TECHNICAL BULLETIN

SPECIAL PURPOSE / SPECIAL MISSION MODIFICATIONS FOR THE AH-1 AIRCRAFT

HEADQUARTERS, DEPARTMENT OF THE ARMY
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REPORTING OF ERRORS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedure, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MPSD, 4300 Goodfellow Boulevard, St. Louis, MO 63120. A reply will be furnished to you.

Section I. INTRODUCTION

1-1. Purpose. This Technical Bulletin is published to provide special purpose/special mission modifications which are nonmandatory for the AH-1 series aircraft. The maintenance information contained herein should be used in conjunction with the applicable maintenance manuals and repair parts and special tools lists for the AH-1 series aircraft.

1-2. Scope. Each special purpose/special mission modification authorized for the AH-1 series aircraft is covered as separate sections within this bulletin. If the modification should be discontinued or no longer authorized, a change will be issued to this bulletin rescinding or superseding only that portion affected.

Section II. INSTALLATION OF PROVISIONS FOR A PROXIMITY WARNING SYSTEM (PWS) REMOTE INDICATOR AND CORRECTION OF PROXIMITY WARNING SYSTEM ELECTROMAGNETIC COMPATIBILITY PROBLEM

NOTE

Information contained in this special purpose/special mission kit installation was extracted from MWO 55-1520-221-30-53.

2-1. Purpose. To provide provisions for a remote (gunners) proximity warning indicator that will utilize signals generated by the pilots proximity warning system and to eliminate the electromagnetic compatibility problem found to exist between the proximity warning device (PWD) and the VHF-FM transmitter.

2-2. Maintenance Set Up.

***a. Applicable Equipment Configuration*. AH-1G & TH-1G helicopters.**

***b. Tools, Test and Support Equipment.* Not applicable.**

***c. Personnel Required.* Attack Helicopter Repairer (MOS67Y), Aircraft Structural Repairer (MOS68G), and AVIONIC Communications Equipment Repairer (MOS35L).**

d. Kits or Parts Required.

National Stock Number	Nomenclature	Part Number	Qty	Source
1560-00-613-7022	Kit, Remote Proximity Consisting of the follow-ing:	1560-AH-1-064	1	B17
	***Cable Assembly	1560-AH1-063-3	1	
	**Template	1560-AH1-063-5	1	
5340-00-205-5266	Dust Cover	51021	1	S91
5340-00-205-6301	Clamp, Loop	MS21919-DG4	2	S91
5305-00-059-3659	Screw, Machine	MS51958-63	2	S91
5310-00-208-9255	Nut, Self-locking	79-NM-02	2	S91
5310-00-619-1148	Washer, Flat	MS15795-808	2	S91
*	Bracket	20-032-1	1	

(*) For future support, fabricate from:

9535-00-232-0378	Metal Sheet	QQA250-5	AR	S91

(**) Non-maintenance significant.

(***) Fabricate from:

6145-00-533-1897	Wire		AR	S91
5935-00-715-2756	Terminal		2	S9E

e. Size and Weight of Kit.

Kit Part Number	Weight Pounds	Dimensions Inches	Displacement Cubic Feet
1560-AH1-064	3	3X6X4	0.041

f. Requisitioning Instructions. Kits required for this modification will only be requisitioned by Fort Rucker, Fort Hood, Fort Bragg, and Fort Campbell or approved OLR sites as designated by USATSARCOM. Kits are APA funded and will be free issue to the above mentioned sites. To avoid loss of kits, kits will only be requisitioned and issued in accordance with current MOU (Memorandum of Understanding) as negotiated with major user commands.

NOTE

If the complete system is to be installed, the proximity warning indicator must be requisitioned separately.

Nomenclature	Part Number	Qty	Source
Indicator, Proximity	JG105AA01	1	B16

***g. Parts Disposition*. Not applicable.**

h. Bulk and Consumable Materials.

National Stock Number	Nomenclature	Part Number	Qty	Source
7920-00-514-2417	Brush, Acid Swabbing	H- B643TY2CL1	3 ea.	GO
8040-00-763-7145	Sealant	RTV102-20Z	2 oz.	GO
8010-00-584-2426	Primer, Coating	MILP7962A	12 oz.	GO
8030-00-811-3723	Corrosion Resistant	MILC5541	2 lb.	GO
Alodine 1200				
5975-00-074-2072	Strap, Tiedown Elec	MS3367-1- 9	AR	S9G

2-3. Installation Procedures. Prepare aircraft for safe ground maintenance and proceed with the following instructions:

NOTE

Refer to the applicable maintenance manual and TM 11-1520-221-20 for detailed removal and installation instructions not specified herein and to the applicable repair parts and special tools list for parts identification and location. MWO 55-1520-221-30-52 must be applied prior to, or concurrently with, this modification.

a. Prepare for modification and proceed as follows:

(1) Disconnect battery.

NOTE

Verify that all auxiliary power units (APU} are disconnected.

(2) Release latches and open pilot canopy.

b. Remove the following items and retain for installation (fig 2-1):

(1) Battery and two access panels in battery compartment, aft bulkhead approximate FS46.
(2) Panel assemblies 209-030-215-5 and 209-030-215-7 located on left side of fuselage (fig 2-1).
(3) C-1611/AIC Intercom, Gunner instrument panel.
(4) Proximity Warning Device on pilot instrument panel.
(5) Pull back the quilted padding behind pilot seat at FS167 to expose a portion of the PWD upper coax cable 1560AH1G-046-3.

c. Perform modification as follows:

(1) Remove and dispose of nylon clamp behind pilot seat securing upper coax cable 1560AH1G-046-3, at or near canopy strut fitting FS167. Retain screw and washer for later use.

NOTE

Do not damage cable shield when cutting polyethylene jacket.

(2) Cut a 5/8 inch cylindrical section from the upper coax cable 1560AHIG-046-3 polyethylene jacket where nylon clamp was located.

(3) Remove paint from around clamp mounting point to provide a clean grounding connection. See TM 55-1500-323-25, para 8-13 and 8-14.

(4) Remove and dispose of rubber from clamp MS21919-DG4. Apply a brush coating of alodine to clamp and attaching point.

(5) Install clamp MS21919-DG4 over cut 5/8 inch cylindrical section and secure clamp with screw and washer previously removed. Apply zinc chromate to ground connection.

NOTE

Sealant RTV102 application must seal the exposed cable shield from the atmosphere while allowing a good electrical bond between shield and clamp.

(6) Apply a coating of sealant RTV102 to clamp MS21919-DG4 and cable, extending to at least one inch on both sides of clamp.

NOTE

Before cutting coax cable jacket 1560AH1G-046-3 at FS138, determine that no sharp bends exist after completing steps (7) thru (13). Initiate cut to cable jacket as required.

(7) Cut a 5/8 inch cylindrical section from upper coax cable 1560AHIG-046-3 polyethylene jacket aft of TB28 near ell bracket, at approximately FS138, WL65, BL11 (fig 2-1).

(8) Drill one 0.199 inch diameter hole, if one does not exist in the ell bracket.

(9) Remove paint from around drilled hole to provide a clean grounding connection.

(10) Remove and dispose of rubber from around clamp MS21919-DG4. Apply a brush coating of alodine to clamp, attaching point, and hardware.

(11) Install bracket 20-032-1 using screw MS51958-63, washer MS16795-808, and nut 79-NM-02 in drilled hole.

(12) Install clamp MS21919-DG4 over cut 5/8 inch cylindrical section and secure to bracket 20-032-1 using screw MS51958-63, washer MS 16795-808, and nut 79-NM-02. Apply zinc chromate to ground connection.

NOTE

Sealant RTV102 application must seal exposed cable shield from the atmosphere while allowing a good electrical bond between shield and clamp.

(13) Apply a coating of sealant RTV102 to clamp MS21919-DG4 and cable extending to at least one inch on both sides of clamp.

(14) Route cable assembly 1560AH1-063-3 as follows:

(a) Stow end of cable behind pilot proximity warning receiver, allowing sufficient length for future installation if remote indicator is not to be installed.

(b) Route cable left and forward to left side of aircraft at approximate FS96. Continue down through existing hole in the left hand console floor at WL60 and use existing clamps to secure cable.

(c) Continue forward along existing wire bundle thru bulkhead FS61, up behind gunner left air vent. Stow end at a convenient location if remote indicator is not to be installed.

(15) Using template 1560AH1-063-5, drill one 1 1/4 inch diameter hole and four 1/8 inch diameter holes in the panel above the left air vent and adjacent to the gunner instrument panel (fig. 2-2). Install dust cover 51021 in 1 1/4 inch hole if remote indicator is not to be installed.

(16) Perform continuity check on cable assembly 1560AH1-063-3.

(17) Tie cable assembly 1560AH1-063-3 as required with electrical tiedown straps MS3367-1-9.

(18) Reinstall all items previously removed in paragraph b.

(19) Return aircraft to flight configuration.

d. Quality Assurance Requirements. Inspection of completed application for full compliance with the technical requirements of the instructions will be accomplished by qualified personnel in accordance with an approved prescribed inspection system. The inspection system in effect will be determined on the basis of instruction issued at the site of work.

2-4. Forms and Records. Record accomplishment of the installation in accordance with the procedures prescribed in TM 38-750. DA Form 2408-13 (Aircraft Inspection and Maintenance Record) is applicable.

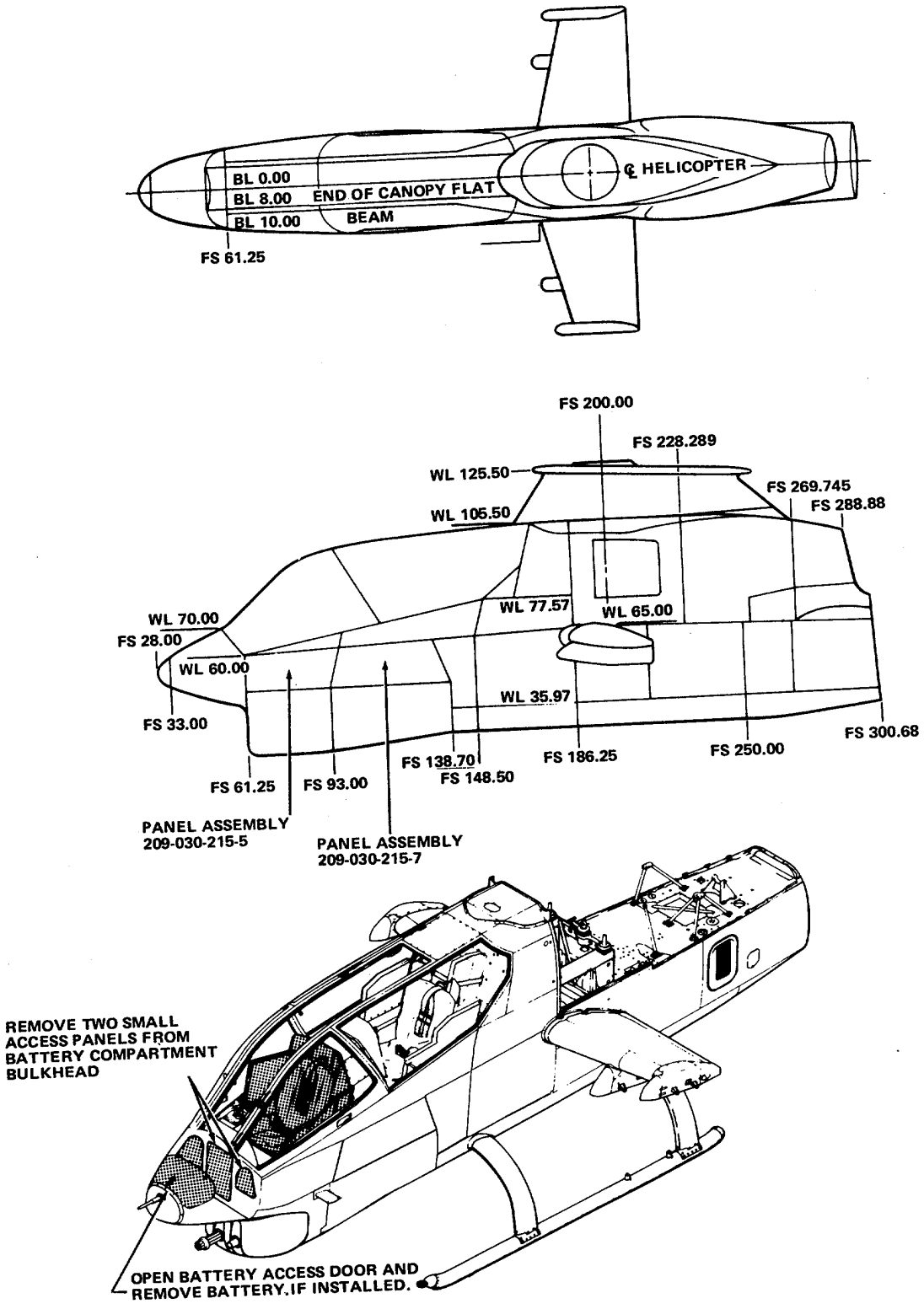


Figure 2-1. Panel and Station Locations.

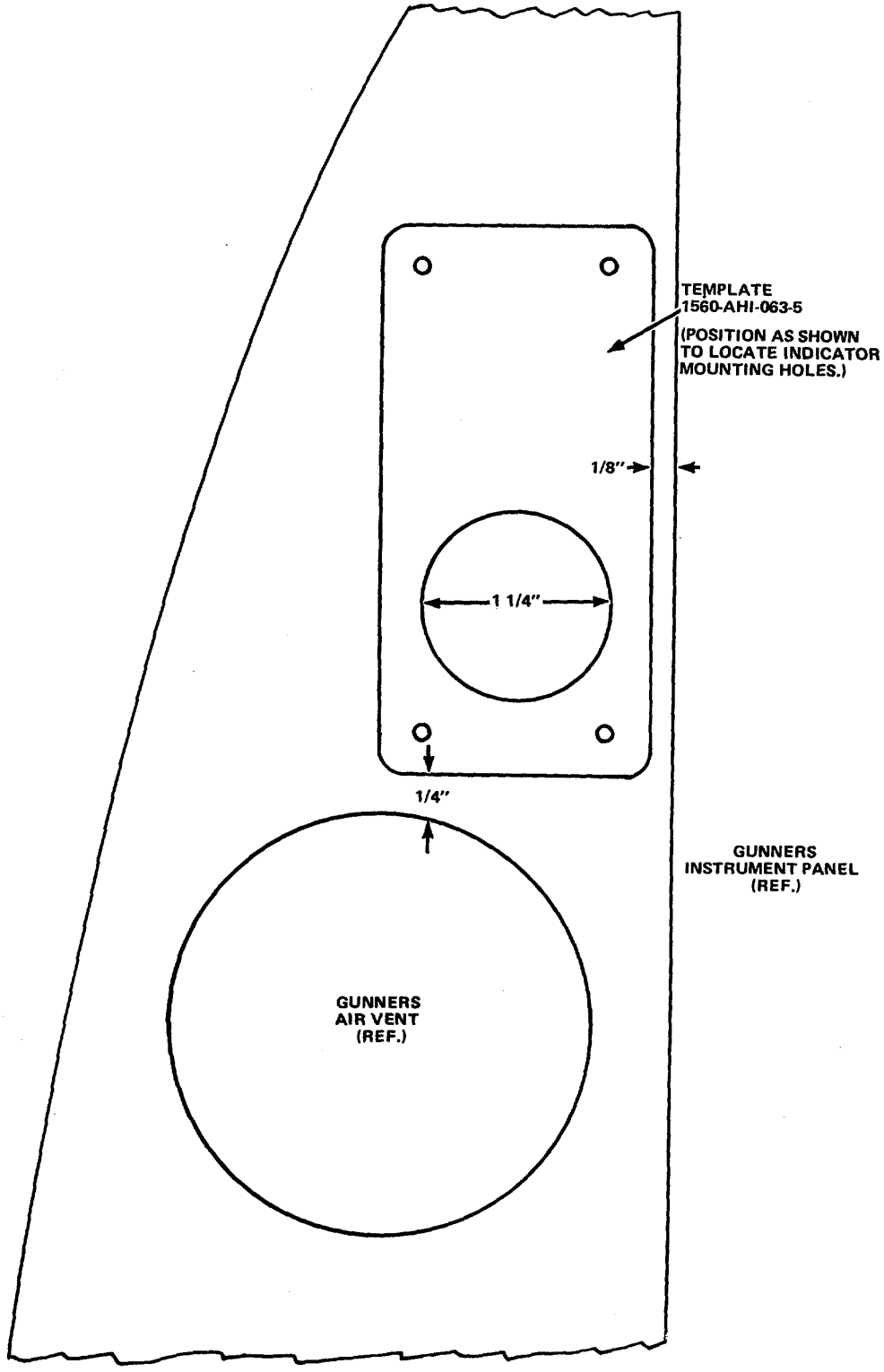


Figure 2-2. Remote Indicator Location.

2-5. Weight and Balance Data. Not applicable.

Section III. INSTALLATION OF PROVISIONS FOR A PROXIMITY WARNING SYSTEM

NOTE

Information contained in this special purpose/special mission kit installation was extracted from MWO 55-1520-221-30-52.

3-1. Purpose. To provide provisions for the proximity warning device, and to achieve compatibility with other equipment with which it will be operated.

3-2. Maintenance Set Up.

a. Applicable Equipment Configurations. AH-1G, TH-1G, and AH-1S helicopters located at Fort Hood, Fort Campbell, Fort Bragg, and Fort Rucker.

b. Tools, Test and Support Equipment. Not applicable.

c. Personnel Required. Attack Hel Rep (MOS67Y), AVIONIC Mechanic (MOS35K).

d. Kits or Parts Required.

National Stock Number	Nomenclature	Part Number	Qty
1560-00-138-3479	Kit, Installation Proximity Warning Systems		
Provisions for	1560-AHlG-044-1		1
*	Upper Coax Cable Assembly	1560-AHlG-046-3	1
*	Lower Coax Cable Assembly	1660-AHiG-046-2	1
*	Wedge	1560- AH1G-047	2
*	Cable Harness, Proximity Warning System	1560-AH1G-048	1
*	Extension, Cable Harness, ARC 5/131	1560-AH1G-049	1
'*	Resistor Assembly	1560-AHlG-050	2
*	Washer	1560-AH1G-055	2
*	Bracket	1560-AH1G.056	2
*	Circuit Breaker Jumper	1560-AH1G-057	1
*	Static Port Tube Assembly	1560-AH1G-058	I
5925-00-914-3505	Circuit Breaker	MS22073-2	1
5305-00-043-0267	Screw	MS24693C274	10
5310-00-208-9255	Nut	MS21044C3	34
6150-00-177-3127	Ground Strip	120-055-1-24	1
5305-00-059-3660	Screw	MS51958-64	24
5340-00-187-5980	Clamp, Rubber Pan	MS9351-06	2
5340-00-954-3134	Clamp, Nylon	MS25281R7	17
5310-00-619-1148	Washer	MS15795-808	26
5340-00-820-1789	Clamp, Nylon	MS25281R13	2
5340-00-780-8450	Clamp, Nylon	MS25281R17	3
5340-00-189-7408	Clamp, Nylon	MS25281R18	1
5340-00-820-6093	Clamp, Nylon	MS25281R22	1
5325-00-921-0960	Grommet, Rubber	MS35490-81	1
5340-00-205-5266	Button Plugs	NAS451-30 or 51021	2
5340-00-529-6099	Sleeve	S102F10-04	2
5325-00-716-3561	Plugs	P102C10-0	2
5940-00-557-1629	Terminal, Lug, Crimp Style	MS25036-149	5
5340-00-014-0009	Dust Cover	NAS820-1OA	2
9330-00-027-3345	Spiral Wrap, 3/8"	900628-4 or 98435	3 ft
4730-00-834-5386	Plug	MS24404C4	1 ea
9330-00-027-3345	Plastic Strip	900628-4	2 ft
9330-00-931-7097	Tubing Plastic	44S NATURAL	1 ft
4730-00-733-3884	Insert	259N1-4	2 ea
4730-00-731-9876	Tee, Pipe Tube	272N X1-8	1 ea
4730-00-223-9258	Coupling, Pipe	AN910-1	1 ea

National Stock Number	Nomenclature	Part Number	Qty
4730-00-240-5905	Adapter	AN816-4D	1 ea
See Below:	Hose Assy	MS8000E180B	1 ea

Make hose assembly MS8000E1808B from the following:

4730-00-889-2465	Elbow	MS27059-4C	1 ea
4730-00-889-2474	Adapter	MS27053-4C	1 ea
4730-00-857-1732	Hose, Non Metallic	MILH27267-4	2 ft
5940-00-557-1629	Terminal Lug	MS25036-149	2 ea
6145-00-062-5700	Wire Electrical	MILW16878-4	1 ft

* Non-Maintenance Significant
** For future support, make from the following:
*** For future support, assemble from the following:

NOTE

If the complete system is to be installed concurrently with this installation, the following items are required for installing the antennas and must be requisitioned:

National Stock Number	Nomenclature	Part Number	Qty
5305-0088-9688	Screw	MS24693C54	8
5310-00-807-1466	Nut	MS21042-08	8

The following items will be DIRECT issue to the installing activities.

Antenna	10027834-101	2
PWS Receiver/Transponder	HG-100AD01	1

e. Size and Weight of Kit.

Kit Part Number	Weight Pounds	Dimensions Inches	Displacement Cubic Feet
1560-AH1G-044	6	9 x 12 x 10	0.625

f. Requisitioning Instructions. Kits required for this installation will be direct issue to Fort Rucker, Fort Hood, Fort Bragg and Fort Campbell in accordance with schedules established by USATSARCOM. DO NOT REQUISITION.

g. Parts Disposition. Not applicable.

h. Bulk and Consumable Materiels.

National Stock Number	Nomenclature	Part Number	Qty
8040-00-944-7292	Adhesive	A-4 Metal Set	6 oz.
5975-00-984-6582	Ty-Wraps	MS3367-1-0	12
8040-00-763-7145	Sealant	RTV-102	2 oz.
7510-00-995-4893	Embossing Tape	5201 Black	1 1/2 in.
5999-04)0-805-5620	Cap	CYW10	4
5940-00-840-0139	Splice	MS25181-1	1
6145-00-578-6606	Wire, #22White	M5086-2-22-9	10 in.

3-3. Installation Procedures.

a. *MWO to be applied Prior to or Concurrently with this modification*: MWO 55-1520-221-30-53.

NOTE

If MWO 55-1520-221-30-49 has been applied, upper coax cable assembly, P/N 1560-AHIG-046-1 must be removed and replaced with P/N 1560-AHIG-046-3.

b. Maintenance Procedures.

NOTE

Refer to the applicable maintenance manual for removal and installation instructions not specified herein and to the applicable repair parts and special tools list for parts identification and location.

Prepare helicopter for safe ground maintenance and proceed with the following instructions: See figure 3-1 for overall view of the modification.

(1) Prepare for modification and proceed as follows:

NOTE

Before beginning this modification check static pressure line for leaks utilizing tester P/N 7366, NSN4920-9880206 and perform a communication operational check.

(a) Disconnect battery.
(b) Release latches and open pilot canopy.

(2) Remove the following items and retain for reinstallation. See figure 3-2.

(a) Fairing panel, right wing 209-020-001-58 located on leading edge of wing adjacent to fuselage.
(b) Panels 209-030-215-19, 209-030-215-13, and 209-030-218-4 located on right side of fuselage.
(c) Access panel 209-030-168 on right side of pilot instrument panel.
(d) Faring assembly 209-060-805-5 located at the forward section of the pylon fairing.
(e) Access panel 209-030-257-3 located on the lower surface of the pylon fairing.
(f) All black boxes from pilot right console.
(g) Pilot right armor plate.
(h) ARC 54/131 radio control head located in lower center of pilot instrument panel.

(3) Modify the following:

(a) Drill one 1.25 inch diameter hole and four 0.3125 inch diameter holes in fairing assembly 209-060-805-5. Crush back core on 1.25 inch diameter hole and fill edge with adhesive (A-4 Metal Set). See fig. 3-3.
(b) Drill a 1.25 inch diameter hole and four 0.3125 inch diameter holes in panel 209-030-252-3. Crush back core in 1.25 diameter hole and fill edge with adhesive A-4 Metal Set. See fig. 3-4.
(c) Drill a 0.5 inch hole in phenolic panel on pilot DC breaker panel as shown in fig. 3-2.
(d) Drill a 1.0 inch diameter hole in upper honeycomb panel assembly 209-030-213-77. Drill hole in panel just inside pilot compartment. Crush back core and fill edge with adhesive, A-4 Metal Set. See fig. 3-6.
(e) Drill two 0.312 inch diameter holes in fairing assembly 209-060-805-5. Install sleeves S102F10-04 and plugs P102C10-0 in holes. Holes to be located to provide standard cable clamp distance requirements. Install fittings with sealant RTV-102. See fig. 3-6.

(4) Install the following:

(a) Release circuit breaker panel, raise and install two amp circuit breaker MS22073-2. See fig. 3-2. Using embossing tape gun and embossing tape, 5201 Black, identify circuit breaker in accordance with fig. 3-2. Lower right hand corner.

(b) Connect circuit breaker jumper 1560-AHIG-057 from 28 volt DC essential buss to circuit breaker.

(c) Install cable assembly 1560-AH1G-048 as follows:

1 Place plug end of cable behind pilot instrument panel. Allow length for future connection to proximity warning device.

2 Cut to proper length and install ground wires PWD-5A22N, PWD-6A22N, and PWD-7A22N by use of terminals MS25036-149 to an existing screw on floor inside pilot right hand console. The screw is located approximately above resistor assembly shown in fig. 3-7. Verify that existing screw is a good ground connection by making a continuity check from one of the installed MS25036-149 terminals to the pilot step located on right side of aircraft.

3 Route wires PWD-1A22, PWD2A22, PWD-4A22 through existing holes in right console floor. Wire PWD-3A22 should be routed towards pilot ICS (C1611).

4 Route wire PWD-1A22 aft and up through floor under circuit breaker panel. Connect to previously installed circuit breaker using terminal MS25036-149.

5 Route wire PWD-2A22 aft to terminal board 6 and connect to terminal number 3 using terminal *v MS25036-149.

6 For S/N66-15249 thru 69-16447: locate and cut wire SX803C in existing cable harness at location shown in fig. 3-7. Strip back shielding and install resistor assembly 1560-AHIG-050 to wire SX803C (side towards J600). Connect other end of wire SX803C (side towards co-pilot C1611 pin 27) and wire PWD-4A22 to other end of resistor assembly. Tie shields around resistor assembly as shown in fig. FO-1, utilizing 2 caps, CYW10, and approximately 3 inches of 22 gauge white wire. In pilot compartment locate wire SX803B which is connected to pin 27 of pilot C1611. Cut SX803B as near to pilot C1611 as possible. Strip back shielding and install resistor assembly 1560-AHlG-050 to wire SX803B (side towards J600). Connect other end of wire SX803B (side towards pilot C1611 pin 27) and wire PWD-3A22 to other end of resistor assembly. Tie shields around resistor assembly as shown in fig. FO-1 utilizing 2 caps, CYW10, and proximately 3 inches of 22 gauge white wire. For S/N70-15936 thru 71-21052: Locate and cut wire SC803D in existing cable harness at location shown in fig. 3-7. Strip back shielding and install resistor assembly 1560AHIG-050 to wire SX803D (side towards J600). Connect other end of wire SX803D (side towards co-pilot C1611 pin 27) and wire PWD-4A22 to other end of resistor assembly. Tie shields around resistor assembly as shown in fig. FO-1 utilizing 2 caps, CYW10, and proximately 3 inches of 22 gauge white wire. In pilot compartment locate wire SC803C which is connected to pin 27 of pilot C1611. Cut SC803C as near to pilot C1611 as possible. Strip back shielding and install resistor assembly 1560-AHlG-050 to wire SX803C (side towards TB40-1). Connect other end of wire SX803C (side towards pilot C1611 pin 27) and wire PWD3A22 to other end of resistor assembly. Tie shields around resistor assembly as shown in fig. FO-1 utilizing 2 caps, CYW10, and approximately 3 inches of 22 gauge white wire.

NOTE

Perform continuity check on all wiring before applying voltage. The continuity check for 16K±5% should be made from J60O pin 29 to pilot C1611 pin 27 and from J600 pin 29 to co-pilot C1611 pin 27 with all three connectors disconnected. S/N70-15936 thru 71-21052 should be 16.4 7K±5% from J600 pin 29 to pilot C1611 pin 27.

7 In harness 1560-AHlG-048 verify by a continuity check that shields of wires PWD4A22 and PWD-3A22 are tied to one of the following wires: PWD-5A22N or PWD-6A22N or PWD-7A22N. If not, tie _ above shields to wire PWD-7A22N at connector end under sleeve.

(d) ARC 54/131 cable assembly installation.

1. ModifyARC54/131 cable assembly as follows. Locate wire L128B20N (connected to pin b of both connectors) and cut it approximately midway between the two connectors; locate and cut wires RF458C18N and RF458B18N (wires should be hanging freely from cable assembly) so that they may be connected to L128B20N; connect 458C-18N and L128B20N (wire towards J2107A) with splice MS25181-1; connect

RF458B-18N and L128B20N (wire towards P2107A which is connector that mates with AR-54/131 radio control head connector) on other side of the splice.

2 Install ARC 54/131 cable assembly 1560-AH1G-049 in right console and connect to end of existing ARC 54/131 cable behind pilot instrument panel.

(e) Install wedge 1560-AH1G-047 ground strip 120-055-1-24 and bracket 1560-AHlG-056 on fairing assembly 209-060-805-5 as shown on both sheets of fig. 3-3. Top antenna wedge is to be installed with thin edge towards front of aircraft.

NOTE

Ground strip 120-06655-1-24 will be connected to MS24693C274 screw at 1660-AHlG-055 washer with other end of strip connected by existing hardware on 2098056-6. See fig. 3-3. The surface of 20960-806-5 at existing hardware should be prepared for a good ground connection. The strip may be bent at existing hardware end so that strip will be on both sides of 209-060-806-6. After 209-060-805-5 is installed on aircraft, a continuity check should be made from outboard side of screw MS24693C274 to pilot step to verify a good ground connection. Verification of a good ground for209-030257-3 is shown by note in fig. 34 (sheet 1 of 2).

(f) Install wedge 1560-AHlG-047, and bracket 1560-AH1G-056 on access cover 209-030-257-3 as shown on both sheets of fig. 3-4. Bottom antenna wedge is to be installed with thin edge towards rear of aircraft.

NOTE

Use sealant RTV-102 on wedges to seal wedge assemblies on fairing assembly and access cover assembly.

(g) Route upper antenna coaxial cable assembly 1560-AH1G-046-3 from behind lower right side of pilot instrument panel through pilot right console trough, under circuit breaker panel, up along outside rear edge of armor panel adjacent to air conditioning duct (inside), up along aft bulkhead behind pilot seat through previously drilled 1.0 inch diameter hole in roof panel 209-030-213-77, along right side of fairing assembly 209-060-805-5 to upper antenna location. Secure cable to panel at antenna location using previously installed bracket 1560-AH1G-056 and clamp MS9351-06. Hardware for installing clamp shown in fig. 3-3. Install dust cover NAS820-10OA to connector at upper antenna location. Install split grommet MS35490-81 at roof panel hole. Clamp cable two places at previously drilled holes on fairing assembly utilizing two screws MS24693C274, two nuts MS21044C3 and two washers MS15795-808 as required inside cockpit. Use spiral wrap 98435 as required.

NOTE

See fig. 3-1 for general routing of coaxial cable. The KA-69-131 coaxial cable connector must be located behind pilot instrument panel.

(h) Route lower antenna coaxial cable 1560-AH-1G-046-2 from behind lower right side of pilot instrument panel, through existing hole in right console floor, along existing cable harness through bulkhead, FS138.70 and bulkhead, FS 148.50, down to forward fuel cell floor panel through second hole in floor panel, across and under fuel cell floor panel, and aft to antenna location on panel 209-030-257-3. Secure cable to panel at antenna location using previously installed bracket 1560-AH1G-056 and clamp MS9351-06. Hardware for installing clamp is shown in fig. 3-4. Install dust cover NAS820-10A to connector at lower antenna location. Leave slack in coaxial cable to allow ease of installation of cable and panel. Secure cable with tywraps and clamps as required. Use spiral wrap 98435 as required.

NOTE

See fig. 3-1 for general routing of coaxial cable. The 90 degree coaxial cable connector must be located behind pilot instrument panel.

(i) Locate existing pneumatic line T-connector on pilot altimeter, behind FM radio control panel. Disconnect line at T-fitting and install tube assembly 1560-AH1G-058 furnished in kit. Stow using tywraps.

(j) Cap holes in wedges on fairing assembly 209-060-805-5 and access cover 209-303-257-3 using two button plugs NAS451-30 seal with sealant RTV-102. Reinstall fairing and cover.

(k) Reinstall all previously removed panels and black boxes.

1 Install ARC 54/131 radio control head in available space in pilot right console and connect cable 1560AHIG-049.

2 Install blank panel in previous location of ARC 54/131 radio control head.

(l) Check static pressure line for leaks utilizing instrument P7365, NSN 4920-00-988-0206 and perform a communication operational check. If a PWD, YG-1054 and two PWD antennas 10027834-101 are available, the pilot and co-pilot PWD audio tones should be stimulated by another aircraft with same to verify their operation.

(m) Return aircraft to flight configuration.

c. Quality Assurance Requirements. Inspection of completed application for full compliance with the technical requirements of the instructions will be accomplished by qualified personnel in accordance with an approved prescribed inspection system. The inspection system in effect will be determined on the basis of instruction issued at the site of work; i.e., Army Unit/Intermediate, Army depot, contractor, etc.

3-4. Forms and Records. Record accomplishment of this modification in accordance with the procedures prescribed in TM 38-750. DA Form 2408-13 (Aircraft Inspection and Maintenance Record) is applicable.

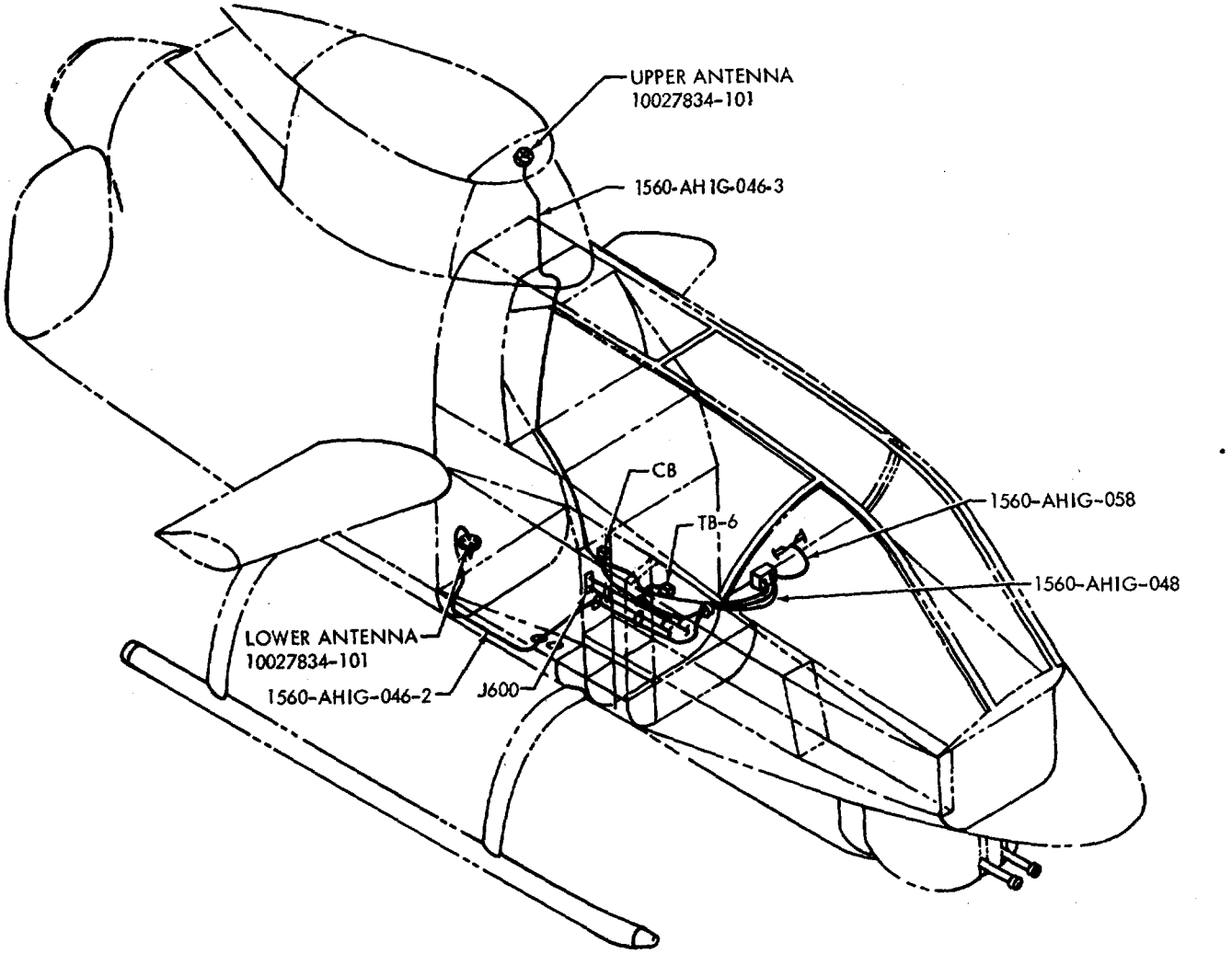


Figure 3-1. Overall view of proximity warning system installation.

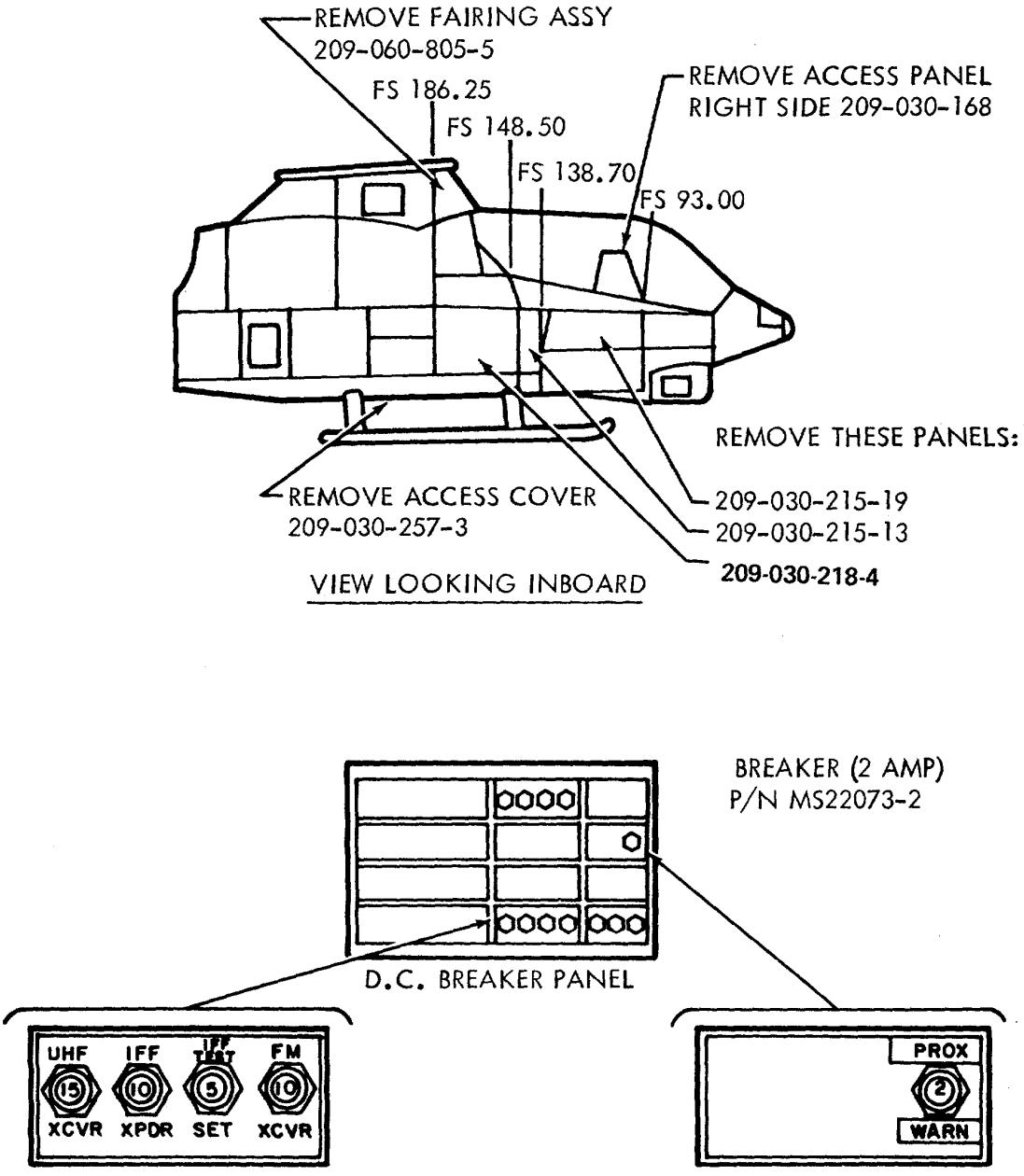
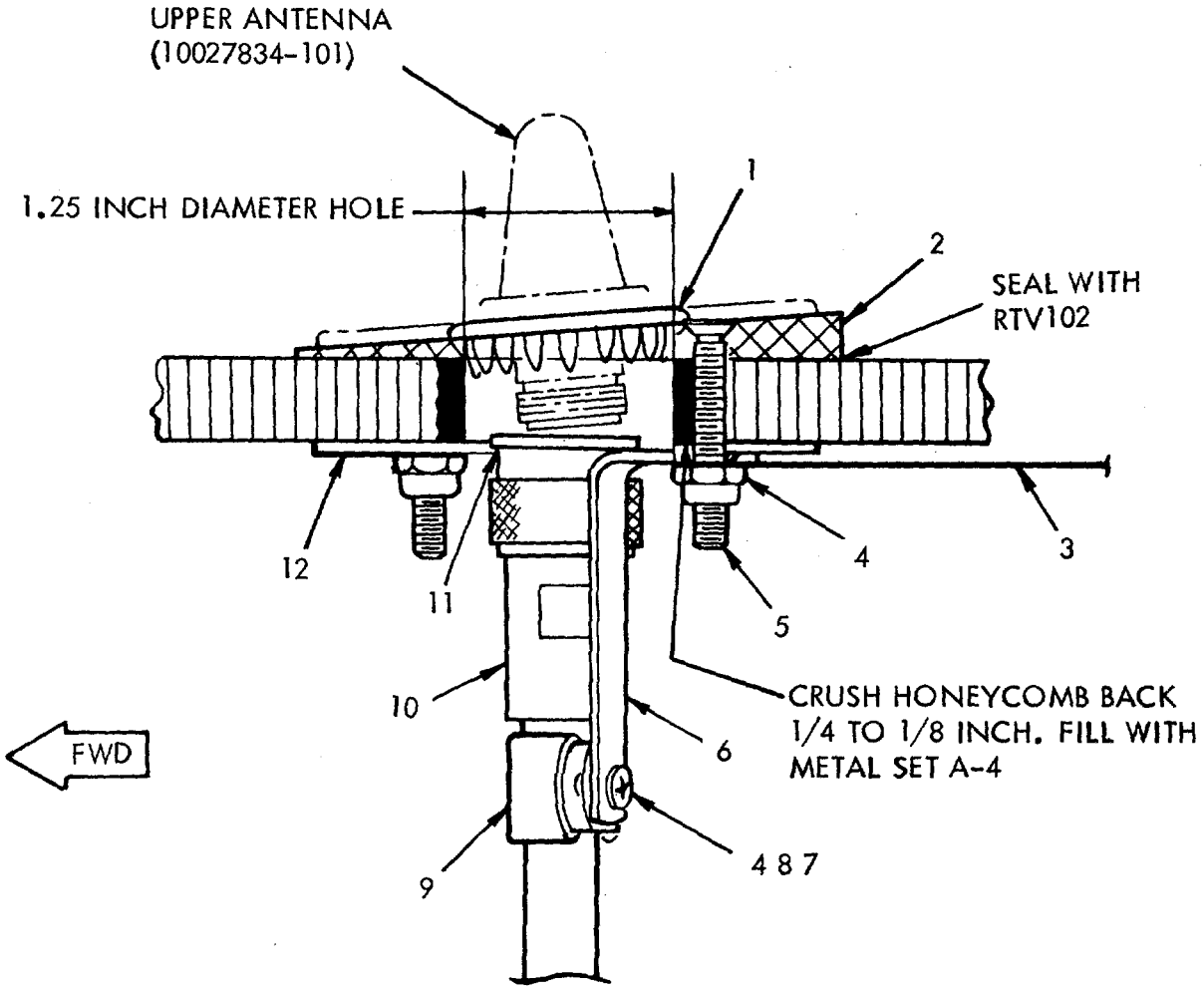


Figure 3-2. Location of panels and circuit breakers.



KEY TO FIGURE 3

1. PLUG (NAS451-30)
2. WEDGE (1560-AHIG-047)
3. GROUND STRAP (120-055-1-24)
4. NUT (MS21044C3)
5. SCREW (MS24693C274)
6. BRACKET (1560-AHIG-056)
7. WASHER (MS15795-808)
8. SCREW (MS51958-64)
9. CLAMP (MS9351-06)
10. CABLE (1560-AHIG-046-3)
11. DUST COVER (NAS820-10A)
12. WASHER (1560-AHIG-055)

Figure 3-3. Installation of upper antenna (sheet 1 of 2)

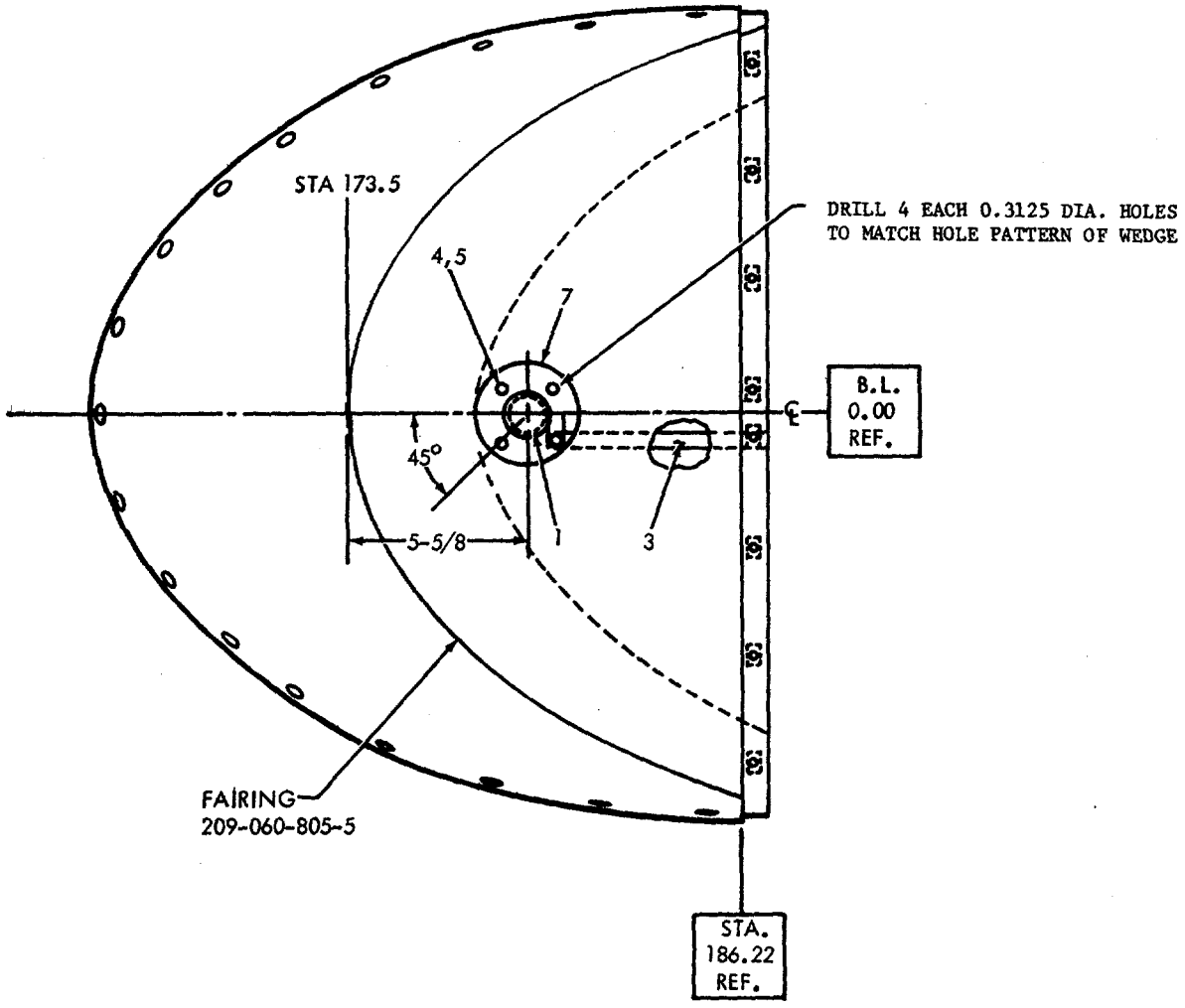
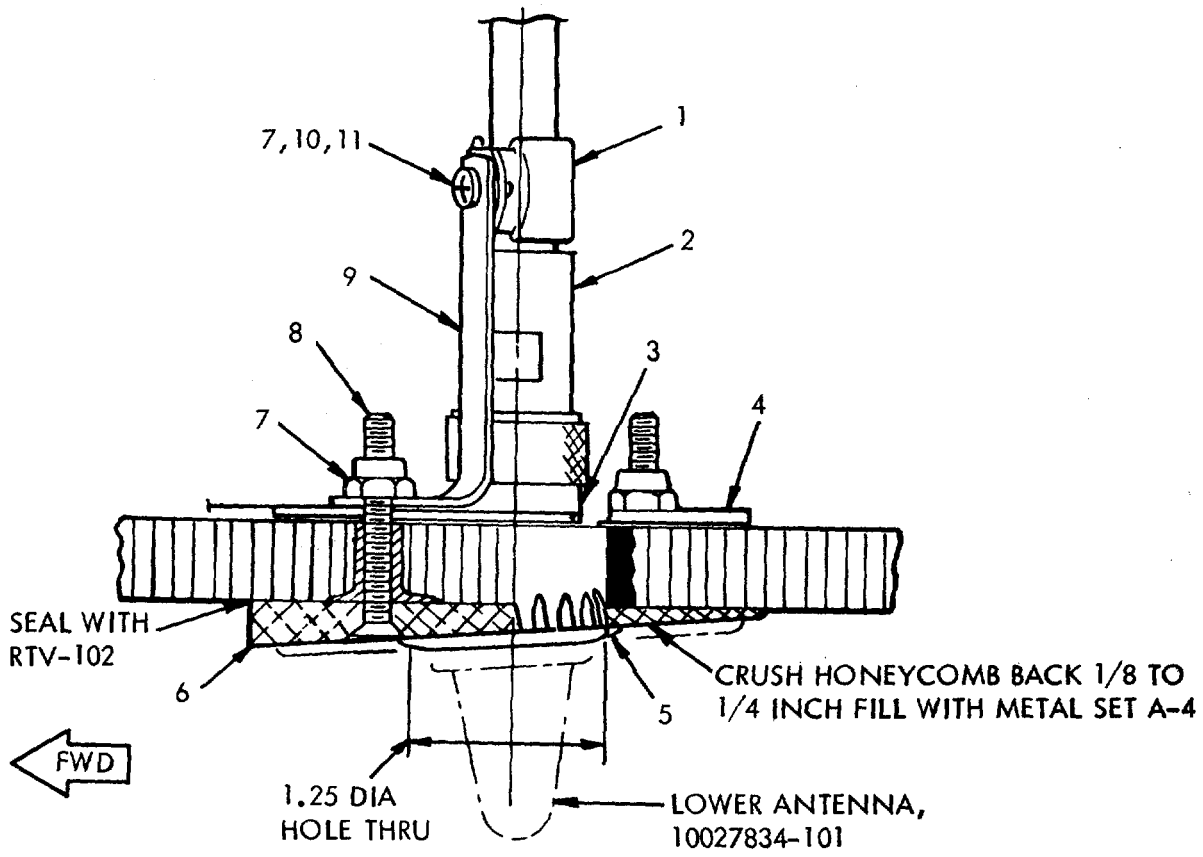


Figure 3-3. Installation of upper antenna (sheet 1 of 2)



NOTE
PREPARE BOTH SIDES OF WEDGE (1560-AHIG-047) AND BOTH SIDES OF WASHER(1560-AHIG-055) FOR A GOOD GROUND CONNECTION. ALSO, PREPARE SURFACE OF COVER (209-030-257-3). AFTER 209-030-257-3 HAS BEEN INSTALLED ON THE AIRCRAFT, A CONTINUITY CHECK SHOULD BE MADE FROM THE OUTBOARD SIDE OF SCREW MS24693C274 TO THE PILOT'S STEP TO VERIFY A GOOD GROUND CONNECTION.

KEY TO FIGURE 4

1. CLAMP (MS9351-06)
2. CABLE ASSY (1560-AHIG-046-2)
3. DUST COVER (NAS820-10A)
4. WASHER (1560-AHIG-055)
5. PLUG (NAS451-30)
6. WEDGE (1560-AHIG-047)
7. NUT (MS21044C3)
8. SCREW (MS24693C274)
9. BRACKET (1560-AHIG-056)
10. SCREW (MS51958-64)
11. WASHER (MS15795-808)

Figure 3-4. Installation of lower antenna (sheet 1 of 2)

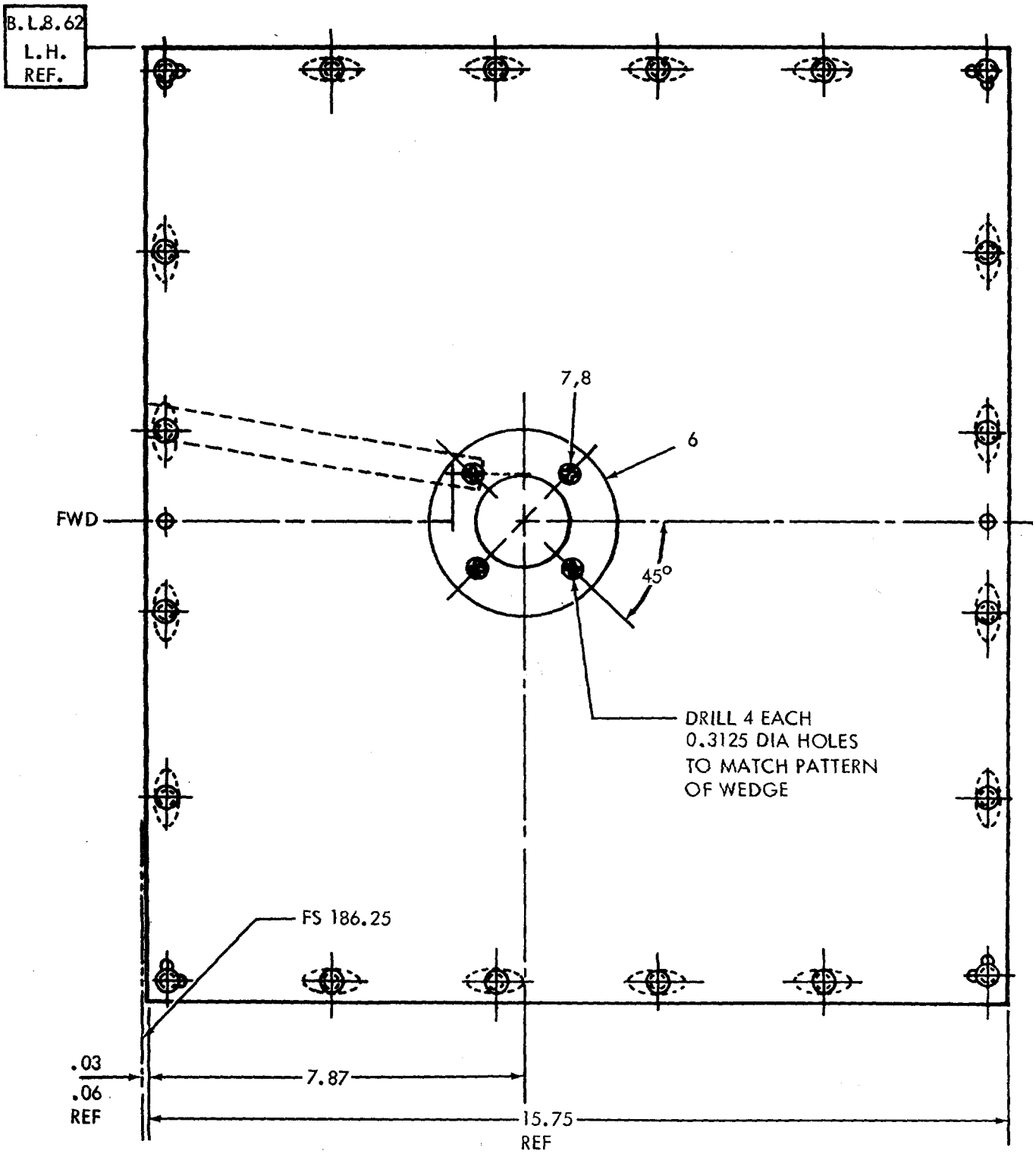


Figure 3-4. Installation of lower antenna (sheet 2 of 2)

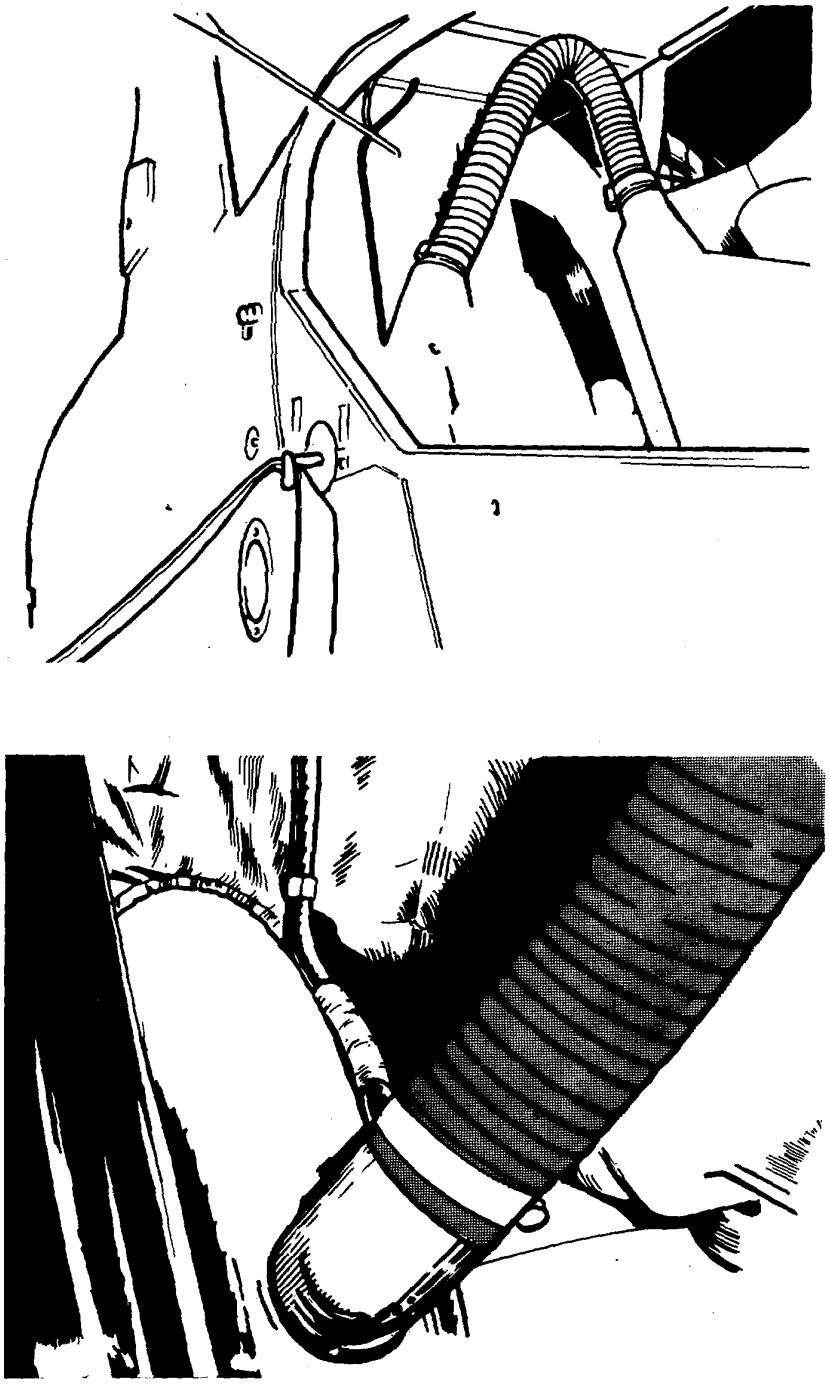


Figure 3-5. Cable Routing in Pilot's Compartment.

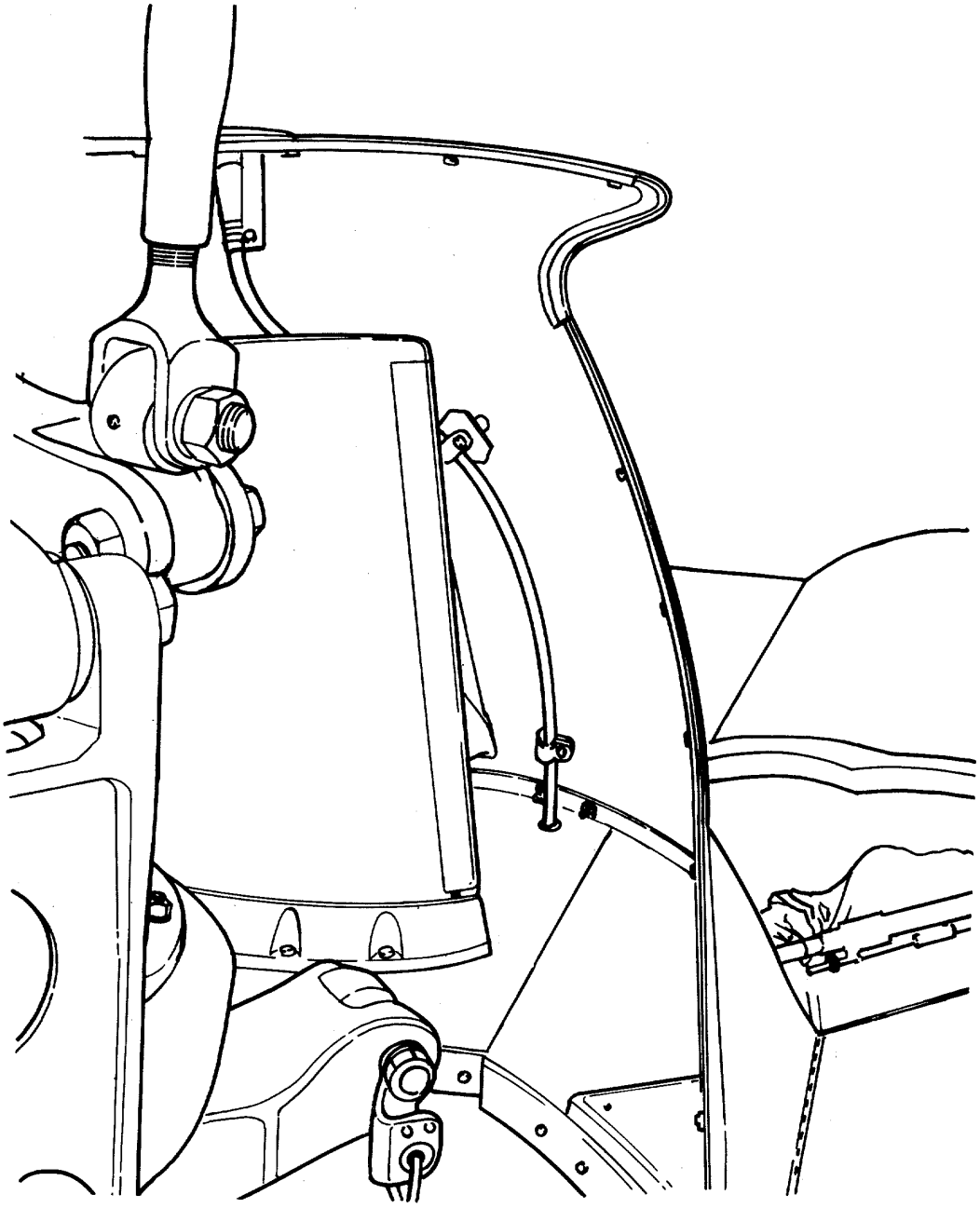


Figure 3-6. Fairing Modification.

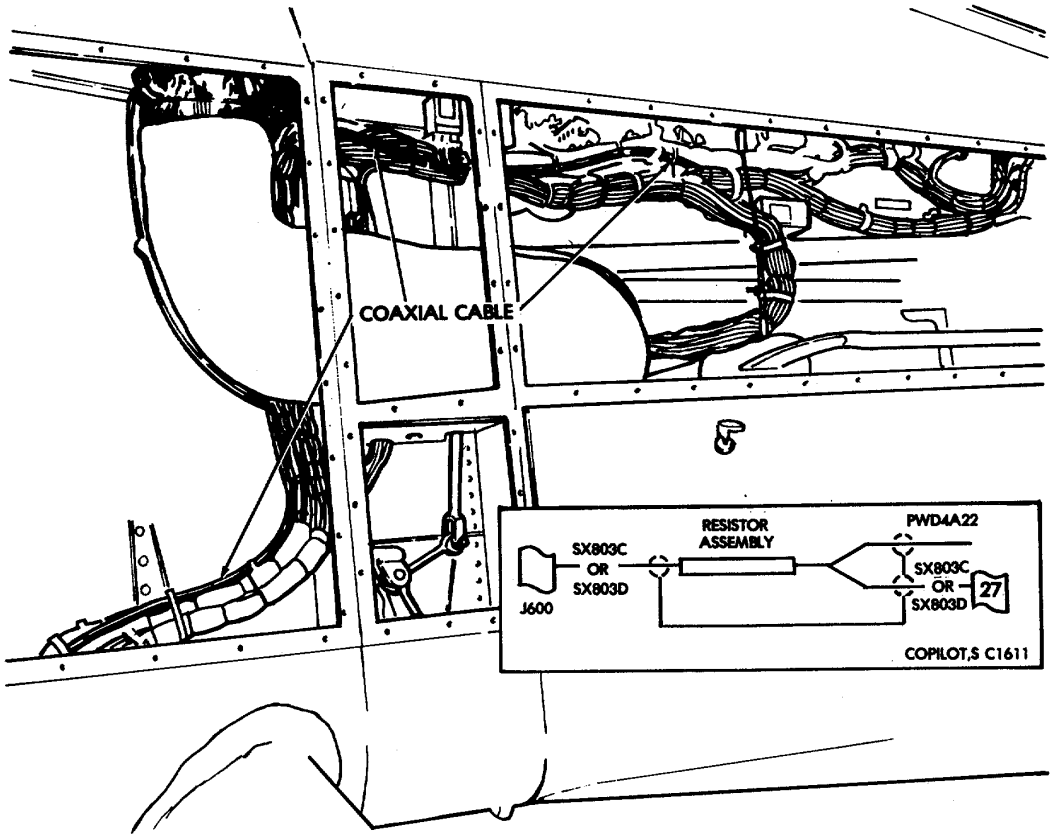


Figure 3-7. Routing of Coaxial Cable and Installation of Resistor Assembly (Sheet 1 of 3).

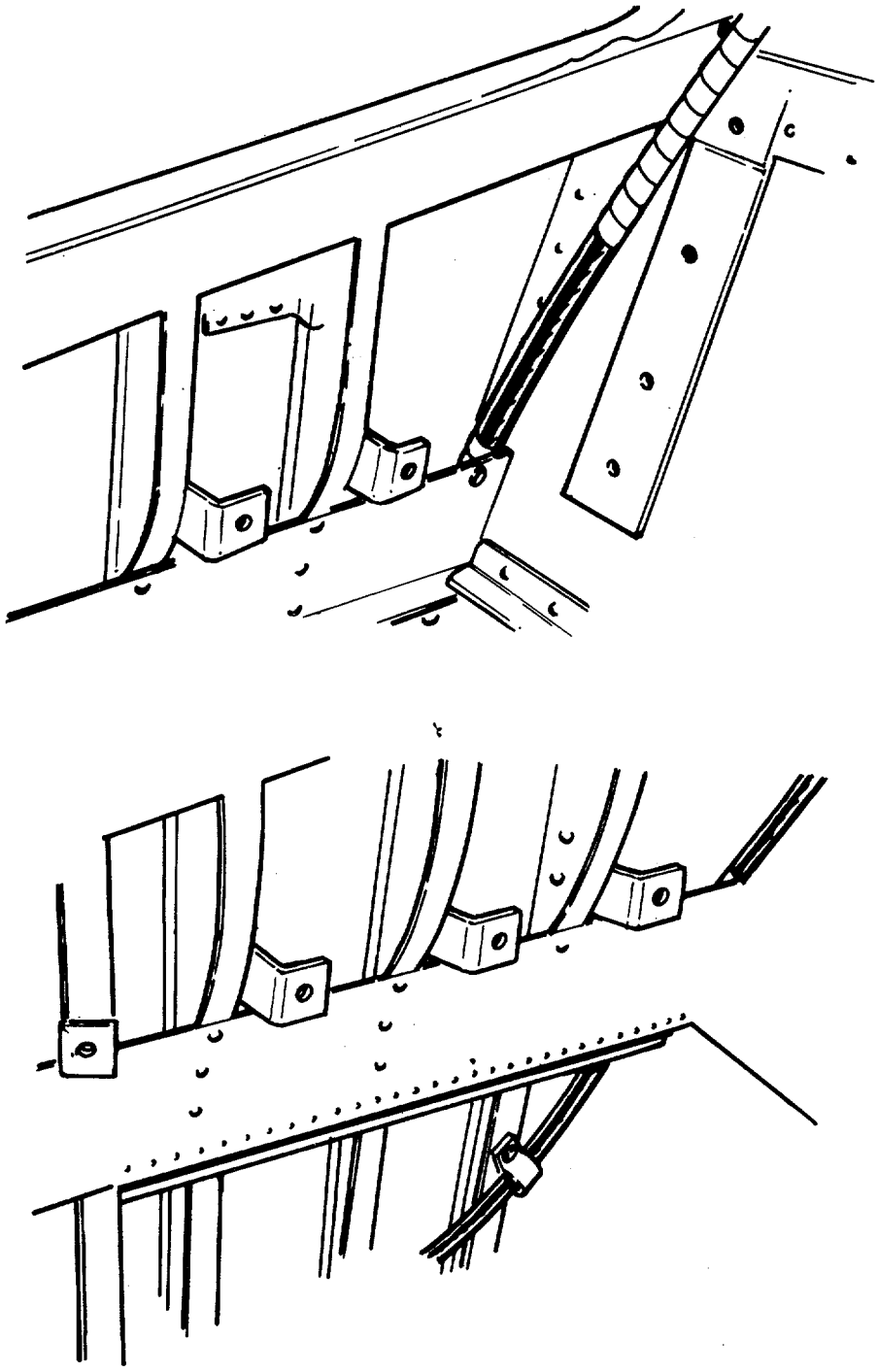


Figure 3-7. Routing of Coaxial Cable and Installation of Resistor Assembly (Sheet 2 of 3).

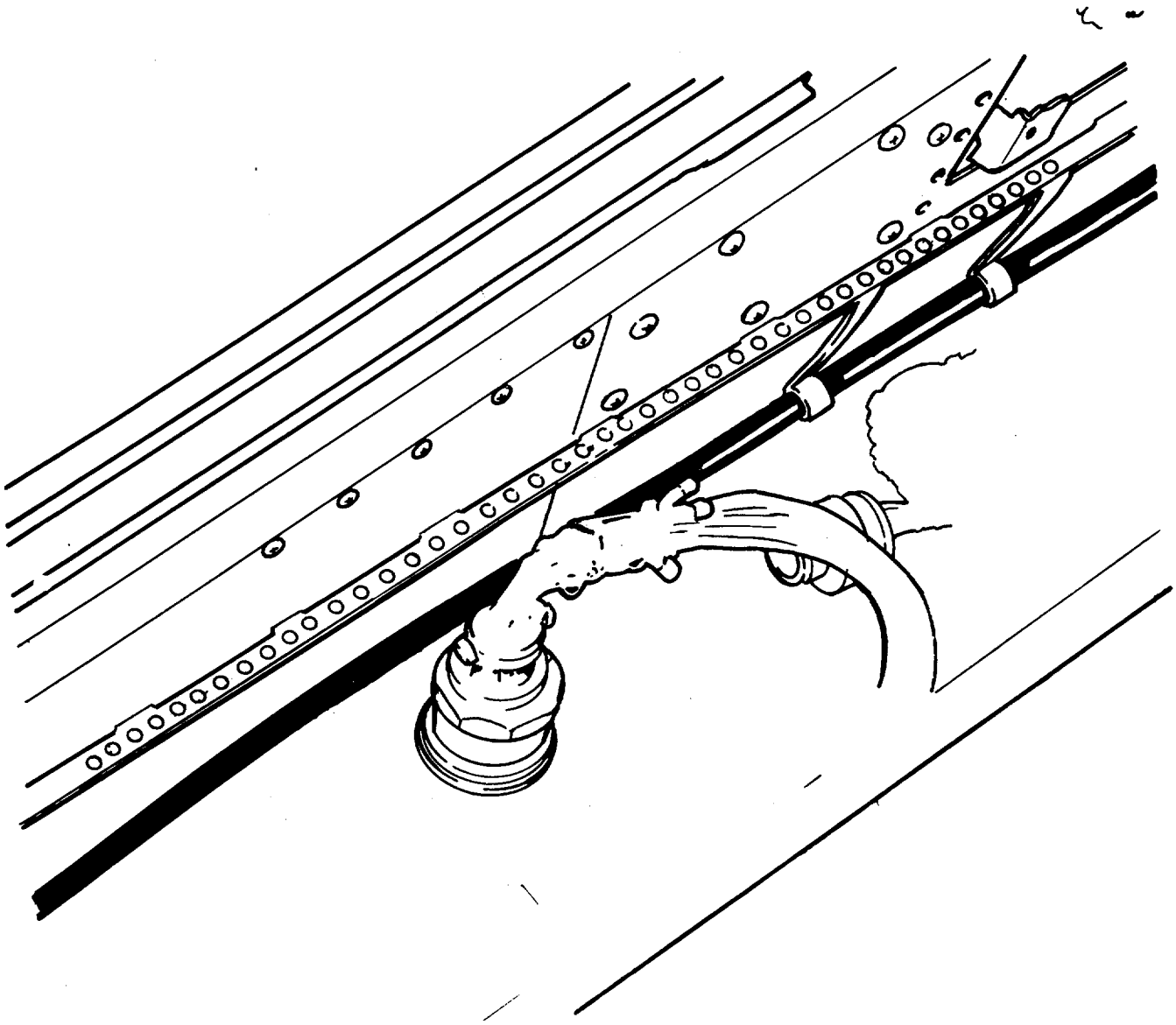


Figure 3-7. Routing of Coaxial Cable and Installation of Resistor Assembly (Sheet 3 of 3).

3-5.Weight and Balance Data. Weight and balance change resulting from this modification is as follows:

a. Change in Basic Weight: + 6.0 pounds.
b. Moment Arm: 154.4
c. Change in Basic Moment: 926.4 inch-pounds.
d. Chart "C" Entry: DD Form 365C (Basic Weight and Balance Record).

Weight Change	Moment Arm	Moment/100
+ 6.0 pounds	154.4 inches	+9.3 inch-pounds

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Brigadier General, United States Army
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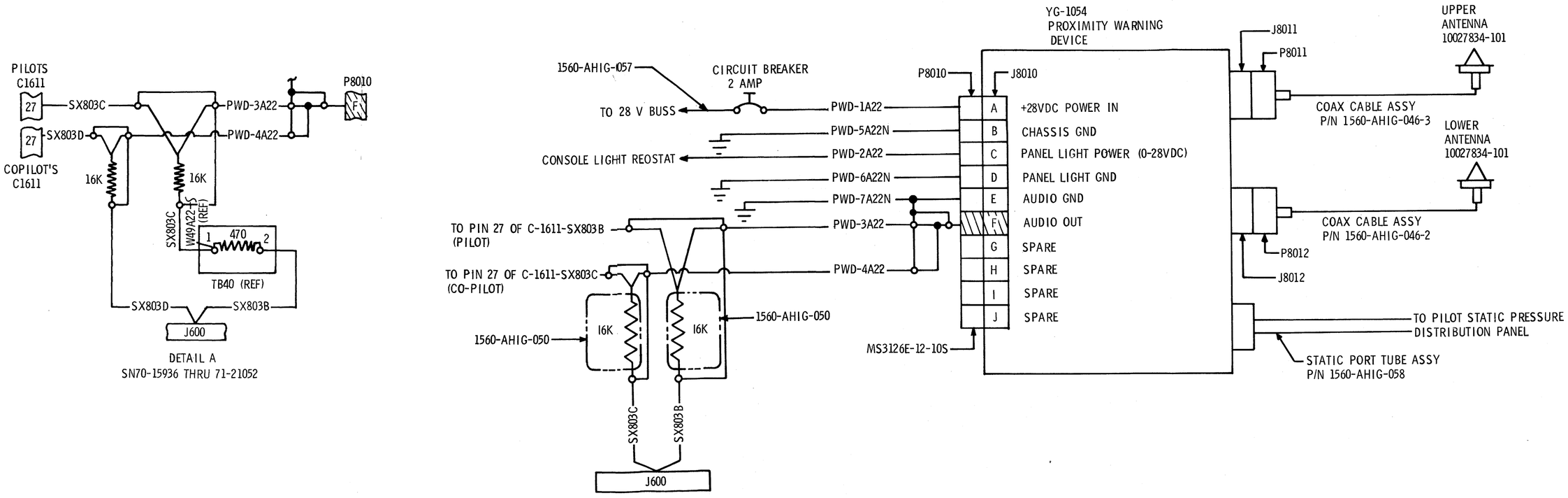

Figure FO-1. Wiring Diagram. SN66-15249 thru 69-16447 aircraft detail A, SN70-15936 thru 71-21052 aircraft.

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 decagram = 10 grams = .35 ounce
1 hectogram = 10 decagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

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