TM 5-3895-265-14

DEPARTMENT Of THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DS AND GS MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

HAMMER, PILE DRIVER, SELF-POWERED; DIESEL DRIVEN, W/FUEL OIL TANK AND LUBRICATING OIL TANK (LINK-BELT SPEEDER MODEL 180M) FSN 3895-014-0583

HEADQUARTERS, DEPARTMENT OF THE ARMY
23 SEPTEMBER 1969

SAFETY PRECAUTIONS

Before Operation

Stand clear of the hammer when it is being lifted to prevent injury should the lifting device fail.

Do not smoke or allow an open flame within 50 feet when handling fuel.

When handling fuel, always provide a metal-to-metal contact between the container and tank. This will prevent a spark from being generated as fuel flows over the metallic surfaces.

Avoid spilling starting fluid on hands or clothing especially in cold weather. Severe frost bite may result.

During Operation

Never attempt to clean, oil, or adjust hammer while it is in operation.

Do not pull latch rope on side of starting device cover while hammer is in operation.

Stand clear of hammer when it is being lifted to prevent injury should the lifting device fail.

Stand clear of hammer to avoid injury from heat, splintered, or damaged pile or broken part.

After Operation

Do not use starting fluid around hammer while it is still at operating temperature.

Do not smoke or allow an open flame within 50 feet when handling fuel.

CHANGE

No. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 2 *August 1990*

Operator's, Organizational, Direct Support, and General Support Maintenance Manual Including Repair Parts and Special Tools Lists for HAMMER, PILE DRIVER, SELF-POWERED; DIESEL DRIVEN, W/FUEL OIL TANK AND LUBRICATING OIL TANK (LINK-BELT SPEEDER MODEL 180M) NSN 3895-00-014-0583

Current As Of 1 December 1988

TM 5-3895-265-14, 23 September 1969, is changed as follows:

Cover and *title page (page* i). The manual title is changed to read as shown above.

Page 1-1. Paragraph 1-2 is superseded as follows:

1-2. Maintenance Forms and Records

a. Department of the Army Forms and procedures used for equipment maintenance will be those prescribed by DA Pam 738-750, The Army Maintenance Management System (TAMMS).

b. You can help improve this manual. If you find any mistakes or know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

Page 3-2. Change the following in Table 3-1:

Table heading. Delete "M-Monthly" and "Q-Quarterly"; add "S-Semiannually".

Org. Interval Column. Delete "M" and "Q" Columns and replace with "S" Column and place an "X" for item number 3, 4, 7, 9, and 10.

Item 3. In the Item to be Inspected Column, change "Combustion Chamber" to read "Upper Cylinder".

In the Procedure Column, change "combustion" to "bounce".

Page A-1, paragraph 3. Change "TM 38-750" to read "DA Pam 738-750".

Page D-1. Paragraph 2.a is superseded as follows:

a. Prescribed Load Allowance (PL4)-Section II. Not applicable.

Page D-3, paragraph 3.*k* (4). Change *'U.S. Army Mobility Equipment Command" to "U.S. Army Tank-Automotive Command".

Page D-4.

Paragraph 7. After item 13, add "61370" in the Code Column and "International Construction Equipment. Inc." in the Manufacturer Column.

"Section II. Prescribed Load Allowance" is rescinded.

Page D-11. line 6.

Column (2). Delete "3895-116-0382".

Column (3). Change "CCZ701 (81118)" to "15H75 (61370)".

Page D-14.

Line item 7. Delete in its entirety.

Line item 8.

Column (3). Change "13545" to "13J45M".
Column (3). Delete "B".

Page D-27, line 9.

Column (2). Delete "3895-116-0382".

Column (3). Change "CC2701 (81118)" to "15H75 (61370)".

Page D-31.
Line item 4. Delete in its entirety.
Line item 5.
Column (3). Change “13J45” to "13J45M".
Column (3). Delete “B”.

All changes, additions, or deletions of stock numbers, manufacturers’ codes, and part numbers with this change should be appropriately reflected in the index.

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

THOMAS F. SIKORA
Brigadier General, United States Army
The Adjutant General

Distribution:

To be distributed in accordance with DA Form 12-25-E (Blocks 0943, 0944, 0945) Operator, Unit, Direct Support and General Support maintenance requirements for TM 5-3895-265-14.

✪U.S. GOVERNMENT PRINTING OFFICE: 1990 743-015/20041

CHANGE
No. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 5 *September 1973*

Operator's, Organizational, Direct Support, and General Support Maintenance Manual Including Repair Parts and Special Tools Lists for HAMMER, PILE DRIVER, SELF-POWERED; DIESEL DRIVEN, W/FUEL OIL TANK AND LUBRICATING OIL TANK (LINK-BELT SPEEDER MODEL 180M) FSN 3895-014-0583

Current As Of 5 June 1973

TM 5-3895-365-14, 23 September 1969, is changed as follows:

All changes, additions, or deletions of Federal stock numbers (FSN's) or manufarturer's part numbers (PIN's) must be appropriately reflected in the parts listing (section VII) of this manual.

Page i. In the table of contents, delete APPENDIX B.

Page 1-1. Paragraph 1-2*b* is superseded as follows:

b. The reporting of errors, omissions. and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 3038 (Recommended Changes to Publications) and forwarded direct to Commander, US Army Troop Support Command. ATTN: AM-STS-MPP, 4300 Goodfellow Boulevard, St. Louis, MO 63120.

Page 1-4. In paragraphs 1-4*b* (2), (3), (4), (7), (8), (9), (10), and (11), add "SN180M-3001 through 180M-3170" in the appropriate p1ac.e.

Page 2-1. In paragraph 2-3. add *b* as follows:

b. Refer to table 2-1 for a list of the maintenance and operating supplies required for this equipment.

Table 2-1. Maintenance and Operating Supplies

(1) Component application	(2) Federal stock number	(3) Description	(4) Quantity required for initial operation	(5) Quantity required for 8 hrs operation	(6) Notes
0127 TANK LUBRICATING OIL.	9150-680-1102	Oil, Lubricating, 5 gal pail: HDO-10Text	19 gal (2)	1.6 gal	(1) See C9100 IL for additionak dara and requisitioning purpose.
	9150-680-1099 (1)	HDO-30	1.9 gal (20	1.6 gal	(2) See current LO for grade application and replenishment intervals.
	9150-265-7603 (1)	OES	1.9 gak	1.6 gal	
0306–TANK, FUEL		FUEL OIL, DIESEL:			(3) Tank capacity (4) Three (3) pumps for each fitting after every hour of operation.
	9140-286-5294 (1)	regular grade, DF-2, bulk	5.5 gal (3)	6.0 gal	
	9140-286-5296 (1)	Winter grade, DF-1. 55 gal drum.	5.5 gal (3)	6.0 gal	
	9140-286-5283 (1)	Arctic grade, DF-A, bulk	5.5 gal (3)	6.0 gal	

Table 2-1. Maintenance and Operating Supplies

(1) Component application	(2) Federal Stock number	(3) Description	(4) Quantity required for initial operation	(5) Quantity required for 8 hrs operation	(6) Notes
0306 – TANK. STARTING FLUID	6850-823-7861	STARTING, FLUID, INTERNAL Combustion Engine: 12 oz	4 oz	4 0z	
4309–HYDRAULIC CONTROL SYSTEM	9150-223-4134	HYDRAULIC FLUID, PETROLEUM Base: 1 gal. OHA.	3 pts		
7314–GREASE POINTS.	9150-190-0905 (1)	GREASE, AUTOMOTIVE AND ARTII.LERY: 5 lb call	1/4lb (4)	1/4lb	

Page 3-5. In paragraph 3-13 b, after the last sentence, add "On Serial Numbers 180M-3001 through 180M-3170, the oil goes through one hose only, that is, to the upper cylinder. The hose for oiling the fuel pump drive housing is not used."

Page 3-6. After figure 3-6, add figure 3-6A as follows:

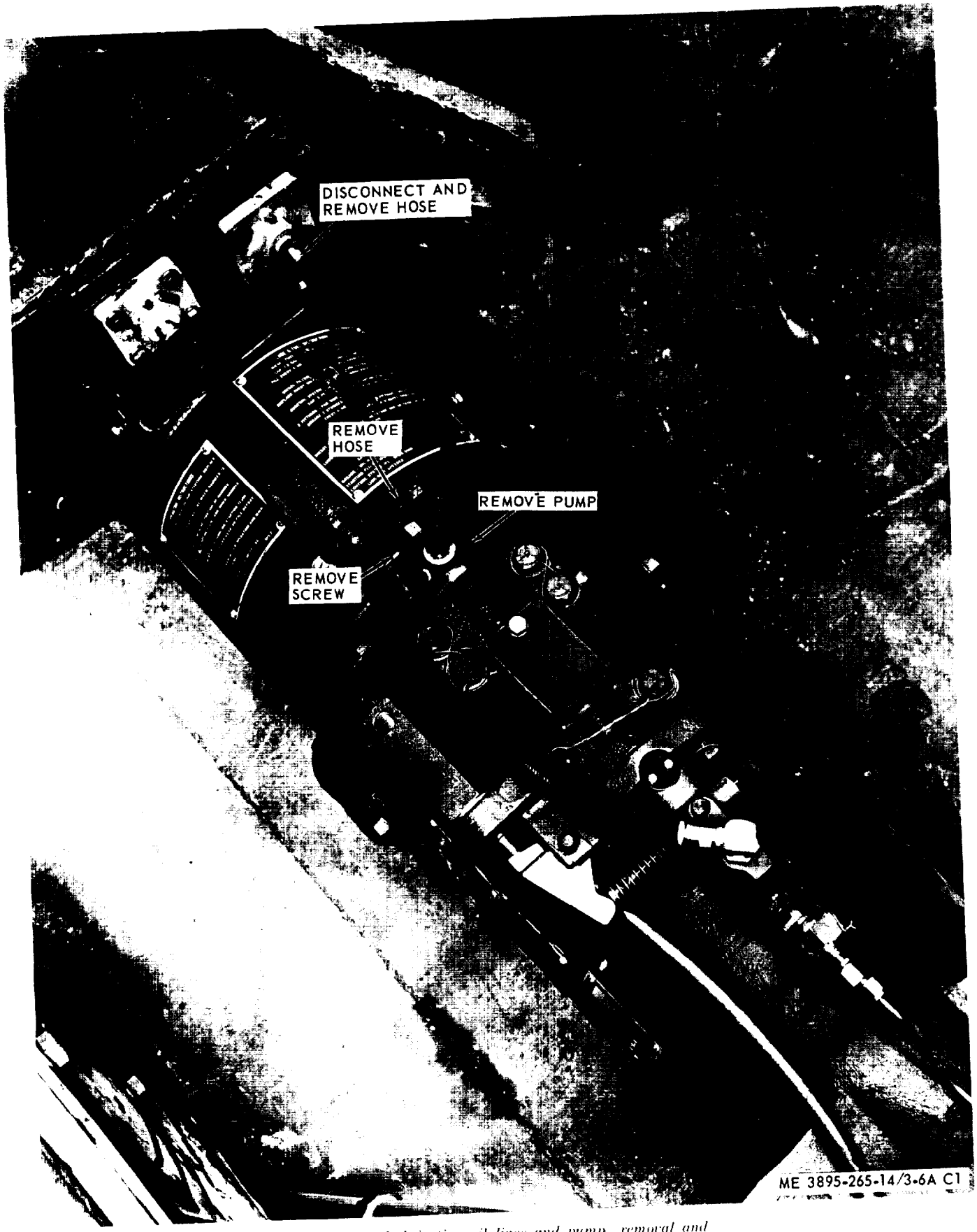


Figure 3-6A. Lubricating oil lines and pump removal and installation (SN 180M 3001 through 180M-3170).

After figure 3-7, add figure 3-7A as follows:

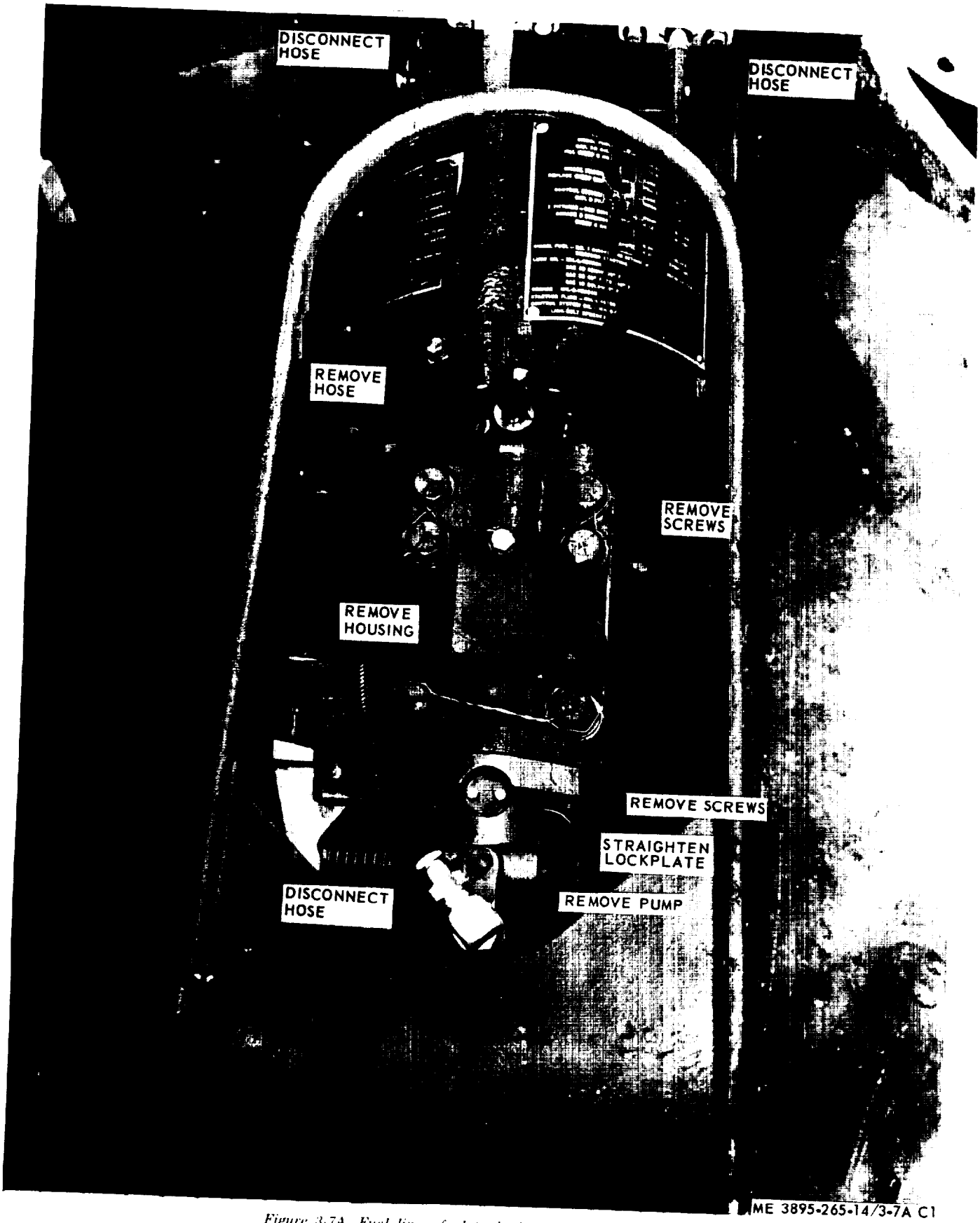


Figure 3-7A. Fuel lines, fuel tank, fuel pump, and fuel pump drive housing removal and installation (SN 180M-3001 through 180M-3170).

In paragraph 3-16*a*, line 2, after *3-6*. add "or figure 3-6A."

Page .3-7. In paragraph 3-18*a*, line 3, after *3-7*, add "or figure 3-7A."

Page 6-1. In paragraph 6-3*a*. line 2, after 3-6, add "or figure 3-6A."

Paragraph 6-3*d* (4) superseded as follows:

(4) Remove the lube oil lines from the TEE fitting on top of the pump (fig. 3-6) or one oil from the elbow fitting on top of the pump (fig. 3-6A).

Page 6-2. In paragraph 6-4*a*, line 2, after *3-7*, add "or figure 3-7A."

Page 6-4. In paragraph 6-5*b* (4), add the following: "Item 55 is not used on SN 180M-3001 through 180M-3170."

Paragraph 6-6h. In line 3. delete "A." After line 3, add a note as follows:

NOTE

Items 5, 6, and 13 are not used on SN 180M-3001 through 180M-3170. Item 7 is used in lieu of item 13.

Paragraph 6-6~ (2). In line 2, add: "or (fig. 3-7A)."

Page B-1. Appendix B is rescinded in its entirety.

Page D-.3. In paragraph 4*a*, the following is added to the useable-on codes.

C Model 180M-3001 through 180M-3170

Page D-8. In line items 2, 10, 11, and 14, column (3), change the usable-on code to read "B, C." In line item 23, column (3), add the usable-on codes "A, B."

Page D-9. In line item 1, column (3), add usable-on codes "A. B."

Page D-11. In line items 7, 9, 15 and 20, column (3), change the usable-on code to read "B, C."

Page D-12. In line items 16 and 19, column (3). change the usable-on code to read "B, C."

Page D-13. In line items 5 and 6, column (3). change the usable-on code to read "B, C."

Page D-14. In line items 14 and 16, column (3), change the usable-on code to read: "B, C."

Page D-18. In the last line item, column (3), change the usable-on code to read "B, C."

Page D-19. In line items 1, 2, 3, and 4, column (3), change the usable-on code to read "B, C." In line item 20, column (5), change the quantity to read "1." After line item 21, add line item 21A as follows: Add in columns: (1), "PF," (2), "3895-433-2222," (3). "RING, WEAR: Ram 15B45 (36422);" (4), "EA," (5), "1;"5 (6) and (7), asterisks; (8), "1;" and (9), "D4 16."

Page D-20. In line item 1, column (2), change the FSN to read "3895-603-0837;" in column 3, change the part number to read "52126." In line item 16, column 3, change the usable-on code to read "B, C'.. Page D-21. In line items 18, 19, 20, and 21, column (3), change the usable-on code to read "A, B."

Page D-25. In line items 19, 20, and 22, column (3), add usable-on codes "A, B." After line item 22, acid line item 22A as follows: Add in columns: (1), "PF;" (3), "HOUSING, PUMP DRIVE, 15H102 (36422)," usable-on code "C;" (4), "EA;" (5). "1;" (8), "6;" (9). "D-11, 3." In line item 25, column (3), add usable-on codes "A, B." After line item 24, add line item 25A as follows: Add in columns: (1) "PF;" (2), "2910-470-2031;" (3), "COVER: Housing, 15H91 (36422)," usable-on code "C;" (4), "EA;" (Fi), "1;" (8), "6;" (9), "D-11, 5."

Page D-26. In line item 1, column (3). add usable-on code "A, B." After line item 1, add line item IA as follows: add in columns: (1) "F;" (3), "SCREW, CAP, HX HD: Cover Mtg., 3/8-16 x 5/8, 1X527 (36422), usable on code "C;" (4), "EA;" (5), "1;" (9), "D-11 7." In line item 12, column (3), add usable-on code "A, B." After line item 12, add line item 12A as follows: Add in columns: (1), "PF;" (3), "SHAFT, LEVER: 15H99 (36422)," usable on code "c;" (4). "EA;" (5), "1;" (8), "12;" (9), "D-11-18." In line item 13, column (3), add usable-on codes "A, B." After line item 13, add line item 13A as follows: add in columns: (1), "PF;" (2), "2910-409-6464;" (3), "LEVER, 15H100 (36422)," usable-on code "c;" (4). "EA;" (5), "1;" (B), "12; (9), "D-11 19."

In line items 14, 15 and 16, column (3). add usable-on codes "A, B." After line item 16, add line item 16A as follows: Add in columns: (1), "PF;" (3), "ROD, 15H97 (36422)," usable-on code "C;" (4). "EA;" (5), "1;" (8), "12;" (9), "D-11 20".

Page D-27. In line items 10, 12, 18 and 20, column (3), change the usable-on code to read "B, C."

Page D-28. In line items 5 and 22, column (3), change the usable on code to read "B, C."

Page D-29. After line item 9, add line item 9A as follows: Add in columns: (1). "X2F;" (3), "PLATE, DATA: Mil I.D. 15P26 (36422)," usable-on code "C;" (4), "EA;" (5), "1." After line item 13, add line item 13A as follows: Add in columns; (1), "X2F;" (3), "PLATE, NAME AND PATENT: 13P31 (36422): usable-on code "C;" (4), "EA;" (5), "1." In line items 2, 5, 11, 14, 15 and 16, column (3), change the usable-on code to read "B, C."

Page D-30. In line item 19, column (3), change the usable-on code to read "B, C."

Page D-31. In line item 15 and 18 and the last line item, column (3), change the usable-on code to read "B, C."

Page D-32. In line items 9 and 18, column (3), change the usable-on code to read "B, C."

Page D-33. In line items 1, 3, 5, 10 and 16. column (3), change the usable-on code to read "B, C."

Page D-39. In figure D-4, change item 14 at the top left of the illustration to read "16".

Page D-44. Identify figure as:

Figure D-10. Fuel pump.

By Order of the Secretary of the Army:

CREIGHTON W. ABRAMS
General, United States Army
Chief of Staff

Official:

VERNE L. BOWERS
Mqjor General, United States Army
The Adjutant General

Distribution;

Distributed in accordance with DA Form 12-25B, (qty rqr block No. 418) Organizational Maintenance Requirements for Earth Moving Equipment; Piledrivers.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1973: 768109/311

TECHNICAL MANUAL
No. 5-3895-265-14

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., *23 September 1969*

OPERATOR, ORGANIZATIONAL, DS AND GS MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

HAMMER, PILE DRIVER, SELF-POWERED DIESEL DRIVEN, W/FUEL OIL TANK AND LUBRICATING OIL TANK (LINK-BELT SPEEDER MODEL 180M) FSN 3895-014-0583

Current as of 11 March 1969

***This manual supersedes TM 5-3895-265-15, 23 April 1965.**

LIST OF ILLUSTRATIONS

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

a. These instructions are published for the use of personnel to whom the diesel pile driver hammer (figs. 1-1 and 1-2), Link-Belt Speeder Model 180M is issued. Chapters 1 through 4 provide information on the operation, preventive maintenance checks and services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapters 5 and 6 provide information for direct and general support maintenance. Also included are descriptions of main units and their function in relationship to other components.

b. Numbers in parentheses on illustrations indicate quantity.

1-2. Forms and Records

a. DA Forms and records used for equipment maintenance will be only those prescribed in TM 38-750.

b. Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should he submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to the Commanding General, U. S. Army Mobility Equipment Command, ATTN: AMSME-MPP, 4300 Goodfellow Boulevard, St. Louis, Mo. 63120.

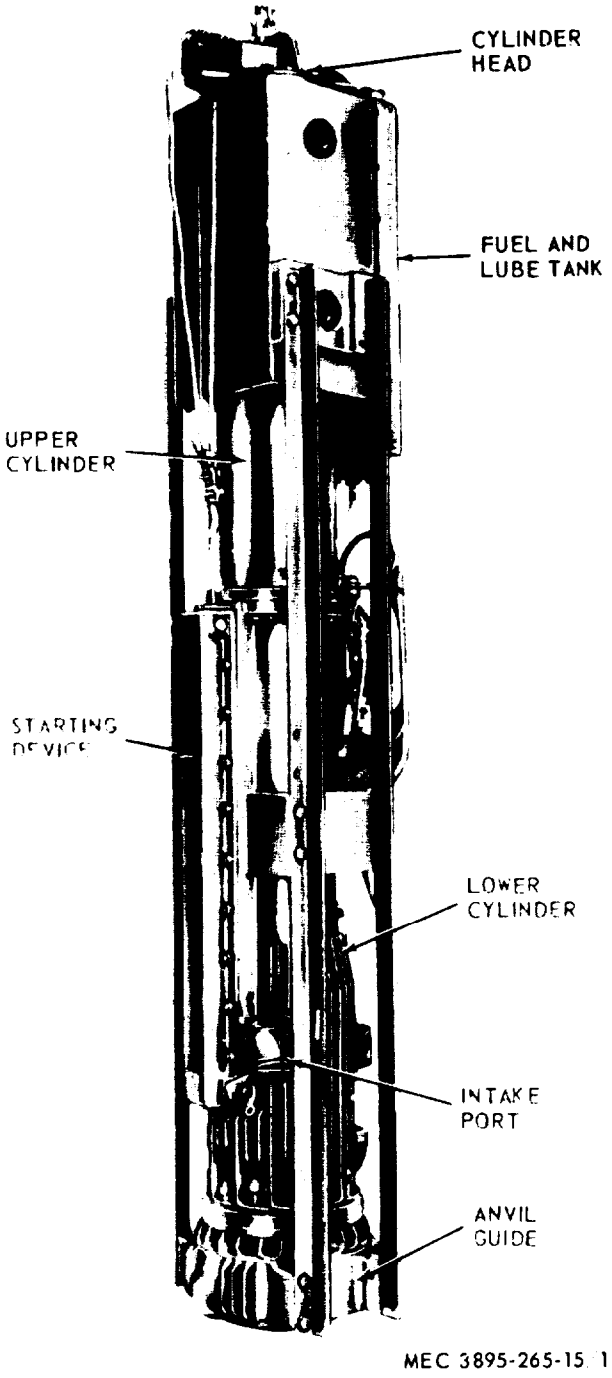


Figure 1-1. Diesel pile hammer, right-rear, three quarter view.

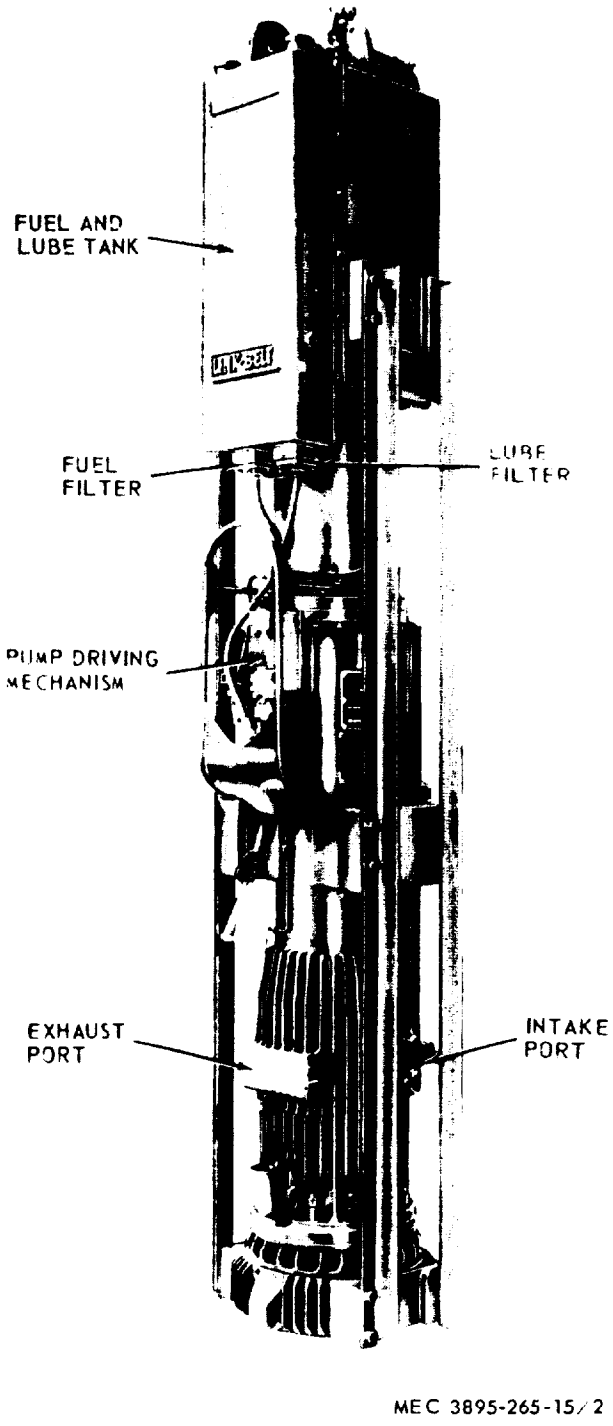


Figure 1-2. Diesel pile hammer, left-front, three quarter view.

Section II. DESCRIPTION AND DATA

1-3. Description

a. General. The Link-Belt Diesel Pile Hammer, model 180 M, is a self-contained free piston, compression-ignition machine, operating on the two-cycle principle. The hammer consists of the upper and lower cylinders, cylinder head, ram, anvil guide, recoil dampener, mechanical starting device, lubrication system, fuel injection equipment, hydraulic control system, and driving head and adapter assembly. As the ram is lifted inside the cylinder with a crane hoist line, air is compressed in the bounce chambers located on the side of the upper cylinder. The starting device is tripped and disengaged from the ram, which in turn free-falls in the cylinder. As the ram descends in the cylinder, the compressed air in the bounce chambers expands giving added velocity to the downward travel of the ram. As the ram nears the end of its downstroke, atomized fuel is injected into the combustion chamber. These combustive gases ignite (due to high compression temperatures) and explode and expand, driving the ram upward and the pile downward. As the ram rises it uncovers the exhaust ports, allowing the gases to "blow down". Then it draws fresh air through the intake ports as it continues upward. At the same time the rising ram compresses air in the bounce chambers.

b. Cylinder. The cylinder is manufactured in two parts, the upper and the lower cylinder. Both parts enclose the ram, and the upper cylinder furnishes space for the compressed air which is given back to the ram, pushing it and accelerating it on its downward stroke. The lower cylinder contains the intake and exhaust ports.

c. Cylinder Head. The cylinder head allows the air compression and gives the ram and cylinder bore protection from the elements and any foreign matter which may drop from the boom point or hoist cables.

d. Ram. The ram is a free piston and is the means by which the work output of the hammer is delivered to the pile.

e. Anvil. The anvil is located at the bottom of the cylinder and relays the energy from the ram to the pile.

f. Recoil Dampener. The recoil dampener is of a material that absorbs the shock loadings to the cylinder. It rides on the top part of the anvil flange just below the cooling ring, which vents the recoil dampener.

g. Mechanical Starting Device. The starting device is an off-center linkage mechanism designed to engage with a machined shoulder on the ram for lifting the ram and starting the hammer.

h. Lubrication System. The ram and fuel pump are lubricated by a single plunger lubrication oil pump. Lubrication oil is supplied to the pumps by gravity flow from the oil tank, passing through a screen filter inside the tank.

i. Fuel Injection System. Fuel oil is contained in a tank mounted on the upper cylinder and is supplied to the fuel injection pump by gravity flow, passing through a filter and a fuel hose. A high pressure fuel line delivers the fuel from the fuel pump to the injector.

j. Hydraulic Control System. The hydraulic control system consists of a transmitter, double relief valve, high pressure hose, and a receiver. The system is used to control the fuel pump rack which varies the amount of fuel delivered by the fuel pump to the injector.

k. Driving Head and Adapter Assembly. An adapter assembly is used in conjunction with the driving head. Although the adapter assembly affords protection to the pile, its express purpose is to protect the hammer.

14. Identification and Tabulated Data

a. Identification. The hammer has three major identification plates. The information contained on these plates is given below:

(1) The Corps of Engineers identification plate specifies the name of the manufacturer, make, model number, date of manufacture, serial number, and the Federal stock number of the hammer. It is located on the right side of the unit.

(2) The manufacturer's name plate specifies the model number, serial number, weight, and patents covering the hammer. It is located on the right side of the unit.

(3) The manufacturer's instruction plate specifies operating instructions and cautions to be observed while operating the hammer. It is located on the right side of the unit.

b. Tabulated Data.

(1) *Diesel pile hummer.*

Manufacturer	Link-Belt Speeder
Model	180M

(2) *Oil filter.*

Manufacturer	Link-Belt Speeder
Model (SN 180M–501 through 180M–629).	5Z1033
Model (SN 180M–2661 through 180M–2122).	13H201

(3) *Oil pump.*

Manufacturer	Link-Belt Speeder
Model (SN 180M–501 through 180M–629).	5Z120
Model (SN 180M–2001 through 180M–2122).	6Z590

(4) *Fuel filter.*

Manufacturer	Link-Belt Speeder
Model (SN 180M–501 through 180M–629).	5Z1031
Model (SN 180M–2001 through 180M–2122).	13H198

(5) *Fuel pump.*

Manufacturer	Link-belt Speeder
Model	7Z463

(6) *Fuel injector.*

Manufacturer	Link-Belt Speeder
Model	7Z511

(7) *Hydraulic transmitter.*

Manufacturer	Link-Belt Speeder
Model (SN 180M–501 through 180M–629).	5Z1315
Model (SN 180M–2001 through 180M–2122).	13J45

(8) *Hydraulic double relief valve.*

Manufacturer	Link-Belt Speeder
Model (SN 180M–501 through 180M–629).	5Z989
Model (SN 180M–2001 through 180M–2122).	13550

(9) *Hydraulic receiver.*

Manufacturer	Link-Belt Speeder
Model (SN 180M–501 through 180M–629).	5Z973
Model (SN 180M–2001 through 180M–2122).	13554

(10) *Capacities.*

Fuel oil tank	
(SN 180M–501 through 180M–629)	6.5 gal
(SN 180M–2001 through 180M–2122).	5.5 gal
Lubrication oil system	
(SN 180M–501 through 180M–629)	2.1 gal
(SN 180M–2001 through 180M–2122).	1.9 gal
Starting fluid tank	4 oz.
Hydraulic control system	3 pt.

(11) *Dimensions and weights.*

Shipping cube	
(SN 180M–501 through 180M–629)	64 cu. ft.
(SN 180M–2001 through 180M–2122).	139 cu. ft.
Height (SN 180M–501 through 180M–629).	147 5/16 in.
(including driving head and adapter).	
(SN 180M–2001 through 180M–2122).	180 in.
Width (SN 180M–501 through 180M–629).	26⅞ in.
(including guide angles)	
(SN 180M–2001 through 180M–2122).	36 in.
Depth (SN 180M–501 through 180M–629).	28 in.
(including driving head)	
(SN 180M–2001 through 180M–2122).	37 in.
Weight (SN 180M–501 through 180M–629).	5660 lbs.
(including driving head, adapter, and guide angles).	
(SN 180M–2001 through 180M–2122).	6500 lbs.

(12) *Nut and bolt torque data.*

Upper-lower cylinder tie studs	220 ft-lb
Upper-lower cylinder nuts	185 ft-lb
Cylinder head cap screws	220 ft-lb
Fuel tank cap screws	150 ft-lb
Anvil guide nuts	40 ft-lb
Starting device cover studs	220 ft-lb
Starting device cover lock nuts	185 ft-lb
Pump drive capscrews	210 ft-lb
Injector cover capscrews	40 ft-lb
Injector acorn nut	60 ft-lb
Injector capscrews	40 ft-lb
Injector ferrule	75 ft-lb
Fuel pump cap screws	Turn of the nut method (hand tight plus ½ turn)

1-5. Differences in Models

This manual covers only the Link-Belt Speeder Model 180M, Serial Nos. 180M–501 through 180M–629, and 180M–2001 through 180M–2122 inclusive. Any difference between serial number ranges are thoroughly discussed throughout the manual.

CHAPTER 2

INSTALLATION AND OPERATING INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Inspecting and Servicing the Equipment

a. Inspect identification plates of the hammer and compare with data contained in invoices, or packing slips, to insure receipt of proper equipment.

b. Make a complete visual inspection of the equipment for any loss or damage that may have occurred during shipment. Prior to operation of the hammer, accomplish depreservation as outlined in DA Form 2258 (Preservation and Depreservation Guide for Vehicles and Equipment).

c. Inspect the entire hammer for loose connections, broken lines or fittings, tightness of attachments, security of mountings and freedom of operation of all controls.

d. Inspect inside of fuel and lubricating tank for presence of water, rust, or foreign matter. Hammers shipped for immediate use must have full tank.

e. Lubricate as specified on lubrication order. Perform daily preventive maintenance checks and services (table 3-1). Correct or report deficiencies to direct support maintenance personnel.

2-2. Installation of Separately Packed Components

a. The hammer is delivered with the hydraulic control system, driving head and adapter, and guide angles packed separately. Refer to figure 2-1.

b. Install the hydraulic control system and guide angles as illustrated in figure 2-2. The hydraulic control system should be installed after the hammer is in the leads. Refer to figure 2-4 to install the driving head and adapter assembly.

2-3. Installation or Setting-Up Instructions

a. Attach a hoist line to the lifting eye in the cylinder head (fig. 1–1) and install the hammer in the leads. Use care not to snag the hydraulic control hose. Assemble the adapter as illustrated in figure 2-3, and attach the driving head and adapter assembly as illustrated in figure 2-4.

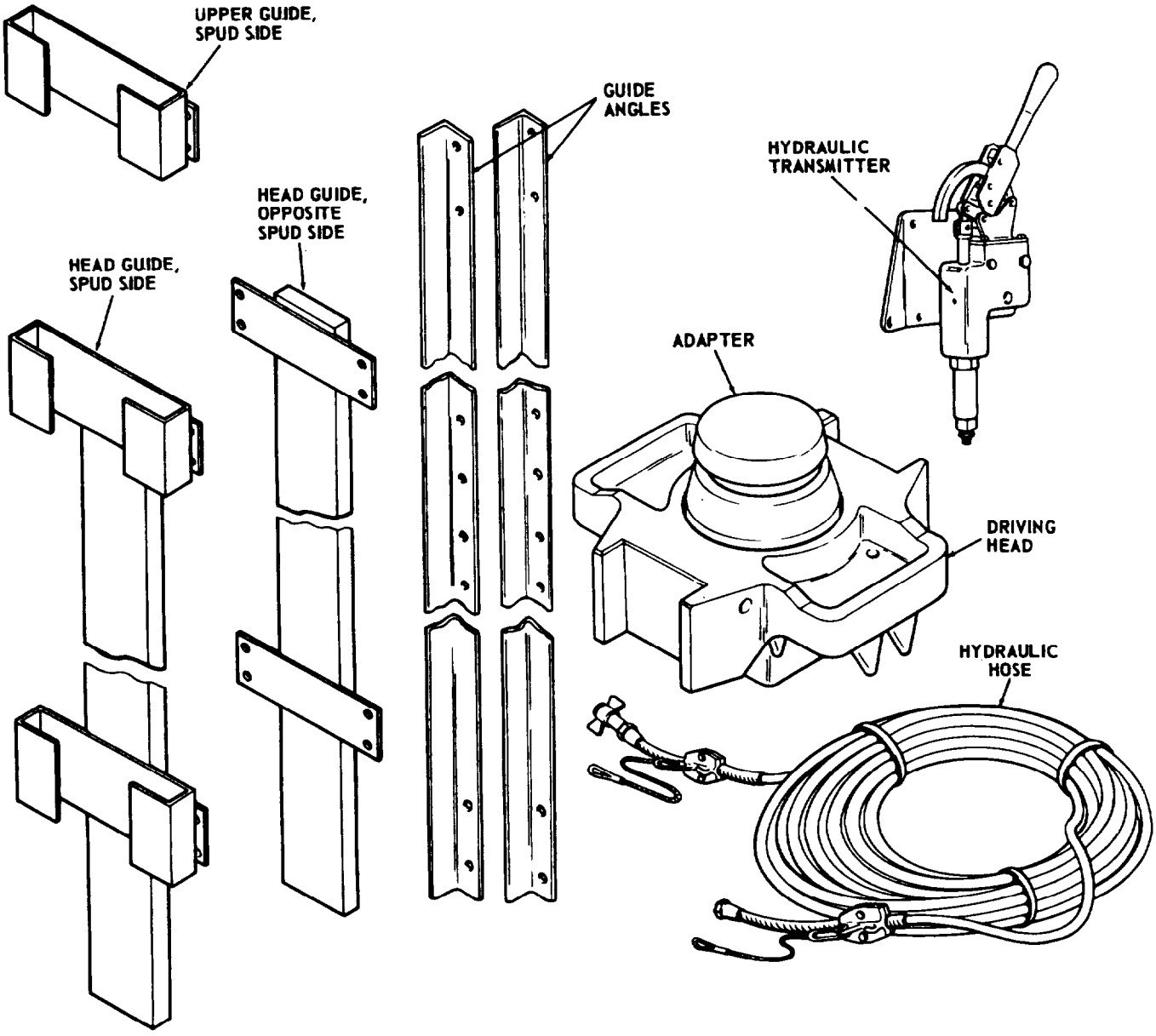


Figure 2-1. Separately packed components.

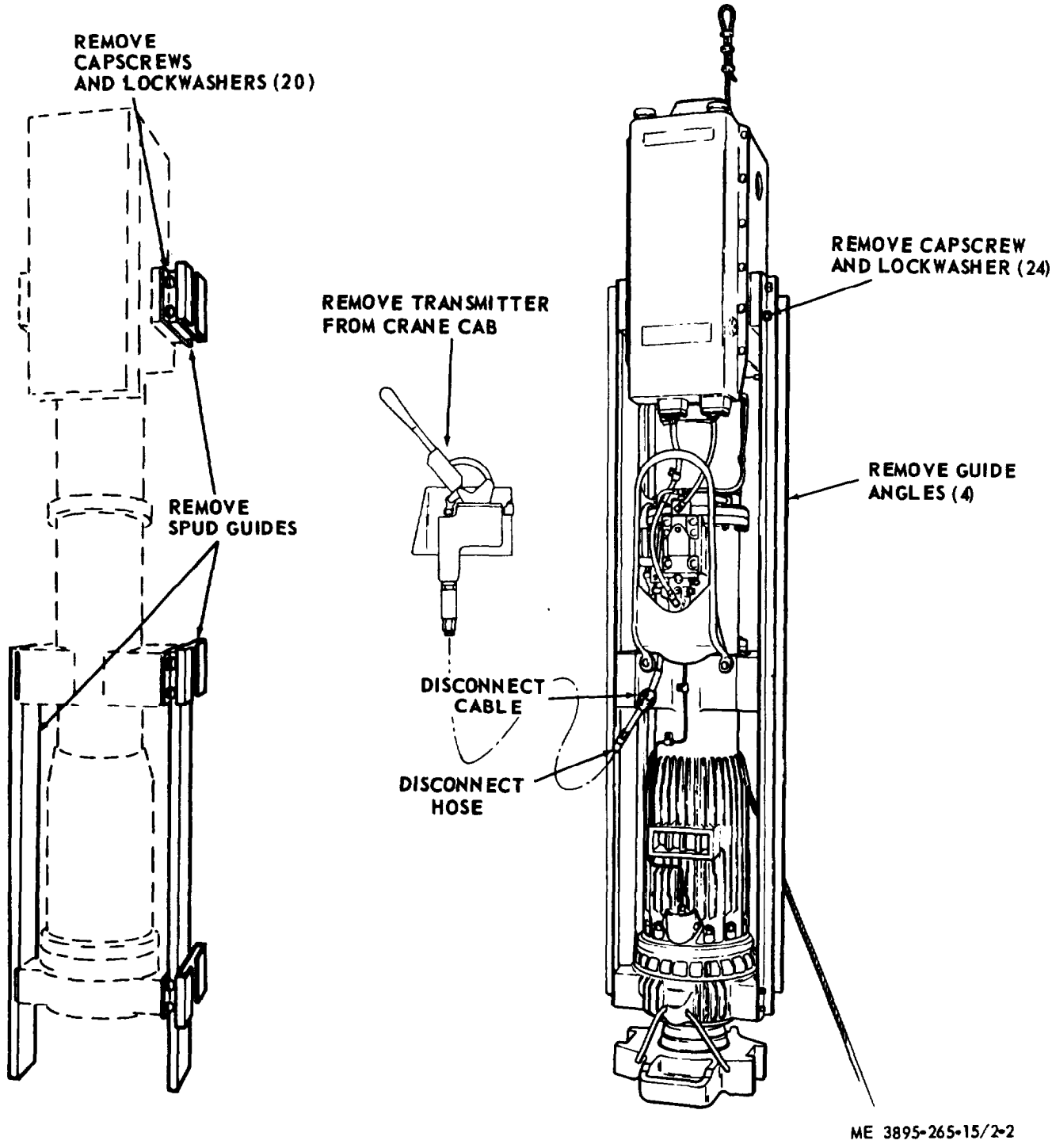


Figure 2-2. Hydraulic control systems and guide angles, removal and installation.

Section II. MOVEMENT TO A NEW WORKSITE

2-4. Dismantling for Movement

a. Disconnect the hydraulic control system (fig. 2-2).

b. Disconnect the driving head and adapter assembly (fig. 2-4). Lift the hammer and accessories on to a suitable carrier, and block and tie it down.

2-5. Reinstallation After Movement

Unload the hammer and follow instructions in paragraphs 2-2 and 2-3.

Section III. CONTROLS AND INSTRUMENTS

2-6. General

This section describes, locates, illustrates, and furnishes the operator, crew or organizational maintenance personnel sufficient information pertaining to the various controls provided for proper operation of the hammer.

2-7. Controls

The controls used with this equipment are illustrated on figure 2-5.

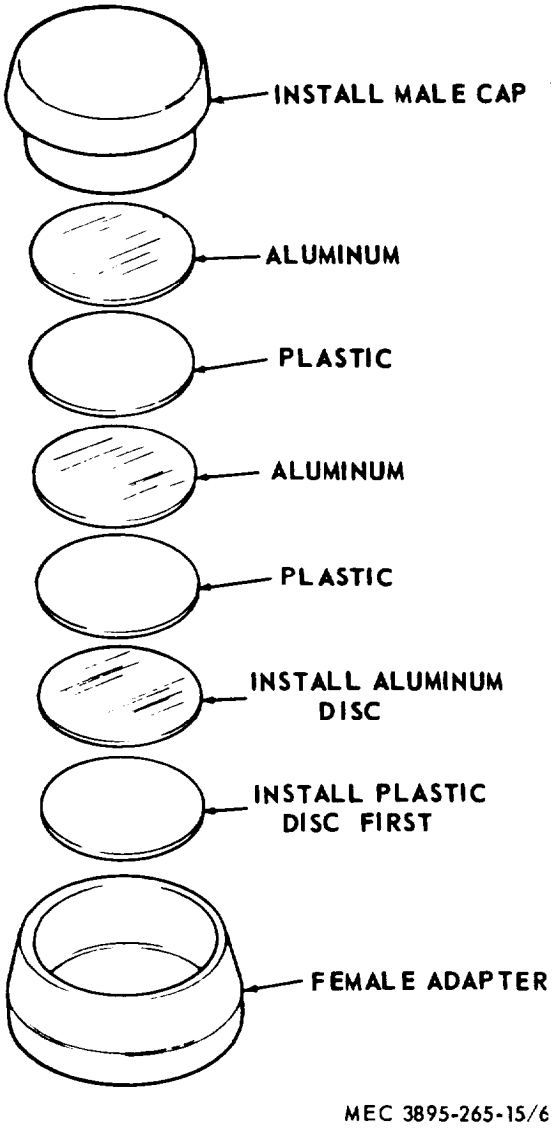


Figure 2-3. Adapter assembly.

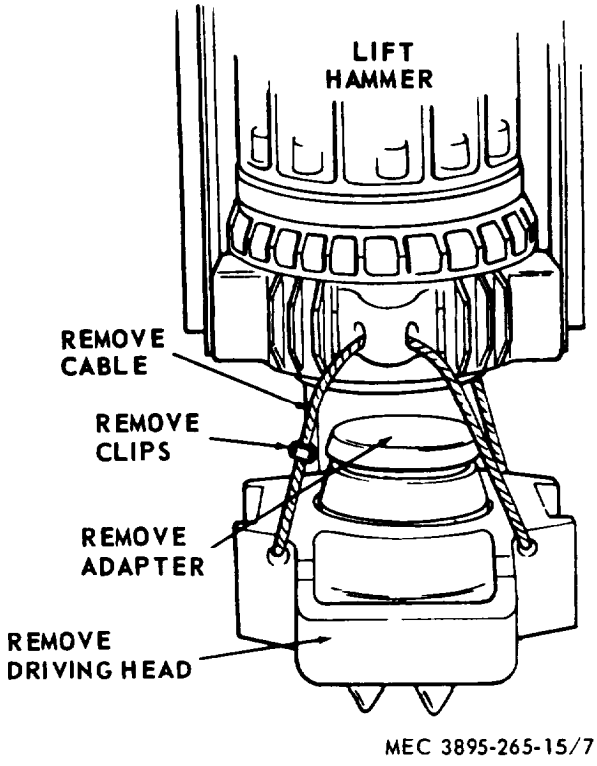


Figure 2-4. Driving head and adapter assembly, removal and installation.

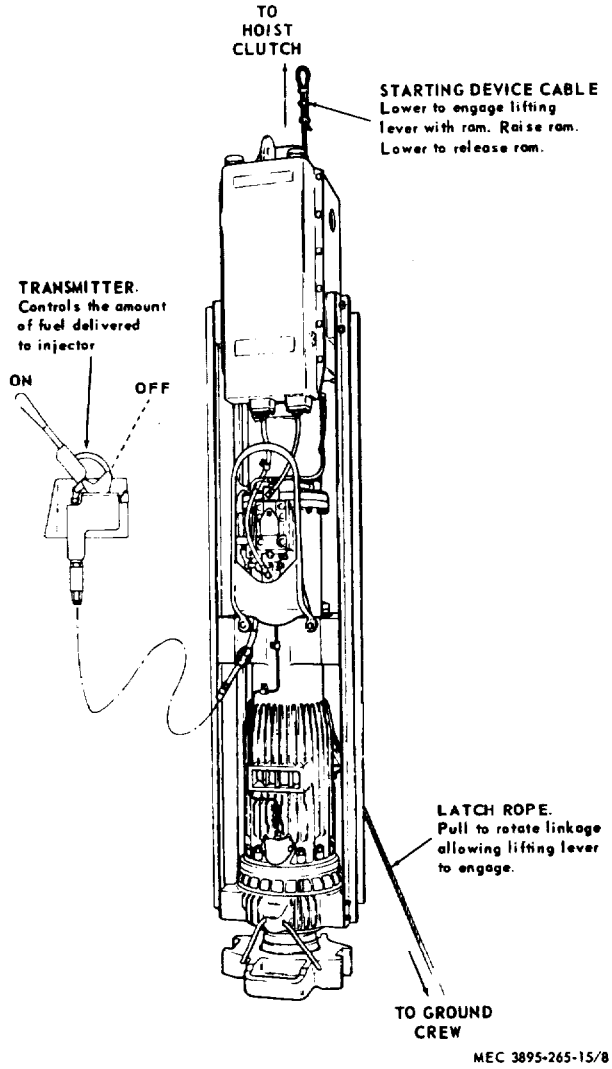


Figure 2-5. Diesel pile hammer controls.

Section IV. OPERATION UNDER USUAL CONDITIONS

2-8. General

a. The instructions in this section are published for the information and guidance of the personnel responsible for the operation of the hammer.

b. The operator must know how to perform every operation of which the hammer is capable. This section gives instructions on starting and stopping the hammer, basic motions of the hammer, and on coordinating the basic sections to perform the specific tasks for which the equipment is designed. Since nearly every job presents a different problem, the operator may have to vary procedures, to fit the individual job.

2-9. Starting

a. Perform the before-operation maintenance checks and services (table 3-1).

b. Remove exhaust, intake, and vent covers (fig. 2-6).

Note. Store the four port covers and the hydraulic control hose dust plugs in a safe and secure place in the crane cab when operating the hammer. Replace the port covers and dust plugs after using the hammer.

c. Bleed the hydraulic control system (fig. 2-7).

(1) Make sure all hydraulic hoses are full of oil and connected at hammer and at double relief valve on transmitter. Tighten all hose connections.

(2) Open breather cap located on top of transmitter. Breather cap must be opened before operating and left open during operation.

(3) With transmitter level in full ON position, fill reservoir through elbow fitting located on the side of the transmitter until oil is visible at the top of the fitting.

(4) After filling reservoir, pull the transmitter lever all the way back toward the operator and hold it in this position for a few seconds against the internal spring tension. This is the

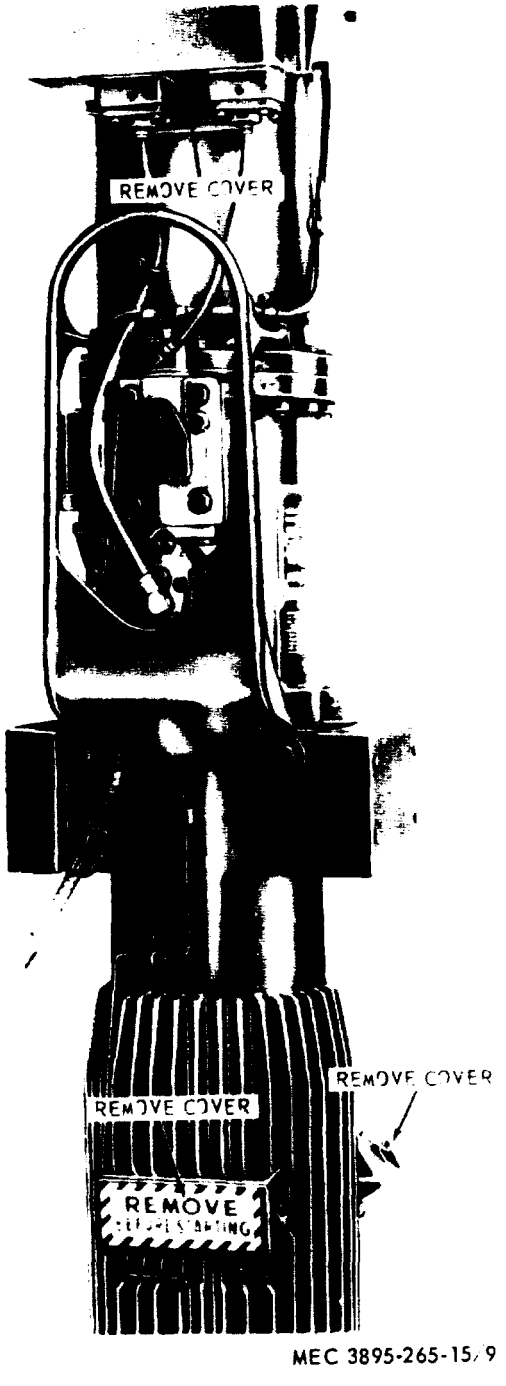


Figure 2-6. Exhaust intake, and vent covers, removal and installation.

SYNCHRONOUS position, which permits oil to flow from the transmitter reservoir into the system, and also allows trapped air to work out into reservoir. Alternately work lever from full-ON to SYNCHRONOUS position, hesitating a few seconds in each position to allow any entrapped air in the double relief valve and lower transmitter to work out into the reservoir.

(5) Release the transmitter lever, which will return to the off position.

(6) Remove the bleed plug located on top of the receiver cylinder.

(7) Move lever back and forth from SYNCHRONOUS to full ON position until all air has been expelled from receiver through bleed plug opening. Each time prior to moving lever to SYNCHRONOUS position, replace and tighten receiver bleed plug. If plug is not replaced each time, air will be sucked into the system.

(8) With bleed plug tightened, move lever to SYNCHRONOUS position and then push forward. If full fuel rack opening is not obtained, air is still trapped in system, and it will be necessary to repeat steps (4) through (‘7).

(9) Fill transmitter reservoir through elbow fitting until oil is visible at the top of the elbow.

d. Place hammer on cribbing or on a short section of pile making sure the anvil is in the UP position.

e. Engage the starting device (fig. 2-8).

(1) Have ground crew pull down on latch rope and hold.

(2) Crane operator can now lower starting device which causes the lifting lever to latch with the ram.

(3) Ground crew should release latch rope.

(4) Crane operator can now engage the hoist clutch and lift the ram to the top of the stroke.

(5) Move the transmitter lever to provide ½ to ¾ movement of the transmitter fuel pump rack opening.

(6) To release ram for free fall, stop upward movement and release hoist clutch. A slight downward movement of the starting device will release the ram.

(7) After the release of the ram, position the starting device with the hoist line in the approximate center position of the starting device cover. This eliminates shock loadings which will cause undue wear and damage.

Caution : Do not pull latch rope at any time while hammer is in operation.

(8) Select transmitter rack setting that will allow hammer to operate satisfactorily without jumping.

2-10. Stopping

a. Return the transmitter lever to the off position to stop the hammer.

b. Perform the after-operation checks and services (table 3-l).

c. If hammer is to be shut down for an extended period of time or overnight, or moved, the transmitter breather cap must he closed.

2-11. Operation of Equipment

Start the diesel pile hammer as instructed in paragraph 2-9.

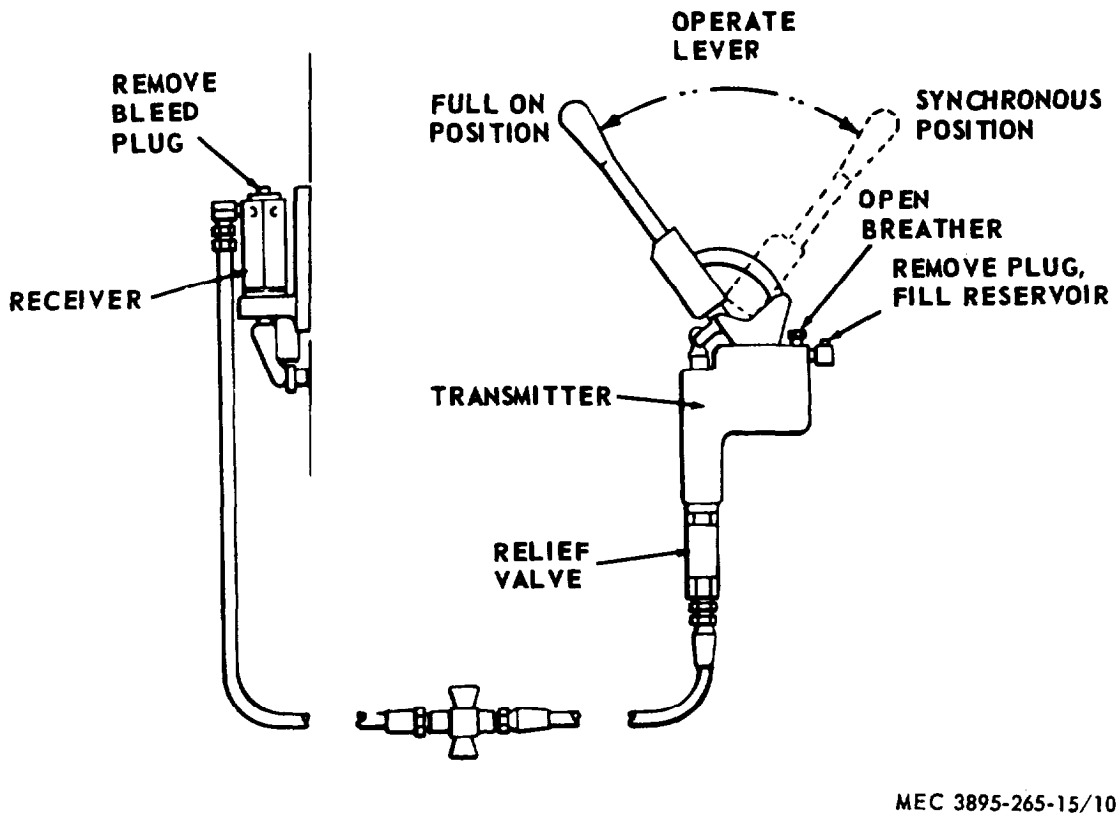


Figure 2-7. Bleeding the hydraulic system.

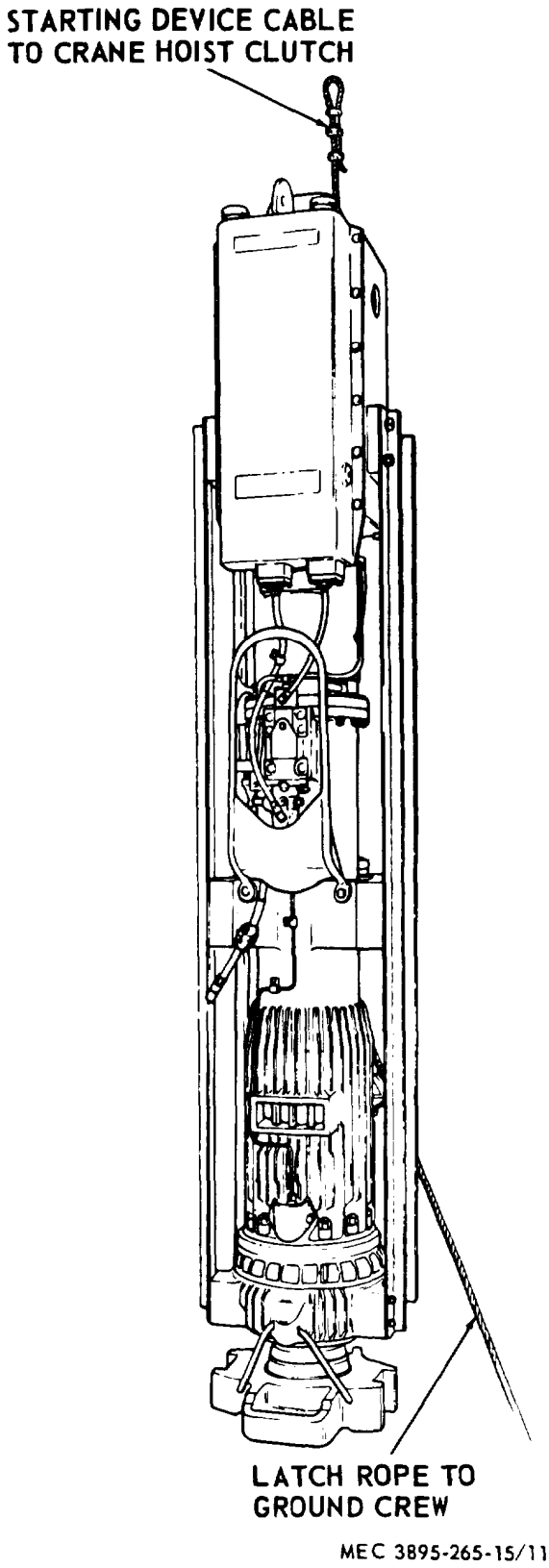


Figure 2-8. Engaging the starting device.

Section V. OPERATION UNDER UNUSUAL CONDITIONS

2-12. Operation in Extreme Cold (Below 0° F.)

a. Lubricate the hammer according to the current lubrication order.

b. As an aid to starting the hammer during cold weather operation and on soft piling, a starting fluid injector is installed (fig. 2-9). Commercial starting fluid should be used to fill the tank.

c. Start the hammer on a partially driven piling.

d. Run the hammer at part throttle, near idle, until it reaches operating temperature.

e. Keep all fuel tanks and storage containers filled with fuel to prevent formation of ice crystals from the freezing of condensate. Use filter paper, chamois, or other type strainer when filling the fuel tank or transferring fuel from one container to another.

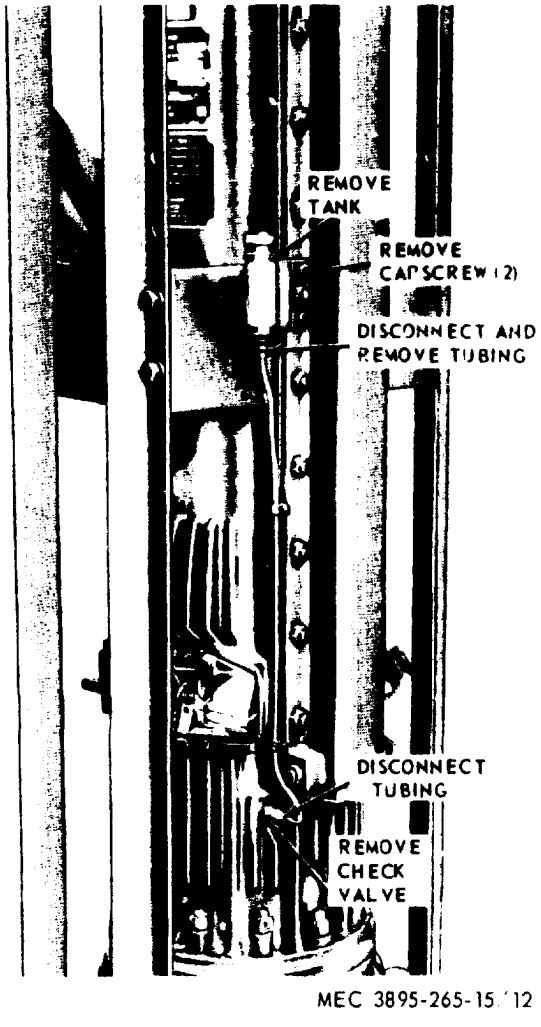


Figure 2-9. Starting fluid injector, removal and installation.

2-13. Operation in Extreme Heat

a. Lubricate the hammer in accordance with the current lubrication order.

b. Fill the fuel tank at the end of each day's operation.

c. Service the filters as often as necessary.

2-14. Operation in Dusty or Sandy Areas

a. Lubricate the hammer in accordance with the lubrication order. Make sure that all lubrication points are free from dirt and sand before applying lubricant.

b. Protect the hammer from dust with screens, shelters, built from paulins, or other dust proof material. Keep the unit covered when not in use.

c. Take adequate precautions to prevent sand and dirt from entering the fuel tank.

d. Install exhaust, intake and vent port covers if hammer is inoperative for more than a few minutes.

e. Service filters more frequently.

2-15. Operation Under Rainy or Humid Conditions

a. Lubricate the hammer in accordance with the lubrication order. Make sure all surfaces requiring lubrication are clean and dry before applying lubricant.

b. Coat exposed polished or machined metal surfaces with a suitable rustproof material after first removing any accumulation or rust.

c. Service the filters more frequently.

2-16. Operation in Salt-Water Areas

a. Wipe the unit dry at frequent intervals.

b. If the unit becomes encrusted with salt, wash it with fresh water. The exhaust, intake, and vent port covers should be in place while washing the hammer.

c. Lubricate the hammer in accordance with the lubrication order. Make sure all surfaces requiring lubrication are clean and dry before applying lubricant.

d. Coat exposed polished or machined metal surfaces with a suitable rustproof material after first removing any accumulation of rust.

2-17. Operation at High Altitudes

a. Fill the fuel tank after each day's operation to prevent condensation of moisture in the tank.

b. Operate with fuel control partially retarded to maintain hammer operating efficiency.

CHAPTER 3

OPERATOR AND ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. OPERATOR AND ORGANIZATIONAL MAINTENANCE REPAIR PARTS, TOOLS, AND EQUIPMENT

3-1. Tools and Equipment

Basic issue tools and repair parts issued with or authorized for the pile hammer are listed in the Basic Issue Items List, appendix C of this manual.

3-2. Organizational Maintenance Repair Parts

Organizational maintenance repair parts are listed and illustrated in appendix D of this manual.

Section II. LUBRICATION

3-3. General lubrication Information

This section contains lubrication instructions which are supplemental to, and specifically covered in the lubrication order.

3-4. Detailed lubrication Information

a. General. Keep all lubricants in closed containers and store in a clean, dry place away from external heat. Allow no dust, dirt, or other foreign material to mix with the lubricants. Keep all lubrication equipment clean and ready for use.

b. Cleaning. Keep all external parts not requiring lubrication clean of lubricants. Before lubricating the equipment, wipe all lubrication points free of dirt and grease. Clean all lubrication points after lubricating to prevent accumulation of foreign matter.

c. Points of Lubrication. Service the lubrication points at proper intervals as illustrated on lubrication order LO 5-3895-265-15.

d. Oil Filter Service. Service oil filter as described in paragraph 3-9.

Section Ill. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3-5. General

To insure that the pile hammer is ready for operation at all times, it must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. The necessary preventive maintenance checks and services to be performed are listed in table 3-1. The item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation of the unit will be noted for future correction, to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noted during operation which would damage the equipment if operation were continued. All deficiencies and shortcomings will be recorded with the corrective action taken on DA Form 2404 (Equipment Inspection and Maintenance Worksheet) at the earliest opportunity.

3-6. Preventive Maintenance Checks and Services

This paragraph contains a tabulated listing of preventive maintenance checks and services which must be performed by the operator. The item numbers are listed consecutively and indicate the sequence of minimum requirements. Refer to table 3-1.

Table 3-1. Preventive Maintenance Checks and Services.

Item Number	Interval						B–Before Operation D–During Operation	A–After Operation W–Weekly	M–Monthly Q–Quarterly
	Operator				Org.				
	Daily				M	Q	Item to he inspected	Procedure	Reference
	B	D	A	W					
1	X		X				Starting device	Check starting device and cable for wear.	Paragraph 3-2
2	X		X				Fuel and lube tank	Add fuel as required.	Paragraph 3-1
3						X	Combustion chamber	Drain upper cylinder combustion chamber of any accumulated oil.	
4					X		Fuel filter	Drain fuel tank and replace filter element.	Paragraph 3-9
6				X			Fuel pump rack	Clean and oil fuel pump rack and bell crank.	Paragraph 3-2
6				X			Recoil dampener	Check recoil dampener operating height.	
7						X	Ram	Inspect bronze wear rings for wear. If replacement is required, refer to Direct Support.	
8				X			Fuel injector	Inspect fuel injector and washer. If replacement is required, refer to Direct support.	
9						X	Adapter assembly	Check discs for wear. Replace all if any show signs of breaking up.	Paragraph 3-31
10						X	Lubrication oil tank	Drain tank and remove and wash oil filter.	Paragraph 3-9
								Note 1. OPERATIONAL TEST. During operation observe for any unusual noise or vibration.	
								Note 2. ADJUSTMENT. Make all necessary adjustments during operational tests.	

Section IV. OPERATOR'S MAINTENANCE

3-7. General

The instructions in this section are published for the information and guidance of the Operator to maintain the hammer.

3-8. Fuel Filter Service

a. Removal.

(1) Drain fuel tank.

(2) Remove filter assembly as illustrated in figure 3-1.

b. Disassembly. Disassemble the fuel filter as illustrated in figure 3-2.

c. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect all parts for cracks, breaks, or other damage.

(3) Replace filter element.

(4) Replace gasket between filter and tank if necessary and replace O-ring if required.

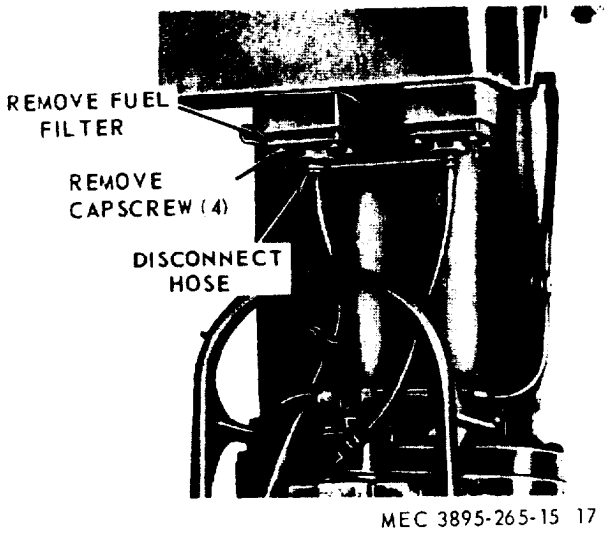


Figure 3-1. Fuel filter assembly, removal and installation.

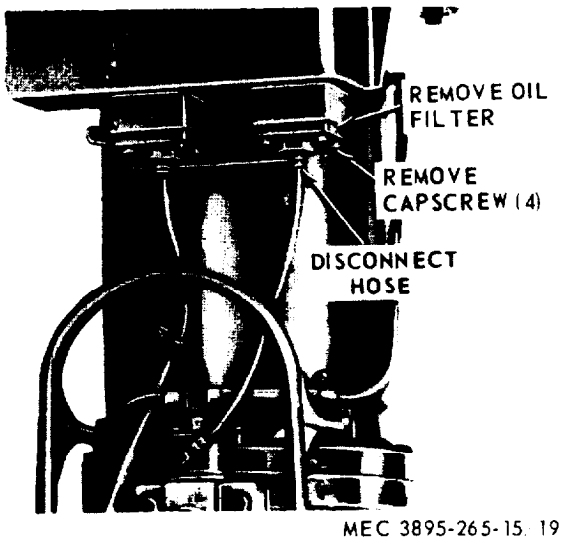
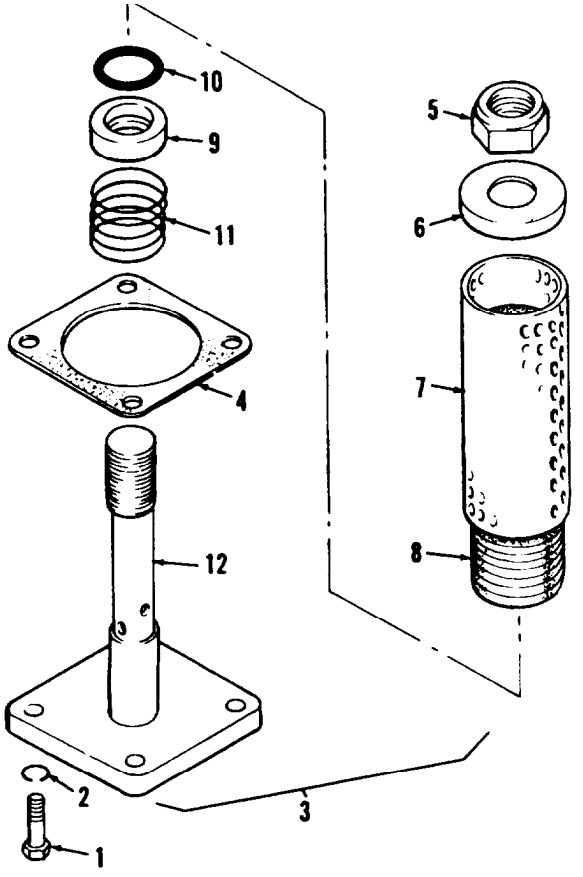
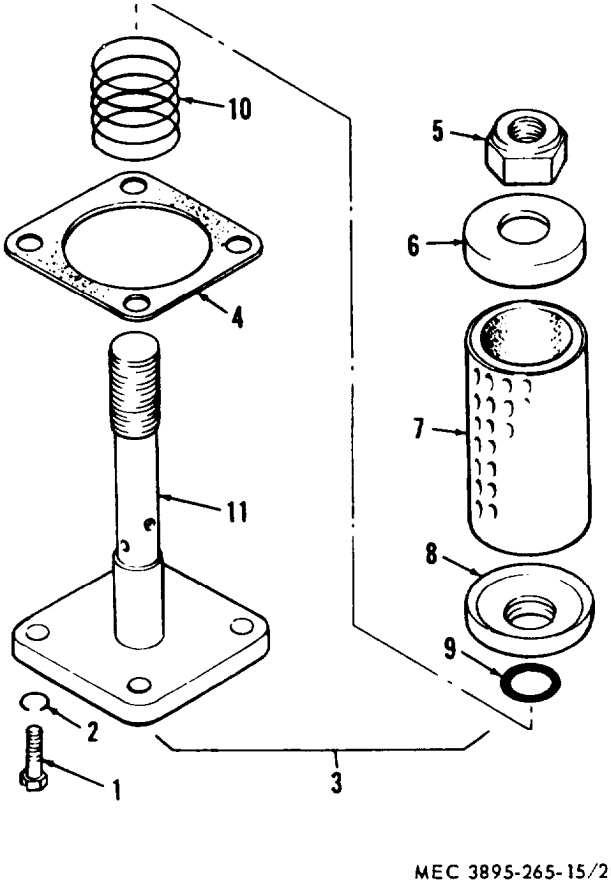


Figure 3-3. Lubricating oil filter, removal and installation.



1	Screw	7	Element	} Replace as a unit
2	Washer	8	Element	
3	Filter	9	Plate	
4	Gasket	10	O-Ring	
5	Nut	11	Spring	
6	Plate	12	Head	

Figure 3-2. Fuel filter, exploded view.



1	Screw	6	Plate
2	Lockwasher	7	Element
3	Filter	8	Plate
4	Gasket	9	O-ring
6	Nut	10	Spring
		11	Head

Figure 3-4. Lubricating oil filter, exploded view.

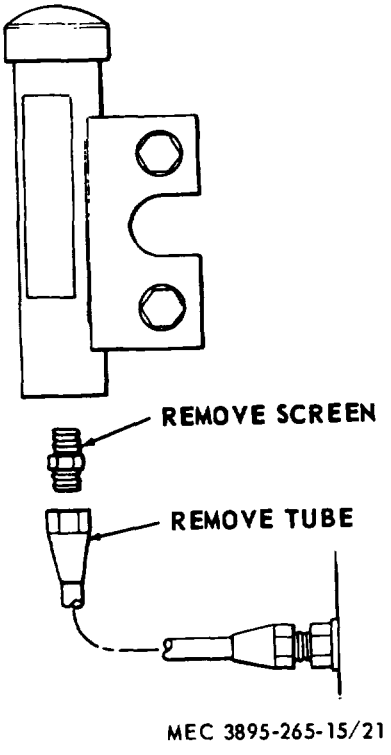


Figure 3-5. Starting fluid injector filter screen, removal and installation.

d. Reassembly. Reassemble fuel filter in reverse order of disassembly.

e. Installation.

(1) Flush tank with diesel fuel.

(2) Install fuel filter in reverse order of removal.

(3) Refill fuel tank.

3-9. Lubricating Oil Filter Service

a. Removal.

(1) Drain oil from tank.

(2) Remove filter as illustrated in figure 3-3.

b. Disassembly. Disassemble the filter as illustrated in figure 3-4.

c. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect all parts for cracks, breaks, wear and other damage. Replace a defective part.

(3) Replace gasket between filter and tank, and O-ring in bottom of end plate if necessary.

d. Reassembly. Reassemble the filter in reverse. order of disassembly.

e. Installation.

(1) Flush tank with light oil.

(2) Install lubricating oil filter in reverse order of removal.

(3) Refill oil tank.

3-10. Hydraulic Control System

a. Bleed hydraulic control system before starting operation (para 2-9).

b. Clean fuel pump rack (para 3-20).

3-11. Starting Fluid Injector

a. Fill starting fluid injector tank.

(1) Use starting fluid from pour type cans.

(2) Never fill tank when hammer is at operating temperature.

(3) Make sure vent hole in tank cap is open.

b. If fuel has accumulated in the combustion chamber of the hammer, droi, the ram several times with the fuel off to dry out the combustion chamber before filling starting fluid tank.

c. Remove the tube (fig. 3-5) and remove and clean the filter screen at least once a month.

Section V. TROUBLESHOOTING

3-12. General

This section provides information useful in diagnosing and correcting unsatisfactory operation or failure of the hammer and its components. Malfunctions which may occur are listed in table 3-2. Each malfunction is followed by a list of probable causes of the trouble. The corrective action recommended is described opposite the probable cause.

Table 3-2. Troubleshooting.

Malfunction	*Probable cause*	*Corrective action*
1. Hammer fails to start.	*a.* Empty fuel tank.	*a.* Fill fuel tank.
	b. Fuel filter clogged.	*b.* Replace fuel filter (para 3-8).
	c. Fuel line defective.	*c.* Replace fuel line (para 3-18).
	d. Fuel pump defective.	*d.* Replace fuel pump (para 3-20).

Malfunction	Probable cause	Corrective action
	e. Incorrect timing.	*e.* Refer to direct and general support maintenance personnel.
	f. Worn parts in pump drive.	*f.* Refer to direct and general support maintenance personnel.
	g. Damaged or worn fuel injector nozzle.	*g.* Refer to direct and general support maintenance personnel.
	h. Worn recoil dampener.	*h.* Refer to direct and general support maintenance personnel.
	i. Excess fuel in combustion chamber.	*i* Drop ram several times with fuel off.
	j. Contaminated fuel.	*j.* Drain fuel tank and All with clean fuel.
	k. Damaged ring grooves on bottom of ram.	*k.* Refer to direct and general support maintenance personnel.
	l. Worn or damaged cylinder bore.	*l.* Refer to direct and general support maintenance personnel.
2. Starting device will not latch in with ram.	*a.* Anvil in down position.	*a.* Place entire weight of hammer on pile.
	b. Piling incorrectly placed under anvil.	*b.* Place pile properly.
	c. Ram not bottoming cylinder.	*c.* Allow ram to bottom before latching.
	d. Worn or damaged parts.	*d.* Replace parts (para 3-29).
	e. Worn or damaged recoil dampener.	*e.* Refer to direct and general support maintenance personnel.
3. Transmitter will not actuate fuel pump rack.	*a.* Defective relief valve.	*a.* Refer to direct and general support maintenance personnel.
	b. Defective rack.	*b.* Refer to direct and general support maintenance personnel.
	c. Defective hydraulic receiver.	*c.* Replace hydraulic receiver (para 3-24).
	d. Hydraulic lines loose or damaged.	*d.* Tighten loose fittings. Replace damaged lines (para 3-23).
	e. Air in hydraulic system.	*e.* Bleed system (para 2-9).
	f. Hydraulic transmitter empty.	*f.* Fill transmitter (para 2-9).
	g. Transmitter defective.	*g.* Replace transmitter (para 3-25).
4. Loss of compression.	*a.* Worn or damaged rings in ram.	*a.* Refer to direct and general support maintenance personnel.
	b. Worn rings in anvil.	*b.* Refer to direct and general support maintenance personnel.

Section VI. LUBRICATION SYSTEM

3-13. General

a. The lubrication system consists of the tank, lines, lubricating oil filter, and lubricating oil pump. Lubrication oil is suplied to the pump by gravity flow from the tank, passing through a screen filter inside the tank.

b. The pump is operated by the same bell crank assembly that operates the fuel pump. As the ram rises, the bell crank moves rapidly upward and moves the lube oil pump plunger in the same direction, forcing a small amount of oil past a spring-loaded ball check and on through two hoses. One hose goes to the upper cylinder to lubricate the ram cylinder bore; the other hose goes to the fuel pump drive housing and lubricates the fuel pump drive mechanism.

3-14. Oil lines

a. Removal and Installation. Refer to figure 3-6 to remove and install the lubricating oil lines.

b. Cleaning and Inspection.

(1) Clean all parts in an approved cleaning solvent and dry thoroughly.

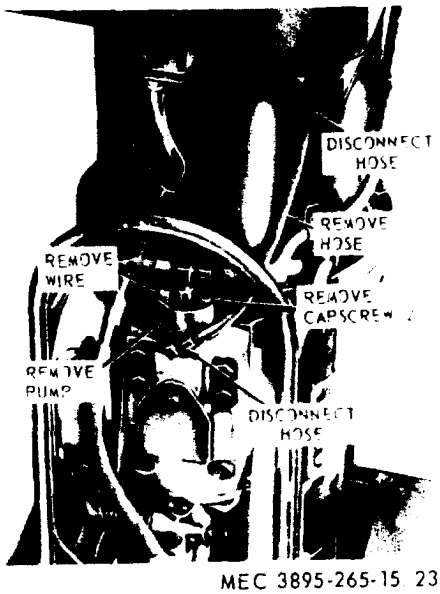


Figure 3-6. Lubricating oil Lines and pump, removal and installation.

(2) Inspect all parts for cracks, breaks, and other damage. Replace a damaged or defective part.

3-15. Oil Filter

Refer to paragraph 3-9 to remove and install the oil filter.

3-16. Oil Pump

a. Removal and Installation. Refer to figure 3-6 to remove and install the oil pump.

b. Cleaning and Inspection.

(1) Clean with an approved cleaning solvent and dry thoroughly.

(2) Inspect for cracks, breaks, or other damage. Replace a damaged pump.

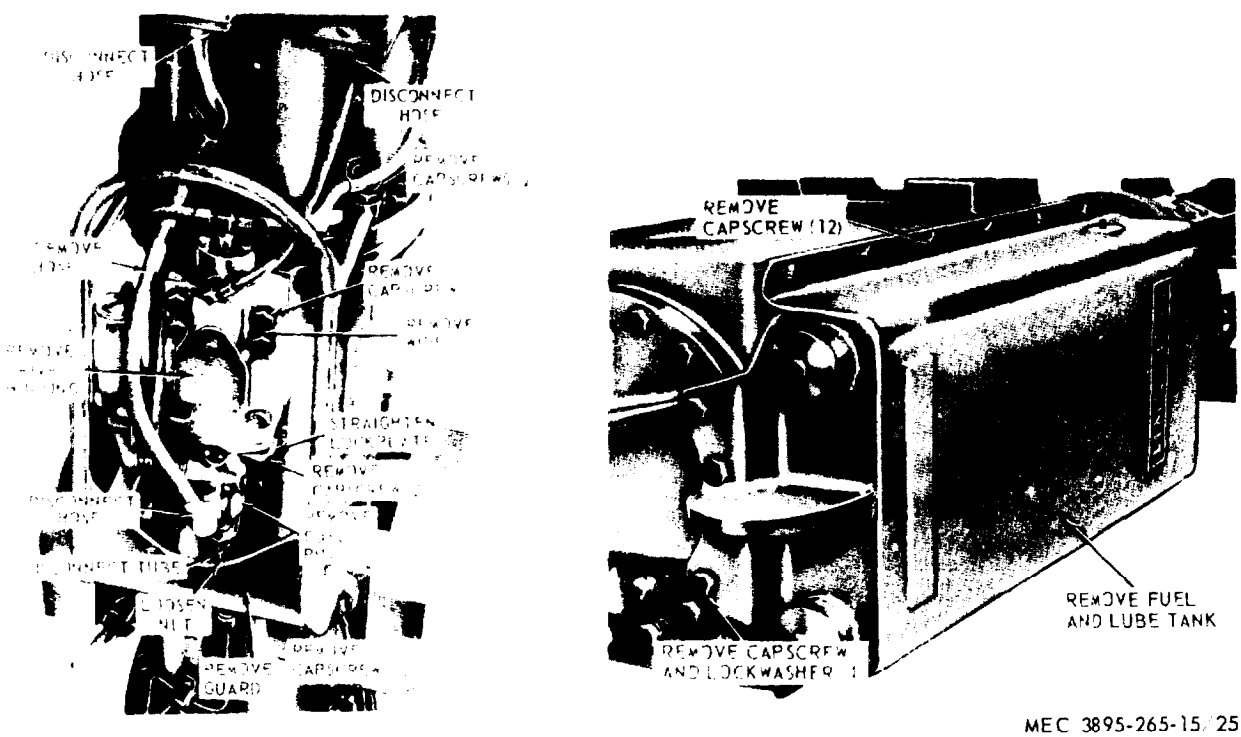


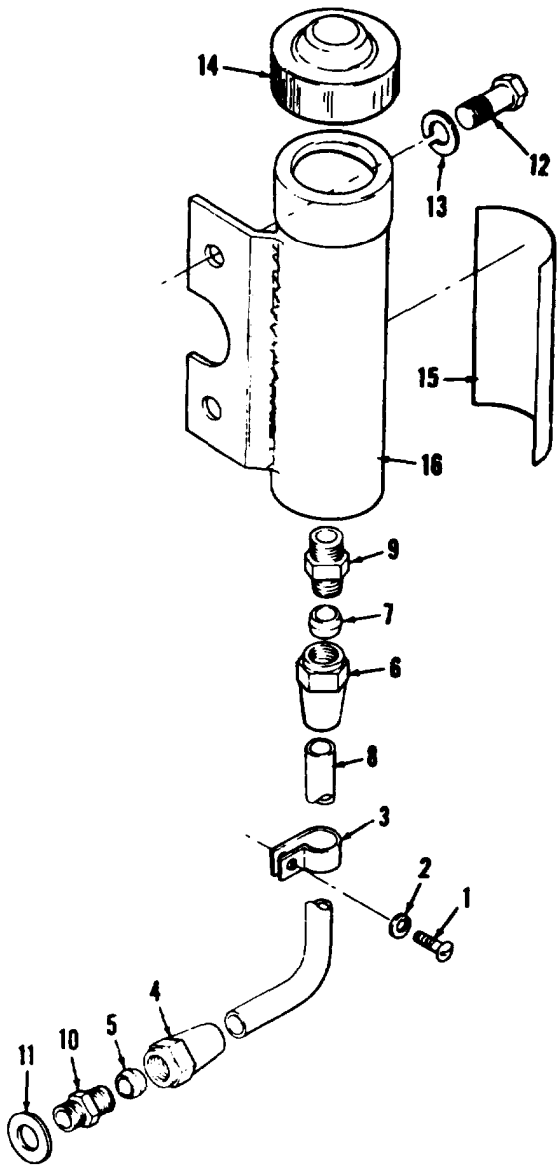
Figure 3-7. Fuel lines, fuel tank, fuel pump, and fuel pump drive housing, removal and installation.

Section VII. FUEL SYSTEM

3-17. General

a. The fuel system consists of the tank, fuel lines, fuel filter, fuel pump, and nozzle. Fuel is supplied to the fuel injection pump by gravity flow through a filter and hose from the fuel tank.

b. A high pressure fuel lines delivers the fuel from the fuel pump to the nozzle assembly. When the fuel pressure reaches the pop-off setting of the nozzle assembly, fuel is introduced in atomized form into a spherical shaped combustion chamber in the anvil.



MEC 3895-265-15/31

1	Screw	9	Connector
2	Lockwasher	10	Check Valve
3	Clamp	11	Gasket
4	Nut, union	12	Screws
5	Sleeve	13	Lockwasher
6	Nut, compression	14	Cap
7	Sleeve	15	Emblem
8	Tube	16	Tank

Figure 3-8. Starting fluid injector, exploded view.

3-18. Fuel lines and Tank

a. Removal and Installation. Remove and install the fuel lines and tank as illustrated in figure 3-7.

b. Cleaning and Inspection.

(1) Clean all parts in an approved cleaning solvent and dry thoroughly.

(2) Flush the fuel tank with diesel fuel.

(3) Inspect parts for cracks, breaks, and other damage. Replace a defective line or tank.

3-19. Fuel Filter

Refer to paragraph 3-3 to remove and install the fuel filter.

3-20. Fuel Pump

a. Removal and Installation. Remove and install the fuel pump as illustrated in figure 3-7.

b. Cleaning and Installation.

(1) Clean with an approved cleaning solvent and dry thoroughly.

(2) Inspect fuel pump for cracks, breaks, or other damage. Replace pump if defective.

3-21. Starting Fluid Injector

a. Removal and Installation. Refer to figure 3-5 to remove and install the starting fluid injector.

b. Disassembly and Reassembly. Refer to figure 3-3 to disassemble and reassemble the starting fluid injector.

c. Cleaning and Inspection.

(1) Clean parts in an approved cleaning solvent and dry thoroughly.

(2) Inspect parts for breaks, cracks, or other damage. Replace damaged or defective parts.

Section VIII. HYDRAULIC CONTROL SYSTEM

3-22. General

a. The hydraulic control system consists of a transmitter, double relief valve, high pressure hose, and a receiver. The system is used as a throttle control to vary the amount of fuel delivered by the fuel pump to the injector.

b. The transmitter includes a reservoir for storage of hydraulic fluid and a piston assembly which meters hydraulic fluid to actuate the fuel pump rack through a receiver mounted on the hammer. Hydraulic fluid displacement in the system is variably controlled by the friction type

hand lever which is connected with the piston assembly by mechanical linkage. The transmitter assures a wide range of control of the fuel injector pump rack setting, since the positive friction lever may be set at any desired operating position. The transmitter reservoir includes a breather cap which must be opened before attempting to start and run the hammer. If the hammer is to be shut down for overnight or extended periods of time, or if the transmitter is to be removed from the machine, this breather cap must be closed to prevent loss of control oil or entry of foreign material in the reservoir.

c. By moving the control lever to the ON position, a column of oil is moved through the double relief valve and then through the hose to the receiver. As the receiver piston moves downward out of its cylinder, it in turn moves a bell-crank. The bell-crank moves the rack in the fuel pump to the ON position.

d. The function of the double relief valve is to develop a positive head in the control hose and to keep the control hose full of oil, making it unnecessary to pump up pressure after the transmitter lever is returned to the OFF position, especially when the receiver is located at a height above the transmitter where the oil pressure head exceeds barometric pressure (in excess of approximately 36 feet). No adjustment of the relief valve is provided. The preloaded head of oil in the system is maintained by springs in the relief valve. The relief valve will maintain approximately 40 psi. of hydraulic pressure in the system with control valve in either the OFF or SYNCHRONOUS positions.

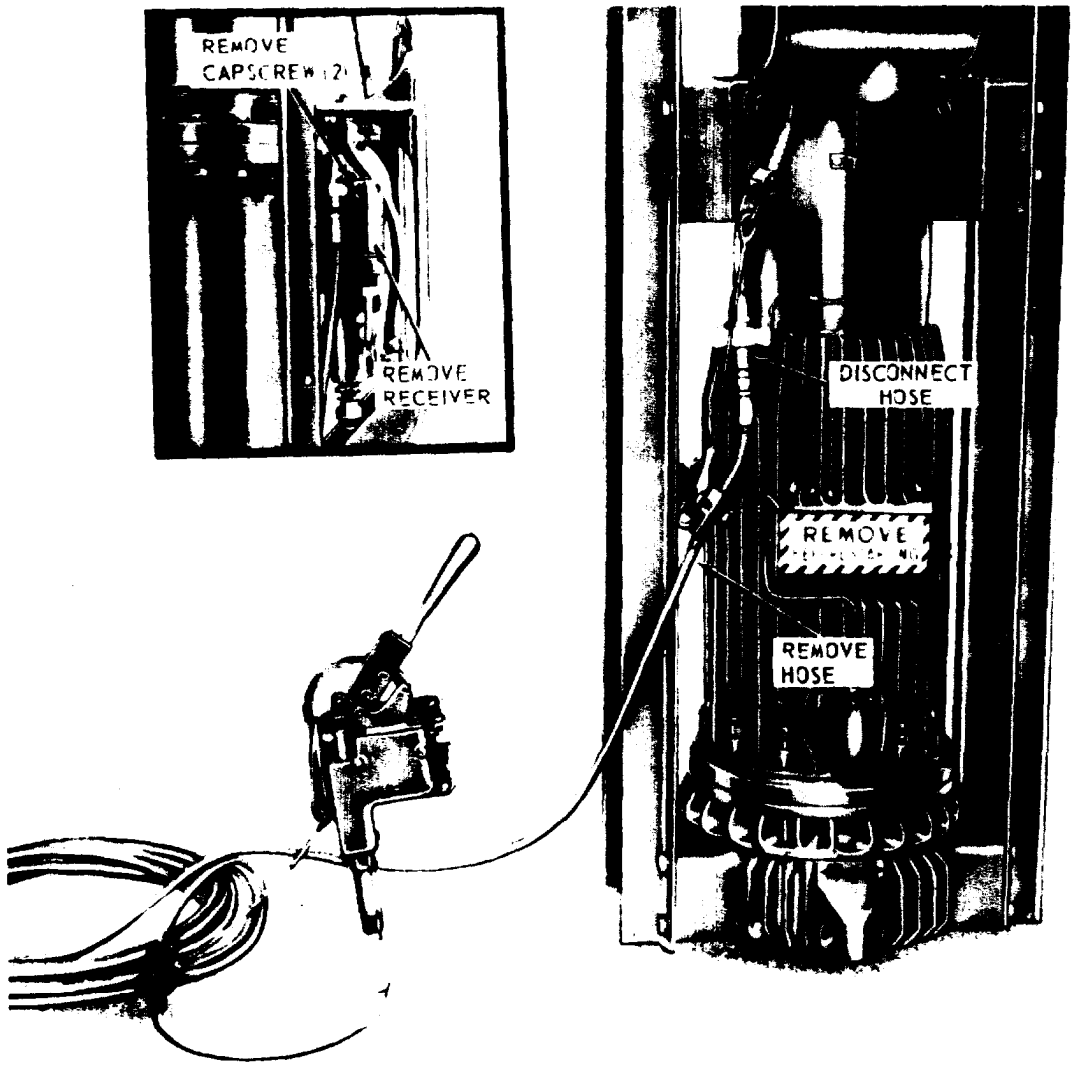


Figure 3-9. Hydraulic hose, receiver, and transmitter, removal and installation.

e. The control hose is high pressure double wire braid hydraulic hose. Care should be exercised when handling this hose. If it is allowed to catch on the leads in any way and stretched high pressure can be built up inside the hose. The stretching of the hose reduces its inside diameter causing a build-up of pressure resulting in damage to the control hose, or other parts of the control system. A self-sealing coupling, located on the hammer, permits removal of the hose without losing oil pressure and prevents admission of air into the system while transporting the hammer.

f. The receiver is a cylinder with a spring loaded piston which is mounted on the hammer. The control hose is attached to the side of the cylinder. As the piston is extended by a column of oil moving through the control hose, it moves a bell-crank which in turn opens the fuel rack on the fuel pump.

g. When installation of the receiver is made, clearance between the bell-crank and fuel rack should be kept to a minimum so movement of the fuel pump rack is positive as soon as the transmitter lever is moved to the ON position and, also, to utilize the full available stroke of the receiver piston. Shims can be added or removed between the receiver cylinder casing and the receiver mounting bracket to vary the clearance between the receiver bell-crank and control rack when installation is made. The clearance between component parts should be kept at a minimum to compensate for normal wear. To reduce the clearance between component parts, remove shims from beneath the receiver.

h. The oil used in the control system conforms to the specifications of MIL-H-5606.

3-23. Hydraulic Hose

a. Removal. Remove hydraulic hose as illustrated in figure 3-9.

b. Cleaning and Inspection.

(1) Clean hose and connections in an approved cleaning solvent and dry thoroughly.

(2) Inspect all connections and hose for cracks, breaks, or other damage. Replace damaged or defective parts.

c. Installation.

(1) Fill hose with hydraulic oil.

(2) Install hydraulic hose as illustrated in figure 3-9. Bleed hydraulic system (para 2-9).

3-24. Receiver

a. Removal. Remove the hydraulic receiver as illustrated in figure 3-9.

b. Cleaning and Inspection.

(1) Clean receiver with an approved cleaning solvent and dry thoroughly.

(2) Inspect for breaks, cracks, or other damage. Replace a damaged or defective receiver.

c. Installation.

(1) Fill receiver with hydraulic oil.

(2) Install receiver as illustrated in figure 3-9. Bleed hydraulic system (para 2-9).

3-25. Transmitter

a. Removal. Remove the hydraulic transmitter and double relief valve as illustrated in figure 3-10. Remove the double relief valve from the transmitter.

b. Cleaning and Inspection.

(1) Clean transmitter with an approved solvent and dry thoroughly.

(2) Inspect transmitter for cracks, breaks, or other damage. Replace a defective transmitter.

3-26. Relief Valve

a. Removal. Remove the hydraulic relief valve as illustrated in figure 3-10.

b. Cleaning and Inspection.

(1) Clean relief valve with an approved solvent and dry thoroughly.

(2) Inspect relief valve for cracks, breaks, or other damage. Replace a defective relief valve.

c. Installation.

(1) Fill transmitter and relief valve with hydraulic oil.

(2) Install hydraulic transmitter and relief valve as illustrated in figure 3-10, taking care that hose and relief valve stay full of oil during installation.

(3) Bleed hydraulic system (para 2-9).

Section IX. STARTING DEVICE

3-27. General

The starting device consists of a lifting lever, locking lever and linkage, a release lever, and a latching block. A wire rope is connected to the housing and extends upward through two guide rollers mounted on the cylinder head.

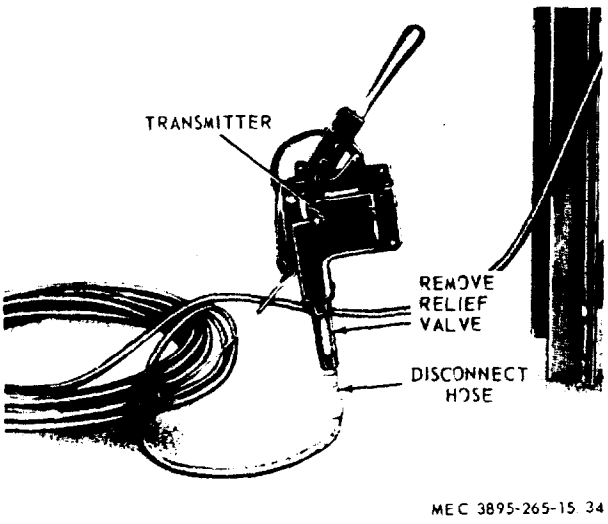


Figure 3-10. Hydraulic transmitter and relief valve, removal and installation.

3-28. Removal, Installation, Cleaning and Inspection

a. Removal. Remove the starting device cover (13, fig. 6-5). Remove the attaching hardware and remove the starting device.

b. Cleaning and Inspection.

(1) Clean starting device with an approved solvent and dry thoroughly.

(2) Inspect starting device for cracks, breaks, or other damage. Replace if defective.

c. Installation. Install starting device in reverse order of removal.

3-29. Disassembly and Reassembly

a. Disassembly. Disassemble the starting device as illustrated in figure 3-11.

b. Cleaning and Inspection.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect all parts for cracks, breaks, and other damage. Replace all damaged and defective parts.

c. Reassembly. Reassemble starting device in reverse order of disassembly.

Section X. DRIVING HEAD AND ADAPTER

3-30. General

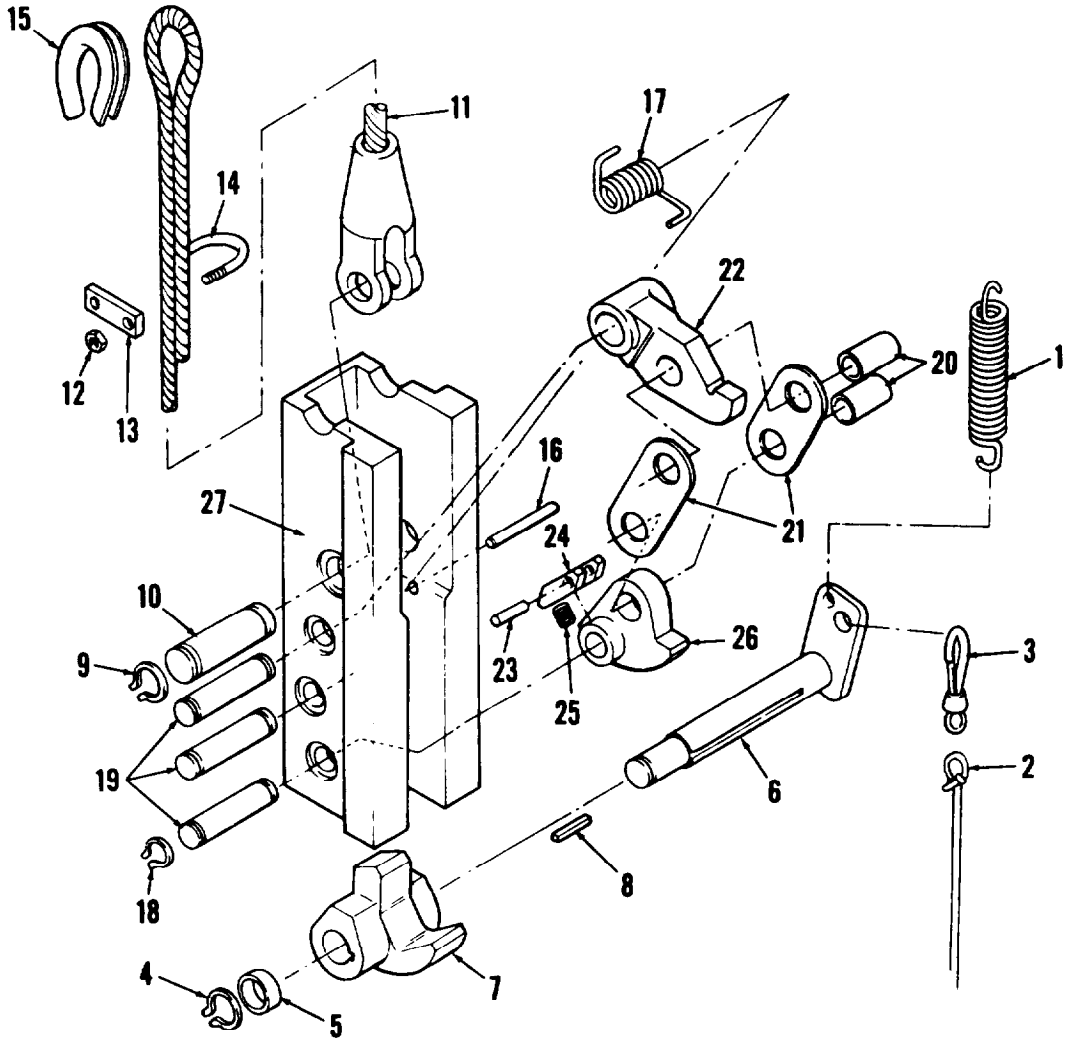
The adapter assembly consists of a male and female unit and is used in conjunction with the driving head. The adapter assembly is placed between the anvil recess and the driving head. The driving head is furnished with a filler and four filler tips. Figure 3-12 illustrates the pile contours fitting the driving head.

3-31. Removal, Installation, Cleaning and Inspection

a. Remove and install the driving head as illustrated in figure 2-4.

b. Clean all parts with an approved cleaning solvent and dry thoroughly.

c. Inspect all parts for cracks, breaks, and other damage. Replace a damaged or defective part.



1	Spring	8	Key	16	Thimble	22	Lever
2	Rope	9	Ring, snap	16	Pin	23	Pin
3	Shackle, snap	10	Pin	17	Spring	24	Lever
4	Ring, retaining	11	Cable	18	Ring, snap	25	Spring
5	Spacer	12	Nut	19	Pin	26	Lever
6	Lever	13	Block	20	Pin	27	Housing
7	Block, latch	f4	Clip	21	Link		

Figure 3-11. Starting device, exploded view.

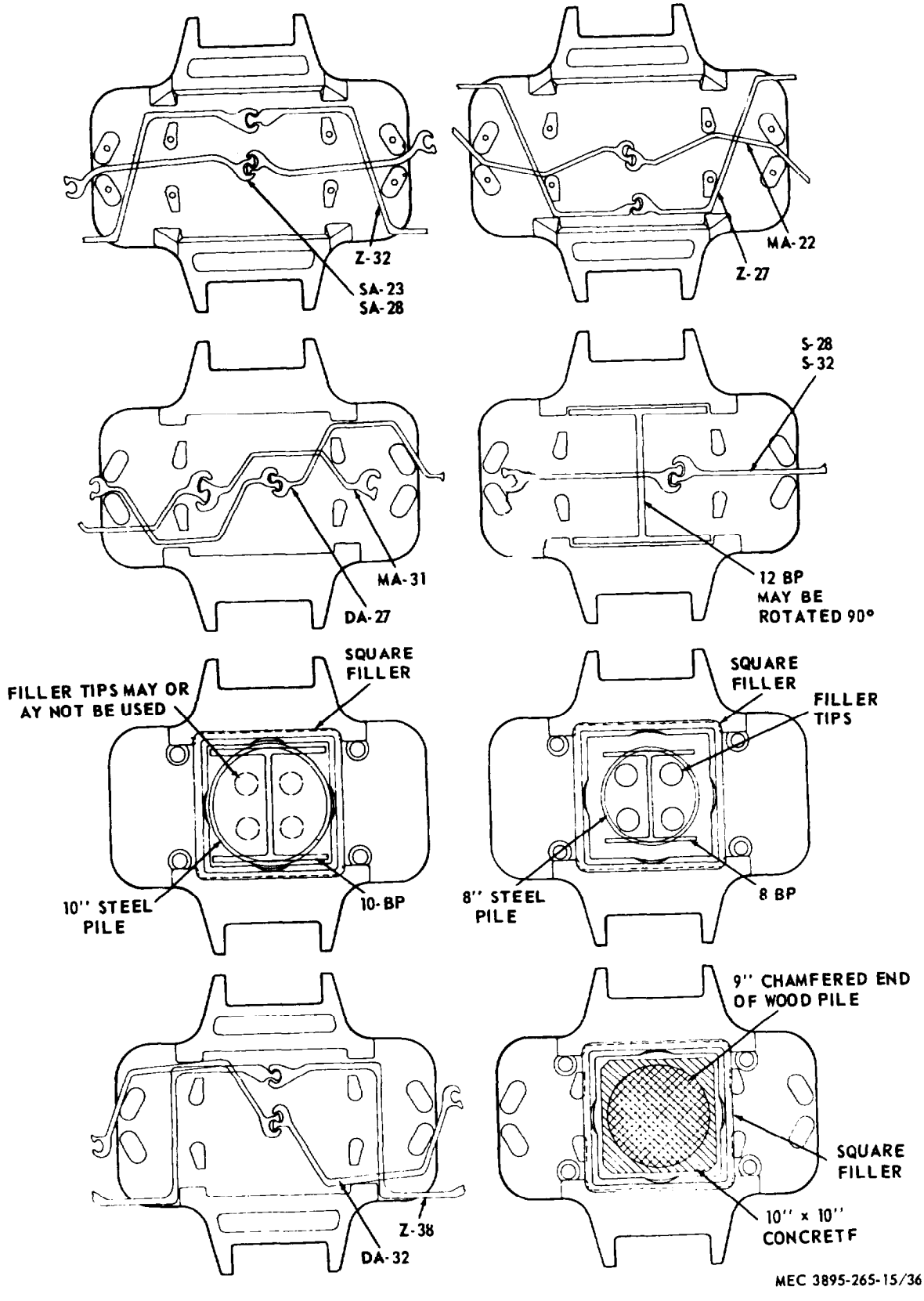


Figure 3-12. Pile contours fitting driving head.

CHAPTER 4

SHIPMENT, ADMINISTRATIVE STORAGE, AND DEMOLITION TO PREVENT ENEMY USE

Section I. SHIPMENT AND ADMINISTRATIVE STORAGE

4-1. Preparation of Equipment for Shipment

a. General. Instructions for preparation of the hammer for domestic shipment are provided in this paragraph. Preservation and packaging shall be accomplished in a sequence that will not require the operation of previously preserved components.

b. Inspection. Examine the hammer for any unusual condition such as damage, rusting, accumulation of water and/or missing components. Make a complete inspection of the hammer as outlined in the Preventive Maintenance Checks and Services, paragraph 3-6.

c. Preservation. Clean, paint, preserve and weather-proof in accordance with applicable requirements of TM 740-90-1.

d. Packing. Pack the disassembled components, basic issue items, and publications in a suitable container, and secure to the hammer. Refer to TM 38-230 for guidance in selection, fabrication and packing of the container.

e. Marking. Mark in accordance with MIL-STD-129.

f. Loading. Load, block, brace, and tie-down hammer in accordance with carrier rules and regulations.

4-2. Administrative Storage

Preparation, care, and removal of equipment in administrative storage will be in acordance with the applicable requirements of TM 740-90-1 (Administrative Storage of Equipment).

Section II. DEMOLITION OF HAMMER TO PREVENT ENEMY USE

4-5. General

When capture or abandonment of the diesel pile hammer is imminent, the responsible unit commander must make the decision to either destroy the equipment or render it inoperative. Based on this decision orders are issued which cover the desired extent of destruction. Whatever method of demolition is employed, it is essential to destroy the same vital parts of all the hammers and all corresponding repair parts.

4-6. Demolition to Render the Equipment Inoperative

a. Demolition by Misuse.

(1) Throw sand, dirt and small pieces of metal in intake, exhaust, and vent ports and operate hammer.

(2) Remove the injector assembly.

(3) Remove the transmitter.

(4) Remove the starting device.

(5) Engage lifting mechanism while hammer is running and continue to run hammer.

b. Demolition by Mechanical Means. Use a sledge hammer, crowbar, picks, axes, or other heavy tools to damage the fuel and lube pumps, the injector assembly and the starting device.

4-7. Demolition by Explosives or Weapon's Fire

a. Demolition by Explosives. Place the following charges and detonate them simultaneously with a detonating cord and a suitable detonator. Refer to figure 4-1.

(1) Two ½ pound charges on fuel and lube tank.

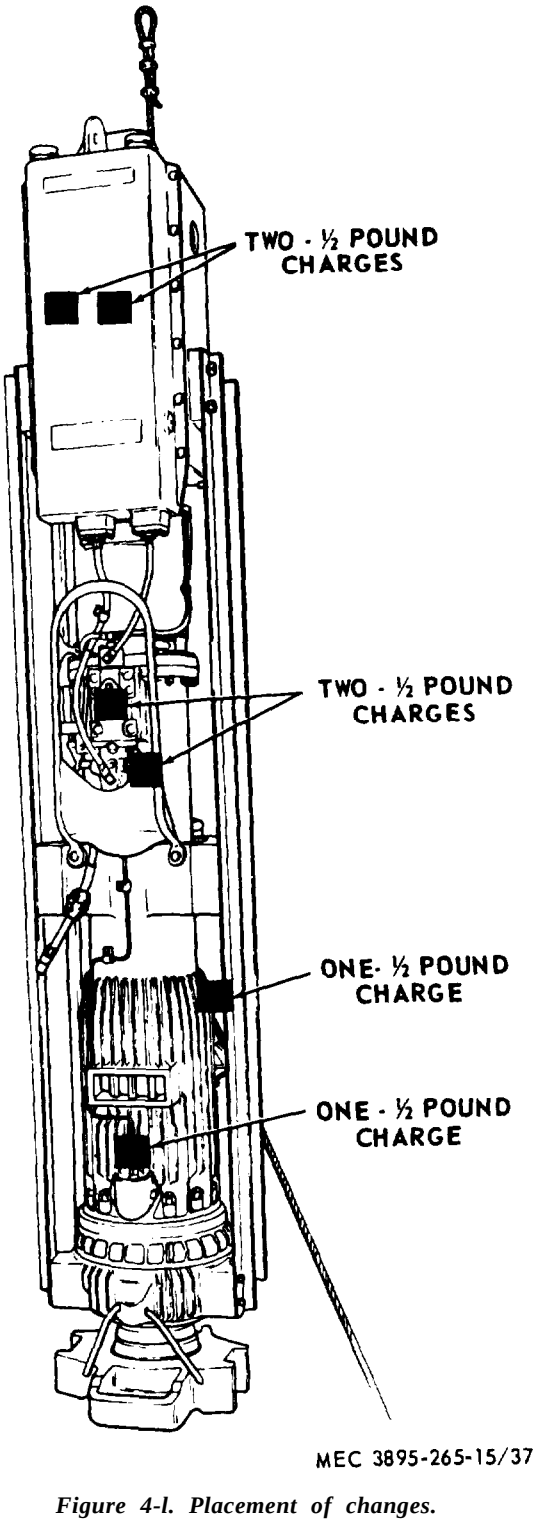


Figure 4-l. Placement of changes.

(2) One ½ pound charge near lower end of starting device.

(3) One ½ pound charge on pump drive housing. Over priming lever opening.

(4) One ½ pound charge touching cylinder wall and fuel pump.

(5) One ½ pound charge on lower cylinder, on upper side of injector cover.

b. Demolition by Weapons Fire. Fire on the hammer with the heaviest practicable weapons available aiming at fuel tank, fuel pump intake, and exhaust ports.

4-8. Other Demolition Methods

a. Scattering and Concealment. Remove all easily accessible parts such as the injector assembly, fuel pump, lube pump, and hydraulic transmitter system. Scatter them in foliage, bury them in dirt or sand, or throw them in a lake, stream, well or other body of water.

b. Burning. Pack rags, clothing or canvas around the hammer and open drain plugs in fuel and lube tanks to allow slow leakage. Pour gasoline, oil, or diesel fuel over this material and ignite.

c. Submersion. Totally submerge the hammer in a body of water to provide water damage and concealment. Salt water will do greater damage than fresh water.

4-9. Training

All operators should receive thorough training in the destruction of the hammer. Refer to FM 5-25. Simulated destruction using all of the methods listed above, should be included in the operator training program. It must be emphasized in training that demolition operations are usually necessitated by critical situations when time available for carrying out destruction is limited. For this reason it is necessary that operators be thoroughly familiar with all methods of destruction without reference to this or any other manual.

CHAPTER 5

DIRECT AND GENERAL SUPPORT MAINTENANCE

Section I. GENERAL

5-1. Scope

a. These instructions are published for the use of direct and general support and depot maintenance personnel maintaining the Link-Belt Speeder Model 180M Diesel Pile Hammer. They provide information on the maintenance of the equipment, which is beyond the scope of the tools, equipment, personnel, or supplies normally available to using organizations.

b. Report all equipment recommendations as prescribed by TM 38-750.

5-2. Record and Report Forms

For record and report forms applicable to direct and general support maintenance, refer to TM 38-750.

Section II. DESCRIPTION AND DATA

5-3. Description

A general description of the hammer, the location and description of the identification and instruction plates, and information on the differences in models are contained in chapter 1.

5-4. Tabulated Data

a. General. This paragraph contains all the overhaul data pertinent to direct and general support maintenance personnel.

b. Nut and Bolt Torque Data. Refer to paragraph 1-4.

c. Dimensions and Weights. Refer to paragraph 1-4.

d. Repair and Replacement Standards. Table 5-1 lists the manufacturer's sizes, tolerances, desired clearance, and maximum allowable wear and clearance for the diesel pile hammer.

Table 5-1. Hammer Repair and Replacement Standards

	Manufacturer's dimensions and tolerances in inches		Desired clearance		Maximum allowable wear and clearance
	Min.	Max.	Min.	Max.	
Cylinder bore	11.000	11.006	11.000	11.006	11.030
Wear rings	When witness groove disappears				.030 per side
Piston rings	.372	.3735			6 second interval in ram closure of exhaust port until contact with anvil.
Groove in ram	.376	.381			.007
Groove in anvil	.376	.381			.007
Receiver bell crank					1/16 in. deep pit in flat surface .030 in. oversize in bore for pin
Recoil dampener					¼ in. loss in height

Section III. REPAIR PARTS, SPECIAL TOOLS, AND EQUIPMENT

5-5. Special Tools and Equipment

The special tools required to perform direct and general support maintenance on the pile driver are listed in appendix C. No special equipment is required by direct or general support maintenance personnel for performing maintenance on the equipment.

5-6. Direct Support and General Support Maintenance Repair Parts

Direct and general support maintenance repair parts are listed and illustrated in Appendix D of this manual.

5-7. Specially Designed (Fabricated) Tools and Equipment

No specially designed tools or equipment are required.

Section IV. TROUBLESHOOTING

5-8. General

This section provides information useful in diagnosing and correcting unsatisfactory operation or failure of the hammer or any of its components. Each trouble symptom stated is followed by a list of probable causes of trouble. The carrective action is described opposite the probable cause.

Table 5-2. Troubleshooting

Malfunction	*Probable cause*	*Correctivce action*
1. Hammer fails to start	*a.* Damaged fuel injector nozzle.	*a.* Replace nozzle (para 6-6).
	b. Worn recoil dampener.	*b.* Replace dampener (para 6-10).
	c. Damaged ring grooves on bottom of ram.	*c.* Remove ram, repair ring grooves and install new rings (para 6-9).
	d. Incorrect timing of fuel pump.	*d.* Time fuel pump (para 6-4).
	e. Worn parts in pump drive.	*e.* Replace parts (para 6-6).
2. Starting device will not not latch in with ram.	Worn or damaged recoil dampener.	Replace recoil dampener (para 6-10).
3. Transmitter will not actuate fuel pump rack.	*a.* Defective relief valve.	*a.* Replace defective parts (para 6-14).
	b. Defective fuel pump.	*b.* Replace defective parts (para 6-4).
4. Loss of compression.	*a.* Worn or damaged rings in ram.	*a.* Replace rings (para 6-9).
	b. Worn rings in anvil.	*b.* Replace rings (para 6-9).
	c. Scored walls in cylinder.	*c.* Replace cylinder (para 6-8).

CHAPTER 6

REPAIR INSTRUCTIONS

Section I. CYLINDER HEAD

6-1. General

The cylinder head allows the air compression plus giving the ram and cylinder bore protection from the elements and any foreign matter which may drop from the boom point or hoist cables. An area which is called the safety space is located between the cylinder head and the compression tank ports.

6-2. Removal and Installation

a. Removal. Remove cylinder head as illustrated in figure 6-l.

b. Cleaning, Inspection and Repair.

(1) Clean parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect parts for breaks, cracks, or other damage. Replace a defective part.

c. Installation. Install cylinder head in reverse order of removal.

Section II. LUBRICATION SYSTEM

6-3. Oil Pump

a. Removal and Installation. Refer to figure 3-6 to remove and install the oil pump.

b. Disassembly and Reassembly. Refer to figure 6-2 to disassemble and reassemble the oil pump.

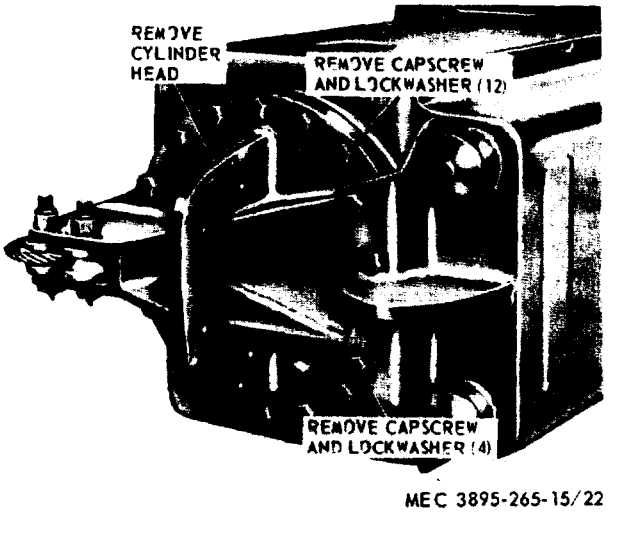


Figure 6-1. Cylinder head, removal and installation.

c. Cleaning, Inspection, and Repair.

(1) Clean parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect parts for cracks, breaks, or other damage and replace any damaged or defective part.

d. Adjustment. To check the lube oil pump operation, the following procedure should be followed :

(1) Latch into ram with starting device.

(2) Raise ram 6 to 8 inches.

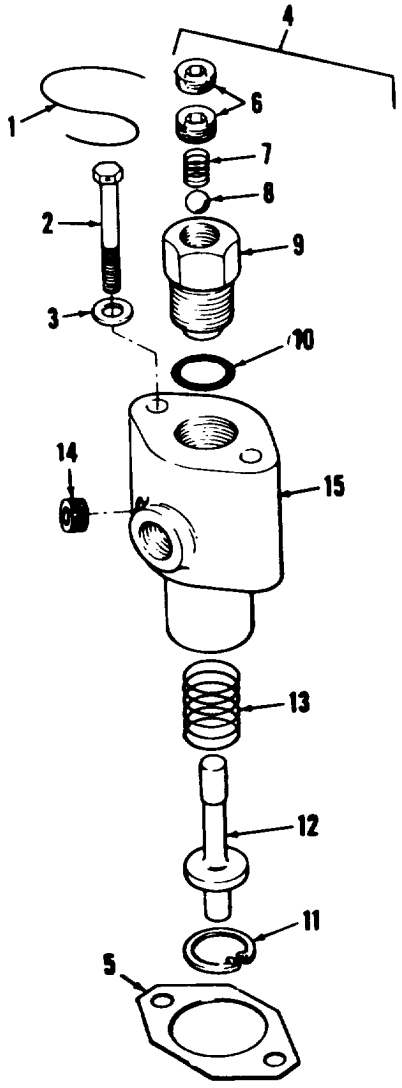
(3) Set and lock hoist brake.

(4) Remove lube oil lines from fitting on top of pump (fig. 3-6).

(5) With fuel pump rack in OFF position, insert the hand priming lever and manually operate the oil pump. At least one drop of oil should be visible per stroke.

(6) To increase amount of lube oil discharge, shims should be removed from beneath oil pump.

(7) To decrease amount of lube oil discharge, shims should be added beneath oil pump.



MEC 3895-265-15/24

1	Wire	6	Screw	11	Ring, retaining
2	Screw	7	Spring	12	Plunger
3	Washer	8	Ball	13	Spring
4	Oil pump	9	Fittings	14	Plugs
5	Shim	10	O-ring	15	Housing

Figure 6-2. Oil pump, exploded view.

Section III. FUEL SYSTEM

6-4. Fuel Pump

a. Removal and Installation. Refer to figure 3-7 to remove and install the fuel pump.

b. Disassembly and Reassembly. Refer to figure 6-3 to disassemble and reassemble the fuel pump.

c. Cleaning, Inspection, and Repair.

(1) Clean parts with an approved cleaning solvent and dry thoroughly.

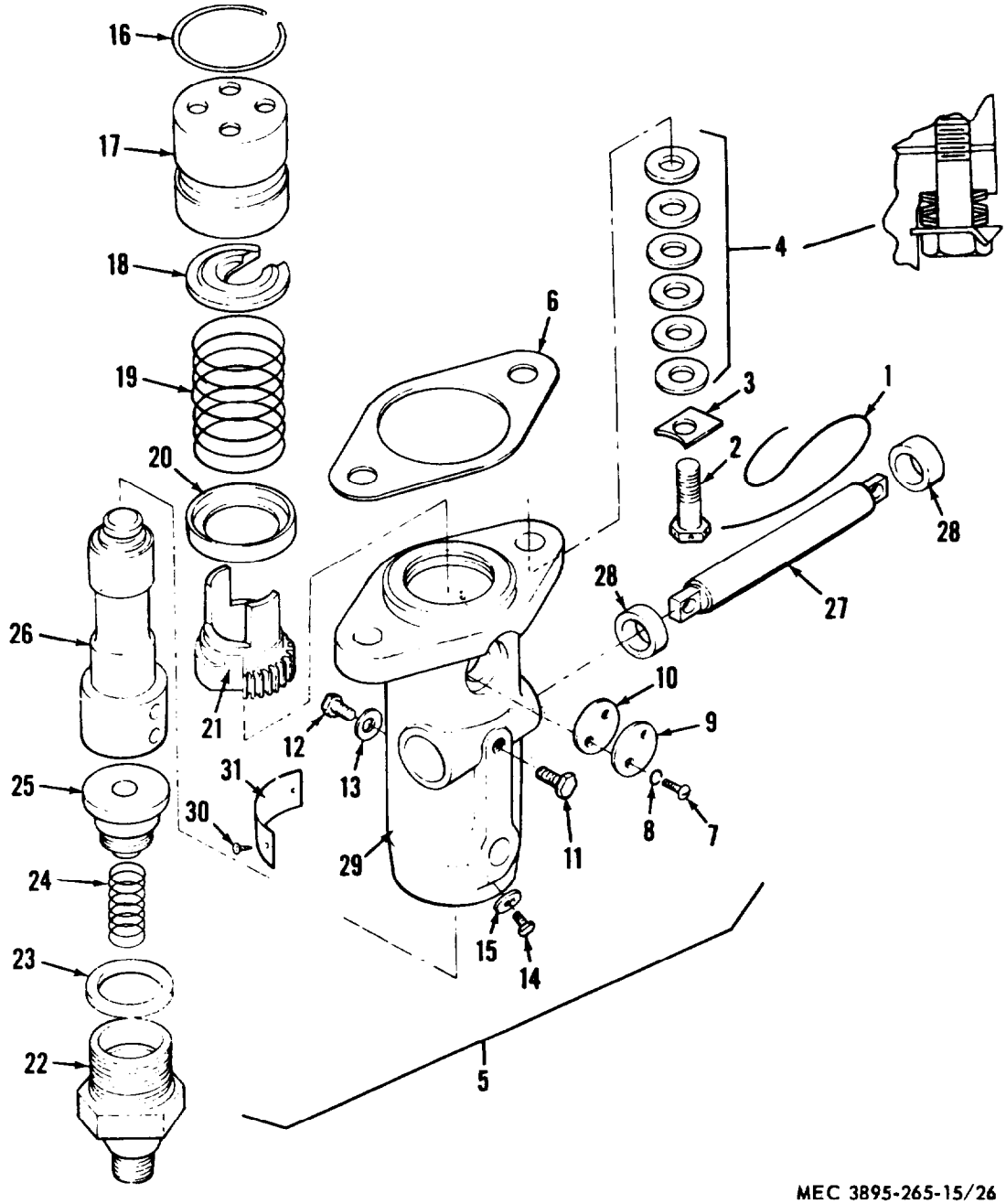
(2) Inspect parts for cracks, breaks, or other damage and replace any damaged or defective parts.

d. Timing.

(1) The fuel pump timing window is located in the center just below the pump mounting flange (fig. 6-4). Remove screws, cover, and gasket to expose timing marks as illustrated on figure 6-4.

(2) Lift entire hammer clear of piling with anvil in down position, and tip hammer forward slightly toward fuel pump.

(3) The relative position of timing marks should appear somewhat as in B, figure 6-4. Timing mark (4) should be at least 1/32 inch above bottom of window.

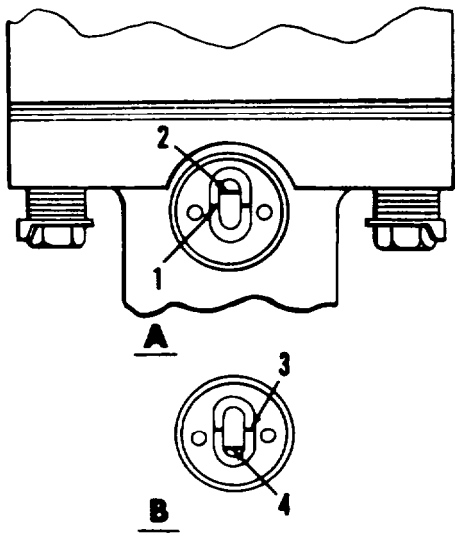


1 Wire
2 Screw
3 Plate, lock
4 Shim
5 Fuel pump
6 Gasket
7 Screw
8 Washer
9 Cover
10 Gasket
11 Screw
12 Screw
13 Gasket
14 Screw, bleed
15 Gasket
16 Ring
17 Cup
18 Seat
19 Spring
20 Seat
21 Sleeve
22 Holder
23 Gasket
24 Spring
25 Valve
26 Plunger and barrel assembly
27 Rack, control
28 Bushing
29 Housing
30 Rivet
31 Plate, name

Figure 6-3. Fuel pump, exploded view.

Caution: The timing mark (4) should never be allowed to leave the window either during hammer operation or while checking timing.

(4) Add shims to increase or remove shims to decrease this dimension as close to 1/32 inch as possible. The shims are located between the fuel pump and the pump drive housing.



A - Timing Marks with Ram Up

B - Timing Marks with Ram Down

MEC 3895-265-15/27

1 Index marks on window
2 Timing mark
3 Index marks on window
4 Timing mark

Figure 6-4. Fuel pump timing.

(5) Set hammer on a piling or driving head and latch in and raise cam about 6 inches. At this time the timing marks (2) should be a minimum of 1/32 inch above mark (1). In no case should timing mark (2) be more than 3/32 inch above index mark (1).

6-5. Fuel Pump Drive System

a. General. The fuel pump is operated by a bell crank lever with a needle-bearing roller which contacts the machined cam surface of the ram. As the upper end of the ram contacts the roller, the bell crank forces the pump piston downward, placing fuel under pressure in the fuel line to the injector.

b. Removal and Disassembly.

(1) Remove the lubricating oil pump (para 3-16).

(2) Remove the fuel pump (para 3-20).

(3) Remove the fuel pump drive housing as illustrated in figure 6-3.

(4) Disassemble the drive system in numerical sequence (34 through 56) as illustrated in figure 6-5.

6-6. Fuel Injector

a. General. The fuel injector nozzle assembly is factory set to open at 2000 psi (pounds per square inch). The injector nozzle is specially made with increased running clearance between the pintle and nozzle bore for hammer application.

b. Removal and Disassembly. Remove and disassemble the injector assembly as illustrated in A, figure 6-6.

c. Checking Spray Pattern.

(1) Assemble the injector on the high pressure fuel line (B, fig. 6-6).

(2) Remove cover plate from pump drive housing (fig. 3-7).

(3) Raise the ram 6 inches with the starting device and lock hoist brake on crane (fig. 2-8).

(4) Open fuel rack.

(5) Insert hand priming lever in the hole provided in bell crank (fig. 6-5).

(6) Using a sharp pull on the priming lever, hand operate the fuel injection system. The nozzle should emit a fine cone shaped fuel spray (fig. 6-7).

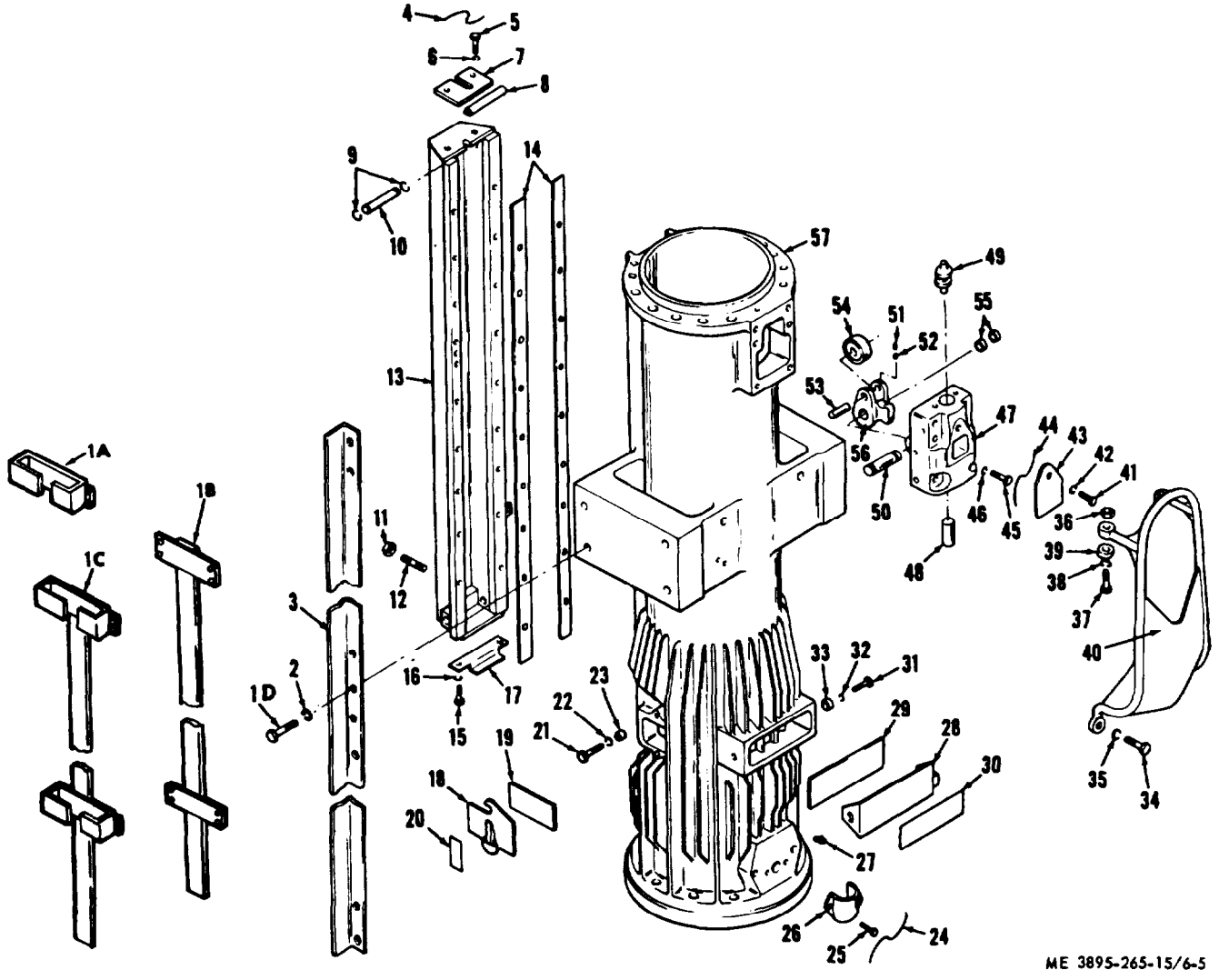
Caution: Keep hands and body away from spray path. Pressure is sufficient to cause fuel to penetrate skin and cause blood poisoning.

d. Cleaning, Inspection and Repair.

(1) Clean all parts of the injector assembly, except the nozzle, with an approved cleaning solvent and dry thoroughly.

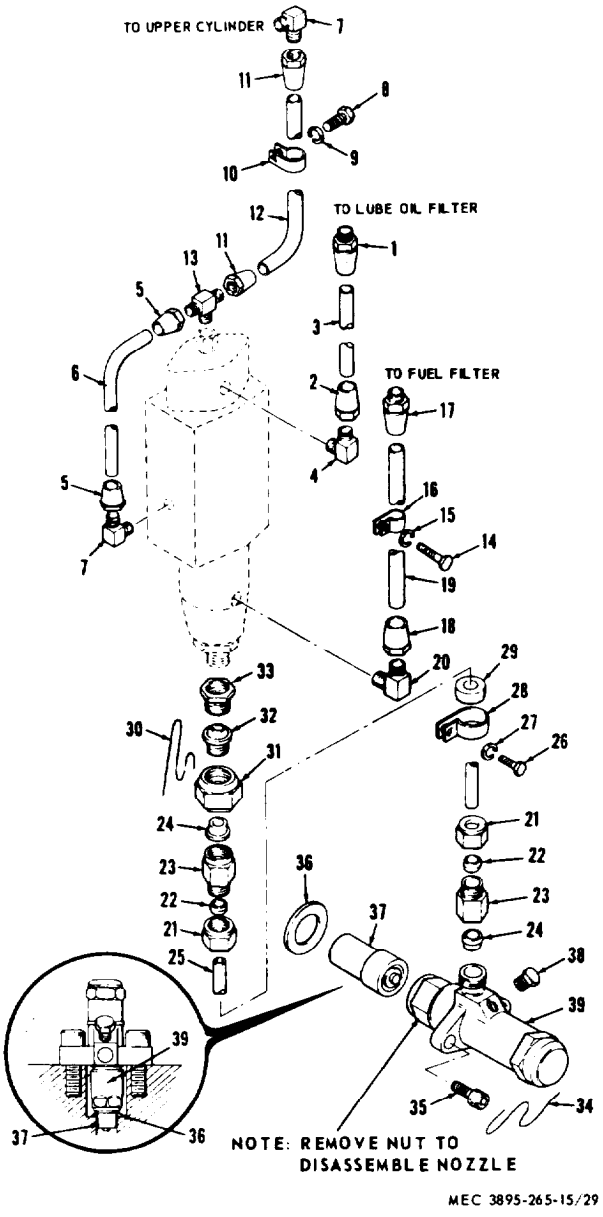
(2) Inspect all parts for cracks, breaks, wear and other damage. Replace a damaged or defective part.

e. Reassembly and Installation. Reassemble and install the injector assembly as illustrated in figure 6-6.



1A Upper guide	13 Cover	28 Cover	43 Cover
1B Head guide	1A Wear strip	29 Gasket	44 Wire
1D Screw	15 Screw	30 Emblem	45 Screw
1D Screws	16 Washer	31 Screw	46 Washer
2 Washer	17 Guard	32 Lockwasher	47 Housing
3 Guide angle	18 Cover	33 Spacer	48 Tappet
4 Wire	19 Gasket	34 Screw	49 Tappet
5 Screw	20 Emblem	35 Lockwasher	50 Lever shaft
6 Washer	21 Screw	36 Nut	51 Screw
7 Plate	22 Lockwasher	37 Screw	52 Setscrew
8 Rubber channel	23 Spacer	38 Washer	53 Pin
9 Snap ring	24 Wire	39 Spacer	54 Cam roller
10 Pin	25 Screw	40 Guard	55 Bushing
11 Nut	26 Cover	41 Screw	56 Lever assembly
12 Stud	27 Lube fitting	42 Washer	57 Lower cylinder

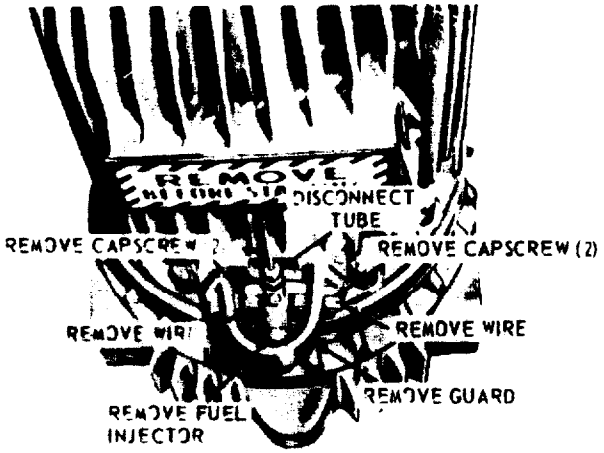
Figure 6-5. Fuel pump drive system and lower cylinder, exploded view.



1	Fitting	21	Nut
2	Fitting, swivel	22	Ring, seal
3	Hose assembly	23	Nut, diesel
4	Elbow	24	Sleeve
5	Fitting, swivel	25	Tube
6	Hose	26	Screw
7	Elbow	27	Lockwasher
8	Screw	28	Clamp
9	Washer	29	Grommet
10	Clamp	30	Wire
11	Fitting, swivel	31	Coupling
12	Hose	32	Nipple
13	Tee	33	Bushing
14	Screw	34	Wire
15	Lockwasher	35	Screw
16	Clamp	36	Washer, bellville
17	Fitting	37	Nozzle
18	Fitting, swivel	38	Plug
19	Hose	39	Holder
20	Elbow		

A-Injector assembly and hose, exploded view

Figure 6-6. Fuel injector.



B—Removal and installation

Figure 6-6-Continued.

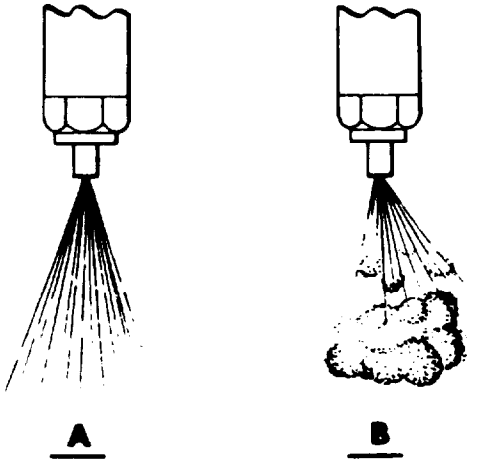


Figure 6-7. Node spray pattern.

Section IV. CYLINDERS AND RAM

6-7. General

The upper and lower cylinders are attached near the center of the hammer and can be separated by removing the capscrews and studs at this point. The ram can be removed through the upper cylinder or the lower cylinder. It is better to remove the ram before the upper and lower cylinders are separated.

6-8. Upper and lower Cylinders

a. Removal. Remove the upper and lower cylinders as illustrated in figure 6-8.

b. Disassembly. Disassemble the lower cylinder as illustrated in figure 6-5 and the upper cylinder as illustrated in figure 6-9.

c. Cleaning, Inspection and Repair.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect all parts for cracks, breaks, and other damage, Replace a damaged or defective part.

d. Cylinder Bore. Check cylinder bore for wear in the area immediately below the exhaust ports. The maximum wear allowable has been reached when the bore reads 11.030 inches. If wear goes beyond this, reconditioning will be necessary.

e. Reassembly. Reassemble the lower cylinder as illustrated in figure 6-5 and the upper cylinder as illustrated in figure 6-9.

f. Installation. Install the upper and lower cylinders as illustrated in figure 6-8.

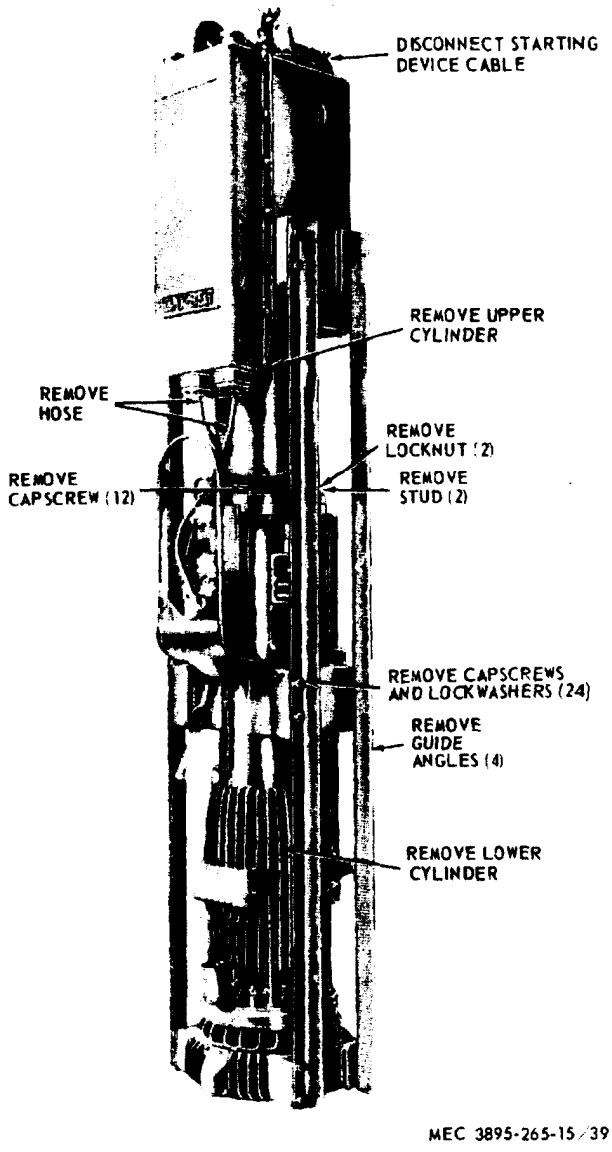


Figure 6-8. Upper and lower cylinders, removal and installation.

6-9. Ram and Anvil

a. Removal.

(1) The ram and anvil can be removed as illustrated in figure 6-10.

(2) The ram can also be removed through the upper cylinder as follows:

(a) Remove fuel and lube tank (para 3-18).

(b) Remove cylinder head (para 6-2).

(c) Screw eyebolt into top of ram and attach the hoist line, and lift ram from cylinder.

b. Cleaning, Inspection and Repair.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect all parts for cracks, breaks, and other damage. Replace a damaged or defective part.

(3) Replace worn wear rings.

(4) Carefully dress down any burrs on ring grooves. Do not bevel or chamfer groove edges.

c. Installation.

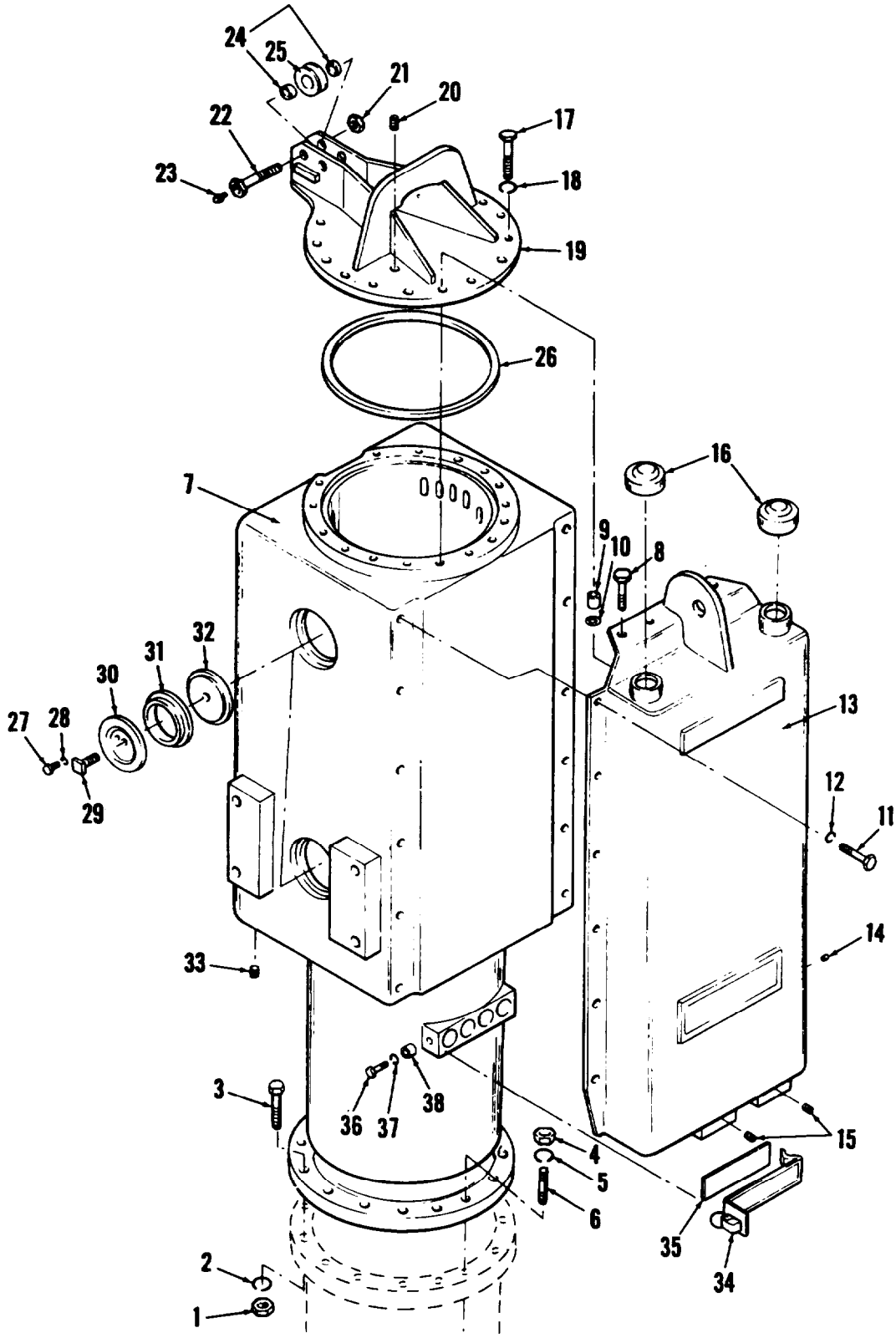
(1) Install the ram and anvil as illustrated in figure 6-10.

(2) The ram can also be installed in the upper cylinder as follows:

(a) Remove any sharp edges from piston rings.

(b) Lubricate the ram liberally with grease.

(c) Install a ring compressor in top of cylinder.



MEC 3895-265-15/40

Figure 6-9. Upper cylinder, exploded view.

1 Nut
2 Lockwasher
3 Screw
4 Nut
5 Lockwasher
6 Stud
7 Upper cylinder
8 Screw
9 Spacer
10 Shim
11 Screw
12 Lockwasher
13 Tank
14 Plug
15 Plug
16 Cap
17 Screw
18 Lockwasher
19 Cylinder head
20 Plug
21 Nut
22 Screw
23 Fitting
24 Bushing
25 Roller
26 Gasket
27 screw
28 Lockwasher
29 Bolt
30 Clamping plate
31 Seal ring
32 Pressure plate
33 Plug
34 Cover
35 Gasket
36 Screw
37 Lockwasher
38 Spacer

Figure 6-9. Upper cylinder, exploded view-Continued.

(d) Lift ram with the hoist lone and install in cylinder.

(e) When ram is halfway down in top half of cylinder check the fuel pump timing (para 6-4).

(f) When ram is all the way to the anvil, again check timing on fuel pump (para 6-4).

(g) Remove eyebolt from ram.

(h) Install cylinder head (para 6-2) and fuel and lube tank (para 3-18).

6-10. Recoil Dampener

a. General. The recoil dampener,15, fig. 6-10) is used to minimize shock caused by pile and soil rebound.

b. Removal.

(1) Remove the recoil dampener as illustrated in figure 6-10.

(2) Latch into ram with lifting mechanism.

(3) With lifting device engaged disconnect lifting mechanism cable from hoist cable.

(4) Attach hoist cable to cylinder head and take strain with hoist cable.

(5) Remove nuts on top of anvil guide studs.

(6) Raise cylinder and ram, being held in place by lifting device, off of anvil.

(7) Raise leads and swing away from anvil.

(8) Make repairs to recoil dampener.

(9) Install in reverse order.

c. Cleaning, Inspection and Repair.

(1) Clean all parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect all parts for cracks, breaks, and other damage. Replace a damaged or defective part.

(3) Replace the recoil dampener when the anvil travel has increased to 1¼ inches.

d. Check Anvil Travel.

(1) Lift hamer free of any piling with the ram down, At this time the ram is resting on the anvil which is at its lower limit of travel.

(2) Going through the exhaust port, make a mark on the ram and a reference mark inside the port.

(3) Place the hammer on a piling so as to raise the anvil in the up position.

(4) Measure the distance the mark on the ram has moved up from the reference mark inside the port.

(5) This distance must not exceed 1¼, inches.

e. Installation. Install the recoil dampener in the reverse order of removal.

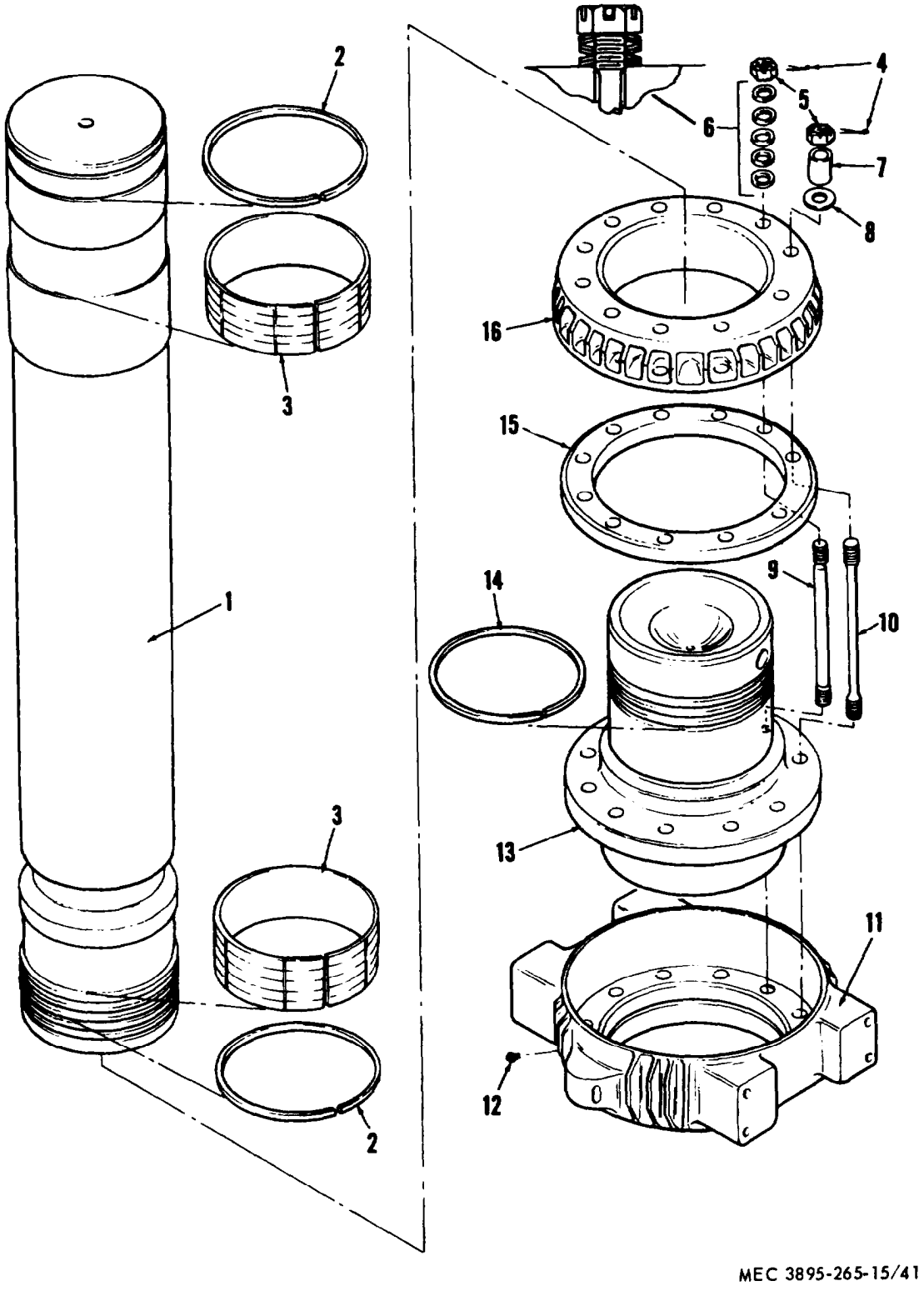


Figure 6-10. Ram, anvil, and recoil dampener, exploded view.

1 Ram
2 Piston ring
3 Wear ring
4 Cotter pin
5 Nut
6 Spring washer
7 Spacer
8 Spring washer
9 Retainer
10 Retainer stud
11 Anvil guide
12 Lubrication fitting
13 Anvil
14 Piston ring
15 Recoil dampener
16 Cooling ring

Figure 6-10. Ram, anvil, and recoil dampener, exploded view-Continued.

Section V. HYDRAULIC CONTROL SYSTEM

6-11. General

The hydraulic control system and its function has been described in paragraphs 1-3 and 3-22.

6-12. Receiver

a. Removal and Installation. Refer to paragraph 3-24 to remove and install the hydraulic receiver.

b. Disassembly and Reassembly. Refer to figure 6-11 to disassemble and reassemble the hydraulic receiver.

c. Cleaning, Inspection, and Repair.

(1) Clean parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect parts for breaks, cracks, or other damage. Replace all defective parts.

6-13. Transmitter

a. Removal and Installation. Refer to paragraph 3-25 to remove and install the hydraulic transmitter.

b. Disassembly and Reassembly. Refer to figure 6-12, items 15 through 48 to disassemble and reassemble the hydraulic transmitter.

c. Cleaning, Inspection, and Repair.

(1) Clean parts with an approved cleaning solvent and dry thoroughly.

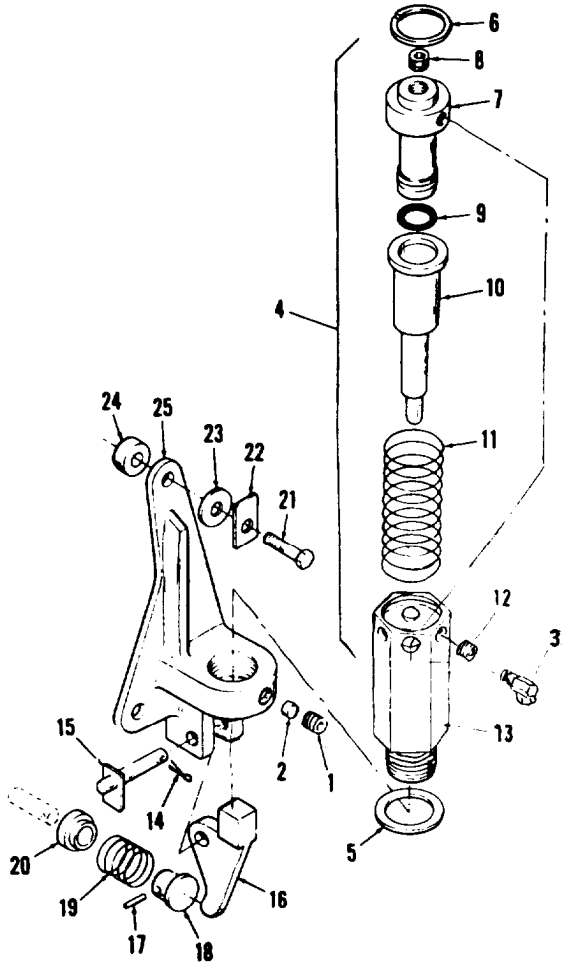
(2) Inspect parts for breaks, cracks, or other damage. Replace all defective parts.

d. Adjustment. If the transmitter handle has been completely disassembled, the following adjustment procedure must be made (fig. 6-13).

(1) Back off set screw (1) 1/4. inch from linkage (A).

(2) Turn set screw (2) in until hand lever does not lock when moved to the ON position; then back off on set screw (2) until lever does lock when moved to the ON position.

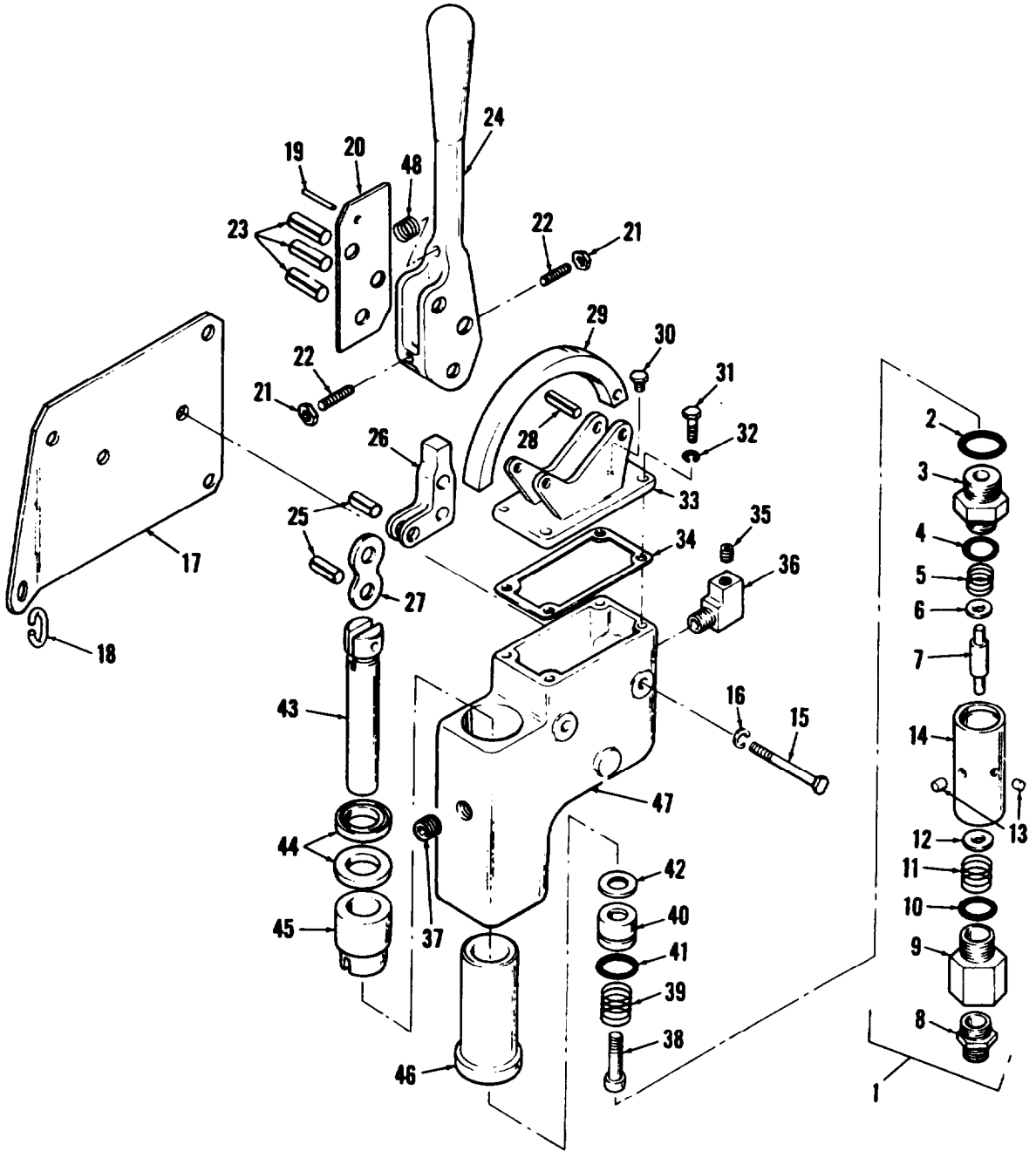
(3) With hand lever in the ON position, turn set screw (1) until it contacts linkage (A); then back off on set screw 1½ to 2 turns.



MEC 3895-265-15/.33

1 Set screw
2 Plug
3 Adapter
4 Receiver, hydraulic
5 Shim
6 Ring, snap
7 Piston
8 Plug
9 O-ring
10 Rod
11 Spring
12 Plug
13 Cylinder casing
14 Cotter pin
15 Pin
16 Bell crank
17 Pin, roll
18 Seat
19 Spring
20 Stop, rack
21 Screw
22 Plate, lock
23 Washer
24 Bushing
25 Bracket

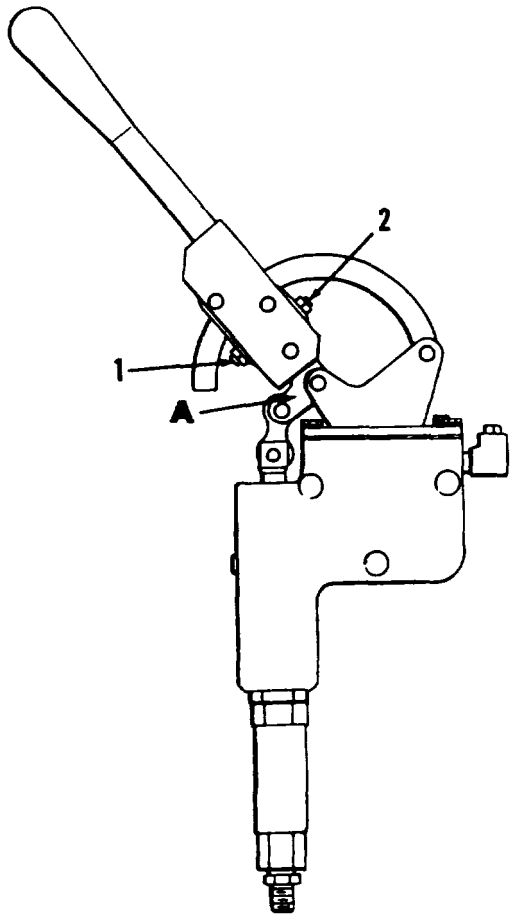
Figure 6-11. Hydraulic receiver, exploded view.



MEC 3895-265-15/42

1	Relief valve	13	Dowel	25	Pin, roll	37	Plug
2	O-ring	14	Body	26	Lever	38	Bolt
3	Cap	15	Screw	27	Bar	39	Spring
4	O-ring	16	Lockwasher	28	Pin, roll	40	Piston
5	Spring	17	Plate	29	Quadrant	41	O-ring
6	Washer	18	Link	30	Breather	42	Washer
7	Piston	19	Pin, roll	31	Screw	43	Piston
8	Connector	20	Lock, lever	32	Lockwasher	44	Seal
9	Cap	21	Nut	33	Plate, cover	45	Liner
10	O-ring	22	Setscrew	34	Gasket	46	Liner
11	Spring	23	Pin, roll	35	Plug	47	Body
12	Washer	24	Lever	36	Elbow	48	Spring

Figure 6-12. Hydraulic transmitter and relief valve, exploded view.



MEC 3895-265-15/43

Figure 6-13. Transmitter handle adjustment.

(4) Set both jam nuts on set screws (1 and 2).

(5) Fill and bleed hydraulic system (para 2-9).

6-14. Relief Valve

a. Removal and Installation. Refer to paragraph 3-26 to remove and install the relief valve.

b. Disassembly and Reassembly. Refer to figure 6-12, items 1 through 14 to disassemble and reassemble the relief valve.

c. Cleaning, Inspection, and Repair.

(1) Clean parts with an approved cleaning solvent and dry thoroughly.

(2) Inspect parts for cracks, breaks, or other damage. Replace any defective parts.

APPENDIX A

REFERENCES

1. lubrication

C9100IL	Fuels, Lubricants, Oils and Waxes
LO 5-3895-265-15	Lubrication Order

2. Painting

TM 9-213	Painting Instructions for Field Use

3. Maintenance

TM 38-750	Army Equipment Record Procedures

4. Shipment and Storage

TM 740-90-1	Administrative Storage of Equipment
TM 38-230	Preservation, Packaging, and Packing of Military Supplies and Equipment

APPENDIX B

BASIC ISSUE ITEMS LIST

Section 1. INTRODUCTION

B-1. Scope

This appendix lists items which accompany the Pile Hammer or are required for installation, operation, or operator's maintenance.

B-2. General

This Basic Issue Items List is divided into the following sections :

a. Basic Issue Items-Section II. A list of items which acompany the Pile Hammer or are required for the installation, operation, or operator's maintenance.

b. Maintenance and Operating Supplies-Section III. A listing of maintenance and operating supplies required for initial operation.

B-3. Explanation of Columns

The following provides an explanation of columns in the tabular list of Basic Issue Items, Section II.

a. Source, Maintenance, and Recoverability codes (SMR), Column *1:*

(1) Source Code, indicates the selection status and source for the listed item. Source code is-

code	*Explanation*
P	Applied to repair parts which are stocked in or supplied from GSA/DSA or Army supply system, and authorized fo ruse at indicated maintenance categories.

(2) Maintenance Code, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is-

Code	Explanation
C	Operator/crew

(3) Recoverability Code, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number for the item.

c. Description, Column 3. This column indicates the Federal item name and any additional description of the item required.

d. Unit of Issue, Column 4. This column indicates the unit used as a basis for issue, e.g., ea, pr, ft, yd, etc.

e. Quantity Incorporated in Unit Pack, Column 5. Not applicable.

f. Quantity Incorporated in Unit, Column 6. Not Applicable.

g. Quantity Furnished With Equipment, Column 7. This column indicates the quantity of an item furnished with the equipment.

h. Quantity Authorized, Column 8. This column indicates the quantity of an item authorized the operator/crew to have on hand or to obtain as required. As required items are indicated with an asterisk.

i. Illustration, Column 9. Not Applicable.

B-4. Explanation of Columns in the Tabular list of Maintenance and Operating Supplies-Section III

a. Component Application, Column 1. This column identifies the component application of each maintenance or operating supply item.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number for the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the item and brief description.

d. Quantity Required for Initial Operation, Column 4. This column indicates the quantity of each maintenance or operating supply item required for initial operation of the equipment.

e. Quantity Required for 8 Hours Operation, Column 5. This column indicates the estimated quantities required for an average eight hours of operation.

f. Notes, Column 6. This column indicates informative notes keyed to data appearing in a preceding column.

Section II. BASIC ISSUE ITEMS

(1) SMR code	(2) Federal stock No.	(3) Description	(4) Unit of issue	(5) Qty inc in unit pack	(6) Qty inc in unit	(7) Qty furn with equip	(8) Qty auth	(6) Illustration (a) No.	(6) Illustration (b) Item NO.
		3100-BASIC ISSUE ITEMS, MANUFACTURER OR DEPOT INSTALLED							
PC	7520-559-9618	CASE: Operation and Maintenance Manuals	ea			1	1		
		ARMY TECHNICAL MANUAL TM 5-3895-265-14	ea			2	2		
		ARMY LUBRICATION ORDER LO 5-3895-265-15	ea			1	1		

Section III. MAINTENANCE AND OPERATING SUPPLIES

(1) Component application	(2)	(3) Description	(4) Quantity required f/initial operation	(5) Quantity required f/8 hrs operation	(6) Notes
0127-TANK LUBRICATING OIL	9150-680-1102	Oil, Lubricating. 5 gal pail HDO-10	19 gal (2)	1.6	(1) See C9100-IL for additioanl data and requisitioning procedure.
	9150-680-1099 (1)	HDO-30	1.9 gal (2)	1.6 gal.	(2) See current LO for grade application and replenishment intervals.
	9150-265-7603 (1)	OES	1.9 gal (2)	1.6 gal.	
0306-TANK, FUEL		Fuel Oil, Diesel Regular grade	5.5 gal (3)	6.0 gal.	(3) Tank capacity
	9140-286-5294 (1)	DF-2, Bulk			(4) 3 Pumps each fitting every hour of operation.
	9140-286-5296 (1)	Wintergrade DF-1, 55 gal. drum	5.5 gal (3)	6.0 gal.	(5) 2 Pumps each fitting every 4 hours of operation.
	9140-286-5283 (1)	Arctic grade DF-A, Bulk	5.5 gal (3)	6.0 gal.	
0306-TANK, STARTING FLUID	6850-823-7861	Starting Fluid, Internal Combustion Engine-12 oz.	4 oz.	4 oz.	
4309-HYDRAULIC CONTROL SYSTEM	9150-223-4134	Hydraulic Fluid Petroleum Base-1 gal. OHA	3 pts.		
7413-GREASE POINTS	9150-190-0905 (1)	Grease, Automotive and Artillery 5 lb can	¼ lb (4)	¼ lb	

APPENDIX C

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

C-1. General

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III. Not applicable.

d. Section IV contains supplemental instructions, explanatory notes and//or illustrations required for a particular maintenance function.

C-2. Explanation of Columns in Section II

a. ***Group Number. Column*** 1. The functional group is a numerical group set up on a functional basis. The applicable functional grouping indexes (obtained from TB 750-93-1, Functional Grouping Codes) are listed on the MAC in the appropriate numerical sequence. These indexes are normally set up in accordance with their function and proximity to each other.

b. Functional Group. Column 2. This column contains a brief description of the components of each functional group.

c. Maintenance Functions. Column 3. This column lists the various maintenance functions (A through K) and indicates the lowest maintenance category authorized to perform these functions. The symbol designations for the various maintenance categories are as follows:

C - Operator or crew
- Organizational maintenance
F - Direct support maintenance
H - General support maintenance

The maintenance functions are defined as follows:

A - INSPECT. To determine serviceability of an item by comparing its physical, mechanical, and electrical characteristics with established standards.

B - TEST. To verify serviceability and to detect electrical or mechanical failure by use of test equipment.

C - SERVICE. To clean, to preserve, to charge, to paint, and to add fuel, lubricants, cooling agents, and air.

D - ADJUST. To rectify to the extent necessary to bring into proper operating range.

E - ALIGN. To adjust specified variable elements of an item to bring to optimum performance.

F - CALIBRATE. To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the 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 with the certified standard.

G - INSTALL. To set up for use in an operational environment such as an emplacement, site, or vehicle.

H - REPLACE. To replace unserviceable items with serviceable assemblies, subassemblies, or parts.

I - REPAIR. To restore an item to serviceable condition. This includes, but is not limited to, inspection, cleaning, preserving, adjusting, replacing, welding, riveting, and strengthening.

J - OVERHAUL. To restore an item to a completely serviceable condition as prescribed by maintenance serviceability standards using the Inspect and Repair Only as Necessary (IROAN) technique.

K - REBUILD. To restore an item to a standard as nearly as possible to original or new

condition in appearance, performance, and life expectancy. This is accomplished through complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements (items) using original manufacturing tolerances and specifications, and subsequent reassembly of the item.

d. Tools and Equipment. Column 4. This column is provided for referencing by code the special tools and test equipment, (sec. III) required to perform the maintenance functions (sec. II).

e. Remarks. Column 5. This column is provided for referencing by code the remarks (sec. IV) pertinent to the maintenance functions.

C-3. Explanation of Columns in Section IV

a. Reference Code. This column consists of two letters separated by a dash, both of which are references to section II. The first letter references column 5 and the second letter references a maintenance function, column 3, A through K.

b. Remarks. This column lists information pertinent to the maintenance function being performed, as indicated on the MAC, section II.

Section II. MAINTENCE ALLOCATION CHART

(1) Group No.	(2) Functional group	(3) Maintenance functions A Inspect	B Test	C Service	D Adjust	E Align	F Calibrate	G Install	H Replace	I Repair	J Overhaul	K Rebuild	(4) Tools and equipment	(5) Remarks
01	Engine:													
0101	Crankcase, Block, Cylinder Head:													
	Anvil	O							F					
	Cylinder, assembly	O							F	F				
	Guide, anvil	O							F					
	Head, cylinder								F					
	Stud, head and anvil	O							F					
0104	Piston:													
	Damper, recoil	O							F					
	Ram, (piston)								F					
	Ring, piston	O							F					
	Ring, wear	O							F					
0106	EngineLubricationSystm													
	Element, filter			C					O					
	Filter assembly, oil			C					O					
	Pump, oil	O	F		F				O	F				
	Ring, "O"	O							F					
0110	Diesel Starting Controls:													
	Latch, block	O							O					
	Level, release	O							O					
	Pin, lock	O							O					
	Ring, Snap	O							O					
	Strip, wear	O							O					
03	Fuel System													
0301	Injectors													
	Clamps, tube	O							O					
	Injectors, assembly	C	F	F					O	F				
	Nozzle, injector	C							F	F				
0302	Fuel Pumps													
	Pump, fuel injection			O	F				F	H				
	Roller, cam	O							F					
0306	Tank, Lines, Fittings													
	Cap, fuel tank	O							O					
	Tank, fuel and oil			C					O	F				

(1) Group No.	(2) Functional group	(3) Maintenance functions A Inspect	B Test	C Service	D Adjust	E Align	F Calibrate	G Install	H Replace	I Repair	J Overhau	K Rebuild	(4) Tools and equipment	(5) Remarks
0309	Fuel Filters													
	Fuel filter assembly			O					O					
	Fuel filter, element			C					O					
0311	Engine Starting Aide:													
	Injector, fuel starting	O		O					O	F				
22	Miscellaneous Body, Chassis Or Hull and Accessory Items													
2210	Data Plate and Instruction Holders													
	Plates, data	O							F					
	Plates, instruction	O							O					
43	Hydraulic Fluid, Air and Vacuum Controls:													
4301	Strainers, filters, hose													
	Pipe, fitting, tubing, etc.													
	Fittings, hose	O							O					
	Hose, assemblies	O							O					
4305	Manifold, and/or Control Valves													
	Gasket, cover plate	O							O					
	Piston, transmitter and Receiver	O							F					
	Seal, oil	O							F					
	Transmitter, receiver Hydraulic	O			F				O	F				
	Valve, relief								O	F				
4309	Hydraulic Controls and/or Manual Controls													
	Lock, level	O							O					
	Pin, roll	O							O					
74	Crane, Shovels, and Earth Moving Equipment Components													
7413	Pile Diver Attachment													
	Cap, pile driving	C							O					
	Disc, aluminum, pile Driving	C							O					
	Hammer, pile driving	C	C						O	O	F			
	Hitch, assembly	O							O					

Section III. SPECIAL TOOL AND SPECIAL TEST EQUIPMENT REQUIREMENTS

Reference code	*Maintenance* Category	*Nomenclature*	Tool number
1-C	F	Kit, Cleaning: Nozzle FSN 3895-087-4351	TSE-7779
1-C	F	Wrench, Socket Key FSN 5120-198-5390	PA37
1-C	F	Lever, Priming FSN 3895-487-4347	13P11
1-C	F	Bracket, Lifting FSN 3896-106-2123	13Y1

Section IV. REMARKS

Reference code	*Remarks*
A-C	Service of Injector Assembly-Includes Cleaning Tip

APPENDIX D

REPAIR PARTS LIST

Section I. INTRODUCTION

1. Scope

This appendix lists repair parts and special tools required for the performance of organizational, direct support and general support, maintenance of the Hammer, Pile Driver.

2. General

This Repair Parts and Special Tools List is divided into the following sections:

a. Prescribed Loud Allowance (PLA) - Section II. A composite listing of repair parts, special tools, test and support equipment having quantitative allowances for initial stockage at the organizational level.

b. ***Repair*** Parts-Section III. A list of repair parts authorized for the performance of maintenance at the organizational level in figure and item number sequence.

c. Special Tools, Test and Support Equipment -Section IV. Not applicable.

d. Repair Parts-Section V. A list of repair parts authorized for the performance of maintenance at the direct support and general support level in figure and item number sequence.

e. Special Tools, Test and ***Support Equipment -Section VI.*** Not applicable.

f. Federal Stock Number and Reference Number Index-Section VII. A list of Federal stock numbers in ascending numerical sequence, followed by a list of reference numbers appearing in all of the listings, in ascending alpha-numeric sequence, cross-referenced to the illustration figure number and item number.

3. Explanation of Columns

The following provides an explanation of columns in the tabular lists in sections II through VI:

Note. Common hardware items known to be readily available in Army supply channels are assigned Maintenance codes only. Source codes, Recoverability codes, and Maintenance Allowances are not assigned this category.

a. Source, Maintenance, and Recoverability codes (SMR).

(1) ***Source code.*** Indicates the selection status and source for the listed item. Source codes used are-

Code	Explanation
P	Applied to repair parts which are stocked in or supplied from DSA/GSA or Army supply system, and authorized for use at indicated maintenance categories.
P2	Applied to repair parts which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.
M	Applied to repair parts which are not procured or stocked but are to be manufactured at indicated maintenance categories.
A	Applied to assemblies which are not procured or stocked as such but are made up of two or more units, each of which carry individual stock numbers and descriptions and are procured and stocked and can be assembled by units at indicated maintenance categories.
X	Applied to parts and assemblies which are not procured or stocked; the mortality of which normally is below that of the applicable end item; and the failure of which should result ***in*** retirement of the end item from the supply system.
X1	Applied to repair parts which are not procured or stocked, the requirement for which will be supplied by use of the next higher assembly or component.
X2	Applied to repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain them through cannibalization; if not obtainable through cannibalization, such repair parts will be requisitioned with supporting justification through normal supply channels.

Code	*Explanation*
C	Applied to repair parts authorized for local procurement. If not obtainable from local procurement, such repair parts will be requisitioned through normal supply channels with a supporting statement of nonavailability from local procurement.
G	Applied to major assemblies that are procured with PEMA (Procurement Equipment Missile Army) funds for initial issue only to be used as exchange assemblies at DSU and GSU maintenance level. These assemblies will not be stocked above DSU and GSU level or returned to depot level.

(2) Maintenance code. Indicates the lowest category of maintenance authorized to install the listed item. The maintenance codes are -

Code	Explanation
O	Organizational maintenance
F	Direct support maintenance
H	General support maintenance
D	Depot maintenance

(3) Recoverability code. Indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are-

Code	Explanation
R	Applied to repair parts and assemblies which are economically repairable at DSU and GSU activities and which are normally furnished by supply on an exchange basis.
S	Applied to repair parts and assemblies which are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.
T	Applied to high dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis, Such repair parts are normally repaired or overhauled at depot maintenance activities.
U	Applied to repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, high dollar value reusable casings or castings.

b. Federal Stock Number. Indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c, Description. Indicates the Federal item name and any additional description of the item required. The abbreviation "w/e" when used as a part of the nomenclature, indicates the Federal stock number includes all armament, equipment, accessories, and repair parts issued with the item. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parenthesis. Repair parts quantities included in kits, sets, and assemblies are shown in front of the repair part name. The physical security classification of the item is indicated by the parenthetical entry.

d. Unit of Measure (U/M). A 2 character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. ***Quantity Incorporated*** in ***Unit.*** Indicates the quantity of the item used in the functional group or the assembly group. A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers, etc.).

f. Quantity Furnished with the Equipment. Indicates the quantity of an item furnished with the equipment.

g. Component Application. Identifies the component application of each maintenance or operating supply item.

h. Quantity Required for Initial Operation. Indicates the quantity of each maintenance or operating supply item required for initial operation of the equipment.

i. Quantity Required for 8 Hours Operation. Indicates the estimated quantities required for an average 8 hours of operation.

j. ***Notes.*** Indicates informative notes keyed to data appearing in a preceding column.

k. 15-Day Organizational Maintenance Allowawe.

(1) The allowance columns are divided into four subcolumns. Indicated in each subcolumn opposite the first appearance of each item is the total quantity of the items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the allowance columns. Items authorized for use as required but not for initial stockage are identified with an asterisk in the allowance column.

(2) The quantitative allowances for organizational level of maintenance represents one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the appropriate density column to obtain the total quantity of repair parts authorized.

(3) Organizational units providing maintenance for more than 100 of these equipments shall determine the total quantity of parts re-

quired by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. ***Example,*** authorized allowance for 51-100 equipments is 12; for 140 equipments multiply 12 by 1.40 or 16.80 rounded off to 17 parts required.

(4) Subsequent changes to allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendation should be forwarded to the US Army Mobility Equipment Command for exception or revision to the allowance list. Revisions to the range of items authorized will be made by the US Army Mobility Equipment Command based upon engineering experience, demand data, or TAERS information.

l. 30-Day DS/GS Maintenance Allowances.

(1) The allowance columns are divided into three subcolumns. Indicated in each subcolumn, opposite the first appearance of each item, is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have the letters "REF" in the applicable allowance columns. Items authorized for use as required but not for initial stockage are identified with an asterisk, in the allowance column.

(2) The quantitative allowances for DS/GS levels of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

(3) Determination of the total quantity of parts required for maintenance of more than 100 of these equipments can be accomplished by converting the equipment quantity to a decimal factor by placing a decimal point before the next to last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. ***Example,*** authorized allowance for 51-100 equipments is 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

m. l-Year Allowance Per 100 Equipments/ Contingency Planning Purposes. Indicates opposite the first appearance of each item the total quantity required for distribution and contingency planning purposes. The range of items indicates total quantities of all authorized items required to provide for adequate support of 100 equipments for one year.

n. Illustration.

(1) Figure ***Number.*** Indicates the figure number of the illustration in which the item is shown.

(2) ***Item Number.*** Indicates the callout number used to reference the item in the illustration.

4. Special Information

a. Identification of the useable on codes of this publication are-

Code	*Used on*
A	Model 180M-501 through 180M-629
B	Model 180M-2001 through 180M-2122

Uncoded items are applicable to all models.

b. Repair parts mortality has been based on 1000 hours operation per year.

c. Parts which require manufacture or assembly at a category higher than that authorized for installation will indicate in the source column the higher category.

d. For end items authorized mandatory stockage of repair parts by the Department of the Army, on a case by case basis, the mandatory stockage items are indicated by a plus (+) sign as the first character in the end density column of both the Repair Parts List and the Prescribed Load Allowances for each such authorized allowance quantity.

5. How to locate Repair Parts

a. When Federal stock number or reference number is unknown:

(1) ***First.*** Using the table of contents determine the functional group, functional subgroup, or assembly group, i.e., engine, engine assembly, transmission, transmission assembly, within which the repair part belongs. This is necessary since illustrations are prepared for functional groups, functional subgroups or assembly groups, and listings are divided into the same groups.

(2) Second. Find the illustration covering the functional group, functional subgroup, or assembly group to which the repair part belongs.

(3) ***Third.*** Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(4) Fourth. Using the Repair Parts Listing, find the functional group, functional subgroup, or assembly group to which the repair part belongs and locate the illustration figure and item number noted on the illustration.

b. When Federal stock number or reference number is known:

(1) ***First.*** Using the Index of Federal Stock Numbers and Reference Numbers find the per-

tinent Federal stock number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in alphanumeric sequence, cross referenced to the illustration figure number and item number.

(2) ***Second.*** Using the Repair Part Listing, find the functional group, functional subgroup, or assembly group of the repair part and the illustration figure number and item number referenced in the Index of Federal Stock Numbers and Reference Numbers.

6. Abbreviations

Mtg	Mount (Mounting)
In	Inch (Inches)
Thd	Thread
Hd	Head
Lg	Long (length)
Mfrd	Manufactured

7. Federal Supply Codes for Manufacturers

Code	Manufacturer
00535	Schnorr, Adolph, K.G.
01276	Aeroquip Inc.
01843	American Bosch Div. of American Bosch Arma Corp.
02697	Parker Seal Co.
03743	Appleton Electric Co.
05234	Baird-Atomic, Inc.
06092	Associated Spring Corp.
06762	Ridgeway Mfg. Corp.
24981	Gits Bros., Mfg. Co.
30327	Imperial Brass Mfg. Co., Div. of Link-Belt Co.
36394	Lewis Gerry Ltd.
36422	Link-Belt Speeder Co., Div. of Link-Belt Co.
45681	Parker-Hannifin Corp.
70026	Chicago Forging and Mfg. Co.
70270	Alemite Corp.
72962	Elastic Stop Nut Corp. of America
73015	Fabreeka Products Co.
73277	Houghton, E. F. and G.
79136	Waldes Kohinoor, Inc.
79150	Victor Mfg. and Gasket Co.
79470	Weather Head Co.
80713	Anchor Coupling, Inc.
80756	Ramsey Corp.
81118	Eaton Mfg. Co.
83259	Parker Seal Co.
86768	Republic Mfg. Co.
91265	Goshen Rubber Co., Inc.
91821	Johnson Bronze Co.
96906	Military Standard
97532	National Seating Co.
98660	Flodar Corp

Section II. PRESCRIBED LOAD ALLOWANCE

(1) Federal stock Number	(2) Description	useable on code	(3) 15-day org maint. alw (A) 1-6	(B) 6-20	(C) 21-50	(D) 51-100
	GROUP 01-ENGINE					
	0100-ENGINE ASSEMBLY					
3895-104-6622	ROLLER ASSEMBLY: Upper cylinder head 72137 (36422)				2	2
3895-603-0327	STRIP, WEAR: Cylinder Cover					2
	0106-ENGINE LUBRICATION SYSTEM					
3895-076-1371	SHIM, MOUNTING: Pump				2	2
3895-603-0948	SPRING: Head					2
5330-105-4136	GASKET: Head			2	2	2
5330-196-5382	PACKING, PREFORMED: Element Mtg					2
	0110-DIESEL STARTING CONTROLS					
3040-603-0355	LINK, CONNECTING: Starting Levers					2
3895-603-0359	SPRING, LEVER					2
5315-603-4825	PIN, STRAIGHT, HEADLESS: Lever Mtg.					2
5315-603-4868	PIN, STRAIGHT, HEADLESS: Lever Mtg					2
5340-263-5865	RING, SNAP: Pin Mtg					2
5340-282-0081	RING, SNAP: Pin Mtg					2
5340-603-0360	SPRING, LEVER					2
	GROUP 03-FUEL SYSTEM					
	0301-INJECTORS					
3895-603-0386	INJECTOR ASSEMBLY: Fuel					2

(1) Federal stock Number	(2) Description	useable on code	(3) 15-day org maint alw. (A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100
	GROUP 03-FUEL SYSTEM-Continued					
	0306-TANK, LINES, FITTINGS					
3895-116-0382	CAP CC2701 (81118)				2	2
	0309-FUEL FILTERS					
3895-603-0945	ELEMENT		2	2	4	8
	0311-ENGINE STARTING AIDS					
2910-105-6101	INJECTOR, START, ASSEMBLY					2
3896-603-0324	GASKET: Check Valve					2
	GROUP 43-HYDRAULIC, FLUID, AIR AND VACUUM CONTROLS					
	4301-STRAINERS, FILTERS, PIPE, FITTINGS, TUBING, ETC.					
3895-105-0407	CAP, DUST			2	2	2
3895-854-6327	HOSE ASSEMBLY, HYDRAULIC				2	2
4720-104-6372	HOSE ASSEMBLY: Transmitter				2	2
4730-318-6661	PLUG, DUST				2	2
4720-104-6373	HOSE ASSEMBLY 13J60M (36422)	(B)			2	2
	4305-MANIFOLDS AND/OR CONTROL VALVES					
3895-105-0402	PIN, ROLL: Lever Lock				2	2
3895-105-0403	RECEIVER, HYDRAULIC	(B)				2
3896-658-0322	PIN, ROLL: Lever Mtg				2	2
3895-658-0323	PIN, ROLL: Lever Lock				2	2
3895-603-1215	RECEIVER, HYDRAULIC	(A)				2
4010-191-0097	LINK: Control Mtg Plate				2	2
4730-791-6031	BREATHER: Cover Plate					2
	GROUP 74-CRANES, SHOVELS AND EARTH MOVING EQUIPMENT					
	7413-PILE DRIVER ATTACHMENT					
3895-603-0165	TIP, FILLER					2
3895-603-0322	DISK		3	3	4	8
3895-603-0323	DISK		3	3	4	8

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** USABLE ON REF NUMBER & MFR CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW				(7) ILLUS-TRATION	
					(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) Fig. NO.	(b) ITEM NO.
		SECTION III - REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE								
		GROUP 01 – ENGINE								
		0100 – ENGINE ASSEMBLY								
P O	3895-104-6622	ROLLER ASSEMBLY: **UPPER CYLINDER HEAD** 7Z137 (36422)	EA	2	*	*	2	2	D1	
X1	2815-682-0599	BUSHING 7Z139 (36422)	EA	4					D1	1
X1		ROLLER 7Z138 (36422)	EA	2					D1	2
0	5310-105-4178	NUT, LOCK: **ROLLER MTG, NYLON INSERT**, ¾-16 **THD SIZE** 1X109 (36422)	EA	2					D1	3
0	4730-288-7829	PLUG, PIPE: **CYLINDER HEAD** 1X830 (36422)	EA	1					D1	4
P O	3895-105-0415	COVER, PORT: **UPPER CYLINDER** 15N25 (36422)	EA	1	*	*	*	*	D1	12
X1		GASKET 15N24 (36422)	EA	1					D1	13
0		PLUG, PIPE: **UPPER CYLINDER** 1X2249 (36422)	EA	2					D1	18
0	4730-050-4208	FITTING, LUBRICATING: **ROLLER MTG SCREW** 1610BL (70270)	EA	2					D1	26
0	5305-530-9295	SCREW, CAP, HEXAGON HEAD: ROLLER **MTG**, ¾-16 **THD SIZE**, 4 **IN. LG** 15B36 (36422)	EA	2					D1	27
M 0		WIRE, LOCK: **COVER MTG SCREWS** 5Z624 (36422) MANUFACTURE FROM: WIRE, 4 **EA**, FSN 9505-186-9170	EA	4					D2	1
0	5305-105-4190	SCREW, CAP, HEXGON HEAD: **PLATE MTG, DRILLED HEAD**, ½-20 **THD SIZE**, 1 **IN. LG** 5Z526 (36422)	EA	2					D2	2
P O	3895-105-2707	PLATE, COVER ASSEMBLY: **LOWER CYLINDER** 7Z456 (36422)	EA	1	*	*	*	*		
X1		PLATE: **CYLINDER COVER** 7Z458 (36422)	EA	1					D2	3
X1		CHANNEL, RUBBER: **CYLINDER COVER** 7Z108 (36422)	EA	1					D2	4
P O	3895-603-0327	STRIP, WEAR: **CYLINDER COVER** 7Z102 (36422)	EA	2	*	*	*	2	D2	5
P O	3895-010-1376	COVER, EHAUST: **LOWER CYLINDER** 15N20 (36422)	EA	1	*	*	*	*	D2	10
X1		GASKET 7Z297 (36422)	EA	1					D2	11
X1		EMBLEM 15N19 (36422)	EA	3					D2	12
0	4730-050-4208	FITTING, LUBRICATING: **LOWER CYLINDER** 1610BL (70270)	EA	6					D2	13

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
0		SCREW, CAP, HEXAGON HEAD: **COVER MTG, DRILLED HEAD**, ½-20 **THD SIZE**, 1 ½ **IN. LG** 5Z724 (36422)		EA	2					D2	14
X20		COVER, INJECTOR 7Z256 (36422)		EA	1					D2	15
X1		EMBLEM 15N18 (36422)		EA	3					D2	20
X1		GASKET 15N17 (36422)	A	EA	2					D2	21
X20		GUARD, DIRT: **CYLINDER COVER** 7Z430 (36422)		EA	1					D2	22
0	5305-105-4189	SCREW, CAP, HEXGON HEAD: **GUARD MTG, DRILLED HEAD**, 3/8-16 **THD SIZE**, ¾ **IN. LG** 15D14 (36422)		EA	2					D2	23
0	5310-261-7340	WASHER, LOCK: **GUARD MTG**, 3/8 **IN. SCREW SIZE** 1X4 (36422)		EA	2					D2	24
0	5310-105-4177	NUT, LOCK: **COVER MTG, NYLON INSERT ASF**, 5/8-18 **THD SIZE** 1X1647 (36422)		EA	18					D2	25
X20		COVER: **LOWER CYLINDER** 15D9 (36422)		EA	1					D2	26
P 0	5310-105-4156	PIN, STRIAGHT, HEADLESS: **CYLINDER COVER** 7Z103 (36422)		EA	1	*	*	*	*	D2	27
0		RING, SNAP: **PIN MTG** 5100-100 (79136)		EA	2					D2	28
0	5310-209-2977	WASHER, LOCK: **PLATE MTG**, ½ **IN. SCREW SIZE** 1X30 (36422)		EA	2					D2	29
P 0	3895-105-0414	COVER, AIR INTAKE: **LOWER CYLINDER** 15N29 (36422)	B	EA	2	*	*	*	*	D3	30
X1		GASKET 15N31 (36422)	B	EA	2					D3	4
X1		EMBLEM 15N18 (36422)		EA	2					D3	5
0	4730-050-4208	FITTING, LUBRICATING: **ANVIL GUIDE** 1610BL (70270)		EA	2					D4	6
		0106-ENGINE LUBRICATING SYSTEM		EA	1	*	*	*	*	D5	10
P 0 R	2940-105-6099	PUMP, LUBRICATING OIL, ASSEMBLY 6Z590 (36422)		EA	V	*	*	2	2	D5	
P 0	3895-076-1371	SHIM, MOUNTING: **PUMP** 5Z130 (36422)		EA	2					D5	10
0	4730-657-9723	WASHER, SPRING: PUMP MTG, 5/16 **IN. SCREW SIZE** 5Z318 (00535)		EA	2					D5	12
0		SCREW, CAP, HEXAGON HEAD: **PUMP MTG, DRILLED HEAD**, 5/16-18 **THD SIZE**, 2 ½ **IN. LG** 5Z365 (36422)		EA	1					D5	13
M 0		WIRE, LOCK 52766 (36422) MANUFACTURE FROM: WIRE, 1 **EA**, FSN 9505-186-9170		EA							14

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
X20		FILTER, OIL 5Z1033 (36422) **(COMPONENTS SAME AS,** FILTER OIL MASSEMBLY, STOCK No. 2940-105-6088, **EXCEPT WHERE ANNOTATED)**	A	EA	1					D6	
P20	2940-105-6088	FILTER, OIL 13H201 (36422)	B	EA	1	*	*	*	*		
0	5310-105-4177	NUT, LOCK: **ELEMENT MTG, NYLON INSERT**, NF, 1-14 **THD SIZE** 1X2449 (36422)		EA	1					D6	1
P 0	2940-105-6091	PLATE, TOP: **ELEMENT MTG** 5Z1029 (36422)		EA	1	*	*	*	*	D6	2
P 0	2940-105-6090	ELEMENT 15H55 (36422)		EA	1	*	*	*	*	D6	3
P 0	2940-105-6089	PLATE, BOTTOM: **ELEMENT MTG** 5Z1030 (36422)		EA	1	*	*	*	*	D6	4
P 0	5330-196-5382	PACKING, PREFORMED: **ELEMENT MTG** S7-19 (73277)		EA	1	*	*	*	2	D6	5
0		PLUG, PIPE: **FILTER HEAD** 1X862 (36422)		EA	1					D6	6
X1		HEAD 5Z1026 (36422)	A	EA	1					D6	7
X1		HEAD ASSEMBLY 13H202 (36422)	B	EA	1						
X1		HEAD 13H199 (36422)	B	EA	1					D6	7
P 0	5330-105-4136	GASKET: **HEAD** 13H203 (36422)		EA	1	*	2	2	2	D6	8
P 0	3895-603-0948	SPRING, HEAD 5Z91 (36422)		EA	1	*	*	*	2	D6	9
0		PLUG, PIPE 1X826 (36422)	B	EA	1						
0	5310-261-7340	WASHER, LOCK: **HEAD MTG,** 3/8 **IN. SCREW SIZE** 1X28 (36422)		EA	4					D6	10
0	5305-637-4039	SCREW, CAP, HEXAGON HEAD: **HEAD MTG,** 3/8-16 **THD SIZE,** 1 1/8 IN. LG 1X206 (36422)		EA	4					D6	11
0	4730-979-9915	ELBOW, TUBE A2000C5 (98660)		EA	2					D7	1
0	5305-638-8876	SCREW, CAP, HEXAGON HEAD: **CLAMP MTG,** 3/8-24 **THD SIZE** ½ **IN. LG** 1X2670 (36422)		EA	2					D7	2
0	5310-261-7340	WASHER, LOCK: **CLAMP MTG,** 3/8 **IN. SCREW SIZE** 1X28 (36422)		EA	2					D7	3
P 0	4720-603-0429	HOSE ASSEMBLY: **TEE TO UPPER CYLINDER** 15H28 (36422)		EA	1	*	*	*	*	D7	4
P 0	4720-603-0458	HOSE ASSEMBLY: **OIL FILTER TO PUMP** 15H39 (36422)		EA	1	*	*	*	*	D7	5
0		ELOW, TUBE A2000-5-4 (98660)		EA	1					D7	6
P 0	4720-603-0452	HOSE, ASEMBLY: **PUMP TO TEE** 15H67 (36422)		EA	1	*	*	*	*	D7	7

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** USABLE ON REF NUMBER & MFR CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW				(7) ILLUS-TRATION	
					(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) Fig. NO.	(b) ITEM NO.
0	4730-657-9723	TEE, TUBE: **PUMP** A3000C5-4 (98660)	EA	1					D7	8
X20		CLAMP: **TUBE MTG** 5Z621 (36422)	EA	2					D7	9
		0110-DEISEL STARTING CONTROLS								
P 0	4010-105-4237	WIRE ROPE ASSEMBLY 15D11 (36422)	EA	1	*	*	*	*	D8	
P 0	3895-603-0359	SPRING: **LEVEL** 7Z82 (36422)	EA	1	*	*	*	2	D8	4
P 0	3895-929-8186	LEVER, STARTING 7Z81 (36422)	EA	1	*	*	*	*	D8	5
P 0	5315-603-4868	PIN, STRAIGHT, HEADLESS: **LEVER MTG** 7Z80 (36422)	EA	2	*	*	*	2	D8	6
P 0	5340-603-0330	SPRING: **LEVER** 5Z61 (36422)	EA	1	*	*	*	*	D8	7
0		SHACKLE, SNAP HOOK: **LEVER** FIG249SIZE3 (06762)	EA	1					D8	8
0		ROPE, STARTING 5Z63 (36422)	EA	1					D8	9
P 0	3040-603-0355	LINK, CONNECTING: **STARTING LEVERS** 7Z79 (36422)	EA	2	*	*	*	2	D8	10
P 0	3895-105-2706	LEVER, STARTING 7Z78 (36422)	EA	1	*	*	*	*	D8	11
X20		BLOCK AND LEVER 15D4 (36422)	EA	1					D8	12
P 0	3895-657-9414	PIN, ROLL: **HOUSING** 59-077-375-3000 (72962)	EA	1	*	*	*	*	D8	13
P 0	3895-105-0413	LEVER 15D10 (36422)	EA	1	*	*	*	*	D8	14
X20		PIN, DOWEL: **LEVER MTG** 7Z77 (36422)	EA	1					D8	15
P 0	5340-603-0360	SPRING: **LEVER** 7Z75 (36422)	EA	1	*	*	*	2	D8	16
X20		KEY: **BLOCK AND LEVER** 7Z98 (36422)	EA	1					D8	17
P 0	2815-682-0603	BLOCK, LATCH: **LEVER** 7Z260 (36422)	EA	1	*	*	*	*	D8	18
X20		SPACER: **LEVER MTG** 15D5 (36422)	EA	1					D8	19
P 0	5340-282-0814	RING, RETAINING: **LEVER MTG** 5133-75 (79136)	EA	2	*	*	*	*	D8	20
P 0	5340-282-0081	RING, SNAP: **PIN MTG** 5100-75 (79136)	EA	6	*	*	2	2	D8	21
P 0	5315-603-4825	PIN, STRAIGHT, HEADLESS: **LEVER MTG** 7Z74 (36422)	EA	3	*	*	*	2	D8	22
P 0	5340-263-5865	RING, SNAP: **PIN MTG** 5100-100 (79136)	EA	4	*	*	2	2	D8	23
P 0	5315-105-4152	PIN, ROLL: **LEVER MTG** 7Z85 (36422)	EA	1	*	*	*	*	D8	24
X20	3895-930-2532	HOUSING, START DEVICE 7Z428 (36422)	EA	1					D8	25

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
		GROUP 03 – FUEL SYSTEM									
		0301 – INJECTORS									
P 0	4720-603-0424	HOSE ASSEMBLY: **FUEL FILTER TO PUMP** 15H41 (36422)		EA	1	*	*	*	*	D9	1
0	5310-261-7340	WASHER, LOCK: **CLAMP MTG,** 3/8 **IN. SCREW SIZE** 1X28 (36422)		EA	1					D9	3
0	5305-638-8876	SCREW, CAP, HEXAGON HEAD: **CLAMP MTG,** 3/8-24 THD SIZE, ½ **IN. LG** 1X2670 (36422)		EA	1					D9	4
0	4730-106-1741	ELBOW, TUBE: **FUEL PUMP** 5Z189 (36422)		EA	1					D9	5
P 0 R	3895-603-0386	INJECTOR, ASSEMBLY: **FUEL** 7Z511 (36422)		EA	1	*	*	*	2	D9	11
		0302 – FUEL PUMPS									
P 0 R	3895-754-4075	PUMP, FUEL 7Z463 (01843)		EA	1	*	*	*	*	D10	
X20		SCREW, BLEED: **PUMP HOUSING** SC7698 (01843)		EA	1					D10	12
P 0	5330-366-8836	GASKET: **BLEED SCREW** GA7613 (01843)		EA	1	*	*	*	*	D10	13
0	5310-265-9219	NUT, PLAIN, HEXAGON: **GUARD MTG,** 5/8-18 **THD SIZE** 1X171 (36422)		EA	2					D11	8
0	5305-558-4899	SCREW, CAP, HEXAGON HEAD: **GUARD MTG,** ¾-16 THD **SIZE,** 3 **IN. LG** 1X2251 (36422)		EA	2					D11	9
0	5310-010-3326	WASHER, LOCK: **GUARD MTG,** ¾ **IN. SCREW SIZE**		EA	2					D11	10
X20	3895-936-5209	GUARD, PUMP 15N12 (36422)		EA	1					D11	11
0	5305-043-3494	SCREW, CAP, HEXAGON HEAD: **GUARD MTG,** 5/8-18 **THD SIZE,** 5 **IN. LG** 7Z290 (36422)		EA	2					D11	12
0	5310-209-2976	WASHER, LOCK: **GUARD MTG,** 5/8 **IN. SCREW SIZE** 1X31 (36422)		EA	2					D11	13
X20		SPACER: **GUARD MTG** 7Z449 (36422) **(AS REQUIRED)**		EA						D11	14
		0306 – TANKS, LINES, FITTINGS									
X20		SPACER, MOUNTING: **TANK MTG** 15H54 (36422)	A	EA	4					D12	1
X20		SHIM, MOUNTING: **TANK MTG** CC509 (36422)	A	EA	4					D12	2
0		SCREW, CAP, HEXAGON HEAD: **TANK MTG,** 5/8-24 **THD SIZE,** 2 ¾ **IN. LG** 1X2619 (36422)	A	EA	4					D12	3

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
0	5310-209-2976	WASHER, LOCK: **TANK MTG**, 5/8 **IN. SCREW SIZE** 1X31 (36422)		EA	12					D12	4
0	5305-543-4892	SCREW, CAP, HEXAGON HEAD: **TANK MTG**, 5/8-18 **THD SIZE**, 1 ½ **IN. LG** 1X2618 (36422)		EA	12					D12	5
X20		TANK, FUEL AND LUBRICATION 15H43 (36422)	A	EA	1					D12	6
0	4730-904-3965	PLUG, PIPE: **SQUARE HEAD**, 1/8 **IN**. 1X826 (36422)		EA	1					D12	7
0	4730-018-9566	PLUG, PIPE 1X823 (36422)		EA	2					D12	8
P 0	3895-116-0382	CAP CC2701 (81118)		EA	2	*	*	2	2	D12	9
P 0	2910-105-6095	TANK, FUEL AND LUBRICATION 15H75 (36422) **(COMPONENTS SAME AS** TANK, FUEL **AND** LUBRICATION, P/N 15H43)	B	EA	1	*	*	*	*	D12	10
		0309-FUEL FILTERS									
X20		FILTER, FUEL OIL, ASSEMBLY 5Z1031 (36422) **(COMPONENTS SAME AS** FILTER, FUEL OIL ASSEMBLY, STOCK No. FSN 2910-105-6092, **EXCEPT WHERE ANNOTATED)**	A	EA	1					D13	
P 0	2910-105-6092	FILTER, FULL OIL ASSEMBLY 13H198 (36422)	B	EA	1	*	*	*	*		
0	5310-595-7473	NUT, LOCK: **ELEMENT, NYLON INSERT**, 1-14 THD SIZE 1X2449 (36422)		EA	1					D13	1
P 0	2910-105-6094	PLATE, TOP: **ELEMENT** 5Z930 (36422)		EA	1	*	*	*	*	D13	2
P 0	3895-603-0945	ELEMENT 5Z986 (36422)		EA	1	2	2	4	8	D13	3
0		PLUG, PIPE: **HEAD** 1X826 (36422)		EA	1					D13	4
X20		HEAD 5Z1032 (36422)	A	EA	1					D13	5
X1		HEAD ASSEMBLY 13H204 (36422)	B	EA	1						
P 0	5330-105-4136	GASKET, HEAD 13H203 (36422)		EA	1	REF	REF	REF	REF	D13	6
P 0	3895-603-0948	SPRING, HELICAL COMPRESSION: **ELEMENT** 5Z91 (36422)		EA	1	REF	REF	REF	REF	D13	7
P 0	2910-105-6093	PLATE, BOTTOM: **ELEMENT** 5Z928 (36422)		EA	1	*	*	*	*	D13	8
P 0	5330-196-5382	PACKING, PREFORMED: **ELEMENT** S7-19 (73277)		EA	1	REF	REF	REF	REF	D13	9
0		PLUG, PIPE 1X826 (36422)	B	EA	1						
0	5310-261-7340	WASHER, LOCK: **HEAD MTG**, 3/8 **IN. SCREW SIZE** 1X28 (36422)		EA	4					D13	10

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** USABLE ON REF NUMBER & MFR CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW				(7) ILLUS-TRATION	
					(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) Fig. NO.	(b) ITEM NO.
0	5305-637-4039	SCREW, CAP, HEXGON HEAD: **HEAD MTG,** 3/8-24 **THD SIZE,** 1 1/8 **IN. LG** 1X206 (36422)	EA	4					D13	11
		0311 – ENGINE STARTING AIDS								
P 0 R	2910-105-6101	INJECTOR, START ASSEMBLY 15H47 (36422)	EA	1	*	*	*	2	D14	
0	5310-010-3323	WASHER, LOCK: **TANK MTG,** ½ **IN. SCREW SIZE** 1X30 (36422)	EA	2					D14	1
0	5305-012-3605	SCREW, CAP, HEXAGON HEAD: **TANK MTG,** ½-20 **THD SIZE,** 1 **IN. LG** 1X214 (36422)	EA	2					D14	2
0	2910-105-6102	CONNECTOR 6Z341 (36422)	EA	1					D14	3
0	4730-278-8764	SLEEVE, COMPRESSION 60F (30327)	EA	2					D14	4
0	5310-105-4175	NUT, COMPRESSION 161F (30327)	EA	1					D14	5
X20		TUBE, COPPER 15H37 (36422)	EA	1					D14	6
X20		CLAMP: **TUBE MTG** JC2630 (36422)	EA	2					D14	7
0	5310-010-6497	WASHER, LOCK: **CLAMP MTG, No.** 10 **SCREW SIZE** 1X25 (36422)	EA	2					D14	8
0	5305-271-8048	SCREW, MACHINE: **ROUND HEAD, CLAMP MTG,** 10-24 **THD SIZE,** ¾ **IN. LG** HA1396 (36422)	EA	2					D14	9
0	4730-544-2400	NUT, UNION, FLARED TUBING 41F (30327)	EA	1					D14	10
P 0	1650-682-0610	VALVE, CHECK 417-455-5 (86768)	EA	1	*	*	*	*	D14	11
P 0	3895-603-0324	GASKET: **CHECK VALVE** 2043A (79150)	EA	1	*	*	*	2	D14	12
X20		TANK 15H22 (36422)	EA						D14	13
X20		TANK 15H69 (36422)	EA	1					D14	13
X20		EMBLEM 15H57 (36422)	EA	1					D14	14
X20		CAP 6Z331 (81118)	EA	1					D14	15
X20		CAP 15H72 (36422)	EA	1					D14	15
		GROUP 22 – MISCELLANEOUS BODY, CHASSIS, OR HULL AND ACCESSORY ITEMS								
		2210 – DATA PLATES AND INSTRUCTION HOLDERS								
X20		PLATE, FUEL 5Z1291 (36422)	EA	1						

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
X20		PLATE, OIL 5Z1292 (36422)	A	EA	1						
X20		PLATE, CAUTION 5Z1289 (36422)	A	EA	1						
X20		PLATE, GREASE 15P12 (36422)	A	EA	1						
X20		PLATE, INSTRUCTION 15P13 (36422)	A	EA	1						
X20		PLATE, OPERATING INSTRUCTION 15P22 (36422)	B	EA	1						
X20		PLATE, INSTRUCTION, OPERATING 13P21 (36422)	B	EA	1						
		GROUP 43 – HYDRAULIC, FLUID, AIR AND VACCUUM CONTROLS									
		4031 – STRAINERS, FILTERS, HOSE, PIPE, FITTINGS, TUBING, ETC.									
X20		ROPE, WIRE: **REMOTE CONTROL** 5Z62 (36422)		EA	2					D15	1
0		PIN, GROOVED: **CLEVIS PIN MTG** 1X2219 (36422)		EA	2					D15	2
0		PIN, CLEVIS: **CLEVIS MTG** 5Z454 (36422)		EA	2					D15	3
P 0	4720-104-6372	HOSE ASSEMBLY: **TRANSMITTER** 13J59 (36422)		EA	2	*	*	2	2	D15	4
X20		BAR: **BRACKET MTG** 15J31 (36422)		EA	2					D15	5
0	5310-011-0814	NUT, PLAIN, HEXAGON: **BRACKET MTG**, 3/8-24 **THD SIZE** 1X167 (36422)		EA	4					D15	6
0	5310-261-7340	WASHER, LOCK: **BRACKET MTG**, 3/8 **IN. SCREW SIZE** 1X28 (36422)		EA	6					D15	7
0	4730-194-1121	CONNECTOR: HOSE TO **COUPLING**, 3/8 X ¼ NPT 6FTXS (45681)		EA	7					D15	8
0	4730-105-6031	COUPLING 5100S5-6 (01276)		EA	1					D15	9
P 0	4730-318-6661	PLUG, DUST 5100-41-8 (01276)		EA	1	*	*	2	2	D15	10
0	5305-018-1648	SCREW, CAP, HEXAGON HEAD: **BRACKET MTG**, 3/8-24 **THD SIZE**, 2 **IN. LG** 1X209 (36422)		EA	4					D15	11
X20		BRACKET: **HOSE MTG** 15J30)36422)		EA	3					D15	12
P 0	3895-854-6327	HOSE ASSEMBLY, HYDRAULIC 7Z460 (36422)		EA	1	*	*	2	2	D15	13
0	5305-530-9298	SCREW, CAP, HEXAGON HEAD: **BRACKET MTG, DRILLED HEAD,** 3/8-24 **THD SIZE**, 1 ¾ **IN. LG** 5Z583 (36422)		EA	2					D15	14
M 0		WIRE, LOCK: **BRACKET MTG SCREW** 5Z624 (36422) MANUFACTURE FROM: WIRE, 1 **EA**, FSN 9505-186-9170		EA	1					D15	15

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW (a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(7) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
P 0	3895-105-0407	CAP, DUST 5100-32-8 (01276)		EA	1	*	2	2	2	D15	16
P 0	4720-104-6373	HOSE ASSEMBLY 13J60M (36422)	B	EA	2	*	*	2	2		
		4305 – MANIFOLD AND/OR CONTROL VALVES									
X20		HYDRAULIC CONTROL ASSEMBLY 15J32 (36422) **(COMPONENTS SAME AS** HYDRAULIC COTROL ASSEMBLY, **STOCK No.** 3895-105-0416, **EXCEPT WHERE ANNOTATED)**	A	EA	1					D16	
P 0 R	3895-105-0416	HYDRAULIC CONTROL ASSEMBLY 13J57 (36422)	B	EA	1	*	*	*	*	D16	
P 0	4010-191-0091	LINK: CONTROL **MTG PLATE** NR991)36422)		EA	1	*	*	2	2	D16	1
X20		PLATE: **CONTROL MTG** 15J33 (36422)		EA	1					D16	2
P 0 R	3895-682-0590	TRANSMITTER ASSEMBLY 5Z1315 (36422) **(COMPONENTS SAME AS** TRANSMITTER ASSEMBLY, **STOCK No.** 3895-105-0400, **EXCEPT WHERE ANNOTATED)**	A	EA	1	*	*	*	*		
P 0 R	3895-105-0400	TRANSMITTER ASSEMBLY 13J45 (36422)	B	EA	1	*	*	*	*		
P 0	3895-105-0402	PIN, ROLL: **LEVER LOCK** 1X2437 (36422)		EA	3	*	*	2	2	D16	4
P 0	3895-658-0323	PIN, ROLL: **LEVER LOCK** 50-028-125-1375 (72962)		EA	1	*	*	2	2	D16	5
X20		LOCK, LEVER 5Z916 (36422)		EA	2					D16	6
P 0	4730-791-6031	BREATHER: **COVER PLATE** 543 (24981)		EA	1	*	*	*	2	D16	11
P 0	3895-658-0322	PIN, ROLL: **LEVER MTG** 59-077-375-1375 (72962)		EA	2	*	*	2	2	D16	31
X20		VALVE, RELIEF 13J50 (36422)	B	EA	1					D16	35
P 0 R	3895-603-1215	RECEIVER, HYDRAULIC 5Z793 (36422) **(COMPONENTS SAME AS** RECEIVER, HYDRAULIC, **STOCK No.** 3895-105-0403, **EXCEPT WHERE ANNOTATED)**	A	EA	1	*	*	*	2	D17	1
P 0 R	3895-105-0403	RECEIVER, HYDRAULIC 13J54 (36422)	B	EA	1	*	*	*	2	D17	1
P 0	3895-105-0408	ADAPTER: **RECEIVER CASING** 5Z1211 (36422)		EA	1	*	*	*	*	D17	10
X20		PIN, ROLL: **SEAT MTG** 59-048-250-0687 (72962)		EA	1					D17	16
		GROUP 74 – CRANES, SHOVELS, AND EARTH MOVING EQUIMENT									
		7413 – PILE DRIVER ATTACHMENT									
X20	3895-929-0745	CAP, HEAD: **PILE DRIVER** 7Z165 (36422)		EA	1					D18	1

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION USABLE ON CODE REF NUMBER & MFR CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW				(7) ILLUS-TRATION	
					(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) Fig. NO.	(b) ITEM NO.
P 0	3895-603-0323	DISK 7Z163 (36422)	EA	3	3	3	4	8	D18	2
P 0	3895-603-0322	DISK 7Z164 (36422)	EA	3	3	3	4	8	D18	3
X20		ADAPTER, ANVIL 7Z162 (36422)	EA	1					D18	4
P 0	3895-754-4070	HEAD, DRIVING 15S7 (36422)	EA	1	*	*	*	*	D18	5
0		CLIP, CABLE 1X51 (36422)	EA	3					D18	6
X20		CABLE, HEAD 5Z289 (36422)	EA	1					D18	7
P 0	3895-603-0237	FILLER, HEAD 15S8 (36422)	EA	1	*	*	*	*	D18	8
P 0	3895-603-0165	TIP, FILLER 15S9 (36422)	EA	4	*	*	*	2	D18	9
X20		GUIDE, UPPER 15L157 (36422)	EA	1					D19	1
X20		GUIDE, HEAD 15L163 (36422)	EA	1					D19	2
X20		ANGLE, GUIDE 15L133 (36422)	EA	4					D19	3
0	5310-010-3326	WASHER, LOCK: **GUIDE AND ANGLE MTG, ¾ IN. SCREW SIZE** 1X32 (36422)	EA	24					D19	4
0	5305-297-0794	SCREW, CAP, HEXAGON HEAD: **GUIDE AND ANGLE MTG,** ¾-16 **THD SIZE**, 1 ¼ **IN. LG** 7Z198 (36422)	EA	24					D19	5
X20		GUIDE, HEAD, SPUD 15L159 (36422)	EA	1					D19	6

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION USABLE ON REF NUMBER & MFR CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY GS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8) 1-YR ALW PER 100 EQUIP CNTGY	(7) ILLUS-TRATION	
					(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100		(a) Fig. NO.	(b) ITEM NO.
		SECTION V – REPAIR PARTS FOR DS AND GS MAINTENCE											
		GROUP 01 – ENGINE											
		0100 – ENGINE ASSEMBLY											
P F R	3895-105-2705	CYLINDER ASSEMBLY, UPPER AND LOWER 15A11 (36422)	EA	1	*	*	*	*	*	*	*		
P 0	3895-104-6622	ROLLER ASSEMBLY: **UPPER CYLINDER HEAD** 7Z137 (36422)	EA	2	2	2	2	2	2	2	2	D1	
X1	2815-682-0599	BUSHING 7Z139 (36422)	EA	4								D1	1
X1		ROLLER 7Z139 (36422)	EA	2								D1	2
0	5310-105-4178	NUT, LOCK: **ROLLER MTG**, **NYLON INSERT**, ¾-16 **THD SIZE** 1X109 (36422)	EA	2								D1	3
0	4730-288-7829	PLUG, PIPE: **CYLINDER HEAD** 1X830 (36422)	EA	1								D1	4
F	5305-543-4892	SCREW, CAP, HEXAGON HEAD: **CYLINDER HEAD MTG,** 5/8-18 **THD SIZE**, 1 ½ **IN. LG** 1X2618 (36422)	EA	16								D1	5
F	5310-209-2976	WASHER, LOCK: **CYLINDER HEAD MTG**, 5/8 **IN**. **SCREW SIZE** 1X31 (36422)	EA	16								D1	6
P F	3895-104-6622	HEAD, CYLINDER: **UPPER CYLINDER** 15B29 (36422)	EA	1	*	*	*	*	*	*	*	D1	7
P F	3895-603-1267	GASKET: **CYLINDER HEAD MTG** 7Z136 (36422)	EA	1	2	2	2	2	2	2	2	D1	8
F	5310-265-9219	NUT, PLAIN, HEXAGON: **CYLINDER MTG**, 5/8-18 **THD SIZE** 1X171 (36422)	EA	14								D1	9
F	5310-209-2976	WASHER, LOCK: **CYLINDER MTG**, 5/8 **SIZE IN. SCREW** 1X31 (36422)	EA	28								D1	10
F		STUD, MOUNTING: **CYLINDER** 7Z9 (36422)	EA	2								D1	11
P 0	3895-105-0415	COVER, PORT: **UPPER CYLINDER** 15N25 (36422)	EA	1	*	*	*	*	*		*	D1	12
X1		GASKET 15N24 (36422)	EA	1								D1	13
X1		LATCH 15N27 (36422)	EA	1									
X1		EMBLEM 15N18 (36422)	EA	1									
X2F		SPACER: **COVER MTG** 15A17 (36422)	EA	2								D1	14
F	5310-010-3320	WASHER, LOCK: **COVER MTG**, 5/16 **IN. SCREW SIZE** 1X27 (36422)	EA	2								D1	15
F		SCREW, CAP, HEXAGON HEAD: **COVER MTG**, 5/16-24 THD **SIZE**, 1 **IN. LG** 1X1353 (36422)	EA	2								D1	16

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF NUMBER & MFR CODE USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8) 1-YR ALW PER 100 EQUIP CNTG Y	(9) ILLUS-TRATION	
					(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100		(a) Fig. NO.	(b) ITEM NO.
F	5305-298-3184	SCREW, CAP, HEXAGON HEAD: **CYLINDER MTG**, 5/-18 **THD SIZE** 3 ½ **IN. LG** 1X2749 (36422)	EA	12								D1	17
0		PLUG, PIPE: **UPPER CYLINDER** 1X2515 (36422)	EA	2								D1	18
F		BOLT: **PLATE MTG** 1X2515 (36422)	EA	4								D1	19
F	5305-105-4187	SCREW, CAP, SOCKET HEAD: **CLAMPING PLATE**, 3/8-16 THD **SIZE**, ½ **IN. LG** 1X2234 (36422)	EA	4								D1	20
F	5310-105-4183	WASHER, LOCK: **CLAMPING PLATE, HIGH COLLAR TYPE,** 3/8 **IN. SCREW SIZE** 1X1571 (36422)	EA	4								D1	21
P F	3895-104-6620	PLATE, CLAMPING: **PRESSURE PLATE** 15A16 (36422)	EA	4	2	2	3	2	2	3	36	D1	22
P F	5330-603-4786	RING, SEAL: **PRESSURE PLATE** 7Z19 (36422)	EA	4	2	2	3	2	2	3	36	D1	23
P F	3895-105-0409	PLATE, PRESSURE 15A15 (36422)	EA	4	2	2	2	2	2	2	24	D1	24
X1		CYLINDER, UPPER 15A12 (36422)	EA	1								D1	25
0	4730-050-4208	FITTING, LUBRICATING: **ROLLER MTG SCREW** 1610BL (70270)	EA									D1	26
0	5305-530-9295	SCREW, CAP, HEXAGON HEAD: **ROLLER MTG**, ¾-16 THD **SIZE**, 4 **IN. LG** 15B36 (36422)	EA	2								D1	27
M 0		WIRE, LOCK: **COVER MTG SCREWS** 5Z624 (36422) WIRE, 4 **EA**, FSN 9505-186-9170	EA	4								D2	1
0	5305-105-4190	SCREW, CAP, HEXAGON HEAD: **PLATE MTG, DRILLED HEAD**, ½-20 **THD SIZE**, 1 **IN. LG** 5Z526 (36422)	EA	2								D2	2
P 0	3895-105-2707	PLATE, COVER ASSEMBLY: **LOWER CYLINDER** 7Z456 (36422)	EA	1	*	*	*	*	*	*	5		
X1		PLATE: **CYLINDER COVER** 7Z458 (36422)	EA	1								D2	3
X1		CHANNEL, RUBBER: CYLINDER COVER 7Z108 (36422)	EA	1								D2	4
P 0	3895-603-0327	STRIP, WEAR: **CYLINDER COVER** 7Z102 (36422)	EA	2	*	2	2	*	2	2	12	D2	5
X1		CYLINDER, LOWER 15A13 (36422)	EA	1								D2	6
X2F		SPACER: COVER MTG 15A17 (36422)	EA	2								D2	7
F	5310-010-3320	WASHER, LOCK: **COVER MTG**, 5/16 **IN. SCREW SIZE** 1X27 (36422)	EA	2								D2	8
F		SCREW, CAP, HEXAGON HEAD: **COVER MTG**, 5/16-24 **THD SIZE**, 1 **IN. LG** 1X1353 (36422)	EA	2								D2	9

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
P 0	3895-101-1376	COVER, EXHAUST: LOWER CYLINDER 15N20 (36422)		EA	1	*	*	*	*	*	*	5	D2	10
X1		GASKET 7Z297 (36422)		EA	1								D2	11
X1		EMBLEM 7ZN19 (36422)		EA	1								D2	12
X1		LATCH 5Z250 (36422)		EA	1									
0	4730-050-4208	FITTING, LUBRICATING: LOWER CYLINDER 1610BL (70270)		EA	6								D2	13
0		SCREW, CAP, HEXAGON HEAD: COVER MTG, DRILLED HEAD, 1/2-20 THD SIZE, 1 1/2 IN. LG 5Z724 (36422)		EA	2								D2	14 15
X20		COVER, INJECTOR 7Z256 (36422)		EA	1								D2	
X2F		PORT, INTAKE, AIR: LOWER CYLINDER 15N14 (36422)	A	EA	2								D2	16
F		WASHER, LOCK: PORT MTG 1X30 (36422)	A	EA	4								D2	17
F		SCREW, CAP, HEXAGON HEAD: PORT MTG 1X1290 (36422)	A	EA	4								D2	18
X2F		COVER, AIR INTAKE: LOWER CYLINDER 15N15 (36422)	A	EA	2								D2	19
X1		EMBLEM 15N18 (36422)		EA	3								D2	20
X1		GASKET 15N17 (36422)	A	EA	2								D2	21
X20		GUARD,DIRT: CYLINDER COVER 7Z430 (36422)		EA	1								D2	22
0	5305-105-4189	SCREW, CAP, HEXAGON HEAD: GUARD MTG, DRILLED HEAD, 3/8-16 THD SIZE, 3/4 IN. LG 15D14 (36422)		EA	2								D2	23 24
0	5310-261-7340	WASHER, LOCK: GUARD MTG, 3/8 IN. SCREW SIZE 1X4 (36422)		EA	2								D2	
F		STUD: COVER MTG 7Z11 (36422)		EA	18								D2	25
0	5310-105-4177	NUT, LOCK: COVER MTG, NYLON INSERT ASF, 5/8-18 THD SIZE 1X1647 (36422)		EA	18								D2	26 27
X20		COVER: LOWER CYLINDER 15D9 (36422)		EA	1								D2	
P 0	5315-105-4156	PIN, STRAIGHT, HEADLESS: CYLINDER COVER 7Z103 (36422)		EA	1	*	*	*	*	*	*	5	D2	28
0		RING, SNAP: PIN MTG 5100-100 (79136)		EA	2								D2	29
0	5310-209-2977	WASHER, LOCK PLATE MTG, 1/2 IN. SCREW SIZE 1X30 (36422)		EA	2								D2	30
X2F		SPACER: COVER MTG 15A20 (36422)	B	EA	4								D2	1

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
F	5310-010-3323	WASHER, LOCK: **COVER MTG, ½ IN. SCREW SIZE** 1X20 (36422)	B	EA	4								D3	2
F	5305-012-3605	SCREW, CAP, HEXAGON HEAD: **COVER MTG**, ½-20 THD SIZE, 1 **IN. LG** 1X214 (36422)	B	EA	4								D3	3
P 0	3895-105-0414	COVER, AIR INTAKE: **LOWER CYLINDER** 15N29 (36422)	B	EA	2	*	*	*	*	*	*	3	D3	4
X1		GASKET 15N31 (36422)	B	EA	2								D3	5
X1		EMBLEM 15N18 (36422)		EA	2								D3	6
X1		LATCH 5Z250 (36422)		EA	2									
P F	3895-603-1268	RING, PISTON: **RAM AND ANVIL** 7Z267 (36422)		EA	11	3	5	11	3	5	11	126	D4	1
F	5310-105-4186	WASHER, SPRING: **STUD MTG** 15B26 (00535)		EA	7								D4	2
F		PIN, COTTER: **STUD NUT** 1X1304 (36422)		EA	22								D4	3
F		NUT, HEXAGON, SLOTTED: **STUD MTG**, ¾-16 **THD SIZE** 1X2164 (36422)		EA	22								D4	4
P F	3895-603-1291	SPACER: **ANVIL STUD MTG** 7Z314 (36422)		EA	10	2	2	14	2	2	14	50	D4	5
F	5310-105-4185	WASHER, SPRING: **ANVIL STUD MTG** 5Z455 (00535)		EA	10								D4	6
P F	3895-105-0410	RETAINER, STUD: **ANVIL MTG** 15B17 (36422)		EA	10	2	2	4	2	2	4	50	D4	7
P F	5307-105-4231	STUD: **ANVIL MTG** 15B18 (36422)		EA	1	*	*	*	*	*	*	5	D4	8
P F	3895-105-9247	GUIDE, ANVIL 15B28 (36422)		EA	1	*	*	*	*	*	*	3	D4	9
0	4730-050-4208	FITTING, LUBRICATION: **ANVIL GUIDE** 1610BL (70270)		EA	2								D4	10
P F	3895-603-1290	ANVIL 15B14 (36422)		EA	1	*	*	*	*	*	*	3	D4	11
P F	3895-603-1278	DAMPENER, RECOIL: **ANVIL** 15B13 (36422)		EA	1	*	*	*	*	*	*	5	D4	12
P F	3895-682-0600	RING, COOLING: **ANVIL** 15B16 (36422)		EA	1	*	*	*	*	*	*	3	D4	13
P F	3895-603-1272	RING, WEAR: **RAM** 7Z360 (36422)		EA	2	*	2	2	*	2	2	12	D4	14
P F	3895-106-5641	RAM 15B9 (36422)		EA	1	*	*	*	*	*	*	5	D4	15
		0106 – ENGINE LUBRICATION SYSTEM												
P 0 R	2940-105-6099	PUMP, LUBRICATING OIL ASSEMBLY 6Z590 (36422)		EA	1	*	*	2	*	*	2	6	D5	
F	5305-105-4188	SCREW, LOCK: **PUMP SPRING**, 3/8-16 **THD SIZE** 1X1792 (36422)		EA	2								D5	1

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
P F	2910-105-9252	SPRING, HELICAL, **COMPRESSION** 6Z591 (36422)		EA	1	*	*	2	*	*	2	6	D5	2
P F	3110-198-1050	BALL, STEEL MS19060-22 (96906)		EA	1	*	*	2	*	*	2	6	D5	3
P F		FITTING 5Z720 (36422)		EA	1	*	*	2	*	*	2	6	D5	4
P F	5330-141-7756	PACKING, PREFORMED GRC27-10 (91265)		EA	1	2	2	2	*	2	2	20	D5	5
X1		HOUSING 5Z121 (36422)		EA	1								D5	6
P F	3895-603-0842	SPRING, HELICAL, **COMPRESSION** 5Z125 (36422)		EA	1	*	*	2	2	*	2	6	D5	7
X1		PLUNGER 5Z122 (36422)		EA	1								D5	8
P F	5340-598-1395	RING, RETAINING RR75 (80756)		EA	1	*	*	2	*	*	2	6	D5	9
P 0	3895-076-1371	SHIM, MOUNTING: **PUMP** 5Z130 (36422)		EA	V	2	2	2	2	2	2	24	D5	10
F	4730-018-9566	PLUG, PIPE: **PUMP HOUSING** 1X823 (36422)		EA	1								D5	11
0	4730-657-9723	WASHER, SPRING: **PUMP MTG**, 5/16 **IN. SCREW SIZE** 5Z318 (00535)		EA	2								D5	12
0		SCREW, CAP, HEXAGON HEAD: **PUMP MTG, DRILLED HEAD**, 5/16-18 **THD SIZE**, 2 ½ **IN. LG** 5Z365 (36422)		EA	2								D5	13
M 0		WIRE, LOCK 52766 (36422) **MANUFACTURE FROM:**		EA	1								D5	14
X20		WIRE, 1 **EA**, FSN 9505-186-9170												
P20	2940-105-6088	FILTER, OIL 5Z1033 (36422) (**COMPONENTS SAME AS**, FILTER OIL ASSEMBLY, STOCK No. 2940-6088, EXCEPT N O. 2940-105-6088, **EXCEPT** **WHERE ANNOTATED)**	A	EA	1								D6	
0	5310-105-4177	FILTER, OIL 13H201 (36422)	B	EA	1	*	*	*	*	*	*	5		
P 0	2940-105-6091	NUT, LOCK: **ELEMENT MTG**, **NYLON INSERT**, NF, 1-14 **THD SIZE** 1X2449 (36422)		EA	1								D6	1
P 0	2940-105-6090	PLATE, TOP: **ELEMENT MTG** 5Z1029 (36422)		EA	1	*	*	2	*	*	2	6	D6	2
P 0	2940-105-6089	ELEMENT 15H55 (36422)		EA	1	*	*	*	*	*	*	5	D6	3
P 0	5330-196-5382	PLATE, BOTTOM: **ELEMENT MTG** 5Z1030 (36422)		EA	1	*	*	2	*	*	2	6	D6	4
0		PACKING, PREFORMED: **ELEMENT MTG** S7-19 (73277)		EA	1	*	2	2	*	2	2	12	D6	5
X1		PLUG, PIPE: **FILTER HEAD** 1X862 (36422)		EA	1								D6	6
X1		HEAD 5Z1026 (36422)	A	EA	1								D6	7
		HEAD ASSEMBLY 13H202 (36422)	B	EA	1									

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X1		HEAD 13H199 (36422)	B	EA	1								D6	7
P 0	5330-105-4136	GASKET: **HEAD** 13H203 (36422)		EA	1	2	2	4	2	2	4	48	D6	8
P 0	3895-603-0948	SPRING, HEAD 5Z91 (36422)		EA	1	*	2	2	*	2	4	12	D6	9
0		PLUG, PIPE 1X826 (36422)	B	EA	1									
0	5310-261-7340	WASHER, LOCK: **HEAD MTG,** 3/8 IN. SCREW SIZE 1X28 (36422)		EA	4								D6	10
00	5305-637-4039	SCREW, CAP, HEXAGON HEAD: **HEAD MTG**, 3/8-16 **THD SIZE**, 1 1/8 **IN. LG** 1X206 (36422)		EA	4								D6	11
0	4730-979-9915	ELBOW, TUBE A2000C5 (98660)		EA	2								D7	1
0	5305-638-8876	SCREW, CAP, HEXAGON HEAD: **CLAMP MTG**, 3/8-24 **THD SIZE** ½ **IN. LG** 1X2670 (36422)		EA	2								D7	2
0	5310-261-7340	WASHER, LOCK: **CLAMP MTG**, 3/8 **IN. SCREW SIZE** 1X28 (36422)		EA	2								D7	3
P 0	4720-603-0429	HOSE ASSEMBLY: **TEE TO UPPER CYLINDER** 15H28 (36422)		EA	1	*	*	2	*	*	2	6	D7	4
X1		HOSE 1525-4 (01276)		EA	1									
X1		FITTING, SWIVEL XA45LBHS (98660)		EA	2									
P 0	4720-603-0458	HOSE ASSEMBLY: **OIL FILTER TO PUMP** 15H39 (36422)		EA	1	*	*	2	*	*	2	6	D7	5
X1		HOSE 1525-4 (01276)		EA	1									
X1		FITTING 4738-4-4 (01276)		EA	1									
X1		FITTING, SWIVEL XA45LBHS (98660)		EA	1									
0		ELBOW, TUBE A2000-5-4 (98660)		EA	1								D7	6
P 0	4720-603-0452	HOSE ASSEMBLY: **PUMP TO TEE** 15H67 (36422)		EA	1	*	*	2	*	*	2	6	D7	7
X1		HOSE 1525-4 (01276)		EA	1									
X1		FITTING, SWIVEL XA45LBHS (98660)		EA	2									
0	4730-657-9723	TEE, TUBE: **PUMP** A3000C5-4 (98660)		EA	1								D7	8
X20		CLAMP: **TUBE MTG** 5Z621 (36422)		EA	2								D7	9
		0110 – DIESEL STARTING CONTROLS												
P 0	4010-105-4237	WIRE ROPE ASSEMBLY 15D11 (36422)		EA	1	*	*	*	*	*	*	5	D8	

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X1		THIMPLE 1X2577 (36422)	EA	1								D8	1
X1		CLIP 1X51 (36422)	EA	3								D8	2
X1		CABLE 15D12 (36422)	EA	1								D8	3
P 0	3895-603-0359	SPRING: **LEVER** 7Z82 (36422)	EA	1	*	2	2	*	2	2	12	D8	4
P 0	3895-929-8186	LEVER, STARTING 7Z81 (36422)	EA	1	*	*	2	*	*	2	6	D8	5
P 0	5315-603-4868	PIN, STRAIGHT, HEADLESS: **LEVER MTG** 7Z80 (36422)	EA	2	*	2	2	*	2	2	12	D8	6
0	5340-603-0330	SPRING: **LEVER** 5Z61 (36422)	EA	1	*	*	2	*	*	2	6	D8	7
0		SHACKLE, SNAP HOOK: **LEVER** FIG249SIZE3 (06762)	EA	1								D8	8
P 0		ROPE, STARTING 5Z63 (36422)	EA	1								D8	9
P 0	3040-603-0355	LINK, CONNECTING: **STARTING LEVERS** 7Z79 (36422)	EA	2	*	2	2	*	2	2	12	D8	10
X20	3895-105-2706	LEVER, STARTING 7Z78 (36422)	EA	1	*	*	2	*	*	2	6	D8	11
P 0		BLOCK AND LEVER 15D4 (36422)	EA	1								D8	12
P 0	3895-657-9414	PIN, ROLL: **HOUSING** 59-077-375-3000 (72962)	EA	1	*	*	2	*	*	2	6	D8	13
X20	3895-105-0413	LEVER 15D10 (36422)	EA	1	*	*	2	*	*	2	6	D8	14
P 0		PIN, DOWEL: **LEVER MTG** 7Z77 (36422)	EA	1								D8	15
X20	5340-603-0360	SPRING: **LEVER** 7Z75 (36422)	EA	1	*	2	2	*	2	2	12	D8	16
P 0		KEY: BLOCK AND **LEVER** 7Z98 (36422)	EA	1								D8	17
X20	2815-682-0603	BLOCK, LATCH: **LEVER** 7Z260 (36422)	EA	1	*	*	2	*	*	2	6	D8	18
P 0		SPACER: **LEVER MTG** 15D5 (36422)	EA	1								D8	19
P 0	5340-282-0814	RING, RETAINING: **LEVER MTG** 5133-75 (79136)	EA	2	*	*	2	*	*	2	6	D8	20
P 0	5340-282-0081	RING, SNAP: **PIN MTG** 5100-75 (79136)	EA	6	2	2	2	*	2	2	24	D8	21
P 0	5315-603-4825	PIN, STRAIGHT, HEADLESS: **LEVER MTG** 7Z74 (36422)	EA	3	*	2	2	*	2	2	18	D8	22
P 0	5340-263-5865	RING, SNAP: PIN MTG 5100-100 (79136)	EA	4	2	2	2	*	2	2	24	D8	23
X20	5315-105-4152	PIN, ROLL: **LEVER MTG** 7Z85 (36422)	EA	1	*	*	2	*	*	2	6	D8	24
	3895-930-2532	HOUSING, START DEVICE 7Z428 (36422)	EA	1								D8	25

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** USABLE ON REF NUMBER & MFR CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION	
					(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100		(a) Fig. NO.	(b) ITEM NO.
		GROUP 03 – FUEL SYSTEM											
		0301 – INJECTORS											
P 0	4720-603-0424	HOSE ASSEMBLY: **FUEL FILTER TO PUMP** 15H41 (36422)	EA	1	*	*	2	*	*	2	6	D9	
X1		HOSE 1525-8 (01276)	EA	1									
X1		FITTING, SWIVEL 4741-8 (01276)	EA	1									
X1		FITTING 4738-8 (01276)	EA	1									
X2F		CLAMP, TUBE: **HOSE MTG** 5Z623 (36422)	EA	1								D9	
0	5310-261-7340	WASHER, LOCK: **CLAMP MTG**, 3/8 **IN. SCREW SIZE** 1X28 (36422)	EA	1								D9	
0	5305-638-8876	SCREW, CAP, HEXAGON HEAD: **CLAMP MTG**, 3/8-24 **THD SIZE,** ½ **IN. LG** 1X2670 (36422)	EA	1								D9	
0	4730-106-1741	ELBOW, TUBE: UEL **PUMP** 5Z189 (36422)	EA	1								D9	
P F	5325-105-9458	GROMMET: **CLAMP MTG** 5Z421 (36422)	EA	2	*	2	2	*	2	2	12	D9	
X2F		CLAMP: **TUBE MTG** CL50 (03743)	EA	2								D9	
F	5310-010-3320	WASHER, LOCK: **CLAMP MTG**, 5/16 **IN. SCREW SIZE** 1X27 (36422)	EA	2								D9	
F	5305-208-7737	SCREW, CAP, HEXAGON HEAD: **CLAMP MTG**, 5/16-24 **THD SIZE**, 5/8 **IN. LG** 1X2198 (36422)	EA	2								D9	
P F	3895-855-5598	TUBE ASSEMBLY: **PUMP TO INJECTOR** 15H32 (36422)	EA	1	*	*	2	*	*	2	6	D9	
X1		TUBE 15H31 (36422)	EA	1									
X1	5330-658-7540	RING, SEAL, RUBBER 100-4 (70026)	EA	2									
X1		NUT 300-4 (70026)	EA	2									
X1	3895-073-3945	NUT, DIESEL: **HEXAGON**, ¾ **IN**. 1 ¾ **IN. LG** 5Z197 (36422)	EA	2									
X1	4730-052-9877	SLEEVE, CVYLINDER, TUBE 8165X4 (79470)	EA	2									
P 0 R	3895-603-0386	INJECTOR, ASSEMBLY: **FUEL** 7Z511 (36422)	EA	1	*	2	2	*	2	2	12	D9	
X1	3895-603-0370	HOLDER: **NOZZEL** 6Z304 (36422)	EA	1									
X1	3895-603-0379	NOZZEL 7Z462 (36422)	EA	1									
X1		PLUG: **HOLDER** 5Z204 (36422)	EA	1									

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					(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100		(a) Fig. NO.	(b) ITEM NO.
M F		WIRE, LOCK: **INJECTOR MTG, SCREW** 5Z624 (36422) MANUFACTURE FROM:	EA	1								D9	12
		WIRE, 1 **EA**, FSN 9505-186-9170											
F	5305-105-6849	SCREW, SOCKET HEAD: **INJECTOR MTG**, ½-20 **THD SIZE**, 1 ½ **IN. LG** 5Z724 (36422)	EA	2								D9	13
X2F		WASHER, SPRING: **NOZZLE MTG** 5Z240M (05234)	EA	1								D9	14
F	2910-105-9257	FITTING ASSEMBLY: **TUBE TO PUMP** 7Z432 (36422)	EA	1								D9	15
X2F		COUPLING 5Z510 (36422)	EA	1								D9	16
X2F		NIPPLE 7Z431 (36422)	EA	1								D9	17
X2F		BUSHING 5Z509 (36422)	EA	1								D9	18
M F		WIRE, LOCK: **COUPLING** MANUFAVTURE FROM	EA	1								D9	
		WIRE STEEL, 1 **EA**, FSN 9505-294-7986											
		0302 – FUEL PUMPS											
P 0 R	3895-754-4075	PUMP, FUEL 7Z463 (01843)	EA	1	*	*	2	*	*	2	6	D10	
X2F		SHIM: **PUMP MTG** 7Z30 (36422)	EA	V								D10	1
P F	2910-105-9256	PLATE, LOCK: **PUMP MTG** 7Z440 (36422)	EA	2	*	2	2	*	2	2	12	D10	2
F	5305-543-4501	SCREW, CAP, HEXAGON HEAD: **PUMP MTG, DRILLED HEAD,** 9/16-12 **THD SIZE**, 2 **IN. LG** 1X2744 (36422)	EA	2								D10	3
M F		WIRE, LOCK 5Z621 (36422) MANUFACTURE FROM:	EA	2								D10	4
		WIRE, 2 **EA**, FSN 9505-186-9170											
P F	2910-105-6100	RACK, CONTROL RD76129 (36422)	EA	1	*	*	2	*	*	2	6	D10	5
P F	2910-511-2370	GASKET: **COVER MTG** PPTI7A1X (01843)	EA	1	*	2	2	*	2	2	12	D10	6
X2F	5340-598-3236	COVER, WINDOW PDE17A1X (01843)	EA	1								D10	7
F	5305-365-7868	SCREW, MACHINE: **COVER MTG** SC22-5CA (01843)	EA	2								D10	8
F		GASKET: **COVER SCREW MTG** SM2055-400X (36422)	EA	2								D10	9
F		SCREW, CAP, HEXAGON HEAD: **PUMP HOUSING** SC7695 (01843)	EA	1								D10	10
P F	3895-658-0101	GASKET: **PUMP MTG** WMS2055 (36422)	EA	12	*	*	2	*	*	2	6	D10	11
X20		SCREW, BLEED: **PUMP HOUSING** SC7698 (01843)	EA	1								D10	12
P 0	5330-366-8836	GASKET: **BLEED SCREW** GA7613 (01843)	EA	1	*	*	*	*	*	*	5	D10	13

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** USABLE ON REF NUMBER & MFR CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION	
					(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100		(a) Fig. NO.	(b) ITEM NO.
X1		HOUSING: **PUMP** HG76553A (01843)	EA	1								D10	14
X2F		BUSHING GA7611 (36422)	EA	2								D10	15
P F	3895-603-0596	GASKET: **HOUSING VENT SCREW** GA7611 (36422)	EA	1	*	*	2	*	*	2	6	D10	16
F		SCREW, CAP, HEXAGON HEAD: **PUMP HOUSNG** SC7694 (01843)	EA	1								D10	17
P F	2910-105-9254	SLEEVE: **PLUNGER** SV7613 (01843)	EA	1	*	2	2	*	2	2	12	D10	18
X1		PLATE, NAME: FUEL **PUMP** NP7659 (01843)	EA	1								D10	19
F		RIVIT: FUEL **PUMP NAME PLATE** **SC150-2 (01843)**	EA	2								D10	20
P F	3895-105-0412	HOLDER: **PLUNGER** HP76105 (001843)	EA	1	*	*	2	*	*	2	6	D10	21
P F	3895-603-0694	GASKET: **HOLDER** **GA76188 (01843)**	EA	1	*	2	2	*	2	2	12	D10	22
P F	2910-297-6692	SPRING, HELICAL COMPRESSION: VALVE WSF2056A2X (01843)	EA	1	*	*	2	*	*	2	6	D10	23
P F	2910-105-9253	VALVE VA7696A (01843)	EA	1	*	*	2	*	*	2	6	D10	24
P F	2815-682-0602	PLUNGER BC76120-7A (01843)	EA	1	*	*	2	*	*	2	6	D10	25
P F	3895-105-0411	SEAT: **SPRING** WMS2160-1X (01843)	EA	1	*	*	2	*	*	2	6	D10	26
P F	3895-603-0587	SPRING, HELICAL, COMPRESSION: **PLUNGER** SP7638 (01843)	EA	1	*	*	2	*	*	2	6	D10	27
P F	3895-657-9932	SEAT: SPRING WMS2161-1X (01843)	EA	1	*	*	2	*	*	2	6	D10	28
P F	2910-105-9255	CUP: **PLUNGER** PMH2-3X (01843)	EA	1	*	*	2	*	*	2	6	D10	29
P F	5340-658-7501	RING, RETAINING: **CUP** WMR055-2X (01843)	EA	1	*	*	2	*	*	2	8	D10	30
P F	3895-603-0885	TAPPET, LEVER 7Z154 (36422)	EA	1	*	*	2	*	*	2	10	D11	1
P F	2910-105-6098	BUSHING: **LEVER** 216P (91821)	EA		2	2	2	2	2	2	24	D11	2
P F	2910-105-6096	HOUSING, PUMP DRIVE 15H58 (36422)	EA	1	*	*	*	*	*	*	5	D11	3
X1		HOUSING 15H36 (36422)	EA	1									
X1		DOWEL 5Z795 (36422)	EA	1									
M F		WIRE, LOCK: **HOUSING SCREW** 5Z631 (36422) MANUFACTURE FROM: WIRE, 2 EA, FSN 9505-186-9170	EA	2								D11	4
P F	2910-105-9251	COVER: H**OUSING** 7Z156 (36422)	EA	1	*	*	2	*	*	2	2	D11	5
F	5310-261-7340	WASHER, LOCK: **COVER MTG**, 3/8 **IN. SCREW SIZE** 1X28 (36422)	EA	1								D11	6

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** USABLE ON REF NUMBER & MFR CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION	
					(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100		(a) Fig. NO.	(b) ITEM NO.
F	5305-012-2119	SCREW, CAP, HEXAGON HEAD: **COVER MTG**, 3/8-16 **THD** **SIZE**, ¾ **IN. LG** 1X528 (36422)	EA	1								D11	7
0	5310-265-9219	NUT, PLAIN, HEXAGON: **GUARD MTG**, 5/8-18 **THD** SIZE 1X171 (36422)	EA	2								D11	8
0	5305-558-4899	SCREW, CAP, HEXAGON HEAD: **GUARD MTG**, ¾-16 **THD** **SIZE**, 3 **IN. LG** 1X2251 (36422)	EA	2								D11	9
0	5310-010-3326	WASHER, LOCK: **GUARD MTG**, ¾ **IN. SCREW SIZE**	EA	2								D11	10
X20	3895-936-5209	GUARD, PUMP 15N12 (36422)	EA	1								D11	11
0	5305-043-3494	SCREW, CAP, HEXAGON HEAD: **GUARD MTG**, 5/8-18 **THD** SIZE, 5IN. LG 7Z290 (36422)	EA	2								D11	12
0	5310-209-2976	WASHER, LOCK: **GUARD MTG**, 5/8 **IN. SCREW SIZE** 1X31 (36422)	EA	2								D11	13
X20		SPACER: **GUARD MTG** 7Z449 (36422) **(AS REQUIRED)**	EA									D11	14
F	5305-527-3890	SCREW, CAP, HEXAGON HEAD: **HOUSING MTG**, 5/8-18 **THD** **SIZE**, 3 **IN. LG** 7Z345 (36422)	EA	6								D11	15
F		WASHER, SPRING: **HOUSING MTG,** 5/8 **IN. ID**, 1 ¼ **IN. OD**, 1/8 **IN. THK** 1250-62 (06092)	EA	6								D11	16
P F	3895-603-0897	TAPPET, LEVER 15H2 (36422)	EA	1	*	*	2	*	*	2	10	D11	17
P F	2910-105-9250	SHAFT, LEVER 15H63 (36422)	EA	1	*	2	2	*	2	2	12	D11	18
P F	2910-105-6997	LEVER 15H33 (36422)	EA	1	*	2	2	*	2	2	12	D11	19
P F	2910-105-9249	PIN, MOUNT, ASSEMBLY: **LEVER** 15H61 (36422)	EA	1	*	2	2	*	2	2	12	D11	20
X1		ROD 15H62 (36422)	EA	1									
X1		DOWEL 15H60 (36422)	EA	1									
X1		SCREW, LOCK: **HOLLOW**, ¼-20 **THD SIZE** 1X1790 (36422)	EA	1									
P F	2910-105-9248	ROLLER, CAM: **LEVER** 7Z129 (36422)	EA	1	2	2	2	2	2	2	24	D11	21
F	5305-105-6848	SETSCREW: **LEVER, SOCKET HEAD, CUP POINT**, ¼-20 **THD** **SIZE**, ¼ **IN. LG** 1X481 (36422)	EA	1								D11	22
P F	5315-105-6834	DOWEL 15H60 (36422)	EA	1	*	*	*	*	*	*	5		

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
		0306 – TANKS, LINES, FITTINGS												
X20		SPACER, MOUNTING: **TANK MTG** 15H54 (36422)	**A**	EA	4								D12	1
X20		SHIM, MOUNTING: **TANK MTG** CC509 (36422)	**A**	EA	4								D12	2
0		SCREW, CAP, HEXAGON HEAD: **TANK MTG**, 5/8-24 **THD SIZE**, 2 ¾ **IN. LG** 1X2619 (36422)	A	EA	4								D12	3
0	5310-209-2976	WASHER, LOCK: **TANK MTG**, 5/8 **IN. SCREW SIZE** 1X31 (36422)		EA	12								D12	4
0	5305-543-4892	SCREW, CAP, HEXAGON HEAD: **TANK MTG**, 5/8-18 **THD SIZE,** 1 ½ **IN. LG** 1X2618 (36422)		EA	12								D12	5
X20		TANK, FUEL AND LUBRICATION 15H43 (36422)	A	EA	1								D12	6
0	4730-904-3695	PLUG, PIPE: **SQUARE HEAD**, 1/8 **IN**. 1X826 (36422)		EA	1								D12	7
0	4730-904-3965	PLUG, PIPE 1X823 (36422)		EA	2								D12	8
P 0	3895-018-0382	CAP CC2701 (81118)		EA	2	2	2	2	2	2	2	24	D12	9
P O	2910-105-6095	TANK, FUEL AND LUBRICATION 15H75 (36422) (COMPONENTS SAME AS TANK, FUEL **AND** LUBRICATION, P/N 15H43)	B	EA	1	*	*	*	*	*	*	2	D12	10
		0309 – FUEL FITERS												
X20		FILTER, FUEL OIL, ASSEMBLY 15H75 (36422) (**COMPONENTS SAME AS** FILTER, FUEL OIL ASSEMBLY, STOCK No. FSN 2910-105-6092, **EXCEPT WHERE ANNOTATED)**	A	EA	1								D13	
P 0	2910-105-6092	FILTER, FUEL OIL ASSEMBLY 12H198 (36422)	B	EA	1	*	*	*	*	*	*	5		
0	5310-595-7473	NUT, LOCK: **ELEMENT**, **NYLON INSERT**, 1/14 **THD SIZE** 1X2449 (36422)		EA	1								D13	1
P 0	2910-105-6094	PLATE, TOP: **ELEMNT** 5Z932 (356422)		EA	1	*	*	2	*	*	2	6	D13	2
P 0	3895-603-0945	ELEMENT 5Z986(36422)		EA	1	4	8	16	4	8	16	19	D13	3
0		PLUG, PIPE: **HEAD** 1X826 364422		EA	1								D13	4
X20		HEAD 5Z1032 (36422)	A	EA	1								D13	5
X1		HEAD ASSEMBLY 16H204	B	EA	1									
X20		HEAD 13H199 (36422)		EA	1								D13	5
XG0		SCREW, CAP, HEXAGON HEAD: 1-14 **THD SIZE** 7 **IN. LG** 5Z985 (36422	B	EA	1									

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
P 0	5330-105-4136	GASKET, HEAD 13H203 (36422)		EA	1	REF	REF	REF	REF	REF	REF	REF	D13	6
P 0	3895-603-0948	SPRING, HELICAL COMPRESSION: **ELEMENT** 5Z91 (36422)		EA	1	REF	REF	REF	REF	REF	REF	REF	D13	7
P 0	2910-105-6093	PLATE, BOTTOM: **ELEMENT** 5Z928 (36422)		EA	1	*	*	2	*	*	2	6	D13	8
P 0	5330-196-5382	PACKING, PREFORMED **ELEMENT** S7-19 (73277)		EA	1	REF	REF	REF	REF	REF	REF	REF	D13	9
0		PLUG, PIPE 1X826 (36422)	B	EA	1									
0	5310-261-7340	WASHER, LOCK: **HEAD MTG**, 3/8 **IN. SCREW SIZE** 1X28 (36422)		EA	4								D13	10
0	5305-637-4039	SCREW, CAP, HEXAGON HEAD: **HEAD MTG**, 3/8-24 **THD SIZE**, 1 1/8 **IN. LG** 1X206 (36422)		EA	4								D13	11
		0311 – ENGINE STARTING AIDS												
P 0 R	2910-105-6101	INJECTOR, START ASSEMBLY 15H47 (36422)		EA	1	*	2	2	*	2	2	12	D14	
0	531-010-3323	WASHER, LOCK: **TANK MTG**, ½ **IN. SCREW SIZE** 1X30 (36422)		EA	2								D14	1
0	5305-012-3605	SCREW, CAP, HEXAGON HEAD: **TANK MTG**, ½-20 **THD SIZE**, 1 **IN. LG** 1X214 (36422)		EA	2								D14	2
0	2910-105-6102	CONNECTOR 6Z341 (36422)		EA	1								D14	3
	4730-278-8764	SLEEVE, COMPRESSION 60F (30327)		EA	2								D14	4
0	5310-105-4175	NUT, COMPRESSION 161F (30327)		EA	1								D14	5
X20		TUBE, COPPER 15H37 (36422)		EA	1								D14	6
X20		CLAMP: **TUBE MTG** JC2630 (36422)		EA	2								D14	7
0	5310-010-6497	WASHER, LOCK: **CLAMP MTG**, **No**. 10 **SCREW SIZE** 1X25 (36422)		EA	2								D14	8
0	5305-271-8048	SCREW, MACHINE: **ROUND HEAD**, **CLAMP MTG**, 10-24 **THD SIZE**, ¾ **IN. LG** HA1396 (36422)		EA	2								D14	9
0	4730-544-2400	NUT, UNION, FLARED TUBING 41F (30327)		EA	1								D14	10
P 0	1650-682-0610	VALVE, CHECK 417-455-5 (86768)		EA	1	*	*	2	*	*	2	6	D14	11
P 0	3895-603-0324	GASKET: **CHECK VALVE** 2043A (79150)		EA	1	*	2	2	*	2	2	12	D14	12
X20		TANK 15H22 (36422)	A	EA									D14	13
X20		TANK 15H69 (36422)	B	EA	1								D14	13
X20		EMBLEM 15H57 (36422)		EA	1								D14	14

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X20		CAP 6Z331 (81118)	A	EA	1								D14	15
X20		CAP 15H72 (36422)	B	EA	1								D14	15
		GROUP 22 – MISCELLANEOUS BODY, CHASSIS, OR HULL AND ACCESSORY ITEMS												
		2210 – DATA PLATES AND INSTRUCTION HOLDERS												
X20		PLATE, FUEL 5Z1291 (36422)	A	EA	1									
X20		PLATE, OIL 5Z1292 (36422)	A	EA	1									
X2F		PLATE, LUNRICATION AND FUEL INSTRUCTON 15P21 (36422)	B	EA	1									
X20		PLATE, CAUTION 5Z1289 (36422)	A	EA	1									
X20		PLATE, GREASE 15P12 (36422)	A	EA	1									
X2F		PLATE, IDENTIFICATION 15P10 (36422)	A	EA	1									
X2F		PLATE, DATA, MIL I.D 15P23 (36422)	B	EA	1									
X20		PLATE, INSTRUCTION 15P13 (36422)	A	EA	1									
X20		PLATE, OPERATING INSTRUCTION 15P22 (36422)	B	EA	1									
X2F		PLATE, NAME 5Z1160 (36422)	A	EA	1									
X2F		PLATE, NAME AND PATENT 13P10 (36422)	B	EA	1									
X2F		PLATE, DATA, MIL I.D 13P19 (36422)	B	EA	1									
X2F		PLATE, DATA 13P20 (36422)	B	EA	1									
X20		PLATE, INSTRUCTION, OPERATING 13P21 (36422)	B	EA	1									
X2F		SCREW, DRIVE: **PLATE MTG**, **TYPE** U, No. 10, 3/8 **IN. LG** 1X1516 (36422)		EA	16									
		GROUP 43 – HYDRAULIC, FLUID, AIR AND VACUUM CONTROLS												
		4301 – STRAINERS, FILTERS, HOSE, PIPE, FITTINGS, TUBING, ETC.												
X20		ROPE, WIRE: **REMOTE CONTROL** 5Z62 (36422)		EA	2								D15	1
0		PIN, GROOVED: **CLEVIS PIN MTG** 1X2219 (36422)		EA	2								D15	2
0		PIN, CLEVIS: **CLEVIS MTG** 5Z454 (36422)		EA	2								D15	3
P 0	4720-104-6372	HOSE ASSEMBLY: **TRANSMITTER** 13J59 (36422)		EA	2	2	2	2	2	2	2	24	D15	4

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X1		HOSE 5Z1295 (36422)		EA	2									
X1		SLEEVE 900705-2-9 (0127)		EA	2									
X1		SWIVEL, FEMALE 4721-6-4 (01276)		EA	4									
X20		BAR: **BRACKET MTG** 15J31 (36422)		EA	2								D15	5
0	5310-011-0814	NUT, PLAIN, HEXAGON: **BRACKET MTG**, 3/8-24 **THD SIZE** 1X167 (36422)		EA	4								D15	6
0	5310-261-7340	WASHER, LOCK: **BRACKET MTG**, 3/8 **IN. SCREW SIZE** 1X28 (36422)		EA	6								D15	7
0	4730-194-1121	CONNECTOR: **HOSE TO** **COUPLING**, 3/8 X ¼ NPT 6FTXS (45681)		EA	7								D15	8
0	4730-105-6031	COUPLING 5100S5-6 (01276)		EA	1								D15	9
P 0	4730-318-6661	PLUG, DUST 5100-41-8 (01276)		EA	1	2	2	2	2	2	2	24	D15	10
0	5305-018-1648	SCREW, CAP, HEXAGON HEAD: **BRACKET MTG**, 3/8-24 **THD** **SIZE**, 2 **IN. LG** 1X209 (36422)		EA	4								D15	11
X20		BRACKET: **HOSE MTG** 15J30 (36422)		EA	3								D15	12
P 0	3895-854-6327	HOSE ASSEMBLY, HYDRAULIC 7Z460 (36422)		EA	1	2	2	2	2	2	2	24	D15	13
X1	4720-603-1047	HOSE 7Z461 (36422)		EA	1									
X1		COUPLING 5100S2-6 (01276)		EA	1									
0	5305-530-9298	SCREW, CAP, HEXAGON HEAD: **BRACKET MTG, DRILLED HEAD**, 3/8-24 **THD SIZE**, 1 ¾ **IN. LG** 5Z583 (36422)		EA	2								D15	14
M 0		WIRE, LOCK: **BRACKET MTG SCREW** 5Z624 (36422) MANUFACTURE FROM: WIRE, 1 **EA**, FSN 9505-186-9170		EA	1								D15	15
P 0	3895-105-0407	CAP, DUST 5100-32-8 (01276)		EA	1	2	2	2	2	2	2	24	D15	16
P 0	4720-104-6373	HOSE ASSEMBLY 13J60M (36422)	B	EA	2	2	2	2	2	2	2	24		
X1		HOSE 5Z1295 (36422)		EA	2									
X1		SWIVEL, FEMALE 4721-6-4 (01276)		EA	4									
		4305 – MANIFOLD AND/OR CONTROL VALVES												
X20		HYDRAULIC CONTROL ASSEMBLY 15J32 (36422) **(COMPONENTS SAME AS** HYDRAULIC CONTROL ASSEMBLY, STOCK No. 3895-105-0416, **EXCEPT WHERE ANNOTATED)**	A	EA	1								D15	

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION	
						(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100		(a) Fig. NO.	(b) ITEM NO.
P 0 R	3895-105-0416	HYDRAULIC CONTROL ASSEMBLY 13J57 (36422)	B	EA	1	*	*	*	*	*	*	5	D16	
P 0	4010-191-0091	LINK: CONTROL **MTG PLATE** NR991 (36422)		EA	1	2	2	2	2	2	2	24	D16	1
X20		PLATE: CONTROL **MTG** 15J33 (36422)		EA	1								D16	2
P 0 R	3895-682-0590	TRANSMITTER ASSEMBLY 5Z1315 (36422) **(COMPONENTS SAME AS** TRANSMITTER ASSEMBLY STOCK No. 3895-105-0400, **EXCEPT WHERE ANNOTATED)**	A	EA	1	*	*	2	2	2	2	12		
P 0 R	3895-105-0400	TRANSMITTER ASSEMBLY 13J45 (36422)	B	EA	1	*	*	2	2	2	2	12		
F	5310-045-1395	NUT, JAM: **SETSCREW** 1X180 (36422)		EA	2								D16	3
P 0	3895-105-0402	PIN, ROLL: **LEVER LOCK** 1X2437 (36422)		EA	3	2	2	2	2	2	2	24	D16	4
P 0	3895-658-0323	PIN, ROLL: **LEVER LOCK** 50-028-125-1375 (72962)		EA	1	2	2	2	2	2	2	24	D16	5
X20		LOCK, LEVER 5Z916 (36422)		EA	2								D16	6
P F	3895-603-1085	SPRING, HELICAL, COMPRESSION 1H174 (36422)		EA	2	2	2	2	2	2	2	24	D16	7
X1		LEVER 5Z1040 (36422)		EA	1								D16	8
P F	5305-105-6846	SETSCREW: **LEVER** 1X2345 (36422)		EA	1	*	*	2	*	*	2	6	D16	9
X1		QUADRANT: **LEVER** 5Z1209 (36422)		EA	1								D16	10
P 0	4730-791-6031	BREATHER: **COVER PLATE** 543 (24981)		EA	1	2	2	2	2	2	2	24	D16	11
F	5305-022-7433	SCREW, CAP, HEXAGON HEAD: **COVER MTG**, ¼-20 **THD SIZE**, ¾ **IN. LG** 1X512 (36422)		EA	4								D16	12
F	5310-010-3319	WASHER, LOCK: **COVER MTG**, **¼ IN. SCREW SIZE** 1X26 (36422)		EA	4								D16	13
X1		PLATE, COVER: **BODY** 5Z1038 (36422)	**A**	EA	1								D16	14
X1		PLATE, COVER: **BODY** 13J49 (36422)	**B**	EA	1								D16	14
P F	3895-603-1086	GASKET 5Z550 (36422)		EA	1	2	2	2	2	2	2	25	D16	15
F	4730-042-8988	PLUG, PIPE: **ELBOW TO BODY** 1X824 (36422)		EA	1	*	*	2	*	*	2	6	D16	16
X1	4730-827-7616	ELBOW: **BODY** 4ME4F (80713)		EA	1								D16	17
X1		BODY, LINER ASSEMBLY 13J46 (36422)		EA	1									
X1		BODY 5Z498 (36422)		EA									D16	18
X1		LINER 5Z757 (36422)	A	EA	1								D16	19
X1		LINER 13J47 (36422)	B	EA	1								D16	19

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) **DESCRIPTION** REF NUMBER & MFR CODE	USABLE ON	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION (a) Fig. NO.	(b) ITEM NO.
X1		LINER 5Z756 (36422)		EA									D16	20
F	5310-105-4184	WASHER, NOMETALLIC 5Z1376 (36422)		EA	1								D16	21
P F	2815-682-0597	PISTON 5Z759 (36422)		EA	1	*	2	2	*	2	2	12	D16	22
P F	5330-618-0801	PACKING, PREFORMED MS8775-114 (96906)		EA	1	2	2	4	2	2	4	48	D16	23
F	5306-105-1409	SCREW, MACHINE, HEXAGON SOCKET HEAD: No. 10 NC-1/4 **DIA x 1 IN. LG** 1X2242 (36422)		EA	1								D16	24
F	4730-018-9566	PLUG, PIPE: **BODY** 1X823 (36422)		EA	1								D16	25
P F	5330-105-4169	SEAL 140629 (97532)		EA	2	2	2	2	2	2	2	24	D16	26
X1		PISTON 5Z758 (36422)	A	EA	1								D16	27
X1	3895-105-0401	PISTON 13J48 (36422)	B	EA									D16	27
P F	3895-658-0210	PIN, ROLL: **BAR AND LEVER MTG** 55-077-375 (72962)		EA	2	2	2	2	2	2	2	24	D16	28
F	5305-105-6847	SETCREW: **LEVER** 1X2381 (36422)		EA	1								D16	29
X1		LEVER 5Z1039 (36422)		EA	1								D16	30
P 0	3895-658-0322	PIN, ROLL: **LEVER MTG** 59-077-375-1375 (72962)		EA	2	2	2	2	2	2	2	24	D16	31
X1		BAR, SIDE: **PISTON** 903C (36394)		EA	1								D16	32
F	5310-010-3320	WASHER, LOCK: **BODY MTG**, 5/16 IN. SCREW SIZE 1X27 (36422)		EA	2								D16	33
F	5305-018-6278	SCREW, CAP, HEXAGON HEAD: **BODY MTG**, 5/16-18 **THD SIZE**, 2 ½ **IN.LG** 1X2021 (36422)		EA	2								D16	34
P F	4820-603-0955	VALVE, RELIEF 5Z989 (36422) **(COMPONENTS SAME AS** VALVE RELIEF, P/N 13J50 EXCEPT **WHERE ANNOTATED)**	A	EA	1								D16	35
X20		VALVE, RELIEF 13J50 (36422)	B	EA	1								D16	35
P F	5330-836-9918	PACKING, PREFORMED 2-112 (83259)		EA	1	2	2	4	2	2	4	50	D16	36
X1		CAP 5Z990 (36422)		EA	1								D16	37
P F	5330-062-7034	PACKING, PREFORMED 2-116 (02697)		EA	2	2	2	2	2	2	2	24	D16	38
P F	5340-603-1214	SPRING, HELICAL, COMPRESSION 5Z555 (36422)		EA	2	2	2	2	2	2	2	24	D16	39
X1	5310-739-4470	WASHER: **CADMIUM PLATED, No. 10** 1X1776 (36422)		EA	2								D16	40
X1		BODY ASSEMBLY 5Z1377 (36422)	A	EA	1									

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NO. & MFR CODE	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION (a) FIG NO	(b) ITEM NO
X1		BODY ASSEMBLY 13J51 (36422)	B	EA	1									
X1		BODY 5Z793 (36422)	A	EA	1									
													D16	41
X1		BODY 13J52 (36422)	B	EA	1								D16	41
X1		PISTON 5Z794 (36422)	A	EA	1								D16	42
													D16	43
X1		PISTON 13J53 (36422)	B	EA	1								D16	44
X1		DOWELL 5Z794 (36422)		EA	2									
X1		CAP, RELIEF VALVE 5Z835 (36422)		EA	1	2	2	2	2	2	2	24	D16	45
PF	4730-957-7445	CONNECTOR 6-6FTXS (45681)		EA	1	*	2	2	*	2	2	12	D17	1
POR	3895-603-1215	RECEIVER, HYDRAULIC 13J54 (36422) (**COMPONENTS SAME AS** RECEIVER, HYDRAULIC, **EXCEPT WHERE ANNOTATED)**	A											
POR	3895-105-0403	RECEIVER, HYDRAULIC 13J54 (36422)	B	EA	1	*	2	2	*	2	2	12	D17	1
PF	5340-282-5315	RING RETAINING: **PISTON** N5000-175 (79136)		EA	1	2	2	2	2	2	2	24	D17	2
F	4730-044-4692	PLUG PIPE: **PISTON HEXAGON** SOCKET, ¼ IN. 1X824 (36422)		EA	1								D17	3
				EA	1	*	2	2	*	2	2	12	D17	4
PF	3895-105-0404	PISTON 5Z975 (36422)		EA	1	REF	REF	REF	REF	REF	REF	REF	D17	5
P F	5330-618-0801	PACKING, PREFORMED MS8775-114 (96906)		EA	1								D17	6
X1		ROD 13J55 (36422)	A	EA	1								D17	6
X1		ROD 13J55 (36422)	B	EA	1	*	2	2	2	2	2	12	D17	7
P F	3810-425-9136	SPRING, HELICAL COMPRESSION ERT130 (36422)		EA	1								D17	8
F		PLUG, PIPE: **CASING** 5Z1211: (36422)		EA	1								D17	9
X1		CASING, CYLINDER		EA	1	*	2	2	*	2	2	12	D17	10
P O	3810-105-0408	ADAPTER, **RECEIVER CASING** 5Z1211 (36422)												
P F	3895-073-4338	SHIM, **CYLINDER MTG** 5Z725 (36422)		EA	V	*	2	2	*	2	2	12	D17	11
F		SETSCREW, **BRACKET HEXAGON SOCKET, HEAD CUP POINT**, 3/8-24 T**HD SIZE**, 3/8 IN. **LG** 1X485 (36422)		EA	1								D17	12
				EA	1	*	2	2	*	2	2	12	D17	13
P F	5340-603-1229	PLUG: **BRACKET** 5Z725 (36422)		EA	1	*	2	2	*	2	2	12	D17	14
P F	3895-105-0405	CRANK, BELL: **BRACKET** 7Z145 (36422)												

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION USABLE ON REF NUMBER & MFR CODE CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION	
					(a) 1-20	(b) 21-50	(c) 51-100	(a) 1-20	(b) 21-50	(c) 51-100		(a) FIG. NO.	(b0 ITEM NO.
P F	5340-603-1242	SEAT, SPRING: BELL CRANK 15J29 (36422)	EA	1	*	2	2	*	2	2	12	D17	15
X20		PIN, ROLL: SEAT MTG 59-048-250-0687 (72962)	EA	1								D17	16
P F	3895-603-1266	SPRING, HELICAL COMPRESSION: SEAT 7Z151 (36422)	EA	1	*	2	2	*	2	2	12	D17	17
P F	3895-105-0406	STOP, RACK: BELL CRANK 15J28 (36422)	EA	1	*	2	2	*	2	2	12	D17	18
F	5315-252-5912	PIN, COTTER :PIN MTG 1X1086 (36422)	EA	1								D17	19
X2F		PIN BELL CRANK MTG 7Z385 (36422)	EA	1	*	2	2	*	2	2	12	D17	20
F X2F	5305-690-3351	SCREW, CAP, HEXAGON HEAD: BRACKET, MTG, ½-13 THD SIZE, 1 IN. LG 1X2746 (36422)	EA	2								D17	21
X2F		PLATE, LOCK: BRACKET MTG 7Z258 (36422)	EA	2	2	2	4	2	2	4	50	D17	22
X2F		WASHER, SPRING: BRACKET MTG 5Z240 (36422)	EA	2								D17	23
		BRACKET: RECEIVER, MTG 15J27 (36422)	EA	1								D17	24
P F	5340-690-3351	BUSHING, MTG BRACKET, RUBBER, ½ IN. ID, 11/16 IN. OD. 3/8 IN.LG 7Z143 (73015)	EA	2	2	2	2	2	2	2	24	D17	25
		GROUP 74-CRANES, SHOVELS AND EARTH MOVING EQUIPMENT											
		7413-PILE DRIVER ATTACHMENT											
X20	3895-929-0745	CAP, HEAD: PILE DRIVER 7Z165 (36422)	EA	1								D18	1
P O	3895-603-0323	DISK 7Z163 (36422)	EA	3	4	8	16	4	8	16	192	D18	2
P O	3895-603-0322	DISK 7Z164 (36422)	EA	3	4	8	16	4	8	16	192	D18	3
X20		ADAPTER, ANVIL 7X162 (36422)	EA	1								D18	4
P O	3895-754-4070	HEAD, DRIVING 15S7 (36422)	EA	1	*	*	*	*	*	*	5	D18	5
O		CLIP, CABLE 1X51 (36422)	EA	3								D18	6
X20		CABLE, HEAD 5Z289 (36422)	EA	1								D18	7
P O	3895-603-0237	FILLER, HEAD 15S8 (36422)	EA	1	*	*	*	*	*	*	5	D18	8
P O	3895-603-0165	TIP, FILLER 15S9, (36422)	EA	4	*	2	2	*	2	2	12	D18	9
X20		GUIDE, UPPER 15L157 (36422)	EA	1								D19	1
X20		GUIDE, HEAD 15L163 (36422)	EA	1								D19	2
X20		ANGLE, GUIDE 15L133, (36422)	EA	4								D19	3

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NO. & MFR CODE USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(7) 30-DAY GS MAINT ALLOWANCE (a) 1-20	(b) 21-50	(c) 51-100	(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS-TRATION (a) FIG NO	(b) ITEM NO
O	5310-010-3326	WASHER, LOCK: GUIDE AND ANGLE MTG, ¾ IN. SCREW SIZE 1X32 (36422)	EA	24								D19	4
0	5305-297-0794	SCREW, CAP HEXAGON HEAD: GUIDE AND ANGLE MTG ¾-16 THD SIZE, 1 ¼ IN, LG 7Z198 (36422)	EA	24								D19	5
X20		GUIDE, HEAD SPUD 15L159 (36422)	EA	1								D19	6

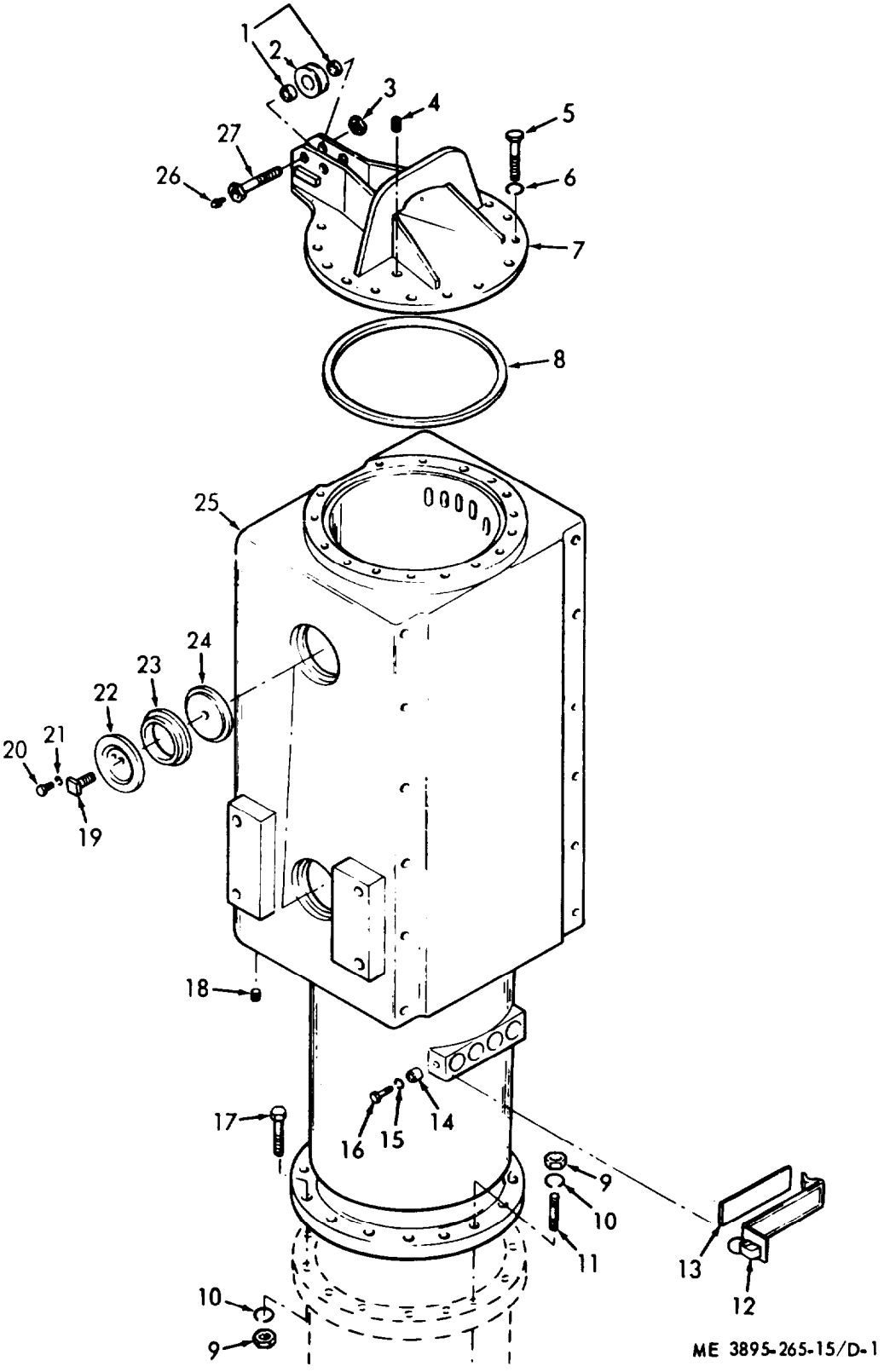
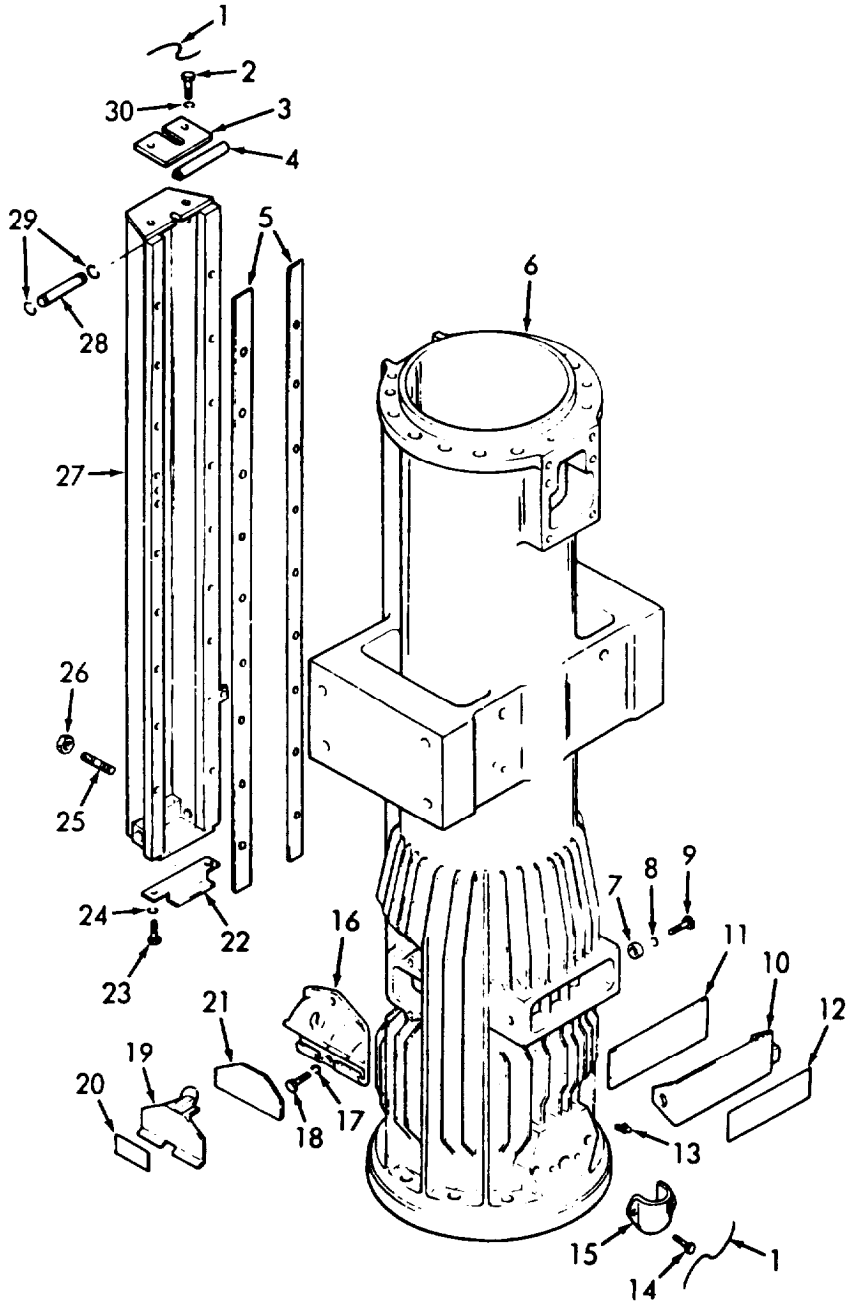


Figure D-1. Upper cylinder.



ME 3895-265-15/D-2

Figure D-2. Lower cylinder.

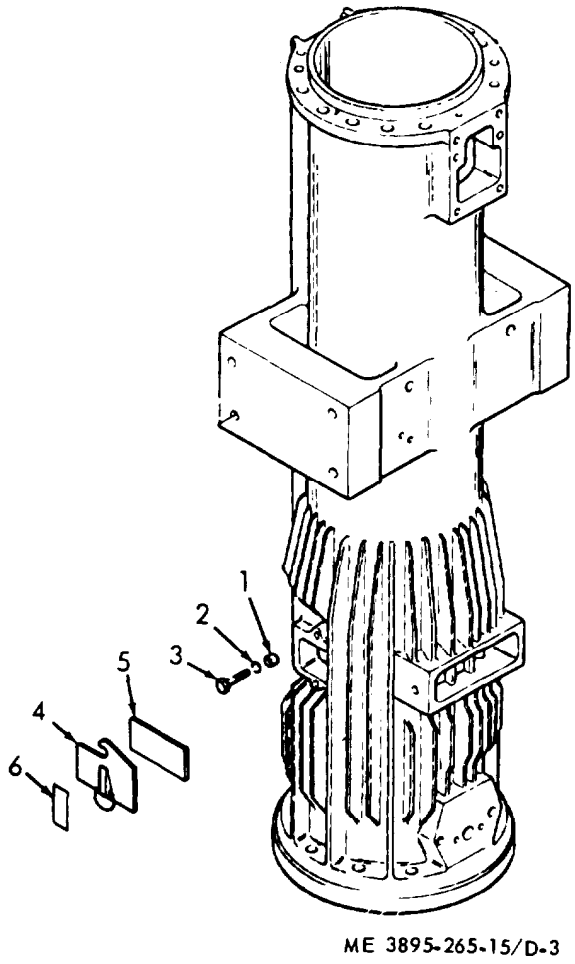


Figure D-3. Air intake cover.

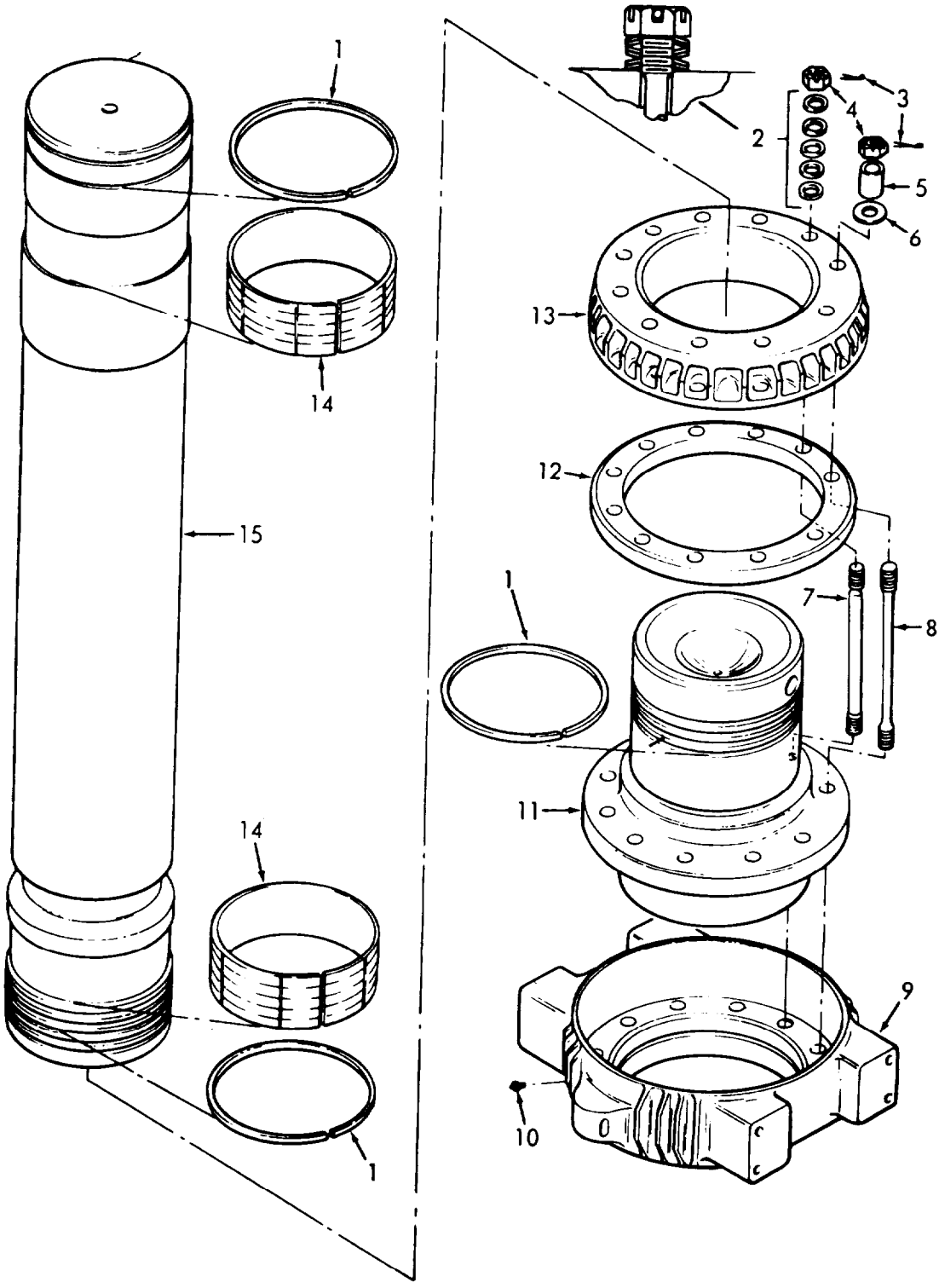


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Figure D-4. Ram, anvil, and recoil dampener.

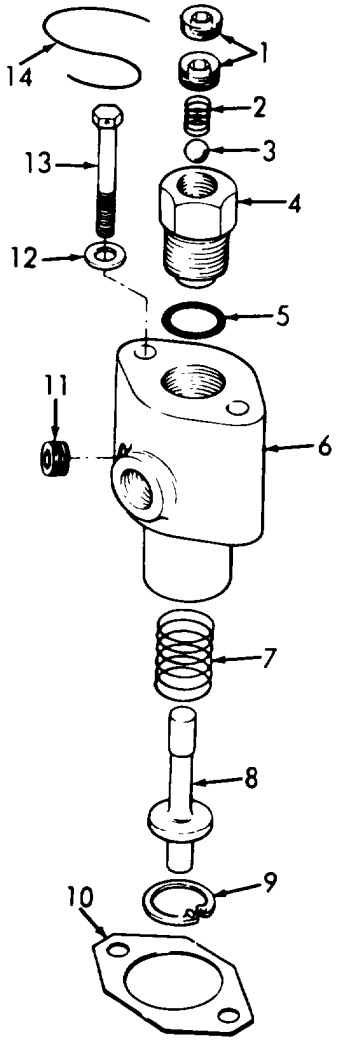

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Figure D-5. Lubricating oil pump.

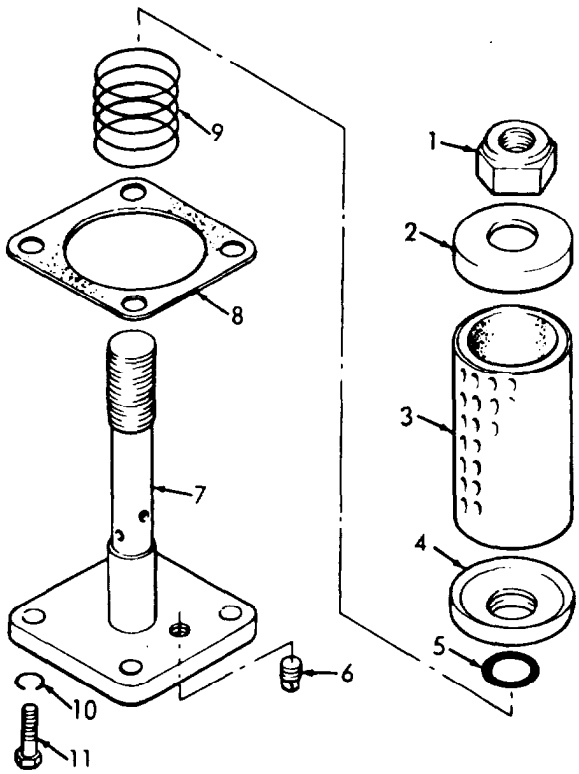

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Figure D-6. Lubricating oil filter.

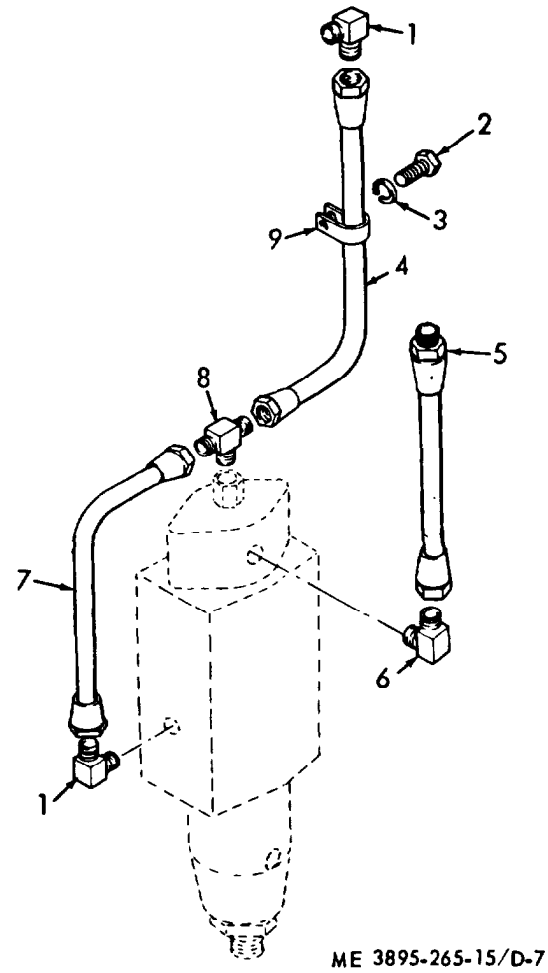

Figure D-7. Lubricating oil lines and fittings.

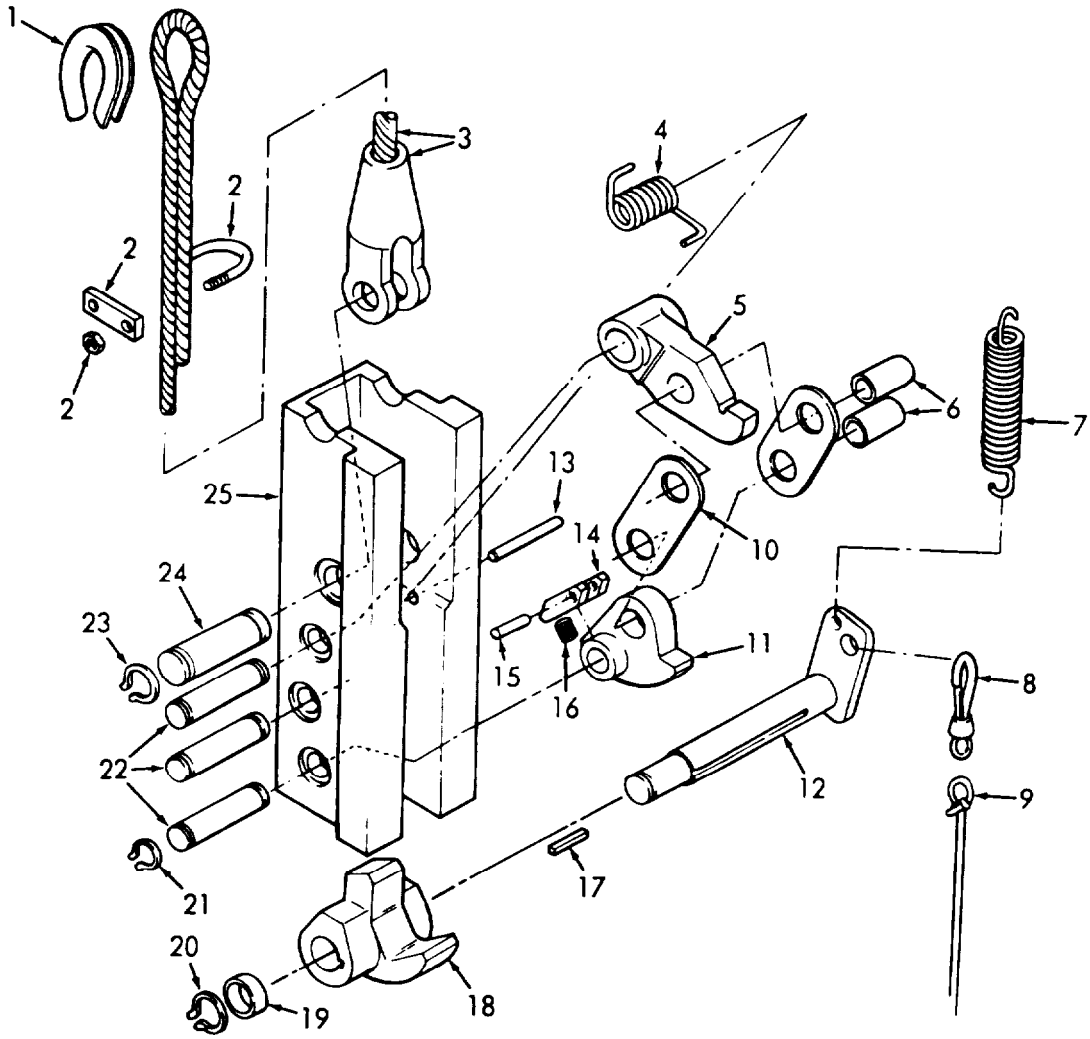

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Figure D-8. Starting device.

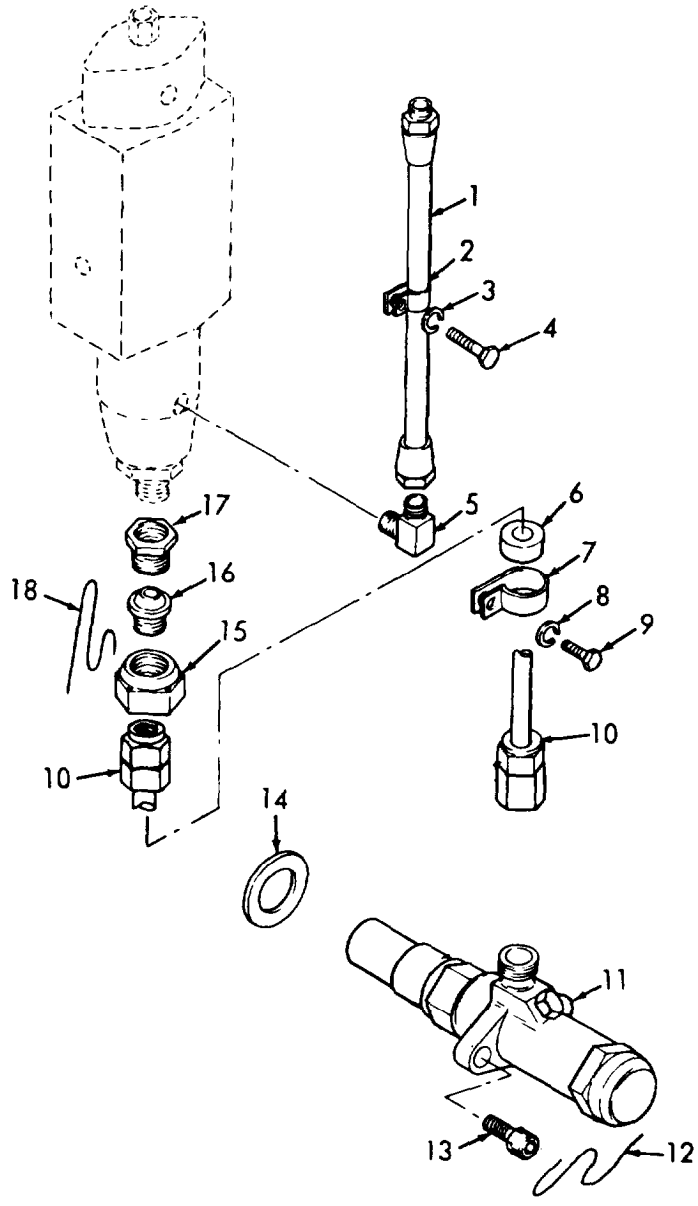

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Figure D-9. Fuel injector, lines, and fittings.

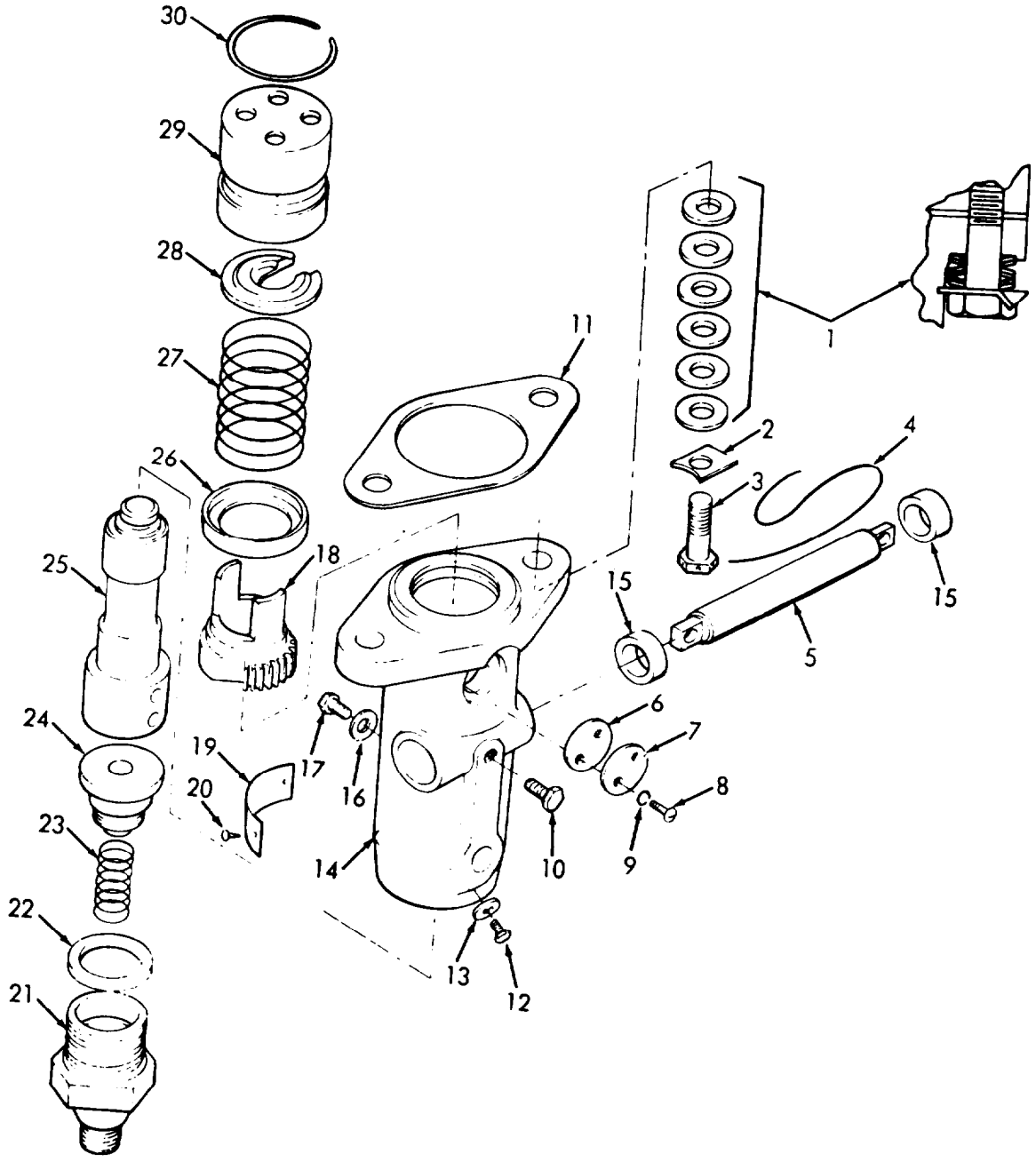

Figure D-10. Fuel Pump. **ME 3895-265-15/D-10**

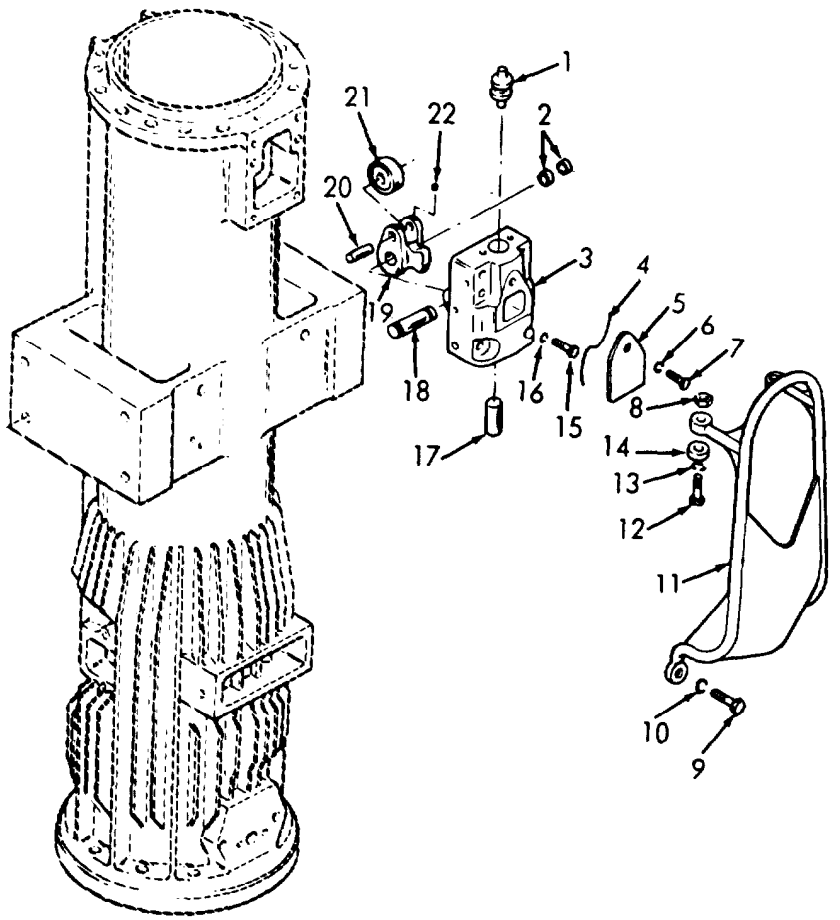

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Figure D-11. Pump drive.

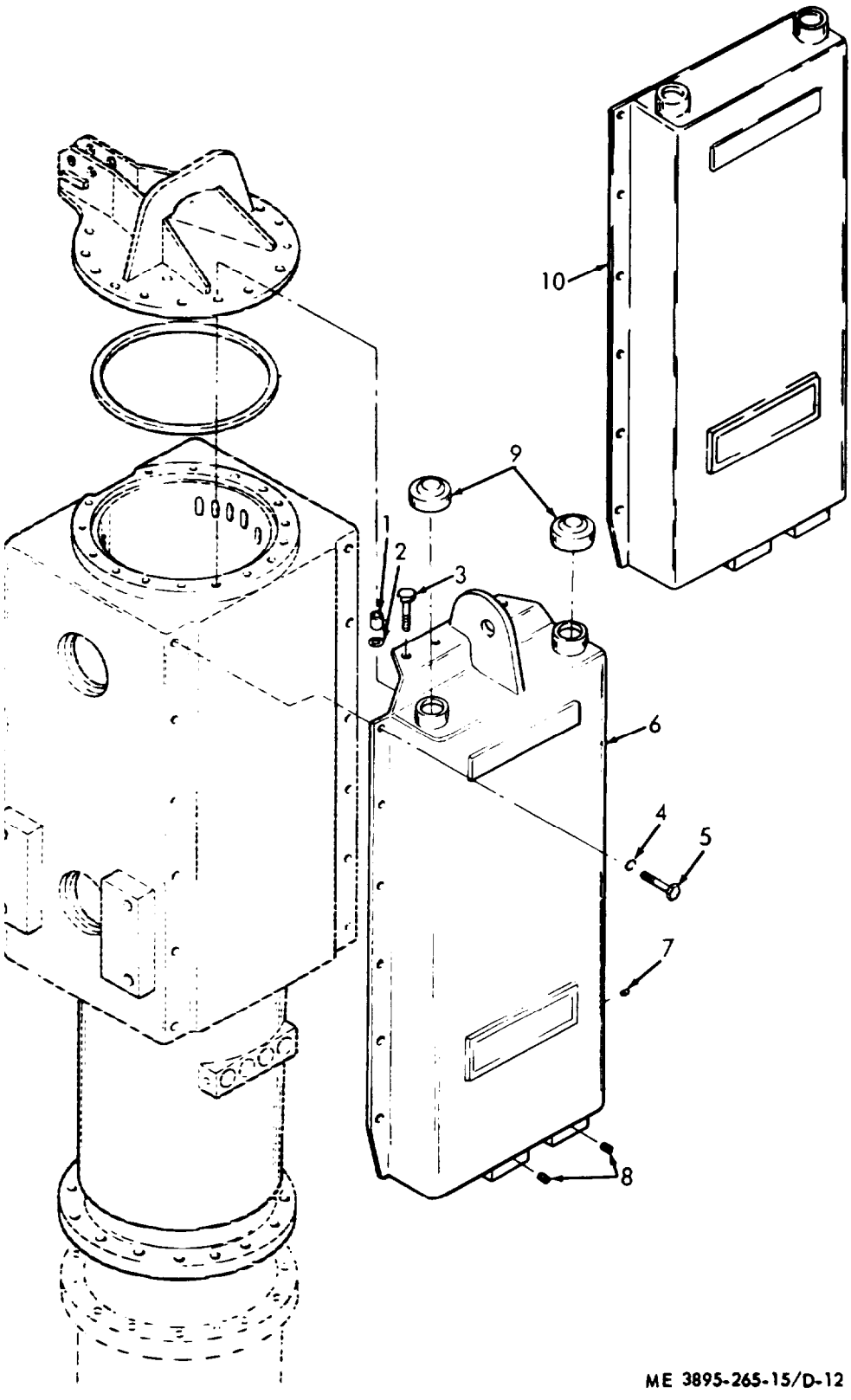

Figure D-12. Fuel and lubricating tank.

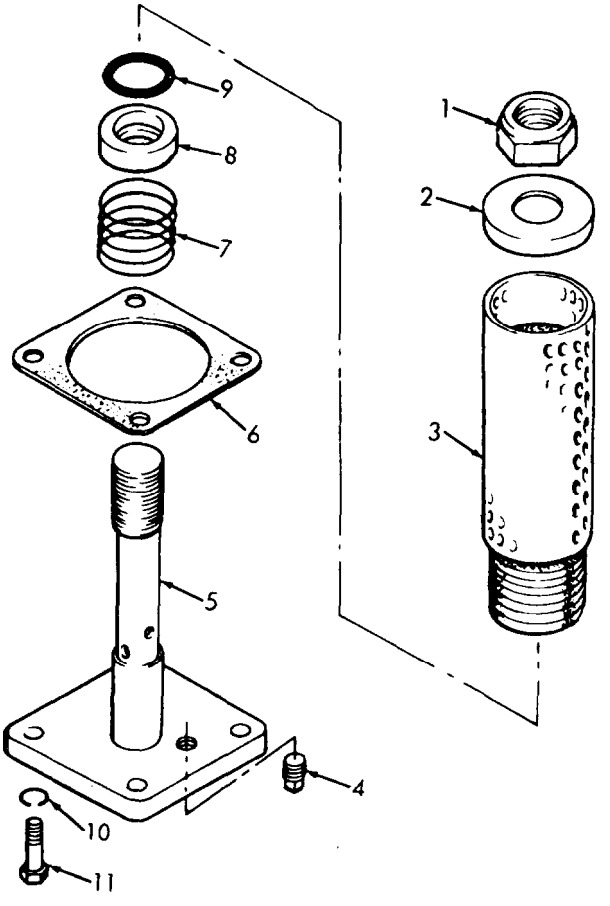

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Figure D-13. Fuel filter.

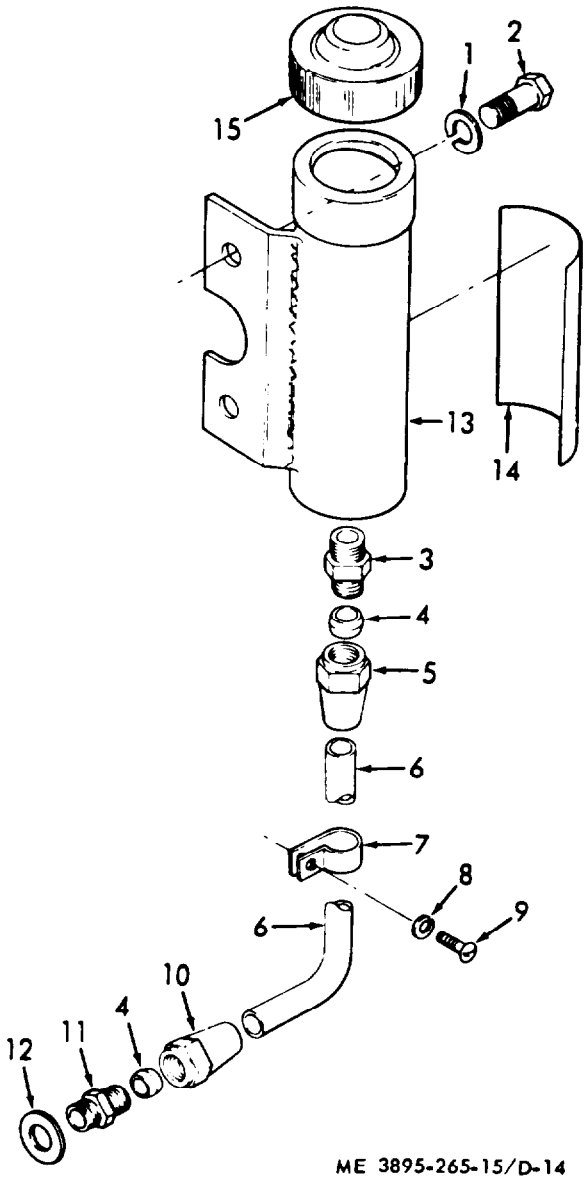


Figure D-14. Starting fluid injector.

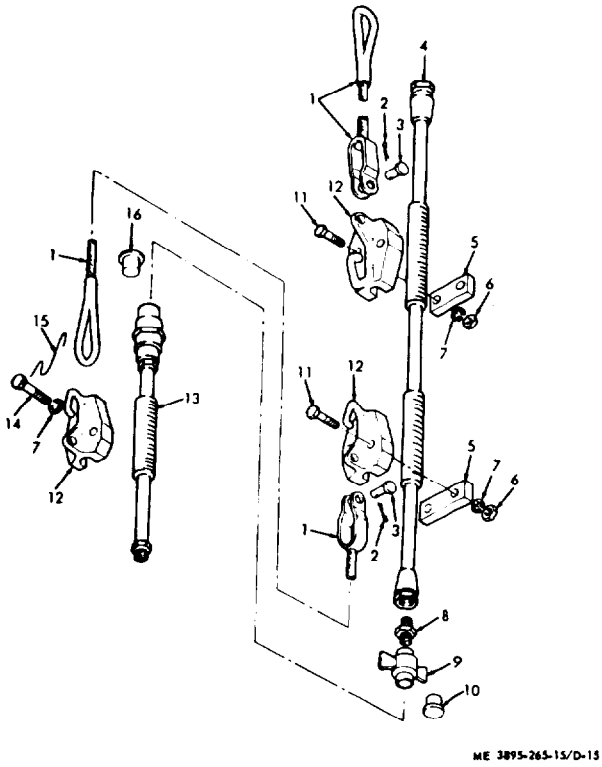


Figure D-15. Hydraulic hoses and cables.

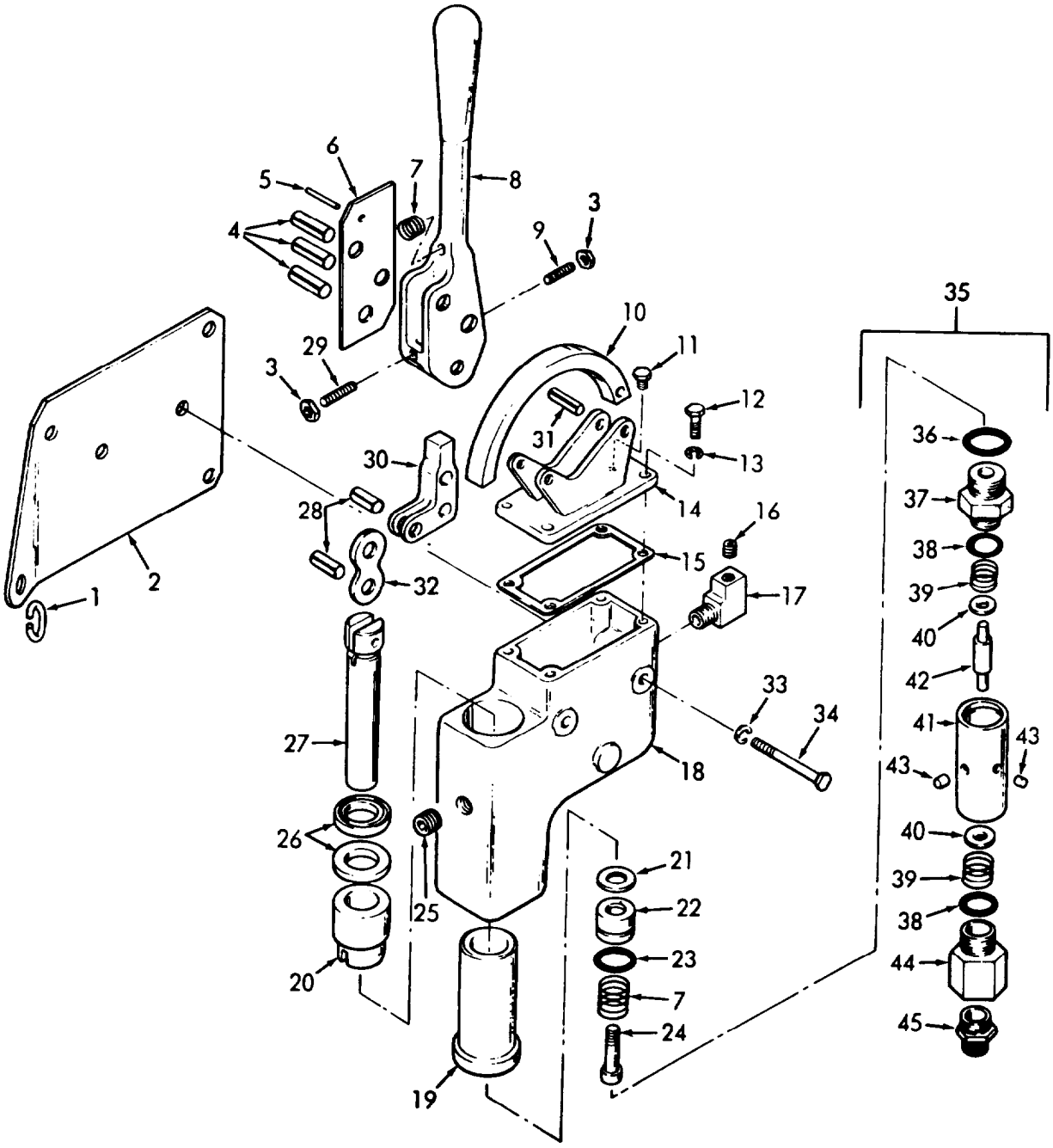
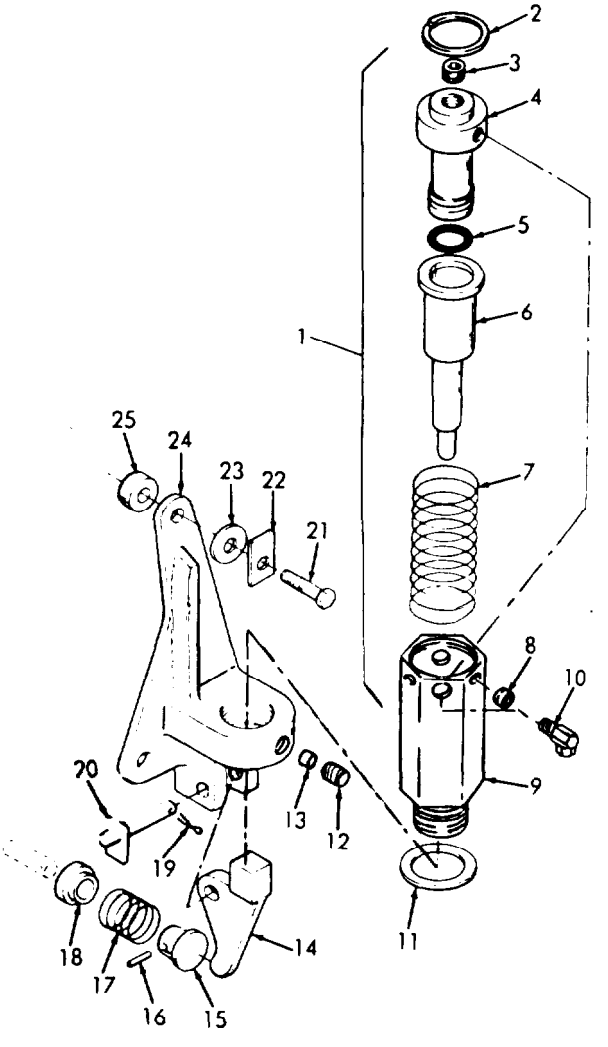


Figure D-16. Hydraulic transmitter and relief valve.



ME 3895-265-15/D-17

Figure D-17. Hydraulic receiver.

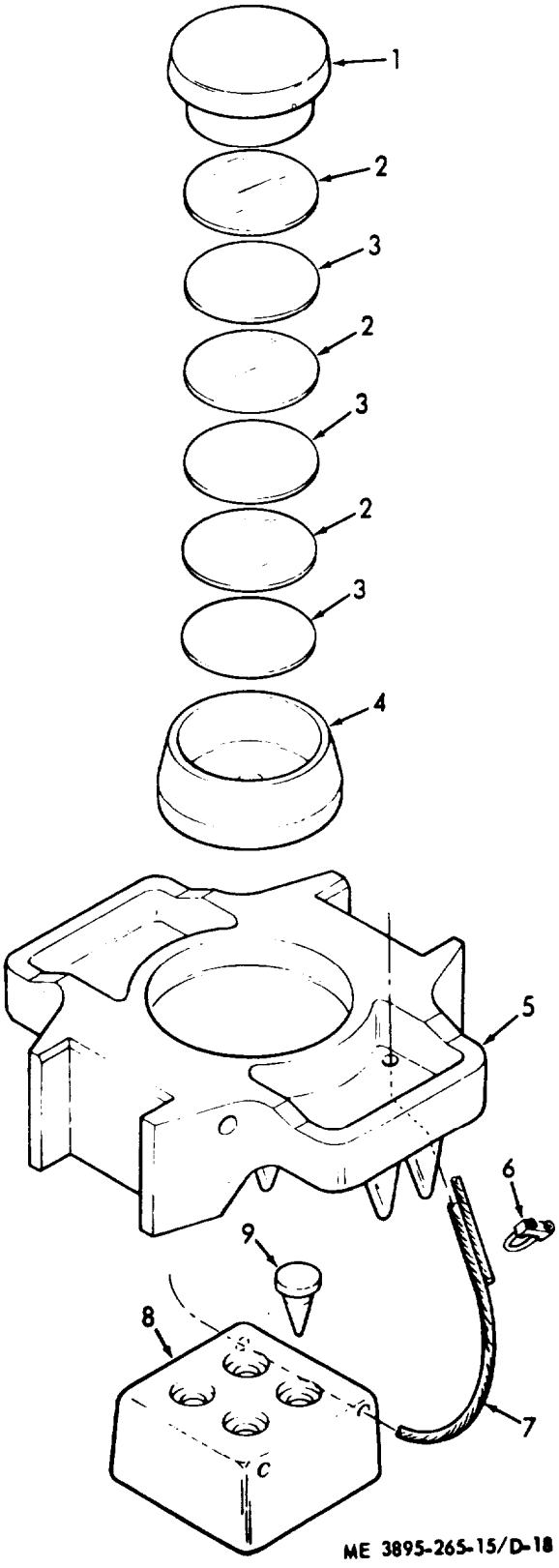


Figure D-18. Driving head and adapter.

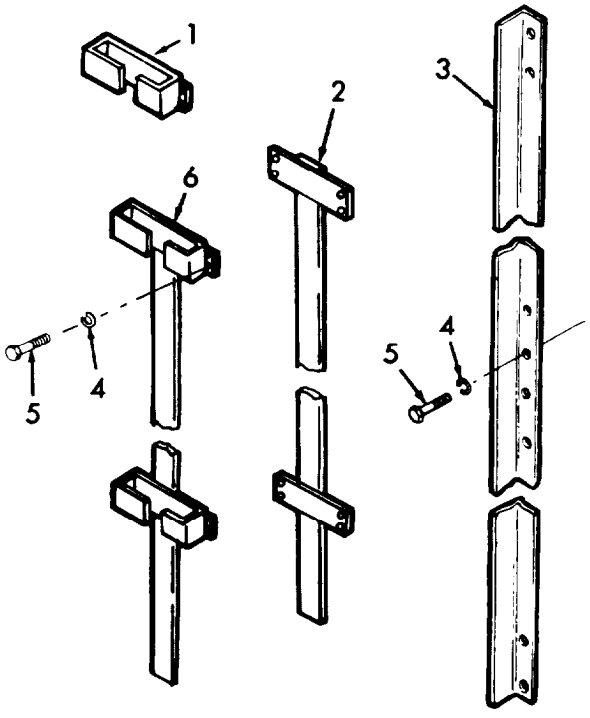


Figure D-19. Guides and angles.

Section VII, INDEX- FEDERAL STOCK NUMBER AND REFERENCE NUMBER CROSS-REFERENCE TO FIGURE AND ITEM NUMBER

Stock Number	FIGURE NO.	Item No.
1650-682-0610	D14	11
2815-687-05-0597	D16	22
2815-697-0599	D1	1
2815-682-0602	D17	25
2815-682-0603	D8	18
2910-105-6093	D13	4
2910-105-6094	D13	2
2910-105-6095	D12	10
2910-105-6096	D11	1
2910-105-6098	D11	2
2910-105-6100	D10	5
2910-105-6101	D14	
2910-105-6102	D14	3
2910-105-6997	D11	19
2917-105-9248	D11	21
2910-105-9249	D11	20
2910-105-9250	D11	18
2910-175-9251	D11	5
2910-105-9252	D5	7
2910-105-9253	D10	24
2910-105-9254	D10	18
2910-105-9255	D10	29
2910-105-9256	D10	2
2910-297-6692	D10	23
2910-511-2370	D11	6
2940-105-6089	D6	4
2940-105-6090	D6	3
2940-l05-6091	D6	2
2940-105-6099	D5	
3040-603-0355	D8	10
305-105-6848	D11	22
310-739-4470	D16	40
3110-198-1051	D5	7
3810-475-9136	D17	7
3895-010-1376	D2	10
3895-073-4338	D17	11
3895-076-1371	D5	10
3895-104-6620	D1	22
3895-104-6622	D1	
	D1	7
3895-105-0401	D16	27
3895-105-9452	D16	4
3095-105-0403	D17	1
3895-105-0404	D17	4
3895-105-0405	D17	14
3895-105-0406	D17	18
3895-105-0407	D15	16
3895-105-0408	D17	10
3895-105-0409	D1	24
3895-105-0410	D4	7
3895-l05-0411	D10	26
3895-105-3412	D10	21
3895-105-0413	D8	14
3895-105-0414	D3	4
1895-105-1415	D1	12
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3895-105-9247	D4	9
3895-106-5641	D4	15
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3895-603-0165	D18	9
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3895-603-0322	D18	3
3895-603-0323	D19	2
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3495-603-0327	D2	5
3895-603-0359	D8	4
3895-613-0386	D9	11
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3895-603-0596	D10	1b
3895-603-0694	D10	22
3895-603-0842	D5	7
3895-603-0885	D11	1
3895-603-0897	D11	17
3895-603-0945	D13	3
3895-603-0948	D6	9
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3895-603-1386	D16	15
3895-603-1215	D17	1
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3895-657-9414	D8	13
3895-657-9932	D10	28
3895-658-0101	D10	11
3895-658-0210	D16	28
3895-658-0322	D16	11
3895-658-0323	D16	5
3895-682-0600	DC	13
3895-754-4070	D18	5
3895-854-6327	D15	13
3895-855-5598	D9	10
3895-929-0745	D18	1
3895-929-8186	D8	5
3895-930-2532	D8	25
3895-936-5209	D11	11
4010-105-4237	D8	
4010-191-0091	D16	1
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4720-603-0424	D9	1
4720-603-0429	D7	4
4720-603-0452	D7	7
4720-603-0458	D7	5
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4730-042-8988	D16	16
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4730-050-4208	D1	26
	D2	13
	D4	10
4730-105-6031	D15	9
4730-106-1741	D9	5
4710-194-1171	D15	8
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4730-288-7829	D1	4
4730-318-6661	D15	10
4730-544-2400	D14	in
4730-657-9723	D5	12
4730-791-6031	D16	11
4730-027-7616	D16	17
4730-904-3965	D17	7
4730-457-7445	D16	45
4730-979-9915	D7	1
4820-603-0955	D16	35
5305-017-2119	D11	7
5305-012-3605	D3	1
	D14	2
5305-018-1648	D15	11
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5305-105-6847	D16	29
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5305-530-9298	D15	14
5305-543-4501	D10	3
5305-543-4892	D1	5
	D12	5
5305-558-3692	D17	21
5305-558-4899	D11	9
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5310-105-4175	D14	5
5310-105-4177	D2	26
	D6	1
5310-105-4178	D1	3
5310-105-4183	D1	21
5319-105-4184	D16	21
5319-105-4185	D4	6
5310-105-4186	D4	2
5310-209-2976	D1	6
	D1	10
	D11	13
	D12	4
5310-209-2977	D2	30
5310-261-7340	D2	24
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	D7	3
	D9	1
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5310-265-9219	D1	9
	D11	8
5310-595-7473	D13	1
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5315-252-5992	D17	19
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5315-603-4868	D8	6
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5310-196-5382	D6	5
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1X1792	36422	D5	1
1Xl80	36422	D16	3
1X20	36422	D3	2
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	36422	D13	11
lX209	36422	D15	11
1X214	36422	D3	3
	36422	D14	2
1X2164	36422	D4	4
1X2198	36422	D9	9
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1X2234	36422	D1	20
1X2242	36422	D16	24
1X2249	36422	D1	18
1X2251	36422	D11	9
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1X2381	36422	D16	29
1X2437	36422	D16	4
1X2449	36422	D6	1
	36422	D13	1
IX25	36422	D14	8
1X2515	36422	D1	19
1X2577	36422	D8	1
lx26	36422	D16	13
IX2618	36472	D1	5
	36422	D12	5
lX2619	36422	D12	3
lX2670	36422	D7	2
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	36422	D2	8
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	36422	D1	17
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	36422	D11	6
	36422	D13	10
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	36422	D2	30
	36422	D14	1
1X31	36422	D1	6
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1X485	36422	D17	12
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15H33	36422	D11	19
I5H37	36422	D14	6
15H39	36422	D7	5
15H41	36422	D9	1
15H43	36422	D12	6
15H47	36422	D14	
15H54	36422	D12	1
15H55	36422	D6	3
15H57	36422	D14	14
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15H63	36422	D11	18
15H67	36422	D7	7
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15H72	36422	D14	15
15H75	36422	D12	10
15J27	36422	D17	24
15J28	36422	D17	18
15J29	36422	D17	15
l5J30	36422	D15	12
15J31	36422	D15	5
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15J33	36422	D16	2
15L133	36422	D19	1
15L157	36422	D19	1
15L159	36422	D19	6
15L163	36422	D19	2
15N12	36422	D11	11
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15N15	36422	D2	19
15N17	36422	D2	21
15N19	36422	D2	20
	36422	D3	6
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5Z526	36422	D2	2
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5133-75	79136	D8	20
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7Z103	36422	D2	29
77108	36422	D2	4
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7Z139	36422	D1	1
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7Z297	36422	D2	11
7Z30	36422	D10	1
7Z315	36422	D4	5
7Z345	36422	D11	15
7Z360	36422	D2	14
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7Z430	36422	D2	22
7Z431	36422	D9	lb
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7Z449	36422	D11	14
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7Z77	36422	D6	15
7Z78	36422	D8	11
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'NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

'VEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

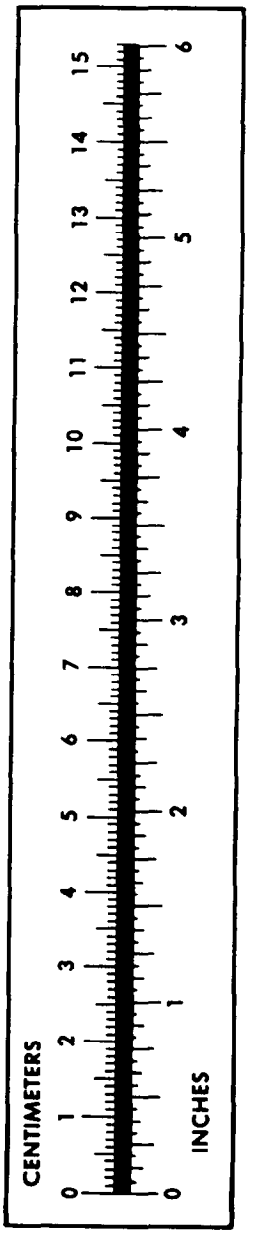
TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621



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