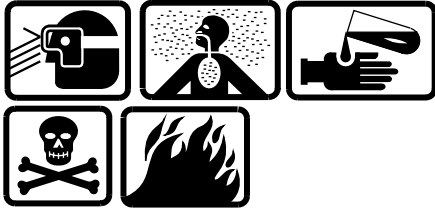
Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
67S Scout Helicopter Repairer

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Fuel Cell Removed (Task 10-2-1)

GO TO NEXT PAGE

10-2-3. FUEL CELL SUPPORT ASSEMBLIES — CLEANING/INSPECTION/REPAIR/REPLACEMENT
(CONT)

CLEAN



Naphtha/Naphthalene, TT-N-97

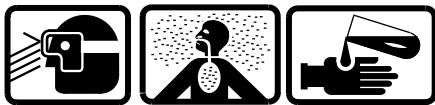
1. Clean fuel cell supports with clean wiping rag (D164) dampened with aliphatic naphtha (D141).

INSPECT

2. Inspect for dents, holes, rips, and voids between the supports and mark with soft lead pencil.

REPAIR

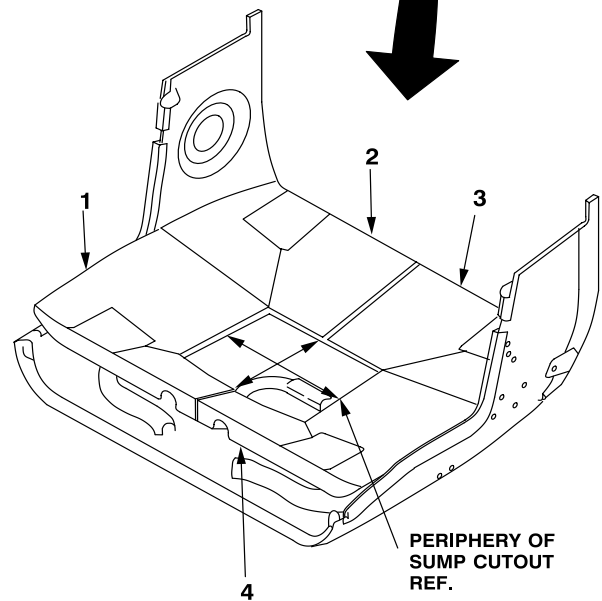
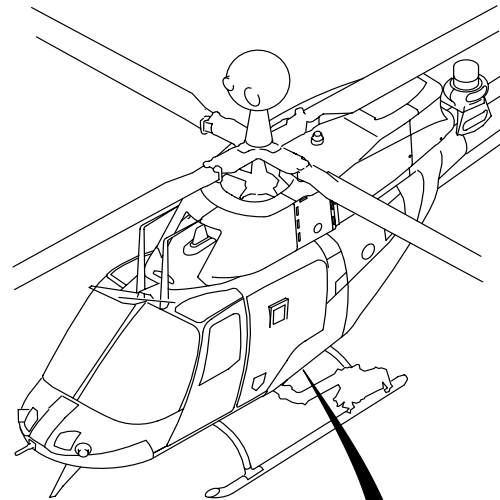
3. Repair dents and holes less than **0.500 inch** in diameter in fuel cell support (1, 2, 3, or 4) as follows:



Epoxy Adhesive

a. Fill dents with adhesive (D15) and smooth surface to contour of surrounding area. Allow to cure 4 hours at 70 to 80 °F.

b. Seal holes less than **0.500 inch** diameter with adhesive (D15) and smooth surface to contour of surrounding area.



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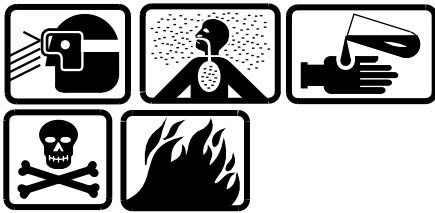
10-2-3. FUEL CELL SUPPORT ASSEMBLIES — CLEANING/INSPECTION/REPAIR/REPLACEMENT (CONT)

4. Repair dents and holes larger than **0.500 inch** in diameter in fuel cell support (1, 2, 3, or 4) while installed in helicopter as follows:

NOTE

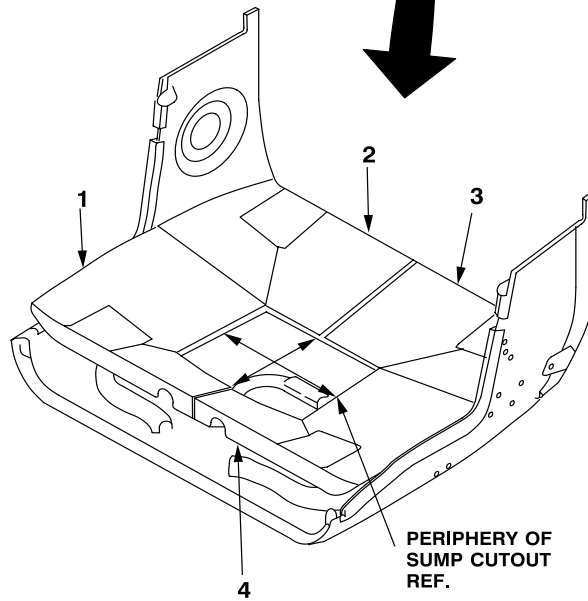
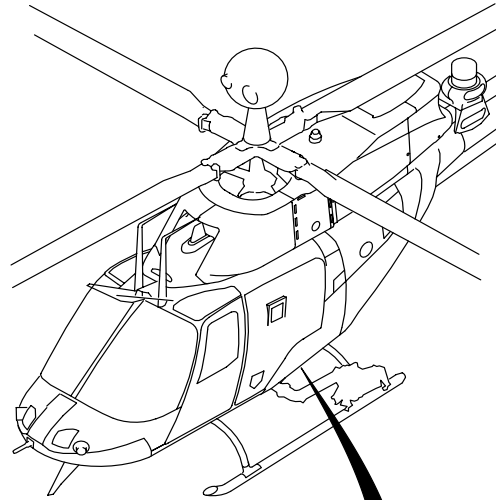
A plug of common Styrofoam may be used as a suitable substitute, not to exceed **4.0 inches** in diameter.

a. Cut out damaged area and smooth edges of surrounding area.



Resins and Hardeners

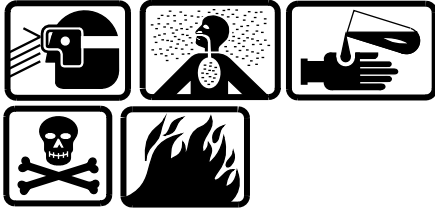
b. Cut plug of NOPCOFOAM (D145) and apply epoxy resin (D168) to bottom side and allow to cure before inserting.



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10-2-3. FUEL CELL SUPPORT ASSEMBLIES — CLEANING/INSPECTION/REPAIR/REPLACEMENT (CONT)



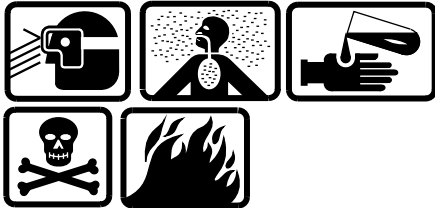
Resins and Hardeners

c. Apply epoxy resin (D168) to edges and insert plug and apply epoxy resin (D168) over top and surrounding area. Smooth to contour of surrounding area. Allow epoxy to cure 24 hours at 70 to 80 °F.

NOTE

Coated foam fuel cell support (1, 2, 3 or 4) may be cut at any place necessary to allow access to lower body shell (5). To replace removed section, applicable preceding steps shall be followed according to size of pieces removed.

5. Repair fuel cell support (1, 2, 3, or 4) defects listed below.

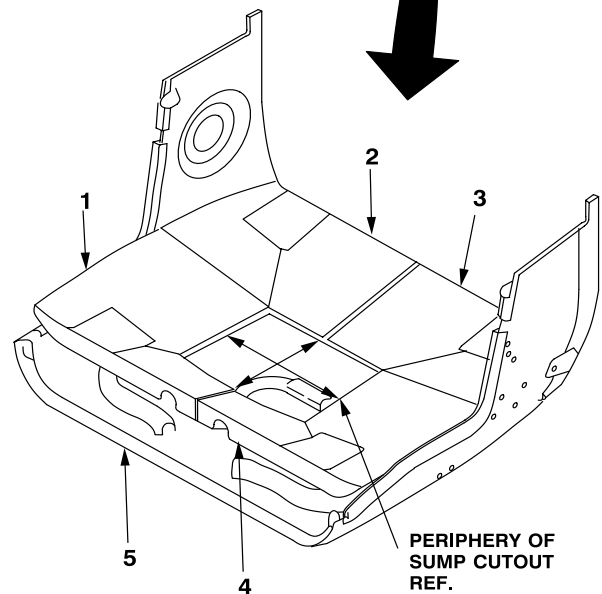
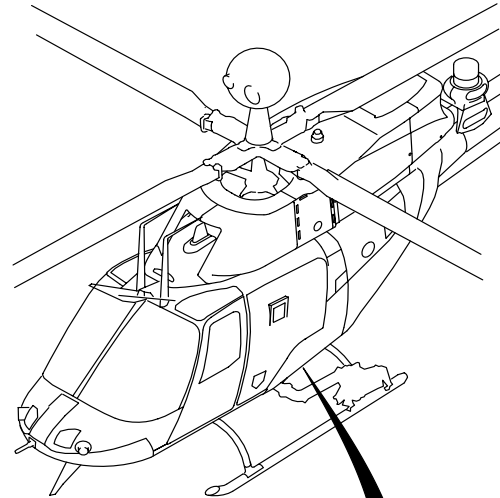


Naphtha/Naphthalene, TT-N-97

NOTE

Spray application of adhesive (D21) may be thinned with aromatic naphtha (D142).

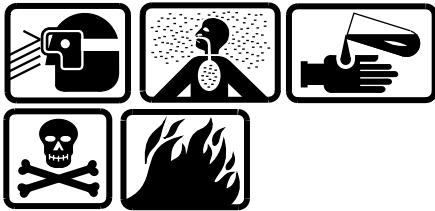
a. Apply three coats of adhesive (D21) to exposed foam or damaged area only. Allow adhesive to dry for 10 minutes between each coat and after final third coat.



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10-2-3. FUEL CELL SUPPORT ASSEMBLIES — CLEANING/INSPECTION/REPAIR/REPLACEMENT
(CONT)



Naphtha/Naphthalene, TT-N-97

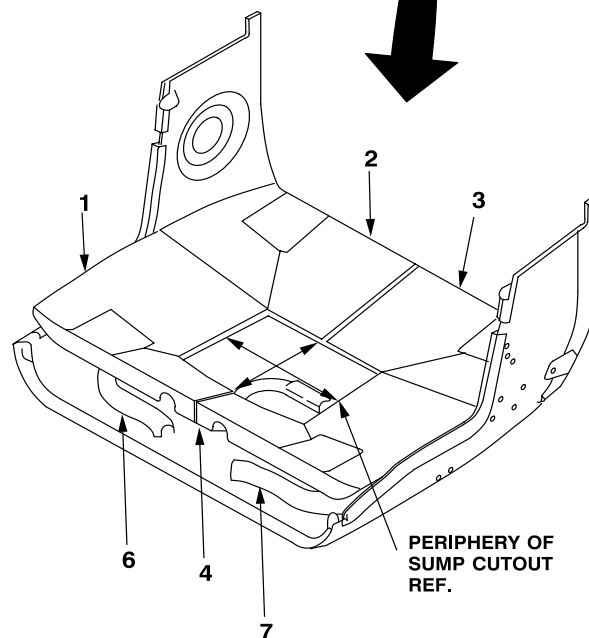
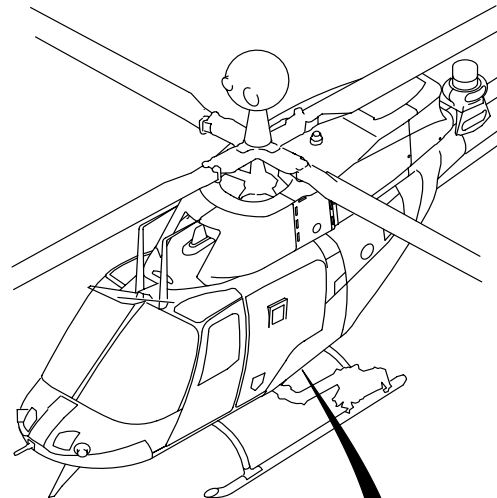
b. Remove excess adhesive with clean wiping rag (D164) dampened with aromatic naphtha (D142).

REPLACE

CAUTION

- To prevent damage to equipment, solvents shall not be used to remove supports. Fuel cell supports (1, 2, 3, and 4) are bonded to airframe with sealing compound on underside four corners, periphery of sump cutout, and around openings of conduits (6 and 7).
- To prevent damage to airframe, care shall be used when removing support. Any repair plugs previously installed in support(s) shall be bonded to airframe.

6. Remove damaged fuel cell support (1, 2, 3, or 4) from airframe with putty knife.



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GO TO NEXT PAGE

10-2-3. FUEL CELL SUPPORT ASSEMBLIES — CLEANING/INSPECTION/REPAIR/REPLACEMENT (CONT)



Acetone

7. Remove old sealing compound from airframe with wiping rag (D164) dampened with acetone (D2).



Sealing Compound

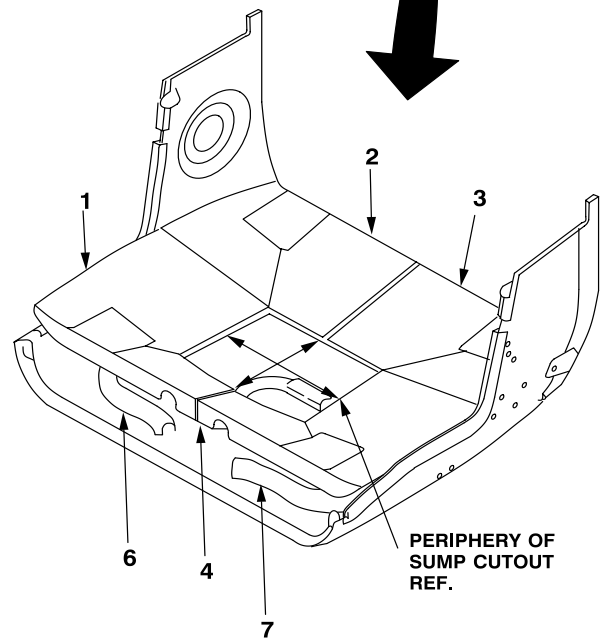
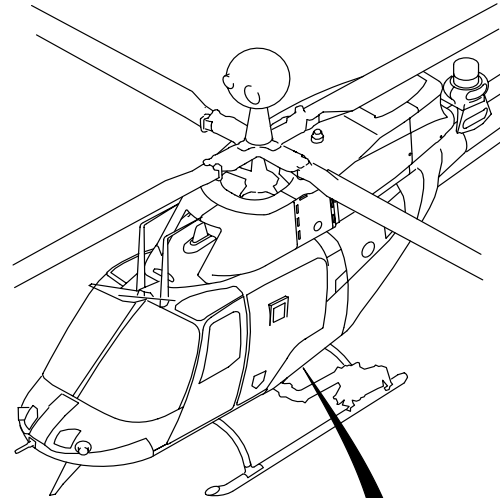
8. Apply sealing compound (D184) to underside of fuel cell support (1, 2, 3, or 4) at four corners, on periphery of sump cutout and around openings of conduits (6 and 7).

9. Install support(s) on airframe. Remove excess sealing compound.

INSPECT

FOLLOW-ON MAINTENANCE

Install fuel cell (Task 10-2-1).



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J1758

END OF TASK

10-2-4. ELECTRICAL WIRING/CABLING (AVIONICS COMPARTMENT) — REMOVAL/INSTALLATION

This task covers: Removal/Installation (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer Tool Kit (B177)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician

References:
TM 11-1520-248-23

Equipment Condition:
Helicopter Safed (Task 1-6-7)
All avionic equipment components removed
from top of fuel cell removable panel in
avionics compartment (TM 11-1520-248-23)

REMOVAL

CAUTION

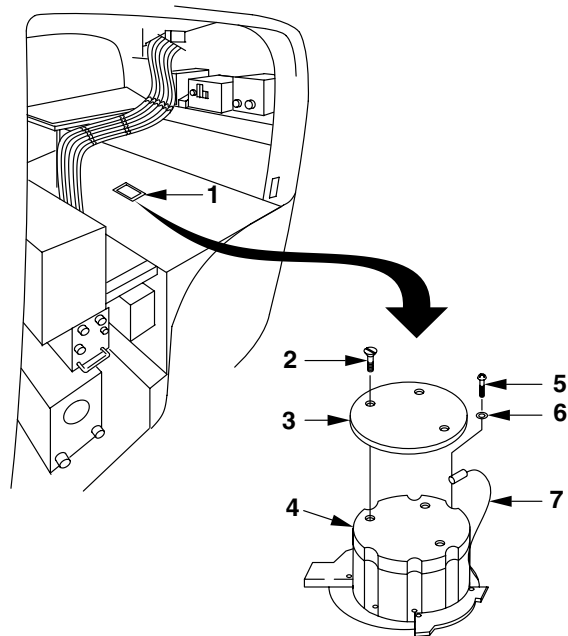
To prevent induction of EMI into avionics equipment, when maintaining or repairing wires, it is necessary to maintain original wire clamping and routing design. Clamping arrangements should not be altered from original. Refer to Appendix F for clamping arrangement.

1. Open left and right access doors to obtain access to avionics compartment.
2. Obtain access to fuel probe installation (1) near center of fuel cell.
3. Remove three screws (2) and cover (3) from top of fuel probe (4).

NOTE

Wires and terminals shall be tagged and identified.

4. Remove six screws (5), washers (6), and wires (7).
5. Reinstall six screws (5), washers (6), three screws (2), and cover (3).



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J0655

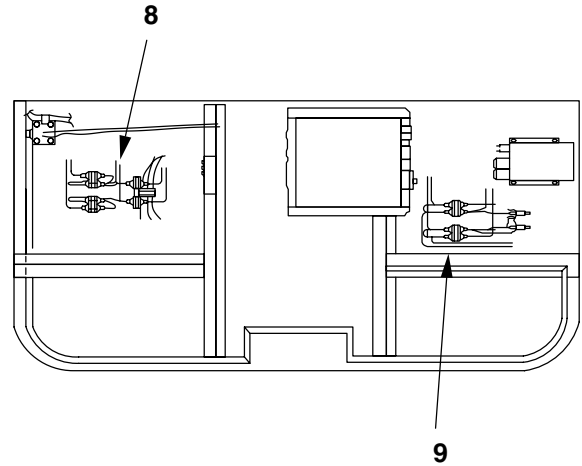
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10-2-4. ELECTRICAL WIRING/CABLING (AVIONICS COMPARTMENT) — REMOVAL/INSTALLATION (CONT)

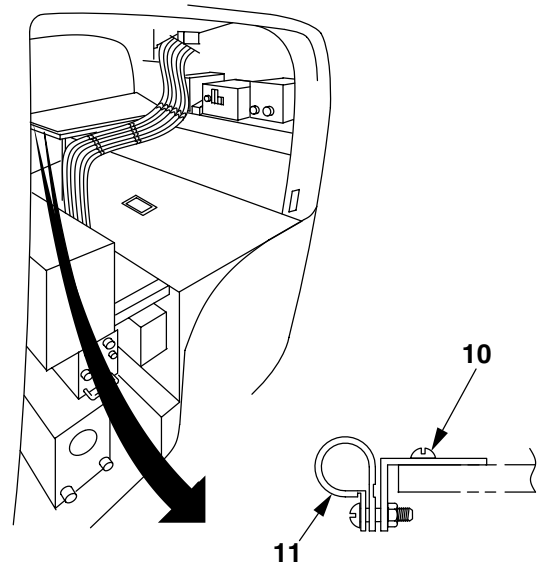
6. Disconnect data bus couplers (8) at fuel cell, if required.

7. Disconnect data bus couplers (9) at fuel cell, if required.

8. Remove screw (10) from each of two cable clamps (11). Retain hardware.



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AT STATION 96.44



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J2472

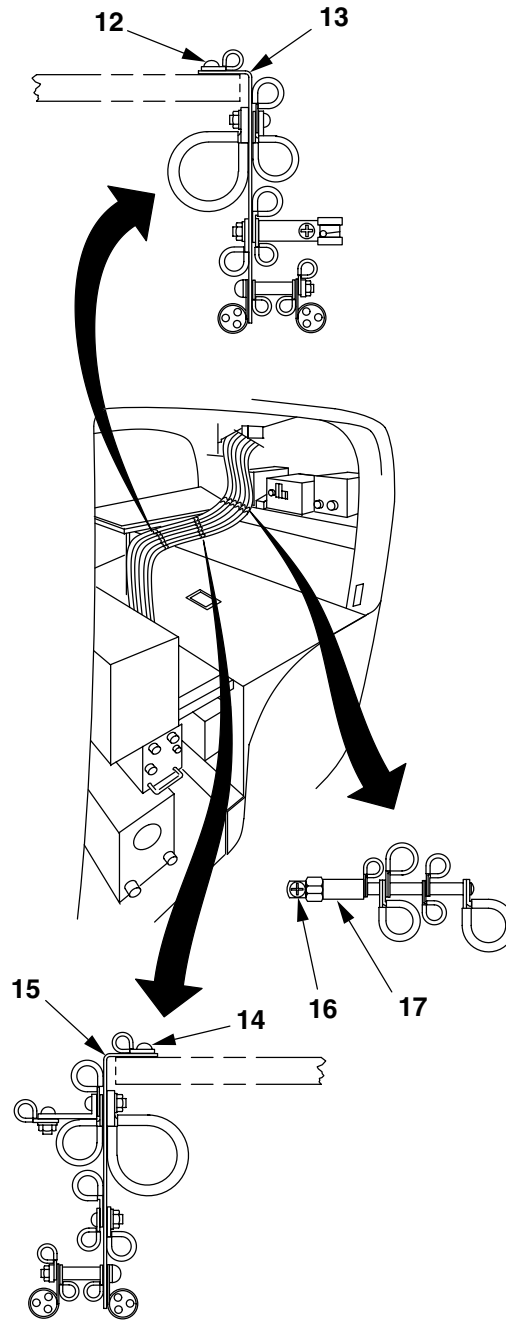
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10-2-4. ELECTRICAL WIRING/CABLING (AVIONICS COMPARTMENT) — REMOVAL/INSTALLATION (CONT)

9. Remove screw (12) from cable mounting bracket (13). Retain hardware.

10. Remove screw (14) from cable mounting bracket (15). Retain hardware.

11. Remove screw (16) from cable mounting bracket (17). Retain hardware.

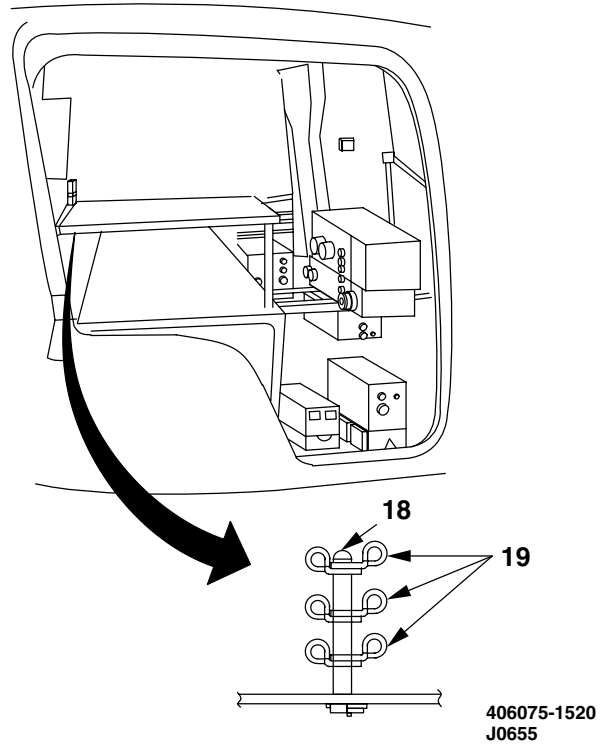


406075-1519
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10-2-4. ELECTRICAL WIRING/CABLING (AVIONICS COMPARTMENT) — REMOVAL/INSTALLATION (CONT)

12. Remove screw (18) from six cable clamps (19). Retain hardware.



GO TO NEXT PAGE

10-2-4. ELECTRICAL WIRING/CABLING (AVIONICS COMPARTMENT) — REMOVAL/INSTALLATION (CONT)

13. Remove screw (20) from three cable clamps (21). Retain hardware.

14. Remove screw (22) from six cable clamps (23). Retain hardware.

15. Remove screw (24) from five cable clamps (25). Retain hardware.

16. Remove screw (26) from six cable clamps (27). Retain hardware.

17. Support wiring and cabling as required to provide access for fuel cell removal.

INSTALLATION

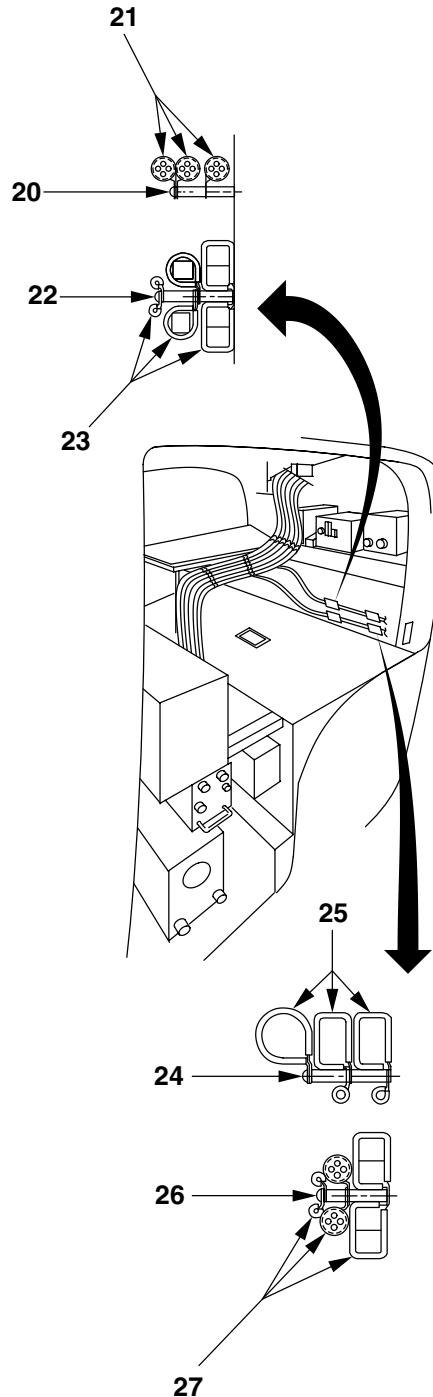
18. Position wiring and cabling as required for preparation of cable clamp and cable mounting bracket installation.

19. Place cable clamps (27) in position and align holes. Install screw (26).

20. Place cable clamps (25) in position and align holes. Install screw (24).

21. Place cable clamps (23) in position and align holes. Install screw (22).

22. Place cable clamps (21) in position and align holes. Install screw (20).

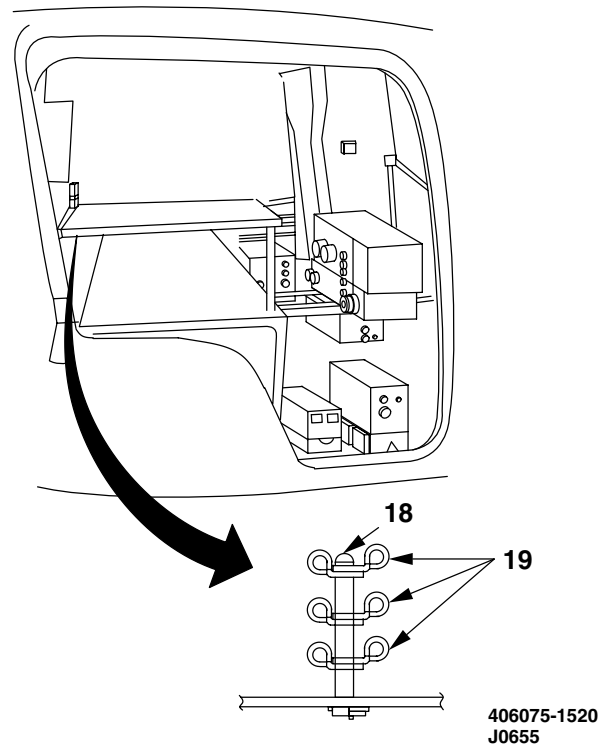


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10-2-4. ELECTRICAL WIRING/CABLING (AVIONICS COMPARTMENT) — REMOVAL/INSTALLATION (CONT)

23. Place cable clamps (19) in position and align holes. Install screw (18).



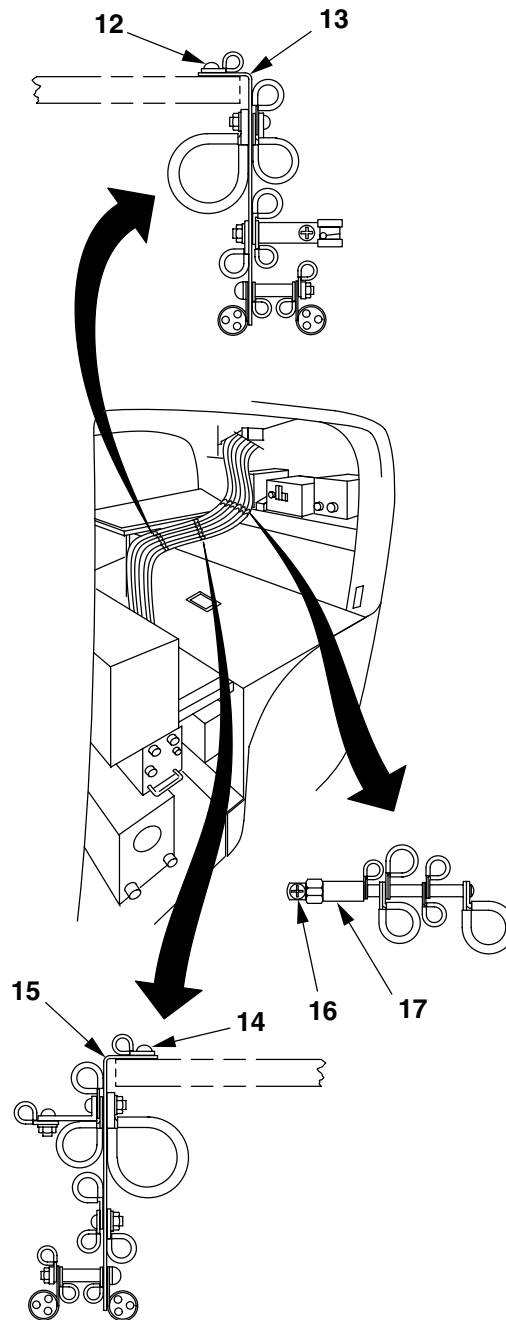
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10-2-4. ELECTRICAL WIRING/CABLING (AVIONICS COMPARTMENT) — REMOVAL/INSTALLATION (CONT)

24. Place cable mounting bracket (17) in position and align holes. Install screw (16).

25. Place cable mounting bracket (15) in position and align holes. Install screw (14).

26. Place cable mounting bracket (13) in position and align holes. Install screw (12).



406075-1519
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GO TO NEXT PAGE

10-2-4. ELECTRICAL WIRING/CABLING (AVIONICS COMPARTMENT) — REMOVAL/INSTALLATION (CONT)

27. Place each of two cable clamps (11) in position and align holes. Install screws (10).

28. Connect data bus couplers (9) at fuel cell, if previously removed.

29. Connect data bus couplers (8) at fuel cell, if previously removed.

30. Remove three screws (2) and cover (3) from top of fuel probe (4).

31. Remove six screws (5) and washers (6) from fuel probe (4).

32. Install wires (7), washers (6) and six screws (5).

33. Remove identification tags from wires.

34. Position cover (3) onto top of fuel probe (4) and align with mounting holes.

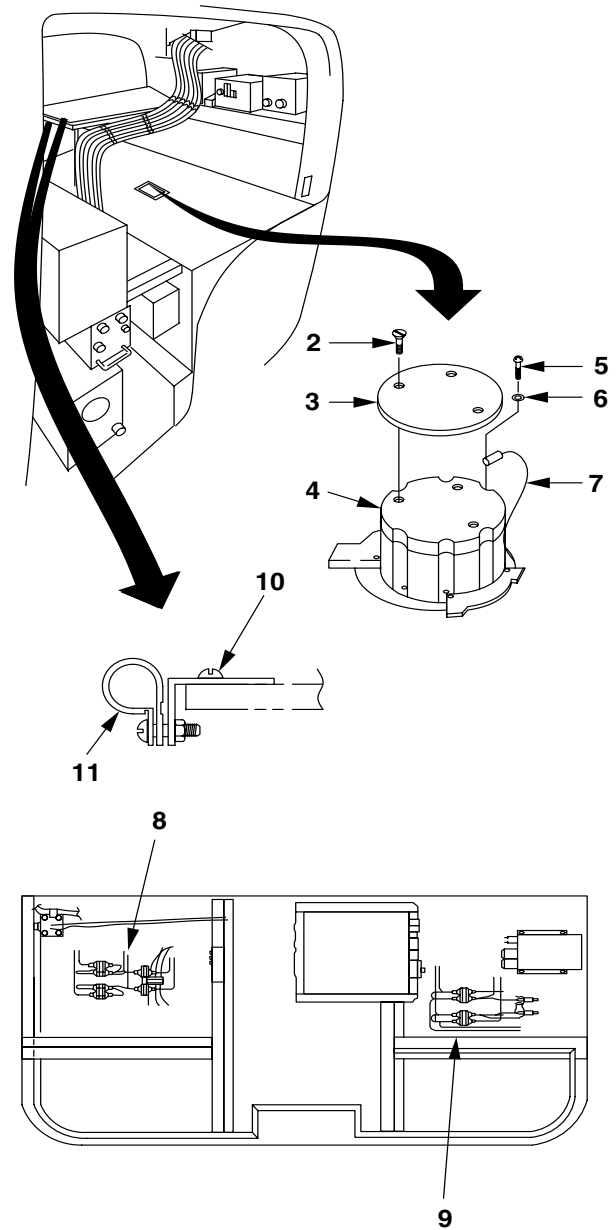
35. Install three screws (2).

36. Close access to fuel probe installation (1) near center of fuel cell.

INSPECT

FOLLOW-ON MAINTENANCE

Install avionics equipment components on top of fuel cell removable cover in avionics compartment (TM 11-1520-248-23).



VIEW LOOKING AFT
AT STATION 96.44

406075-1518
J2472

END OF TASK

10-2-5. FUEL INDICATING SYSTEM — CHECKING

This task covers: Checking (On Helicopter)

INITIAL SETUP

Applicable Configurations:
All

Material:
JP-8 Fuel (D110)

Personnel Required:
67S Scout Helicopter Technical Inspector (TI)
68F Aircraft Electrician
Maintenance Test Pilot

References:
TM 1-1520-248-MTF
TM 1-1520-248-T

Equipment Condition:
Helicopter Safed (Task 1-6-7)
Helicopter Defueled (Task 1-4-3 or 1-4-4)
All Circuit Breakers — Closed
(Overhead Console/Center Post Circuit Breaker
Panel, Nose, and Aft Electrical Compartment)
All Switches — OFF

GO TO NEXT PAGE

10-2-5. FUEL INDICATING SYSTEM — CHECKING (CONT)

1. On overhead console (1) and center post circuit breaker panel (2) open following circuit breakers:

- IGN (3)
- START (4)
- PART SEP BLWR (5)
- HF (6)

2. Apply 28 Vdc external power (Task 1-6-5).

3. Prior to servicing fuel (tank empty) observe FUEL LOW CAUTION is displayed on both MFDs and verify MFD digital display and FUEL QTY vertical scale indicator indicate zero. If check is not satisfactory refer to TM 1-1520-248-T.



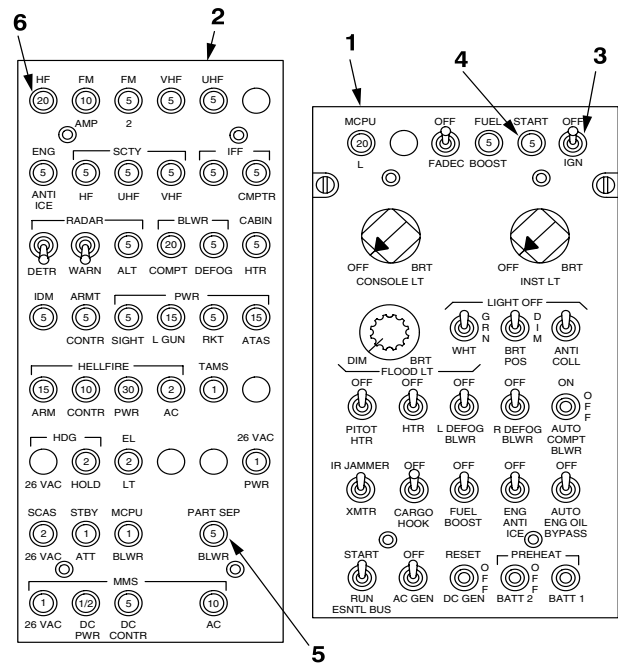
Jet Fuel

4. Add 2.2 gallons (14 pounds) of JP-8 (D110) fuel to tank (Task 1-4-2) and verify MPD digital display and FUEL QTY vertical scale indicator indicates zero (14 pounds is unusable fuel). If check is not satisfactory refer to TM 1-1520-248-T.

5. Begin fueling helicopter (Task 1-4-2). Observe FUEL LOW CAUTION is not cleared until 15 gallons of JP-8 (D110) usable fuel have been loaded. Verify MPD digital display and FUEL QTY vertical scale indicator indicate minimum of 100.5 pounds of fuel loaded. If check is not satisfactory refer to TM 1-1520-248-T.

NOTE

The FUEL LOW CAUTION message may not be cleared until the aircraft is fueled with a minimum 100.5 pounds of JP-8 fuel but less than 134 pounds (20 gallons) of fuel.



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6. Remove 28 Vdc external power (Task 1-6-5).

7. Close circuit breakers.

INSPECT

FOLLOW-ON MAINTENANCE

Maintenance test pilot perform MOC/MTF (TM 1-1520-248-MTF)

END OF TASK

GLOSSARY

<u>Abbreviation/ Acronym</u>	<u>Definition</u>
AC	Alternating Current
ACK	Acknowledge
ADF	Automatic Direction Finder
ADS	Air Data System
ADSS	ANVIS Display Symbology System
ADU	Audio Distribution Unit
ADV	Advisory
AEU	Armament Electronic Unit
AI	Airborne Intercept
AJ	Antijamming
ALSE	Aviation Life Support Equipment
ALT	Altitude
AM	Amplitude Modulation
AMP	Ampere
AMP	Amplifier
ANVIS	Aviators Night Vision Imaging System
AOAP	Army Oil Analysis Program
APU	Aircraft Power Unit
AR	Army Regulation
ARMT	Armament
ASE	Aircraft Survivability Equipment
ATAS	Air-to-Air Stinger
ATHS	Airborne Target Handover System
ATTD	Attitude
AUTO	Automatic
AUX	Auxiliary
AVIM	Aviation Intermediate Maintenance
AVTR	Airborne Video Tape Recorder
AVUM	Aviation Unit Maintenance
AWG	American Wire Gauge
BATT	Battery
B HOT	Black Hot
BIT	Built-In Test
BITE	Built-In Test Equipment
BKUP	Backup

Glossary (Cont)

<u>Abbreviation/ Acronym</u>	<u>Definition</u>
BL	Butt Line
BLWR	Blower
BNR	Burner
BRSIT	Boresight
BRT	Bright
CAGE	Commercial and Government Entity Code
CARC	Chemical Agent Resistant Coating
CB	Circuit Breaker
CDS	Control Display System
CFT	Captive Flight Trainer
CG	Center of Gravity
CHGR	Charger
CIPH	Cipher
CIT	Compressor Inlet Temperature Sensor
CKPT	Cockpit
CKPT LT	Cockpit Light
CL	Center Line
CLR	Clear
COLL	Collision
COMSEC	Communication Security
CPC	Corrosion Preventive Compound
CPG	Copilot/Gunner
CRES	Corrosion Resistant Steel
CTRL	Control
DA PAM	Department of the Army Pamphlet
DC	Direct Current
DEFOG	Windshield Defogger System
DES	Designation
DETR	Detector
DIGT	Digital
DIR	Directional
DISENG	Disengage
DN	Down
DOD	Department of Defense
DRA	Data Rate Adapter
DSC	Digital Scan Converter

Glossary (Cont)

<u>Abbreviation/ Acronym</u>	<u>Definition</u>
DSPL	Display
DTS	Data Transfer System
DX	Direct Exchange
ECU	Electronic Control Unit
ECUIC	Electronic Control Unit Interface Computer
EGI	Embedded Global Position/Inertial Navigation
ELEV	Elevation
EMI	Electromagnetic Interference
ENG	Engine
ENGA	Engage
ESC	Electronic Supervisory Control
ESNTL	Essential
EU	Electronics Unit
EXT	External
FADEC	Full Authority Digital Electronic Control
FCU	Fuel Control Unit
FDLS	Fault Detection and Locating System
FFAR	Folding Fin Aerial Rocket
FM	Frequency Modulation
FOC	Focus
FOV	Field-of-View
FR	Frame
FREQ	Frequency
FRZ	Freeze
FS	Fuselage Station
FWD	Forward
FXD	Fixed
GEN	Generator
GRBX	Gearbox
GSE	Ground Support Equipment
HDG	Heading
HF	High Frequency
HHM	Heading Hold Mode
HLFR	Hellfire
HMS	HELLFIRE Missile System
HMU	Hydromechanical Unit

Glossary (Cont)

<u>Abbreviation/ Acronym</u>	<u>Definition</u>
HOM	Homing (FM)
HSD	Horizontal Situation Display
HSF	Hot Section Factor
HTR	Heater
HYD	Hydraulic
ICS	Internal Communication System
ID	Inside Diameter
IDM	Improved Data Modem
IEU	Interface Electronics Unit
IFF	Identification Friend or Foe
IFM	Improved Frequency Modulation
IGN	Ignition
INIT	Initiate
INST	Instrument
INST LT	Instrument Light
INTCOM	Intercommunication
INV	Inverter
IR	Infrared
ISP	Integrated Systems Processor
JETT	Jettison
KM	Kilometer
KPH	Kilometers Per Hour
KTS	Knots
KYBD	Keyboard
LAT	Latitude
LCF	Low Cycle Fatigue
LDS	Laser Detecting System
LOAL	Lock On After Launch
LOBL	Lock On Before Launch
LRF/D	Laser Rangefinder/Designator
LRU	Line Replaceable Unit
LT	Light
L/H	Left Hand
LVDT	Linear Variable Differential Transformer
MAC	Maintenance Allocation Chart
MAINT	Maintenance

Glossary (Cont)

<u>Abbreviation/ Acronym</u>	<u>Definition</u>
MAPS	Maintenance Action Precise Symptom
MCPS	MMS Central Power Supply
MCPU	Master Controller Processor Unit
MFD	Multifunction Display
MFK	Multifunction Keyboard
MLM	Multipurpose Lightweight Missile
MMS	Mast Mounted Sight
MMSS	Mast Mounted Sight Subsystem
MNL	Manual
MOC	Maintenance Operational Check
MOM	Moment
MPD	Multiparameter Display
MPLH	Multi Purpose Light Helicopter
M/R	Main Rotor
MOS	Military Occupational Specialty
MSDS	Material Safety Data Sheets
MSP	MMS System Processor
MSS	Missile Sight System
MSSEU	Missile Sight System Electronics Unit
MTA	Mast Turret Assembly
MTF	Maintenance Test Flight
MWO	Modification Work Order
MUX	Multiplex
NAV	Navigation
NBC	Nuclear Biological and Chemical
NG	Gas Generator Speed
NICAD	Nickel-Cadmium Battery
NOE	Nap-of-the-Earth
NP	Power Turbine RPM
NR	Main Rotor RPM
NSN	National Stock Number
NVG	Night Vision Goggles
OAT	Outside Air Temperature
OD	Outside Diameter
ODA	Optical Display Assembly
OPR	Operate

Glossary (Cont)

<u>Abbreviation/ Acronym</u>	<u>Definition</u>
OS	Overspeed
OSET	Offset
OSHA	Occupational Safety and Health Administration
PART SEP	Particle Separator
PDU	Pilot Display Unit
PLT	Pilot
PMA	Permanent Magnet Alternator
POS	Position
POS LT	Position Light
PPM	Progressive Phase Maintenance
PSI	Pounds Per Square Inch
PSID	Pounds Per Square Inch Differential
PSIG	Pounds Per Square Inch Gauge
PWR	Power
QAD	Quick Attach-Detach
QE	Engine Torque
QM	Mast Torque
QTY	Quantity
RALT	Radar Altimeter
RAST	Raster
RCCB	Remote Control Circuit Breaker
RCPT	Receptacle
RDS	Radar Detecting System
REC	Receive
RECT	Rectifier
REL	Release
RET	Retract
RFD	Remote Frequency Display
RHE	Remote HELLFIRE Electronics Unit
RKT	Rocket
RPM	Revolutions Per Minute
RPSTL	Repair Parts and Special Tools List
RST	Reset
RT	Receiver/Transmitter
R/H	Right Hand
SAM	Surface-To-Air Missile

Glossary (Cont)

<u>Abbreviation/ Acronym</u>	<u>Definition</u>
SCAS	Stability and Control Augmentation System
SCTY	Security
SEL	Select
SEU	Sight Electronics Unit
SINCGARS	Single Channel Ground/Air Radio System
SMR	Source, Maintenance, and Recoverability
SRCH	Search
STA	Station
STBY	Standby
SYMB	Symbology
TACFIRE	Tactical Fire Direction
TAMS	Transmission Attitude Measurement System
TB	Technical Bulletin
TBD	To Be Designated
TBO	Time Between Overhaul
TCU	Thermal Control Unit
TEMP	Temperature
TGT	Turbine Gas Temperature
TGT/TRQ	Turbine Gas Temperature/Torque
TI	Technical Inspector
TIS	Thermal Imaging Sensor
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TMOPS	Torquemeter Oil Pressure Sensor
T/R	Tail Rotor
TRK	Track
TRQ	Torque
TRU	Transformer Rectifier Unit
TVS	Television System
UHF	Ultra High Frequency
U/M	Unit of Measure
UTM	Universal Transverse Mercator
UUT	Unit Under Test
UWP	Universal Weapons Pylon
VAC	Volts Alternating Current
VAR	Variation

Glossary (Cont)

<u>Abbreviation/ Acronym</u>	<u>Definition</u>
VDC	Volts Direct Current
■ VDU	Video Downlink/Uplink
VHF	Very High Frequency
VID	Video
VSD	Vertical Situation Display
VSI	Vertical Scale Instrument
VTR	Video Tape Recorder
VTS	Video Tracker System
VTVM	Vacuum Tube Voltmeter
WDC	Water Displacing Compound
WL	Water Line
WRN	Warning
WSPS	Wire Strike Protection System
XDCR	Transducer (Sensor)
XFMR	Transformer
XMSN	Transmission

ALPHABETICAL INDEX

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
26V Auto Transformer — Cleaning/Inspection/Repair	9-4-12		
26V Auto Transformer — Removal/Installation	9-4-13		
28 VDC AUX RCPT, Circuit Breaker — Removal/Installation	9-6-79		
A			
AC External Power Door Switch — Cleaning/Inspection/Repair	9-4-1		
AC External Power Door Switch — Removal/Installation	9-4-2		
AC External Power Receptacle — Cleaning/Inspection/Repair	9-4-3		
AC External Power Receptacle — Removal/Installation	9-4-4		
AC External Power Reset Switch — Cleaning/Inspection/Repair	9-4-5		
AC External Power Reset Switch — Removal/Installation	9-4-6		
AC Generator — Cleaning/ Inspection/Repair	9-4-7		
AC Generator — Installation	9-4-9		
AC Generator — Removal	9-4-8		
AC Power (External) — Application/Removal	1-6-6		
AC Power Monitor Unit — Cleaning/Inspection/Repair	9-4-14		
AC Power Monitor Unit — Removal/Installation	9-4-15		
AN/ALQ-144 IR Jammer Mount (Replacement Tailboom), Countermeasures Set — Installation	2-3-14		
AN/ALQ-144 IR Jammer Mount, Countermeasures Set — Cleaning/Inspection/Repair	2-3-15		
AN/ALQ-144 IR Jammer Mount, Countermeasures Set — Removal/Installation	2-3-13		
Abbreviations (Appendix F)	F-3		
Access Door — Cleaning/ Inspection/Repair	2-2-1		
Access Door, Air Induction Cowl — Cleaning/Inspection/Repair	4-2-7		
Access Door, Air Induction Cowl — Removal/Installation	4-2-6		
Access Door, Air Inlet in — Removal/Installation	2-2-2		
Access Door Bonding Jumper (Typical) — Inspection/Repair/ Replacement	2-2-7		
Access Door Chafing Strip — Cleaning/Inspection/Repair	2-2-5		
		A (Cont)	
		Access Door Hinge Halves/Quick- Disconnect Pin/Lanyard — Cleaning/Inspection/Repair	2-2-4
		Access Door Latch Assembly — Cleaning/Inspection/Repair	2-2-3
		Access Door Turnlock Receptacles — Inspection/ Repair/Replacement	2-2-8
		Access Doors — Removal/ Installation	2-2-6
		Access Panel (Typical), Right or Left — Cleaning/Inspection/ Repair	2-2-84
		Access Panel (Typical), Right or Left — Removal/Installation	2-2-83
		Access Panels and Doors Cowlings Fairings	2-2
		Accessory Gearbox Seal, Engine — Removal/Installation	4-1-10
		Accident, Components Involved in an	E-1
		Acoustic Beacon, Underwater — Cleaning/Inspection/Repair	14-1-4
		Acoustic Beacon, Underwater — Removal/Installation	14-1-3
		Actuator, Collective Hydraulic — Removal/Installation	7-1-9
		Actuator, Cyclic Hydraulic — Removal/Installation	7-1-10
		Actuator, Directional Control Rotary — Cleaning/Inspection/ Repair	11-4-38
		Actuator, Directional Control Rotary — Removal/Installation	11-4-37
		Actuator Idler Bearing (AVIM) — Removal/Installation	11-4-29
		Actuator Input Idler Assembly, Directional Control — Removal/ Installation	11-4-28
		Actuator Mount Bushings, Collective/Cyclic — Removal/ Installation	11-2-55
		Actuator Support Assembly — Removal/Installation	11-2-62
		Actuator Support Assembly (AVIM) — Cleaning/Inspection/ Repair	11-2-63
		Actuator Support Bushing (AVIM) — Removal/Installation	11-4-31
		Actuators	7-2
		Actuators, Introduction to	7-3
		Actuators, Task List for	7-4

<u>Subject</u>	<u>Para/Task</u>
A (Cont)	
Adapter Assembly (AVIM), Main Rotor Grip and — Removal/Installation	5-1-38
Adapter Assembly, Main Rotor Yoke — Cleaning/Inspection/Repair.....	5-1-26
Adapter Assembly, Torquemeter System Antibacklash — Installation	6-4-14
Adapter Assembly, Torquemeter System Antibacklash — Removal	6-4-12
Adapter Assembly Components, Antibacklash — Cleaning/Inspection/Repair.....	6-4-13
Adapter Mount Bushings (AVIM), Main Rotor Yoke — Removal/Installation	5-1-27
Adapter Nut/Input Duplex Bearing Nut, Input — Cleaning/Inspection/Repair.....	6-7-7
Adapter, Clevis — Cleaning/Inspection/Repair.....	7-1-8
Adapter, Clevis — Removal/Installation	7-1-7
Adapter/Bearing Hanger/Segmented Shaft (Typical) — Removal/Installation	6-6-9
Adhesive and Structural Bonding (AVIM), Heat Resistant — Use	2-2-66
Adjustable Tube Assembly — Disassembly/Assembly	11-2-61
Adjustable Tube Assembly — Removal/Installation	11-2-60
Adjustable Tube Assembly, Collective — Removal/Installation	11-2-50
Adjustable Tube Assembly (Typical), Cyclic — Removal/Installation	11-3-32
Adjustable Tube Assembly Controls — Removal/Installation	11-3-37
Adjustable Tube Assembly Rod End Bearing (Typical), Cyclic — Removal/Installation	11-3-33
Adjustable Tube Bearing (Typical), Directional Control — Removal/Installation	11-4-27
Adjustment and Support Assembly, Directional Control Pedal — Removal/Installation.....	11-4-1
Adjustment and Support Assembly, Pedal — Cleaning/Inspection/Repair.....	11-4-3

<u>Subject</u>	<u>Para/Task</u>
A (Cont)	
Adjustment Nut, Collective Jackshaft — Removal/Installation	11-2-18
Aft Crosstube — Cleaning/Inspection/Repair.....	3-1-35
Aft Crosstube — Removal/Installation	3-1-33
Aft Crosstube (Nonstandard) — Cleaning/Inspection/Repair	3-1-38
Aft Crosstube (Rapid Deployment) — Cleaning/Inspection/Repair.....	3-1-37
Aft Crosstube (Rapid Deployment) — Removal/Installation	3-1-34
Aft Crosstube Components — Cleaning/Inspection/Repair	3-1-41
Aft Crosstube Components — Removal/Installation	3-1-39
Aft Crosstube Components (Rapid Deployment) — Removal/Installation	3-1-40
Aft Crosstube Support Assembly — Cleaning/Inspection/Repair	3-1-8
Aft Crosstube Support Assembly (Rapid Deployment) — Cleaning/Inspection/Repair	3-1-9
Aft Crosstube Support Beam Bushing (AVIM) — Removal/Installation	3-1-47
Aft Crosstube Support Beam and Components — Removal/Installation	3-1-43
Aft Crosstube Support Beam and Components (Rapid Deployment) — Cleaning/Inspection/Repair.....	3-1-46
Aft Crosstube Support Beam and Components (Rapid Deployment) — Removal/Installation	3-1-44
Aft Crosstube Support Beam Components — Cleaning/Inspection/Repair.....	3-1-45
Aft Crosstube Support Strap (Rapid Deployment Gear) — Installation/Removal	1-6-4
Aft Crosstube Support Strap (Standard Gear) — Installation/Removal	1-6-3
Aft Crosstube Supports (Rapid Deployment) — Cleaning/Inspection/Repair.....	3-1-42
Aft Electrical/Avionics Door — Cleaning/Inspection/Repair	2-2-90

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
A (Cont)		A (Cont)	
Aft Electrical/Avionics Door — Removal/Installation	2-2-89	Air Induction Cowl (Compressor Inlet Temperature Sensor Installed) — Removal.....	4-2-2
Aft Fairing Assembly — Cleaning/ Inspection/Repair.....	2-2-57	Air Induction Cowl Access Door — Cleaning/Inspection/Repair	4-2-7
Aft Fairing Assembly — Removal/ Installation	2-2-55	Air Induction Cowl Access Door — Removal/Installation	4-2-6
Aft Fairing Assembly Engine Oil Service Door — Removal/ Installation	2-2-59	Air Inlet in Access Door — Removal/Installation	2-2-2
Aft Fairing Extension — Cleaning/ Inspection/Repair.....	2-2-58	Air Thermometer, Outside — Cleaning/Inspection/Removal/ Installation	8-5-5
Aft Fairing Extension — Removal/ Installation	2-2-56	Aircraft Drains (Appendix Q)	Q-10
Aft Firewall	4-24	Aircraft Weighing Record, DD Form 365-2 —.....	G-9
Aft Firewall — Cleaning/ Inspection/Repair.....	4-9-2	Airframe	1-24, 2-1
Aft Firewall Assembly — Removal/Installation	4-9-1	Airframe (Flyable Storage)	E-14
Aft Firewall Pan — Removal/ Installation	4-9-3	Airframe (Intermediate Storage)	E-42
Aft Firewall Seal — Removal/ Installation	4-9-4	Airframe (Short Term Storage)	E-27
Aft Force Gradient, Fore-and- — Cleaning/Inspection/Repair	11-3-2	Airspeed Indicator, Standby — Cleaning/Inspection/Repair	8-2-5
Aft Force Gradient, Fore-and- — Removal/Installation	11-3-1	Airspeed Indicator, Standby — Removal/Installation	8-2-6
Aft Ng Cable Uniball Bearing and Cap — Removal/Cleaning/ Inspection/Installation	4-6-4	Alighting Gear	3-1
Aft Short Shaft Assembly — Cleaning/Inspection/Repair	6-6-5	Aliphatic Polyurethane Top Coatings (AVIM) — Use	2-2-65
Aft Short Shaft Assembly — Removal/Installation	6-6-4	Allocation Chart, Maintenance.....	B-1
Aft Support Bracket, Ng Engine Cable — Removal/Installation	4-6-5	Allocation Chart Remarks, Maintenance	B-12
Aft Transverse Beam — Cleaning/ Inspection/Repair.....	2-4-11	Alternate Skid Shoe — Conversion to	3-1-18
Aft Walking Beam, Directional Control — Removal/Installation	11-4-40	Alternate Skid Shoe — Removal/ Installation/Cleaning/Inspection	3-1-18.1
Aft Walking Beam Bearing (AVIM), Directional Control — Removal/Installation	11-4-41	Alternating Current Power and Distribution System.....	9-11
Aid Kit, First — Removal/ Inspection/Installation	14-1-2	Alternating Current Power and Distribution System, Introduction to	9-12
Air Data Systems, Introduction to Pitot-Static Instrument and	8-9	Alternating Current Power and Distribution System, Task List for	9-13
Air Data Systems, Pitot-Static Instrument and	8-8	Altimeter, Standby — Cleaning/ Inspection/Repair.....	8-2-1
Air Data Systems, Task List for Pitot-Static Instrument and	8-10	Altimeter, Standby — Removal/ Installation	8-2-2
Air Induction	4-5	Amplifier-Coupler Mounting Tray, HF — Removal/Installation	9-2-3
Air Induction Cowl — Cleaning/ Inspection/Repair.....	4-2-3	Anchor Ball Assembly, CPG Cyclic Stick Quick-Disconnect — Cleaning/Inspection/Repair	11-3-90
Air Induction Cowl (Compressor Inlet Temperature Sensor Installed) — Installation	4-2-5	Antibacklash Adapter Assembly, Torquemeter System — Installation	6-4-14
		Antibacklash Adapter Assembly, Torquemeter System — Removal	6-4-12

<u>Subject</u>	<u>Para/Task</u>
A (Cont)	
Antibacklash Adapter Assembly Components — Cleaning/ Inspection/Repair	6-4-13
Anticollision Light (Typical) — Installation	9-5-3
Anticollision Light (Typical) — Removal	9-5-2
Anticollision Light Flasher — Installation	9-5-5
Anticollision Light Flasher — Removal	9-5-4
Antidrive Lever, Main Rotor Controls — Installation	5-2-27
Antidrive Lever, Main Rotor Controls — Removal	5-2-25
Antidrive Lever (AVIM), Main Rotor Controls — Cleaning/ Inspection/Repair	5-2-26
Antidrive Link, Main Rotor Controls — Installation	5-2-30
Antidrive Link, Main Rotor Controls — Removal	5-2-28
Antidrive Link (AVIM), Main Rotor Controls — Cleaning/ Inspection/Repair	5-2-29
Approved Servicing Tables	1-43
Areas (Appendix Q), Engine	Q-9
Arm Rod End, Throttle — Removal/Installation	4-6-7
Arm, Droop Compensator Potentiometer — Cleaning/ Inspection/Repair	11-2-54
Armament, Mission Equipment	1-38
Armament Control Panel — Removal/Installation	9-8-1
Armament Control Panel, Integrally Lit Panel on — Removal/Installation	9-8-2
Armament Electrical Equipment	9-23
Armament Electrical Equipment, Introduction to	9-24
Armament Electrical Equipment, Task List for	9-25
Armament Electronics Unit (AEU) — Cleaning/Inspection/Repair	9-8-3
Armament Electronics Unit (AEU) — Removal/Installation	9-8-4
Armor Panels — Cleaning/ Inspection/Repair	2-2-43
Armor Panels (Typical) — Removal/Installation	2-2-42
Armor Panels, Crew — Cleaning/ Inspection/Repair	2-2-41
Armor Panels (Typical), Crew — Removal/Installation	2-2-40

<u>Subject</u>	<u>Para/Task</u>
A (Cont)	
Armor Seat Panel, Crew Seat and — Removal/Installation	2-2-33
Army Material to Prevent Enemy Use, Destruction of	1-4
Assurance/Quality Control (QA/ QC), Quality	1-6
Attach Bolts, Tailboom — Cleaning/Inspection	2-3-4
Attach Bolts, Tailboom — Cleaning/Inspection/Repair	2-3-5
Attach Fittings, Tailboom and Aft Fuselage — Cleaning/ Inspection/Repair	2-3-3
Attenuating Wire, Energy — Cleaning/Inspection/Repair	2-2-39
Attenuating Wire, Energy — Removal/Installation	2-2-38
Attitude Indicator, Standby — Cleaning/Inspection/Repair	8-2-3
Attitude Indicator, Standby — Removal/Installation	8-2-4
AUTO/MAN switch (FADEC) (OH-58D(R)) — Removal/Installation	9-6-16.1
Auto Transformer, 26V — Cleaning/Inspection/Repair	9-4-12
Auto Transformer, 26V — Removal/Installation	9-4-13
Autorotation RPM, Main Rotor — Adjustment	5-3-1
Auxiliary Circuit Breaker Panel — Lowering	9-6-81
Auxiliary Circuit Breaker Panel — Raising	9-6-82
Auxiliary Circuit Breaker Panel-Typical, Circuit Breaker — Removal/Installation	9-6-83
Auxiliary Control Panel, Integrally Lit Panel CPG — Installation	9-6-69
Auxiliary Control Panel, Integrally Lit Panel CPG — Removal	9-6-68
Auxiliary Control Panel, Integrally Lit Panel Pilot MFD — Installation	9-6-72
Auxiliary Control Panel, Integrally Lit Panel Pilot MFD — Removal	9-6-71
Auxiliary Control Panel-Typical, Switch CPG — Removal/ Installation	9-6-70
Auxiliary Control Panel-Typical, Switch Pilot MFD — Removal/ Installation	9-6-73
Avionic Cooling System Blower — Installation	9-1-3
Avionic Cooling System Blower — Removal	9-1-2

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
A (Cont)		B (Cont)	
Avionic Cooling System Components — Cleaning/ Inspection/Repair.....	9-1-1	Basic Weight Checklist, DD Form 365-1 —	G-8
Avionic Cooling System Flexible Air Duct Coupling — Removal/ Installation	9-1-6	Basic Weight and Balance Record, DD Form 365-3 —	G-10
Avionic Cooling System Motor Intake Duct Assembly — Removal/Installation	9-1-4	Battery Ballast — Removal/ Cleaning/Inspection/Installation	2-2-100
Avionic Cooling System Thermo Switch (Typical) — Removal/ Installation	9-1-5	Battery Preheat Indicator Light — Removal/Installation	9-3-6
Avionic System Mounts	9-5	Battery Preheat Indicator Lights — Cleaning/Inspection/Repair	9-3-5
Avionic System Mounts, Introduction to	9-6	Beacon, Underwater Acoustic — Cleaning/Inspection/Repair	14-1-4
Avionic System Mounts, Task List for	9-7	Beacon, Underwater Acoustic — Removal/Installation	14-1-3
Avionics, Mission Equipment	1-37	Beam, Aft Transverse — Cleaning/Inspection/Repair	2-4-11
Avionics Cooling System	9-2	Beam, Directional Control Aft Walking — Removal/Installation	11-4-40
Avionics Cooling System, Introduction to	9-3	Beam (AVIM), Forward Transverse — Cleaning/ Inspection/Repair	2-4-10
Avionics Cooling System, Task List for	9-4	Beam Assemblies (AVIM), Transverse — Removal/ Installation	2-4-12
Avionics Equipment (Flyable Storage).....	E-10	Beam Assembly — Cleaning/ Inspection/Repair	2-4-7
Avionics Equipment (Intermediate Storage).....	E-36	Beam Components, Aft Crosstube Support — Cleaning/Inspection/ Repair.....	3-1-45
Avionics Equipment (Short Term Storage).....	E-21	Bearing, Collective Jackshaft Friction Adjustment — Removal/Installation	11-2-19
Avionics Support — Cleaning/ Inspection/Repair.....	2-2-82	Bearing, Directional Control Servoactuator Trunnion — Cleaning/Inspection/Repair	7-1-4
B		Bearing, Jackshaft Support Assembly — Cleaning/ Inspection/Repair	11-2-39
BRT Control Knob, Multiparameter Display — Removal/Installation	8-1-2	Bearing, Jackshaft Support Assembly — Removal/ Installation	11-2-38
Back Cushion — Cleaning/ Inspection/Repair.....	2-2-21	Bearing, Pivot Support — Cleaning/Inspection/Repair	11-3-43
Back Cushion — Removal/ Installation	2-2-20	Bearing (AVIM), Actuator Idler — Removal/Installation	11-4-29
Backrest (Typical) — Cleaning/ Inspection/Repair.....	2-2-30	Bearing (AVIM), CPG Cyclic Stick Plate Assembly — Removal/ Installation	11-3-72
Backrest (Typical) — Removal/ Installation	2-2-29	Bearing (AVIM), CPG Cyclic Stick Support Assembly — Removal/ Installation	11-3-70
Balance Data, Weight and	G-2	Bearing (AVIM), Directional Control Aft Walking Beam — Removal/Installation	11-4-41
Balancing, Main Rotor Tracking and	5-8		
Balancing, Main Rotor Tracking and Dynamic	5-3-2		
Ball and MMS Hoist Ball (Rapid Deployment), MMS Platform — Cleaning/Inspection/Repair	3-1-54		
Ballast, Battery —Removal/ Cleaning/Inspection/Installation	2-2-100		

<u>Subject</u>	<u>Para/Task</u>
B (Cont)	
Bearing (AVIM), Directional Control Pedal — Removal/ Installation	11-4-5
Bearing (AVIM), Pivot Assembly — Removal/Installation	11-3-49
Bearing (AVIM), Tail Rotor Bellcrank — Removal/ Installation	11-4-44
Bearing (AVIM), Torquemeter Support — Removal/Installation	6-4-7
Bearing (AVIM), Transducer Bellcrank — Removal/ Installation	11-4-16
Bearing (Typical), Cyclic Adjustable Tube Assembly Rod End — Removal/Installation	11-3-33
Bearing (Typical), Directional Control Adjustable Tube — Removal/Installation	11-4-27
Bearing Assembly, Torquemeter Support and — Installation	6-4-11
Bearing Assembly, Torquemeter Support and — Removal	6-4-5
Bearing Assembly, Trunnion — Cleaning/Inspection/Repair	11-2-8
Bearing Assembly, Trunnion — Removal/Installation	11-2-7
Bearing Hanger, Tail Rotor — Alignment	6-6-17
Bearing Hanger Assembly, Components of Shaft and — Cleaning/Inspection/Repair	6-6-10
Bearing Hanger Assembly, Shaft and — Removal/Installation	6-6-8
Bearing Hanger Brackets, Fan Shaft (Forward and Aft) — Removal/Installation	6-6-15
Bearing Hanger Supports, Tailboom — Cleaning/ Inspection/Repair	2-3-9
Bearing Hanger Supports, Tailboom — Removal/ Installation	2-3-10
Bearing Hanger/Segmented Shaft (Typical), Adapter/ — Removal/ Installation	6-6-9
Bearing Hangers/Bearings/ Impeller/Fan Shaft/Blower Housing — Cleaning/ Inspection/Repair	6-6-13
Bearing Hangers/Bearings/ Impeller/Fan Shaft/Blower Housing — Removal/ Installation	6-6-12

<u>Subject</u>	<u>Para/Task</u>
B (Cont)	
Bearing in Force Gradient Cylinder (AVIM) — Removal/ Installation	11-3-3
Bearing Sleeve (AVIM), Combining Bellcrank — Removal/Installation	11-4-12
Bearing and Sleeve (AVIM), Directional Control Force Gradient — Removal/ Installation	11-4-34
Bearings, CPG Cyclic Stick Housing Assembly — Removal/ Installation	11-3-82
Bearings, Pilot Collective Elbow Assembly — Removal/ Installation	11-2-41
Bearings (AVIM), Boosted Bellcrank Assembly — Removal/Installation	11-3-40
Bearings (AVIM), Pilot Cyclic Fitting Assembly — Removal/ Installation	11-3-61
Bellcrank, Directional Control Combining — Removal/ Installation	11-4-11
Bellcrank, Directional Control Lower Tunnel — Removal/ Installation	11-4-20
Bellcrank, Directional Control Pedal — Removal/Installation	11-4-7
Bellcrank, Directional Control Upper Tunnel — Removal/ Installation	11-4-23
Bellcrank, Tail Rotor — Removal/ Installation	11-4-43
Bellcrank Assembly, Boosted — Cleaning/Inspection/Repair	11-3-39
Bellcrank Assembly, Boosted — Removal/Installation	11-3-38
Bellcrank Assembly, Collective Boosted — Removal/ Installation	11-2-56
Bellcrank Assembly, Cyclic Mixer — Removal/Installation	11-3-28
Bellcrank Assembly (AVIM), Collective Boosted — Cleaning/ Inspection/Repair	11-2-57
Bellcrank Assembly (AVIM), Cyclic Mixer — Cleaning/ Inspection/Repair	11-3-31
Bellcrank Assembly Bearings, Input Cyclic Control — Cleaning/Inspection/Repair	11-3-35
Bellcrank Assembly Bearings, Input Cyclic Control — Removal/Installation	11-3-34

<u>Subject</u>	<u>Para/Task</u>
B (Cont)	
Bellcrank Assembly Bearings (AVIM), Boosted — Removal/Installation	11-3-40
Bellcrank Assembly Bearings (AVIM), Input Cyclic Control — Repair.....	11-3-36
Bellcrank Assembly Clevis, Cyclic Mixer — Cleaning/Inspection/Repair.....	11-3-29
Bellcrank Assembly Rod End Bearing, Cyclic Mixer — Cleaning/Inspection/Repair	11-3-30
Bellcrank Bearing (AVIM), Tail Rotor — Removal/Installation	11-4-44
Bellcrank Bearing (AVIM), Transducer — Removal/Installation	11-4-16
Bellcrank Bearing Sleeve (AVIM), Combining — Removal/Installation	11-4-12
Bellcrank and Support, Directional Control Transducer — Removal/Installation	11-4-15
Bellcrank Support Bushing (AVIM), Transducer — Removal/Installation	11-4-17
Bellcranks Idlers and Walking Beams, Flight Control — Cleaning/Inspection/Repair	11-5-2
Bellmouth — Removal/Installation	4-8-3
Bellows Assembly, Engine Control Cable — Removal/Installation	4-6-6
Blade (AVIM), Main Rotor — Refinishing	5-1-41
Blade Assembly, Main Rotor and Hub	5-2
Blade Assembly, Main Rotor Hub and — Removal	5-1-1
Blade Inboard Erosion Strip, Main Rotor — Repair	5-1-47
Blade Inboard Erosion Strip (AVIM), Main Rotor — Repair/Replacement	5-1-49
Blade Outboard Erosion Strip, Main Rotor — Repair.....	5-1-46
Blade Skin by Patching (AVIM), Main Rotor — Repair.....	5-1-40
Blade Trailing Edge, Main Rotor — Repair.....	5-1-45
Blade Trim Tab, Main Rotor — Repair.....	5-1-43
Blade Trim Tab (AVIM), Main Rotor — Removal/Installation	5-1-42
Blades, Main Rotor — De-Icing	1-4-12

<u>Subject</u>	<u>Para/Task</u>
B (Cont)	
Blades, Main Rotor — Folding/Unfolding (Alternate Method)	1-7-6
Blades, Main Rotor — Folding/Unfolding (Standard Method)	1-7-5
Blades, Main Rotor — Inspection	5-1-39
Blades, Main Rotor — Removal/Cleaning/Inspection/Installation	5-1-5
Blades, Tail Rotor Hub and	5-11
Blades (AVIM), Tail Rotor — Cleaning/Inspection/Repair/Refinishing	5-4-27
Blanket, Soundproofing Insulation — Removal/Installation	2-2-26
Bleed Air Heater Tube and Gasket — Removal/Installation	4-1-9
Bleed Air Tube Firesleeves — Cleaning/Inspection	12-1-14
Bleed Air Tube Firesleeves — Removal/Installation	12-1-13
Bleeding, Hydraulic System	7-5
Bleeding, Introduction to Hydraulic System.....	7-6
Bleeding, Task List for Hydraulic System.....	7-7
Block (Typical), Junction — Removal/Installation	9-6-51
Blower, Avionic Cooling System — Installation	9-1-3
Blower, Avionic Cooling System-Removal	9-1-2
Blower, Defogging — Removal/Installation	12-2-4
Board (Typical), Terminal — Removal/Installation	9-6-49
Bolt, Main Rotor Blade — Cleaning/Inspection/Repair	5-1-9
Bolt, Mount — Cleaning/Inspection/Repair.....	2-4-8
Bolts, Tailboom Attach — Cleaning/Inspection	2-3-4
Bolts, Tailboom Attach — Cleaning/Inspection/Repair	2-3-5
Bond (Appendix M), Test of	M-11
Bond Resistance (Appendix M).....	M-10
Bonding Classes (Appendix M), Electrical	M-3
Bonding Jumper (Typical), Access Door — Inspection/Repair/Replacement	2-2-7
Bonding Methods (Appendix M), Electrical	M-7
Bonding (Appendix M), Intended Use of	M-1
Bonding (AVIM), Heat Resistant Adhesive and Structural — Use	2-2-66

<u>Subject</u>	<u>Para/Task</u>
B (Cont)	
Bonds (Appendix M), Resistance of Electrical	M-5
Boost Pump — Cleaning/ Inspection	10-1-18
Boost Pump — Installation	10-1-19
Boost Pump — Removal	10-1-17
Boosted Bellcrank Assembly — Cleaning/Inspection/Repair	11-3-39
Boosted Bellcrank Assembly — Removal/Installation	11-3-38
Boosted Bellcrank Assembly, Collective — Removal/ Installation	11-2-56
Boosted Bellcrank Assembly (AVIM), Collective — Cleaning/ Inspection/Repair	11-2-57
Boosted Bellcrank Assembly Bearings (AVIM) — Removal/ Installation	11-3-40
Boosted Tube, Directional Control — Removal/Installation	11-4-39
Boosted Tube Assembly — Removal/Installation	11-3-41
Boot, Main Rotor Controls — Removal/Installation	5-2-17
Boot, Tail Rotor Gearbox — Removal/Installation	5-5-16
Boot Assembly, Transmission Lower — Removal/Cleaning/ Inspection/Installation	6-3-3
Box, Pilot Collective Stick Control Panel — Cleaning/Inspection/ Repair	11-2-28
Bracket, Cargo Hook Emergency Release Cable — Removal/ Installation	13-1-4
Bracket, Tail Rotor Counterweight — Cleaning/Inspection/Repair	5-4-22
Bracket, Transfer Unit Mounting — Removal/Installation	9-2-9
Brackets (Forward and Aft), Fan Shaft Bearing Hanger — Cleaning/Inspection/Repair	6-6-16
Brake, Fore-and-Aft Magnetic — Cleaning/Inspection/Repair	11-3-5
Brake, Fore-and-Aft Magnetic — Removal/Installation	11-3-4
Brake, Lateral Magnetic — Cleaning/Inspection/Repair	11-3-10
Brake, Lateral Magnetic — Installation	11-3-11
Brake, Lateral Magnetic — Removal	11-3-9
Breaker, Remote Control Circuit — Installation	9-6-35

<u>Subject</u>	<u>Para/Task</u>
B (Cont)	
Breaker, Remote Control Circuit — Removal	9-6-34
Breaker (28 VDC AUX RCPT), Circuit — Removal/Installation	9-6-79
Breaker (Auxiliary Circuit Breaker Panel-Typical), Circuit — Removal/Installation	9-6-83
Breaker (DC Equipment Electrical Assembly-Typical), Circuit — Installation	9-6-33
Breaker (DC Equipment Electrical Assembly-Typical), Circuit — Removal	9-6-32
Breaker (Nose Compartment-Typical), Circuit — Installation	9-6-37
Breaker (Nose Compartment-Typical), Circuit — Removal	9-6-36
Breaker in Center Post Circuit Breaker Panel-(Typical), Circuit — Removal/Installation	9-6-8
Breaker in Overhead Console (Typical), Circuit — Removal/ Installation	9-6-7
Breakers (Typical), Circuit — Cleaning/Inspection/Repair	9-6-3
Breather, Tail Rotor Gearbox — Removal/Cleaning/Installation	6-7-3
Breather Tube Assembly — Removal/Installation	6-3-12
Brushes, Starter-Generator — Inspection/Replacement	9-3-13
Buffers (AVIM), Main Rotor Yoke — Cleaning/Inspection/Repair	5-1-34
Bulb, Torquemeter Temperature — Removal/Installation	6-4-9
Bumper, Vertical Fin — Installation	2-3-19
Bumpers (AVIM), Main Rotor Yoke — Cleaning/Inspection/ Repair	5-1-36
Bumpers (AVIM), Main Rotor Yoke — Removal/Installation	5-1-35
Bus Coupler or Terminator (OH-58D(R)), Data — Cleaning/ Inspection/Repair	9-6-60
Bus Coupler or Terminator (OH-58D), Data — Cleaning/ Inspection/Repair	9-6-59
Bus Coupler or Terminator (Typical) (OH-58D), Data — Removal/Installation	9-6-61
Bus Coupler or Terminator (Typical) (OH-58D(R)), Data — Removal/Installation	9-6-62

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
B (Cont)		C	
Bushing, Copilot/Gunner Collective Elbow Assembly — Removal/Installation	11-2-47	COMSEC Unit 1 and 2, Panel Assembly — Removal/Repair/ Installation	9-2-10
Bushing, Directional Control Lower Tunnel Bellcrank — Removal/Installation	11-4-21	COMSEC Unit Mount, HF — Removal/Installation	9-2-1
Bushing (AVIM), Actuator Support — Removal/Installation	11-4-31	CPG Auxiliary Switch Panel, Integrally Lit Panel — Installation	9-6-69
Bushing (AVIM), CPG Cyclic Stick Gimbal Assembly — Removal/ Installation	11-3-66	CPG Auxiliary Switch Panel, Integrally Lit Panel — Removal	9-6-68
Bushing (AVIM), Tail Rotor Pitch Horn — Replacement	5-4-21	CPG Auxiliary Switch Panel- Typical, Switch — Removal/ Installation	9-6-70
Bushing (AVIM), Transducer Bellcrank Support — Removal/ Installation	11-4-17	CPG Channel Select Switch — Removal/Installation	9-6-65
Bushing and Bearing (AVIM), Directional Control Pedal Bellcrank — Removal/ Installation	11-4-8	CPG Channel Select Switch, Integrally Lit Panel — Installation	9-6-67
Bushings, Collective Mixing Lever Assembly — Removal/ Installation	11-2-49	CPG Channel Select Switch, Integrally Lit Panel — Removal	9-6-66
Bushings, Collective/Cyclic Actuator Mount — Removal/ Installation	11-2-55	CPG Cyclic Quick-Disconnect Lever Bushings (AVIM) — Removal/Installation	11-3-77
Bushings, Directional Control Servoactuator Trunnion — Cleaning/Inspection/Repair	7-1-6	CPG Cyclic Stick — Removal/ Installation	11-3-63
Bushings, Directional Control Servoactuator Trunnion — Removal/Installation	7-1-5	CPG Cyclic Stick Fitting Assembly — Cleaning/ Inspection/Repair	11-3-67
Bushings (AVIM), CPG Cyclic Quick-Disconnect Lever — Removal/Installation	11-3-77	CPG Cyclic Stick Fitting Assembly Bearings (AVIM) — Removal/Installation	11-3-68
Bushings (AVIM), CPG Cyclic Stick Socket Housing — Removal/Installation	11-3-84	CPG Cyclic Stick Gimbal Assembly — Cleaning/ Inspection/Repair	11-3-65
Bushings (AVIM), Control Support Assembly — Removal/ Installation	11-2-59	CPG Cyclic Stick Gimbal Assembly Bushing (AVIM) — Removal/Installation	11-3-66
Bushings (AVIM), Link Assembly — Removal/Installation	11-3-79	CPG Cyclic Stick Housing Assembly — Cleaning/ Inspection/Repair	11-3-81
Bushings and Bearing (AVIM), Tail Rotor Pitch Change Lever — Removal/Installation	5-5-7	CPG Cyclic Stick Housing Assembly Bearings — Removal/Installation	11-3-82
Bushings/Pins/Inserts (AVIM), Main Rotor Grip — Removal/ Installation	5-1-29	CPG Cyclic Stick Latch Support and Anchor Ball Assembly — Removal/Installation	11-3-87
Bypass Valve (AVIM), Oil Cooler — Cleaning/Inspection/Repair	4-4-11	CPG Cyclic Stick Link Assembly — Cleaning/Inspection/Repair	11-3-78
Bypass Valve (AVIM), Oil Cooler — Disassembly/Assembly	4-4-10	CPG Cyclic Stick Plate Assembly — Cleaning/Inspection/Repair	11-3-71
Bypass Valve, Oil Cooler — Removal/Installation	4-4-9	CPG Cyclic Stick Plate Assembly Bearing (AVIM) — Removal/ Installation	11-3-72
		CPG Cyclic Stick Quick- Disconnect Anchor Ball Assembly — Cleaning/ Inspection/Repair	11-3-90

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
CPG Cyclic Stick Quick-Disconnect Latch Assembly — Cleaning/Inspection/Repair	11-3-88
CPG Cyclic Stick Quick-Disconnect Lever Assembly — Cleaning/Inspection/Repair	11-3-76
CPG Cyclic Stick Quick-Disconnect Lever and Link Assembly — Removal/Installation	11-3-75
CPG Cyclic Stick Quick-Disconnect Support Assembly — Cleaning/Inspection/Repair	11-3-89
CPG Cyclic Stick Socket Housing Assembly — Cleaning/Inspection/Repair	11-3-83
CPG Cyclic Stick Socket Housing Bushings (AVIM) — Removal/Installation	11-3-84
CPG Cyclic Stick Socket Housing/Housing Assembly — Removal/Installation	11-3-80
CPG Cyclic Stick Stud — Cleaning/Inspection/Repair	11-3-74
CPG Cyclic Stick Stud Assembly — Removal/Installation	11-3-73
CPG Cyclic Stick Support Assembly — Cleaning/Inspection/Repair	11-3-69
CPG Cyclic Stick Support Assembly Bearing (AVIM) — Removal/Installation	11-3-70
CPG Cyclic Stick Tube Assembly — Cleaning/Inspection/Repair	11-3-86
CPG Cyclic Stick Tube Assembly — Removal/Installation	11-3-85
CPG Seat, Electrical Connector Beneath — Removal/Installation	9-6-78
Cabin Roof Drain — Cleaning/Inspection/Repair	2-2-85
Cabin Roof Skylight — Cleaning/Inspection/Repair	2-2-75
Cabin Roof Skylight — Removal/Installation	2-2-74
Cable, Cargo Hook Emergency Release — Removal/Installation	13-1-3
Cable, Control — Removal/Installation	10-1-7
Cable, Heater Control — Cleaning/Inspection	12-1-10
Cable, Heater Control — Removal/Installation	12-1-9

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Cable, Left Rescue Ladder Release — Removal/Installation	13-3-3
Cable, Ng Engine Control — Rigging	4-6-2
Cable, Rescue Ladder Release — Cleaning/Inspection/Repair	13-3-5
Cable, Right Rescue Ladder Release — Removal/Installation	13-3-4
Cable, Vent Control — Cleaning/Inspection/Repair	12-2-6
Cable, Vent Control — Removal/Installation	12-2-5
Cable (OH-58D), Ng Engine Control — Removal/Installation	4-6-1
Cable (OH-58D(R)), Ng Engine Control — Rigging	4-6-3
Cable Aft Support Bracket, Ng Engine — Removal/Installation	4-6-5
Cable Assembly, Standpipe and Ground — Cleaning/Inspection/Repair	6-4-2
Cabling (Avionics Compartment), Electrical Wiring/ — Removal/Installation	10-2-4
Calibration (TAMS), Static	9-7-16
Cap Assembly — Cleaning/Inspection/Repair	6-7-9
Cap Oil Seal Assembly, Forward — Removal/Cleaning/Inspection/Repair/Installation	6-5-2
Cap and Adapter Assembly, Oil Tank — Removal/Installation	4-4-8
Cap, Aft Ng Cable Uniball Bearing and — Removal/Cleaning/Inspection/Installation	4-6-4
Capabilities, and Features, Equipment Characteristics,	1-10
Capacitor on Terminal Junction (Typical), Resistor or — Removal/Installation	9-6-63
Cargo Hook Emergency Release Cable — Removal/Installation	13-1-3
Cargo Hook Emergency Release Cable Bracket — Removal/Installation	13-1-4
Cargo Hook Suspension Assembly	13-2
Cargo Hook Suspension Assembly — Cleaning/Inspection/Repair	13-1-5
Cargo Hook Suspension Assembly — Disassembly/Assembly	13-1-2

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
C (Cont)		C (Cont)	
Cargo Hook Suspension Assembly, Introduction to	13-3	Change Mechanism, Tail Rotor Pitch	5-14
Cargo Hook Suspension Assembly — Removal/ Installation	13-1-1	Change Mechanism, Tail Rotor Pitch — Inspection	5-5-2
Cargo Hook Suspension Assembly, Task List for	13-4	Channel Select Switch, CPG — Removal/Installation	9-6-65
Cargo Release Switch (Pilot Collective Stick Control) — Removal/Installation	9-6-43	Channel Select Switch, Integrally Lit Panel CPG — Installation	9-6-67
Case, Map — Removal/ Installation	2-2-25	Channel Select Switch, Integrally Lit Panel CPG — Removal	9-6-66
Categories of Storage	E-3	Charger-Monitor — Cleaning/ Inspection/Repair	9-3-7
Categories of Storage, Procedures Common to All	E-4	Charger-Monitor — Removal/ Installation	9-3-8
Cell, Fuel — Removal/Installation	10-2-1	Chart Remarks, Maintenance Allocation	B-12
Cell, Fuel	10-5	Chart, Definition of the Maintenance Allocation	B-2
Cell, Introduction to Fuel	10-6	Chart, Maintenance Allocation	B-1
Cell, Task List for Fuel	10-7	Chart, Use of the Maintenance Allocation	B-3
Cell (AVIM), Fuel — Cleaning/ Inspection/Repair	10-2-2	Check Valve — Removal/ Installation	10-1-25
Cell Support Assemblies, Fuel — Cleaning/Inspection/Repair/ Replace	10-2-3	Checklist, DD Form 365 -1 — Basic Weight	G-8
Cell Vent Hose, Fuel — Inspection	10-1-10	Chemical Conversion Coating for Aluminum — Use	2-2-67
Cell Vent Hose, Fuel — Removal/ Installation	10-1-11	Chip Detector, Lower — Removal/ Installation	6-3-11
Center Console Top Cover — Removal/Installation	2-2-99	Chip Detector, Tail Rotor Gearbox — Removal/Installation	6-7-10
Center Post Circuit Breaker Panel (Typical), Circuit Breaker in — Removal/Installation	9-6-8	Chip Detector, Upper — Removal/ Installation	6-3-8
Center Post Circuit Breaker Panel — Typical, Integrally Lit Panel Overhead Console or — Installation	9-6-14	Circuit Breaker (28 VDC AUX RCPT) — Removal/Installation	9-6-79
Center Post Circuit Breaker Panel — Typical, Integrally Lit Panel Overhead Console or — Removal	9-6-12	Circuit Breaker (Auxiliary Circuit Breaker Panel-Typical) — Removal/Installation	9-6-83
Center Post Duct and Panels — Cleaning/Inspection/Repair	2-2-70	Circuit Breaker (DC Equipment Electrical Assembly-Typical) — Installation	9-6-33
Center Post Duct and Panels — Removal/Installation	2-2-69	Circuit Breaker (DC Equipment Electrical Assembly-Typical) — Removal	9-6-32
Chafing Strip, Access Door — Cleaning/Inspection/Repair	2-2-5	Circuit Breaker (Nose Compartment-Typical) — Installation	9-6-37
Chain (TAMS), Signal Conditioning Unit and — Cleaning/Inspection/Repair	9-7-10	Circuit Breaker (Nose Compartment-Typical) — Removal	9-6-36
Change Control Tube, Tail Rotor Pitch — Removal	5-5-13	Circuit Breaker Panel, Auxiliary — Lowering	9-6-81
Change Levers, Tail Rotor Pitch — Installation	5-5-8	Circuit Breaker Panel, Auxiliary — Raising	9-6-82
Change Levers, Tail Rotor Pitch — Removal	5-5-5		

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Circuit Breaker in Center Post Circuit Breaker Panel (Typical) — Removal/Installation	9-6-8
Circuit Breaker in Overhead Console (Typical) — Removal/ Installation	9-6-7
Circuit Breaker, Remote Control — Installation	9-6-35
Circuit Breaker, Remote Control — Removal	9-6-34
Circuit Breakers (Typical) — Cleaning/Inspection/Repair	9-6-3
Clamp, Collective Friction — Cleaning/Inspection/Repair	11-2-25
Clamp, Collective Jackshaft Friction — Removal/Installation	11-2-23
Clamps, Crosstube — Removal/ Installation	3-1-36
Classes (Appendix M), Electrical Bonding	M-3
Cleaning, Helicopter	1-4-11
Clearance Form F, DD Form 365- 4 — Weight and Balance	G-12
Clevis, Collective Adjustable Tube Assembly — Removal/ Installation	11-2-51
Clevis, Cyclic Mixer Bellcrank Assembly — Cleaning/ Inspection/Repair	11-3-29
Clevis, Directional Control Pedal Adjustment — Removal/ Inspection/Installation	11-4-9
Clevis, Fuel Control — Removal/ Installation	4-6-9
Clevis Adapter — Cleaning/ Inspection/Repair	7-1-8
Clevis Adapter — Removal/ Installation	7-1-7
Clock — Cleaning/Inspection/ Repair	8-5-3
Clock — Removal/Installation	8-5-4
Clogged Oil Drain Tubes — Removal/Installation	4-4-15
Closed Circuit — Refueling (Power Off or Rapid)	1-4-1
Closeout (Typical) — Cleaning/ Inspection/Repair	2-2-32
Closeout (Typical) — Removal/ Installation	2-2-31
Coating (AVIM), Flame Spray — Use	2-2-68
Coating for Aluminum, Chemical Conversion — Use	2-2-67
Coatings (AVIM), Aliphatic Polyurethane Top — Use	2-2-65

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Collective Adjustable Tube Assembly — Removal/ Installation	11-2-50
Collective Adjustable Tube Assembly Clevis — Removal/ Installation	11-2-51
Collective Boosted Bellcrank Assembly — Removal/ Installation	11-2-56
Collective Boosted Bellcrank Assembly (AVIM) — Cleaning/ Inspection/Repair	11-2-57
Collective Control Input Valve Bellcrank Assembly — Cleaning/Inspection/Repair	11-2-68
Collective Control Input Valve Bellcrank Assembly — Removal/Installation	11-2-67
Collective Control Link Assembly — Cleaning/Inspection/Repair	11-2-53
Collective Control Link Assembly — Removal/Installation	11-2-52
Collective Control Panel Assembly Integrally Lit Panel — Removal/Installation	11-2-42
Collective Control System — Rigging	11-1-1
Collective Control System — Rigging (OH-58D(R))	11-1-2
Collective Controls	11-5
Collective Controls — Cleaning/ Inspection/Repair	11-2-1
Collective Controls, Introduction to	11-6
Collective Controls, Task List for	11-7
Collective Elbow Assembly, Copilot/Gunner — Removal/ Installation	11-2-43
Collective Elbow Assembly, Pilot — Removal/Installation	11-2-40
Collective Elbow Assembly Bushing, Copilot/Gunner — Removal/Installation	11-2-47
Collective Elbow Assembly Insert, Copilot/Gunner — Removal/ Installation	11-2-46
Collective Friction Clamp — Cleaning/Inspection/Repair	11-2-25
Collective Friction Knob and Shaft — Removal/Installation	11-2-64
Collective Friction Knob and Shaft Pin — Removal/Installation	11-2-65
Collective Grip Assembly, Copilot/ Gunner — Cleaning/Inspection/ Repair	11-2-12

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
C (Cont)		C (Cont)	
Collective Hydraulic Actuator — Removal/Installation	7-1-9	Collective Stick Cover, Pilot — Removal/Installation	11-2-3
Collective Jackshaft — Cleaning/ Inspection/Repair	11-2-17	Collective Stick Detent Button, Pilot — Cleaning/Inspection/ Repair	11-2-30
Collective Jackshaft Adjustment Nut — Removal/Installation	11-2-18	Collective Stick Elbow Assembly, Copilot/Gunner — Cleaning/ Inspection/Repair	11-2-45
Collective Jackshaft Assembly — Removal/Installation	11-2-16	Collective Stick Elbow Assembly, Pilot — Cleaning/Inspection/ Repair	11-2-33
Collective Jackshaft Friction Adjustment Bearing — Removal/Installation	11-2-19	Collective Stick Inner Tube Assembly, Copilot/Gunner — Cleaning/Inspection/Repair	11-2-13
Collective Jackshaft Friction Clamp — Removal/Installation	11-2-23	Collective Stick Inner Tube Assembly, Pilot — Cleaning/ Inspection/Repair	11-2-34
Collective Jackshaft Shim and Spacer — Removal/Installation	11-2-20	Collective Stick Outer Tube Assembly, Copilot/Gunner — Cleaning/Inspection/Repair	11-2-14
Collective Jackshaft Spacer — Cleaning/Inspection/Repair	11-2-21	Collective Stick Outer Tube Assembly, Pilot — Cleaning/ Inspection/Repair	11-2-32
Collective Jackshaft Throttle Tube Assembly — Removal/ Installation	11-2-22	Collective Stick Ring Gears, Pilot — Cleaning/Inspection/Repair	11-2-35
Collective Lever, Main Rotor Controls — Installation	5-2-20	Collective Stick Throttle Arm, Copilot/Gunner — Cleaning/ Inspection/Repair	11-2-44
Collective Lever, Main Rotor Controls — Removal	5-2-18	Collective Stick Throttle Arm, Pilot — Cleaning/Inspection/ Repair	11-2-36
Collective Lever (AVIM), Main Rotor Controls — Cleaning/ Inspection/Repair	5-2-19	Collective Stick Throttle Friction Plug, Pilot — Cleaning/ Inspection/Repair	11-2-29
Collective Link, Main Rotor Controls — Installation	5-2-23	Collective Stick Tiedown Strap — Removal/Installation	11-2-2
Collective Link, Main Rotor Controls — Removal	5-2-21	Collective Stick Tube Assemblies, Copilot/Gunner — Removal/ Installation	11-2-11
Collective Link (AVIM), Main Rotor Controls — Cleaning/ Inspection/Repair	5-2-22	Collective Stick, Integrally Lit Panel Pilot — Removal/ Installation	9-6-41
Collective Mixing Lever Assembly — Removal/Installation	11-2-48	Collective Stick-Typical, Switch, Pilot — Removal/Installation	9-6-42
Collective Mixing Lever Assembly Bushings — Removal/ Installation	11-2-49	Collective System, Minimum Friction on — Adjusting	11-2-24
Collective Pitch Link Assembly — Cleaning/Inspection/Repair	11-2-5	Collective Transducers — Removal/Installation	11-2-9
Collective Pitch Link Assembly — Removal/Installation	11-2-4	Collective/Cyclic Actuator Mount Bushings — Removal/ Installation	11-2-55
Collective Plate Assembly — Removal/Installation	11-2-66	Columns (Appendix D), Explanation of	D-2
Collective Stick Assembly, Copilot/Gunner — Removal/ Installation	11-2-15	Combat Damaged Fuel Cell (Intermediate Storage)	E-34
Collective Stick Assembly, Pilot — Removal/Installation	11-2-26		
Collective Stick Assembly Miscellaneous Parts, Pilot — Removal/Installation	11-2-27		
Collective Stick Assembly Plug, Copilot/Gunner — Removal/ Installation	11-2-10		

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Combining Bellcrank, Directional Control — Removal/Installation	11-4-11
Combining Bellcrank Bearing Sleeve (AVIM) — Removal/Installation	11-4-12
Common Name, Names, and Designation	1-7
Compass, Standby — Cleaning/Inspection/Repair	8-5-1
Compass, Standby — Removal/Installation	8-5-2
Component Inspection	11-14
Component Inspection, Introduction to	11-15
Component Inspection, Task List for	11-16
Components, Aft Crosstube — Cleaning/Inspection/Repair	3-1-41
Components, Aft Crosstube — Removal/installation	3-1-39
Components, Aft Crosstube Support Beam — Cleaning/Inspection/Repair	3-1-45
Components, Antibacklash Adapter Assembly — Cleaning/Inspection/Repair	6-4-13
Components, Avionic Cooling System — Cleaning/Inspection/Repair	9-1-1
Components, Corrosion Prone	Q-8
Components, Forward Crosstube — Cleaning/Inspection/Repair	3-1-31
Components, Forward Crosstube — Removal/Installation	3-1-29
Components, Fuel System	10-2
Components, Introduction to Fuel System	10-3
Components, Task List for Fuel System	10-4
Components, Transmission — Cleaning/Inspection/Repair	6-3-1
Components (AVIM), Freewheeling Unit — Cleaning/Inspection/Repair	6-5-3
Components (AVIM), Torquemeter Support and Bearing Assembly — Cleaning/Inspection/Repair	6-4-8
Components Involved in an Accident	E-1
Components of Shaft and Bearing Hanger Assembly — Cleaning/Inspection/Repair	6-6-10
Compressor Inlet Temperature Sensor (OH-58D(R)) — Removal/Installation	4-2-15

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Computer Mount, IFF — Removal/Installation	9-2-6
COMSEC Unit Mount, HF — Removal/Installation	9-2-1
Conditioning Unit (Mast Torque), Signal — Cleaning/Inspection/Repair	9-7-7
Conditioning Unit (Mast Torque), Signal — Installation	9-7-9
Conditioning Unit (Mast Torque), Signal — Removal	9-7-8
Conditioning Unit (TAMS), Signal — Installation	9-7-12
Conditioning Unit (TAMS), Signal — Removal	9-7-11
Conditioning Unit and Chain (TAMS), Signal — Cleaning/Inspection/Repair	9-7-10
Conditions	6-4
Conductive Coatings (AVIM), Copper Filled Polyurethane — Use	2-2-64
Cone, Main Rotor Hub Lower — Cleaning/Inspection/Repair	5-1-4
Cone Plate Assembly, Main Rotor Upper — Cleaning/Inspection/Repair	5-1-3
Configure Helicopter for Rapid Deployment	13-2-9
Configure Helicopter for Flight After Rapid Deployment	13-2-10
Configuration, Equipment	1-21
Connections (Overhead Console and Center Post Circuit Breaker Panel-Typical), Electrical — Inspection	9-6-13
Connector, DC External Power — Cleaning/Inspection/Repair	9-3-15
Connector, DC External Power — Removal/Installation	9-3-16
Connector, EMI Electrical — Removal/Installation/Repair	9-6-85
Connector (Beneath CPG Seat), Electrical — Removal/Installation	9-6-78
Connector (Digital Fuel Control Panel (OH-58D)), Integrally Lit Panel — Removal/Installation	9-6-19
Connector Pin Arrangement (Appendix F), Typical Electrical	F-5
Console, Overhead — Lowering	9-6-5
Console, Overhead — Raising	9-6-6
Console-Typical, Switch Forward Overhead — Removal/Installation	9-6-10

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
C (Cont)		C (Cont)	
Console Top Cover, Center — Removal/Installation	2-2-99	Control Knob (Overhead Console- Typical), Lighting — Removal/ Installation	9-6-9
Console or Instrument, Dimming Control — Balance	9-6-40	Control Lever, Fuel — Removal/ Installation	4-6-8
Console or Instrument, Dimming Control — Removal/Installation	9-6-39	Control Link Assembly, Collective — Cleaning/Inspection/Repair	11-2-53
Contaminated Hydraulic System — Flushing	7-8-3	Control Link Assembly, Collective — Removal/Installation	11-2-52
Control, Overload Sensing — Cleaning/Inspection/Repair	9-3-17	Control Panel, Armament — Removal/Installation	9-8-1
Control, Overload Sensing — Removal/Installation	9-3-18	Control Panel, Integrally Lit Panel MMS — Installation	9-6-75
Control (Console or Instrument), Dimming — Balance	9-6-40	Control Panel, Integrally Lit Panel MMS — Removal	9-6-74
Control (Console or Instrument), Dimming — Removal/ Installation	9-6-39	Control Panel, Integrally Lit Panel SCAS — Installation	9-6-25
Control (OH-58D), Electronic Supervisory — Cleaning/ Inspection/Repair	9-7-1	Control Panel, Integrally Lit Panel SCAS — Removal	9-6-24
Control (OH-58D), Electronic Supervisory — Installation	9-7-5	Control Panel, Integrally Lit Panel on Armament — Removal/ Installation	9-8-2
Control (OH-58D), Electronic Supervisory — Removal	9-7-3	Control Panel, MMS — Removal/ Installation	9-6-80
Control (QA/QC), Quality Assurance/Quality	1-6	Control Panel, SCAS — Installation	9-6-23
Control Bellcranks, Idlers, and Walking Beams, Flight — Cleaning/Inspection/Repair	11-5-2	Control Panel, SCAS — Removal	9-6-22
Control Cable — Removal/ Installation	10-1-7	Control Panel Assembly Integrally Lit Panel, Collective — Removal/Installation	11-2-42
Control Cable, Heater — Cleaning/Inspection	12-1-10	Control Panel Box, Pilot Collective Stick — Cleaning/ Inspection/Repair	11-2-28
Control Cable, Heater — Removal/Installation	12-1-9	Control Pedals, Directional — Cleaning/Inspection/Repair	11-4-4
Control Cable, Ng Engine — Removal/Installation	4-6-1	Control Pedals from Support Assembly, Directional — Removal	11-4-2
Control Cable (OH-58D), Ng Engine — Rigging	4-6-2	Control Servoactuator, Directional — Removal/Installation	7-1-1
Control Cable (OH-58D(R)), Ng Engine — Rigging	4-6-3	Control Servoactuators (Typical), Cyclic/Collective/Directional — Cleaning/Inspection/Repair	7-1-2
Control Cable, Vent — Cleaning/ Inspection/Repair	12-2-6	Control Support Assembly — Removal/Installation	11-2-58
Control Cable, Vent — Removal/ Installation	12-2-5	Control Support Assembly Bushings (AVIM) — Removal/ Installation	11-2-59
Control Cable Bellows Assembly, Engine — Removal/Installation	4-6-6	Control Supports, Flight — Cleaning/Inspection/Repair	11-5-3
Control Clevis, Fuel — Removal/ Installation	4-6-9	Control System, Collective — Rigging	11-1-1
Control Force Gradient, Directional — Cleaning/ Inspection/Repair	11-4-33	Control System, Collective — Rigging (OH-58D(R))	11-1-2
Control Force Gradient, Directional, — Removal/ Installation	11-4-32	Control System, Cyclic	11-8

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Control System, Introduction to Cyclic	11-9
Control System, Task List for Cyclic	11-10
Control Systems, Environmental.....	1-36, 12-1
Control Transducer, Directional — Removal/Installation	11-4-18
Control Tube Driver Plate, Tail Rotor — Cleaning/Inspection/ Repair.....	5-4-6
Control Tube Driver Plate, Tail Rotor — Installation	5-4-7
Control Tube Driver Plate, Tail Rotor — Removal	5-4-5
Control Tube, Tail Rotor Pitch Change — Cleaning/Inspection/ Repair.....	5-5-14
Control Tube, Tail Rotor Pitch Change — Installation	5-5-15
Control Tubes, Flight — Cleaning/ Inspection/Repair.....	11-5-1
Control Unit, Fuel Quantity — Removal/Installation	9-6-64
Control Unit, Generator — Cleaning/Inspection/Repair	9-4-10
Control Unit, Generator — Removal/Installation	9-4-11
Control Unit (ECU) (OH-58D(R)), Electronic — Cleaning/ Inspection/Repair.....	9-7-2
Control Unit (ECU) (OH-58D(R)), Electronic — Installation	9-7-6
Control Unit (ECU) (OH-58D(R)), Electronic — Removal	9-7-4
Control Valve (Engine Oil System), Temperature — Cleaning/Inspection/Repair	6-8-23
Control Valve (Engine Oil System), Temperature — Removal/Installation	6-8-22
Controls, Adjustable Tube Assembly — Removal/ Installation	11-3-37
Controls, Collective	11-5
Controls, Collective — Cleaning/ Inspection/Repair.....	11-2-1
Controls, Cyclic — Rigging.....	11-1-3
Controls, Directional	11-11
Controls, Directional — Rigging	11-1-4
Controls, Flight	1-34, 11-1
Controls, Introduction to Collective	11-6
Controls, Introduction to Directional	11-12
Controls, Main Rotor	5-5
Controls, Powerplant	4-15

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Controls, Task List for Collective	11-7
Controls, Task List for Directional	11-13
Controls Boot, Main Rotor — Removal/Installation	5-2-17
Controls Collective Lever, Main Rotor — Removal	5-2-18
Controls Collective Lever (AVIM), Main Rotor — Cleaning/ Inspection/Repair.....	5-2-19
Controls Collective Link, Main Rotor — Installation	5-2-23
Controls Collective Link, Main Rotor — Removal	5-2-21
Controls Collective Link (AVIM), Main Rotor — Cleaning/ Inspection/Repair.....	5-2-22
Controls Drive Hub Set, Main Rotor — Installation	5-2-12
Controls Drive Hub Set, Main Rotor — Removal	5-2-10
Controls Drive Hub Set (AVIM), Main Rotor — Cleaning/ Inspection/Repair.....	5-2-11
Controls Drive Lever, Main Rotor — Installation	5-2-9
Controls Drive Lever, Main Rotor — Removal	5-2-7
Controls Drive Lever (AVIM), Main Rotor — Cleaning/ Inspection/Repair.....	5-2-8
Controls Drive Pin, Main Rotor — Cleaning/Inspection	5-2-14
Controls Gimbal Ring, Main Rotor — Installation	5-2-16
Controls Gimbal Ring, Main Rotor — Removal	5-2-13
Controls Gimbal Ring (AVIM), Main Rotor — Cleaning/ Inspection/Repair.....	5-2-15
Controls Spacer, Main Rotor — Cleaning/Inspection/Repair	5-2-24
Conversion Coating for Aluminum, Chemical — Use	2-2-67
Cooler, Oil — Cleaning/ Inspection/Repair/Buildup.....	6-8-25
Cooler, Oil — Installation	6-8-26
Cooler, Oil — Removal	6-8-24
Cooler Duct, Oil — Cleaning/ Inspection/Repair.....	6-8-28
Cooler Duct, Oil — Removal/ Installation	6-8-27
Cooling System, Avionics	9-2
Cooling System, Introduction to Avionics	9-3
Cooling System, Task List for Avionics	9-4

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
C (Cont)		C (Cont)	
Cooling System Blower, Avionic — Installation	9-1-3	Corner Mount/Stop Nut/Stop- Down Assembly — Removal/ Installation	2-4-2
Cooling System Blower, Avionic — Removal	9-1-2	Corrosion Data, Fuselage	Q-12
Cooling System Components, Avionic — Cleaning/Inspection/ Repair	9-1-1	Corrosion Inspections	1-58
Cooling System Flexible Air Duct Coupling, Avionic — Removal/ Installation	9-1-6	Corrosion Prone Areas (Appendix Q), Inspection and Repair	Q-7
Cooling System Thermo Switch (Typical), Avionic — Removal/ Installation	9-1-5	Corrosion Prone Areas (Appendix Q), Purpose — Inspection and	Q-3
Copilot/Gunner Collective Elbow Assembly — Removal/ Installation	11-2-43	Corrosion Prone Components	Q-8
Copilot/Gunner Collective Elbow Assembly Bushing — Removal/ Installation	11-2-47	Corrosion Prone Honeycomb Panels	Q-11
Copilot/Gunner Collective Elbow Assembly Insert — Removal/ Installation	11-2-46	Corrosion Repair, Landing Gear	Q-14
Copilot/Gunner Collective Grip Assembly — Cleaning/ Inspection/Repair	11-2-12	Corrosion Repair, Tailboom	Q-13
Copilot/Gunner Collective Stick Assembly — Removal/ Installation	11-2-15	Countermeasures Set AN/ALQ- 144 IR Jammer Mount (Replacement Tailboom) — Installation	2-3-14
Copilot/Gunner Collective Stick Assembly Plug — Removal/ Installation	11-2-10	Countermeasures Set AN/ALQ- 144 IR Jammer Mount — Cleaning/Inspection/Repair	2-3-15
Copilot/Gunner Collective Stick Elbow Assembly — Cleaning/ Inspection/Repair	11-2-45	Countermeasures Set AN/ALQ- 144 IR Jammer Mount — Removal/Installation	2-3-13
Copilot/Gunner Collective Stick Inner Tube Assembly — Cleaning/Inspection/Repair	11-2-13	Counterweight Bracket, Tail Rotor — Cleaning/Inspection/Repair	5-4-22
Copilot/Gunner Collective Stick Outer Tube Assembly — Cleaning/Inspection/Repair	11-2-14	Counterweight Support, Tail Rotor — Cleaning/Inspection/Repair	5-4-17
Copilot/Gunner Collective Stick Throttle Arm — Cleaning/ Inspection/Repair	11-2-44	Coupler or Terminator (OH- 58D(R)), Data Bus — Cleaning/ Inspection/Repair	9-6-60
Copilot/Gunner Collective Stick Tube Assemblies — Removal/ Installation	11-2-11	Coupler or Terminator (Typical) (OH-58D(R)), Data Bus — Removal/Installation	9-6-62
Copilot/Gunner Cyclic Stick Lockout Catch — Removal/ Installation	11-3-27	Coupler or Terminator (Typical) (OH-58D), Data Bus — Removal/Installation	9-6-61
Copper Filled Polyurethane Conductive Coatings (AVIM) — Use	2-2-64	Coupler or Terminator (OH-58D), Data Bus — Cleaning/ Inspection/Repair	9-6-59
Core (AVIM), Main Rotor Blade — Repair	5-1-51	Coupling Angle, Tail Rotor Driveshaft — Inspection and Driveshaft Alignment	6-6-18
Corner Mount — Cleaning/ Inspection	2-4-4	Coupling Disc Pack — Removal/ Cleaning/Installation	6-6-6
		Coupling Disc Pack Assemblies — Inspection	6-6-7
		Coupling Half (Typical), Quick- Disconnect Self-Sealing — Removal/Installation	7-4-6
		Coupling Halves, Quick- Disconnect — Cleaning/ Inspection/Repair	7-4-7
		Cover, Center Console Top — Removal/Installation	2-2-99

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Cover, Mast Mounted Sight (MMS) Support — Removal/Installation	5-2-40
Cover, Pilot Collective Stick — Removal/Installation	11-2-3
Cover and Chain (TAMS Signal Conditioning Unit) — Removal/Installation	9-7-13
Cover Latch Assembly, Hydraulic Reservoir — Removal/Installation	7-7-3
Cover Pin and Cap Gasket, Hydraulic Reservoir — Removal/Installation	7-7-2
Covers, Helicopter — Installation	1-7-3
Covers, Raschel Seat — Removal/Installation	2-2-24
Cowl, Air Induction — Cleaning/Inspection/Repair	4-2-3
Cowl (Compressor Inlet Installed, Air Induction — Installation	4-2-5
Cowl (Compressor Inlet Temperature Sensor Installed), Air Induction — Removal	4-2-2
Cowl Access Door, Air Induction — Cleaning/Inspection/Repair	4-2-7
Cowl Access Door, Air Induction — Removal/Installation	4-2-6
Cowl Assembly Exhaust Duct (AVIM), Engine — Removal/Cleaning/Inspection/Repair/Installation	2-2-54
Cowl Assembly Side Door, Engine — Cleaning/Inspection/Repair	2-2-53
Cowl Assembly Side Door, Engine — Removal/Installation	2-2-52
Cowl Assembly, Engine — Cleaning/Inspection/Repair	2-2-51
Cowl Assembly, Engine — Removal/Installation	2-2-50
Cowlings, Fairings, Access Panels, and Doors	2-2
Crew Armor Panels (Typical) — Removal/Installation	2-2-40
Crew Armor Panels — Cleaning/Inspection/Repair	2-2-41
Crew Door — Removal/Installation	2-2-10
Crew Door Hinge Assembly — Disassembly/Assembly	2-2-14
Crew Door Hinge Components — Cleaning/Inspection/Repair	2-2-15
Crew Door Jettison Mechanism — Cleaning/Inspection/Repair	2-2-12

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Crew Door Jettison Mechanism — Removal/Installation	2-2-11
Crew Door Latch Assembly — Cleaning/Inspection/Repair	2-2-13
Crew Door Window — Removal/Installation	2-2-88
Crew Door Window Snap Vent — Removal/Installation	2-2-9
Crew Doors — Cleaning/Inspection/Repair	2-2-87
Crew Seat and Armor Seat Panel — Removal/Installation	2-2-33
Crosshead, Tail Rotor — Cleaning/Inspection/Repair	5-4-9
Crosshead, Tail Rotor — Installation	5-4-10
Crosshead, Tail Rotor — Removal	5-4-8
Crosstube, Aft — Cleaning/Inspection/Repair	3-1-35
Crosstube, Aft — Removal/Installation	3-1-33
Crosstube, Forward — Cleaning/Inspection/Repair	3-1-26
Crosstube, Forward — Removal/Installation	3-1-24
Crosstube, Landing Gear — Inspection for Deflection	3-1-3
Crosstube (Nonstandard), Aft — Cleaning/Inspection/Repair	3-1-38
Crosstube (Nonstandard), Forward — Cleaning/Inspection/Repair	3-1-28
Crosstube (Rapid Deployment), Aft — Cleaning/Inspection/Repair	3-1-37
Crosstube (Rapid Deployment), Aft — Removal/Installation	3-1-34
Crosstube (Rapid Deployment), Forward — Cleaning/Inspection/Repair	3-1-27
Crosstube (Rapid Deployment), Forward — Removal/Installation	3-1-25
Crosstube (Rapid Deployment), Landing Gear — Inspection for Deflection	3-1-4
Crosstube Clamps — Removal/Installation	3-1-36
Crosstube Components (Rapid Deployment), Aft — Removal/Installation	3-1-40
Crosstube Components (Rapid Deployment), Forward — Cleaning/Inspection/Repair	3-1-60

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
C (Cont)		C (Cont)	
Crosstube Components (Rapid Deployment), Forward — Removal/Installation	3-1-30	Cushion, Back — Removal/Installation	2-2-20
Crosstube Components, Aft — Cleaning/Inspection/Repair	3-1-41	Cushion, Seat — Cleaning/Inspection/Repair	2-2-28
Crosstube Components, Aft — Removal/Installation	3-1-39	Cushion, Seat — Removal/Installation	2-2-27
Crosstube Components, Forward — Cleaning/Inspection/Repair	3-1-31	Cushion, Seatback — Cleaning/Inspection/Repair	2-2-23
Crosstube Components, Forward — Removal/Installation	3-1-29	Cushion, Seatback — Removal/Installation	2-2-22
Crosstube Strap (Rapid Deployment), Forward — Cleaning/Inspection/Repair	3-1-59	Cutter, Upper Wire — Cleaning/Inspection/Repair	2-2-63
Crosstube Strap, Forward — Cleaning/Inspection/Repair	3-1-7	Cutter, Upper Wire — Removal/Installation	2-2-62
Crosstube Support Assembly (Rapid Deployment), Aft — Cleaning/Inspection/Repair	3-1-9	Cutter (Rapid Deployment), Lower Wire — Cleaning/Inspection/Repair	2-2-61
Crosstube Support Assembly (Rapid Deployment), Forward — Cleaning/Inspection/Repair	3-1-10	Cutter (Rapid Deployment), Lower Wire — Removal/Installation	2-2-60
Crosstube Support Assembly, Aft — Cleaning/Inspection/Repair	3-1-8	Cyclic Adjustable Tube Assembly Rod End Bearing (Typical) — Removal/Installation	11-3-33
Crosstube Support Beam Bushing (AVIM), Aft — Removal/Installation	3-1-47	Cyclic Control Bellcrank Assembly Bearings (AVIM), Input — Removal/Installation	11-3-36
Crosstube Support Beam Components, Aft — Cleaning/Inspection/Repair	3-1-45	Cyclic Control Bellcrank Assembly Bearings, Input — Cleaning/Inspection/Repair	11-3-35
Crosstube Support Beam and Components (Rapid Deployment), Aft — Cleaning/Inspection/Repair	3-1-46	Cyclic Control Bellcrank Assembly Bearings, Input — Removal/Installation	11-3-34
Crosstube Support Beam and Components (Rapid Deployment), Aft — Removal/Installation	3-1-44	Cyclic Control System, Introduction to	11-9
Crosstube Support Beam and Components, Aft — Removal/Installation	3-1-43	Cyclic Control System, Task List for	11-10
Crosstube Support Strap, Aft (Rapid Deployment Gear) — Installation/Removal	1-6-4	Cyclic Control System	11-8
Crosstube Support Strap, Aft (Standard Gear) — Installation/Removal	1-6-3	Cyclic Controls — Rigging	11-1-3
Crosstube Supports (Rapid Deployment), Aft — Cleaning/Inspection/Repair	3-1-42	Cyclic Fitting Assembly Bearings (AVIM), Pilot — Removal/Installation	11-3-61
Crosstube Supports (Rapid Deployment), Forward — Cleaning/Inspection/Repair	3-1-32	Cyclic Friction Knob and Shaft — Cleaning/Inspection/Repair	11-3-25
Cushion, Back — Cleaning/Inspection/Repair	2-2-21	Cyclic Friction Knob and Shaft — Installation	11-3-26
		Cyclic Friction Knob and Shaft — Removal	11-3-24
		Cyclic Grip, Pilot — Removal/Installation	9-6-84
		Cyclic Grip-Typical, Switch — Removal/Installation	9-6-53
		Cyclic Hydraulic Actuator — Removal/Installation	7-1-10
		Cyclic Mixer Bellcrank Assembly — Removal/Installation	11-3-28

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Cyclic Mixer Bellcrank Assembly (AVIM) — Cleaning/Inspection/Repair.....	11-3-31
Cyclic Mixer Bellcrank Assembly Clevis — Cleaning/Inspection/Repair.....	11-3-29
Cyclic Mixer Bellcrank Assembly Rod End Bearing — Cleaning/Inspection/Repair.....	11-3-30
Cyclic Pivot Assembly, Pilot — Cleaning/Inspection/Repair	11-3-45
Cyclic Stick, CPG — Removal/Installation	11-3-63
Cyclic Stick Fitting Assembly Bearings (AVIM), CPG — Removal/Installation	11-3-68
Cyclic Stick Fitting Assembly, CPG — Cleaning/Inspection/Repair.....	11-3-67
Cyclic Stick Fitting Assembly, Pilot — Cleaning/Inspection/Repair.....	11-3-60
Cyclic Stick Fitting Assembly, Pilot — Removal/Installation	11-3-58
Cyclic Stick Gimbal Assembly, CPG — Cleaning/Inspection/Repair.....	11-3-65
Cyclic Stick Gimbal/Fitting/Plate and Support Assemblies — Removal/Installation	11-3-64
Cyclic Stick Housing Assembly, CPG — Cleaning/Inspection/Repair.....	11-3-81
Cyclic Stick Indicator Pin Retainer — Cleaning/Inspection/Repair	11-3-46
Cyclic Stick Latch Support and Anchor Ball Assembly, CPG — Removal/Installation	11-3-87
Cyclic Stick Link Assembly, CPG — Cleaning/Inspection/Repair	11-3-78
Cyclic Stick Lockout Catch, Copilot/Gunner — Removal/Installation	11-3-27
Cyclic Stick Pivot Assembly, Pilot — Removal/Installation	11-3-42
Cyclic Stick Pivot Bearing Retainer — Cleaning/Inspection/Repair	11-3-44
Cyclic Stick Pivot Bearing, Pilot — Cleaning/Inspection/Repair	11-3-51
Cyclic Stick Pivot Bearing, Pilot — Removal/Installation	11-3-50
Cyclic Stick and Pivot Support Assembly, Pilot — Removal/Installation	11-3-57

<u>Subject</u>	<u>Para/Task</u>
C (Cont)	
Cyclic Stick Plate Assembly, CPG — Cleaning/Inspection/Repair	11-3-71
Cyclic Stick Stop, Pilot — Cleaning/Inspection/Repair	11-3-48
Cyclic Stick Stud Assembly, CPG — Removal/Installation	11-3-73
Cyclic Stick Stud, CPG — Cleaning/Inspection/Repair	11-3-74
Cyclic Stick Support Assembly, CPG — Cleaning/Inspection/Repair.....	11-3-69
Cyclic Stick Tube Assembly, CPG — Cleaning/Inspection/Repair	11-3-86
Cyclic Stick Tube Assembly, CPG — Removal/Installation	11-3-85
Cyclic Torque Tube — Cleaning/Inspection/Repair.....	11-3-13
Cyclic Torque Tube — Installation	11-3-14
Cyclic Torque Tube — Removal.....	11-3-12
Cyclic Transducer Spacer — Cleaning/Inspection/Repair	11-3-47
Cyclic Transducer, Fore-and-Aft — Installation	11-3-23
Cyclic Transducer, Fore-and-Aft — Removal	11-3-22
Cyclic Transducer, Lateral — Installation	11-3-21
Cyclic Transducer, Lateral — Removal	11-3-20
Cyclic Tube Assembly, Pilot — Cleaning/Inspection/Repair	11-3-59
Cyclic Yoke — Cleaning/Inspection/Repair.....	11-3-19
Cyclic Yoke, Left — Installation	11-3-16
Cyclic Yoke, Left — Removal	11-3-15
Cyclic Yoke, Right — Installation.....	11-3-18
Cyclic Yoke, Right — Removal.....	11-3-17
Cyclic/Collective/Directional Control Servoactuators (Typical) — Cleaning/Inspection/Repair.....	7-1-2
Cylinder (AVIM), Bearing in Force Gradient — Removal/Installation	11-3-3

D

DC Equipment Electrical Assembly-Typical, Circuit Breaker — Installation	9-6-33
DC Equipment Electrical Assembly-Typical, Circuit Breaker — Removal	9-6-32
DC External Power Connector — Cleaning/Inspection/Repair	9-3-15

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
DC External Power Connector — Removal/Installation	9-3-16
DC External Power Door Switch — Cleaning/Inspection/Repair	9-3-11
DC External Power Door Switch — Removal/Installation	9-3-12
DC Power (Battery and External) — Application/Removal	1-6-5
DC Voltage Sensor — Cleaning/Inspection/Repair	9-3-21
DC Voltage Sensor — Removal/Installation	9-3-22
DD Form 365 — Record of Weight and Balance Personnel	G-7
DD Form 365-1 — Basic Weight Checklist	G-8
DD Form 365-2 — Aircraft Weighing Record	G-9
DD Form 365-3 — Basic Weight and Balance Record	G-10
DD Form 365-4 — Weight and Balance Clearance Form F	G-12
Damaged Fuel Cell (Intermediate Storage), Combat	E-34
Damper (AVIM), Main Rotor Hub — Removal/Installation	5-1-15
Dampers (AVIM), Main Rotor Hub — Cleaning/Inspection/Repair	5-1-16
Data, Equipment	1-13
Data, Fuselage Corrosion	Q-12
Data, Loading	G-11
Data, Weight and Balance	G-2
Data, Weight/Balance and Load	G-5
Data (Appendix F), Wiring	F-1
Data Bus Coupler or Terminator (OH-58D(R)) — Cleaning/Inspection/Repair	9-6-60
Data Bus Coupler or Terminator (Typical) (OH-58D(R)) — Removal/Installation	9-6-62
Data Bus Coupler or Terminator (Typical) (OH-58D) — Removal/Installation	9-6-61
Data Bus Coupler or Terminator (OH-58D) — Cleaning/Inspection/Repair	9-6-59
Definition (Appendix G), Weight	G-4
Definition of the Maintenance Allocation Chart	B-2
Definitions (Appendix M)	M-2
Definitions (Appendix Q)	Q-2
Defogging Blower — Removal/Installation	12-2-4
Defuel Valve — Cleaning/Inspection/Repair	10-1-21

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
Defuel Valve — Removal/Installation	10-1-20
Defueling Helicopter (Using Defueling Truck)	1-4-4
Defueling Helicopter (Using Defueling Valve)	1-4-3
Deployment, Rapid	13-5
Deployment, Configure Helicopter for Flight After Rapid	13-2-10
Deployment, Configure Helicopter for Rapid	13-2-9
Deployment Jacks, Rapid — Cleaning/Inspection/Repair	13-2-7
Deployment Skid Gear, Rapid — Mooring Helicopter	1-7-2
Depreservation (Flyable Storage)	E-16
Depreservation (Intermediate Storage)	E-45
Depreservation (Short Term Storage)	E-30
Description, Functional	1-22
Description — Equipment List (Appendix F)	F-7
Description (Columns 1 and 2), System Group Number and	B-6
Description (Flyable Storage)	E-6
Description (Intermediate Storage)	E-31
Description (Short Term Storage)	E-17
Description of Major Components, Location and	1-11
Designation, Common Name, Names, and	1-7
Destruction of Army Material to Prevent Enemy Use	1-4
Detector, Lower Chip — Removal/Installation	6-3-11
Detector, Upper Chip — Removal/Installation	6-3-8
Detent Button, Pilot Collective Stick — Cleaning/Inspection/Repair	11-2-30
Differences (250-C30R/3 Engine with FADEC vs. 250-C30R/1 Series), Powerplant	1-27
Differences Between Models OH-58D and OH-58D(R)	1-12
Differential Pressure Switch (OH-58D(R)), Fuel — Removal/Installation	4-6-11
Differential Pressure Switch, Fuel — Inspection	4-6-12
Differential Pressure Switch, Fuel — Removal/Installation	4-6-10
Digital Fuel Control Panel (OH-58D) — Installation	9-6-16

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
Digital Fuel Control Panel (OH-58D) — Removal	9-6-15
Digital Fuel Control Panel (OH-58D) -Typical, Pushbutton Switch — Removal/Installation	9-6-20
Digital Fuel Control Panel (OH-58D), Integrally Lit Panel — Installation	9-6-18
Digital Fuel Control Panel (OH-58D), Integrally Lit Panel — Removal	9-6-17
Digital Fuel Control Panel (OH-58D), Integrally Lit Panel Connector — Removal/Installation	9-6-19
Dimming Control (Console or Instrument) — Balancing	9-6-40
Dimming Control (Console or Instrument) — Removal/Installation	9-6-39
Dimming Resistor, Position Light — Installation	9-5-13
Dimming Resistor, Position Light — Removal	9-5-12
Diode (Typical) — Removal/Installation	9-6-38
Direct Current Power and Distribution System, Introduction to	9-9
Direct Current Power and Distribution System, Task List for	9-10
Direct Current Power and Distribution System	9-8
Directional Control Actuator Input Idler Assembly — Removal/Installation	11-4-28
Directional Control Adjustable Tube Bearing (Typical) — Removal/Installation	11-4-27
Directional Control Aft Walking Beam — Removal/Installation	11-4-40
Directional Control Aft Walking Beam Bearing (AVIM) — Removal/Installation	11-4-41
Directional Control Boosted Tube — Removal/Installation	11-4-39
Directional Control Combining Bellcrank — Removal/Installation	11-4-11
Directional Control Eyebolt and Spring — Removal/Inspection/Installation	11-4-13
Directional Control Force Gradient — Cleaning/Inspection/Repair	11-4-33

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
Directional Control Force Gradient — Removal/Installation	11-4-32
Directional Control Force Gradient Bearing and Sleeve (AVIM) — Removal/Installation	11-4-34
Directional Control Force Gradient Spring/Guides/Shaft — Removal/Installation	11-4-36
Directional Control Force Gradient Switch — Removal/Installation	11-4-35
Directional Control Forward Walking Beam — Removal/Installation	11-4-25
Directional Control Lower Aft Horizontal Tube — Removal/Installation	11-4-19
Directional Control Lower Forward Horizontal Tube — Removal/Installation	11-4-14
Directional Control Lower Tunnel Bellcrank — Removal/Installation	11-4-20
Directional Control Lower Tunnel Bellcrank Bushing — Removal/Installation	11-4-21
Directional Control Nonboosted Tube — Removal/Installation	11-4-26
Directional Control Pedal Adjustment Clevis — Removal/Inspection/Installation	11-4-9
Directional Control Pedal Adjustment and Support Assembly — Removal/Installation	11-4-1
Directional Control Pedal Bearing (AVIM) — Removal/Installation	11-4-5
Directional Control Pedal Bellcrank — Removal/Installation	11-4-7
Directional Control Pedal Bellcrank Bushing and Bearing (AVIM) — Removal/Installation	11-4-8
Directional Control Pedal Tube — Removal/Installation	11-4-10
Directional Control Pedals — Cleaning/Inspection/Repair	11-4-4
Directional Control Pedals from Support Assembly — Removal	11-4-2
Directional Control Pedals in Support Assembly — Installation	11-4-6
Directional Control Rotary Actuator — Cleaning/Inspection/Repair	11-4-38

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
Directional Control Rotary Actuator — Removal/Installation	11-4-37
Directional Control Servoactuator — Removal/Installation	7-1-1
Directional Control Servoactuator Support — Removal/Installation	11-4-30
Directional Control Servoactuator Trunnion Bearing — Cleaning/Inspection/Repair	7-1-4
Directional Control Servoactuator Trunnion Bearing — Removal/Installation	7-1-3
Directional Control Servoactuator Trunnion Bushings — Cleaning/Inspection/Repair	7-1-6
Directional Control Servoactuator Trunnion Bushings — Removal/Installation	7-1-5
Directional Control Tailboom Tube — Removal/Installation	11-4-42
Directional Control Transducer — Removal/Installation	11-4-18
Directional Control Transducer Bellcrank and Support — Removal/Installation	11-4-15
Directional Control Upper Horizontal Tube — Removal/Installation	11-4-24
Directional Control Upper Tunnel Bellcrank — Removal/Installation	11-4-23
Directional Control Vertical Tube — Removal/Installation	11-4-22
Directional Controls	11-11
Directional Controls — Rigging	11-1-4
Directional Controls, Introduction to	11-12
Directional Controls, Task List for	11-13
Disc Pack Assembly, Coupling — Inspection	6-6-7
Disc Pack, Coupling — Removal/Cleaning/Installation	6-6-6
Display (MPD), Multiparameter — Cleaning/Inspection/Repair	8-1-8
Display (MPD), Multiparameter — Disassembly/Assembly	8-1-7
Display (MPD), Multiparameter — Removal/Installation	8-1-4
Display BRT Control Knob, Multiparameter — Removal/Installation	8-1-2
Display Fuses (Typical), Multiparameter — Removal/Installation	8-1-3

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
Display Front Panel (MPD), Multiparameter — Removal/Installation	8-1-4
Display Lamps (MPD), Multiparameter — Replacement	8-1-6
Distribution System, Alternating Current Power and	9-11
Distribution System, Direct Current Power and	9-8
Door, Access — Cleaning/Inspection/Repair	2-2-1
Door, Aft Electrical/Avionics — Cleaning/Inspection/Repair	2-2-90
Door, Aft Electrical/Avionics — Removal/Installation	2-2-89
Door, Aft Fairing Assembly Engine Oil Service — Removal/Installation	2-2-59
Door, Air Induction Cowl Access — Cleaning/Inspection/Repair	4-2-7
Door, Air Induction Cowl Access — Removal/Installation	4-2-6
Door, Crew — Removal/Installation	2-2-10
Door, Hinge Halves/Quick-Disconnect Pin/Lanyard, Access — Cleaning/Inspection/Repair	2-2-4
Door Bonding Jumper (Typical), Access — Inspection/Repair/Replacement	2-2-7
Door Chafing Strip, Access — Cleaning/Inspection/Repair	2-2-5
Door Hinge Assembly, Crew — Disassembly/Assembly	2-2-14
Door Hinge Components, Crew — Cleaning/Inspection/Repair	2-2-15
Door Jettison Mechanism, Crew — Cleaning/Inspection/Repair	2-2-12
Door Jettison Mechanism, Crew — Removal/Installation	2-2-11
Door Latch Assembly, Access — Cleaning/Inspection/Repair	2-2-3
Door Latch Assembly, Crew — Cleaning/Inspection/Repair	2-2-13
Door Switch, AC External Power — Cleaning/Inspection/Repair	9-4-1
Door Switch, AC External Power — Removal/Installation	9-4-2
Door Switch, DC External Power — Cleaning/Inspection/Repair	9-3-11
Door Switch, DC External Power — Removal/Installation	9-3-12
Door Turnlock Receptacles, Access — Inspection/Repair/Replacement	2-2-8

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
Door Window, Crew — Removal/ Installation	2-2-88
Door Window Snap Vent, Crew — Removal/Installation	2-2-9
Doorframe/Windshield Frame Assembly — Repair	2-2-73
Doors, Access — Removal/ Installation	2-2-6
Doors, Cowlings, Fairings, and Access Panels	2-2
Doors, Crew — Cleaning/ Inspection/Repair	2-2-87
Down Assembly, Stop- — Cleaning/Inspection/Repair	2-4-6
Drain Valve, Oil — Cleaning/ Inspection/Repair	6-8-21
Drain Valve, Oil — Removal/ Installation	6-8-20
Draining, Transmission/ Freewheeling Unit	1-4-7
Drain Valve, Oil Tank — Removal/Installation	4-4-7
Drain, Cabin Roof — Cleaning/ Inspection/Repair	2-2-85
Drains (Appendix Q), Aircraft	Q-10
Drive Hub Set (AVIM), Main Rotor Controls — Cleaning/ Inspection/Repair	5-2-11
Drive Hub Set, Main Rotor Controls — Installation	5-2-12
Drive Hub Set, Main Rotor Controls — Removal	5-2-10
Drive Lever, Main Rotor Controls — Installation	5-2-9
Drive Lever, Main Rotor Controls — Removal	5-2-7
Drive Lever (AVIM), Main Rotor Controls — Cleaning/ Inspection/Repair	5-2-8
Drive Link, Main Rotor Controls — Installation	5-2-6
Drive Link, Main Rotor Controls — Removal	5-2-4
Drive Link (AVIM), Main Rotor Controls — Cleaning/ Inspection/Repair	5-2-5
Drive Pin, Main Rotor Controls — Cleaning/Inspection	5-2-14
Drive Ring Set (AVIM), Main Rotor — Cleaning/Inspection/ Repair	5-1-31
Drive Ring Set (AVIM), Main Rotor — Removal/Installation	5-1-30
Drive Train System — Identification of Foreign Material	6-1-4

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
Drive Train System	1-29, 6-1
Drive Train System (Flyable Storage)	E-11
Drive Train System (Intermediate Storage)	E-37
Drive Train System (Short Term Storage)	E-22
Driver Plate, Tail Rotor Control Tube — Cleaning/Inspection/ Repair	5-4-6
Driver Plate, Tail Rotor Control Tube — Installation	5-4-7
Driver Plate, Tail Rotor Control Tube — Removal	5-4-5
Driveshaft Assembly, Hydraulic Pump — Cleaning/Inspection/ Repair	7-8-4
Driveshaft Assembly, Hydraulic Pump Alternate Method — Inspection	7-8-5
Driveshaft Coupling Angle, Tail Rotor — Inspection and Driveshaft Alignment	6-6-18
Driveshaft Covers, Tail Rotor — Cleaning/Inspection/Repair	2-3-12
Driveshaft Covers, Tail Rotor — Removal/Installation	2-3-11
Driveshaft, Engine to Transmission	6-6
Driveshaft, Engine-to- Transmission — Cleaning/ Inspection/Repair	6-2-2
Driveshaft, Engine-to- Transmission — Removal/ Installation	6-2-1
Driveshaft, Starter-Generator — Inspection	9-3-1
Driveshafts, Tail Rotor	6-18
Driveshafts, Task List for Tail Rotor	6-20
Droop Compensator Potentiometer Arm — Cleaning/Inspection/Repair	11-2-54
Droop Stop Plug, Main Rotor — Cleaning/Inspection/Repair	5-1-11
Droop Stop Plugs, Main Rotor — Removal/Installation	5-1-10
Droop Stop Stud, Main Rotor — Cleaning/Inspection/Repair	5-1-13
Droop Stop Studs, Main Rotor — Removal/Installation	5-1-12
Dual Tachometer — Cleaning/ Inspection/Repair	8-1-17
Dual Tachometer — Disassembly/ Assembly	8-1-15

<u>Subject</u>	<u>Para/Task</u>
D (Cont)	
Dual Tachometer — Removal/ Installation	8-1-14
Dual Tachometer Lamps — Replacement	8-1-16
Duct Assembly, Avionic Cooling System Motor Intake — Removal/Installation	9-1-4
Duct and Panels, Center Post — Cleaning/Inspection/Repair	2-2-70
Duct and Panels, Center Post — Removal/Installation	2-2-69
Duct, Exhaust — Removal/ Installation	4-3-1
Duct, Oil Cooler — Cleaning/ Inspection/Repair	6-8-28
Duct, Oil Cooler — Removal/ Installation	6-8-27
Ducts, Heating and Ventilation System — Cleaning/Inspection/ Repair	12-1-11
Ducts, Heating and Ventilation System — Removal/Installation	12-1-12
Ducts (AVIM), Exhaust — Cleaning/Inspection/Repair	4-3-2
Duplex Bearing Nut, Input Adapter Nut/Input — Cleaning/ Inspection/Repair	6-7-7
Dynamic Balancing, Main Rotor Tracking and	5-3-2

E

ECU, Electronic Control Unit — Installation	9-7-5
ECU, Electronic Control Unit — Removal	9-7-4
EMI Electrical Connector — Removal/Installation/Repair	9-6-85
Edge Adhesive Fill (AVIM), Weight Pocket — Repair	5-1-52
Elbow Assembly Bearings, Pilot Collective — Removal/ Installation	11-2-41
Elbow Assembly, Copilot/Gunner Collective — Removal/ Installation	11-2-43
Elbow Assembly, Copilot/Gunner Collective Stick — Cleaning/ Inspection/Repair	11-2-45
Elbow Assembly, Pilot Collective — Removal/Installation	11-2-40
Elbow Assembly, Pilot Collective Stick — Cleaning/Inspection/ Repair	11-2-33

<u>Subject</u>	<u>Para/Task</u>
E (Cont)	
Electrical Assembly Electrical Connector, Standpipe — Replacement	6-4-4
Electrical Assembly, Standpipe — Installation	6-4-3
Electrical Assembly, Standpipe — Removal	6-4-1
Electrical Bonding Classes (Appendix M)	M-3
Electrical Bonding Methods (Appendix M)	M-7
Electrical Bonds (Appendix M), Resistance of	M-5
Electrical Connections (Overhead Console and Center Post Circuit Breaker Panel-Typical) — Inspection	9-6-13
Electrical Connector (Beneath CPG Seat) — Removal/ Installation	9-6-78
Electrical Connector Pin Arrangement (Appendix F), Typical	F-5
Electrical Connector, EMI — Removal/Installation/Repair	9-6-85
Electrical Connector, Standpipe Electrical Assembly — Replacement	6-4-4
Electrical Connectors (TM 55- 1500-343-23), Universal Weapons Pylon	Q-15
Electrical Equipment, Armament	9-23
Electrical Equipment, Introduction to Armament	9-24
Electrical Equipment, Introduction to Miscellaneous	9-18
Electrical Equipment, Miscellaneous — Cleaning/ Inspection/Repair	9-6-2
Electrical Equipment, Miscellaneous	9-17
Electrical Equipment, Powerplant and Transmission	9-20
Electrical Equipment, Task List for Armament	9-25
Electrical Equipment, Task List for Miscellaneous	9-19
Electrical System	1-20, 9-1
Electrical System (Flyable Storage)	E-13
Electrical System (Intermediate Storage)	E-39
Electrical System (Short Term Storage)	E-24
Electrical Systems	1-32

<u>Subject</u>	<u>Para/Task</u>
E (Cont)	
Electrical Wiring/Cabling (Avionics Compartment) — Removal/ Installation	10-2-4
Electrical/Avionics Door, Aft — Cleaning/Inspection/Repair	2-2-90
Electrical/Avionics Door, Aft — Removal/Installation	2-2-89
Electronic Control Unit (ECU) (OH-58D(R)) — Cleaning/ Inspection/Repair	9-7-2
Electronic Control Unit (ECU) (OH-58D(R)) — Installation	9-7-6
Electronic Control Unit (ECU) (OH-58D(R)) — Removal	9-7-4
Electronic Supervisory Control (OH-58D) — Cleaning/ Inspection/Repair	9-7-1
Electronic Supervisory Control (OH-58D) — Installation	9-7-5
Electronic Supervisory Control (OH-58D) — Removal	9-7-3
Electronics Assembly (IEA), Interface — Cleaning/ Inspection/Repair	9-8-5
Electronics Assembly (IEA), Interface — Removal/ Installation	9-8-6
Electronics Assembly (IEA) Shock Mount, Interface — Removal/ Installation	9-8-7
Electronics Unit (AEU), Armament — Cleaning/Inspection/Repair	9-8-3
Electronics Unit (AEU), Armament — Removal/Installation	9-8-4
Electronics Unit (MSSEU), Missile Sight Subsystem — Cleaning/Inspection/Repair	9-8-8
Electronics Unit (MSSEU), Missile Sight Subsystem — Removal/ Installation	9-8-9
Electronics (RHE), Remote Hellfire — Cleaning/Inspection/ Repair	9-8-10
Electronics (RHE), Remote Hellfire — Removal/Installation	9-8-11
Elements, Filter — Replacement	7-3-2
Emergency Equipment	1-39
Emergency Equipment, Introduction to Miscellaneous	14-3
Emergency Equipment, Miscellaneous	14-1
Emergency Equipment, Task List for Miscellaneous	14-4
Emergency Equipment (Intermediate Storage)	E-41

<u>Subject</u>	<u>Para/Task</u>
E (Cont)	
Emergency Equipment (Short Term Storage)	E-26
Emergency Release Cable Bracket, Cargo Hook — Removal/Installation	13-1-4
Emergency Release Cable, Cargo Hook — Removal/Installation	13-1-3
Energy Attenuating Wire — Cleaning/Inspection/Repair	2-2-39
Energy Attenuating Wire — Removal/Installation	2-2-38
Engage Switch, ICS — Removal/ Installation	9-6-87
Engage Switch, SCAS Pitch and Roll — Removal/Installation	9-6-26
Engage Switch, SCAS Yaw — Removal/Installation	9-6-27
Engine	1-17
Engine — Assembly	4-1-4
Engine — Disassembly	4-1-3
Engine (Flyable Storage)	E-7
Engine (Intermediate Storage)	E-32
Engine (Short Term Storage)	E-18
Engine Accessory Gearbox Seal — Removal/Installation	4-1-10
Engine Areas (Appendix Q)	Q-9
Engine Assembly	4-2
Engine Assembly (OH-58D(R)) — Installation	4-1-6
Engine Assembly (OH-58D(R)) — Removal	4-1-2
Engine Assembly (OH-58D) — Installation	4-1-5
Engine Assembly (OH-58D) — Removal	4-1-1
Engine Control Cable Bellows Assembly — Removal/ Installation	4-6-6
Engine Cowl Assembly — Cleaning/Inspection/Repair	2-2-51
Engine Cowl Assembly — Removal/Installation	2-2-50
Engine Cowl Assembly Exhaust Duct (AVIM) — Removal/ Cleaning/Inspection Repair/ Installation	2-2-54
Engine Cowl Assembly Side Door — Cleaning/Inspection/Repair	2-2-53
Engine Cowl Assembly Side Door — Removal/Installation	2-2-52
Engine Mount Legs — Cleaning/ Inspection	4-7-3
Engine Mount Legs — Removal/ Installation	4-7-1
Engine Mount Trunnion — Cleaning/Inspection/Repair	4-7-2

<u>Subject</u>	<u>Para/Task</u>
E (Cont)	
Engine Mounts.....	4-18
Engine Oil Pressure Transducer — Checking.....	4-1-8
Engine Oil System.....	1-16, 4-11
Engine Oil System — Draining.....	1-4-5
Engine Oil System — Servicing.....	1-4-6
Engine Scavenge Oil Filter Assembly — Removal/ Installation.....	4-4-17
Engine Scavenge Oil Filter Element — Removal/ Installation.....	4-4-16
Engine to Transmission Driveshaft.....	6-6
Engine Vent and Fuel Supply Hoses — Removal/Installation.....	10-1-8
Engine, Rotor, and Transmission Instruments, Introduction to.....	8-3
Engine, Rotor, and Transmission Instruments.....	8-2
Engine to Transmission — Alignment.....	4-7-4
Engine to Transmission Driveshaft — Cleaning/ Inspection/Repair.....	6-2-2
Engine to Transmission Driveshaft — Removal/ Installation.....	6-2-1
Engine/Rotor/Transmission Instruments — Cleaning/ Inspection.....	8-1-1
Environmental Control Systems.....	1-36
Environmental Control Systems.....	12-1
Equipment, Armament Electrical.....	9-23
Equipment, Emergency.....	1-39, 14-1
Equipment, Miscellaneous Electrical — Cleaning/ Inspection/Repair.....	9-6-2
Equipment, Miscellaneous Electrical.....	9-17
Equipment, Mission.....	13-1
Equipment, Weighing.....	G-15
Equipment (Armament), Mission.....	1-38
Equipment (Avionics), Mission.....	1-37
Equipment (Column 5 and Section III), Tools and Test.....	B-9
Equipment (Flyable Storage), Avionics.....	E-10
Equipment (Intermediate Storage), Avionics.....	E-36
Equipment (Intermediate Storage), Emergency.....	E-41
Equipment (Short Term Storage), Avionics.....	E-21
Equipment (Short Term Storage), Emergency.....	E-26

<u>Subject</u>	<u>Para/Task</u>
E (Cont)	
Equipment Characteristics, Capabilities, and Features.....	1-10
Equipment Configuration.....	1-21
Equipment Data.....	1-13
Equipment Improvement Recommendations (EIR), Reporting.....	1-8
Equipment List (Appendix F), Description -.....	F-7
Equipment List (Appendix F).....	F-6
Erosion Shield, Main Rotor Blade — Repair.....	5-1-44
Erosion Strip (AVIM), Main Rotor Blade Inboard — Repair/ Replacement.....	5-1-49
Erosion Strip Splice Cover (AVIM), Main Rotor Blade — Removal/Replacement.....	5-1-50
Erosion Strip Splice Cover, Main Rotor Blade — Repair.....	5-1-48
Erosion Strip, Main Rotor Blade Inboard — Repair.....	5-1-47
Erosion Strip, Main Rotor Blade Outboard — Repair.....	5-1-46
Exhaust Duct — Removal/ Installation.....	4-3-1
Exhaust Duct (AVIM) — Cleaning/ Inspection/Repair.....	4-3-2
Exhaust Duct (AVIM), Engine Cowl Assembly — Removal/ Cleaning/Inspection/Repair/ Installation.....	2-2-54
Exhaust System.....	4-8
Expandable Bolt, Lanyard on Main Rotor — Removal/ Installation.....	5-1-7
Expandable Bolt, Main Rotor — Cleaning/Inspection/Repair.....	5-1-8
Expandable Bolt, Main Rotor — Removal/Installation.....	5-1-6
Expandable and Durable Items List.....	D-1
Explanation of Columns (Appendix D).....	D-2
Extension, Aft Fairing — Cleaning/Inspection/Repair.....	2-2-58
Extension, Aft Fairing — Removal/Installation.....	2-2-56
External Fuselage Fittings — Cleaning/Inspection/Repair.....	2-2-96
External Power Connector, DC — Cleaning/Inspection/Repair.....	9-3-15
External Power Connector, DC — Removal/Installation.....	9-3-16
External Power Door Switch, AC — Cleaning/Inspection/Repair.....	9-4-1

<u>Subject</u>	<u>Para/Task</u>
E (Cont)	
External Power Door Switch, AC — Removal/Installation	9-4-2
External Power Receptacle, AC — Cleaning/Inspection/Repair	9-4-3
External Power Receptacle, AC — Removal/Installation	9-4-4
External Power Reset Switch, AC — Cleaning/Inspection/Repair	9-4-5
External Power Reset Switch, AC — Removal/Installation	9-4-6
External Power, AC — Application	1-6-6
External Power, DC — Application	1-6-5
Extinguisher, Fire — Removal/ Inspection/Installation	14-1-1
Eyebolt (Rapid Deployment) — Cleaning/Inspection/Repair	3-1-23
Eyebolt (Rapid Deployment) — Removal/Installation	3-1-21
Eyebolt — Cleaning/Inspection/ Repair	3-1-22
Eyebolt — Removal/Installation	3-1-20
Eyebolt and Spring, Directional Control — Removal/Inspection/ Installation	11-4-13

F

FADEC (OH-58D(R)), AUTO/MAN Switch — Removal/Installation	9-6-16.1
Fairing Assembly Seal, Forward — Removal/Installation	2-2-49
Fairing Assembly, Aft — Cleaning/Inspection/Repair	2-2-57
Fairing Assembly, Aft — Removal/Installation	2-2-55
Fairing Assembly, Forward — Cleaning/Inspection/Repair	2-2-48
Fairing Assembly, Forward — Removal/Installation	2-2-47
Fairing Extension, Aft — Cleaning/Inspection/Repair	2-2-58
Fairing Extension, Aft — Removal/Installation	2-2-56
Fairing Seals, Oil Cooler — Removal/Installation	4-4-14
Fairleads, Tailboom — Inspection/ Removal/Installation	2-3-7
Fan (AVIM), Particle Separator — Cleaning/Inspection/Repair	4-2-10
Fan (AVIM), Particle Separator — Disassembly/Assembly	4-2-9
Fan Shaft Assembly — Installation	6-6-14
Fan Shaft Assembly — Removal	6-6-11

<u>Subject</u>	<u>Para/Task</u>
F (Cont)	
Fan Shaft Bearing Hanger Brackets (Forward and Aft) — Cleaning/Inspection/Repair	6-6-16
Fan Shaft Bearing Hanger Brackets (Forward and Aft) — Removal/Installation	6-6-15
Fan Shaft/Blower Housing, Bearing Hangers/Bearings/ Impeller/ — Cleaning/ Inspection/Repair	6-6-13
Fan Shaft/Blower Housing, Bearing Hangers/Bearings/ Impeller/ — Removal/ Installation	6-6-12
Fan and Duct, Particle Separator — Installation	4-2-11
Fan and Duct, Particle Separator — Removal	4-2-8
Features, Equipment Characteristics, Capabilities, and	1-10
Fill (AVIM), Weight Pocket Edge Adhesive — Repair	5-1-52
Filter Assemblies, Hydraulic	7-8
Filter Assemblies, Introduction to Hydraulic	7-9
Filter Assemblies, Task List for Hydraulic	7-10
Filter Assembly, Hydraulic — Removal/Cleaning/Inspection/ Repair/Installation	7-3-1
Filter Bypass Valve Assembly, Oil — Cleaning/Inspection/Repair	6-8-10
Filter Bypass Valve Assembly, Oil — Removal/Installation	6-8-9
Filter Elements — Replacement	7-3-2
Filter Inlet Hose, Oil — Removal/ Installation	6-8-13
Filter Manifold, Oil — Cleaning/ Inspection/Repair	6-8-5
Filter Manifold, Oil — Removal/ Installation	6-8-4
Filters, Transmission Oil — Removal/Cleaning/Installation	6-8-3
Fin — Repair/Touchup	2-3-21
Fin — Stowing/Unstowing	1-7-8
Fin Assembly — Cleaning/ Inspection/Repair	2-3-16
Fin Assembly (AVIM) — Repairing Minor Puncture Damage and Rebonding of Sleeve	2-3-17
Fin Bumper, Vertical — Installation	2-3-19
Fin Skin (AVIM) — Repairing Voids	2-3-20

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
F (Cont)		F (Cont)	
Fin Support (Pivotable) — Removal/Installation	2-3-23	Fittings, Pitot-Static Tubing and — Removal	8-3-2
Fin Support Fittings — Removal/ Installation	2-3-24	Fittings, Pylon — Cleaning/ Inspection/Repair	6-3-15
Fin, Pivotable — Removal/ Installation	2-3-22	Fittings, Pylon — Removal/ Installation	6-3-14
Fire Extinguisher — Removal/ Inspection/Installation	14-1-1	Fittings, Tow — Cleaning/ Inspection/Repair	3-1-50
Firesleeves, Bleed Air Firesleeves — Removal/Installation	12-1-13	Fittings, Tow — Removal/ Installation	3-1-48
Firesleeves, Bleed Air Tube — Cleaning/Inspection	12-1-14	Fittings, and Quick-Disconnects, Hydraulic Hoses, Lines, Tubes,	7-11
Firewall, Aft	4-24	Fittings, and Quick-Disconnects, Task List for Hydraulic Hoses, Lines, Tubes,	7-13
Firewall, Aft — Cleaning/ Inspection/Repair	4-9-2	Flame Spray Coating (AVIM) — Use	2-2-68
Firewall, Forward	4-21	Flasher, Anticollision Light — Installation	9-5-5
Firewall, Forward — Cleaning/ Inspection/Repair	4-8-2	Flasher, Anticollision Light — Removal	9-5-4
Firewall Assembly, Aft — Removal/Installation	4-9-1	Flex Hose (Typical) — Removal/ Installation	7-4-3
Firewall Assembly, Forward — Removal/Installation	4-8-1	Flexible Air Duct Coupling, Avionic Cooling System — Removal/Installation	9-1-6
Firewall Pan, Aft — Removal/ Installation	4-9-3	Flight Control Bellcranks, Idlers, and Walking Beams — Cleaning/Inspection/Repair	11-5-2
Firewall Seal, Aft — Removal/ Installation	4-9-4	Flight Control Supports — Cleaning/Inspection/Repair	11-5-3
Firewall Seals, Forward — Removal/Installation	4-8-4	Flight Control Tubes — Cleaning/ Inspection/Repair	11-5-1
First Aid Kit — Removal/ Inspection/Installation	14-1-2	Flight Controls	1-34, 11-1
Fitting, UWP Mount — Cleaning/ Inspection/Repair	2-2-94	Flight Instruments	8-5
Fitting (Rapid Deployment), Tiedown — Removal/ Installation	3-1-55	Flight Instruments, Introduction to	8-6
Fitting Assembly Bearings (AVIM), CPG Cyclic Stick — Removal/Installation	11-3-68	Flight Instruments, Task List for	8-7
Fitting Assembly, CPG Cyclic Stick — Cleaning/Inspection/ Repair	11-3-67	Flight Safety Parts	1-60
Fitting Assembly, Pilot Cyclic Stick — Cleaning/Inspection/ Repair	11-3-60	Flight Safety Parts Program	1-61
Fitting Assembly, Pilot Cyclic Stick — Removal/Installation	11-3-58	Floodlight (Typical) — Installation	9-5-7
Fittings (Rapid Deployment), Tow — Removal/Installation	3-1-49	Floodlight (Typical) — Removal	9-5-6
Fittings, External Fuselage — Cleaning/Inspection/Repair	2-2-96	Folding Horizontal Stabilizer — Cleaning/Inspection/Repair	2-3-26
Fittings, Fin Support — Removal/ Installation	2-3-24	Folding Horizontal Stabilizer — Removal/Installation	2-3-27
Fittings, Pitot-Static Tubing and — Cleaning/Inspection/Repair	8-3-1	Folding Horizontal Stabilizer Hinge Area — Cleaning/ Inspection/Repair	2-3-29
Fittings, Pitot-Static Tubing and — Installation	8-3-3	Folding Horizontal Stabilizer Upper Surface — Cleaning/ Inspection	2-3-25
		Folding Horizontal Stabilizer, Left/ Right — Removal/Installation	2-3-28
		Footswitch (Typical) — Removal/ Installation	9-6-76

<u>Subject</u>	<u>Para/Task</u>
F (Cont)	
Force Gradient, Directional Control — Cleaning/Inspection/Repair.....	11-4-33
Force Gradient, Directional Control — Removal/Installation	11-4-32
Force Gradient, Fore-and-Aft — Cleaning/Inspection/Repair	11-3-2
Force Gradient, Fore-and-Aft — Removal/Installation	11-3-1
Force Gradient, Lateral — Cleaning/Inspection/Repair	11-3-7
Force Gradient, Lateral — Removal/Installation	11-3-6
Force Gradient Bearing and Sleeve (AVIM), Directional Control — Removal/Installation	11-4-34
Force Gradient Cylinder (AVIM), Bearing in — Removal/Installation	11-3-3
Force Gradient Spring/Guides/Shaft, Directional Control — Removal/Installation	11-4-36
Force Gradient Switch, Directional Control — Removal/Installation	11-4-35
Force Gradient Tube Assembly — Cleaning/Inspection/Repair	11-3-8
Force Trim Switch, SCAS — Removal/Installation	9-6-29
Fore-and-Aft Cyclic Transducer — Installation	11-3-23
Fore-and-Aft Cyclic Transducer — Removal	11-3-22
Fore-and-Aft Force Gradient — Cleaning/Inspection/Repair	11-3-2
Fore-and-Aft Force Gradient — Removal/Installation	11-3-1
Fore-and-Aft Magnetic Brake — Cleaning/Inspection/Repair	11-3-5
Fore-and-Aft Magnetic Brake — Removal/Installation	11-3-4
Formation Lights (Typical), NVG — Removal/Installation	9-5-14
Formation Lights Switch, NVG — Removal/Installation	9-5-15
Forms (Appendix G)	G-6
Forms and Records, Maintenance	1-3
Forward Cap Oil Seal Assembly — Removal/Cleaning/Inspection/Repair/Installation	6-5-2
Forward Crosstube — Cleaning/Inspection/Repair.....	3-1-26
Forward Crosstube — Removal/Installation	3-1-24
Forward Crosstube (Nonstandard) — Cleaning/Inspection/Repair	3-1-28

<u>Subject</u>	<u>Para/Task</u>
F (Cont)	
Forward Crosstube (Rapid Deployment) — Cleaning/Inspection/Repair.....	3-1-27
Forward Crosstube (Rapid Deployment) — Removal/Installation	3-1-25
Forward Crosstube Components — Cleaning/Inspection/Repair	3-1-31
Forward Crosstube Components — Removal/Installation	3-1-29
Forward Crosstube Components (Rapid Deployment) — Cleaning/Inspection/Repair	3-1-60
Forward Crosstube Components (Rapid Deployment) — Removal/Installation	3-1-30
Forward Crosstube Strap — Cleaning/Inspection/Repair	3-1-7
Forward Crosstube Strap (Rapid Deployment) — Cleaning/Inspection/Repair.....	3-1-59
Forward Crosstube Support Assembly (Rapid Deployment) — Cleaning/Inspection/Repair	3-1-10
Forward Crosstube Supports (Rapid Deployment) — Cleaning/Inspection/Repair	3-1-32
Forward Fairing Assembly — Cleaning/Inspection/Repair	2-2-48
Forward Fairing Assembly — Removal/Installation	2-2-47
Forward Fairing Assembly Seal — Removal/Installation	2-2-49
Forward Firewall	4-21
Forward Firewall — Cleaning/Inspection/Repair.....	4-8-2
Forward Firewall Assembly — Removal/Installation	4-8-1
Forward Firewall Seals — Removal/Installation	4-8-4
Forward Overhead Console-Typical, Switch — Removal/Installation	9-6-10
Forward Overhead Console-Typical, Transformer — Removal/Installation	9-6-11
Forward Shaft Assembly — Cleaning/Inspection/Repair	6-6-3
Forward Shaft Assembly — Removal/Installation (OH-58D(R))	6-6-2
Forward Shaft Assembly — Removal/Installation (OH-58D).....	6-6-1
Forward Support Fittings, Lower — Removal/Installation	2-2-95

<u>Subject</u>	<u>Para/Task</u>
F (Cont)	
Forward Transverse Beam (AVIM)	
— Cleaning/Inspection/Repair	2-4-10
Forward Walking Beam,	
Directional Control — Removal/	
Installation	11-4-25
Frame Assembly, Doorframe/	
Windshield — Repair	2-2-73
Freewheeling Unit	6-15
Freewheeling Unit — Installation	6-5-7
Freewheeling Unit — Removal	6-5-1
Freewheeling Unit —	
Serviceability Check	6-1-2
Freewheeling Unit, Introduction to	6-16
Freewheeling Unit, Task List for	6-17
Freewheeling Unit, Transmission	
— Draining	1-4-7
Freewheeling Unit, Transmission	
— Servicing	1-4-8
Freewheeling Unit Components	
(AVIM) — Cleaning/Inspection/	
Repair	6-5-3
Freewheeling Unit Tail Rotor	
Drive Output Adapter Wear	
Sleeve (AVIM) — Removal/	
Installation	6-5-6
Freewheeling Unit Tail Rotor	
Drive Output Oil Seal (AVIM)	
— Removal/Installation	6-5-4
Freewheeling Unit Tail Rotor	
Output Shaft Bearing (AVIM) —	
Removal/Installation	6-5-5
Friction Clamp, Collective —	
Cleaning/Inspection/Repair	11-2-25
Friction Knob and Shaft Pin,	
Collective — Removal/	
Installation	11-2-65
Friction Knob and Shaft,	
Collective — Removal/	
Installation	11-2-64
Friction Knob and Shaft, Cyclic —	
Cleaning/Inspection/Repair	11-3-25
Friction Knob and Shaft, Cyclic —	
Installation	11-3-26
Friction Knob and Shaft, Cyclic —	
Removal	11-3-24
Friction on Collective System,	
Minimum — Adjusting	11-2-24
Front Panel, Multiparameter	
Display (MPD) — Removal/	
Installation	8-1-5
Fuel Cell	10-5
Fuel Cell — Removal/Installation	10-2-1
Fuel Cell, Introduction to	10-6
Fuel Cell, Task List for	10-7
Fuel Cell (AVIM) — Cleaning/	
Inspection/Repair	10-2-2

<u>Subject</u>	<u>Para/Task</u>
F (Cont)	
Fuel Cell (Intermediate Storage),	
Combat Damaged	E-34
Fuel Cell Support Assemblies —	
Cleaning/Inspection/Repair/	
Replacement	10-2-3
Fuel Cell Vent Hose — Inspection	10-1-10
Fuel Cell Vent Hose — Removal/	
Installation	10-1-11
Fuel Control Clevis — Removal/	
Installation	4-6-9
Fuel Control Lever — Removal/	
Installation	4-6-8
Fuel Control Panel (OH-58D),	
Digital — Installation	9-6-16
Fuel Control Panel (OH-58D),	
Digital — Removal	9-6-15
Fuel Control Panel (OH-58D),	
Integrally Lit Panel Digital —	
Installation	9-6-18
Fuel Control Panel (OH-58D),	
Integrally Lit Panel Digital —	
Removal	9-6-17
Fuel Control Panel (OH-58D),	
Toggle Switch Digital —	
Removal/Installation	9-6-21
Fuel Differential Pressure Switch	
(OH-58D(R)) — Removal/	
Installation	4-6-11
Fuel Differential Pressure Switch	
— Inspection	4-6-12
Fuel Differential Pressure Switch	
— Removal/Installation	4-6-10
Fuel Indicating System —	
Checking	10-2-5
Fuel Pressure Switch —	
Removal/Installation	10-1-12
Fuel Pressure Warning Switch	
(OH-58D(R)), Low — Removal/	
Installation	4-6-13
Fuel Probe — Removal/	
Installation	10-1-13
Fuel Quantity Control Unit —	
Removal/Installation	9-6-64
Fuel Shutoff Lever — Cleaning/	
Inspection/Repair	10-1-2
Fuel Shutoff Lever — Installation	10-1-3
Fuel Shutoff Lever — Removal	10-1-1
Fuel Shutoff Lever and Valve —	
Rigging	10-1-4
Fuel Shutoff Valve — Inspection	10-1-6
Fuel Shutoff Valve — Removal/	
Installation	10-1-5
Fuel Sump — Cleaning/Inspection	10-1-15
Fuel Sump — Installation	10-1-16
Fuel Sump — Removal	10-1-14
Fuel System	1-14, 1-33

<u>Subject</u>	<u>Para/Task</u>
F (Cont)	
Fuel System	10-1
Fuel System (Flyable Storage)	E-8
Fuel System (Intermediate Storage).....	E-33
Fuel System (Short Term Storage).....	E-19
Fuel System Components, Introduction to.....	10-3
Fuel System Components, Task List for	10-4
Fuel System Components	10-2
Fuel System Hoses — Cleaning/ Inspection	10-1-9
Function (Column 3), Maintenance	B-7
Functional Description	1-22
Functional Groupings	B-5
Functions, Maintenance	B-4
Fuselage	2-4
Fuselage Attach Fittings, Tailboom and Aft — Cleaning/ Inspection/Repair	2-3-3
Fuselage Corrosion Data.....	Q-12
Fuselage Fittings, External — Cleaning/Inspection/Repair	2-2-96
Fuses, Multiparameter Display (MPD) (Typical) — Removal/ Installation	8-1-3

G

Gage, Sight — Removal/ Installation	6-3-13
Gear, Alighting.....	3-1
Gear, Landing	1-25, 3-2
Gear, Landing — Inspection	3-1-1
Gear, Landing — Removal/ Installation	3-1-5
Gear (Rapid Deployment), Landing	3-1-6
Gear (Intermediate Storage), Landing	E-43
Gear (Rapid Deployment), Landing — Removal/Installation	3-1-6
Gear (Short Term Storage), Landing	E-28
Gear Crosstube (Rapid Deployment), Landing — Inspection for Deflection	3-1-4
Gear Crosstube, Landing — Inspection for Deflection	3-1-3
Gear Interrupt Switch, Weight-On — Removal/Installation	9-6-86
Gear Support Fitting Assemblies, Landing — Removal/ Installation/Inspection	2-2-97

<u>Subject</u>	<u>Para/Task</u>
G (Cont)	
Gear Support Fitting, Landing — Cleaning/Inspection/Repair	3-1-58
Gear Support Fitting, Landing — Removal/Installation	3-1-57
Gear Switch (Rapid Deployment Landing Gear), Weight-On — Removal/Installation	9-6-1
Gear Switch, Weight-On — Removal/Installation	9-6-77
Gearbox, Introduction to Tail Rotor.....	6-22
Gearbox, Tail Rotor — Cleaning/ Inspection/Repair.....	6-7-2
Gearbox, Tail Rotor — Draining/ Servicing	1-4-9
Gearbox, Tail Rotor — Removal/ Installation	6-7-1
Gearbox, Tail Rotor — Serviceability Check	6-1-3
Gearbox, Tail Rotor.....	1-19, 6-21
Gearbox, Task List for Tail Rotor.....	6-23
Gearbox Boot, Tail Rotor — Removal/Installation	5-5-16
Gearbox Breather, Tail Rotor — Removal/Cleaning/Installation.....	6-7-3
Gearbox Chip Detector, Tail Rotor — Removal/Installation	6-7-10
Gearbox Housing Packing, Tail Rotor — Removal/Installation	5-5-18
Gearbox Input Seal, Tail Rotor — Removal/Installation	6-7-6
Gearbox Input Seal, Tail Rotor — Removal/Installation	6-7-5
Gearbox Pitch Change Housing, Tail Rotor — Cleaning/ Inspection/Repair.....	5-5-21
Gearbox Support Assembly, Tail Rotor — Cleaning/Inspection/ Repair.....	2-3-6
Gearbox Trunnion Seal and Bearing, Tail Rotor — Removal/Installation	5-5-17
General Information for Preventive Maintenance Inspections	1-55
Generator, AC — Cleaning/ Inspection/Repair.....	9-4-7
Generator, AC — Installation.....	9-4-9
Generator, AC — Removal.....	9-4-8
Generator, Starter — Removal/ Installation	9-3-14
Generator Brushes, Starter — Inspection/Replacement	9-3-13
Generator Control Unit — Cleaning/Inspection/Repair	9-4-10

<u>Subject</u>	<u>Para/Task</u>
G (Cont)	
Generator Control Unit — Removal/Installation	9-4-11
Generator Driveshaft, Starter — Inspection	9-3-1
Gimbal Assembly, CPG Cyclic Stick — Cleaning/Inspection/ Repair	11-3-65
Gimbal Assembly Bushing (AVIM), CPG Cyclic Stick — Removal/Installation	11-3-66
Gimbal/Fitting/Plate and Support Assemblies, CPG Cyclic Stick — Removal/Installation	11-3-64
Gimbal Ring, Main Rotor Controls — Installation	5-2-16
Gimbal Ring, Main Rotor Controls — Removal	5-2-13
Gimbal Ring (AVIM), Main Rotor Controls — Cleaning/ Inspection/Repair	5-2-15
Glareshield, Instrument Panel — Cleaning/Inspection/Repair	8-1-19
Glareshield, Instrument Panel — Removal/Installation	8-1-18
Gradient Tube Assembly, Force — Cleaning/Inspection/Repair	11-3-8
Gradient, Lateral Force — Cleaning/Inspection/Repair	11-3-7
Gradient, Lateral Force — Removal/Installation	11-3-6
Gravity or Open Port — Refueling (Power Off or Rapid)	1-4-2
Grip and Adapter Assembly (AVIM), Main Rotor — Removal/Installation	5-1-38
Grip Assembly, Copilot/Gunner Collective — Cleaning/ Inspection/Repair	11-2-12
Grip Assembly, Main Rotor — Cleaning/Inspection/Repair	5-1-28
Grip Assembly, Pilot Collective Stick Throttle — Cleaning/ Inspection/Repair	11-2-31
Grip Bushings/Pins/Inserts (AVIM), Main Rotor — Removal/Installation	5-1-29
Grip Lead Lag Bearing (AVIM), Main Rotor — Cleaning/ Inspection/Repair	5-1-25
Grip Lead Lag Bearings (AVIM), Main Rotor — Removal/ Installation	5-1-24
Grip, Pilot Cyclic — Removal/ Installation	9-6-84
Grip-Typical, Switch Cyclic — Removal/Installation	9-6-53

<u>Subject</u>	<u>Para/Task</u>
G (Cont)	
Ground Cable Assembly, Standpipe and — Cleaning/ Inspection/Repair	6-4-2
Ground Handling and Jacking	1-45
Ground Handling and Jacking, Introduction to	1-46
Ground Handling and Jacking, Task List for	1-48
Ground Module (Typical) — Removal/Installation	9-6-52
Group Number and Description (Column 1 and 2), System	B-6
Groupings, Functional	B-5

H

HF Amplifier-Coupler Mounting Tray — Removal/Installation	9-2-3
HF COMSEC Unit Mount — Removal/Installation	9-2-1
HF RT Unit Mounting Tray — Removal/Installation	9-2-2
Halves, Quick-Disconnect Coupling — Cleaning/ Inspection/Repair	7-4-7
Handling and Jacking, Ground	1-45
Hanger, Tail Rotor Bearing — Alignment	6-6-17
Hanger Assembly, Shaft and Bearing — Removal/Installation	6-6-8
Hanger Brackets, Fan Shaft Bearing (Forward and Aft) — Cleaning/Inspection/Repair	6-6-16
Hanger Brackets, Fan Shaft Bearing (Forward and Aft) — Removal/Installation	6-6-15
Hanger Supports, Tailboom Bearing — Cleaning/Inspection/ Repair	2-3-9
Hanger Supports, Tailboom Bearing — Removal/Installation	2-3-10
Hard Points, — Cleaning/ Inspection/Repair	2-2-86
Heat Resistant Adhesive and Structural Bonding (AVIM) — Use	2-2-66
Heater Control Cable — Cleaning/Inspection	12-1-10
Heater Control Cable — Removal/ Installation	12-1-9
Heater Overheat Switch — Removal/Installation	9-6-44
Heater Tube and Gasket, Bleed Air — Removal/Installation	4-1-9
Heating System	12-2
Heating System, Introduction to	12-3

<u>Subject</u>	<u>Para/Task</u>
H (Cont)	
Heating System, Task List for	12-4
Heating and Ventilation System Ducts — Cleaning/Inspection/ Repair	12-1-11
Heating and Ventilation System Ducts — Removal/Installation	12-1-12
Helicopter — Defueling Using Truck	1-4-4
Helicopter — Defueling Using Valve	1-4-3
Helicopter, Hoisting — Main Rotor Hub and Blades Removed	1-8-3
Helicopter, Hoisting — Main Rotor Installed (MMS Installed or Removed)	1-8-2
Helicopter, Hoisting — Mast Removed	1-8-1
Helicopter, Jacking	1-6-8
Helicopter, Mooring — Rapid Deployment Skid Gear	1-7-3
Helicopter, Mooring — Standard Skid Gear	1-7-1
Helicopter, Sling Loading	1-8-4
Helicopter, Towing/Parking	1-6-1
Helicopter Cleaning	1-4-11
Helicopter Covers — Installation	1-7-3
Helicopter Inventory Master Guide	C-1
Helicopter Safing Procedures	1-6-7
Helicopter Weighing	G-13
Helicopter with Rapid Deployment Skid Gear, Towing	1-6-2
Helicopters, Inspection of Stored	E-5
Hellfire Electronics (RHE), Remote — Cleaning/Inspection/ Repair	9-8-10
Hellfire Electronics (RHE), Remote — Removal/Installation	9-8-11
Hinge Assembly, Crew Door — Disassembly/Assembly	2-2-14
Hinge Components, Crew Door — Cleaning/Inspection/Repair	2-2-15
Hinge Halves/Quick-Disconnect Pin/Lanyard, Access Door — Cleaning/Inspection/Repair	2-2-4
Hoist, MMS (Alternate Removal of Major Components)	13-2-8
Hoist Assembly, MMS — Cleaning/Inspection/Repair	13-2-2
Hoist Assembly, MMS — Disassembly/Assembly	13-2-3
Hoist Assembly, MMS — Installation/Removal	13-2-1
Hoist Ball (Rapid Deployment), MMS Platform Ball and — Removal/Installation	3-1-53

<u>Subject</u>	<u>Para/Task</u>
H (Cont)	
Hoisting Helicopter — Main Rotor Hub and Blades Removed	1-8-3
Hoisting Helicopter — Main Rotor Installed (MMS Installed or Removed)	1-8-2
Hoisting Helicopter — Mast Removed	1-8-1
Hoisting and Sling Loading, Introduction	1-53
Hoisting and Sling Loading, Task List	1-54
Hoisting and Sling Loading	1-52
Honeycomb Panels (Typical) — Cleaning/Inspection	2-2-80
Honeycomb Panels — Repair	2-2-81
Honeycomb Panels, Corrosion Prone	Q-11
Hook Suspension Assembly, Cargo — Cleaning/Inspection/ Repair	13-1-5
Hook Suspension Assembly, Cargo — Disassembly/ Assembly	13-1-2
Hook Suspension Assembly, Cargo — Removal/Installation	13-1-1
Hook Suspension Assembly, Cargo	13-2
Horizontal Stabilizer — Folding/ Unfolding	1-7-7
Horizontal Stabilizer, Folding — Cleaning/Inspection/Repair	2-3-26
Horizontal Stabilizer, Folding — Removal/Installation	2-3-27
Horizontal Stabilizer, Left/Right Folding — Removal/Installation	2-3-28
Horizontal Stabilizer Hinge Area, Folding — Cleaning/Inspection/ Repair	2-3-29
Horizontal Stabilizer Upper Surface, Folding — Cleaning/ Inspection	2-3-25
Horizontal Tube, Directional Control Lower Aft — Removal/ Installation	11-4-19
Horizontal Tube, Directional Control Lower Forward — Removal/Installation	11-4-14
Horn, Tail Rotor Pitch — Cleaning/Inspection/Repair	5-4-20
Horn Assembly (AVIM), Main Rotor Pitch — Cleaning/ Inspection/Repair	5-1-22
Horn Assembly (AVIM), Main Rotor Pitch — Removal/ Installation	5-1-21

<u>Subject</u>	<u>Para/Task</u>
H (Cont)	
Horn Attaching Hardware, Main Rotor Pitch Link — Removal/Installation	5-1-14
Horn Bushings (AVIM), Main Rotor Pitch — Removal/Installation	5-1-23
Hose, Fuel Cell Vent — Inspection	10-1-10
Hose, Fuel Cell Vent — Removal/Installation	10-1-11
Hose, Oil Filter Inlet — Removal/Installation	6-8-13
Hose (Typical), Flex — Removal/Installation	7-4-3
Hoses, Engine Vent and Fuel Supply — Removal/Installation	10-1-8
Hoses, Fuel System — Cleaning/Inspection	10-1-9
Hoses, Hydraulic — Cleaning/Inspection/Repair	7-4-4
Housing Assembly Bearings, CPG Cyclic Stick — Removal/Installation	11-3-82
Housing Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-81
Housing Assembly, CPG Cyclic Stick Socket — Cleaning/Inspection/Repair	11-3-83
Housing/Housing Assembly, CPG Cyclic Stick Socket — Removal/Installation	11-3-80
Hub (AVIM), Tail Rotor — Assembly	5-4-26
Hub (AVIM), Tail Rotor — Disassembly	5-4-23
Hub (AVIM), Tail Rotor — Repair	5-4-25
Hub and Blade Assembly, Rotor	5-2
Hub and Blades, Tail Rotor	5-11
Hub Components (AVIM), Tail Rotor — Cleaning/Inspection	5-4-24
Hub Damper (AVIM), Main Rotor — Cleaning/Inspection/Repair	5-1-16
Hub Damper (AVIM), Main Rotor — Removal/Installation	5-1-15
Hub Damper Shims (AVIM), Main Rotor — Removal/Installation	5-1-17
Hub Lower Cone, Main Rotor — Cleaning/Inspection/Repair	5-1-4
Hub Lower Plate, Main Rotor — Cleaning/Inspection/Repair	5-1-32
Hub Shear Bearing (AVIM), Main Rotor — Removal/Installation	5-1-19
Hub Shear Bearings (AVIM), Main Rotor — Cleaning/Inspection/Repair	5-1-20

<u>Subject</u>	<u>Para/Task</u>
H (Cont)	
Hub Upper Plate, Main Rotor — Cleaning/Inspection/Repair	5-1-18
Hub Yoke, Main Rotor — Cleaning/Inspection/Repair	5-1-37
Hub and Blade Assembly, Main Rotor — Installation	5-1-2
Hub and Blade Assembly, Main Rotor — Removal	5-1-1
Hub and Blades Removed, Main Rotor — Hoisting Helicopter	1-8-3
Hydraulic Actuator, Collective — Removal/Installation	7-1-9
Hydraulic Actuator, Cyclic — Removal/Installation	7-1-10
Hydraulic Filter Assemblies	7-8
Hydraulic Filter Assemblies, Introduction to	7-9
Hydraulic Filter Assemblies, Task List for	7-10
Hydraulic Filter Assembly — Removal/Cleaning/Inspection/Repair/Installation	7-3-1
Hydraulic Hoses — Cleaning/Inspection/Repair	7-4-4
Hydraulic Hoses, Lines, Tubes, Fittings, and Quick-Disconnects	7-11
Hydraulic Hoses, Lines, Tubes, Fittings, and Quick-Disconnects, Introduction to	7-12
Hydraulic Hoses, Lines, Tubes, Fittings, and Quick-Disconnects, Task List for	7-13
Hydraulic Pressure Switch — Cleaning/Inspection/Repair	7-5-2
Hydraulic Pump	7-23
Hydraulic Pump — Cleaning/Inspection/Repair	7-8-2
Hydraulic Pump — Removal/Installation	7-8-1
Hydraulic Pump, Introduction to	7-24
Hydraulic Pump, Task List for	7-25
Hydraulic Pump Driveshaft Assembly — Cleaning/Inspection/Repair	7-8-4
Hydraulic Pump Driveshaft Assembly Alternate Method — Inspection	7-8-5
Hydraulic Reservoir	7-20
Hydraulic Reservoir — Cleaning/Inspection/Repair	7-7-8
Hydraulic Reservoir — Draining/ Servicing	1-4-10
Hydraulic Reservoir — Removal/Installation	7-7-1
Hydraulic Reservoir, Introduction to	7-21

<u>Subject</u>	<u>Para/Task</u>
H (Cont)	
Hydraulic Reservoir, Task List for	7-22
Hydraulic Reservoir Cover Latch Assembly — Removal/ Installation	7-7-3
Hydraulic Reservoir Cover Pin and Cap Gasket — Removal/ Installation	7-7-2
Hydraulic Reservoir Return Port Union — Removal/Installation	7-7-4
Hydraulic Reservoir Screen — Removal/Installation	7-7-7
Hydraulic Reservoir Sight Plug — Removal/Installation	7-7-5
Hydraulic Reservoir Strainer and Cover Gasket — Removal/ Installation	7-7-6
Hydraulic Reservoir Support Bracket — Removal/Installation	7-7-9
Hydraulic Solenoid Valve.....	7-17
Hydraulic Solenoid Valve — Cleaning/Inspection/Repair	7-6-3
Hydraulic Solenoid Valve — Removal/Installation	7-6-1
Hydraulic Solenoid Valve Solenoid — Removal/ Installation	7-6-2
Hydraulic Solenoid Valve, Introduction to.....	7-18
Hydraulic Solenoid Valve, Task List for	7-19
Hydraulic System	1-15, 1-30
Hydraulic System	7-1
Hydraulic System — Bleeding.....	7-2-1
Hydraulic System (Flyable Storage).....	E-9
Hydraulic System (Intermediate Storage).....	E-35
Hydraulic System (Short Term Storage).....	E-20
Hydraulic System, Contaminated — Flushing	7-8-3
Hydraulic System Bleeding.....	7-5
Hydraulic System Bleeding, Introduction to.....	7-6
Hydraulic System Bleeding, Task List for	7-7
Hydraulic System Switch — Removal/Installation	9-6-31
Hydraulic System Tubing — Cleaning/Inspection/Repair	7-4-2

I

ICS Engage Switch — Removal/ Installation	9-6-87
--	--------

<u>Subject</u>	<u>Para/Task</u>
I (Cont)	
ICS Switch, Remote — Removal/ Installation	9-6-88
IEA, Interface Electronics Assembly — Cleaning/ Inspection/Repair.....	9-8-5
IEA, Interface Electronics Assembly — Removal/ Installation	9-8-6
IFF Computer Mount — Removal/ Installation	9-2-6
IFF Transponder Mount — Removal/Installation	9-2-7
IR Jammer Mount (Replacement Tailboom), Countermeasures Set AN/ALQ-144 — Installation	2-3-14
IR Jammer Mount, Countermeasures Set AN/ALQ- 144 — Cleaning/Inspection/ Repair.....	2-3-15
IR Jammer Mount, Countermeasures Set AN/ALQ- 144 — Removal/Installation.....	2-3-13
Identifications (Appendix F), Wire Idler, Tail Rotor Pitch Change — Cleaning/Inspection/Repair	F-2 5-5-10
Idler, Tail Rotor Pitch Change — Installation	5-5-12
Idler, Tail Rotor Pitch Change — Removal	5-5-9
Idler Assembly, Directional Control Actuator Input — Removal/Installation	11-4-28
Idler Bearing (AVIM), Actuator — Removal/Installation	11-4-29
Idler Bushings and Bearing (AVIM), Tail Rotor Pitch Change — Removal/Installation	5-5-11
Ignition System	4-14
Impeller/Fan Shaft/Blower Housing, Bearing Hangers/ Bearings/ — Cleaning/ Inspection/Repair.....	6-6-13
Impeller/Fan Shaft/Blower Housing, Bearing Hangers/ Bearings/ — Removal/ Installation	6-6-12
Indicating System, Fuel — Checking	10-2-5
Indicator, Standby Airspeed — Cleaning/Inspection/Repair	8-2-5
Indicator, Standby Airspeed — Removal/Installation	8-2-6
Indicator, Standby Attitude — Cleaning/Inspection/Repair	8-2-3
Indicator, Standby Attitude — Removal/Installation	8-2-4

<u>Subject</u>	<u>Para/Task</u>
I (Cont)	
Indicator, TGT/TRQ — Cleaning/ Inspection/Repair	8-1-13
Indicator, TGT/TRQ — Disassembly/Assembly	8-1-11
Indicator, TGT/TRQ — Removal/ Installation	8-1-10
Indicator Pin Retainer, Cyclic Stick — Cleaning/Inspection/ Repair	11-3-46
Induction, Air	4-5
Induction Cowl, Air — Cleaning/ Inspection/Repair	4-2-3
Induction Cowl (Compressor Inlet Temperature Sensor Installed), Air — Installation	4-2-5
Induction Cowl (Compressor Inlet Temperature Sensor Installed), Air — Removal	4-2-2
Information, Warranty	1-9
Inlet in Access Door, Air — Removal/Installation	2-2-2
Inlet Shield Assembly — Cleaning/Inspection/Repair	2-2-46
Inlet Shield Assembly — Removal/Installation	2-2-45
Inlet Shield Inspection Panel — Removal/Installation	2-2-44
Inner Ring Assembly for Rotational Movement, Swashplate — Inspection	5-2-39
Input Adapter Nut/Input Duplex Bearing Nut — Cleaning/ Inspection/Repair	6-7-7
Input Cyclic Control Bellcrank Assembly Bearings (AVIM) — Removal/Installation	11-3-36
Input Cyclic Control Bellcrank Assembly Bearings — Cleaning/Inspection/Repair	11-3-35
Input Cyclic Control Bellcrank Assembly Bearings — Removal/Installation	11-3-34
Input Pinion Magnetic Seal (AVIM) — Removal/Cleaning/ Inspection/Repair/Installation	6-3-7
Input Valve Bellcrank Assembly, Collective Control — Cleaning/ Inspection/Repair	11-2-68
Input Valve Bellcrank Assembly, Collective Control — Removal/ Installation	11-2-67
Insert, Copilot/Gunner Collective Elbow Assembly — Removal/ Installation	11-2-46

<u>Subject</u>	<u>Para/Task</u>
I (Cont)	
Inserts, Pilot Cyclic Pivot Support Assembly — Removal/ Installation	11-3-62
Inspection, Component	11-14
Inspection, Introduction to Component	11-15
Inspection, Task List for Component	11-16
Inspection Panel, Inlet Shield — Removal/Installation	2-2-44
Inspection and Corrosion Prone Areas (Appendix Q), Purpose - Inspection and Repair — Corrosion Prone Areas (Appendix Q)	Q-3 Q-7
Inspection of Stored Helicopters	E-5
Inspections, Corrosion	1-58
Inspections, General Information Preventive Maintenance	1-55
Inspections, Special	1-57
Installation Torque Range, Recommended	P-4
Instructions, Preliminary Weighing	G-14
Instructions, Weighing	G-16
Instrument and Air Data Systems, Pitot-Static	8-8
Instrument Panel Glareshield — Cleaning/Inspection/Repair	8-1-19
Instrument Panel Glareshield — Removal/Installation	8-1-18
Instrument System	1-31
Instrument Systems	8-1
Instruments (Intermediate Storage)	E-40
Instruments (Short Term Storage)	E-25
Instruments, Engine, Rotor, and Transmission	8-2
Instruments, Engine/Rotor/ Transmission — Cleaning/ Inspection	8-1-1
Instruments, Flight	8-5
Instruments, Introduction to Flight	8-6
Instruments, Introduction to Miscellaneous	8-13
Instruments, Miscellaneous	8-12
Instruments, Navigation	8-11
Instruments, Task List for Flight	8-7
Instruments, Task List for Miscellaneous	8-14
Insulation Blanket, Soundproofing — Removal/Installation	2-2-26
Integrally Lit Panel, Collective Control Panel Assembly — Removal/Installation	11-2-42
Integrally Lit Panel (CPG Auxiliary Switch Panel) — Installation	9-6-69

<u>Subject</u>	<u>Para/Task</u>
I (Cont)	
Integrally Lit Panel (CPG Auxiliary Switch Panel) — Removal	9-6-68
Integrally Lit Panel (CPG Channel Select Switch) — Installation	9-6-67
Integrally Lit Panel (CPG Channel Select Switch) — Removal	9-6-66
Integrally Lit Panel (Digital Fuel Control Panel (OH-58D)) — Installation	9-6-18
Integrally Lit Panel (Digital Fuel Control Panel (OH-58D)) — Removal	9-6-17
Integrally Lit Panel (MMS Control Panel) — Installation	9-6-75
Integrally Lit Panel (MMS Control Panel) — Removal	9-6-74
Integrally Lit Panel (Overhead Console or Center Post Circuit Breaker Panel-Typical) — Installation	9-6-14
Integrally Lit Panel (Pilot Collective Stick) — Removal/ Installation	9-6-41
Integrally Lit Panel (Pilot MFD Auxiliary Control Panel) — Installation	9-6-72
Integrally Lit Panel (Pilot MFD Auxiliary Control Panel) — Removal	9-6-71
Integrally Lit Panel (SCAS Control Panel) — Installation	9-6-25
Integrally Lit Panel (SCAS Control Panel) — Removal	9-6-24
Integrally Lit Panel (Typical) — Cleaning/Inspection/Repair	9-6-4
Integrally Lit Panel Connector (Digital Fuel Control Panel (OH-58D)) — Removal/ Installation	9-6-19
Integrally Lit Panel on Armament Control Panel — Removal/ Installation	9-8-2
Integrally Lit Panel Overhead Console or Center Post Circuit Breaker Panel (Typical), — Removal	9-6-12
Intended Use of Bonding (Appendix M)	M-1
Interface Electronics Assembly (IEA) — Cleaning/Inspection/ Repair	9-8-5
Interface Electronics Assembly (IEA) — Removal/Installation	9-8-6
Interface Electronics Assembly (IEA) Shock Mount — Removal/Installation	9-8-7

<u>Subject</u>	<u>Para/Task</u>
I (Cont)	
Introduction (Appendix P)	P-1
Introduction (Appendix Q), Purpose	Q-1
Introduction to Actuators	7-3
Introduction to Aft Firewall	4-25
Introduction to Air Induction	4-6
Introduction to Alternating Current Power and Distribution System	9-12
Introduction to Armament Electrical Equipment	9-24
Introduction to Avionic System Mounts	9-6
Introduction to Avionics Cooling System	9-3
Introduction to Cargo Hook Suspension Assembly	13-3
Introduction to Collective Controls	11-6
Introduction to Component Inspection	11-15
Introduction to Cowlings, Fairings, Access Panels, and Doors	2-2
Introduction to Cyclic Control System	11-9
Introduction to Direct Current Power and Distribution System	9-9
Introduction to Directional Controls	11-12
Introduction to Drive Train System	6-3
Introduction to Engine Assembly	4-3
Introduction to Engine Mounts	4-19
Introduction to Engine Oil System	4-12
Introduction to Engine To Transmission Driveshaft	6-7
Introduction to Engine, Rotor, and Transmission Instruments	8-3
Introduction to Exhaust System	4-9
Introduction to Flight Instruments	8-6
Introduction to Forward Firewall	4-22
Introduction to Freewheeling Unit	6-16
Introduction to Fuel Cell	10-6
Introduction to Fuel System Components	10-3
Introduction to Fuselage	2-5
Introduction to Ground Handling and Jacking	1-46
Introduction to Heating System	12-3
Introduction to Hoisting and Sling Loading	1-53
Introduction to Hydraulic Filter Assemblies	7-9
Introduction to Hydraulic Hoses, Lines, Tubes, Fittings, and Quick-Disconnects	7-12
Introduction to Hydraulic Pump	7-24

<u>Subject</u>	<u>Para/Task</u>
I (Cont)	
Introduction to Hydraulic Reservoir.....	7-21
Introduction to Hydraulic Solenoid Valve.....	7-18
Introduction to Hydraulic System Bleeding	7-6
Introduction to Landing Gear	3-3
Introduction to Lighting System	9-15
Introduction to Main Rotor Controls	5-6
Introduction to Main Rotor Hub and Blade Assembly.....	5-3
Introduction to Main Rotor Tracking and Dynamic Balancing	5-9
Introduction to Maintenance Manual.....	1-1
Introduction to Miscellaneous Electrical Equipment.....	9-18
Introduction to Miscellaneous Emergency Equipment.....	14-3
Introduction to Miscellaneous Instruments	8-13
Introduction to Mooring	1-50
Introduction to Oil System.....	6-25
Introduction to Pitot-Static Instrument and Air Data Systems.....	8-9
Introduction to Powerplant Controls	4-16
Introduction to Powerplant and Transmission Electrical Equipment	9-21
Introduction to Pressure Switch, Manifolds, and Relief Valve.....	7-15
Introduction to Pylon	2-11
Introduction to Rapid Deployment	13-6
Introduction to Rescue Ladder	13-9
Introduction to Rigging	11-3
Introduction to Rotor Hub and Blade Assembly	5-3
Introduction to Serviceability Checks.....	6-3
Introduction to Servicing	1-41
Introduction to Standpipe Electrical Assembly, Torquemeter System, and Main Rotor Mast Assembly.....	6-13
Introduction to Tail Rotor Driveshafts	6-19
Introduction to Tail Rotor Gearbox	6-22
Introduction to Tail Rotor Hub and Blades	5-12
Introduction to Tail Rotor Pitch Change Mechanism	5-15
Introduction to Tailboom	2-8

<u>Subject</u>	<u>Para/Task</u>
I (Cont)	
Introduction to Transmission	6-10
Introduction to Ventilating System	12-6
Inventoriable Items.....	C-3
Inventory Master Guide, Helicopter	C-1
Inventory, Periods of	C-4
Involved in an Accident, Components.....	E-1
Items, Inventoriable	C-3
J	
Jacking, Ground Handling and	1-45
Jacking, Introduction to Ground Handling and	1-46
Jacking, Task List for Ground Handling and	1-48
Jacking Helicopter	1-6-8
Jacks, Rapid Deployment — Cleaning/Inspection/Repair	13-2-7
Jackshaft, Collective — Cleaning/Inspection/Repair.....	11-2-17
Jackshaft Adjustment Nut, Collective — Removal/Installation	11-2-18
Jackshaft Assembly, Collective — Removal/Installation	11-2-16
Jackshaft Friction Adjustment Bearing, Collective — Removal/Installation	11-2-19
Jackshaft Friction Clamp, Collective — Removal/Installation	11-2-23
Jackshaft Shim and Spacer, Collective — Removal/Installation	11-2-20
Jackshaft Spacer, Collective — Cleaning/Inspection/Repair	11-2-21
Jackshaft Support Assembly — Removal/Installation	11-2-37
Jackshaft Support Assembly Bearing — Removal/Installation	11-2-38
Jackshaft Support Assembly and Bearing — Cleaning/Inspection/Repair.....	11-2-39
Jackshaft Throttle Tube Assembly, Collective — Removal/Installation	11-2-22
Jets (Number One and Two), Transmission Oil — Cleaning/Inspection/Repair.....	6-8-12
Jets (Number One and Two), Transmission Oil — Removal/Installation	6-8-11
Jettison Mechanism, Crew Door — Cleaning/Inspection/Repair	2-2-12

<u>Subject</u>	<u>Para/Task</u>
J (Cont)	
Jettison Mechanism, Crew Door — Removal/Installation	2-2-11
Junction Block (Typical) — Removal/Installation	9-6-51
Junction Mount (2TB3), Terminal — Removal/Installation	9-6-50

K	
Keylock Switch — Removal/ Installation	9-6-54
Kit, First Aid — /Removal/ Inspection/Installation	14-1-2
Knob Assembly, Pilot Cyclic Position Adjustment — Removal/Installation	11-3-54
Knob and Shaft Pin, Collective Friction — Removal/Installation	11-2-65
Knob and Shaft, Collective Friction — Removal/Installation	11-2-64
Knob and Shaft, Cyclic Friction — Cleaning/Inspection/Repair	11-3-25
Knob and Shaft, Cyclic Friction — Installation	11-3-26
Knob and Shaft, Cyclic Friction — Removal	11-3-24
Knuckle Assembly (Rapid Deployment), Leg and — Removal/Installation	3-1-51
Knuckle Assembly (Typical) (Rapid Deployment) (AVIM), Landing Gear — Disassembly/ Assembly	3-1-56
Knuckle Assembly Components (Rapid Deployment), Leg and — Cleaning/Inspection/Repair	3-1-52

L	
LVDT, TAMS Linear Variable Differential Transformer — Cleaning/Inspection/Repair	9-7-14
LVDT, TAMS Linear Variable Differential Transformer — Removal/Installation	9-7-15
Ladder, Introduction to Rescue	13-9
Ladder, Rescue — Cleaning/ Inspection/Repair	13-3-2
Ladder, Rescue — Removal/ Installation	13-3-1
Ladder, Rescue	13-8
Ladder, Task List for Rescue	13-10
Ladder Release Cable, Rescue — Cleaning/Inspection/Repair	13-3-5

<u>Subject</u>	<u>Para/Task</u>
L (Cont)	
Lamps, Dual Tachometer — Replacement	8-1-16
Lamps, Multiparameter Display (MPD) — Replacement	8-1-6
Lamps, TGT/TRQ — Replacement	8-1-12
Landing Gear	1-25, 3-2
Landing Gear — Inspection	3-1-1
Landing Gear — Removal/ Installation	3-1-5
Landing Gear (Intermediate Storage)	E-43
Landing Gear (Rapid Deployment) — Inspection	3-1-2
Landing Gear (Rapid Deployment) — Removal/Installation	3-1-6
Landing Gear (Short Term Storage)	E-28
Landing Gear Corrosion Repair	Q-14
Landing Gear Crosstube — Inspection for Deflection	3-1-3
Landing Gear Crosstube (Rapid Deployment) — Inspection for Deflection	3-1-4
Landing Gear Knuckle Assembly (Typical) (Rapid Deployment) — Disassembly/Assembly (AVIM)	3-1-56
Landing Gear Support Fitting — Cleaning/Inspection/Repair	3-1-58
Landing Gear Support Fitting — Removal/Installation	3-1-57
Landing Gear Support Fitting Assemblies — Removal/ Installation/Inspection	2-2-97
Lanyard on Main Rotor Expandable Bolt — Removal/ Installation	5-1-7
Latch Assembly, Access Door — Cleaning/Inspection/Repair	2-2-3
Latch Assembly, CPG Cyclic Stick Quick-Disconnect — Cleaning/Inspection/Repair	11-3-88
Latch Assembly, Crew Door — Cleaning/Inspection/Repair	2-2-13
Latch Support and Anchor Ball Assembly, CPG Cyclic Stick — Removal/Installation	11-3-87
Lateral Cyclic Transducer — Installation	11-3-21
Lateral Cyclic Transducer — Removal	11-3-20
Lateral Force Gradient — Cleaning/Inspection/Repair	11-3-7
Lateral Force Gradient — Removal/Installation	11-3-6

<u>Subject</u>	<u>Para/Task</u>
L (Cont)	
Lateral Magnetic Brake — Cleaning/Inspection/Repair	11-3-10
Lateral Magnetic Brake — Installation	11-3-11
Lateral Magnetic Brake — Removal	11-3-9
Lead Lag Bearing (AVIM), Main Rotor Grip — Cleaning/ Inspection/Repair	5-1-25
Lead Lag Bearings (AVIM), Main Rotor Grip — Removal/ Installation	5-1-24
Leaks, Water — Isolation	2-2-91
Leaks, Water — Repair	2-2-92
Left Access Panel (Typical), Right or — Cleaning/Inspection/ Repair	2-2-84
Left Access Panel (Typical), Right or — Removal/Installation	2-2-83
Left Cyclic Yoke — Installation	11-3-16
Left Cyclic Yoke — Removal	11-3-15
Left Rescue Ladder Release Cable — Removal/Installation	13-3-3
Left/Right Horizontal Stabilizer — Removal/Installation	2-3-28
Leg and Knuckle Assembly (Rapid Deployment) — Removal/Installation	3-1-51
Leg and Knuckle Assembly Components (Rapid Deployment) — Cleaning/ Inspection/Repair	3-1-52
Legs, Engine Mount — Cleaning/ Inspection	4-7-3
Legs, Engine Mount — Removal/ Installation	4-7-1
Level and Work Times (Column 4), Maintenance	B-8
Level Switch, Oil — Removal/ Installation	4-4-4
Lever, Fuel Control — Removal/ Installation	4-6-8
Lever, Fuel Shutoff — Cleaning/ Inspection/Repair	10-1-2
Lever, Fuel Shutoff — Installation	10-1-3
Lever, Fuel Shutoff — Removal	10-1-1
Lever (AVIM), Tail Rotor Pitch Change — Cleaning/Inspection/ Repair	5-5-6
Lever Assembly, CPG Cyclic Stick Quick-Disconnect — Cleaning/Inspection/Repair	11-3-76
Lever Assembly, Collective Mixing — Removal/Installation	11-2-48
Lever Supports, Mixing — Removal/Installation	11-2-6

<u>Subject</u>	<u>Para/Task</u>
L (Cont)	
Lever and Link Assembly, CPG Cyclic Stick Quick-Disconnect — Removal/Installation	11-3-75
Lever and Valve, Fuel Shutoff — Rigging	10-1-4
Light (Typical), Anticollision — Installation	9-5-3
Light (Typical), Anticollision — Removal	9-5-2
Light (Typical), Side Position — Installation	9-5-9
Light (Typical), Side Position — Removal	9-5-8
Light Dimming Resistor, Position — Installation	9-5-13
Light Dimming Resistor, Position — Removal	9-5-12
Light, Tail Position — Installation	9-5-11
Light, Tail Position — Removal	9-5-10
Light, Utility — Installation	9-5-21
Light, Utility — Removal	9-5-20
Light Flasher, Anticollision — Installation	9-5-5
Light Flasher, Anticollision — Removal	9-5-4
Lighting Control Knob (Overhead Console-Typical) — Removal/ Installation	9-6-9
Lighting System, Introduction to	9-15
Lighting System, Task List for	9-16
Lighting System	9-14
Lights, Battery Preheat Indicator — Cleaning/Inspection/Repair	9-3-5
Lights, Battery Preheat Indicator — Removal/Installation	9-3-6
Lights (Typical) — Cleaning/ Inspection/Repair	9-5-1
Lights (Typical), NVG Formation — Removal/Installation	9-5-14
Linear Variable Differential Transformer (LVDT), TAMS — Cleaning/Inspection/Repair	9-7-14
Linear Variable Differential Transformer (LVDT), TAMS — Removal/Installation	9-7-15
Link, Main Rotor Pitch — Installation	5-2-3
Link, Main Rotor Pitch — Removal	5-2-1
Link, Tail Rotor Pitch — Cleaning/ Inspection/Repair	5-4-3
Link, Tail Rotor Pitch — Installation	5-4-4
Link, Tail Rotor Pitch — Removal	5-4-2
Link Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-78

<u>Subject</u>	<u>Para/Task</u>
L (Cont)	
Link Assembly, Collective Control — Cleaning/Inspection/Repair	11-2-53
Link Assembly, Collective Control — Removal/Installation	11-2-52
Link Assembly, Collective Pitch — Cleaning/Inspection/Repair	11-2-5
Link Assembly, Collective Pitch — Removal/Installation	11-2-4
Link Assembly Bushings (AVIM) — Removal/Installation	11-3-79
List (Appendix F), Description — Equipment	F-7
List (Appendix F), Equipment	F-6
Lit Panel (Typical), Integrally — Cleaning/Inspection/Repair	9-6-4
Load Data, Weight/Balance and	G-5
Loading, Hoisting and Sling	1-52
Loading Data	G-11
Loading Helicopter, Sling	1-8-4
Location and Description of Major Components	1-11
Lockout Catch, Copilot/Gunner Cyclic Stick — Removal/ Installation	11-3-27
Low Fuel Pressure Warning Switch (OH-58D(R)) — Removal/Installation	4-6-13
Lower Aft Horizontal Tube, Directional Control — Removal/ Installation	11-4-19
Lower Boot Assembly, Transmission — Removal/ Cleaning/Inspection/Installation	6-3-3
Lower Chip Detector — Removal/ Installation	6-3-11
Lower Forward Horizontal Tube, Directional Control — Removal/ Installation	11-4-14
Lower Forward Support Fittings — Removal/Installation	2-2-95
Lower Tunnel Bellcrank, Directional Control — Removal/ Installation	11-4-20
Lower Tunnel Bellcrank Bushing, Directional Control — Removal/ Installation	11-4-21
Lower Window — Cleaning/ Inspection/Repair	2-2-77
Lower Window — Removal/ Installation	2-2-76
Lower Wire Cutter (Rapid Deployment) — Cleaning/ Inspection/Repair	2-2-61
Lower Wire Cutter (Rapid Deployment) — Removal/ Installation	2-2-60

<u>Subject</u>	<u>Para/Task</u>
L (Cont)	
Lubrication	1-44
M	
MFD Auxiliary Control Panel, Integrally Lit Panel Pilot — Installation	9-6-72
MFD Auxiliary Control Panel, Integrally Lit Panel Pilot — Removal	9-6-71
MFD Auxiliary Control Panel- Typical, Switch Pilot — Removal/Installation	9-6-73
MMS Control Panel — Removal/ Installation	9-6-80
MMS Control Panel, Integrally Lit Panel — Installation	9-6-75
MMS Control Panel, Integrally Lit Panel — Removal	9-6-74
MMS Hoist (Alternate Removal of Major Components)	13-2-8
MMS Hoist Assembly — Cleaning/Inspection/Repair	13-2-2
MMS Hoist Assembly — Disassembly/Assembly	13-2-3
MMS Hoist Assembly — Installation/Removal	13-2-1
MMS Installed or Removed, Main Rotor Installed — Hoisting Helicopter	1-8-2
MMS Platform Assembly — Cleaning/Inspection/Repair	13-2-5
MMS Platform Assembly — Disassembly/Assembly	13-2-6
MMS Platform Assembly — Installation/Removal	13-2-4
MMS Platform Ball and Hoist Ball (Rapid Deployment) — Removal/Installation	3-1-53
MMS Platform Ball and MMS Hoist Ball (Rapid Deployment) — Cleaning/Inspection/Repair	3-1-54
MPD, Multiparameter Display — Cleaning/Inspection/Repair	8-1-8
MPD, Multiparameter Display — Disassembly/Assembly	8-1-7
MPD, Multiparameter Display — Removal/Installation	8-1-4
Magnetic Brake, Fore-and-Aft — Cleaning/Inspection/Repair	11-3-5
Magnetic Brake, Fore-and-Aft — Removal/Installation	11-3-4
Magnetic Brake, Lateral — Cleaning/Inspection/Repair	11-3-10
Magnetic Brake, Lateral — Installation	11-3-11

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Magnetic Brake, Lateral — Removal	11-3-9
Magnetic Seal (AVIM), Input Pinion — Removal/Installation	6-3-7
Main Rotor Autorotation RPM — Adjustment	5-3-1
Main Rotor Blade (AVIM) — Refinishing	5-1-41
Main Rotor Blade Bolt — Cleaning/Inspection/Repair	5-1-9
Main Rotor Blade Core (AVIM) — Repair.....	5-1-51
Main Rotor Blade Erosion Shield — Repair.....	5-1-44
Main Rotor Blade Erosion Strip Splice Cover — Repair	5-1-48
Main Rotor Blade Erosion Strip Splice Cover (AVIM) — Replacement	5-1-50
Main Rotor Blade Inboard Erosion Strip — Repair	5-1-47
Main Rotor Blade Inboard Erosion Strip (AVIM) — Repair/ Replacement	5-1-49
Main Rotor Blade Outboard Erosion Strip — Repair	5-1-46
Main Rotor Blade Skin by Patching (AVIM) — Repair	5-1-40
Main Rotor Blade Trailing Edge — Repair.....	5-1-45
Main Rotor Blade Trim Tab — Repair.....	5-1-43
Main Rotor Blade Trim Tab (AVIM) — Removal/Installation	5-1-42
Main Rotor Blades — De-Icing	1-4-12
Main Rotor Blades — Folding/ Unfolding (Alternate Method)	1-7-6
Main Rotor Blades — Folding/ Unfolding (Standard Method)	1-7-5
Main Rotor Blades — Inspection	5-1-39
Main Rotor Blades — Removal/ Cleaning/Inspection/Installation	5-1-5
Main Rotor Control Antidrive Lever — Installation	5-2-27
Main Rotor Control Antidrive Link (AVIM) — Cleaning/Inspection/ Repair.....	5-2-29
Main Rotor Control Antidrive Link — Installation	5-2-30
Main Rotor Control Antidrive Link — Removal	5-2-28
Main Rotor Controls	5-5
Main Rotor Controls Antidrive Lever — Removal	5-2-25

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Main Rotor Controls Antidrive Lever (AVIM) — Cleaning/ Inspection/Repair.....	5-2-26
Main Rotor Controls Boot — Removal/Installation	5-2-17
Main Rotor Controls Collective Lever — Installation	5-2-20
Main Rotor Controls Collective Lever — Removal	5-2-18
Main Rotor Controls Collective Lever (AVIM) — Cleaning/ Inspection/Repair.....	5-2-19
Main Rotor Controls Collective Link — Installation	5-2-23
Main Rotor Controls Collective Link — Removal.....	5-2-21
Main Rotor Controls Collective Link (AVIM) — Cleaning/ Inspection/Repair.....	5-2-22
Main Rotor Controls Drive Hub Set — Installation	5-2-12
Main Rotor Controls Drive Hub Set — Removal	5-2-10
Main Rotor Controls Drive Hub Set (AVIM) — Cleaning/ Inspection/Repair.....	5-2-11
Main Rotor Controls Drive Lever — Installation	5-2-9
Main Rotor Controls Drive Lever — Removal	5-2-7
Main Rotor Controls Drive Lever (AVIM) — Cleaning/Inspection/ Repair.....	5-2-8
Main Rotor Controls Drive Link — Installation	5-2-6
Main Rotor Controls Drive Link — Removal	5-2-4
Main Rotor Controls Drive Link (AVIM) — Cleaning/Inspection/ Repair.....	5-2-5
Main Rotor Controls Drive Pin — Cleaning/Inspection	5-2-14
Main Rotor Controls Gimbal Ring — Installation	5-2-16
Main Rotor Controls Gimbal Ring — Removal	5-2-13
Main Rotor Controls Gimbal Ring (AVIM) — Cleaning/Inspection/ Repair.....	5-2-15
Main Rotor Controls Spacer — Cleaning/Inspection/Repair	5-2-24
Main Rotor Drive Ring Set (AVIM) — Cleaning/Inspection/Repair	5-1-31
Main Rotor Drive Ring Set (AVIM) — Removal/Installation	5-1-30

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Main Rotor Droop Stop Plug — Cleaning/Inspection/Repair	5-1-11
Main Rotor Droop Stop Plugs — Removal/Installation	5-1-10
Main Rotor Droop Stop Stud — Cleaning/Inspection/Repair	5-1-13
Main Rotor Droop Stop Studs — Removal/Installation	5-1-12
Main Rotor Expandable Bolt — Disassembly/Cleaning/ Inspection/Repair/Assembly	5-1-8
Main Rotor Expandable Bolt — Removal/Installation	5-1-6
Main Rotor Expandable Bolt, Lanyard on — Removal/ Installation	5-1-7
Main Rotor Grip and Adapter Assembly (AVIM) — Removal/ Installation	5-1-38
Main Rotor Grip Assembly — Cleaning/Inspection/Repair	5-1-28
Main Rotor Grip Bushings/Pins/ Inserts (AVIM) — Removal/ Installation	5-1-29
Main Rotor Grip Lead Lag Bearing (AVIM) — Cleaning/ Inspection/Repair	5-1-25
Main Rotor Grip Lead Lag Bearings (AVIM) — Removal/ Installation	5-1-24
Main Rotor Hub and Blade Assembly — Installation	5-1-2
Main Rotor Hub and Blade Assembly — Removal	5-1-1
Main Rotor Hub and Blades Removed — Hoisting Helicopter	1-8-3
Main Rotor Hub Damper (AVIM) — Cleaning/Inspection/Repair	5-1-16
Main Rotor Hub Damper (AVIM) — Removal/Installation	5-1-15
Main Rotor Hub Damper Shims (AVIM) — Removal/Installation	5-1-17
Main Rotor Hub Lower Cone — Cleaning/Inspection/Repair	5-1-4
Main Rotor Hub Lower Plate — Cleaning/Inspection/Repair	5-1-32
Main Rotor Hub Shear Bearing (AVIM) — Cleaning/Inspection/ Repair	5-1-20
Main Rotor Hub Shear Bearing (AVIM) — Removal/Installation	5-1-19
Main Rotor Hub Upper Plate — Cleaning/Inspection/Repair	5-1-18
Main Rotor Hub Yoke — Cleaning/Inspection/Repair	5-1-37

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Main Rotor Installed (MMS Installed or Removed) — Hoisting Helicopter	1-8-2
Main Rotor Mast Assembly — Cleaning/Inspection	6-4-18
Main Rotor Mast Assembly — Installation	6-4-20
Main Rotor Mast Assembly — Removal	6-4-15
Main Rotor Mast Assembly (AVIM) — Assembly	6-4-19
Main Rotor Mast Assembly (AVIM) — Disassembly	6-4-16
Main Rotor Mast Assembly, Standpipe Electrical Assembly, Torquemeter System, and	6-12
Main Rotor Mast Assembly Components (AVIM) — Cleaning/Inspection/Repair	6-4-17
Main Rotor Pitch Horn Assembly (AVIM) — Cleaning/Inspection/ Repair	5-1-22
Main Rotor Pitch Horn Assembly (AVIM) — Removal/Installation	5-1-21
Main Rotor Pitch Horn Bushings (AVIM) — Removal/Installation	5-1-23
Main Rotor Pitch Link — Installation	5-2-3
Main Rotor Pitch Link — Removal	5-2-1
Main Rotor Pitch Link Assembly — Cleaning/Inspection/Repair	5-2-2
Main Rotor Pitch Link Horn Attaching Hardware — Removal/Installation	5-1-14
Main Rotor Swashplate and Support — Cleaning/Inspection/ Repair	5-2-31
Main Rotor Swashplate and Support — Installation	5-2-38
Main Rotor Swashplate and Support — Removal	5-2-33
Main Rotor Swashplate and Support (AVIM) — Assembly	5-2-37
Main Rotor Swashplate and Support (AVIM) — Disassembly	5-2-34
Main Rotor Swashplate and Support Components (AVIM) — Cleaning/Inspection/Repair	5-2-35
Main Rotor Swashplate and Support Components (AVIM) — Painting	5-2-36
Main Rotor Swashplate Uniball Friction — Checking and Adjustment	5-2-32
Main Rotor Tracking and Balancing	5-8

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Main Rotor Tracking and Dynamic Balancing	5-3-2
Main Rotor Upper Cone Plate Assembly — Cleaning/ Inspection/Repair	5-1-3
Main Rotor Yoke Adapter Assembly — Cleaning/ Inspection/Repair	5-1-26
Main Rotor Yoke Adapter Mount Bushings (AVIM) — Removal/ Installation	5-1-27
Main Rotor Yoke Buffers (AVIM) — Cleaning/Inspection/Repair	5-1-34
Main Rotor Yoke Bumpers (AVIM) — Cleaning/Inspection	5-1-36
Main Rotor Yoke Bumpers (AVIM) — Removal/Installation	5-1-35
Main Transmission	1-18
Main Transmission — Serviceability Check	6-1-1
Maintenance Allocation Chart	B-1
Maintenance Allocation Chart, Definition of the	B-2
Maintenance Allocation Chart, Use of the	B-3
Maintenance Allocation Chart Remarks	B-12
Maintenance Forms and Records	1-3
Maintenance Function (Column 3)	B-7
Maintenance Functions	B-4
Maintenance Levels and Work Times (Column 4)	B-8
Maintenance Manual, Introduction to	1-1
Maintenance Manual, Scope of	1-2
Maintenance of Preservation (Flyable Storage)	E-15
Maintenance of Preservation (Intermediate Storage)	E-44
Maintenance of Preservation (Short Term Storage)	E-29
Maintenance Step (Left Side) — Cleaning/Inspection/Repair	2-2-79
Maintenance Step (Left Side) — Removal/Installation	2-2-78
Major Components, Location and Description of	1-11
Manifold, Filter Oil — Cleaning/ Inspection/Repair	6-8-5
Manifold, Oil Filter — Removal/ Installation	6-8-4
Manifold, Pressure — Cleaning/ Inspection/Repair	7-5-4.1
Manifold, Pressure — Removal/ Installation	7-5-4

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Manifold, Return — Removal/ Installation	7-5-3
Manifolds and Relief Valve, Introduction to Pressure Switch	7-15
Manifolds and Relief Valve, Pressure Switch	7-14
Manifolds and Relief Valve, Task List for Pressure Switch	7-16
Manual, Introduction to Maintenance	1-1
Manual, Scope of Maintenance	1-2
Map Case — Removal/Installation	2-2-25
Mast Assembly, Main Rotor — Assembly	6-4-19
Mast Assembly, Main Rotor — Cleaning/Inspection	6-4-18
Mast Assembly, Main Rotor — Disassembly	6-4-16
Mast Assembly Components (AVIM), Main Rotor — Cleaning/Inspection/Repair	6-4-17
Mast Assembly, Main Rotor — Installation	6-4-20
Mast Assembly, Main Rotor — Removal	6-4-15
Mast Mounted Sight (MMS) Support Cover — Removal/ Installation	5-2-40
Mast Torque, Signal Conditioning Unit — Cleaning/Inspection/ Repair	9-7-7
Mast Torque, Signal Conditioning Unit — Installation	9-7-9
Mast Torque, Signal Conditioning Unit — Removal	9-7-8
Master Guide, Helicopter Inventory	C-1
Material to Prevent Enemy Use, Destruction of Army	1-4
Methods (Appendix M), Electrical Bonding	M-7
Minimum Friction on Collective System — Adjusting	11-2-24
Miscellaneous Electrical Equipment	9-17
Miscellaneous Electrical Equipment — Cleaning/ Inspection/Repair	9-6-2
Miscellaneous Electrical Equipment, Introduction to	9-18
Miscellaneous Electrical Equipment, Task List for	9-19
Miscellaneous Emergency Equipment	14-1
Miscellaneous Emergency Equipment, Introduction to	14-2

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Miscellaneous Emergency Equipment, Task List for.....	14-3
Miscellaneous Instruments	8-12
Miscellaneous Instruments, Introduction to	8-13
Miscellaneous Instruments, Task List for	8-14
Miscellaneous Parts, Pilot Collective Stick Assembly — Removal/Installation	11-2-27
Missile Sight Subsystem Electronics Unit (MSSEU) — Cleaning/Inspection/Repair	9-8-8
Missile Sight Subsystem Electronics Unit (MSSEU) — Removal/Installation	9-8-9
Mission Equipment.....	13-1
Mission Equipment (Armament)	1-38
Mission Equipment (Avionics)	1-37
Mixer Bellcrank Assembly, Cyclic — Removal/Installation	11-3-28
Mixer Bellcrank Assembly (AVIM), Cyclic — Cleaning/Inspection/Repair.....	11-3-31
Mixer Bellcrank Assembly Rod End Bearing, Cyclic — Cleaning/Inspection/Repair	11-3-30
Mixing Lever Assembly Bushings, Collective — Removal/Installation	11-2-49
Mixing Lever Assembly, Collective — Removal/Installation	11-2-48
Mixing Lever Supports — Removal/Installation	11-2-6
Mixing Valve — Assembly	12-1-4
Mixing Valve — Cleaning/Inspection/Repair.....	12-1-3
Mixing Valve — Disassembly.....	12-1-2
Mixing Valve — Installation	12-1-5
Mixing Valve — Removal	12-1-1
Models OH-58D and OH-58D(R), Differences Between	1-12
Module (Typical), Ground — Removal/Installation	9-6-52
Monitor Unit, AC Power — Cleaning/Inspection/Repair	9-4-14
Monitor Unit, AC Power — Removal/Installation	9-4-15
Monitor, Charger — Cleaning/Inspection/Repair.....	9-3-7
Monitor, Charger — Removal/Installation	9-3-8
Mooring.....	1-49
Mooring, Introduction to.....	1-50
Mooring, Task List for.....	1-51

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Mooring Helicopter — Rapid Deployment Skid Gear	1-7-2
Mooring Helicopter — Standard Skid Gear	1-7-1
Motor Intake Duct Assembly, Avionic Cooling System — Removal/Installation	9-1-4
Mount, Corner — Cleaning/Inspection	2-4-4
Mount, HF COMSEC Unit — Removal/Installation	9-2-1
Mount, IFF Computer — Removal/Installation	9-2-6
Mount, IFF Transponder — Removal/Installation	9-2-7
Mount (Typical), Terminal Junction — Removal/Installation	9-6-50
Mount Bolt — Cleaning/Inspection/Repair.....	2-4-8
Mount Fitting, UWP — Cleaning/Inspection/Repair.....	2-2-94
Mount Legs, Engine — Cleaning/Inspection	4-7-3
Mount Legs, Engine — Removal/Installation	4-7-1
Mount Trunnion, Engine — Cleaning/Inspection/Repair	4-7-2
Mounting Bracket, Transfer Unit — Removal/Installation	9-2-9
Mounting Rack, Video Recorder — Removal/Installation	9-2-8
Mounting Tray, HF Amplifier-Coupler — Removal/Installation	9-2-3
Mounting Tray, HF RT Unit — Removal/Installation	9-2-2
Mounting Tray, VHF AM RT Unit — Removal/Installation	9-2-5
Mounting Tray, VHF FM 1 or 2 RT Unit — Removal/Installation	9-2-4
Mounts, Avionic System.....	9-5
Mounts, Engine	4-18
Mounts, Introduction to Avionic System.....	9-6
Mounts, Task List for Avionic System.....	9-7
Multiparameter Display (MPD) — Cleaning/Inspection/Repair	8-1-8
Multiparameter Display (MPD) — Disassembly/Assembly	8-1-7
Multiparameter Display (MPD) — Removal/Installation	8-1-4
Multiparameter Display BRT Control Knob — Removal/Installation	8-1-2

<u>Subject</u>	<u>Para/Task</u>
M (Cont)	
Multiparameter Display Front Panel (MPD) — Removal/Installation	8-1-5
Multiparameter Display Fuses (Typical) — Removal/Installation	8-1-3
Multiparameter Display Lamps (MPD) — Replacement	8-1-6
N	
Ng Engine Cable Aft Support Bracket — Removal/Installation	4-6-5
Ng Engine Control Cable — Removal/Installation	4-6-1
Ng Engine Control Cable (OH-58D) — Rigging	4-6-2
Ng Engine Control Cable (OH-58D(R)) — Rigging	4-6-3
NVG Formation Lights (Typical) — Removal/Installation	9-5-14
NVG Formation Lights Switch — Removal/Installation	9-5-15
Names and Designation, Common Name	1-7
Navigation Instruments	8-11
Night Vision Power Converter — Cleaning/Inspection/Repair	9-5-22
Night Vision Power Converter (Typical) — Installation	9-5-24
Night Vision Power Converter (Typical) — Removal	9-5-23
Nonboosted Tube, Directional Control — Removal/Installation	11-4-26
Nonstandard, Aft Crosstube — Cleaning/Inspection/Repair	3-1-38
Nonstandard, Forward Crosstube — Cleaning/Inspection/Repair	3-1-28
Nose Compartment-Typical, Circuit Breaker — Installation	9-6-37
Nose Compartment-Typical, Circuit Breaker — Removal	9-6-36
Nr Sensor (OH-58D(R)) — Cleaning/Inspection	6-3-17
Nr Sensor (OH-58D(R)) — Removal/Installation	6-3-16
Nut, Stop — Cleaning/Inspection/Repair	2-4-5
Nut, Tee/Retainer/Packing/ — Removal/Installation	7-4-5
O	
OH-58D and OH-58D(R), Differences Between Models	1-12

<u>Subject</u>	<u>Para/Task</u>
O (Cont)	
Oil Cooler — Cleaning/Inspection/Repair/Buildup	6-8-25
Oil Cooler — Installation	6-8-26
Oil Cooler — Removal	6-8-24
Oil Cooler Bypass Valve — Removal/Installation	4-4-9
Oil Cooler Bypass Valve (AVIM) — Cleaning/Inspection/Repair	4-4-11
Oil Cooler Bypass Valve (AVIM) — Disassembly/Assembly	4-4-10
Oil Cooler Duct — Cleaning/Inspection/Repair	6-8-28
Oil Cooler Duct — Removal/Installation	6-8-27
Oil Cooler Fairing Seals — Removal/Installation	4-4-14
Oil Drain Tubes, Clogged — Removal/Installation	4-4-15
Oil Drain Valve — Cleaning/Inspection/Repair	6-8-21
Oil Drain Valve — Removal/Installation	6-8-20
Oil Filter Assembly, Engine Scavenge — Removal/Installation	4-4-17
Oil Filter Bypass Valve Assembly — Cleaning/Inspection/Repair	6-8-10
Oil Filter Bypass Valve Assembly — Removal/Installation	6-8-9
Oil Filter Element, Engine Scavenge — Removal/Installation	4-4-16
Oil Filter Inlet Hose — Removal/Installation	6-8-13
Oil Filter Manifold — Cleaning/Inspection/Repair	6-8-5
Oil Filter Manifold — Removal/Installation	6-8-4
Oil Filters, Transmission — Removal/Cleaning/Installation	6-8-3
Oil Jets (Number One and Two), Transmission — Cleaning/Inspection/Repair	6-8-12
Oil Jets (Number One and Two), Transmission — Removal/Installation	6-8-11
Oil Level Switch — Removal/Installation	4-4-4
Oil Pressure Regulator Valve — Adjustment	6-8-7
Oil Pressure Regulator Valve — Disassembly/Assembly	6-8-8
Oil Pressure Regulator Valve — Removal/Installation	6-8-6
Oil Pressure Switch (AVIM) — Testing/Checking	6-8-16

<u>Subject</u>	<u>Para/Task</u>
O (Cont)	
Oil Pressure Switch — Cleaning/ Inspection/Repair	6-8-15
Oil Pressure Switch — Removal/ Installation	6-8-14
Oil Pressure Transducer — Cleaning/Inspection/Repair	6-8-18
Oil Pressure Transducer — Removal/Installation	6-8-17
Oil Pressure Transducer, Engine — Checking	4-1-8
Oil Pressure Transducer (AVIM) — Testing/Checking	6-8-19
Oil Pressure Transducer (Typical) — Removal/Installation	4-1-7
Oil Pump, Transmission — Cleaning/Inspection/Repair	6-8-2
Oil Pump, Transmission — Removal/Installation	6-8-1
Oil Seal (AVIM), Freewheeling Unit Tail Rotor Drive Output — Removal/Installation	6-5-4
Oil Seal Assembly, Forward Cap — Removal/Cleaning/ Inspection/Repair/Installation	6-5-2
Oil Service Door, Aft Fairing Assembly Engine — Removal/ Installation	2-2-59
Oil System	6-24
Oil System, Engine	1-16, 4-11
Oil System, Engine — Draining	1-4-5
Oil System, Engine — Servicing	1-4-6
Oil System, Introduction to	6-25
Oil System, Task List for	6-26
Oil Tank Assembly — Cleaning/ Inspection/Repair	4-4-3
Oil Tank Assembly — Disassembly/Assembly	4-4-2
Oil Tank Assembly — Removal/ Installation	4-4-1
Oil Tank Cap and Adapter Assembly — Removal/ Installation	4-4-8
Oil Tank Drain Valve — Removal/ Installation	4-4-7
Oil Tank Sight Glass — Removal/ Installation	4-4-5
Oil Tank Support — Cleaning/ Inspection/Repair	4-4-13
Oil Tank Support — Removal/ Installation	4-4-12
Oil Tank Temperature Transducer — Removal/Installation	4-4-6
Oil Temperature Thermoswitch, Tail Rotor Gearbox — Removal/Installation	6-7-4
Operation, Principles of	1-23

<u>Subject</u>	<u>Para/Task</u>
O (Cont)	
Output Shaft Seal (AVIM), Tail Rotor Gearbox — Removal/ Installation	6-7-8
Outside Air Thermometer — Cleaning/Inspection/Removal/ Installation	8-5-5
Overhaul and Retirement Schedule	1-59
Overhead Console — Lowering	9-6-5
Overhead Console — Raising	9-6-6
Overhead Console (Typical), Circuit Breaker in — Removal/ Installation	9-6-7
Overhead Console (Typical), Lighting Control Knob — Removal/Installation	9-6-9
Overhead Console — Typical, Transformer Forward — Removal/Installation	9-6-11
Overhead Console and Center Post Circuit Breaker Panel (Typical), Electrical Connections — Inspection	9-6-13
Overhead Console or Center Post Circuit Breaker Panel — Typical, Integrally Lit Panel — Installation	9-6-14
Overhead Console or Center Post Circuit Breaker Panel — Typical, Integrally Lit Panel — Removal	9-6-12
Overheat Switch, Heater — Removal/Installation	9-6-44
Overload Sensing Control — Cleaning/Inspection/Repair	9-3-17
Overload Sensing Control — Removal/Installation	9-3-18
P	
Pack, Coupling Disc — Removal/ Cleaning/Installation	6-6-6
Pack Assemblies, Coupling Disc — Inspection	6-6-7
Packing, Tail Rotor Gearbox Housing — Removal/ Installation	5-5-18
Pan, Aft Firewall — Removal/ Installation	4-9-3
Pan Assembly (Typical), Seat — Cleaning/Inspection/Repair	2-2-35
Pan Assembly (Typical), Seat — Removal/Installation	2-2-34
Panel, Armament Control — Removal/Installation	9-8-1

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Panel, Auxiliary Circuit Breaker — Lowering	9-6-81
Panel, Auxiliary Circuit Breaker — Raising	9-6-82
Panel, Crew Seat and Armor Seat — Removal/Installation	2-2-33
Panel, MMS Control — Removal/Installation	9-6-80
Panel, SCAS Control — Installation	9-6-23
Panel, SCAS Control — Removal	9-6-22
Panel (OH-58D), Digital Fuel Control — Installation	9-6-16
Panel (OH-58D), Digital Fuel Control — Removal	9-6-15
Panel (Typical), Integrally Lit — Cleaning/Inspection/Repair	9-6-4
Panel Assembly (COMSEC Unit 1 and 2) — Removal/Repair/Installation	9-2-10
Panel Glareshield, Instrument — Cleaning/Inspection/Repair	8-1-19
Panel Glareshield, Instrument — Removal/Installation	8-1-18
Panels, Armor — Cleaning/Inspection/Repair	2-2-43
Panels (Typical), Armor — Removal/Installation	2-2-42
Panels (Typical), Crew Armor — Removal/Installation	2-2-40
Panels (Typical), Honeycomb — Cleaning/Inspection	2-2-80
Panels (Typical), Honeycomb — Repair	2-2-81
Panels, Center Post Duct and — Cleaning/Inspection/Repair	2-2-70
Panels, Center Post Duct and — Removal/Installation	2-2-69
Panels, Crew Armor — Cleaning/Inspection/Repair	2-2-41
Parking/Towing Helicopter	1-6-1
Particle Separator — Cleaning/Inspection/Repair	4-2-13
Particle Separator — Removal/Installation	4-2-12
Particle Separator Fan (AVIM) — Cleaning/Inspection/Repair	4-2-10
Particle Separator Fan (AVIM) — Disassembly/Assembly	4-2-9
Particle Separator Fan and Duct — Installation	4-2-11
Particle Separator Fan and Duct — Removal	4-2-8
Particle Separator Vortex Generator Tubes — Removal/Installation	4-2-14

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Parts, Flight Safety	1-60
Parts Program, Flight Safety	1-61
Patching (AVIM), Main Rotor Blade Skin by — Repair	5-1-40
Pedal Adjustment Clevis, Directional Control — Removal/Inspection/Installation	11-4-9
Pedal Adjustment and Support Assembly — Cleaning/Inspection/Repair	11-4-3
Pedal Adjustment and Support Assembly, Directional Control — Removal/Installation	11-4-1
Pedal Bearing (AVIM), Directional Control — Removal/Installation	11-4-5
Pedal Bellcrank, Directional Control — Removal/Installation	1-4-7
Pedal Bellcrank Bushing and Bearing (AVIM), Directional Control — Removal/Installation	11-4-8
Pedal Tube, Directional Control — Removal/Installation	11-4-10
Pedals, Directional Control — Cleaning/Inspection/Repair	11-4-4
Pedals from Support Assembly, Directional Control — Removal	11-4-2
Pedals in Support Assembly, Directional Control — Installation	11-4-6
Periods of Inventory	C-4
Pilot Collective Elbow Assembly — Removal/Installation	11-2-40
Pilot Collective Elbow Assembly Bearings — Removal/Installation	11-2-41
Pilot Collective Stick, Integrally Lit Panel — Removal/Installation	9-6-41
Pilot Collective Stick-Typical, Switch — Removal/Installation	9-6-42
Pilot Collective Stick Assembly — Removal/Installation	11-2-26
Pilot Collective Stick Assembly Miscellaneous Parts — Removal/Installation	11-2-27
Pilot Collective Stick Control Panel, Cargo Release Switch — Removal/Installation	9-6-43
Pilot Collective Stick Control Panel Box — Cleaning/Inspection/Repair	11-2-28
Pilot Collective Stick Cover — Removal/Installation	11-2-3
Pilot Collective Stick Detent Button — Cleaning/Inspection/Repair	11-2-30

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Pilot Collective Stick Elbow Assembly — Cleaning/ Inspection/Repair	11-2-33
Pilot Collective Stick Inner Tube Assembly — Cleaning/ Inspection/Repair	11-2-34
Pilot Collective Stick Outer Tube Assembly — Cleaning/ Inspection/Repair	11-2-32
Pilot Collective Stick Ring Gears — Cleaning/Inspection/Repair	11-2-35
Pilot Collective Stick Throttle Arm — Cleaning/Inspection/Repair	11-2-36
Pilot Collective Stick Throttle Friction Plug — Cleaning/ Inspection/Repair	11-2-29
Pilot Collective Stick Throttle Grip Assembly — Cleaning/ Inspection/Repair	11-2-31
Pilot Cyclic Fitting Assembly Bearings (AVIM) — Removal/ Installation	11-3-61
Pilot Cyclic Grip — Removal/ Installation	9-6-84
Pilot Cyclic Pivot Assembly — Cleaning/Inspection/Repair	11-3-45
Pilot Cyclic Pivot Support Assembly Inserts — Removal/ Installation	11-3-62
Pilot Cyclic Position Adjustment Indicator Pin — Cleaning/ Inspection/Repair	11-3-56
Pilot Cyclic Position Adjustment Indicator Pin — Removal/ Installation	11-3-55
Pilot Cyclic Position Adjustment Knob Assembly — Removal/ Installation	11-3-54
Pilot Cyclic Position Adjustment Rod End — Cleaning/ Inspection/Repair	11-3-53
Pilot Cyclic Position Adjustment Rod End — Removal/ Installation	11-3-52
Pilot Cyclic Stick Fitting Assembly — Cleaning/Inspection/Repair	11-3-60
Pilot Cyclic Stick Fitting Assembly — Removal/Installation	11-3-58
Pilot Cyclic Stick Pivot Assembly — Removal/Installation	11-3-42
Pilot Cyclic Stick Pivot Bearing — Cleaning/Inspection/Repair	11-3-51
Pilot Cyclic Stick Pivot Bearing — Removal/Installation	11-3-50

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Pilot Cyclic Stick and Pivot Support Assembly — Removal/ Installation	11-3-57
Pilot Cyclic Stick Stop — Cleaning/Inspection/Repair	11-3-48
Pilot Cyclic Tube Assembly — Cleaning/Inspection/Repair	11-3-59
Pin, Pilot Cyclic Position Adjustment Indicator — Cleaning/Inspection/Repair	11-3-56
Pin, Pilot Cyclic Position Adjustment Indicator — Removal/Installation	11-3-55
Pinion Magnetic Seal (AVIM), Input — Removal/Cleaning/ Inspection/Repair/Installation	6-3-7
Pitch Change Control Tube, Tail Rotor — Cleaning/Inspection/ Repair	5-5-14
Pitch Change Control Tube, Tail Rotor — Installation	5-5-15
Pitch Change Control Tube, Tail Rotor — Removal	5-5-13
Pitch Change Housing, Tail Rotor Gearbox — Cleaning/ Inspection/Repair	5-5-21
Pitch Change Idler, Tail Rotor — Cleaning/Inspection/Repair	5-5-10
Pitch Change Idler, Tail Rotor — Installation	5-5-12
Pitch Change Idler, Tail Rotor — Removal	5-5-9
Pitch Change Idler Bushings and Bearing (AVIM), Tail Rotor — Removal/Installation	5-5-11
Pitch Change Lever (AVIM), Tail Rotor — Cleaning/Inspection/ Repair	5-5-6
Pitch Change Lever Bushings and Bearing (AVIM), Tail Rotor — Removal/Installation	5-5-7
Pitch Change Levers, Tail Rotor — Installation	5-5-8
Pitch Change Levers, Tail Rotor — Removal	5-5-5
Pitch Change Mechanism, Tail Rotor	5-14
Pitch Change Mechanism, Tail Rotor — Inspection	5-5-2
Pitch Change Rod Assembly, Tail Rotor — Cleaning/Inspection/ Repair	5-5-3
Pitch Change Rod Assembly, Tail Rotor — Installation	5-5-4
Pitch Change Rod Assembly, Tail Rotor — Removal	5-5-1

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Pitch Change Trunnion, Tail Rotor — Cleaning/Inspection/Repair	5-5-20
Pitch Change Trunnion Cap, Tail Rotor — Cleaning/Inspection/ Repair.....	5-5-19
Pitch Horn Assemblies (AVIM), Main Rotor — Removal/ Installation	5-1-21
Pitch Horn Assembly (AVIM), Main Rotor — Cleaning/ Inspection/Repair.....	5-1-22
Pitch Horn, Tail Rotor — Cleaning/Inspection/Repair	5-4-20
Pitch Horn Bushing (AVIM), Tail Rotor — Replacement	5-4-21
Pitch Horn Bushings (AVIM), Main Rotor — Removal/ Installation	5-1-23
Pitch Link Assembly, Collective — Cleaning/Inspection/Repair	11-2-5
Pitch Link Assembly, Collective — Removal/Installation	11-2-4
Pitch Link Assembly, Main Rotor — Cleaning/Inspection/Repair	5-2-2
Pitch Link Horn Attaching Hardware, Main Rotor — Removal/Installation	5-1-14
Pitch Link, Main Rotor — Installation	5-2-3
Pitch Link, Main Rotor — Removal	5-2-1
Pitch Link, Tail Rotor — Cleaning/ Inspection/Repair.....	5-4-3
Pitch Link, Tail Rotor — Installation	5-4-4
Pitch Link, Tail Rotor — Removal	5-4-2
Pitch Rate Sensor — Cleaning/ Inspection/Repair.....	9-6-55
Pitch Rate Sensor — Removal/ Installation	9-6-56
Pitch and Roll Engage Switch, SCAS — Removal/Installation	9-6-26
Pitot Tube — Cleaning/Inspection/ Repair.....	8-3-5
Pitot Tube — Removal/Installation	8-3-4
Pitot-Static Instrument and Air Data Systems	8-8
Pitot-Static Instrument and Air Data Systems, Introduction to	8-9
Pitot-Static Instrument and Air Data Systems, Task List for	8-10
Pitot-Static Tubing and Fittings — Cleaning/Inspection/Repair	8-3-1
Pitot-Static Tubing and Fittings — Installation	8-3-3

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Pitot-Static Tubing and Fittings — Removal	8-3-2
Pivot Assembly, Pilot Cyclic — Cleaning/Inspection/Repair	11-3-45
Pivot Assembly, Pilot Cyclic Stick — Removal/Installation	11-3-42
Pivot Assembly Bearing (AVIM) — Removal/Installation	11-3-49
Pivot Bearing, Pilot Cyclic Stick — Cleaning/Inspection/Repair	11-3-51
Pivot Bearing, Pilot Cyclic Stick — Removal/Installation	11-3-50
Pivot Bearing Retainer, Cyclic Stick — Cleaning/Inspection/ Repair.....	11-3-44
Pivot Support Assembly Inserts, Pilot Cyclic — Removal/ Installation	11-3-62
Pivot Support Bearing — Cleaning/Inspection/Repair	11-3-43
Pivotable, Fin — Removal/ Installation	2-3-22
Pivotable Fin Support — Removal/Installation	2-3-23
Plate, Main Rotor Hub Lower — Cleaning/Inspection/Repair	5-1-32
Plate, Main Rotor Hub Upper — Cleaning/Inspection/Repair	5-1-18
Plate Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-71
Plate Assembly, Collective — Removal/Installation	11-2-66
Plate Assembly, Main Rotor Upper Cone — Cleaning/ Inspection/Repair.....	5-1-3
Plate Assembly Bearing (AVIM), CPG Cyclic Stick — Removal/ Installation	11-3-72
Platform Assembly, MMS — Cleaning/Inspection/Repair	13-2-5
Platform Assembly, MMS — Disassembly/Assembly	13-2-6
Platform Assembly, MMS — Installation/Removal	13-2-4
Plenum Assembly — Cleaning/ Inspection/Repair.....	12-2-2
Plenum Assembly — Installation	12-2-3
Plenum Assembly — Removal	12-2-1
Plug, Copilot/Gunner Collective Stick Assembly — Removal/ Installation	11-2-10
Points, Hard — Cleaning/ Inspection/Repair.....	2-2-86
Polyurethane Conductive Coatings (AVIM), Copper Filled — Use	2-2-64

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Polyurethane Top Coatings (AVIM), Aliphatic — Use	2-2-65
Position Adjustment Indicator Pin, Pilot Cyclic — Cleaning/ Inspection/Repair	11-3-56
Position Adjustment Indicator Pin, Pilot Cyclic — Removal/ Installation	11-3-55
Position Adjustment Knob Assembly, Pilot Cyclic — Removal/Installation	11-3-54
Position Adjustment Rod End, Pilot Cyclic — Cleaning/ Inspection/Repair	11-3-53
Position Adjustment Rod End, Pilot Cyclic — Removal/ Installation	11-3-52
Position Light, Tail — Installation	9-5-11
Position Light, Tail — Removal	9-5-10
Position Light (Typical), Side — Installation	9-5-9
Position Light (Typical), Side — Removal	9-5-8
Position Light Dimming Resistor — Installation	9-5-13
Position Light Dimming Resistor — Removal	9-5-12
Potentiometer Arm, Droop Compensator — Cleaning/ Inspection/Repair	11-2-54
Power (Battery and External), DC — Application/Removal	1-6-5
Power (External), AC — Application/Removal	1-6-6
Power Converter (Typical), Night Vision — Installation	9-5-24
Power Converter (Typical), Night Vision — Removal	9-5-23
Power Converter, Night Vision — Cleaning/Inspection/Repair	9-5-22
Power Door Switch, DC External — Cleaning/Inspection/Repair	9-3-11
Power Door Switch, DC External — Removal/Installation	9-3-12
Power Monitor Unit, AC — Cleaning/Inspection/Repair	9-4-14
Power Monitor Unit, AC — Removal/Installation	9-4-15
Power Off or Rapid Refueling — Closed Circuit	1-4-1
Power Off or Rapid, Refueling — Gravity or Open Port	1-4-2
Power Switch, SCAS — Removal/ Installation	9-6-30
Power and Distribution System, Alternating Current	9-11

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Power and Distribution System, Direct Current	9-8
Power and Distribution System, Introduction to Alternating Current	9-12
Power and Distribution System, Introduction to Direct Current	9-9
Power and Distribution System, Task List for Alternating Current	9-13
Power and Distribution System, Task List for Direct Current	9-10
Powerplant Controls	4-15
Powerplant Differences (250- C30R/3 Engine with FADEC vs. 250-C30R/1 Series)	1-27
Powerplant	1-26, 4-1
Powerplant and Transmission Electrical Equipment	9-20
Powerplant and Transmission Electrical Equipment, Introduction to	9-21
Powerplant and Transmission Electrical Equipment, Task List for	9-22
Preheat Indicator Lights, Battery — Cleaning/Inspection/Repair	9-3-5
Preheat Indicator Lights, Battery — Removal/Installation	9-3-6
Preliminary Weighing Instructions	G-14
Preparation (Appendix M), Surface	M-6
Preparation for Storage or Shipment	1-5
Preservation (Appendix Q)	Q-6
Preservation (Flyable Storage), Maintenance of	E-15
Preservation (Intermediate Storage), Maintenance of	E-44
Preservation (Short Term Storage), Maintenance of	E-29
Pressure Manifold — Cleaning/ Inspection/Repair	7-5-4.1
Pressure Manifold — Removal/ Installation	7-5-4
Pressure Switch — Removal/ Installation	7-5-1
Pressure Switch, Fuel — Removal/Installation	10-1-12
Pressure Switch, Fuel Differential — Inspection	4-6-12
Pressure Switch, Fuel Differential — Removal/Installation	4-6-10
Pressure Switch, Hydraulic — Cleaning/Inspection/Repair	7-5-2

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Pressure Switch Manifolds and Relief Valve, Introduction to	7-15
Pressure Switch Manifolds and Relief Valve, Task List for	7-16
Pressure Switch, Manifolds and Relief Valve	7-14
Pressure Switch, Oil — Cleaning/ Inspection/Repair	6-8-15
Pressure Switch, Oil — Removal/ Installation	6-8-14
Pressure Switch (AVIM), Oil — Testing/Checking	6-8-16
Pressure Switch (OH-58D(R)), Fuel Differential — Removal/ Installation	4-6-11
Pressure Transducer (AVIM), Oil — Testing/Checking	6-8-19
Pressure Transducer (Typical), Oil — Removal/Installation	4-1-7
Pressure Transducer, Oil — Cleaning/Inspection/Repair	6-8-18
Pressure Transducer, Oil — Removal/Installation	6-8-17
Prevention (Appendix Q)	Q-5
Preventive Maintenance Inspections, General Information	1-55
Principles of Operation	1-23
Probe, Fuel — Removal/ Installation	10-1-13
Procedures, Helicopter Safing	1-6-7
Procedures Common to all Categories of Storage	E-4
Prone Components, Corrosion	Q-8
Prone Honeycomb Panels, Corrosion	Q-11
Protective Rubber Pad Below Fuel Receiver — Removal/ Installation	2-2-98
Pump Driveshaft Assembly, Hydraulic — Cleaning/ Inspection/Repair	7-8-4
Pump Driveshaft Assembly Alternate Method, Hydraulic — Inspection	7-8-5
Pump, Boost — Cleaning/ Inspection	10-1-18
Pump, Boost — Installation	10-1-19
Pump, Boost — Removal	10-1-17
Pump, Hydraulic	7-23
Pump, Hydraulic — Cleaning/ Inspection/Repair	7-8-2
Pump, Hydraulic — Removal/ Installation	7-8-1
Pump, Introduction to Hydraulic	7-24
Pump, Task List for Hydraulic	7-25

<u>Subject</u>	<u>Para/Task</u>
P (Cont)	
Pump, Transmission Oil — Cleaning/Inspection/Repair	6-8-2
Pump, Transmission Oil — Removal/Installation	6-8-1
Purpose — Inspection and Corrosion Prone Areas (Appendix Q)	Q-3
Purpose — Introduction (Appendix Q)	Q-1
Pushbutton Switch (Digital Fuel Control Panel (OH-58D) - Typical) — Removal/Installation	9-6-20
Pylon	2-10
Pylon — Cleaning/Inspection	2-4-1
Pylon (UWP) Mount Fitting Cover, Universal Weapons — Removal/Installation	2-2-93
Pylon Fittings — Cleaning/ Inspection/Repair	6-3-15
Pylon Fittings — Removal/ Installation	6-3-14
Q	
Quality Assurance/Quality Control (QA/QC)	1-6
Quantity Control Unit, Fuel — Removal/Installation	9-6-64
Quick-Disconnect Anchor Ball Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-90
Quick-Disconnect Coupling Halves — Cleaning/Inspection/ Repair	7-4-7
Quick-Disconnect Latch Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-88
Quick-Disconnect Lever Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-76
Quick-Disconnect Lever Bushings (AVIM), CPG Cyclic — Removal/Installation	11-3-77
Quick-Disconnect Lever and Link Assembly, CPG Cyclic Stick — Removal/Installation	11-3-75
Quick-Disconnect Self-Sealing Coupling Half (Typical) — Removal/Installation	7-4-6
Quick-Disconnect Support Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-89
Quick-Disconnects, Hydraulic Hoses Lines Tubes Fittings and	7-11

R

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
RRA, Rocket Remote Assembly — Cleaning/Inspection/Repair	9-8-12
RRA, Rocket Remote Assembly — Removal/Installation	9-8-13
RT Unit Mounting Tray, HF — Removal/Installation	9-2-2
Range (Appendix P), Recommended Installation Torque	P-4
Rapid Deployment	13-5
Rapid Deployment, Aft Crosstube — Cleaning/Inspection/Repair	3-1-37
Rapid Deployment, Aft Crosstube — Removal/Installation	3-1-34
Rapid Deployment, Aft Crosstube Components — Removal/ Installation	3-1-40
Rapid Deployment, Aft Crosstube Support Assembly — Cleaning/ Inspection/Repair	3-1-9
Rapid Deployment, Aft Crosstube Support Beam and Components — Cleaning/ Inspection/Repair	3-1-46
Rapid Deployment, Aft Crosstube Support Beam and Components — Removal/ Installation	3-1-44
Rapid Deployment, Aft Crosstube Supports — Cleaning/ Inspection/Repair	3-1-42
Rapid Deployment, Configure Helicopter for	13-2-9
Rapid Deployment, Configure Helicopter for Flight After	13-2-10
Rapid Deployment, Eyebolt — Cleaning/Inspection/Repair	3-1-23
Rapid Deployment, Eyebolt — Removal/Installation	3-1-21
Rapid Deployment, Forward Crosstube — Cleaning/ Inspection/Repair	3-1-27
Rapid Deployment, Forward Crosstube — Removal/ Installation	3-1-25
Rapid Deployment, Forward Crosstube Components — Cleaning/Inspection/Repair	3-1-60
Rapid Deployment, Forward Crosstube Components — Removal/Installation	3-1-30
Rapid Deployment, Forward Crosstube Support Assembly — Cleaning/Inspection/Repair	3-1-10

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
Rapid Deployment, Forward Crosstube Support Assembly — Cleaning/Inspection/Repair	3-1-59
Rapid Deployment, Forward Crosstube Supports — Cleaning/Inspection/Repair	3-1-32
Rapid Deployment, Landing Gear — Inspection	3-1-2
Rapid Deployment, Landing Gear — Removal/Installation	3-1-6
Rapid Deployment, Landing Gear Knuckle Assembly (Typical) — Disassembly/Assembly (AVIM)	3-1-56
Rapid Deployment, Leg and Knuckle Assembly — Removal/ Installation	3-1-51
Rapid Deployment, Leg and Knuckle Assembly Components — Cleaning/Inspection/Repair	3-1-52
Rapid Deployment, MMS Platform Ball and Hoist Ball — Removal/ Installation	3-1-53
Rapid Deployment, MMS Platform Ball and MMS Hoist Ball — Cleaning/Inspection/Repair	3-1-54
Rapid Deployment, Skid Shoes and Skid Tube Rivnuts — Removal/Installation	3-1-16
Rapid Deployment, Skid Tube Assembly — Cleaning/ Inspection/Repair	3-1-12
Rapid Deployment, Skid Tube Assembly — Removal/ Installation	3-1-14
Rapid Deployment, Tiedown Fitting — Removal/Installation	3-1-55
Rapid Deployment, Tow Fittings — Removal/Installation	3-1-49
Rapid Deployment Jacks — Cleaning/Inspection/Repair	13-2-7
Rapid Deployment Landing Gear, Weight-On Gear Switch — Removal/Installation	9-6-1
Rapid Deployment Skid Gear — Mooring Helicopter	1-7-2
Rapid Deployment Skid Gear, Towing Helicopter with	1-6-2
Rapid or Power Off Refueling — Closed Circuit	1-4-1
Rapid or Power Off Refueling — Gravity or Open Port	1-4-2
Raschel Seat Covers — Removal/ Installation	2-2-24
Rate Sensor, Pitch — Cleaning/ Inspection/Repair	9-6-55

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
Rate Sensor, Pitch — Removal/ Installation	9-6-56
Rate Sensor, Roll — Cleaning/ Inspection/Repair	9-6-57
Rate Sensor, Roll — Removal/ Installation	9-6-58
Rebound Assembly — Cleaning/ Inspection/Repair	2-2-37
Rebound Assembly — Removal/ Installation	2-2-36
Receiver Assembly — Removal/ Inspection/Repair/Installation	10-1-24
Receiver, Protective Rubber Pad Below Fuel — Removal/ Installation	2-2-98
Receptacle, AC External Power — Cleaning/Inspection/Repair	9-4-3
Receptacle, AC External Power — Removal/Installation	9-4-4
Recommendations (EIR), Reporting Equipment Improvement	1-8
Recommended Installation Torque Range (Appendix P)	P-4
Record of Weight and Balance Personnel, DD Form 365	G-7
Recorder Mounting Rack, Video — Removal/Installation	9-2-8
Records, Maintenance Forms and	1-3
Rectifier Unit (TRU) Plate and Brackets, Transformer — Removal/Installation	9-3-4
Rectifier Unit (TRU), Transformer — Cleaning/Inspection/Repair	9-3-2
Rectifier Unit (TRU), Transformer — Removal/Installation	9-3-3
References (Appendix A)	A-1
Refinishing (Appendix M)	M-9
Refueling (Power Off or Rapid) — Closed Circuit	1-4-1
Refueling (Power Off or Rapid) — Gravity or Open Port	1-4-2
Regulator Valve, Oil Pressure — Adjustment	6-8-7
Regulator Valve, Oil Pressure — Disassembly/Assembly	6-8-8
Regulator Valve, Oil Pressure — Removal/Installation	6-8-6
Regulator, Voltage — Cleaning/ Inspection/Repair	9-3-19
Regulator, Voltage — Removal/ Installation	9-3-20
Relay (Typical) — Removal/ Installation	9-6-45

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
Release Switch (Pilot Collective Stick Control), Cargo — Removal/Installation	9-6-43
Relief Valve — Cleaning/ Inspection/Repair	7-5-5.1
Relief Valve — Removal/ Installation	7-5-5
Relief Valve, Pressure Switch Manifolds and	7-14
Remarks (Column 6 and Section IV)	B-10
Remote Assembly (RRA), Rocket — Cleaning/Inspection/Repair	9-8-12
Remote Assembly (RRA), Rocket — Removal/Installation	9-8-13
Remote Control Circuit Breaker — Installation	9-6-35
Remote Control Circuit Breaker — Removal	9-6-34
Remote Hellfire Electronics (RHE) — Cleaning/Inspection/Repair	9-8-10
Remote Hellfire Electronics (RHE) — Removal/Installation	9-8-11
Remote ICS Switch — Removal/ Installation	9-6-88
Remote Sensor — Cleaning/ Inspection/Repair	12-1-8
Remote Sensor — Removal/ Installation	12-1-7
Repair — Corrosion Prone Areas (Appendix Q), Inspection and	Q-7
Repair, Landing Gear Corrosion	Q-14
Repair, Tailboom Corrosion	Q-13
Repair and Replacement (Appendix F), Wire	F-8
Replacement (Appendix F), Wire Repair and	F-8
Reporting Equipment Improvement Recommendations (EIR)	1-8
Requirements (Storage of Helicopter)	E-2
Requirements, Special	1-47
Requirements, Tool and Test Equipment	B-11
Rescue Ladder	13-8
Rescue Ladder — Cleaning/ Inspection/Repair	13-3-2
Rescue Ladder — Removal/ Installation	13-3-1
Rescue Ladder, Introduction to	13-9
Rescue Ladder, Task List for	13-10
Rescue Ladder Release Cable — Cleaning/Inspection/Repair	13-3-5
Rescue Ladder Release Cable, Left — Removal/Installation	13-3-3

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
Rescue Ladder Release Cable, Right — Removal/Installation	13-3-4
Reservoir, Hydraulic	7-20
Reservoir, Hydraulic — Cleaning/ Inspection/Repair	7-7-8
Reservoir, Hydraulic — Draining/ Servicing	1-4-10
Reservoir, Hydraulic — Removal/ Installation	7-7-1
Reservoir, Introduction to Hydraulic	7-21
Reservoir, Task List for Hydraulic	7-22
Reservoir Cover Latch Assembly, Hydraulic — Removal/ Installation	7-7-3
Reservoir Cover Pin and Cap Gasket, Hydraulic — Removal/ Installation	7-7-2
Reservoir Return Port Union, Hydraulic — Removal/ Installation	7-7-4
Reservoir Screen, Hydraulic — Removal/Installation	7-7-7
Reservoir Sight Plug, Hydraulic — Removal/Installation	7-7-5
Reservoir Strainer and Cover Gasket, Hydraulic — Removal/ Installation	7-7-6
Reservoir Support Bracket, Hydraulic — Removal/ Installation	7-7-9
Reset Switch, AC External Power — Cleaning/Inspection/Repair	9-4-5
Reset Switch, AC External Power — Removal/Installation	9-4-6
Resistance (Appendix M), Bond	M-10
Resistance of Electrical Bonds (Appendix M)	M-5
Resistor or Capacitor on Terminal Junction (Typical) — Removal/ Installation	9-6-63
Responsibility (Appendix G)	G-3
Responsibility (Appendix Q)	Q-4
Restraint, Seat — Cleaning/ Inspection/Repair	2-2-17
Restraint, Seat — Removal/ Installation	2-2-16
Restraint (Energy Attenuating), Seat — Cleaning/Inspection/ Repair	2-2-19
Restraint (Energy Attenuating), Seat — Removal/Installation	2-2-18
Retainer, Cyclic Stick Indicator Pin — Cleaning/Inspection/ Repair	11-3-46

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
Retainer, Cyclic Stick Pivot Bearing — Cleaning/Inspection/ Repair	11-3-44
Retainer/Packing/Nut, Tee/ — Removal/Installation	7-4-5
Retaining Nut, Tail Rotor — Cleaning/Inspection/Repair	5-4-18
Retirement Schedule, Overhaul and	1-59
Return Manifold — Cleaning/ Inspection/Repair	7-5-3.1
Return Manifold — Removal/ Installation	7-5-3
Return Port Union, Hydraulic Reservoir — Removal/ Installation	7-7-4
Rigging	11-2
Rigging, Introduction to	11-3
Rigging, Task List for	11-4
Right Cyclic Yoke — Installation	11-3-18
Right Cyclic Yoke — Removal	11-3-17
Right or Left Access Panel (Typical) — Cleaning/ Inspection/Repair	2-2-84
Right or Left Access Panel (Typical) — Removal/ Installation	2-2-83
Right Rescue Ladder Release Cable — Removal/Installation	13-3-4
Rigid Tube Assembly (Typical) — Removal/Installation	7-4-1
Ring Assembly for Rotational Movement, Swashplate Inner — Inspection	5-2-39
Ring Gears, Pilot Collective Stick — Cleaning/Inspection/Repair	11-2-35
Ring Set (AVIM), Main Rotor Drive — Cleaning/Inspection/ Repair	5-1-31
Ring Set (AVIM), Main Rotor Drive — Removal/Installation	5-1-30
Rivnut, Skid Shoes and Skid Tube — Cleaning/Inspection/ Repair	3-1-17
Rivnut, Skid Shoes and Skid Tube — Removal/Installation	3-1-15
Rivnuts (Rapid Deployment) (AVIM), Skid Shoes and Skid Tube — Cleaning/Inspection/ Repair	3-1-19
Rocket Remote Assembly (RRA) — Cleaning/Inspection/Repair	9-8-12
Rocket Remote Assembly (RRA) — Removal/Installation	9-8-13

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
Rod Assembly, Tail Rotor Pitch Change — Cleaning/Inspection/ Repair.....	5-5-3
Rod Assembly, Tail Rotor Pitch Change — Installation.....	5-5-4
Rod Assembly, Tail Rotor Pitch Change — Removal.....	5-5-1
Rod End, Pilot Cyclic Position Adjustment — Cleaning/ Inspection/Repair.....	11-3-53
Rod End, Pilot Cyclic Position Adjustment — Removal/ Installation.....	11-3-52
Rod End, Throttle Arm — Removal/Installation.....	4-6-7
Roll Rate Sensor — Cleaning/ Inspection/Repair.....	9-6-57
Roll Rate Sensor — Removal/ Installation.....	9-6-58
Roof Drain, Cabin — Cleaning/ Inspection/Repair.....	2-2-85
Roof Skylight, Cabin — Cleaning/ Inspection/Repair.....	2-2-75
Roof Skylight, Cabin — Removal/ Installation.....	2-2-74
Rotary Actuator, Directional Control — Cleaning/Inspection/ Repair.....	11-4-38
Rotary Actuator, Directional Control — Removal/Installation.....	11-4-37
Rotor Assembly, Tail — Assembly.....	5-4-14
Rotor Assembly, Tail — Balancing.....	5-4-15
Rotor Assembly, Tail — Cleaning/ Inspection/Repair.....	5-4-13
Rotor Assembly, Tail — Disassembly.....	5-4-12
Rotor Assembly, Tail — Installation.....	5-4-16
Rotor Assembly, Tail — Removal.....	5-4-11
Rotor Autorotation RPM, Main — Adjustment.....	5-3-1
Rotor Bellcrank, Tail — Removal/ Installation.....	11-4-43
Rotor Blade (AVIM), Main — Refinishing.....	5-1-41
Rotor Blade Bolt, Main — Cleaning/Inspection/Repair.....	5-1-9
Rotor Blade Core (AVIM), Main — Repair.....	5-1-51
Rotor Blade Erosion Shield, Main — Repair.....	5-1-44
Rotor Blades (AVIM), Tail — Cleaning/Inspection/Repair/ Refinishing.....	5-4-27

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
Rotor Blades, Main — De-Icing.....	1-4-12
Rotor Blades, Main — Folding/ Unfolding (Alternate Method).....	1-7-6
Rotor Blades, Main — Folding/ Unfolding (Standard Method).....	1-7-5
Rotor Blades, Main — Inspection.....	5-1-39
Rotor Blades, Main — Removal/ Cleaning/Inspection/Installation.....	5-1-5
Rotor Control Antidrive Lever, Main — Installation.....	5-2-27
Rotor Control Antidrive Link, Main — Installation.....	5-2-30
Rotor Control Antidrive Link, Main — Removal.....	5-2-28
Rotor Control Antidrive Link (AVIM), Main — Cleaning/ Inspection/Repair.....	5-2-29
Rotor Controls, Main.....	5-5
Rotor Controls Antidrive Lever, Main — Removal.....	5-2-25
Rotor Controls Antidrive Lever (AVIM), Main — Cleaning/ Inspection/Repair.....	5-2-26
Rotor Controls Collective Lever, Main — Installation.....	5-2-20
Rotor Controls Drive Lever, Main — Removal.....	5-2-7
Rotor Controls Drive Link, Main — Installation.....	5-2-6
Rotor Controls Drive Link, Main — Removal.....	5-2-4
Rotor Controls Drive Link (AVIM), Main — Cleaning/Inspection/ Repair.....	5-2-5
Rotor Crosshead, Tail — Cleaning/Inspection/Repair.....	5-4-9
Rotor Crosshead, Tail — Installation.....	5-4-10
Rotor Crosshead, Tail — Removal.....	5-4-8
Rotor Driveshaft Covers, Tail — Cleaning/Inspection/Repair.....	2-3-12
Rotor Driveshaft Covers, Tail — Removal/Installation.....	2-3-11
Rotor Driveshafts, Tail.....	6-18
Rotor Expandable Bolt, Main — Disassembly/Cleaning/ Inspection/Repair/Assembly.....	5-1-8
Rotor Expandable Bolt, Main — Removal/Installation.....	5-1-6
Rotor Gearbox, Tail.....	1-19, 6-21
Rotor Gearbox, Tail — Draining/ Servicing.....	1-4-9
Rotor Gearbox, Tail — Serviceability Check.....	6-1-3

<u>Subject</u>	<u>Para/Task</u>
R (Cont)	
Rotor Gearbox Support Assembly, Tail — Cleaning/Inspection/ Repair.....	2-3-6
Rotor Grip Assembly, Main — Cleaning/Inspection/Repair	5-1-28
Rotor Hub and Blade Assembly	5-2
Rotor Hub and Blade Assembly, Main — Installation	5-1-2
Rotor Hub (AVIM), Tail — Assembly	5-4-26
Rotor Hub (AVIM), Tail — Disassembly.....	5-4-23
Rotor Hub (AVIM), Tail — Repair	5-4-25
Rotor Hub Components (AVIM), Tail — Cleaning/Inspection	5-4-24
Rotor Mast Assembly, Main — Cleaning/Inspection	6-4-18
Rotor Mast Assembly, Main — Installation	6-4-20
Rotor Mast Assembly, Main — Removal	6-4-15
Rotor Mast Assembly (AVIM), Main — Assembly	6-4-19
Rotor Mast Assembly (AVIM), Main — Disassembly	6-4-16
Rotor Mast Assembly Components (AVIM), Main — Cleaning/Inspection/Repair	6-4-17
Rotor Pitch Link, Main — Cleaning/Inspection/Repair	5-2-2
Rotor Retaining Nut, Tail — Cleaning/Inspection/Repair	5-4-18
Rotor Swashplate and Support, Main — Installation	5-2-38
Rotor Swashplate and Support Components (AVIM), Main — Cleaning/Inspection/Repair	5-2-35
Rotor System (Flyable Storage)	E-12
Rotor System (Intermediate Storage).....	E-38
Rotor System (Short Term Storage).....	E-23
Rotor Tiedowns — Installation/ Removal	1-7-4
Rotor and Transmission Instruments, Engine	8-2
Rotor, Tail — Inspection	5-4-1
Rotors	1-28, 5-1
Rubber Pad Below Fuel Receiver, Protective — Removal/ Installation	2-2-98

S

SCAS Control Panel — Installation	9-6-23
--	--------

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
SCAS Control Panel — Removal	9-6-22
SCAS Control Panel, Integrally Lit Panel — Installation	9-6-25
SCAS Control Panel, Integrally Lit Panel — Removal	9-6-24
SCAS Force Trim Switch — Removal/Installation	9-6-29
SCAS Pitch and Roll Engage Switch — Removal/Installation.....	9-6-26
SCAS Power Switch — Removal/ Installation	9-6-30
SCAS Test Switch — Removal/ Installation	9-6-28
SCAS Yaw Engage Switch — Removal/Installation	9-6-27
Safety Parts, Flight	1-60
Safety Parts Program, Flight	1-61
Safing Procedures, Helicopter.....	1-6-7
Scavenge Oil Filter Assembly, Engine — Removal/Installation	4-4-17
Scavenge Oil Filter Element, Engine — Removal/Installation	4-4-16
Schedule, Overhaul and Retirement	1-59
Scope (Appendix D)	D-1
Scope (Appendix G)	G-1
Scope (Of Maintenance Manual)	1-2
Screen, Hydraulic Reservoir — Removal/Installation	7-7-7
Seal, Aft Firewall — Removal/ Installation	4-9-4
Seal, Engine Accessory Gearbox — Removal/Installation	4-1-10
Seal, Forward Fairing Assembly — Removal/Installation	2-2-49
Seal, Tail Rotor Gearbox Input — Removal/Installation	6-7-5
Seal, Tail Rotor Gearbox Input — Removal/Installation	6-7-6
Seal, Torquemeter Support Bearing — Removal/Installation	6-4-6
Seal (AVIM), Input Pinion Magnetic — Removal/Cleaning/ Inspection/Repair/Installation	6-3-7
Seal (AVIM), Tail Rotor Gearbox Output Shaft — Removal/ Installation	6-7-8
Sealing (Appendix M)	M-8
Seals, Forward Firewall — Removal/Installation	4-8-4
Seals, Oil Cooler Fairing — Removal/Installation	4-4-14
Searchlight — Cleaning/ Inspection/Repair.....	9-5-17
Searchlight — Corrosion Treatment	9-5-18

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Searchlight — Installation	9-5-19
Searchlight — Removal	9-5-16
Seat Covers, Raschel — Removal/Installation	2-2-24
Seat Cushion — Cleaning/ Inspection/Repair	2-2-28
Seat Cushion — Removal/ Installation	2-2-27
Seat Pan Assembly (Typical) — Cleaning/Inspection/Repair	2-2-35
Seat Pan Assembly (Typical) — Removal/Installation	2-2-34
Seat Restraint — Cleaning/ Inspection/Repair	2-2-17
Seat Restraint — Removal/ Installation	2-2-16
Seat Restraint (Energy Attenuating) — Cleaning/ Inspection/Repair	2-2-19
Seat Restraint (Energy Attenuating) — Removal/ Installation	2-2-18
Seatback Cushion — Cleaning/ Inspection/Repair	2-2-23
Seatback Cushion — Removal/ Installation	2-2-22
Security (Helicopter Inventory Master Guide)	C-2
Segmented Shaft (Typical), Adapter/Bearing Hanger/ — Removal/Installation	6-6-9
Select Switch, CPG Channel — Removal/Installation	9-6-65
Selection and Use of Torque Wrench (Appendix P)	P-6
Self-Sealing Coupling Half (Typical), Quick-Disconnect — Removal/Installation	7-4-6
Sensing Control, Overload — Cleaning/Inspection/Repair	9-3-17
Sensing Control, Overload — Removal/Installation	9-3-18
Sensor (OH-58D(R)), Compressor Inlet Temperature — Removal/ Installation	4-2-15
Sensor (OH-58D(R)), Nr — Cleaning/Inspection	6-3-17
Sensor (OH-58D(R)), Nr — Removal/Installation	6-3-16
Sensor, DC Voltage — Cleaning/ Inspection/Repair	9-3-21
Sensor, DC Voltage — Removal/ Installation	9-3-22
Sensor, Pitch Rate — Cleaning/ Inspection/Repair	9-6-55

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Sensor, Pitch Rate — Removal/ Installation	9-6-56
Sensor, Remote — Cleaning/ Inspection/Repair	12-1-8
Sensor, Remote — Removal/ Installation	12-1-7
Sensor, Roll Rate — Cleaning/ Inspection/Repair	9-6-57
Sensor, Roll Rate — Removal/ Installation	9-6-58
Separator, Particle — Cleaning/ Inspection/Repair	4-2-13
Separator, Particle — Removal/ Installation	4-2-12
Separator Fan (AVIM), Particle — Cleaning/Inspection/Repair	4-2-10
Separator Fan (AVIM), Particle — Disassembly/Assembly	4-2-9
Separator Fan and Duct, Particle — Installation	4-2-11
Separator Fan and Duct, Particle — Removal	4-2-8
Separator Vortex Generator Tubes, Particle — Removal/ Installation	4-2-14
Serviceability	6-2
Serviceability, Standards of	1-56
Servicing	1-40
Servicing Tables, Approved	1-43
Servicing, Introduction to	1-41
Servicing, Task List for	1-42
Servicing, Transmission/ Freewheeling Unit	1-4-8
Servoactuator, Directional Control — Removal/Installation	7-1-1
Servoactuator Support, Directional Control — Removal/ Installation	11-4-30
Servoactuator Trunnion Bearing, Directional Control — Cleaning/ Inspection/Repair	7-1-4
Servoactuator Trunnion Bearing, Directional Control — Removal/ Installation	7-1-3
Servoactuators (Typical), Cyclic/ Collective/Directional Control — Cleaning/Inspection/Repair	7-1-2
Shaft Assembly, Aft Short — Cleaning/Inspection/Repair	6-6-5
Shaft Assembly, Aft Short — Removal/Installation	6-6-4
Shaft Assembly, Fan — Installation	6-6-14
Shaft Assembly, Fan — Removal	6-6-11
Shaft Assembly, Forward — Cleaning/Inspection/Repair	6-6-3

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Shaft Assembly, Forward — Removal/Installation (OH- 58D(R))	6-6-2
Shaft Assembly, Forward — Removal/Installation (OH-58D).....	6-6-1
Shaft and Bearing Hanger Assembly — Removal/ Installation	6-6-8
Shaft and Bearing Hanger Assembly, Components of — Cleaning/Inspection/Repair	6-6-10
Shaft Support Bearing (AVIM), Freewheeling Unit Tail Rotor Output — Removal/Installation.....	6-5-5
Shear Bearing (AVIM), Main Rotor Hub — Cleaning/ Inspection/Repair.....	5-1-20
Shear Bearing (AVIM), Main Rotor Hub — Removal/ Installation	5-1-19
Shield Assembly, Inlet — Cleaning/Inspection/Repair	2-2-46
Shield Assembly, Inlet — Removal/Installation	2-2-45
Shield Inspection Panel, Inlet — Removal/Installation	2-2-44
Shim and Spacer, Collective Jackshaft — Removal/ Installation	11-2-20
Shims (AVIM), Main Rotor Hub Damper — Removal/Installation	5-1-17
Shipment, Preparation for Storage or	1-5
Shock Mount, Interface Electronics Assembly (IEA) — Removal/Installation	9-8-7
Shoe, Alternate Skid — Conversion To	3-1-18
Shoe, Alternate Skid — Removal/ Installation/Cleaning/Inspection	3-1-18.1
Shoes and Skid Tube Rivnut, Skid — Cleaning/Inspection/ Repair.....	3-1-17
Shoes and Skid Tube Rivnut, Skid — Removal/Installation	3-1-15
Shoes and Skid Tube Rivnuts (Rapid Deployment), Skid — Removal/Installation	3-1-16
Short Shaft Assembly, Aft — Cleaning/Inspection/Repair	6-6-5
Short Shaft Assembly, Aft — Removal/Installation	6-6-4
Shunt (Typical) — Installation	9-6-48
Shunt (Typical) — Removal	9-6-47
Shutoff Lever, Fuel — Cleaning/ Inspection/Repair.....	10-1-2

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Shutoff Lever, Fuel — Installation	10-1-3
Shutoff Lever, Fuel — Removal	10-1-1
Shutoff Lever and Valve, Fuel — Rigging.....	10-1-4
Shutoff Valve, Fuel — Inspection	10-1-6
Shutoff Valve, Fuel — Removal/ Installation	10-1-5
Side Door, Engine Cowl Assembly — Cleaning/ Inspection/Repair.....	2-2-53
Side Door, Engine Cowl Assembly — Removal/ Installation	2-2-52
Side Position Light (Typical) — Installation	9-5-9
Side Position Light (Typical) — Removal	9-5-8
Sight Gage — Removal/ Installation	6-3-13
Sight Glass, Oil Tank — Removal/Installation	4-4-5
Sight Plug, Hydraulic Reservoir — Removal/Installation	7-7-5
Sight Subsystem Electronics Unit (MSSEU), Missile — Cleaning/ Inspection/Repair.....	9-8-8
Sight Subsystem Electronics Unit (MSSEU), Missile — Removal/ Installation	9-8-9
Signal Conditioning Unit (Mast Torque) — Cleaning/Inspection/ Repair.....	9-7-7
Signal Conditioning Unit (Mast Torque) — Installation.....	9-7-9
Signal Conditioning Unit (Mast Torque) — Removal	9-7-8
Signal Conditioning Unit (TAMS) — Installation	9-7-12
Signal Conditioning Unit (TAMS) — Removal	9-7-11
Signal Conditioning Unit and Chain (TAMS) — Cleaning/ Inspection/Repair.....	9-7-10
Signal Conditioning Unit, Cover and Chain TAMS — Removal/ Installation	9-7-13
Skid Assembly, Tail — Removal/ Installation	2-3-18
Skid Shoe, Alternate — Conversion to	3-1-18
Skid Shoe, Alternate — Removal/ Installation/Cleaning/Inspection	3-1-18.1
Skid Shoes and Skid Tube Rivnut — Cleaning/Inspection/Repair	3-1-17
Skid Shoes and Skid Tube Rivnut — Removal/Installation	3-1-15

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Skid Shoes and Skid Tube Rivnuts (Rapid Deployment) — Removal/Installation	3-1-16
Skid Shoes and Skid Tube Rivnuts (Rapid Deployment) (AVIM)— Cleaning/Inspection/ Repair	3-1-19
Skid Tube Assembly — Cleaning/ Inspection/Repair	3-1-11
Skid Tube Assembly — Removal/ Installation	3-1-13
Skid Tube Assembly (Rapid Deployment) — Cleaning/ Inspection/Repair	3-1-12
Skid Tube Assembly (Rapid Deployment) — Removal/ Installation	3-1-14
Skid Tube Rivnuts (Rapid Deployment) (AVIM), Skid Shoes and — Cleaning/ Inspection/Repair	3-1-19
Skin (AVIM), Fin — Repairing Voids	2-3-20
Skylight, Cabin Roof — Cleaning/ Inspection/Repair	2-2-75
Skylight, Cabin Roof — Removal/ Installation	2-2-74
Sling Loading, Hoisting and	1-52
Sling Loading, Introduction to Hoisting and	1-53
Sling Loading, Task List for Hoisting and	1-54
Sling Loading Helicopter	1-8-4
Snap Vent, Crew Door Window — Removal/Installation	2-2-9
Socket (Typical) — Removal/ Installation	9-6-46
Socket Housing Assembly, CPG Cyclic Stick — Cleaning/ Inspection/Repair	11-3-83
Socket Housing Bushings (AVIM), CPG Cyclic Stick — Removal/ Installation	11-3-84
Socket Housing/Housing Assembly, CPG Cyclic Stick — Removal/Installation	11-3-80
Solenoid — Removal/Installation	12-1-6
Solenoid, Hydraulic Solenoid Valve — Removal/Installation	7-6-2
Solenoid Valve, Hydraulic	7-17
Solenoid Valve, Hydraulic — Cleaning/Inspection/Repair	7-6-3
Solenoid Valve, Hydraulic — Removal/Installation	7-6-1
Solenoid Valve, Introduction to Hydraulic	7-18

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Solenoid Valve, Task List for Hydraulic	7-19
Soundproofing Insulation Blanket — Removal/Installation	2-2-26
Spacer — Cleaning/Inspection/ Repair	5-4-19
Spacer, Collective Jackshaft — Cleaning/Inspection/Repair	11-2-21
Spacer, Cyclic Transducer — Cleaning/Inspection/Repair	11-3-47
Spacer, Main Rotor Controls — Cleaning/Inspection/Repair	5-2-24
Special Inspections	1-57
Special Requirements	1-47
Specified Torques	P-5
Splice Cover, Main Rotor Blade Erosion Strip — Repair	5-1-48
Splice Cover (AVIM), Main Rotor Blade Erosion Strip — Replacement	5-1-50
Spray Coating (AVIM), Flame — Use	2-2-68
Spring Assembly — Cleaning/ Inspection/Repair	2-4-9
Spring/Guides/Shaft, Directional Control Force Gradient — Removal/Installation	11-4-36
Spring, Directional Control Eyebolt and — Removal/ Inspection/Installation	11-4-13
Stabilizer, Folding Horizontal — Cleaning/Inspection/Repair	2-3-26
Stabilizer, Folding Horizontal — Removal/Installation	2-3-27
Stabilizer Hinge Area, Folding Horizontal — Cleaning/ Inspection/Repair	2-3-29
Stabilizer, Horizontal — Folding/ Unfolding	1-7-7
Stabilizer, Left/Right Horizontal — Removal/Installation	2-3-28
Stabilizer, Upper Surface, Folding Horizontal — Cleaning/ Inspection	2-3-25
Standard Skid Gear Mooring — Helicopter	1-7-1
Standards of Serviceability	1-56
Standby Airspeed Indicator — Cleaning/Inspection/Repair	8-2-5
Standby Airspeed Indicator — Removal/Installation	8-2-6
Standby Altimeter — Cleaning/ Inspection/Repair	8-2-1
Standby Altimeter — Removal/ Installation	8-2-2

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Standby Attitude Indicator — Cleaning/Inspection/Repair	8-2-3
Standby Attitude Indicator — Removal/Installation	8-2-4
Standby Compass — Cleaning/ Inspection/Repair	8-5-1
Standby Compass — Removal/ Installation	8-5-2
Standpipe Electrical Assembly — Installation	6-4-3
Standpipe Electrical Assembly — Removal	6-4-1
Standpipe Electrical Assembly, Torquemeter System, and Main Rotor Mast Assembly, Task List for	6-14
Standpipe Electrical Assembly, Torquemeter System, and Main Rotor Mast Assembly	6-12
Standpipe Electrical Assembly Electrical Connector — Replacement	6-4-4
Standpipe and Ground Cable Assembly — Cleaning/ Inspection/Repair	6-4-2
Starter-Generator — Removal/ Installation	9-3-14
Starter-Generator Brushes — Inspection/Replacement	9-3-13
Starter-Generator Driveshaft — Inspection	9-3-1
Static Calibration (TAMS)	9-7-16
Step (Left Side), Maintenance — Cleaning/Inspection/Repair	2-2-79
Step (Left Side), Maintenance — Removal/Installation	2-2-78
Stick, CPG Cyclic — Removal/ Installation	11-3-63
Stick Assembly, Copilot/Gunner Collective — Removal/ Installation	11-2-15
Stick Assembly, Pilot Collective — Removal/Installation	11-2-26
Stick Gimbal/Fitting/Plate/Support Assemblies, Cyclic — Removal/ Installation	11-3-64
Stick and Pivot Support Assembly, Pilot Cyclic — Removal/Installation	11-3-57
Stick Tiedown Strap, Collective — Removal/Installation	11-2-2
Stop, Pilot Cyclic Stick — Cleaning/Inspection/Repair	11-3-48
Stop Nut — Cleaning/Inspection/ Repair	2-4-5

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Stop Nut/Stop-Down Assembly, Corner Mount/ — Removal/ Installation	2-4-2
Stop Plug, Main Rotor Droop — Cleaning/Inspection/Repair	5-1-11
Stop Plugs, Main Rotor Droop — Removal/Installation	5-1-10
Stop Stud, Main Rotor Droop — Cleaning/Inspection/Repair	5-1-13
Stop Studs, Main Rotor Droop — Removal/Installation	5-1-12
Stop-Down Assembly — Cleaning/Inspection/Repair	2-4-6
Stop-Down Assembly, Corner Mount/Stop Nut/ — Removal/ Installation	2-4-2
Storage, Categories of	E-3
Storage, Procedures Common to all Categories of	E-4
Storage or Shipment, Preparation for	1-5
Stored Helicopters, Inspection of	E-5
Strainer and Cover Gasket, Hydraulic Reservoir — Removal/Installation	7-7-6
Strap, Forward Crosstube — Cleaning/Inspection/Repair	3-1-7
Stud, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-74
Stud Assembly, CPG Cyclic Stick — Removal/Installation	11-3-73
Studs, Main Rotor Droop Stop — Removal/Installation	5-1-12
Sump, Fuel — Cleaning/ Inspection	10-1-15
Sump, Fuel — Installation	10-1-16
Sump, Fuel — Removal	10-1-14
Sump Valve — Cleaning/ Inspection/Repair	10-1-23
Sump Valve — Removal/ Installation	10-1-22
Supervisory Control (OH-58D), Electronic — Cleaning/ Inspection/Repair	9-7-1
Supervisory Control (OH-58D), Electronic — Installation	9-7-5
Supervisory Control (OH-58D), Electronic — Removal	9-7-3
Support, Avionics — Cleaning/ Inspection/Repair	2-2-82
Support, Directional Control Servoactuator — Removal/ Installation	11-4-30
Support, Main Rotor Swashplate and — Cleaning/Inspection/ Repair	5-2-31

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Support, Main Rotor Swashplate and — Removal	5-2-33
Support, Oil Tank — Cleaning/Inspection/Repair	4-4-13
Support, Oil Tank — Removal/Installation	4-4-12
Support, Tail Rotor Counterweight — Cleaning/Inspection/Repair	5-4-17
Support, Taillight — Cleaning/Inspection/Repair	2-3-30
Support, Taillight — Removal/Installation	2-3-31
Support (AVIM), Main Rotor Swashplate and — Assembly	5-2-37
Support (AVIM), Main Rotor Swashplate and — Disassembly	5-2-34
Support (Pivotable), Fin — Removal/Installation	2-3-23
Support Assemblies, Fuel Cell — Cleaning/Inspection/Repair/Replacement	10-2-3
Support Assembly, Actuator — Removal/Installation	11-2-62
Support Assembly, Aft Crosstube — Cleaning/Inspection/Repair	3-1-8
Support Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-69
Support Assembly, CPG Cyclic Stick Quick-Disconnect — Cleaning/Inspection/Repair	11-3-89
Support Assembly, Control — Removal/Installation	11-2-58
Support Assembly, Directional Control Pedals in — Installation	11-4-6
Support Assembly, Jackshaft — Removal/Installation	11-2-37
Support Assembly, Pedal Adjustment and — Cleaning/Inspection/Repair	11-4-3
Support Assembly (AVIM), Actuator — Cleaning/Inspection/Repair	11-2-63
Support Assembly Bearing (AVIM), CPG Cyclic Stick — Removal/Installation	11-3-70
Support Assembly Bearing, Jackshaft — Removal/Installation	11-2-38
Support Assembly and Bearing, Jackshaft — Cleaning/Inspection/Repair	11-2-39
Support Assembly Bushings (AVIM), Control — Removal/Installation	11-2-59

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Support Beam Bushing (AVIM), Aft Crosstube — Removal/Installation	3-1-47
Support Beam and Components, Aft Crosstube — Removal/Installation	3-1-43
Support Bearing, Pivot — Cleaning/Inspection/Repair	11-3-43
Support Bearing (AVIM), Torquemeter — Removal/Installation	6-4-7
Support and Bearing Assembly, Torquemeter — Installation	6-4-11
Support and Bearing Assembly, Torquemeter — Removal	6-4-5
Support and Bearing Assembly Components (AVIM), Torquemeter — Cleaning/Inspection/Repair	6-4-8
Support Bearing Seal, Torquemeter — Removal/Installation	6-4-6
Support Bracket, Hydraulic Reservoir — Removal/Installation	7-7-9
Support Bushing (AVIM), Actuator — Removal/Installation	11-4-31
Support Components (AVIM), Main Rotor Swashplate and — Painting	5-2-36
Support Cover, Mast Mounted Sight (MMS) — Removal/Installation	5-2-40
Support Fitting, Landing Gear — Cleaning/Inspection/Repair	3-1-58
Support Fitting, Landing Gear — Removal/Installation	3-1-57
Support Fitting Assemblies, Landing Gear — Removal/Installation/Inspection	2-2-97
Support Fittings, Fin — Removal/Installation	2-3-24
Support Fittings, Lower Forward — Removal/Installation	2-2-95
Support Strap (Rapid Deployment), Aft Crosstube — Installation/Removal	1-6-4
Support Strap (Standard Gear), Aft Crosstube — Installation/Removal	1-6-3
Supports, Flight Control — Cleaning/Inspection/Repair	11-5-3
Supports, Mixing Lever — Removal/Installation	11-2-6
Surface Preparation (Appendix M)	M-6

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Suspension Assembly, Cargo Hook	13-2
Suspension Assembly, Cargo Hook — Cleaning/Inspection/Repair	13-1-5
Suspension Assembly, Cargo Hook — Disassembly/Assembly	13-1-2
Suspension Assembly, Cargo Hook — Removal/Installation	13-1-1
Suspension Assembly, Introduction to Cargo Hook	13-3
Suspension Assembly, Task List for Cargo Hook	13-4
Swashplate Inner Ring Assembly for Rotational Movement — Inspection	5-2-39
Swashplate Uniball Friction, Main Rotor — Checking and Adjustment	5-2-32
Swashplate and Support, Main Rotor — Cleaning/Inspection/Repair	5-2-31
Swashplate and Support, Main Rotor — Installation	5-2-38
Swashplate and Support, Main Rotor — Removal	5-2-33
Swashplate and Support (AVIM), Main Rotor — Assembly	5-2-37
Swashplate and Support (AVIM), Main Rotor — Disassembly	5-2-34
Swashplate and Support Components (AVIM), Main Rotor — Cleaning/Inspection/Repair	5-2-35
Swashplate and Support Components (AVIM), Main Rotor — Painting	5-2-36
Switch, Directional Control Force Gradient — Removal/Installation	11-4-35
Switch, Fuel Pressure — Removal/Installation	10-1-12
Switch, Heater Overheat — Removal/Installation	9-6-44
Switch, Hydraulic Pressure — Cleaning/Inspection/Repair	7-5-2
Switch, Hydraulic System — Removal/Installation	9-6-31
Switch, ICS Engage — Removal/Installation	9-6-87
Switch, ICS Remote — Removal/Installation	9-6-88
Switch, Keylock — Removal/Installation	9-6-54
Switch, NVG Formation Lights — Removal/Installation	9-5-15

<u>Subject</u>	<u>Para/Task</u>
S (Cont)	
Switch, Oil Level — Removal/Installation	4-4-4
Switch, Oil Pressure — Cleaning/Inspection/Repair	6-8-15
Switch, Oil Pressure — Removal/Installation	6-8-14
Switch, Pressure — Removal/Installation	7-5-1
Switch, SCAS Power — Removal/Installation	9-6-30
Switch, SCAS Test — Removal/Installation	9-6-28
Switch, Weight-On-Gear Interrupt — Removal/Installation	9-6-86
Switch, Weight-On-Gear — Removal/Installation	9-6-77
Switch (AVIM), Oil Pressure — Testing/Checking	6-8-16
Switch (CPG Auxiliary Switch Panel-Typical) — Removal/Installation	9-6-70
Switch (Cyclic Grip-Typical) — Removal/Installation	9-6-53
Switch (Digital Fuel Control Panel (OH-58D)), Toggle — Removal/Installation	9-6-21
Switch (Digital Fuel Control Panel (OH-58D)-Typical), Pushbutton — Removal/Installation	9-6-20
Switch (FADEC) (OH-58D(R)), AUTO/MAN — Removal/Installation	9-6-16.1
Switch (Forward Overhead Console-Typical) — Removal/Installation	9-6-10
Switch (OH-58D(R)), Low Fuel Pressure Warning — Removal/Installation	4-6-13
Switch (Pilot Collective Stick-Typical) — Removal/Installation	9-6-42
Switch (Pilot MFD Auxiliary Control Panel-Typical) — Removal/Installation	9-6-73
Symbols (Appendix F)	F-4
System, Drive Train	1-29
System, Electrical	1-20
System, Engine Oil — Draining	1-4-5
System, Engine Oil — Servicing	1-4-6
System, Engine Oil	1-16
System, Fuel	1-14
System, Fuel	1-33
System, Hydraulic — Bleeding	7-2-1
System, Hydraulic	1-15
System, Hydraulic	1-30
System, Instrument	1-31

<u>Subject</u>	<u>Para/Task</u>	<u>Subject</u>	<u>Para/Task</u>
S (Cont)		T (Cont)	
System (Flyable Storage), Drive Train	E-11	TAMS Target Plate and Top Target Support — Removal/ Inspection/Repair/Installation	2-4-3
System (Flyable Storage), Electrical	E-13	TGT/TRQ Indicator — Cleaning/ Inspection/Repair	8-1-13
System (Flyable Storage), Fuel	E-8	TGT/TRQ Indicator — Disassembly/Assembly	8-1-11
System (Flyable Storage), Hydraulic	E-9	TGT/TRQ Indicator — Removal/ Installation	8-1-10
System (Flyable Storage), Rotor	E-12	TGT/TRQ Lamps — Replacement	8-1-12
System (Intermediate Storage), Drive Train	E-37	TRU Plate and Brackets, Transformer Rectifier Unit — Removal/Installation	9-3-4
System (Intermediate Storage), Electrical	E-39	TRU, Transformer Rectifier Unit — Cleaning/Inspection/Repair	9-3-2
System (Intermediate Storage), Fuel	E-33	TRU, Transformer Rectifier Unit — Removal/Installation	9-3-3
System (Intermediate Storage), Hydraulic	E-35	Tables, Approved Servicing	1-43
System (Intermediate Storage), Rotor	E-38	Tachometer, Dual — Cleaning/ Inspection/Repair	8-1-17
System (Short Term Storage), Drive Train	E-22	Tachometer, Dual — Disassembly/Assembly	8-1-15
System (Short Term Storage), Electrical	E-24	Tachometer, Dual — Removal/ Installation	8-1-14
System (Short Term Storage), Fuel	E-19	Tachometer Lamps, Dual — Replacement	8-1-16
System (Short Term Storage), Hydraulic	E-20	Tail Position Light — Installation	9-5-11
System (Short Term Storage), Rotor	E-23	Tail Position Light — Removal	9-5-10
System Group Number and Description (Columns 1 and 2)	B-6	Tail Rotor — Inspection	5-4-1
System Hoses, Fuel — Cleaning/ Inspection	10-1-9	Tail Rotor Assembly — Assembly	5-4-14
System Switch, Hydraulic — Removal/Installation	9-6-31	Tail Rotor Assembly — Balancing	5-4-15
Systems, Electrical	1-32	Tail Rotor Assembly — Cleaning/ Inspection/Repair	5-4-13
Systems, Environmental Control	1-36	Tail Rotor Assembly — Disassembly	5-4-12
Systems, Utility	1-35	Tail Rotor Assembly — Installation	5-4-16
T		Tail Rotor Assembly — Removal	5-4-11
TAMS Linear Variable Differential Transformer (LVDT) — Cleaning/Inspection/Repair	9-7-14	Tail Rotor Bearing Hanger — Alignment	6-6-17
TAMS Linear Variable Differential Transformer (LVDT) — Removal/Installation	9-7-15	Tail Rotor Bellcrank — Removal/ Installation	11-4-43
TAMS Signal Conditioning Unit, Cover and Chain — Removal/ Installation	9-7-13	Tail Rotor Bellcrank Bearing (AVIM) — Removal/Installation	11-4-44
TAMS Signal Conditioning Unit — Installation	9-7-12	Tail Rotor Blades (AVIM) — Cleaning/Inspection/Repair/ Refinishing	5-4-27
TAMS Signal Conditioning Unit — Removal	9-7-11	Tail Rotor Control Tube Driver Plate — Cleaning/Inspection/ Repair	5-4-6
TAMS Static Calibration	9-7-16	Tail Rotor Control Tube Driver Plate — Installation	5-4-7
		Tail Rotor Control Tube Driver Plate — Removal	5-4-5
		Tail Rotor Counterweight Bracket — Cleaning/Inspection/Repair	5-4-22

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Tail Rotor Counterweight Support — Cleaning/Inspection/Repair	5-4-17
Tail Rotor Crosshead — Cleaning/Inspection/Repair	5-4-9
Tail Rotor Crosshead — Installation	5-4-10
Tail Rotor Crosshead — Removal	5-4-8
Tail Rotor Drive Output Adapter Wear Sleeve (AVIM), Freewheeling Unit — Removal/ Installation	6-5-6
Tail Rotor Drive Output Oil Seal (AVIM), Freewheeling Unit — Removal/Installation	6-5-4
Tail Rotor Driveshaft Coupling Angle — Inspection and Driveshaft Alignment	6-6-18
Tail Rotor Driveshaft Covers — Cleaning/Inspection/Repair	2-3-12
Tail Rotor Driveshaft Covers — Removal/Installation	2-3-11
Tail Rotor Driveshafts, Introduction to	6-19
Tail Rotor Driveshafts, Task List for	6-20
Tail Rotor Driveshafts	6-18
Tail Rotor Gearbox	1-19, 6-21
Tail Rotor Gearbox, Introduction to	6-22
Tail Rotor Gearbox, Task List for	6-23
Tail Rotor Gearbox — Cleaning/ Inspection/Repair	6-7-2
Tail Rotor Gearbox — Draining/ Servicing	1-4-9
Tail Rotor Gearbox — Removal/ Installation	6-7-1
Tail Rotor Gearbox — Serviceability Check	6-1-3
Tail Rotor Gearbox Boot — Removal/Installation	5-5-16
Tail Rotor Gearbox Breather — Removal/Cleaning/Installation	6-7-3
Tail Rotor Gearbox Chip Detector — Removal/Installation	6-7-10
Tail Rotor Gearbox Housing Packing — Removal/Installation	5-5-18
Tail Rotor Gearbox Input Seal — Removal/Installation	6-7-5
Tail Rotor Gearbox Input Seal — Removal/Installation	6-7-6
Tail Rotor Gearbox Oil Temperature Thermoswitch — Removal/Installation	6-7-4
Tail Rotor Gearbox Output Shaft Seal (AVIM) — Removal/ Installation	6-7-8

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Tail Rotor Gearbox Pitch Change Housing — Cleaning/ Inspection/Repair	5-5-21
Tail Rotor Gearbox Support Assembly — Cleaning/ Inspection/Repair	2-3-6
Tail Rotor Gearbox Trunnion Seal and Bearing — Removal/ Installation	5-5-17
Tail Rotor Hub (AVIM) — Assembly	5-4-26
Tail Rotor Hub (AVIM) — Disassembly	5-4-23
Tail Rotor Hub (AVIM) — Repair	5-4-25
Tail Rotor Hub and Blades	5-11
Tail Rotor Hub Components (AVIM) — Cleaning/Inspection	5-4-24
Tail Rotor Output Shaft Support Bearing (AVIM), Freewheeling Unit — Removal/Installation	6-5-5
Tail Rotor Pitch Change Control Tube — Cleaning/Inspection/ Repair	5-5-14
Tail Rotor Pitch Change Control Tube — Installation	5-5-15
Tail Rotor Pitch Change Control Tube — Removal	5-5-13
Tail Rotor Pitch Change Idler — Cleaning/Inspection/Repair	5-5-10
Tail Rotor Pitch Change Idler — Installation	5-5-12
Tail Rotor Pitch Change Idler — Removal	5-5-9
Tail Rotor Pitch Change Idler Bushings and Bearing (AVIM) — Removal/Installation	5-5-11
Tail Rotor Pitch Change Lever (AVIM) — Cleaning/Inspection/ Repair	5-5-6
Tail Rotor Pitch Change Lever Bushings and Bearing (AVIM) — Removal/Installation	5-5-7
Tail Rotor Pitch Change Levers — Installation	5-5-8
Tail Rotor Pitch Change Levers — Removal	5-5-5
Tail Rotor Pitch Change Mechanism — Inspection	5-5-2
Tail Rotor Pitch Change Mechanism	5-14
Tail Rotor Pitch Change Rod Assembly — Cleaning/ Inspection/Repair	5-5-3
Tail Rotor Pitch Change Rod Assembly — Installation	5-5-4

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Tail Rotor Pitch Change Rod Assembly — Removal	5-5-1
Tail Rotor Pitch Change Trunnion — Cleaning/Inspection/Repair	5-5-20
Tail Rotor Pitch Change Trunnion Cap — Cleaning/Inspection/Repair	5-5-19
Tail Rotor Pitch Horn — Cleaning/Inspection/Repair	5-4-20
Tail Rotor Pitch Horn Bushing (AVIM) — Replacement	5-4-21
Tail Rotor Pitch Link — Cleaning/Inspection/Repair	5-4-3
Tail Rotor Pitch Link — Installation	5-4-4
Tail Rotor Pitch Link — Removal	5-4-2
Tail Rotor Retaining Nut — Cleaning/Inspection/Repair	5-4-18
Tail Skid Assembly — Removal/Installation	2-3-18
Tailboom	2-7
Tailboom — Cleaning/Inspection (Visual and Fluorescent Penetrant) Repair	2-3-1
Tailboom — Installation	2-3-8
Tailboom — Removal	2-3-2
Tailboom and Aft Fuselage Attach Fittings — Cleaning/Inspection/Repair	2-3-3
Tailboom Attach Bolts — Cleaning/Inspection/Repair	2-3-5
Tailboom Attach Bolts — Cleaning/Inspection	2-3-4
Tailboom Bearing Hanger Supports — Cleaning/Inspection/Repair	2-3-9
Tailboom Bearing Hanger Supports — Removal/Installation	2-3-10
Tailboom Corrosion Repair	Q-13
Tailboom Fairleads — Inspection/Removal/Installation	2-3-7
Tailboom Tube, Directional Control — Removal/Installation	11-4-42
Taillight Support — Cleaning/Inspection/Repair	2-3-30
Taillight Support — Removal/Installation	2-3-31
Tank Assembly, Oil — Cleaning/Inspection/Repair	4-4-3
Tank Assembly, Oil — Disassembly/Assembly	4-4-2
Tank Assembly, Oil — Removal/Installation	4-4-1
Tank Cap and Adapter Assembly, Oil — Removal/Installation	4-4-8

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Tank Drain Valve, Oil — Removal/Installation	4-4-7
Tank Sight Glass, Oil — Removal/Installation	4-4-5
Tank Support, Oil — Cleaning/Inspection/Repair	4-4-13
Tank Support, Oil — Removal/Installation	4-4-12
Tank Temperature Transducer, Oil — Removal/Installation	4-4-6
Target Plate and Top Target Support, TAMS — Removal/Inspection/Repair/Installation	2-4-3
Task List for Actuators	7-4
Task List for Aft Firewall	4-26
Task List for Air Induction	4-7
Task List for Alternating Current Power and Distribution System	9-13
Task List for Armament Electrical Equipment	9-25
Task List for Avionic System Mounts	9-7
Task List for Avionics Cooling System	9-4
Task List for Cargo Hook Suspension Assembly	13-4
Task List for Collective Controls	11-7
Task List for Component Inspection	11-16
Task List for Cyclic Control System	11-10
Task List for Direct Current Power and Distribution System	9-10
Task List for Directional Controls	11-13
Task List for Engine Assembly	4-4
Task List for Engine Mounts	4-20
Task List for Engine Oil System	4-13
Task List for Engine To Transmission Driveshaft	6-8
Task List for Engine, Rotor, and Transmission Instruments	8-4
Task List for Exhaust System	4-10
Task List for Flight Instruments	8-7
Task List for Forward Firewall	4-23
Task List for Freewheeling Unit	6-17
Task List for Fuel Cell	10-7
Task List for Fuel System Components	10-4
Task List for Fuselage	2-6
Task List for Ground Handling and Jacking	1-48
Task List for Heating System	12-4
Task List for Hoisting and Sling Loading	1-54
Task List for Hydraulic Filter Assemblies	7-10

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Task List for Hydraulic Hoses, Lines, Tubes, Fittings, and Quick-Disconnects	7-13
Task List for Hydraulic Pump	7-25
Task List for Hydraulic Reservoir	7-22
Task List for Hydraulic Solenoid Valve	7-19
Task List for Hydraulic System Bleeding	7-7
Task List for Landing Gear	3-4
Task List for Lighting System	9-16
Task List for Main Rotor Controls	5-7
Task List for Main Rotor Hub and Blade Assembly	5-4
Task List for Main Rotor Tracking and Dynamic Balancing	5-10
Task List for Miscellaneous Electrical Equipment	9-19
Task List for Miscellaneous Emergency Equipment	14-4
Task List for Miscellaneous Instruments	8-14
Task List for Mooring	1-51
Task List for Oil System	6-26
Task List for Pitot-Static Instrument and Air Data Systems	8-10
Task List for Powerplant Controls	4-17
Task List for Powerplant and Transmission Electrical Equipment	9-22
Task List for Pressure Switch, Manifolds, and Relief Valve	7-16
Task List for Pylon	2-12
Task List for Rapid Deployment	13-7
Task List for Rescue Ladder	13-10
Task List for Rigging	11-4
Task List for Serviceability Checks	6-5
Task List for Servicing	1-42
Task List for Standpipe Electrical Assembly, Torquemeter System, and Main Rotor Mast Assembly	6-14
Task List for Tail Rotor Driveshafts	6-20
Task List for Tail Rotor Gearbox	6-23
Task List for Tail Rotor Hub and Blades	5-13
Task List for Tail Rotor Pitch Change Mechanism	5-16
Task List for Tailboom	2-9
Task List for Transmission	6-11
Task List for Ventilating System	12-7
Tee/Retainer/Packing/Nut — Removal/Installation	7-4-5

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Temperature Bulb, Torquemeter — Removal/Installation	6-4-9
Temperature Control Valve (Engine Oil System) — Cleaning/Inspection/Repair	6-8-23
Temperature Control Valve (Engine Oil System) — Removal/Installation	6-8-22
Temperature Sensor (OH-58D(R)), Compressor Inlet — Removal/Installation	4-2-15
Temperature Transducer — Removal/Installation	6-3-10
Terminal Board (Typical) — Removal/Installation	9-6-49
Terminal Junction (Typical), Resistor or Capacitor on — Removal/Installation	9-6-63
Terminal Junction Mount (Typical) — Removal/Installation	9-6-50
Test Equipment (Column 5 and Section III), Tools and	B-9
Test Equipment Requirements, Tool and	B-11
Test of Bond (Appendix M)	M-11
Test Switch, SCAS — Removal/Installation	9-6-28
Thermo Switch (Typical), Avionic Cooling System — Removal/Installation	9-1-5
Thermometer, Outside Air — Cleaning/Inspection/Removal/Installation	8-5-5
Thermostat — Removal/Installation	6-3-9
Thermoswitch, Tail Rotor Gearbox Oil Temperature — Removal/Installation	6-7-4
Throttle Arm, Copilot/Gunner Collective Stick — Cleaning/Inspection/Repair	11-2-44
Throttle Arm, Pilot Collective Stick — Cleaning/Inspection/Repair	11-2-36
Throttle Arm Rod End — Removal/Installation	4-6-7
Throttle Friction Plug, Pilot Collective Stick — Cleaning/Inspection/Repair	11-2-29
Throttle Grip Assembly, Pilot Collective Stick — Cleaning/Inspection/Repair	11-2-31
Tiedown Fitting (Rapid Deployment) — Removal/Installation	3-1-55

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Tiedown Strap, Collective Stick — Removal/Installation	11-2-2
Tiedowns, Rotor — Installation/ Removal	1-7-4
Toggle Switch (Digital Fuel Control Panel (OH-58D)) — Removal/Installation	9-6-21
Tool and Test Equipment Requirements	B-11
Tools (Appendix M)	M-4
Tools and Test Equipment (Column 5 and Section III).....	B-9
Top Target Support, TAMS Target Plate and — Removal/ Inspection/Repair/Installation	2-4-3
Torque (Appendix P)	P-3
Torque Transducer — Removal/ Installation	6-4-10
Torque Tube, Cyclic — Cleaning/ Inspection/Repair.....	11-3-13
Torque Tube, Cyclic — Installation	11-3-14
Torque Tube, Cyclic — Removal	11-3-12
Torque Values (Appendix P)	P-2
Torque Wrench (Appendix P), Selection and Use of	P-6
Torquemeter Support Bearing (AVIM) — Removal/Installation	6-4-7
Torquemeter Support and Bearing Assembly — Installation	6-4-11
Torquemeter Support and Bearing Assembly — Removal	6-4-5
Torquemeter Support and Bearing Assembly Components (AVIM) — Cleaning/Inspection/Repair	6-4-8
Torquemeter Support Bearing Seal — Removal/Installation	6-4-6
Torquemeter System Antibacklash Adapter Assembly — Installation	6-4-14
Torquemeter System Antibacklash Adapter Assembly — Removal	6-4-12
Torquemeter System and Main Rotor Mast Assembly Standpipe Electrical Assembly, Task List for.....	6-14
Torquemeter System and Main Rotor Mast Assembly, Standpipe Electrical Assembly	6-12
Torquemeter Temperature Bulb — Removal/Installation	6-4-9
Torques, Specified	P-5
Tow Fittings — Cleaning/ Inspection/Repair.....	3-1-50
Tow Fittings — Removal/ Installation	3-1-48

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Tow Fittings (Rapid Deployment) — Removal/Installation	3-1-49
Towing Helicopter with Rapid Deployment Skid Gear	1-6-2
Towing/Parking Helicopter	1-6-1
Tracking and Dynamic Balancing, Main Rotor	5-8
Tracking and Dynamic Balancing, Main Rotor	5-3-2
Trailing Edge, Main Rotor Blade — Repair.....	5-1-45
Train System, Drive.....	1-29, 6-1
Train System (Flyable Storage), Drive	E-11
Train System (Intermediate Storage), Drive	E-37
Train System (Short Term Storage), Drive	E-22
Transducer — Cleaning/ Inspection/Repair.....	11-5-5
Transducer — Functional Test	11-5-4
Transducer, Directional Control — Removal/Installation	11-4-18
Transducer, Engine Oil Pressure — Checking	4-1-8
Transducer, Fore-and-Aft Cyclic — Installation	11-3-23
Transducer, Fore-and-Aft Cyclic — Removal	11-3-22
Transducer, Lateral Cyclic — Installation	11-3-21
Transducer, Lateral Cyclic — Removal	11-3-20
Transducer, Oil Pressure — Cleaning/Inspection/Repair	6-8-18
Transducer, Oil Pressure — Removal/Installation	6-8-17
Transducer, Oil Tank Temperature — Removal/ Installation	4-4-6
Transducer, Temperature — Removal/Installation	6-3-10
Transducer, Torque — Removal/ Installation	6-4-10
Transducer (AVIM), Oil Pressure — Testing/Checking	6-8-19
Transducer (Typical), Oil Pressure — Removal/ Installation	4-1-7
Transducer Bellcrank Bearing (AVIM) — Removal/Installation	11-4-16
Transducer Bellcrank Support Bushing (AVIM) — Removal/ Installation	11-4-17

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Transducer Bellcrank and Support, Directional Control — Removal/Installation	11-4-15
Transducer Spacer, Cyclic — Cleaning/Inspection/Repair	11-3-47
Transducers, Collective — Removal/Installation	11-2-9
Transfer Unit Mounting Bracket — Removal/Installation	9-2-9
Transformer (Forward Overhead Console-Typical) — Removal/Installation	9-6-11
Transformer Auto, 26V — Cleaning/Inspection/Repair	9-4-12
Transformer Auto, 26V — Removal/Installation	9-4-13
Transformer Rectifier Unit (TRU) — Cleaning/Inspection/Repair	9-3-2
Transformer Rectifier Unit (TRU) — Removal/Installation	9-3-3
Transformer Rectifier Unit (TRU) Plate and Brackets — Removal/Installation	9-3-4
Transmission	6-9
Transmission — Buildup	6-3-4
Transmission — Installation	6-3-6
Transmission — Preservation and Packaging	6-3-5
Transmission — Removal	6-3-2
Transmission, Engine-To- — Alignment	4-7-4
Transmission, Introduction to	6-10
Transmission, Main — Serviceability Check	6-1-1
Transmission, Main	1-18
Transmission, Task List for	6-11
Transmission Components — Cleaning/Inspection/Repair	6-3-1
Transmission Driveshaft, Engine to	6-6
Transmission Driveshaft, Engine to — Cleaning/Inspection/Repair	6-2-2
Transmission Driveshaft, Engine to — Removal/Installation	6-2-1
Transmission Electrical Equipment, Introduction to Powerplant and	9-21
Transmission Electrical Equipment, Powerplant and	9-20
Transmission Electrical Equipment, Task List for Powerplant and	9-22
Transmission/Freewheeling Unit — Draining	1-4-7

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Transmission/Freewheeling Unit — Servicing	1-4-8
Transmission Instruments, Engine/Rotor/ — Cleaning/Inspection	8-1-1
Transmission Instruments, Engine, Rotor, and	8-2
Transmission Instruments, Introduction to Engine Rotor and	8-3
Transmission Lower Boot Assembly — Removal/Cleaning/Inspection/Installation	6-3-3
Transmission Oil Filters — Removal/Cleaning/Installation	6-8-3
Transmission Oil Jets (Number One and Two) — Cleaning/Inspection/Repair	6-8-12
Transmission Oil Jets (Number One and Two) — Removal/Installation	6-8-11
Transmission Oil Pump — Cleaning/Inspection/Repair	6-8-2
Transmission Oil Pump — Removal/Installation	6-8-1
Transponder Mount, IFF — Removal/Installation	9-2-7
Transverse Beam (AVIM), Aft — Cleaning/Inspection/Repair	2-4-11
Transverse Beam (AVIM), Forward — Cleaning/Inspection/Repair	2-4-10
Transverse Beam Assemblies (AVIM) — Removal/Installation	2-4-12
Tray, VHF AM RT Unit Mounting — Removal/Installation	9-2-5
Tray, VHF FM 1 or 2 RT Unit Mounting — Removal/Installation	9-2-4
Trim Switch, SCAS Force — Removal/Installation	9-6-29
Trim Tab, Main Rotor Blade — Repair	5-1-43
Trim Tab (AVIM), Main Rotor Blade — Removal/Installation	5-1-42
Truck, Defueling Helicopter Using	1-4-4
Trunnion Bearing, Directional Control Servoactuator — Removal/Installation	7-1-3
Trunnion Bearing Assembly — Cleaning/Inspection/Repair	11-2-8
Trunnion Bearing Assembly — Removal/Installation	11-2-7
Trunnion Bushings, Directional Control Servoactuator — Cleaning/Inspection/Repair	7-1-6

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Trunnion Bushings, Directional Control Servoactuator — Removal/Installation	7-1-5
Trunnion Cap, Tail Rotor Pitch Change — Cleaning/Inspection/Repair	5-5-19
Trunnion Seal and Bearing, Tail Rotor Gearbox — Removal/Installation	5-5-17
Trunnion, Engine Mount — Cleaning/Inspection/Repair	4-7-2
Trunnion, Tail Rotor Pitch Change — Cleaning/Inspection/Repair	5-5-20
Tube, Cyclic Torque — Cleaning/Inspection/Repair	11-3-13
Tube, Cyclic Torque — Installation	11-3-14
Tube, Cyclic Torque — Removal	11-3-12
Tube, Directional Control Boosted — Removal/Installation	11-4-39
Tube, Directional Control Nonboosted — Removal/Installation	11-4-26
Tube, Directional Control Pedal — Removal/Installation	11-4-10
Tube, Directional Control Tailboom — Removal/Installation	11-4-42
Tube, Directional Control Upper Horizontal — Removal/Installation	11-4-24
Tube, Directional Control Vertical — Removal/Installation	11-4-22
Tube, Pitot — Cleaning/Inspection/Repair	8-3-5
Tube, Pitot — Removal/Installation	8-3-4
Tube Assemblies, Copilot/Gunner Collective Stick — Removal/Installation	11-2-11
Tube Assembly, Adjustable — Disassembly/Assembly	11-2-61
Tube Assembly, Adjustable — Removal/Installation	11-2-60
Tube Assembly, Boosted — Removal/Installation	11-3-41
Tube Assembly, Breather — Removal/Installation	6-3-12
Tube Assembly, CPG Cyclic Stick — Cleaning/Inspection/Repair	11-3-86
Tube Assembly, CPG Cyclic Stick — Removal/Installation	11-3-85
Tube Assembly, Collective Adjustable — Removal/Installation	11-2-50

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Tube Assembly, Collective Jackshaft Throttle — Removal/Installation	11-2-22
Tube Assembly, Copilot/Gunner Collective Stick Inner — Cleaning/Inspection/Repair	11-2-13
Tube Assembly, Copilot/Gunner Collective Stick Outer — Cleaning/Inspection/Repair	11-2-14
Tube Assembly, Force Gradient — Cleaning/Inspection/Repair	11-3-8
Tube Assembly, Pilot Collective Stick Inner — Cleaning/Inspection/Repair	11-2-34
Tube Assembly, Pilot Collective Stick Outer — Cleaning/Inspection/Repair	11-2-32
Tube Assembly, Pilot Cyclic — Cleaning/Inspection/Repair	11-3-59
Tube Assembly, Skid — Cleaning/Inspection/Repair	3-1-11
Tube Assembly, Skid — Removal/Installation	3-1-13
Tube Assembly (Rapid Deployment), Skid — Cleaning/Inspection/Repair	3-1-12
Tube Assembly (Rapid Deployment), Skid — Removal/Installation	3-1-14
Tube Assembly (Typical), Cyclic Adjustable — Removal/Installation	11-3-32
Tube Assembly (Typical), Rigid — Removal/Installation	7-4-1
Tube Assembly Clevis, Collective Adjustable — Removal/Installation	11-2-51
Tube Assembly Controls, Adjustable — Removal/Installation	11-3-37
Tube Assembly Rod End Bearing (Typical), Cyclic Adjustable — Removal/Installation	11-3-33
Tube Firesleeves, Bleed Air — Cleaning/Inspection	12-1-14
Tube Firesleeves, Bleed Air — Removal/Installation	12-1-13
Tube and Gasket, Bleed Air Heater — Removal/Installation	4-1-9
Tubes, Clogged Oil Drain — Removal/Installation	4-4-15
Tubes, Flight Control — Cleaning/Inspection/Repair	11-5-1
Tubing, Hydraulic System — Cleaning/Inspection/Repair	7-4-2

<u>Subject</u>	<u>Para/Task</u>
T (Cont)	
Tubing and Fittings, Pitot Static — Cleaning/Inspection/Repair	8-3-1
Tubing and Fittings, Pitot Static — Installation	8-3-3
Tubing and Fittings, Pitot Static — Removal	8-3-2
Turnlock Receptacles, Access Door — Inspection/Repair/ Replacement	2-2-8
Typical Electrical Connector Pin Arrangement (Appendix F).....	F-5
U	
UWP Mount Fitting — Cleaning/ Inspection/Repair	2-2-94
UWP Mount Fitting Cover, Universal Weapons Pylon — Removal/Installation	2-2-93
Underwater Acoustic Beacon — Cleaning/Inspection/Repair	14-1-4
Underwater Acoustic Beacon — Removal/Installation	14-1-3
Uniball Bearing and Cap, Aft Ng Cable — Removal/Cleaning/ Inspection/Installation	4-6-4
Uniball Friction, Main Rotor Swashplate — Checking and Adjustment	5-2-32
Unit 1S and 2, Panel Assembly COMSEC — Removal/ Installation	9-2-10
Unit, Freewheeling	6-15
Unit, Freewheeling — Installation	6-5-7
Unit, Freewheeling — Removal	6-5-1
Unit, Freewheeling — Serviceability Check	6-1-2
Unit, Generator Control — Cleaning/Inspection/Repair	9-4-10
Unit, Generator Control — Removal/Installation	9-4-11
Unit, Transmission/Freewheeling — Draining	1-4-7
Unit, Transmission/Freewheeling — Servicing	1-4-8
Unit (AEU), Armament Electronics — Cleaning/Inspection/Repair	9-8-3
Unit (AEU), Armament Electronics — Removal/Installation	9-8-4
Unit (ECU) (OH-58D(R)), Electronic Control — Cleaning/ Inspection/Repair	9-7-2
Unit (ECU) (OH-58D(R)), Electronic Control — Installation	9-7-6

<u>Subject</u>	<u>Para/Task</u>
U (Cont)	
Unit (ECU) (OH-58D(R)), Electronic Control — Removal	9-7-4
Unit Components (AVIM), Freewheeling	6-5-3
Unit (TRU), Transformer Rectifier — Cleaning/Inspection/Repair	9-3-2
Unit (TRU), Transformer Rectifier — Removal/Installation	9-3-3
Universal Weapons Pylon (UWP) Mount Fitting Cover — Removal/Installation	2-2-93
Universal Weapons Pylon Electrical Connectors (TM 55- 1500-343-23)	Q-15
Upper Chip Detector — Removal/ Installation	6-3-8
Upper Horizontal Tube, Directional Control — Removal/ Installation	11-4-24
Upper Tunnel Bellcrank, Directional Control — Removal/ Installation	11-4-23
Upper Wire Cutter — Cleaning/ Inspection/Repair	2-2-63
Upper Wire Cutter — Removal/ Installation	2-2-62
Use of Bonding (Appendix M), Intended	M-1
Use of Torque Wrench (Appendix P), Selection and	P-6
Use of the Maintenance Allocation Chart	B-3
Utility Light — Installation	9-5-21
Utility Light — Removal	9-5-20
Utility Systems	1-35

V

VHF AM RT Unit Mounting Tray — Removal/Installation	9-2-5
VHF FM 1 or 2 RT Unit Mounting Tray — Removal/Installation	9-2-4
Values (Appendix P), Torque.....	P-2
Valve (AVIM), Oil Cooler Bypass — Cleaning/Inspection/Repair	4-4-11
Valve (AVIM), Oil Cooler Bypass — Disassembly/Assembly	4-4-10
Valve (Engine Oil System), Temperature Control — Cleaning/Inspection/Repair	6-8-23
Valve (Engine Oil System), Temperature Control — Removal/Installation	6-8-22
Valve — Defueling Helicopter Using	1-4-3

<u>Subject</u>	<u>Para/Task</u>
V (Cont)	
Valve Assembly, Oil Filter Bypass — Cleaning/Inspection/Repair	6-8-10
Valve Assembly, Oil Filter Bypass — Removal/Installation	6-8-9
Valve Bellcrank Assembly, Collective Control Input — Cleaning/Inspection/Repair	11-2-68
Valve Bellcrank Assembly, Collective Control Input — Removal/Installation	11-2-67
Valve, Check — Removal/ Installation	10-1-25
Valve, Defuel — Cleaning/ Inspection/Repair	10-1-21
Valve, Defuel — Removal/ Installation	10-1-20
Valve, Fuel Shutoff — Inspection	10-1-6
Valve, Fuel Shutoff — Removal/ Installation	10-1-5
Valve, Hydraulic Solenoid	7-17
Valve, Hydraulic Solenoid — Cleaning/Inspection/Repair	7-6-3
Valve, Hydraulic Solenoid — Removal/Installation	7-6-1
Valve, Mixing — Assembly	12-1-4
Valve, Mixing — Cleaning/ Inspection/Repair	12-1-3
Valve, Mixing — Disassembly	12-1-2
Valve, Mixing — Installation	12-1-5
Valve, Mixing — Removal	12-1-1
Valve, Oil Cooler Bypass — Removal/Installation	4-4-9
Valve, Oil Drain — Cleaning/ Inspection/Repair	6-8-21
Valve, Oil Drain — Removal/ Installation	6-8-20
Valve, Oil Pressure Regulator — Adjustment	6-8-7
Valve, Oil Pressure Regulator — Disassembly/Assembly	6-8-8
Valve, Oil Pressure Regulator — Removal/Installation	6-8-6
Valve, Relief — Cleaning/ Inspection/Repair	7-5-5.1
Valve, Relief — Removal/ Installation	7-5-5
Valve, Sump — Cleaning/ Inspection/Repair	10-1-23
Valve, Sump — Removal/ Installation	10-1-22
Valve, Solenoid, Hydraulic Solenoid — Removal/ Installation	7-6-2
Vent Control Cable — Cleaning/ Inspection/Repair	12-2-6

<u>Subject</u>	<u>Para/Task</u>
V (Cont)	
Vent Control Cable — Removal/ Installation	12-2-5
Vent and Fuel Supply Hoses, Engine — Removal/Installation	10-1-8
Ventilating System, Introduction to	12-6
Ventilating System, Task List for	12-7
Ventilating System	12-5
Ventilation System Ducts, Heating and — Cleaning/Inspection/ Repair	12-1-11
Ventilation System Ducts, Heating and — Removal/Installation	12-1-12
Vertical Fin Bumper — Installation	2-3-19
Vertical Tube, Directional Control — Removal/Installation	11-4-22
Video Recorder Mounting Rack — Removal/Installation	9-2-8
Vision Power Converter (Typical), Night — Installation	9-5-24
Vision Power Converter (Typical), Night — Removal	9-5-23
Vision Power Converter, Night — Cleaning/Inspection/Repair	9-5-22
Voltage Regulator — Cleaning/ Inspection/Repair	9-3-19
Voltage Regulator — Removal/ Installation	9-3-20
Voltage Sensor, DC — Cleaning/ Inspection/Repair	9-3-21
Voltage Sensor, DC — Removal/ Installation	9-3-22
Vortex Generator Tubes, Particle Separator — Removal/ Installation	4-2-14

W

Walking Beam, Directional Control Forward — Removal/ Installation	11-4-25
Warranty Information	1-9
Water Leaks — Isolation	2-2-91
Water Leaks — Repair	2-2-92
Weapons Pylon Electrical Connectors (TM 55-1500-343- 23), Universal	Q-15
Wear Sleeve (AVIM), Freewheeling Unit Tail Rotor Drive Output Adapter (AVIM) — Removal/Installation	6-5-6
Weighing, Helicopter	G-13
Weighing Equipment	G-15
Weighing Instructions	G-16
Weighing Instructions, Preliminary	G-14

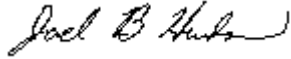
<u>Subject</u>	<u>Para/Task</u>
W (Cont)	
Weighing Record, DD Form 365-2 — Aircraft	G-9
Weight Definition (Appendix G)	G-4
Weight Pocket Edge Adhesive Fill (AVIM) — Repair	5-1-52
Weight and Balance Clearance Form F, DD Form 365-4 —	G-12
Weight and Balance Data	G-2
Weight and Balance Personnel, DD Form 365 — Record of	G-7
Weight and Balance Record, DD Form 365-3 — Basic	G-10
Weight-On-Gear Interrupt Switch — Removal/Installation	9-6-86
Weight-On-Gear Switch — Removal/Installation	9-6-77
Weight-On-Gear Switch (Rapid Deployment Landing Gear) — Removal/Installation	9-6-1
Weight/Balance and Load Data	G-5
Window, Crew Door — Removal/ Installation	2-2-88
Window, Lower — Cleaning/ Inspection/Repair	2-2-77
Window, Lower — Removal/ Installation	2-2-76
Windshield Assembly — Cleaning/Inspection/Repair	2-2-72
Windshield Assembly — Removal/ Installation	2-2-71
Windshield Frame Assembly, Doorframe/ — Repair	2-2-73
Wire Cutter (Rapid Deployment), Lower — Cleaning/Inspection/ Repair	2-2-61
Wire Cutter (Rapid Deployment), Lower — Removal/Installation	2-2-60
Wire Cutter, Upper — Cleaning/ Inspection/Repair	2-2-63
Wire Cutter, Upper — Removal/ Installation	2-2-62
Wire, Energy Attenuating — Cleaning/Inspection/Repair	2-2-39

<u>Subject</u>	<u>Para/Task</u>
W (Cont)	
Wire, Energy Attenuating — Removal/Installation	2-2-38
Wire Identifications (Appendix F)	F-2
Wire Repair and Replacement (Appendix F)	F-8
Wiring Data (Appendix F)	F-1
Wiring/Cabling (Avionics Compartment), Electrical — Removal/Installation	10-2-4
Work Times (Column 4), Maintenance Level and	B-8
X	
Y	
Yaw Engage Switch, SCAS — Removal/Installation	9-6-27
Yoke Adapter Assembly, Main Rotor — Cleaning/Inspection/ Repair	5-1-26
Yoke Adapter Mount Bushings (AVIM), Main Rotor — Removal/Installation	5-1-27
Yoke Buffers (AVIM), Main Rotor — Cleaning/Inspection/Repair	5-1-34
Yoke Bumpers (AVIM), Main Rotor — Cleaning/Inspection	5-1-36
Yoke Bumpers (AVIM), Main Rotor — Removal/Installation	5-1-35
Yoke, Cyclic — Cleaning/ Inspection/Repair	11-3-19
Yoke, Left Cyclic — Installation	11-3-16
Yoke, Left Cyclic — Removal	11-3-15
Yoke, Main Rotor Hub — Cleaning/Inspection/Repair	5-1-37
Yoke, Right Cyclic — Installation	11-3-18
Yoke, Right Cyclic — Removal	11-3-17

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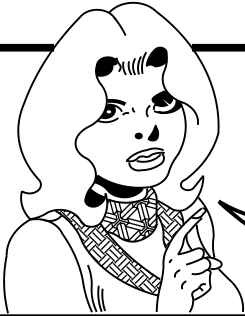
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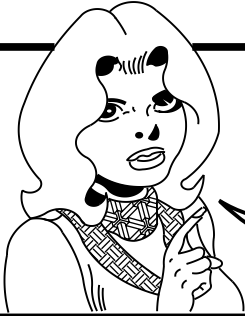
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THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT. FOLD IT AND DROP IT IN THE MAIL.'

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PFC John DOE
CO A 3rd Engineer Bn
Ft. Leonardwood, MO 63108

DATE SENT

22 August 1992

PUBLICATION NUMBER

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PUBLICATION TITLE

Operator's Manual MH60K Helicopter

BE EXACT...PIN-POINT WHERE IT IS

PAGE NO

6

PARA-GRAPH

2-1

a

FIGURE NO

4-3

TABLE NO

B 1

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

In line 6 of paragraph 2-1a the manual states the engine has 6 cylinders. The engine on my set only has 4 cylinders. Change the manual to show 4 cylinders.

Callout 16 on figure 4-3 is pointed at a bolt. In key to figure 4-3, item 16 is called a shim—Please correct one or the other

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