

**\*TM 1-1680-320-13&P**

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**TECHNICAL MANUAL**

**AVIATION UNIT AND INTERMEDIATE MAINTENANCE  
REPAIR PARTS AND SPECIAL TOOLS LIST  
(INCLUDING DEPOT REPAIR PARTS AND SPECIAL TOOLS)**

**FOR**

**HIGH PERFORMANCE RESCUE  
HOIST ASSEMBLY**

**P/N 42305-1  
NSN 1680-01-058-3671  
EIC: TBV**

**DISTRIBUTION STATEMENT A:** Approved for public release; distribution is unlimited.

\*This TM supersedes TM 55-1680-320-23&P, dated 22 August 1989, including all changes.

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**HEADQUARTERS, DEPARTMENT OF THE ARMY  
15 August 2006**



## WARNING SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during operation and maintenance of this equipment. Failure to observe these precautions could result in serious injury or death of personnel.

### WARNING

It is the hoist operator's responsibility to assure that the hoist cable does not contact any portion of the aircraft. The rescue hoist cable must be kept clear of all parts of the aircraft and free from other external obstacles when operating the hoist. Cable abrasion during hoist operations can lead to cable failure. If cable contact or snagging occurs, interrupt hoist operations and inspect the cable for damage in accordance with applicable procedures. If any broken wires, unraveling, or kinks are observed, hoisting operations should be discontinued and the cable replaced. Any cable defect mandates cable replacement.

### WARNING

Do not execute live hoisting before test procedures have been performed. After a rescue hoist has had a new or used hoist cable installed and/or hook assembly maintenance has been performed, the hoist shall be installed on the UH-1 or UH-60 aircraft and one or more lifts, with full cable length, shall be made using a dummy load of 250 to 300 lbs.

### WARNING

The hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing. Do not connect the cannon plug to the Cartridge Activation Device (CAD) until all electrical checks are completed.

### WARNING

Ensure external electrical power is removed from system prior to installing rescue hoist. Activated electricity could cause injury to personnel or damage to equipment.

### WARNING

Static electricity generated by helicopter should be discharged before attempting a sling or rescue hoist pickup. Use a conductor between helicopter and ground to discharge static electricity.

### WARNING

Perform all cleaning in a well lighted, clean and properly ventilated room.

**WARNING**

Cleaning Solvent, MIL-PRF-680, is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.

**WARNING**

Lubricating oil, MIL-L-23699 and MIL-L-7808, may irritate the eyes and skin. Long term use without hand protection may cause dermatitis. Breathing mists may cause respiratory irritation. If there is any prolonged contact with skin, wash area with soap and water. Remove saturated clothing. If solution contacts eyes, flush eyes with water immediately. If oil is swallowed, do not try to vomit; aspiration may damage lungs. Get immediate medical attention. When handling liquid, wear rubber gloves and chemical splash proof goggles. Wear NIOSH/MSHA approved respirator if mists exceed established exposure limits.

**WARNING**

Automatic Transmission Fluid, Dexron III, is toxic to skin, eyes, and respiratory tract. Avoid prolonged or repeated skin contact. Proper ventilation is required.

**WARNING**

Trichloroethane, MIL-T-81533, is toxic to eyes, skin, and respirator tract. Skin and eye protection required. Avoid repeated or prolonged contact. Good general ventilation is normally adequate.

**WARNING**

To avoid injury to personnel from broken wire strands, leather gloves must be worn at all times when handling cable assembly.

**WARNING**

Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi (241.3 kPa). Do not direct air stream towards self or other personnel as injury may occur.

**WARNING**

Enlist the help of an assistant when installing hoist and specified components to prevent injury to personnel or damage to hoist components.

**WARNING**

Hands must be kept clear from hoist boom during operation to prevent hand entrapment and injury.

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## LIST OF EFFECTIVE PAGES/WORK PACKAGES

**NOTE:** The portion of text affected by the changes is indicated by a vertical line in the outer margins of the page. Changes to illustrations are indicated by miniature pointing hands. Changes to wiring diagrams are indicated by shaded areas.

Date of issue for the original manual is:

Original            15 August 2006

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**HEADQUARTERS,  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 15 AUGUST 2006**

**TECHNICAL MANUAL**

**AVIATION UNIT AND INTERMEDIATE MAINTENANCE  
REPAIR PARTS AND SPECIAL TOOLS LIST  
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**FOR**

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY**

**P/N 42305-1  
NSN 1680-01-058-3671  
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**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can improve this manual. If you find any mistakes or if you know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) located in the back of this manual, directly to: Commander, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax, or the World Wide Web. Our fax number is: DSN 788-6546 or Commercial 256-842-6546. Our e-mail address is: 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028. For the World Wide Web use: <https://amcom2028.redstone.army.mil>.

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## HOW TO USE THIS MANUAL

### Purpose and Scope

This technical manual provides Aviation Unit (AVUM) and Aviation Intermediate (AVIM) usage and maintenance information for the High Performance Rescue Hoist Assembly. The information includes component and assembly description, usage instructions, maintenance and supporting data including a Repair Parts and Special Tools List (RPSTL) for identifying and ordering components, assemblies and repair parts.

### Arrangement, Identification, and Location of Front Matter, Chapters, Work Packages, and Rear Matter

This manual is composed of front matter, chapters containing work packages (WP's) and rear matter.

### Front Matter

The front matter includes such items as the Warning Summary, List of Effective Pages, Table of Contents, and How to Use This Manual.

### Chapters and Work Packages

The WP's contain information pertinent to the performance of specific tasks. Each WP is maintained as a separate entity. The WP's are grouped into Chapters based on overall content. WP's are arranged in numerical sequence regardless of chapter division. The chapter divisions and the WP's contained within the chapters are listed in the Table of Contents.

Chapter 1 - General Information, Equipment Description, and Theory of Operation. Information required to provide the user with a physical description and functionally explain how the equipment operates.

Chapter 2 - Operator Instructions. This chapter provides a description of the operator controls and indicators, and provides instructions for operating the equipment in detail.

Chapter 3 - Troubleshooting Master Index. This chapter provides troubleshooting/fault isolation information appropriate to the maintenance level covered.

Chapter 4 – Troubleshooting Procedures. The troubleshooting procedures are presented according to the fault symptoms observed during the operational check procedures in Chapter 5.

Chapter 5 - Maintenance Instructions. This chapter provides information on performing preventive and corrective maintenance actions. Included are instructions concerning inspection, preventive maintenance checks and services, operational check and repair actions including subassembly/component removal installation procedures.

Chapter 6 – Parts Information. This chapter provides information on Repair Parts and Special Tools List (RPSTL) that are required to perform maintenance functions. It also contains Cross-Reference Indexes that includes National Stock Numbers (NSN) and Part Numbers (P/N).

Chapter 7 – Supporting Information. This chapter provides information to support the maintenance actions in Chapter 5. Included are a list of reference material, Maintenance Allocation Chart (MAC), which identifies maintenance actions and their maintenance levels.

**Locating a Work Package in the Table of Contents**

First determine the category of the WP subject and then find the appropriate chapter in the Table of Contents. Scan the WP titles in that chapter until you find the WP subject matter. In the example below, it is desired to locate the emergency release of rescue hoist load for the high performance rescue hoist. The procedures fall into Chapter 2 Operator Instructions. Go to the Table of Contents and find the chapter titled "Operator Instructions". Scan the WP titles within that chapter until you find the WP's titled "Operation under Usual Conditions", now scan these WP's for the "emergency release of rescue hoist load" statement and then follow the leader line to find the WP number.

**HOW TO USE THIS MANUAL**

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**Chapter 2 – Operator Instructions**

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**Work Package Content and Presentation**

The content and the presentation techniques used in the WP's vary according to the material content. The TM number and WP number are placed at the top of the page and are set off by a horizontal line as shown below.

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**0001 00**

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The page number is placed at the bottom of the page and consists of the WP number and a sequential number denoting the page within the WP as shown below.

**0001 00-1**

**Finding Instructions You Need**

Primary paragraph title heads in bolded upper case letters.

Secondary level paragraphs are denoted by bolded headings set in Upper and Lower Case Type. These paragraphs always relate to and are subordinate to the most recent primary paragraph heading.

Tables are titled, numbered, and listed in the table of contents under the chapter and WP they appear and if you follow the leader line the last digit is the page number of the WP where the table is shown.

**Warnings, Cautions, and Notes**

**WARNING**

A warning denotes a condition or procedure, which when not complied with can result in injury or death to personnel and damage to equipment.

**CAUTION**

A caution denotes a condition or procedure, which when not complied with can result in damage to equipment.

**NOTE**

A note highlights a condition or statement, which aids the reader.





**CHAPTER 1**

**GENERAL INFORMATION, EQUIPMENT DESCRIPTION, AND  
THEORY OF OPERATION  
FOR  
HIGH PERFORMANCE RESCUE  
HOIST ASSEMBLY**



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## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY GENERAL INFORMATION

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### SCOPE

**Type of Manual:** Aviation Unit and Intermediate Maintenance  
**Equipment Name:** High Performance Rescue Hoist Assembly, 42305-1  
**Purpose of Equipment:** Primary function of the rescue hoist is personnel rescue work conducted by helicopters.

### MAINTENANCE FORMS, RECORDS, AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by (as applicable) DA PAM 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS); DA PAM 738-751, Functional Users Manual for the Army Maintenance Management Systems - Aviation (TAMMS-A); or AR 700-138, Army Logistics Readiness and Sustainability.

### REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your rescue hoist needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you do not like about your equipment. Let us know why you do not like the design or performance. If you have Internet access, the easiest and fastest way to report problems or suggestions is to go to <https://aeps.ria.army.mil/aepspublic.cfm> (scroll down and choose the "Submit Quality Deficiency Report" bar). The Internet form lets you choose to submit an EIR, a Product Quality Deficiency Report (PDQR) or a Warranty Claim Action (WCA). You may also submit your information using an SF 368 (PQDR). You can send your SF 368 via e-mail, regular mail or facsimile using the addresses/facsimile numbers specified in DA PAM 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS). We will send you a reply.

### CORROSION PREVENTION AND CONTROL (CPC)

CPC of Army material is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items. Corrosion specifically occurs with metals. It is an electrochemical process that causes the degradation of metals. It is commonly caused by exposure to moisture, acids, bases, or salts. An example is the rusting of iron. Corrosion damage in metals can be seen, depending on the metal, as tarnishing, pitting, fogging, surface residue, and/or cracking. Plastics, composites, and rubbers can also degrade. Degradation is caused by thermal (heat), oxidation (oxygen), salivation (solvents), or photolytic (light, typically UV) processes. The most common exposures are excessive heat or light. Damage from these processes will appear as cracking, softening, swelling, and/or breaking. SF Form 368, PQDR should be submitted to the address specified in DA PAM 738-750, Functional Users Manual for the Army Maintenance Management System (TAMMS).

### DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

For procedures to destroy this equipment to prevent its use by the enemy, refer to TM 750-244-2, Procedures for Destruction of Electronic Material to Prevent Enemy Use.

### HOIST CERTIFICATION

It is highly recommended that all maintenance personal attend an approved DoD, TRADOC, and/or OEM hoist maintenance course prior to performing maintenance on the hoist assembly or any component of the hoist system.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
PREPARATION FOR STORAGE OR SHIPMENT**

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**INITIAL SETUP****Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**Parts/Materials:**

Reusable Shipping Container, 42305R11

**Tools and Special Tools:**

N/A

**References:**

Standard Practice for Commercial Packing  
ASTM D 3951  
Functional Users Manual for the Army  
Maintenance Management System – Aviation  
DA PAM 738-751  
Military Marking for Shipment and Storage  
MIL-STD-129  
AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Avionic Cleaning and Corrosion  
Prevention/Control TM 1-1500-344-23 series

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**INSPECTION**

Inspect hoist for damage in accordance with inspection criteria in WP0012 00. If hoist has been damaged, report damage on two material condition tags in accordance with DA PAM 738-751. Attach one tag directly onto hoist. Attach second tag to outside of reusable shipping container after installation of hoist. Ensure tags are secured in such a manner that will afford maximum protection from handling and weather.

**NOTE**

Do not remove any forms or tags that are attached to hoist until after aircraft installation.

1. Inventory hoist against packing slip and check all tags and forms accompanying hoist assembly.

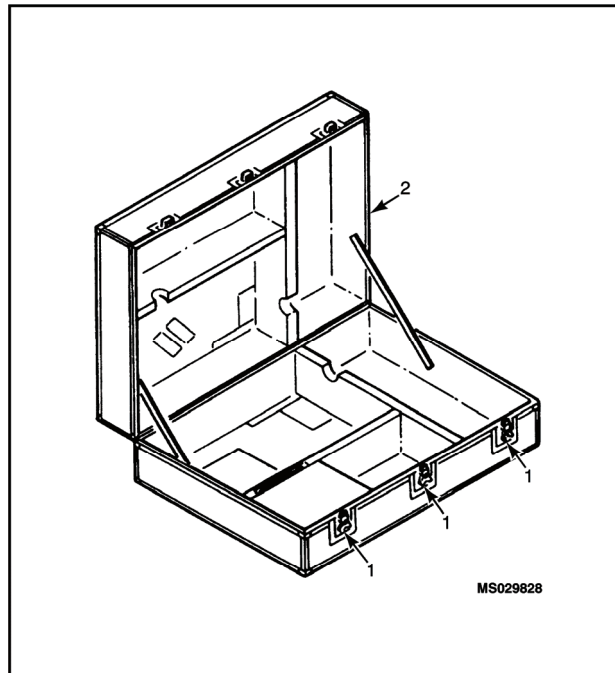
Report inventory discrepancies by submitting a Supply Discrepancy Report (SDR), form SF 364, electronically: <https://aeaps.ria.army.mil>.

2. Inspect for damage incurred during shipment.

Report damage by submitting a Product Quality Deficiency Report (PQDR), form SF 368, electronically: <https://aeaps.ria.army.mil>.

**PRESERVATION**

Rescue hoist shall be packaged in accordance with MIL-STD-129.

**PACKING****WARNING**

Hoist must be packaged without explosive Cartridge Actuated Device (CAD) installed. Cable cutter, P/N 42277E336 or P/N 42305-160 may be left in hoist but explosive charge must be removed prior to shipment or storage.

**CAUTION**

Hoist shall be drained of all Automatic Transmission Fluids (ATF).

**NOTE**

Hoist shall be tagged accordingly and noted that fluids have been drained from boomhead and winch assembly and cartridge removed (DD Form 1574/1574-1 or 1577-2). Storage case should be marked externally to indicate that explosive charge has been removed.

1. Place rescue hoist reusable shipping container on a flat surface.
2. Lift overcenter latch handles (1) and unlatch to release top of shipping container (2).
3. Grasp top of shipping container (2) and lift up to open.
4. With a minimum of two personnel, lift hoist and place into shipping container.
5. Secure cable hook in container using internal retaining strap.
6. Ensure material condition tag and all required paperwork is secured in such a manner that will afford maximum protection from handling and weather.
7. Close top of shipping container (2) and secure using overcenter latch handles (1).

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
WARRANTY INFORMATION**

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1. The 42305-1 hoist, when overhauled by the Goodrich Corporation, is a warranty item and carries a one year warranty from date of overhaul. This date can be found on DA Form 2408-16 and DD Form 250.
2. During the warranty period, maintenance is limited to basic organizational maintenance. Any maintenance performed above organizational is cause to void the warranty and make the unit liable for repair costs.
3. Control Exchange of components during the warranty period is strictly prohibited.
4. Should the hoist fail prior to the printed date the unit shall:
  - a. Make no attempts above organizational maintenance at repairing the failure of a warranty item.
  - b. Notify the PMOUH Hoist Manager via email ([rick.terrell@us.army.mil](mailto:rick.terrell@us.army.mil)).
  - c. Complete and forward Goodrich's Return Material Authorization (RMA) to Goodrich ([jennette.ness@goodrich.com](mailto:jennette.ness@goodrich.com)) or to Goodrich Corporation, 1550 South Valley Vista Drive, ATTN: Customer Service, Diamond Bar, CA 91765, who shall provide return instructions in an approved numbered RMA to the claimant.
  - d. Submit a QDR, SF 368, using the Army Materiel Command Automated Electronic Product Support Website (<https://aeeps.ria.army.mil>) tab "Submit Quality Deficiency Report".
  - e. Package and ship hoist in accordance with PMOUH instructions.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
QUALITY OF MATERIAL**

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Material used for replacement, repair, or modification must meet the requirements of this TM 1-1680-320-13&P, High Performance Rescue Hoist Assembly. If qualities of material requirements are not stated in this TM 1-1680-320-13&P, High Performance Rescue Hoist Assembly, the material must meet the requirements of the drawings, standards, specifications, or approved engineering change proposals applicable to the subject equipment.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
SAFETY, CARE, AND HANDLING**

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Personnel should adhere to following safety precautions during operation and/or maintenance procedures:

1. Do not service or adjust alone.

Personnel shall not, under any circumstances, perform potentially dangerous maintenance tasks, or procedures, except in the presence of a person who is capable of rendering aid.

2. Keep away from live circuits.

Operating personnel must at all times observe all safety regulations. Do not replace components or make adjustments inside equipment with high voltage supply turned **ON**. Under certain conditions, due to charges retained by capacitors, dangerous potentials may exist when power control is in the **OFF** position. To avoid personal injury, always remove electrical power and discharge and ground a circuit before commencing work on that circuit.

3. Foreign Object Debris (FOD).

Remove rings, watches, and other metallic objects which may cause shock or burn hazards. Remove rings during all maintenance activities.

4. Observe all general precautions and safety regulations when handling rescue hoist.



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
GENERAL REPAIR (ONLY THE SPECIFIC REPAIRS ARE AUTHORIZED)**

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**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Avionic Cleaning and Corrosion  
Prevention/Control TM 1-1500-344-23 series

**Parts/Materials:**

Chemical Conversion Coating  
(WP 0047 00, Table 1, Item 11)

**Tools and Special Tools:**

N/A

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**NOTES**

- Ensure that all parts and assemblies have been cleaned after all repairs, and replacement of components is completed.
  - Refer to TM 1-1500-204-23 series for appropriate blending techniques.
1. Superficial surface damage not beyond a depth limit of 0.005 inch shall be blended out.
  2. Removal of nicks, scratches, burrs, and corrosion from aluminum and aluminum alloys.
    - a. Remove nicks, scratches, and burrs by blending.
    - b. Remove corrosion and blend to surrounding surfaces.
    - c. Touch up all reworked areas by applying chemical conversion coating per MIL-C-5541. If more than 25% of part has been reworked, or condition of finish dictates, anodize per MIL-A-8625.
  3. Removal of nicks, scratches, burrs, and corrosion from steel parts.
    - a. Remove nicks, scratches, and burrs by blending.
    - b. Remove corrosion and blend repaired area to surrounding surfaces.

**LIST OF ABBREVIATIONS/ACRONYMS**

ATF.....	Automatic Transmission Fluid
AVIM.....	Aviation Intermediate Maintenance
AVUM.....	Aviation Unit Maintenance
bg.....	bag
CAD.....	Cartridge Activation Device
cm.....	centimeter
CPC.....	Corrosion Prevention and Control
DA.....	Department of the Army
ea.....	each
EIR.....	Equipment Improvement Recommendation
FM.....	Field Manual
FOD.....	Foreign Object Debris
ft.....	foot
fpm.....	feet per minute
gal.....	gallon
GPU.....	Ground Power Unit
in.....	inch
kg.....	kilogram
l.....	liter
lb.....	pound
MAC.....	Maintenance Allocation Chart
max.....	maximum
min.....	minimum
oz.....	ounce
PMCS.....	Preventive Maintenance Checks and Services
psi.....	pounds per square inch
psig.....	pounds per square inch gage
pt.....	pint
PQDR.....	Product Quality Deficiency Report
qt.....	quart
RCM.....	Reliability Centered Maintenance
REF.....	Reference
rl.....	roll
rpm.....	revolutions per minute
RPSTL.....	Repair Parts and Special Tools List
SDR.....	Supply Discrepancy Report
TB.....	Technical Bulletin
TM.....	Technical Manual
TMDE.....	Test, Measurement, and Diagnostic Equipment
U/M.....	Unit of Measure
VDC.....	Voltage Direct Current
WCA.....	Warranty Claim Action
wt.....	weight
yd.....	yard

**End of Work Package**

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
EQUIPMENT DESCRIPTION AND DATA**

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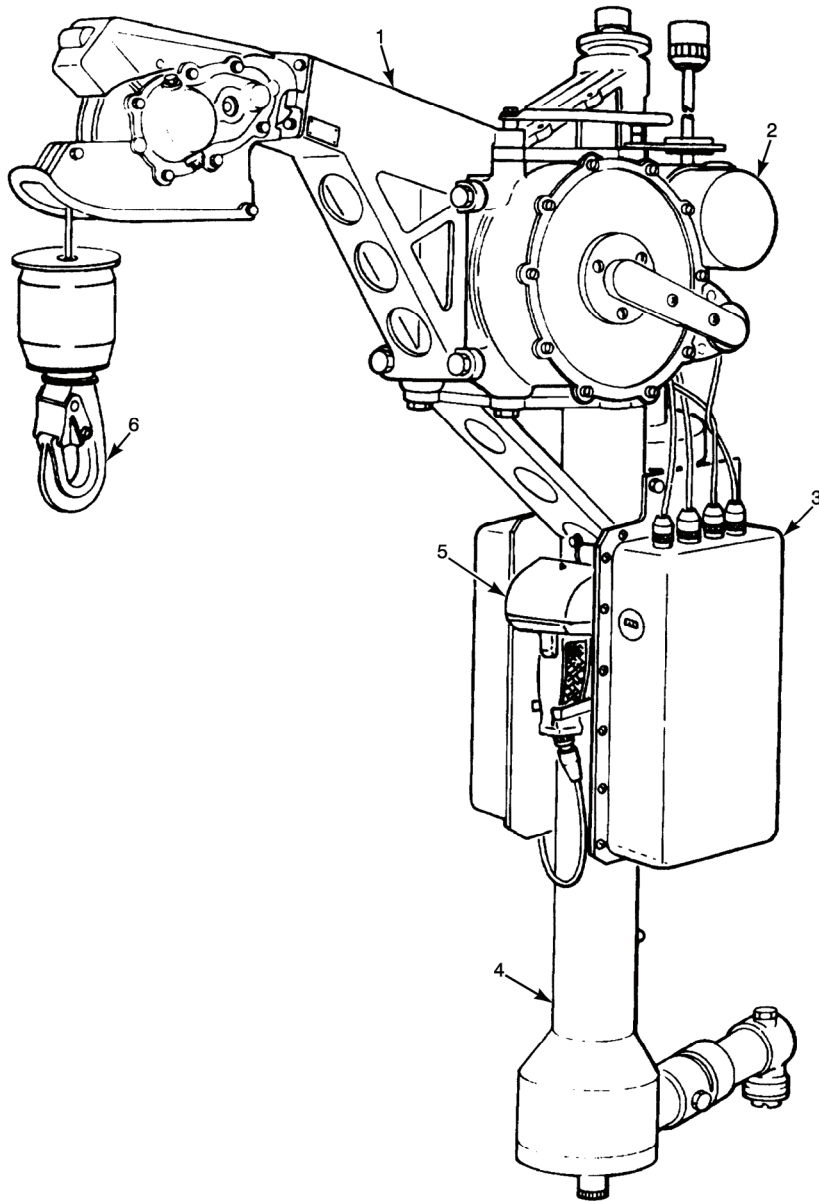
**EQUIPMENT CHARACTERISTICS**

- Personnel rescue work
- Electrically powered with standard 28 vdc
- Helicopter mounted (all UH-1 and UH-60 series helicopters)
- Built in limit switches regulate cable extension and retraction to prevent malfunction
- Motor equipped with thermal protector to prevent operation from overheating
- Quick disconnect adapters allow for easy installation and removal
- Height and length adjusters for installation in all UH-1 and UH-60 helicopters

**EQUIPMENT CAPABILITIES AND FEATURES**

- 600 pound rated load (272.4 kg)
- 250 ft./min. (76.2 m/min.) cable speed with less than 300 lb. (136.08 kg) load and 125 ft. greater than 300 lbs.
- 250 ft. of useable cable
- The hoist system can be operated by pilot and/or co-pilot with cockpit hoist control panel (UH-60 aircraft only) or hoist operator by utilizing the control pendant

LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

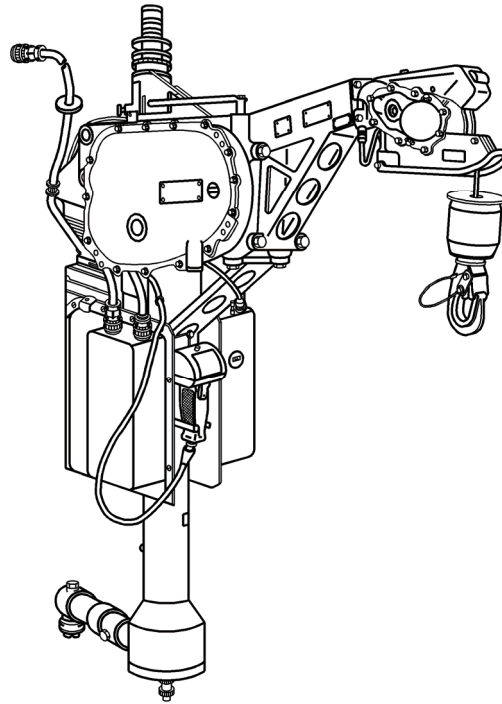


LEFT SIDE VIEW

MS030294

1. Boomhead Assembly
2. Winch Assembly
3. Control Panel Assembly
4. Boom Position Support Assembly
5. Control Pendant
6. Cable Hook Assembly

**Rescue Hoist Assembly Major Components.**

**RESCUE HOIST ASSEMBLY MAJOR COMPONENTS**

RIGHT SIDE VIEW

MS030608

**Boomhead Assembly** - Boomhead is designed to swivel 60 degrees to either side of center, to provide maximum flexibility.

**Winch Assembly** - Operates winding of cable assembly. Limit switches regulate speed and length of operation.

**Control Panel Assembly** - Contains operational PC boards, which provides electrical interface between hoist, control pendant, and input power supply.

**Boom Position Support Assembly** - Contains boom position actuator, upper and lower support assemblies, flexible wiring harness, and microswitches.

**Control Pendant** - Contains **BOOM IN/OUT** switch and variable speed **CABLE UP/DOWN** control to allow one hand hoist operation.

**Cable Hook Assembly** - Secures various rescue equipment to hoist cable.

**EQUIPMENT DATA**

Weight (wt) ..... 180.0 lbs. (81.65 kg)  
 Height (min) ..... 50.90 in. (129.28 cm)  
           (max) ..... 51.91 in. (131.85 cm)  
 Length (min) ..... 33.58 in. (85.29 cm)  
           (max) ..... 35.38 in. (89.62 cm)  
 Width ..... 13.50 in. (34.29 cm)

Power Input ..... 125 amps max. @ 28 vdc

Rated Load..... 600 lbs. (272.40 kg)  
 Limit Load..... 1800 lbs. (817.20 kg)

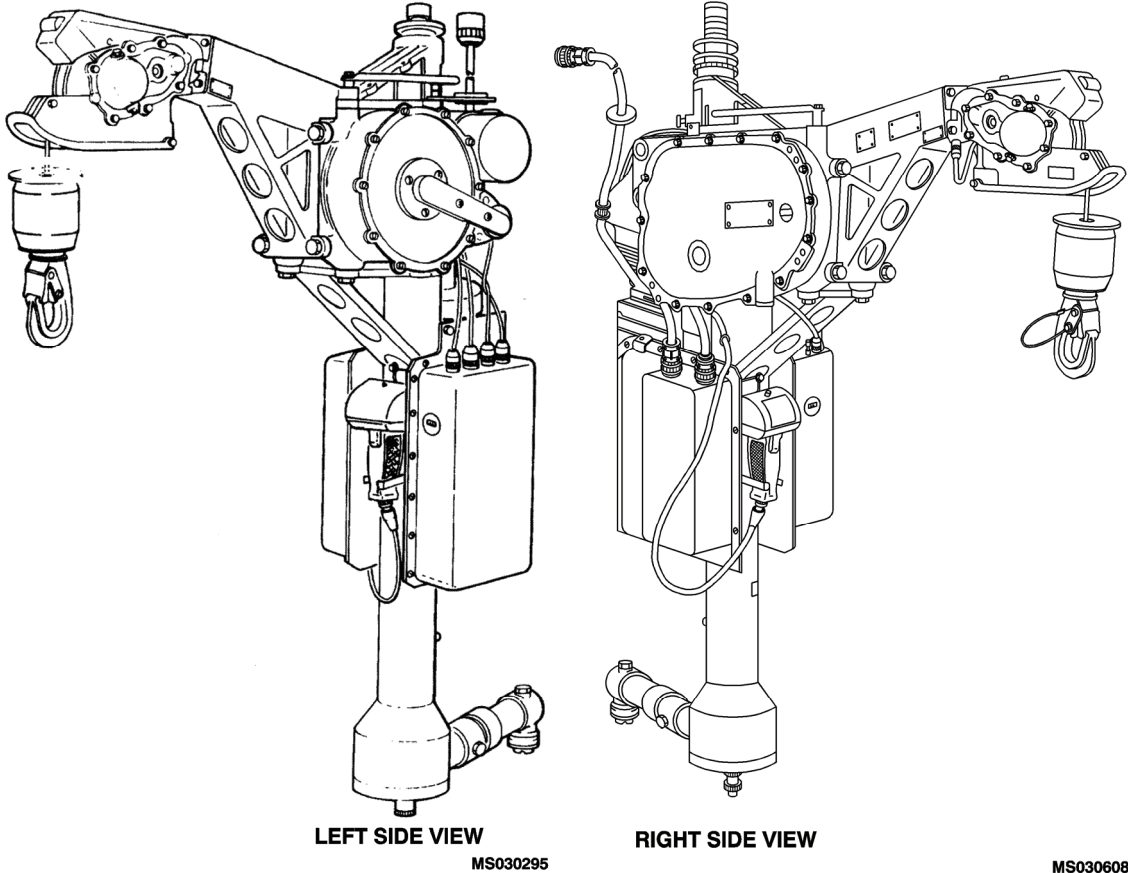
**End of Work Package**

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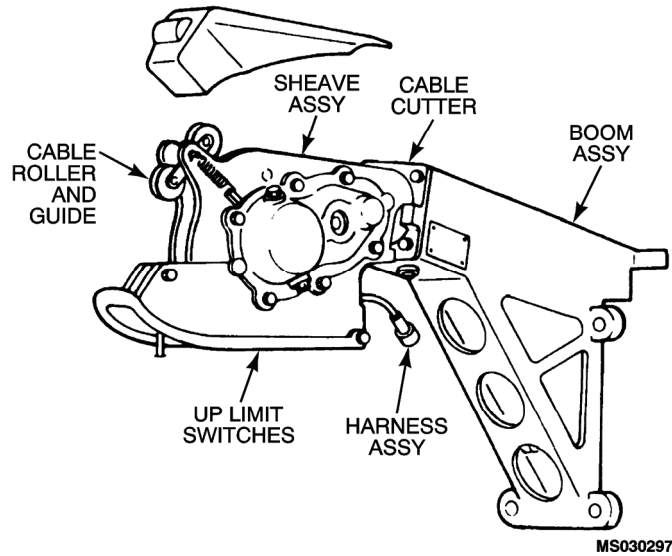
## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY THEORY OF OPERATION

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### RESCUE HOIST ASSEMBLY



The rescue hoist assembly is intended for installation on all UH-1 and UH-60 series helicopters. The hoist is an electronically powered unit consisting of five major assemblies; winch assembly, boomhead assembly, boom position support assembly, control panel assembly, and control pendant assembly. The hoist has a 258 foot (79.25 m) cable and 600 pound (272.4 kg) rated load. Lift speed at rated load is 125 feet (38.1 m) per minute or 250 feet (76.2 m) per minute at 300 pound (136.2 kg) load. The hoist uses aircraft power, and can be operated by one person.

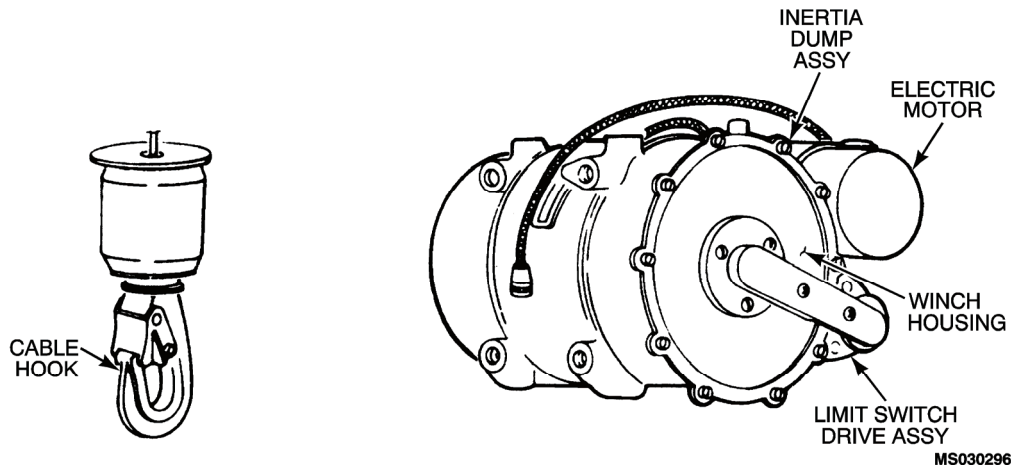
**BOOMHEAD ASSEMBLY**

The boomhead assembly consists of a boom assembly, sheave assembly, dual up-limit switches, cable roller and guide, brake and clutch assemblies, flexible driveshaft, cable cutter, and an electrical harness assembly.

The boomhead is designed to swivel 60 degrees to either side of center. The cable roller assembly and cable guide ensure smooth extension/rewind of the hoist cable. The cable cutter assembly enables shearing of the cable in emergency situations. Electrical harness assembly provides electrical power to the cable cutter. The flexible driveshaft and clutch and brake assemblies provide a minimum tension on cable at all times.



## WINCH ASSEMBLY

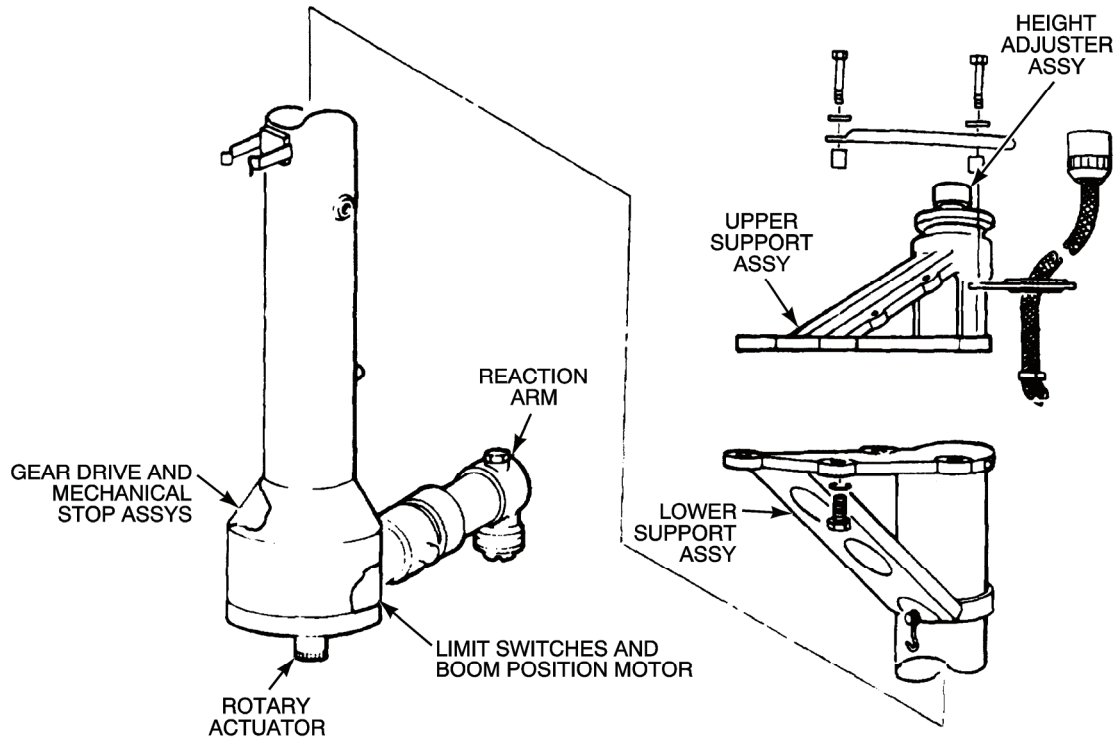


The winch assembly consists of a winch mechanism, limit switch drive assembly, electric motor, brake cooling pump, automatic brake assembly, inertia dump assembly, and the cable hook assembly.

The limit switch drive assembly contains four positive action limit switches that control extension and retraction rates of the rescue cable. One limit switch prevents extension (unreeling) of the cable beyond established limits. A second switch operates when the cable reaches 3 to 5 safety wraps from full reel off (down limits at 250 (76.2 m) foot maximum extension). A third switch operates the 10/240 foot caution indicator, decelerating the hoist to 50% speed when the cable hook is within 10 feet (3.048 m) of full stowed position and 10 feet from maximum extension. The fourth limit switch operates the hoist when cable hook reaches 18 inches from full stow (decelerating to 12 feet (3.658 m) per minute).

The automatic brake assembly actuates to prevent reeling or extension of the cable when electric motor is not operating. Two thermal temperature sensing switches monitor winch and motor operation, actuating when system components exceed safe temperature limits. The brake cooling pump acts to regulate brake operating temperature.

**BOOM POSITION SUPPORT ASSEMBLY**

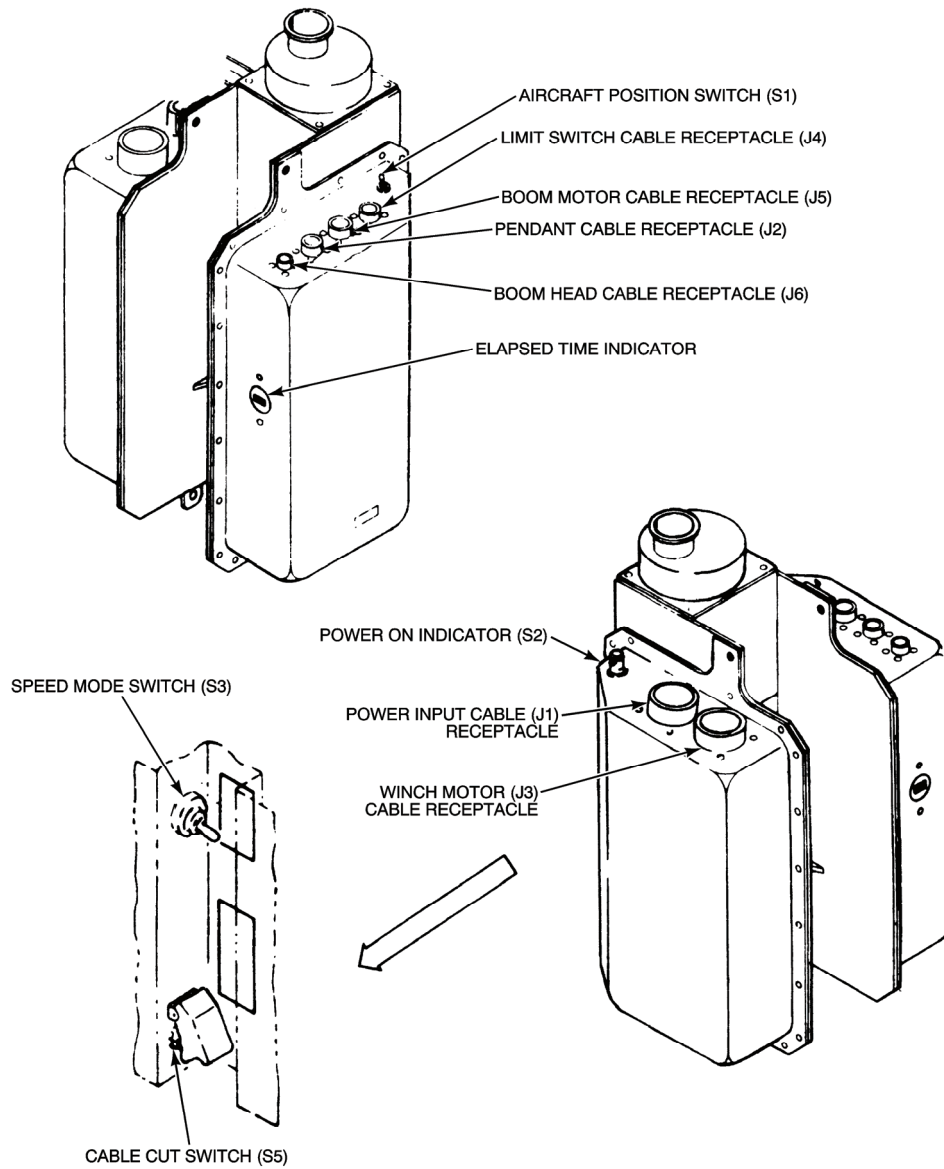


The boom position support assembly consists of upper and lower support assemblies, a height adjuster assembly, two limit switches, boom position motor, gear drive assembly, a mechanical stop assembly, reaction arm, and the rotary actuator.

The boom position rotary actuator swivels the boomhead assembly, positioning the cable hook for proper operation. The actuators maximum operating load is 6500 in. lbs. (734.5 N.m), with a 205 degree operational range. Limit switches prevent operation when maximum operating load is exceeded.

Rotation is powered by the boom position motor and gear drive assembly. The mechanical stop assembly regulates to prevent rotation beyond the 205 degree range. Hoist positioning can be adjusted through use of the height adjuster or reaction arm assemblies.

**CONTROL PANEL ASSEMBLY**



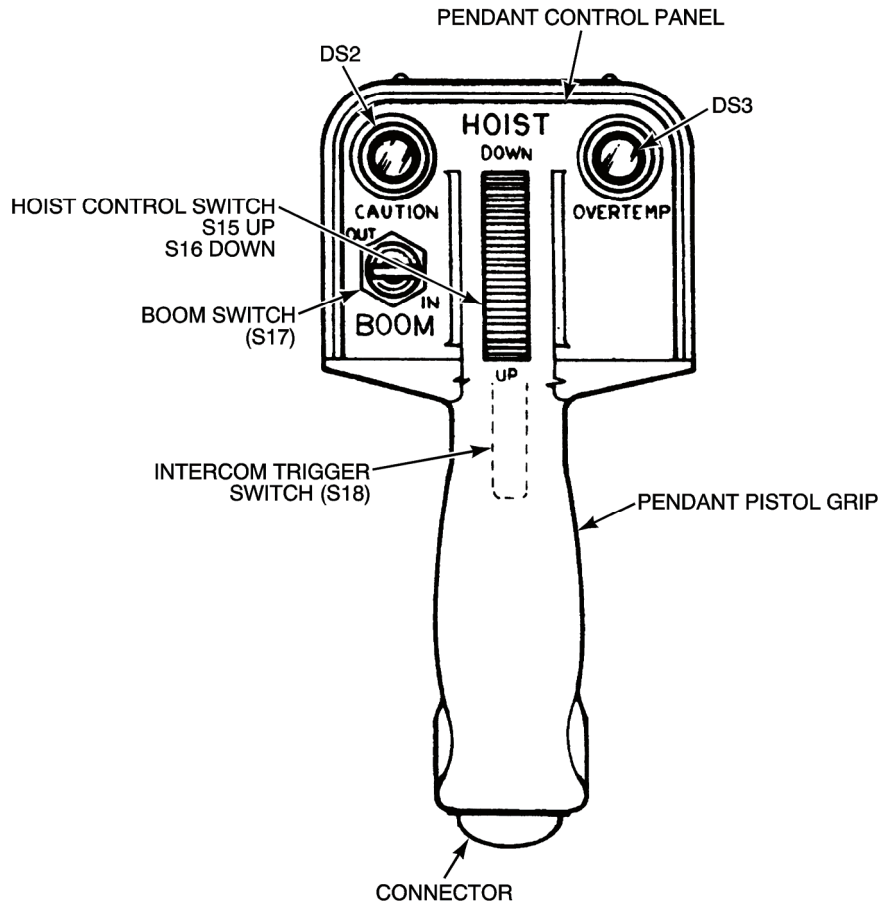
**CONTROL PANEL (ROTATED 180° FOR CLARITY)**

MS030290

The control panel assembly provides electrical interface through the hoist. Electrical connectors provide input (through harness assemblies) to the control pendant, limit switch drive assembly, boom position motor, boomhead assembly, and winch motor.

Operational switches are mounted to the top of the panel and control electrical actuation to components. Panel lights indicate power status. Power supply, logic, and operational printed circuit boards are housed within the panel. A fan blower assembly, operated by a DC motor, maintains climate variances within the control panel and provides cooling to the electric motor assembly.

## CONTROL PENDANT ASSEMBLY



MS030289

The control pendant assembly is a hand-held control for use in the aircraft cabin. The pendant assembly is connected to the control panel by a cable connector. The control pendant contains three switches and two caution/warning lights: **HOIST** cable control, **BOOM** positioning, and **ICS** switches; **OVERTEMP** and cable 10-foot **CAUTION** lights. The **HOIST** control is a directional and variable speed spring loaded to center switch with marked positions of **OFF**, **UP**, and **DOWN**. As the switch is moved further away from **OFF**, the hoist speed increases in the marked direction. When the switch is released, the hoist will stop. The **BOOM** position switch, with marked positions **OUT** and **IN**, operates in the same manner as the **HOIST** switch, except the boom moves in or out at a single speed. Two lights are installed on the control pendant. The 10-foot **CAUTION** light illuminates when the hoist cable is within 10 feet or less of all stop limits. A red **OVERTEMP** light warns if overtemperature condition in either the hoist lubrication systems or the hoist motor exists. Whenever the **OVERTEMP** light is on, the hoist should be allowed to cool down until the light goes off. The **ICS** control switch, on the front of the pendant, provides the operator with inter-helicopter communication.

## ELECTRICAL SYSTEM

Refer to FO-1, located in back of manual, for the rescue hoist electrical system schematic.

**End of Work Package**

**CHAPTER 2**

**OPERATOR INSTRUCTIONS  
FOR  
HIGH PERFORMANCE RESCUE  
HOIST ASSEMBLY**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS**

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**CONTROLS AND INDICATORS FOR UH-60 (NOT APPLICABLE TO UH-1)**

Rescue hoist control panel has all necessary controls for operating hoist from cockpit, and contains system **MASTER** switch, controlling **ON** or **OFF** for both cockpit and cabin. Hoist will respond to first control signal received.

**NOTE**

During hoist operation, over travel of cable assembly may occur in extended mode of operation after stopping hoist operation in mid-travel. Cable over travel should not exceed ten feet.

<b>CONTROL/INDICATOR</b>	<b>FUNCTION</b>
<b>BOOM</b> switch	Swings hoist boom in or out from cockpit.
<b>OFF</b>	Static position, removes electrical power from hoist boom positioning motor.
<b>IN</b>	Provides power to boom motor to position boom inboard from cockpit.
<b>OUT</b>	Provides power to boom motor to position boom outboard from cockpit.
<b>MASTER</b> switch	Selects control point for hoist operation.
<b>OFF</b>	Disconnects all electrical power from hoist operating controls.
<b>ON</b>	Provides power to both cockpit controls and crewman's pendant for hoist operation.
<b>CABLE</b>	Provides cable up or down control from cockpit.
<b>OFF</b>	Static position, removes electrical power from hoist reel motor for cockpit operation.
<b>UP</b>	Provides power to hoist reel motor to reel in cable operation from cockpit at 250 feet-per-minute only.
<b>DOWN</b>	Provides power to hoist reel motor to reel out cable operation from cockpit at 250 feet-per-minute only.
<b>SQUIB</b> switch	Selects either <b>TEST</b> or <b>NORM</b> operation.
<b>TEST</b>	Checks condition of <b>CABLE SHEAR</b> circuit through squib to indicate circuit is complete.
<b>NORM</b>	Place squib circuit in a ready for fire condition.
<b>IND</b>	Lights when test of <b>CABLE SHEAR</b> circuit through squib is good.
<b>CABLE SHEAR</b> switch	Controls cable cutter firing circuit.
<b>FIRE</b>	Directs electrical power to cable cutter squib for shearing hoist cable.
<b>SAFE</b>	Removes electrical power from cable cutter circuit.

**End of Work Package**

0004 00-1/(0004 00-2 blank)





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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
OPERATION UNDER USUAL CONDITIONS**

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**SECURITY MEASURES FOR ELECTRONIC DATA**

Not Applicable

**OPERATING PROCEDURES****WARNINGS**

- After installing a cable and **BEFORE** performing any hoist operation with personnel, cable **SHALL** be reseated by installing hoist in a UH-1 or UH-60 and performing a minimum of one full cable length extension and lift using a 250 to 600 lbs. dummy load.
- It is the hoist operator's responsibility to assure that hoist cable does not contact any portion of aircraft. Rescue hoist cable must be kept clear of all parts of aircraft and free from other external obstacles when operating hoist. Cable abrasion during hoist operations can lead to cable failure. If cable contact or snagging occurs, interrupt hoist operations and inspect cable for damage in accordance with applicable procedures. If any broken wires, unraveling, or kinks are observed, hoisting operations should be discontinued and cable replaced.
- Reeling a kinked/damaged cable into hoist may cause a hoist jam condition when extension is attempted, rendering hoist inoperative.

The hoist operator is responsible for maintaining stability of hoisted load by use of hoist controls, ICS calls to pilot, and physical control of cable. For minor oscillation (linear or circular swing), stop retraction, and apply hand motion to cable in direction opposite to oscillation. For significant oscillation, stop retraction, start extension, or call for pilot to lower aircraft.

**WARNING**

If oscillation is not quickly stopped, it may become unmanageable. Retraction of an oscillating load will only aggravate motion.

All crew members should watch for shock loads, jerks, or snaps that impart high loads on cable. If observed, hoisting should be interrupted and cable inspection undertaken to verify integrity (no broken wires, unraveling, or kinks) before resuming operations.

**WARNING**

Do not execute live hoisting before cable reseat has been performed. After a rescue hoist has had a new or used hoist cable installed, hoist shall be installed on UH-1 or UH-60 aircraft and one or more lifts, with full cable length, shall be performed using a dummy load of 250 to 600 lbs.

1. Check oil level in boomhead and winch assembly.
2. Release reaction arm and pivot hoist to operating position.
3. Return hoist to stowed position and secure reaction arm.
4. Check Upper Attachment, ensuring safety clip is installed.
5. Check Lower Attachment: Mounting plates, pip pins, and star plate.

## NOTES

- Number 2 position is the standard location for installation on UH-1 and UH-60 aircrafts. For alternate installation positions refer to Data/Instruction Plates (K) and (S), WP 0007 00.
  - Standard position for control panel position switch is normally placed in 2/4 position. Control Panel Position Switch is a reverse polarity switch.
6. Check Position Switch on control panel ensuring switch is in 2/4 position.
  7. Ensure hoist main power cable cannon plug is safetied at junction box on hoist.
  8. Cable cut switches: Down and safetied.
  9. Make sure metallic shorting strip is removed from CAD.
  10. Ensure cable cutter connector is attached.
  11. Check recovery devices, ensuring they are functional, complete, and secure.
  12. Make sure crewmembers have proper personal equipment: safety harnesses, leather gloves, and proper visors.
  13. Hoist control circuit breaker – In (mission essential circuit breaker panel).

## CAUTION

Ensure pilots cable cut switch on pedestal and hoist operator cable cut switch on hoist control box are in the **OFF** position.

14. Connect **GPU** to helicopter.
15. Position **AIRCRAFT POSITION** switch on control panel to desired position.
16. Close **RESCUE HOIST CONT** and **RESCUE HOIST POWER** circuit breakers on Pilots overhead console. Blue **POWER ON** light should be **ON**, and fan should be operating.
17. Using pendant **BOOM** switch, rotate boom out and in, and then out to test boom operation.

## NOTE

If rescue hoist is installed in position 3 or 4 (**UH-1 only**), ensure control panel position switch is in number **1** and **3** positions.

18. Using Pilot's **BOOM** control switch, rotate boom in, and then out.

## WARNING

During test procedures, extend cable out from boomhead, in line with boom axis. Avoid damaging cable on rough surfaces, such as ground. Care must be taken not to pull cable taut around cable guide/roller, kinking of cable might result. It is recommended that hoist cable be fed onto cable spool, or equivalent, of at least 9" diameter.

19. Position **SPEED MODE** switch on control panel to **HIGH**.

## NOTE

When extending cable, operator should observe illumination of amber **CAUTION** light and subsequently observe a speed deceleration to approximately 75 ft. per minute indicating that cable has reached an extension of 240 ft.

20. Using pilots **HOIST CONTROL** switch, lower cable hook until all cable is out.

**NOTE**

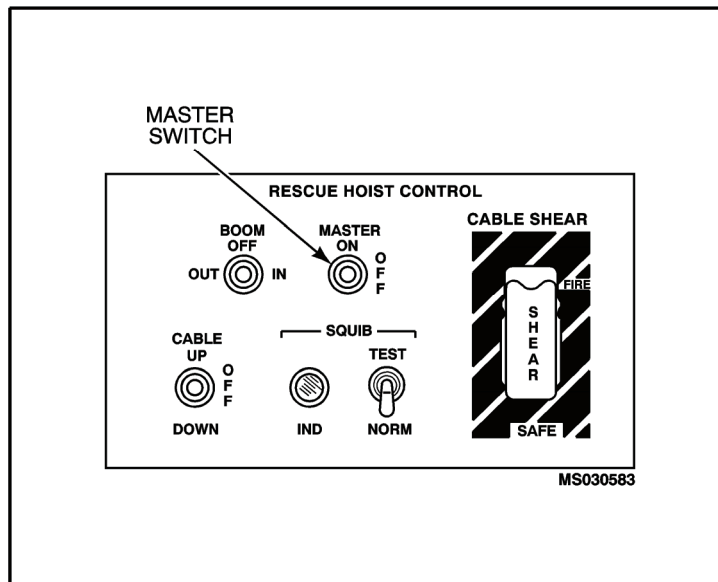
When retracting cable, operator should observe illumination of amber **CAUTION** light and subsequently observe a speed deceleration to approximately 75 ft. per minute indicating that cable is within 10 ft. of full stow.

- Using pilots **HOIST CONTROL** switch, retract cable and observe that cable speed slows when caution light comes **ON**.

**CAUTION**

GPU must be used or deceleration may not occur.

- Push up on boom up-limit switch actuator arm during reeling in to check that hoist stops running when up-limit switches are actuated.
- Using pilots **HOIST CONTROL** switch, continue to retract and observe that cable speed decelerates as hook approaches boomhead. Deceleration should take place at 18-24 inches minimum from boomhead when cable is retracted with no load and 48 inches maximum when entire 250 foot length is retracted with 600 pounds maximum load. Readjust limit switch cam number 4 if required to meet minimum/maximum length dimensions.
- Repeat steps 6 through 9 using pendant hoist control. Check that cable speed can be regulated by pendant hoist control from 0 to 250 fpm when cable is extended beyond 10 foot caution limit (amber light) is out.
- Place **SPEED MODE** switch to **LOW SPEED** and repeats steps 6 through 10 (maximum speed is 125 fpm).
- Reel cable all the way up and rotate boom in to stowed position.
- Open **RESCUE HOIST CONT** and **RESCUE HOIST POWER** circuit breakers.



**RESCUE HOIST SQUIB CIRCUIT TEST – UH-60 (NOT APPLICABLE TO UH-1)**

- SQUIB** switch – Hold at **TEST**.
- SQUIB IND** light – Check on.
- SQUIB** switch – Release to **NORM SQUIB IND** light off.

---

**BOOM POSITION AND HOIST CABLE CONTROL OPERATIONAL CHECK – UH-60  
(NOT APPLICABLE TO UH-1)**

To position rescue hoist inboard or outboard:

1. **MASTER** switch – **ON**.
2. Hoist operator – Check power on indicator (blue light); check to ensure that 10-foot **CAUTION** light on pendant grip is on; and cooling fan is operating.
3. Check **ICS** switch on pendant.

<b>WARNING</b>
----------------

Hands must be kept clear from hoist boom during operation to prevent hand injury.

4. Hoist operator – **BOOM** switch – **OUT** and then **IN**.
5. **RESCUE HOIST CONTROL** panel – Rotate boom **OUT**; then **IN**, then **OUT** to test boom operation.
6. Speed mode switch – **HIGH SPEED**.

**EMERGENCY RELEASE OF RESCUE HOIST LOAD**

If rescue hoist becomes jammed, inoperative, or cable is entangled and emergency release is required perform one of the following steps:

1. To cut cable from cockpit: **CABLE SHEAR** switch – **FIRE**.
2. To cut cable from hoist operator's position: **CABLE CUT** switch – **FIRE**.

**End of Work Package**

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
OPERATION UNDER UNUSUAL CONDITIONS**

---

**SECURITY MEASURES FOR ELECTRONIC DATA**

Not Applicable

**COLD WEATHER****WARNINGS**

- Static electricity generated by helicopter should be discharged before attempting a sling or rescue hoist pickup. Use a conductor between helicopter and ground to discharge static electricity.
- Caution must be exercised when transporting external loads that exhibit unstable characteristics. These loads may amplify any oscillation and cause load to contact the helicopter.

High Performance Rescue Hoist Assembly shall be serviced with hydraulic fluid, MIL-PRF-5606, prior to/during operations in conditions below -40° F.

**EMERGENCY PROCEDURES**

Emergency procedures can be found in the following manuals:

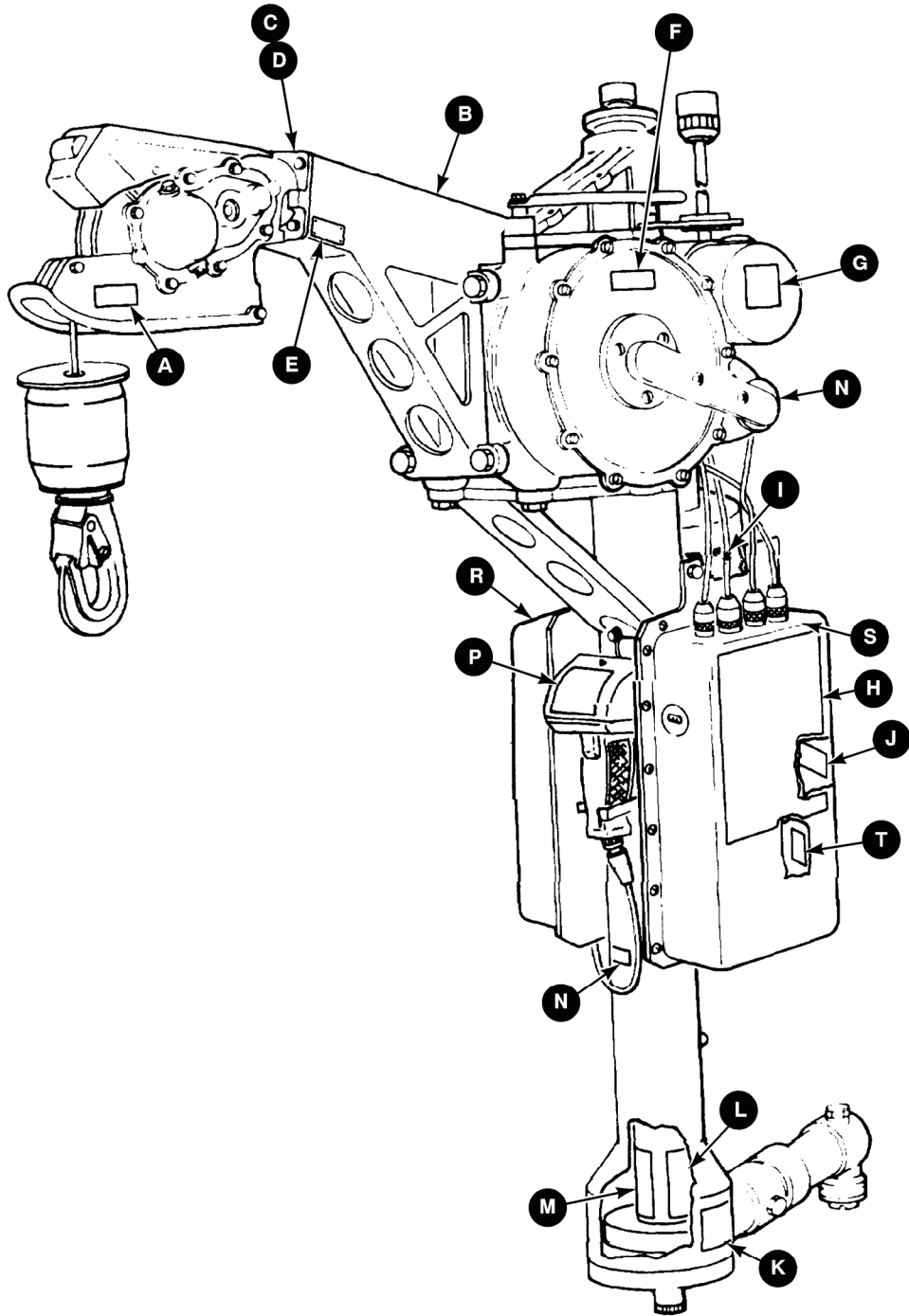
TM 55-1520-210-10 (UH-1)

TM 1-1520-237-10 (UH-60)

**End of Work Package**

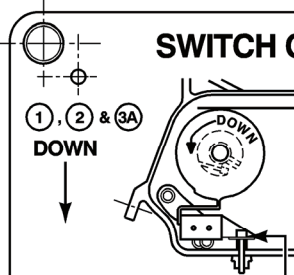
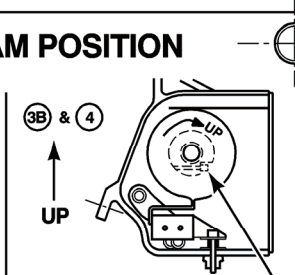


**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
STORAGE AND DATA/INSTRUCTION PLATE GUIDE**



MS030291

Data/Instruction Plates. (Sheet 1 of 3)

<p><b>A</b></p> <div style="border: 1px solid black; padding: 5px; text-align: right; font-size: small;">82402-42305C350</div> <p style="text-align: center;"><b>BOOM HEAD ASSEMBLY</b></p> <p>PN <input type="text" value="82402-42305R300"/> SER. NO. <input type="text"/></p> <p>CONTR. NO. <input type="text" value="DAAJ01-78-C-0001"/> MFG DATE <input type="text"/></p> <p style="text-align: right;">U.S.</p>	<p><b>B</b></p> <div style="border: 1px solid black; padding: 5px; text-align: right; font-size: small;">82402-42277C221</div> <p style="text-align: center;">FILL TO FULL MARK WITH AUTO TRANSMISSION FLUID DEXRON TYPE U.S. NATL STK NO. 9150-00-698-2382</p> <p style="text-align: center;">FOR OPN. BELOW -40 F DRAIN AND FILL WITH MIL-H-5606 OIL</p>	
<p><b>C</b></p> <div style="border: 1px solid black; padding: 5px; text-align: right; font-size: small;">82402-42305D30</div> <p style="text-align: center;"><b>HIGH PERFORMANCE HOIST ASSEMBLY</b></p> <p>PN <input type="text" value="82402-42305R1"/> SER. NO. <input type="text"/></p> <p>NSN <input type="text"/> MFG DATE <input type="text"/></p> <p>CONTR. NO. <input type="text" value="DAAJ01-78-C-0001"/></p> <p>RATED VOLTAGE 28 VOLTS D.C. RATED AMPERAGE 125 AMPS MAX U.S. PAT. NO. 4.046 235 -- 4.023.744 -- 4.030.353</p> <p style="text-align: right;">U.S.</p>	<p><b>D</b></p> <div style="border: 1px solid black; padding: 5px; text-align: right; font-size: small;">82402-42305C12</div> <p style="text-align: center;">THIS HOIST CONTAINS ASSEMBLIES COVERED BY THE FOLLOWING PATENTS:</p> <p style="text-align: center;">4.023.744 4.030.353 4.046.235</p>	<p><b>E</b></p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>- WARNING -</b></p> <p>CARTRIDGE ACTIVATED CABLE CUTTER---DISCONNECT ELECTRICAL PLUG WHEN REPLACING CABLE OR PERFORMING MAINTENANCE ON UNIT</p> </div>
<p><b>F</b></p> <div style="border: 1px solid black; padding: 5px; text-align: right; font-size: small;">82402-42305C173</div> <p style="text-align: center;"><b>WINCH ASSEMBLY</b></p> <p>PN <input type="text" value="82402-42305R100"/> SER. NO. <input type="text"/></p> <p>CONTR. NO. <input type="text" value="DAAJ01-78-C-0001"/> MFG DATE <input type="text"/></p> <p>OPERATING CAPACITY <input type="text" value="600 LBS"/> U.S.</p>	<p><b>G</b></p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;"><b>SWITCH CAM POSITION</b></p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>1, 2 &amp; 3A <b>DOWN</b></p> <p>* SWITCH ADJUSTING SCREW</p> </div> <div style="text-align: center;">  <p>3B &amp; 4 <b>UP</b></p> <p>CAM ADJUSTING SCREW</p> </div> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">LOOSEN CAM ADJUSTING SCREWS TO ADJUST CAMS TO ACTUATE SWITCHES AT DESIRED CABLE LENGTHS AS REQUIRED</p> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 60%;"> <p>① DOWN ALL STOP</p> <p>② DOWN LIMIT</p> <p>③A 240 FT DECEL - CAUTION</p> <p>③B 10 FT DECEL - CAUTION</p> <p>④ 1.0 FT FINAL DECEL</p> </div> <div style="width: 35%; text-align: center;"> <p>* CAUTION: SWITCH ADJUSTING SCREWS ARE FACTORY ADJUSTED <b>DO NOT READJUST</b></p> </div> </div> </div>	
<p><b>H</b></p> <p style="text-align: center;"><b>ELECTRIC DRIVE MOTOR</b></p> <p>PN 527KE3 SER. NO. <input type="text"/></p> <p>NSN <input type="text"/></p> <p>CONTR. NO. DAAJ01-78-C-0001</p> <p>CUST. NO. <input type="text"/></p> <p>VDC 28 AMP 110 HP 2.50</p> <p>ROT REV RPM 5250 OR 11000</p> <p>DUTY CONTINUOUS US</p> <p>WOUND SHUNT</p> <p style="text-align: center; font-size: small;">FOR USE ON 28VDC SYSTEM</p>		

MS030292



<p><b>I</b></p> <div style="border: 1px solid black; border-radius: 50%; padding: 10px; text-align: center;"> <p>82402 149099</p> <p><b>FAN, VANEAXIAL</b></p> <p>PN <input type="text" value="82402 FV3 4"/> SER NO. <input type="text"/></p> <p>CONT <input type="text"/> CFM <input type="text" value="30"/></p> <p>NSN <input type="text"/> ROT <input type="text" value="CCW"/></p> <p>HP <input type="text"/> RPM <input type="text" value="15000"/> AMP <input type="text" value="2 5"/></p> <p>V <input type="text" value="27"/> DUTY <input type="text" value="CONTINUOUS"/></p> <p><input type="text"/></p> <p>FOR USE ON 28 VDC SYSTEM U.S.</p> </div>	<p><b>J</b></p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>HIGH SPEED</b></p>    <p><b>LOW SPEED</b></p> </div>	<p><b>K</b></p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">AIRCRAFT POSITION</p> </div>
<p><b>L</b></p> <div style="border: 1px solid black; padding: 10px;"> <p><b>ELECTRIC DRIVE MOTOR</b></p> <p>PN 239YC32 SER. NO. <input type="text"/></p> <p>NSN <input type="text"/></p> <p>CONTR. NO. <input type="text"/></p> <p>CUST. NO. <input type="text"/></p> <p>VDC 28 AMP 8 HP 0.1</p> <p>ROT REV RPM 10,000</p> <p>DUTY INTERMITTENT</p> <p>WOUND SPLIT-SERIES</p> <p style="text-align: center;">FOR USE ON 28VDC SYSTEM</p> </div>	<p><b>M</b></p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">SCHEMATIC DIAGRAM</p> </div>	
<p><b>P</b></p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>82402 42305C721</p> <p><b>CONTROL PENDANT GRIP</b></p> <p>PN 82402 42305R500 SER NO. <input type="text"/></p> <p>U.S.</p> </div>	<p><b>R</b></p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>HOIST POWER</b></p> </div>	<p><b>N</b></p> <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: right;">82402-42305C594</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p style="text-align: center;"><b>BOOM POSITION ACTUATOR ASSEMBLY</b></p> <p>PN <input type="text" value="82402-42305R500"/> SER NO. <input type="text"/></p> <p>CONTR. NO. <input type="text" value="DAAJ01-78-C-0001"/> MFG DATE <input type="text"/></p> <p style="text-align: right;">U.S.</p> </div>
<p><b>S</b></p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p style="text-align: center;">AIRCRAFT POSITION</p> </div>	<p><b>T</b></p> <div style="border: 1px solid black; padding: 10px;"> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p style="text-align: center;"><b>CONTROL PANEL</b></p> <p>PN <input type="text" value="82402 ASSY 42305R700"/> SER NO. <input type="text"/></p> <p>NSN <input type="text"/> MFG DATE <input type="text"/></p> <p>CONTRACT NO. <input type="text" value="DAAJ01-78-C-0001"/> U.S.</p> </div>	

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Data/Instruction Plates. (Sheet 3 of 3)

End of Work Package

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**CHAPTER 3**  
**TROUBLESHOOTING PROCEDURES**  
**FOR**  
**HIGH PERFORMANCE RESCUE**  
**HOIST ASSEMBLY**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
TROUBLESHOOTING INDEX**

---

**INITIAL SETUP****Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Electrical Repairer

**Parts/Materials:**

N/A

**Tools and Special Tools:**

Ground Power Unit (GPU)  
NSN 1730-01-466-9371  
Cable Spool  
P/N 42277-730 or equivalent  
Multimeter  
NSN 6625-01-265-6000

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

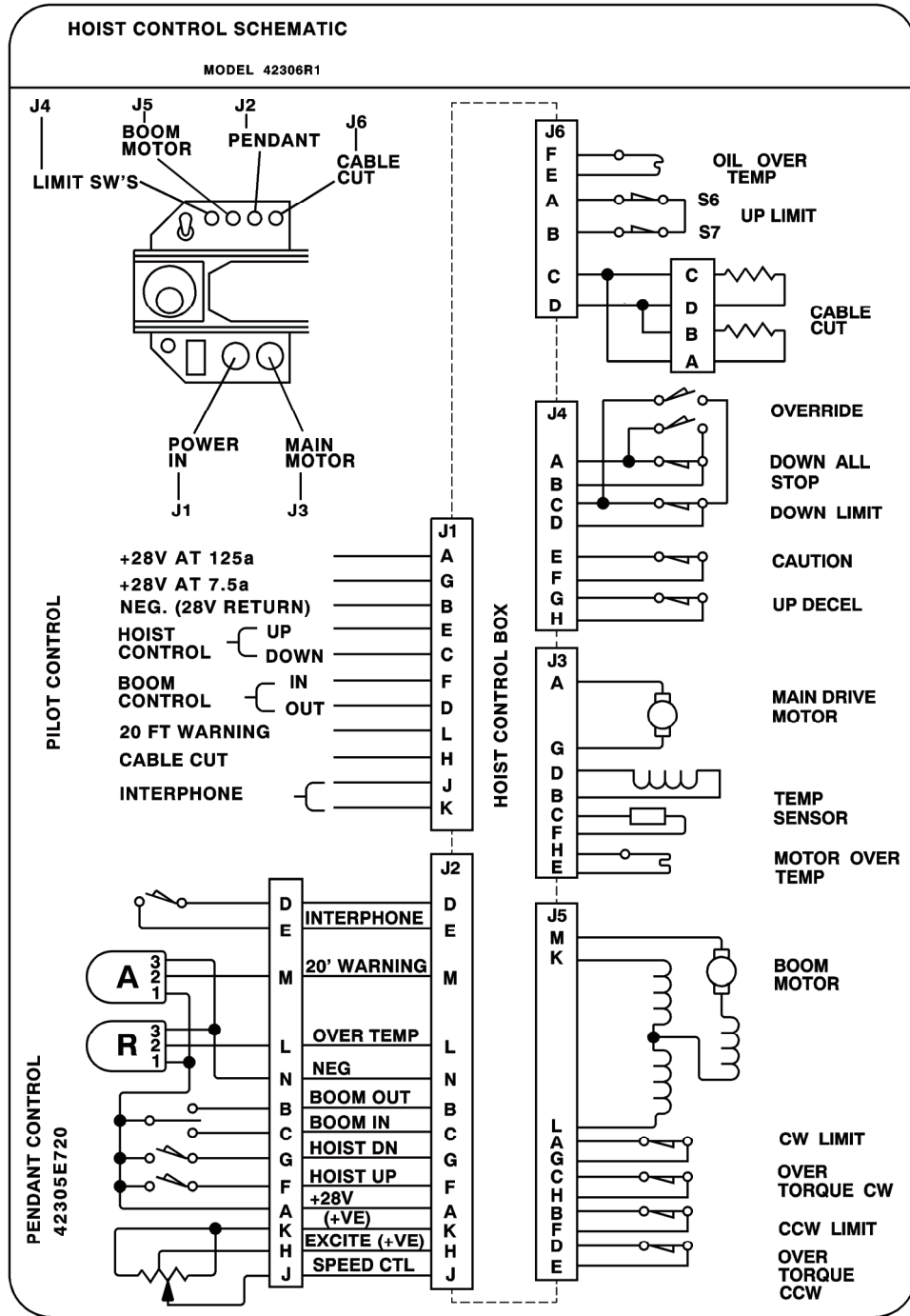
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**TROUBLESHOOTING**

Refer to Table 1, on page 0008 00-2, for determining applicable troubleshooting procedures. If malfunction or failure occurs during operation or performance check, perform troubleshooting in accordance with WP 0009 00.

Table 1. Symptom Index.

Symptom	Troubleshooting Procedure
Rescue Hoist	
Hoist Does Not Install Properly	1
Inoperative	2
Boomhead Assembly	
Inoperative	3
Does Not Swing Full 205 Degrees	4
Overheats	5
Brake	
Positive Action Deceleration Inoperative	6
No Positive Brake Action	7
Winch Assembly	
Cable Speed-Less Than 100 RPM	8
Cable Speed-Exceeds 15 RPM	9
Hoist Cable Does Not Reel Smoothly	10
Hoist Cable Miswraps	11
Inoperative	12
Overheats	13
Electric Winch Motor Overheats	14
Control Panel	
Operating Switch Inoperative	15
Pilots Override Control Inoperative	16
Control Pendant	
Intercom Inoperative	17
Operating Switch Inoperative	15
Hoist Cable	
Does Not Reel Smoothly	10
Lamps/Indicators	
Caution Lamp Inoperative	18
Temp Warning Lamp Inoperative	19



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Hoist Control Schematic.

**CABLE CUTTER**

1. Connect a 28 vdc light to cable cutter Cartridge Activating Device (CAD) cannon plug at boomhead.
2. Operate **CABLE CUT** switch at operators control panel and pilots rescue hoist control panel positions (UH-60) and verify that the light comes on.

**COOLING FAN**

1. Apply 28 vdc across pins A and B of connector J1.
2. Audibly check cooling fan motor for operation. The fan shall produce a high-pitched whine.

**BOOM OVER-TORQUE LIMIT SWITCHES**

1. Check for continuity between pins C and H of connector J5 for the counterclockwise limit switch.
2. Check for continuity between pins D and E of connector J5 for the clockwise limit switch.

**BOOM MOTOR ASSEMBLY**

1. Ensure reaction plate and aircraft position switch are positioned properly.
2. Check for continuity between pins K and M of connector J5.
3. Check for continuity between pins L and M of connector J5.

**LOWER LIMIT SWITCH (205 DEGREE ROTATION)**

1. Ensure reaction plate and aircraft position switch are positioned properly.
2. Check for continuity between pins K and M of connector J5.
3. Check for continuity between pins L and M of connector J5.

**WINCH TEMPERATURE SENSOR**

1. Disconnect connector J6 from control panel.
2. Check for continuity between pins E and F of connector J6.

**CONTROL PENDANT BOOM IN/OUT SWITCH**

1. Disconnect connector from control pendant.
2. Position the **BOOM IN/OUT** switch to **OUT** and check for continuity between pins A and B of pendant connector.
3. Position the **BOOM IN/OUT** switch to **IN** and check for continuity between pins A and C of pendant connector.

**UP-LIMIT SWITCH**

1. Disconnect connector J6 from control panel. Ensure hook is not against boomhead actuator.
2. Check for continuity between pins A and B of connector J6.

**HOIST INPUT POWER**

1. Disconnect connector J1 from control panel.
2. Check for 28 vdc between pins A, C, and J and B(-) of connector J1.
3. Check for 28 vdc between pins G, C, and S and B(-) of connector J1.



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**CONTROL PENDANT CABLE UP/DOWN SWITCH**

1. Disconnect connector from control pendant.
2. Position the **CABLE UP/DOWN** switch to **DOWN** and check for continuity between pins A and G of pendant connector.
3. Position the **CABLE UP/DOWN** switch to **UP** and check for continuity between pins A and F of pendant connector.

**ACTUATOR/LIMIT SWITCH CONTINUITY CHECK****NOTE**

Boomhead sheave can chaff actuator up limit switch cable, creating a ground, causing damage to control panel circuitry.

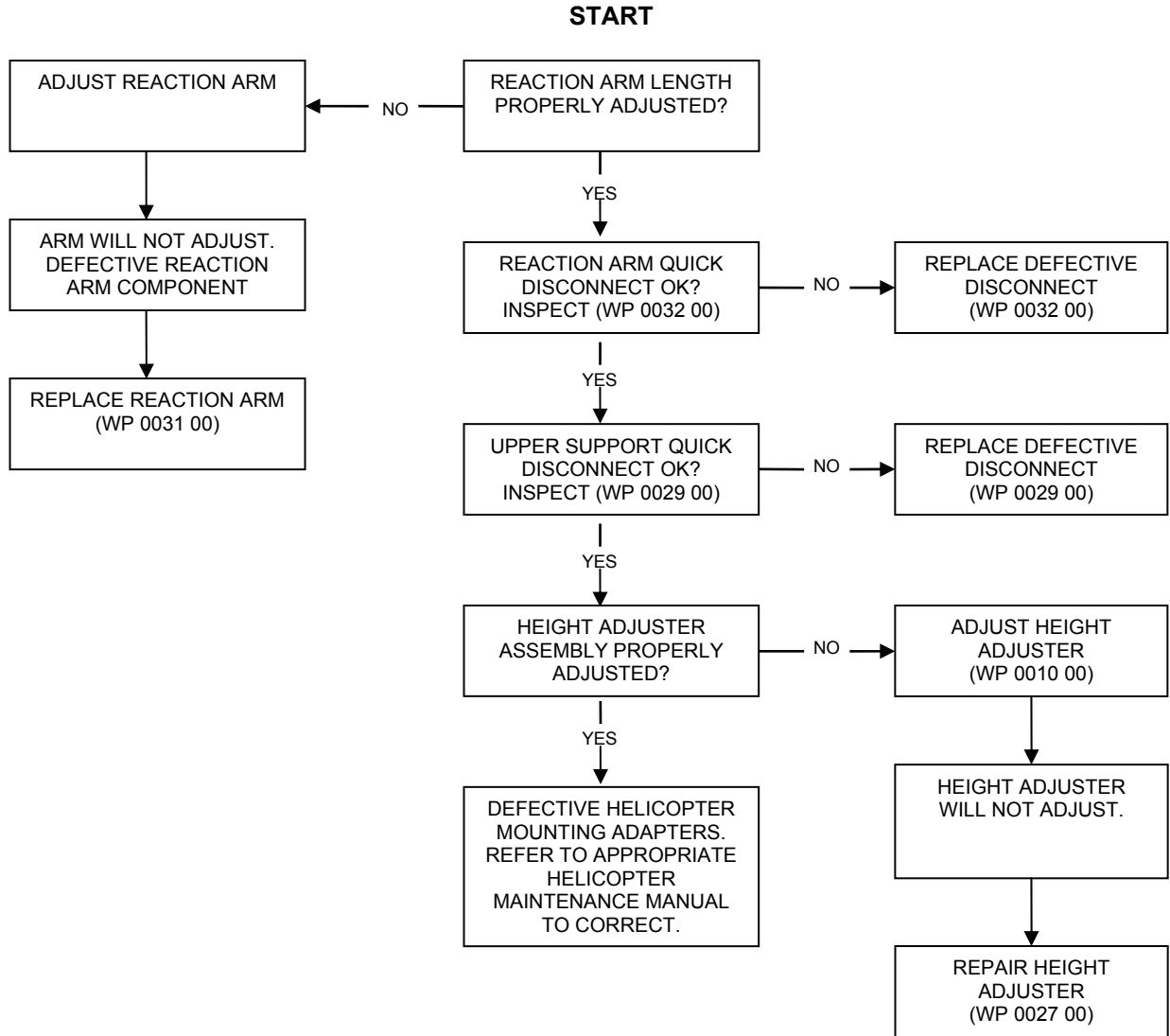
1. Remove electrical connector J6 from control panel.
2. Using a multimeter, in ohms mode, check J6 connector, pins A and B (up-limit switch) to hoist for continuity.
  - a. Check continuity between pins A and B. Connect positive lead to pin A and negative lead to pin B; actuator arm down (switch closed); there should be a positive reading; lift actuator arm (switch open); there should be no reading between pins A and B.
  - b. Check for continuity between pin A and hoist. Connect positive lead to pin A and negative lead to hoist; actuator arm down (switch closed); there should be no positive reading; lift actuator arm (switch open); there should be no reading between pin A and hoist.
  - c. Repeat step 2c for pin B.
3. When a reading is indicated during steps 2b or 2c turn-in boomhead for depot repair.

**End of Work Package**

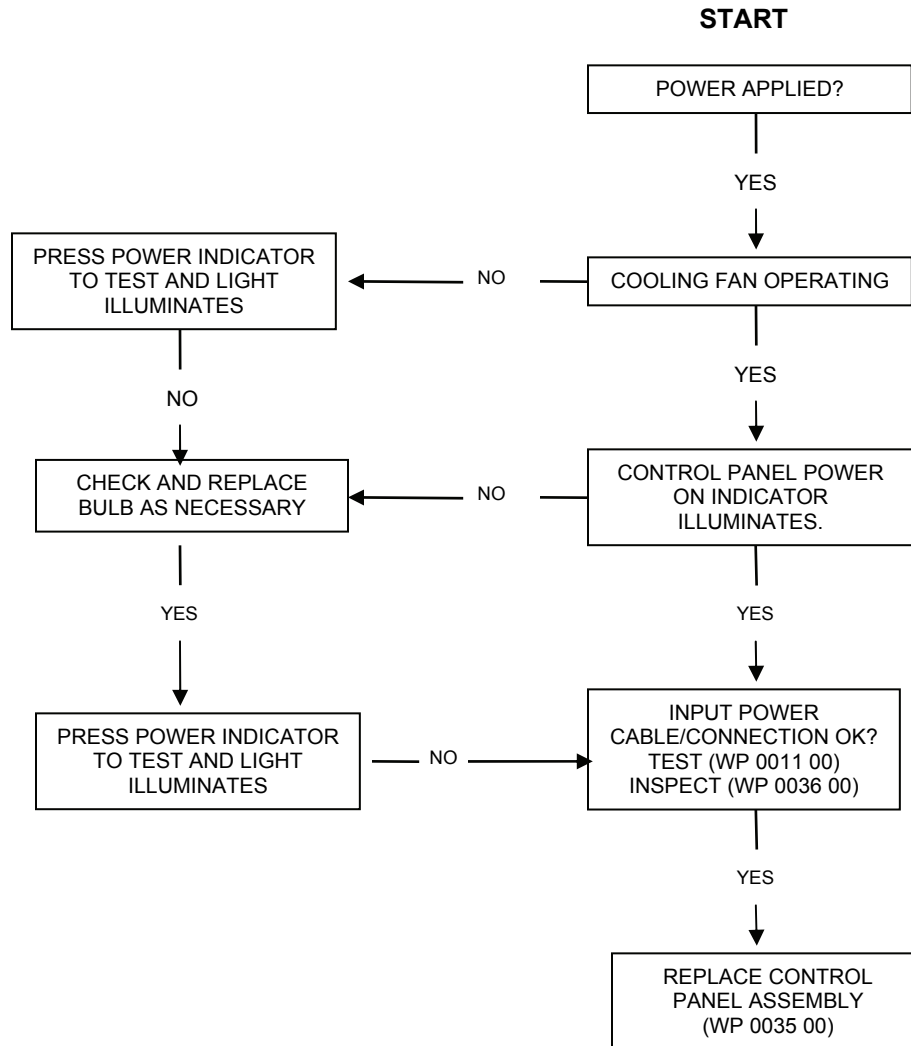


**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
TROUBLESHOOTING PROCEDURES**

**PROCEDURE 1: RESCUE HOIST DOES NOT INSTALL PROPERLY**

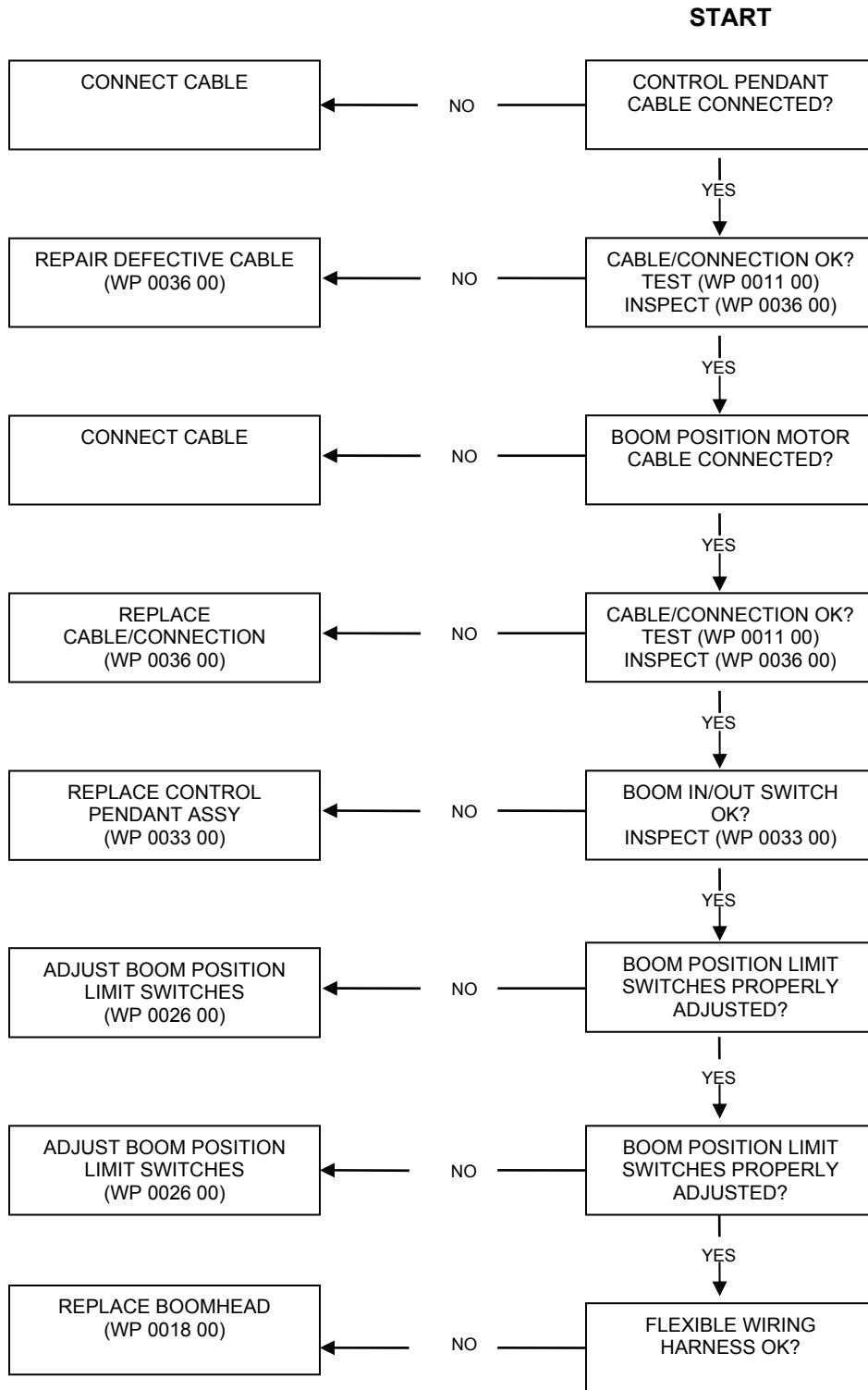


**PROCEDURE 2: RESCUE HOIST POWER ON LIGHT ILLUMINATES, BUT MOTOR WILL NOT ENERGIZE**

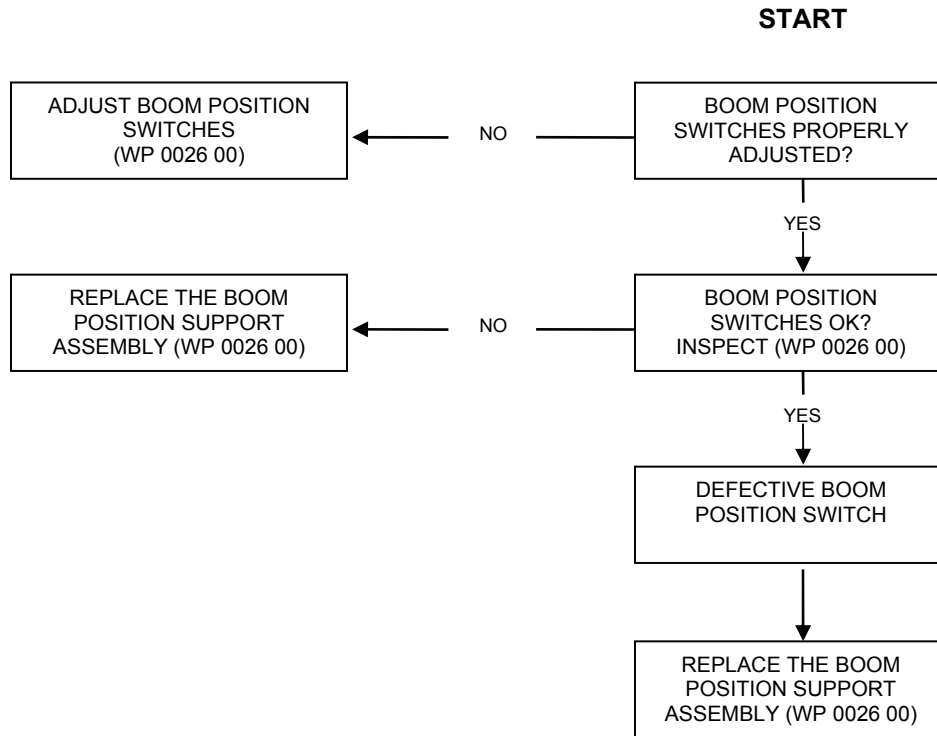


UH-60 – IF POWER IS ON, AND POWER ON LIGHT ILLUMINATES, BUT HOIST MOTOR DOES NOT ENERGIZE REFER TO TM 1-1520-237-23-7, TASK 14-4-1, AND CHECK GROUNDING AND TERMINAL CONNECTS AT RELAY.

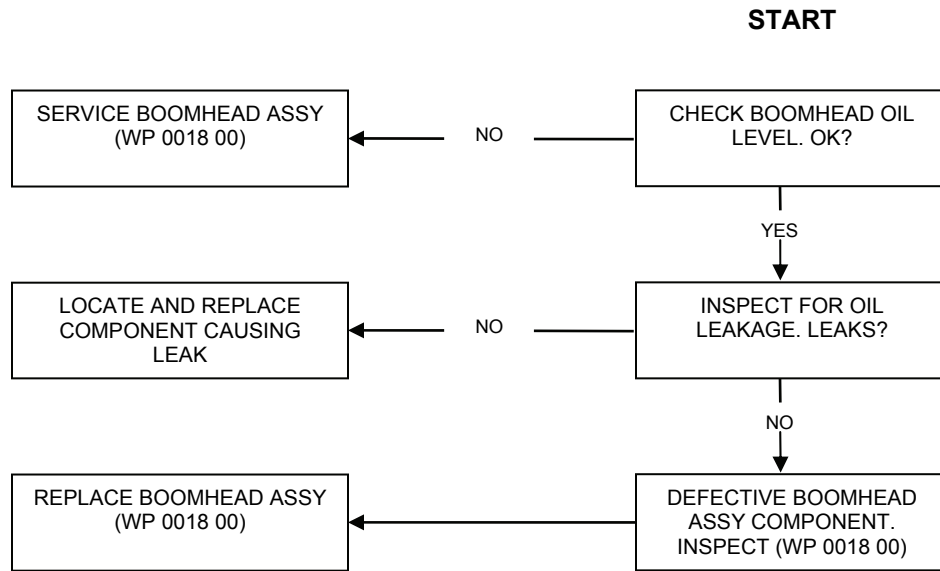
**PROCEDURE 3: HOIST BOOMHEAD INOPERATIVE, BOOM IN/OUT SWITCH ACTIVATED**



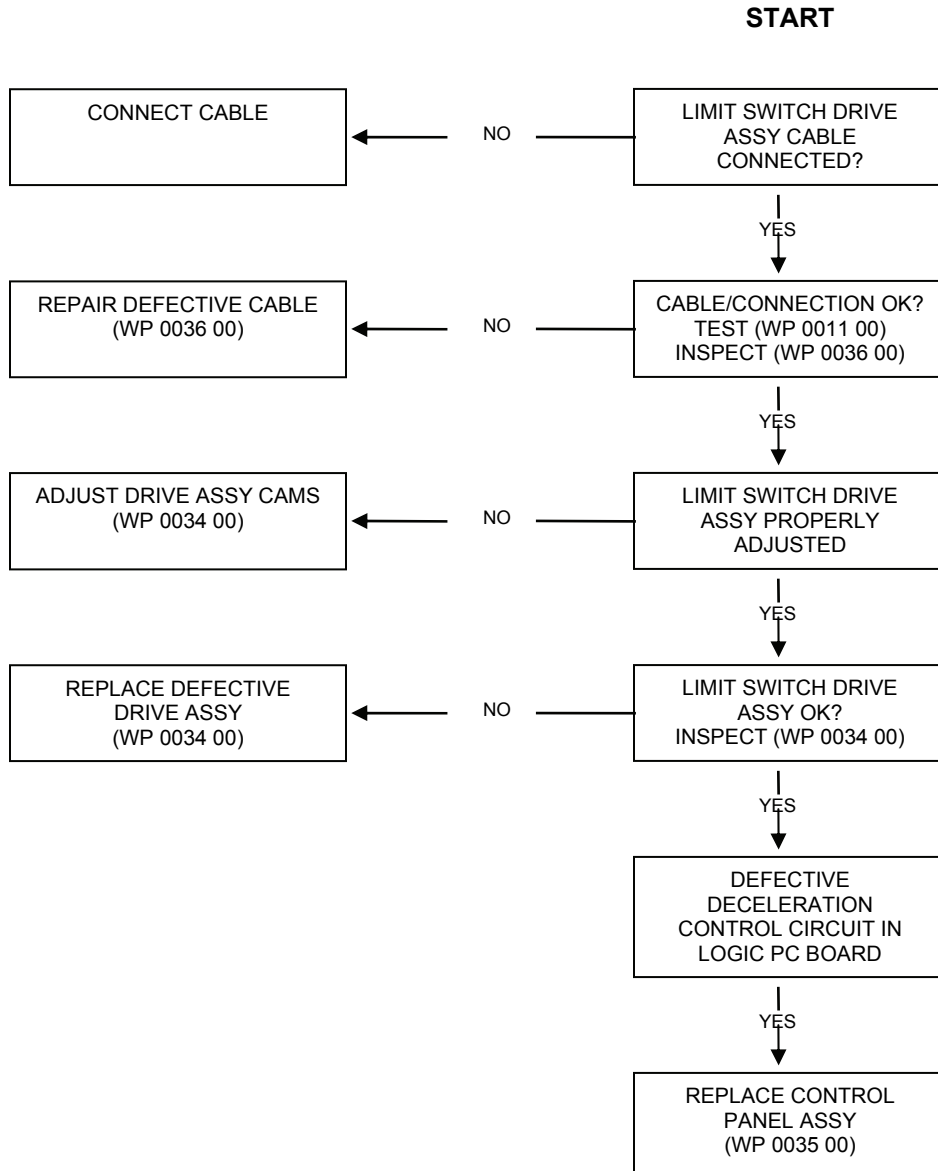
PROCEDURE 4: HOIST BOOMHEAD DOES NOT SWING FULL 205 DEGREES (AVIM)



**PROCEDURE 5: BOOMHEAD ASSEMBLY OVERHEATS**

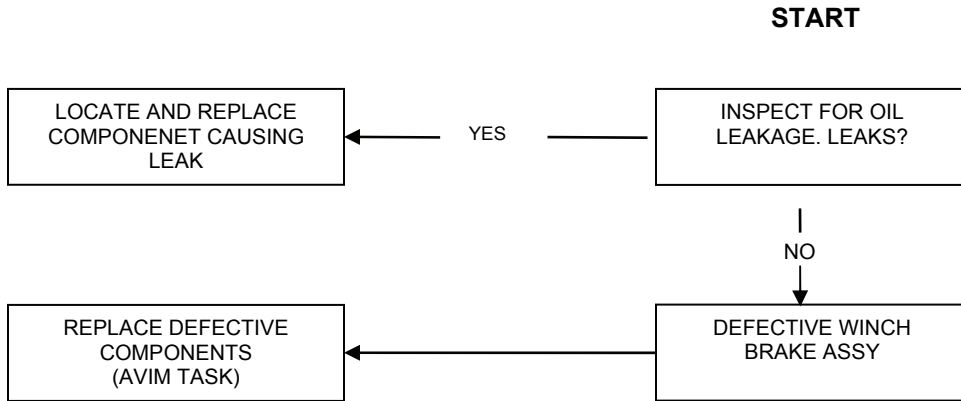


**PROCEDURE 6: POSITIVE ACTION DECELERATION INOPERATIVE. HOOK WITHIN 3 FEET OF DOWN-STOP LIMIT (EXTENSION) OR 1 FOOT FROM FULL STOW (RETRACTION)**

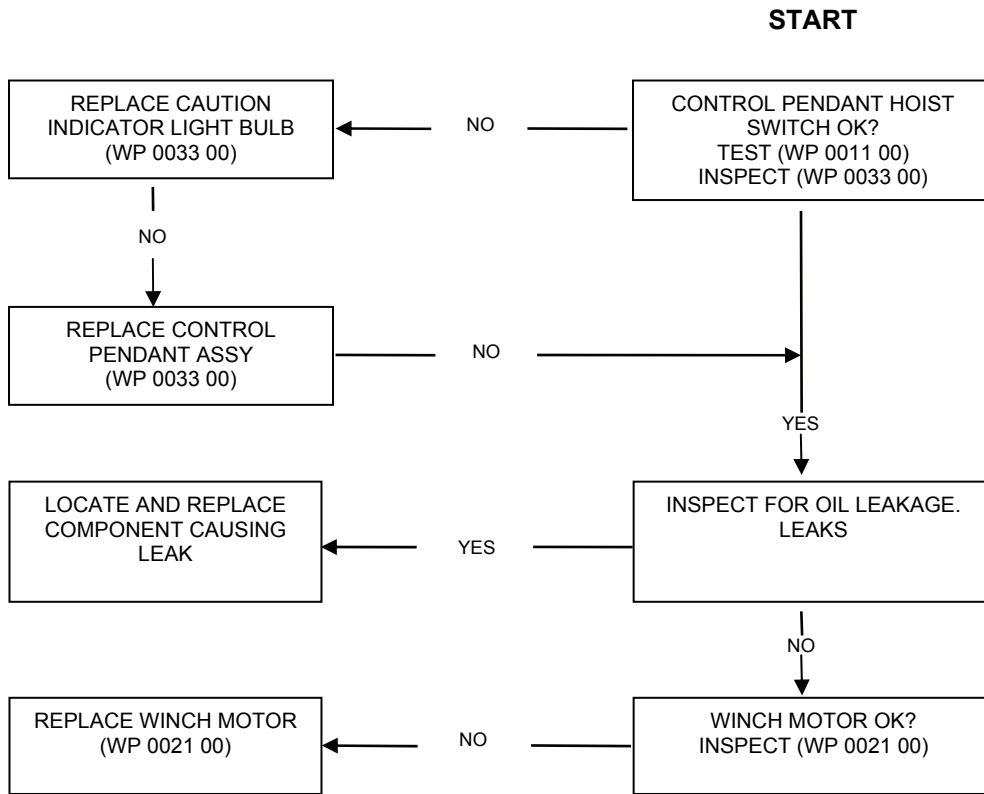




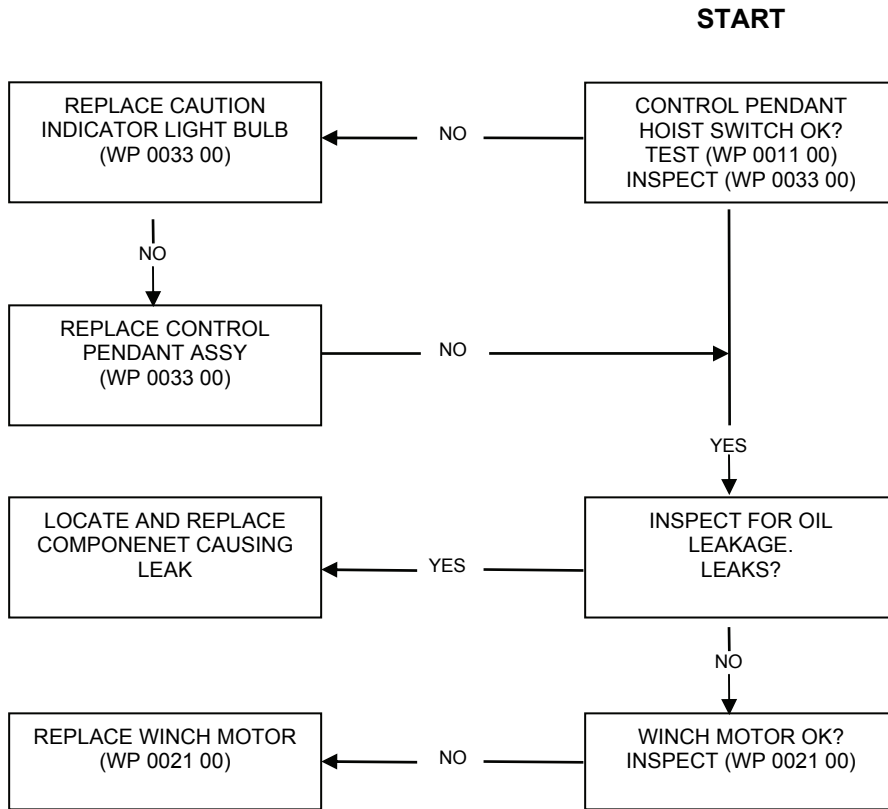
**PROCEDURE 7: NO POSITIVE BRAKE ACTION**



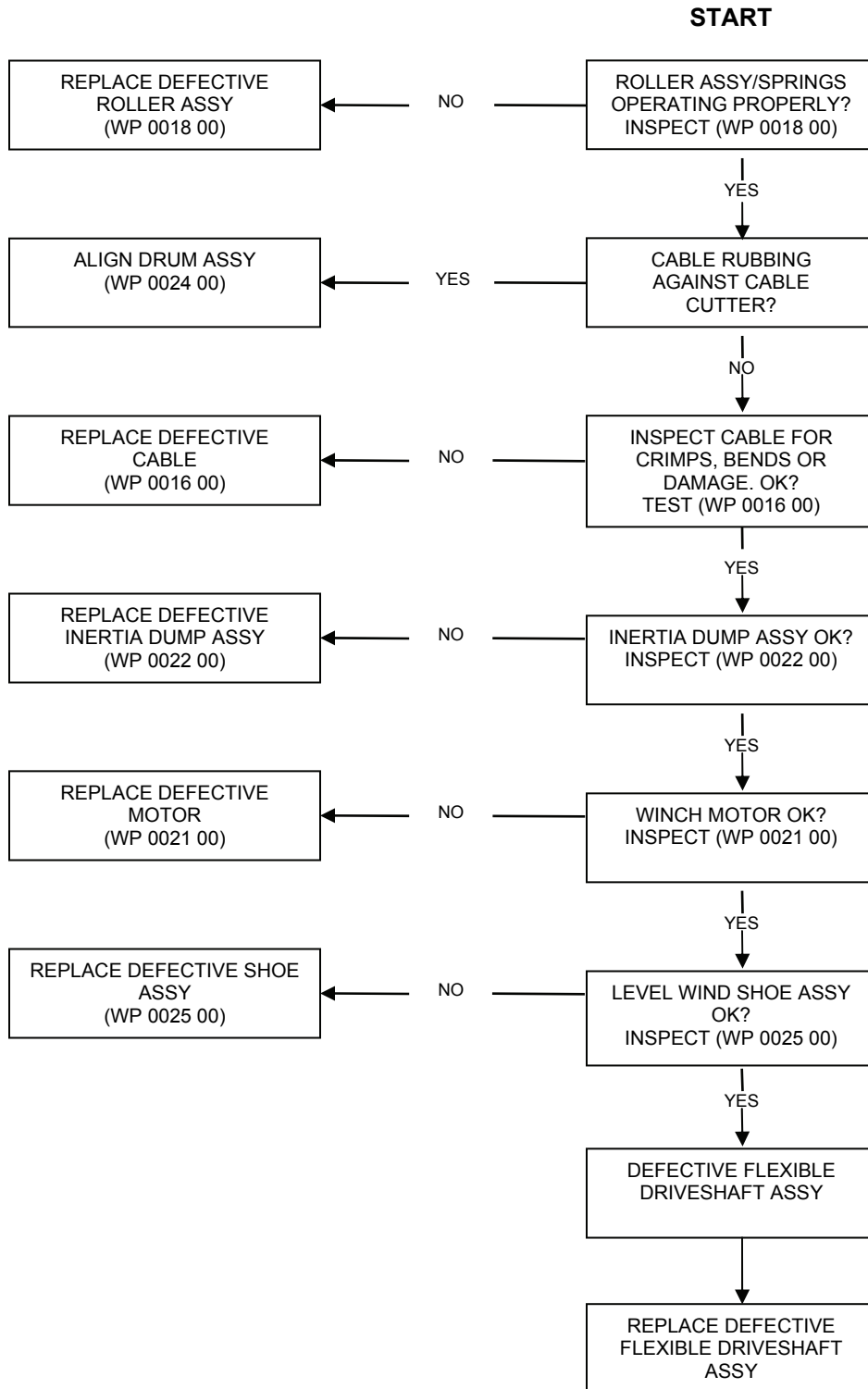
**PROCEDURE 8: CABLE SPEED LESS THAN 100 RPM, HOIST OPERATED AT MAXIMUM**



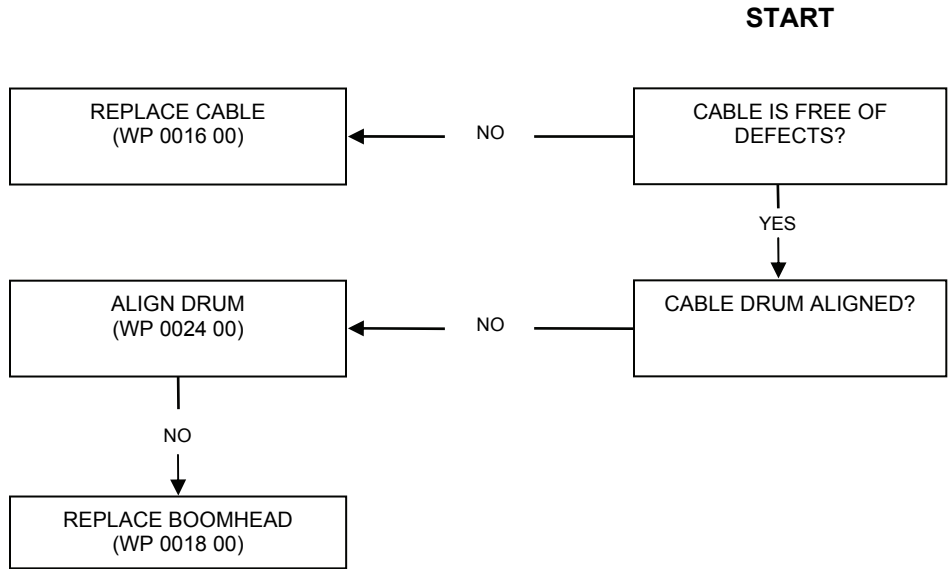
**PROCEDURE 9: CABLE SPEED EXCEEDS 15 RPM, HOIST OPERATED AT MINIMUM**



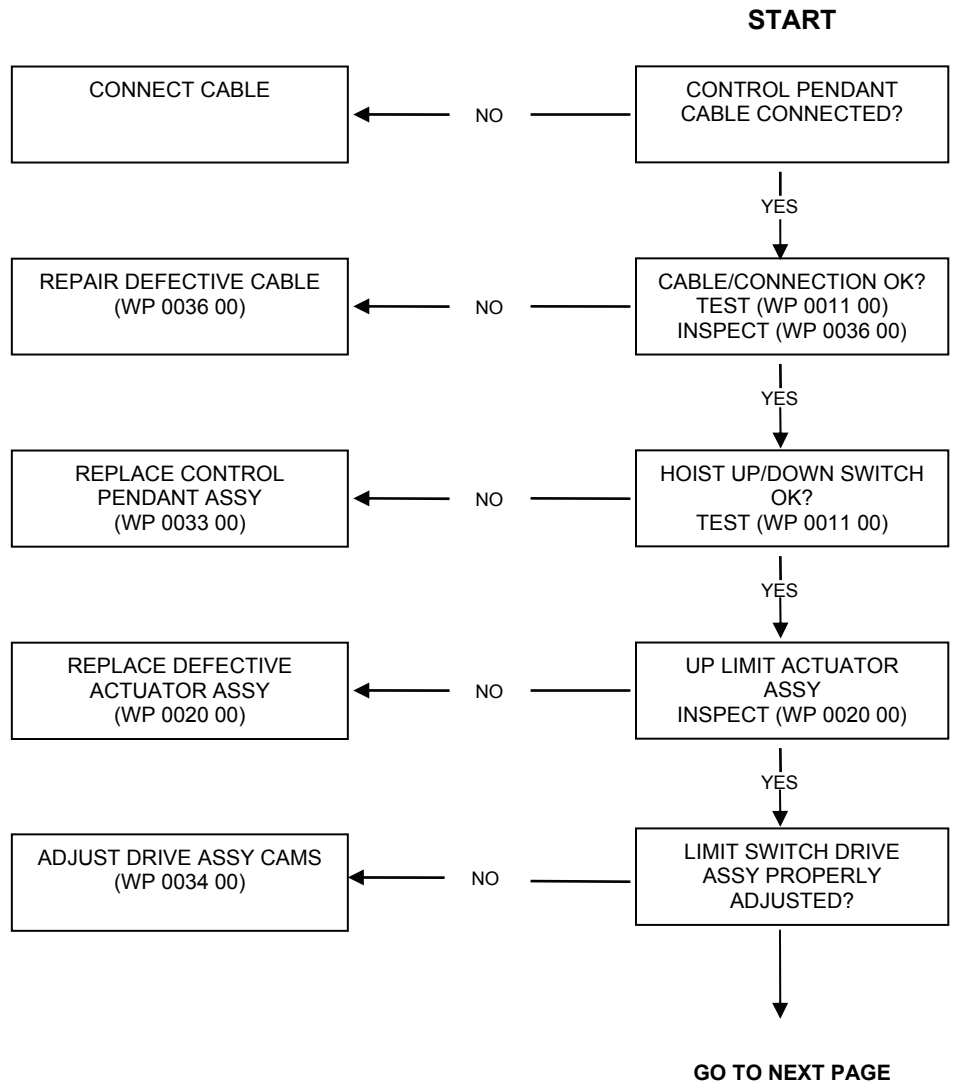
**PROCEDURE 10: HOIST CABLE DOES NOT REEL SMOOTHLY**



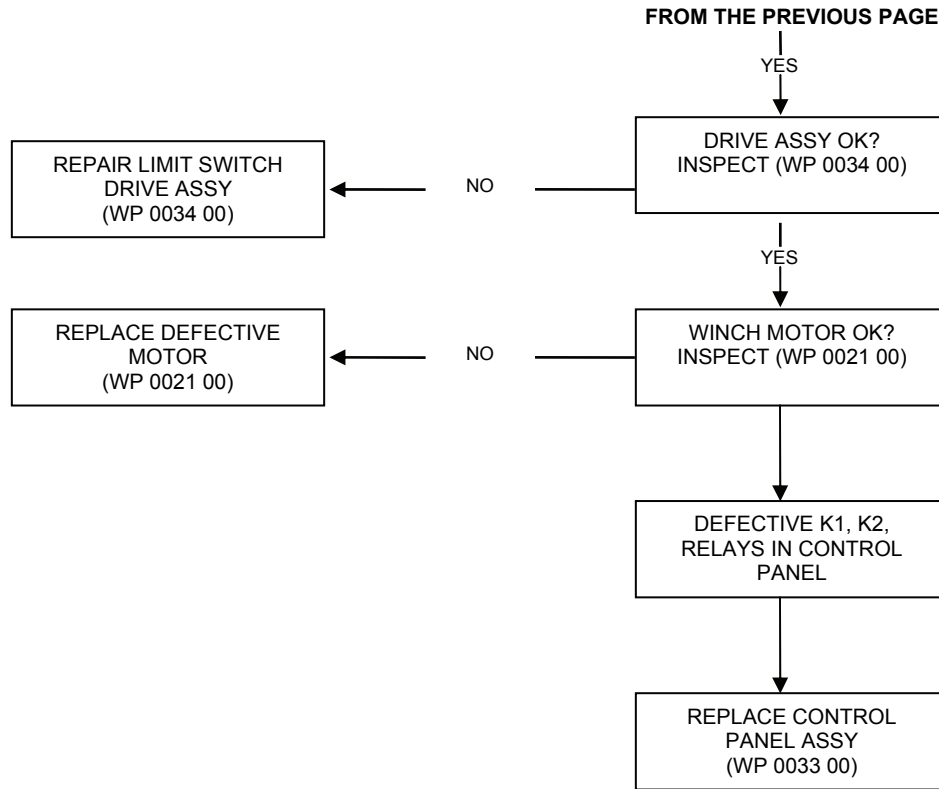
**PROCEDURE 11: WINCH ASSEMBLY, HOIST CABLE MISWRAPS**



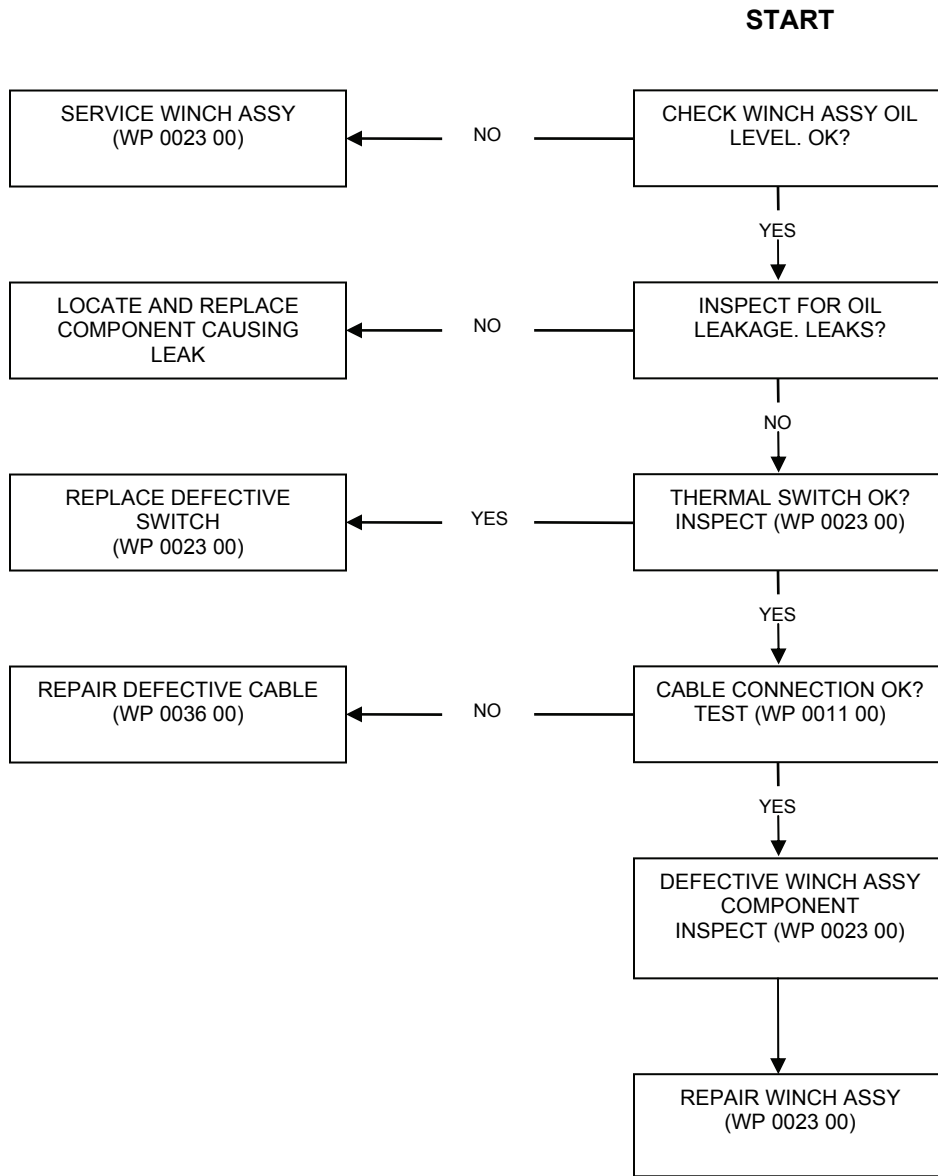
**PROCEDURE 12: HOIST WINCH INOPERATIVE, HOIST UP/DOWN SWITCH ACTIVATED**



PROCEDURE 12: HOIST WINCH INOPERATIVE, HOIST UP/DOWN SWITCH ACTIVATED (CONTINUED)

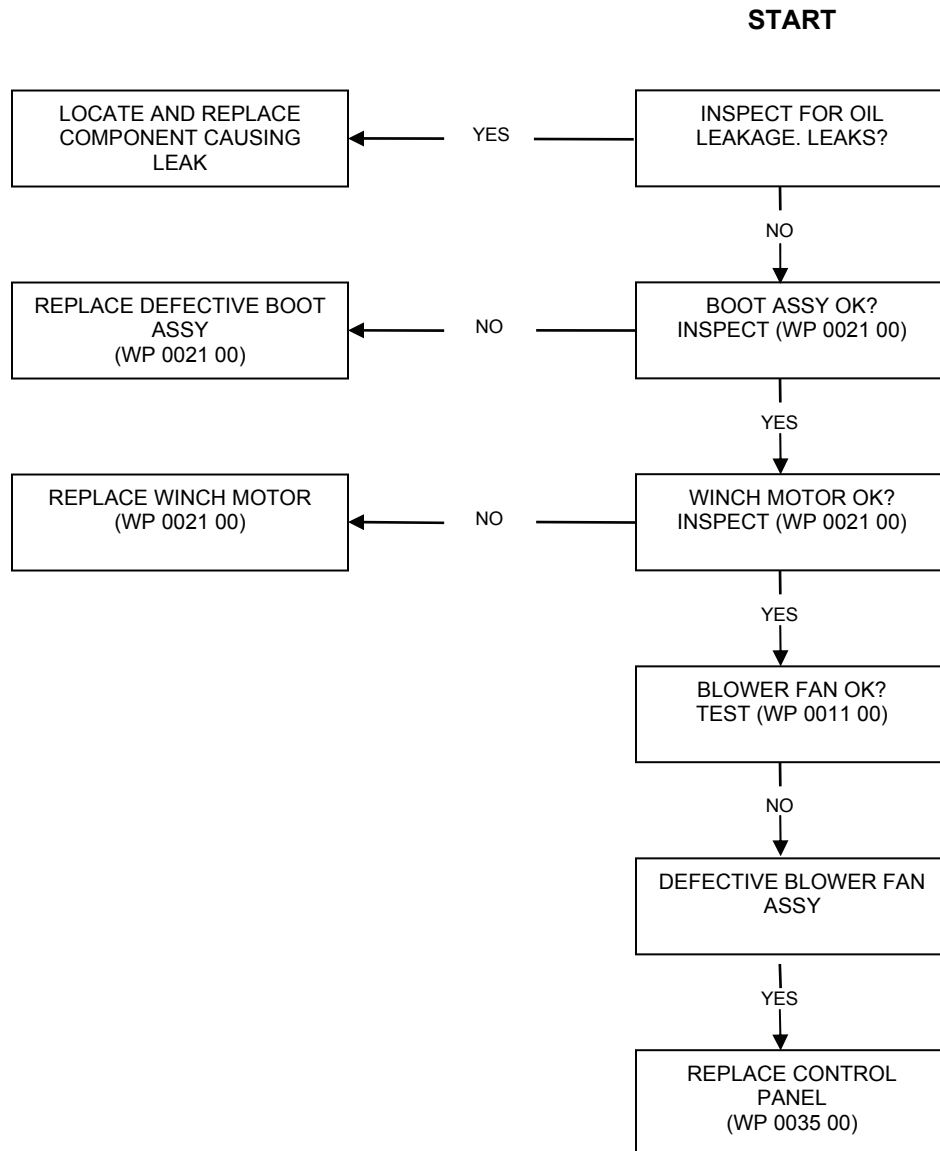


PROCEDURE 13: WINCH ASSEMBLY OVERHEATS

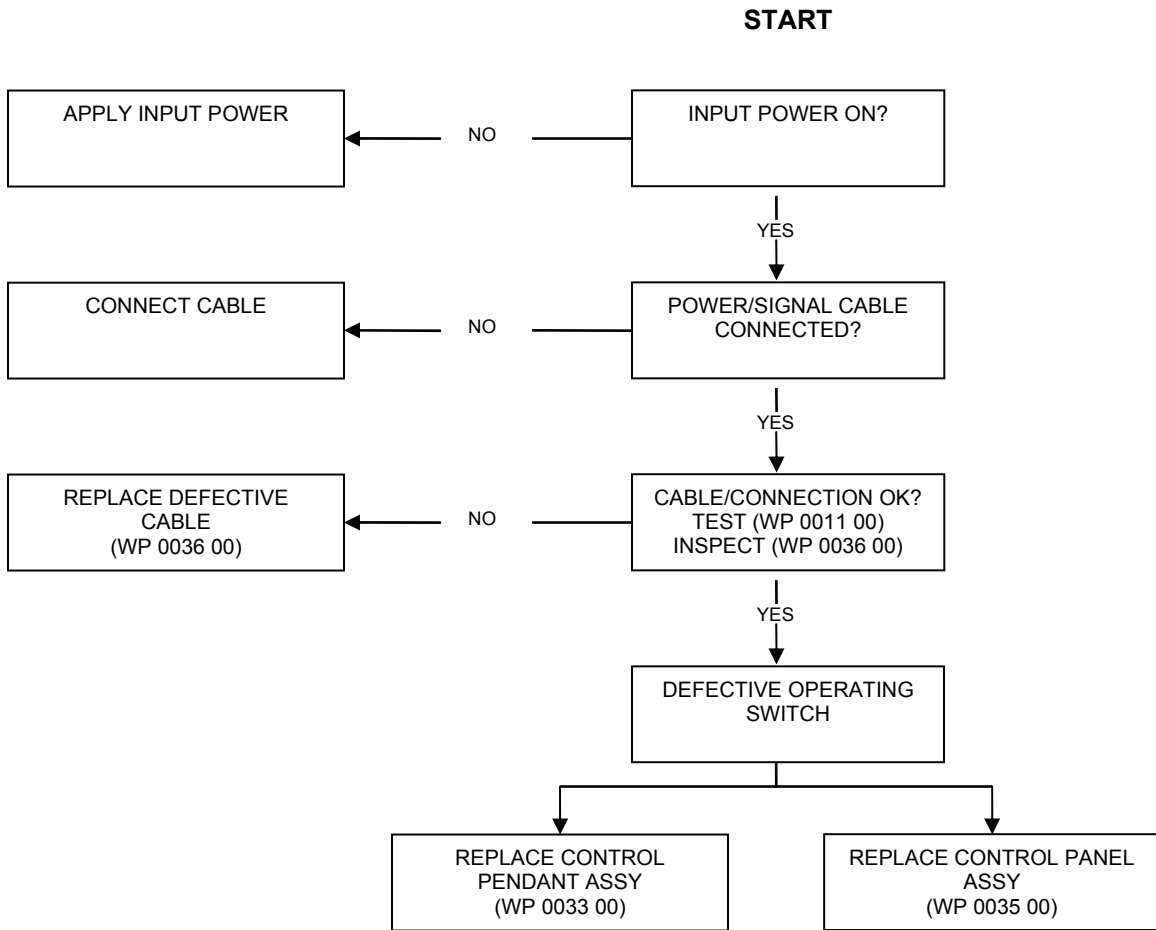




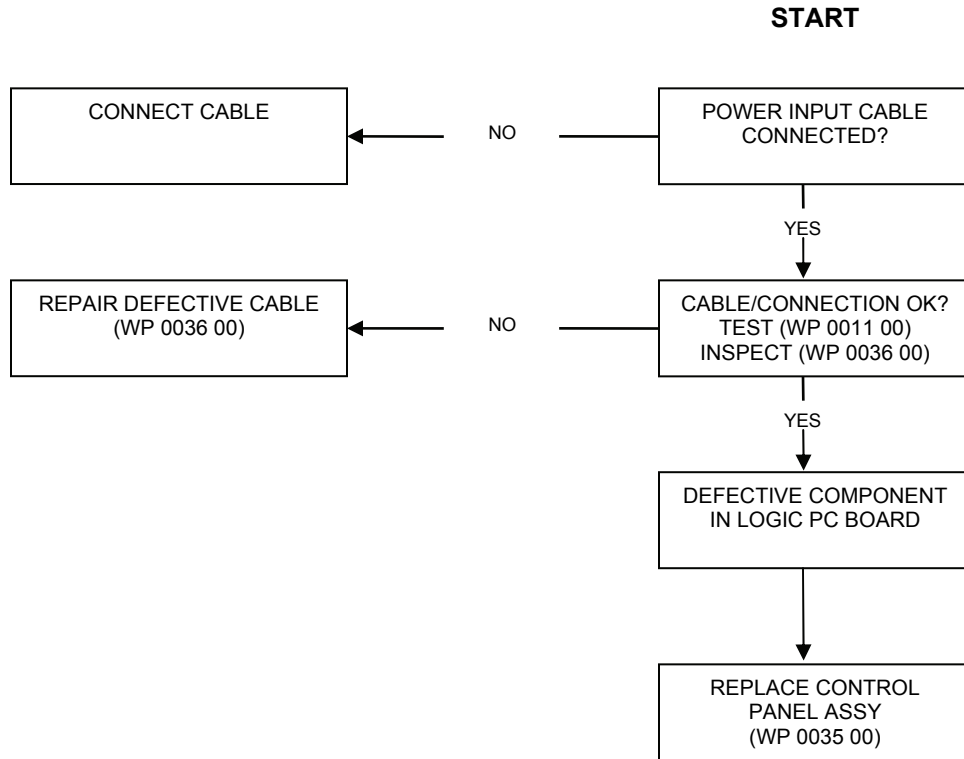
PROCEDURE 14: ELECTRIC WINCH MOTOR OVERHEATS



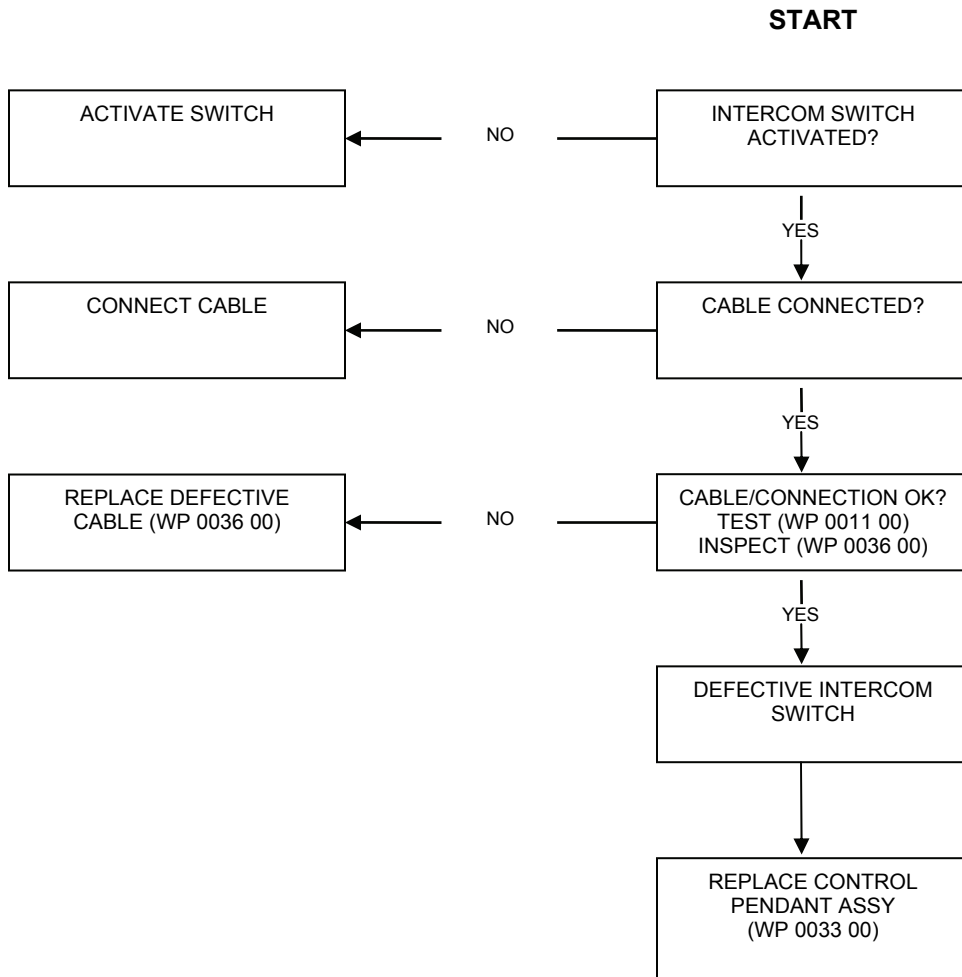
PROCEDURE 15: OPERATING CONTROL SWITCH INOPERATIVE



PROCEDURE 16: PILOTS OVERRIDE CONTROLS INOPERATIVE

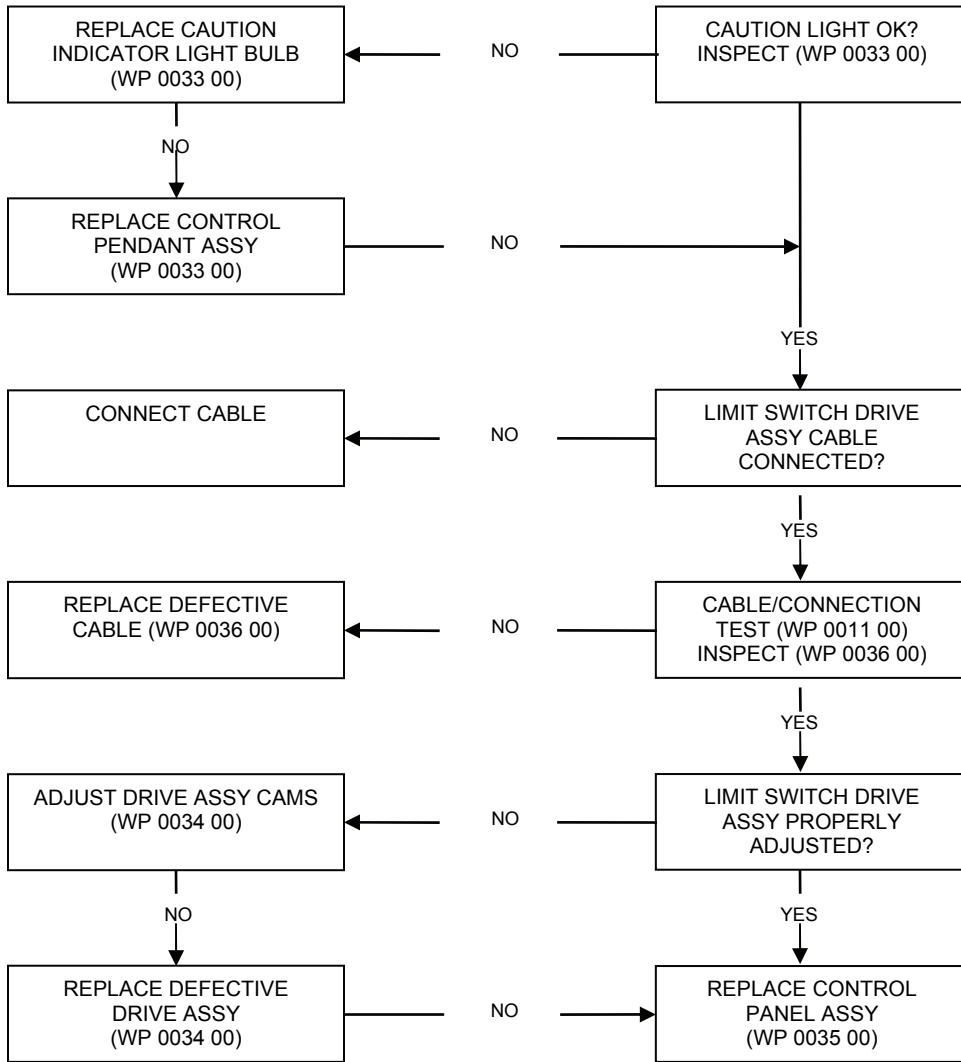


PROCEDURE 17: INTERCOM INOPERATIVE

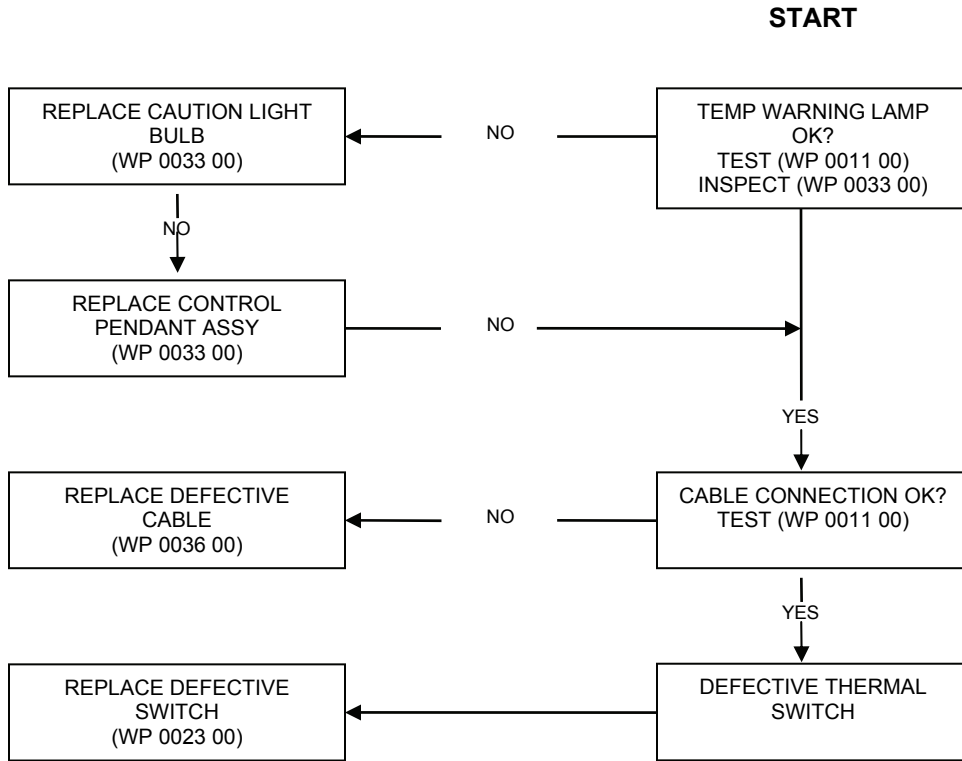


**PROCEDURE 18: CAUTION LAMP INOPERATIVE. CABLE HOOK WITHIN 8-10 FEET OF FULL STOW**

**START**



**PROCEDURE 19: TEMP WARNING LAMP INOPERATIVE, COMPONENT OVERHEATING**



**End of Work Package**

**CHAPTER 4**  
**MAINTENANCE INSTRUCTIONS**  
**FOR**  
**HIGH PERFORMANCE RESCUE**  
**HOIST ASSEMBLY**





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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
SERVICE UPON RECEIPT**

---

**INITIAL SETUP****Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

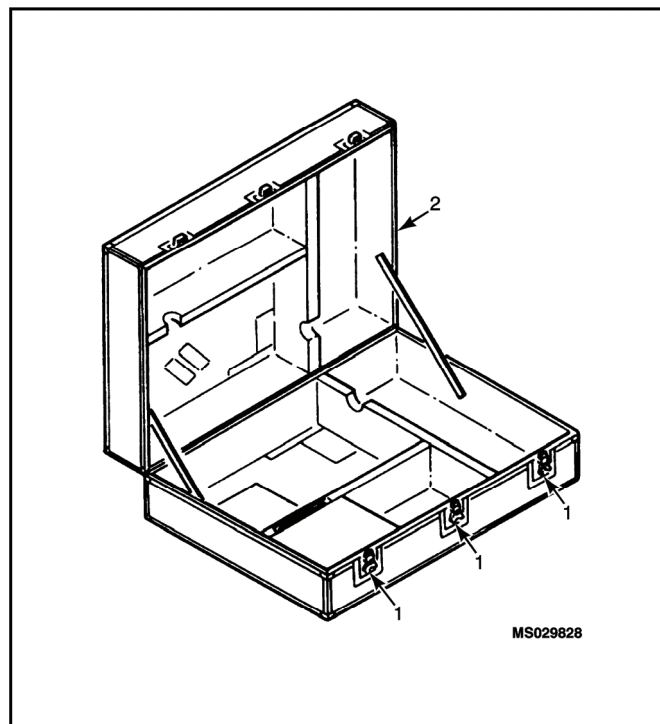
**Parts/Materials:**

Assembly Stand, 42277-808 or equivalent

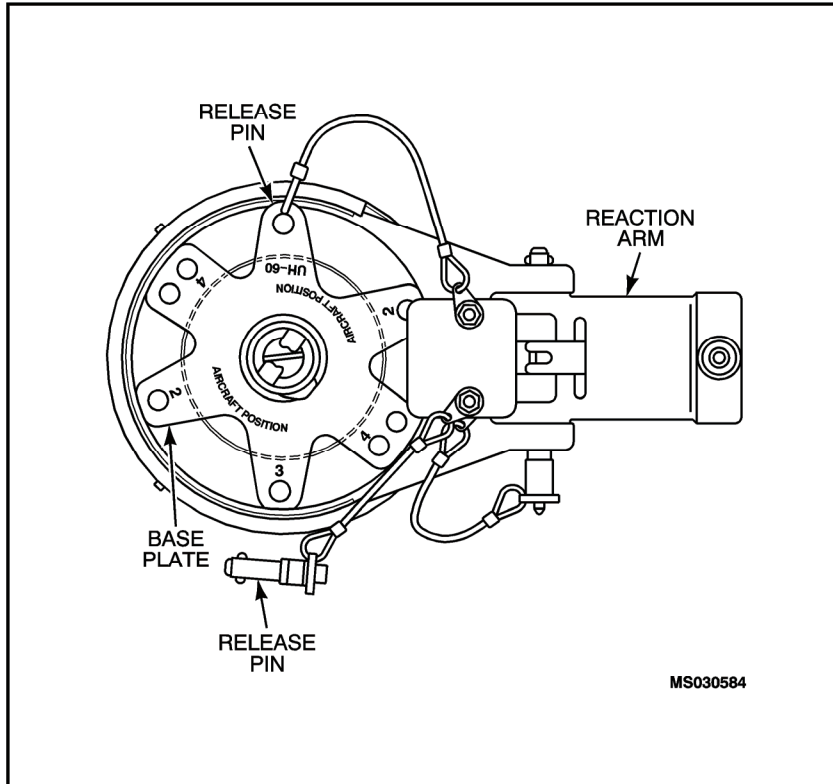
**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4915  
Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476

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**UNPACKING**

1. Place rescue hoist reusable shipping container on a flat surface.
2. Lift overcenter latch handles (1) and unlatch to release top of shipping container (2).
3. Grasp top of shipping container (2) and lift up to open.
4. Release internal retaining strap to remove hoist cable hook.
5. Perform initial inventory.



**Pin Location for Aircraft Installation.**

**NOTE**

The graphic depicts the configuration for a UH-60 helicopter, which is the standard shipping configuration. For proper positioning on a UH-1 refer to the Data/Instruction Plates in WP 0007 00.

6. Prior to removing hoist from shipping case, configure the lower base plate assembly to aircraft type.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
INSTALLATION INSTRUCTIONS**

---

**INITIAL SETUP****Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**Parts/Materials:**

Assembly Stand, 42277-808 or equivalent

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4915  
Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
UH-1 Series Helicopter Maintenance Manual  
TM 55-1520-210-23-2  
UH-60 Series Helicopter Maintenance Manual  
TM 55-1520-237-23-4

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**ASSEMBLY STAND****WARNING**

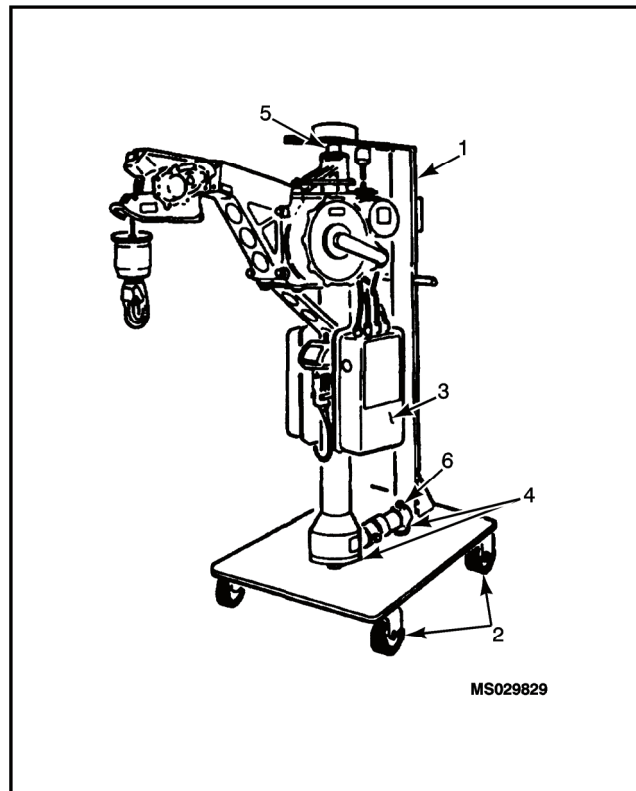
Enlist help of an assistant when installing hoist to prevent injury to personnel or damage to hoist components.

**CAUTION**

Lock or block casters to prevent stand movement during hoist installation.

**NOTE**

Ensure release pins are installed in correct aircraft position according to aircraft type and configuration.



1. Place hoist assembly onto assembly stand (1) ensuring alignment of quick disconnect adapters (4) to stand top and bottom studs.
2. Adjust height adjuster (5) and reaction arm (6) as required to secure hoist (3).
3. Ensure that control panel position switch coincides with release pin.
4. Perform pre-operational checks in accordance with WP 0011 00.

## HELICOPTER

### WARNINGS

- Ensure external electrical power is removed from system prior to installing rescue hoist. Activated electricity could cause injury to personnel or damage to equipment.
- Do not connect the cannon plug to CAD until all electrical checks are completed.
- Enlist help of an assistant during installation to prevent injury or component damage.

Rescue hoist shall be installed in accordance with UH-1 or UH-60 series helicopter maintenance manual.

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
PRELIMINARY SERVICING OF EQUIPMENT**

**INITIAL SETUP**

**Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

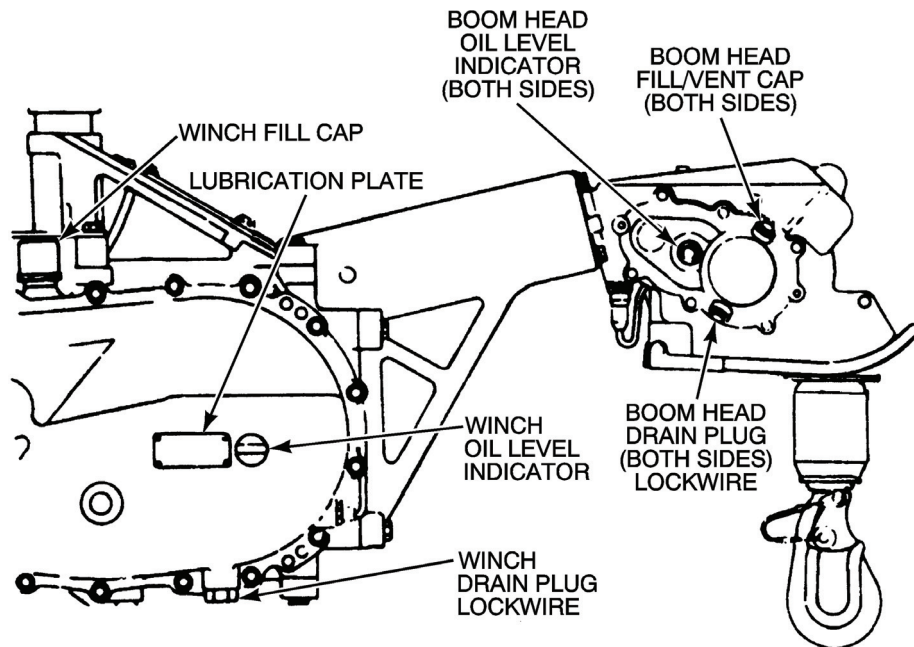
AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Automatic Transmission Fluid  
(WP 0047 00, Table 1, Item 16)  
Lockwire (WP 0047 00, Table 1, Item 22)  
Packing, MS28775-010  
Container, Oil Drain

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4915  
Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Ground Power Unit (GPU)  
NSN 1730-01-466-9371



MS029833

**Oil Level Indicators and Drain Plugs.**

**WARNING**

Hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

1. Service hoist in accordance with WP 0018 00 and 0023 00.
2. Inspect electrical cables and connectors to ensure proper electrical connection.
  - a. Ensure electrical cable harnesses are properly routed free of obstruction and clear of moving parts.
  - b. Verify harnesses are securely fastened to hoist assembly.
3. Check control panel and control pendant to ensure all operational switches are in the **OFF** or neutral position prior to activating input power.
4. Perform preliminary operational checks using a ground power unit, or equivalent, in accordance with WP 0011 00.

**End of Work Package**

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
PRELIMINARY CHECKS OF EQUIPMENT**

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**INITIAL SETUP****Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**Parts/Materials:**

N/A

**Tools and Special Tools:**

Ground Power Unit (GPU)  
NSN 1730-01-466-9371  
Cable Spool  
P/N 42277-730 or equivalent

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
UH-1 Operator's Manual  
TM 55-1520-210-10  
UH-60 Operator's Manual  
TM 55-1520-237-10

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**WARNING**

The hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

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**CAUTION**

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During performance checks, continually observe **OVER TEMP** indicator to ensure that the light **DOES NOT** illuminate.

**ASSEMBLY STAND**

1. Install hoist on assembly stand in accordance with WP 0010 00.
2. Connect ground power unit and apply electrical power (28 vdc) to hoist.

**NOTE**

Blue **POWER ON** light will illuminate and blower fan will begin to operate.

3. Perform operating procedures in accordance with WP 0005 00.

**WARNING**

Extend cable out from boomhead, in line with boom axis, during test procedures. Avoid damaging cable on rough surfaces, such as the ground. Care must be taken not to pull cable taut around cable guide/roller since kinking of cable might result. It is recommended that hoist cable be fed onto cable spool or equivalent of at least 9" diameter.

**NOTES**

- During cable retracting procedure, test up-limit switches by pushing up on actuator arm to ensure proper operation. Cable movement should stop within approximately 18-24 inches of travel when actuator arm is raised. Cable movement will resume operation when arm is released.
  - Observe that amber **CAUTION** light extinguishes when cable hook is approximately 10 feet of all out (250 feet). Ensure **CAUTION** light illuminates and cable speed decelerates (to approximately 75 feet per minute) when cable is within 10 feet of full stowed position.
4. Position control panel **HIGH/LOW SPEED** switch to **HIGH**.
  5. Utilizing hoist control pendant, fully extend cable.
  6. Repeat steps 2 through 5 with control panel **HIGH/LOW SPEED** switch in **LOW**.
  7. Rotate hoist and observe 205 degree swing for proper operation.
  8. Disconnect power.

**HELICOPTER**

1. Install hoist in helicopter in accordance with the appropriate aircraft maintenance manual.
2. Connect power source (28 vdc) to helicopter and close hoist circuit breaker(s) in accordance with appropriate aircraft operators manual.

**NOTES**

- Blue **POWER ON** light should be on and blower fan should be operating.
  - Rescue hoist is normally installed in number **2** position; however, when rescue hoist is installed in number **3** or **4** position (**UH-1 only**), ensure control panel position switch is placed in number **1** and **3** position.
3. Using **PILOT BOOM CONTROL** switch, rotate hoist in, then out, observing 205 degree swing for proper operation.



**WARNINGS**

- Pilot does not have variable speed control of hoist.
- Extend cable from boomhead, in line with boom axis, during test procedures. Avoid damaging cable on rough surfaces, such as ground. Care must be taken not to pull cable taut around cable guide/roller since kinking of cable might result. It is recommended that hoist cable be fed onto cable spool or equivalent of at least 9" diameter.

**NOTE**

Observe that amber **CAUTION** light extinguishes when cable hook is approximately 10 feet of all out (250 feet). Ensure **CAUTION** light illuminates and cable speed decelerates (to approximately 75 feet per minute) when cable is within 10 feet of full stowed position.

4. Position control panel **HIGH/LOW SPEED** switch to **HIGH**.
5. Operator of **PILOT HOIST CONTROL** switch must limit cable travel operation to within first 10 feet and stop. Hoist control pendant operator will immediately resume operation until cable hook is reeled out.
6. Operator of **PILOT HOIST CONTROL** switch must limit cable travel operation to within 10 feet of all out (250 feet) and stop. Hoist control pendant operator will immediately resume operation until cable hook is retracted.
7. Repeat steps 2 through 6 using control pendant **CABLE UP/DOWN** switch. Using pendant speed control lever, ensure cable speed can be varied during extension operation (from 0-250 feet per minute).
8. Place control panel **HIGH/LOW SPEED** switch to **LOW** and repeat steps 2 through 7.
9. Upon completion of tests, extract cable. Using control pendant **BOOM IN/OUT** switch, rotate swinging boom in to stowed position.
10. Open rescue hoist **CONT** and **POWER** circuit breakers on pilot overhead console.
11. Disconnect power.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)**

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**INTRODUCTION**

This section lists and authorizes PMCS required for the rescue hoist. The content of the PMCS table is based upon the principles of Reliability Centered Maintenance (RCM).

**EXPLANATION OF COLUMNS****ITEM NO. Column**

The number used to identify sequence of checks and services. This column shall be used as a source of item numbers for the TM Number Column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, when recording results of PMCS.

**INTERVAL Column**

Indicates the time interval upon which the checks and services must be performed. Intervals are divided as follows:

- D** Daily
- M** Monthly
- Q** Quarterly
- A** Annually

**ITEM TO BE INSPECTED Column**

Indicates items and components to be inspected.

**PROCEDURES Column**

Indicates the procedure by which the check or service is to be performed. Tolerances, adjustment limits, and instrument readings are included as applicable. When replacement or repair of a component is required, the procedures column will direct personnel to the appropriate task.

**Table 1. Inspection Requirements.****NOTE**

Minor component defects (small scratches, minor dents, etc.) are acceptable in some cases, providing the defect does not affect the performance of the component. It is up to the user to determine whether a defect is acceptable, whether minor repair can return the component to use, or whether the component should be discarded and replaced.

Abrasion	Abrasion is defined as wear of individual wire resulting in flattened areas on the wire. Abrasive wear can be caused by interference with other components, dragging the cable over abrasive surfaces or as a result of other cable damage. Cable which has abrasive damage must be replaced and, if applicable, the cause of the abrasion must be investigated and repaired.
Binding	To confine and restrict the liberty of a free moving part, material, or component. May cause serious damage if a chafing force is being imposed.
Bird caging	Bird caging is defined as short lengths of wire rope with outer wire strands stretched and opened to be formed in the appearance of a bird cage. A bird cage is a permanent deformation and the cable must be replaced.
Broken wires	A broken wire will occur as a result of cable damage or as a cable is nearing the end of its service life.
Burr	A small, thin section of metal extending beyond a regular surface, usually located at the corner or edge of a bore or hole. Burr will be removed to prevent injury to personnel and damage to adjacent components, and resulting scratch or score will be repaired.
Corrosion	Loss of metal from a surface by chemical or electrochemical action. Corrosion products are usually easily removed by mechanical means. Refer to TM 1-1500-344-23 series, Cleaning and Corrosion Control manual for corrosion identification, removal, and surface refinish.
Crack	A physical separation of two adjacent portions of metal, evidenced by a fine or thin line that crosses surface. Caused by excessive stress, it may extend inward from surface a few thousandths of an inch, or run completely through section thickness. Cracks pose a serious threat to component operation and may cause injury to operator. Cracks must be repaired immediately. Extensively cracked surfaces shall result in component replacement.
Dent	Indentation in metal surface produced by an object striking with force. The surface surrounding the indentation will usually be slightly upset. Dents may be removed providing the repair does not structurally weaken component. Minor dents may be left in surface if they do not rub against or contact adjacent parts.
Flattened areas	Flattened areas of cable result from the application of an excessive force to a small area of the cable. Such damage can be caused by trapping the cable in a door or driving a vehicle with a metallic wheel over the cable. A cable with a flattened area must be replaced.
Kinks	A kink is identified as a permanent bend in a cable caused when a loop of cable is suddenly pulled tight. A kink may result in interference and early failure of the cable by abrasion and/or wire breakage. Any damage to the cable, to include kinks, will result in cable replacement.

**Table 1. Inspection Requirements (Continued).**

Necking	Necking is defined as the decrease in cable diameter at a specific point. Necking is normally an indication of broken wires and is cause for cable replacement.
Nick	Local break or notch on edge. Usually displacement of metal rather than loss. Nick shall be blended into surface, or removed if blending proved impossible.
Pitting	Sharp, localized breakdown of metal surface. Usually with defined edges, may result in a small, deep cavity. Refer to TM 1-1500-344-23 series, Cleaning and Corrosion Control manual for pitting identification, removal, and surface refinish.
Scoring	Tear or break in metal surface caused by contact under pressure. Deeper than scratch. May show discoloration from temperature produced by friction. Scoring may be a sign of much larger problems. Carefully inspect mating and adjacent components for damage. Inspect area for cause of damage and remedy prior to next operation. Repair minor surface scoring. Replace component if scoring is extensive, or if component is causing damage to other parts.
Scratch	Slight tear or break in metal surface caused by light, momentary contact with foreign material. Scratches shall be blended to remove sharp edges and prevent injury to personnel. If scratch mars adjacent surface, both components shall be replaced.

**End of Work Package**



**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)**

**Table 1. PMCS.**

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED	PROCEDURES
	D	M	Q	A		
1	*				Height Adjuster	Visually inspect for nicks, cracks, or corrosion. Ensure smooth operation, free of binding or sticking. Check plunger locking device by placing plunger in locked position and attempt to rotate height adjuster.
2	*				Quick Disconnect(s)	Check upper and lower quick disconnects for corrosion and cracks. Check locking action of jaw when placed in closed position. Ensure safety clip is installed. Inspection shall be in accordance with WP 0029 00 and WP 0032 00.
3	*				Reaction Arm	Slide extension arm forward and aft on arm pivot, binding should not occur. If binding occurs, replace reaction arm in accordance with WP 0031 00. Check quick disconnect for smooth operation. Check for cracks, nicks, or dents. Check release pin for damage. Inspection shall be in accordance with WP 0031 00.
4	*				Boom Position Support Assembly	Visually inspect for cracks, loose mounting hardware, and corrosion. Check for dents on stanchion tube, upper and lower support, and switch cover. Check aircraft position plate for legibility and security of attachment. Inspect pendant storage hook and spring for damage and security. Inspection shall be in accordance with WP 0026 00.
5	*				Control Pendant Assembly	Visually inspect for cracks or dents. Press to test temperature and caution lights to ensure illumination. Inspection shall be in accordance with WP 0033 00. Visually inspect for cuts, tears, fraying, or broken insulation. Inspection shall be in accordance with WP 0033 00.
6	*				Control Panel Assembly	Visually inspect for cracks, dents, broken power light, and security of switches. Ensure cable cutter switch is safely wired using breakaway lockwire.
7	*				Limit Switch Drive Assembly	Visually inspect for cracks, nicks, or corrosion. Check electrical wiring for frayed or broken insulation.
8	*				Boot Assembly	Visually inspect for cuts, tears, or deterioration. Replace in accordance with WP 0021 00.

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED	PROCEDURES
	D	M	Q	A		
9	*				Motor Assembly	Visually inspect for evidence of over-heating or shorting. Ensure electrical connector is secured. Check electrical wiring for frayed or broken insulation. Check electrical motor installation for security.
10	*				Cable Hook Assembly	Visually inspect for nicks, cuts, dents, or corrosion. Inspect keeper for smooth operation, free of binding, or sticking. Ensure cable hook is securely attached to hoist cable. Inspection in accordance with WP 0015 00.
11	*				Cable Assembly	<div style="border: 1px solid black; padding: 5px; text-align: center;"><b>WARNING</b></div> <p>Any cable defect mandates cable replacement. Replace cable in accordance with WP 0016 00.</p> <hr style="width: 20%; margin: auto;"/> <div style="text-align: center;"><b>CAUTION</b></div> <hr style="width: 20%; margin: auto;"/> <p>A tenth cable iteration, when previous nine have been less than 250-600 pounds at full extension, may cause bird caging 18-24 inches from hook cable ball.</p> <p style="text-align: center;"><b>NOTES</b></p> <ul style="list-style-type: none"> <li>• Continuously extending and retracting same length of cable during daily inspections and mission operations with either no loads or loads less than 250-600 pounds could cause bird caging.</li> <li>• To prevent personal injury and ensure inspection procedures are accomplished, do not operate hoist cable speed in excess of 20 feet per minute.</li> <li>• A cable change can be avoided by performing two full cable extensions using a load greater than 250-600 pounds.</li> <li>• A cable reseal shall be accomplished prior to a tenth hoist operation after nine operations of less than 250-600 pounds at full extension.</li> </ul> <p>During Post-Flight Operations maximum length of cable used during last mission shall be inspected and cleaned using a low-lint cloth. With a gloved-hand, hold cloth firmly around cable and simultaneously clean and inspect cable for defects while retracting.</p> <p>While cleaning cable, look for indications of broken wires, flat spots, abrasions, and worn sections of outer strands, see WP 0012 00. This may indicate cable misrouting or misalignment. Align winch drum in accordance with WP 0024 00.</p>



ITEM NO.	INTERVAL				ITEM TO BE INSPECTED	PROCEDURES
	D	M	Q	A		
		*				Inspect and clean full length of cable using a clean, low-lint cloth. With a gloved hand, hold cloth firmly around cable to aid in removal of foreign particles and detection of broken wires. Simultaneously check cable for bird caging, kinks, abrasions, and flat spots.
12	*				Boomhead Assembly	Inspect boomhead assembly for nicks, cracks, scratches, and dents. Inspect for corrosion. (Refer to WP 0014 00). Inspect for evidence of oil leakage. Inspect cable cutter and switch harness assembly for cuts, tears, fraying, and broken insulation. Inspect identification and lubrication plates for legibility and security of attachment. Check boom head for freedom of movement. Check boom head fluid level.
				*		Drain and service boom head assembly in accordance with WP 0018 00.
13	*				Cable Cutter	Visually inspect for nicks, cracks, and corrosion. Ensure electrical connector is secured and check for frayed or broken insulation.
			*			Visually inspect electrical connector for bent, broken, and missing pins in accordance with WP 0017 00. Connect a 28 volt dc light or multimeter cable connector at boomhead. Operate <b>CABLE CUT</b> switch at operator and pilot position. Verify positive indication.
14	*				Winch Assembly	Visually inspect for nicks, cracks, corrosion, and evidence of leakage. Inspect identification and lubrication plates for legibility and security of attachment. Inspect electrical wiring for frayed or broken insulation. Inspect mounting hardware for security. Inspection shall be in accordance with WP 0023 00.
				*		<p style="text-align: center;"><b>NOTE</b></p> <p>Mission and/or environmental conditions will mandate accelerated or advanced cleaning requirements. Refer to WP 0014 00.</p> <p>Remove drum cover and drum assembly and visually inspect inner lining wear patterns in accordance with WP 0024 00 inspection criteria. Visually inspect cable kicker for cracks, dents, or nicks. Inspect level wind shoe in accordance with WP 0025 00.</p> <p>Drain and service winch assembly in accordance with WP 0023 00.</p>

ITEM NO.	INTERVAL				ITEM TO BE INSPECTED	PROCEDURES
	D	M	Q	A		
15			*		Actuator Assembly	Check adjustment of upper limit actuator assembly by measuring distance between top of actuator and cable guide. Dimension should be 0.75 inch (1.91 cm). Press up on actuator arm until switches are engaged. Measure distance between top of arm and cable guide. Dimension should be 0.44 inch (1.12 cm). Adjust actuator assembly in accordance with WP 0020 00.
16			*		Pressure Roller	Attach spring scale to pressure roller assembly and check for a minimum tension of 35 pounds. Remove springs and check roller for smooth operation. Refer to WP 0018 00 for replacement of boomhead assembly.
17			*		Sheave Assembly	Sighting along cable assembly, inspect sheave assembly, through cable cutter, and towards winch assembly, for wear by observing hoist cable for recessing. Cable assembly shall not contact inside surface of cable cutter.
18		*			Drum Assembly	Visually inspect for cracks, dents, or nicks. Inspect drum grooves for distortion, abnormalities, and uneven wear. Visually inspect cable kicker with an inspection mirror for cracks, dents, or nicks. Check alignment of drum assembly by removing pressure roller cover. While retracting cable, observe cable travel through cable cutter assembly. Cable should not contact cable cutter. If required, align drum assembly in accordance with WP 0024 00.
19	*				Umbilical Cable	<p style="text-align: center;"><b>NOTE</b></p> <p style="text-align: center;">Check aircraft connection point.</p> Visually inspect for cuts, tears, fraying, or broken insulation. Check for security of electrical connectors. Inspection shall be in accordance with WP 0036 00.
20	*				Rescue Hoist	Perform operational checks in accordance with WP 0011 00.

**End of Work Package**

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
RESCUE HOIST- INSPECT**

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**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

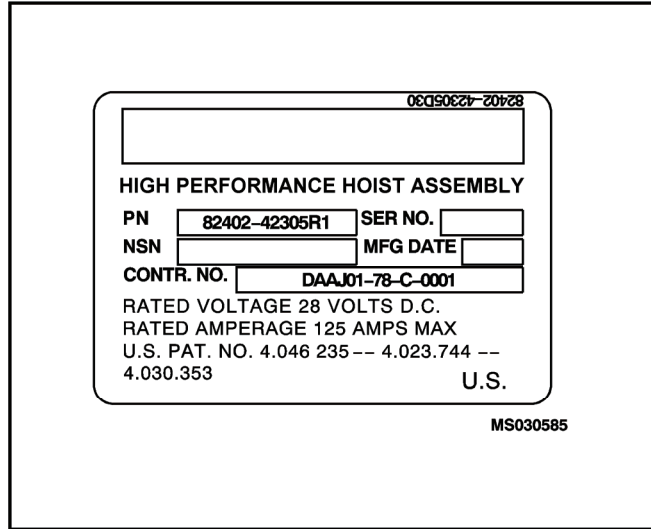
N/A

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**NOTE**

Normally, detailed inspection of individual parts should not be attempted until parts have been disassembled and cleaned (refer to appropriate maintenance work package). However, some evidence of exercise wear or malfunction can best be observed during disassembly, when mating or adjacent parts are next to each other. If a part is seen to be galled, scored, pitted, or worn, visually inspect mating surfaces of adjacent parts for possible cause of damage.

1. Inspect all parts for nicks, cracks, scratches, dents, and corrosion.
2. Inspect for burrs and scoring on component surfaces.
3. Inspect for pitting in metal surfaces and evidence of leakage.
4. Inspect all painted and plated surfaces for blisters or flaking. Plating must be continuous.
5. Inspect electrical components for corrosion and damage. Check for evidence of overheating and shorting.
6. Inspect electrical wiring for frayed and broken insulation. Check for cuts and tears.
7. Inspect electrical connectors for bent, broken, and missing pins.



**NOTE**

High performance rescue hoist is identified by an identification plate that is located on right side of boomhead support assembly. If boomhead support assembly is replaced, data plate must be transferred to new boomhead support assembly. If identification plate is missing or damaged it must be replaced. Original serial number must be transcribed to new identification plate. New identification plate must be obtained from manufacturer. Ensure identification plate is properly attached to rescue hoist and is legible.

- 8. Ensure identification plate is properly attached to rescue hoist and is legible.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CLEANING UNDER USUAL CONDITIONS**

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**INITIAL SETUP****Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

Avionic Cleaning and Corrosion  
Prevention/Control TM 1-1500-344-23 series

**Parts/Materials:**

Cleaning Solvent (WP 0047 00, Table 1, Item 12)  
Cloth, Low-lint (WP 0047 00, Table 1, Item 13)  
Grease (WP 0047 00, Table 1, Item 14)  
Lubricating Oil  
(WP 0047 00, Table 1, Item 23 or 24)  
Lubricant, WD-40 or equivalent  
(WP 0047 00, Table 1, Item 36)

**Tools and Special Tools:**

Air Source, 35 psi (241.3 kPa)

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**WARNINGS**

- Perform all cleaning in a well lit, clean, and properly ventilated room.
- To avoid injury to personnel from broken wire strands, leather gloves must be worn at all times when handling cable assembly.
- Prolonged or repeated contact with lubricating oil may irritate the eyes and skin. Long term use without hand protection may cause dermatitis. Breathing mists may cause respiratory irritation. If there is any prolonged contact with skin, wash area with soap and water. Remove saturated clothing. If solution contacts eyes, flush eyes with water immediately. If oil is swallowed, do not try to vomit; aspiration may damage lungs. Get immediate medical attention. When handling liquid, wear rubber gloves and chemical splash proof goggles. Wear NIOSH/MSHA approved respirator if mists exceed established exposure limits.

**CAUTION**

Do not clean parts with chlorinated solvents, such as freon, perchloroethylene, trichloroethane, carbon tetrachloride, etc. Do not use any type of silicone grease on any components.

1. Remove cable cutter assembly in accordance with WP 0017 00.
2. Remove cable hook assembly in accordance with WP 0015 00.
3. Remove cable assembly, in accordance with WP 0016 00, into a large container filled with mild soap and water solution. Soak cable for a minimum of one hour.
4. Mask and cover all electrical connectors and components to prevent entrance of water.
5. Remove drum assembly in accordance with WP 0024 00.
6. Using a low water pressure, spray interior of winch housing and drum assembly with clean, fresh water.
7. Allow all components of hoist assembly to fully drain and dry before reassembly.
8. Lubricate level wind screw and planetary gears with a light coat of grease.
9. Lubricate ball spline shaft with lubricant.
10. Install drum assembly in accordance with WP 0024 00.
11. Transfer cable to a large container filled with fresh water. Soak cable for a minimum of one hour.
12. Remove covers and masking from all electrical connectors and components.
13. Clean electrical harnesses, connectors, and components in accordance with WP 0036 00.

**WARNING**

Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi. Do not direct air stream towards self or other personnel as injury may occur.

**NOTE**

Compressed air can be used to ensure cable is completely dry prior to installation.

14. Ensure cable is completely dry, and that it is free of contaminants.

**CAUTION**

Damage to boomhead will occur if cloth enters boomhead assembly.

15. Using a saturated low-lint cloth, lightly lubricate cable while slowly retracting cable assembly until fully housed.

**CLEANING CABLE HOOK ASSEMBLY****WARNINGS**

- Perform all cleaning in a well lit, clean, and properly ventilated room.
- Cleaning solvent is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.
- Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi. Do not direct air stream towards self or other personnel as injury may occur.

**CAUTION**

Do not allow parts to remain in cleaning solvent for extended periods of time or rust spots may form. If parts are not to be inspected immediately after cleaning, spray them with WD-40.

Wash components in Cleaning Solvent and rinse thoroughly. Dry using compressed air.

**QUICK WASH****WARNINGS**

- Quick wash shall not replace monthly cleaning procedures. It shall be performed upon completion of salt water or desert missions.
- Perform all cleaning in a well lit, clean, and properly ventilated room.

**CAUTIONS**

- If quick wash method is used to remove salt water contamination from cable assembly, perform hoist assembly cleaning procedures monthly to prevent damage to cable and hoist assembly.
- Do not extend rescue hoist cable beyond length that enables cable assembly to contact ground unless provision is made to prevent damage or entanglement of cable.

1. Apply power (28 vdc) to hoist.
2. Fully extend cable assembly.

**WARNING**

Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi. Do not direct air stream towards self or other personnel as injury may occur.

**CAUTION**

Damage to boomhead will occur if cloth enters boomhead assembly.

**NOTE**

Compressed air can be used to ensure cable is completely dry prior to installation.

3. Ensure cable is completely dried, and that it is free from salt and other contaminants.
4. Using a saturated low-lint cloth, lightly lubricate rescue hoist cable while slowly retracting cable assembly until fully housed.
5. Repeat procedures if necessary.
6. Remove power from hoist.



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CLEANING UNDER USUAL CONDITIONS**

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**INITIAL SETUP****Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Avionic Cleaning and Corrosion  
Prevention/Control TM 1-1500-344-23 series

**Parts/Materials:**

Cloth, Low-lint (WP 0047 00, Table 1, Item 13)  
Lubricating Oil  
(WP 0047 00, Table 1, Item 23 or 24)

**Tools and Special Tools:**

Air Source, 35 psi (241.3 kPa)

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**SALT WATER****WARNINGS**

- Perform all cleaning in a well lit, clean, and properly ventilated room.
- To avoid injury to personnel from broken wire strands, leather gloves must be worn at all times when handling cable assembly.

**CAUTIONS**

- Ensure electrical connectors and control panel are covered to prevent salt water from intruding.
  - Do not clean parts with chlorinated solvents, such as freon, perchloroethylene, trichloroethane, carbon tetrachloride, etc. Do not use any type of silicone grease on any components.
1. Immediately after salt water operations perform cleaning procedures, Cleaning Under Usual Conditions, to prevent damage to cable and hoist assembly.

**WARNING**

Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi. Do not direct air stream towards self or other personnel as injury may occur.

**NOTE**

When necessary to clean cable of salt contaminants remove cable. Cable must be immersed in a water and mild detergent solution for a minimum of two hours to remove all salt contaminants. Ensure cable is free of salt and other contaminants. Compressed air can be used to ensure cable is completely dry prior to installation.

2. Remove cable in accordance with WP 0016 00 and place into a suitable container in order to thoroughly rinse winch housing and drum assembly with fresh water.

**WARNING**

Prolonged or repeated contact with lubricating oil may irritate eyes and skin. Long term use without hand protection may cause dermatitis. Breathing mists may cause respiratory irritation. If there is any prolonged contact with skin, wash area with soap and water. Remove saturated clothing. If solution contacts eyes, flush eyes with water immediately. If oil is swallowed, do not try to vomit; aspiration may damage lungs. Get immediate medical attention. When handling liquid, wear rubber gloves and chemical splash proof goggles. Wear NIOSH/MSHA approved respirator if mists exceed established exposure limits.

3. Allow water to drain from drum assembly and winch housing. Ensure all traces of salt are removed.
4. Using a saturated low-lint cloth, lightly lubricate rescue hoist cable while slowly retracting cable assembly.

**DESERT****WARNING**

Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi. Do not direct air stream towards self or other personnel as injury may occur.

Pre-clean hoist assembly with compressed air. Immediately after desert operations perform cleaning procedures, Cleaning Under Usual Condition, to prevent damage to cable and hoist assembly.

**End of Work Package**

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE HOOK ASSEMBLY - INSPECT**

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**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

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1. Inspect cable hook assembly for nicks, cracks, scratches, dents, and corrosion.
2. Ensure smooth operation and free of binding.
  - a. P/N 42305E280 – Operate cable hook keeper and pin.
  - b. P/N 42305-790 – Operate slid-lok mechanism.
3. Ensure cable hook is securely attached to hoist cable.
4. Ensure cable hook rotates 360 degrees freely.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE HOOK ASSEMBLY - P/N 42305-280**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Abrasive Cloth (WP 0047 00, Table 1, Item 1)

**Tools and Special Tools:**

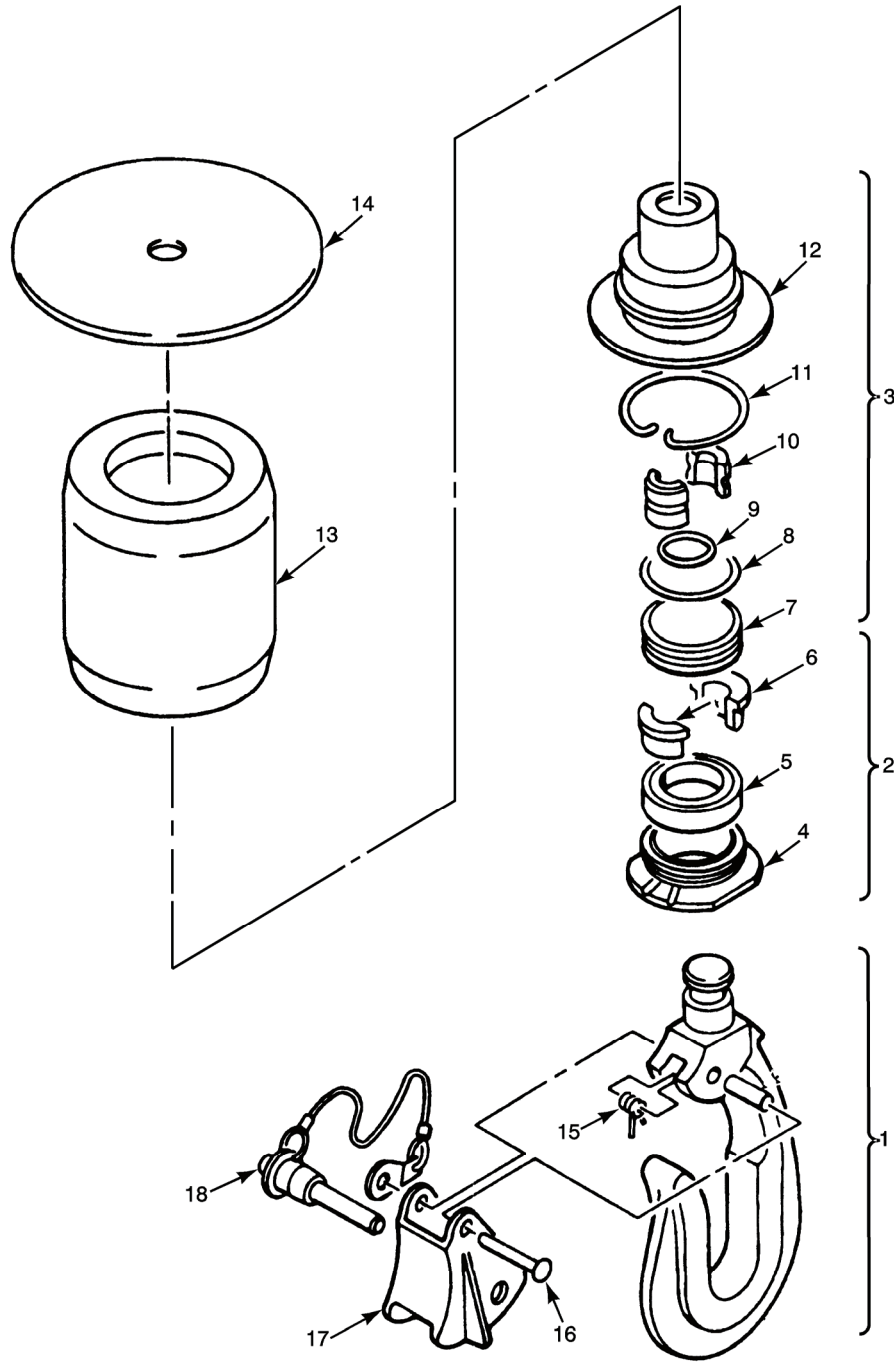
Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Air Source, 35 psi (241.3 kPa)

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**REPAIR**

Repair of parts is limited to removal of minor corrosion, nicks, burrs, scratches, or other surface damage using aluminum oxide cloth or fine abrasive. Clean parts thoroughly after repair. If damage is extensive, or if minor repair will affect serviceability, replace part.

REMOVAL/DISASSEMBLY



MS029987

1. Connect power (28 vdc) to hoist.
2. Position control pendant **CABLE UP/DOWN** switch to **DOWN** and extend cable hook assembly 2 to 3 feet, or as needed.
3. Disconnect power.

**NOTE**

Carrier assembly (4 and 12) and split retainers (6 and 10), are matched sets.  
Retain as assemblies.

4. Separate lower carrier assembly (2) from upper carrier assembly (3) by removing carrier assembly lockspring (11) using flat tip screwdriver or equivalent.
5. Remove cap assembly (7) and split retainer assembly (10) from upper carrier assembly (3), insert flat tip screwdriver or equivalent through disc (14), if necessary.
6. Remove split retainer (10) and packing (9) from cable hook assembly (1), discard packing.
7. Pull cable through upper carrier (12), cable hook boot (13), and disc (14).
8. Remove split retainer assembly (6) from cable hook assembly (1) by sliding bearing (5) down.
9. Remove bearing (5) and lower carrier assembly (2).

**NOTE**

Continue with following procedures **ONLY** if repair or replacement of cable hook components is required.

10. Disassemble release pin (18), rivet (16), and torsion spring (15) from cable hook (1) and remove cable hook keeper (17).
11. Disassemble upper carrier assembly (3) and disc (14) from cable hook boot (13).

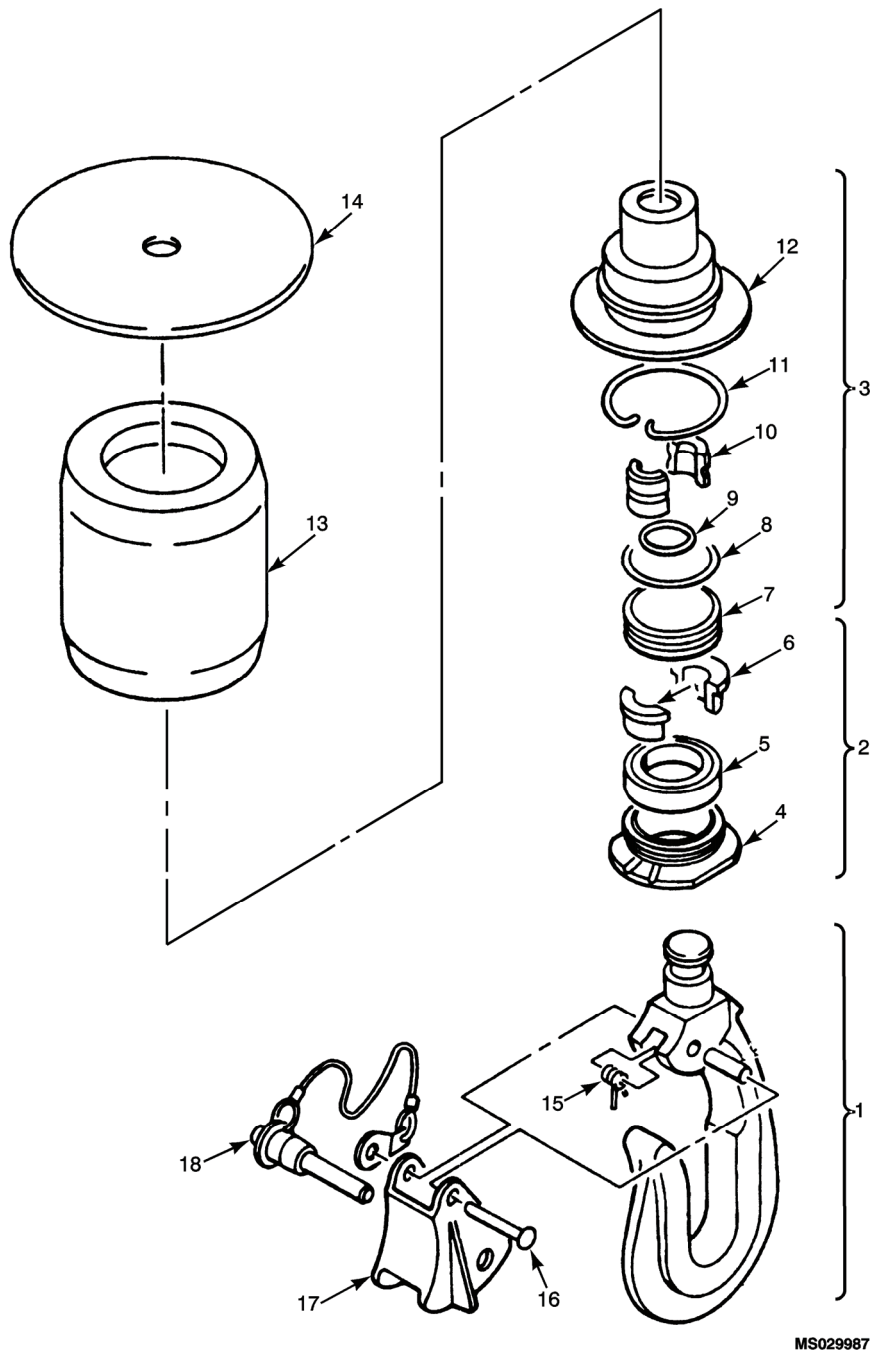
**INSPECT AFTER REMOVAL/DISASSEMBLY**

1. Inspect all parts for nicks, cracks, scratches, gouges, and corrosion.
2. Inspect all threaded parts for crossed, stripped, and damaged threads.
3. Inspect bearing for cracks and scoring in bearing races. Bearing must rotate smoothly with no noise, binding, or excessive axial or radial play.

**CLEANING**

Refer to WP 0014 00 for cleaning procedures.

REASSEMBLY/INSTALLATION



MS029987

**WARNING**

Carrier assembly (4 and 12) and split retainers (6 and 10), are matched sets. Replace only as assemblies.

**NOTE**

Steps 1 and 2 apply **ONLY** if repair or replacement of cable hook components was performed.

1. Insert torsion spring (15), cable hook keeper (17), and secure with rivet (16).
2. Install release pin (18) into cable hook.

3. Assemble upper carrier assembly (3), disc (14) and cable hook boot (13).
4. Assemble lower carrier assembly (2) by installing lower carrier half (4), bearing (5), and split retainer assembly (6) on cable hook assembly (1).
5. Secure cable hook assembly (1) with split retainer assembly (6) by sliding bearing (5) upward on cable hook assembly (1).
6. Pull approximately 18 inches of cable through cable hook boot assembly and install split retainer assembly (10) on cable, secure with retainer packing (9), and pull cable until split retainer assembly (10) seat into upper carrier assembly (12).

### NOTE

The flat side of cap (7) must be installed against split retainer assembly (6).

7. Install packing (8) on cap (7) and install into upper carrier assembly (12).
8. Assemble upper carrier assembly (3) and lower carrier assembly (2) with cable hook assembly (1) by hand tightening lower carrier assembly (2) to align carrier assembly slots.
9. Install carrier lockspring (11).
10. Connect power (28 vdc) to hoist.
11. Position control pendant **CABLE UP/DOWN** switch to **UP** and retract cable until cable hook assembly (1) is seated.
12. Rotate cable hook assembly (1) 360 degrees to ensure proper operation.
13. Conduct performance test in accordance with WP 0011 00.



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE HOOK ASSEMBLY - P/N 42315-790**

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**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Abrasive Cloth (WP 0047 00, Table 1, Item 1)

**Tools and Special Tools:**

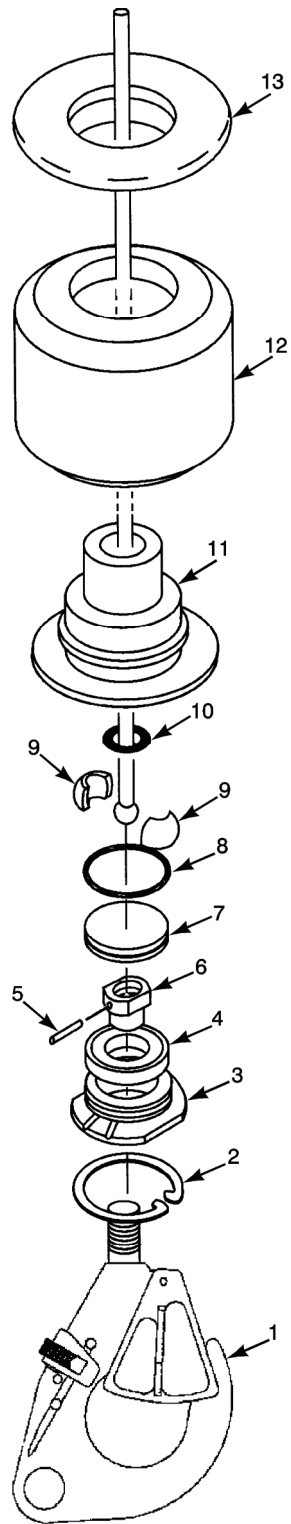
Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Air Source, 35 psi (241.3 kPa)

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**REPAIR**

Repair of parts is limited to removal of corrosion, minor nicks, burrs, scratches, or other surface damage using aluminum oxide cloth or fine abrasive. Clean parts thoroughly after repair. If damage is extensive, or if minor repair will affect serviceability, replace part.

REMOVAL/DISASSEMBLY



MS030722

1. Connect power (28 vdc) to hoist.
2. Position control pendant **CABLE UP/DOWN** switch to **DOWN** and extend cable hook assembly 2 to 3 feet, or as needed.

3. Disconnect power.
4. Separate upper carrier (11) from lower carrier (3) by removing carrier assembly lockspring (2) using flat tip screwdriver or equivalent.

### **NOTE**

Split retainer halves (9) are a matched set. Retain as assemblies.

5. Remove cap (7) and split retainer assembly (9) from upper carrier assembly (11), insert flat tip screwdriver or equivalent through upper striker disc (13), if necessary.
6. Remove packing (10) from split retainer assembly (9), discard packing.
7. Pull cable through upper carrier (11), cable hook boot (12), and upper striker disc (13).
8. Disassemble lower carrier half assembly by removing pin (5) and retaining nut (6).
9. Remove bearing (4) and lower carrier (3) from cable hook (1).

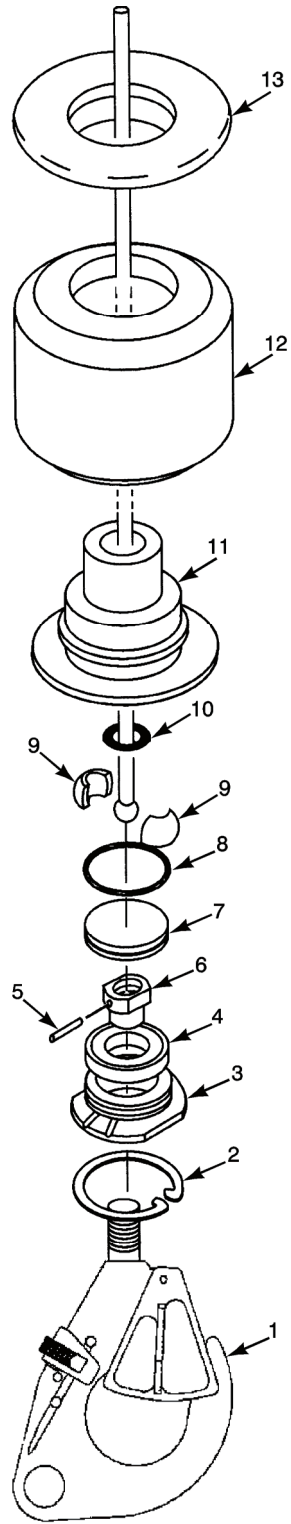
### **INSPECT AFTER REMOVAL/DISASSEMBLY**

1. Inspect all parts for nicks, cracks, scratches, gouges, and corrosion.
2. Inspect all threaded parts for crossed, stripped, and damaged threads.
3. Inspect bearing for cracks and scoring in bearing races. Bearing must rotate smoothly with no noise, binding, or excessive axial or radial play.

### **CLEANING**

Refer to WP 0014 00 for cleaning procedures.

REASSEMBLY/INSTALLATION



MS030722

**NOTE**

Carrier assembly and bearing retainer (11 and 9), are a matched set. Replace only as an assembly.

1. Assemble cable hook (1) by installing lower carrier (3), bearing (4), retainer nut (6).
2. Tighten bearing retainer nut (6) to align it with cable hook assembly (1) hole and install pin (5).
3. Install cable through upper striker disc (13), cable hook boot (12), and upper carrier (11).

**NOTE**

Cable retainers are a matched set. Replace only as an assembly.

4. Install split retainer assembly (9) on cable end by securing with packing (10).
5. Grasp cable at top of upper striker disc (13), and pull until split retainer assembly (9) seats into recess carrier retainer (11).
6. Lubricate packing (8) and install on cap (7).
7. Install cap (7) into carrier retainer (11) with flat side against recessed upper carrier (11).
8. Assemble cable hook (1) by screwing lower carrier (3) to upper carrier (11).
9. Install carrier assembly lockspring (2).
10. Connect power (28 vdc) to hoist.
11. Position control pendant **CABLE UP/DOWN** switch to **UP** and retract cable until cable hook assembly is seated.
12. Rotate cable hook assembly 360 degrees to ensure proper operation.
13. Conduct performance test in accordance with WP 0011 00.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE - REMOVAL**

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**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**Parts/Materials:**

Insulation Sleeving  
(WP 0047 00, Table 1, Item 18)  
Petrolatum (WP 0047 00, Table 1, Item 27)  
Screw, AN3H26A

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Cable Spool, 42277-730 or equivalent  
Ground Power Unit (GPU)  
Hex Wrench (WP 0037 00)

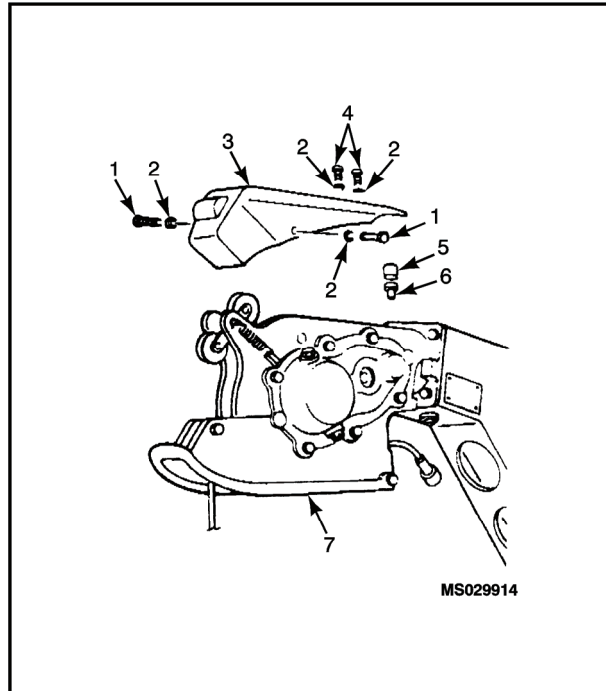
**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24 series  
Cleaning and Corrosion Control  
TM 1-1500-344-23 series

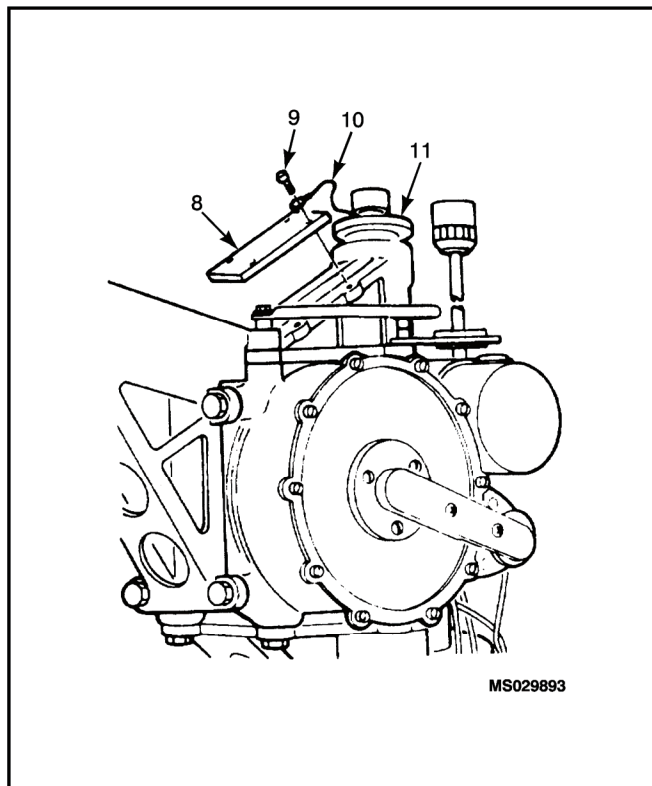
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**WARNINGS**

- The hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.
  - To avoid injury to personnel from broken wire strands, leather gloves must be worn at all times when handling cable assembly.
1. Remove cable hook assembly in accordance with WP 0015 00.
  2. Disconnect cable cutter electrical connector.



3. Remove pressure roller cover (3) from boomhead assembly (7) by removing screws (1 and 4) and washers (2).
4. Remove cable cutter cap (5) and anvil (6).

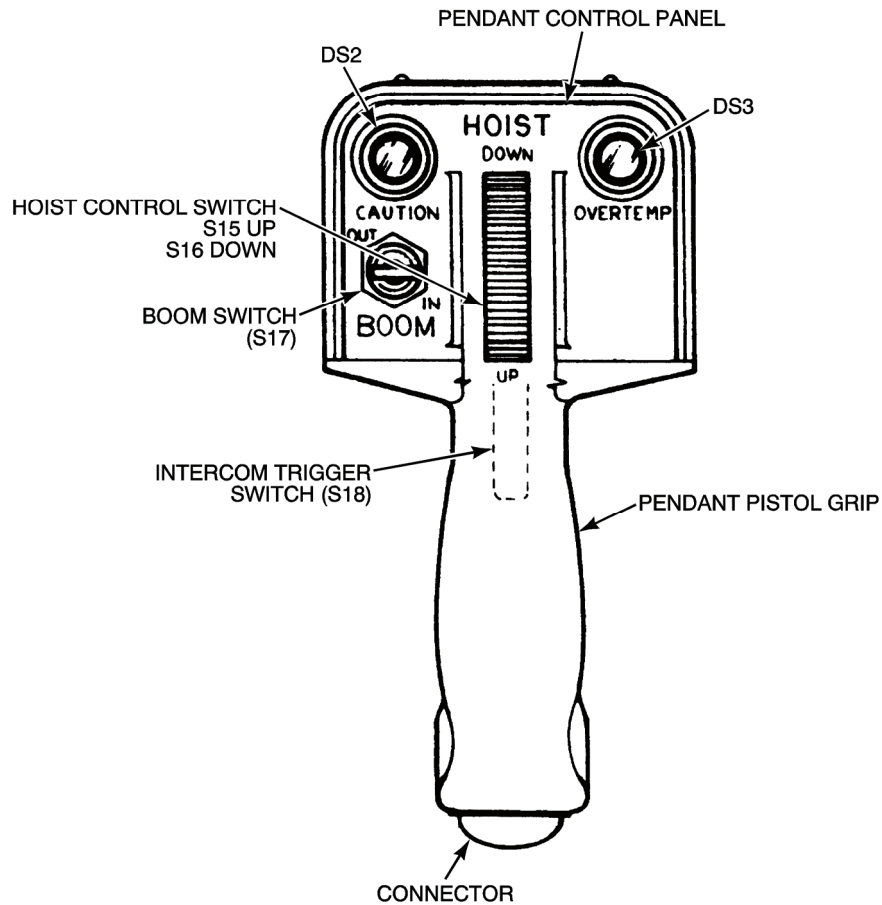


5. Remove cover plate (8) and lanyard (10) from upper support (11) by removing screws (9).



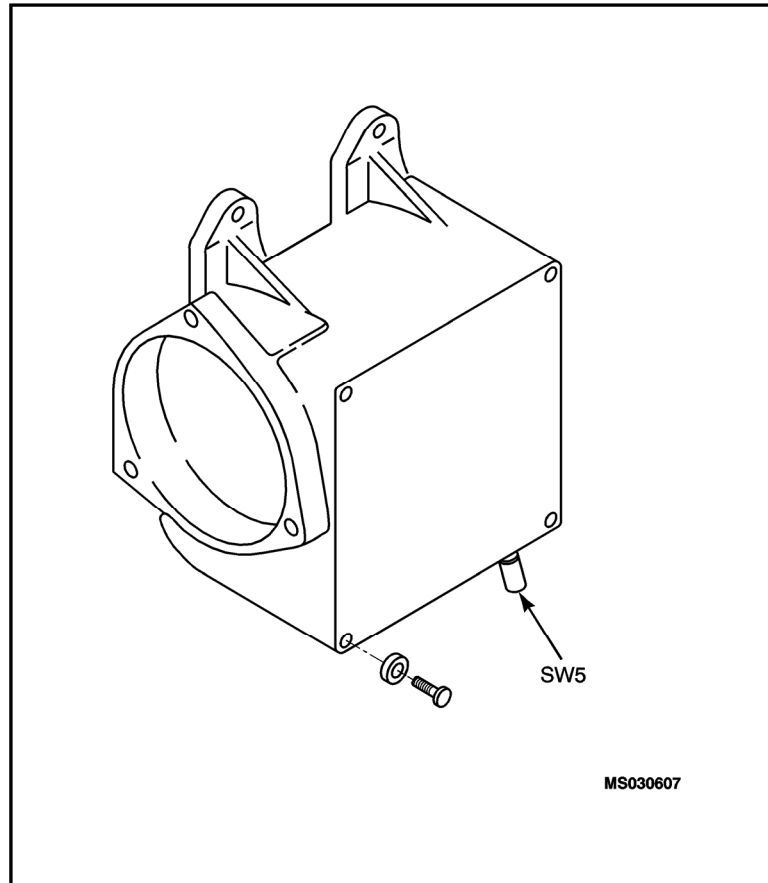
### CAUTION

Protect hoist cable from damage. Do not allow kinks or bends to occur. Maintain tension on cable at all times. Feed onto cable spool, coil cable into a suitable container, or onto a protective pad, which will prevent cable contact with ground or over abrasive surfaces.



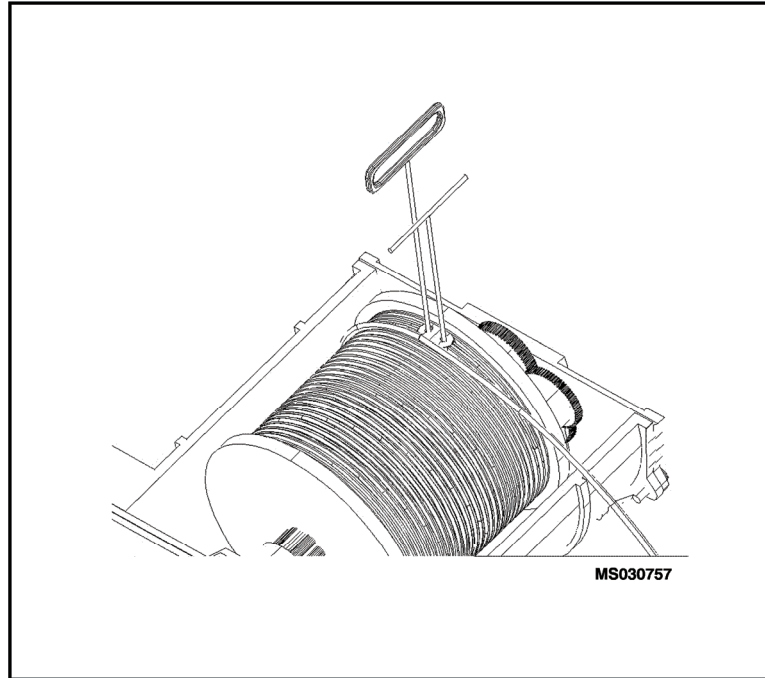
MS030289

6. Connect power (28 vdc) to hoist.
7. Position control pendant **CABLE UP/DOWN** switch to **DOWN**.
8. Extend hoist cable until winch motor stops, leaving 5 to 7 wraps of cable on drum.

**WARNING**

Activation of **FULL OUT LIMIT SWITCH (SW5)**, overriding **SW1** and **SW2**, allows drum to turn continuously until released. Damage will occur if cable retainer finger is allowed to roll over cable. To prevent roll over, do not extend cable beyond one wrap remaining on drum assembly. Operator shall monitor through winch assembly opening.

9. Locate **SW5** on underside of limit switch drive assembly. Depress **SW5**, using hex wrench or equivalent, and hold.
10. Extend hoist cable until one wrap remains on drum, with cable retaining finger setscrew at 12 o'clock position.
11. Disconnect electrical power.

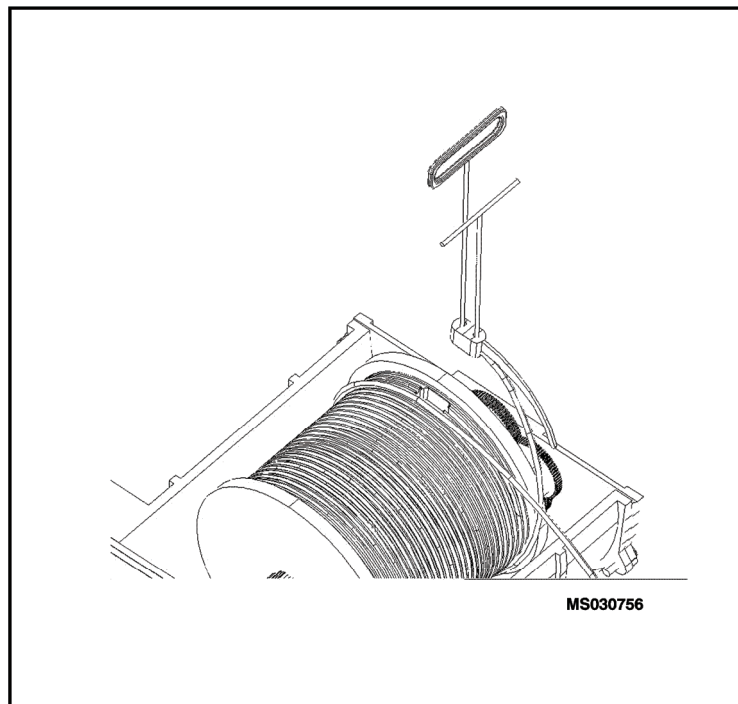


12. Install holding screw or locally manufactured tool (14) (see WP 0037 00) into cable retainer finger (13).

#### NOTE

Cable retainer setscrew is a captured screw that cannot be removed from cable retainer finger.

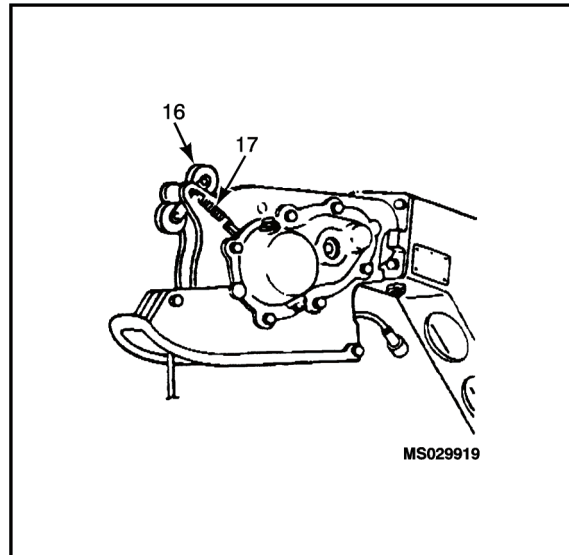
13. Loosen cable retainer setscrew (15).



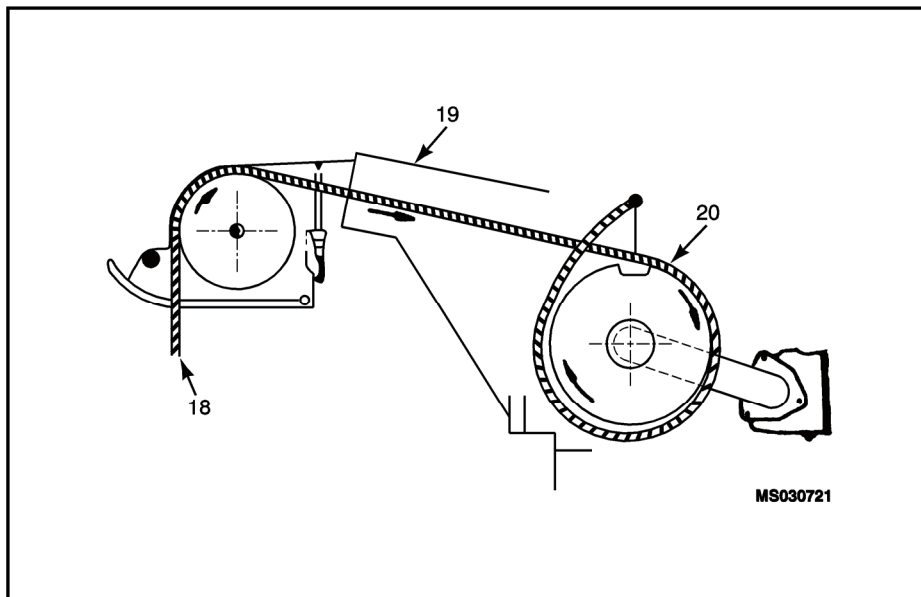
14. Remove cable retainer finger (13) to release cable (12).

**CAUTION**

Ensure cable drum does not rotate after cable removal. Rotation will cause misalignment of drum and effect limit switch adjustment, resulting in component malfunction.



15. Remove pressure roller springs (17) using special tool (WP 0037 00) and cable pressure roller assembly (16).



16. Pull hoist cable (18) through boomhead assembly (19) and out of winch housing (20).

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control  
TM 1-1500-344-23 series

**Parts/Materials:**

Lubricating Oil  
(WP 0047 00, Table 1, Item 23 or 24)  
Low-lint Cloth (WP 0047 00, Table 1, Item 13)

**Tools and Special Tools:**

Cable Spool, 42277-730 or equivalent  
Leather Gloves, MIL-G-2366  
Micrometer  
NSN 6625-01-265-6000

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**WARNING**

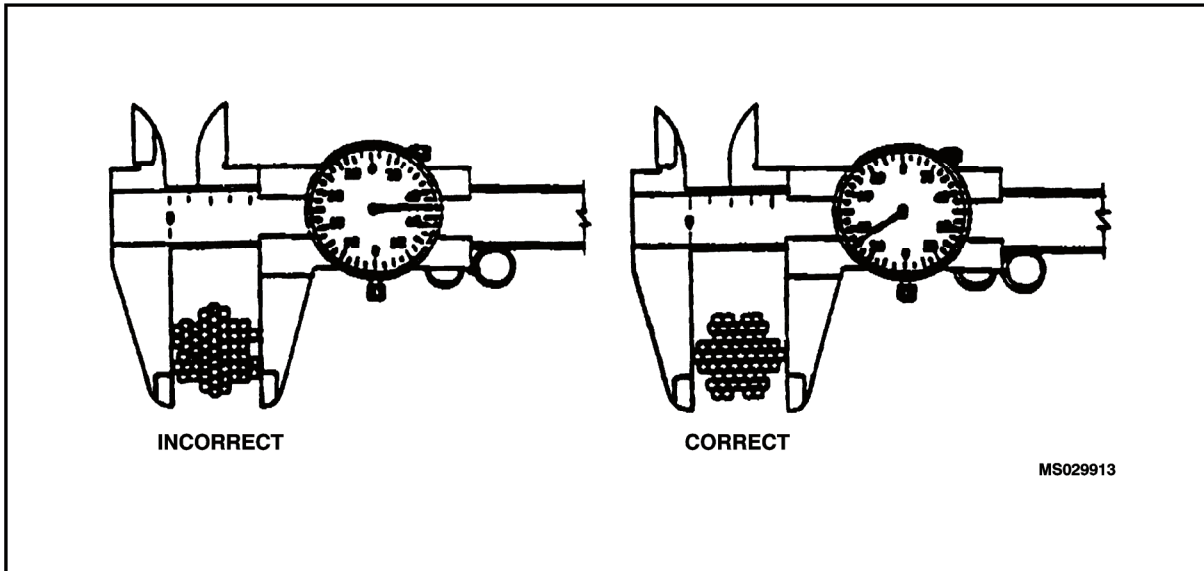
To avoid injury to personnel from broken wire strands, leather gloves must be worn at all times when handling cable assembly.

**CAUTION**

Protect hoist cable from damage. Do not allow kinks or bends to occur. Maintain tension on cable at all times. Feed onto cable spool, coil cable into a suitable container, or onto a protective pad, which will prevent cable contact with ground or over abrasive surfaces.

**NOTES**

- Continuously extending and retracting the same length of cable during daily inspections and mission operations with either no loads or loads less than 250 to 600 pounds could cause bird caging.
  - As cable is retracted, check for correct alignment and ensure cable lies evenly on drum. Apply tension to cable so that boomhead cable roller guides and pressure roller assembly rotate freely and that there is no interference when retracting cable.
1. Retract hoist cable, use a low-lint cloth to apply lubricating oil while inspecting for broken wires, bird caging, flattened areas, abrasion, necking, or other visible damage.
  2. The last 20 feet of each end of cable must be painted or dyed orange.

**CABLE MEASUREMENT****NOTE**

Rescue hoist cable assembly is from 0.188 to 0.194 inch (4.775 to 4.928 mm) diameter when new. Replace cable if at any position cable diameter is less than 0.185 inch 4.699 mm.

1. Measure the diameter of the cable assembly at 25 foot (7.62 mm) intervals.
2. Check at any position where it is believed that wear or necking may have occurred.
3. Replace hoist cable as required.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**Parts/Materials:**

Insulation Sleeving  
(WP 0047 00, Table 1, Item 18)  
Petrolatum (WP 0047 00, Table 1, Item 27)  
Screw, AN3H26A

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Cable Spool, 42277-730 or equivalent  
Ground Power Unit (GPU)

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24 series  
Cleaning and Corrosion Control  
TM 1-1500-344-23 series

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**WARNING**

To avoid injury to personnel from broken wire strands, leather gloves must be worn at all times when handling cable assembly.

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**CAUTION**

Protect hoist cable from damage. Do not allow kinks or bends to occur.

**NOTE**

If drum has not been moved from original cable removal stop point proceed to step 4.

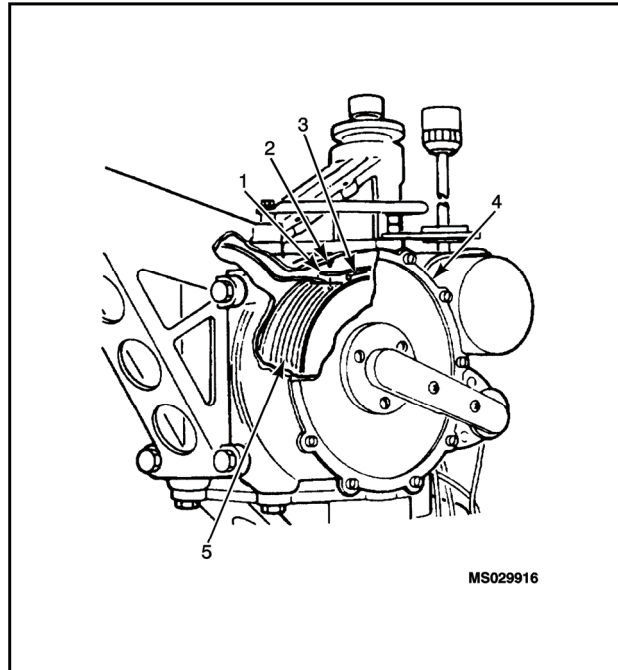
1. Connect power (28 vdc) to hoist.
2. Position drum for cable installation using control pendant (position control pendant **CABLE UP/DOWN** switch to **UP**) until drum has moved to breather side and begins returning to drum cover assembly side. Stop drum rotation with cable retainer finger slot at 12 o'clock position with approximately 1/4 inch of drum flange visible.
3. Disconnect power.

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**CAUTION**

Ensure heat shrink sleeve is not installed on drum end of cable.

4. Install cable through actuator arm and cable guard over sheave assembly.
5. Insert cable through cable cutter into boomhead support assembly.

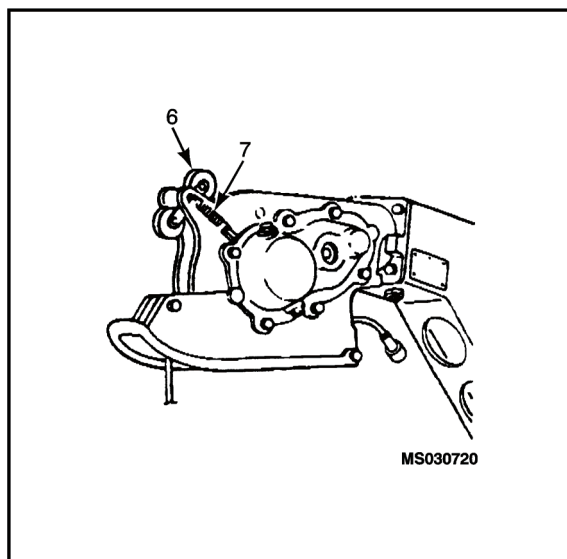


6. Insert cable into winch housing (4), over top of drum (5), and wrap cable once around drum (5).

**NOTE**

Use a flat tip screwdriver or equivalent to aid in seating cable and ball.

7. Insert cable ball into cable retainer (1) slot.
8. Install cable retainer (1) using holding screw (2) or locally manufactured tool (see WP 0037 00).
9. Ensure cable (3) is seated in proper groove.
10. Tighten cable retainer setscrew.
11. Remove holding screw (2) or special tool.



12. Install pressure roller assembly (6) using special tool (WP 0037 00) and pressure roller springs (7).
13. Connect power to hoist.



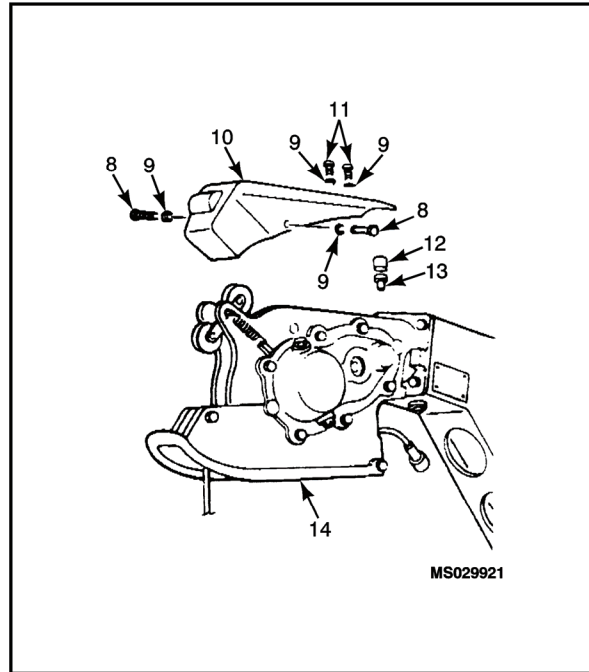
## NOTES

- Retract cable slowly while visually verifying that cable is properly seated on drum.
  - Ensure cable does not rub on sides of cable cutter barrel. Adjust as required by aligning drum assembly in accordance with WP 0024 00.
14. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) approximately 10 wraps.
  15. Extend cable (position control pendant **CABLE UP/DOWN** switch to **DOWN**) until **SW2** switch activates and stops motor; 5-7 wraps shall be visible on drum.
  16. If less than 5 or more than 7 wraps are visible on drum then adjust limit switch drive assembly in accordance with WP 0034 00.
  17. Mark cable 10 feet from boomhead actuator assembly.
  18. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) approximately 5 wraps.
  19. Extend cable slowly (position control pendant **CABLE UP/DOWN** switch to **DOWN**) and verify that 10/240 ft. light illuminates when mark reaches boomhead actuator assembly.
  20. If 10/240 ft. light does not illuminate then adjust limit switch drive assembly in accordance with WP 0034 00.
  21. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) until approximately 10 ft. remains between hook assembly and boomhead actuator assembly. The 10/240 ft. warning light should illuminate.
  22. If 10/240 ft. warning light does not illuminate then adjust limit switch drive assembly in accordance with WP 0034 00.

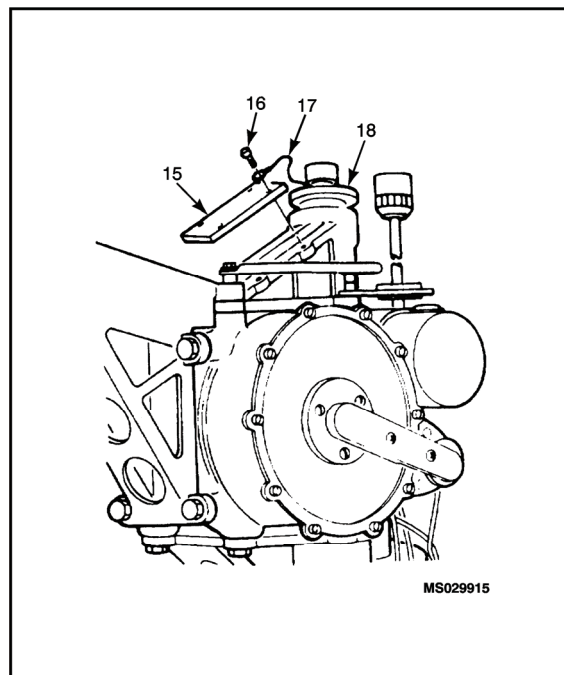
## CAUTION

Ensure heat shrink sleeve is visible at cable hook end.

23. If required, install 3/8 inch diameter heat shrink sleeve (3-4 inch long) onto hook end of cable assembly as follows:
  - a. Lubricate swaged ball on hook end of cable.
  - b. Slide tubing over swaged ball and align tubing with end of shank on ball.
  - c. Heat tubing slightly, in place, in accordance with TM 1-1500-323-24 series.
24. Install cable hook assembly in accordance with WP 0015 00.
25. Retract remaining cable (position control pendant **CABLE UP/DOWN** switch to **UP**). Observe that cable travel speed is reduced to 12 ft. per minute when hook assembly is 18-24 in. from boomhead actuator assembly.
26. If cable travel speed is not reduced when hook assembly is 18-24 in. from boomhead actuator assembly then adjust limit switch drive assembly in accordance with WP 0034 00.
27. Adjust cable alignment as required by aligning drum assembly in accordance with WP 0024 00.



- 28. Install cable cutter anvil (13) and cap (12) and torque cap to 50-75 in. lbs.
- 29. Install pressure roller cover (10) on boomhead assembly (14) using screws (8 and 11) and washers (9).



- 30. Install cover plate (15) and lanyard (17) to upper support (18) using screws (16).
- 31. Conduct performance check in accordance with WP 0011 00.

**End of Work Package**

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE CUTTER ASSEMBLY**

**NOTES**

- Date of manufacture is shown on cartridge and can be interpreted as follows:  
Example - CDI95C

**CDI** is Company Code  
**95** is Year of Manufacture  
**C** is Month of Manufacture

January	A	April	D	July	G	October	J
February	B	May	E	August	H	November	K
March	C	June	F	September	I	December	L

Government Part Number: Example - CTG IMP 007-003

CTG	Cartridge	IMP	Impulse	007-003	Manufacture Internal Number
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- After activation of P/N 42277E182 (cable cutter assembly) use P/N K303104-1 (refire kit) and MU-34 cartridge for repair. Barrel and cap will be reused during assembly.
- Cartridge Actuated Device (CAD) has a hermetically sealed shelf life of 12 years from date of manufacture and a maximum installed life of 48 months. When CAD is removed from its hermetically sealed container installed life begins. Cartridge replacement is mandatory when CAD reaches its 12 year shelf life or 48 month installed life.
- If CAD is manufactured in January 2006 its shelf life expires January 2018; however, if same CAD is removed from its hermetically sealed container in February 2006 then its installed life expires February 2010. Furthermore, if same CAD is removed from its hermetically sealed container in February 2015 then installed life will expire January 2018. Installed life **WILL NOT** exceed manufacture date/shelf life of 12 years.
- Dispose of expired CADs in accordance with DoD and Army regulations governing disposal of munitions.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE CUTTER ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series  
Munitions, Restricted or Suspended  
TB 9-1300-385, Appendix D

**WARNING**

Hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

1. Ensure electrical connector is secured.
2. Inspect visible areas of cable cutter for nicks, cracks, and corrosion.
3. Inspect electrical cable for frayed and broken insulation, cuts, and tears.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE CUTTER ASSEMBLY - REMOVAL**

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**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**Parts/Materials:**

N/A

**Tools and Special Tools:**

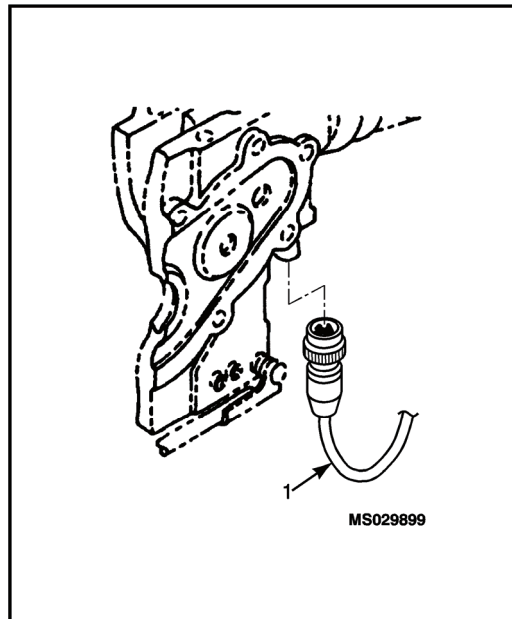
N/A

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series  
Munitions, Restricted or Suspended  
TB 9-1300-385, Appendix D

**WARNING**

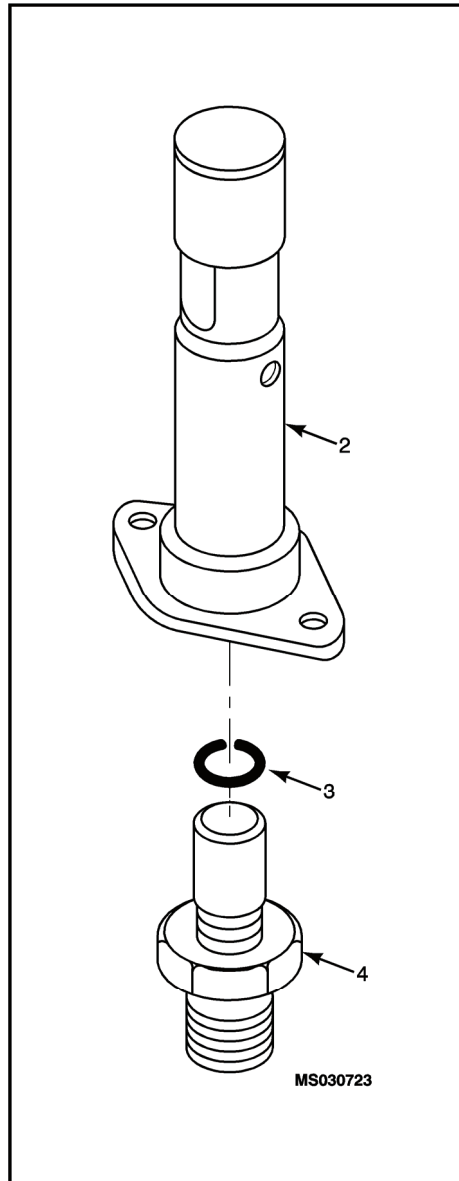
Ensure external electrical power is removed from system prior to removing cable cutter assembly. Activated electricity could cause injury to personnel or damage to equipment.



1. Ensure external electrical power is removed.
2. Cut lockwire from cable cutter electrical connector (1), discard lockwire.
3. Disconnect electrical connector (1).

**WARNING**

Hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

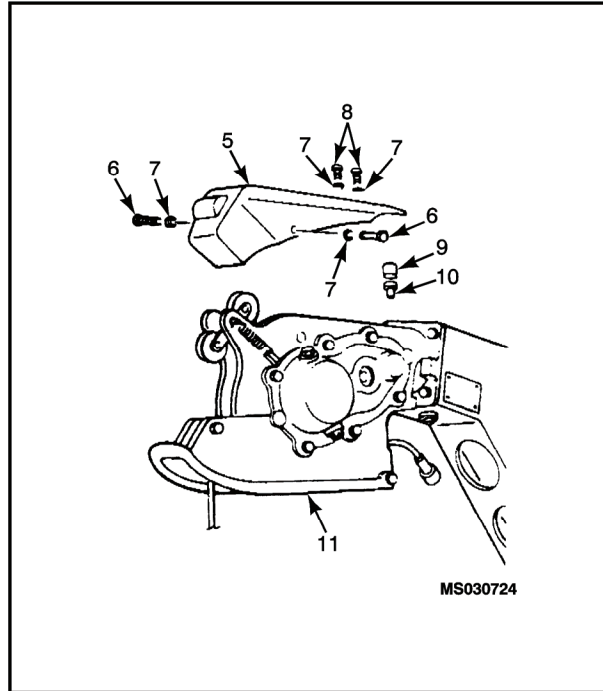


4. Install shorting device.

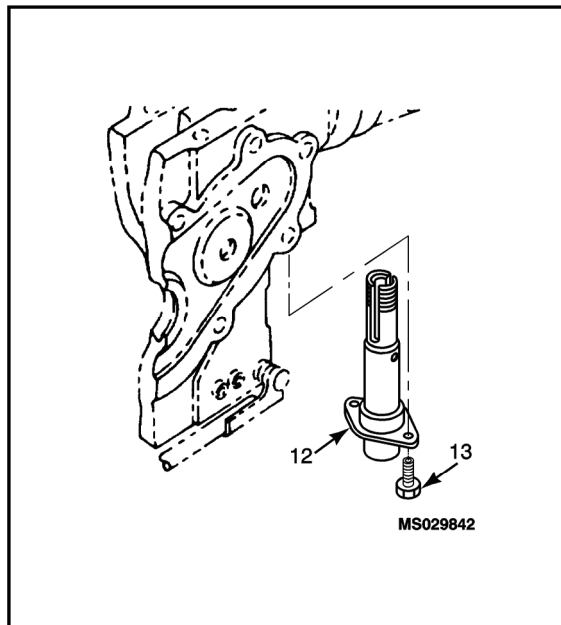
**WARNING**

Handle CAD in accordance with DoD and Army regulations.

5. Cut lockwire and remove cartridge (4) and packing (3) from cable cutter assembly (2).



6. Remove pressure roller cover (5) from boomhead assembly (11) by removing screws (6 and 8) and washers (7).
7. Remove cable cutter cap (9) and anvil (10).



8. Remove bolts (13).
9. Remove cable cutter assembly (12).

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE CUTTER ASSEMBLY - P/N 42277E336**

**INITIAL SETUP**

**Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series  
Munitions, Restricted, or Suspended  
TB 9-1300-385, Appendix D

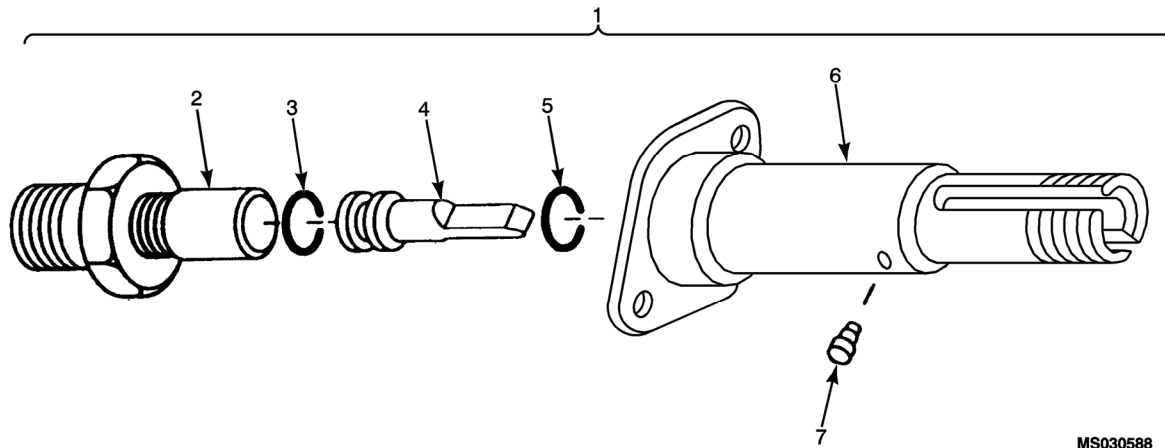
**Parts/Materials:**

Abrasive Cloth (WP 0047 00, Table 1, Item 1)  
Cleaning Solvent (WP 0047 00, Table 1, Item 12)  
Low-lint Cloth (WP 0047 00, Table 1, Item 13)  
Lockwire (WP 0047 00, Table 1, Item 21)  
Petrolatum (WP 0047 00, Table 1, Item 27)

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476

**DISASSEMBLY**



MS030588

1. Cut lockwire and remove and discard cartridge (2) and packing (3) from cable cutter assembly (1).
2. Insert screwdriver into threaded end of barrel (6) and push cable cutter (4) from barrel (6).
3. Discard cable cutter (4) and packing (5).
4. Remove and discard shear screw (7).



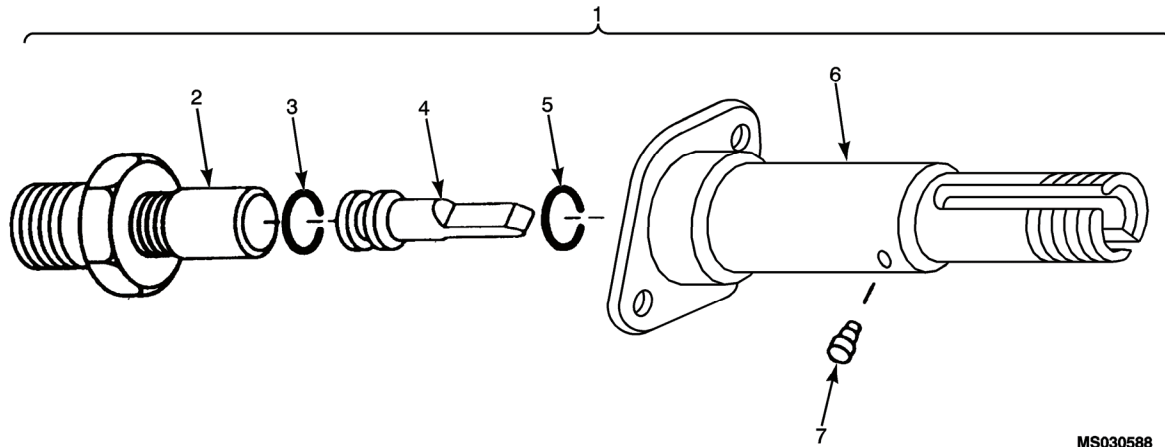
**CLEANING****WARNINGS**

- Perform all cleaning in a well lit, clean, and properly ventilated room.
  - Cleaning solvent is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.
1. Remove corrosion deposits from barrel with abrasive cloth.
  2. Clean powder deposits with lint-free cloth dampened with cleaning solvent.

**INSPECT**

1. Inspect barrel for corrosion, stripped threads, and evidence of damage.
2. Inspect shear screw bore in barrel for stripped threads and damage.

## ASSEMBLY

**WARNING**

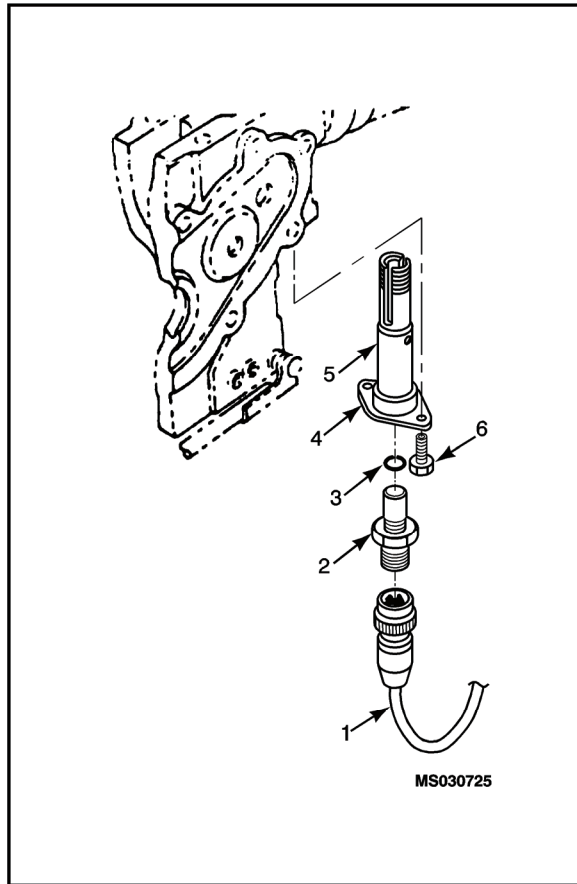
Hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

1. Lubricate new packing (5) and install on new cable cutter (4).
2. Position cable cutter (4) perpendicular to aperture on barrel (6) and obtain an alignment reference between bore hole on cable cutter (4) and threaded bore on barrel (6) and install cable cutter (4).
3. Install cable cutter (4) into barrel and align bore holes.

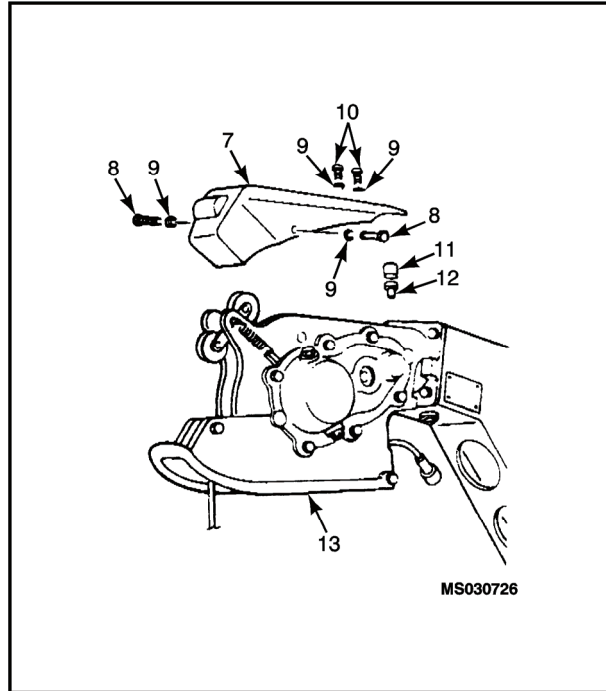
**NOTE**

Ensure shear screw (5) head is flush with barrel (6) surface. Do not over tighten shear screw (5).

4. Install new shear screw (7) and torque 5-7 in. lbs.

**INSTALLATION**

1. Install cable cutter assembly (5) into boomhead assembly using bolts (6), torque to 23-31 in. lbs.
2. Install packing (3) on new CAD (2).
3. Install CAD (2) on cable cutter assembly and torque CAD 50-75 in. lbs.
4. Install lockwire, securing CAD to cable cutter assembly barrel (4).



5. Install anvil (12) and cap (11) and torque cap to 50-75 in. lbs.
6. Install pressure roller cover (7) on boomhead assembly (13) using screws (8 and 10) and washers (9).
7. Visually check cable and cable cutter ensuring they do not make contact. If adjustment is necessary, refer to WP 0024 00.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CABLE CUTTER ASSEMBLY - P/N 42305-160**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
 UH-60: 15T, Helicopter Repairer  
 Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
 Maintenance TM 1-1500-204-23 series  
 Munitions, Restricted, or Suspended  
 TB 9-1300-385, Appendix D

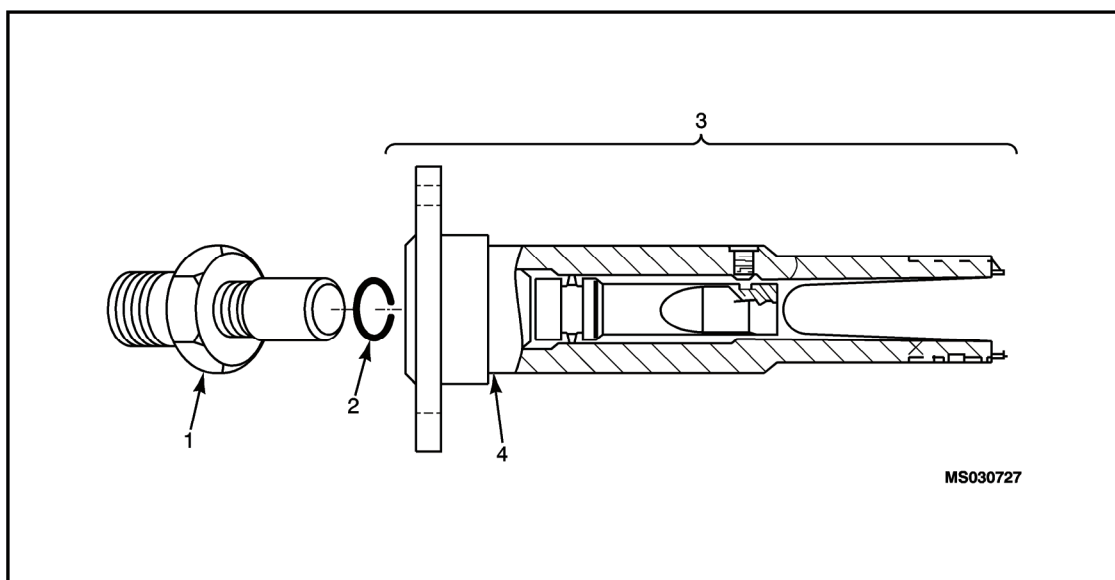
**Parts/Materials:**

Low-lint Cloth (WP 0047 00, Table 1, Item 13)  
 Lockwire (WP 0047 00, Table 1, Item 21)  
 Petrolatum (WP 0047 00, Table 1, Item 27)

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
 NSN 4920-00-567-0476

---

**DISASSEMBLY**

1. Cut, remove, and discard lockwire from cartridge (1).
2. Remove and dispose of cartridge (1) and packing (2).

**ASSEMBLY**

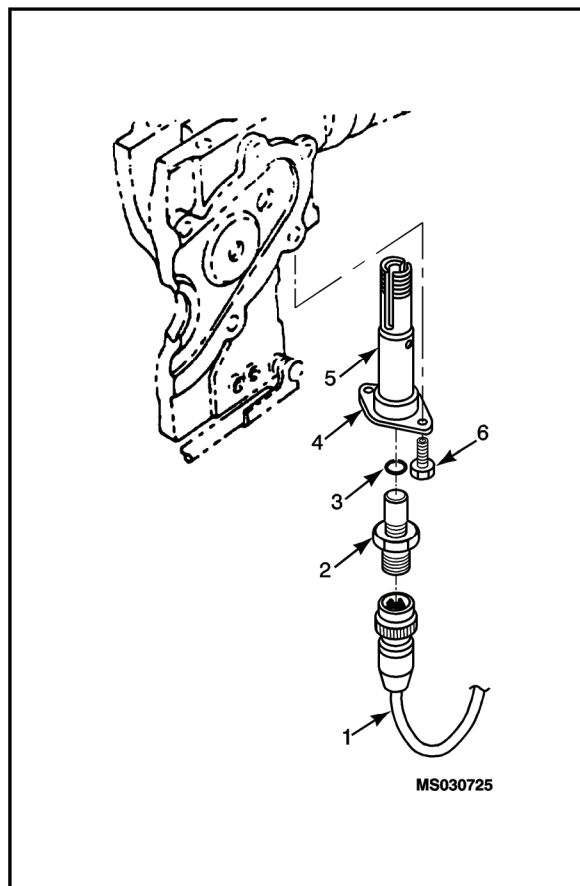
1. Install new packing (2) on new cartridge (1)
2. Install cartridge (1) on cable cutter assembly (3) and torque cartridge (1) 50-75 inch lbs.
3. Install lockwire, securing cartridge (1) to cable cutter assembly barrel (3).

**INSTALLATION****WARNING**

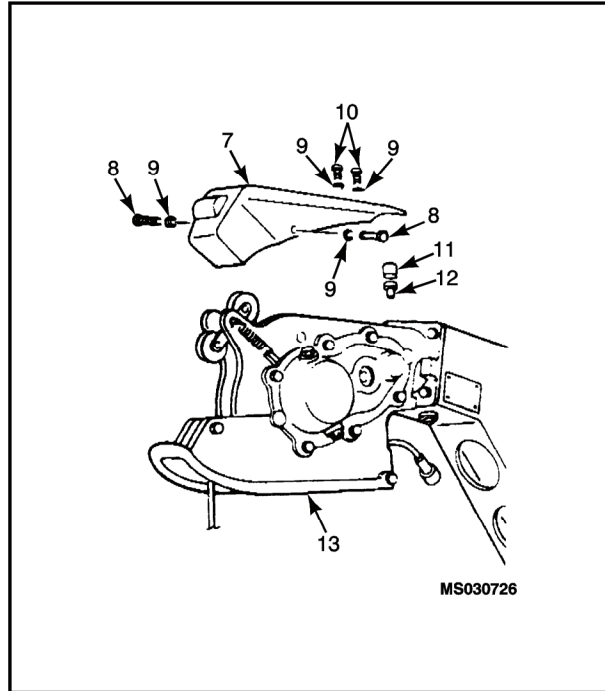
Hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

**NOTE**

Cable cutter assembly, part number 42305-160, uses a MK 44, MOD 0 cartridge, which has a shelf life of 15 years from date of manufacture and an installed life of 72 months.



1. Install cable cutter assembly (5) into boomhead assembly using bolts (6), torque 23-31 in. lbs.
2. Install packing (3) on new CAD (2).
3. Install CAD (2) on cable cutter assembly (5) and torque CAD (2) to 50-75 in. lbs.
4. Install lockwire, securing CAD (2) to cable cutter assembly barrel (4).



5. Install anvil (12) and cap (11) and torque cap 50-75 in. lbs.
6. Install pressure roller cover (7) on boomhead assembly (13) using screws (8 and 10) and washers (9).
7. Visually check cable and cable cutter ensuring they do not make contact. If adjustment is necessary, refer to WP 0024 00.

**End of Work Package**





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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
BOOMHEAD/SUPPORT ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4915

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1. Inspect boomhead assembly for nicks, cracks, scratches, dents, and corrosion.
2. Inspect for evidence of oil leakage.
3. Inspect cable cutter and switch harness assembly for cuts, tears, fraying, and broken insulation.
4. Inspect CAD pins for serviceability.
5. Check boomhead for freedom of movement.
6. Check boomhead fluid level.
7. Ensure identification plate is properly attached to the boomhead support assembly and is legible.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
BOOMHEAD/SUPPORT ASSEMBLY - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 2**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Automatic Transmission Fluid  
(WP 0047 00, Table 1, Item 16)  
Lockwire (WP 0047 00, Table 1, Item 22)  
Packing, MS28775-010  
Container, Oil Drain

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4915  
Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476

---

**WARNING**

Hoist cable cutter contains an explosive cartridge. Use extreme care when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

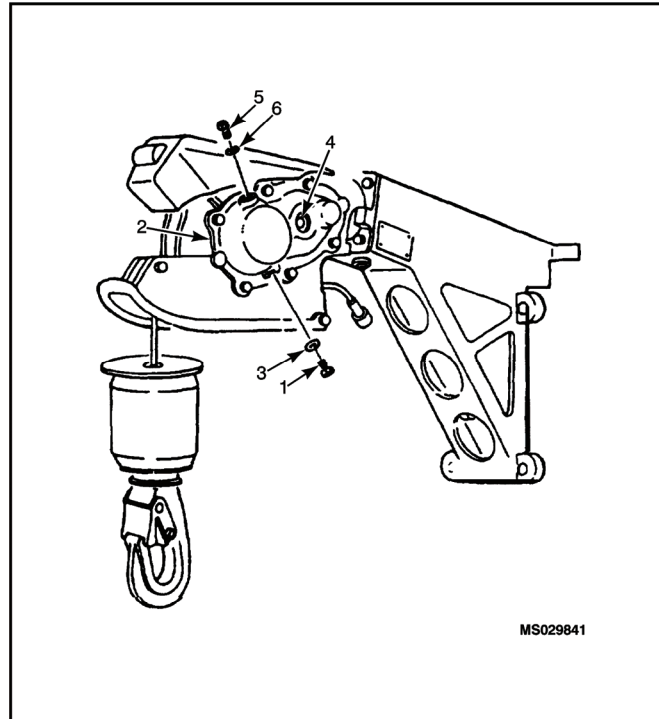
1. Remove cable cutter assembly in accordance with WP 0017 00.
2. Remove cable assembly in accordance with WP 0016 00.

**DRAINING****WARNING**

Automatic Transmission Fluid is toxic to skin, eyes, and respiratory tract. Avoid prolonged or repeated skin contact. Proper ventilation is required.

**NOTE**

Use an acceptable receptacle to catch fluid before removing drain plugs.

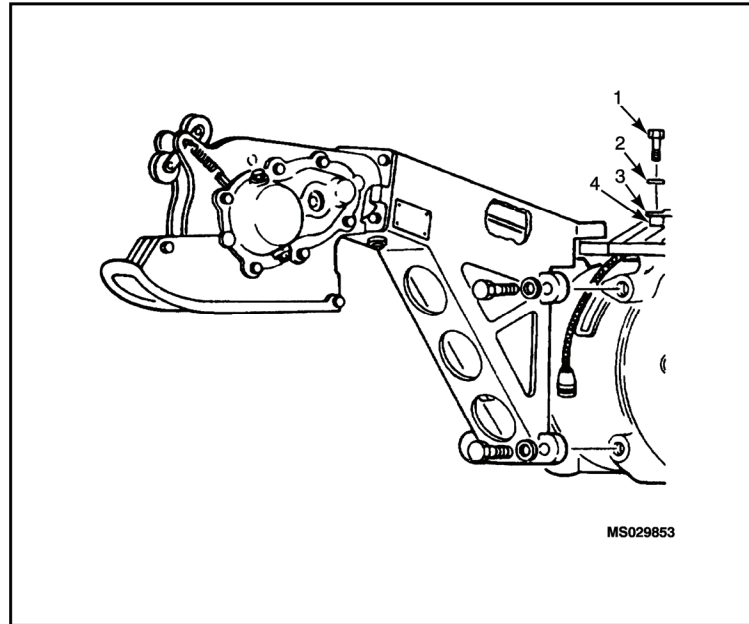


1. Remove lockwire from drain plugs (1), discard lockwire.
2. Remove drain plugs (1) from side covers (2) and allow fluid to drain from boomhead assembly.
3. Remove packings (3) from drain plugs (1), discard packings.
4. Lubricate new packings (3) and install on drain plugs (1).
5. Install drain plugs (1) and torque 90-100 in. lbs.

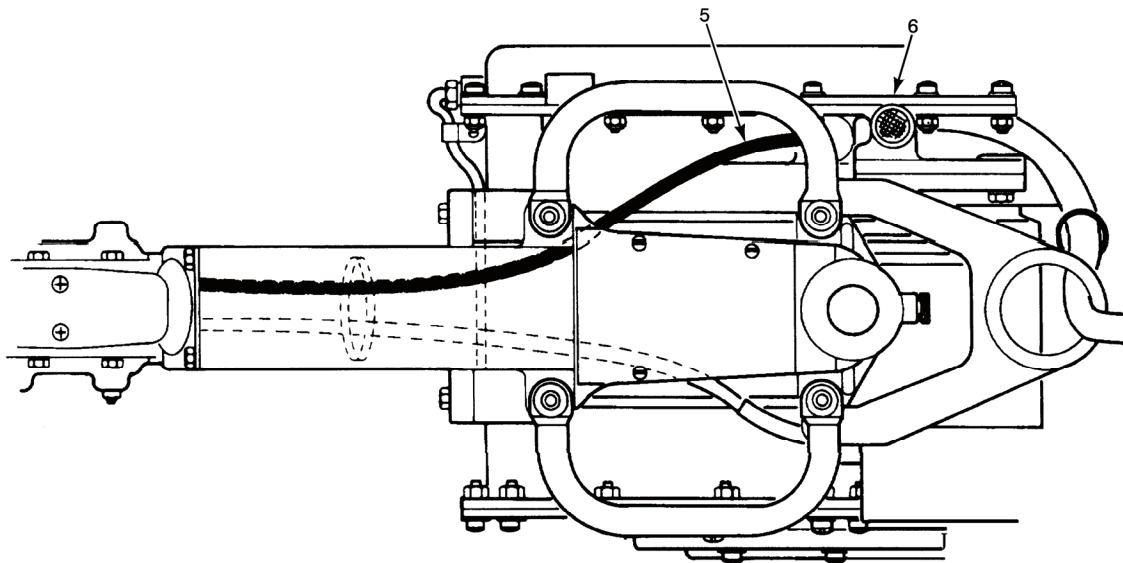
## REMOVAL

**WARNING**

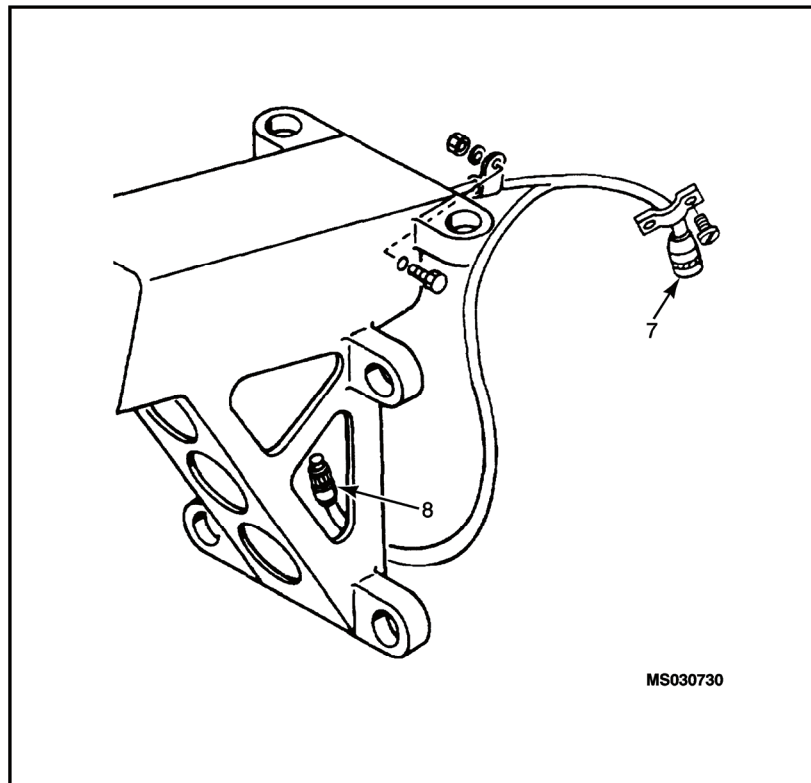
Enlist help of an assistant to support boomhead assembly during removal to prevent injury to personnel and damage to equipment.



1. Remove forward bolts (1), washers (2), and spacers (4) from handles (3).
2. Loosen rear bolts (1) and swing handles (3) outward.



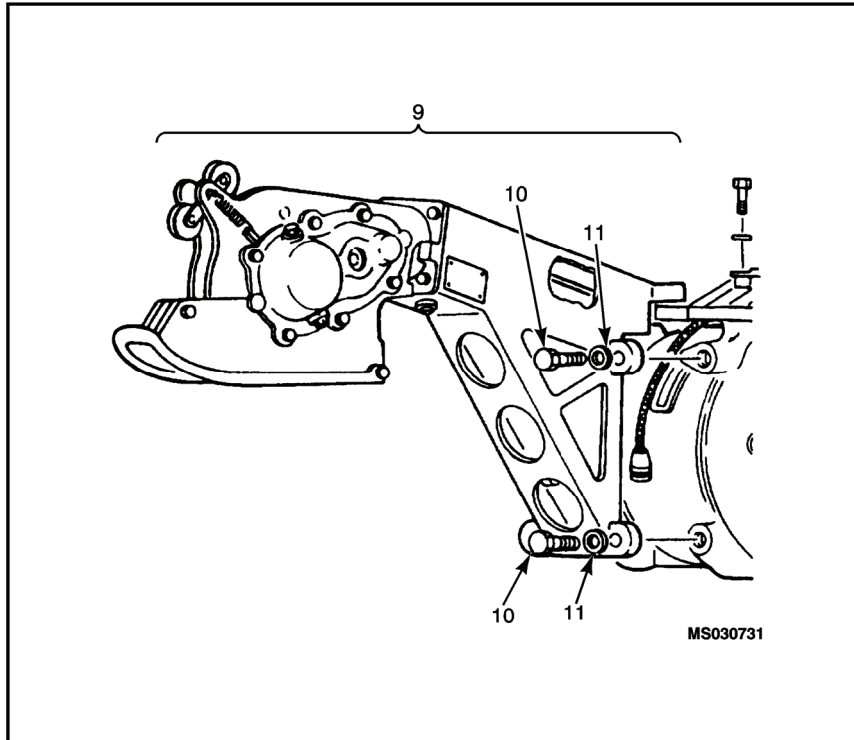
3. Disconnect flexible driveshaft assembly (5) from winch assembly (6) by removing lockwire and disconnecting nut from winch housing.
4. Remove packing and discard.



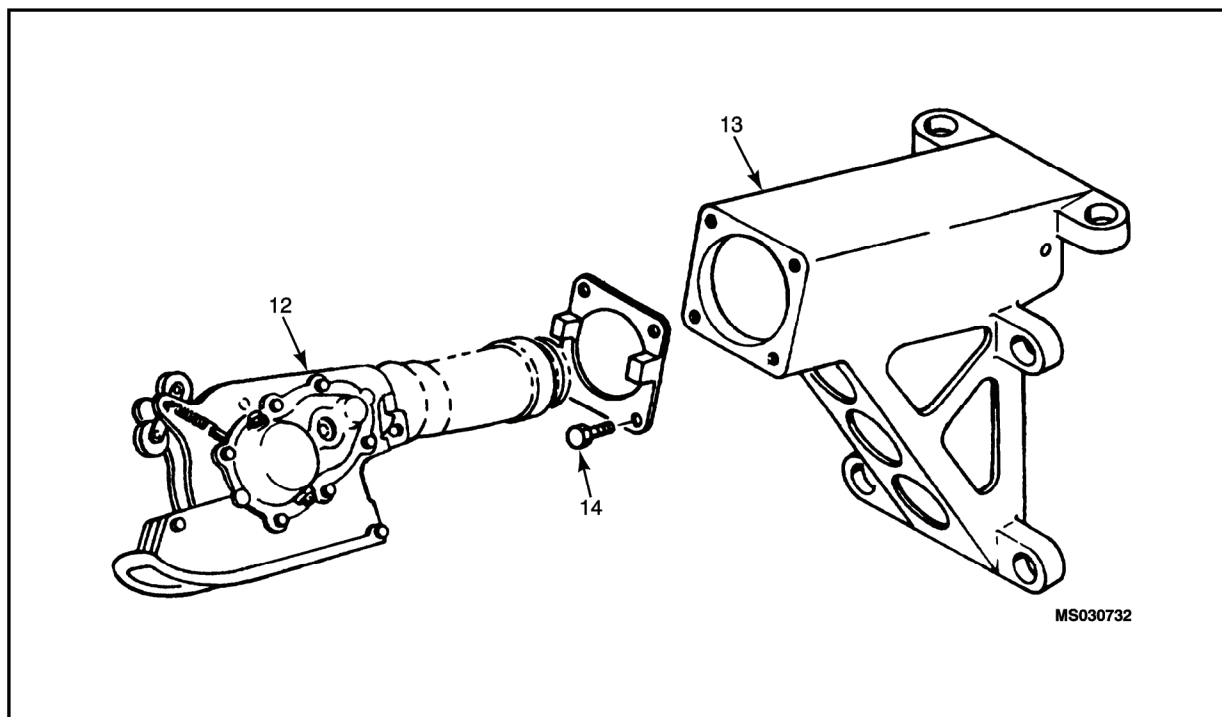
5. Disconnect boomhead electrical harness (7) from control panel.
6. Disconnect winch temperature switch cannon plug (8) from boomhead electrical harness (7).

**WARNINGS**

- To prevent damage, use a suitable padded prying device to allow flexible driveshaft cable to pass between support assembly and winch assembly.
- There are two dowel pins; one upper right and one lower left of drum assembly. Apply even pressure to both dowel pin locations to prevent damage to boomhead support assembly.



7. Remove bolts (10) and washers (11).
8. Remove boomhead support assembly (9) from winch housing by wrapping padding around tips of a suitable prying device and prying outward on boomhead support assembly (9) to separate it from winch assembly.
9. Pry upward on upper support assembly to allow the flexible driveshaft to pass between boomhead support assembly (9) and winch assembly.



10. Remove bolts (14) from boomhead (12).
11. Separate boomhead (12) from upper support (13).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
BOOMHEAD/SUPPORT ASSEMBLY - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Lockwire (WP 0047 00, Table 1, Item 22)

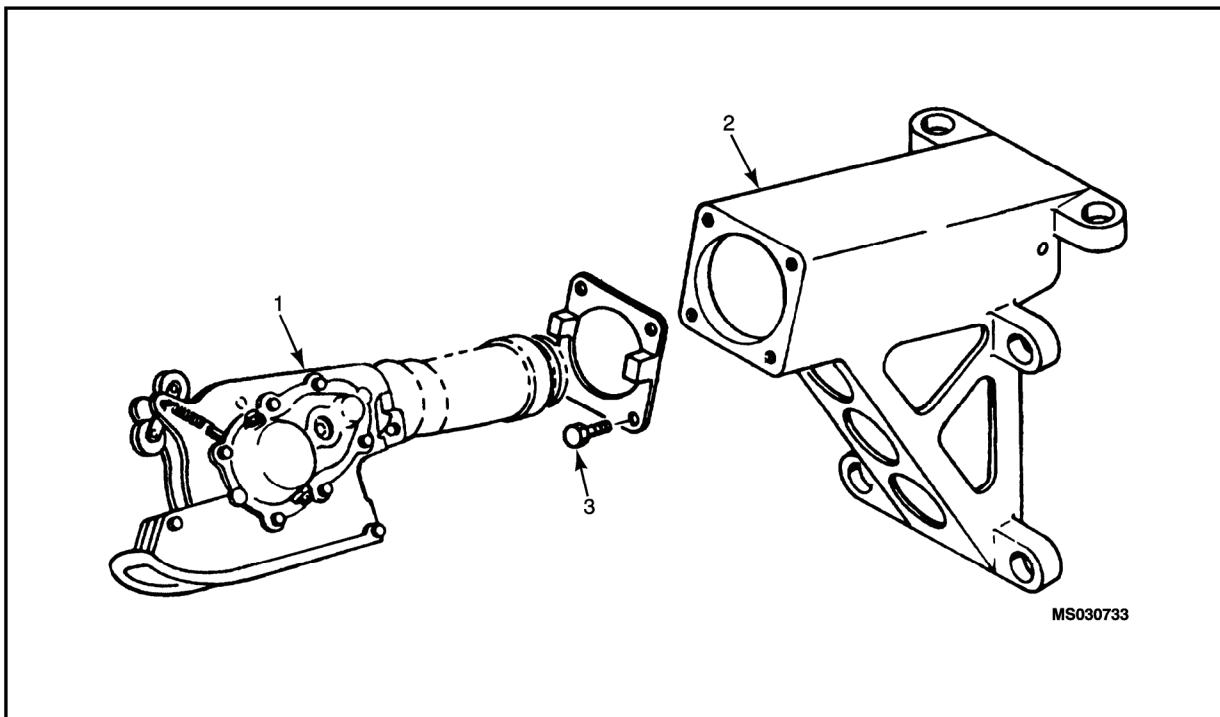
**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476

---

**WARNING**

Apply even pressure between upper support assembly and winch housing to provide clearance to install flexible driveshaft flange nut.



1. Install boomhead (1) onto upper support (2).
2. Install bolts (3).
3. Torque bolts 160-190 in. lbs.

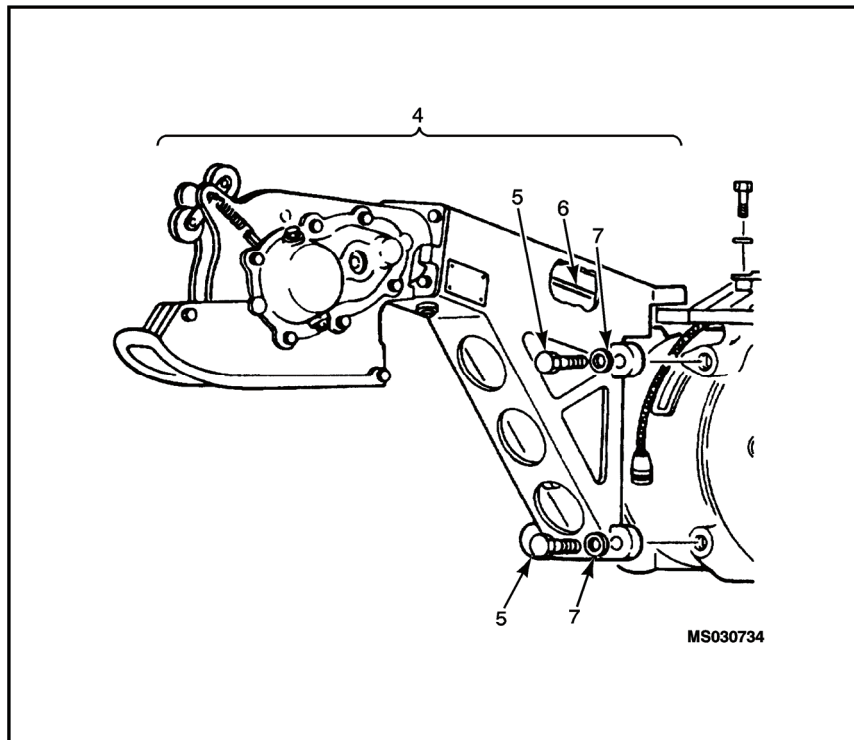


**WARNING**

To prevent damage, use a suitable padded prying device to allow flexible driveshaft cable to pass between support assembly and winch assembly.

**NOTE**

High performance rescue hoist is identified by an identification plate that is located on right side of boomhead support assembly. If boomhead support assembly is replaced, data plate must be transferred to new boomhead support assembly. If identification plate is missing or damaged it must be replaced. Original serial number must be transcribed to new identification plate. New identification plate must be obtained from manufacturer.

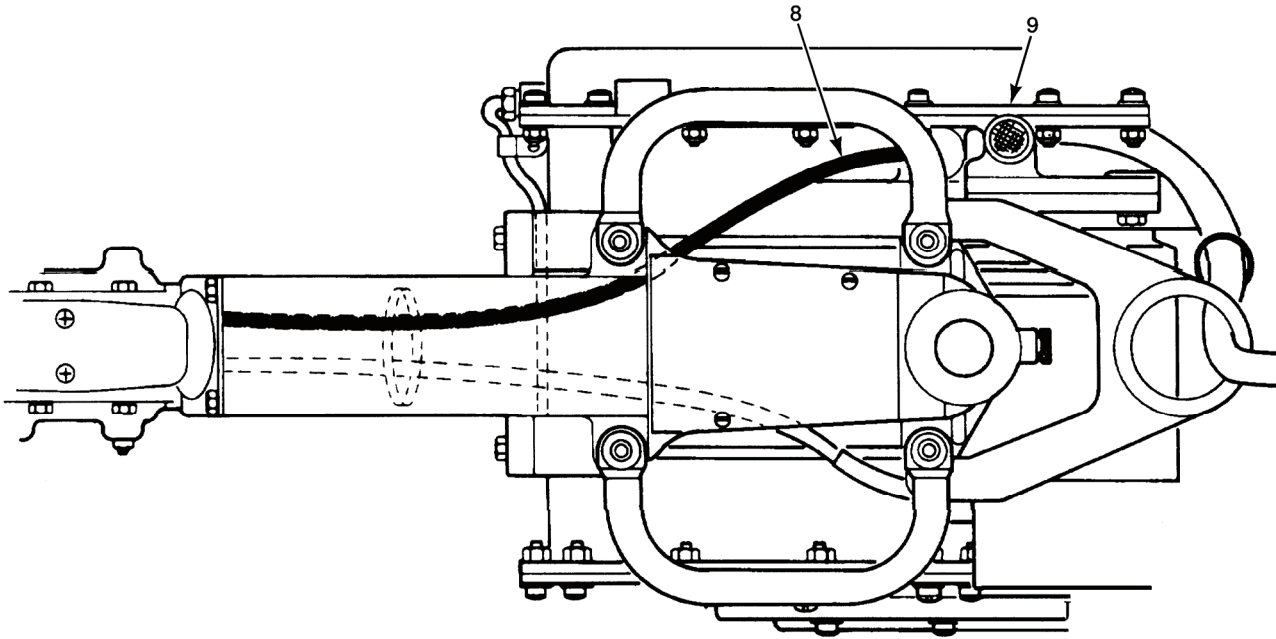


4. Position boomhead support assembly (4) near winch assembly and pass flexible driveshaft (6) between upper support assembly and winch assembly.

**NOTE**

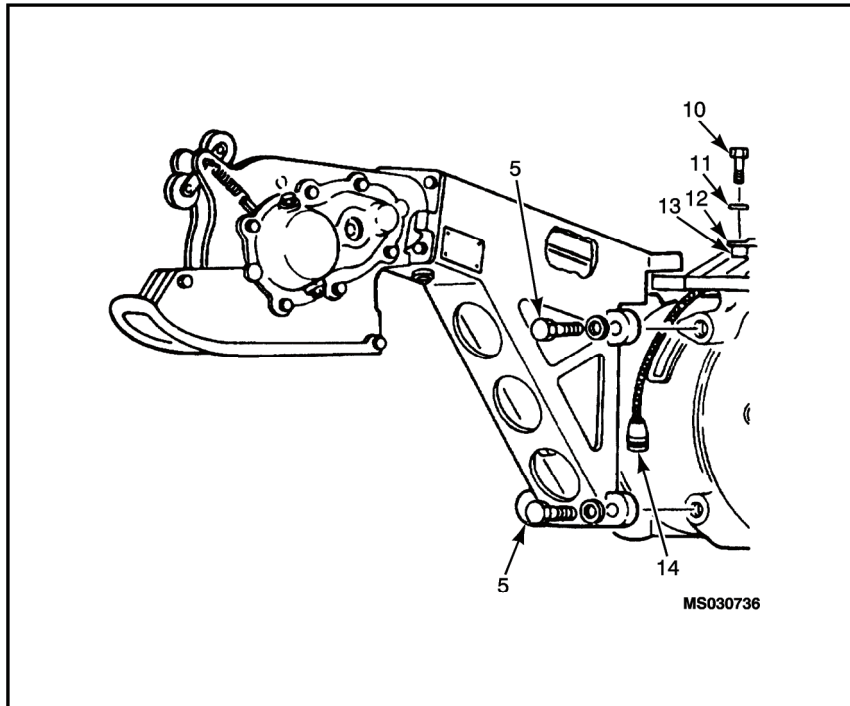
Prior to completing step 2, position boomhead assembly wiring harness, between top and lower mount bolts on left side of boomhead support assembly.

5. Install boomhead support assembly (4) onto winch assembly dowel pins.
6. Install bolts (5) and washers (7).



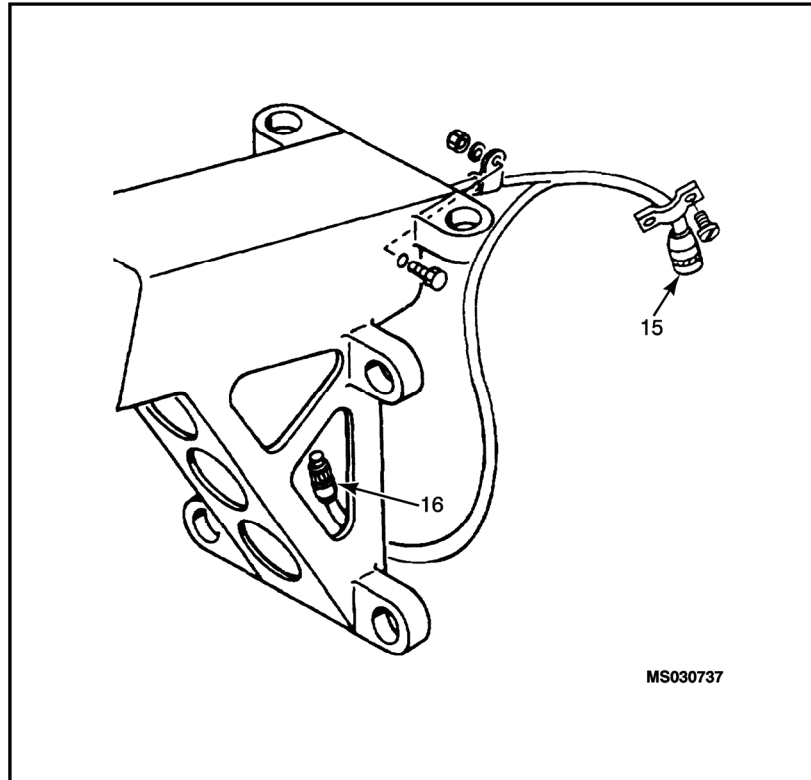
MS030735

7. Lubricate new packing and install on flexible driveshaft assembly (8).
8. Connect flexible driveshaft assembly (8) to winch assembly (9), torque 90-100 in. lbs., and lockwire.



MS030736

9. Install spacers (13) and swing handles (12) inboard into position.
10. Install upper support assembly front bolts (10) and washers (11).
11. Torque front and rear bolts (5 and 10) 160-190 in. lbs.
12. Connect boomhead electrical harness (14) to control panel.



13. Connect winch temperature switch cannon plug (16) to boomhead electrical harness (15).
14. Secure winch temperature switch cannon plug (16) to upper support assembly using two plastic tie wraps.
15. Service boomhead in accordance with procedures in WP 0018 00.
16. Install cable cutter assembly in accordance with WP 0017 00.
17. Install cable assembly in accordance with WP 0016 00.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
BOOMHEAD/SUPPORT ASSEMBLY - SERVICE**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Automatic Transmission Fluid  
(WP 0047 00, Table 1, Item 16)  
Lockwire (WP 0047 00, Table 1, Item 22)  
Lubricating Oil  
(WP 0047 00, Table 1, Item 23 or 24)  
Packing, MS28775-010

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Maintenance  
NSN 5180-00-323-4915

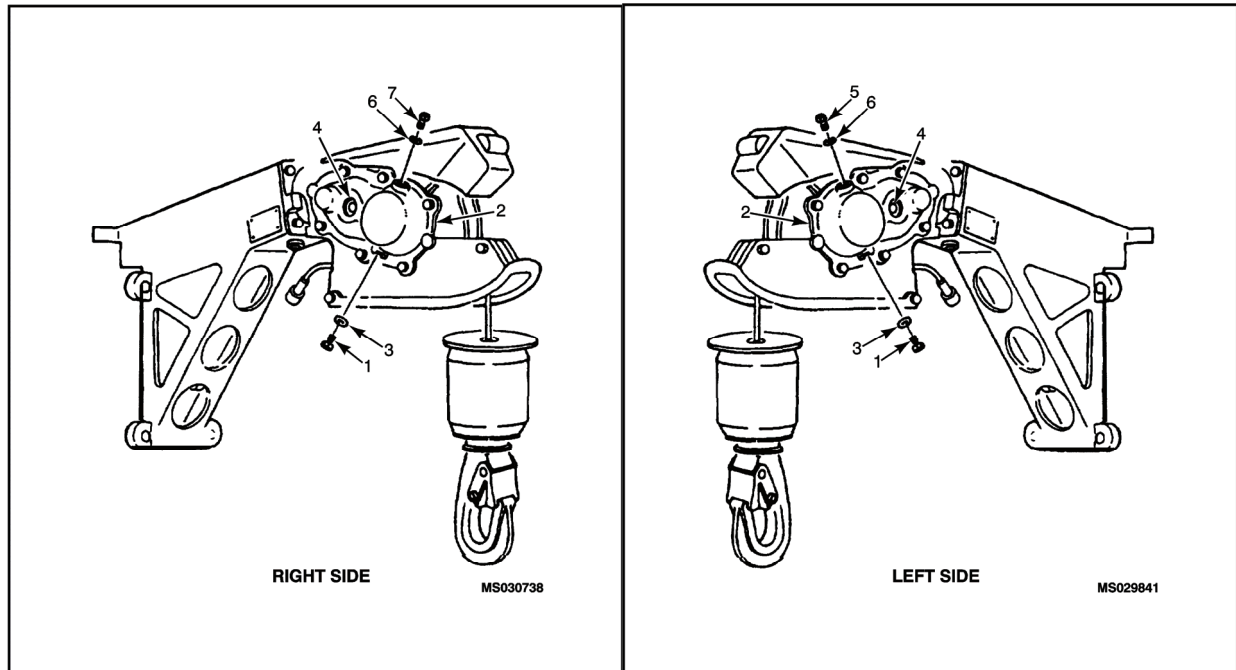
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**WARNING**

Automatic Transmission Fluid is toxic to skin, eyes, and respiratory tract. Avoid prolonged or repeated skin contact. Good general ventilation is normally required.

**NOTES**

- Dexron Type II and Type III are compatible so draining is not required when servicing fluid levels.
- Service boomhead assembly with hydraulic fluid for operation below -40°F.



1. Remove lockwire and servicing plug (7) from right side of boomhead side cover (2).
2. Remove vent plug (5) from left side of boomhead side cover (2).
3. Remove and discard packings (6).
4. Lubricate new packings (6) and install onto servicing plug (7) and vent plug (5).
5. Service boomhead assembly to full mark using automatic transmission fluid.
6. Rotate boomhead 60°, left and right; let fluid settle.
7. Recheck fluid level through sight glass (4) and service as appropriate.
8. Reinstall servicing plug (7) and lockwire.
9. Torque plug (7) 90-100 in. lbs.
10. Reinstall vent plug (5) and hand tighten.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
FLEXIBLE DRIVESHAFT ASSEMBLY - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

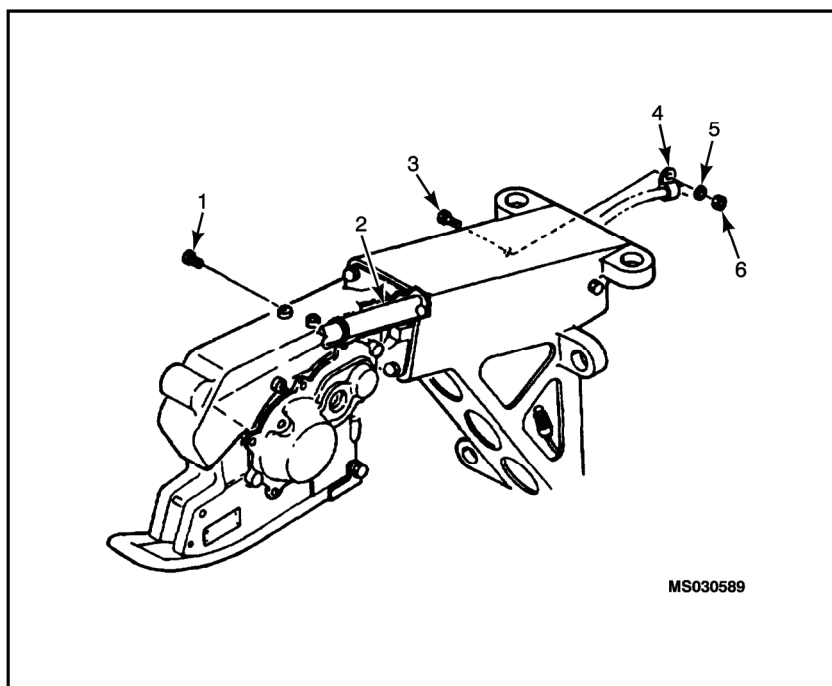
Packing, MS28775-156

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanics  
NSN 5180-00-323-4692  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183

---

1. Remove cable in accordance with WP 0016 00.
2. Remove cable cutter assembly in accordance with WP 0017 00.
3. Remove boomhead support assembly in accordance with WP 0018 00.



4. Remove lockwire and remove screw (1) releasing flexible driveshaft worm gear.
5. Remove flexible driveshaft clamp (4) by removing nut (6), washer (5), and bolt (3).
6. Pull flexible driveshaft (2) from boomhead support assembly.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
FLEXIBLE DRIVESHAFT ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

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1. Inspect all parts for tears, nicks, cracks, scratches, and dents.
2. Inspect worm gear for damaged threads.
3. Check shaft for smooth rotation without binding.
4. Inspect casing for kinks.



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## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY FLEXIBLE DRIVESHAFT ASSEMBLY - INSTALLATION

---

### INITIAL SETUP

#### Personnel Required: 1

UH-1: 15N, Helicopter Repairer  
 UH-60: 15T, Helicopter Repairer  
 Hoist Certified: 91W, Flight Medic

#### References:

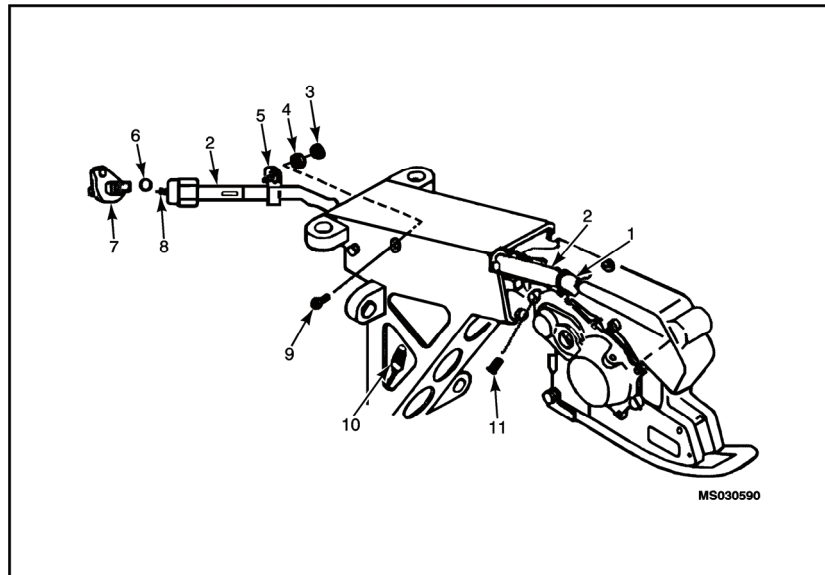
AVUM/AVIM Manual for General Aircraft  
 Maintenance TM 1-1500-204-23 series

#### Parts/Materials:

Packing, MS28775-156

#### Tools and Special Tools:

Tool Kit, Aircraft Mechanics  
 NSN 5180-00-323-4692  
 Shop Set, Intermediate Maintenance  
 NSN 4920-00-472-4183



1. Install flexible driveshaft (2) through boomhead support assembly, mating flexible driveshaft worm (1) in hole until shaft bottoms out.
2. Install retaining screw (11) and secure flexible driveshaft worm gear (1) and lock wire screw to side housing.
3. Turn sheave to rotate driveshaft (8) to ensure smooth operation and no binding.
4. Install clamp (5) with bolt (9), washer (4), and nut (3).
5. Install boomhead support assembly in accordance with WP 0018 00.
6. Service boomhead in accordance with WP 0018 00.
7. Install cable in accordance with WP 0016 00.
8. If required, install cable cutter assembly in accordance with WP 0017 00.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ACTUATOR ASSEMBLY (UP-LIMIT) - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect actuator assembly for nicks, cracks, scratches, dents, and corrosion.

**NOTE**

Hoist must be powered on to perform step 2.

2. Operate actuator arm to ensure smooth operation of spring, free of binding.
3. Inspect tangs for cracks and damage.

---

## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY ACTUATOR ASSEMBLY (UP-LIMIT) - ADJUST

---

### INITIAL SETUP

#### Personnel Required: 1

UH-1: 15N, Helicopter Repairer  
 UH-60: 15T, Helicopter Repairer  
 Hoist Certified: 91W, Flight Medic

#### References:

AVUM/AVIM Manual for General Aircraft  
 Maintenance TM 1-1500-204-23 series

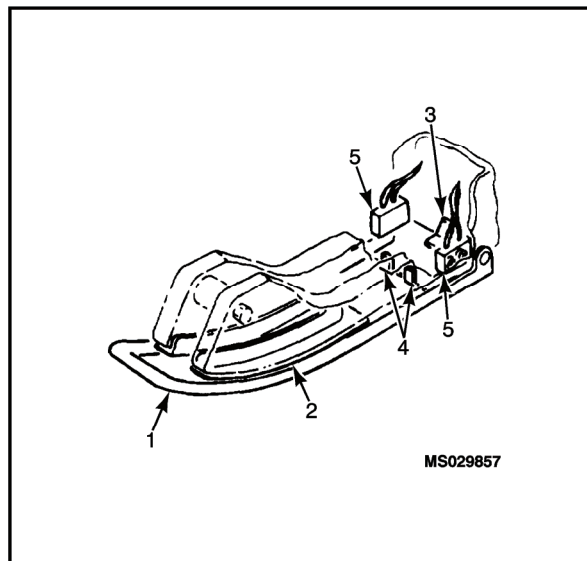
#### Parts/Materials:

N/A

#### Tools and Special Tools:

Tool Set, Aviation Unit Maintenance  
 NSN 4920-00-567-0476

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1. Using a measuring device, check that the distance between lowered arm (top half) of actuator assembly (1) and bottom of cable guide (2) is 0.75 inch (1.91 cm), align with cable.

### NOTE

To bend tang, use a small ball peen hammer to strike lower bend in tang.

2. Bend large tang (3) at rear plate of actuator (1) to achieve 0.75 inch (1.91 cm) clearance.
3. Press up on actuator arm (1) until small tangs (4) engage microswitch assemblies (5). Audibly check that both switches engage at same time.
4. Bend small tangs (4) as required to coordinate switch engagement.
5. Press up on actuator arm (1) to engage switches (5). Using measuring device, check that distance between top of arm and cable guide (2) is 0.44 inch (1.12 cm).
6. Bend small tangs (4) to achieve 0.44 inch (1.12 cm) clearance.

**End of Work Package**

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ELECTRIC DRIVE MOTOR - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect electric drive motor for nicks, cracks, scratches, dents, and corrosion.
2. Inspect electrical wiring for frayed and broken insulation. Check for cuts and tears.
3. Inspect electrical connector for bent, broken, and missing pins.
4. Inspect for evidence of overheating and shorting.
5. Inspect spline for nicks, burrs, galling, pitting, and uneven wear. Check for chipped and cracked spline teeth.
6. Ensure identification plate is properly attached to the electric drive motor and is legible.

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## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY ELECTRIC DRIVE MOTOR - REMOVAL

---

### INITIAL SETUP

#### Personnel Required: 1

UH-1: 15N, Helicopter Repairer  
 UH-60: 15T, Helicopter Repairer  
 Hoist Certified: 91W, Flight Medic

#### References:

AVUM/AVIM Manual for General Aircraft  
 Maintenance TM 1-1500-204-23 series

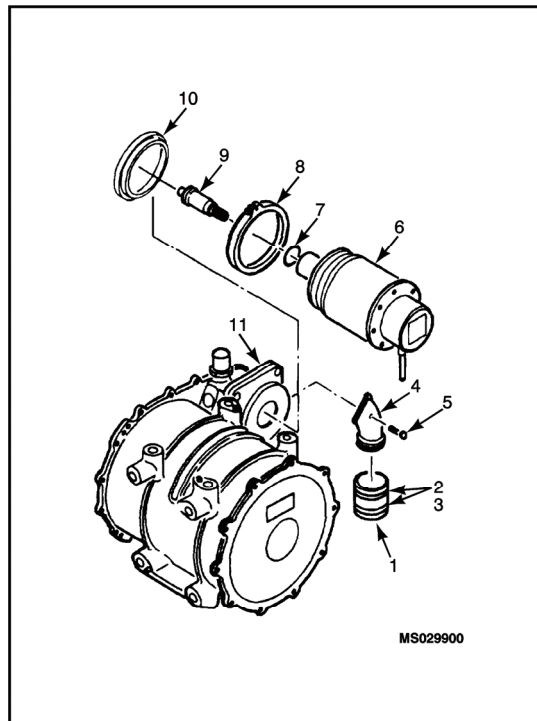
#### Parts/Materials:

N/A

#### Tools and Special Tools:

Tool Kit, Aircraft Mechanic  
 NSN 5180-00-323-4692

---



1. Remove boot (1) by removing clips (2) and bands (3).
2. Remove motor airduct (4) by removing bolt (5).
3. Remove nut from coupling (8).
4. Remove motor (6) by releasing coupling (8).
5. Remove coupling (8) from motor mount flange.
6. Remove packing (7) from motor (6). Discard packing.
7. Remove inertia dump assembly (9) and lock spacer (10) from adapter plate (11).
8. Inspect inertia dump assembly (9) in accordance with WP 0022 00.
9. Inspect screens on inboard end of motor for accumulation of debris. Clean screens if necessary.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ELECTRIC DRIVE MOTOR - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

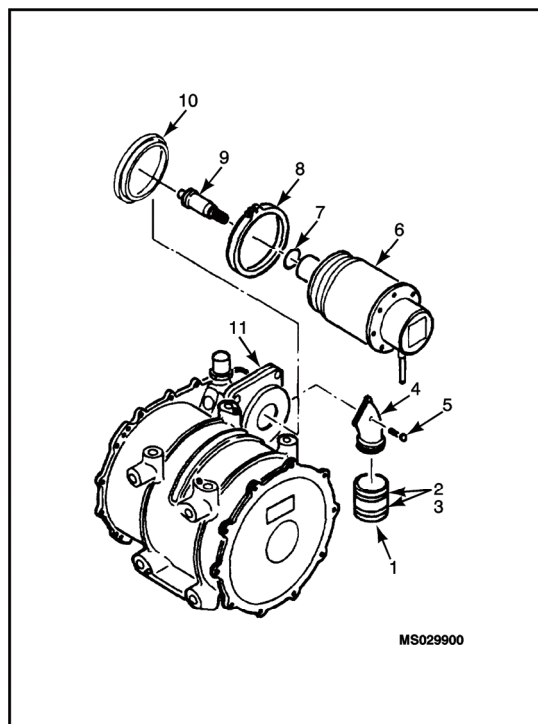
**Parts/Materials:**

Automatic Transmission Fluid  
(WP 0047 00, Table 1, Item 16)  
Packing, NAS1593-133

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692

---



1. Lubricate packing (7) and install onto motor (6).
2. Install inertia dump assembly (9) into motor (6).

**NOTE**

Inertia dump assembly lock spacer is double bossed, large diameter boss goes toward inertia dump assembly.

3. Install inertia dump assembly lock spacer (10) into adapter plate.
4. Place coupling (8) on motor mount flange (11).

**WARNING**

Visually verify that dowel pin properly aligns with motor dowel pin receiver.

5. Install motor (6) onto adapter plate (11) and dowel pin.
6. Torque coupling (8) to 50-55 in. lbs.
7. Tap coupling (8) with rubber mallet to ensure it is properly seated.
8. Retorque coupling (8) to 50-55 in. lbs.
9. Install motor airduct (4) to motor mount flange (11) using bolt (5).
10. Torque bolt to 24-27 in. lbs.
11. Install boot (1) to motor airduct (4) and control panel fan blower assembly using bands (3) and clips (2).

**End of Work Package**



---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
INERTIA DUMP ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

**NOTE**

Electric motor must be removed, in accordance with WP 0021 00, to perform inspection.

1. Inspect inertia dump assembly for nicks, cracks, scratches, gouges, and corrosion.
2. Inspect spline for nicks, burrs, galling, pitting, and uneven wear.
3. Inspect for chipped or cracked spline teeth.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
WINCH ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect winch assembly for nicks, cracks, scratches, dents, and corrosion.
2. Inspect for evidence of leakage.
3. Inspect electrical wiring for frayed and broken insulation. Check for cuts and tears.
4. Inspect electrical connectors for bent, broken, and missing pins. Inspect for evidence of overheating and shorting.
5. Ensure identification plate is properly attached to winch assembly and is legible.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
WINCH ASSEMBLY - REMOVAL/DISASSEMBLY**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Container, Oil Drain  
Abrasive Cloth (WP 0047 00, Table 1, Item 1)  
Cleaning Solvent (WP 0047 00, Table 1, Item 12)  
Automatic Transmission Fluid  
(WP 0047 00, Table 1, Item 16)  
Blue Locktite Compound  
(WP 0047 00, Table 1, Item 20)  
Lockwire (WP 0047 00, Table 1, Item 22)  
Petrolatum (WP 0047 00, Table 1, Item 27)  
Trichloroethane (WP 0047 00, Table 1, Item 33)  
Packing, NAS1593-133  
Packing (2), NAS1593-152  
Packing (2), 2-1,11V747-75  
Packing (2), M83248-1-011  
Screw, AN3H26A

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanics  
NSN 5180-00-323-4692  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183

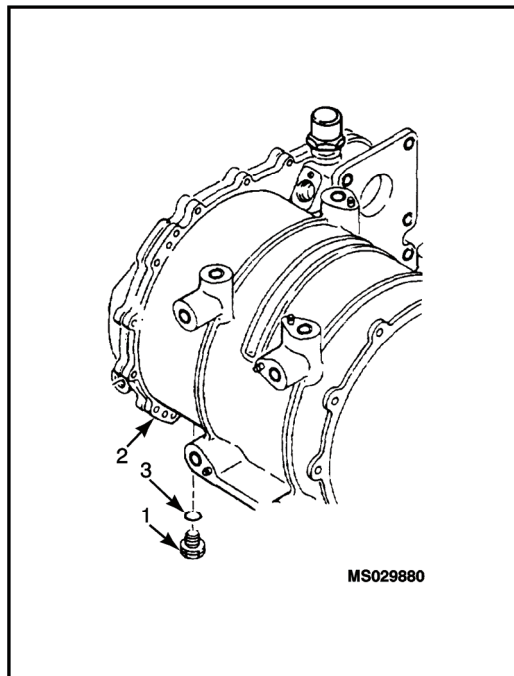
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**DRAINING****WARNING**

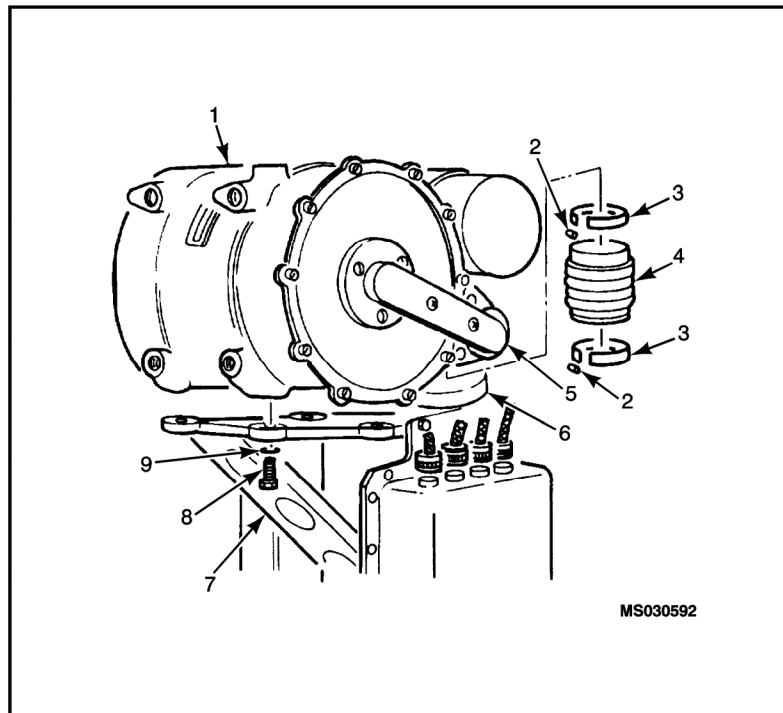
Automatic Transmission Fluid is toxic to skin, eyes, and respiratory tract. Avoid prolonged or repeated skin contact. Proper ventilation is required.

**NOTE**

Place container below winch to catch fluid before removing winch drain plugs.



1. Remove lockwire from drain plug (1).
2. Remove drain plug from winch housing (2) and allow fluid to drain from winch assembly.
3. Remove packing (3) from drain plug (1), discard packing.

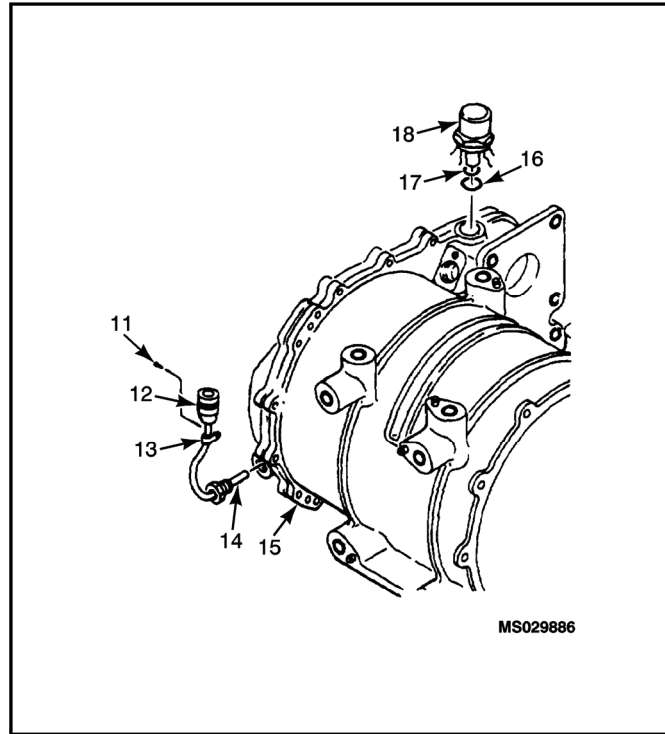
**REMOVAL**

1. Remove cable assembly in accordance with WP 0016 00.
2. Remove boomhead support assembly in accordance with WP 0018 00.
3. Remove upper support assembly in accordance with WP 0028 00.
4. Remove winch assembly (1) from lower support assembly (7) by removing washers (9) and bolts (8).
5. Remove boot (4) from motor air duct (5) and control panel fan plenum (6) by removing bands (3) and clips (2) from boot (4).
6. Remove lower support assembly in accordance with WP 0030 00.

**DISASSEMBLY****NOTES**

- Prior to disassembly, prepare a clean area for receiving removed parts. Attaching hardware shall be loosely reassembled to prevent loss.
- Disassemble only to extent required to remove and repair defective components.

1. Remove limit switch drive assembly in accordance with WP 0034 00.
2. Remove electric drive motor in accordance with WP 0021 00.
3. Remove drum assembly in accordance with WP 0024 00.



4. Remove clamp (13), from connector (12) by removing screw (11).
5. Remove heat shrink tubing and electrical braid from thermal switch cable (14).
6. Unscrew thermal switch (14) from winch housing (15).
7. Remove lockwire from breather assembly (18).
8. Remove breather assembly (18).
9. Remove and discard packing (16 and 17).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
WINCH ASSEMBLY - REPAIR**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Aircraft Electrical Repairer

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

Cleaning Solvent (WP 0047 00, Table 1, Item 12)  
Trichloroethane (WP 0047 00, Table 1, Item 33)  
WD-40 or equivalent  
(WP 0047 00, Table 1, Item 36)

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183  
Tool Kit, Electrical Repairer  
NSN 5180-00-323-4915  
Air Source, 35 psi (241.3 kPa)

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**CLEANING****WARNINGS**

- Perform all cleaning in a well lit, clean, and properly ventilated room.
- Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi. Do not direct air stream towards self or other personnel as injury may occur.
- Cleaning Solvent is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.
- Trichloroethane is toxic to eyes, skin, and respirator tract. Skin and eye protection required. Avoid repeated or prolonged contact. Good general ventilation is normally adequate.

**CAUTIONS**

- Do not immerse electrical components in cleaning solvent. Wipe clean with a cloth dampened in soap and water solution.
  - If parts are not to be inspected immediately after cleaning, apply WD-40 to prevent rust spots.
1. Clean electrical connector contact pins with cloth soaked in trichloroethane.
  2. Wash remaining components in cleaning solvent, rinse thoroughly, and dry with compressed air.



**INSPECT**

1. Inspect all parts for nicks, cracks, scratches, dents, and corrosion.
2. Inspect for evidence of leakage.
3. Inspect all threaded parts for crossed stripped and damaged threads.
4. Inspect electrical wiring for frayed and broken insulation. Check for cuts and tears.
5. Inspect electrical connectors for bent, broken, and missing pins. Inspect for evidence of overheating and shorting.
6. Ensure identification plate is properly attached to the higher performance rescue hoist and is legible.

**REPAIR**

Repair of parts is limited to blending of nicks, burrs, scratches, or other surface damage using aluminum oxide cloth or fine abrasive. Clean parts thoroughly after repair. If damage is extensive, or if minor repair will affect serviceability, replace part.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
WINCH ASSEMBLY - ALIGN**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

Alignment of winch assembly consists of aligning drum assembly in accordance with WP 0024 00.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
WINCH ASSEMBLY - ADJUST**

---

**INITIAL SETUP**

**Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

Adjust limit switch drive assembly in accordance with WP 0034 00.

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## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY WINCH ASSEMBLY - REASSEMBLY/INSTALLATION

---

### INITIAL SETUP

#### Personnel Required: 1

UH-1: 15N, Helicopter Repairer  
 UH-60: 15T, Helicopter Repairer  
 Hoist Certified: 91W, Flight Medic

#### References:

AVUM/AVIM Manual for General Aircraft  
 Maintenance TM 1-1500-204-23 series

#### Parts/Materials:

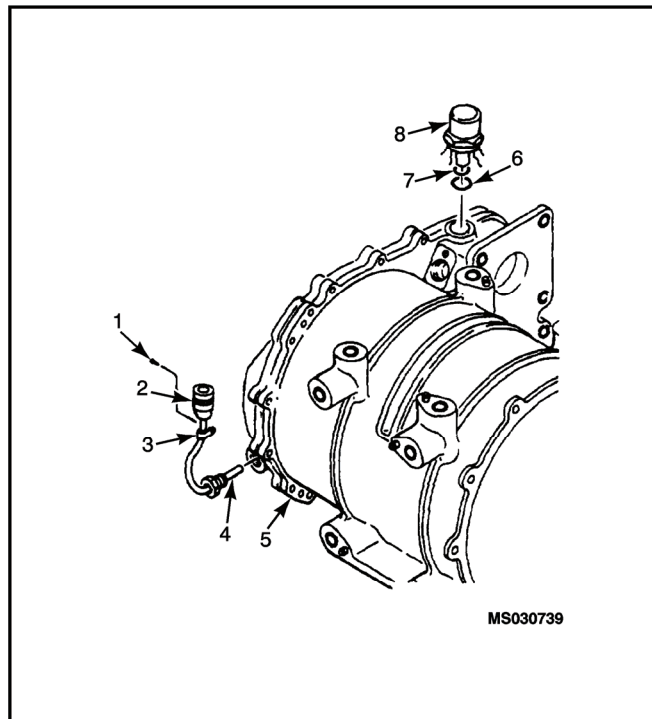
Abrasive Cloth (WP 0047 00, Table 1, Item 1)  
 Blue Locktite Compound  
 (WP 0047 00, Table 1, Item 20)  
 Lockwire (WP 0047 00, Table 1, Item 22)  
 Petrolatum (WP 0047 00, Table 1, Item 27)  
 Packing, NAS1593-133  
 Packing (2), NAS1593-152  
 Packing (2), 2-1,11V747-75  
 Packing (2), M83248-1-011  
 Screw, AN3H26A

#### Tools and Special Tools:

Tool Kit, Aircraft Mechanics  
 NSN 5180-00-323-4692  
 Shop Set, Intermediate Maintenance  
 NSN 4920-00-472-4183

---

### REASSEMBLY



1. Lubricate and install packings (7 and 6) onto breather assembly (8).
2. Install breather assembly (8) onto winch housing (5) and secure using lockwire.

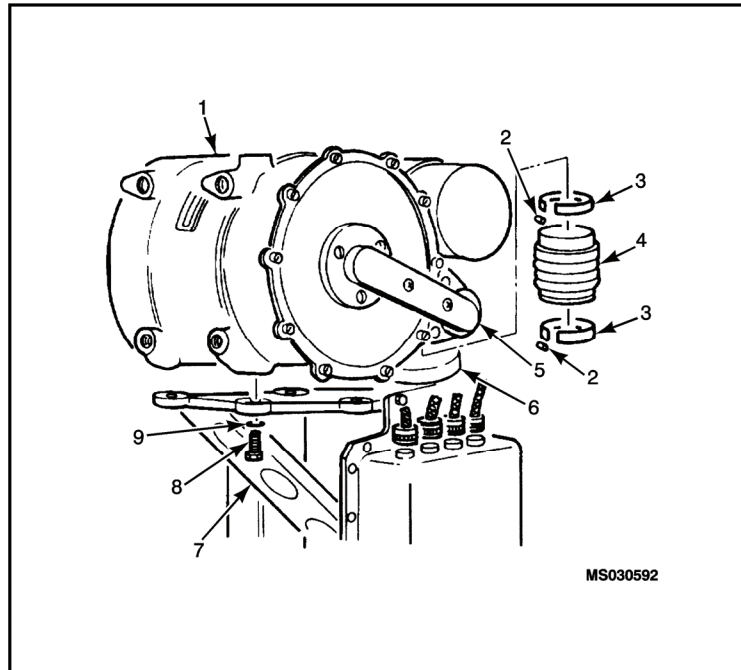
3. Screw thermal switch (4) into winch housing (5).

**NOTE**

Ensure there is enough braiding to fold back over lockwire.

4. Secure thermal switch wiring harness electrical braid by wrapping lockwire around thermal switch (4) using 0.020 lockwire (minimum 2 wraps).
5. Install heat shrink tubing over electrical braid onto thermal switch (4).
6. Install clamp (3) onto connector (2) by inserting screw (1).
7. Install drum assembly in accordance with WP 0024 00.
8. Install electric drive motor in accordance with WP 0021 00.
9. Install limit switch drive assembly in accordance with WP 0034 00.
10. Service winch assembly in accordance with service procedures located on page 0022 00-13.

**INSTALLATION**



1. Install winch assembly (1) onto lower support assembly (7).
2. Install washers (9) and bolts (8).
3. Torque bolts 160-190 in. lbs.
4. Install boot (4) onto motor air duct (5) and control panel fan plenum (6).
5. Install bands (3) and clips (2) on boot (4).
6. Install upper support assembly in accordance with WP 0028 00.
7. Install boomhead support assembly in accordance with WP 0018 00.
8. Install cable assembly in accordance with WP 0016 00.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
WINCH ASSEMBLY - SERVICE**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Automatic Transmission Fluid  
(WP 0047 00, Table 1, Item 16)  
Lockwire (WP 0047 00, Table 1, Item 21)  
Packing, NAS1595-8  
Packing, M83248-1-905  
Container, Oil Drain

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692

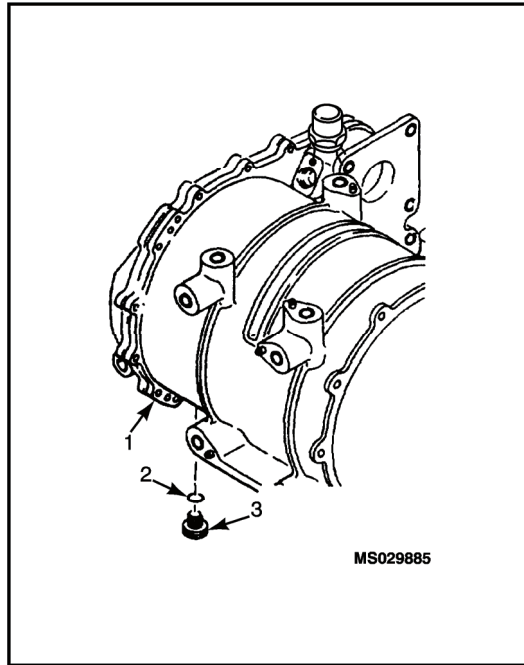
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**WARNING**

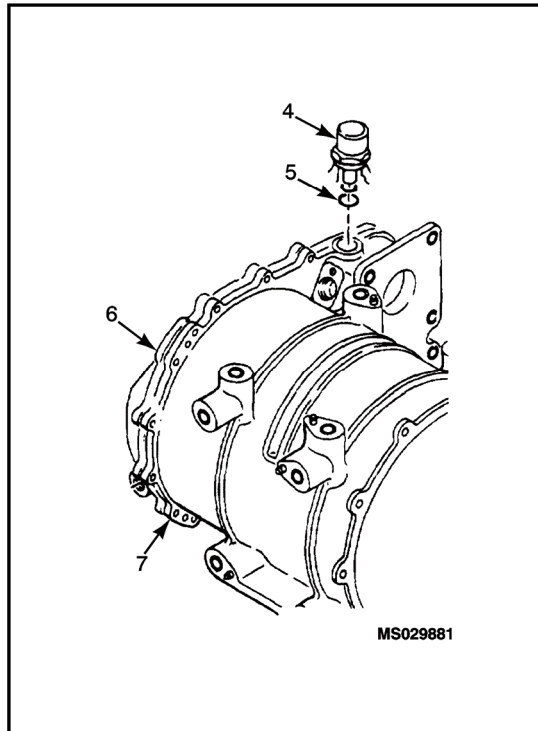
Automatic Transmission Fluid is toxic to skin, eyes, and respiratory tract. Avoid prolonged or repeated skin contact. Proper ventilation is required.

**NOTES**

- Upon receipt, if drain plug has not been removed proceed to step 3, otherwise begin at step 1.
- During service, remove drain plug to drain automatic transmission fluid and proceed to step 1.
- Use an acceptable receptacle to catch fluid before removing drain plugs.



1. Lubricate new packing (2) and install onto drain plug (3).
2. Install drain plug (3) into winch housing (1) and lockwire.



3. Remove lockwire from breather assembly (4) and discard.
4. Remove breather assembly (4) from winch housing (7).
5. Remove packing (5) from breather assembly (4) and discard.

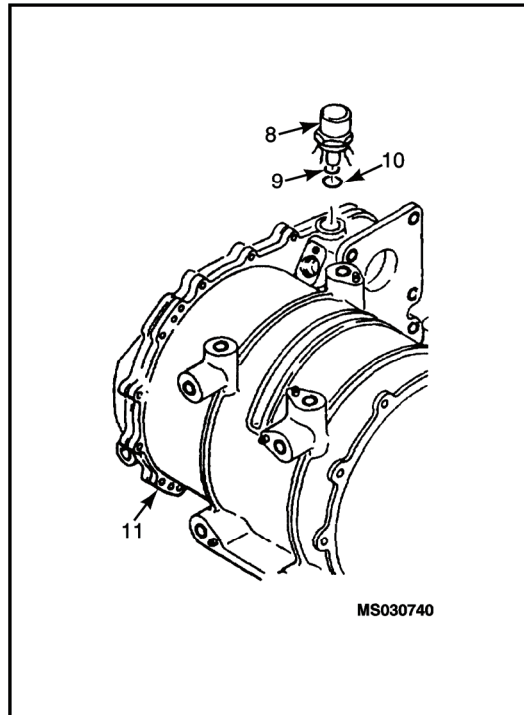
**WARNING**

Automatic Transmission Fluid is toxic to skin, eyes, and respiratory tract. Avoid prolonged or repeated skin contact. Proper ventilation is required.

**NOTE**

Fill the gearbox assembly slowly to prevent transmission fluid back-up in the vent tube.

- Using automatic transmission fluid, service winch assembly until sight gage (6) indicates full level.



- Lubricate packing (9 and 10) and install onto breather assembly (8).
- Install breather assembly (8) into winch housing (11) and secure using lockwire.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
DRUM ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

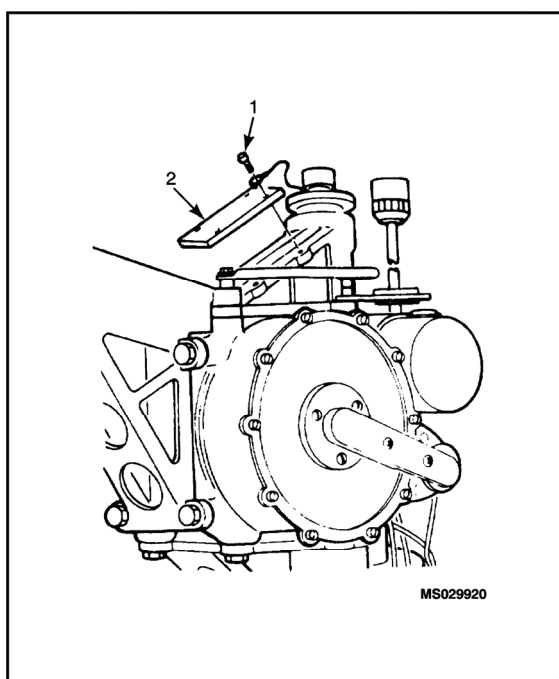
**Parts/Materials:**

Abrasive Cloth (WP 0047 00, Table 1, Item 1)  
Abrasive Paper (WP 0047 00, Table 1, Item 25)

**Tools and Special Tools:**

N/A

---



1. External visual inspection can be accomplished by removing screws (1), plate (2), and fully extending cable.
2. Inspect drum assembly for nicks, cracks, scratches, and dents.

**NOTE**

Drum housing will have a normal wear pattern. Blend wear patterns, by hand, using light abrasive paper and finishing with abrasive cloth. Replace winch assembly if wear is excessive or if cracks are visible.

3. Inspect drum grooves for distortion or abnormalities and uneven wear.
4. Inspect for burrs, pitting, uneven wear, and corrosion.
5. Inspect cable kicker for loose, worn rivets, and wear.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
DRUM ASSEMBLY - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

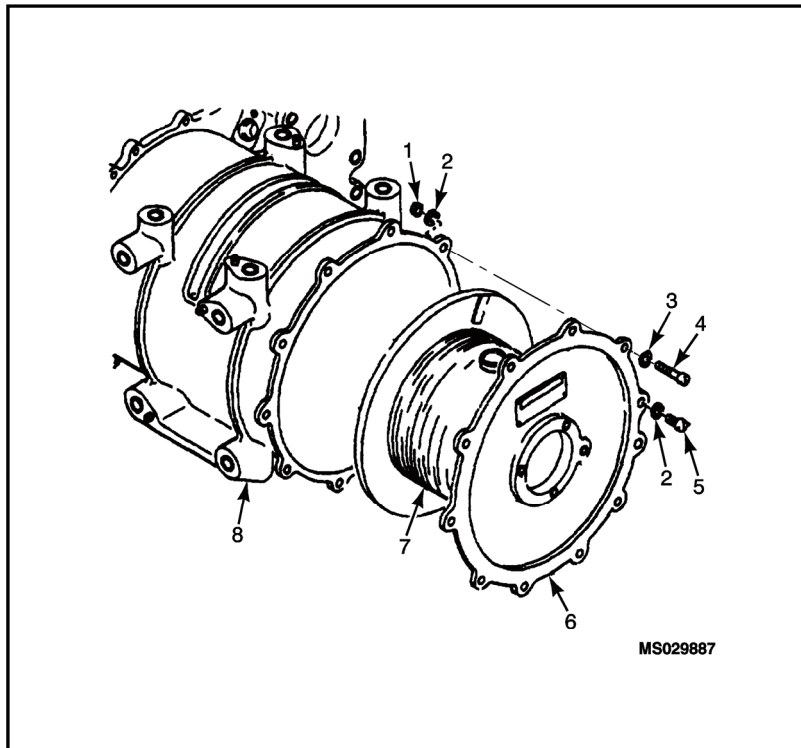
**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

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1. Remove cable assembly in accordance with WP 0016 00.
2. Remove limit switch drive assembly in accordance with WP 0034 00.
3. Remove screws (4 and 5), washer (3 and 2), and nuts (1).
4. Carefully remove drum assembly cover (6) with drum assembly (7) from winch housing (8).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
DRUM ASSEMBLY - ALIGN**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Blue Loctite Compound  
(WP 0047 00, Table 1, Item 20)  
Lockwire (WP 0047 00, Table 1, Item 22)  
Cable Spool, 42277-730 or equivalent

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Auxiliary Power Unit (APU)

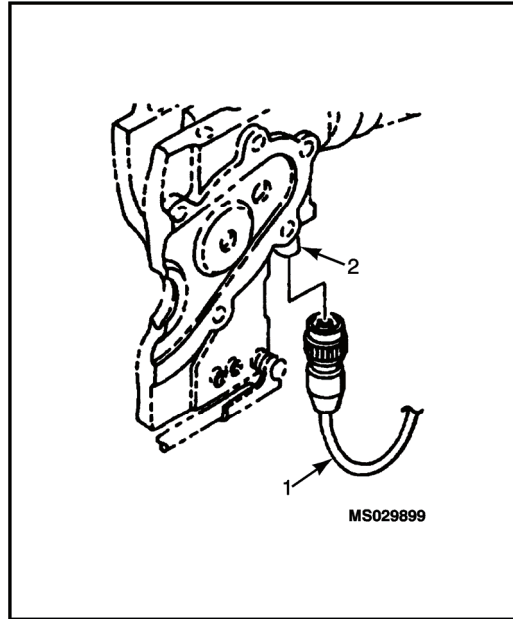
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**WARNING**

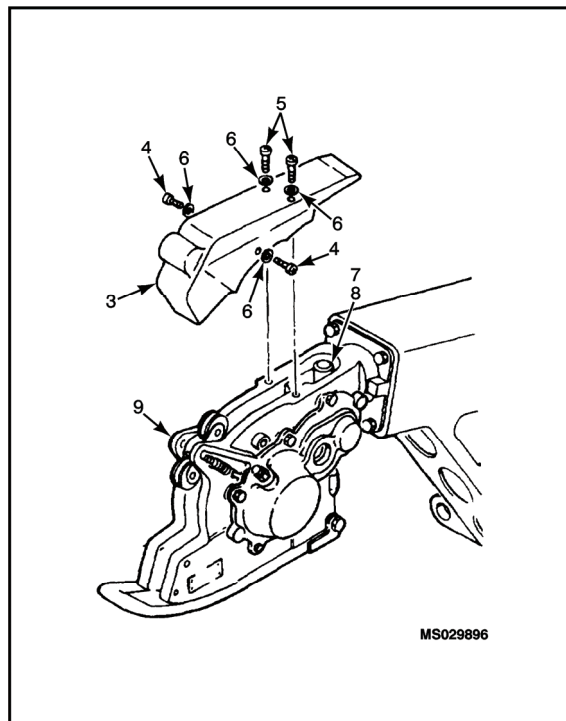
Hoist cable cutter contains an explosive cartridge. Use extreme caution when handling to prevent injury to personnel. Spark or static producing clothing is prohibited. Anytime cable cutter harness is disconnected, install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

**NOTE**

Drum assembly alignment properly aligns cable with reel, cable cutter assembly, and sheave assembly. Alignment procedures are normally performed after replacement of cable drum and cover assembly.



1. Disconnect cable cutter connector (1) from cable cutter (2).
2. Install shorting device or piece of aluminum foil between cartridge pins and install shipping cap to prevent accidental firing.

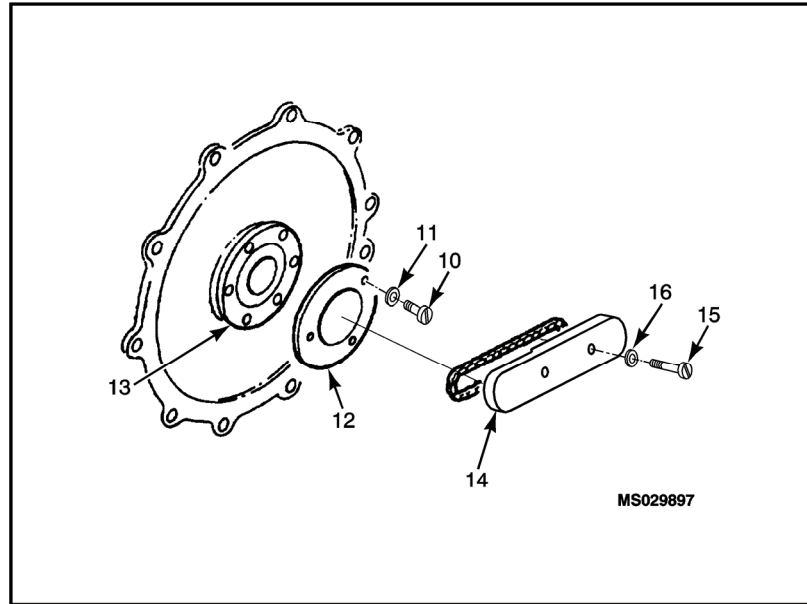


3. Remove pressure roller cover (3) from boomhead assembly (9) by removing screws (4 and 5) and washers (6).
4. Remove cable cutter cap (7) and anvil (8).

**NOTE**

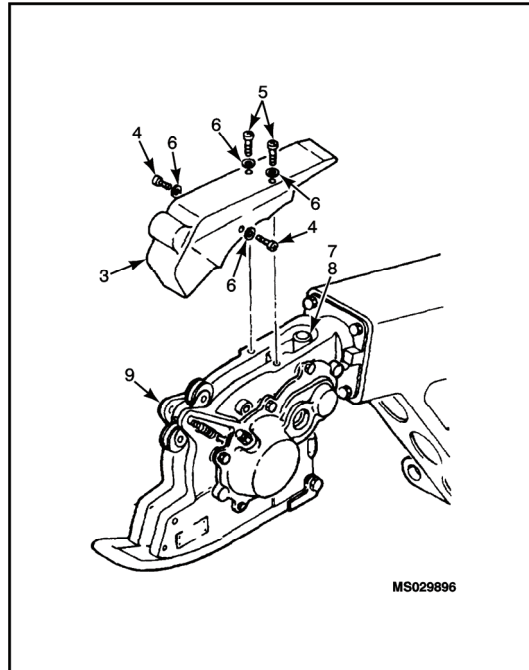
Cable assembly shall not contact inside surface of cable cutter.

5. Observe hoist cable by sighting along cable assembly from sheave assembly, through cable cutter and to winch assembly.
6. If cable does not contact cable cutter assembly, no adjustment necessary, proceed to step 13. If cable does contact cable cutter assembly, continue with step 7.

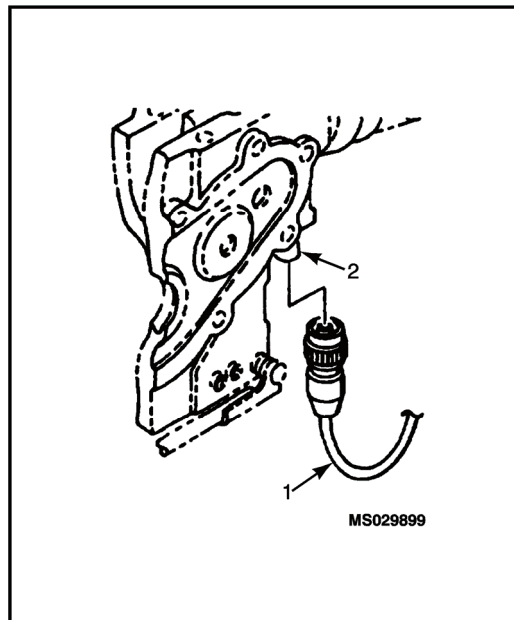
**NOTE**

Do not remove chain.

7. Remove chain guard (14) by removing screws (15) and washers (16).
8. Remove lockwire from screws (10) and discard.
9. Remove screws (10) and washers (11).
10. Rotate stationary gear (13) to translate drum assembly and align cable.
11. Install washers (11), screws (10), torque screws 24-27 in. lbs., and secure using lockwire.
12. Install chain guard (14) by installing screws (15), washers (16), and torque screws 24-27 in. lbs.



13. Install cable cutter anvil (8) and cap (7) and torque cap 55-70 in. lbs.
14. Install pressure roller cover (3) onto boomhead assembly (9) and secure using screws (4 and 5) and washers (6).



15. Remove shorting device.
16. Connect cable cutter connector (1) to cable cutter (2) as required.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
DRUM ASSEMBLY - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

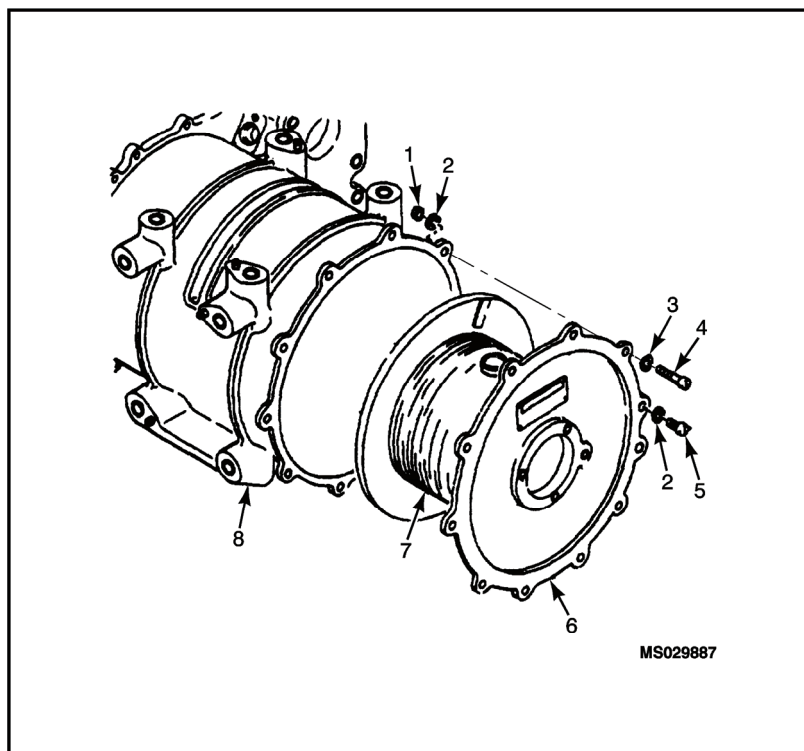
**Parts/Materials:**

Grease (WP 0047 00, Table 1, Item 14)  
Grease (WP 0047 00, Table 1, Item 15)  
Lubricant, WD-40 or equivalent  
(WP 0047 00, Table 1, Item 36)

**Tools and Special Tools:**

N/A

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**NOTE**

Prior to installation, rotate drum assembly to translate drum to cover.

1. Lubricate level wind screw with a light coat of grease, MIL-PRF-81322.
2. Lubricate planetary gears with a light coat of grease, MIL-G-23827.
3. Lubricate ball spline shaft with lubricant, WD-40 or equivalent.
4. Carefully install drum assembly (7) into winch housing (8).

5. Position cover assembly (6) (data plate up) and install screws (4 and 5), washer (3 and 2), and nuts (1).
6. Install cable assembly in accordance with WP 0016 00.
7. Adjust limit switches in accordance with WP 0034 00.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LEVEL WIND SHOE - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer or  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medics

**References:**

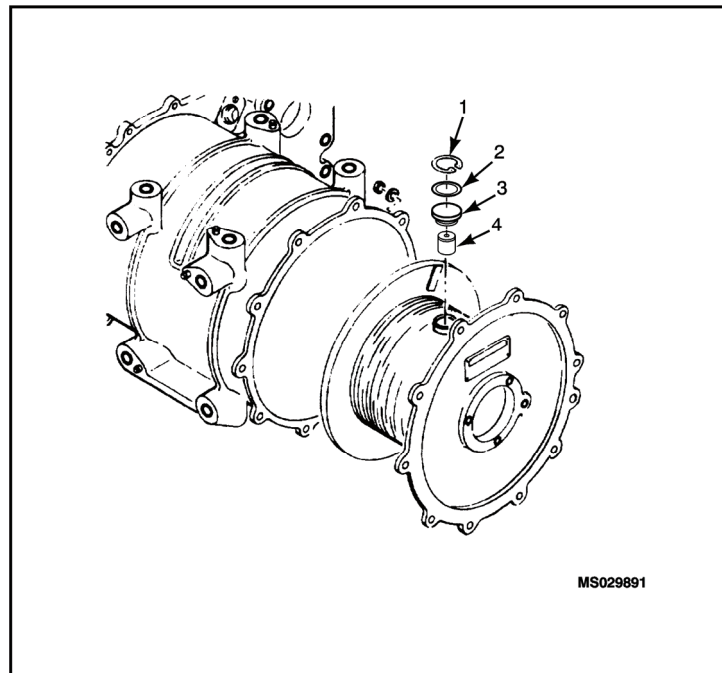
AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Blue Locktite Compound  
(WP 0047 00, Table 1, Item 20)  
Lockwire (WP 0047 00, Table 1, Item 22)  
Screw, AN3H26A

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Micrometer  
NSN 6625-01-265-6000



1. Remove cable assembly in accordance with WP 0016 00.
2. Remove drum assembly in accordance with WP 0024 00.
3. Remove retaining ring (1).
4. Using a 10-32 screw or special tool (refer to WP 0037 00) to remove shims (2), shoe retainer (3), and level wind shoe (4).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LEVEL WIND SHOE - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect level wind shoe for nicks, cracks, broken ears, and corrosion.
2. Inspect retaining ring, shim, and shoe retainer for nicks, cracks, and corrosion.
3. Inspect drum housing in accordance with WP 0024 00.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LEVEL WIND SHOE - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Blue Locktite Compound  
(WP 0047 00, Table 1, Item 20)  
Lockwire (WP 0047 00, Table 1, Item 22)  
Screw, AN3H26A

**Tools and Special Tools:**

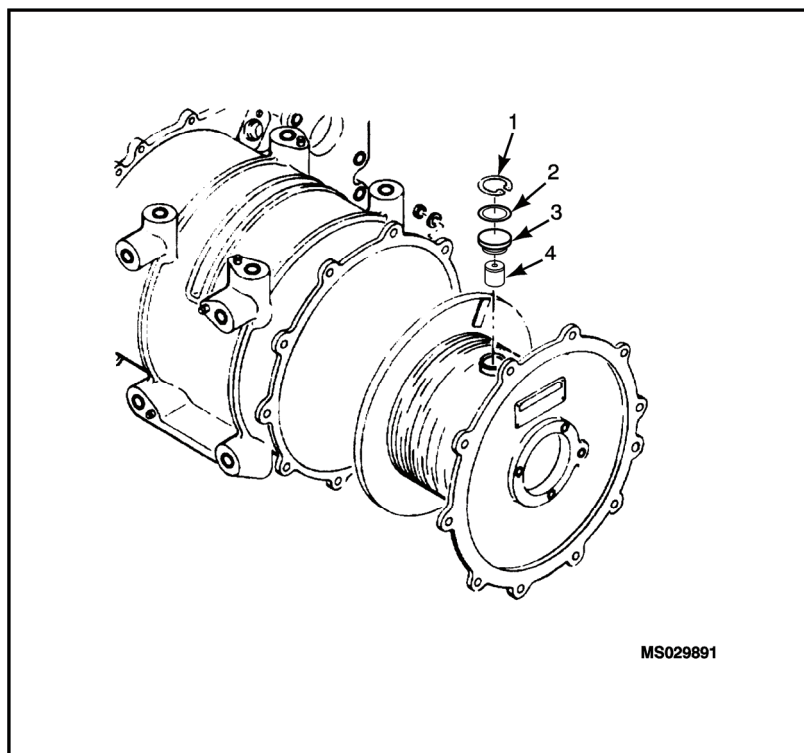
Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Micrometer  
NSN 6625-01-265-6000

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**CAUTION**

---

Failure to install shoe retainer boss side down will result in damage to level wind shaft and shoe.



1. Using a 10-32 screw or (special tool), install level wind shoe (4), shoe retainer (3) and retaining ring (1).
2. Use a feeler gauge to measure gap between retainer (3) and retaining ring (1).

3. Remove retainer ring (1).
4. Install shim (2), of required thickness, to obtain an axial end play of 0.004 to 0.008 in. (0.010-0.020 cm).
5. Reinstall retaining ring (1) into drum assembly.

#### **NOTE**

Binding is not allowed in the drum assembly. Binding will occur if over or under shimmed.

6. Verify accuracy of shimming by rotating the drum assembly through one full cycle of travel.
7. If binding is detected repeat procedures 1 through 5.
8. Install drum assembly in accordance with WP 0024 00.
9. Install cable assembly in accordance with WP 0016 00.
10. Adjust limit switches in accordance with WP 0034 00.

**End of Work Package**

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
BOOM POSITION SUPPORT ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect all parts for nicks, cracks, scratches, dents, and corrosion.
2. Ensure identification plate is properly attached to the boom position support assembly and is legible.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
BOOM POSITION SUPPORT ASSEMBLY - REPLACE**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

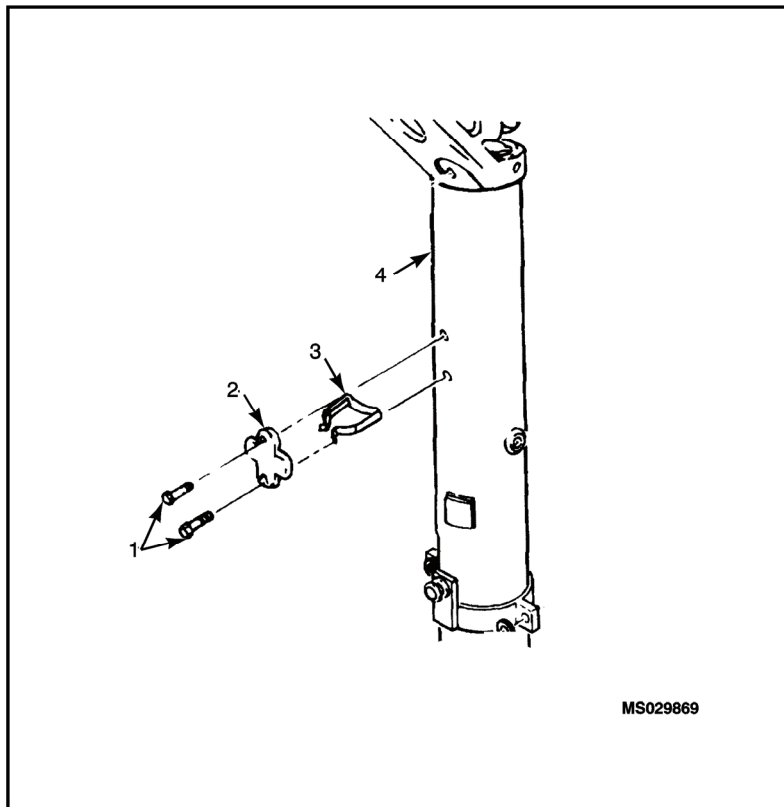
**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

**REMOVE**

Remove screws (1), retention spring (2), and retainer hook (3) from boom position support assembly (4).

**INSTALL**

1. Install retainer hook (3), retention spring (2), and screws (1) on boom position support assembly (4).
2. Torque screws 55-70 in. lbs.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
BOOM POSITION SUPPORT ASSEMBLY - ADJUST**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Blue Locktite Compound  
(WP 0047 00, Table 1, Item 20)  
Lockwire (WP 0047 00, Table 1, Item 21)

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692

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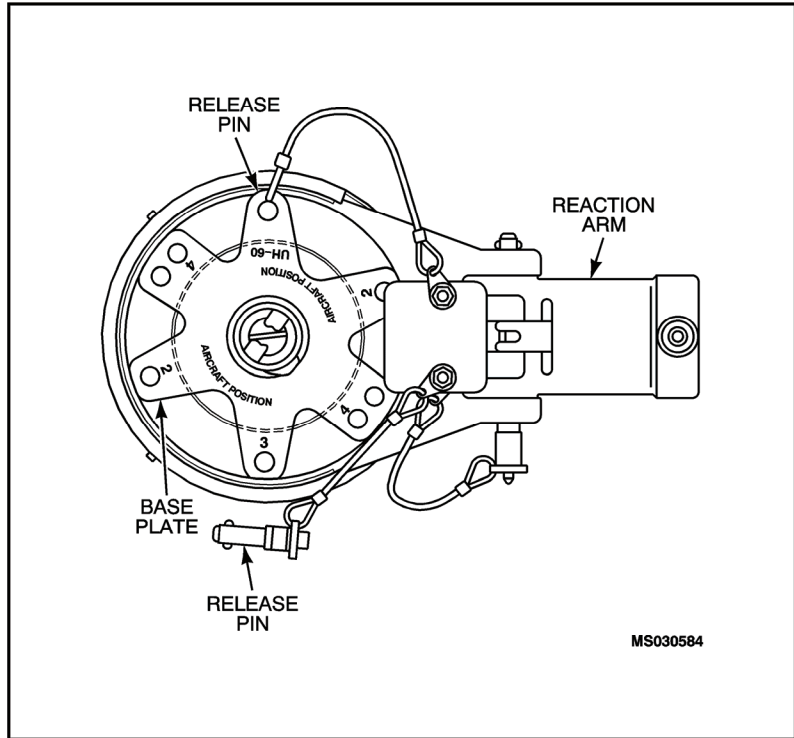
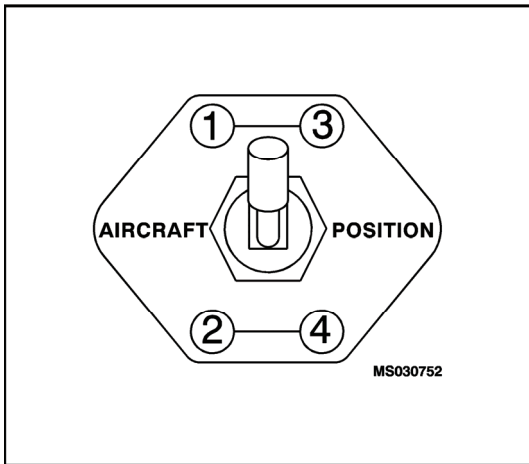
**WARNING**

Commander should determine who is qualified to perform this maintenance function.

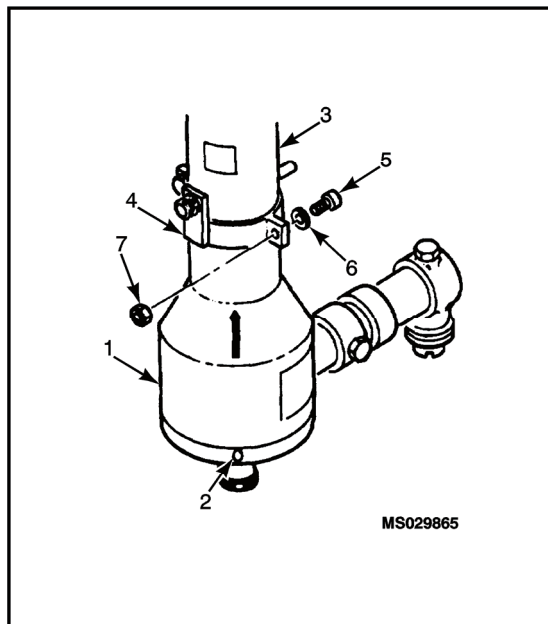
**NOTE**

Adjustment of hoist boom rotation limit switches will permit rescue hoist to travel 205° (rotation in and/or out of helicopter).

1. To perform adjustment while hoist is on assembly stand, simulate helicopter floor positions Station (STA) 82.05 and Buttline (BL) 35.10 and mark as follows:
  - a. Mark a line 10 inches (25.3 cm) long out from stud along station line 82.05.
  - b. Mark a line 10 inches (25.4 cm) long aft from stud along butt line 35.10.

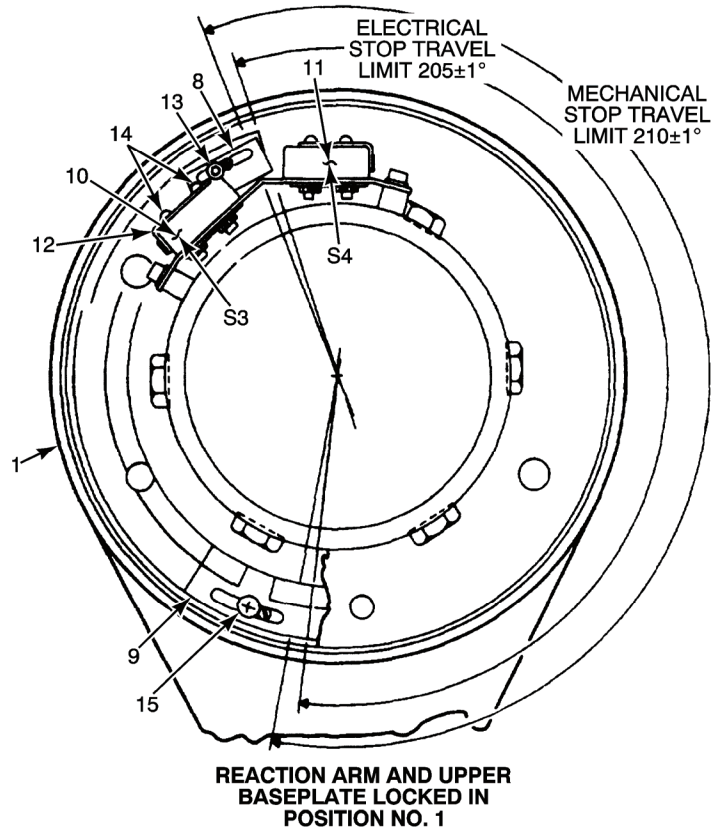


2. Ensure aircraft position switch is placed in position 1 and 3 for UH-1 and 2 and 4 for UH-60, and boom position actuator is locked in corresponding position.



3. Ensure "**ARROW**" on switch assembly cover (3) is positioned in position 1 and release pins are installed in base plate (1).
4. Remove stud ring (4) by removing bolts (5), washers (6), and nuts (7).
5. Remove two screws (2) securing switch assembly cover (1) and slide cover up boom position support assembly (3) toward winch assembly.
6. Apply electrical power (28 vdc) and position **HOIST PWR** switch to **ON**.





TOP VIEW

MS029866

7. Rotate boom head assembly to extreme **IN** and **OUT** positions by moving control pendant **BOOM IN/OUT** switch to **IN** and/or **OUT** positions. Observe locations of switches (10 and 11) at cams (8 and 9) positions.

**NOTE**

Switches (10 and 11) must actuate before hoist mechanical stops engages.

8. Rotate boomhead to maximum travel **OUTBOARD** by moving the control pendant **BOOM IN/OUT** switch to **OUTBOARD** position (CCW). Limit switch (10) should stop boom rotation when actuator roller leaf (12) is depressed by cam (8).

**NOTE**

Boomhead assembly should be on marked line of STA 82.05. If not, adjustment is required.

9. Disconnect power.
10. Loosen screw (13) and move cam (8) towards switch (10) for an over-travel condition. Move cam (8) from switch (10) for under-travel condition.
11. Top of cam (8) should depress actuator and just close switch (10).
12. If required readjust the cam position and secure by applying blue loctite compound to threads of cam screw (13).
13. Install screw and torque 10-12 in. lbs.
14. Apply power.
15. Move **BOOM** switch to **IN**, then **OUT** positions.

16. Check boom travel to ensure proper adjustment of switches (10).
17. Repeat steps 9 through 16 as required.
18. Rotate boomhead to maximum travel INBOARD by moving control pendant boom **IN/OUT** switch to INBOARD position (CW). Limit switch (11) should stop boom rotation when limit switch actuator roller leaf is depressed by cam (9).

### NOTE

Boomhead assembly should be on marked line of BL 35.10. If not, adjustment is required.

19. Disconnect power.
20. Loosen screw (15). Move cam (9) towards switch (15) for over-travel away from switch for under-travel.
21. If required, adjust switch (11) by loosening screw (15) and move cam (9) toward switch (11) for an over-travel condition. Move cam (9) from switch for an under-travel condition.
22. Top of cam (9) should depress actuator and just close switch (11).
23. If required, readjust cam position and secure by adding blue loctite compound to threads of cam screw (15) and install screw (15).
24. Torque 10-12 in. lbs.
25. Apply power.
26. Move **BOOM** switch to **OUT**, then **IN** positions.
27. Check boom travel to ensure proper adjustment of switch (11).
28. Repeat steps 19 through 23 as required.
29. Stow hoist and disconnect power.
30. Slide cover (1) down boom position support assembly tube (3) and position.
31. Secure cover using two screws (2) and lockwire to cover.
32. Install stud ring (4) onto boom position support assembly tube (3).
33. Secure using bolts (5), washers (6), and nuts (7).

**End of Work Package**

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
HEIGHT ADJUSTER ASSEMBLY - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

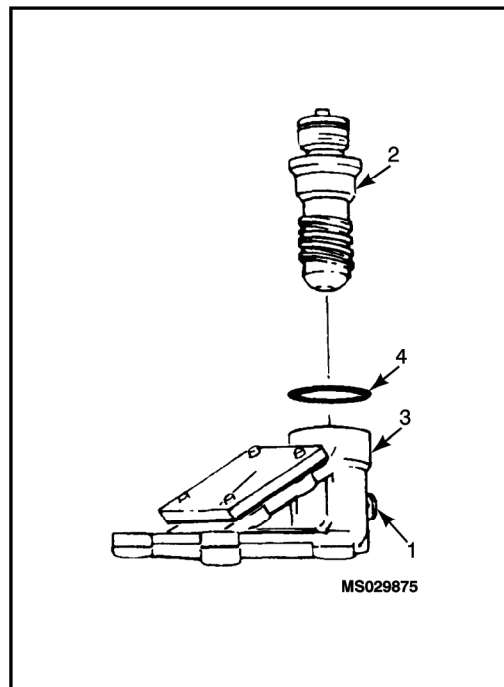
**Parts/Materials:**

Petrolatum (WP 0047 00, Table 1, Item 27)  
Packing, MS28775-133

**Tools and Special Tools:**

N/A

---



1. Unlock plunger (1) and unscrew height adjuster assembly (2) from upper support assembly (3).
2. Remove packing (4).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
HEIGHT ADJUSTER ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect height adjuster assembly for nicks, cracks, scratches, dents, and corrosion.
2. Ensure smooth operation free of binding and sticking.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
HEIGHT ADJUSTER ASSEMBLY - REPAIR**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer

UH-60: 15T, Helicopter Repairer

Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft

Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Abrasive Cloth (WP 0047 00, Table 1, Item 1)

Cleaning Solvent (WP 0047 00, Table 1, Item 12)

Lubricant, WD-40 or equivalent  
(WP 0047 00, Table 1, Item 36)**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance

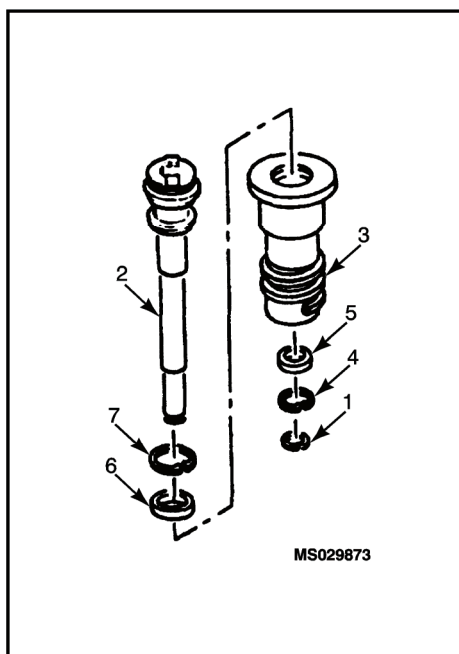
NSN 4920-00-567-0476

Tool Kit, Aircraft Mechanic

NSN 5180-00-323-4692

Air Source, 35 psi (241.3 kPa)

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**DISASSEMBLY**

1. Remove retaining ring (1) and remove quick disconnect adapter (2) from shaft (3).
2. Remove retaining ring (4).
3. Remove bearings (5 and 6) and ring (7).

**CLEANING****WARNINGS**

- Perform all cleaning in a well lit, clean, and properly ventilated room.
- Cleaning Solvent is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.
- Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi. Do not direct air stream toward self or other personnel as injury may occur.

**CAUTION**

After cleaning and inspection, dip parts in WD-40 to prevent rust spots.

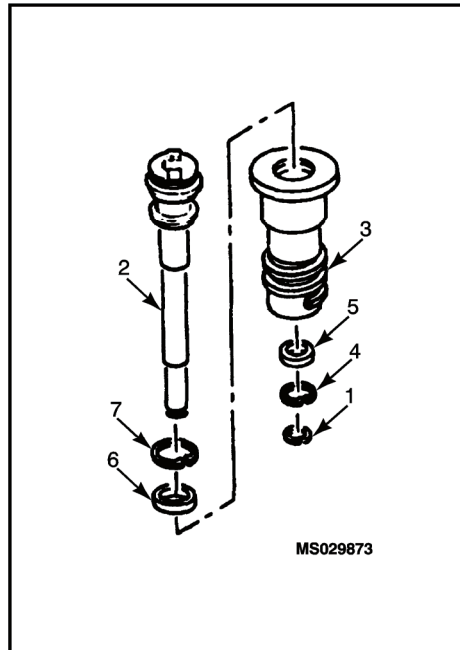
Clean all parts in cleaning solvent, rinse thoroughly, and dry with compressed air.

**INSPECT**

1. Inspect all parts for nicks, cracks, scratches, dents, and corrosion.
2. Inspect all threaded parts for crossed, stripped, and damaged threads.
3. Inspect quick disconnect adapter for damage in accordance with WP 0029 00.
4. Inspect bearings for cracks and scoring in bearing races. Bearings must rotate smoothly with no noise, binding or excessive axial or radial play.

**REPAIR**

Repair of parts is limited to removal of minor nicks, burrs, scratches, or other surface damage using aluminum oxide cloth or fine abrasive. Clean parts thoroughly after repair. If damage is extensive, or if minor repair will affect serviceability, replace part.

**REASSEMBLY**

1. Install bearing (6) into shaft (3) and secure using ring (7).
2. Press bearing (5) into shaft (3) and secure using retaining ring (4).
3. Install quick disconnect adapter (2) into shaft (3) and secure using retaining ring (1).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
HEIGHT ADJUSTER ASSEMBLY - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

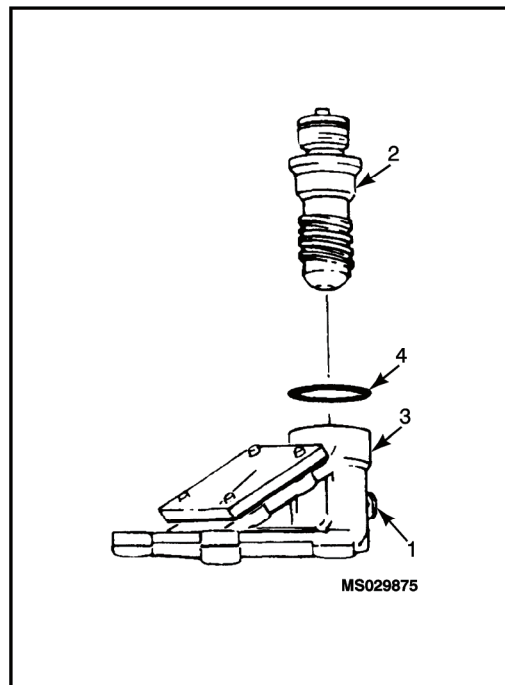
**Parts/Materials:**

Petrolatum (WP 0047 00, Table 1, Item 27)  
Packing, MS28775-133

**Tools and Special Tools:**

N/A

---



1. Lubricate packing (4) and install into upper support assembly (3).
2. Install height adjuster assembly (2) into upper support assembly (3); disengage locking plunger by pulling out.
3. Screw height adjuster into upper support assembly until seated; release locking plunger (1) to secure.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
UPPER SUPPORT ASSEMBLY - REMOVAL/DISASSEMBLY**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Petrolatum (WP 0047 00, Table 1, Item 27)  
Packing, MS28775-133

**Tools and Special Tools:**

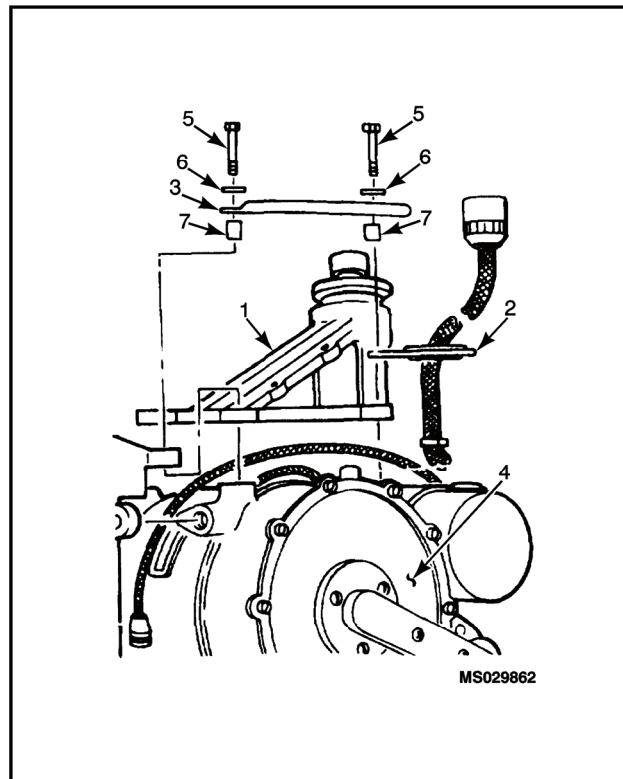
Tool Kit, Aircraft Mechanics  
NSN 5180-00-363-4692  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183

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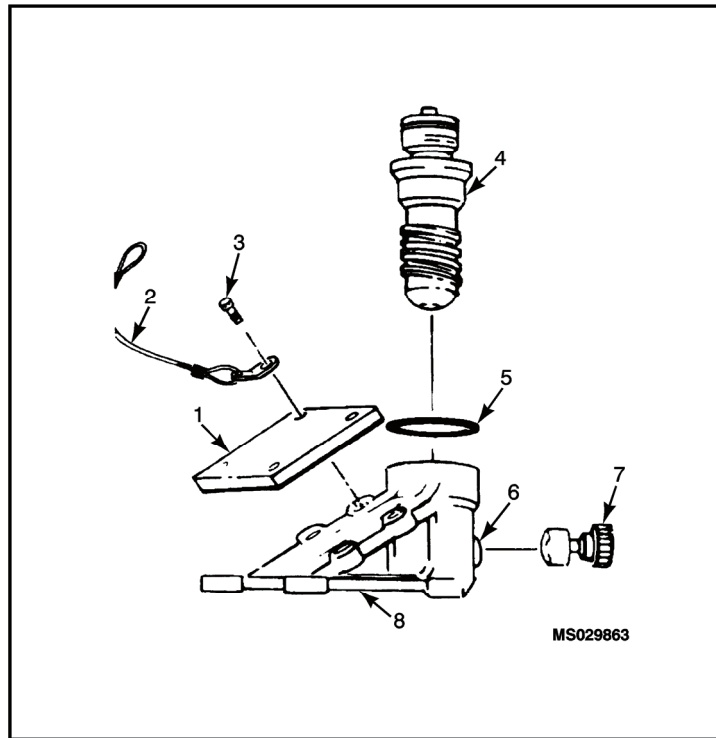
**REMOVAL****WARNING**

Enlist help of an assistant to support hoist assembly during removal of height adjuster to prevent injury to personnel and damage to equipment.

1. Remove cable hook assembly in accordance with WP 0015 00.
2. Remove cable assembly in accordance with WP 0016 00.
3. Remove cable cutter assembly in accordance with WP 0017 00.
4. Remove boomhead support assembly in accordance with WP 0018 00.



5. Remove upper support (1), bracket (2), and handle (3) from winch assembly (4) by removing bolts (5), washers (6), and spacers (7).

**DISASSEMBLY**

1. Remove cover plate (1) and lanyard (2) from upper support (8) by removing screws (3).
2. Remove plunger (7) by removing setscrew or rolled pin (6).
3. Remove height adjuster (4) from upper support (8).
4. Remove and discard packing (5).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
UPPER SUPPORT ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect upper support assembly for nicks, cracks, scratches, dents, and corrosion.
2. Inspect interior surface of height adjuster mounting hole for crossed, stripped, and damaged threads.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
UPPER SUPPORT ASSEMBLY - REPAIR**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Painting and Marking of Army Aircraft  
TM 55-1500-345-23

**Parts/Materials:**

Abrasive Cloth (WP 0047 00, Table 1, Item 1)

**Tools and Special Tools:**

N/A

---

Repair of upper support assembly is limited to replacement of subcomponents and removal of minor nicks, burrs, scratches, or other surface damage using aluminum oxide cloth or fine abrasive. Clean parts thoroughly after repair. If damage is extensive, or if minor repair will affect serviceability, replace part.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
UPPER SUPPORT ASSEMBLY - REASSEMBLY/INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Petrolatum (WP 0047 00, Table 1, Item 27)  
Packing, MS28775-133

**Tools and Special Tools:**

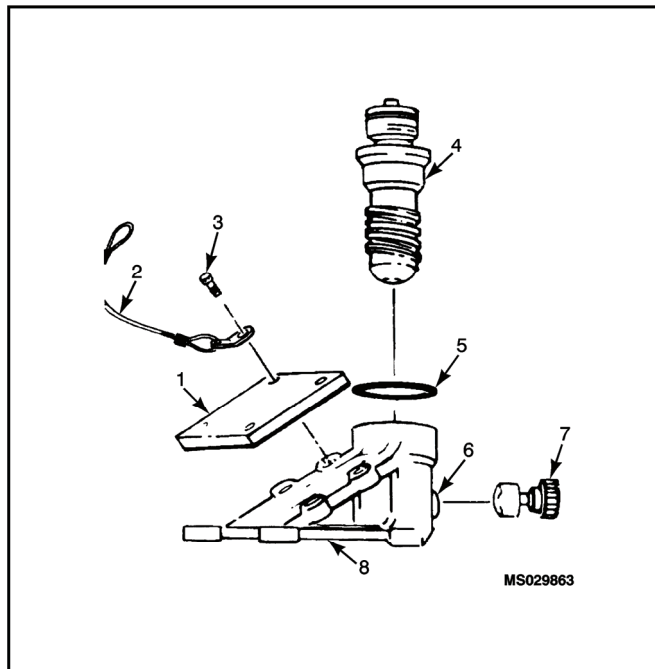
Tool Kit, Aircraft Mechanics  
NSN 5180-00-363-4692  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183

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**REASSEMBLY**

<b>WARNING</b>
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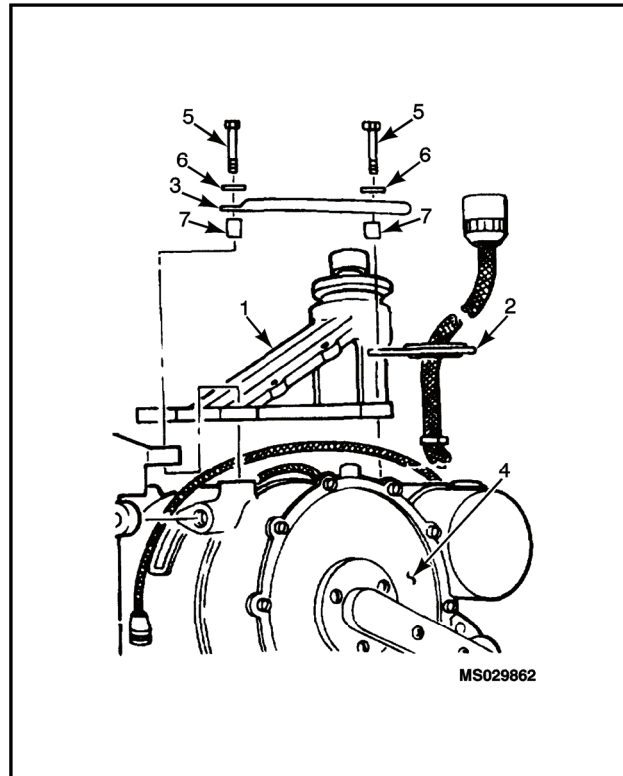
Enlist help of an assistant to support hoist assembly during installation of height adjuster to prevent injury to personnel and damage to equipment.



1. Lubricate and install new packing (5) on height adjuster (4).
2. Install height adjuster (4) into upper support (8).
3. Install plunger (7) securing with setscrew or rolled pin (6).
4. Install cover plate (1) and lanyard (2) on upper support (8) after flexible wiring harness is installed.

**INSTALLATION****NOTES**

- Install umbilical cable bracket with raised edge facing upward.
- Forward bolts, spacers, and washers will be installed and all bolts will be torqued during boomhead assembly installation.



1. Install upper support (1), bracket (2), and handles (3) on winch assembly (4) by installing spacers (7), washers (6), and aft bolts (5). Do not torque aft bolts at this time.
2. Install boomhead support assembly in accordance with WP 0018 00.
3. Install cable cutter assembly in accordance with WP 0017 00.
4. Install cable assembly in accordance with WP 0016 00.
5. Install cable hook assembly in accordance with WP 0015 00.
6. Swing handles inboard and install forward spacers (7), washers (6), and bolts (5).
7. Torque forward and aft bolts 160-190 in. lbs.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
QUICK DISCONNECT (UPPER SUPPORT) - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect quick disconnect adapter for damage or corrosion.
2. Inspect interior surface for crossed, stripped, and damaged threads.
3. Inspect disconnect tabs for cracks and damage.

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LOWER SUPPORT ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

Inspect lower support assembly for nicks, cracks, scratches, dents, and corrosion.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LOWER SUPPORT ASSEMBLY - REPAIR**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Abrasive Cloth (WP 0047 00, Table 1, Item 1)

**Tools and Special Tools:**

N/A

---

Repair of parts is limited to removal of minor nicks, burrs, scratches, or other surface damage using aluminum oxide cloth or fine abrasive. Clean parts thoroughly after repair. If damage is extensive, or if minor repair will affect serviceability, replace part.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LOWER SUPPORT ASSEMBLY - REMOVAL/DISASSEMBLY**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

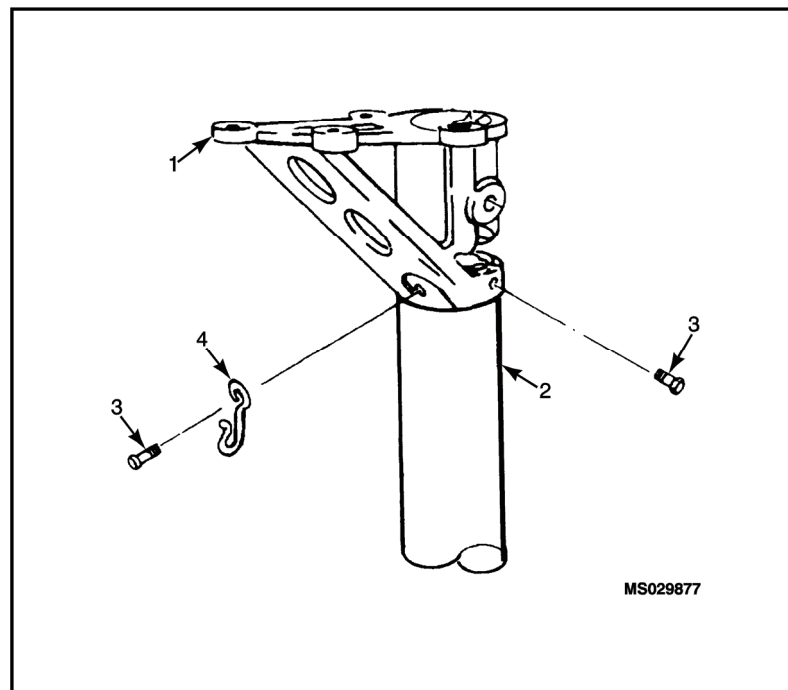
**Parts/Materials:**

N/A

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183

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**REMOVAL**

1. Remove winch assembly in accordance with WP 0023 00.
2. Remove control panel assembly in accordance with WP 0035 00.
3. Remove lower support assembly (1) from boom position support assembly (2) by removing bolts (3) and hook (4).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LOWER SUPPORT ASSEMBLY - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

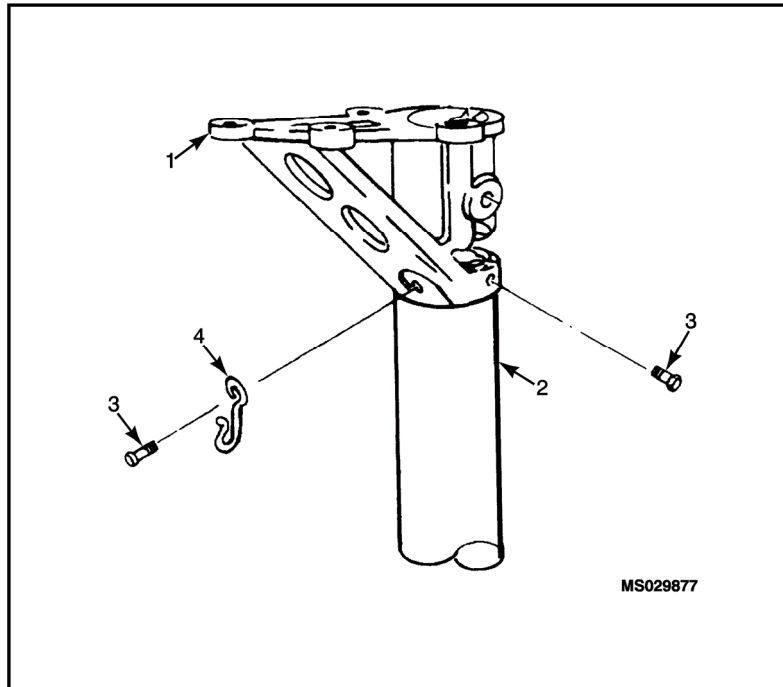
AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183



1. Install lower support assembly (1) on boom position support assembly (2) by installing bolts (3) and hook (4).
2. Install control panel assembly in accordance with WP 0035 00.
3. Install winch assembly in accordance with WP 0023 00.

**End of Work Package**

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
REACTION ARM ASSEMBLY - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

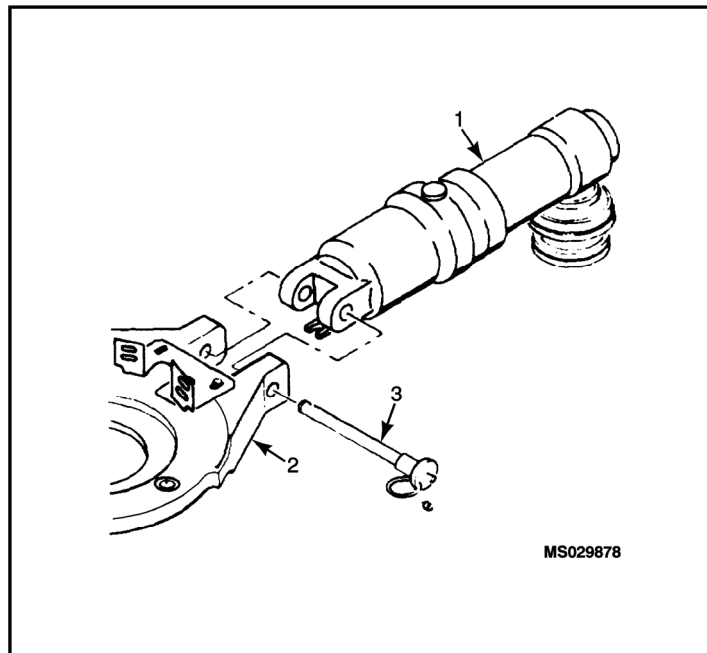
**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---



Remove reaction arm assembly (1) from reaction plate (2) by removing release pin (3).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
REACTION ARM ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect reaction arm assembly for nicks, cracks, scratches, dents, and corrosion.
2. Inspect quick disconnect adapter in accordance with WP 0032 00.
3. Inspect pin for damage.



---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
REACTION ARM ASSEMBLY - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer

UH-60: 15T, Helicopter Repairer

Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft

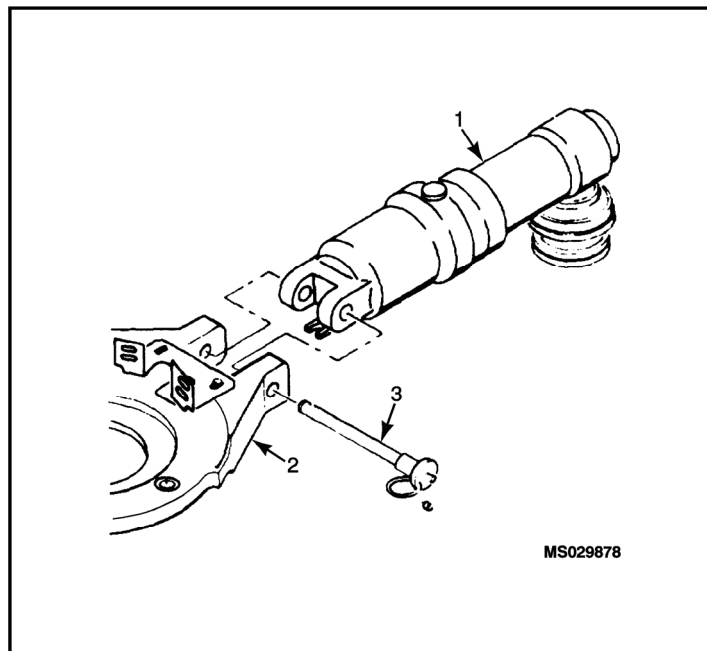
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A



Slide reaction arm assembly (1) into reaction plate (2) and secure using quick release pin (3).

**End of Work Package**



---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
QUICK DISCONNECT (REACTION ARM) - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning and Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

1. Inspect quick disconnect adapter for damage or corrosion.
2. Inspect interior surface for crossed, stripped, and damaged threads.
3. Inspect disconnect tabs for cracks and damage.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
QUICK DISCONNECT (REACTION ARM) - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

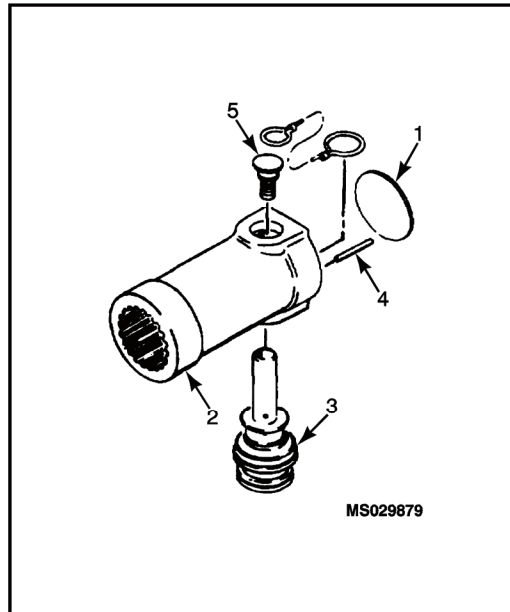
AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692



1. Remove cap (1) from reaction arm (2).
2. Remove quick disconnect adapter (3) by removing pin (4) and stud (5).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
QUICK DISCONNECT (REACTION ARM) - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

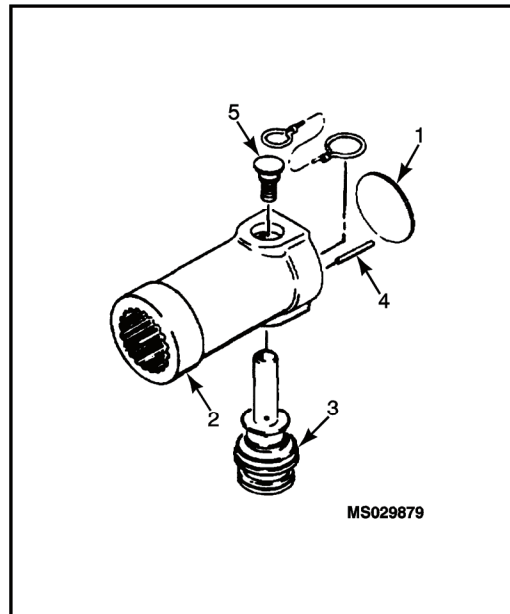
**Parts/Materials:**

N/A

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692

---



1. Position quick disconnect adapter (3) into reaction arm (2) and secure using pin (4) and stud (5).
2. Install cap (1).

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CONTROL PENDANT ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Aircraft Electrical Repairer

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

Adhesive (WP 0047 00, Table 1, Item 3)  
Lockwire (WP 0047 00, Table 1, Item 21)

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4915  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183  
Air Source, 35 psi (241.3 kPa)  
Multimeter

- 
1. Inspect control pendant for nicks, cracks, dents, gouges, and corrosion.
  2. Inspect control cable for cuts, tears, fraying, and broken insulation.
  3. Inspect cable connector for bent, broken, and missing pins. Check for crossed stripped and damaged threads.
  4. Ensure operational switches operate smoothly, free of binding and sticking.
  5. Ensure bulb illuminates. If bulb is inoperative replace by:
    - a. Unscrewing caution indicator (amber) or overtemp indicator (red).
    - b. Replace bulb(s).
    - c. Reinstall caution indicator (amber) or overtemp indicator (red).
  6. Ensure identification plate is properly attached to the control pendant assembly and is legible.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CONTROL PENDANT ASSEMBLY - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

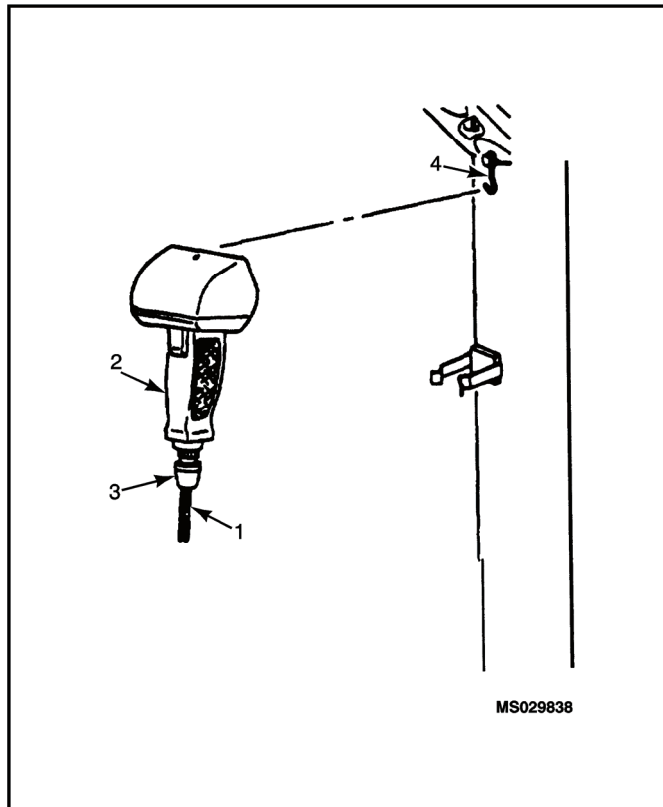
**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

---

**WARNING**

Ensure external electrical power is removed from system prior to removing control pendant.

1. Disconnect control pendant cable (1) from control pendant assembly (2) by unscrewing connector (3).
2. Remove control pendant assembly (2) from hook (4).



---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CONTROL PENDANT ASSEMBLY - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer

UH-60: 15T, Helicopter Repairer

Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft

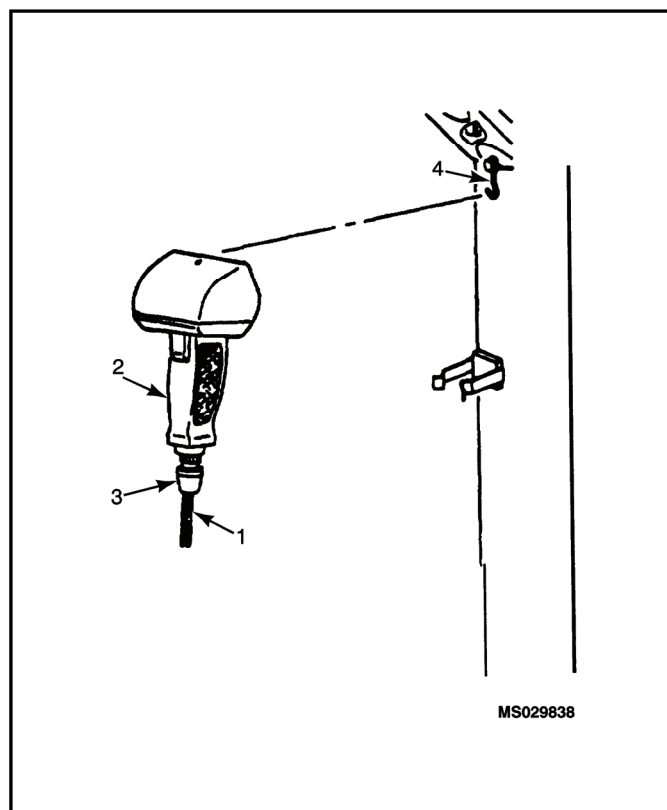
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

**WARNING**

Ensure external electrical power is removed from system prior to installing control pendant.

1. Mate control pendant cable connector (3) to control pendant assembly (2) and secure control pendant cable connector (3).
2. Place control pendant assembly (2) onto hook (4).

**End of Work Package**

0033 00-3/(0033 00-4 blank)



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LIMIT SWITCH DRIVE ASSEMBLY - INSPECT**

---

**INITIAL SETUP****Personnel Required: 2**

UH-1 : 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Electrical Repairer

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24 series  
Cleaning Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

Abrasive Cloth (WP 0047 00, Table 1, Item 1)  
Cleaning Solvent (WP 0047 00, Table 1, Item 12)  
Low-lint Cloth (WP 0047 00, Table 1, Item 13)  
Grease (WP 0047 00, Table 1, Item 15)  
Trichloroethane (WP 0047 00, Table 1, Item 33)  
Lubricant, WD-40 or equivalent  
(WP 0047 00, Table 1, Item 36)

**Tools and Special Tools:**

Air Source, 35 psi (241.3 kPa)

---

**EXTERNAL INSPECTION**

1. Inspect for nicks, cracks, scratches, dents, and corrosion.
2. Inspect electrical wiring for frayed and broken insulation. Check for cuts and tears.
3. Inspect for evidence of overheating and shorting.
4. Ensure identification plate is properly attached to the limit switch drive assembly and is legible.

**INTERNAL INSPECTION**

1. Inspect for nicks, cracks, scratches, dents, and corrosion.
2. Inspect electrical wiring for frayed and broken insulation. Check for cuts and tears.
3. Inspect for evidence of overheating and shorting.
4. Inspect gears for nicks, burrs, galling, and uneven wear.
5. Check for chipped and cracked spline teeth.
6. Inspect cams for excessive play and wear.

**ELECTRICAL CONNECTOR INSPECTION**

1. Inspect for nicks, cracks, scratches, dents, and corrosion.
2. Inspect electrical wiring for frayed and broken insulation. Check for cuts and tears.
3. Inspect for evidence of overheating and shorting.
4. Inspect electrical connector for bent, broken, and missing pins.

---

**CLEANING****WARNINGS**

- Perform all cleaning in a well lit, clean, and properly ventilated room.
- Use approved personnel protective equipment (goggles/face shield) when using compressed air. Air pressure is restricted to a maximum of 35 psi. Do not direct air stream toward self or other personnel as injury may occur.
- Cleaning Solvent is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.
- Trichloroethane is toxic to eyes, skin, and respirator tract. Skin and eye protection required. Avoid repeated or prolonged contact. Good general ventilation is normally adequate.

**CAUTIONS**

- Do not immerse electrical components in cleaning solvent. Wipe clean with a cloth dampened in soap and water solution.
  - If parts are not to be inspected immediately after cleaning, spray with WD-40 to prevent rust spots.
1. Clean electrical connector pins in accordance with referenced procedures.
  2. Clean electrical components by wiping clean with cloth dampened in trichloroethane. Wipe with a clean, dry cloth and allow to air dry.
  3. Ensure all old grease is removed from bearings. Lubricate with grease at reassembly.
  4. Wash remaining components in cleaning solvent, rinse thoroughly, and dry with compressed air.

**REPAIR**

Repair of parts is limited to removal of minor nicks, burrs, scratches, or other surface damage using aluminum oxide cloth or fine abrasive. Clean part thoroughly after repair. If damage is extensive, or if minor repair will affect serviceability, replace part.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LIMIT SWITCH DRIVE ASSEMBLY - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 2**

UH-1 : 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

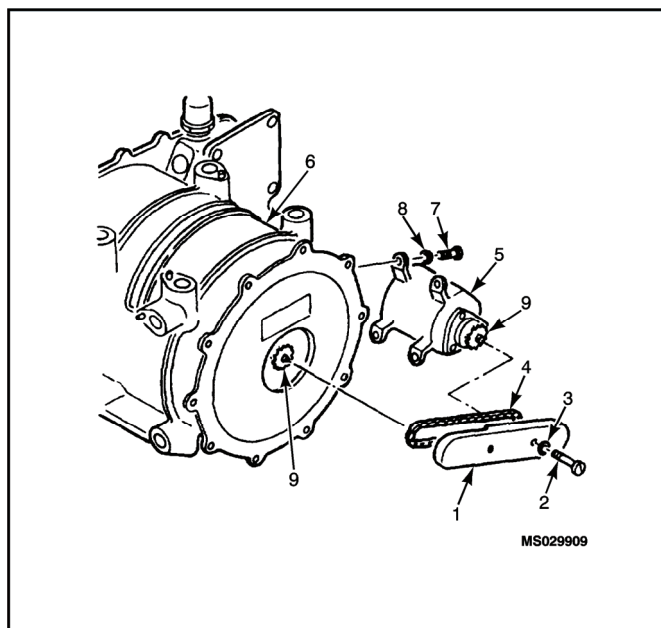
**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692

---

**CAUTION**

Removal or disturbance of limit switches or chain will require limit switches to be reset.



1. Remove roller chain guard (1) by removing screws (2) and washers (3).

**NOTE**

Do not remove master link from chain.

2. Remove limit switch drive assembly screws (7) and washers (8).
3. Tilt limit switch drive assembly (5) outward and remove roller chain (4) from winch housing (6).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LIMIT SWITCH DRIVE ASSEMBLY - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 2**

UH-1 : 15N, Helicopter Repairer

UH-60: 15T, Helicopter Repairer

Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft

Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

Blue Loctite Compound

(WP 0047 00, Table 1, Item 20)

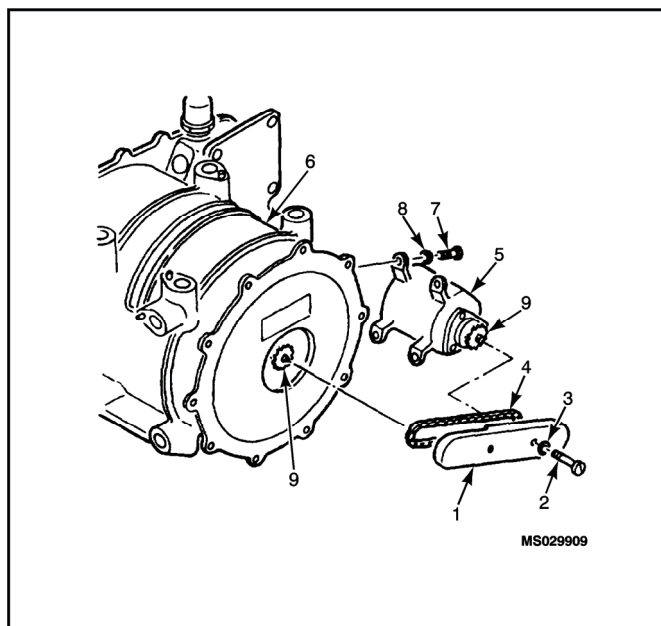
**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance

NSN 4920-00-567-0476

Tool Kit, Aircraft Mechanic

NSN 5180-00-323-4692



1. Install roller chain (4) on winch housing drive assembly (6).
2. Position limit switch drive assembly (5) near winch housing mounting point.
3. Tilt limit switch drive assembly (5) outward, and install roller chain (4) on limit switch drive assembly (5).
4. Rotate limit switch drive assembly (5) inward and install screws (7) and washers (8)
5. Torque 13-16 in. lbs.
6. Apply Blue Loctite to 2-3 threads of screws (2).
7. Install chain guard cover (1) using screws and washers (3).
8. Torque screws to 13-16 in. lbs.

**NOTE**

To replace roller chain without removing limit switch drive assembly, perform steps 8 through 15.

9. Remove roller chain (4) by removing master link.
10. Position unconnected roller chain (4) onto sprockets of drum cover and limit switch drive assembly (5).
11. Connect chain by installing master link.
12. Apply Blue Loctite to 2-3 threads of screws (2).
13. Install chain guard cover (1) using screws (2) and washers (3).
14. Torque screws to 13-16 in. lbs.
15. Adjust limit switch drive assembly in accordance with procedures on page 0034 00-8.

## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY LIMIT SWITCH DRIVE ASSEMBLY - TEST

### INITIAL SETUP

#### Personnel Required: 1

UH-1 : 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

#### References:

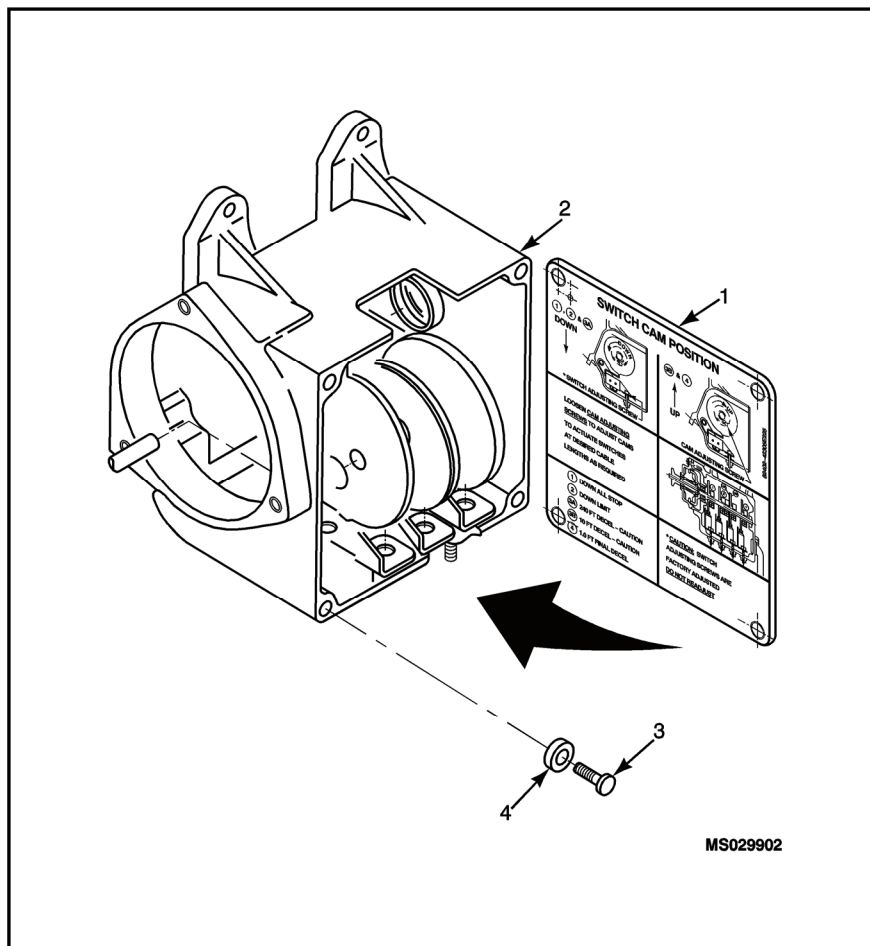
AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24 series

#### Parts/Materials:

N/A

#### Tools and Special Tools:

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183  
Multimeter  
NSN 6625-01-265-6000

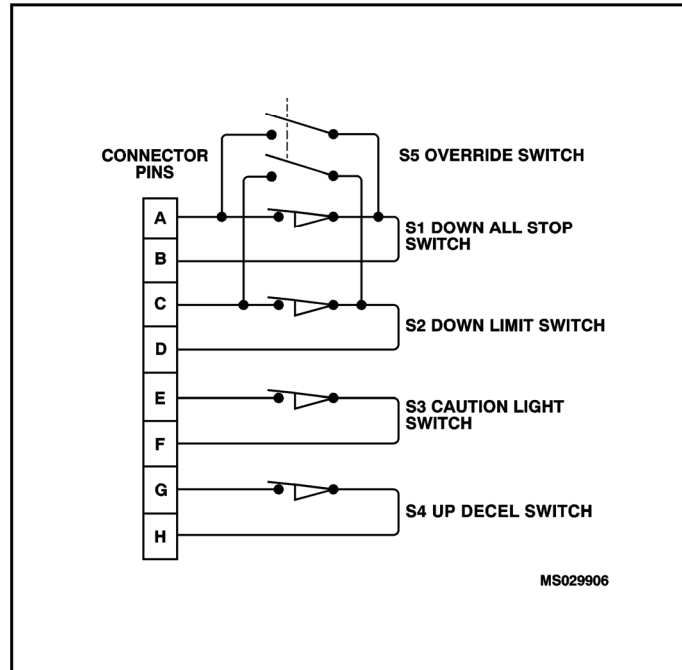


1. Remove instruction plate (1) from limit switch drive assembly (2) by removing screws (3) and washers (4).

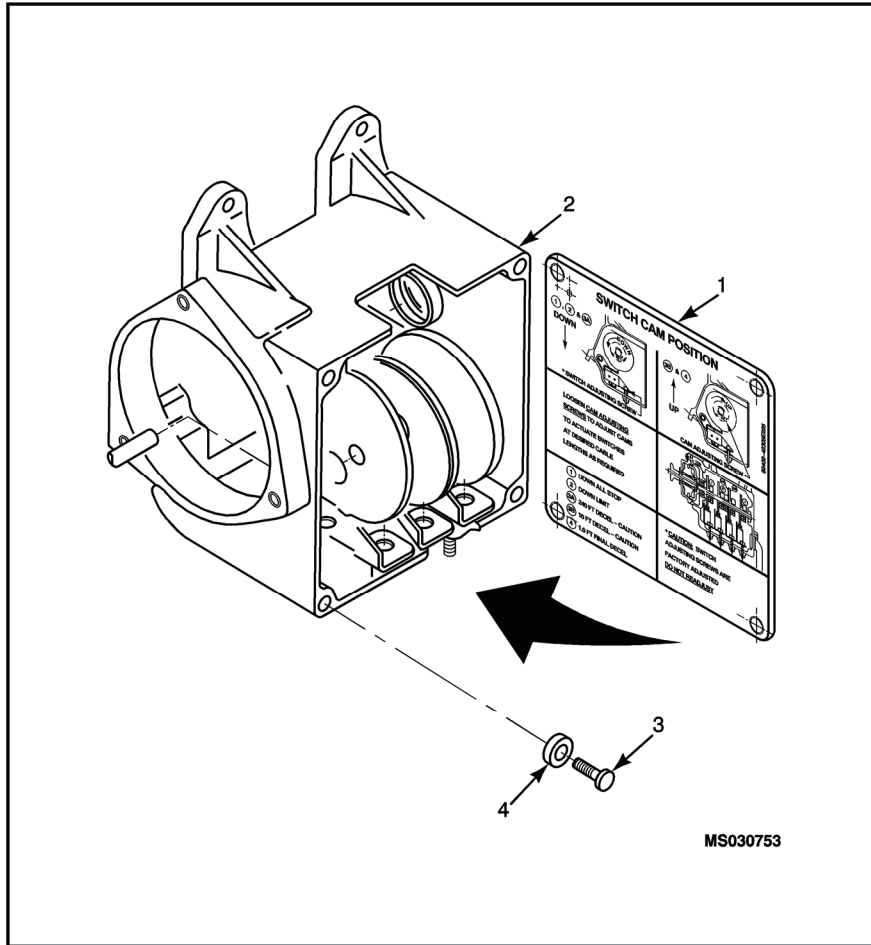


**NOTE**

Ensure cam lobes are not engaging limit switch actuators during testing. Limit switches are normally closed.



2. Connect multimeter to pins **A** and **B** of drive assembly electrical connector; there will be continuity.
3. Press down on limit switch **S1** actuator; continuity will be broken, release actuator.
4. If continuity is not present in accordance with step 2, replace limit switch drive assembly, 0034 00-3 through 0034 00-5.
5. If continuity is present in accordance with step 3, replace limit switch drive assembly, 0034 00-3 through 0034 00-5.
6. Repeat steps 2 through 5 for limit switch **S2**, using pins **C** and **D**.
7. Repeat steps 2 through 5 for limit switch **S3**, using pins **E** and **F**.
8. Repeat steps 2 through 5 on limit switch **S4**, using pins **G** and **H**.



MS030753

9. Install instruction plate (1) on limit switch drive assembly (2) and secure using screws (3) and washers (4).

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
LIMIT SWITCH DRIVE ASSEMBLY - ADJUST**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Ground Power Unit (GPU)  
NSN 1730-01-466-9371  
Cable spool, 42277-730 or equivalent  
Hex Wrench (WP 0037 00)

- 
1. Remove cable hook assembly in accordance with WP 0015 00.

---

**CAUTIONS**

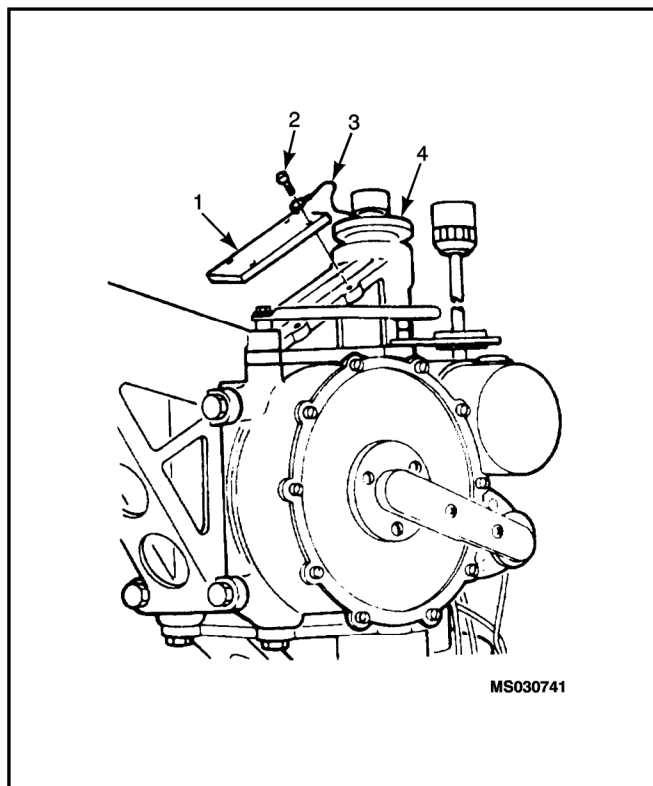
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- Protect hoist cable from damage. Do not allow kinks or bends to occur. Maintain tension on cable at all times. Feed onto cable spool, coil cable into a suitable container, or onto a protective pad, which will prevent cable contact with ground or over abrasive surfaces.
- **LIMIT SWITCH** adjusting screws are factory set and any attempt to adjust will result in component failure.

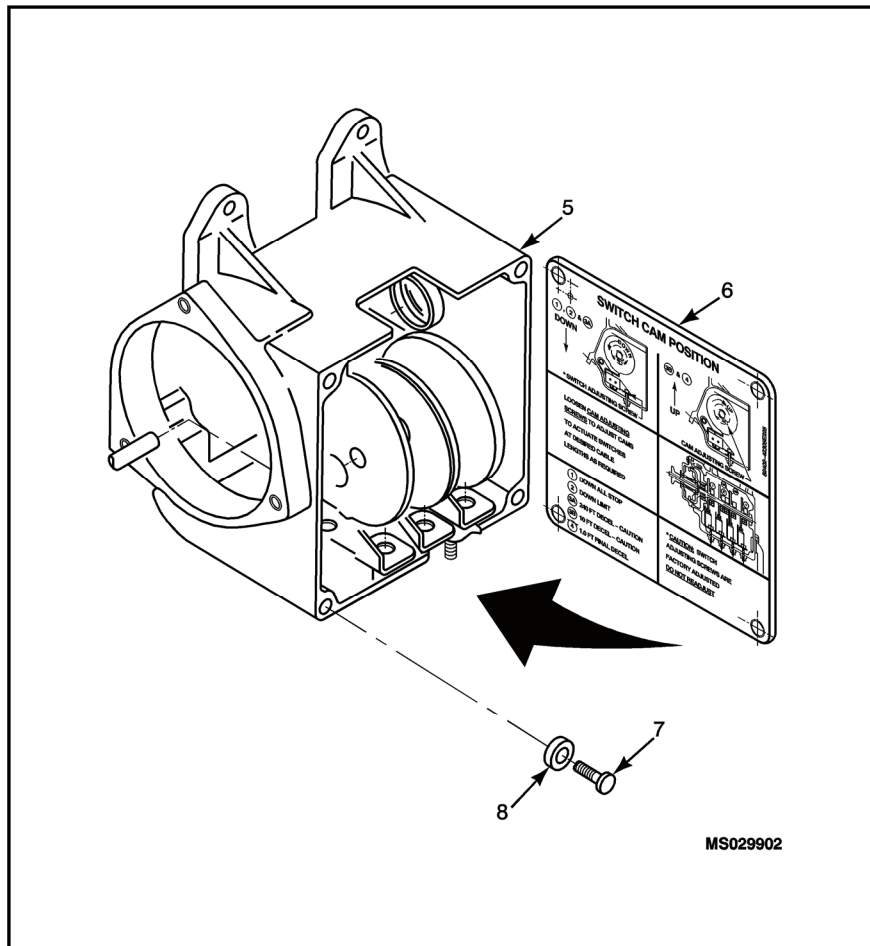
**NOTES**

Resetting of **LIMIT SWITCH** operations is necessary only when:

- Cable is fully extended and less than 5-7 wraps remain on drum at full stop.
- The limit switch box, roller chain, or winch drum assembly are removed.
- A cable installation indicates a failure of any limit switch function.



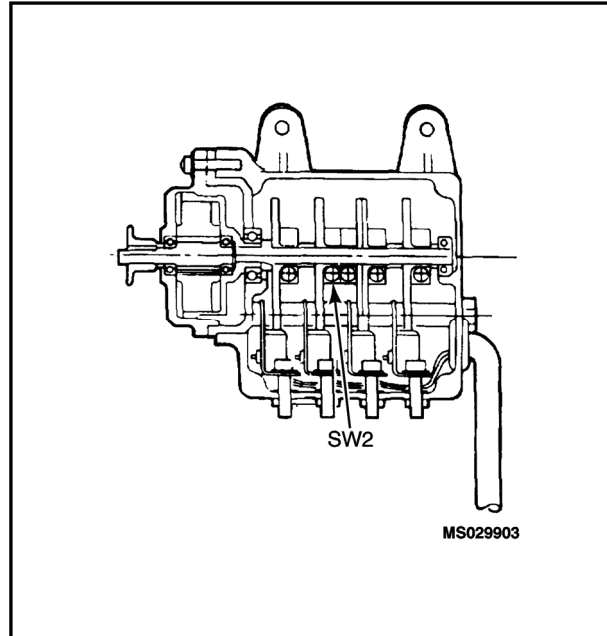
2. Remove cover plate (1) and lanyard (3) from upper support (4) by removing screws (2).



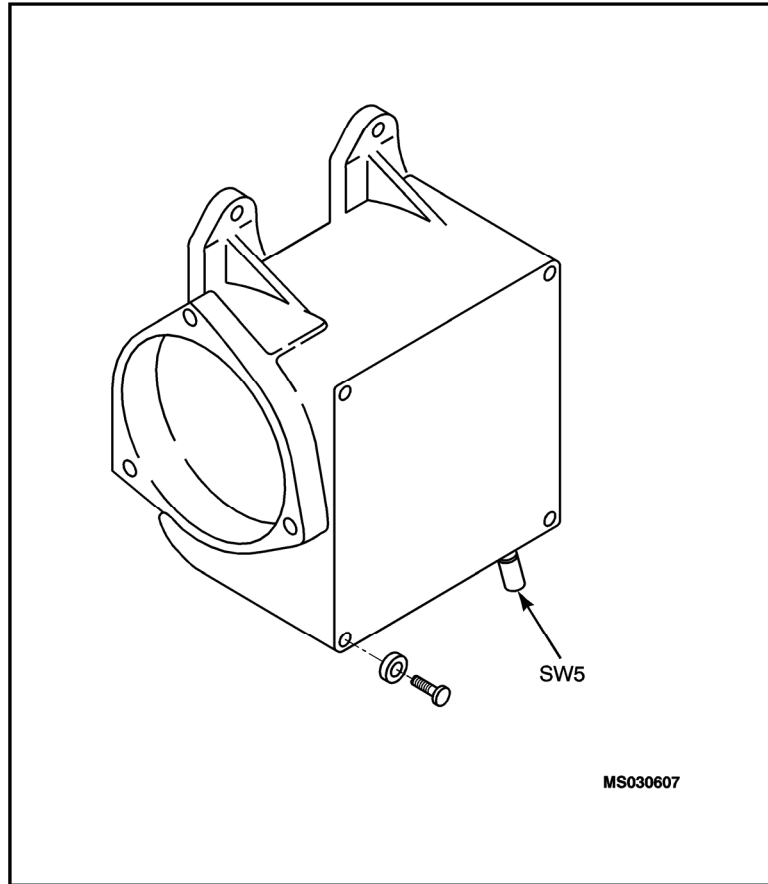
3. Remove cover plate (6) from limit switch drive assembly (5) by removing four screws (7) and washers (8).
4. Apply power (28 vdc) to hoist.

**CAUTION**

Cable damage will occur if **DOWN LIMIT SWITCH (SW2)** does not activate. Observe drum assembly during cable extension. Release control pendant switch if cable travel does not stop at 5 wraps remaining on drum.

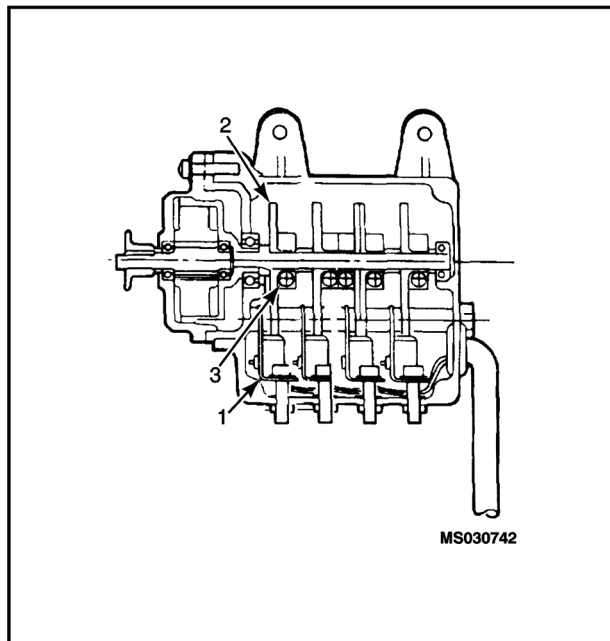


5. Fully extend cable until **DOWN LIMIT SWITCH (SW2)** activates.
6. Disconnect power.
7. Loosen **SW2** cam screw and rotate CAM clockwise (as viewed from gear side), to prevent **SW2** cam lobe from activating **SW2** limit switch.
8. Apply power (28 vdc).

**WARNING**

Activation of **FULL OUT LIMIT SWITCH (SW5)**, overriding **SW1** and **SW2**, allows drum to turn continuously until released. Depressing **SW5** will cause damage to e cable if cable retainer finger is allowed to roll over cable.

9. Activate **FULL OUT LIMIT SWITCH (SW5)** using hex wrench (refer to WP 0037 00) or equivalent to override Down Limit switch (**SW1**).

**FULL STOP LIMIT SWITCH (SW1)**

1. Extend cable (position control pendant **CABLE UP/DOWN** switch to **DOWN**) until 4 wraps of cable remain on drum.
2. Disconnect power.

**NOTE**

**FULL STOP LIMIT SWITCH (SW1)** (1) activated by Cam Number 1 (2) – Prevents extension of cable beyond 3-5 wraps of full cable off.

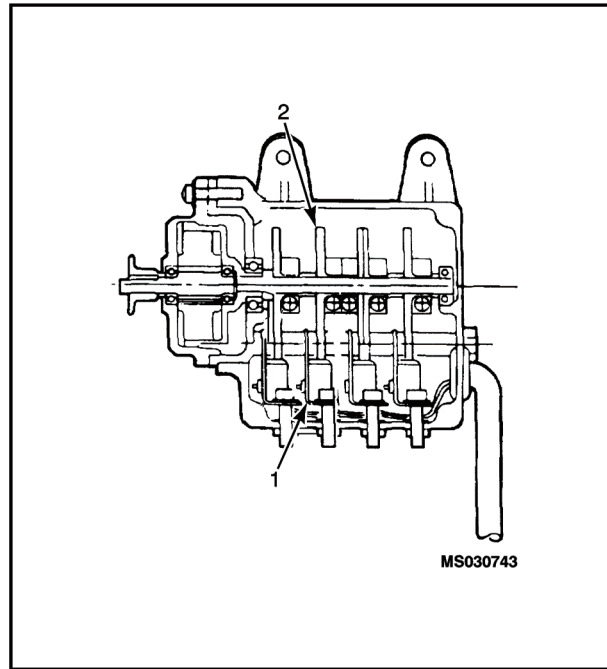
3. Adjust **SW1** cam (2) by loosening **SW1** cam screw (3) and rotate CAM counter clockwise (as viewed from gear side), until **SW1** cam lobe contacts and activates **SW1** limit switch (listen for/feel click). Tighten cam screw.
4. Apply power (28 vdc).
5. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) approximately 5 wraps.

**NOTE**

If **SW1** does not activate on or prior to 3 wraps remaining, cease operation to prevent cable damage.

6. Extend cable slowly (position control pendant **CABLE UP/DOWN** switch to **DOWN**) until **SW1** activates and stops cable travel.
7. Visually inspect drum to ensure that 3-5 cable wraps remain on drum.
8. If less than 3 or more than 5 wraps are visible on drum repeat steps 1-7.



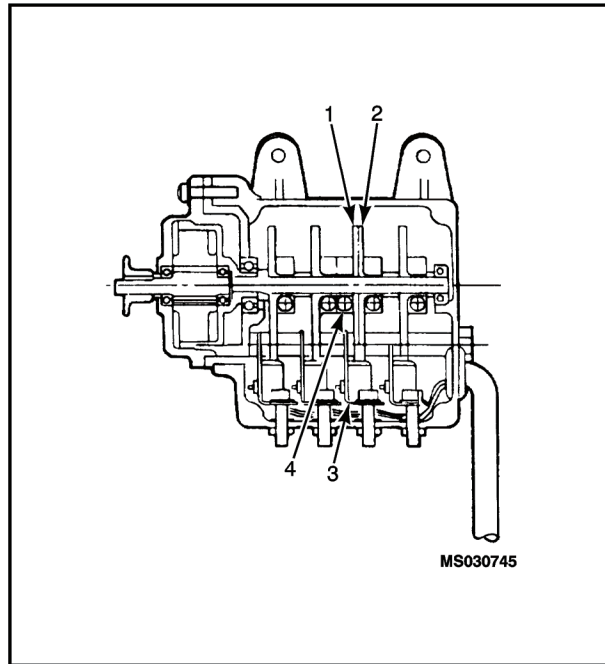
**DOWN LIMIT SWITCH (SW2)**

1. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) until 6 wraps of cable remain on drum.
2. Disconnect power.

**NOTE**

**DOWN LIMIT SWITCH (SW2)** (1) activated by Cam Number 2 (2) – Prevents extension of cable beyond 5-7 wraps of full cable off.

3. Adjust **SW2** cam (2) by rotating CAM counter clockwise (as viewed from gear side), until **SW2** cam lobe contacts and activates **SW2** limit switch (listen for/feel click). Tighten cam screw.
4. Apply power (28 vdc).
5. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) approximately 5 wraps.
6. Extend cable (position control pendant **CABLE UP/DOWN** switch to **DOWN**) until **SW2** activates and stops cable travel.
7. Visually inspect drum to ensure that 5-7 cable wraps remain on drum.
8. If less than 5 or more than 7 wraps are visible on drum then repeat steps 1-7.
9. Disconnect power.

**10/240 LIMIT SWITCH (SW3) CAM 3A**

1. Mark cable 10 feet from boomhead actuator assembly.
2. Apply power (28 vdc).

**NOTE**

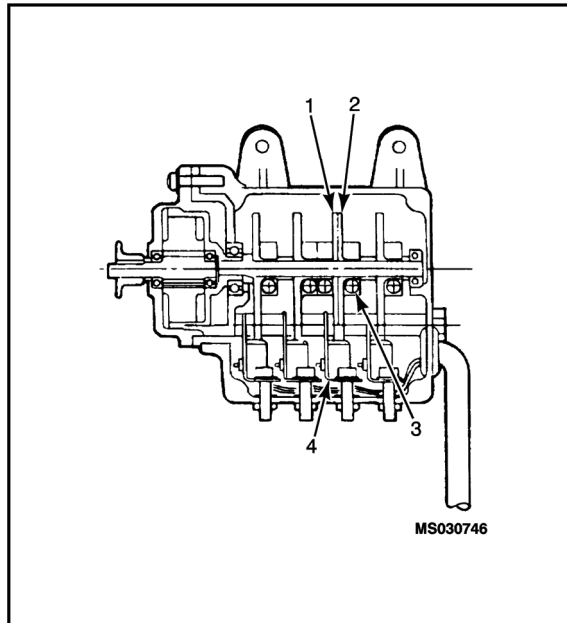
**10/240 LIMIT SWITCH (SW3)** (3) activated by Cams 3A and 3B (1 and 2) – Illuminates 10/240 caution light and reduces cable travel speed to 75 fpm. Switch activation occurs when cable is extended to approximately 240 feet and when retracted to approximately 10 feet.

3. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) until cable mark is visible on drum from top of winch.
4. Extend cable (position control pendant **CABLE UP/DOWN** switch to **DOWN**) until step 1 cable mark is aligned with boomhead actuator assembly.
5. Disconnect power.
6. Adjust **SW3** cam 3A (1) by loosening **SW3** cam 3A screw (4) and rotate CAM counter clockwise (as viewed from gear side), until **SW3** cam 3A (1) lobe contacts and activates **SW3** limit switch (listen for/feel click). Tighten cam screw.
7. Apply power (28 vdc).
8. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) approximately 5 wraps.

**NOTE**

Release control pendant switch immediately upon caution light illumination.

9. Extend cable (position control pendant **CABLE UP/DOWN** switch to **DOWN**) until **SW3** activates and caution light illuminates.
10. Verify that mark on cable is within 6 inches (plus or minus) of boomhead actuator assembly.
11. If cable mark is not within 6 inches (plus or minus) of boomhead actuator assembly; extend cable as necessary and repeat steps 3-10.

**10/240 LIMIT SWITCH (SW3) CAM 3B**

1. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) until approximately 15 feet remains between end of cable and boomhead actuator assembly.
2. Disconnect power.
3. Mark cable 10 feet from end of cable.
4. Apply power (28 vdc).

**NOTE**

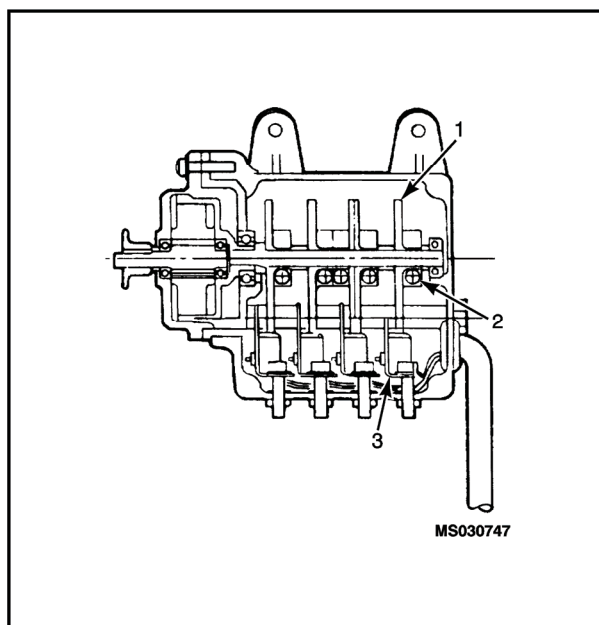
**10/240 LIMIT SWITCH (SW3)** (4) activated by Cams 3A and 3B (1 and 2) – Illuminates 10/240 caution light and reduces cable travel speed to 75 fpm. Switch activation occurs when cable is extended to approximately 240 feet and when retracted to approximately 10 feet.

5. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) until cable mark is aligned with boomhead actuator assembly.
6. Disconnect power.
7. Adjust **SW3** cam 3B (2) by loosening **SW3** cam 3B screw (3) and rotate CAM clockwise (as viewed from gear side), until **SW3** cam 3B lobe contacts and activates **SW3** limit switch (listen for/feel click). Tighten cam screw.
8. Apply power (28 vdc).
9. Extend cable (position control pendant **CABLE UP/DOWN** switch to **DOWN**) approximately 10 feet.

**NOTE**

Release control pendant switch immediately upon caution light illumination.

10. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) until **SW3** activates and caution light illuminates.
11. Verify that mark on cable is within 6 inches (plus or minus) of boomhead actuator assembly.
12. If cable mark is not within 6 inches (plus or minus) of boomhead actuator assembly; extend cable as necessary and repeat steps 5-11.
13. Disconnect power.

**SPEED REDUCTION LIMIT SWITCH (SW4)**

1. Install cable hook assembly in accordance with WP 0015 00.
2. Mark cable 21 inches from cable hook assembly.
3. Apply power (28 vdc).

**NOTE**

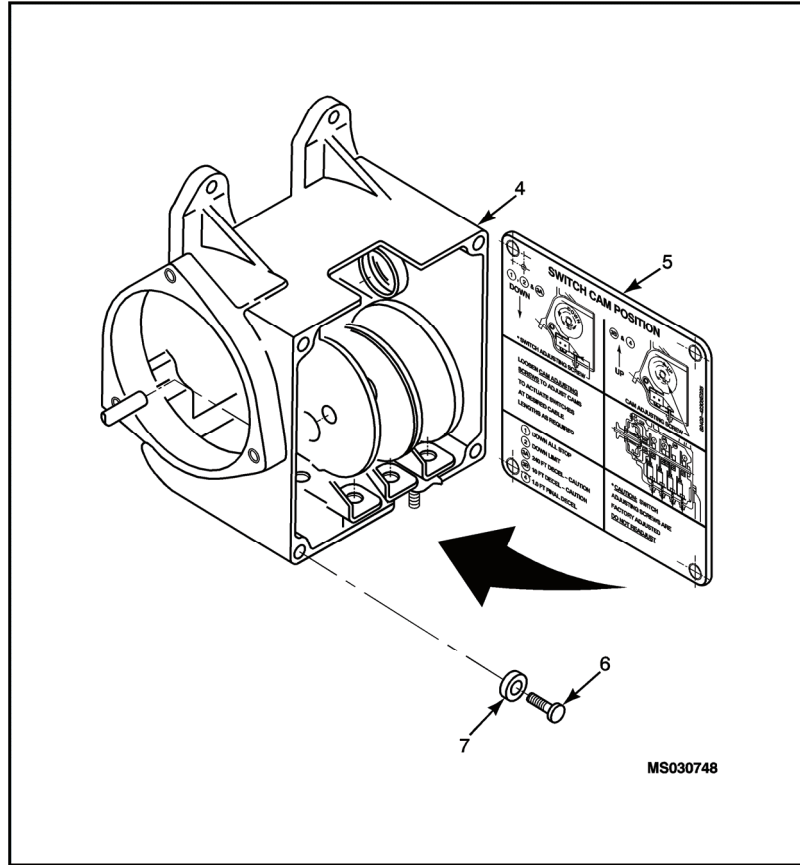
**SPEED REDUCTION LIMIT SWITCH (SW4)** (3), Cam No. 4, reduces cable speed to 15 FPM when cable hook assembly is approximately 18-24 inches from full stow.

4. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) until cable mark is aligned with boomhead actuator assembly.
5. Disconnect power.
6. Adjust **SW4** cam 4 (1) by loosening **SW4** cam 4 screw (2) and rotate CAM clockwise (as viewed from gear side), until **SW4** cam 4 lobe contacts and activates **SW4** limit switch (listen for/feel click). Tighten cam screw.
7. Apply power (28 vdc)
8. Extend cable (position control pendant **CABLE UP/DOWN** switch to **DOWN**) approximately 10 ft.

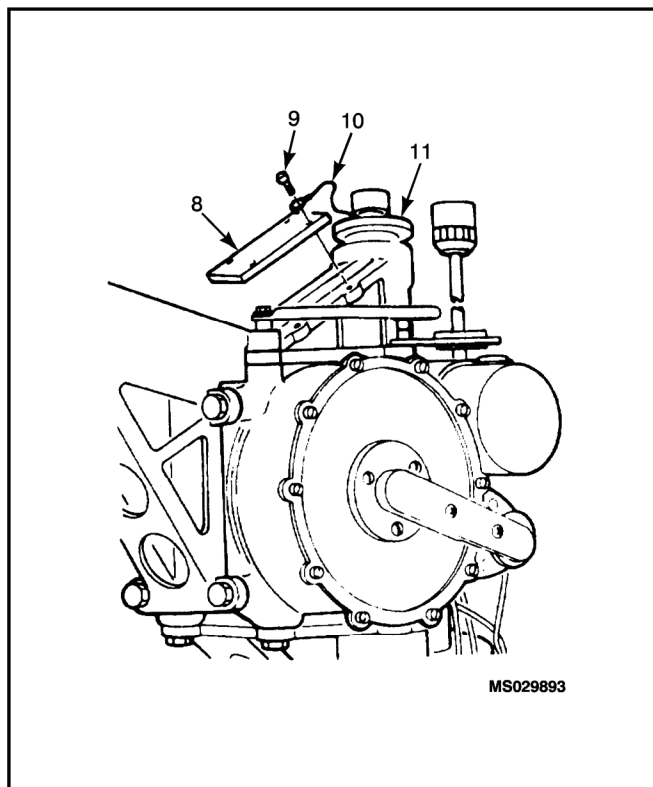
**CAUTION**

Observe cable travel speed during following step to ensure that cable travel speed reduction occurs within 18-24 inches of boomhead actuator assembly. If cable travel speed is not reduced when cable hook assembly is within 18-24 inches of boomhead actuator assembly release control pendant switch.

9. Retract cable (position control pendant **CABLE UP/DOWN** switch to **UP**) until **SW4** activates and cable travel speed is reduced to 15 FPM.
10. Verify that cable travel speed is reduced when cable hook assembly is within 18-24 inches of boomhead actuator assembly.
11. If cable travel speed is not reduced when cable hook assembly is within 18-24 inches of boomhead actuator assembly, repeat steps 8-10.
12. Disconnect power.



13. Install cover plate (5) on limit switch drive assembly (4) with screws (6) and washers (7).



14. Install cover plate (8) and lanyard (10) to upper support (11) using screws (9).

**End of Work Package**

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CONTROL PANEL ASSEMBLY - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Aircraft Electrical Repairer

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24 series

**Parts/Materials:**

Lockwire (WP 0047 00, Table 1, Item 21)  
Wire, Nonelectrical  
(WP 0047 00, Table 1, Item 37)  
Cap Plugs  
(WP 0047 00, Table 1, Items 7, 8, 9, and 10)

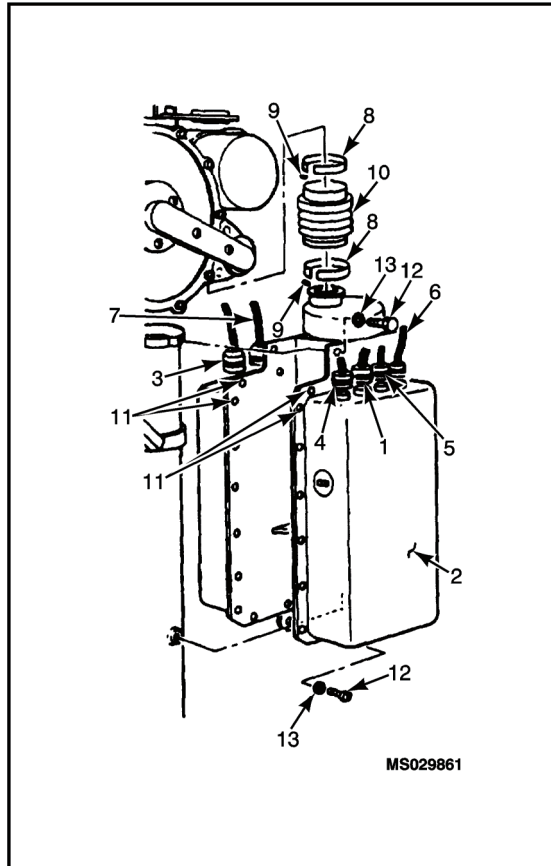
**Tools and Special Tools:**

Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476

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**NOTE**

Install protective caps or equivalent on electrical connectors and receptacles to prevent contamination or damage.



1. Remove control pendant cable (1) from control panel assembly (2).
2. Disconnect electrical connectors (4, 5, and 6) from control panel assembly (2).
3. Remove lockwire and disconnect electrical connectors (3 and 7) from control panel assembly (2).
4. Remove boot clamp bands (8) by removing clips (9) using pliers.
5. Remove boot (10) from winch and plenum fan assembly.
6. Back off four screws (11) until flush with control panel (2).

### **CAUTION**

Control panel contains sensitive electrical components. Handle with care.

7. Loosen bottom bolts (12).
8. Remove top bolts (12) and washers (13).
9. Rotate control panel (2) away from boom position support assembly.
10. Remove bottom bolts (12).
11. Remove control panel (2) from lower support assembly.



---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
CONTROL PANEL ASSEMBLY - INSTALLATION**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Aircraft Electrical Repairer

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24 series

**Parts/Materials:**

Lockwire (WP 0047 00, Table 1, Item 21)  
Wire, Nonelectrical  
(WP 0047 00, Table 1, Item 37)  
Cap Plugs  
(WP 0047 00, Table 1, Items 7, 8, 9, and 10)

**Tools and Special Tools:**

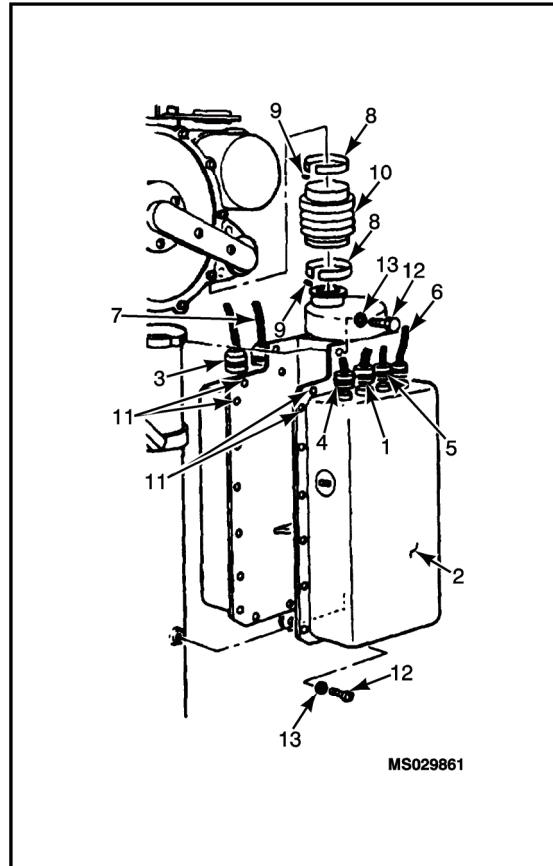
Tool Set, Aviation Unit Maintenance  
NSN 4920-00-567-0476  
Pliers  
NSN 5120-00-077-1822 or equivalent

---

**CAUTION**

---

Control panel contains sensitive electrical components. Handle with care.



1. Position control panel assembly (2) on lower support assembly and install lower bolts (12) and washers (13), hand tight.
2. Rotate control panel assembly (2) upward to install upper bolts (12).
3. Torque upper and lower bolts (12) 55-70 in. lbs.
4. Tighten four screws (11) on control panel (2).
5. Connect electrical connectors (4, 5, and 6) to control panel (2).
6. Connect the electrical connector (3 and 7) and lockwire.
7. Install control pendant cable (1) on control panel assembly (2).
8. Connect boot (10) to plenum fan assembly and winch assembly using bands (8) and clips (9).
9. Install control pendant cable (1) to control panel assembly (2).

**End of Work Package**

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ELECTRICAL CABLES AND CONNECTORS - INSPECT**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Cleaning Corrosion Control Manual  
TM 1-1500-344-23 series

**Parts/Materials:**

N/A

**Tools and Special Tools:**

N/A

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1. Inspect electrical wiring for frayed and broken insulation. Check for cuts and tears.
2. Inspect for corrosion.
3. Inspect electrical connector for bent, broken, and missing pins. Inspect for evidence of overheating and shorting.
4. Inspect threaded parts for crossed, stripped, and damaged threads.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ELECTRICAL CABLES AND CONNECTORS - REPAIR**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Aircraft Electrical Repairer

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24

**Parts/Materials:**

N/A

**Tools and Special Tools:**

Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Tool Kit, Electrical Repairer  
NSN 5180-00-323-4915  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183

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**NOTE**

Repair at AVIM level is limited to repair of connectors **ONLY**. Cable replacement is authorized at Depot level **ONLY**.

Refer to FO-1 for electrical schematic cable and connector replacement at AVIM level.

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ELECTRICAL CABLES AND CONNECTORS - CLEAN**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Aircraft Electrical Repairer

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24

**Parts/Materials:**

Low-lint Cloth (WP 0047 00, Table 1, Item 13)  
Trichloroethane (WP 0047 00, Table 1, Item 33)

**Tools and Special Tools:**

N/A

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**WARNINGS**

- Perform all cleaning in a well lit, clean, and properly ventilated room.
- Trichloroethane is toxic to eyes, skin, and respirator tract. Skin and eye protection required. Avoid repeated or prolonged contact. Good general ventilation is normally adequate.

**CAUTION**

Do not immerse electrical components in cleaning solvent. Wipe with a clean cloth dampened in soap and water solution.

1. Clean rescue hoist assembly wiring harness and control panel assembly with low-lint cloth, moistened with trichloroethane.
2. Clean electrical contact pins with cloth soaked with trichloroethane.

---

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ELECTRICAL CABLES AND CONNECTORS - REMOVAL**

---

**INITIAL SETUP****Personnel Required: 1**

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Aircraft Electrical Repairer

**References:**

AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24

**Parts/Materials:**

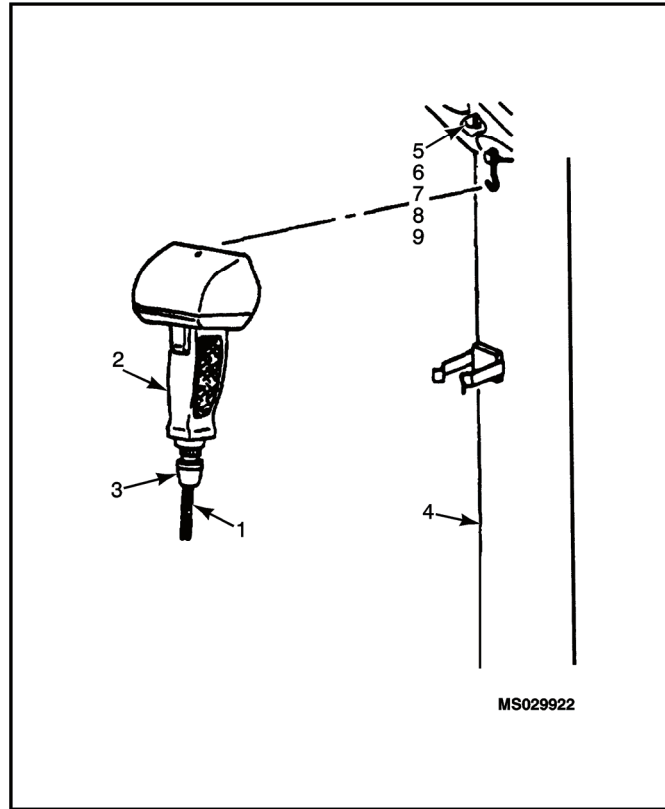
N/A

**Tools and Special Tools:**

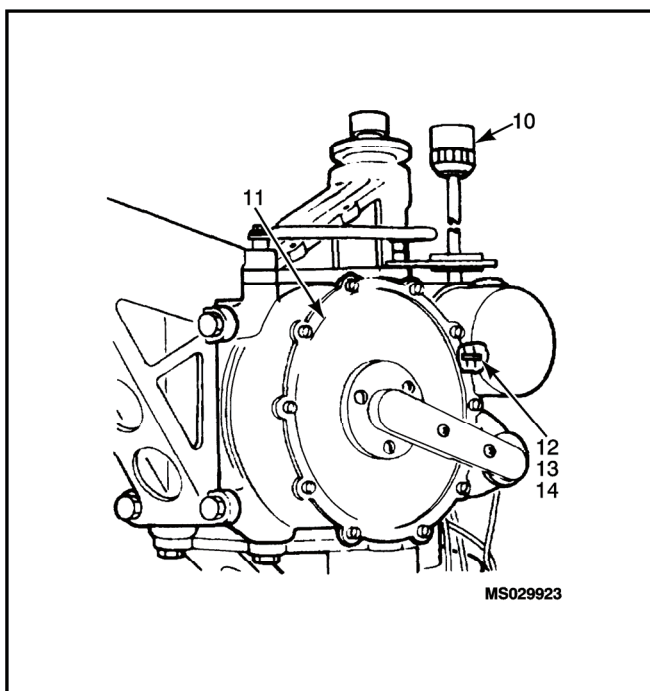
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Tool Kit, Electrical Repairer  
NSN 5180-00-323-4915  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183

**WARNING**

Ensure external electrical power is removed from system prior to removing electrical cables or connectors. Personnel injury could occur.



1. Disconnect control pendant cable (1) from control pendant assembly (2) by unscrewing connector (3).
2. Disconnect control pendant cable from control panel assembly.
3. Remove control pendant cable (1) from boom position support assembly (4) by removing clamp (5), screws (6 and 7), nut (8), and bracket (9).



4. Disconnect umbilical cable (10) external power source.
5. Disconnect umbilical cable (10) from control panel assembly.
6. Remove umbilical cable (10) from winch assembly (11) by removing clamp (12), screw (13), and nut (14).



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## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY ELECTRICAL CABLES AND CONNECTORS - INSTALLATION

---

### INITIAL SETUP

#### Personnel Required: 1

UH-1: 15N, Helicopter Repairer  
UH-60: 15T, Helicopter Repairer  
Hoist Certified: 91W, Flight Medic  
Electrical: 15F, Aircraft Electrical Repairer

#### References:

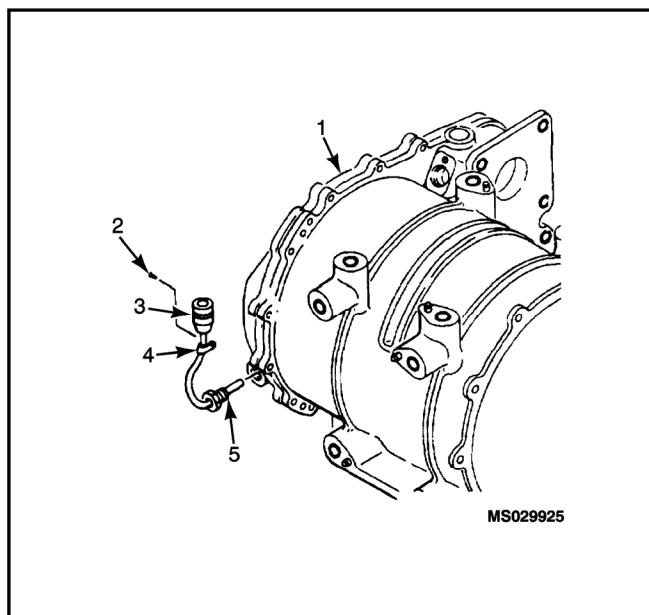
AVUM/AVIM Manual for General Aircraft  
Maintenance TM 1-1500-204-23 series  
Aircraft Electrical and Electronic Manual  
TM 1-1500-323-24

#### Parts/Materials:

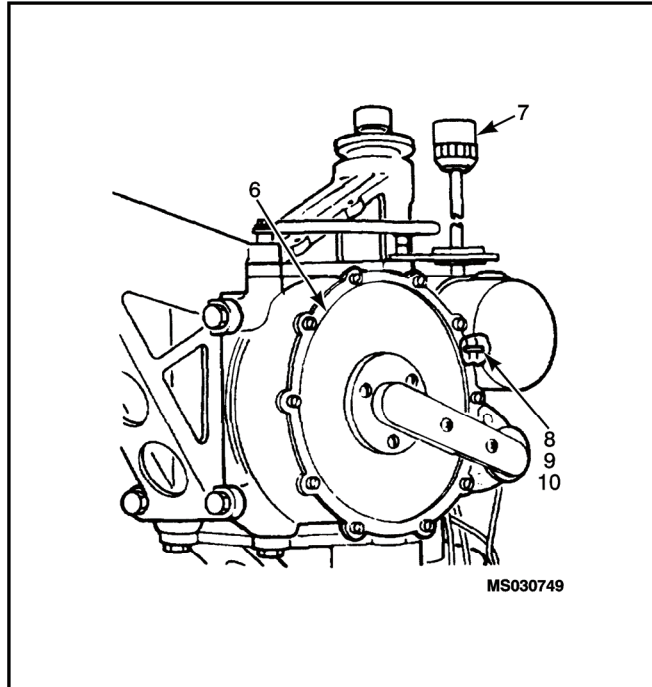
N/A

#### Tools and Special Tools:

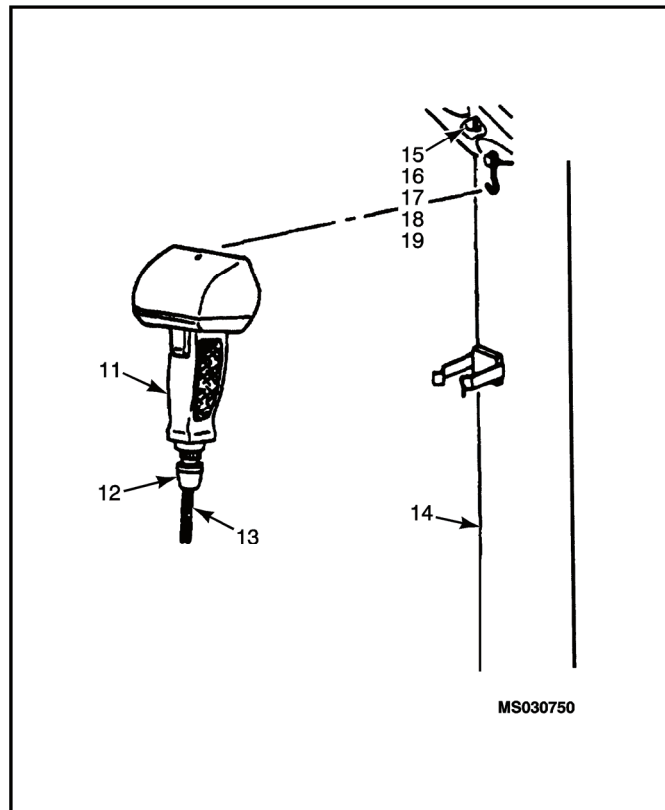
Tool Kit, Aircraft Mechanic  
NSN 5180-00-323-4692  
Tool Kit, Electrical Repairer  
NSN 5180-00-323-4915  
Shop Set, Intermediate Maintenance  
NSN 4920-00-472-4183



1. Screw thermal switch (5) into winch housing (1).
2. Install electrical braid and heat shrink tubing on leads of switch.
3. Install clamp (4) onto connector (3) using screws (2).



4. Install umbilical cable (7) to winch assembly using clamp (8), screw (9), and nut (10).



5. Connect umbilical cable (7) through bracket (8).
6. Install control pendant cable (13) onto boom position support assembly (14) using clamp (15), screws (16 and 17), nut (18) and bracket (19).
7. Connect control pendant cable (3) to control panel assembly.
8. Connect control pendant cable (13) to control pendant (11) by tightening connector (12).

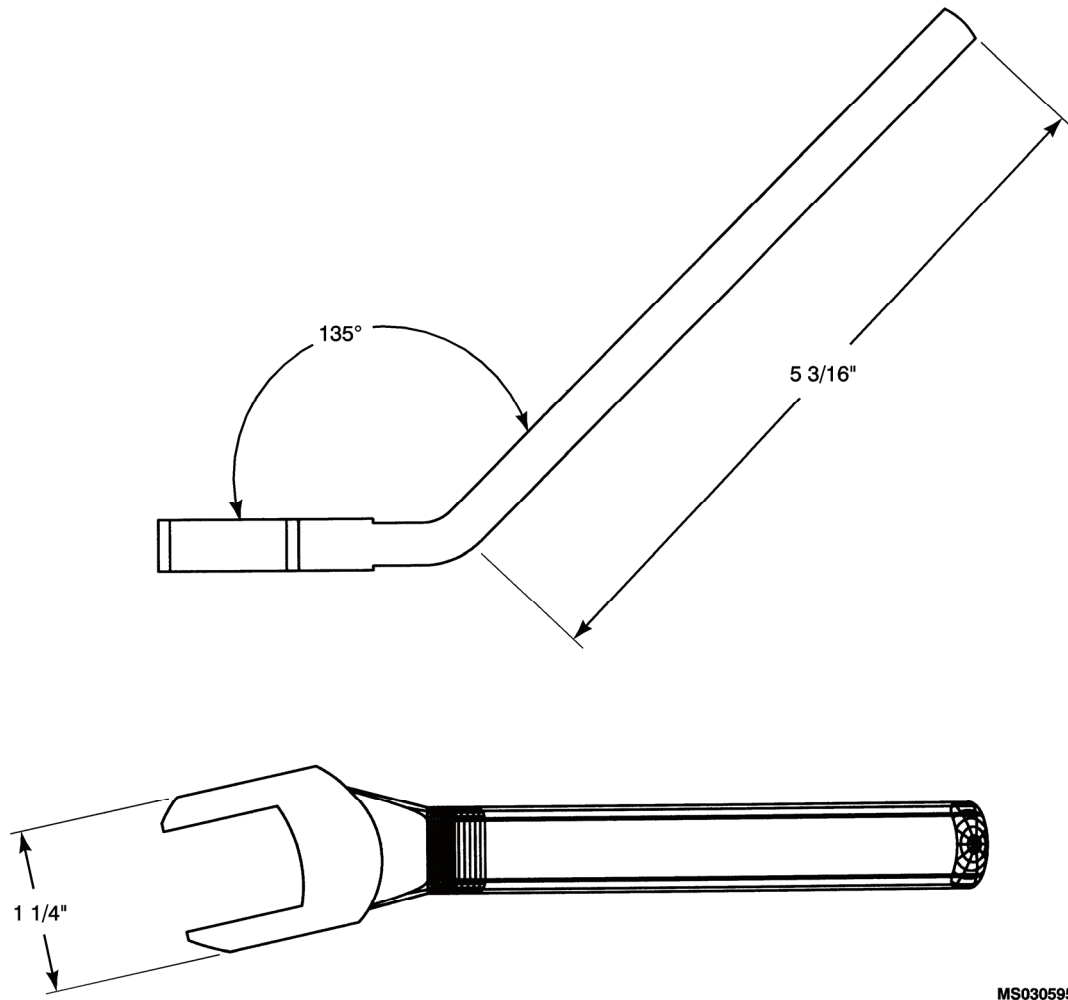
**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
ILLUSTRATED LIST OF MANUFACTURED ITEMS**

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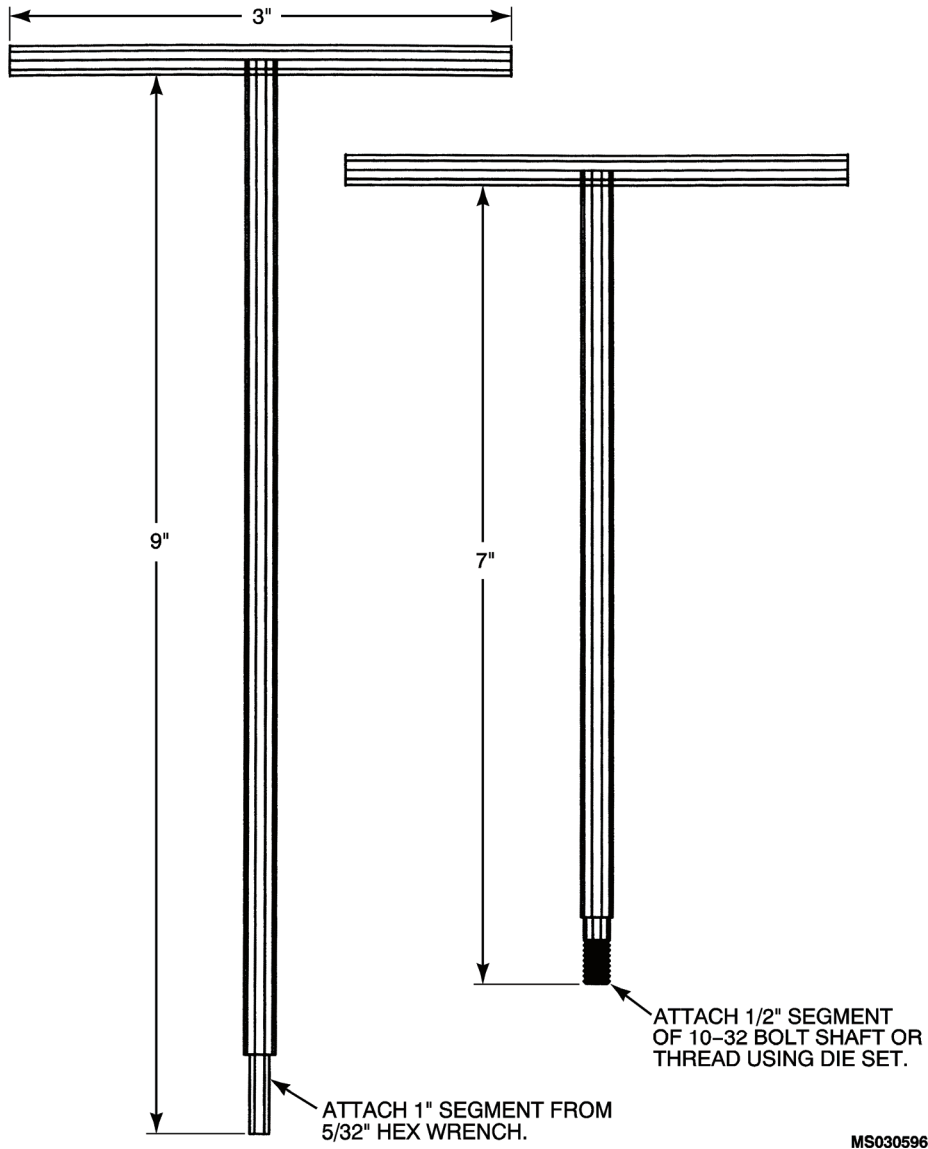
**LOCALLY MANUFACTURED TOOLS**

MS030595

**Figure 1. Flexible Driveshaft Wrench.****NOTE**

Use this tool for removing and installing flexible driveshaft cable connector from/on winch assembly.

Start with 3/4" open end wrench. Cut off opposite end and cut or grind outside of wrench to dimension shown. Heat handle and bend to approximately 135 degrees. Smooth edges.

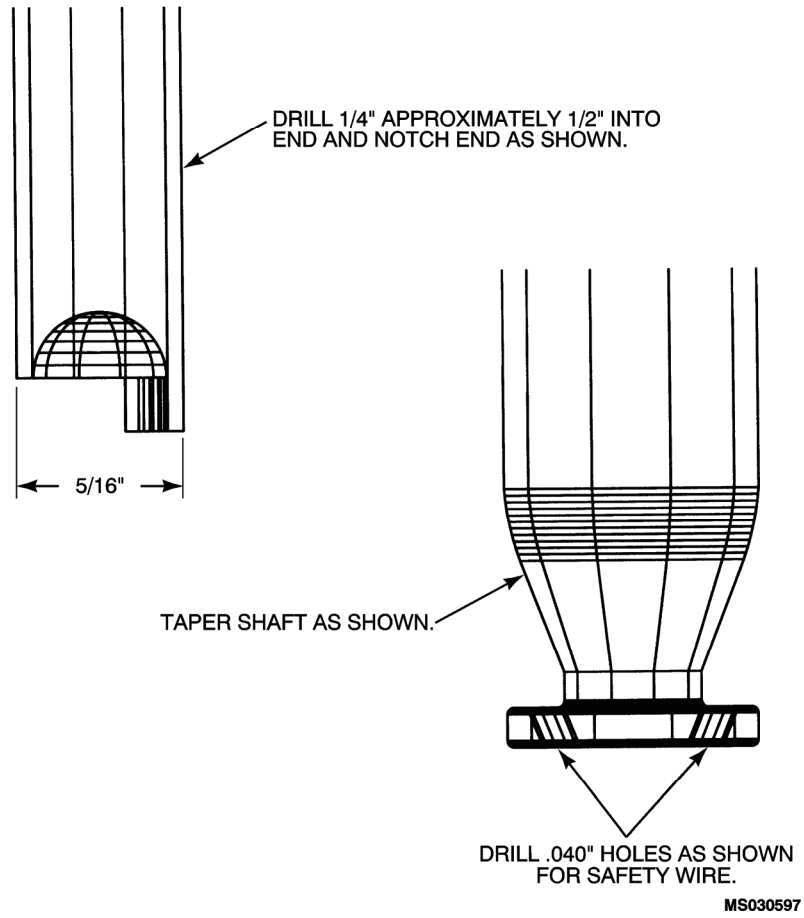


**Figure 2. Cable Retainer Tools.**

**NOTE**

Use these tools for cable replacement and drum shoe removal.

Start with 1/4" steel round stock. Weld horizontal and vertical parts to form "T" handles. Weld shaft of 10-32 bolt to end of shortest T-handle or use die set to thread end. Weld 5/32" hex wrench to end of longer T-handle.



**Figure 3. Spring Tools.**

**NOTE**

Use these tools for removing and installing pressure roller springs in tight locations.

Manufacture by cutting end off of screw drivers and machining as specified.

**End of Work Package**





**CHAPTER 5**  
**SUPPORTING INFORMATION**  
**FOR**  
**HIGH PERFORMANCE RESCUE**  
**HOIST ASSEMBLY**



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## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY REFERENCES

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**SCOPE**

This work package lists all field manuals, forms, technical manuals and miscellaneous publications referenced in this manual.

**FORMS**

DA Form 2028	Recommended Changes to Publications Blank Forms
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DD Form 1574	Serviceable Tag – Material
DD Form 1574-1	Serviceable Tag – Material
DD Form 1577-2	Unserviceable (Repairable) Tag – Material
SF 364	Supply Discrepancy Report (SDR)
SF 368	Product Quality Deficiency Report (PQDR)

**TECHNICAL MANUALS**

TB 9-1300-385	Munitions Restricted or Suspended
TM 1-1500-204-23 series	AVUM/AVIM Manual for General Aircraft Maintenance
TM 1-1500-323-24 series	Aircraft Electrical and Electronic Manual
TM 1-1500-344-23 series	Avionic Cleaning and Corrosion Prevention/Control
TM 55-1520-210-10	UH-1 Operator's Manual
TM 55-1520-210-23-2	UH-1 Series Helicopter Maintenance Manual
TM 1-1520-237-10	UH-60 Operator's Manual
TM 55-1520-237-23-4	UH-60 Series Helicopter Maintenance Manual
TM 55-1500-345-23	Painting and Marking of Army Aircraft
TM 750-244-2	Procedures for Destruction of Electronic Material to Prevent Enemy Use

**MISCELLANEOUS**

AR 700-138	Army Logistics Readiness and Sustainability
AR 710-2	Supply Policy Below the Wholesale Level
AR 750-1	Army Material Maintenance Policy
ASTM D 3951	Standard Practice for Commercial Packing
DA PAM 710-2-2	Supply Support Activity System Manual Procedures
DA PAM 738-750	Functional Users Manual for the Army Maintenance Management System (TAMMS)
DA PAM 738-751	Functional Users Manual for the Army Maintenance Management Systems – Aviation (TAMMS-A)
MIL-A-8625	Anodic Coatings for Aluminum and Aluminum Alloys
MIL-C-5541	Chemical Conversion Coatings of Aluminum and Aluminum Alloys
MIL-STD-129	Military Marking for Shipment and Storage

**End of Work Package**

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## HIGH PERFORMANCE RESCUE HOIST ASSEMBLY MAINTENANCE ALLOCATION CHART (MAC)

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### INTRODUCTION

#### Aviation Maintenance Allocation Chart

This MAC designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance level which are shown on the MAC as:

Field – includes two columns, “O” which corresponds to Aviation

Maintenance Company (AMC) and “F” which corresponds to Aviation Support Battalion (ASB)

Sustainment – includes two columns, “L” which corresponds to Theater Aviation Sustainment Maintenance Group (TASMG) and other organizations that have National Maintenance Program certification and “D” which corresponds to Depot.

DEPOT - Corresponds to a “D” Code in the RPSTL.

The maintenance to be performed below depot and in the field is described as follows:

#### Aviation Unit Maintenance (AMC)

1. **Aviation Maintenance company (AMC).** The primary purpose of the aviation maintenance company is to support the momentum of offensive operations. Composition of the AMC will be based on type of operations being supported, nature of the battlefield, and the need for flexibility. AMCs will provide forward positioning of essential maintenance repair parts and supplies, maximum use of support teams, use of airlift/air drops for resupply, for maintenance that does not interfere with the tactical plans and operations. AMCs are agile, mobile, and well equipped. They will carry limited stockpiles of demand supported, essential parts, and supplies. The AMC performs battle damage assessment and repair (BDAR) and unit level repairs on Aviation Life Support Systems (ALSS). The AMC performs production control, quality control, and Maintenance Management/Maintenance Test Pilot functions. AMCs will rig aircraft for recovery operations. The AMC manages the battalion maintenance program and operates a central tool room. The AMC conducts forward arming and refueling. AMCs will be comprised of 3 to 4 modular platoons, which are configured to maintain unit level operational readiness and aircraft availability:

Headquarters Platoon – Establishes standard operating procedures, receives, and processes work requests, schedules maintenance, maintains status of aircraft, coordinates inspections and test flights and return to repaired aircraft, enforces quality standards, responsible for safety. Also, obtains, stores, and issues Classes II, III, IV, and IX, prescribed load list shop stock and authorized stockage list items.

Airframe Repair Platoon – Tailored to battalion it supports. Performs scheduled and unscheduled maintenance, troubleshoots faulty components, and removes and replaces aircraft components. Provides mission capable aircraft to support flight company operations.

Component Repair Platoon – Performs scheduled and unscheduled maintenance, troubleshoots faulty components, and removes and replaces aircraft components. Performs BDAR and manages Class IX spare/shop stock. This platoon uses Shop Equipment Contact Maintenance (SECM) trucks which are multi-capable and self-contained and are used to perform on-site maintenance using enhanced power tools, test, measurement, and diagnostic equipment, welding and cutting equipment, and an air compressor. The SECM truck is highly mobile.

- 
2. **Aviation Support Company (ASC) in the Aviation Support Battalion (ASB).** Comprised of Headquarters, Airframe, and Component Repair Platoons. Provides maintenance assistance to aviation units helping them maintain operational readiness and aircraft availability. Utilizes SECM trucks. Capable of supporting split based operations in two separate and distinct locations. Performs the following types of maintenance:
    - a. Intermediate maintenance and logistics support operations.
    - b. Maintenance actions which require more than 3 days to correct.
    - c. Phased maintenance and preventive maintenance services.
    - d. In-depth troubleshooting and diagnosis of airframe and component malfunctions.
    - e. Repairs airframes and LRU component.
    - f. Fixes night vision systems, aviation life support systems, aviation electrical and hydraulic components.
    - g. Limited capability to fabricate hydraulic lines.
    - h. Repairs engines, prop and rotors, armament, and armament subsystems.
    - i. Fixes and fuels organic battalion equipment, ground aviation vehicles, and aviation ground support equipment.
    - j. Operates and performs field maintenance on aviation ground power units, generator, and ground support equipment.
    - k. Battle damage assessment and repair (BDAR).
    - l. Production control and quality control.
    - m. Test Pilot functions.
  3. **Theater Aviation Sustainment Maintenance Group (TASMG) –** Assists in deployment and redeployment, provides technical assistance, supports increased operational tempo, sustains Army aviation across the entire spectrum of operations. The TASMG:
    - a. Provides support to CONUS deploying forces.
    - b. Provides support to OCONUS deployed forces.
    - c. OCONUS aviation maintenance support for contingency and stability and/or support operations.
    - d. Expands aviation maintenance capabilities of CONUS depots.
    - e. Classifies and inspects aviation stocks and components.
    - f. Repairs engines, airframes, armament, composite materials, electrical systems, avionics, hydraulics.
    - g. Fabricates hydraulic lines.
    - h. Backup ASB and AMC maintenance functions.

---

**Use of the MAC****NOTE**

Approved item names are used throughout this MAC. Generic terms/nomenclature (if any) are expressed in parentheses and are not to be considered as official terminology.

This MAC assigns maintenance functions to the lowest level of maintenance, based on past experience and following considerations:

Skills available.

Work time required.

Tools and test equipment required and/or available.

Only the lowest level of maintenance authorized to perform a maintenance function is indicated. If the lowest maintenance level cannot perform all tasks of any single maintenance function (e.g., test, repair), then the higher maintenance level(s) that can accomplish additional tasks will also be indicated.

A maintenance function assigned to a maintenance level will automatically be authorized to be performed at any higher maintenance level.

A maintenance function that cannot be performed at the assigned level of maintenance for any reason may be evacuated to the next higher maintenance level. Higher maintenance levels will perform the maintenance functions of lower maintenance levels when required by the commander who has the authority to direct such tasking.

The assignment of a maintenance function will be construed as authorization to carry the related repair parts or spares in stock. Information to requisition or otherwise secure the necessary repair parts will be as specified in the associated RPSTL.

Normally there will be no deviation from the assigned level of maintenance. In cases of operational necessity, at the request of a lower maintenance level and on a one-time basis, transfer of maintenance functions to the lower level may be accomplished by specific authorization of the maintenance officer of the higher level of maintenance to which the function is assigned. The special tools, equipment, etc., required by the lower level of maintenance to perform this function will be furnished by the maintenance level to which the function is assigned. This transfer of a maintenance function to a lower maintenance level does not relieve the higher maintenance level of the responsibility for the function. The higher level of maintenance will provide technical supervision and inspection of the function being performed at the lower level.

**Maintenance Functions**

Maintenance functions will be limited to and defined as follows:

1. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel).
2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards.
3. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases.
  - a. Unpack. To remove from packing box for after service when required for the performance of maintenance operations.
  - b. Repack. To return item to packing box after service and other maintenance operations.
  - c. Clean. To rid the item of contamination.
  - d. Touch up. To spot paint scratched or blistered surfaces.
  - e. Mark. To restore obliterated identification.

4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or exact position, or by setting the operating characteristics to specified parameters.
5. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.
6. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring and diagnostic equipment used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.
7. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.
8. Paint. To prepare and spray color coats of paint so that the ammunition can be identified and protected. The color indicating primary use is applied, preferably, to the entire exterior surface as the background color of the item. Other markings are to be painted as original so as to retain proper ammunition identification.
9. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.
10. Repair. The application of maintenance services, including fault location/troubleshooting, removal installation, disassembly/assembly procedures and maintenance actions to identify troubles and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item or system.

### NOTE

The following definitions are applicable to the "repair" maintenance function:

Services - Inspect, test, service, adjust, align, calibrate and/or replace.

Fault location/troubleshooting - The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/Assembly - The step-by-step taking apart (or breakdown) of a spare/functional group coded item to the level of its least component identified as maintenance significant (i.e., assigned an SMR code) for the level of maintenance under consideration.

Actions - Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

11. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.
12. Rebuild. Those service/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

### Explanation of Entries in the MAC

Group Number and Component/Assembly. The functional groupings in the sample below identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

Columns (1) and (2) - Functional Groups. The functional groupings in the sample below identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.



Group Number	Component/Assembly Description
04	POWER PLANT
0401	ENGINE, GENERAL Servicing, handling inspection requirements, overhaul and retirement schedules. External lines and hoses. (As applicable)
0402	COMPRESSOR SECTION (COLD SECTION MODULE) Rotor, blades, vanes, impeller, stators, inlet guide vanes, mainframe, particle separator, bleed valve, bearings, seals, external lines, and hoses.
0403	COMBUSTION SECTION (HOT SECTION MODULE) Liners, nozzles, stators, rotor, seals, couplings, and blades.
0404	POWER-TURBINE (POWER TURBINE MODULE) Nozzles, rotors, blades, exit guide vanes, exhaust frame, drive shaft, bearings, seals, external lines, and hoses.
0405	ACCESSORY GEAR BOX (ACCESSORY SECTION MODULE) Input and output gears, seals, chip detector, housings, drive shaft, and bearings.
0406	FUEL SYSTEM Fuel control, fuel boost pump, governors, fuel filter assembly, sequence valve, fuel manifold, fuel nozzle, external lines, and hoses.
0407	ELECTRICAL SYSTEM Electrical control units, exciters, thermocouples, ignition harness, electrical cables, history record, torque over speed sensor, Np sensor, external lines, and hoses.
0408	OIL SYSTEM Tanks, oil filter, oil cooler, lube and scavenger pumps, oil filter bypass sensor, external lines, and hoses.

Maintenance Function. Entry lists the functions to be performed on the items listed in Component/Assembly.

Maintenance Level. The maintenance levels field and sustainment are listed on the MAC with individual columns for AMC, ASB, TASM, and Depot that include the work times for maintenance functions at each maintenance level. Work time presentations such as "0.1" indicate the average time (expressed in manhours in whole hours or decimals) it requires a maintenance level to perform a specified maintenance function. If a work time has not been established, the columnar presentation will indicate "--". Maintenance levels higher than the level of maintenance indicated are authorized to perform the indicated function.

Tools and Equipment Reference Code. Entry specifies, by code, those common tool sets (not individual tools), common TMDE, and special tools, special TMDE, and special support equipment required to perform the designated function.

Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks.

**Explanation of Columns in the Tools and Test Equipment Requirements**

Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in tasks and equipment reference code entry of the MAC.

Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Nomenclature. Name or identification of the tool or test equipment.

National Stock Number (NSN). The NSN of the tool or test equipment.

Tool Number. The manufacturer's part number.

**Explanation of Entries in the Remarks**

Remarks Code. The code recorded in remarks code entry of the MAC.

Remarks. This entry lists information pertinent to the maintenance function being performed as indicated in the MAC.

**End of Work Package**

**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
MAINTENANCE ALLOCATION CHART (MAC)**

**Table 1. MAC for High Performance Rescue Hoist.**

(1) GROUP NUMBER	(2) DESCRIPTION	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			AMC (O)	ASB (F)	TASMG (L)	DEPOT (D)		
00	High Performance Rescue Hoist	Inspect	--					
		Adjust		--			1, 4, 6	
01	Control Pendant Assembly	Inspect	--					
		Replace	--				7 A	
02	Boomhead Assembly	Inspect	--				7 A	
		Service	--				1, 3	
		Replace	--				1, 3, 7 A, B	
0201	Brake Assembly	Inspect			--	7		
0202	Clutch Assembly	Inspect			--	7		
0203	Cable Cutter Assembly	Inspect	--					
		Repair	--				1, 7	
		Replace	--				1, 7	
0204	Actuator Assembly (Up-Limit)	Inspect	--					
		Adjust	--				1, 7	
		Replace	--				1, 7	

(1) GROUP NUMBER	(2) DESCRIPTION	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			AMC (O)	ASB (F)	TASMG (L)	DEPOT (D)		
0206	Flexible Drive Shaft Assembly	Inspect	--				7	
		Replace	--				1, 4, 7	A
03	Control Panel Assembly	Replace	--				1, 7, 9	A
0301	Blower Assembly/ DC Motor Assembly	Repair	--				1, 2, 4, 7	A
		Replace	--					
04	Boom Position Support Assembly	Inspect	--					
		Adjust		--			1	
		Replace		--				A
0401	Height Adjuster Assembly	Inspect	--					
		Repair	--				1, 3	A
		Replace	--					A
040101	Quick Disconnect (Upper Support)	Inspect	--					
		Replace	--				1, 3	A
0402	Upper Support Assembly	Inspect	--					
		Repair	--					A
		Replace	--				1, 4	A

(1) GROUP NUMBER	(2) DESCRIPTION	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			AMC (O)	ASB (F)	TASMG (L)	DEPOT (D)		
0403	Lower Support Assembly	Inspect	--				7	
		Repair		--			7	A
		Replace		--			1, 4	A
0404	Reaction Arm Assembly	Inspect	--				7	
		Repair	--					
		Replace	--					A
040401	Quick Disconnect (Reaction Arm)	Inspect	--					
		Replace	--				1, 3	A
05	Winch Assembly	Inspect	--					
		Service	--				1, 3, 7	
		Adjust	--					
		Align	--				7	
		Repair		--			1, 2, 4, 7	A
		Replace		--			1, 4	A
0501	Electric Motor	Inspect	--					
		Replace	--				1, 7	A

(1) GROUP NUMBER	(2) DESCRIPTION	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			AMC (O)	ASB (F)	TASMG (L)	DEPOT (D)		
0502	Inertia Dump Assembly	Inspect		--			7	
0503	Limit Switch Drive Assembly	Inspect	--				7	
		Adjust	--				1, 3, 7, 8, 11	
		Replace	--				1, 3, 7	A
		Test	--				1, 4, 6, 7	
0504	Automatic Brake Assembly	Inspect				--		
		Repair				--		
		Replace				--		
0505	Cable Hook Assembly	Inspect	--				7	
		Repair	--				1, 3	A
		Replace	--				1, 7	A
0506	Hoist Cable Assembly	Inspect	--				8	C
		Replace	--				1, 3, 7, 8, 11	A, C
0507	Level Wind Shoe	Inspect	--				7	
		Replace	--				1, 3, 7	A
0508	Drum Assembly	Inspect	--				7	
		Align	--				1, 3, 7, 8, 11	

(1) GROUP NUMBER	(2) DESCRIPTION	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL				(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARKS CODE
			FIELD		SUSTAINMENT			
			AMC (O)	ASB (F)	TASMG (L)	DEPOT (D)		
06	Electrical Cables/Connectors	Inspect	--					
		Repair	--				1, 2, 4, 7	A
		Replace	--				1, 2, 3, 4, 7	A

**Table 2. Tools and Test Equipment for High Performance Rescue Hoist.**

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1	O/F	Tool Kit, Aircraft Mechanics	5180-00-323-4692	SC5180-99-CL-A01
2	O/F	Tool Kit, Electrical Repairer	5180-00-323-4915	SC180-99-CL-A06
3	O	Tool Set, Aviation Unit Maintenance (Set No. 2)	4920-00-567-0476	SC4920-99-CL-A92
4	F	Shop Set, Intermediate Maintenance	4920-00-472-4183	SC4920-99-CL-A91
5	F	Holding Fixture, Clutch and Brake	4920-01-430-3476	42277-716
6	O/F	Multimeter	6625-01-265-6000	27 W/ACCE
7	O/F	Assembly Stand	1680-01-488-6494	42277-808 (or equiv)
8	O	Cable Spool		42277-730 (or equiv)
9	O	Pliers	5120-00-077-1822	44191D192
10	F	Torque Fixture, Automatic Brake	4920-01-331-7944	42277-728
11	O/F	Ground Power Unit, Aviation	1730-01-466-9371	83-360D

**Table 3. Remarks for High Performance Rescue Hoist.**

REMARKS CODE	REMARKS
(1)	Visible Inspection without detailed disassembly
(2)	Functional Test at AVUM/AVIM – Hoist installed in helicopter
(3)	Replace packings and seals
(4)	Repair at AVIM includes complete breakdown of the Control Pendant Assembly, Brake and Clutch Assemblies, Limit Switch Drive Assembly, and Automatic Brake Assembly
(5)	Torque Slip Adjustment using the Clutch and Brake Holding Fixture
(6)	Repair limited to removal and replacement of the Blower Assembly/DC Motor
(7)	Refer to TM 1-1500-344-23 series
A	All repair and replacement of parts performed at AVUM or AVIM is limited to authorized items
B	Cable cutter contains an explosive cartridge. Use care when handling.
C	Use Cable Spool (or acceptable substitute) to prevent damage to cable.

**End of Work Package**



**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL) - INTRODUCTION**

**SCOPE**

This RPSTL lists and authorizes spares and repair parts, special tools, special test measurement and diagnostic equipment (TMDE) and other special support equipment required for performance of the Two-level maintenance of the High Performance Rescue Hoist. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the Source, Maintenance and Recoverability (SMR) codes.

**GENERAL**

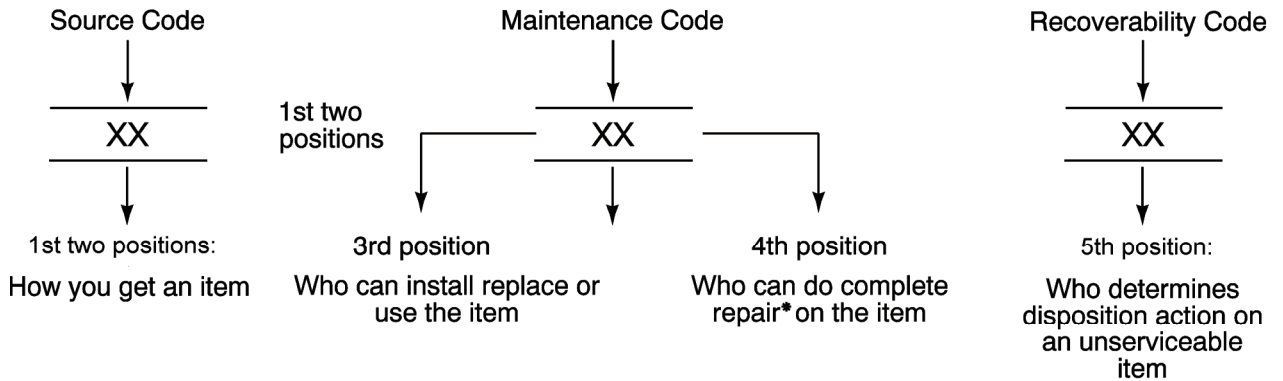
In addition to the Introduction work packages; this RPSTL is divided into the following work packages:

1. Repair Parts List Work Packages. Work packages containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. These work packages also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters and bolts are listed with the component they mount on. Repair parts for repairable special tools are also listed in a separate work package. Items listed are shown on the associated illustrations.
2. Special Tools List Work Packages. Work packages containing lists of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.
3. Cross-Reference Indexes Work Packages. There are two cross-reference indexes work packages in this RPSTL: the National Stock Number (NSN) Index work package and the Part Number (P/N) Index work package. The National Stock Number Index and the Part Number Index work package refer you to the figure and item number.

**EXPLANATION OF COLUMNS IN THE REPAIR PARTS LIST AND SPECIAL TOOLS LIST WORK PACKAGES**

**ITEM NO. (Column (1)).** Indicates the number used to identify items called out in the illustration.

**SMR CODE (Column (2)).** The SMR code containing supply/requisitioning information, maintenance level authorization criteria and disposition instruction, as shown in the following breakout:



\*Complete Repair: Maintenance capacity, capability and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

**Source Code.** The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

<b>SOURCE CODE:</b>	<b>APPLICATION/EXPLANATION</b>
PA	Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the 3 <sup>rd</sup> position of the SMR code.
PB	
PC	
	<b>NOTE</b>
PD	Items coded PC are subject to deterioration.
PE	
PF	
PG	
KD	Items with these codes are not to be requested/requisitioned individually. They are part of a kit, which is authorized to the maintenance level indicated in the 3 <sup>rd</sup> position of the SMR code. The complete kit must be requisitioned and applied.
KF	
KB	

MO-Made at unit/ AVUM level	Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the P/N in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work package of the RPSTL. If the item is authorized to you by the 3 <sup>rd</sup> position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.
MF-Made at DS/ AVIM level	
MH-Made at GS level	
ML-Made at SRA	
MD-Made at depot	

AO-Assembled by unit/AVUM level	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3 <sup>rd</sup> position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
AF-Assembled by DS/AVIM level	
AH-Assembled by GS level	
AL-Assembled by SRA	

AD-Assembled by depot	Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)
XA	

XB	If an item is not available from salvage, order it using the CAGEC and P/N.
----	-----------------------------------------------------------------------------

XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
----	----------------------------------------------------------------------------------------------------------------

XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and P/N given, if no NSN is available.
----	-----------------------------------------------------------------------------------------------------------------------------------

**NOTE**

Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

**Maintenance Code.** Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

**Third Position.** The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance:

<u>Maintenance Code</u>	<u>Application/Explanation</u>
O*	Unit level/AVUM maintenance can remove, replace, and use the item.
F	Direct support/AVIM maintenance can remove, replace, and use the item.
H	General Support maintenance can remove, replace, and use the item.
L	Specialized repair activity can remove, replace, and use the item.
G	Afloat and ashore intermediate maintenance can remove, replace, and use the item (Navy only).
K	Contractor facility can remove, replace, and use the item.
Z	Item is not authorized to be removed, replaced, or used at any maintenance level.
D	Depot can remove, replace, and use the item.

**Fourth Position.** The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized repair functions).

**NOTE**

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

<u>Maintenance Code</u>	<u>Application/Explanation</u>
O	Unit/AVUM is the lowest level that can do complete repair of the item.
F	Direct support/AVIM is the lowest level that can do complete repair of the item.
H	General Support is the lowest level that can do complete repair of the item.
L	Specialized repair activity XXXX is the lowest level that can do complete repair of the item.
D	Depot is the lowest level that can do complete repair of the item.
G	Both afloat and ashore intermediate levels are capable of complete repair of item. (Navy only)
K	Complete repair is done at contractor facility.
Z	Non-reparable. No repair is authorized.
B	No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

**Recoverability Code.** Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

Recoverability Code	Application/Explanation
Z	Non-reparable item. When unserviceable, condemn, and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O	Reparable item. When uneconomically reparable, condemn, and dispose of the item at the unit level.
F	Reparable item. When uneconomically reparable, condemn, and dispose of the item at the direct support level.
H	Reparable item. When uneconomically reparable, condemn, and dispose of the item at the General Support level.
D	Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item are not authorized below depot level.
L	Reparable item. Condemnation and disposal not authorized below Specialized Repair Activity (SRA).
A	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material or hazardous material). Refer to appropriate manuals/directives for specific instructions.
G	Field level reparable item. Condemn and dispose at either afloat or ashore intermediate levels. (Navy only)
K	Reparable item. Condemnation and disposal to be performed at contractor facility.

**NSN (Column (3)).** The NSN for the item is listed in this column.

**CAGEC (Column (4)).** The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor or Government agency/activity that supplies the item.

**PART NUMBER (Column (5)).** Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

**NOTE**

When you use an NSN to requisition an item, the item you receive may have a different P/N from the number listed.

**DESCRIPTION AND USABLE ON CODE (UOC) (Column (6)).** This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.
2. P/Ns of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.
3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.
4. The statement END OF FIGURE appears just below the last item description in column (6) for a given figure in both the repair parts list and special tools list work packages.

**QTY (Column (7)).** The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

## EXPLANATION OF CROSS-REFERENCE INDEXES WORK PACKAGES FORMAT AND COLUMNS

### 1. National Stock Number (NSN) Index Work Package.

**STOCK NUMBER Column.** This column lists the NSN in National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN.

\*For example, if the NSN is 5385-01-574-1476, the NIIN is 01-574-1476.

**FIG. Column.** This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list work packages.

**ITEM Column.** The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

### 2. Part Number (P/N) Index Work Package. P/Ns in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

**PART NUMBER Column.** Indicates the P/N assigned to the item.

**FIG. Column.** This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list work packages.

**ITEM Column.** The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

## SPECIAL INFORMATION

UOC. The UOC appears in the lower left corner of the Description Column heading. Usable on codes are shown as "UOC:..." in the Description Column (justified left) on the first line under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the UOCs used in the RPSTL are:

<u>Code</u>	<u>Used On</u>
PAA	Model M114
PAB	Model M114A
PAC	Model M114B"

**Fabrication Instructions.** Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk material are also referenced in the Description Column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in TM 1-1500-204-23-10.

**Index Numbers.** Items, which have the word BULK in the figure column, will have an index number shown in the item number column. This index number is a cross-reference between the NSN / P/N index work packages and the bulk material list in the repair parts list work package.

**Illustrations List.** The illustrations in this RPSTL contain unit authorized items. Illustrations published in this TM that contain unit-authorized items also appear in this RPSTL. The tabular list in the repair parts list work package contains only those parts coded "O" in the third position of the SMR code, therefore, there may be a break in the item number sequence.

## HOW TO LOCATE REPAIR PARTS

### 1. When NSNs or P/Ns are not known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the subfunctional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list work packages for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

### 2. When NSN is known.

First. If you have the NSN, look in the STOCK NUMBER column of the NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify the item is the one you are looking for.

### 3. When P/N is known.

First. If you have the P/N and not the NSN, look in the PART NUMBER column of the P/N index work package. Identify the figure and item number.

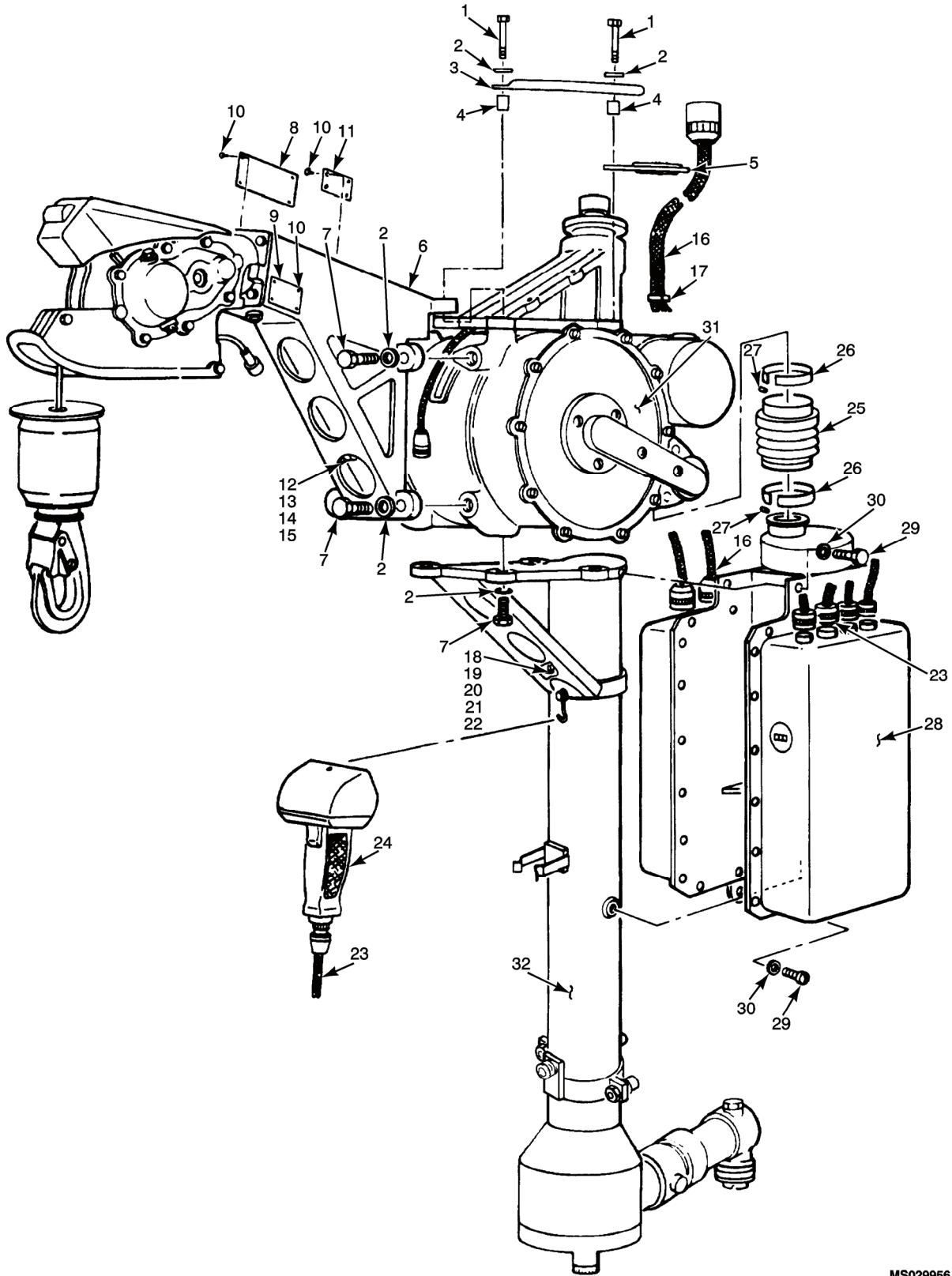
Second. Look up the item on the figure in the applicable repair parts list work package.

**End of Work Package**

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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
REPAIR PARTS LIST**

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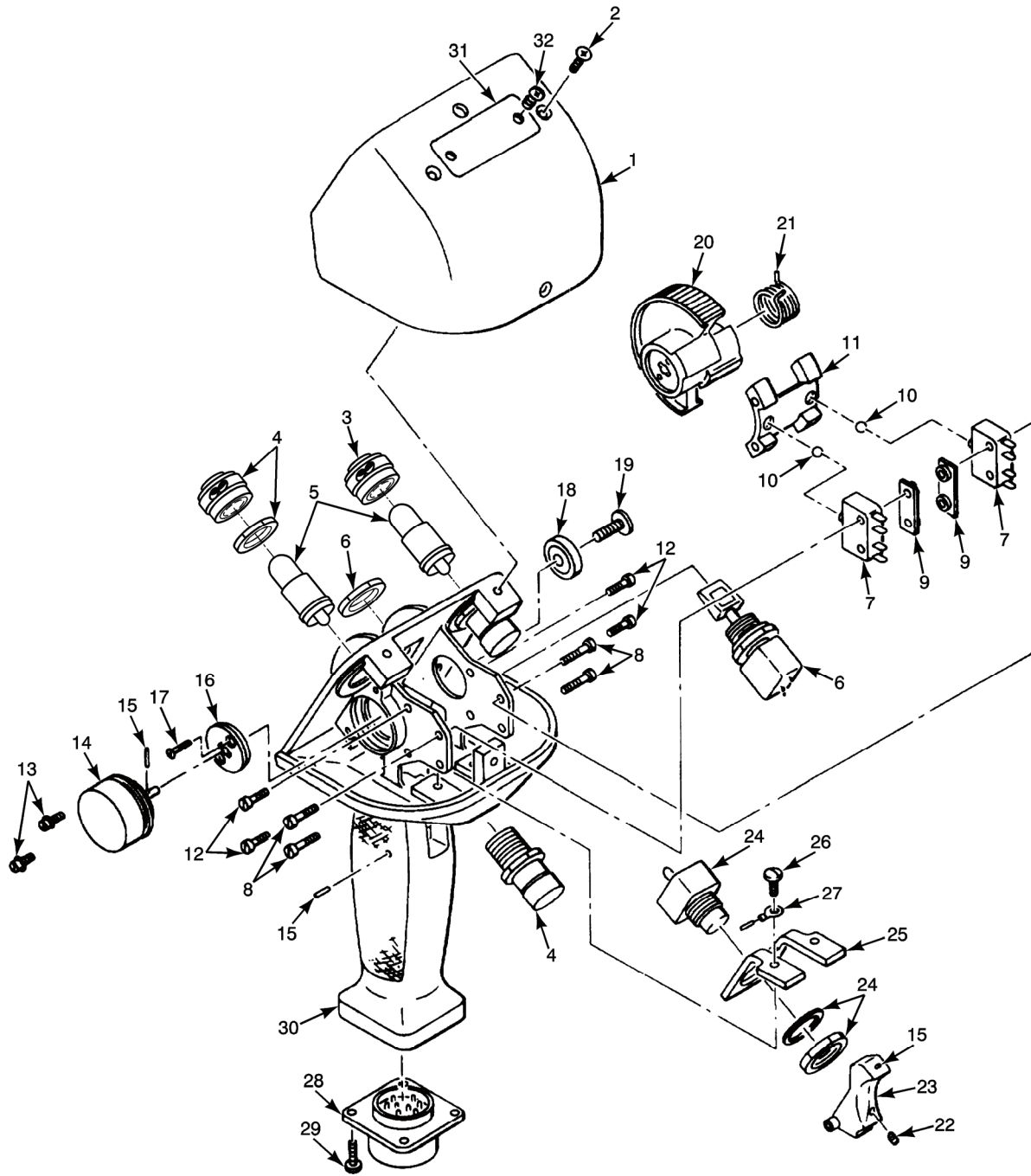


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Figure 1. High Performance Rescue Hoist Assembly.



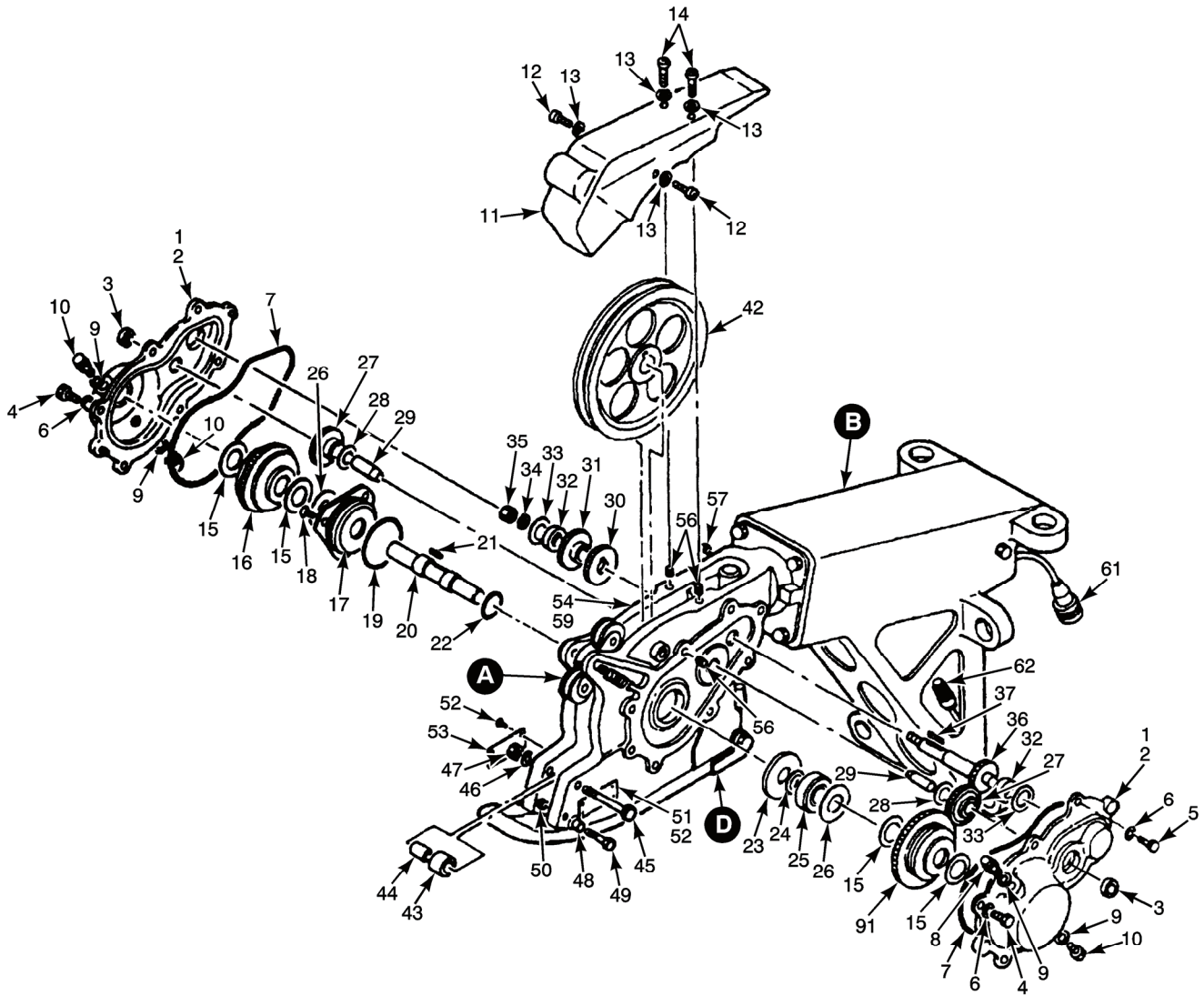
(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 00 HIGH PERFORMANCE RESCUE HOIST ASSEMBLY</b>						
<b>FIG 1. HIGH PERFORMANCE RESCUE HOIST ASSEMBLY</b>						
	PAODD	1680-01-058-3671	82402	42305R1	RESCUE HOIST ASSY, HIGH PERFORMANCE	1
	PAOZZ	8145-01-076-7476	82402	42305R11	.CONTAINER, SHIPPING, REUSABLE	1
1	PAOZZ	5306-00-975-2073	96906	MS21250H06006	.BOLT, SHEAR	8
2	PAOZZ	5310-00-149-9146	96906	MS20002C6	.WASHER, RECESSED	12
3	PBOZZ	1680-01-112-2944	82402	42305E42	.HANDLE, CARRYING	2
4	PAOZZ	5365-01-106-4280	82402	42305C41	.SPACER, SLEEVE	4
5	PAOZZ	1680-01-102-8760	82402	42305D711	.BRACKET, UMBILICAL ASSY	1
6	PAODD	1680-01-070-9953	82402	42305R300	.BOOMHEAD ASSY (SEE FIG. 3 FOR BREAKDOWN)	1
7	PAOZZ	5306-00-925-9698	96906	MS21250 06006	.BOLT, SHEAR	8
8	XDDZZ		82402	42305-30	.PLATE, IDENTIFICATION	1
9	PAFZZ	9905-01-122-2121	00462	42305-229	.PLATE, CAUTION	2
10	PAOZZ	5305-00-253-5606	96906	MS21318-7	.SCREW, DRIVE	12
11	XDDZZ		82402	42305-12	.PLATE, IDENTIFICATION	1
12	PAOZZ	5340-00-558-5323	88044	AN742H4	.CLAMP, LOOP	1
13	PAOZZ	5305-00-127-7331	88044	MS3526-63	.SCREW, MACHINE	1
14	PAOZZ	5310-00-902-6676	96906	MS21083N3	.NUT, SELF-LOCKING, HEXAGON	1
15	PAOZZ	5340-00-598-8251	88044	AN743-12	.BRACKET, ANGLE	1
16	PAOZZ	5995-01-122-3580	82402	42305E730	.CABLE ASSEMBLY, UMBILICAL	1
17	PAOZZ	5340-01-075-2154	82402	TA5000LH14HA	.CLAMP, UMBILICAL	1
18	PAOZZ	5340-00-057-2904	96906	MS21333-71	.CLAMP, LOOP	1
19	PAOZZ	5305-00-614-0246	88044	MS35266-63	.SCREW, MACHINE	2
20	PAOZZ	5305-00-271-7746	88044	AN115807	.SCREW, MACHINE	2
21	PAOZZ	5310-00-902-6676	96906	MS21083N3	.NUT, SELF- LOCK, HEXAGON	1
22	PAOZZ	5340-00-598-8251	88044	AN743-12	.BRACKET, ANGLE	1
23	PBOZZ	6150-01-082-8321	82402	42305E710	.CABLE ASSEMBLY, CONTROL	1
24	PAOFF	1680-01-070-7556	82402	42305E720	.PENDANT ASSY, CONTROL (SEE FIG. 2 FOR BREAKDOWN)	1
25	PAOZZ	5340-01-071-9545	82402	42277E194	.BOOT, DUST AND MOISTURE SEAL	1
26	PAOZZ	5340-00-165-7832	82402	502R	.STRAP, RETAINING	2
27	PAOZZ	5340-00-094-3554	82402	503R	.CLIP	1
28	PAODD	1680-01-477-3753	00462	42305-702	.PANEL ASSY, CONTROL (SEE FIG. 6 FOR BREAKDOWN)	1
29	PAOZZ	5306-00-182-1888	88044	AN175-4A	.BOLT, CLOSE TOLERANCE	4
30	PAOZZ	5310-00-141-1795	88044	AN960-416	.WASHER, FLAT	4
31	PAFDD	1680-01-089-4331	82402	42305R100	.WINCH ASSY (SEE FIG. 18 FOR BREAKDOWN)	1
32	PBFDD	1680-01-070-9950	82402	42305R500	.SUPPORT ASSY, BOOM POSITION (SEE FIG. 11 FOR BREAKDOWN)	1
<b>END OF FIGURE</b>						



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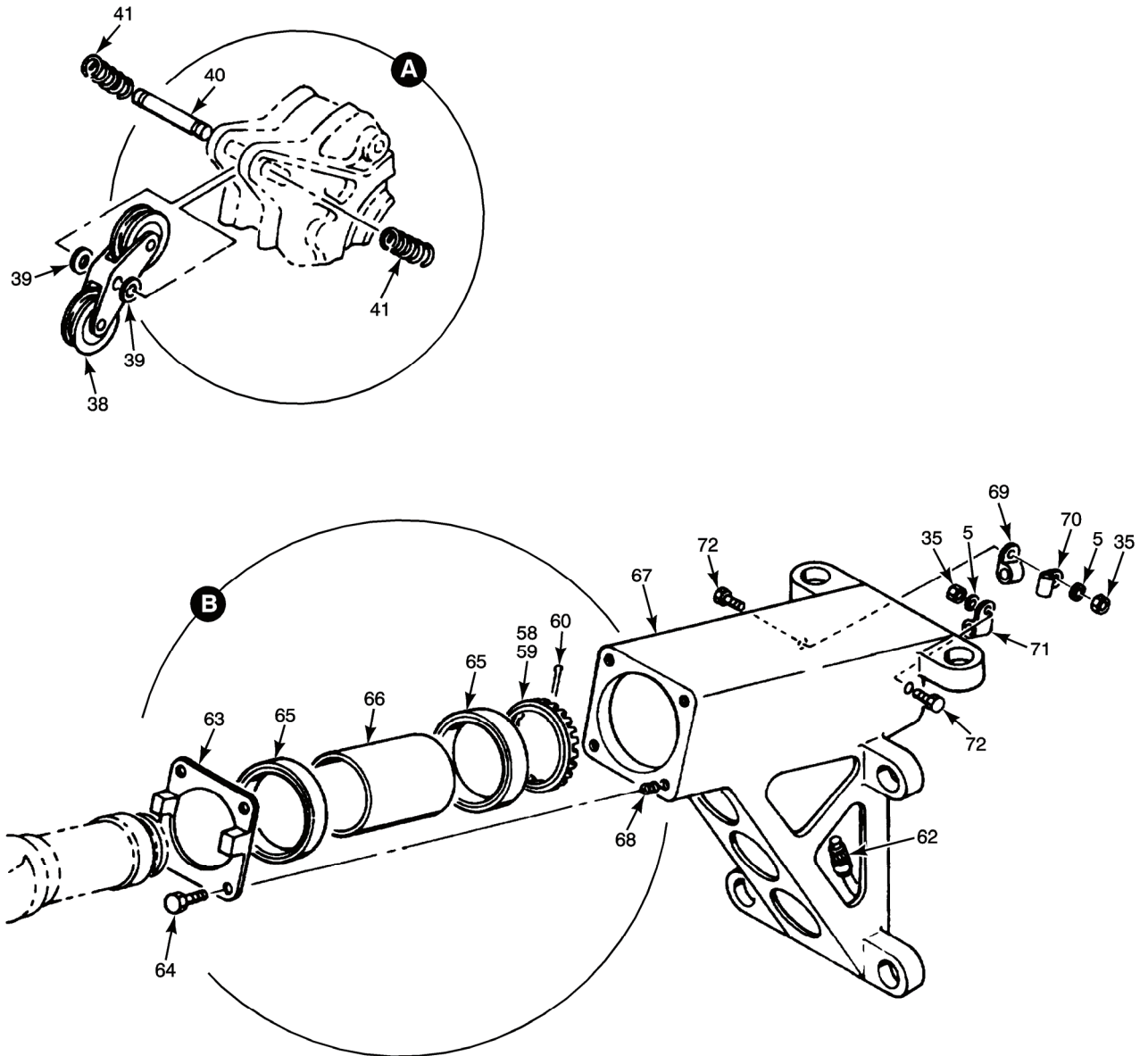
Figure 2. Control Pendant Assembly.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 01 CONTROL PENDANT ASSEMBLY</b>						
<b>FIG. 2 CONTROL PENDANT ASSEMBLY</b>						
	PAODD	1680-01-070-7556	82402	42305E720	PENDANT ASSY, CONTROL (SEE FIG. 1 FOR NHA)	1
	XCDFD		82402	149145	..PENDANT, CONTROL	1
1	PADZZ	1680-01-211-5299	82402	149156	..HOOD, GRIP	1
2	PADZZ	5305-01-084-4655	96906	MS24693-B25	..SCREW, MACHINE	3
3	PAFZZ	6210-00-284-0289	96906	MS25041-4	..LIGHT, INDICATOR (AMBER)	1
4	PAFZZ	6210-00-542-6393	96906	MS25041-2	..LIGHT, INDICATOR (RED)	1
5	PAOZZ	6240-00-155-7836	61951	MS25237-327	..LAMP, INCANDESCENT	3
6	PADZZ	5930-01-074-8711	82402	80327	..SWITCH, BOOM POSITION	1
7	PADZZ	5930-00-824-9433	96906	MS27217-1	..SWITCH, SENSITIVE (S1, S2)	2
8	PADZZ	5305-00-614-0288	96906	MS35265-7	..SCREW, MACHINE	4
9	PADZZ	1680-01-070-7559	82402	149163	..PLATE, SWITCH SUPPORT	2
10	PADZZ	3110-00-838-5033	96906	MS19060-4812	..BALL, BEARING	2
11	PADZZ	3110-01-075-5287	82402	149152	..RETAINER, BALL, BEARING	1
12	PADZZ	5305-00-614-0286	96906	MS35265-4	..SCREW, MACHINE	4
13	PADZZ	5340-01-030-9500	00141	L3-20	..CLAMP, SYNCHRO	2
14	PADZZ	5905-01-076-5608	02111	152-79-00	..RESISTOR, VARIABLE, WIRE WOUND	1
15	PADZZ	5315-01-116-6789	96906	MS171434	..PIN, SPRING	4
16	PADZZ	3110-01-070-7560	82402	149155	..BEARING, THUMBWHEEL	1
17	PADZZ	5305-00-764-2964	96906	MS51959-4	..SCREW, MACHINE	2
18	PADZZ	3120-01-108-2420	82402	149224	..BEARING, SLEEVE	1
19	PADZZ	5305-00-054-6668	96906	MS51957-43	..SCREW, MACHINE	1
20	PADZZ	1680-01-070-7561	00462	149150	..THUMBWHEEL	1
21	PADZZ	5360-01-073-5416	00462	80326	..SPRING, HELICAL, TORSION	1
22	PADZZ	5305-00-058-9363	96906	MS51977-20	..SETSCREW	1
23	PADZZ	1680-01-078-4181	00462	149148	..CONTROL, WINCH	1
24	PADZZ	5342-00-434-7528	96214	400859	..SWITCH, INTERCOM	1
25	PADZZ	5930-01-216-6525	82402	149154	..BRACKET, ELECTRICAL SWITCH	1
26	PADZZ	5305-00-054-5647	96906	MS51957-13	..SCREW, MACHINE	2
27	PADZZ	5940-00-681-8185	96906	MS35430-4	..TERMINAL, LUG	1
28	PBDZZ	5935-01-124-8514	96906	MS3472W14-19S	..CONNECTOR, RECEPTACLE, ELECTRICAL	1
29	PADZZ	5305-00-459-4687	96906	MS51957-14B	..SCREW, MACHINE	4
30	XADZZ		82402	149146	..GRIP	1
31	XDDZZ		82402	42305C721	..PLATE, INDENTIFICATION	1
32	PADZZ	5305-00-253-5606	96906	MS21318-7	..SCREW, DRIVE	2
<b>END OF FIGURE</b>						



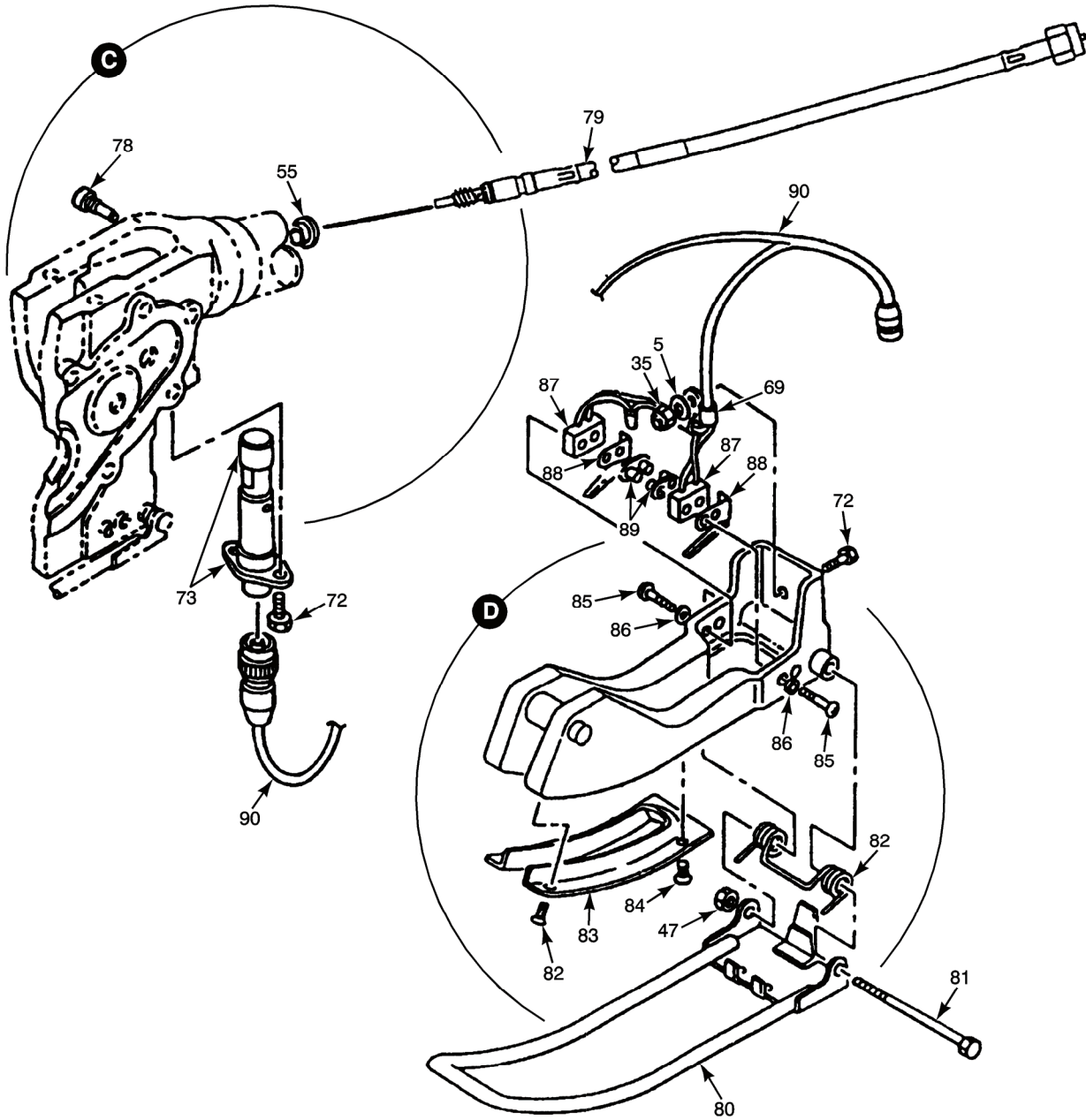
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Figure 3. Boomhead Assembly. (Sheet 1 of 5)



MS029959

Figure 3. Boomhead Assembly. (Sheet 2 of 5)



MS029960

Figure 3. Boomhead Assembly. (Sheet 3 of 5)

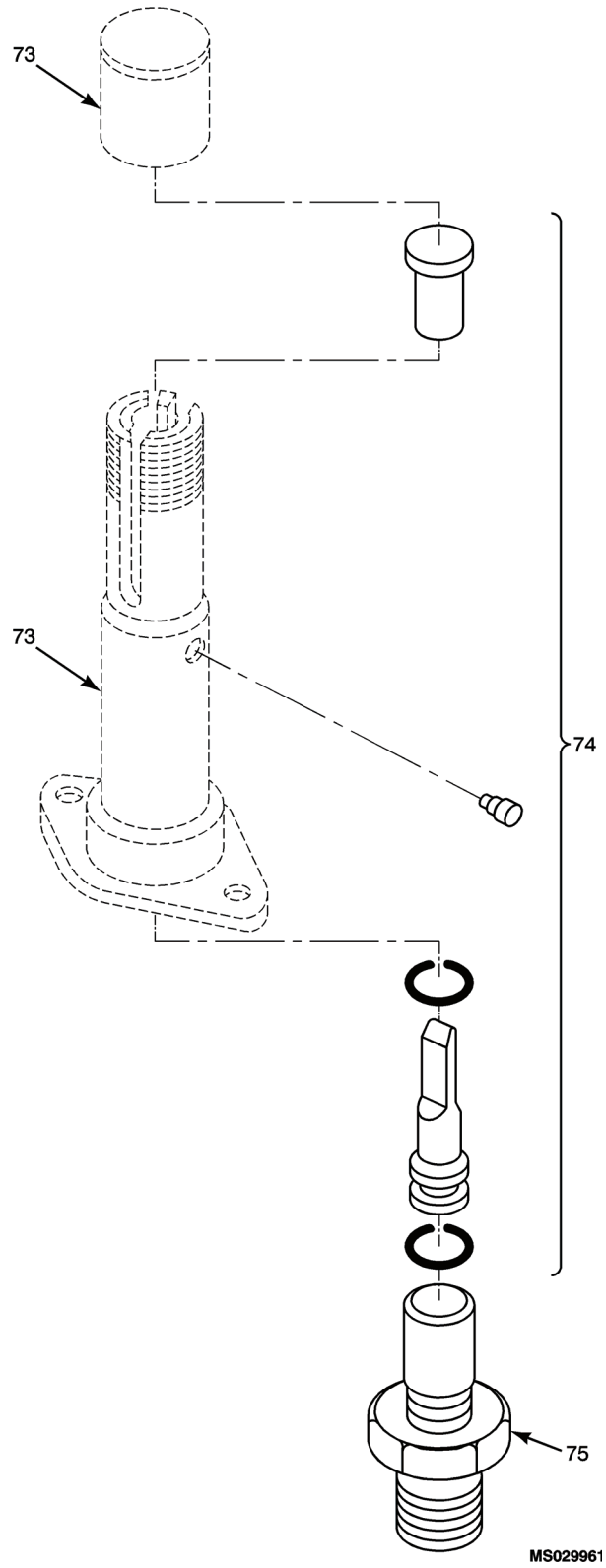


Figure 3. Boomhead Assembly – Cable Cutter P/N 42277E336. (Sheet 4 of 5)

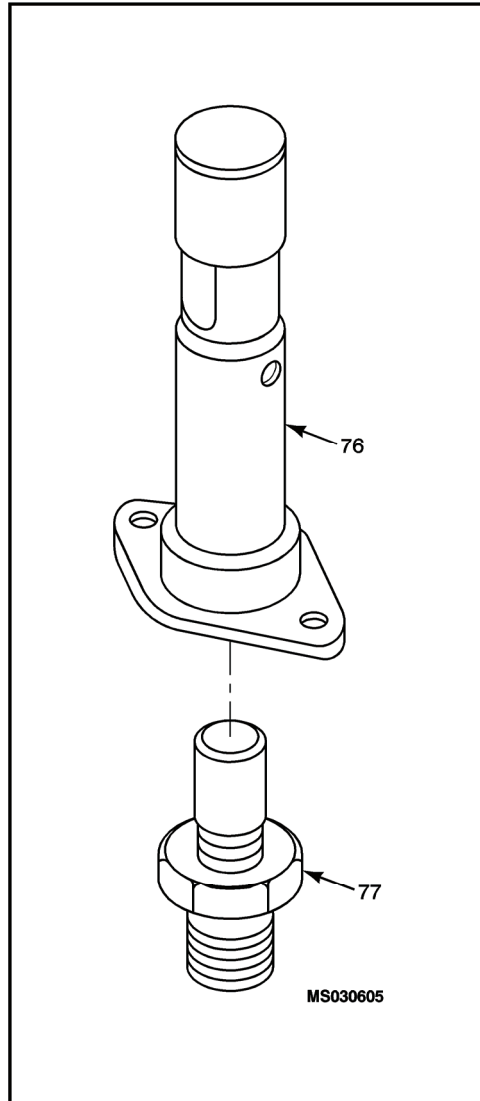


Figure 3. Boomhead Assembly – Cable Cutter P/N 42305-160. (Sheet 5 of 5)



(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 02 BOOMHEAD ASSEMBLY</b>						
<b>FIG. 3 BOOMHEAD ASSEMBLY</b>						
	PAFDD	1680-01-070-9953	82402	42305R300	BOOMHEAD ASSEMBLY (SEE FIG. 1 FOR NHA)	REF
1	XDDFF		82402	42277R311-5	.COVER ASSY, SIDE	2
2	XDDZZ		82402	42277-351	..PIN	1
3	PADZZ	6680-00-070-1212	70925	B5602	..PLUG, SIGHT	2
4	PADZZ	5306-00-150-9527	88044	AN3C5A	.BOLT, MACHINE	1
5	PADZZ	5306-00-182-1854	88044	AN3CH5A	.BOLT, MACHINE	8
6	PADZZ	5310-00-819-5413	80205	NAS1252-10L	.WASHER, FLAT	4
7	PADZZ	5331-01-071-0432	96906	MS28775-156	.PACKING, SIDE COVER	15
8	PADZZ	1680-01-099-6310	82042	42305D372	.BREATHER ASSY	2
9	PADZZ	5331-01-230-1767	96906	MS28775-010	.PACKING, SIDE COVER	1
10	PADZZ	5365-00-289-3073	96906	MS9015-02	.PLUG, SIGHT	4
11	PAOOO	1680-01-070-9949	82402	42277E339	.COVER ASSY, PRESSURE ROLLER	3
12	PADZZ	5305-00-989-7434	96906	MS35207-263	.SCREW	1
13	PADZZ	5310-01-007-1565	96906	MS14151-2	.WASHER, FLAT	2
14	PADZZ	5305-00-989-7434	96906	MS35207-263	.SCREW, MACHINE	4
15	PADZZ	5310-01-007-1565	09455	MS14151-2	.WASHER, THRUST	2
16	PADZZ	5305-00-989-7434	82402	42277D318	.CLUTCH, ASSY (SEE FIG. 5 FOR BREAKDOWN)	4
17	PADZZ	3120-01-080-0821	82402	42277D322	.RETAINER ASSY	1
18	PADZZ	1680-01-022-5788	96906	MS51960-65	.SCREW	1
19	PADZZ	1680-01-071-5377	81349	42277D322	.PACKING, SIDE COVER	3
20	PBDZZ	3040-01-071-5373	82402	42277D356	.SHAFT, SLEEVE	1
21	PADZZ	5315-00-732-2841	96906	MS20066-117	.KEY, MACHINE	1
22	PADZZ	5330-01-019-8094	96906	MS28775-013	.PACKING, SIDE COVER	1
23	PADZZ	5330-01-193-0318	82402	42277-360	.SEAL ASSY	1
24	PADZZ	5365-01-075-7741	82402	42277C326	.SPACER, SHEAVE	1
25	PADZZ	3110-00-156-5190	38443	102-KR	.BEARING, BALL	1
26	PADZZ	5365-01-072-0192	82402	49001C42	.SHIM	1
27	PADZZ	1680-01-071-5376	82402	42277D320	.GEAR ASSY	V
28	PADZZ	3120-01-145-4034	09445	LTD-0510	.WASHER, THRUST	2
29	PADZZ	5315-01-483-7925	96906	MS16555-543	.PIN, STRAIGHT HEADLESS	2
30	PADZZ	3020-01-070-8559	82402	42277E362	.GEAR, WORM	2
31	PBDZZ	3020-01-076-0566	82402	42277D335	.GEAR, SPUR	1
32	PBDZZ	3110-00-198-2050	21355	PAMS1K7FS60160	.BEARING, BALL	1
33	PADZZ	5365-01-069-1803	82402	49001C6	.SHIM	2
34	PADZZ	5310-00-680-7296	80205	NAS620-10L	.WASHER, FLAT	2
35	PADZZ	5310-00-061-7326	96906	MS21045-3	.NUT, SELF- LOCK	1
36	PADZZ	3040-01-070-5122	82402	42277D359	.GEAR SHAFT, SPUR	4
37	PADZZ	5315-01-073-2976	82402	42277C346	.KEY, MACHINE	1
38	PAFZZ	1680-01-160-6033	82402	42277D330	.ROLLER ASSY, PRESSURE	1
39	PAFZZ	5310-00-655-7549	80205	NAS620A416L	.WASHER, FLAT	1
40	PBFZZ	5315-01-075-2126	82402	42277C341	.SHAFT, ROLLER	2
41	PAFZZ	5360-01-073-1187	83553	E0360-055-1120M	.SPRING	1
42	PBDZZ	3020-01-073-9890	82402	42277E327	.SHEAVE ASSY	2
43	PADZZ	1680-01-071-5375	82402	42277C352	.GUIDE, CABLE ROLLER	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 02 BOOMHEAD ASSEMBLY</b>						
<b>FIG. 3 BOOMHEAD ASSEMBLY</b>						
44	PADZZ	5365-01-072-9358	82402	42277C342	.SPACER, CABLE GUIDE	1
45	PADZZ	5306-00-151-0778	88044	AN3-16A	.BOLT, MACHINE	1
46	PADZZ	5310-00-771-6827	88044	AN960PD10L	.WASHER, FLAT	4
47	PADZZ	5310-00-061-7326	96906	MS21045-3	.NUT, SELF- LOCK	2
48	PADZZ	5930-01-089-1281	82402	42277C366	.STOP, ACTUATOR	1
49	PADZZ	5305-00-983-6653	96906	MS16998-30	.SCREW, CAP	1
50	PADZZ	5310-00-807-1467	96906	MS21042-3	.NUT, SELF- LOCK	1
51	XDDZZ		80402	42305-350	.PLATE, IDENTIFICATION	1
52	PADZZ	5305-00-253-5606	96906	MS21318/-7	.SCREW, DRIVE	8
53	PADZZ	9905-01-086-4517	82402	42277C221	.PLATE, LUBRICATION	1
54	XADDD		82402	42277R310-5	.HOUSING ASSY, MAIN	1
55	PADZZ	3120-00-854-6166	70417	FF303-4	.BEARING	1
56	PADZZ	5325-00-021-3495	96906	MS51830-201L	..INSERT, SCREW THREAD	25
57	PADZZ	5325-00-085-0219	96906	MS51830-202	..INSERT, SCREW THREAD	1
58	PADZZ	5310-01-151-1708	82402	42277C370	..NUT, SPANNER	1
59	XADDD		82402	42277R310-1	..HOUSING ASSY, MAIN	1
60	PADZZ	5315-00-839-2326	96906	MS24665-281	.PIN, COTTER	1
61	PADZZ	5935-00-726-6519	96906	MS3126F10-6P	.CONNECTOR, ELECTRICAL	1
62	PBDZZ	1680-01-070-9955	82402	42277D369	.HARNES ASSY	1
63	PADZZ	3110-00-147-1155	82402	42234D220	.RETAINER, BEARING	1
64	PADZZ	5306-00-180-2778	88044	AN4CH4A	.BOLT, MACHINE	4
65	PADZZ	3110-00-678-5425	38443	B545ZZ	.BEARING, BALL	2
66	PBDZZ	5365-01-072-2926	82402	42277D354	.SPACER, SHEAVE	1
67	XADDD		82402	42277R312-5	.BOOM ASSY	1
68	PAFZZ	5325-00-085-0219	80205	NAS1394C4L	.INSERT, SCREW THREAD	4
69	PAFZZ	5340-00-558-5323	88044	AN742H4	.CLAMP, LOOP	3
70	PAFZZ	5340-00-764-7051	96906	MS21333-69	.CLAMP, LOOP	1
71	PAFZZ	5340-00-057-2904	96906	MS21333-71	.CLAMP, LOOP	1
72	PAFZZ	5306-00-150-9528	88044	AN3C4A	.BOLT, MACHINE	2
73	PROZZ	1377-01-087-5166	82402	42277E336	.CABLE CUTTER ASSY	1
74	PROZZ	1377-01-073-3831	82402	42277E182	.REFIRE KIT, USE ONLY ON 42277336	1
75	XADZZ	1377-01-210-4039	82402	42277-231	..CARTRIDGE, MU-34 USE ON 42277E336 ONLY	1
76	PAOZZ	1377-01-512-5829	82402	42305-160	.CABLE CUTTER ASSY	1
77	PCOZZ	1377-00-987-3603	82402	42315-281	..CARTRIDGE, MK-44 USE ON 42305-160 ONLY	1
78	PBDOO	5305-01-074-1462	82402	42277C344	.SCREW, RETAINER	1
79	PAFZZ	1690-01-419-8463	00462	42277-308	.DRIVERSHAFT, FLEXIBLE	1
80	PAFZZ	1680-01-071-5374	82402	42277E332	.ACTUATOR ASSY	1
81	PAFZZ	5306-00-816-0117	80205	NAS1103-44	.BOLT, SHEAR	1
82	PAFZZ		82402	42277E358	.SPRING, HELICAL	1
83	PAFZZ	1680-01-077-6896	82402	42277E368	.GUIDE, CABLE	1
84	PAFZZ	5305-00-824-2024	96906	MS24694C49	.SCREW, MACHINE	4
85	PADZZ	5305-00-054-5643	96906	MS51957-9	.SCREW, MACHINE	4
86	PADZZ	5310-00-660-2084	80205	NAS620A2	.WASHER, FLAT	4
87	PADZZ	1680-01-071-9211	82402	42277D343	.MISCROSWITCH ASSY	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 02 BOOMHEAD ASSEMBLY</b>						
<b>FIG. 3 BOOMHEAD ASSEMBLY</b>						
88	PADZZ	5930-01-078-7566	91929	JE12	.ACTUATOR, LEAF	2
89	PADZZ	5110-00-918-3027	00462	4067-193	.NUTPLATE ASSY	2
90	PBDFF	1680-01-070-5392	82402	42277D353	.HARNES ASSY, CABLE CUTTER	1
91	PADFF	1680-01-070-9952	82402	42277D313	.BRAKE ASSY (SEE FIG. 4 FOR BREAKDOWN)	1
<b>END OF FIGURE</b>						

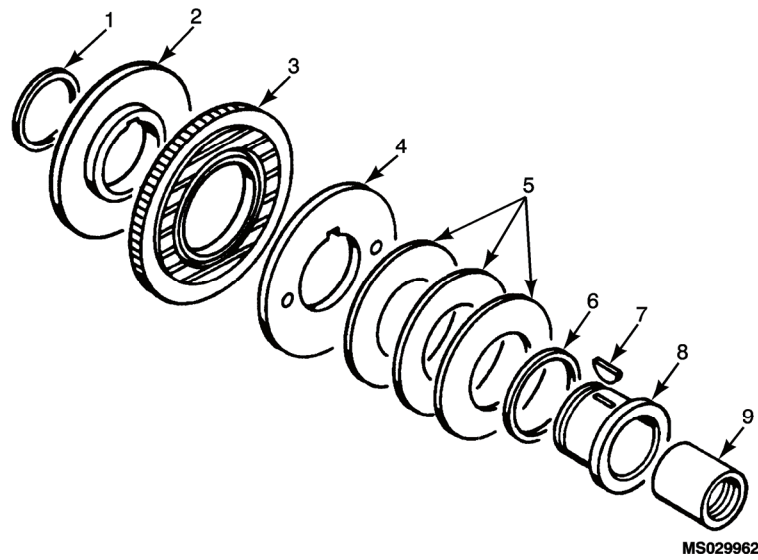


Figure 4. Brake Assembly.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0201 BRAKE ASSEMBLY</b>						
<b>FIG. 4 BRAKE ASSEMBLY</b>						
	PADDD	1680-01-070-9952	82402	42277D313	BRAKE ASSY (SEE FIG. 3 FOR NHA)	REF
1	PADZZ	5325-00-281-9885	96906	MS16626-1100	.RING, RETAINER	1
2	PADZZ	1680-01-078-6059	82402	42277C314	.PLATE, BRAKE	1
3	PBDZZ	3010-01-070-5839	82402	42277D347	.DISC, CLUTCH	1
4	PADZZ	1680-01-070-7727	82402	42277C315	.PLATE, PRESSURE	1
5	XDDZZ		82402	42277-349	.WASHER, SPRING TENSION	3
6	PADZZ	5365-00-058-9557	82402	49002C39	.SHIM	1
7	PADZZ	5315-00-687-5218	96906	MS35756-3	.KEY, WOODRUFF	1
8	PBDZZ	1680-01-201-7835	82402	42277D317	.HUB, BRAKE ASSEMBLY	1
9	PADZZ	3110-01-083-3260	60380	RCB081214FS	.ROLLER, CLUTCH	1
<b>END OF FIGURE</b>						



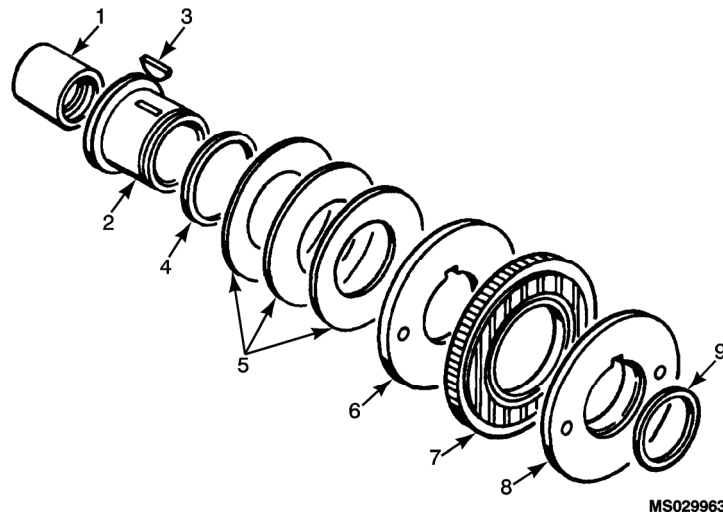
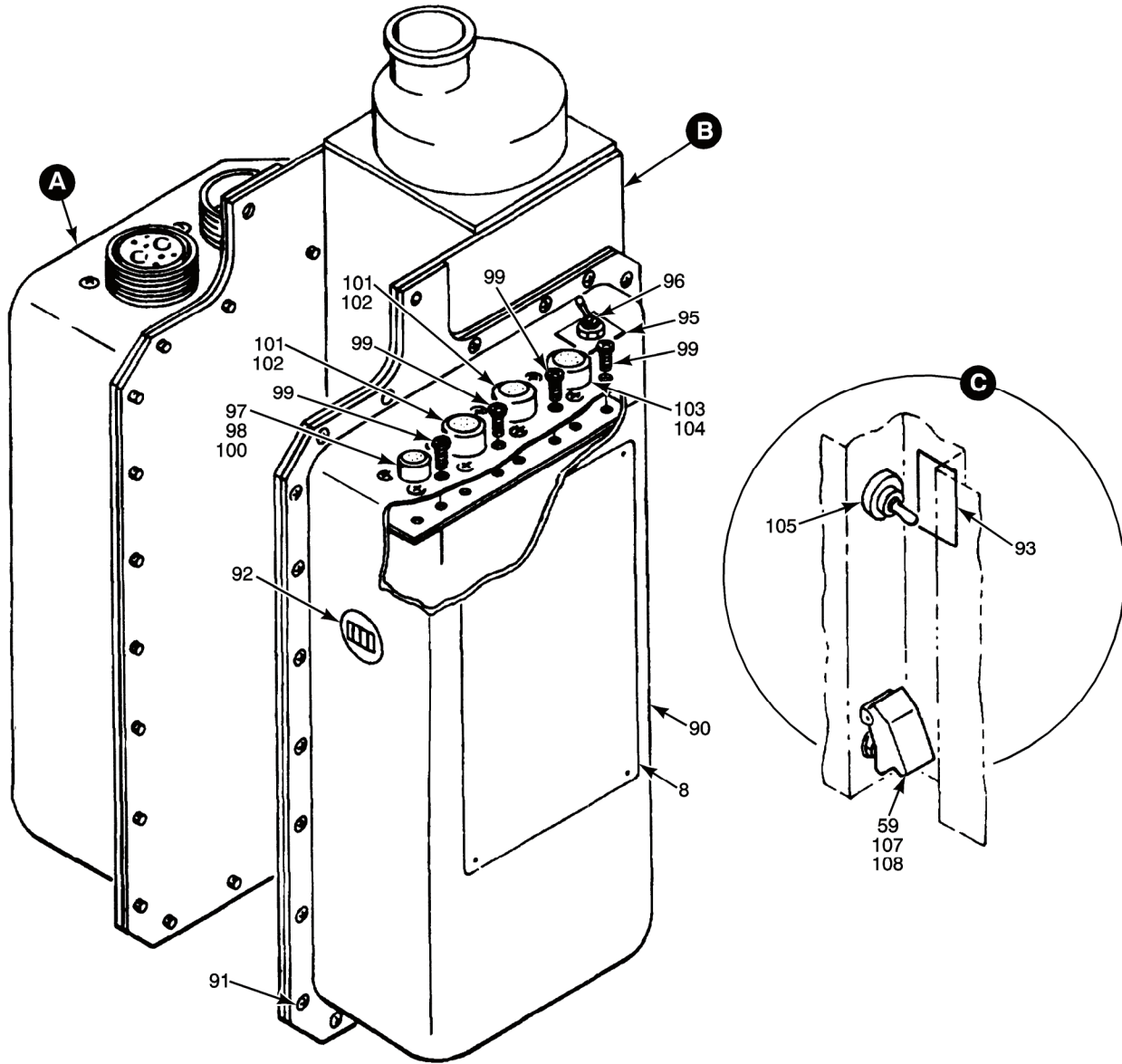


Figure 5. Clutch Assembly.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
<b>GROUP 0202 CLUTCH ASSEMBLY</b>						
<b>FIG. 5 CLUTCH ASSEMBLY</b>						
	PADDD	1680-01-022-5788	82402	42277D318	CLUTCH ASSY (SEE FIG. 3 FOR NHA)	REF
1	PADZZ	1680-01-022-5788	60380	RCB081214FS	.ROLLER, CLUTCH	1
2	PBDZZ	1680-01-201-7835	82402	42277D317	.HUB, BRAKE ASSEMBLY	1
3	PADZZ	5315-00-687-5218	96906	MS35756-3	.KEY, WOODRUFF	1
4	PADZZ	5365-00-058-9557	82402	49002C39	.SHIM	1
5	XDDZZ		00462	42277-349	.WASHER, SPRING TENSION	3
6	PADZZ	1680-01-070-7727	82402	42277C315	.PLATE, PRESSURE	1
7	PADZZ	3010-01-071-0210	82402	42277D348	.DISK CLUTCH	1
8	PADZZ	1680-01-078-6059	82402	42277C314	.PLATE, BRAKE	1
9	PADZZ	5325-00-281-9885	96906	MS16626-1100	.RING, RETAINING	1
<b>END OF FIGURE</b>						

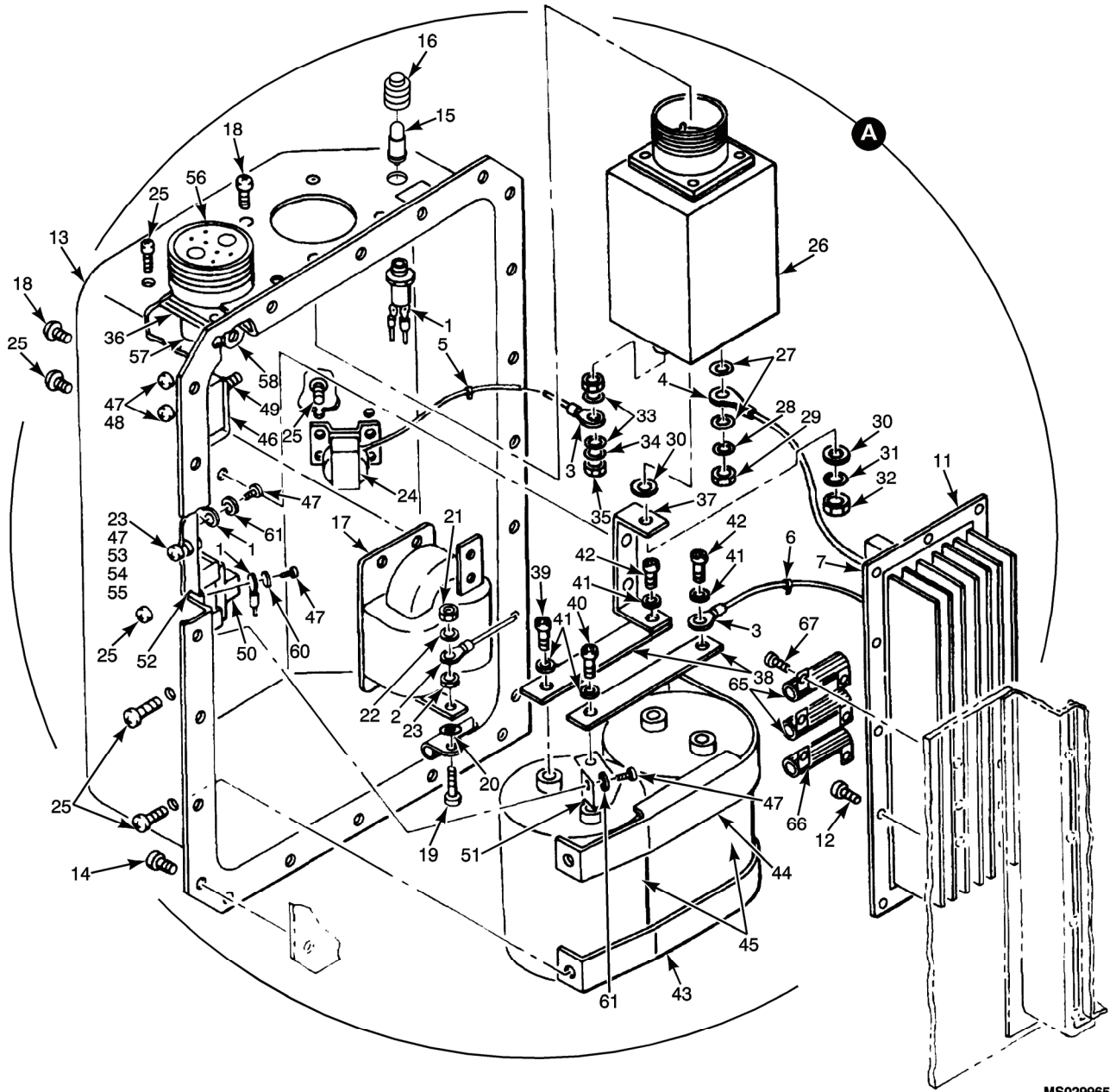




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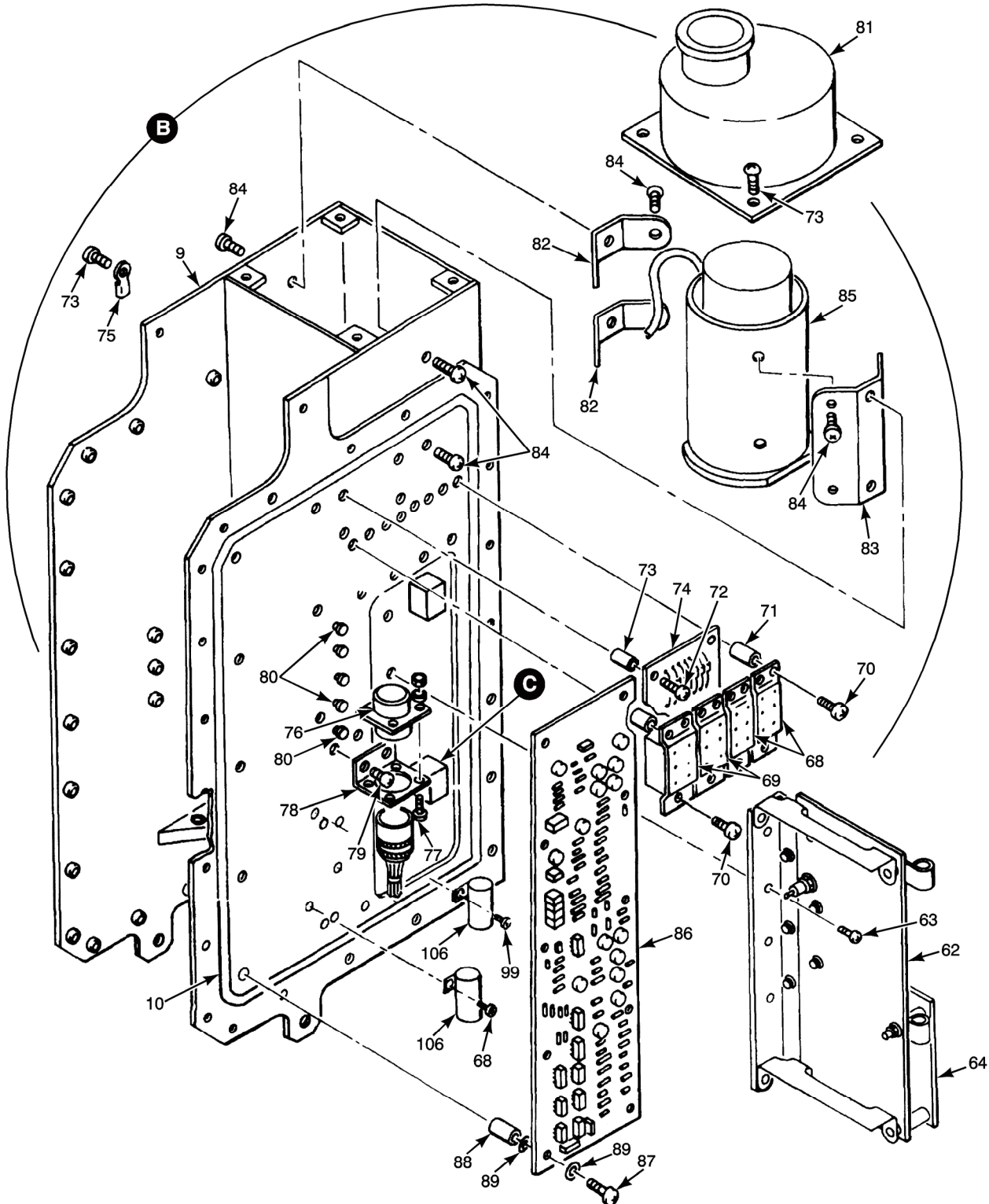
Figure 6. Control Panel Assembly. (Sheet 1 of 3)





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Figure 6. Control Panel Assembly. (Sheet 2 of 3)



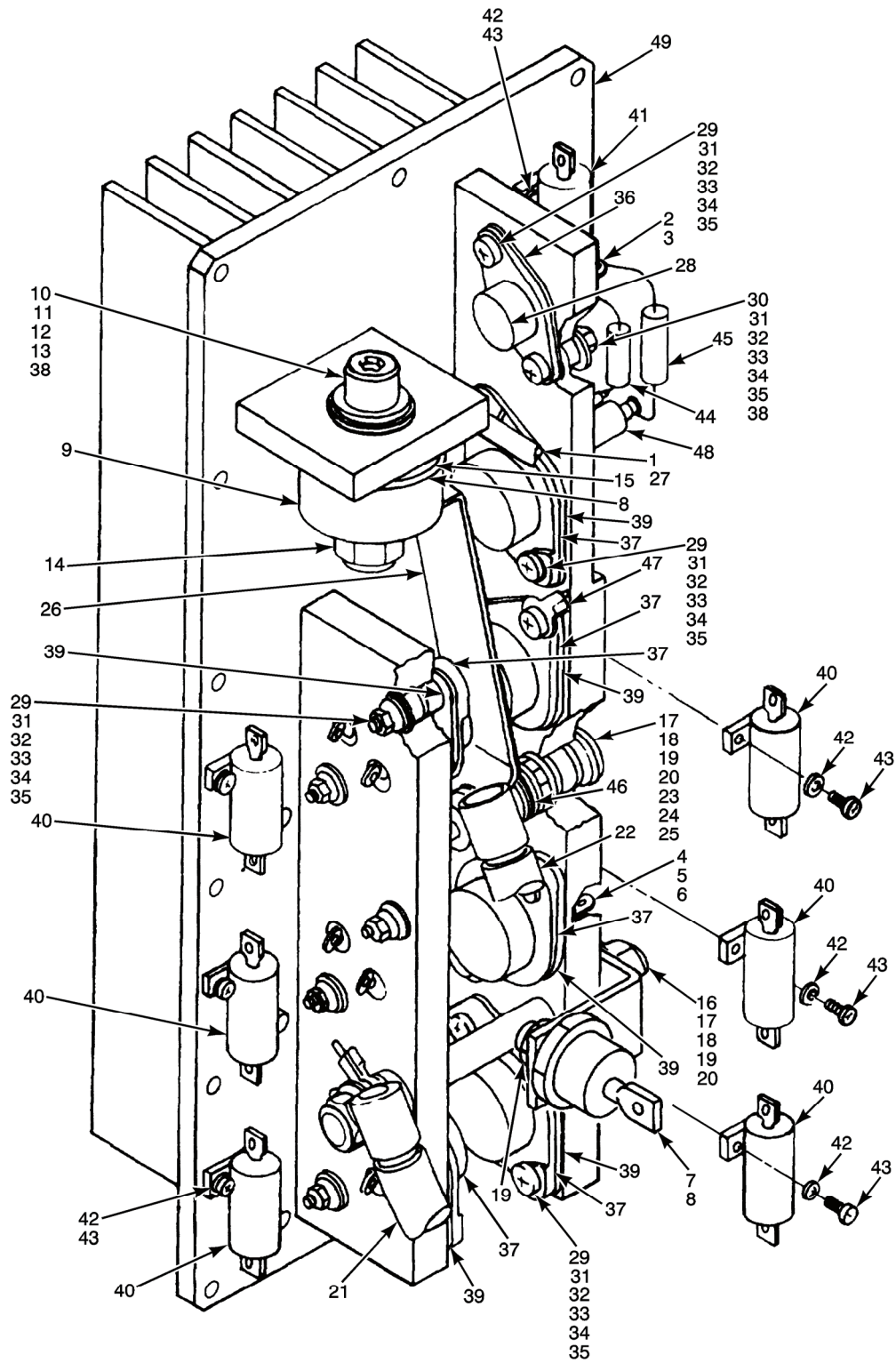
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Figure 6. Control Panel Assembly. (Sheet 3 of 3)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 03 CONTROL PANEL ASSEMBLY</b>						
<b>FIG. 6 CONTROL PANEL ASSEMBLY</b>						
	PAODD	1680-01-070-0985	82402	42305R700	PANEL ASSY, CONTROL ( SEE FIG. 1 FOR NHA)	REF
	PAODD	1680-01-477-3753	00462	42305-702	PANEL ASSY, CONTROL ( SEE FIG. 1 FOR NHA)	
	XCDDD		82402	149111	.CONTROL BOX ASSY	1
	ADDDD		82402	149097	..WIRE ASSY	1
1	PADZZ	5940-00-813-0698	96906	MS25036-101	...TERMINAL LUG	33
2	PADZZ	5940-00-557-1629	96906	MS25036-149	...TERMINAL LUG	4
3	PADZZ	5940-00-283-5280	96906	MS25036-103	...TERMINAL LUG	13
4	PADZZ	5940-00-143-4780	96906	MS25036-108	...TERMINAL LUG	2
5	PADZZ	5975-00-727-5153	96906	MS3367-4-9	...STRAP, TIEDOWN	50
6	PADZZ	5975-00-111-3208	96906	MS3367-5-9	...STRAP, TIEDOWN	4
7	PADZZ	5961-01-033-9376	04713	MR508	...SEMICONDUCTOR DEVICE, DIODE	2
8	PADZZ	9905-01-157-0836	82402	42305E724	..PLATE, SCHEMATIC	1
9	XDDZZ		82402	149119	..CHASSIS, HOIST	1
10	PADZZ	5999-01-070-7616	12881	01-0504-1891	..GASKET, EMI	V
11	PBDDD	5998-01-070-7629	00462	19221-3	..HEATSINK ASSY, TRANSISTOR (SEE FIG. 7 FOR BREAKDOWN)	1
12	PAFZZ	5305-00-132-1497	96906	MS21090-0414	..SCREW, CAP	14
13	PBDDD	1680-01-073-3358	00462	19215-3	..COVER ASSY	1
14	PAOZZ	5305-00-052-1488	96906	MS210906-06001	...SCREW, CAP	25
15	PADZZ	6240-00-155-7836	96906	MS25237-327	...LAMP, INCANDESCENT	1
16	PAFZZ	6210-00-818-0230	96906	MS25041-10	...LIGHT, INDICATOR (BLUE)	1
17	PADZZ	5950-01-102-3992	00462	149131	...INDUCTOR ASSY (L2)	1
18	PADZZ	5305-00-182-9570	96906	MS21096-08001	...SCREW, CAP	8
19	XDDZZ		96906	MS16697-33	...SCREW, CAP	2
20	PADZZ	5310-00-167-0833	88044	AN960-8L	...WASHER, FLAT	2
21	PADZZ	5310-00-934-9762	96906	MS35649-286	...NUT, PLAIN	2
22	PADZZ	5310-00-576-0546	96906	MS35338-99	...WASHER, LOCK	2
23	PADZZ	5310-00-807-1473	96906	MS21042L08	...NUT, SELF-LOCK	3
24	PBDZZ	5950-01-130-7660	82402	149540	...INDUCTOR ASSY (L1)	1
25	PADZZ	5305-00-052-1488	96906	MS21096-06001	...SCREW, CAP	15
26	PBDZZ	5915-01-101-3888	82402	149304-1	...FILTER ASSY, EMI	1
27	PADZZ	5310-00-167-0836	88044	AN960-516L	...WASHER, FLAT	2
28	PADZZ	5310-00-637-9541	96906	MS35338-46	...WASHER, LOCK	1
29	PADZZ	5310-01-320-4920	96906	MS21083B5	...NUT, SELF-LOCK	1
30	PADZZ	5310-00-167-0837	88044	AN960-616L	...WASHER, FLAT	2
31	PADZZ	5310-00-407-9566	96906	MS35338-45	...WASHER, LOCK	1
32	PADZZ	5310-00-926-5832	96906	MS21083B6	...NUT, SELF-LOCK	1
33	PADZZ	5310-00-167-0834	88044	AN960-10L	...WASHER	2
34	PADZZ	5310-00-045-3296	96906	MS35338-43	...WASHER, LOCK	1
35	PADZZ	5310-00-905-8434	96906	MS21083B3	...NUT	1
36	PADZZ	5330-01-215-7137	53217	42-81496	...GASKET, EMI	2
37	XDDZZ		82402	19210-1	...BUS BAR ASSY	1
38	XDDZZ		82402	19208	...BUS BAR, CAPACITOR	2
39	PADZZ	5305-00-869-1097	96906	MS21295-16	...SCREW, ALLEN	1
40	PADZZ	5305-00-931-8601	96906	MS21295-22	...SCREW, ALLEN	1
41	PADZZ	5310-00-261-8278	96906	MS35338-100	...WASHER, LOCK	4
42	PADZZ	5305-00-052-7004	80205	MS21295-36	...SCREW, ALLEN	2
43	PADZZ	1680-01-070-7558	00462	19240-2	...BRACKET ASSEMBLY	1
44	PADZZ	1680-01-070-7554	00462	19240-1	...BRACKET ASSEMBLY	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 03 CONTROL PANEL ASSEMBLY</b>						
<b>FIG. 6 CONTROL PANEL ASSEMBLY</b>						
45	PADZZ		09213	3120GE243UO50APA1	...CAPACITOR	2
46	ZDDZZ	3950-15-120-8842	82402	149128	...FLANGE	1
47	PADZZ	5305-00-984-6194	96906	MS35206-246	...SCREW, MACHINE	7
48	PADZZ	5310-00-934-9757	96906	MS35649-282	...NUT, PLAIN	2
49	PADZZ	5310-00-167-0835	88044	AN960-416L	...WASHER, FLAT	1
50	PADZZ	5945-01-074-2661	14304	755017A4021	...RELAY, ELECTROMAGNETIC	1
51	PBDZZ	6150-01-076-3918	00462	19261	...BUS BAR, RELAY	1
52	PBDZZ		82402	19265	...BUS BAR, SHUNT	1
53	PADZZ	5310-00-167-0833	88044	AN960-8L	...WASHER, FLAT	1
54	PADZZ	5310-00-998-5039	83330	2665	...WASHER, SHOULDER	1
55	PADZZ	5365-01-133-6174	51506	136-093N1	...WASHER, NYLON	2
56	XDDZZ		82402	19257	...RECEPTABLE ASSY	1
57	PADZZ	5940-00-115-2678	96906	MS20659-111	...TERMINAL LUG	1
58	PADZZ	5940-00-115-2677	96906	MS20659-144	...TERMINAL LUG	1
59	PADZZ	5310-00-242-7139	15605	32-341	...WASHER, KEY	1
60	PADZZ	5310-00-576-0546	96906	MS35338-99	...WASHER, LOCK	4
61	PADZZ	5310-00-184-8977	96906	MS35338-98	...WASHER, LOCK	2
62	PBDDD	5999-01-071-9221	00462	19225-3	...HEATSINK ASSY, POWER SUPPLY (SEE FIG. 8 FOR BREAKDOWN)	1
63	PADZZ	5305-01-073-3636	96906	MS21096-06003	..SCREW, CAP	6
64	PADZZ	6110-01-103-3121	00462	149470	..BOARD ASSY, VOLTAGE CONTROL	1
65	PADZZ	5905-01-512-3234	81349	RER75G12R1R	..RESISTOR (301, R302)	2
66	PADZZ	5905-00-139-1989	81349	RER75F4R02R	..RESISTOR (R304)	1
67	PADZZ	5305-00-132-1497	96906	MS21090-0414	..SCREW, SELF-LOCK	10
68	PBDZZ		35344	KD-D2A	..RELAY, BOOM MOTOR	2
69	PBDZZ	5945-01-282-6900	96906	MS27400-9	..RELAY, FIELD	2
70	PADZZ		96906	8217-SO632-3B	..SCREW	12
71	PBDZZ	5365-00-455-6940	83330	8505	..SPACER, SLEEVE	12
72	PADZZ	5305-00-052-1488	96906	MS21096-06001	..SCREW, CAP	11
73	PADZZ	5365-01-151-9214	06540	8217-SO632-3B	..SPACER	4
74	PADZZ	5961-01-195-0837	82402	19255-1	..BOARD, ASSY, DIODE	1
75	PADZZ	5940-00-114-1316	96906	MS20659-130	..TERMINAL LUG	1
76	PBDZZ	5935-01-107-8855	96906	MS3470W18-32P	..RECEPTACLE	1
77	PADZZ	5305-01-073-5052	96906	MS21096-04001	..SCREW, CAP	4
78	PBDZZ	5340-01-201-7836	00462	19234	..BRACKET, CONNECTOR MOUNTING	1
79	PADZZ		96906	MS21096-06002	..SCREW	2
80	PADZZ	5940-01-031-1027	81349	SE096E02	..TERMINAL	5
81	XADZZ		82402	19230	..PLENUM, FAN ASSY	1
82	PBDZZ	1680-01-070-7555	82402	19236-1	..BRACKET ASSY, FAN	2
83	PADZZ	1680-01-146-8059	00462	19236-3	..BRACKET ASSY, FAN	1
84	PADZZ	5305-00-182-9570	96906	MS21096-08001	..SCREW, CAP	12
85	PAFDD	4140-01-212-1433	00462	FV3-4	..BLOWER ASSY, FAN (SEE FIG. 10 FOR BREAKDOWN)	1
86	PADDD	5998-01-147-6716	00462	19246	..PCB ASSY, LOGIC (SEE FIG. 9 FOR BREAKDOWN)	1
87	PADZZ	5305-01-073-3636	96906	MS21096-06003	..SCREW	10
88	PADZZ	5365-01-151-9214	06540	8217-S0632-3B	..SPACER	10
89	PADZZ	5365-01-133-0264	51506	140-015-N-1	..WASHER	20
90	XDDZZ		82402	149090	..COVER ASSY, LOGIC SIDE	1
91	PAOZZ		96906	MS210909-0623	..SCREW, SELF-LOCK	24
92	PADZZ		82227	KT1972240H0	..METER, ELAPSED TIME	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 03 CONTROL PANEL ASSEMBLY</b>						
<b>FIG. 6 CONTROL PANEL ASSEMBLY</b>						
93	PBDZZ	7690-01-135-2985	82402	149161	..DECAL, SWITCH	1
94	PBDZZ	7690-01-135-2986	82402	149192	..DECAL, HOIST POWER	1
95	XDDZZ		82402	42277C704	..PLATE, IDENTIFICATION	1
93	PBDZZ	7690-01-135-2985	82402	149161	..DECAL, SWITCH	1
94	PBDZZ	7690-01-135-2986	82402	149192	..DECAL, HOIST POWER	1
95	XDDZZ		82402	42277C704	..PLATE, IDENTIFICATION	1
96	PADZZ	5930-00-847-2599	96906	MS24660-23D	..SWITCH, TOGGLE	1
97	PADZZ	5310-01-198-2313	00462	149093	..NUTPLATE ASSY	1
98	PBDZZ	5935-01-107-8827	96906	MS3470W10-6S	..CONNECTOR, RECEPTACLE	1
99	PADZZ	5305-00-132-1497	96906	MS21090-0414	..SCREW, CAP	16
100	PADZZ		53127	42-81652	..GASKET, EMI	1
101	PBDZZ	5935-01-170-0019	96906	MS3472W14-12S	..RECEPTACLE	1
102	PADZZ	5999-01-143-8453	53127	42-81656	..GASKET, EMI	2
103	PADZZ	5999-01-247-1369	07865	42-81654	..GASKET, EMI	1
104	PBDZZ	5935-01-107-8830	96906	MS3470W12-8S	..RECEPTACLE	1
105	PADZZ	5930-00-655-1514	96906	MS35058-22	..SWITCH, TOGGLE	1
106	PADZZ		81349	RER70F25ROR	..RESISTOR	2
107	PADZZ	5930-00-728-4328	96906	MS25306-222	..SWITCH, TOGGLE	1
108	PADZZ	5930-01-195-2113	82402	19241	..GUARD SWITCH	1
<b>END OF FIGURE</b>						

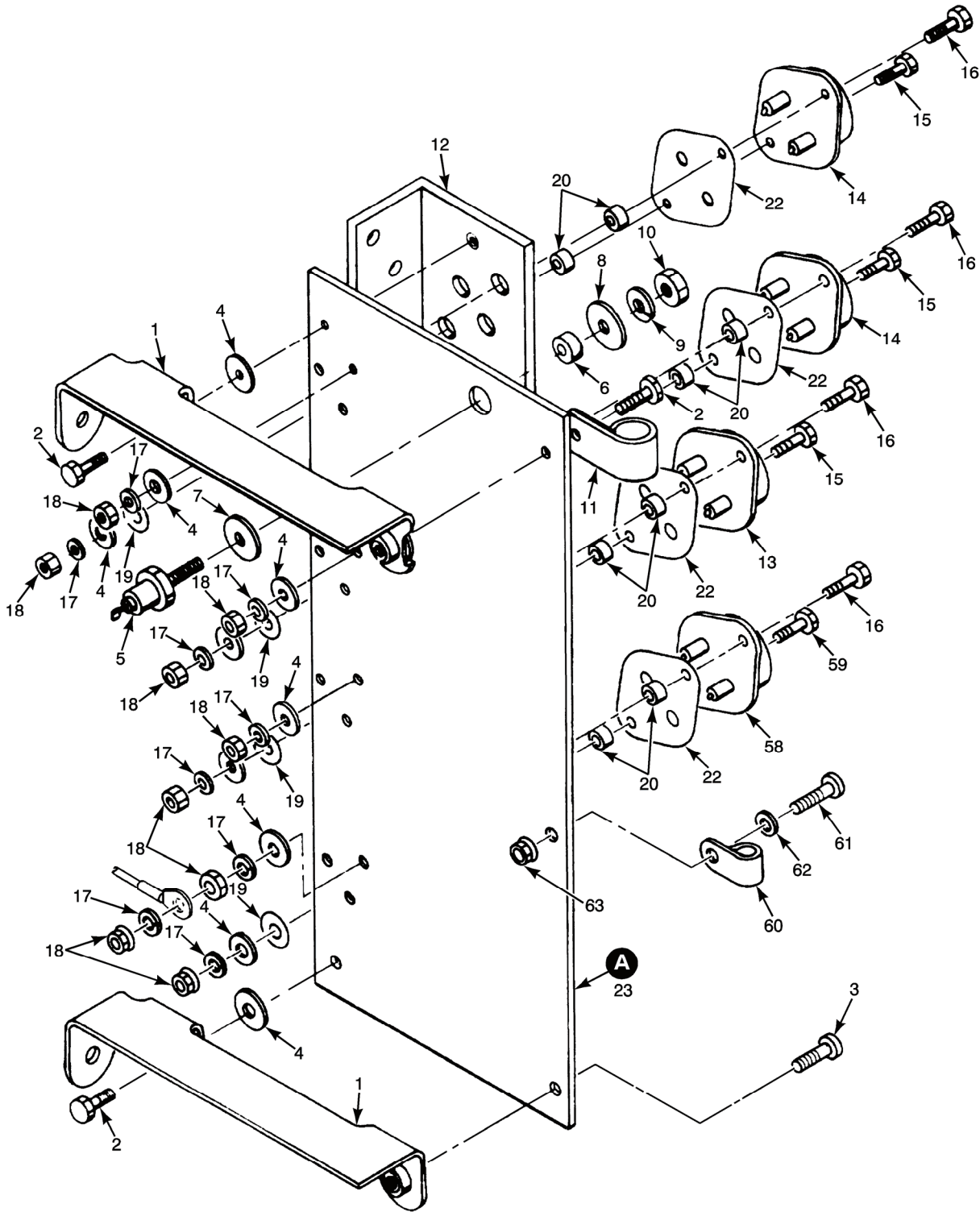


MS029967

Figure 7. Transistor Heatsink Assembly.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 03 CONTROL PANEL ASSEMBLY</b>						
<b>FIG. 7 TRANSISTOR HEATSINK ASSEMBLY</b>						
	PBDDD	5998-01-070-7629	00462	19221-3	HEATSINK ASSY (SEE FIG. 6 FOR NHA)	REF
1	PBDZZ	5940-01-073-1877	00462	19233	.LUG, TERMINAL, DIODE	1
2	PADDD	5365-01-073-3030	91967	9164	.HEAT SINK ASSY, DRIVER	1
3	PADZZ	5940-01-020-0872	00779	50334	.TERMINAL, LUG	2
4	PADZZ	5365-00-111-7417	06540	9226N140	.SPACER, NYLON	14
5	PADZZ	5940-00-113-3136	96906	MS20659-138	.TERMINAL, LUG	7
6	PADZZ	5940-01-050-7460	00779	34103	.TERMINAL, LUG	7
7	PADZZ	6150-01-154-9661	82402	149126	.DIODE, BUS BAR	1
8	PADZZ	5961-00-491-2228	81349	JAN1N3911R	.SEMICONDUCTOR DEVICE, DIODE	1
9	PADZZ	5961-01-081-4805	SH879	SCSF1R	.SEMICONDUCTOR DEVICE, DIODE	1
10	PADZZ	5365-01-075-6445	08289	TW-325-425-115N	.SPACER, SLEEVE	2
11	PADZZ	5310-00-479-4161	86928	5605-44	.WASHER, SHOULDERED	1
12	PADZZ	5310-00-167-0836	88044	AN960-516L	.WASHER, FLAT	1
13	PADZZ	5305-01-078-5069	16941	LP15D058S13	.SCREW, CAP	1
14	PADZZ	5310-00-017-5121	72962	21NE058	.NUT, SELF-LOCK	1
15	PADZZ	5999-01-075-7669	08289	DBM1062-330-062	.WASHER	1
16	PADZZ	5307-01-078-4001	00462	19214	.STUD, COPPER	1
17	PADZZ	5310-00-822-0077	96906	MS25082B4	.NUT, PLAIN	4
18	PADZZ	5310-00-167-0702	88044	AN960B416	.WASHER, FLAT	5
19	PADZZ	5310-00-807-1475	96906	MS21042L4	.NUT, SELF- LOCK	4
20	PADZZ	5310-00-184-8970	96906	MS35338-101	.WASHER, LOCK	2
21	ADDZZ		82402	19258-1	.CABLE ASSY	1
22	ADDZZ		82402	19258-3	.CABLE ASSY	1
23	PADZZ	5305-00-954-9010	96906	MS35215-75	.SCREW, MACHINE	1
24	PADZZ	5310-00-478-9768	86928	5605-40	.WASHER, SHOULDERED	2
25	PADZZ	5365-01-078-4121	08289	TW260-370-100TS	.SPACER, SLEEVE	2
26	PADZZ	6150-01-073-8442	82402	19263	.BUS BAR, HEATSINK	1
27	ADDZZ		82402	19258-7	.CABLE ASSY	1
28	PADZZ	5961-00-262-0814	04713	2N6049	.TRANSISTOR	1
29	PADZZ	5305-00-978-9350	96906	MS16997-22	.SCREW, CAP	15
30	PADZZ	5305-00-978-9349	96906	MS16997-21	.SCREW, CAP	1
31	PADZZ	5310-00-184-8977	96906	MS35338-98	.WASHER, LOCK	16
32	PADZZ	5365-01-095-6882	08289	TW-147-236-094N	.SPACER, SLEEVE	16
33	PADZZ	5970-00-144-7668	86928	5605-28	.WASHER	16
34	PADZZ	5310-00-167-0816	88044	AN960-6	.WASHER, FLAT	16
35	PADZZ	5310-00-807-1472	96906	MS21042L06	.NUT, SELF- LOCK	16
36	PADZZ	5970-00-023-6246	08289	TA2402A	.INSULATOR, PLATE	1
37	PADZZ	5961-01-030-5322	81349	JANTX2N5686	.TRANSISTOR	7
38	PADZZ	5940-01-260-6079	96906	MS25036-101	.TERMINAL, LUG	1
39	PADZZ	5970-00-258-2313	13103	4003	.INSULATOR, PLATE	7
40	PADZZ	5905-00-472-0790	81349	RER65FR100R	.RESISTOR, FIXED	6
41	PADZZ	5905-00-211-1318	81349	RER65F1R00R	.RESISTOR, FIXED	1
42	PADZZ	5310-00-616-6791	80205	NAS620-2	.WASHER, FLAT	14
43	PADZZ	5305-00-889-3118	96906	MS35206-203	.SCREW, MACHINE	14
44	PADZZ	5905-00-247-8710	81349	RCR32G220JS	.RESISTOR, FIXED	1
45	PADZZ	5905-00-247-8722	81349	RCR32G271JS	.RESISTOR, FIXED	1
46	PADZZ	5940-00-230-0515	96906	MS25036-154	.LUG, TERMINAL	15
47	PADZZ	5940-00-283-5280	96906	MS25036-106	.LUG, TERMINAL	7
48	PADZZ	5940-01-031-1027	81349	SE096E02	.TERMINAL, INSULATED	1
49	PADZZ	5365-01-073-3030	83330	9164	.SPACER, SLEEVE	2

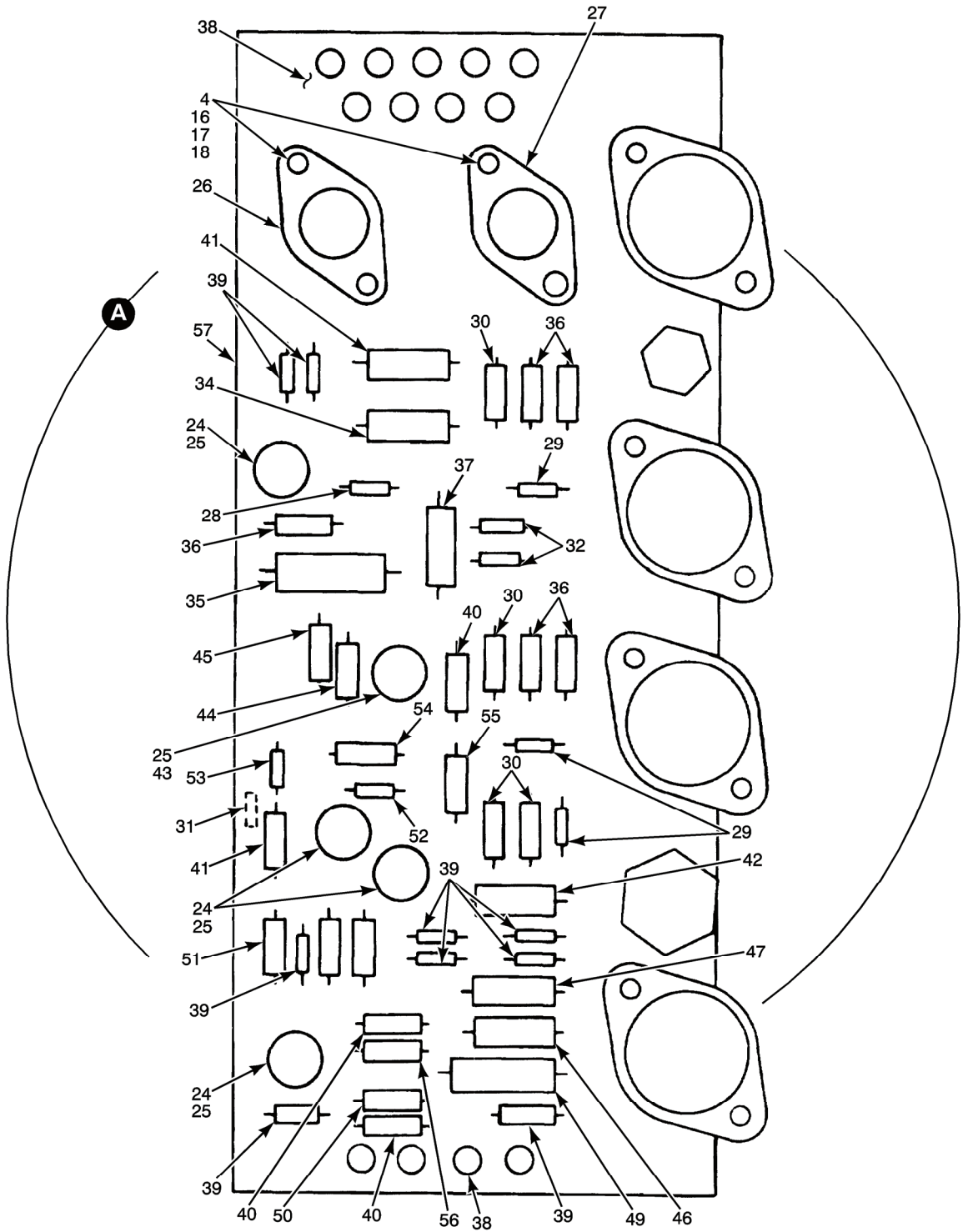
END OF FIGURE



MS029968

Figure 8. Power Heatsink Assembly. (Sheet 1 of 2)





MS029969

Figure 8. Power Heatsink Assembly. (Sheet 2 of 2)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 03 CONTROL PANEL ASSEMBLY</b>						
<b>FIG. 8 POWER HEATSINK ASSEMBLY</b>						
	PBDDD	5999-01-071-9221	82402	19225-3	HEATSINK ASSY, POWER (SEE FIG. 6 FOR NHA)	REF
1	XADZZ		82402	19223	.BRACKET	2
2	PADZZ	5305-01-073-3636	96906	MS21096-06003	.SCREW, CAP	3
3	PADZZ	5305-00-052-1488	96906	MS21096-06001	.SCREW, CAP	1
4	PADZZ	5310-00-167-0816	88044	AN960-6	.WASHER, FLAT (AP)	14
5	PADZZ	5961-00-883-3598	81349	JAN1N2973B	.DIODE, ZENER (VR202)	1
6	PADZZ	5365-01-072-5001	88818	A312A095-101	.SPACER, SLEEVE (AP)	1
7	PADZZ	5310-01-007-6897	08289	MW-562-203-002	.WASHER, FLAT	1
8	PADZZ	5310-00-167-0834	88044	AN960-10L	.WASHER, FLAT	1
9	PADZZ	5310-00-261-8278	96906	MS35338-100	.WASHER, LOCK	1
10	PADZZ	5310-00-165-1886	96906	MS25082S3	.NUT, PLAIN	1
11	PADZZ	5340-00-915-2342	96906	MS25281-F6	.CLAMP, LOOP	1
12	XADZZ		82402	19078	.HEATSINK	1
13	PBDZZ	5962-00-370-2637	27014	LM109KSTL/883B	.REGULATOR, VOLTAGE (U303)	1
14	PBDZZ	5962-00-593-6554	26916	058-001253	.REGULATOR, VOLTAGE (U301, U302)	2
15	PADZZ	5305-00-993-5767	96906	MS35206-327	.SCREW, MACHINE	3
16	PADZZ	5305-00-984-4989	96906	MS35206-229	.SCREW, MACHINE	8
17	PADZZ	5310-00-184-8977	96906	MS35338-98	.WASHER, LOCK	13
18	PADZZ	5310-00-807-1472	96906	MS21042L06	.NUT, SELF- LOCK	12
19	PADZZ	5970-01-130-2134	08289	MW-296-140	.WASHER, INSULATOR	4
20	PADZZ	5365-01-095-6882	08289	TW-147-236-094N	.SPACER (AP)	8
21	PADZZ	5310-01-046-9734	96906	MS35649-265	.NUT, PLAIN (AP)	1
22	PADZZ	5970-00-756-4801	08289	DM-123	.INSULATOR, PLATE	8
23	PADDD	5998-01-147-6715	00462	19076-3	.PC BOARD, POWER SUPPLY	1
24	PADZZ	5961-01-258-2227	81349	JAN2N2219A	..TRANSISTOR	4
25	PADZZ	5999-01-198-7069	58536	A55485/03-007D	..PAD, MOUNTING	5
26	PADZZ	5961-00-127-9362	04713	2N4912	..TRANSISTOR (Q202)	1
27	PADZZ	5961-01-007-5842	80131	2N3741A	..TRANSISTOR (Q203)	1
28	PADZZ	5961-00-018-9196	80131	1N4751A	..DIODE, ZENER (VR201)	1
29	PADZZ	5961-01-072-9781	04713	MR811	..DIODE (CR237-CR239)	3
30	PADZZ	5910-00-113-5475	81349	M39003-01-3006	..CAPACITOR (C201, C204-C206)	4
31	PADZZ	5910-00-104-0144	81349	M39003/01-3076	..CAPACITOR	1
32	XDDZZ		32897	814150651225M50V	..CAPACITOR (C202, C203)	2
33	PADZZ	5910-00-236-8767	81349	M39003/01-3100	..CAPACITOR (C200)	1
34	PADZZ	5905-00-247-8732	81349	RCR32G471JS	..RESISTOR (R201)	1
35	XDDZZ		81349	RWP21F6800F	..RESISTOR (R202)	1
36	PADZZ	5905-00-197-4289	81349	RNC60H1001FS	..RESISTOR (R203, R207, R208, R209, R210)	5
37	PADZZ	5905-00-228-6088	81349	RCR32G331JS	..RESISTOR (R204)	1
38	PADZZ	5940-00-549-4444	08866	1125C	..TERMINAL	13
39	PADZZ	5961-00-957-6865	81349	JAN1N3611	..DIODE (CR402, 407, 409, 411)	9
40	PADZZ	5905-00-110-0196	81349	RCR20G102JS	..RESISTOR (R407, R410, R413)	3
41	PADZZ	5905-00-141-0727	81349	RCR20G201JS	..RESISTOR (R401)	1
42	PADZZ	5905-00-121-9861	81349	RCR32G102JS	..RESISTOR (R409)	1
43	PADZZ	5961-00-949-1440	81349	JAN2N2905A	..TRANSISTOR (Q402)	1
44	PADZZ	5905-00-478-7366	81349	RCR20G330JS	..RESISTOR (R403)	1
45	PADZZ	5905-00-106-9348	81349	RCR20G154JS	..RESISTOR (R404)	1
46	PADZZ	5905-00-106-1246	81349	RCR32G152JS	..RESISTOR (R412)	1
47	PADZZ	5905-00-246-9399	81349	RCR32G202JS	..RESISTOR (R411)	1
48	PADZZ	5910-00-761-7112	81349	M39003-01-3023	..CAPACITOR (C402)	1
49	PADZZ	5910-00-236-8766	81349	M39003-01-3094	..CAPACITOR (C402)	1
50	PADZZ	5905-00-483-4285	81349	RCR20G101JS	..RESISTOR (R416)	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 03 CONTROL PANEL ASSEMBLY</b>						
<b>FIG. 8 POWER HEATSINK ASSEMBLY</b>						
51	PADZZ	5905-00-141-0599	81349	RCR20G393JS	..RESISTOR (R402, R406)	2
52	PADZZ	5961-00-018-9196	80131	1N4751A	..DIODE, ZENER (VR401)	1
53	PADZZ	5910-00-010-8718	81349	M39014/02-1338	..CAPACITOR (C401)	1
54	PADZZ	5905-00-141-1071	81349	RCR20G474JS	..RESISTOR (R405)	1
55	PADZZ	5905-00-106-9351	81349	RCR20G273JS	..RESISTOR (R408)	1
56	PADZZ	5905-00-141-1168	81349	RCR20G222JS	..RESISTOR (R415)	1
57	XDDZZ		82402	19075	..PC BOARD	1
58	PADZZ	5961-01-106-4616	81349	JAN2N6284	.TRANSISTOR	1
59	PADZZ	5305-00-889-3001	96906	MS35206-231	.SCREW, MACHINE	1
60	PADZZ	5340-00-998-0611	96906	MS25281-F3	.CLAMP, LOOP	1
61	PADZZ	5305-00-993-5767	96906	MS35206-327	.SCREW, MACHINE	1
62	PADZZ	5310-00-167-0816	88044	AN960-6	.WASHER, FLAT	1
63	PADZZ	5310-00-807-1472	96906	MS21042L06	.NUT, SELF-LOCK	1
<b>END OF FIGURE</b>						

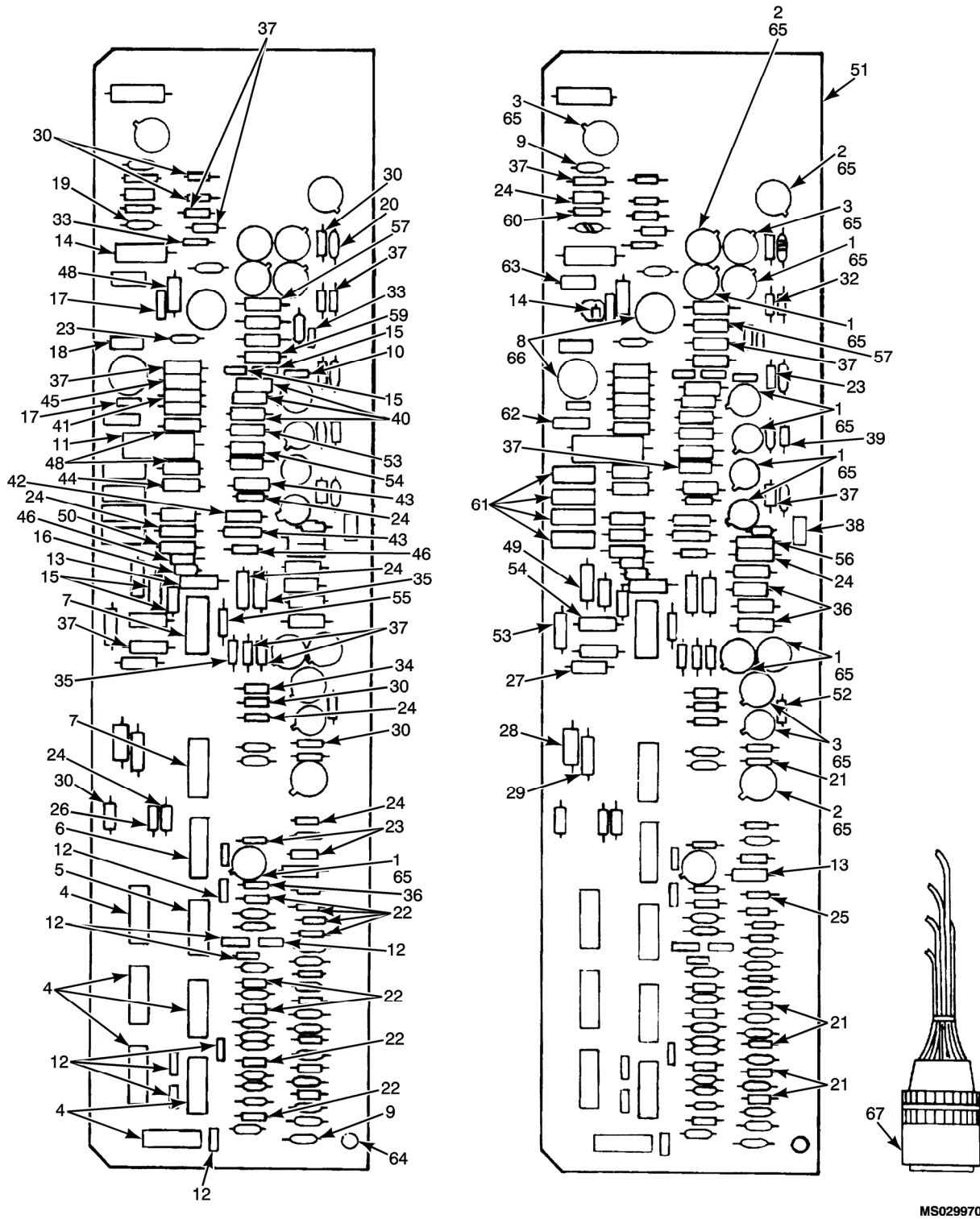
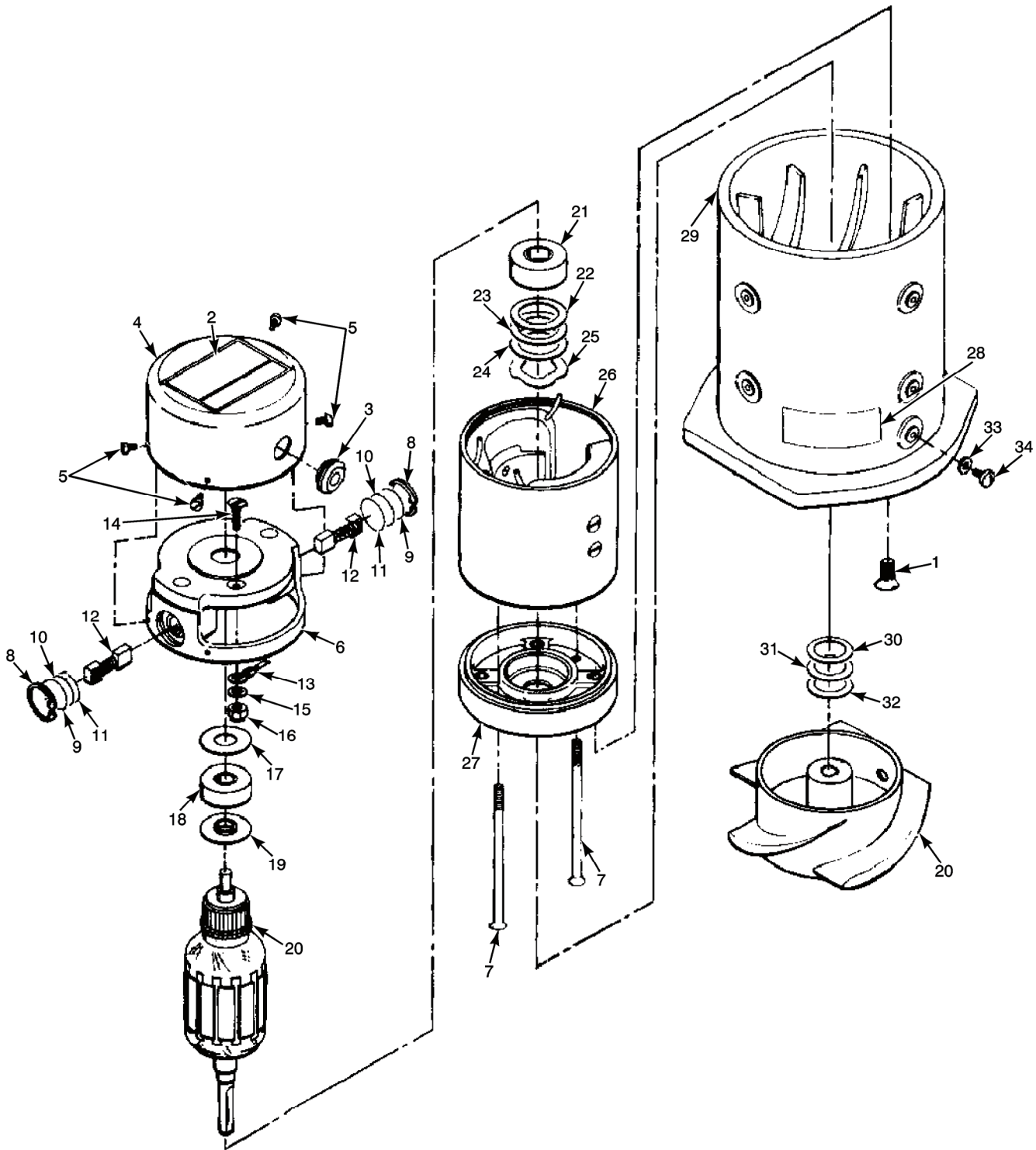


Figure 9. Logic PCB Assembly.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 03 CONTROL PANEL ASSEMBLY</b>						
<b>FIG. 9 LOGIC PCB ASSEMBLY</b>						
	PADDD	5998-01-147-6716	82402	19246	PCB ASSY, LOGIC (SEE FIG. 6 FOR NHA)	REF
1	PADZZ	5961-01-258-2227	81349	JAN2N2219A	.TRANSISTOR (Q1, Q7, Q8, Q10- Q15)	9
2	PADZZ	5961-00-949-1440	81349	JAN2N2905A	.TRANSISTOR (Q3, Q5, Q6)	3
3	XDDZZ		04713	2N5682	.TRANSISTOR (Q4, Q9, Q16, Q17)	4
4	XDDZZ		82402	5400	.INTEGRATED CIRCUIT (U1, U2, U3, U4, U5, U7)	6
5	XDDZZ		27014	5402	.INTEGRATED CIRCUIT (U6)	1
6	XDDZZ		27014	5425	.INTEGRATED CIRCUIT (U8)	1
7	PADZZ	5962-01-098-7418	14933	7704301CB	.INTEGRATED CIRCUIT (U9, U10)	2
8	PADZZ	5962-01-072-8381	27014	LM101AH	.INTEGRATED CIRCUIT (U11, U13)	2
9	PADZZ	5961-00-022-5664	81349	JAN1N914B	.DIODE (CR1- CR22, CR26, CR28, CR30, CR32-CR36, CR44)	31
10	PADZZ	5910-00-010-8718	81349	M39014/02-1338	.CAPACITOR (C30)	1
11	PADZZ	5910-00-185-9581	81349	M39003-01-3070	.CAPACITOR (C25)	1
12	PADZZ	5910-00-099-0538	81349	M39014-02-1342	.CAPACITOR (C1-C8, C17)	9
13	PADZZ	5910-00-104-0144	81349	M39003-01-3076	.CAPACITOR (C9, C24)	2
14	PADZZ	5910-00-113-5475	81349	M39003-01-3006	.CAPACITOR (C29, C31)	2
15	PADZZ	5910-00-099-0538	81349	M39014-02-1350	.CAPACITOR (C19, C22, C26, C27)	4
16	PADZZ	5910-00-010-8666	81349	M39014-01-1357	.CAPACITOR (C23)	1
17	PADZZ	5910-00-096-4644	81349	M39014-01-1330	.CAPACITOR (C21, C28)	2
18	PADZZ	5910-00-112-4337	81349	M39014-01-1321	.CAPACITOR (C20)	1
19	PADZZ	5961-00-469-9938	81349	JAN1N753A	.DIODE, ZENER (VR4)	1
20	PADZZ	5961-00-821-2309	81349	JAN1N751A	.DIODE, ZENER (VR2)	1
21	PADZZ	5905-00-135-6046	81349	RCR07G681JS	.RESISTOR (R1- R4, R28)	5
22	PADZZ	5905-00-111-4727	81349	RCR07G272JS	.RESISTOR (R5- R8, R13- R16)	8
23	PADZZ	5905-00-106-3666	81349	RCR07G103JS	.RESISTOR (R11, R9, R62, R63)	4
24	PADZZ	5905-00-138-1283	81349	RNC60H1002FS	.RESISTOR (R10, R21, R53, R80, R82, R108, R54, R58)	8
25	PADZZ	5905-00-114-0711	81349	RCR07G472JS	.RESISTOR (R12)	1
26	PADZZ	5905-00-758-3380	81349	RNC60H6652FS	.RESISTOR (R17)	1
27	PADZZ	5905-00-120-9154	81349	RCR20G471JS	.RESISTOR (R52)	1
28	PADZZ	5905-00-403-3127	81349	RNC60H2152FS	.RESISTOR (R19)	1
29	PADZZ	5915-00-524-2130	81349	RCR07G202JS	.RESISTOR (R23)	1
30	PADZZ	5905-00-110-7620	81349	RCR07G102JS	.RESISTOR (R29, R34, R36, R39, R45-R47, R93)	8
31	PADZZ	5905-00-126-6683	81349	RCR07G332JS	.RESISTOR (R35, R37, R38, R48, R49)	5
32	PADZZ	5905-00-111-4858	81349	RCR20G471JS	.RESISTOR (R40)	1
33	PADZZ	5905-00-111-1679	81349	RCR07G512JS	.RESISTOR (R41, R42)	2
34	PADZZ	5905-00-110-7622	81349	RCR07G682JS	.RESISTOR (R44)	1
35	PADZZ	5905-00-432-0464	81349	RNC60H3832FS	.RESISTOR (R50, R51)	2
36	PADZZ	5905-00-146-4164	81349	RNC60H4641FS	.RESISTOR (R55, R57)	2
37	PADZZ	5905-00-197-4289	81349	RNC60H1001FS	.RESISTOR (R60, R68, R69, R78, R88, R100, R107)	7
38	PADZZ	5905-00-104-8334	81349	RCR07G331JS	.RESISTOR (R59)	1
39	PADZZ	5905-00-106-9356	81349	RCR07G203JS	.RESISTOR (R61)	1
40	PADZZ	5905-00-006-5575	81349	RNC60H9091FS	.RESISTOR (R64, R67, R77)	3
41	PADZZ	5905-00-407-2160	81349	RNC60H1003FS	.RESISTOR (R66)	1
42	PADZZ	5905-00-126-6710	81349	RCR07G185JS	.RESISTOR (R70)	1
43	PADZZ	5905-00-721-2348	81349	RNC60H3922FS	.RESISTOR (R71, R72)	2
44	PADZZ	5905-00-165-3108	81349	RNC60H2802FS	.RESISTOR (R74)	1
45	PADZZ	5905-00-650-9814	81349	RNC60H9532FS	.RESISTOR (R76)	1
46	PADZZ	5905-00-491-8744	81349	RNC60H6191FS	.RESISTOR (R81, R83)	2
47	PADZZ	5905-00-401-8689	81349	RNC60H2213FS	.RESISTOR (R79)	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 03 CONTROL PANEL ASSEMBLY</b>						
<b>FIG. 9 LOGIC PCB ASSEMBLY</b>						
48	PADZZ	5905-00-481-3076	81349	RNC60H6192FS	.RESISTOR (R90, R97)	2
49	PADZZ	5905-00-006-2987	81349	RNC60H6651FS	.RESISTOR (R85)	1
50	PADZZ	5905-00-479-9952	81349	RNC60H3923FS	.RESISTOR (R86)	1
51	PADZZ	1680-01-231-4829	00462	19248	.PC BOARD	1
52	PADZZ	5905-00-105-7764	81349	RCR07G222JS	.RESISTOR (R91)	1
53	PADZZ	5905-00-099-0479	81349	RNC60H2052FS	.RESISTOR (R94, R98)	2
54	PADZZ	5905-00-758-3388	81349	RNC60H8062FS	.RESISTOR (R95, R96)	2
55	PADZZ	5905-00-721-2341	81349	RNC60H1272FS	.RESISTOR (R99)	1
56	PADZZ	5905-00-111-2186	81349	RCR07G223JS	.RESISTOR (R101)	1
57	PADZZ	5905-00-194-8405	81349	RNC60H4991FS	.RESISTOR (R103)	1
58	PADZZ	5905-00-165-3110	81349	RNC60H4492FS	.RESISTOR (R105, R106)	2
59	PADZZ	5905-00-403-3147	81349	RNC60H4751FS	.RESISTOR (R102)	1
60	PADZZ	5905-00-403-3124	81349	RNC60H2001FS	.RESISTOR (R109)	1
61	PADZZ	5905-01-043-6849	32997	3252-W-1-102	.RESISTOR (R65, R84, R89, R73)	4
62	PADZZ	5905-01-008-6215	32997	3252-W1-103	.RESISTOR (R75)	1
63	PADZZ	5905-01-027-8321	32997	3252-W-1-501	.RESISTOR (R104)	1
64	PADZZ	5940-00-926-0033	81349	SE16XC02	.TERMINAL	48
65	PADZZ	5999-01-198-7069	09448	HY515-1	.PAD, MOUNTING	1
66	PADZZ	5999-01-074-8839	08289	508-050-NY	.PAD, MOUNTING	2
67	PADZZ	5935-00-755-3630	96906	MS3116E18-32S	.CONNECTOR	1
<b>END OF FIGURE</b>						



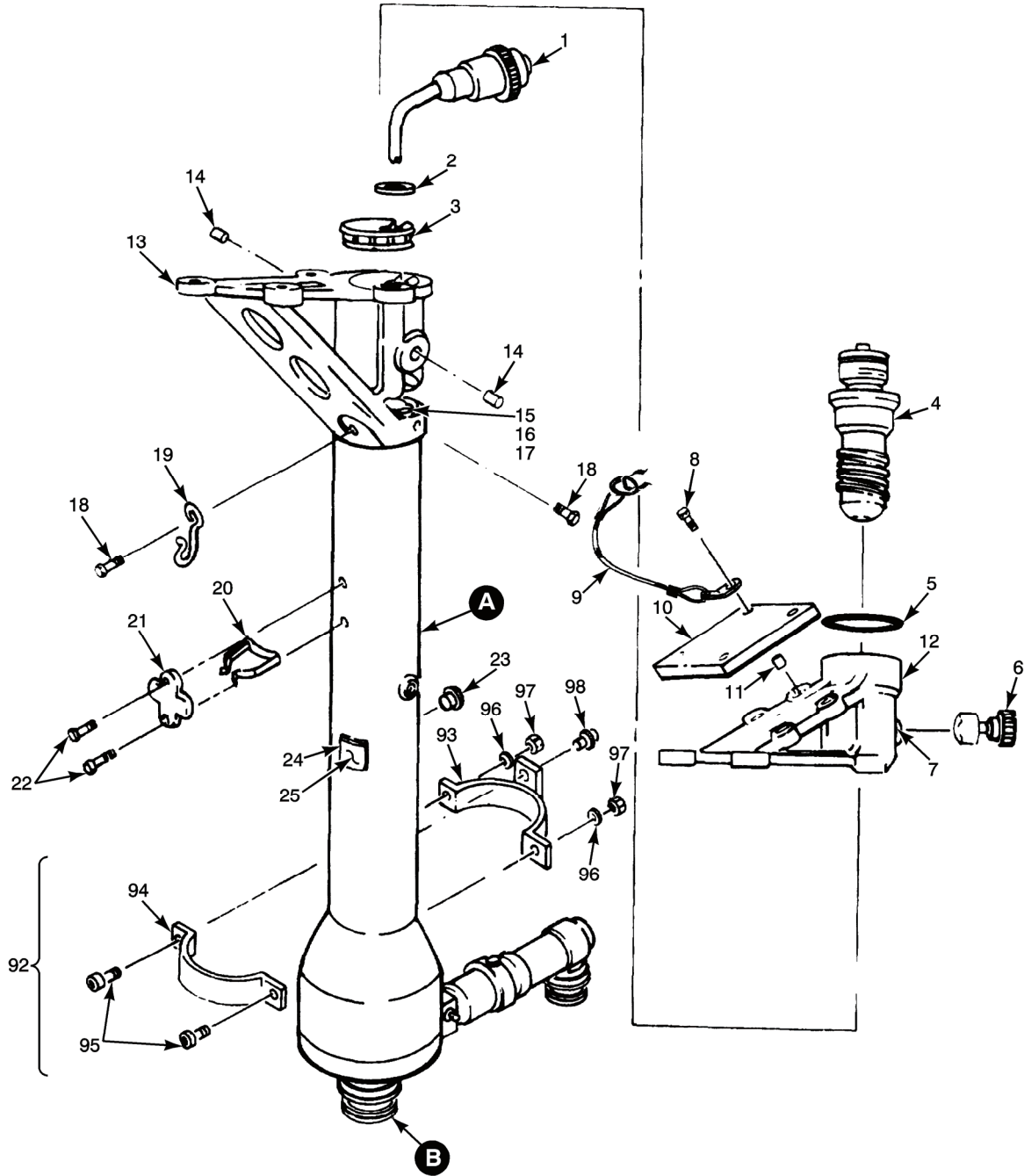


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Figure 10. Blower Assembly/DC Motor.

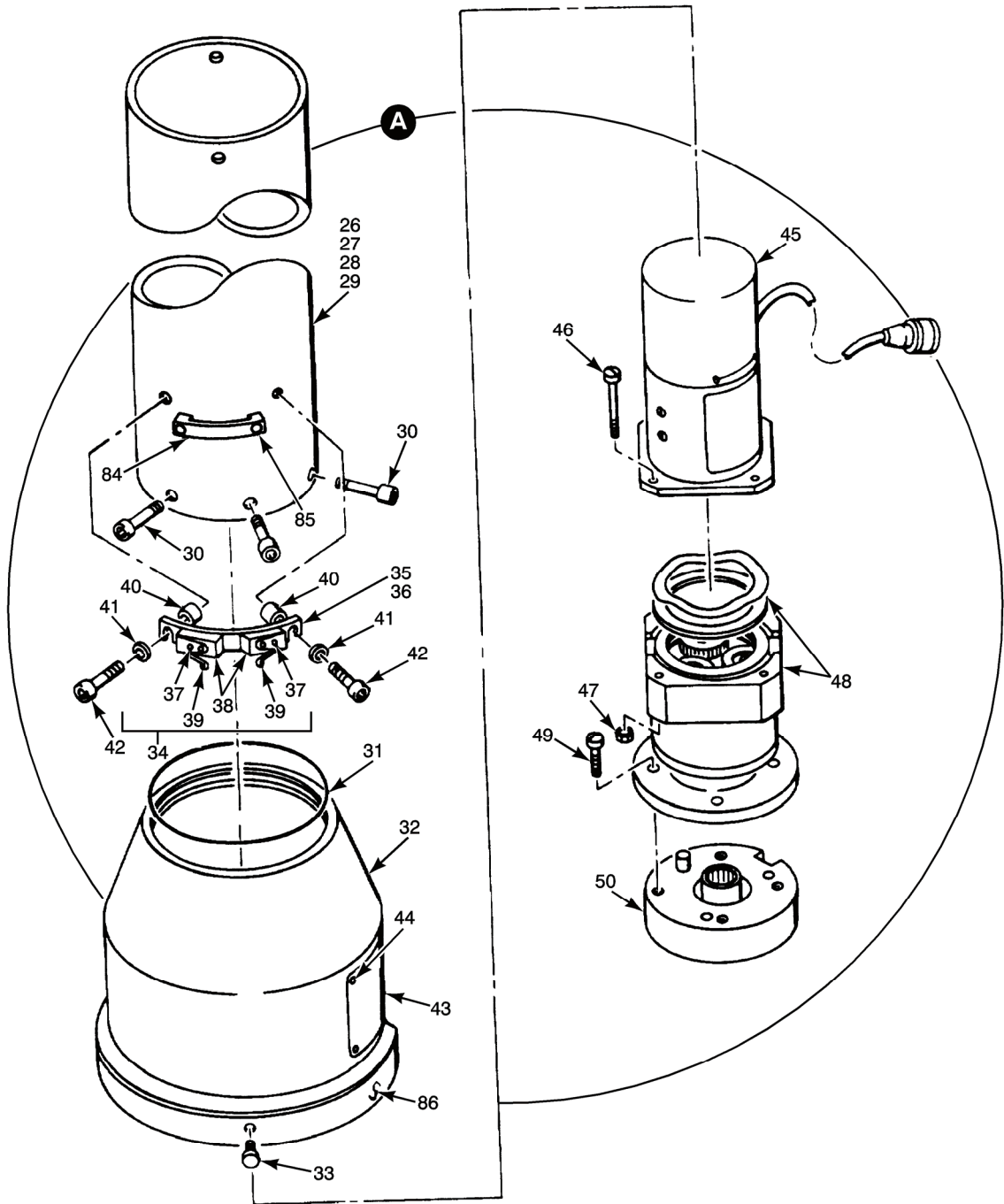


(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0301 MOTOR ASSEMBLY, DC</b>						
<b>FIG. 10 BLOWER ASSY/DC MOTOR</b>						
	PAFDD	4140-01-212-1433	82402	FV3-4	BLOWER ASSY, FAN (SEE FIG. 6 FOR NHA)	REF
1	PADZZ	5305-00-957-6272	96906	MS35190-269	..SCREW	4
2	XDDZZ		82402	149099	..NAMEPLATE	1
	PADDD	6105-01-070-7615	82402	239YC33	..MOTOR ASSY, DC	1
3	PADZZ	6145-00-728-4026	58536	AA59569R36T0250	..GROMMET	1
4	PADZZ	6105-01-213-5811	00462	10982	..COVER, END	1
5	PADZZ	5305-00-559-8144	96906	MS35265-1	..SCREW	4
6	PADZZ	6105-01-173-8768	3HRL4	15433	..END BELL ASSY, BRUSHHOLDER	1
7	PADZZ	5305-01-071-7111	82402	10981-1	..BOLT	2
8	PADZZ	5325-00-347-8254	79136	N5001-56MD	..RING, RETAINING	2
9	PADZZ	5340-01-072-9343	82402	15205-1	..DISC	2
10	PADZZ	5970-01-074-6856	82402	15205-2	..DISC, INSULATING	2
11	PADZZ	5340-01-095-5668	82402	15205-3	..DISC	2
12	PADZZ	5977-01-075-0901	82402	80314	..BRUSH ASSY	2
13	PADZZ	5940-00-813-0698	96906	MS25036-101	..TERMINAL	1
14	PADZZ	5305-00-958-6230	96906	MS35190-224	..SCREW	1
15	PADZZ	5310-00-167-0831	88044	AN960-4L	..WASHER	1
16	PADZZ	5310-00-956-0054	22599	22NTM-40	..NUT, SELF- LOCK	1
17	PADZZ	5365-01-060-3788	82402	886-7	..SHIM	1
18	PADZZ	3110-00-203-4097	21335	S5KDDC2FS160	..BEARING BALL	1
19	PADZZ	2805-01-060-7633	00462	1209-5	..SLINGER	1
20	PADZZ	6105-01-173-2093	3HRL4	36782	..ARMATURE AND IMPELLER ASSY	1
21	PADZZ	3110-00-293-8889	43334	SS77038LR3053E9	..BEARING BALL	1
22	PADZZ	5365-00-836-2808	00462	886-5	..SHIM	1
23	PADZZ	5365-00-454-8684	00462	886-12	..SHIM	1
24	PADZZ	5365-01-081-5692	00462	886-144	..SHIM	1
25	PADZZ	5310-00-177-1039	70742	WBR6	..WASHER, TENSION SPRING	1
26	PBDZZ	6105-01-195-3330	00462	21875	..YOKE ASSY	1
27	PBDZZ	2925-01-147-6688	82402	15250	..END BELL ASSY, FRONT	1
28	XDDZZ		82402	12554-3	..NAMEPLATE	1
29	PADZZ	6150-01-201-7837	00462	19515	..SHROUD ASSY	1
30	PADZZ	5365-00-162-7874	00462	886-1	..SHIM	1
31	PADZZ	5365-00-161-4109	82402	886-29	..SHIM	1
32	PADZZ	5365-00-119-9352	3CPE0	886-211	..SHIM	1
33	PADZZ	5310-00-559-0070	96906	MS35333-38	..WASHER, LOCK	1
34	PADZZ	5305-00-984-6226	96906	MS35206-240	..SCREW	1
<b>END OF FIGURE</b>						



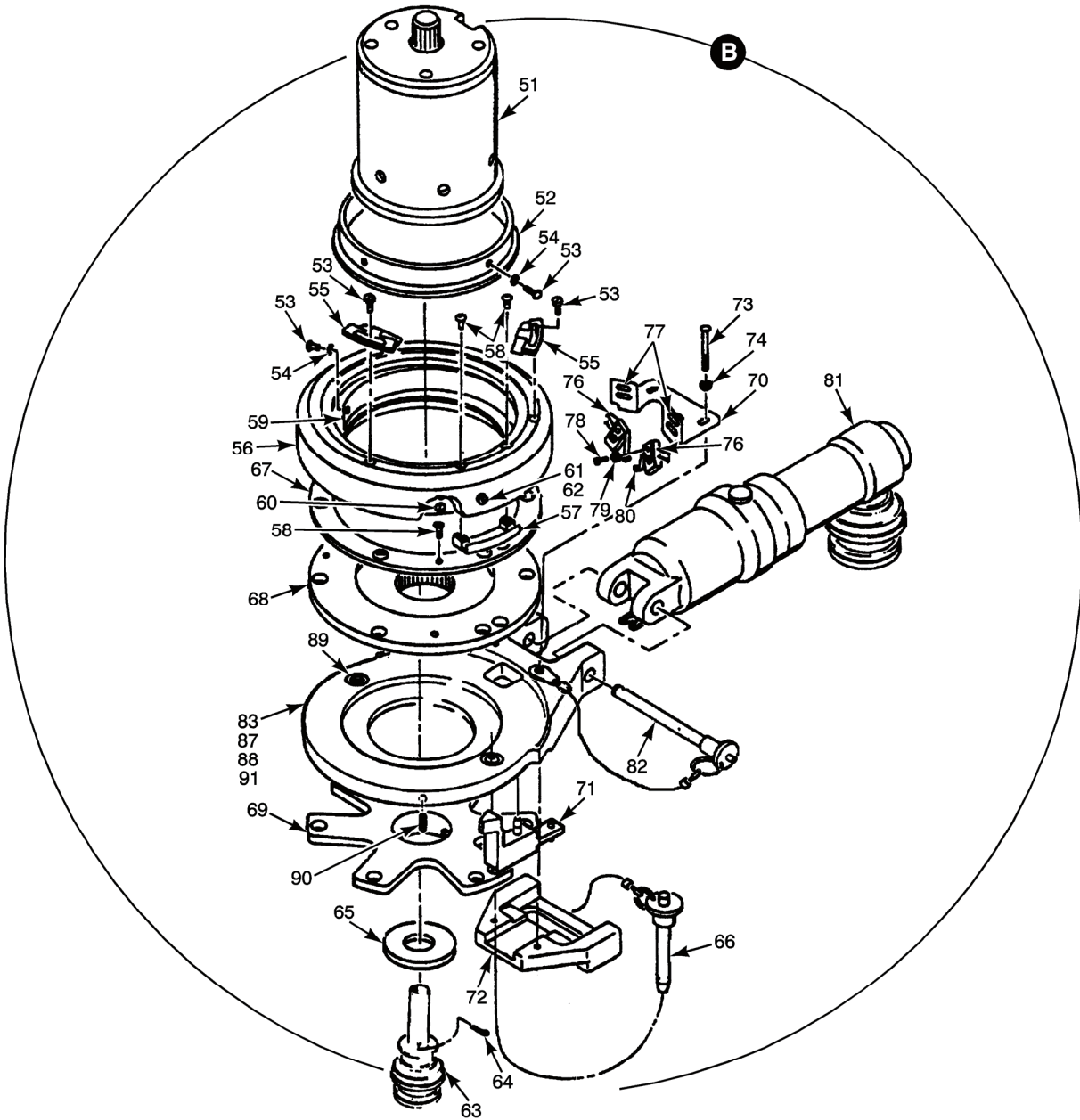
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Figure 11. Boom Position Support Assembly. (Sheet 1 of 3)



MS029973

Figure 11. Boom Position Support Assembly. (Sheet 2 of 3)



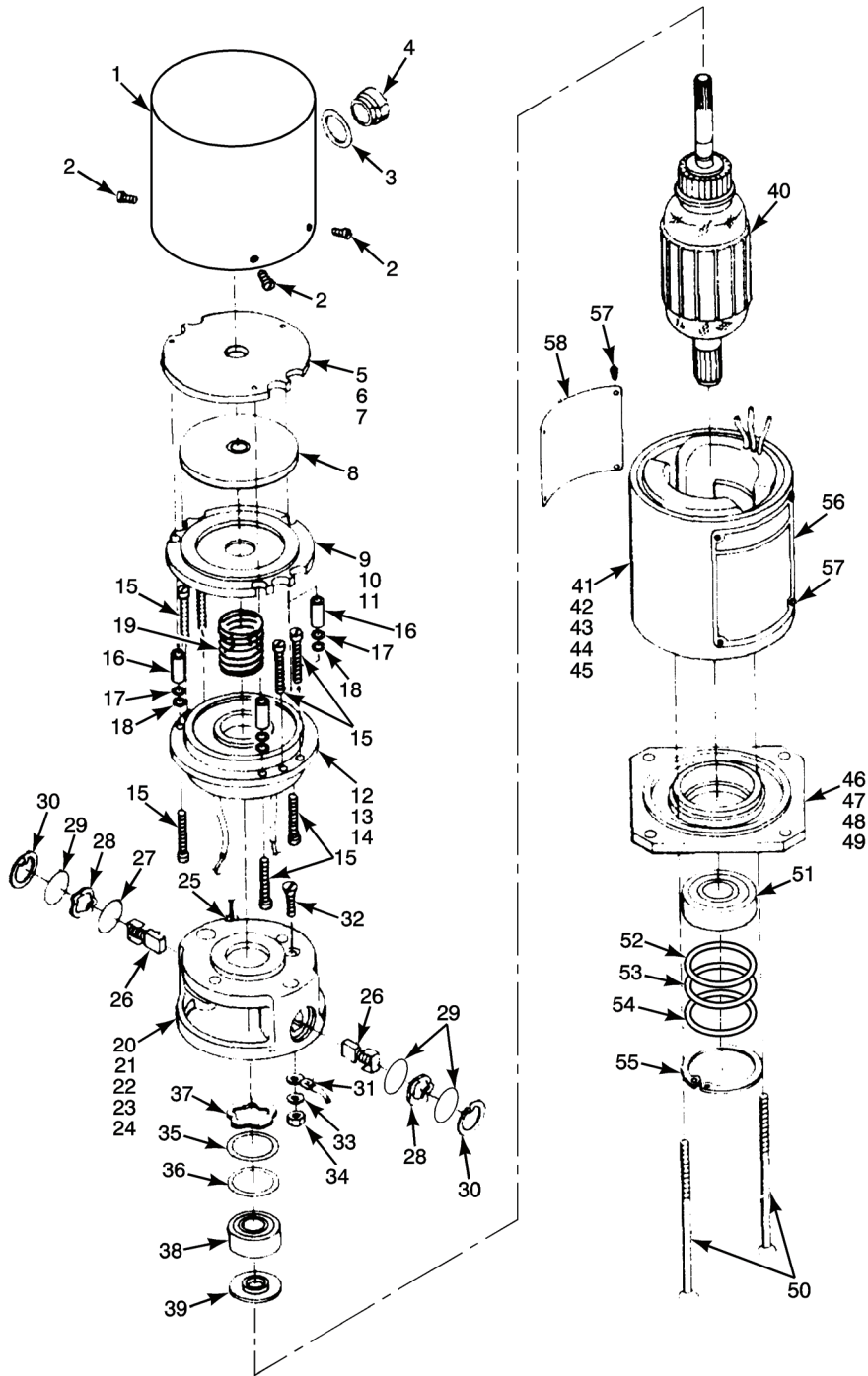
MS029974

Figure 11. Boom Position Support Assembly. (Sheet 3 of 3)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 04: BOOM POSITION SUPPORT ASSEMBLY</b>						
<b>FIG.11 BOOM POSITION SUPPORT ASSEMBLY</b>						
	PBFDD	1680-01-070-9950	82402	42305R500	BOOM POSITION SUPPORT ASSEMBLY (SEE FIG.1 FOR NHA)	
1	PAFZZ	5935-01-108-3804	96906	MS3126E14-12P	.CONNECTOR	1
2	PAFZZ	5325-00-276-6100	88044	AN931-8-13	.GROMMET, NONMETALLIC	1
3	PBFZZ	1680-01-071-0178	82402	42277E594	.PLATE, STANCHION COVER	1
4	PAFFF	1680-01-391-9984	82402	42305D528	.HEIGHT ADJUSTER ASSY (SEE FIG. 16 FOR BREAKDOWN)	1
5	PAFZZ	5331-00-802-2130	96906	MS28775-133	.PACKING, PREFORMED	1
6	PBFZZ	5340-01-084-5152	01226	SL375	.PLUNGER	1
7	PAFZZ	5305-01-088-0263	96906	MS51973-112	.SETSCREW	1
8	PAOZZ	5305-00-990-6444	96906	MS35207-261	.SCREW, MACHINE	4
9	PAOZZ	5342-01-226-0514	82402	42305-613	.SAFETY CLIP AND LANYARD	1
10	XDDZZ		82402	42277D528-5	.COVER PLATE	1
11	PAFZZ	5325-00-021-3495	80205	NAS1394C3L	.INSERT, SCREW THREAD	4
12	XDDZZ		82402	42277R522	.SUPPORT ASSY, UPPER	1
13	XDDZZ		82402	42277R521	.SUPPORT ASSY, LOWER	1
14	PADZZ	5325-00-793-0760	29372	KNL524	.INSERT, SCREW THREAD	2
15	PBDZZ	1680-01-071-5380	82402	42277D523	.NUT-ANCHOR RING ASSY	1
16	PBDZZ	5310-01-074-7453	75237	F2400-5	.NUT, SELF-LOCK	4
17	PBDZZ	5320-01-307-4669	96906	MS20426E4-6	.RIVET, SOLID	8
18	PAOZZ	5306-00-144-4041	88044	AN175H10A	.BOLT, CLOSE TOLERANCE	4
19	PAOZZ	1680-01-071-0176	82402	42277E539	.HOOK, PENDANT	1
20	PAOZZ	5340-01-106-3690	82402	42277D598	.CLIP, RETAINING	1
21	PBOZZ	5331-01-301-8843	82402	42277E596	.RETAINER-HOOK	1
22	PAOZZ	5305-00-308-9735	80205	NAS1352-08H4	.SCREW, CAP	2
23	PAOZZ	5340-01-225-3954	82402	42305-614	.PLUG, PROTECTIVE	1
24	XDDZZ		82402	42305C534	.PLATE, IDENTIFICATION	1
25	PADZZ	5305-00-253-5606	96906	MS21318-7	.SCREW, DRIVE	4
26	XDDDD		82402	42305R530	.BOOM POSITION SUPPORT ASSY	1
27	XADZZ		82402	42305R530-1	.TUBE	1
28	XADZZ		82402	42305R565	.BOSS	2
29	XADZZ		98004	KNL524	.INSERT	2
30	PADZZ	5306-00-145-0700	88044	AN174CH6A	.BOLT, CLOSE TOLERANCE	6
31	PADZZ	5331-00-579-7545	96906	MS28775-238	.PACKING, PREFORMED	1
32	PADZZ	1680-01-071-9215	82402	42277R578	.COVER, SWITCH ASSY	1
33	PADZZ	5305-00-052-8250	96906	MS16998-19	.SCREW, MACHINE	2
34	XDDDD		82402	42277D597	.LIMIT SWITCH ASSY	1
35	PBDZZ	5342-01-083-3414	82402	42277D577	.BRACKET, SWITCH	1
36	PADZZ	5110-00-918-3027	00462	4067-193	.NUT PLATE ASSY	2
37	PADZZ	5305-00-054-5643	96906	MS51957-9	.SCREW, MACHINE	4
38	PADZZ	5930-00-137-1511	91929	1SE2-6	.MICROSWITCH	2
39	PADZZ	5930-00-538-6790	91929	JE5	.SWITCH ACTUATOR	2
40	PADZZ	5930-00-538-6790	80205	NAS43DD1-16	.SPACER	2
41	PADZZ	5310-00-616-6822	80205	NAS620-6L	.WASHER, FLAT	2
42	PADZZ	5305-00-934-0114	80205	NAS1352-06H8	.SCREW, CAP	2
43	PADZZ	1680-01-099-6314	82402	42305E592	.PLATE, HOIST POSITION	1
44	PADZZ	5320-00-860-6605	96906	M24243/1-A302	.RIVET, BLIND	4
45	PADDD	6105-01-071-5413	82402	239YC32	.MOTOR, BOOM POSITION (SEE FIG. 12 FOR BREAKDOWN)	1
46	PADZZ	5305-00-622-9479	96906	MS35265-50	.SCREW, MACHINE	4

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 04: BOOM POSITION SUPPORT ASSEMBLY</b>						
<b>FIG.11 BOOM POSITION SUPPORT ASSEMBLY</b>						
47	PADZZ	5310-00-807-1473	82402	MS21042L08	.NUT, SELF LOCKING	4
48	PADDD	1680-01-070-0969	82402	42277E600	.GEAR DRIVE ASSY (SEE FIG. 14 FOR BREAKDOWN)	1
49	PADZZ	5305-00-151-0376	96906	MS35265-52	.SCREW	4
50	PADDD	1680-01-075-2234	82402	42305E540	.MECHANICAL STOP ASSY (SEE FIG. 14 FOR BREAKDOWN)	1
51	PADDD	1680-01-070-9963	82402	42305E555	.ROTARY ACTUATOR ASSY (SEE FIG.15 FOR BREAKDOWN)	1
52	PBDZZ	5365-01-087-9443	82402	42305D537	.RING, CONDUCTOR HOLD DOWN	1
53	PADZZ	5305-00-984-4983	96906	MS35206-226	.SCREW, MACHINE	7
54	PADZZ	5310-00-187-2398	88044	AN960PD6L	.WASHER, FLAT	1
55	PADZZ	1680-01-071-9669	82402	42305D585	.CAM, LIMIT SWITCH	2
56	PBDZZ	1680-01-072-1731	82402	42305E554	.SUPPORT, LIMIT SWITCH CAM	1
57	XDDZZ		82402	42305D572	.CLAMP, LIMIT SWITCH	1
58	PADZZ	5305-00-957-7816	96906	MS24693-S24	.SCREW, MACHINE	5
59	PBDZZ	1680-01-071-5389	82402	42305R568	.HARNES, FLEX WIRE	1
60	PADZZ	5305-00-889-3116	96906	MS35206-213	.SCREW, MACHINE	4
61	PADZZ	5305-00-993-0191	96906	MS35206-212	.SCREW, MACHINE	1
62	PADZZ	5310-00-595-6425	88044	AN960C4L	.WASHER, FLAT	1
63	PAOZZ	1680-01-070-9964	82402	42305E561	.QUICK DISCONNECT	1
64	PADZZ	5315-00-013-7214	96906	MS24665-359	.PIN, COTTER	1
65	PADZZ	5310-01-077-1029	82402	42305C533	.WASHER, RECESSED	1
66	PAOZZ	5315-01-089-4259	82402	42277D587	.PIN ASSY	2
67	PBDDD	1680-01-071-5390	82402	42305E536	..BASE PLATES, MATCHED SET	1
68	XADZZ	5342-01-072-5919	82402	42305E531	..UPPER BASE PLATE ASSY	1
69	XADZZ		82402	42305E532	..LOWER BASE PLATE ASSY	1
70	PADZZ	5342-01-072-5919	82402	42277D591	.BRACKET, OVERLOAD SWITCH	1
71	PADZZ	1680-01-070-9976	82402	42305D519	.LEVER ASSY	1
72	PADZZ	1680-01-099-6311	82402	42305E571	.PLATE, HEEL	1
73	PADZZ	5305-00-151-0376	96906	MS35265-52	.SCREW, MACHINE	2
74	PADZZ	5310-00-184-9002	88044	AN960PD8L	.WASHER, FLAT	4
75	PADZZ	5310-00-941-6019	96906	MS21083N08	.NUT, SELF-LOCK	2
76	PADZZ	5930-00-917-7083	91929	1SE2	.LIMIT SWITCH	2
77	PADZZ	5110-00-918-3027	00462	4067-193	.NUT PLATE ASSY	2
78	PADZZ	5305-00-054-5643	96906	MS51957-9	.SCREW, MACHINE	4
79	PADZZ	5310-00-616-6822	80205	NAS620-6L	.WASHER, FLAT	2
80	PADZZ	5930-00-538-6790	10001	57A5A23-2	.ACTUATOR, SWITCH	2
81	PAODD	1680-01-070-9974	82402	42305E510	.REACTION ARM ASSY (SEE FIG. 17 FOR BREAKDOWN)	1
82	PAOZZ	5315-01-135-2525	82402	42305D573	.PIN ASSY	1
83	PADZZ	1680-01-071-0177	82402	42305E535	.FLANGE, MOUNTING	1
84	XDDZZ		82402	42305D574	.CLAMP	1
85	PADZZ	5305-00-051-6521	96906	MS24693-S25	.SCREW, MACHINE	2
86	XDDZZ		82402	42305D599	.RING	1
87	PBDZZ	1680-01-075-2221	82402	42305E593	.PLATE ASSY, REACTION	1
88	XADZZ		82402	42305E593-1	..PLATE	1
89	PADZZ	3120-01-137-9069	82402	42305D553	..BUSHING, SLEEVE	2
90	PADZZ	5325-00-324-9146	96906	MS21209F0815	..INSERT, SCREW THREAD	2
91	PADZZ	5315-01-105-9202	82402	42305D567	..PIN	1
92	PAFZZ	5307-01-223-3184	82402	42305E590	.STUD RING ASSY	1
93	XAOZZ		82402	42305E591	..STUD RING	1
94	XAOZZ		82402	42305-615	..CLAMP	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
					<b>GROUP 04: BOOM POSITION SUPPORT ASSEMBLY</b>	
					<b>FIG.11 BOOM POSITION SUPPORT ASSEMBLY</b>	
95	XAOZZ	5305-00-058-0505	80205	NAS1351-3-10P	..SCREW, MACHINE	2
96	XAOZZ		82402	AN960-10C	..WASHER	4
97	PAOZZ	5310-00-877-5797	96906	MS21044N3	..NUT, SELF-LOCK	2
98	PAFZZ	5307-01-329-9164	00462	42305E594	..STUD, SHOULDERED	1
					<b>END OF FIGURE</b>	



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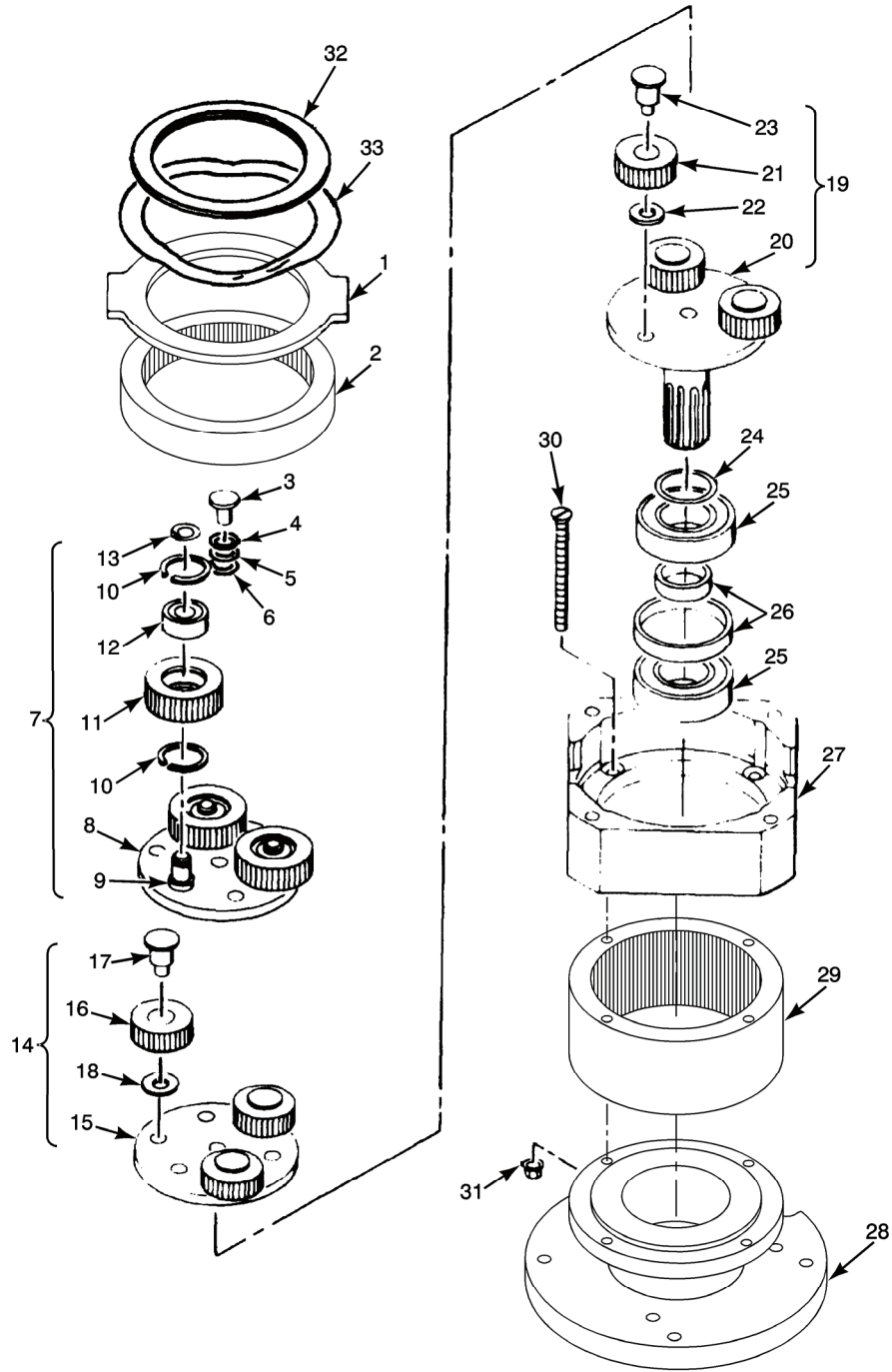
Figure 12. Boom Position Motor.



(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 04: BOOM POSITION SUPPORT ASSEMBLY</b>						
<b>FIG. 12 BOOM POSITION MOTOR</b>						
	PADDD	6105-01-071-5413	00462	239YC32	MOTOR, BOOM POSITION (SEE FIG. 11 FOR NHA)	REF
1	XDDZZ		82402	14304-1	.END COVER	1
2	PADZZ	5305-00-579-2138	96906	MS35265-2	.SCREW, MACHINE	4
3	PADZZ	5331-00-579-8108	96906	MS28775-111	.PACKING, PREFORMED	1
4	PADZZ	5975-00-351-6114	28520	SR5P4	.BUSHING, RELIEF	1
5	PADDD	1680-01-070-9951	00462	14302	.BRAKE PLATE ASSY	1
6	XADZZ		82402	14303	.BRAKE PLATE	1
7	XADZZ		82402	13981-11	.BRAKE SHOE	1
8	XDDDD	4310-01-089-3154	82402	32160	.BRAKE DISC	1
9	PADDD	1680-01-070-5393	82402	14301	.BRAKE ARMATURE ASSY	1
10	XADZZ		82402	14299	.BRAKE ARMATURE	1
11	XDDZZ		82402	1398-11	.BRAKE SHOE	1
12	XDDDD		00462	21724	.BRAKE BRACKET ASSY	1
13	XADZZ		82402	14298	.BRACKET	1
14	XADZZ		82402	21725	.COIL ASSY	1
15	PADZZ	5305-00-614-0261	96906	MS35265-19	SCREW, MACHINE	7
16	PADZZ	5365-01-072-2925	31345	13781-2	.SPACER, SLEEVE	3
17	PADZZ	5365-01-072-9729	00462	886-97	.SHIM	V
18	PADZZ	5365-01-072-9733	00462	886-121	.SHIM	V
19	PADZZ	5360-01-080-2013	82402	14300	.SPRING, BRAKE	1
20	XDDDD		00462	19158	.BRUSHHOLDER & END BELL	1
21	XADZZ		82402	14295	.ENDBELL	1
22	XDDZZ		82402	15208	.BRUSH AND INSULATOR	1
23	PADZZ	5977-01-072-8312	00462	15255	.BRUSHHOLDER	1
24	PADZZ	5305-00-637-5831	88044	AN565D6H2	.SETSCREW	2
25	XDDZZ		82402	80200-2	.FUSE, THERMAL	V
26	PADZZ	5977-01-073-7394	00462	8732	.BRUSH ASSY	2
27	PADZZ	5970-01-074-6856	00462	15205-2	.DISC, INSULATING	1
28	PADZZ	5310-01-105-7122	82402	80186	.WASHER, SPRING TENSION	2
29	PADZZ	5340-01-072-9343	00462	15205-1	.DISK, SOLID	3
30	PADZZ	5325-00-347-8254	96906	MS16629-1056	.RING, RETAINING	2
31	PADZZ	5940-00-813-0698	96906	MS25036-101	.TERMINAL LUG	1
32	PADZZ	5305-00-958-6230	96906	MS35190-224	.SCREW, MACHINE	1
33	PADZZ	5310-00-950-1310	96906	MS27183-4	.WASHER, FLAT	1
34	PADZZ	5310-00-857-5558	96906	MS21045-L04	.NUT, SELF-LOCK	1
35	PADZZ	5365-01-060-3788	00462	886-7	.SHIM	V
36	PADZZ	5365-01-072-9731	82402	886-11	.SHIM	V
37	PADZZ	5310-00-087-3155	00462	146686	.WASHER, SPRING TENSION	1
38	XDDZZ		24617	SS77R4XR3MILG327246178	.BEARING, BALL	1
39	PADZZ	4320-01-073-7452	00462	1209-10	.DEFLECTOR, DIRT AND LIQUID	1
40	PADZZ	6105-01-076-1301	00462	36274	.ARMATURE ASSY	1
41	XADDD		82402	21722	.YOKE ASSY	1
42	XADZZ		82402	19136	.MOTOR HOUSING	1
43	XADZZ		82402	2518	.POLE PIECE	2
44	XADZZ		82402	21726	.FIELD COIL	1
45	PADZZ	5305-00-059-4552	80205	MS35190-237	.SCREW, MACHINE	4
46	XBDDD		82402	19840	.FRONT END BELL ASSY	1
47	XDDZZ		82402	19204-1	.PIN	1
48	XADZZ		82402	19840-1	.ENDBELL	1
49	XDDZZ		82402	19852	.INSERT	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 04: BOOM POSITION SUPPORT ASSEMBLY</b>						
<b>FIG. 12 BOOM POSITION MOTOR</b>						
50	PADZZ	5305-00-883-9304	88044	AN505-6R44	.SCREW, MACHINE	2
51	PADZZ	3110-00-554-5389	43334	3L00	.BEARING, BALL	1
52	PADZZ	5365-00-454-8687	00462	886-94	.SHIM	V
53	PADZZ	5365-01-073-5452	00462	886-229	.SHIM	V
54	PADZZ	5365-01-072-9732	00462	886-231	.SHIM	V
55	PADZZ	5325-00-805-1401	96906	MS16625-4102	.RING, RETAINING	1
56	XDDZZ		82402	19856	.PLATE, IDENTIFICATION	1
57	PADZZ	5305-00-253-5606	96906	MS21318-7	.SCREW, DRIVE	8
58	XDDZZ		82402	19283	.PLATE, SCHEMATIC	1
<b>END OF FIGURE</b>						

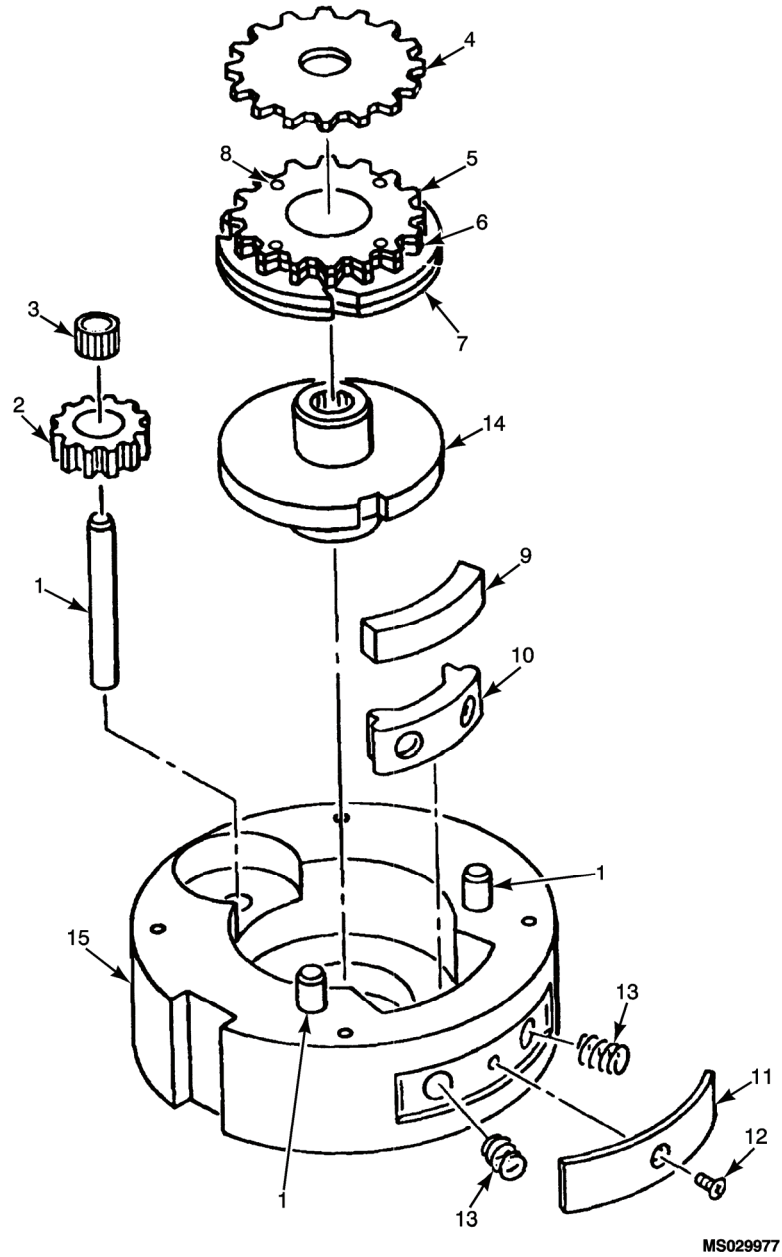




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Figure 13. Gear Drive Assembly.

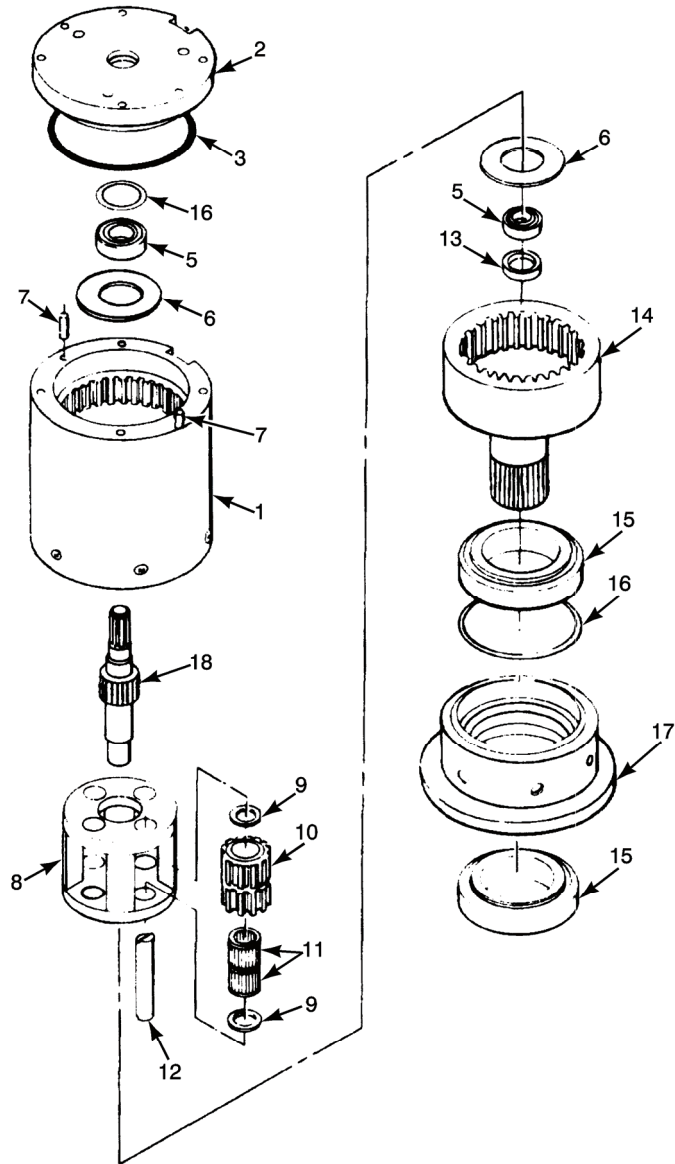
(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 4: BOOM POSITION SUPPORT ASSEMBLY</b>						
<b>FIG. 13 GEAR DRIVE ASSY</b>						
	PADDD	1680-01-070-0969	82402	42277E600	GEAR DRIVE ASSY (SEE FIG. 11 FOR NHA)	
1	PADZZ	1680-01-070-0987	82402	42277D605	.PLATE PRESSURE	1
2	PADZZ	3020-01-079-3138	82402	42277D604	.RING GEAR, SHORT	1
3	PADZZ	1680-01-070-0988	82402	42277C615	. BUTTON, THRUST	1
4	XDDZZ		82402	886-53	.SHIM	1
5	PADZZ	5365-01-487-0851	00462	886-108	.SHIM	1
6	PADZZ	5365-01-487-2363	00462	886-109	.SHIM	1
7	ADDDD		82402	36397	.PLANET CAGE ASSY	1
8	PADZZ	1680-01-070-7557	00462	36391	..PLANET CAGE & SUNGEAR	1
9	PADZZ	5315-01-071-8271	00462	31546	..PIN, GEAR	3
10	PADZZ	5325-00-531-9454	80756	RR50C	..RING, RETAINING	6
11	XDDZZ		82402	31547	..GEAR, PLANET	3
12	PADZZ	3110-00-191-3236	83086	SR33PPK58-168	..BEARING, BALL	3
13	PADZZ	5325-00-102-9621	79136	5100-18	..RING, RETAINING	3
14	ADDDD		82402	36392	. PLANET CAGE & SUNGEAR	1
15	PADZZ	1680-01-070-7557	00462	36391	..PLANET CAGE & SUNGEAR	1
16	PADZZ	3020-01-070-2521	00462	31531	..GEAR, PLANET	3
17	PADZZ	5315-01-075-0941	00462	31530-1	..PIN, GEAR	3
18	PADZZ	5365-01-071-3646	00462	886-4	..SHIM	3
19	XDDDD		00462	42277D616	..SHAW ASSY, OUTPUT	1
20	XADZZ		82402	42277D617	..SHAFT, OUTPUT	1
21	PADZZ	3020-01-070-2521	00462	31531	.. GEAR, PLANET	3
22	PADZZ	5365-01-071-3645	00462	886-2	..SHIM	3
23	PADZZ	5315-01-075-0941	00462	31530-1	..PIN, GEAR	3
24	PADZZ	5365-01-071-3641	00462	886-13	.SHIM	1
25	XDDZZ		43334	77R8XR1CJ3	.BEARING, BALL	2
26	PADZZ	5305-01-078-9529	82402	13437	.SPACER SET	1
27	XDDZZ		82402	42277E603	.HOUSING, RING GEAR	1
28	PADZZ	1680-01-070-0968	82402	42277E601	.FLANGE ASSY, OUTPUT	1
29	PADZZ	3020-01-069-8854	00462	42277-602	. RING GEAR, LONG	1
30	PADZZ	5305-00-771-0522	96906	MS24693-S36	.SCREW, MACHINE	4
31	PADZZ	5310-00-807-1472	96906	MS21042L06	.NUT, SELF-LOCKING	4
32	PADZZ	5365-01-071-3639	82402	42277C610	.SHIM	1
33	PADZZ	5310-00-595-7484	92830	W2420-025	.WASHER, SPRING TENSION	1
<b>END OF FIGURE</b>						



MS029977

Figure 14. Mechanical Stop Assembly.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 4: BOOM POSITION SUPPORT ASSEMBLY</b>						
<b>FIG. 14 MECHANICAL STOP ASSY</b>						
	PADDD	1680-01-075-2234	82402	42305E540	MECHANICAL STOP ASSY (SEE FIG. 11 FOR NHA)	REF
1	PADZZ	5360-01-078-5578	83533	C0240-024-0500S	.SPRING, HELICAL	3
2	XDDZZ		82402	42305D545	.GEAR, IDLER	1
3	PADZZ	3110-00-902-3840	60380	B44XOH	.BEARING, NEEDLE	1
4	PADZZ	3020-01-071-2908	82402	42277D544	. DRIVER, GEAR	1
	ADDDD		82402	42305E562	. GEAR/STOP ASESMBLY	1
5	PADZZ	1680-01-070-9958	82402	42305D563	..GEAR, DRIVEN	1
6	PADZZ	1680-01-070-9957	82402	42305D547	..GEAR/STOP ASSY	1
7	PADZZ	1680-01-070-9956	82402	42305D564	..CAM, SLOTTED	1
8	PADZZ	5320-01-307-4636	80205	MS20426E2-8	..RIVET, SOLID	4
9	XDDZZ		82402	42277D550	.SPACER, PAWL	1
10	PADZZ	1680-01-070-9960	82402	42277D551	. STOP, PAWL	1
11	PADZZ	1680-01-070-9959	00462	42277-546	. RETAINER, SPRING	1
12	PADZZ	5305-01-052-3303	96906	MS24693-24	.SCREW, MACHINE	1
13	PADZZ	5360-01-078-5578	83553	C0240-024-0500S	.SPRING, HELICAL	2
14	PADZZ	1680-01-071-5379	82402	42305E552	.COUPLING, DRIVER SLOT	1
15	XADZZ		82402	42277E542	.HOUSING	1
<b>END OF FIGURE</b>						



MS029978

Figure 15. Rotary Actuator Assembly.



(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 4: BOOM POSITION SUPPORT ASSEMBLY</b>						
<b>FIG. 15 ROTARY ACTUATOR ASSY</b>						
	PADDD	1680-01-070-9963	82402	42305E555	ROTARY ACTUATORY ASSY (SEE FIG. 11 FOR NHA)	REF
1	XDDZZ		82402	42277E556	.HOUSING RING GEAR	1
2	PADZZ	1680-01-083-3414	00462	42277D557	.COVER-HOUSING, TOP	1
3	PADZZ	5330-01-373-3646	81343	AS568-035MILG21569C6	.PACKING, PREFORMED	1
4	PADZZ	5365-01-078-5625	82402	1706B59	.SHIM	1
5	PADZZ	3110-00-710-4936	38443	R6ZZST035T023H20	.BEARING, BALL	2
6	PADZZ	3120-01-006-9153	97820	T087-1A	.WASHER, THRUST	2
7	XDDZZ		56878	28420-156A8	.PIN, STRAIGHT	2
8	PADZZ	1680-01-030-9357	82402	42217D89	.CARRIER, PLANETARY INPUT	1
9	PADZZ	5310-01-006-9021	82402	42217C93	.WASHER, THRUST	8
10	PADZZ	3020-00-575-2897	82402	42217D87	.GEAR, SPUR-PLANET	4
11	PADZZ	3110-01-006-9121	27737	K10X13X13TN	.BEARING, NEEDLE	8
12	XDDZZ		82402	42217C88	.PIN, PLANETARY CARRIER	4
13	PADZZ	5330-01-025-7777	96879	B40-24-2	.SEAL, PLAIN ENCASED	1
14	PADZZ	3040-01-075-2222	82402	42305E502	.GEAR, OUTPUT	1
15	PADZZ	3110-00-027-8143	96906	MS27641-20	.BEARING, BALL	2
16	PADZZ	5365-01-073-3033	82402	49003C10	.SHIM	1
17	XDDZZ		82402	42305E558	.COVER-HOUSING, BOOM	1
18	PADZZ	3040-01-071-2902	82402	42277E559	.SHAFT, SUN GEAR INPUT STUB	1
<b>END OF FIGURE</b>						

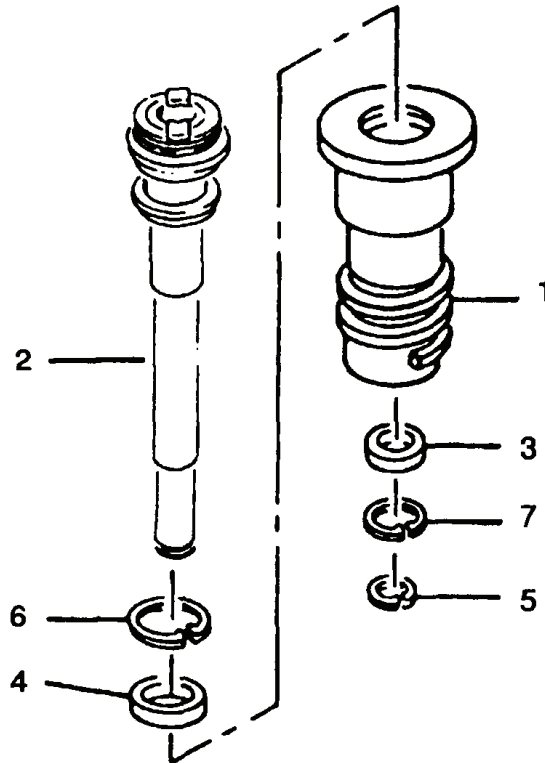
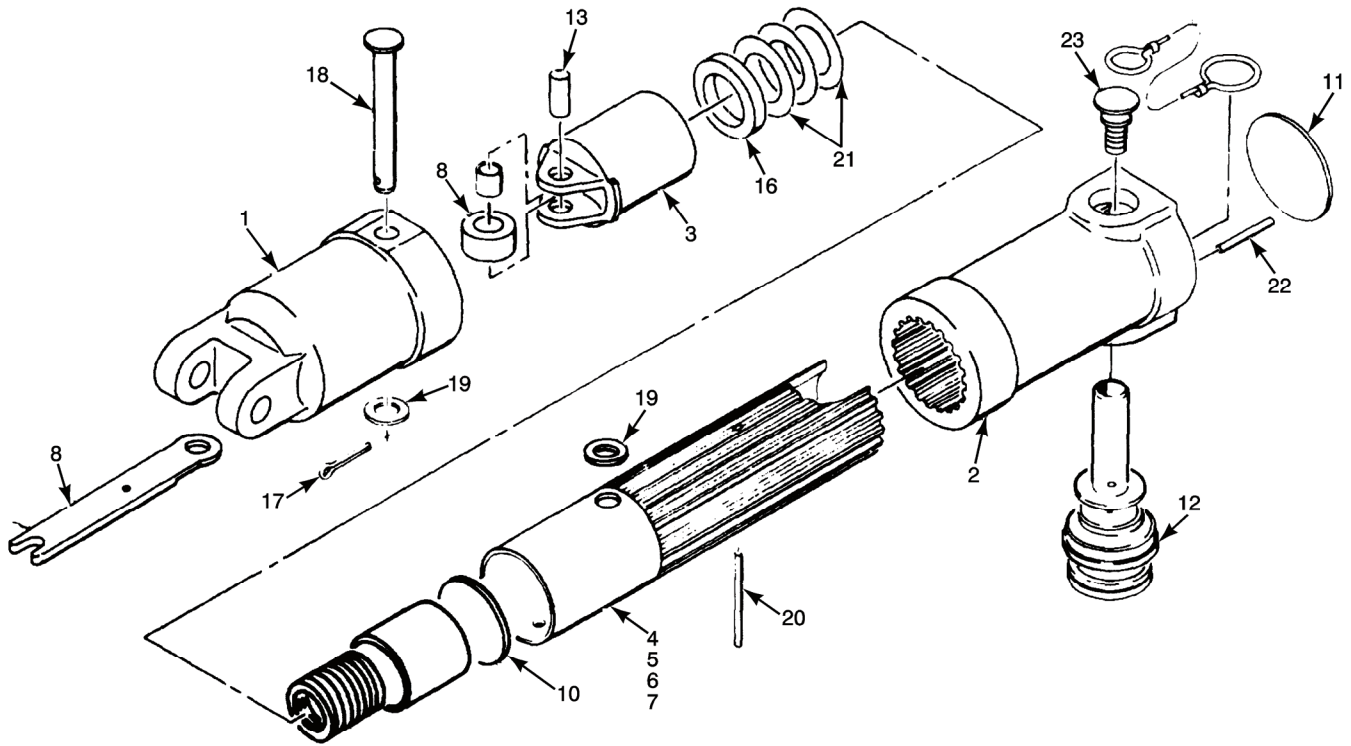


Figure 16. Height Adjuster Assembly.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
<b>GROUP 0401: HEIGHT ADJUSTER ASSEMBLY</b>						
<b>FIG. 16 HEIGHT ADJUSER ASSY</b>						
	PAOFF	1680-01-391-9984	82402	42305D528	HEIGHT ADJUSTER ASSEMBLY (SEE FIG. 11 FOR NHA)	REF
1	PAFZZ	3040-01-356-0813	82402	42305E526	.SHAFT, SHOULDERED	1
2	PAFZZ	1730-01-225-6494	82402	42305E581	.ADAPTER, CEILING	1
3	PAFZZ	3110-00-106-8823	96906	MS27646-38	.BEARING, BALL	1
4	PAFZZ	3110-01-271-5982	96906	MS27646-39G	.BEARING, BALL	1
5	PAFZZ	5325-00-282-5583	98349	RST62	.RING, RETAINING	1
6	PAFZZ	5525-00-282-5578	80756	RRT118C	.RING, RETAINING	1
7	PAFZZ	5325-00-800-4270	80756	RRT106CK	.RING, RETAINING	1
<b>END OF FIGURE</b>						

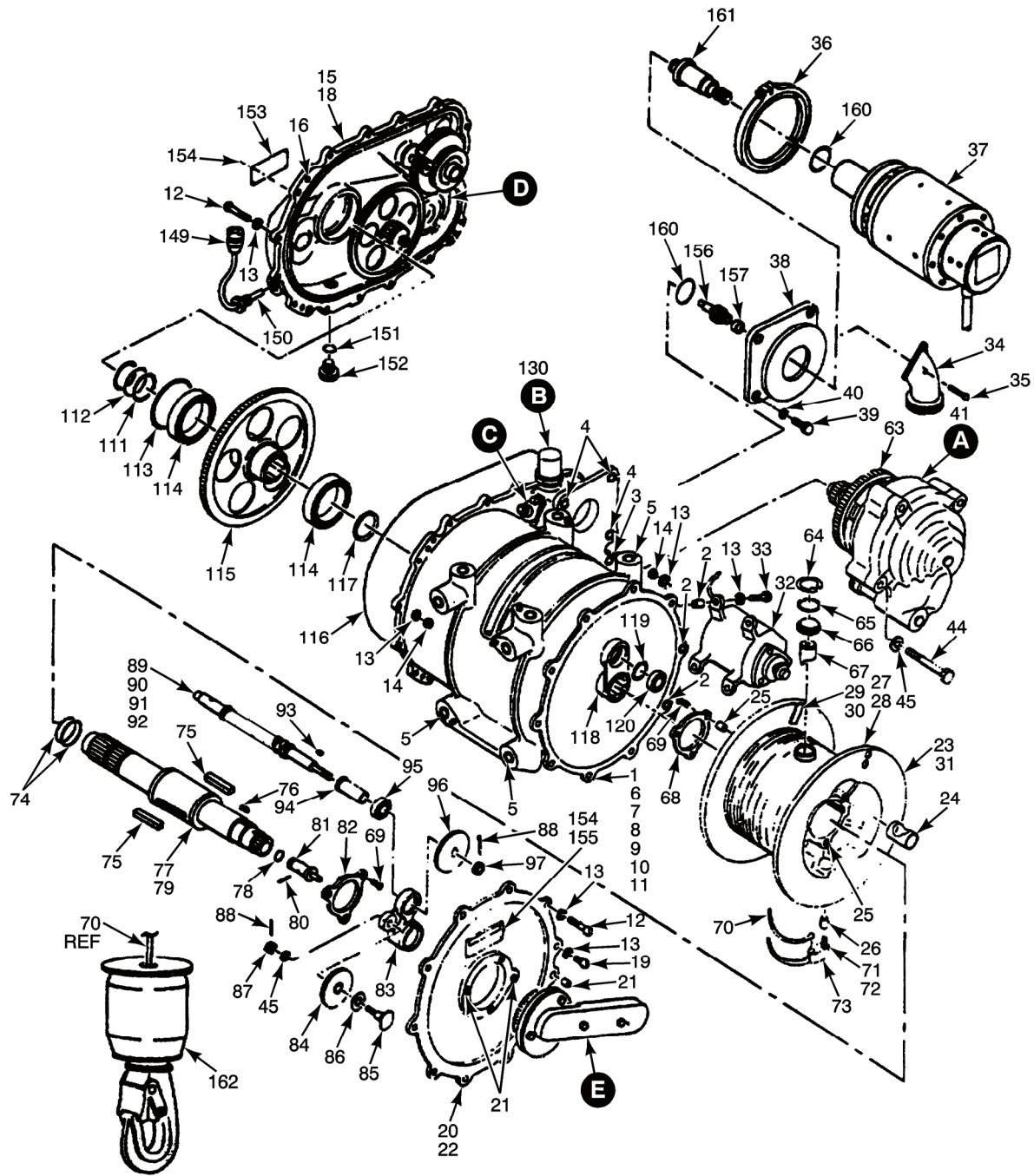




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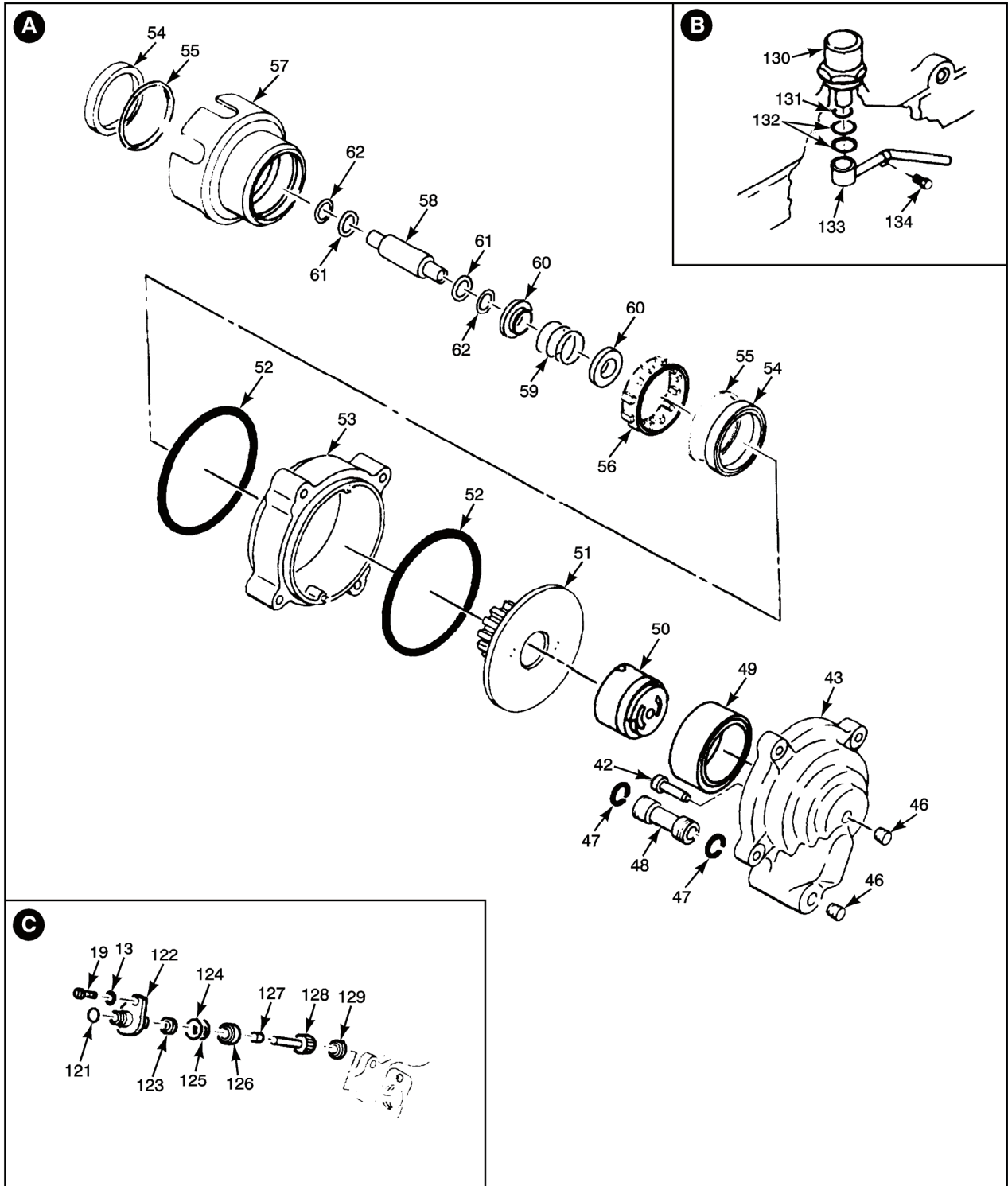
Figure 17. Reaction Arm Assembly.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0404: REACTION ARM ASSEMBLY</b>						
<b>FIG. 17 REACTION ARM ASSY</b>						
	PAODD	1680-01-070-9974	82402	42305E510	REACTION ARM ASSY (SEE FIG. 11 FOR NHA)	REF
1	PADZZ	1680-01-070-7725	82402	42305E511	.ARM, REACTION	1
2	PBDDD	1680-01-212-1386	82402	42305E512	.ARM, EXTENSION	1
3	PADZZ	1680-01-070-7724	82402	42277E513	.TUBE, ROLLER	1
4	XDDDD		82402	42305E514	.ARM, PIVOT	1
5	PADDD	1680-01-428-8770	82402	42305E514-1	.ARM, PIVOT	1
6	PADDD	1680-01-070-9966	82402	42277D516	.ARM, OVERLOAD	1
7	PADZZ	5320-00-243-3933	96906	MS20427F4-5	.RIVET, SOLID	1
8	PADZZ	1680-01-099-6315	82402	42277D607	.CAM ASSY, ROLLER	1
9	PAOZZ	1680-01-070-9965	82402	42277C517	.LANYARD, EXTENSION	1
10	PADZZ	5310-01-073-2948	82402	42277C518	.WASHER, SPRING REACTION	1
11	PAOZZ	5340-00-054-1408	96906	MS35648-12	.CAP, EXTENSION ARM	1
12	PAOZZ	1680-01-070-9964	82402	42305E561	.ADAPTER, QUICK DISCONNECT	1
13	PADZZ	5315-01-162-5032	82402	42277C576	.ROLLER, SHAFT	1
14	PADZZ	5340-01-132-8945	82402	42305C515	.GUIDE, CUP-SPRING	1
15	PADZZ	5360-01-105-7037	82402	42305D608	.SPRING, HELICAL	1
16	PADZZ	5310-01-073-2949	82402	42277C584	.WASHER, FLAT	1
17	PADZZ	5315-00-842-3044	96906	MS24665-283	.PIN, COTTER	1
18	PADZZ	5315-00-959-5500	96906	MS20392-5C71	.PIN, CLEVIS	1
19	PADZZ	5310-00-187-2400	88044	AN960PD616	.WASHER, FLAT	2
20	PADZZ	5315-00-584-9221	96906	MS9048-112	.PIN, SPRING	1
21	PADZZ	5310-00-167-0841	88044	AN960-1016L	.WASHER	3
22	PAOZZ	5315-00-810-3701	96906	MS16562-36	.PIN, SPRING	1
23	PAOZZ	5307-01-080-2270	82402	42305D569	.STUD, SELF-LOCKING	1
<b>END OF FIGURE</b>						



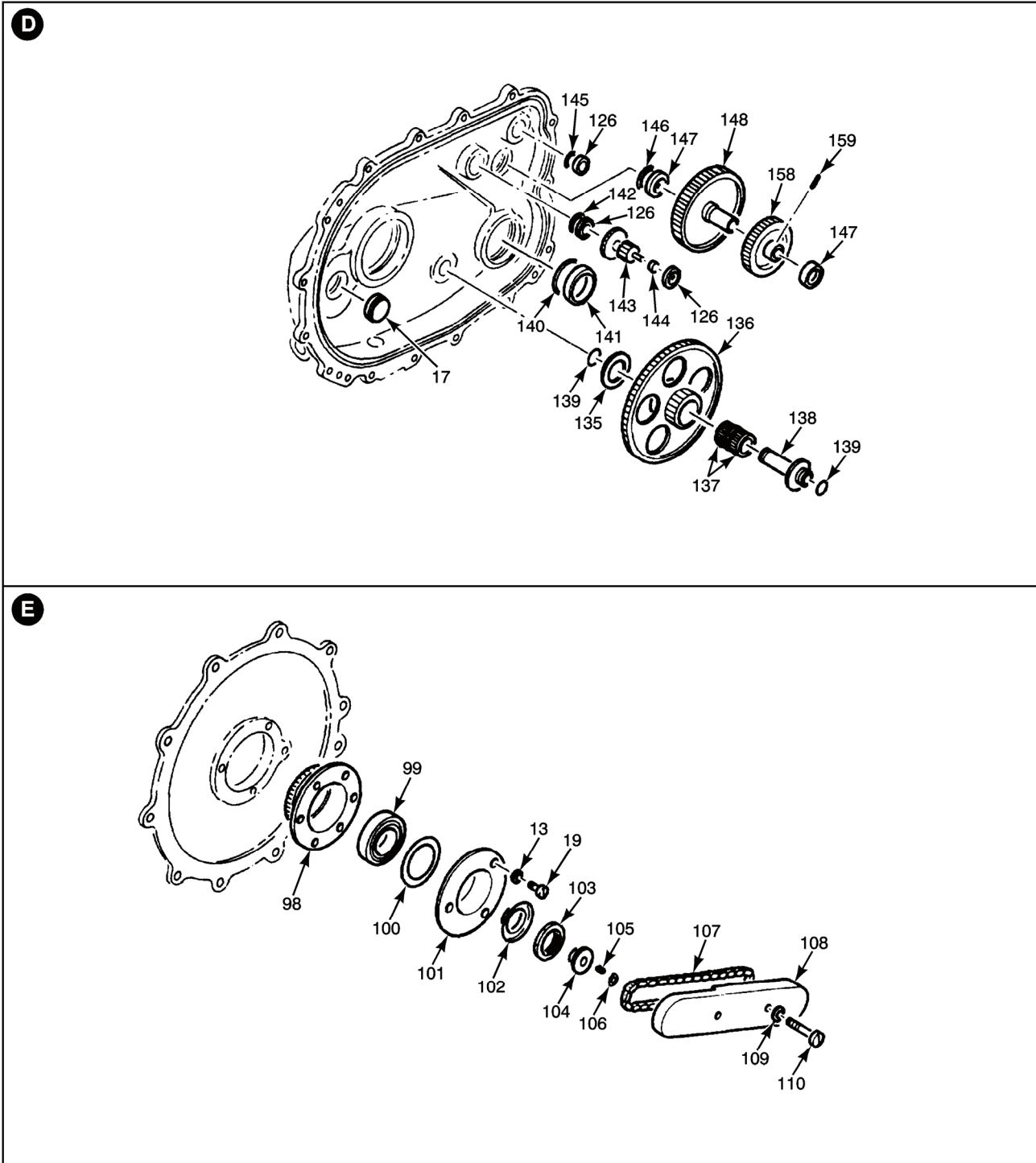
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Figure 18. Winch Assembly. (Sheet 1 of 3)



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Figure 18. Winch Assembly. (Sheet 2 of 3)



MS029982

Figure 18. Winch Assembly. (Sheet 3 of 3)



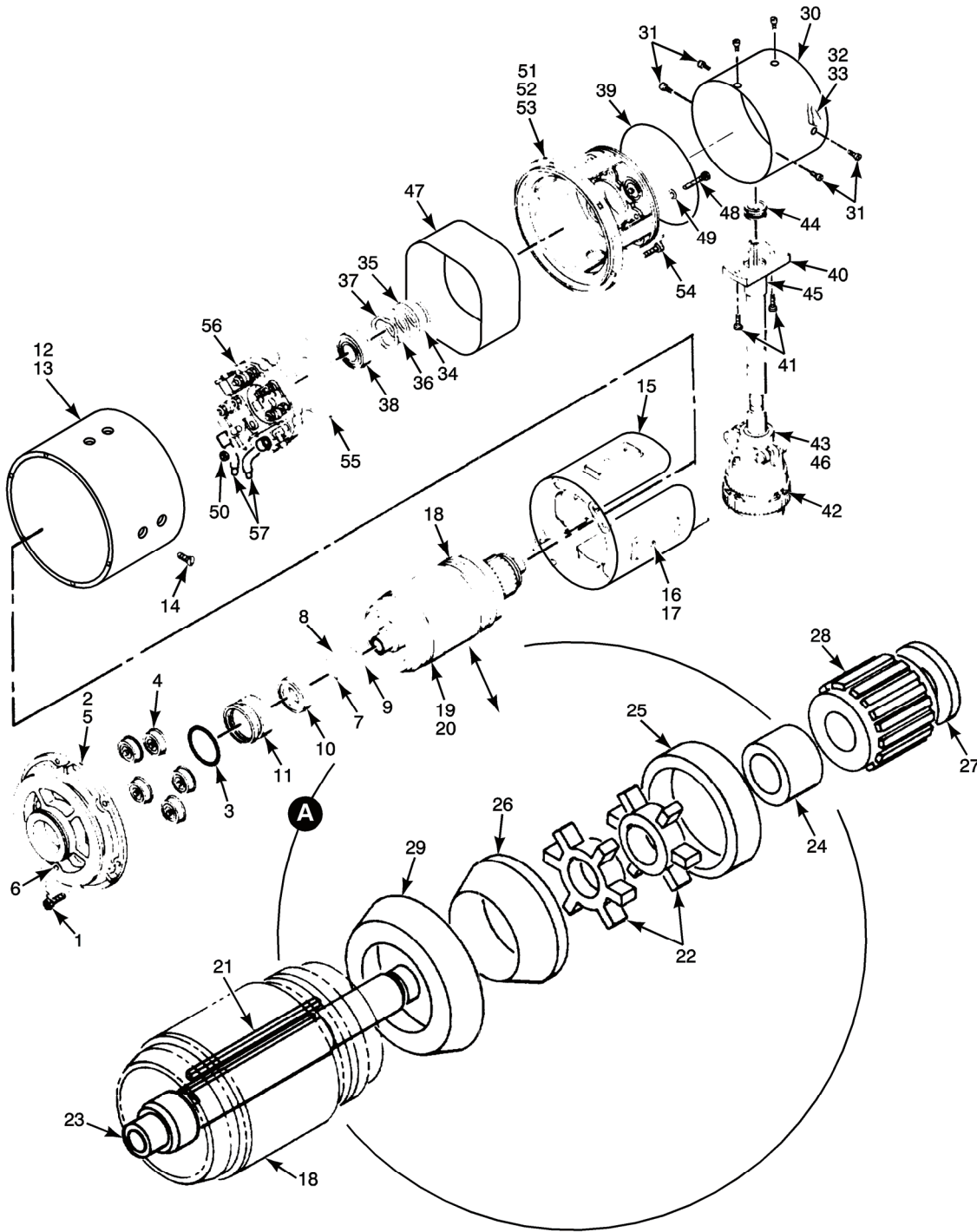
(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 05: WINCH ASSEMBLY</b>						
<b>FIG. 18 WINCH ASSEMBLY</b>						
	PAFDD	1680-01-089-4331	82402	42305R100	WINCH ASSY (SEE FIG. 1 FOR NHA)	REF
1	PBDDD	1615-01-147-6639	82402	42277R110	..HOUSING ASSY, MAIN	1
2	PAFZZ	5325-00-021-3495	80205	NAS1394C3L	..INSERT, SCREW THREAD	7
3	PAFZZ	5325-00-085-0219	80205	NAS1394C4L	..INSERT, SCREW THREAD	4
4	PBFZZ	5325-00-924-5909	80205	NAS1394C5L	..INSERT, SCREW THREAD	4
5	PAFZZ	5325-00-783-9139	96906	MS51830-204L	..INSERT, SCREW THREAD	12
6	PAFZZ	5325-00-995-6690	80205	NAS1395C06	..INSERT, SCREW THREAD	1
7	PAFZZ	5315-00-959-6762	96096	MS16555-20	..PIN, DOWEL	1
8	PAFZZ	5315-00-811-6495	96096	MS16555-40	..PIN, DOWEL	1
9	PAFZZ	5315-00-836-1422	96096	MS16555-55	..PIN, DOWEL	3
10	PAFZZ	5315-00-820-8051	96096	MS16555-60	..PIN, DOWEL	6
11	XADDD		82402	42277R110-1	..HOUSING	1
12	PADZZ	5305-00-614-0248	96096	MS35266-66	..SCREW, MACHINE	23
13	PADZZ	5310-00-183-4406	08804	AN960PD10	..WASHER, FLAT	57
14	PADZZ	5310-00-902-6676	96096	MS21083N3	..NUT, SELF-LOCKING	23
15	XDDDD		82402	42277R111	..COVER ASSY, GEARBOX	1
16	PBDZZ	5325-00-471-3745	80205	NAS1394CA3	..INSERT, SCREW THREAD	3
17	PADZZ	9340-00-028-7122	70925	B5631	..WINDOW, SIGHT	1
18	XADDD		82402	42277R111-1	..COVER	1
19	PAFZZ	5305-00-616-4831	96096	MS35266-65	..SCREW, MACHINE	5
20	PAFZZ	1680-01-068-3035	82402	42277E112	..COVER ASSY, DRUM	1
21	PAFZZ	5325-00-471-3745	80205	NAS1394CA3	..INSERT, SCREW THREAD	5
22	XAFZZ		82402	42277E112-1	..COVER	1
23	PBODD	1680-01-146-0887	82402	42277R115	..DRUM ASSY, CABLE	1
24	PAFZZ	3120-00-406-0601	70417	AA921-3	..BEARING, SLEEVE	1
25	PAFZZ	5325-00-085-0219	96096	MS51830-202	..INSERT, SCREW THREAD	6
26	PAFZZ	5325-00-021-3495	80205	NAS1394C3L	..INSERT, SCREW THREAD	1
27	PBDZZ	1680-00-769-0425	82402	42234D85	..CASTING, KICKER CABLE	4
28	PADZZ	5310-00-805-7632	80205	NAS620-8	..WASHER, FLAT	1
29	PADZZ	3120-00-970-4623	96096	MS17795-103	..BEARING, SLEEVE	1
30	PADZZ	5310-00-805-7632	80205	NAS620-8	..WASHER, FLAT	1
31	XADDD		82402	42234R182-1	..DRUM	1
32	PAOFF	1680-01-082-9699	82402	42305R220	..LIMIT SWITCH DRIVE ASSY (SEE FIG. 21 FOR BREAKDOWN)	1
33	PAOZZ	5305-00-983-6652	96906	MS16998-29	..SCREW, CAP	4
34	PAOZZ	4720-01-071-5515	82402	42305E143	..AIRDUCT, HOIST MOTOR	1
35	PAOZZ	5306-00-150-9874	08804	AN3-25A	..BOLT, MACHINE	1
36	PAOZZ	5342-01-073-1579	00624	MV83523TS-446V	..COUPLING, CLAMP	1
37	PAODD	6105-01-070-7614	82402	527KE3	..MOTOR, ELECTRIC (SEE FIG. 19 FOR BREAKDOWN)	1
38	XDFZZ		82402	42305R142	..ADAPTER ASSY	1
39	PAFZZ	5306-00-182-1852	88044	AN5H6	..BOLT, MACHINE	4
40	PAFZZ	5310-00-187-2399	88044	AN960PD516	..WASHER, FLAT	8
41	XDDDD		82402	42305R113	..PUMP HOUSING ASSY	1
42	PADZZ	5315-01-072-9585	82402	42305C114	..PIN, DOWEL	1
43	XADZZ		82402	42305R113-1	..HOUSING	1
44	PADZZ	5306-01-136-7144	80205	NAS1304-18	..BOLT, SHEAR	4
45	PADZZ	5310-00-187-2354	88044	AN960PD416	..WASHER, FLAT	5
46	PADZZ	4730-00-278-3462	96906	MS27769-2	..PLUG, PIPE	2
47	XDDZZ		02697	2-111V747-75	..PACKING, PREFORMED	2
48	PADZZ	4710-01-070-0991	82402	42277C214	..TUBE, OIL TRANSFER	1
49	PADZZ	3110-01-009-6768	60380	J2816	..BEARING, BALL	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 05: WINCH ASSEMBLY</b>						
<b>FIG. 18 WINCH ASSEMBLY</b>						
50	PADZZ	1680-01-070-0972	82402	42305E213	.PUMP ASSY, BRAKE COOLING	1
51	PBDZZ	3040-01-077-6897	82402	42277D217	.SHAFT ASSY, SPRAG REACTION	1
52	PADZZ	5331-00-167-5138	07482	J221P152	.PACKING, PREFORMED	2
53	PADZZ	1680-01-070-0966	82402	42277E210	.HOUSING, BRAKE	1
54	XDDZZ		38443	B543	.BEARING, BALL	2
55	PADZZ	5365-01-073-2807	82402	42277C216	.SPACER, SPRAY AUTO BRAKE	2
56	PBDZZ	1680-00-768-9670	82402	42234D178	.SPRAG CLUTCH ASSY	1
57	PBDZZ	1680-01-070-0973	82402	42277E206	.CUP, BRAKE, DISC AUTO BRAKE	1
58	PADZZ	3040-01-072-4387	82402	42305D211	.SHAFT, PUMP DRIVE	1
59	PADZZ	5360-00-316-4569	92208	B21139	.SPRING	1
60	PADZZ	3120-01-074-7510	82402	42305C148	.SLEEVE	2
61	PADZZ	5331-00-166-0975	81349	M83248-1-011	.PACKING	2
62	PADZZ	5330-01-225-4218	96906	MS28774-011	.RETAINER	2
63	PADZZ	1680-01-070-0977	82402	42305E200	.AUTOMATIC BRAKE ASSY (SEE FIG. 22 FOR BREAKDOWN)	1
64	PAFZZ	5325-00-808-0645	96906	MS16625-1090	.RING, RETAINING	1
65	PAFZZ	5365-00-514-8291	82402	1700B67	.SHIM	1
66	PAFZZ	1680-00-020-9478	82402	42234D54	.RETAINER-SHOE, LEVEL WIND	1
67	PAOZZ	3040-00-020-8325	82402	42234D167	.SHOE, LEVEL WIND	1
68	PBDZZ	1680-00-001-5314	82402	42234D52	.PLATE, RACE RETAINER	1
69	PADZZ	5305-00-709-2013	96906	MS24693C295	.SCREW	6
70	PAOZZ	4010-01-168-0123	82402	42305D179	.CABLE	1
71	PAOZZ	5305-00-001-5326	82402	42234D97	.SCREW, FINGER RETAINER	1
72	PAFZZ	5365-00-285-6784	20859	WA510	.RING, RETAINING	1
73	PAOZZ	1680-00-472-1671	82402	42234E56	.FINGER, CABLE, RET DR	1
74	PADZZ	5325-00-021-1729	82402	42234D65	.RING, RETAINING LEVEL WIND DR	2
75	PADZZ	5315-00-729-6991	96906	MS20066-234	.KEY, MACH	2
76	PADZZ	5315-00-990-6023	96906	MS20068-53	.KEY, SQUARE	1
77	PADDD	1680-01-070-0993	82402	42277E180	.BALL SPLINE ASSEMBLY, DRUM DR	1
78	PADZZ	5331-00-166-0990	81343	M83248/1-014	..PACKING	1
79	XADDD		82402	42277E118	..BALL SPLINE	1
80	PADZZ	5315-01-077-7289	96906	MS51838-93	..PIN, STRAIGHT	1
81	PADZZ	1680-01-070-0990	82402	42277D181	..ADAPTER, SPROCKET	1
82	PADZZ	1680-00-001-5314	82402	42234D52	.PLATE, RACE RETAINER	1
83	PADZZ	1680-01-070-0974	82402	42277E184	.ARM, GEAR LEVEL	1
84	PADZZ	3020-01-076-3464	82402	42277D131	.GEAR, CLUSTER	1
85	PADZZ	3040-00-091-6645	82402	42234D179	.SHAFT, CLUSTER GEAR	1
86	PADZZ	3120-00-230-6596	09455	LTD0714	.WASHER, THRUST	1
87	PADZZ	5310-00-176-8108	88044	AN320-4	.NUT, CASTLE SHEAR	1
88	PAFZZ	5315-00-839-5820	96906	MS24655-134	.PIN, COTTER	2
89	PADDD	1680-01-146-0888	82402	42277D137	.SCREW ASSY, LEVEL WIND	1
90	PADZZ	1680-01-071-5392	82402	42277E138	..SCREW	1
91	PADZZ	5365-01-071-8480	82402	42277D139	..SPACER	1
92	PADZZ	5320-00-990-2844	96906	MS20613-4C14	..RIVET	1
93	PADZZ	5315-00-143-9681	96906	MS9841-06	.KEY, WOODRUFF	1
94	PBDZZ	5365-01-071-8480	82402	42277D139	.SPACER	1
95	PADZZ	3110-00-850-4811	38443	R8ZZ	.BEARING, BALL	1
96	PBDZZ	3020-01-072-3615	82402	42277D130	.GEAR, OUTPUT	1
97	PADZZ	5310-00-176-8109	88044	AN320-5	.NUT, CASTLE SHEAR	1
98	PBDZZ	3020-01-069-8447	82402	42277E125	.GEAR, STATIONARY	1
99	PADZZ	3110-00-109-1183	21335	9105KPP	.BEARING, BALL	1
100	PBDZZ	9535-01-277-8177	81349	MILS22499	.SHIM	V

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 05: WINCH ASSEMBLY</b>						
<b>FIG. 18 WINCH ASSEMBLY</b>						
101	PBDZZ	3110-01-078-5025	82402	42277D124	.RETAINER, BEARING	1
102	PADZZ	5310-00-619-6446	96906	MS172206	.WASHER, KEY	1
103	PADZZ	5310-00-515-7592	96906	MS172241	.NUT, SPANNER	1
104	PAFZZ	3020-01-068-1568	82402	42277D156	.SPROCKET, CHAIN	1
105	PAFZZ	5315-00-688-0373	96906	MS20066-3	.KEY, SQUARE	1
106	PAFZZ	5325-00-720-8064	96906	MS16624-1025	.RING, RETAINER	1
107	PAOZZ	3020-01-071-2843	82402	42277C175	.ROLLER CHAIN	1
108	PAOZZ	1680-01-070-1188	82402	42277E168	.GUARD, CHAIN	1
109	PAOZZ	5310-01-007-1565	96906	MS14151-2	.WASHER, FLAT	1
110	PAOZZ	5305-00-995-3442	80205	MS35207-268	.SCREW, MACHINE	1
111	PADZZ	5330-00-171-9225	96906	MS28782-20	.RING, BACKUP	2
112	PADZZ	5331-00-166-8404	81349	M83248/1-215	.PACKING, PREFORMED	1
113	PBDZZ	5365-01-071-3640	00462	49001C82	.SHIM	V
114	PADZZ	3110-01-114-6328	38448	1908S	.BEARING, BALL	2
115	PADZZ	3020-01-068-1506	82402	42277E117	.GEAR, DRUM DRIVE	1
116	PADZZ	5331-01-005-0525	81349	M83248/1-278	.PACKING, PREFORMED	1
117	PADZZ	5330-01-095-3724	82402	42277C244	.SEAL, OIL	1
118	PBDZZ	1680-01-070-0975	82402	42277E183	.ARM, LEVEL WIND	1
119	PBDZZ	5365-00-938-0138	82402	49001C12	.SHIM	1
120	PADZZ	3110-00-903-2182	38443	R8ZZ	.BEARING, BALL	1
121	PADZZ	5331-00-166-0988	81343	AMS 7276	.PACKING, PREFORMED	1
122	PBDZZ	1680-01-070-0992	82402	42277D167	.ADAPTER, FLEX SHAFT	1
123	PADZZ	5330-00-285-4142	73680	71X7000	.SEAL, OIL	1
124	PADZZ	5331-01-344-4335	81349	M83248-1-016	.PACKING, PREFORMED	1
125	PADZZ	5365-01-053-3337	82404	49001C8	.SHIM	1
126	PADZZ	3110-00-186-1104	50294	SSRI-1214RA3P15LO1	. BEARING BALL	4
127	PADZZ	5365-01-071-2386	82402	42277C195	.SPACER, HELICAL GEAR	1
128	PBDZZ	1680-01-070-0967	82402	42277E166	.GEARSHAFT ASSY	1
129	PADZZ	3110-00-159-9239	21335	AMS1KY	.BEARING, BALL	1
130	PBOZZ	1680-01-099-6309	82402	42305D119	.BREATHER ASSY	1
131	PAOZZ	5331-00-810-9659	80205	NAS1595-8	.PACKING, PREFORMED	1
132	PAOZZ	5331-00-167-5166	81349	M83248-1-905	.PACKING, PREFORMED	2
133	PADZZ	4710-01-070-1189	82402	42305E127	.BREATHER TUBE ASSY	1
134	PADZZ	5305-01-102-1857	88044	AN503-6-12	.SCREW, MACHINE	1
135	PADZZ	3120-01-088-6907	09455	LTD1020	.WASHER, THRUST	1
136	PADZZ	3020-01-078-6108	00462	42277E198	.GEAR, CLUSTER	1
137	PADZZ	3110-00-068-9393	60380	J108	.BEARING, ROLLER	2
138	XDDZZ		82402	42277D121	.SHAFT, FIXED	1
139	PADZZ	5331-00-166-0990	81349	M83248-1-014	.PACKING, PERFORMED	2
140	PBDZZ	5365-01-071-3640	82402	49001C82	.SHIM	1
141	PADZZ	3110-00-516-5377	21335	9306K	.BEARING, BALL	1
142	PADZZ	5365-01-053-3337	82402	49001C8	.SHIM	1
143	PADZZ	1680-01-070-0965	82402	42277D165	.GEARSHAFT ASSEMBLY	1
144	PADZZ	5365-01-068-8553	82402	42277C150	.SPACER, SLEEVE	2
145	PADZZ	5365-01-053-3337	82402	49001C8	.SHIM	1
146	PADZZ	5365-01-071-7559	82402	49001C36	.SHIM	1
147	PADZZ	3110-00-868-2669	38443	1902S	.BEARING, BALL	2
148	PADZZ	3020-01-069-6912	82402	42305E222	.GEARSHAFT IDLER	1
149	PAOOO	5935-00-813-2020	77820	PC06E8-4SSR	.PLUG, CONNECTING	1
150	PAOZZ	5930-01-073-8884	82402	42277D179	.SWITCH, THERMAL	1
151	PAOZZ	5331-00-810-9659	80205	NAS1595-8	.PACKING, PERFORMED	1
152	PAOZZ	5365-00-289-3070	96906	MS9015-08	.PLUG, MACHINE THREAD	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 05: WINCH ASSEMBLY</b>						
<b>FIG. 18 WINCH ASSEMBLY</b>						
153	PADZZ	9905-01-086-4517	82402	42277C221	.PLATE, LUBRICATION	1
154	PADZZ	5305-00-253-5606	96906	MS21318-7	.SCREW, DRIVE	8
155	PBDZZ	9905-01-155-8332	82402	42305C173	.PLATE, IDENTIFICATION	1
156	PBDZZ	3020-01-076-4802	82402	42305D128	.PINION, INPUT DRIVE	1
157	PADZZ	3110-00-773-9558	38443	1903S	.BEARING, BALL	1
158	PBDZZ	1680-01-076-4802	00462	42305-128	.GEAR, IDLER FIRST STAGE	1
159	PADZZ	5315-00-687-5218	96906	MS35756-3	.KEY, WOODRUFF	1
160	PAFZZ	5331-00-167-5121	80205	NAS1593-133	.PACKING	2
161	PBODD	1680-01-070-0986	82402	42305E132	.INERTIA DUMP ASSY (SEE FIG. 20 FOR BREAKDOWN)	1
162	PAOOO	1680-01-070-0971	82402	42305E280	.CABLE HOOK ASSY (SEE FIG. 23 FOR BREAKDOWN)	1
<b>END OF FIGURE</b>						





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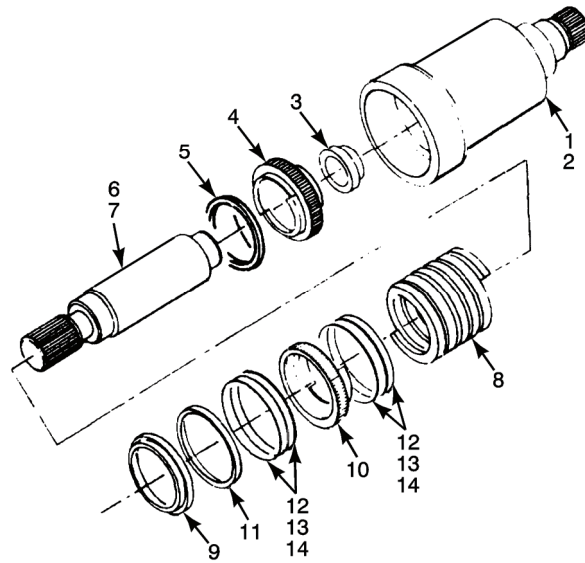
Figure 19. Electric Motor.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0501: ELECTRIC MOTOR</b>						
<b>FIG. 19 ELECTRIC MOTOR</b>						
	PAODD	6105-01-070-7614	00462	527KE3	MOTOR, ELECTRIC (SEE FIG. 18 FOR NHA)	REF
1	PADZZ	5305-00-068-0543	96906	MS24678-11	.SCREW, CAP	6
2	XDDDD		82402	149101	.END BELL ASSY, FRONT	1
3	PADZZ	5331-01-251-6379	96906	MS28775-126	..PACKING, PREFORMED	1
4	PADZZ	1680-01-071-9665	82402	80177	..BREATHER, FLAME ARRESTING	5
5	XDDZZ		82402	149102	..ENDBELL	1
6	XADZZ		82402	149104	..INSERT	1
7	PADZZ	5365-01-065-7320	82402	886-167	.SHIM	V
8	PADZZ	5365-01-065-7320	82402	886-168	.SHIM	V
9	PADZZ	5365-01-065-7322	00462	886-169	.SHIM	V
10	PADZZ	3110-01-075-2082	43334	Z993L03XR1DU4	.BEARING, BALL	1
11	PADZZ	5330-00-298-0540	91340	D14131-6	.SEAL, PLAIN	1
12	ADDDD		82402	21877	.YOKE ASSEMBLY	1
13	XDDZZ		82402	149106	..HOUSING, MOTOR	1
14	XDDZZ		88044	AN505-10-9	..SCREW	8
15	XDDZZ		82402	21811	..FIELD COIL ASSY	1
16	XDDZZ		82402	21812	..POLE PIECE ASSY	4
17	XDDZZ		82402	80200-2	..FUSE, THERMAL	1
18	XDDDD		00462	36786	.ARMATURE ASSY	1
19	XDDZZ		82402	145025	..INSULATION, SHEET	V
20	XDDZZ		82402	146778	..INSULATION, SHEET	V
21	XDDZZ		82402	13561-23	..KEY	1
22	XDDZZ		82402	36410	..FAN	2
23	XADZZ		82402	36787	..SHAFT, MOTOR	1
24	XDDZZ		82402	36609	..SPACER	1
25	XDDZZ		82402	36610-1	..SUPPORT	1
26	XDDZZ		82402	36346	..SUPPORT	1
27	XDDZZ		82402	36611	..SLEEVE	1
28	XDDZZ		82402	80181-2	..COMMUTER	1
29	XDDZZ		82402	145865	..WIRE	V
30	PBDZZ	6150-01-079-8863	82402	19777	.SHROUD, MOTOR	1
31	PADZZ	5305-00-514-7506	96906	MS35265-26	.SCREW, MACHINE	6
32	XDDZZ		82402	149105	.PLATE, IDENTIFICATION	1
33	PADZZ	5320-00-860-6605	81349	M24243/1-A302	. RIVET, BLIND	4
34	XDDZZ		82402	886-249	.SHIM	V
35	XDDZZ		82402	886-250	.SHIM	V
36	PADZZ	5365-01-071-4973	00462	886-251	.SHIM	V
37	PADZZ	5310-00-906-9552	82829	16BS100C7	.WASHER, SPRING TENSION	1
38	PADZZ	3110-01-075-0830	00462	80192	.BEARING, BALL	1
39	PADZZ	5331-00-940-9475	96906	MS9068-044	.PACKING, PREFORMED	1
40	PADZZ	1680-01-126-4128	82402	19781	.PLATE, ADAPTER	1
41	PADZZ	5305-00-459-1172	96906	MS21090-0623	.SCREW, CAP	2
42	PAOZZ	5935-01-071-0348	00462	19948	.CONNECTOR ASSY	1
43	XADZZ	5365-00-141-6943	96906	MS3420-16	..BUSHING, TELESCOPING	1
44	XDDZZ		03296	G60T-C10	.GROMMET	1
45	PADZZ	1615-01-092-7962	82402	19693	.TUBULAR BRAID ASSY	1
46	PADZZ	4710-01-128-6330	82402	19695	.TUBULAR BRAID ASSY	1
47	PBDZZ	5970-01-209-6142	82402	19776	.INSULATOR, PLATE	1
48	PADZZ	5305-00-984-6221	96906	MS35206-234	.SCREW, MACHINE	4
49	PADZZ	5310-00-167-0816	88044	AN960-6	.WASHER, FLAT	4
50	PADZZ	5310-00-905-8451	96906	MS21083N06	.NUT, SELF-LOCK	4
51	XDDZZ		82402	19773	.END BALL & BREATHER ASSY	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0501: MOTOR</b>						
<b>FIG. 19 ELECTRIC MOTOR</b>						
52	XADDD		82402	19774	..ENDBELL ASSY	1
53	PADZZ	6150-01-079-8863	3HRL4	80177	..BREATHER, FLAME ARRESTING	4
54	PADZZ	5305-00-068-0543	96906	MS24678-11	..SCREW, CAP	6
55	PADZZ	6105-00-407-3909	82402	14853	..INSULATOR, BRUSHHOLDER	1
56	XDDZZ		82402	149110	..BRUSHHOLDER AND PROTECTOR ASSY	1
57	XDDZZ		82402	19775	..CABLE	1
<b>END FIGURE</b>						





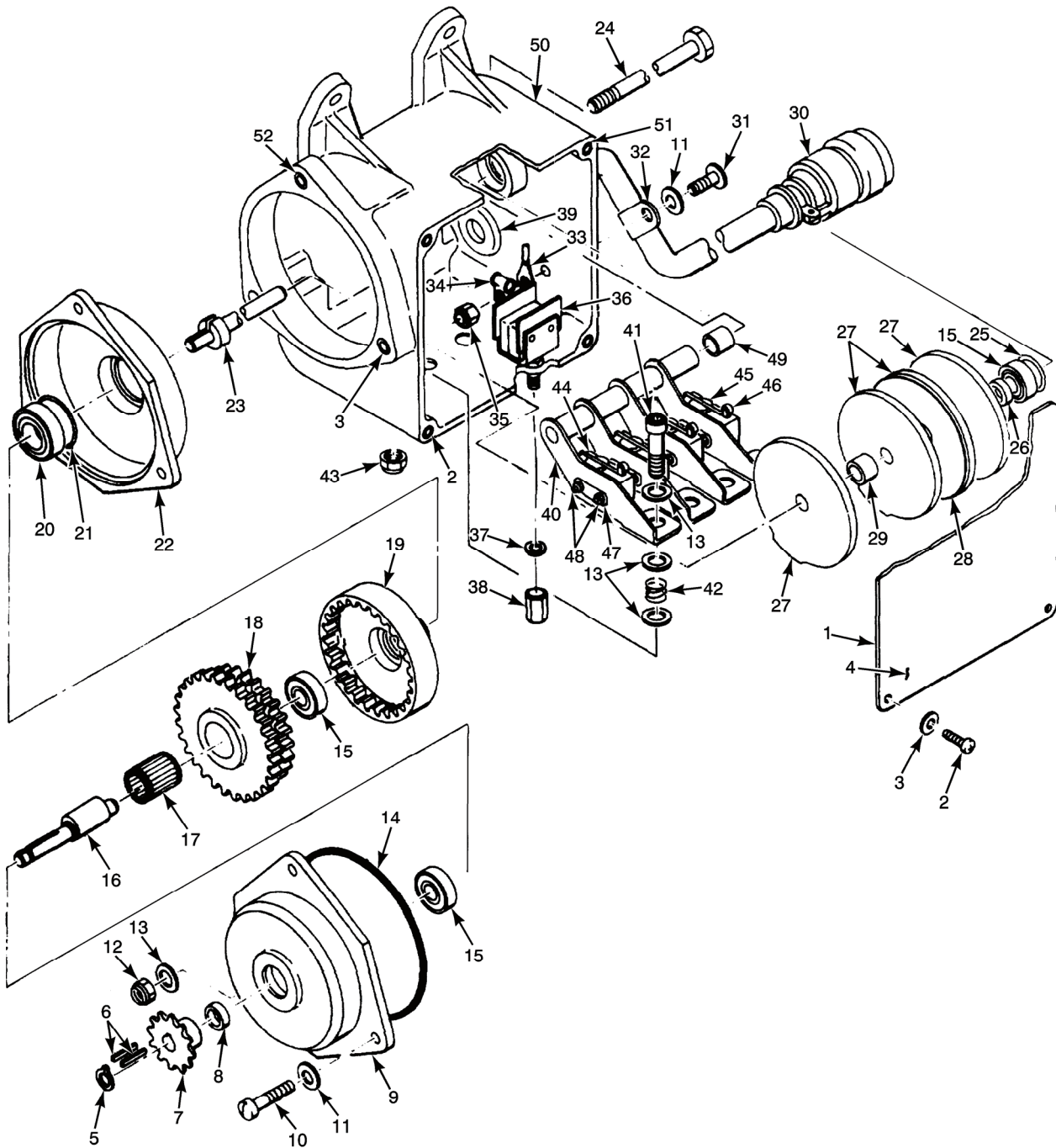


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Figure 20. Inertia Dump Assembly.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0502: INERTIA DUMP ASSEMBLY</b>						
<b>FIG. 20 INERTIA DUMP ASSEMBLY</b>						
	PBODD	1680-01-070-0986	82402	42305E132	INERTIA DUMP ASSY (SEE FIG. 18 FOR NHA)	REF
1	XDDDD		82402	42305E237	.DRIVER ASSY, SPLINED	1
2	XADZZ		82402	42305E237-1	..DRIVER, SPLINED	1
3	PADZZ	3120-01-072-9236	82402	42305C234	..BEARING, FLANGED	1
4	PADZZ	1680-01-071-5517	82402	42305D235	..STOP, DOG	1
5	PADZZ	5310-01-303-1579	82402	42305C243	..WASHER, FLAT	1
6	PADZZ	3040-01-078-6045	82402	42305D232	..CLUTCH, SHAFT ASSY	1
7	XADZZ		82402	42305D230	..SHAFT, CLUTCH	1
8	PADZZ	5360-01-074-7823	82402	42305D231	..SPRING, CLUTCH	1
9	PADZZ	5365-01-071-5516	82402	42305D238	..SPACER, LOCK	1
10	PADZZ	1680-01-073-3842	82402	42305E236	..STOP ASSY, INERTIA DUMP	1
11	PADZZ	5325-01-048-7838	81349	MILR27426	..RING, RETAINING	1
12	PADZZ	5365-01-105-7134	82402	886-360	..SHIM	3
13	PADZZ	5365-01-105-7133	00462	886-361	..SHIM	2
14	PADZZ	5365-01-105-7132	82402	886-362	..SHIM	3
<b>END OF FIGURE</b>						





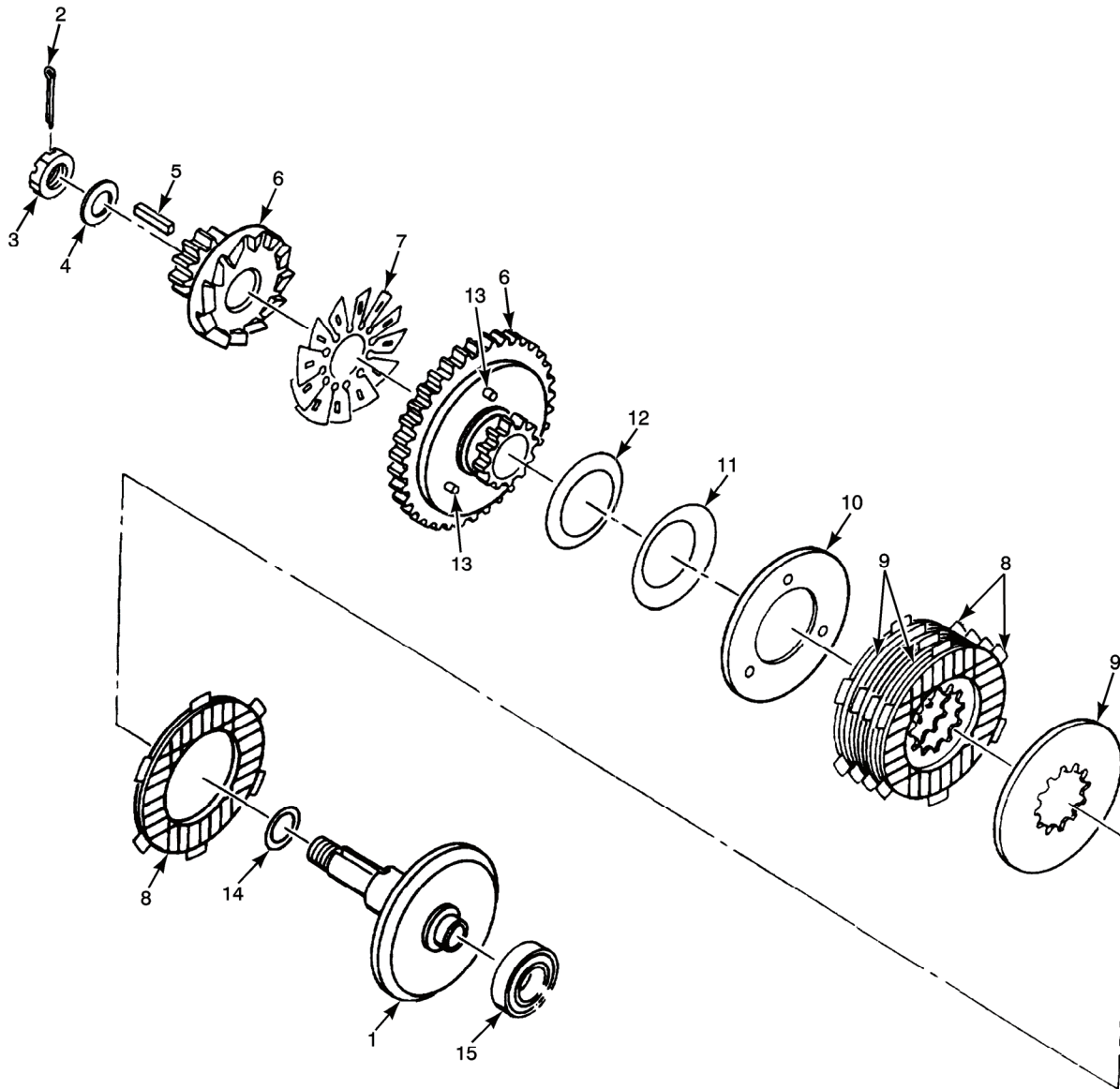
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Figure 21. Limit Switch Drive Assembly.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0503: LIMIT SWITCH DRIVE ASSEMBLY</b>						
<b>FIG.21 LIMIT SWITCH DRIVE ASSEMBLY</b>						
	PAODD	1680-01-082-9699	82402	42305R220	LIMITSWITCH DRIVE ASSY (SEE FIG. 18 FOR NHA)	REF
1	PBOZZ	1680-01-082-9700	82402	42277D153	.COVER, LIMIT SWITCH BOX	1
2	PADZZ	5305-00-978-9346	96906	MS16997-18	.SCREW, CAP	4
3	PADZZ	5310-01-352-9561	80205	NAS1149DN632K	.WASHER, FLAT	4
4	PAFZZ	9905-01-086-0452	00462	42305-225	.PLATE INSTRUCTION	1
5	PADZZ	5325-00-720-8064	96906	MS16624-1025	.RING, RETAINING	1
6	PADZZ	4315-00-688-0373	96906	MS20066-3	.KEY, MACHINE	2
7	PADZZ	3020-01-068-1568	82402	42277D156	.SPROCKET, CHAIN	1
8	PADZZ	5365-01-068-5632	82402	42277C155	.SPACER, SPROCKET	1
9	XDDZZ		82402	42277E145	.GEAR, INT. LIMIT SWITCH DRIVE	1
10	PADZZ	5305-00-622-9476	96906	MS35265-46	.SCREW, MACHINE	2
11	PADZZ	5310-00-184-8966	88044	AN960PD8	.WASHER, FLAT	3
12	PADZZ	5310-00-905-3081	96906	MS21083D3	.NUT, SELF-LOCKING	1
13	PADZZ	5310-00-771-6827	88044	AN960PD10L	.WASHER, FLAT	13
14	PADZZ	5331-00-166-8395	81349	M83248-1-035	.PACKING, PREFORMED	1
15	PADZZ	3110-00-017-8900	38443	R4ZZ	.BEARING, BALL	3
16	PBDZZ	3040-01-082-7811	82402	42277D140	.SHAFT, LIMIT SWITCH DRIVE	1
17	PBDZZ	3110-00-159-7131	60380	J68OH	.BEARING, NEEDLE	1
18	PBDZZ	3020-01-068-2101	82402	42277D223	.GEAR, CLUSTER LIMIT SWITCH DRIVE	1
19	XDDZZ		82402	42277E144	.GEAR, LIMIT SWITCH DRIVE	1
20	PADZZ	3110-00-710-4936	21760	125C3781	.BEARING, BALL	1
21	PADZZ	5365-01-056-5073	00462	49001C10	.SHIM	V
22	XDDZZ		82402	42277D146	.RETAINER, BEARING	1
23	PBDZZ	3040-01-067-3100	00462	42277D158	.SHAFT, CAM	1
24	PBDZZ	5306-01-125-5446	3HRL4	42277-197	.SHAFT, SWITCH BRACKET	1
25	PADZZ	5365-01-069-1803	82402	49001C6	.SHIM	V
26	PADZZ	5365-01-068-8553	82402	42277C150	.SPACER, SLEEVE	1
27	PBDZZ	1680-01-082-9695	82402	42277D185	.CAM ASSY, LIMIT SWITCH	4
28	PBDZZ	1680-01-082-9701	82402	42305D186	.CAM ASSY	1
29	PADZZ	5365-01-068-5631	82402	42277C149	.SPACER, SLEEVE	3
30	PADZZ	5935-00-730-9955	77820	PT06SE12-8P(SR)	.PLUG, STRAIGHT	1
31	PADZZ	5305-00-207-3929	88044	AN525D832-8	.SCREW, MACHINE	1
32	PADZZ	5340-00-764-7051	96906	MS21333-69	.CLAMP	1
33	PADZZ	5940-00-113-9828	96906	MS25036-149	.TERMINAL, LUG	1
34	PADZZ	5340-00-764-7051	96906	MS21333-69	.CLAMP, LOOP	1
35	PADZZ	5310-00-941-6440	96906	MS21083D08	.NUT, SELF-LOCK	1
36	PADZZ	5930-01-078-6491	04426	76-2190-404	.SWITCH, PUSH	1
37	PADZZ	5310-00-184-9001	88044	AN960PD416L	.WASHER, FLAT	1
38	PBDZZ	5310-01-069-0525	82402	42305C122	.NUT, SLEEVE	1
39	PADZZ	5325-00-582-3601	96906	MS35489-38	.GROMMET, NONMETALLIC	1
40	PBDZZ	5342-01-082-9696	82402	42277D151	.BRACKET, SWITCH	4
41	PADZZ	5305-00-983-6652	96906	MS16998-29	.SCREW, CAP	4
42	PADZZ	5360-00-242-7516	83533	C0300-032-0440S	.SPRING, COMPRESSION	4
43	PADZZ	5310-00-955-1295	15653	MF7200-3	.NUT, STAKE	4
44	PADZZ	5930-00-729-1662	91929	1SE2-3	.SWITCH, LIMIT	2
45	PADZZ	5930-00-917-7083	91929	1SE2	.SWITCH, LIMIT	2
46	PADZZ	5930-00-538-6790	91929	JE5	.SWITCH, ACTUATOR	4
47	PADZZ	5110-00-918-3027	00462	4067-193	.NUT PLATE ASSY	4
48	PADZZ	5305-00-054-5643	96906	MS51957-9	.SCREW, MACHINE	8
49	PADZZ	5365-01-105-7114	82402	42277C228	.SPACER, SLEEVE	1

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0503: LIMIT SWITCH DRIVE ASSEMBLY</b>						
<b>FIG.21 LIMIT SWITCH DRIVE ASSEMBLY</b>						
50	XADDD		82402	42277R196	.HOUSING ASSY, LIMIT SWITCH DRIVE	1
51	PADZZ	5325-01-047-8340	96906	MS21209C0615P	..INSERT, SCREW THREAD	4
52	PBDZZ	5325-01-035-4121	96906	MS21209C0815P	..INSERT, SCREW THREAD	2
<b>END OF FIGURE</b>						



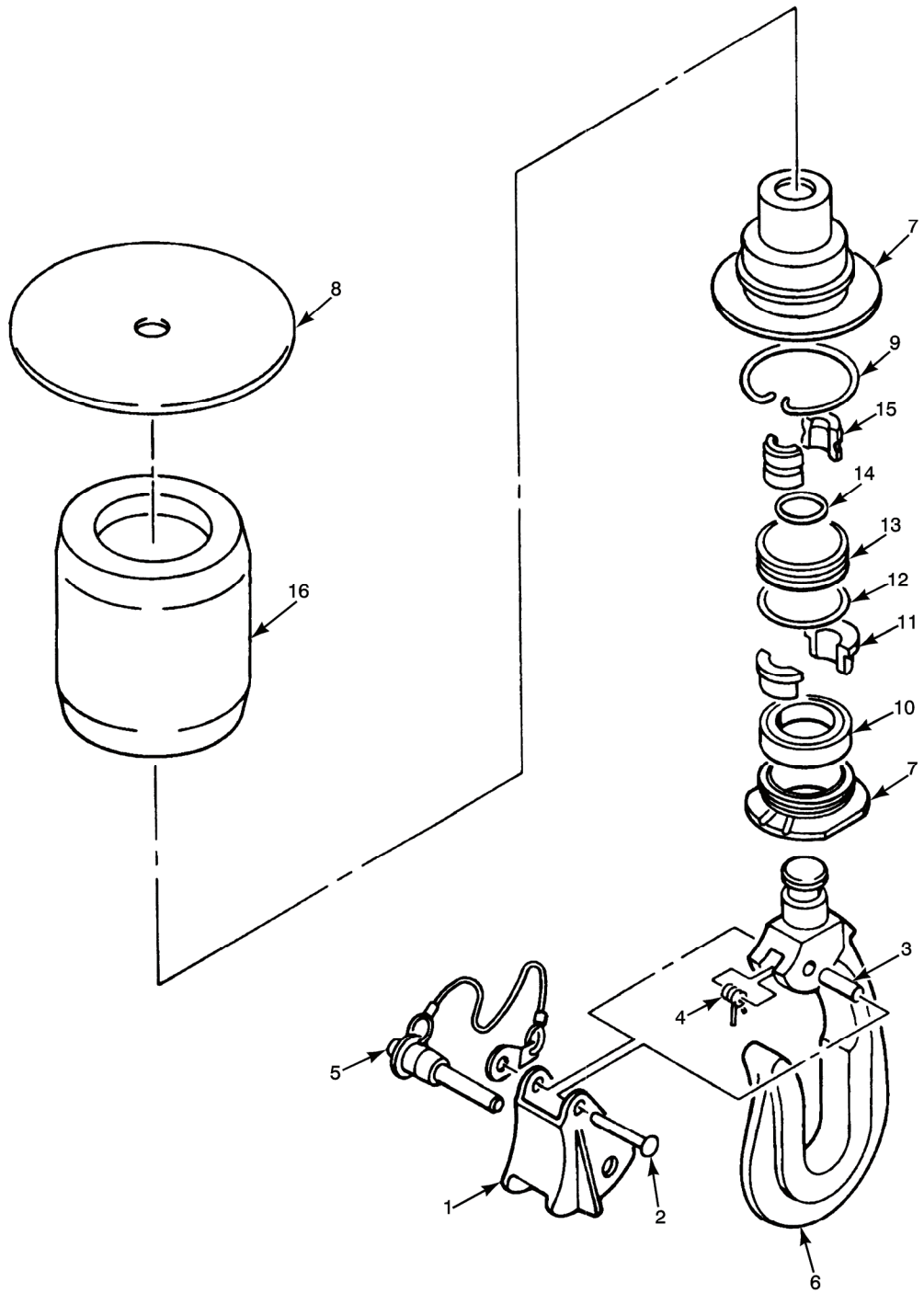


MS029986

Figure 22. Automatic Brake Assembly.



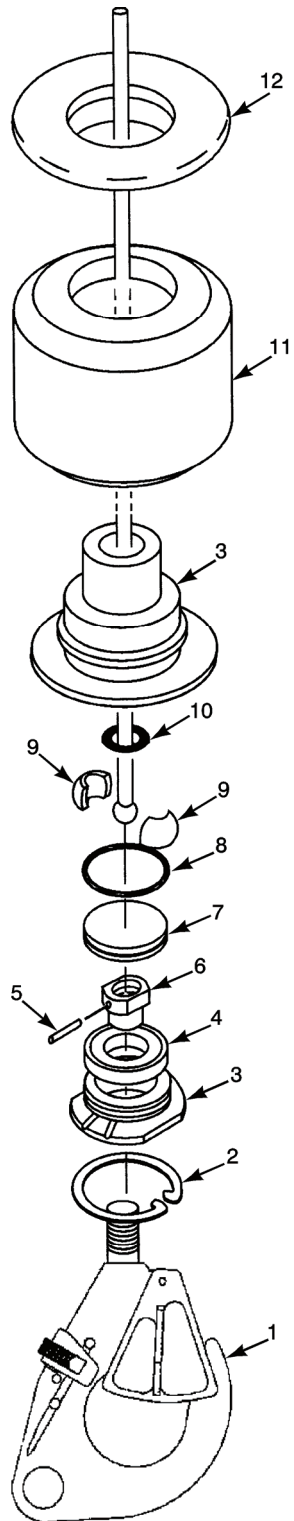
(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0504: AUTOMATIC BRAKE ASSEMBLY</b>						
<b>FIG. 22 AUTOMATIC BRAKE ASSEMBLY</b>						
	PADFF	1680-01-070-0977	82402	42305E200	AUTOMATIC BRAKE ASSY (SEE FIG. 18 FOR NHA)	REF
1	PADZZ	3040-01-075-2219	82402	42305E203	.SHAFT, AUTOMATIC BRAKE	1
2	PADZZ	5315-00-839-5820	96906	MS24665-134	.PIN, COTTER	1
3	PADZZ	5310-00-176-8111	88044	AN320-7	.NUT, CASTELLATED	1
4	PADZZ	5310-00-167-0822	88044	AN960-716	.WASHER, FLAT	1
5	PADZZ	5315-01-343-4544	82402	49008C99	.KEY, MACHINE	1
6	PADZZ	1680-01-070-9977	82402	42305D219	.GEAR CAM SEAT	1
7	PADZZ	3110-01-078-4983	82402	42277D215	.CAGE ASSY, ROLLER	1
8	PADZZ	1630-01-079-6644	82402	42325-255	.FRICTION DISC	5
9	PADZZ	3040-01-070-1214	82402	42277D160	.BRAKE DISC	4
10	PADZZ	3020-01-069-9243	82402	42305D190	.PRESSURE PLATE	1
11	PADZZ	5310-01-379-1125	00462	42325-212	.SPRING, BELLEVILLE	1
12	PADZZ	5310-01-379-1169	00462	42325-228	.SPRING, BELLEVILLE	1
13	PADZZ	5315-00-139-7064	96906	MS9486-50	.PIN, DOWELL	3
14	PADZZ	5365-01-053-3337	82402	49001C8	.SHIM	1
15	PADZZ	3110-00-868-2669	21335	1902S	.BEARING, BALL	1
<b>END OF FIGURE</b>						



MS029987

Figure 23. Cable Hook Assembly, 42305-280.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
ITEM NO.	SMR CODE	NSN	CAGEC	PART NUMBER	DESCRIPTION AND USABLE ON CODE (UOC)	QTY
<b>GROUP 0505: CABLE HOOK ASSEMBLY</b>						
<b>FIG. 23 CABLE HOOK ASSEMBLY</b>						
<b>P/N 42305-280</b>						
	PAOOO	1680-01-070-0971	82402	42305E200	HOOK ASSY, CABLE (SEE FIG. 18 FOR NHA)	REF
1	PAOZZ	1680-01-070-0976	82402	42277D285	.KEEPER, CABLE HOOK	1
2	PBOZZ	5320-00-881-6193	82402	MS20613-4C20	.RIVET	1
3	PAOZZ	3120-01-078-2842	82402	42277C286	.BUSHING	1
4	PAOZZ	5360-01-072-1353	82402	42277D288	.SPRING, TORSION	1
5	PAOZZ	5315-01-105-7110	82402	42277D293	.PIN ASSY, RELEASE	1
6	PBOZZ	4030-01-071-0121	82402	42305D219	.HOOK, HOIST CABLE	1
7	PBOZZ	1680-01-070-0970	82402	42305D287	.CARRIER	1
8	PBOZZ	1680-01-072-1481	82402	42277D291	.DISK STRIKER	1
9	PAOZZ	5325-01-071-3629	82402	42277D289	.LOCK SPRING, CARRIER	1
10	PAOZZ	3110-00-027-4028	38443	KP10A	.BEARING, BALL	1
11	PAOZZ	1680-00-001-6850	82402	42234D402	.RETAINER, SPLIT	1
12	PAOZZ	5331-00-689-6460	96906	MS28775-023	.PACKING	1
13	PBOZZ	1680-01-070-1190	82402	42277D284	.CAP SEAL, RETAINER	1
14	PAOZZ	5331-00-684-3419	96906	MS28775-016	.PACKING	1
15	PAOZZ	1680-00-497-7491	82402	42234D405	.RETAINER, SPLIT	1
16	PBOZZ	1680-01-082-1130	82402	42305D290	.BOOT, CABLE HOOK	1
<b>END OF FIGURE</b>						



MS030751

Figure 24. Cable Hook Assembly, 42315-790.

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					<b>GROUP 0505: CABLE HOOK ASSEMBLY</b>	
					<b>FIG. 24 CABLE HOOK ASSEMBLY</b>	
					<b>P/N 42315-790</b>	
	PAOZZ	4030-01-529-7396	00462	42315-790	HOOK ASSEMBLY, SLIDE-LOK, NUT, HOOK, AND PIN, SPRING	REF
1	PAOZZ			44301-431	HOOK ASSEMBLY, SLIDE-LOK	1
2	PAOZZ			42277-289	SPRING, LOCK CARRIER	1
3	PAOZZ	1680-01-070-0970	00462	42305-287	CARRIER ASSEMBLY (TWO PIECE MATCHED ASSEMBLY)	1
4	PAOZZ			42315-165-18	BEARING, BALL	1
5	PAOZZ	5315-00-496-7580	96906	MS39086-494	PIN, SPRING	1
6	PAOZZ	5310-01-423-2333	00462	42305-298	NUT, HOOK	1
7	PAOZZ	1680-01-070-1190	00462	42277-284	CAP, SEAL CARRIER	1
8	PAOZZ	5331-01-234-9437	96906	MS28775-023	PACKING, PREFORMED	1
9	PAOZZ			42305-268	RETAINER, SPLIT (TWO PIECE MATCHED ASSEMBLY)	1
10	PAOZZ	5325-01-432-2332	00462	42305-297	RING, RETAINER	1
11	PAOZZ	1680-01-082-1130	00462	42305-290	CYLINDER, ENERGY ABSORBING	1
12	PAOZZ	4030-01-529-7396		42305-285	DISC, STRIKER	1
					<b>END OF FIGURE</b>	

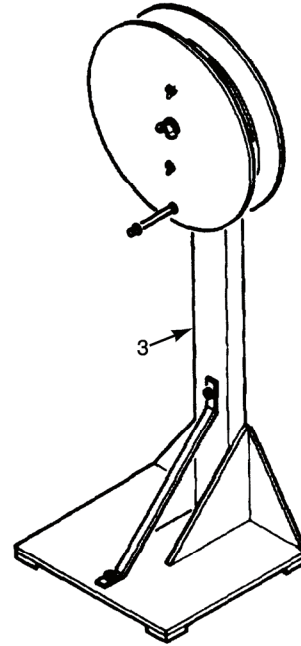
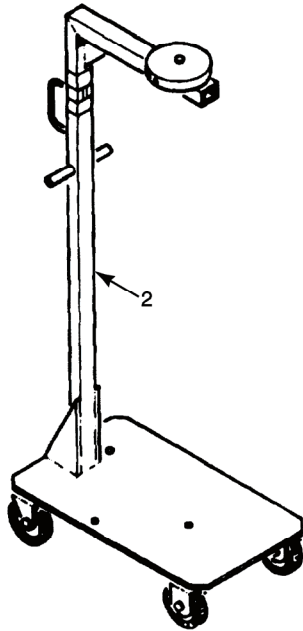
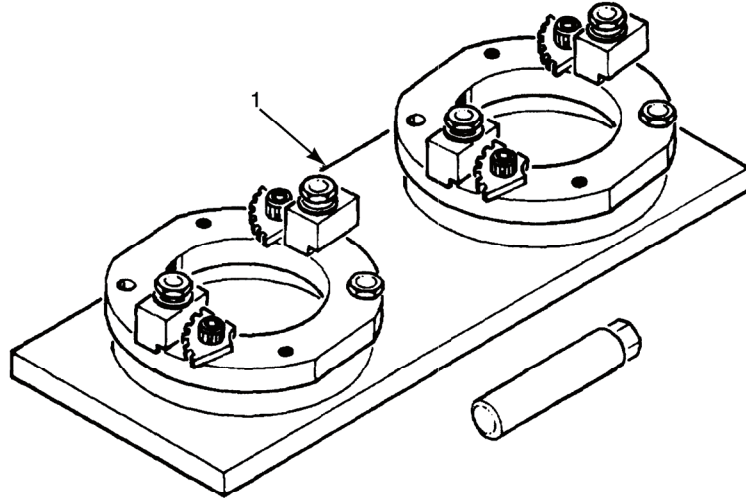
**End of Work Package**



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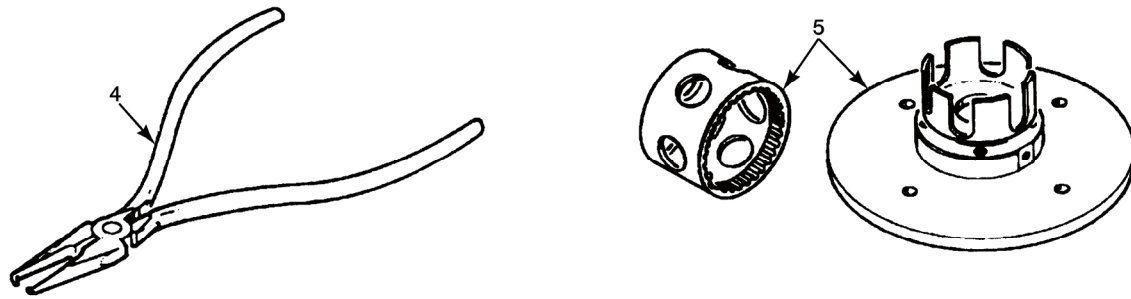
HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
SPECIAL TOOLS LIST

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MS029988

Special Tools. (Sheet 1 of 2)



MS029989

Special Tools. (Sheet 2 of 2)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
<b>GROUP 07: SPECIAL TOOLS</b>						
<b>FIG. 24 SPECIAL TOOLS</b>						
1	XDDZZ		82402	42277-716	HOLDING, FIXTURE, CLUTCH AND BRAKE BOI: 1 AUTH FOR END ITEM	1
2	PAOZZ	1680-01-488-6494	82402	42277-808	ASSEMBLY STAND BOI: 1 AUTH FOR END ITEM	1
3	XDOZZ		82402	42277-730	CABLE SPOOL BOI: 1 AUTH FOR END ITEM	1
4	PAOZZ	5120-00-077-1822	82402	44191D192	PLIER GRIP BOI: 1 AUTH FOR END ITEM	1
5	XDDZZ		82402	42277-728	TORQUE FIXTURE, AUTOMATIC BRAKE BOI: 1 AUTH FOR END ITEM	1
<b>END OF FIGURE</b>						

End of Work Package



**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
NATIONAL STOCK NUMBER (NSN) INDEX**

<b>STOCK NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>	<b>STOCK NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>
1377-00-987-3603	3	78	1680-01-070-0990	18	81
1377-01-073-3831	3	75	1680-01-070-0992	18	122
1377-01-087-5166	3	74	1680-01-070-0993	18	77
1377-01-512-5829	3	77	1680-01-070-1188	18	108
1615-01-092-7962	19	45	1680-01-070-1190	23	13
1615-01-147-6639	18	1	1680-01-070-5392	3	91
1630-01-079-6644	22	8	1680-01-070-5393	12	9
1680-00-001-5314	18	68	1680-01-070-7554	6	44
1680-00-001-5314	18	82	1680-01-070-7555	6	82
1680-00-001-6850	23	11	1680-01-070-7556	1	24
1680-00-020-9478	18	66	1680-01-070-7556	2	
1680-00-472-1671	18	73	1680-01-070-7557	13	8
1680-00-497-7491	23	15	1680-01-070-7557	13	15
1680-00-768-9670	18	56	1680-01-070-7558	6	43
1680-00-769-0425	18	27	1680-01-070-7559	2	9
1680-01-022-5788	3	19	1680-01-070-7561	2	20
1680-01-022-5788			1680-01-070-7724	17	3
1680-01-022-5788	5	1	1680-01-070-7725	17	1
1680-01-030-9357	15	8	1680-01-070-7727	4	4
1680-01-058-3671	1		1680-01-070-7727	5	6
1680-01-068-3035	18	20	1680-01-070-9949	3	12
1680-01-070-0965	18	143	1680-01-070-9950	1	32
1680-01-070-0966	18	53	1680-01-070-9950	11	
1680-01-070-0967	18	128	1680-01-070-9951	12	5
1680-01-070-0968	13	28	1680-01-070-9952	3	92
1680-01-070-0969	11	48	1680-01-070-9952		
1680-01-070-0969	13		1680-01-070-9953	1	6
1680-01-070-0970	23	7	1680-01-070-9953	3	
1680-01-070-0971	18	162	1680-01-070-9955	3	63
1680-01-070-0971	23		1680-01-070-9956	14	7
1680-01-070-0972	18	50	1680-01-070-9957	14	6
1680-01-070-0973	18	57	1680-01-070-9958	14	5
1680-01-070-0974	18	83	1680-01-070-9959	14	11
1680-01-070-0975	18	118	1680-01-070-9960	14	10
1680-01-070-0976	23	1	1680-01-070-9963	11	51
1680-01-070-0977	18	63	1680-01-070-9963	15	
1680-01-070-0977	22		1680-01-070-9964	11	63
1680-01-070-0985	6		1680-01-070-9964	17	12
1680-01-070-0986	18	161	1680-01-070-9965	17	9
1680-01-070-0986	20		1680-01-070-9966	17	6
1680-01-070-0987	13	1	1680-01-070-9974	11	81
1680-01-070-0988	13	3	1680-01-070-9974	17	

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
1680-01-070-9976	11	71	1680-01-099-6315	17	8
1680-01-070-9977	22	6	1680-01-102-8760	1	5
1680-01-071-0176	11	19	1680-01-112-2944	1	3
1680-01-071-0177	11	83	1680-01-126-4128	19	40
1680-01-071-0178	11	3	1680-01-146-0887	18	23
1680-01-071-5374	3	81	1680-01-146-0888	18	89
1680-01-071-5375	3	44	1680-01-146-8059	6	83
1680-01-071-5376	3	28	1680-01-160-6033	3	39
1680-01-071-5377	3	20	1680-01-201-7835	4	8
1680-01-071-5379	14	14	1680-01-201-7835	5	2
1680-01-071-5380	11	15	1680-01-211-5299	2	1
1680-01-071-5389	11	59	1680-01-212-1386	17	2
1680-01-071-5390	11	67	1680-01-231-4829	9	51
1680-01-071-5392	18	90	1680-01-391-9984	11	4
1680-01-071-5517	20	4	1680-01-391-9984	16	
1680-01-071-5517	20	5	1680-01-428-8770	17	5
1680-01-071-9211	3	88	1680-01-477-3753	1	28
1680-01-071-9215	11	32	1680-01-477-3753	6	
1680-01-071-9215	11	33	1690-01-419-8463	3	80
1680-01-071-9665	19	4	1730-01-225-6494	16	2
1680-01-071-9669	11	55	2805-01-060-7633	10	19
1680-01-072-1481	23	8	2925-01-147-6688	10	27
1680-01-072-1731	11	56	3010-01-070-5839	4	3
1680-01-073-3358	6	13	3010-01-071-0210	5	7
1680-01-073-3842	20	10	3020-00-575-2897	15	10
1680-01-075-2221	11	87	3020-01-068-1506	18	115
1680-01-075-2234	11	50	3020-01-068-1568	18	104
1680-01-075-2234	14		3020-01-068-1568	21	7
1680-01-076-4802	18	158	3020-01-068-2101	21	18
1680-01-077-6896	3	84	3020-01-069-6912	18	148
1680-01-078-4181	2	23	3020-01-069-8447	18	98
1680-01-078-6059	4	2	3020-01-069-8854	13	29
1680-01-078-6059	5	8	3020-01-069-9243	22	10
1680-01-082-1130		16	3020-01-070-2521	13	16
1680-01-082-9695	21	27	3020-01-070-2521	13	21
1680-01-082-9699	18	32	3020-01-070-8559	3	31
1680-01-082-9699	21		3020-01-071-2843	18	107
1680-01-082-9700	21	1	3020-01-071-2908	14	4
1680-01-082-9701	21	28	3020-01-072-3615	18	96
1680-01-083-3414	15	2	3020-01-073-9890	3	43
1680-01-089-4331	1	31	3020-01-076-0566	3	32
1680-01-089-4331	18		3020-01-076-3464	18	84
1680-01-099-6309	18	130	3020-01-076-4802	18	156
1680-01-099-6310	3	9	3020-01-078-6108	18	136
1680-01-099-6311	11	72	3020-01-079-3138	13	2
1680-01-099-6314	11	43	3040-00-020-8325	18	67

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
3040-00-091-6645	18	85	3110-01-075-5287	2	11
3040-01-067-3100	21	23	3110-01-078-4983	22	7
3040-01-070-1214	22	9	3110-01-078-5025	18	101
3040-01-070-5122	3	37	3110-01-083-3260	4	9
3040-01-071-2902	15	18	3110-01-114-6328	18	114
3040-01-071-5373	3	21	3110-01-271-5982	16	4
3040-01-072-4387	18	58	3120-00-230-6596	18	86
3040-01-072-4524	18	138	3120-00-406-0601	18	24
3040-01-075-2219	22	1	3120-00-854-6166	3	56
3040-01-075-2222	15	14	3120-00-970-4623	18	29
3040-01-077-6897	18	51	3120-01-006-9153	15	6
3040-01-078-6045	20	6	3120-01-072-9236	20	3
3040-01-082-7811	21	16	3120-01-074-7510	18	60
3040-01-356-0813	16	1	3120-01-078-2842	23	3
3110-00-017-8900	21	15	3120-01-080-0821	3	18
3110-00-027-4028	23	10	3120-01-088-6907	18	135
3110-00-027-8143	15	15	3120-01-108-2420	2	18
3110-00-068-9393	18	137	3120-01-137-9069	11	89
3110-00-106-8823	16	3	3120-01-145-4034	3	29
3110-00-109-1183	18	99	4010-01-168-0123	18	70
3110-00-147-1155	3	64	4030-01-071-0121	23	6
3110-00-156-5190	3	26	4140-01-212-1433	6	85
3110-00-159-7131	21	17	4140-01-212-1433	10	
3110-00-159-9239	18	129	4310-01-089-3154	12	8
3110-00-186-1104	18	126	4315-00-688-0373	21	6
3110-00-191-3236	13	12	4320-01-073-7452	12	39
3110-00-198-2050	3	33	4710-01-070-0991	18	48
3110-00-203-4097	10	18	4710-01-070-1189	18	133
3110-00-293-8889	10	21	4710-01-128-6330	19	46
3110-00-516-5377	18	141	4720-01-071-5515	18	34
3110-00-554-5389	12	51	4730-00-278-3462	18	46
3110-00-678-5425	3	66	5110-00-918-3027	3	90
3110-00-710-4936	15	5	5110-00-918-3027	11	36
3110-00-710-4936	21	20	5110-00-918-3027	11	77
3110-00-773-9558	18	157	5110-00-918-3027	21	47
3110-00-838-5033	2	10	5305-00-001-5326	18	71
3110-00-850-4811	18	95	5305-00-051-6521	11	85
3110-00-868-2669	18	147	5305-00-052-1488	6	14
3110-00-868-2669	22	15	5305-00-052-1488	6	25
3110-00-902-3840	14	3	5305-00-052-1488	6	72
3110-00-903-2182	18	120	5305-00-052-1488	8	3
3110-01-006-9121	15	11	5305-00-052-7004	6	42
3110-01-009-6768	18	49	5305-00-054-5643	3	86
3110-01-070-7560	2	16	5305-00-054-5643	11	37
3110-01-075-0830	19	38	5305-00-054-5643	11	78
3110-01-075-2082	19	10	5305-00-054-5643	21	48

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5305-00-054-5647	2	26	5305-00-889-3118	7	43
5305-00-054-6668	2	19	5305-00-931-8601	6	40
5305-00-058-9363	2	22	5305-00-934-0114	11	42
5305-00-059-4552	12	45	5305-00-954-9010	7	23
5305-00-068-0543	19	1	5305-00-957-6272	10	1
5305-00-068-0543	19	54	5305-00-957-7816	11	58
5305-00-127-7331	1	13	5305-00-958-6230	10	14
5305-00-132-1497	6	12	5305-00-958-6230	12	32
5305-00-132-1497	6	67	5305-00-978-9346	21	2
5305-00-132-1497	6	99	5305-00-978-9349	7	30
5305-00-151-0376	11	49	5305-00-978-9350	7	29
5305-00-151-0376	11	73	5305-00-983-6652	18	33
5305-00-182-9570	6	18	5305-00-983-6652	21	41
5305-00-182-9570	6	84	5305-00-983-6653	3	50
5305-00-207-3929	21	31	5305-00-984-4983	11	53
5305-00-253-5606	1	10	5305-00-984-4989	8	16
5305-00-253-5606	2	32	5305-00-984-6221	19	48
5305-00-253-5606	3	53	5305-00-984-6226	10	34
5305-00-253-5606	11	25	5305-00-989-7434	3	13
5305-00-253-5606	12	57	5305-00-989-7434	3	15
5305-00-253-5606	18	154	5305-00-989-7434	3	17
5305-00-271-7746	1	20	5305-00-990-6444	11	8
5305-00-308-9735	11	22	5305-00-993-0191	11	61
5305-00-459-1172	6	91	5305-00-993-5767	8	15
5305-00-459-1172	19	41	5305-00-993-5767	8	61
5305-00-459-4687	2	29	5305-00-995-3442	18	110
5305-00-514-7506	19	31	5305-01-052-3303	14	12
5305-00-559-8144	10	5	5305-01-066-1860	6	79
5305-00-579-2138	12	2	5305-01-071-7111	10	7
5305-00-614-0246	1	19	5305-01-073-3636	6	63
5305-00-614-0248	18	12	5305-01-073-3636	6	87
5305-00-614-0261	12	15	5305-01-073-3636	8	2
5305-00-614-0286	2	12	5305-01-073-5052	6	77
5305-00-614-0288	2	8	5305-01-074-1462	3	79
5305-00-616-4831	18	19	5305-01-078-5069	7	13
5305-00-622-9476	21	10	5305-01-078-9529	13	26
5305-00-622-9479	11	46	5305-01-084-4655	2	2
5305-00-637-5831	12	24	5305-01-088-0263	11	7
5305-00-709-2013	18	69	5305-01-102-1857	18	134
5305-00-764-2964	2	17	5306-00-144-4041	11	18
5305-00-771-0522	13	30	5306-00-145-0700	11	30
5305-00-824-2024	3	85	5306-00-150-9527	3	5
5305-00-869-1097	6	39	5306-00-150-9528	3	73
5305-00-883-9304	12	50	5306-00-150-9874	18	35
5305-00-889-3001	8	59	5306-00-151-0778	3	46
5305-00-889-3116	11	60	5306-00-180-2778	3	65

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5306-00-182-1852	18	39	5310-00-184-9001	21	37
5306-00-182-1854	3	6	5310-00-184-9002	11	74
5306-00-182-1888	1	29	5310-00-187-2354	18	45
5306-00-816-0117	3	82	5310-00-187-2398	11	54
5306-00-925-9698	1	7	5310-00-187-2399	18	40
5306-00-975-2073	1	1	5310-00-187-2400	17	19
5306-01-125-5446	21	24	5310-00-242-7139	6	59
5306-01-136-7144	18	44	5310-00-261-8278	6	41
5307-01-078-4001	7	16	5310-00-261-8278	8	9
5307-01-080-2270	17	23	5310-00-407-9566	6	31
5307-01-223-3184	11	92	5310-00-478-9768	7	24
5307-01-329-9164	11	98	5310-00-479-4161	7	11
5310-00-017-5121	7	14	5310-00-515-7592	18	103
5310-00-045-3296	6	34	5310-00-559-0070	10	33
5310-00-061-7326	3	36	5310-00-576-0546	6	22
5310-00-061-7326	3	48	5310-00-576-0546	6	60
5310-00-087-3155	12	37	5310-00-595-6425	11	62
5310-00-141-1795	1	30	5310-00-595-7484	13	33
5310-00-149-9146	1	2	5310-00-616-6791	7	42
5310-00-165-1886	8	10	5310-00-616-6822	11	41
5310-00-167-0702	7	18	5310-00-616-6822	11	79
5310-00-167-0816	7	34	5310-00-619-6446	18	102
5310-00-167-0816	8	4	5310-00-637-9541	6	28
5310-00-167-0816	8	62	5310-00-655-7549	3	40
5310-00-167-0816	19	49	5310-00-660-2084	3	87
5310-00-167-0822	22	4	5310-00-680-7296	3	35
5310-00-167-0831	10	15	5310-00-771-6827	3	47
5310-00-167-0833	6	20	5310-00-771-6827	21	13
5310-00-167-0833	6	53	5310-00-805-7632	18	28
5310-00-167-0834	6	33	5310-00-805-7632	18	30
5310-00-167-0834	8	8	5310-00-807-1467	3	51
5310-00-167-0835	6	49	5310-00-807-1472	7	35
5310-00-167-0836	6	27	5310-00-807-1472	8	18
5310-00-167-0836	7	12	5310-00-807-1472	8	63
5310-00-167-0837	6	30	5310-00-807-1472	13	31
5310-00-167-0841	17	21	5310-00-807-1473	6	23
5310-00-176-8108	18	87	5310-00-807-1473	11	47
5310-00-176-8109	18	97	5310-00-807-1475	7	19
5310-00-176-8111	22	3	5310-00-819-5413	3	7
5310-00-177-1039	10	25	5310-00-822-0077	7	17
5310-00-183-4406	18	13	5310-00-857-5558	12	34
5310-00-184-8966	21	11	5310-00-877-5797	11	97
5310-00-184-8970	7	20	5310-00-902-6676	1	14
5310-00-184-8977	6	61	5310-00-902-6676	1	21
5310-00-184-8977	7	31	5310-00-902-6676	18	14
5310-00-184-8977	8	17	5310-00-905-3081	21	12

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5310-00-905-8434	6	35	5315-00-839-5820	22	2
5310-00-905-8451	19	50	5315-00-842-3044	17	17
5310-00-906-9552	19	37	5315-00-959-5500	17	18
5310-00-926-5832	6	32	5315-00-959-6762	18	7
5310-00-934-9757	6	48	5315-00-990-6023	18	76
5310-00-934-9762	6	21	5315-01-015-6724	15	12
5310-00-941-6019	11	75	5315-01-071-8271	13	9
5310-00-941-6440	21	35	5315-01-072-9585	18	42
5310-00-950-1310	12	33	5315-01-073-2976	3	38
5310-00-955-1295	21	43	5315-01-075-0941	13	17
5310-00-956-0054	10	16	5315-01-075-0941	13	23
5310-00-998-5039	6	54	5315-01-075-2126	3	41
5310-01-006-9021	15	9	5315-01-077-7289	18	80
5310-01-007-1565	3	14	5315-01-089-4259	11	66
5310-01-007-1565	3	16	5315-01-105-7110	23	5
5310-01-007-1565	18	109	5315-01-105-9202	11	91
5310-01-007-6897	8	7	5315-01-116-6789	2	15
5310-01-046-9734	8	21	5315-01-135-2525	11	82
5310-01-069-0525	21	38	5315-01-162-5032	17	13
5310-01-073-2948	17	10	5315-01-343-4544	22	5
5310-01-073-2949	17	16	5315-01-483-7925	3	30
5310-01-074-7453	11	16	5320-00-243-3933	17	7
5310-01-077-1029	11	65	5320-00-860-6605	11	44
5310-01-105-7122	12	28	5320-00-860-6605	19	33
5310-01-151-1708	3	59	5320-00-881-6193	23	2
5310-01-198-2313	6	97	5320-00-990-2844	18	92
5310-01-320-4920	6	29	5320-01-307-4669	11	17
5310-01-352-9561	21	3	5320-01-307-4636	14	8
5310-01-379-1125	22	11	5325-00-021-3495	3	57
5310-01-379-1169	22	12	5325-00-021-3495	11	11
5315-00-013-7214	11	64	5325-00-021-3495	18	2
5315-00-139-7064	22	13	5325-00-021-3495	18	26
5315-00-143-9681	18	93	5325-00-021-1729	18	74
5315-00-584-9221	17	20	5325-00-085-0219	3	58
5315-00-687-5218	4	7	5325-00-085-0219	3	69
5315-00-687-5218	5	3	5325-00-085-0219	18	3
5315-00-687-5218	18	159	5325-00-085-0219	18	25
5315-00-688-0373	18	105	5325-00-102-9621	13	13
5315-00-729-6991	18	75	5325-00-276-6100	11	2
5315-00-732-2841	3	22	5325-00-281-9885	4	1
5315-00-810-3701	17	22	5325-00-281-9885	5	9
5315-00-811-6495	18	8	5325-00-282-5583	16	5
5315-00-820-8051	18	10	5325-00-324-9146	11	90
5315-00-836-1422	18	9	5325-00-347-8254	10	8
5315-00-839-2326	3	61	5325-00-347-8254	12	30
5315-00-839-5820	18	88	5325-00-471-3745	18	16

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5325-00-471-3745	18	21	5331-01-251-6379	19	3
5325-00-531-9454	13	10	5331-01-301-8843	11	21
5325-00-582-3601	21	39	5331-01-344-4335	18	124
5325-00-720-8064	18	106	5340-00-054-1408	17	11
5325-00-720-8064	21	5	5340-00-057-2904	1	18
5325-00-783-9139	18	5	5340-00-057-2904	3	72
5325-00-793-0760	11	14	5340-00-094-3554	1	27
5325-00-800-4270	16	7	5340-00-165-7832	1	26
5325-00-805-1401	12	55	5340-00-558-5323	1	12
5325-00-808-0645	18	64	5340-00-558-5323	3	70
5325-00-924-5909	18	4	5340-00-598-8251	1	15
5325-00-995-6690	18	6	5340-00-598-8251	1	22
5325-01-035-4121	21	52	5340-00-764-7051	3	71
5325-01-047-8340	21	51	5340-00-764-7051	21	32
5325-01-048-7838	20	11	5340-00-764-7051	21	34
5325-01-071-3629	23	9	5340-00-915-2342	8	11
5330-00-171-9225	18	111	5340-00-998-0611	8	60
5330-00-285-4142	18	123	5340-01-030-9500	2	13
5330-00-298-0540	19	11	5340-01-071-9545	1	25
5330-01-019-8094	3	23	5340-01-072-9343	10	9
5330-01-025-7777	15	13	5340-01-072-9343	12	29
5330-01-095-3724	18	117	5340-01-075-2154	1	17
5330-01-193-0318	3	24	5340-01-084-5152	11	6
5330-01-215-7137	6	36	5340-01-095-5668	10	11
5330-01-225-4218	18	62	5340-01-106-3690	11	20
5330-01-373-3646	15	3	5340-01-132-8945	17	14
5331-00-166-0975	18	61	5340-01-201-7836	6	78
5331-00-166-0988	18	121	5340-01-225-3954	11	23
5331-00-166-0990	18	78	5342-00-434-7528	2	24
5331-00-166-0990	18	139	5342-01-072-5919	11	68
5331-00-166-8395	21	14	5342-01-072-5919	11	70
5331-00-166-8404	18	112	5342-01-073-1579	18	36
5331-00-167-5121	18	160	5342-01-082-9696	21	40
5331-00-167-5138	18	52	5342-01-083-3414	11	35
5331-00-167-5166	18	132	5342-01-226-0514	11	9
5331-00-579-7545	11	31	5360-00-242-7516	21	42
5331-00-579-8108	12	3	5360-00-316-4569	18	59
5331-00-684-3419	23	14	5360-01-072-1353	23	4
5331-00-689-6460	23	12	5360-01-073-1187	3	42
5331-00-802-2130	11	5	5360-01-073-5416	2	21
5331-00-810-9659	18	131	5360-01-074-7823	20	8
5331-00-810-9659	18	151	5360-01-078-5578	14	1
5331-00-940-9475	19	39	5360-01-078-5578	14	13
5331-01-005-0525	18	116	5360-01-080-2013	12	19
5331-01-071-0432	3	8	5360-01-105-7037	17	15
5331-01-230-1767	3	10	5365-00-058-9557	4	6

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5365-00-058-9557	5	4	5365-01-072-2926	3	67
5365-00-111-7417	7	4	5365-01-072-5001	8	6
5365-00-119-9352	10	32	5365-01-072-9358	3	45
5365-00-141-6943	19	43	5365-01-072-9729	12	17
5365-00-161-4109	10	31	5365-01-072-9731	12	36
5365-00-162-7874	10	30	5365-01-072-9732	12	54
5365-00-285-6784	18	72	5365-01-072-9733	12	18
5365-00-289-3070	18	152	5365-01-073-2807	18	55
5365-00-289-3073	3	11	5365-01-073-3030	7	2
5365-00-454-8684	10	23	5365-01-073-3030	7	49
5365-00-454-8687	12	52	5365-01-073-3033	15	16
5365-00-455-6940	6	71	5365-01-073-5452	12	53
5365-00-514-8291	18	65	5365-01-075-6445	7	10
5365-00-836-2808	10	22	5365-01-075-7741	3	25
5365-00-938-0138	18	119	5365-01-078-4121	7	25
5365-01-053-3337	18	125	5365-01-078-5625	15	4
5365-01-053-3337	18	142	5365-01-081-5692	10	24
5365-01-053-3337	18	145	5365-01-087-9443	11	52
5365-01-053-3337	22	14	5365-01-095-6882	7	32
5365-01-056-5073	21	21	5365-01-095-6882	8	20
5365-01-060-3788	10	17	5365-01-105-7114	21	49
5365-01-060-3788	12	35	5365-01-105-7132	20	14
5365-01-065-7320	19	7	5365-01-105-7133	20	13
5365-01-065-7320	19	8	5365-01-105-7134	20	12
5365-01-065-7322	19	9	5365-01-106-4280	1	4
5365-01-068-5631	21	29	5365-01-133-0264	6	89
5365-01-068-5632	21	8	5365-01-133-6174	6	55
5365-01-068-8553	18	144	5365-01-151-9214	6	73
5365-01-068-8553	21	26	5365-01-151-9214	6	88
5365-01-069-1803	3	34	5365-01-487-0851	13	5
5365-01-069-1803	21	25	5365-01-487-2363	13	6
5365-01-071-2386	18	127	5525-00-282-5578	16	6
5365-01-071-3639	13	32	5905-00-006-2987	9	49
5365-01-071-3640	18	113	5905-00-006-5575	9	40
5365-01-071-3640	18	140	5905-00-099-0479	9	53
5365-01-071-3641	13	24	5905-00-104-8334	9	38
5365-01-071-3645	13	22	5905-00-105-7764	9	52
5365-01-071-3646	13	18	5905-00-106-1246	8	46
5365-01-071-4972	19	35	5905-00-106-3666	9	23
5365-01-071-4973	19	36	5905-00-106-9348	8	45
5365-01-071-5516	20	9	5905-00-106-9351	8	55
5365-01-071-7559	18	146	5905-00-106-9356	9	39
5365-01-071-8480	18	91	5905-00-110-0196	8	40
5365-01-071-8480	18	94	5905-00-110-7620	9	30
5365-01-072-0192	3	27	5905-00-110-7622	9	34
5365-01-072-2925	12	16	5905-00-111-1679	9	33



STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5905-00-111-2186	9	56	5905-01-043-6849	9	61
5905-00-111-4727	9	22	5905-01-076-5608	2	14
5905-00-111-4858	9	32	5905-01-512-3234	6	65
5905-00-114-0711	9	25	5910-00-010-8666	9	16
5905-00-120-9154	9	27	5910-00-010-8718	8	53
5905-00-121-9861	8	42	5910-00-010-8718	9	10
5905-00-126-6683	9	31	5910-00-096-4644	9	17
5905-00-126-6710	9	42	5910-00-099-0538	9	12
5905-00-135-6046	9	21	5910-00-099-0538	9	15
5905-00-138-1283	9	24	5910-00-104-0144	8	31
5905-00-139-1989	6	66	5910-00-104-0144	9	13
5905-00-141-0599	8	51	5910-00-112-4337	9	18
5905-00-141-0727	8	41	5910-00-113-5475	8	30
5905-00-141-1071	8	54	5910-00-113-5475	9	14
5905-00-141-1168	8	56	5910-00-185-9581	9	11
5905-00-146-4164	9	36	5910-00-236-8766	8	49
5905-00-165-3108	9	44	5910-00-236-8767	8	33
5905-00-165-3110	9	58	5910-00-761-7112	8	48
5905-00-194-8405	9	57	5910-01-212-1423	6	45
5905-00-197-4289	8	36	5915-00-524-2130	9	29
5905-00-197-4289	9	37	5915-01-101-3888	6	26
5905-00-211-1318	7	41	5930-00-137-1511	11	38
5905-00-228-6088	8	37	5930-00-538-6790	11	39
5905-00-246-9399	8	47	5930-00-538-6790	11	40
5905-00-247-8710	7	44	5930-00-538-6790	11	80
5905-00-247-8722	7	45	5930-00-538-6790	21	46
5905-00-247-8732	8	34	5930-00-655-1514	6	105
5905-00-401-8689	9	47	5930-00-728-4328	6	107
5905-00-403-3124	9	60	5930-00-729-1662	21	44
5905-00-403-3127	9	28	5930-00-824-9433	2	7
5905-00-403-3147	9	59	5930-00-847-2599	6	96
5905-00-407-2160	9	41	5930-00-917-7083	11	76
5905-00-432-0464	9	35	5930-00-917-7083	21	45
5905-00-472-0790	7	40	5930-01-073-8884	18	150
5905-00-478-7366	8	44	5930-01-074-8711	2	6
5905-00-479-9952	9	50	5930-01-078-6491	21	36
5905-00-481-3076	9	48	5930-01-078-7566	3	89
5905-00-483-4285	8	50	5930-01-089-1281	3	49
5905-00-491-8744	9	46	5930-01-195-2113	6	108
5905-00-650-9814	9	45	5930-01-216-6525	2	25
5905-00-721-2341	9	55	5935-00-726-6519	3	62
5905-00-721-2348	9	43	5935-00-730-9955	21	30
5905-00-758-3380	9	26	5935-00-755-3630	9	67
5905-00-758-3388	9	54	5935-00-813-2020	18	149
5905-01-008-6215	9	62	5935-01-071-0348	19	42
5905-01-027-8321	9	63	5935-01-107-8827	6	98

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
5935-01-107-8830	6	104	5961-01-033-9376	6	7
5935-01-107-8855	6	76	5961-01-072-9781	8	29
5935-01-108-3804	11	1	5961-01-081-4805	7	9
5935-01-124-8514	2	28	5961-01-106-4616	8	58
5935-01-170-0019	6	101	5961-01-195-0837	6	74
5940-00-113-3136	7	5	5961-01-258-2227	8	24
5940-00-113-9828	21	33	5961-01-258-2227	9	1
5940-00-114-1316	6	75	5962-00-370-2637	8	13
5940-00-115-2677	6	58	5962-00-593-6554	8	14
5940-00-115-2678	6	57	5962-01-098-7418	9	7
5940-00-143-4780	6	4	5970-00-023-6246	7	36
5940-00-230-0515	7	46	5970-00-144-7668	7	33
5940-00-283-5280	6	3	5970-00-258-2313	7	39
5940-00-283-5280	7	47	5970-00-756-4801	8	22
5940-00-549-4444	8	38	5970-01-074-6856	10	10
5940-00-557-1629	6	2	5970-01-074-6856	12	27
5940-00-681-8185	2	27	5970-01-130-2134	8	19
5940-00-813-0698	6	1	5970-01-209-6142	19	47
5940-00-813-0698	10	13	5975-00-111-3208	6	6
5940-00-813-0698	12	31	5975-00-351-6114	12	4
5940-00-926-0033	9	64	5975-00-727-5153	6	5
5940-01-020-0872	7	3	5977-01-072-8312	12	23
5940-01-031-1027	6	80	5977-01-073-7394	12	26
5940-01-031-1027	7	48	5977-01-075-0901	10	12
5940-01-050-7460	7	6	5990-01-195-1989	6	100
5940-01-073-1877	7	1	5995-01-122-3580	1	16
5940-01-260-6079	7	38	5998-01-070-7629	6	11
5945-01-067-1188	6	68	5998-01-070-7629	7	
5945-01-074-2661	6	50	5998-01-147-6715	8	23
5945-01-282-6900	6	69	5998-01-147-6716	6	86
5950-01-102-3992	6	17	5998-01-147-6716	9	
5950-01-130-7660	6	24	5999-01-070-7616	6	10
5961-00-018-9196	8	28	5999-01-071-9221	6	62
5961-00-018-9196	8	52	5999-01-071-9221	8	
5961-00-022-5664	9	9	5999-01-074-8839	9	66
5961-00-127-9362	8	26	5999-01-075-7669	7	15
5961-00-262-0814	7	28	5999-01-143-8453	6	102
5961-00-469-9938	9	19	5999-01-198-7069	8	25
5961-00-491-2228	7	8	5999-01-198-7069	9	65
5961-00-821-2309	9	20	5999-01-247-1369	6	103
5961-00-883-3598	8	5	6105-00-407-3909	19	55
5961-00-949-1440	8	43	6105-01-070-7614	18	37
5961-00-949-1440	9	2	6105-01-070-7614	19	
5961-00-957-6865	8	39	6105-01-070-7615	10	
5961-01-007-5842	8	27	6105-01-071-5413	11	45
5961-01-030-5322	7	37	6105-01-071-5413	12	

STOCK NUMBER	FIG.	ITEM	STOCK NUMBER	FIG.	ITEM
6105-01-076-1301	12	40	<b>6210-00-818-0230</b>	6	16
6105-01-173-2093	10	20	6240-00-155-7836	2	5
6105-01-173-8768	10	6	6240-00-155-7836	6	15
6105-01-195-3330	10	26	6645-01-162-3396	6	92
6105-01-213-5811	10	4	6680-00-070-1212	3	4
6110-01-103-3121	6	64	7690-01-135-2985	6	93
6145-00-728-4026	10	3	7690-01-135-2986	6	94
6150-01-073-8442	7	26	8145-01-076-7476	1	
6150-01-076-3918	6	51	9340-00-028-7122	18	17
6150-01-077-7519	6	52	9535-01-277-8177	18	100
6150-01-079-8863	19	30	9905-01-086-4517	3	54
6150-01-079-8863	19	53	9905-01-086-4517	18	153
6150-01-082-8321	1	23	9905-01-086-0452	21	4
6150-01-154-9661	7	7	9905-01-122-2121	1	9
6150-01-201-7837	10	29	9905-01-155-8332	18	155
6210-00-284-0289	2	3	9905-01-157-0836	6	8
6210-00-542-6393	2	4			

**End of Work Package**



**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
PART NUMBER (P/N) INDEX**

<b>PART NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>	<b>PART NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>
2518	12	43	19515	10	29
2665	6	54	19693	19	45
4003	7	39	19695	19	46
5400	9	4	19773	19	51
5402	9	5	19774	19	52
5425	9	6	19775	19	57
8505	6	71	19776	19	47
8732	12	26	19777	19	30
9164	7	2	19781	19	40
9164	7	49	19840	12	46
10982	10	4	19852	12	49
13437	13	26	19856	12	56
14295	12	21	19948	19	42
14298	12	13	21722	12	41
14299	12	10	21724	12	12
14300	12	19	21725	12	14
14301	12	9	21726	12	44
14302	12	5	21811	19	15
14303	12	6	21812	19	16
14853	19	55	21875	10	26
15208	12	22	21877	19	12
15250	10	27	31531	13	16
15255	12	23	31531	13	21
15433	10	6	31546	13	9
19075	8	57	31547	13	11
19078	8	12	32160	12	8
19136	12	42	34103	7	6
19158	12	20	36274	12	40
19208	6	38	36346	19	26
19214	7	16	36391	13	8
19223	8	1	36391	13	15
19230	6	81	36392	13	14
19233	7	1	36397	13	7
19234	6	78	36410	19	22
19241	6	108	36609	19	24
19246	6	86	36611	19	27
19246	9		36782	10	20
19248	9	51	36786	19	18
19257	6	56	36787	19	23
19261	6	51	50334	7	3
19263	7	26	80177	19	4
19283	12	58	80177	19	53

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
80186	12	28	15205-3	10	11
80192	19	38	16BS100C7	19	37
80314	10	12	1700B67	18	65
145025	19	19	1706B59	15	4
145865	19	29	1902S	18	147
146686	12	37	1902S	22	15
146778	19	20	1903S	18	157
149090	6	90	19076-3	8	23
149093	6	97	1908S	18	114
149097	6		19204-1	12	47
149099	10	2	19210-1	6	37
149101	19	2	19215-3	6	13
149102	19	5	19221-3	6	11
149104	19	6	19221-3	7	
149105	19	32	19225-3	6	62
149106	19	13	19225-3	8	
149110	19	56	19236-1	6	82
149111	6		19236-3	6	83
149119	6	9	19240-1	6	44
149126	7	7	19240-2	6	43
149131	6	17	19255-1	6	74
149161	6	93	19258-1	7	21
149192	6	94	19258-3	7	22
149470	6	64	19258-7	7	27
149540	6	24	19262	6	52
01-0504-1891	6	10	19840-1	12	48
058-001253	8	14	1N4751A	8	28
102-KR	3	26	1N4751A	8	52
10981-1	10	7	1SE2	11	76
1125C	8	38	1SE2	21	45
1209-10	12	39	1SE2-3	21	44
1209-5	10	19	1SE2-6	11	38
12554-3	10	28	2-111V747-75	18	47
125C3781	21	20	21NE058	7	14
13561-23	19	21	22NTM-40	10	16
136-093N1	6	55	239YC32	11	45
13781-2	12	16	239YC32	12	
1398-11	12	11	239YC33	10	
13981-11	12	7	28420-156A8	15	7
140-015-N-1	6	89	2N3741A	8	27
14304-1	12	1	2N4912	8	26
149304-1	6	26	2N5682	9	3
15205-1	10	9	2N6049	7	28
15205-1	12	29	3120GE243UO50AP	6	45
15205-2	10	10	31530-1	13	17
15205-2	12	27	31530-1	13	23

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
32-341	6	59	42277C221	18	153
3252-W-1-102	9	61	42277C228	21	49
3252-W1-103	9	62	42277C244	18	117
3252-W-1-501	9	63	42277C286	23	3
36610-1	19	25	42277C314	4	2
3L00	12	51	42277C314	5	8
4067-193	3	90	42277C315	4	4
4067-193	11	36	42277C315	5	6
4067-193	11	77	42277C326	3	25
4067-193	21	47	42277C341	3	41
42217C88	15	12	42277C342	3	45
42217C93	15	9	42277C344	3	79
42217D87	15	10	42277C346	3	38
42217D89	15	8	42277C349	4	5
42234D167	18	67	42277C352	3	44
42234D178	18	56	42277C366	3	49
42234D179	18	85	42277C370	3	59
42234D220	3	64	42277C517	17	9
42234D402	23	11	42277C518	17	10
42234D405	23	15	42277C576	17	13
42234D405	23	15	42277C584	17	16
42234D52	18	68	42277C610	13	32
42234D52	18	82	42277C615	13	3
42234D54	18	66	42277C704	6	95
42234D65	18	74	42277D121	18	138
42234D85	18	27	42277D124	18	101
42234D97	18	71	42277D130	18	96
42234E56	18	73	42277D131	18	84
42234R182-1	18	31	42277D137	18	89
42277-197	21	24	42277D139	18	91
42277-231	3	76	42277D139	18	94
42277-308	3	80	42277D140	21	16
42277-349	5	5	42277D146	21	22
42277-351	3	3	42277D151	21	40
42277-360	3	24	42277D153	21	1
42277-546	14	11	42277D156	18	104
42277-602	13	29	42277D156	21	7
42277C149	21	29	42277D158	21	23
42277C150	18	144	42277D160	22	9
42277C150	21	26	42277D165	18	143
42277C155	21	8	42277D167	18	122
42277C175	18	107	42277D179	18	150
42277C195	18	127	42277D181	18	81
42277C214	18	48	42277D185	21	27
42277C216	18	55	42277D215	22	7
42277C221	3	54	42277D217	18	51

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
42277D223	21	18	42277E125	18	98
42277D284	23	13	42277E138	18	90
42277D285	23	1	42277E144	21	19
42277D288	23	4	42277E145	21	9
42277D289	23	9	42277E166	18	128
42277D291	23	8	42277E168	18	108
42277D293	23	5	42277E180	18	77
42277D313	3	92	42277E182	3	75
42277D313			42277E183	18	118
42277D317	4	8	42277E184	18	83
42277D317	5	2	42277E198	18	136
42277D318	3	19	42277E206	18	57
42277D318			42277E210	18	53
42277D320	3	28	42277E327	3	43
42277D322	3	20	42277E332	3	81
42277D330	3	39	42277E336	3	74
42277D335	3	32	42277E339	3	12
42277D343	3	88	42277E358	3	83
42277D347	4	3	42277E362	3	31
42277D348	5	7	42277E368	3	84
42277D353	3	91	42277E513	17	3
42277D354	3	67	42277E539	11	19
42277D356	3	21	42277E542	14	15
42277D359	3	37	42277E556	15	1
42277D369	3	63	42277E559	15	18
42277D516	17	6	42277E594	11	3
42277D523	11	15	42277E596	11	21
42277D528-5	11	10	42277E600	11	48
42277D544	14	4	42277E600	13	
42277D550	14	9	42277E601	13	28
42277D551	14	10	42277E603	13	27
42277D557	15	2	42277R110	18	1
42277D577	11	35	42277R110-1	18	11
42277D587	11	66	42277R111	18	15
42277D591	11	70	42277R111-1	18	18
42277D597	11	34	42277R115	18	23
42277D598	11	20	42277R196	21	50
42277D604	13	2	42277R310-1	3	60
42277D605	13	1	42277R310-5	3	55
42277D607	17	8	42277R311-1	3	2
42277D616	13	19	42277R311-5	3	1
42277D617	13	20	42277R312-5	3	68
42277E112	18	20	42277R521	11	13
42277E112-1	18	22	42277R522	11	12
42277E117	18	115	42277R578	11	32
42277E118	18	79	42305-128	18	158



PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
42305-160	3	77	42305D574	11	84
42305-225	21	4	42305D585	11	55
42305-350	3	52	42305D599	11	86
42305-613	11	9	42305D608	17	15
42305-614	11	23	42305E127	18	133
42305-615	11	94	42305E132	18	161
42305-702	6		42305E132	20	
42305C114	18	42	42305E143	18	34
42305C122	21	38	42305E200	18	63
42305C148	18	60	42305E200	22	
42305C173	18	155	42305E200	23	
42305C234	20	3	42305E203	22	1
42305C243	20	5	42305E213	18	50
42305C515	17	14	42305E222	18	148
42305C533	11	65	42305E236	20	10
42305C534	11	24	42305E237	20	1
42305D119	18	130	42305E237-1	20	2
42305D128	18	156	42305E280	18	162
42305D179	18	70	42305E502	15	14
42305D186	21	28	42305E510	11	81
42305D190	22	10	42305E510	17	
42305D211	18	58	42305E511	17	1
42305D219	22	6	42305E512	17	2
42305D219	23	6	42305E514	17	4
42305D230	20	7	42305E514-1	17	5
42305D231	20	8	42305E526	16	1
42305D232	20	6	42305E531	11	68
42305D235	20	4	42305E532	11	69
42305D238	20	9	42305E535	11	83
42305D287	23	7	42305E536	11	67
42305D290		16	42305E540	11	50
42305D290	23	16	42305E540	14	
42305D372	3	9	42305E552	14	14
42305D519	11	71	42305E554	11	56
42305D528	11	4	42305E555	11	51
42305D528	16		42305E555	15	
42305D537	11	52	42305E558	15	17
42305D545	14	2	42305E561	11	63
42305D547	14	6	42305E561	17	12
42305D553	11	89	42305E571	11	72
42305D563	14	5	42305E581	16	2
42305D564	14	7	42305E590	11	92
42305D567	11	91	42305E591	11	93
42305D569	17	23	42305E592	11	43
42305D572	11	57	42305E593	11	87
42305D573	11	82	42305E593-1	11	88

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
42305E594	11	98	57A5A23-2	11	80
42305E724	6	8	71X7000	18	123
42305R100	18		755017A4021	6	50
42305R113	18	41	76-2190-404	21	36
42305R113-1	18	43	7704301CB	9	7
42305R142	18	38	77R8XR1CJ3	13	25
42305R220	18	32	80181-2	19	28
42305R220	21		80200-2	12	25
42305R300	3		80200-2	19	17
42305R500	11		814150651225M50V	8	32
42305R530	11	26	8217-S0632-3B	6	88
42305R530-1	11	27	8217-SO632-3B	6	70
42305R565	11	28	8217-SO632-3B	6	73
42305R568	11	59	886-1	10	30
42305R700	6		886-108	13	5
42315-281	3	78	886-109	13	6
42325-212	22	11	886-11	12	36
42325-228	22	12	886-12	10	23
42325-255	22	8	886-121	12	18
42-81496	6	36	886-13	13	24
42-81652	6	100	886-144	10	24
42-81654	6	103	886-167	19	7
42-81656	6	102	886-168	19	8
49001C10	21	21	886-169	19	9
49001C12	18	119	886-2	13	22
49001C36	18	146	886-211	10	32
49001C42	3	27	886-229	12	53
49001C6	3	34	886-231	12	54
49001C6	21	25	886-249	19	34
49001C8	18	125	886-250	19	35
49001C8	18	142	886-251	19	36
49001C8	18	145	886-29	10	31
49001C8	22	14	886-360	20	12
49001C82	18	113	886-361	20	13
49001C82	18	140	886-362	20	14
49002C39	4	6	886-4	13	18
49002C39	5	4	886-5	10	22
49003C10	15	16	886-53	13	4
49008C99	22	5	886-7	10	17
508-050-NY	9	66	886-7	12	35
5100-18	13	13	886-94	12	52
527KE3	18	37	886-97	12	17
527KE3	19		9105KPP	18	99
5605-28	7	33	9226N140	7	4
5605-40	7	24	9306K	18	141
5605-44	7	11	A312A095-101	8	6

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
A55485/03-007D	8	25	AN960PD416L	21	37
AA59569R36T0250	10	3	AN960PD516	18	40
AA921-3	18	24	AN960PD616	17	19
AMS 7276	18	121	AN960PD6L	11	54
AMS1KY	18	129	AN960PD8	21	11
AN174CH6A	11	30	AN960PD8L	11	74
AN175H10A	11	18	AS568-035MILG21569C6	15	3
AN3-16A	3	46	B21139	18	59
AN320-4	18	87	B40-24-2	15	13
AN320-5	18	97	B44XOH	14	3
AN320-7	22	3	B543	18	54
AN3-25A	18	35	B545ZZ	3	66
AN3C4A	3	73	B5602	3	4
AN3C5A	3	5	B5631	18	17
AN3CH5A	3	6	C0240-024-0500S	14	1
AN4CH4A	3	65	C0240-024-0500S	14	13
AN503-6-12	18	134	C0300-032-0440S	21	42
AN505-10-9	19	14	D14131-6	19	11
AN505-6R44	12	50	DBM1062-330-062	7	15
AN525D832-8	21	31	DM-123	8	22
AN565D6H2	12	24	E0360-055-1120M	3	42
AN5H6	18	39	F2400-5	11	16
AN742H4	3	70	FF303-4	3	56
AN931-8-13	11	2	FV3-4	6	85
AN960-1016L	17	21	FV3-4	10	
AN960-10C	11	96	G60T-C10	19	44
AN960-10L	6	33	HY515-1	9	65
AN960-10L	8	8	J108	18	137
AN960-416L	6	49	J221P152	18	52
AN960-4L	10	15	J2816	18	49
AN960-516L	6	27	J68OH	21	17
AN960-516L	7	12	JAN1N2973B	8	5
AN960-6	8	4	JAN1N3611	8	39
AN960-6	8	62	JAN1N3911R	7	8
AN960-6	19	49	JAN1N751A	9	20
AN960-6	7	34	JAN1N753A	9	19
AN960-616L	6	30	JAN1N914B	9	9
AN960-716	22	4	JAN2N2219A	8	24
AN960-8L	6	20	JAN2N2219A	9	1
AN960-8L	6	53	JAN2N2905A	8	43
AN960B416	7	18	JAN2N2905A	9	2
AN960C4L	11	62	JAN2N6284	8	58
AN960PD10	18	13	JANTX2N5686	7	37
AN960PD10L	3	47	JE12	3	89
AN960PD10L	21	13	JE5	11	39
AN960PD416	18	45	JE5	21	46

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
K10X13X13TN	15	11	MS16555-40	18	8
K19782-H0	6	92	MS16555-543	3	30
KNL524	11	14	MS16555-55	18	9
KNL524	11	29	MS16555-60	18	10
KP10A	23	10	MS16562-36	17	22
LM101AH	9	8	MS16624-1025	18	106
LM109KSTL/883B	8	13	MS16624-1025	21	5
LP15D058S13	7	13	MS16625-1090	18	64
LTD-0510	3	29	MS16625-4102	12	55
LTD0714	18	86	MS16626-1100	4	1
LTD-0816	3	18	MS16626-1100	5	9
LTD1020	18	135	MS16629-1056	12	30
M24243/1-A302	11	44	MS16697-33	6	19
M24243/1-A302	19	33	MS16997-18	21	2
M39003/01-3076	8	31	MS16997-21	7	30
M39003/01-3100	8	33	MS16997-22	7	29
M39003-01-3006	8	30	MS16998-19	11	33
M39003-01-3006	9	14	MS16998-29	18	33
M39003-01-3023	8	48	MS16998-29	21	41
M39003-01-3070	9	11	MS16998-30	3	50
M39003-01-3076	9	13	MS172206	18	102
M39003-01-3094	8	49	MS172241	18	103
M39014/02-1338	8	53	MS17795-103	18	29
M39014/02-1338	9	10	MS20066-117	3	22
M39014-01-1321	9	18	MS20066-234	18	75
M39014-01-1330	9	17	MS20066-3	18	105
M39014-01-1357	9	16	MS20066-3	21	6
M39014-02-1342	9	12	MS20068-53	18	76
M39014-02-1350	9	15	MS20392-5C71	17	18
M83248/1-014	18	78	MS20426E2-8	14	8
M83248/1-215	18	112	MS20426E4-6	11	17
M83248/1-278	18	116	MS20427F4-5	17	7
M83248-1-011	18	61	MS20613-4C14	18	92
M83248-1-014	18	139	MS20613-4C20	23	2
M83248-1-016	18	124	MS20659-111	6	57
M83248-1-035	21	14	MS20659-130	6	75
M83248-1-905	18	132	MS20659-138	7	5
MF7200-3	21	43	MS20659-144	6	58
MILR27426	20	11	MS21042-3	3	51
MILS22499	18	100	MS21042L06	7	35
MR508	6	7	MS21042L06	8	18
MR811	8	29	MS21042L06	8	63
MS14151-2	3	14	MS21042L06	13	31
MS14151-2	3	16	MS21042L08	6	23
MS14151-2	18	109	MS21042L08	11	47
MS16555-20	18	7	MS21042L4	7	19

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
MS21044N3	11	97	MS24665-283	17	17
MS21045-3	3	36	MS24665-359	11	64
MS21045-3	3	48	MS24678-11	19	1
MS21045-L04	12	34	MS24678-11	19	54
MS21083B3	6	35	MS24693-24	14	12
MS21083B5	6	29	MS24693C295	18	69
MS21083B6	6	32	MS24693-S24	11	58
MS21083D08	21	35	MS24693-S25	11	85
MS21083D3	21	12	MS24693-S36	13	30
MS21083N06	19	50	MS24694C49	3	85
MS21083N08	11	75	MS25036-101	6	1
MS21083N3	18	14	MS25036-101	7	38
MS21090-0414	6	12	MS25036-101	10	13
MS21090-0414	6	67	MS25036-101	12	31
MS21090-0414	6	99	MS25036-103	6	3
MS21090-0623	6	91	MS25036-106	7	47
MS21090-0623	19	41	MS25036-108	6	4
MS210906-06001	6	14	MS25036-149	6	2
MS21096-04001	6	77	MS25036-149	21	33
MS21096-06001	6	25	MS25036-154	7	46
MS21096-06001	6	72	MS25041-10	6	16
MS21096-06001	8	3	MS25082B4	7	17
MS21096-06003	6	63	MS25082S3	8	10
MS21096-06003	6	87	MS25237-327	6	15
MS21096-06003	8	2	MS25281-F3	8	60
MS21096-08001	6	18	MS25281-F6	8	11
MS21096-08001	6	84	MS25306-222	6	107
MS21209C0615P	21	51	MS27183-4	12	33
MS21209C0815P	21	52	MS27400-9	6	69
MS21209F0815	11	90	MS27641-20	15	15
MS21295-16	6	39	MS27646-38	16	3
MS21295-22	6	40	MS27646-39G	16	4
MS21295-36	6	42	MS27769-2	18	46
MS21318/-7	3	53	MS28774-011	18	62
MS21318-7	11	25	MS28775-010	3	10
MS21318-7	12	57	MS28775-013	3	23
MS21318-7	18	154	MS28775-016	23	14
MS21333-69	3	71	MS28775-016	23	14
MS21333-69	21	32	MS28775-023	23	12
MS21333-69	21	34	MS28775-111	12	3
MS21333-71	3	72	MS28775-126	19	3
MS21906-06002	6	79	MS28775-133	11	5
MS24655-134	18	88	MS28775-156	3	8
MS24660-23D	6	96	MS28775-238	11	31
MS24665-134	22	2	MS28782-20	18	111
MS24665-281	3	61	MS3116E18-32S	9	67

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
MS3126E14-12P	11	1	MS35338-46	6	28
MS3126F10-6P	3	62	MS35338-98	6	61
MS3367-4-9	6	5	MS35338-98	7	31
MS3367-5-9	6	6	MS35338-98	8	17
MS3420-16	19	43	MS35338-99	6	22
MS3470W10-6S	6	98	MS35338-99	6	60
MS3470W12-8S	6	104	MS35489-38	21	39
MS3470W18-32P	6	76	MS35648-12	17	11
MS3472W14-12S	6	101	MS35649-265	8	21
MS35058-22	6	105	MS35649-282	6	48
MS35190-224	10	14	MS35649-286	6	21
MS35190-224	12	32	MS35756-3	4	7
MS35190-237	12	45	MS35756-3	5	3
MS35190-269	10	1	MS35756-3	18	159
MS35206-203	7	43	MS51830-201L	3	57
MS35206-212	11	61	MS51830-202	3	58
MS35206-213	11	60	MS51830-202	18	25
MS35206-226	11	53	MS51830-204L	18	5
MS35206-229	8	16	MS51838-93	18	80
MS35206-231	8	59	MS51957-9	3	86
MS35206-234	19	48	MS51957-9	11	37
MS35206-240	10	34	MS51957-9	11	78
MS35206-327	8	15	MS51957-9	21	48
MS35206-327	8	61	MS51973-112	11	7
MS35207-261	11	8	MS6106/13-001	6	68
MS35207-263	3	13	MS9015-02	3	11
MS35207-263	3	15	MS9015-08	18	152
MS35207-266	3	17	MS9048-112	17	20
MS35207-268	18	110	MS9068-044	19	39
MS35215-75	7	23	MS9486-50	22	13
MS35265-1	10	5	MS9841-06	18	93
MS35265-19	12	15	MV83523TS-446V	18	36
MS35265-2	12	2	MW-296-140	8	19
MS35265-26	19	31	MW-562-203-002	8	7
MS35265-46	21	10	N5001-56MD	10	8
MS35265-50	11	46	NAS1103-44	3	82
MS35265-52	11	49	NAS1149DN632K	21	3
MS35265-52	11	73	NAS1252-10L	3	7
MS35266-65	18	19	NAS1304-18	18	44
MS35266-66	18	12	NAS1351-3-10P	11	95
MS35333-38	10	33	NAS1352-06H8	11	42
MS35338-100	6	41	NAS1352-08H4	11	22
MS35338-100	8	9	NAS1394C3L	11	11
MS35338-101	7	20	NAS1394C3L	18	2
MS35338-43	6	34	NAS1394C3L	18	26
MS35338-45	6	31	NAS1394C4L	3	69

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
NAS1394C4L	18	3	RCR20G330JS	8	44
NAS1394C5L	18	4	RCR20G393JS	8	51
NAS1394CA3	18	16	RCR20G471JS	9	27
NAS1394CA3	18	21	RCR20G471JS	9	32
NAS1395C06	18	6	RCR20G474JS	8	54
NAS1593-133	18	160	RCR32G102JS	8	42
NAS1595-8	18	131	RCR32G152JS	8	46
NAS1595-8	18	151	RCR32G202JS	8	47
NAS43DD1-16	11	40	RCR32G220JS	7	44
NAS620-10L	3	35	RCR32G271JS	7	45
NAS620-2	7	42	RCR32G331JS	8	37
NAS620-6L	11	41	RCR32G471JS	8	34
NAS620-6L	11	79	RER65F1R00R	7	41
NAS620-8	18	28	RER65FR100R	7	40
NAS620-8	18	30	RER70F25R0R	6	106
NAS620A2	3	87	RER75F4R02R	6	66
NAS620A416L	3	40	RER75G12R1R	6	65
PAMS1K7FS60160	3	33	RNC60H1001FS	8	36
PC06E8-4SSR	18	149	RNC60H1001FS	9	37
PT06SE12-8P(SR)	21	30	RNC60H1002FS	9	24
R4ZZ	21	15	RNC60H1003FS	9	41
R6ZZST035T023H20	15	5	RNC60H1272FS	9	55
R8ZZ	18	95	RNC60H2001FS	9	60
R8ZZ	18	120	RNC60H2052FS	9	53
RCB081214FS	4	9	RNC60H2152FS	9	28
RCB081214FS	5	1	RNC60H2213FS	9	47
RCR07G102JS	9	30	RNC60H2802FS	9	44
RCR07G103JS	9	23	RNC60H3832FS	9	35
RCR07G185JS	9	42	RNC60H3922FS	9	43
RCR07G202JS	9	29	RNC60H3923FS	9	50
RCR07G203JS	9	39	RNC60H4492FS	9	58
RCR07G222JS	9	52	RNC60H4641FS	9	36
RCR07G223JS	9	56	RNC60H4751FS	9	59
RCR07G272JS	9	22	RNC60H4991FS	9	57
RCR07G331JS	9	38	RNC60H6191FS	9	46
RCR07G332JS	9	31	RNC60H6192FS	9	48
RCR07G472JS	9	25	RNC60H6651FS	9	49
RCR07G512JS	9	33	RNC60H6652FS	9	26
RCR07G681JS	9	21	RNC60H8062FS	9	54
RCR07G682JS	9	34	RNC60H9091FS	9	40
RCR20G101JS	8	50	RNC60H9532FS	9	45
RCR20G102JS	8	40	RR50C	13	10
RCR20G154JS	8	45	RRT106CK	16	7
RCR20G201JS	8	41	RRT118C	16	6
RCR20G222JS	8	56	RST62	16	5
RCR20G273JS	8	55	RWP21F6800F	8	35

PART NUMBER	FIG.	ITEM	PART NUMBER	FIG.	ITEM
S5KDDC2FS160	10	18	T087-1A	15	6
SCSF1R	7	9	TA2402A	7	36
SE096E02	6	80	TW-147-236-094N	7	32
SE096E02	7	48	TW-147-236-094N	8	20
SE16XC02	9	64	TW260-370-100TS	7	25
SL375	11	6	TW-325-425-115N	7	10
SR33PPK58-168	13	12	W2420-025	13	33
SR5P4	12	4	WA510	18	72
SS77038LR3053E9	10	21	WBR6	10	25
SS77R4XR3MILG327246178	12	38	Z993L03XR1DU4	19	10
SSRI-1214RA3P15LO1	18	126			

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
COMPONENTS OF END ITEM (COEI) AND BASIC ISSUE ITEMS (BII) LISTS**

---

**NOT APPLICABLE**

**End of Work Package**



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**HIGH PERFORMANCE RESCUE HOIST ASSEMBLY  
EXPENDABLE AND DURABLE ITEMS LIST**

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**INTRODUCTION****Scope**

This work package lists expendable and durable items that you will need to operate and maintain the High Performance Rescue Hoist Assembly. This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), CTA 50-909, Field and Garrison Furnishings and Equipment or CTA 8-100, Army Medical Department Expendable/Durable Items.

**Explanation of Columns in the Expendable/Durable Items List**

Column (1) Item No. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., "Use brake fluid (WP 0098, item 5)").

Column (2) Level. This column identifies the lowest level of maintenance that requires the listed item (O = Unit/AVUM, F = Direct Support/AVIM, D = Depot).

Column (3) National Stock Number (NSN). This is the NSN assigned to the item, which you can use to requisition it.

Column (4) Item Name, Description, Part Number/(CAGEC). This column provides the other information you need to identify the item. The last line below the description is the part number and the Commercial and Government Entity Code (CAGEC) (in parentheses).

Column (5) U/I. Unit of Issue (U/I) code shows the physical measurement or count of an item, such as gallon, dozen, gross, etc.

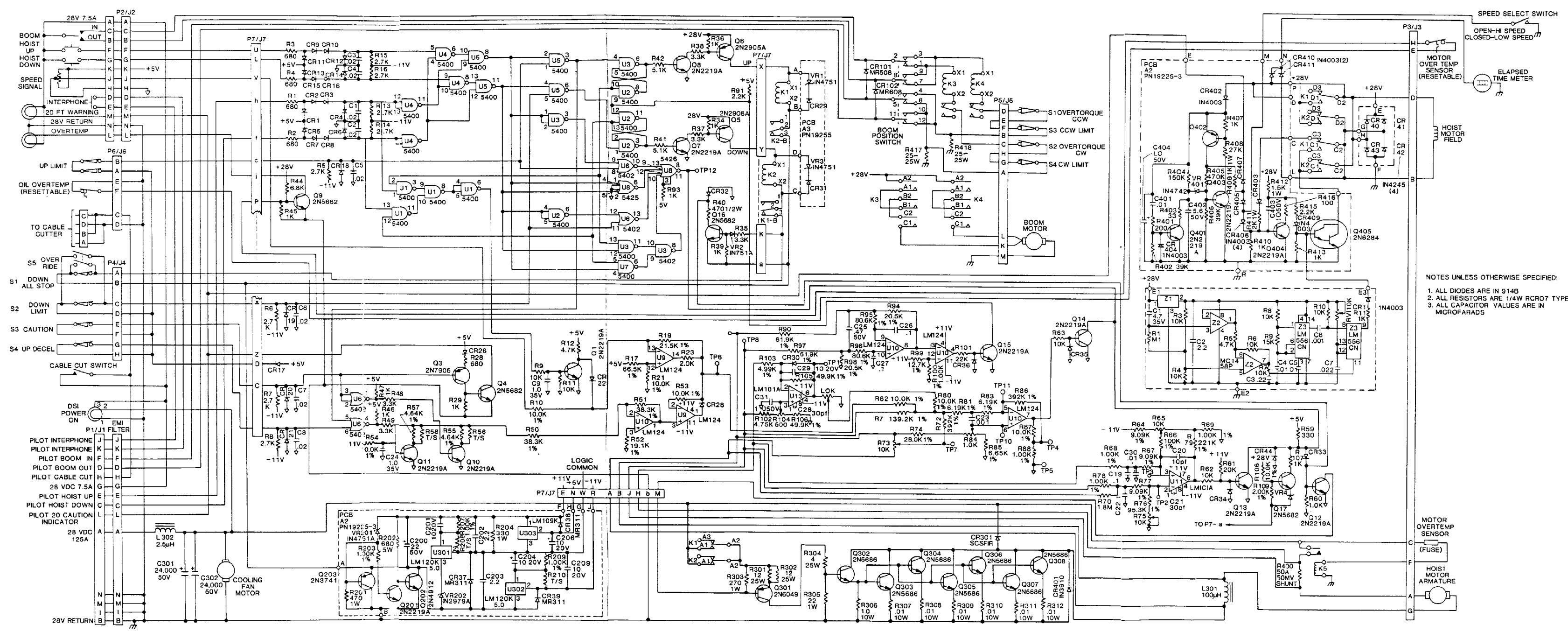
Table 1. Expendable and Durable Items List.

(1) Item No.	(2) Level	(3) National Stock Number (NSN)	(4) Item Name, Description, Part Number (CAGEC)	(5) U/I
1	O/F	5350-00-192-5051	Abrasive Cloth, Aluminum Oxide, P-C-451	ea
2	O/F	8040-00-851-0211	Adhesive, RTV732, Clear	oz
3	F	8040-00-865-8991	Adhesive, RTV103	oz
4	O/F	5306-00-282-5821	Bolt, Machine, AN3H26A	ea
5	F	6145-00-728-4026	Braid, Wire, QQ-B-575	ft
6	O/F	7920-00-205-2401	Brush, Cleaning, Tool and Parts	ea
7	O	5340-00-014-0008	Cap Plug, EP12, NAS820-12-12S	ea
8	O	5340-01-272-4958	Cap Plug, EP14, NAS820-14-14S	ea
9	O	5340-00-496-5832	Cap Plug, EP16, NAS820-16-16S	ea
10	O	5935-01-322-4929	Cap Plug, EP32, NAS820-32A	ea
11	O/F	8030-00-823-8039	Chemical Conversion Coating, MIL-C-5541	gl
12	O/F	6850-00-285-8011	Cleaning Solvent, MIL-PRF-680, Type II	dr
13	O/F	7920-00-044-9281	Cloth, Cleaning, Low-lint, MIL-C-85043, Type II	bx
14	O/F	9150-00-985-7245	Grease, Aircraft, MIL-G-23827	oz
15	F	9150-00-944-8953	Grease, Aircraft, MIL-PRF-81322	cn
16	O/F	9150-00-698-2382	Hydraulic Fluid, ATF, Dexron III	qt
17	O/F	9150-00-252-6383	Hydraulic Fluid, Petroleum Base, MIL-PRF-5606	qt
18	O/F	5790-00-954-1624	Insulation Sleeving, FIT-221-3/8, Black	ft
19	O/F	8010-00-935-6609	Lacquer, Acrylic, MIL-L-81352	cn
20	O/F	8030-00-964-7537	Loctite, Blue, Grade C, Item No. 8431, MIL-S-24473E	oz
21	O/F	9525-00-618-0257	Lockwire, MS20995NC20	lb
22	O/F	9505-00-355-6072	Lockwire, MS20995NC32	lb
23	O/F	9150-01-439-0756	Lubricating Oil, MIL-L-23699	qt
24	O/F	9150-00-782-2627	Lubricating Oil, MIL-L-7808	qt
25	O/F	5350-00-619-9166	Paper, Abrasive, ANSI B74.18, 100 Grit	sh
26	O/F	5350-00-174-0995	Paper, Abrasive, ANSI B74.18, 400 Grit	bd
27	O/F	9150-00-250-0926	Petrolatum, VV-P-236	cn
28	O/F	8010-01-416-6556	Primer, Polyimide Epoxy, MIL-PRF-23377, Type I, Class C	kt

(1) Item No.	(2) Level	(3) National Stock Number (NSN)	(4) Item Name, Description, Part Number (CAGEC)	(5) U/I
29	O/F	8010-00-899-0931	Primer, Zinc Chromate, TT-P-1757	qt
30	O/F	8030-00-148-9833	Sealing Compound, MIL-S-46163, Type 1, Grade K	oz
31	F	3439-00-404-8023	Solder, Resin, ASTM B32	ea
32	F	3439-00-411-5097	Solder, Resin, QQ-S-571, SN96	lb
33	O/F	6810-00-476-5612	Trichloroethane, MIL-T-81533	cn
34	F	5970-00-954-1624	Tubing, Heat Shrink, MIL-I-23053/5	ft
35	F		Varnish, BC305, John Dolph Co.	
36	O/F	8030-01-418-9008	WD-40, Lubricant	cn
37	O/F	9525-01-082-1008	Wire, Nonelectrical, MS20995CY15	lb

**End of Work Package**





- NOTES UNLESS OTHERWISE SPECIFIED:
1. ALL DIODES ARE IN 914B
  2. ALL RESISTORS ARE 1/4W RCRO7 TYPE
  3. ALL CAPACITOR VALUES ARE IN MICROFARADS

Figure FO-1. Rescue Hoist Electrical Schematic





By Order of the Secretary of the Army:

Official:



JOYCE E. MORROW  
*Administrative Assistant to the  
Secretary of the Army*  
0620503

PETER J. SCHOOMAKER  
*General, United States Army  
Chief of Staff*

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The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" <whomever@wherever.army.mil>

To: 2028@redstone.army.mil

Subject: DA Form 2028

1. **From:** Joe Smith
2. **Unit:** home
3. **Address:** 4300 Park
4. **City:** Hometown
5. **St:** MO
6. **Zip:** 77777
7. **Date Sent:** 19-OCT-93
8. **Pub no:** 55-2840-229-23
9. **Pub Title:** TM
10. **Publication Date:** 04-JUL-85
11. **Change Number:** 7
12. **Submitter Rank:** MSG
13. **Submitter FName:** Joe
14. **Submitter MName:** T
15. **Submitter LName:** Smith
16. **Submitter Phone:** 123-123-1234
17. **Problem:** 1
18. **Page:** 2
19. **Paragraph:** 3
20. **Line:** 4
21. **NSN:** 5
22. **Reference:** 6
23. **Figure:** 7
24. **Table:** 8
25. **Item:** 9
26. **Total:** 123
27. **Text:**

This is the text for the problem below line 27.





<b>TO:</b> (Forward direct to addressee listed in publication) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL. 35898	<b>FROM:</b> (Activity and location) (Include ZIP Code) MSG, Jane Q. Doe 1234 Any Street Nowhere Town, AL 34565	<b>DATE</b> 8/30/02
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**PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS**

PUBLICATION NUMBER			DATE	TITLE				
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

**PART III - REMARKS** (Any general remarks, corrections, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)

**EXAMPLE**

TYPED NAME, GRADE OR TITLE MSG, Jane Q. Doe, SFC	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION 788-1234	SIGNATURE
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<b>RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS</b>  For use of this form, see AR 25-30; the proponent agency is ODISC4.	Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM)	DATE
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TO: (Forward to proponent of publication or form)(Include ZIP Code) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL 35898	FROM: (Activity and location)(Include ZIP Code)
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**PART 1 - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS**

PUBLICATION/FORM NUMBER	DATE	TITLE
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ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON

\* Reference to line numbers within the paragraph or subparagraph.

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/ AUTOVON, PLUS EXTENSION	SIGNATURE
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<b>TO:</b> (Forward direct to addressee listed in publication) Commander, U.S. Army Aviation and Missile Command ATTN: AMSAM-MMC-MA-NP Redstone Arsenal, AL 35898	<b>FROM:</b> (Activity and location) (Include ZIP Code)	<b>DATE</b>
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**PART II - REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS**

PUBLICATION NUMBER			DATE	TITLE				
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

**PART III - REMARKS** (Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)

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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
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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 decigrams = .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 milliliters = .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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**PIN: 083427-000**