

# 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*Page 1-1.* Paragraph 1-2 is superseded as follows: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 (PLA)-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.



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 manufacturer'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 place.

*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 additional data and requisitioning purpose.  (2) See current LO for grade application and replenishment intervals.  (3) Tank capacity (4) Three (3) pumps for each fitting after every hour of operation.
	9150-680-1099 (1)	HDO-30	1.9 gal (20)	1.6 gal	
	9150-265-7603 (1)	OES	1.9 gal	1.6 gal	
	FUEL OIL, DIESEL:				
	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	
0306-TANK, FUEL	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 ARTILLERY: 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:



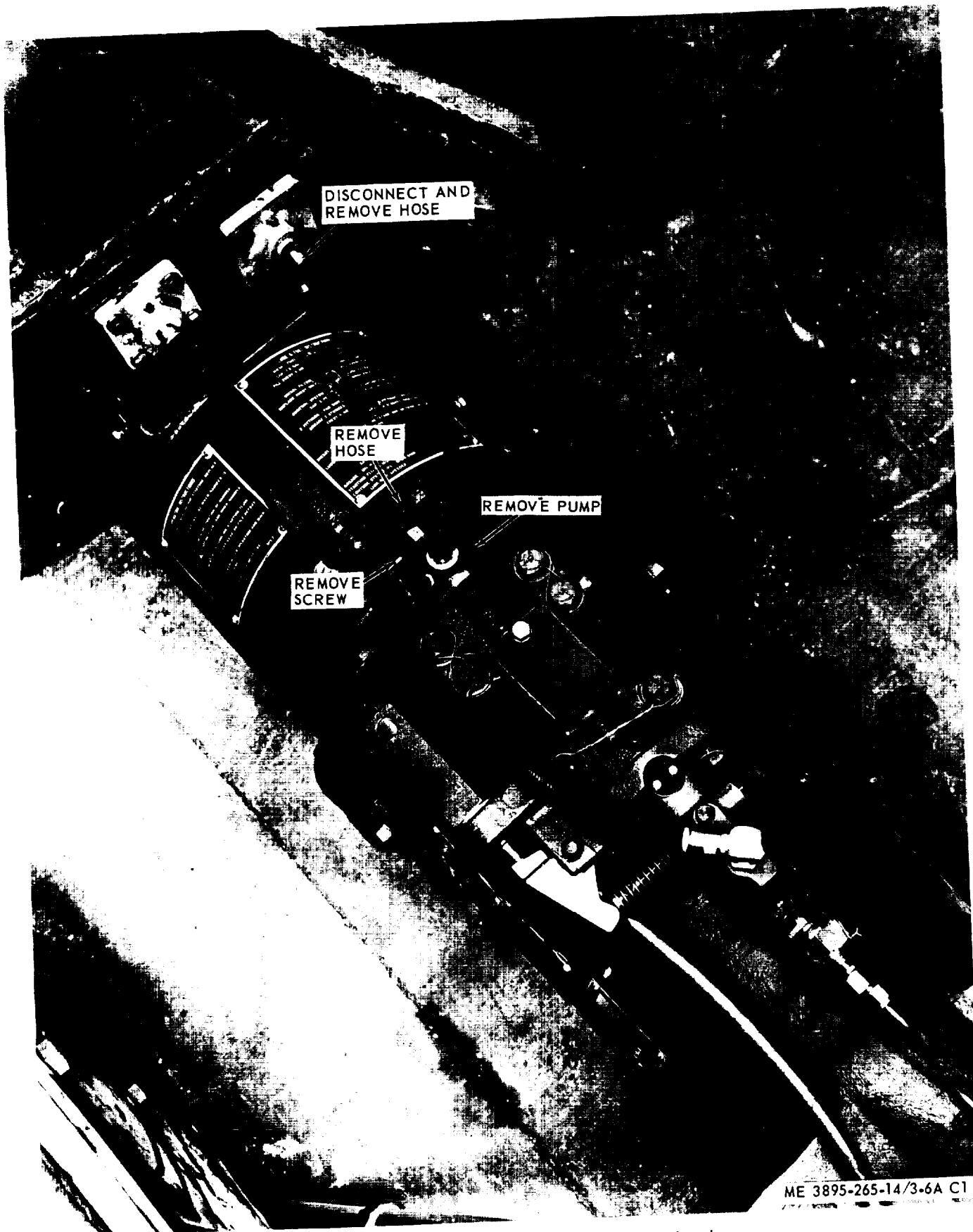


Figure 3-6A. Lubricating oil lines and pump removal and installation (SN 180M 3001 through 180M 3170).



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

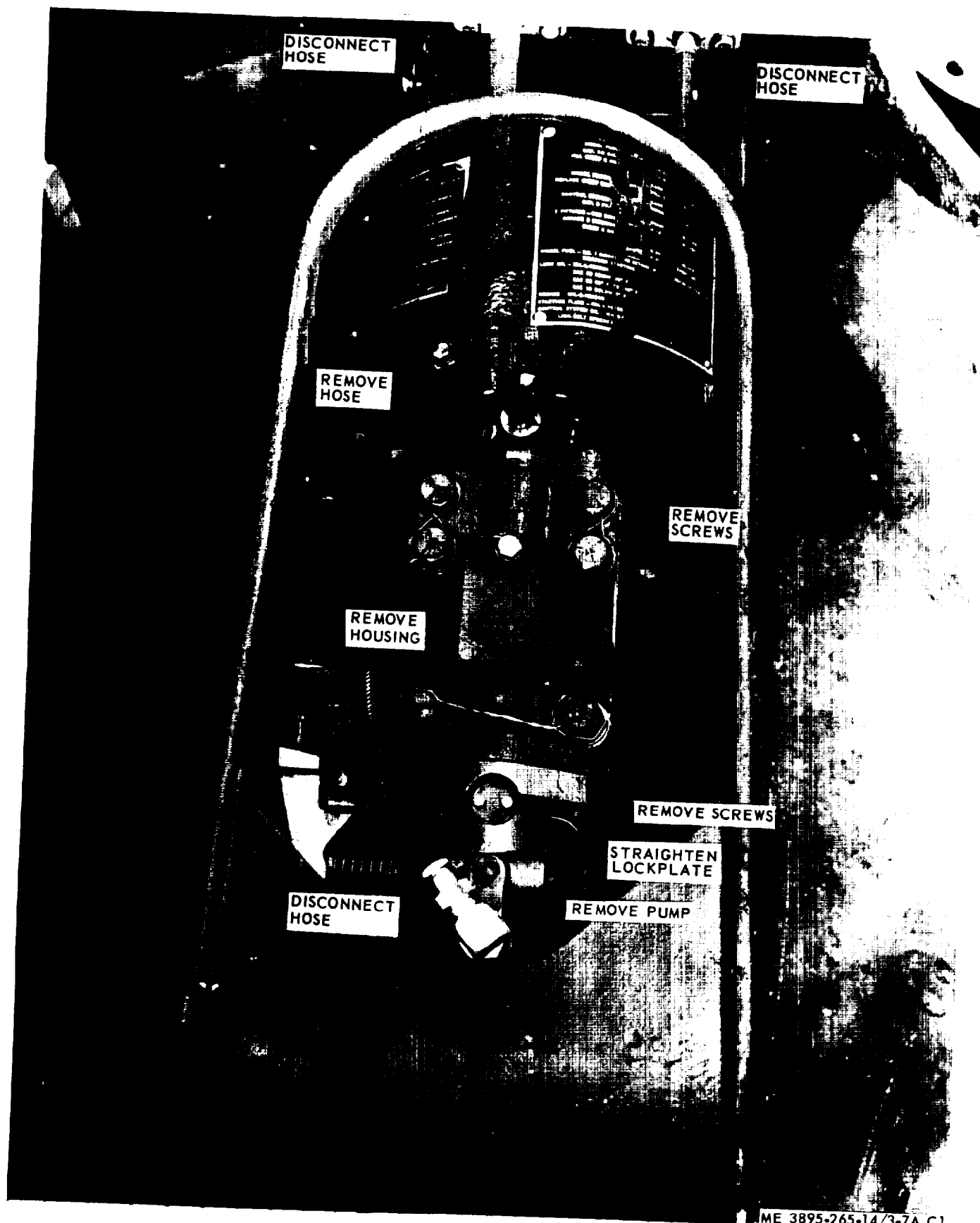


Figure 3-7A. Fuel lines, fuel tank, fuel pump, and fuel pump drive housing removal and installation (SN 180M-3001 through 180M-3170).

ME 3895-265-14/3-7A C1



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

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

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

Paragraph 6-3d (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 6-4a, line 2, after 3-7, add "or figure 3-7A."

*Page 6-4.* In paragraph 6-5b (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 4a, 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, add 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 1A 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**  
*Major 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*

	Paragraph	Page
CHAPTER 1. INTRODUCTION		
Section I. General -----	1-1, 1-2	1-1
II. Description and data-----	1-3—1-5	1-3—1-4
CHAPTER 2. INSTALLATION AND OPERATING INSTRUCTIONS		
Section I. Service upon receipt of equipment -----	2-1—2-3	2-1
II. Movement to a new worksite -----	2-4, 2-5	2-3
III. Controls and Instruments -----	2-6 2-7	2-4
IV. Operation under usual conditions -----	2-8—2-11	2-5—2-6
V. Operation under unusual conditions -----	2-12—2-17	2-9
CHAPTER 3. OPERATOR AND ORGANIZATIONAL MAINTENANCE INSTRUCTIONS		
Section I. Operator and organizational maintenance repair parts, tools, and equipment -----	3-1, 3-2	3-1
II. Lubrication -----	3-3, 3-4	3-1
III. Preventive maintenance checks and services -----	3-5, 3-6	3-1
IV. Operator's maintenance -----	3-7—3-11	3-2—3-4
V. Troubleshooting -----	3-12	3-4
VI. Lubrication system -----	3-13—3-16	3-5—3-6
VII. Fuel system -----	3-17—3-21	3-6—3-7
VIII. Hydraulic control system -----	3-22—3-26	3-7—3-9
IX. Starting device -----	3-27—3-29	3-9—3-10
X. Driving head and adapter -----	3-30, 3-31	3-10
CHAPTER 4. SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE		
Section I. Shipment and limited storage -----	4-1—4-2	4-1
II. Demolition of hammer to prevent enemy use -----	4-5—4-9	4-1—4-2
CHAPTER 5. DIRECT AND GENERAL SUPPORT MAINTENANCE -----		
Section I. General -----	5-1, 5-2	5-1
II. Description and data -----	5-3, 5-4	5-1
III. Repair parts, special tools, and equipment -----	5-5—5-7	5-1—5-2
IV. Troubleshooting -----	5-8	5-2
CHAPTER 6. REPAIR INSTRUCTIONS		
Section I. Cylinder head -----	6-1, 6-2	6-1
II. Lubrication system -----	6-3	6-1
III. Fuel system -----	6-4—6-6	6-2—6-4
IV. Cylinders and ram -----	6-7—6-10	6-7—6-9
v. Hydraulic control system -----	6-11—6-14	6-11—6-13
APPENDIX A. REFERENCES -----		A-1
B. Basic issue items list -----		B-1
C. Maintenance allocation chart -----		C-1
D. Repairs parts list -----		D-1
Index-----		Index 1

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



## LIST OF ILLUSTRATIONS

Number	Title	Page
1-1	Diesel Pile Hammer, Right-rear, Three Quarter View With Shipping Dimensions -----	1-2
1-2	Diesel Pile Hammer, Left-front, Three Quarter View -----	1-2
2-1	Separately Packed Components -----	2-2
	Hydraulic Control System and Guide Angles, Removal and Installation -----	2-3
2-3	Adapter Assembly -----	2-4
2-4	Driving Head and Adapter Assembly, Removal and Installation -----	2-4
2-5	Diesel Pile Hammer Controls -----	2-5
2-6	Exhaust Intake and Vent Covers, Removal and Installation -----	2-6
2-7	Bleeding the Hydraulic System -----	2-7
2-8	Engaging the Starting Device -----	2-8
2-9	Starting Fluid Injector, Removal and Installation -----	2-9
3-1	Fuel Filter Assembly, Removal and Installation -----	3-3
3-2	Fuel Filter, Exploded View -----	3-3
3-3	Lubricating Oil Filter, Removal and Installation -----	3-3
3-4	Lubricating Oil Filter, Exploded View -----	3-3
3-5	Starting Fluid Injector Filter Screen, Removal and Installation -----	3-4
3-6	Lubricating Oil Lines and Pump, Removal and Installation -----	3-6
3-7	Fuel Lines, Fuel Tank, Fuel Pump, and Fuel Pump Drive Housing, Removal and	
3-8	Installation -----	3-6
	Starting Fluid Injector, Exploded View -----	3-7
3-9	Hydraulic Hose, Receiver, and Transmitter Removal and Installation -----	3-8
3-10	Hydraulic Relief Valve, Removal and Installation -----	3-10
3-11	Starting Device, Exploded View -----	3-11
3-12	Pile Contours Fitting Driving Head -----	3-12
4-1	Placement of Charges -----	4-2
6-1	Cylinder Head, Removal and Installation -----	6-1
6-2	Oil Pump, Exploded View -----	6-2
6-3	Fuel Pump, Exploded View -----	6-3
6-4	Fuel Pump Timing -----	6-4
6-6	Fuel Pump Drive System and Lower Cylinder, Exploded View -----	6-5
6-6	Fuel Injector -----	6-6
6-7	Nozzle Spray Pattern -----	6-6
6-8	Upper and Lower Cylinders Removal and Installation -----	6-7
6-9	Upper Cylinder, Exploded View -----	6-8
6-10	Ram, Anvil, and Recoil Dampener, Exploded View -----	6-10
6-11	Hydraulic Receiver, Exploded View -----	6-11
6-12	Hydraulic Transmitter and Relief Valve, Exploded View -----	6-12
6-13	Transmitter Handle Adjustment -----	6-13
D-1	Upper Cylinder -----	D-36
D-2	Lower Cylinder -----	D-37
D-3	Air Intake Cover -----	D-38
D-4	Ram, Anvil and Recoil Dampener -----	D-39
D-5	Lubricating Oil Pump -----	D-40
D-6	Lubricating Oil Filter -----	D-41
D-7	Lubricating Oil Lines and Fittings -----	D-41
D-8	Starting Device -----	D-42
D-9	Fuel Injector, Lines and Fittings -----	D-43
D-10	Fuel Pump -----	D-44
D-11	Pump Drive Assembly -----	D-45
D-12	Fuel and Lubrication Tank -----	D-46
D-13	Fuel Filter -----	D-47
D-14	Starting Fluid Injector -----	D-48
D-15	Hydraulic Hoses and Cables -----	D-48
D-16	Hydraulic Transmitter and Relief Valve -----	D-49
D-17	Hydraulic Receiver -----	D-50
D-18	Driving Head and Adapter -----	D-51
D-19	Guides and Angles -----	D-51



# 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.

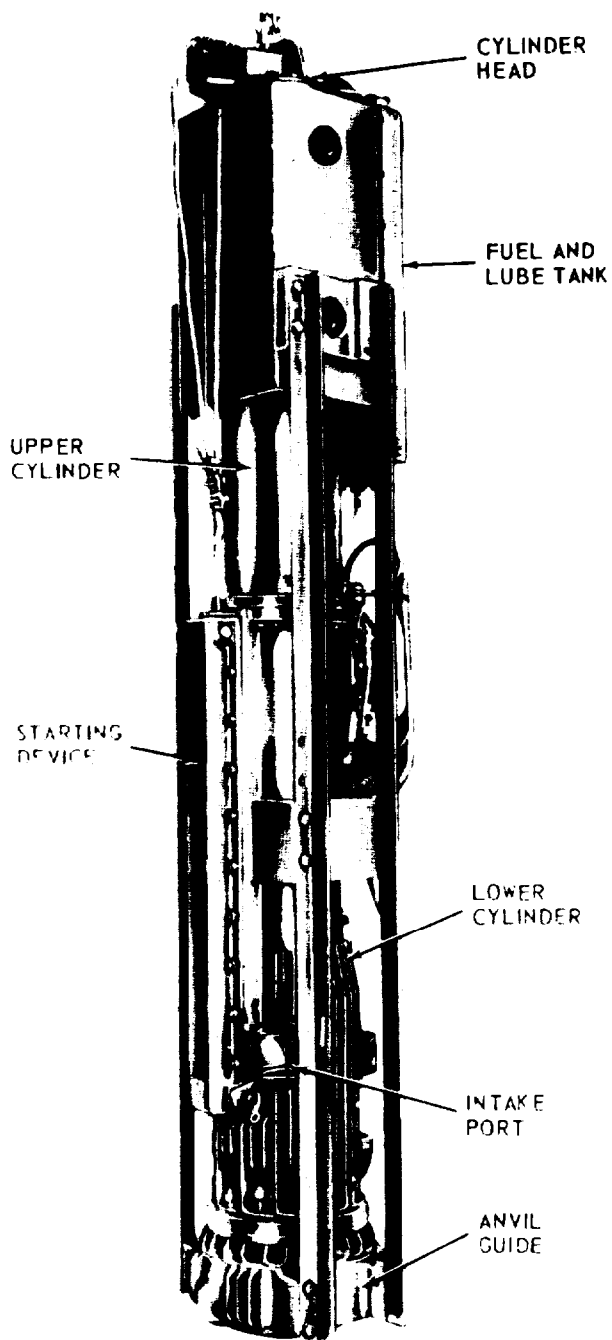
*b.* Numbers in parentheses on illustrations indicate quantity.

#### 1-2. Forms and Records

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

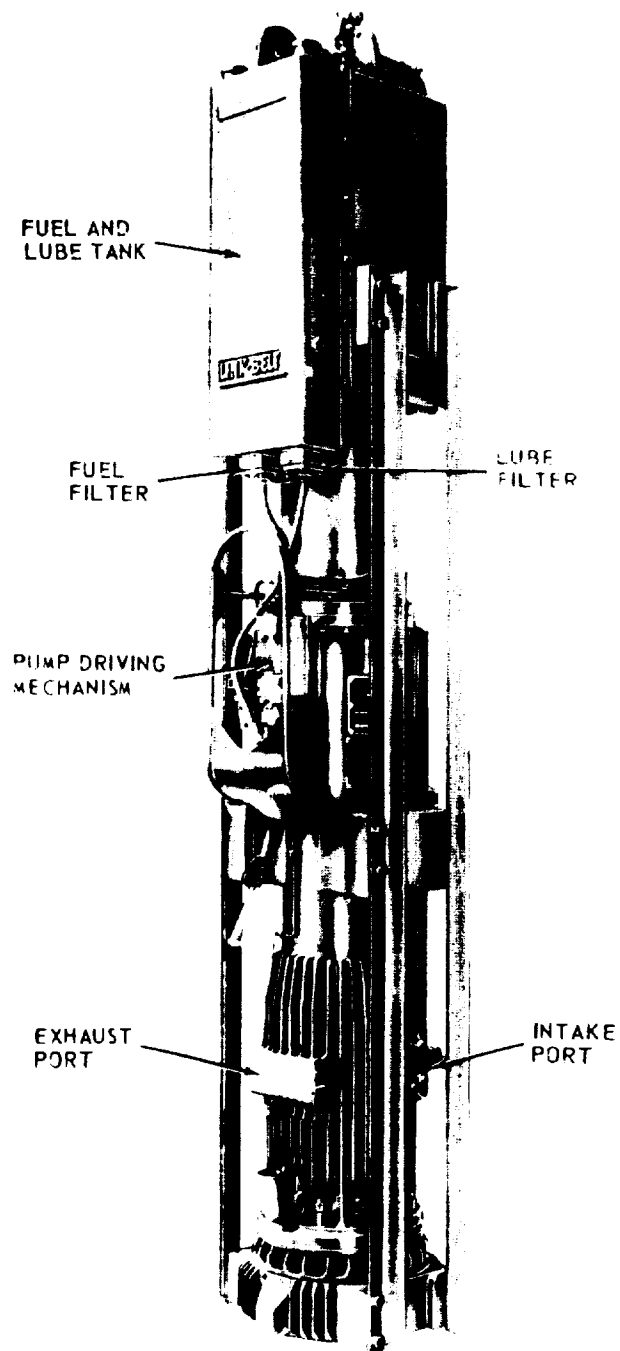
*b.* Report of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to the Commanding General, U. S. Army Mobility Equipment Command, ATTN: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





MEC 3895-265-15 / 1

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



MEC 3895-265-15 / 2

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 hammer.

Manufacturer	-----	Link-Belt Speeder
Model	-----	180M



(2) *Oil filter.*

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

(3) *Oil pump.*

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

(4) *Fuel filter.*

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

(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- 5Z1315  
629).  
Model (SN 180M-2001 through 180M- 13J45  
2122).

(8) *Hydraulic double relief valve.*

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

(9) *Hydraulic receiver.*

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

(10) *Capacities.*

Fuel oil tank  
(SN 180M-501 through 180M-629) ---6.5 gal  
(SN 180M-2001 through 180M- 5.5 gal  
2122).  
Lubrication oil system  
(SN 180M-501 through 180M-629) --- 2.1 gal  
(SN 180M-2001 through 180M- 1.9 gal  
2122).

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- 139 cu. ft.  
2122).  
Height (SN 180M-501 through 180M- 147 5/16 in.  
629).  
(including driving head and  
adapter).  
(SN 180M-2001 through 180M- 180 in.  
2122).  
Width (SN 180M-501 through 180M- **26 7/8** in.  
629).  
(including guide angles)  
(SN 180M-2001 through 36 in.  
180M-2122).  
Depth (SN 180M-501 through 180M- 28 in.  
629).  
(including driving head)  
(SN 180M-2001 through 37 in.  
180M-2122).  
Weight (SN 180M-501 through 180M- 5660 lbs.  
629).  
(including driving head, adap-  
ter, and guide angles).  
(SN 180M-2001 through 6500 lbs.  
180M-2122).

(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 1/2  
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**

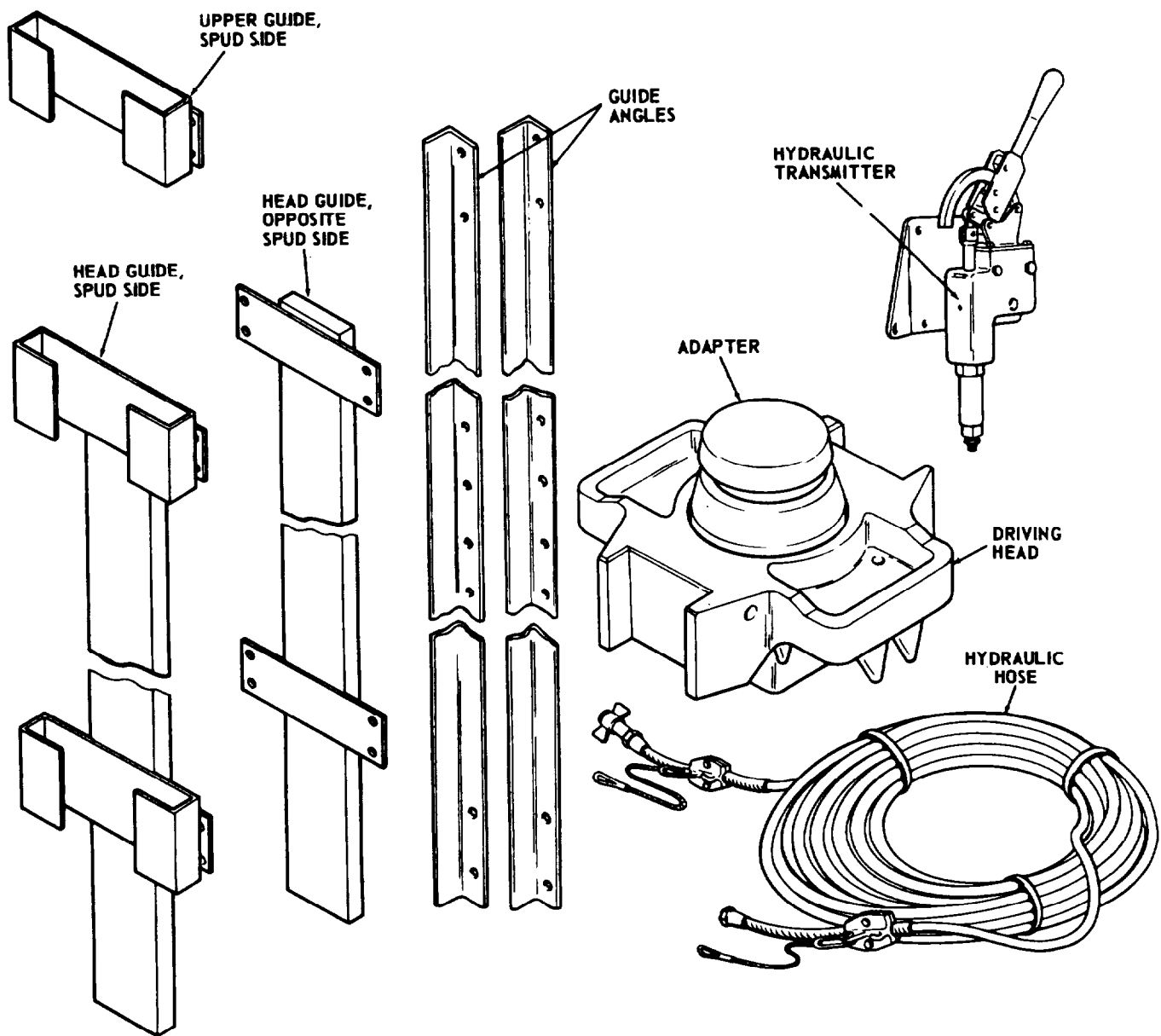
*a.* The hammer is delivered with the hydraulic control system, driving head and adapter, and guide angles packed separately. Refer to figure 2-1.

*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.





ME 3895-265-15/2-1

Figure 2-1. Separately packed components.



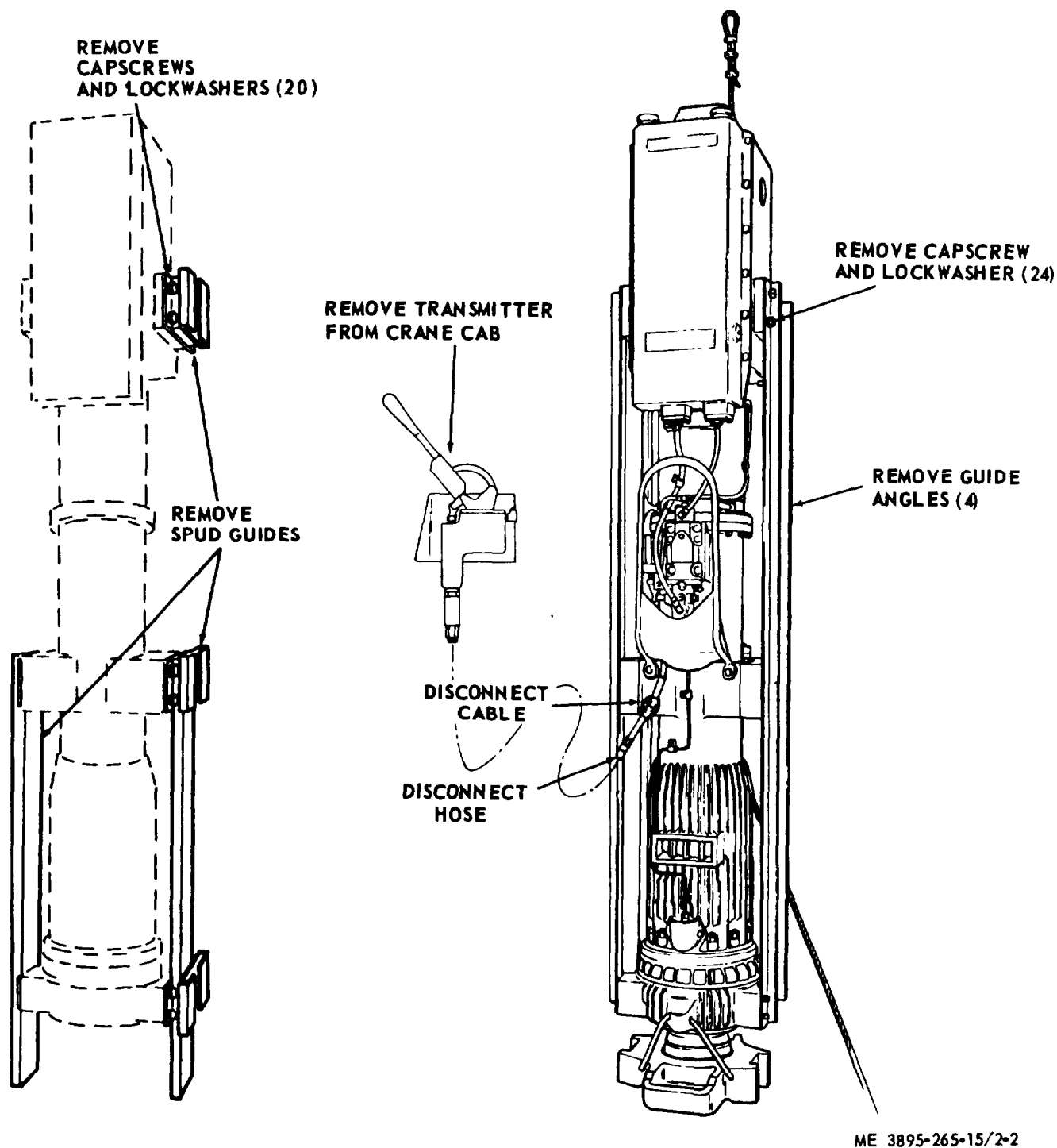


Figure 2-2. Hydraulic control systems and guide angles, removal and installation.

## Section II. MOVEMENT TO A NEW WORKSITE

### 2-4. Dismantling for Movement

- Disconnect the hydraulic control system (fig. 2-2).
- Disconnect the driving head and adapter assembly (fig. 2-4). Lift the hammer and acces-

sories 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

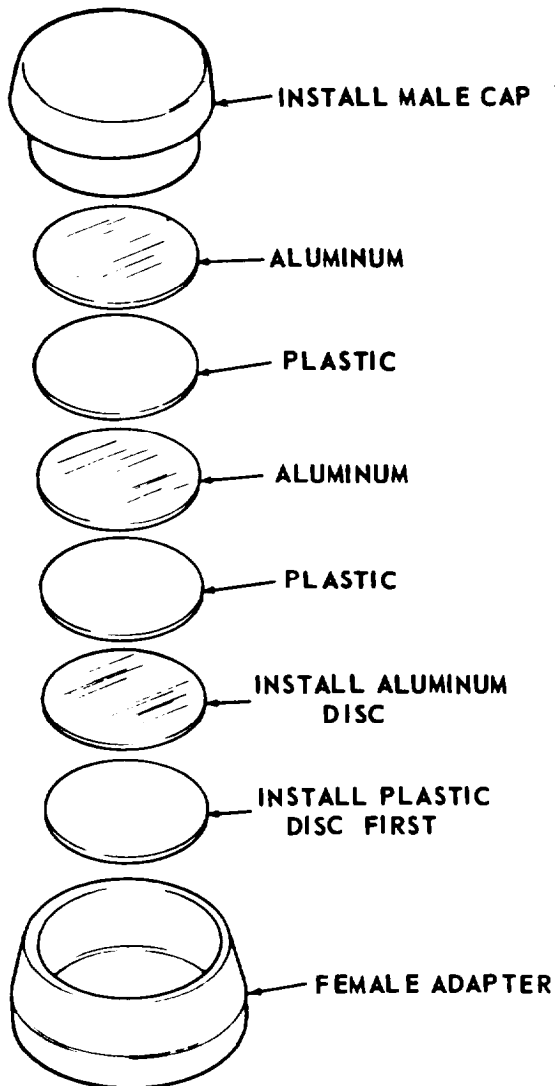
#### 2-6. General

This section describes, locates, illustrates, and furnishes the operator, crew or organizational maintenance personnel sufficient information pertain-

ing to the various controls provided for proper operation of the hammer.

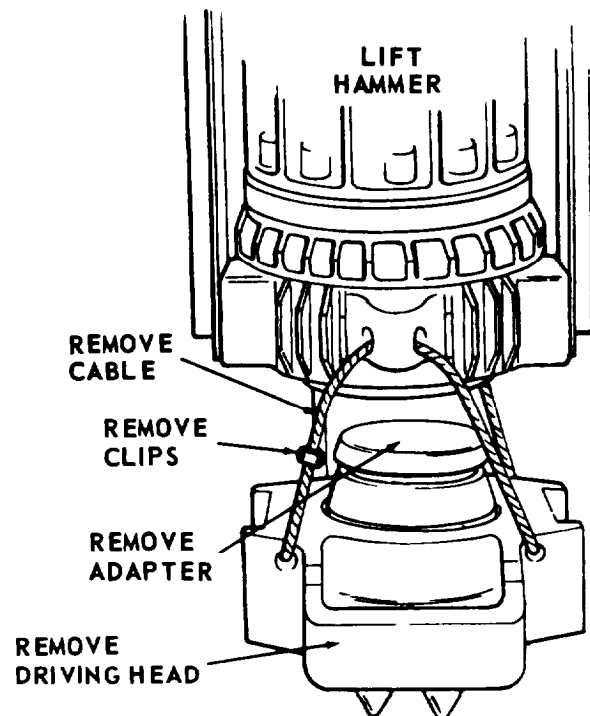
#### 2-7. Controls

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



MEC 3895-265-15/6

Figure 2-3. Adapter assembly.



MEC 3895-265-15/7

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



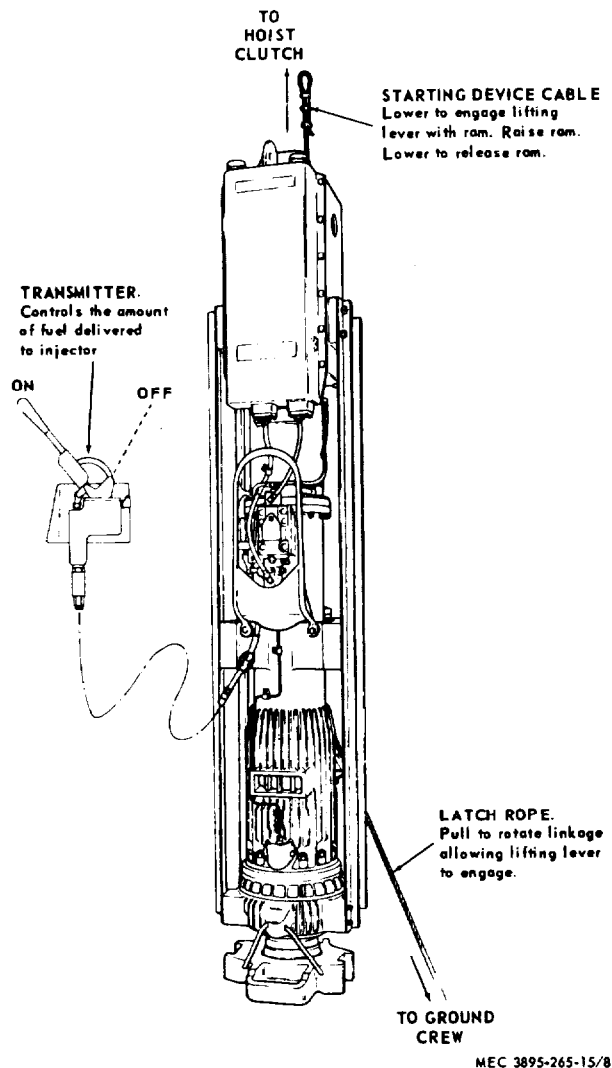


Figure 2-5. Diesel pile hammer controls.

## 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



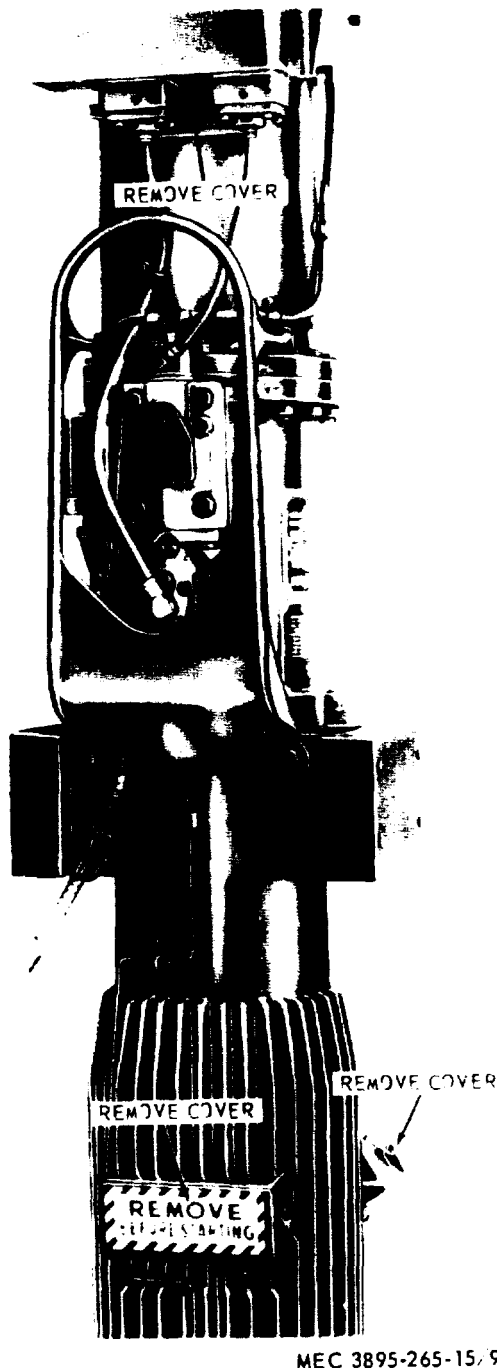


Figure 2-6. Exhaust intake, and vent covers, removal and installation.

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  $\frac{1}{2}$  to  $\frac{3}{4}$  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.

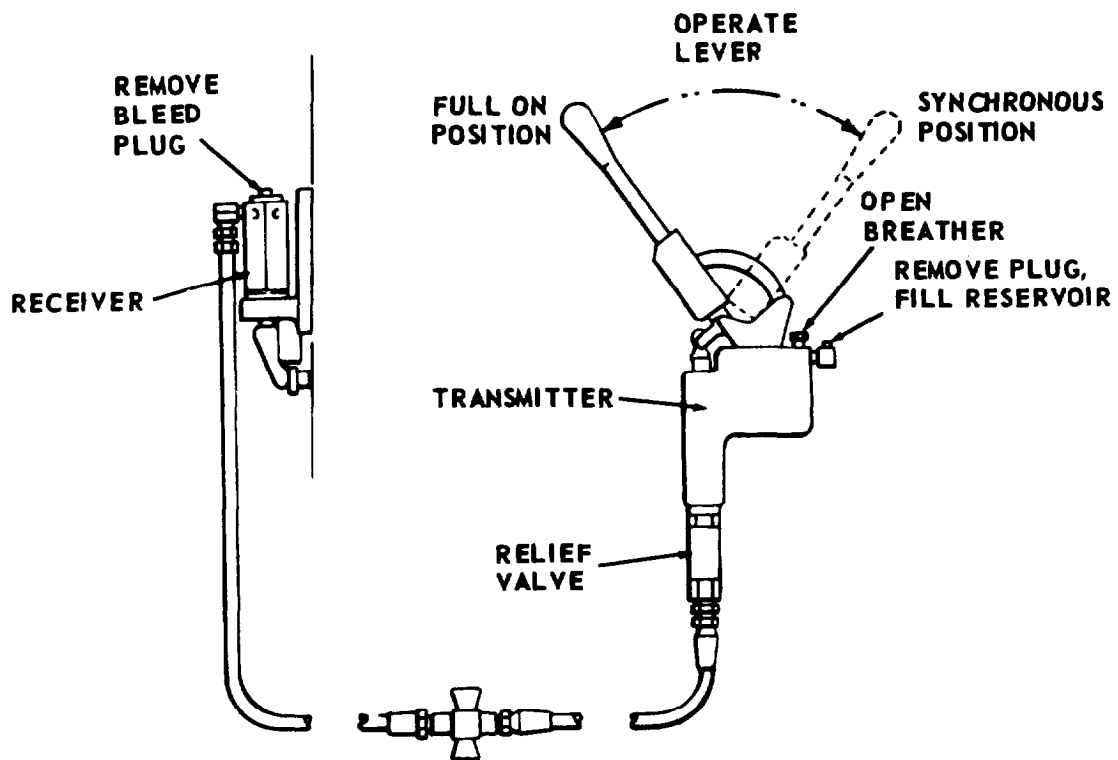
b. Perform the after-operation checks and services (table 3-1).

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

## 2-11. Operation of Equipment

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



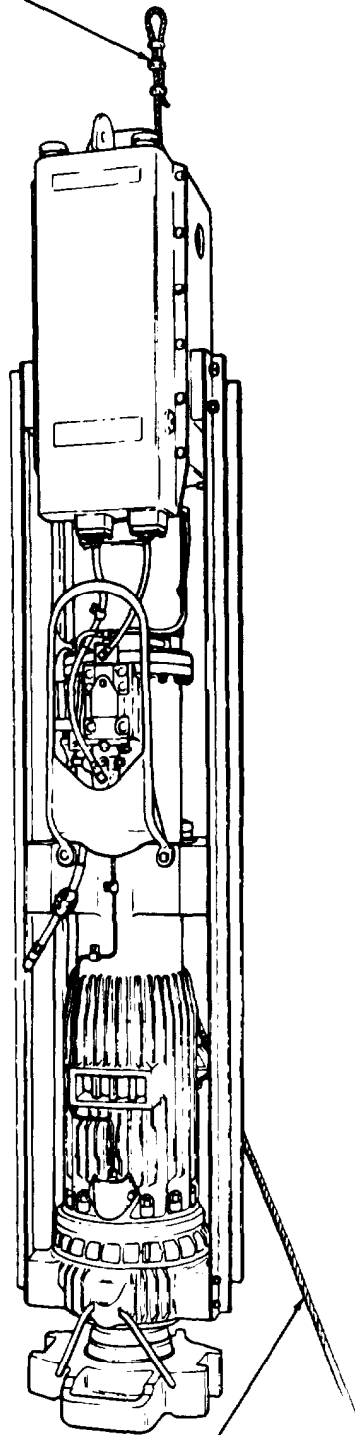


MEC 3895-265-15/10

Figure 2-7. Bleeding the hydraulic system.



STARTING DEVICE CABLE  
TO CRANE HOIST CLUTCH



LATCH ROPE TO  
GROUND CREW

MEC 3895-265-15/11

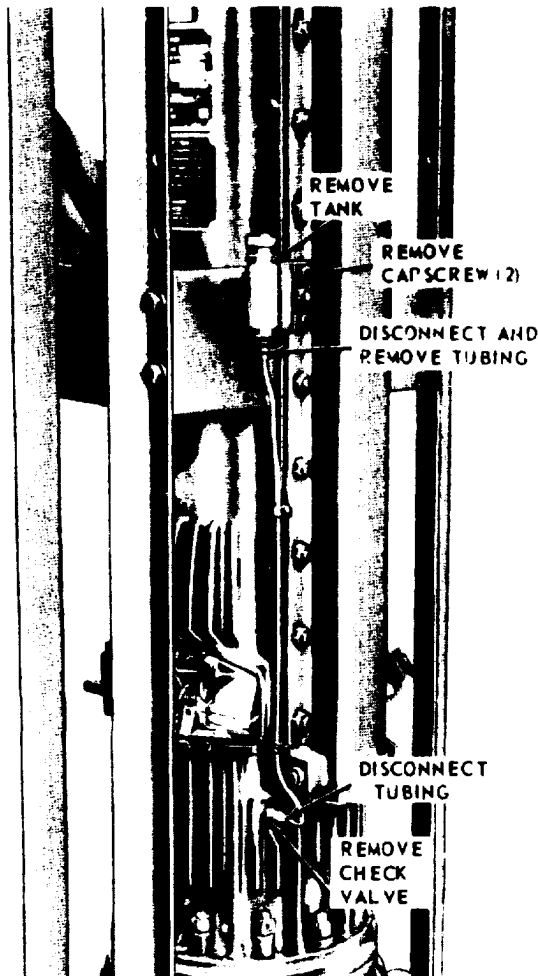
*Figure 2-8. Engaging the starting device.*



## 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.



MEC 3895-265-15.12

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 III. 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 be 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.  <i>Note 1. OPERATIONAL TEST.</i> During operation observe for any unusual noise or vibration.  <i>Note 2. ADJUSTMENT.</i> Make all necessary adjustments during operational tests.	Paragraph 3-9

## 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.



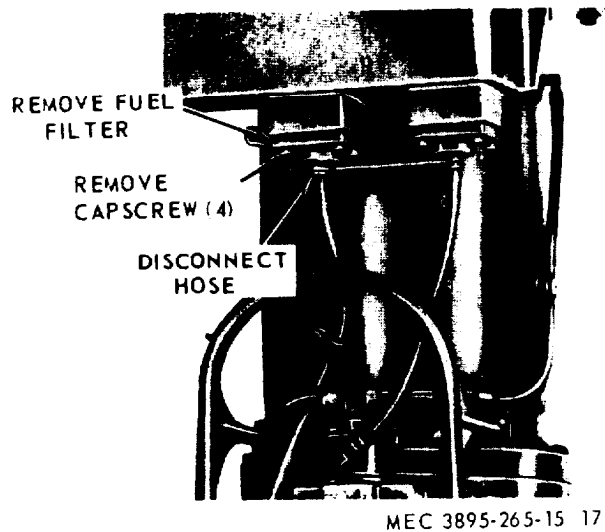


Figure 3-1. Fuel filter assembly, removal and installation.

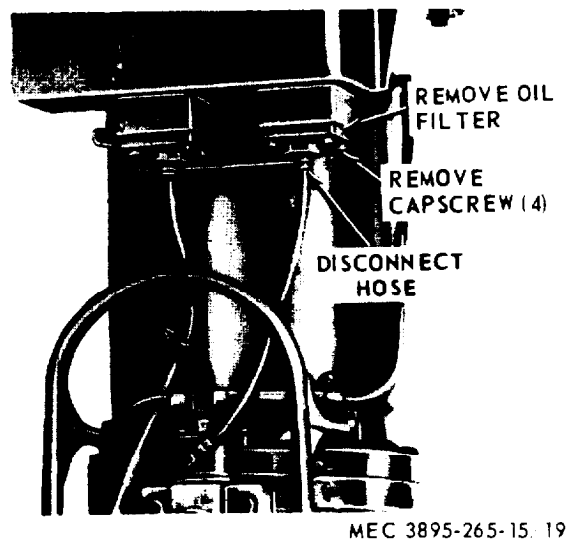
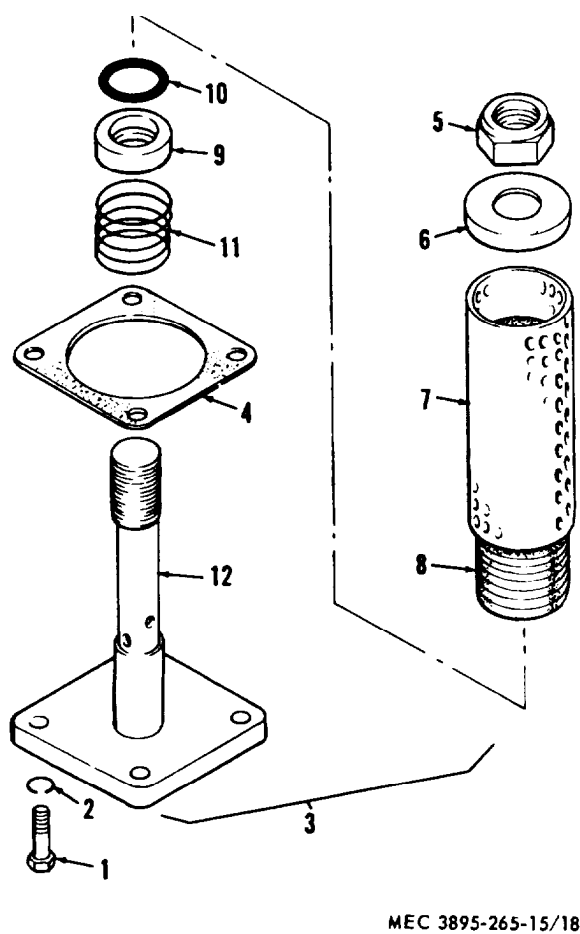
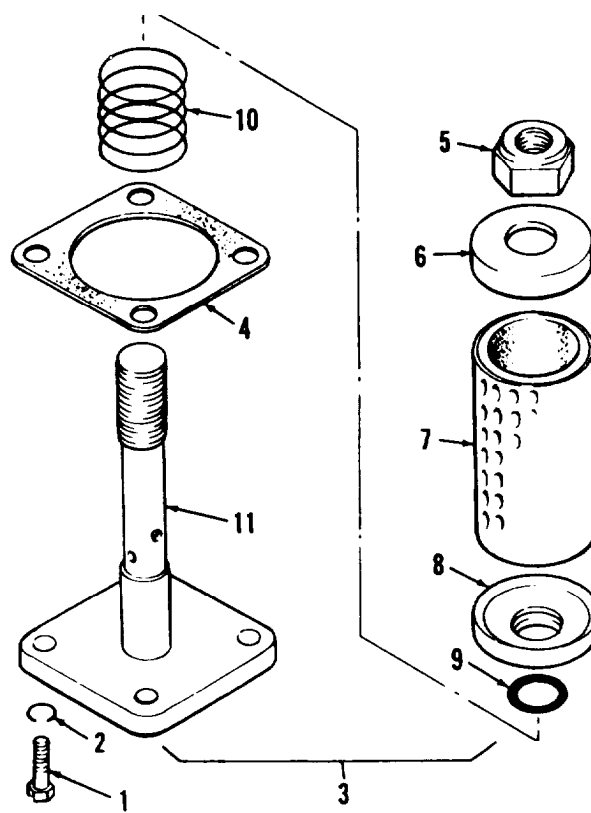


Figure 3-3. Lubricating oil filter, removal and installation.



- |          |           |                     |
|----------|-----------|---------------------|
| 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   |                     |

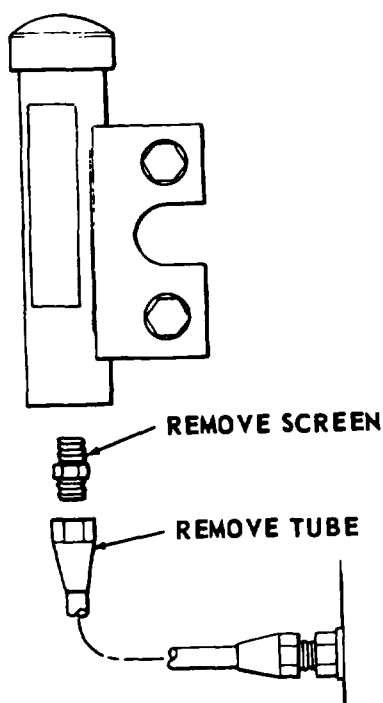
Figure 3-2. Fuel filter, exploded view.



- |              |           |
|--------------|-----------|
| 1 Screw      | 6 Plate   |
| 2 Lockwasher | 7 Element |
| 3 Filter     | 8 Plate   |
| 4 Gasket     | 9 O-ring  |
| 5 Nut        | 10 Spring |
|              | 11 Head   |

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





MEC 3895-265-15/21

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, drop 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).



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

## 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 supplied 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.

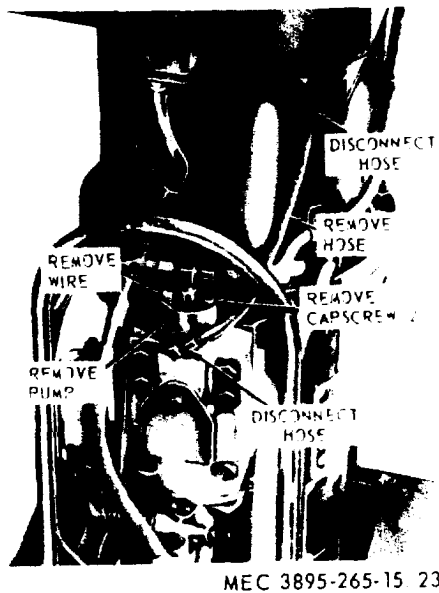
### 3-14. Oil lines

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

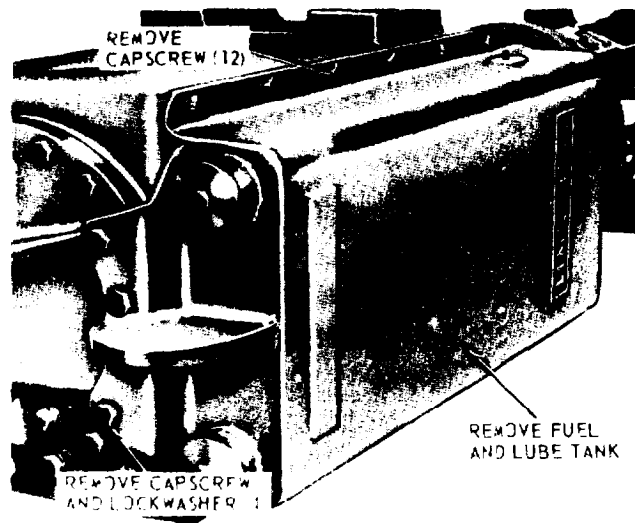
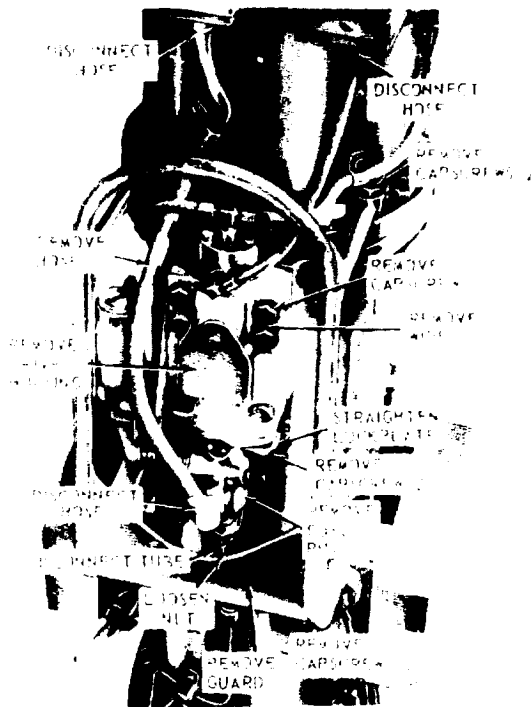
*b. Cleaning and Inspection.*

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





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



*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.

(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

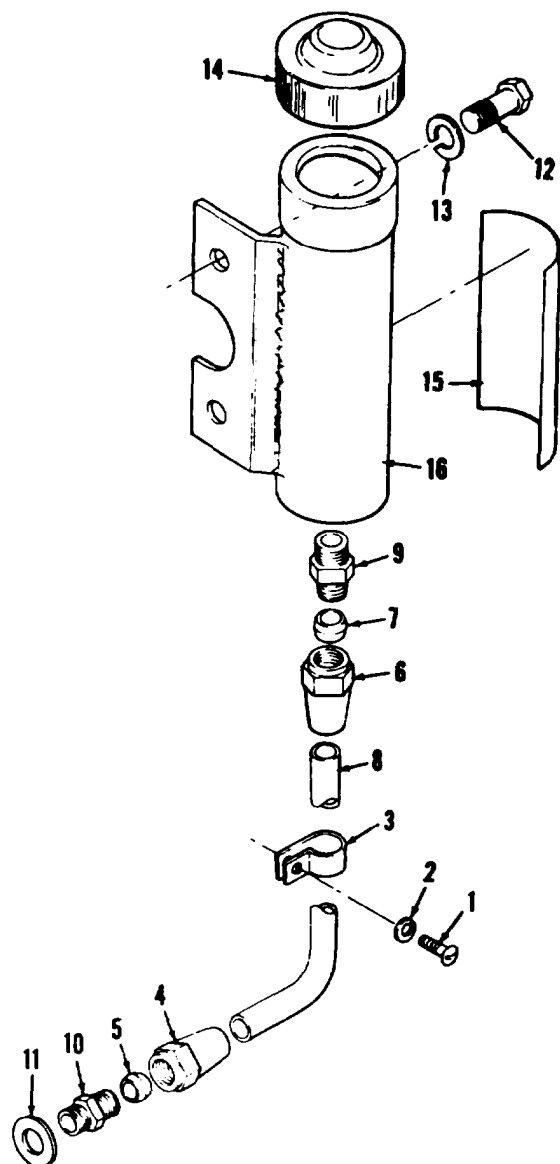
- a. Removal and Installation. Refer to figure 3-6 to remove and install the oil pump.

*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.





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.

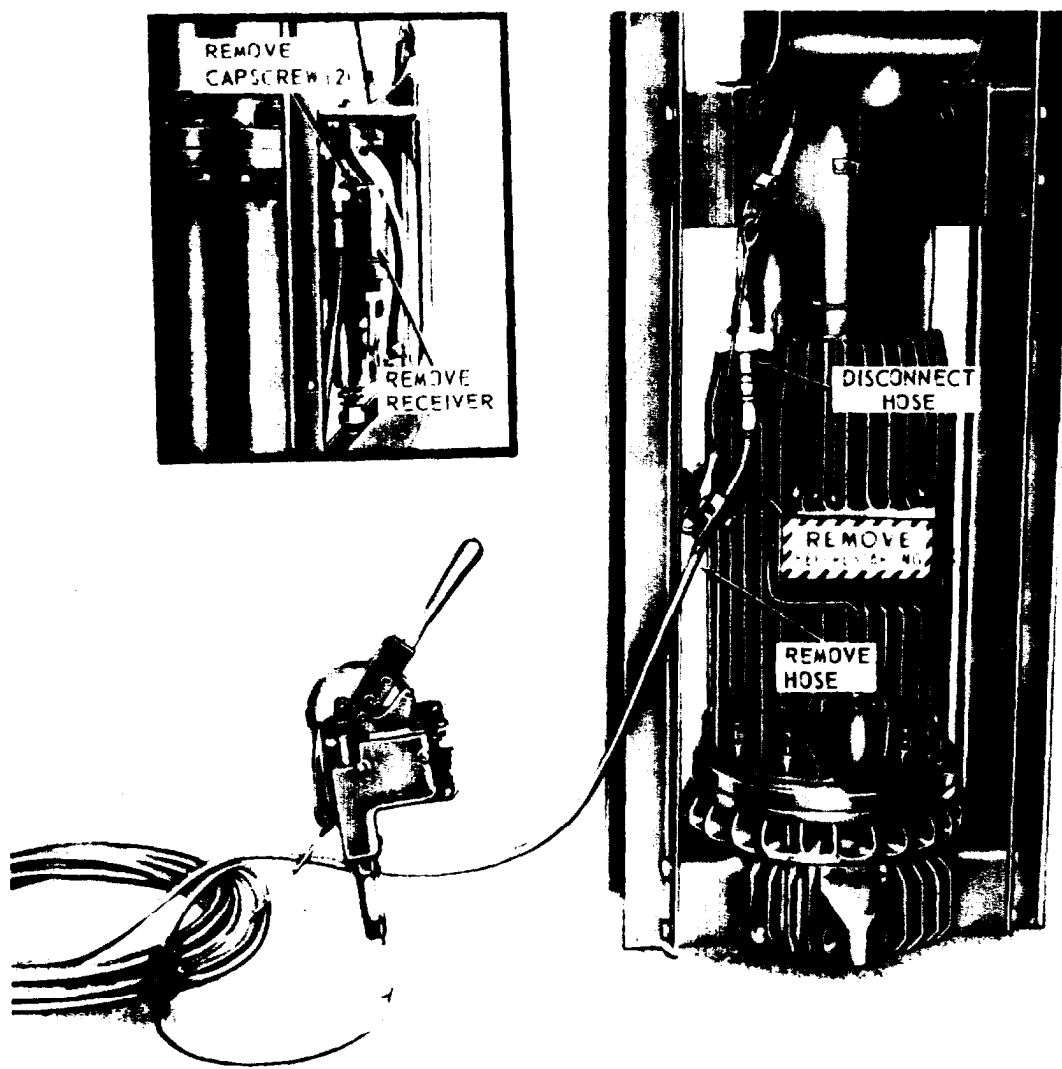


Figure 3-9. Hydraulic hose, receiver, and transmitter, removal and installation.



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).

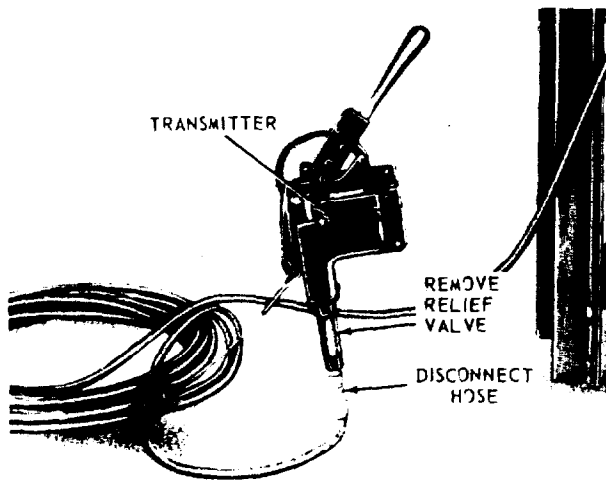
## **Section IX. STARTING DEVICE**

### **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.





MEC 3895-265-15 34

*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.

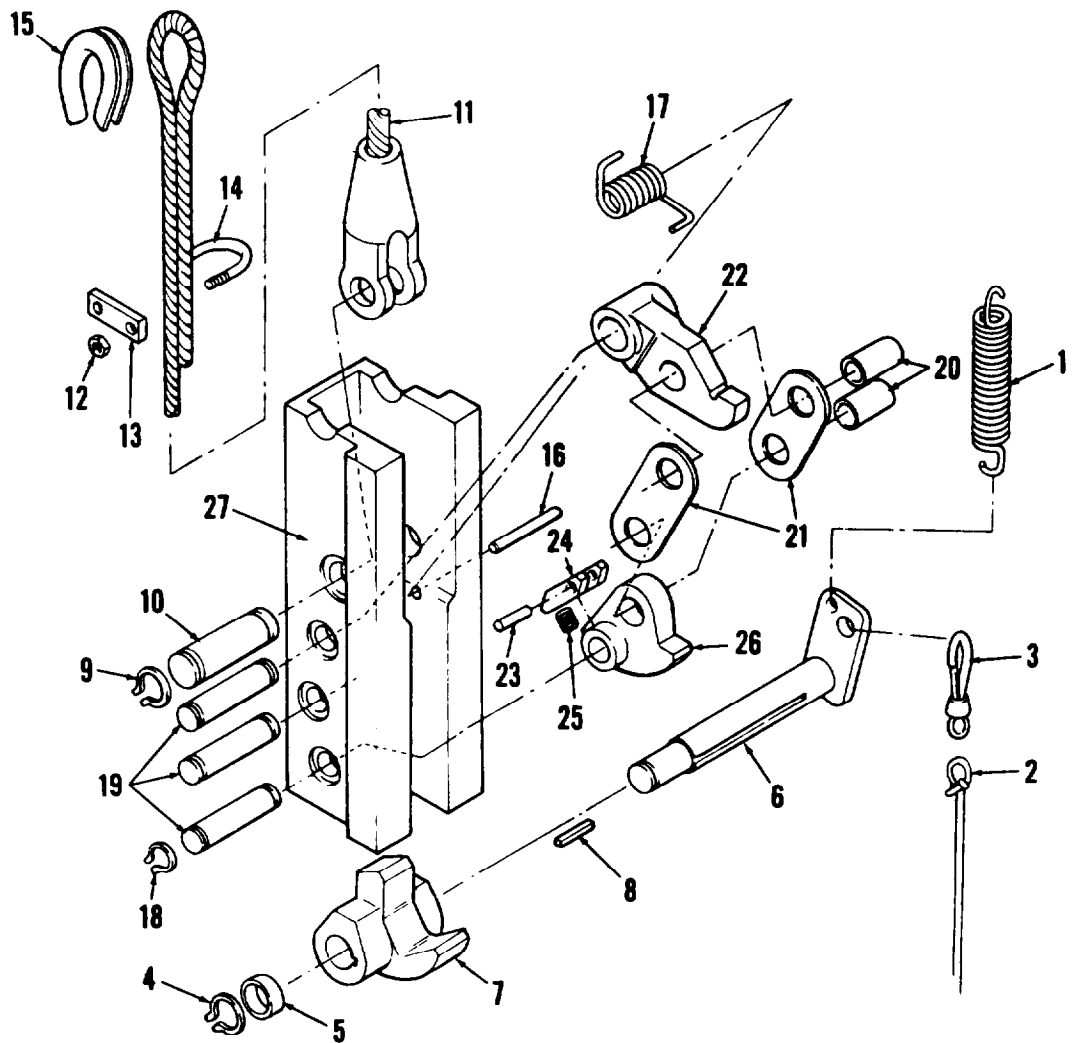
### 3-31. Removal, Installation, Cleaning and Inspection

- 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.





MEC 3895-265-15/35

- |                   |              |               |            |
|-------------------|--------------|---------------|------------|
| 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.



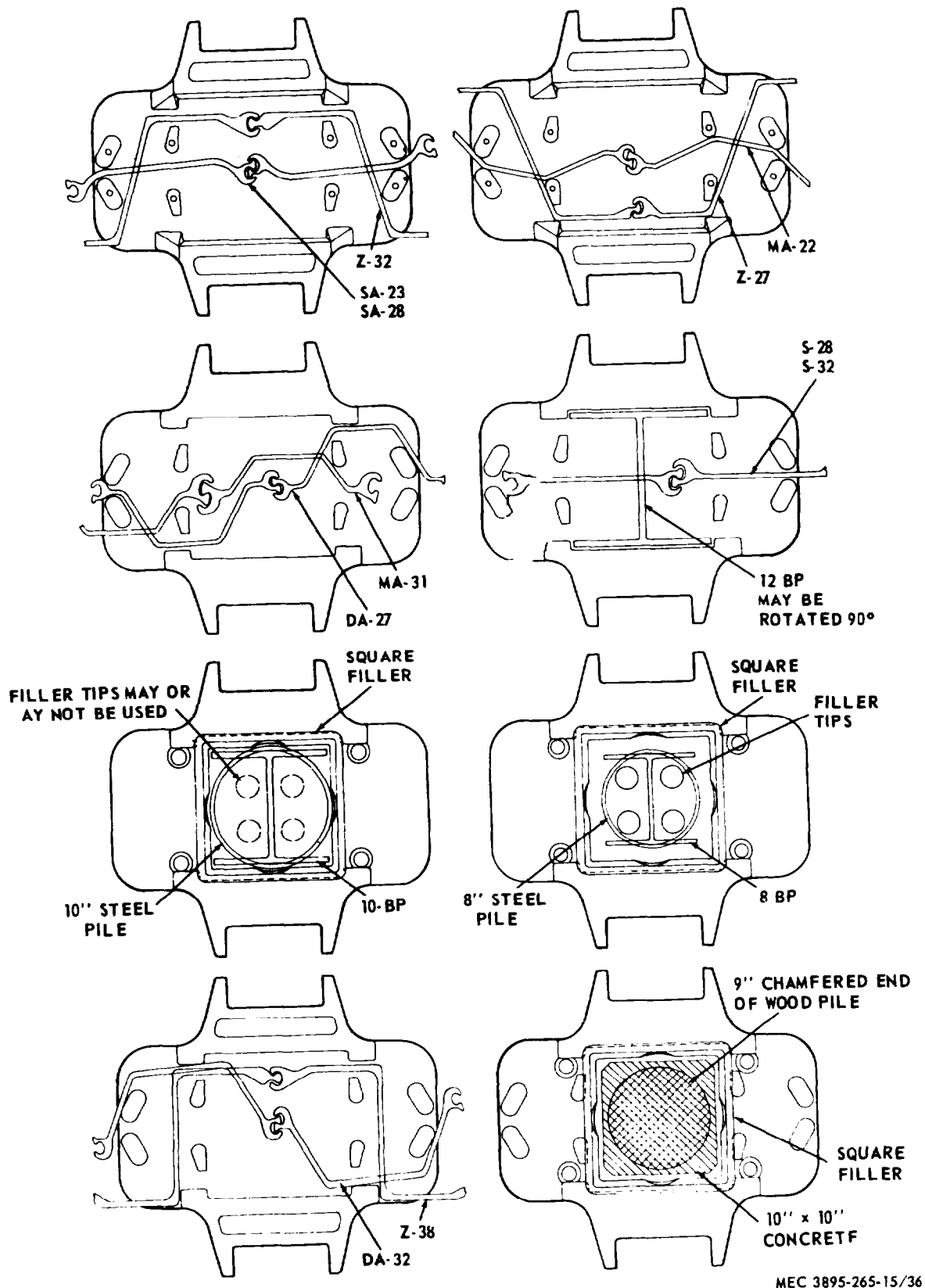


Figure 3-12. Pile contours fitting driving head.



## 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 accordance 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.



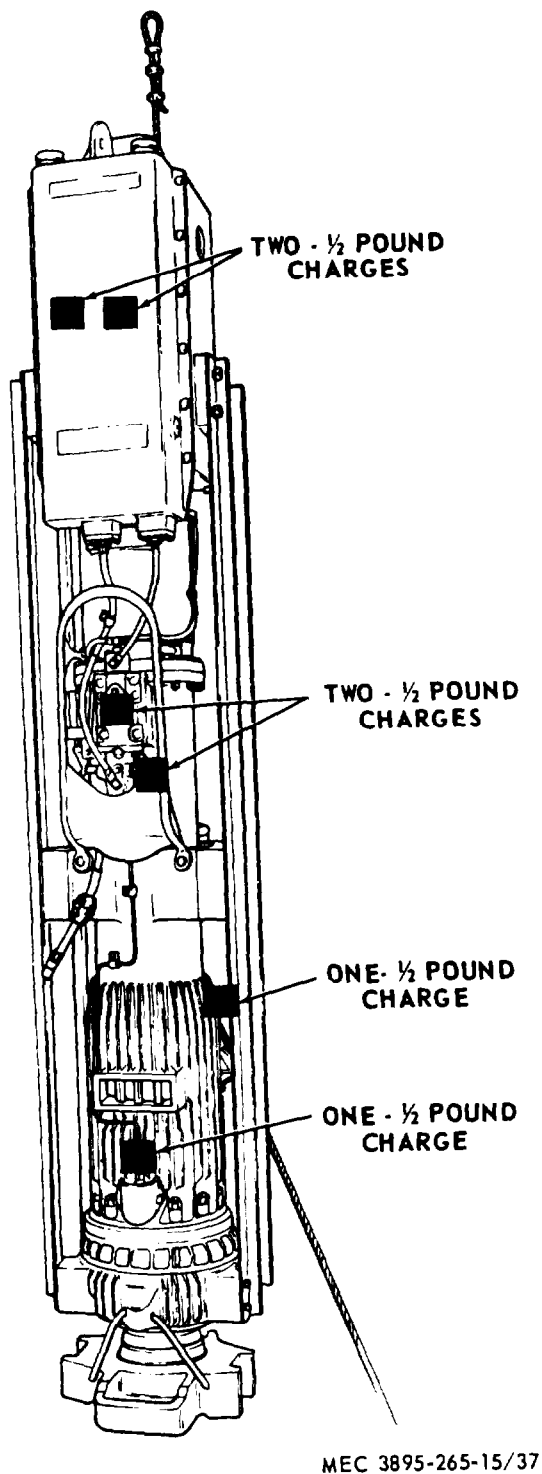


Figure 4-1. Placement of charges.

(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 compo-

nents. Each trouble symptom stated is followed by a list of probable causes of trouble. The corrective action is described opposite the probable cause.

Table 5-2. Troubleshooting

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

*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.

*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.

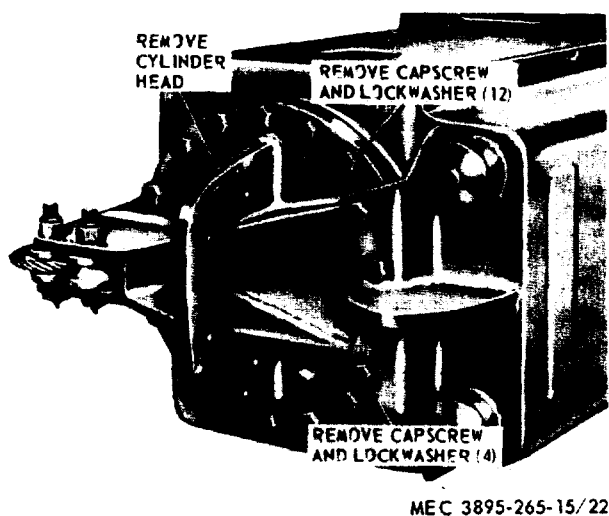
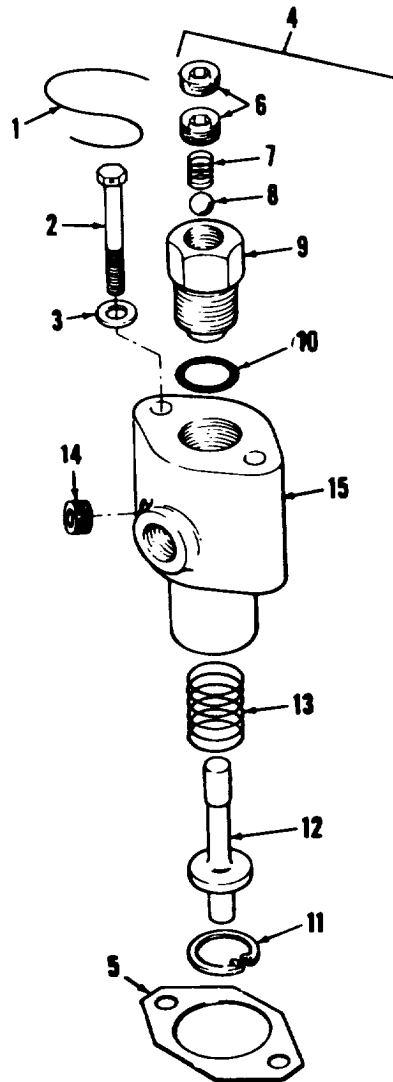


Figure 6-1. Cylinder head, removal and installation.





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 6-3 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.

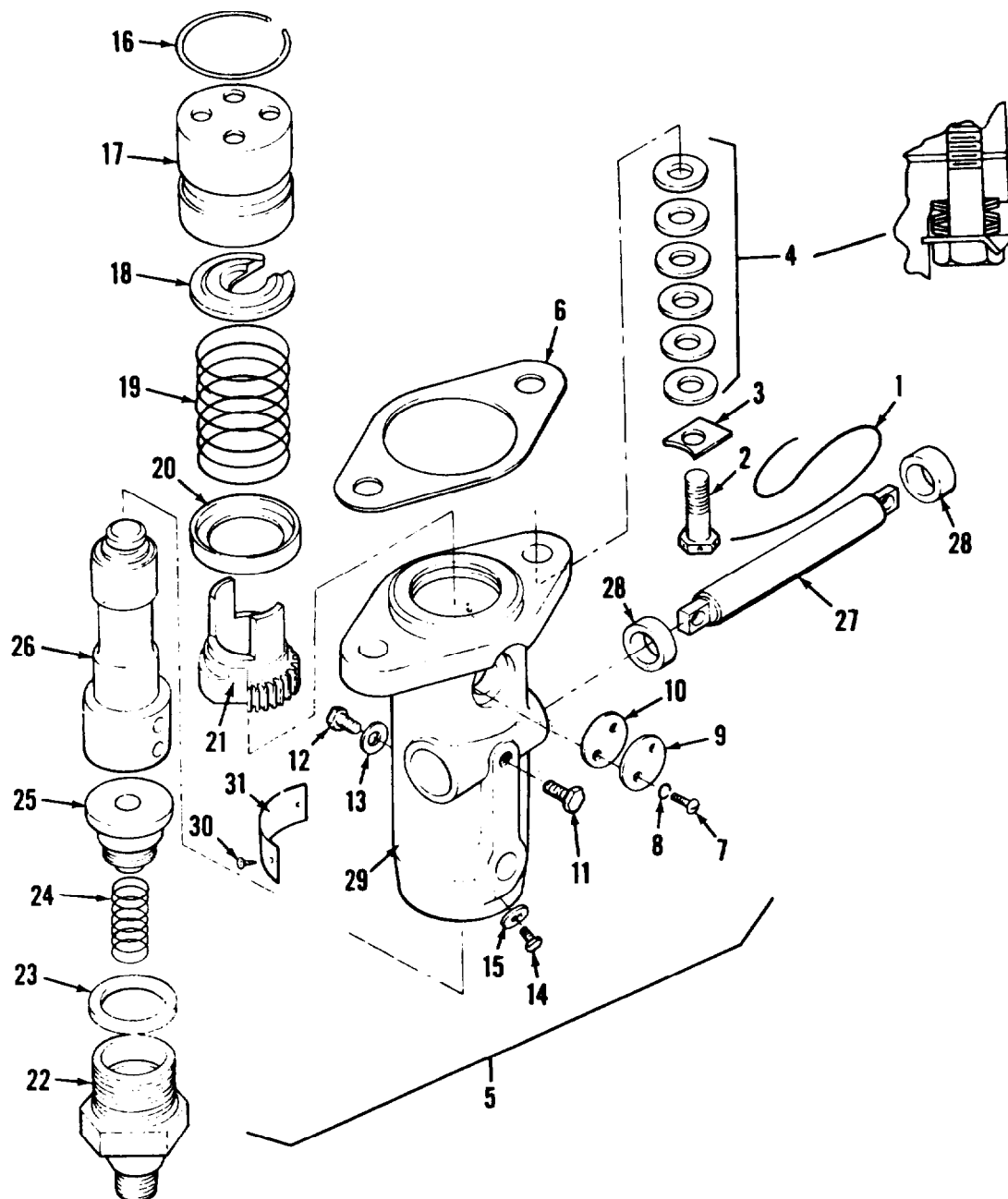
d. Timing.

(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.





MEC 3895-265-15/26

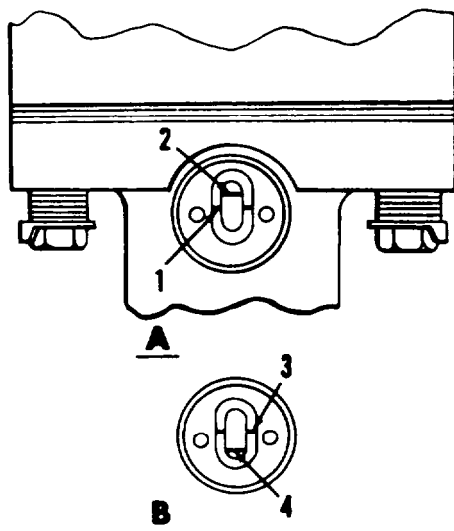
- |               |                 |                                |
|---------------|-----------------|--------------------------------|
| 1 Wire        | 12 Screw        | 23 Gasket                      |
| 2 Screw       | 13 Gasket       | 24 Spring                      |
| 3 Plate, lock | 14 Screw,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

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).

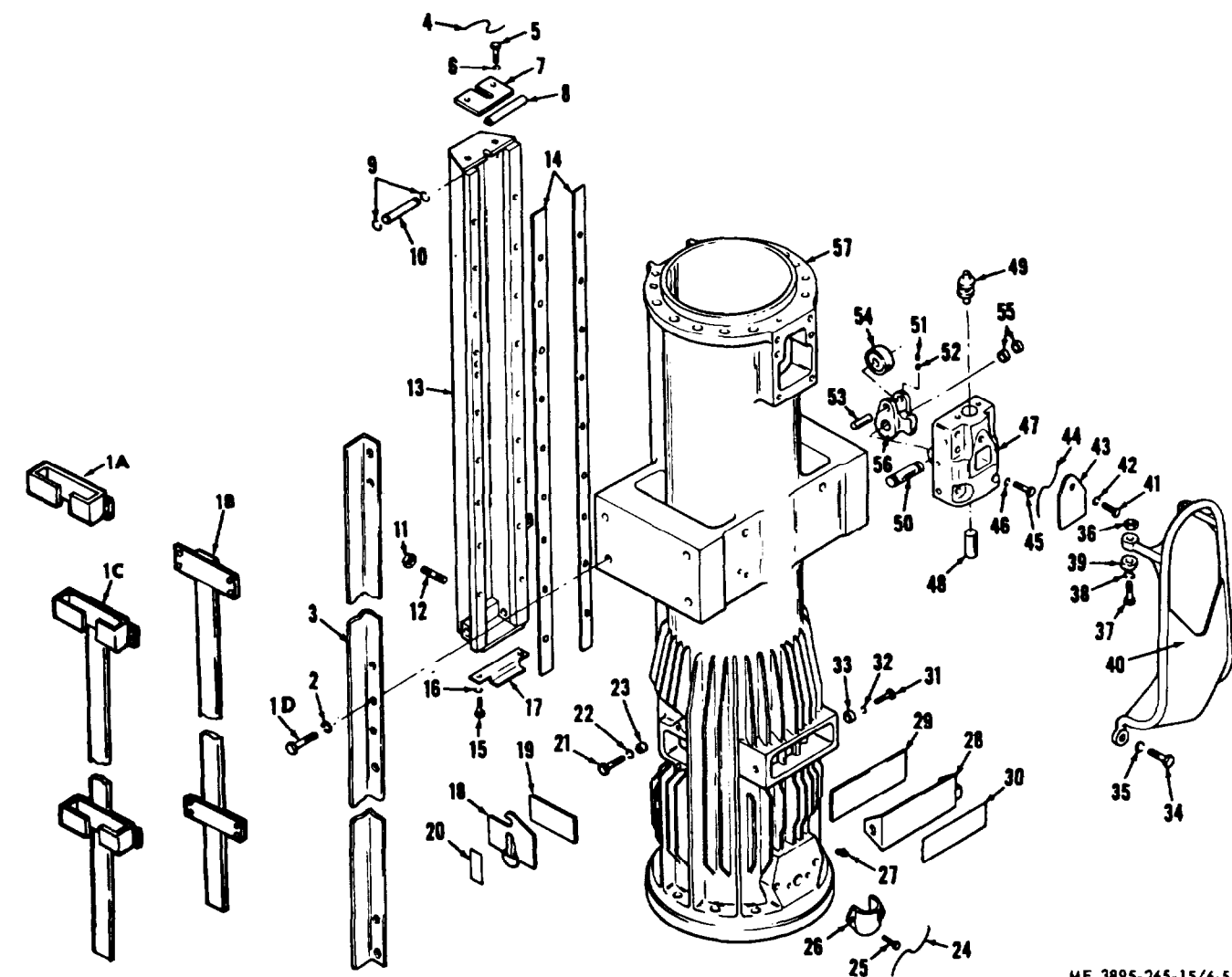
**Caution:** Keep hands and body away from spray path. Pressure is sufficient to cause fuel to penetrate skin and cause blood poisoning.

#### *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.



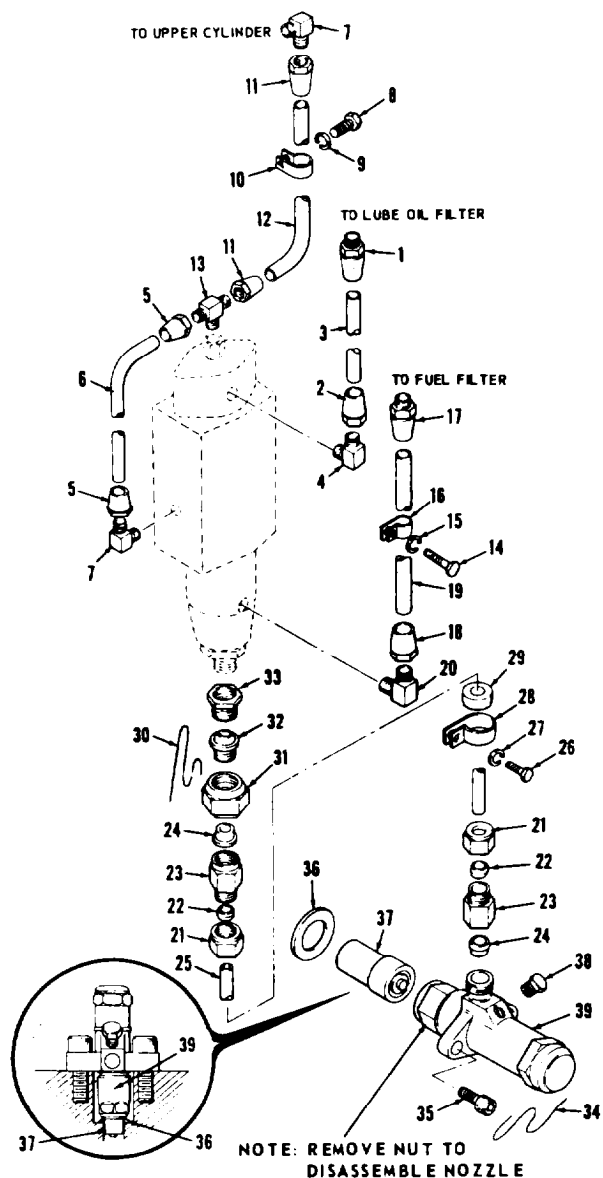


ME 3895-265-15/6-5

1A Upper guide	13 Cover	28 Cover	43 Cover
1B Head guide	14 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.



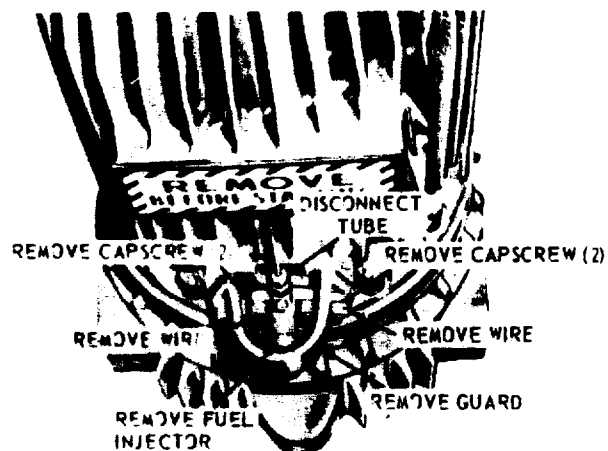


MEC 3895-265-15/29

- |                    |                      |
|--------------------|----------------------|
| 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

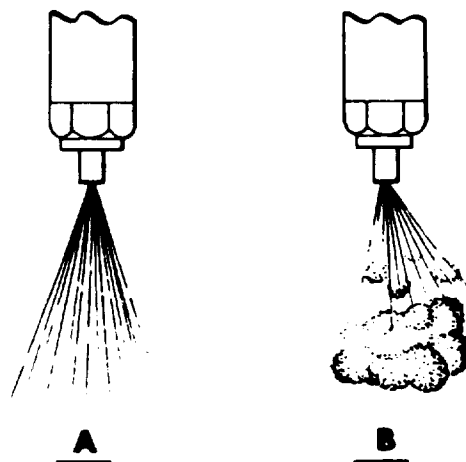
Figure 6-6. Fuel injector.



MEC 3895-265-15/29.1

B—Removal and installation

Figure 6-6-Continued.



A - Good pattern

B - Poor pattern

MEC 3895-265-15/30

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.

### 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).

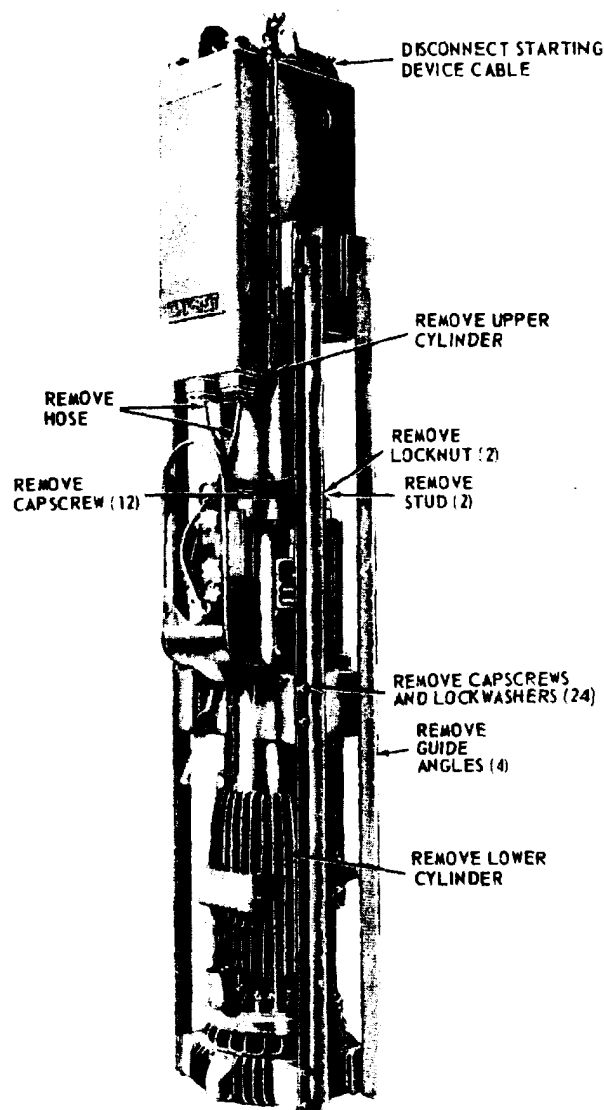
(c) Screw eyebolt into top of ram and attach the hoist line, and lift ram from cylinder.

*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.



MEC 3895-265-15/39

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

(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.

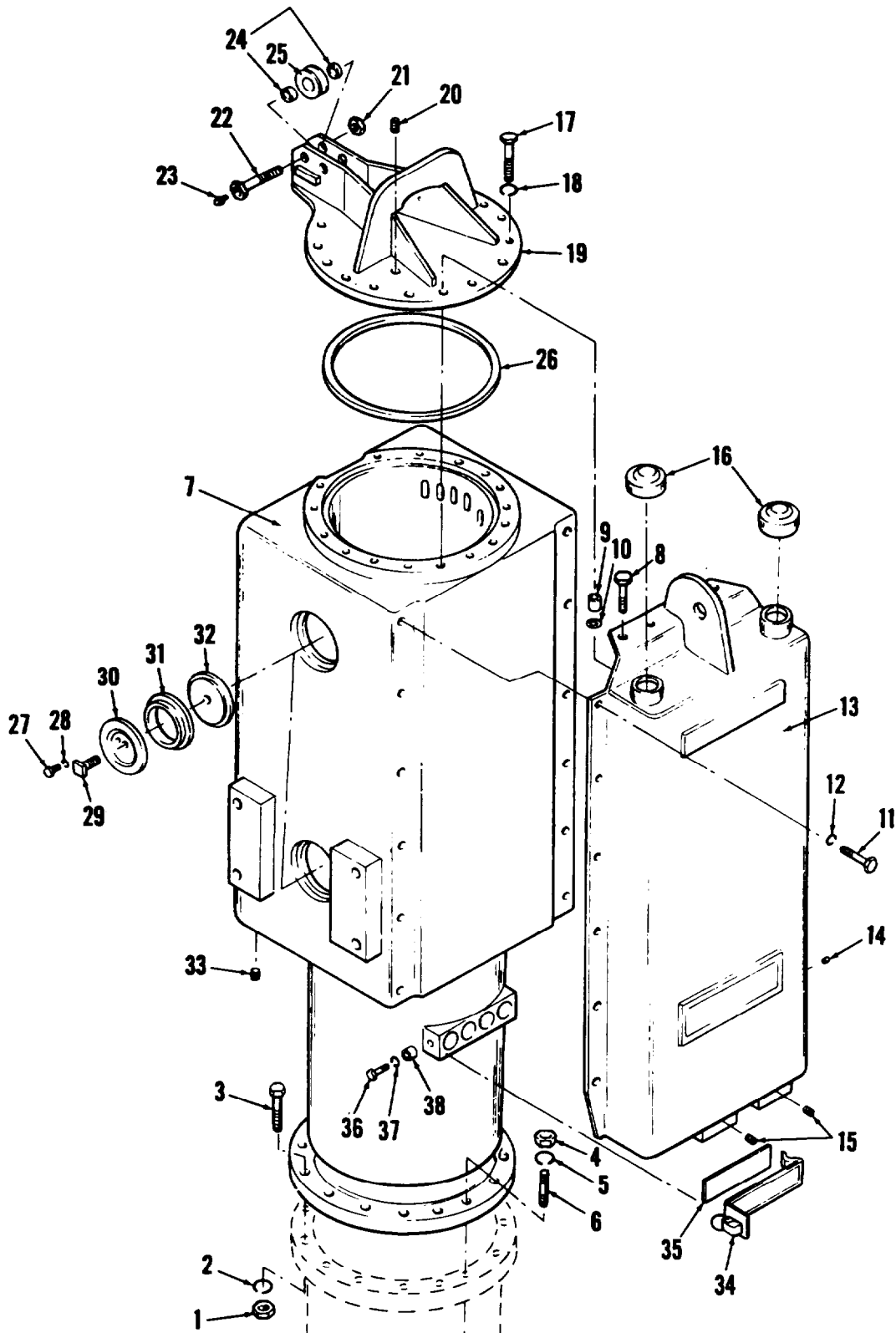
(2) The ram can also be installed in the upper cylinder as follows:

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

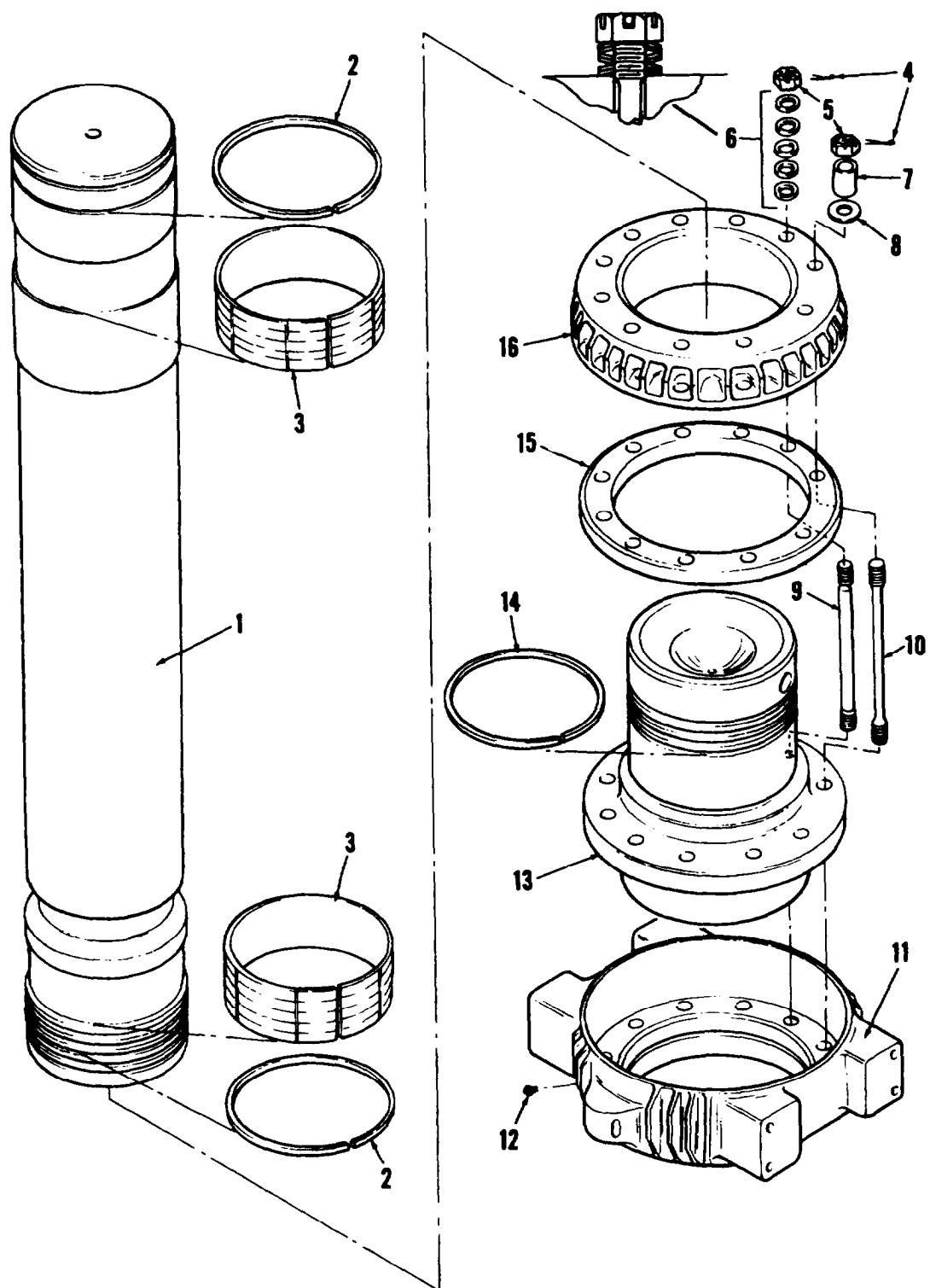
(3) Place the hammer on a piling so as to raise the anvil in the up position.

(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.





MEC 3895-265-15/41

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



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

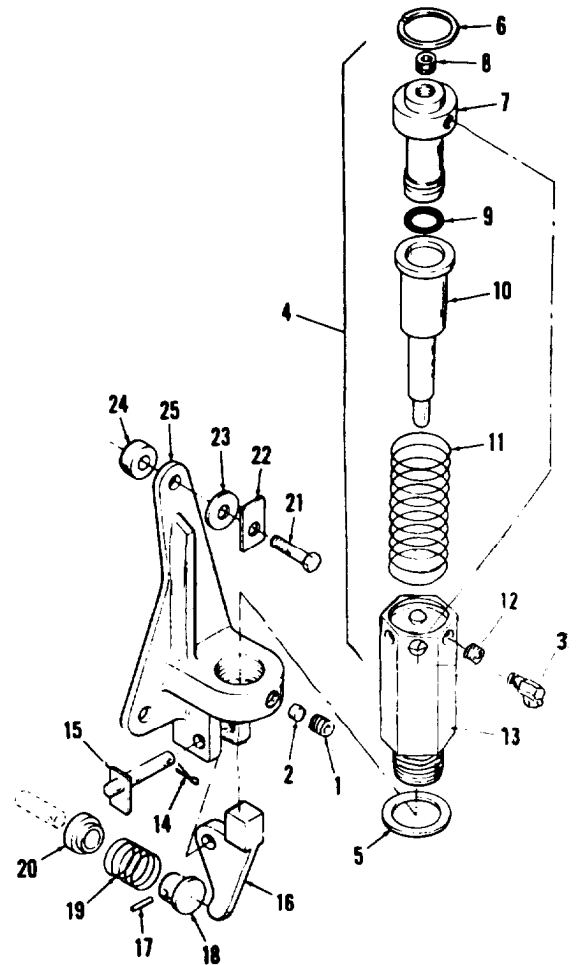
(2) Inspect parts for breaks, cracks, or other damage. Replace all defective parts.

*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 1 1/2 to 2 turns.

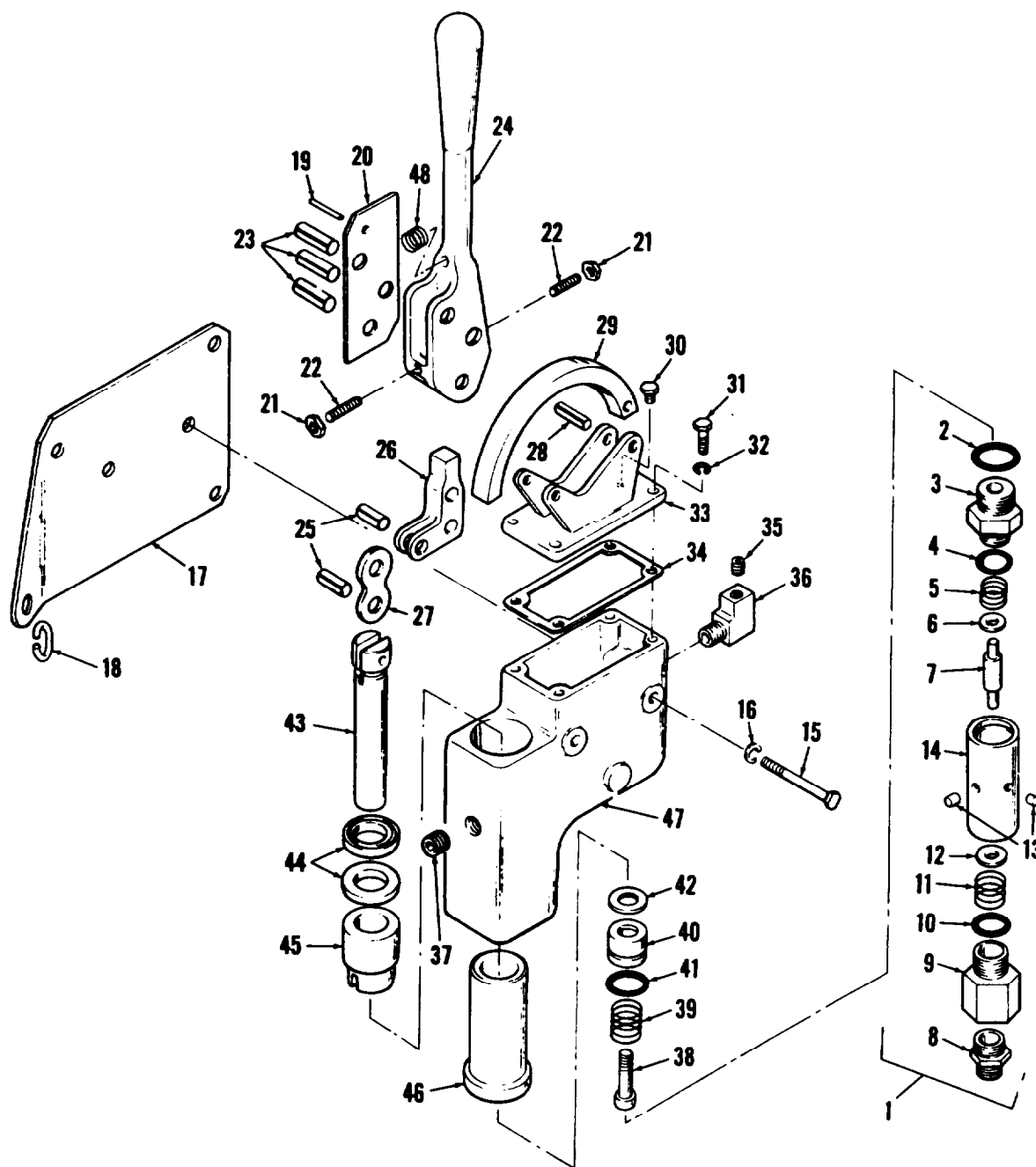


MEC 3895-265-15/33

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

Figure 6-11. Hydraulic receiver, exploded view.



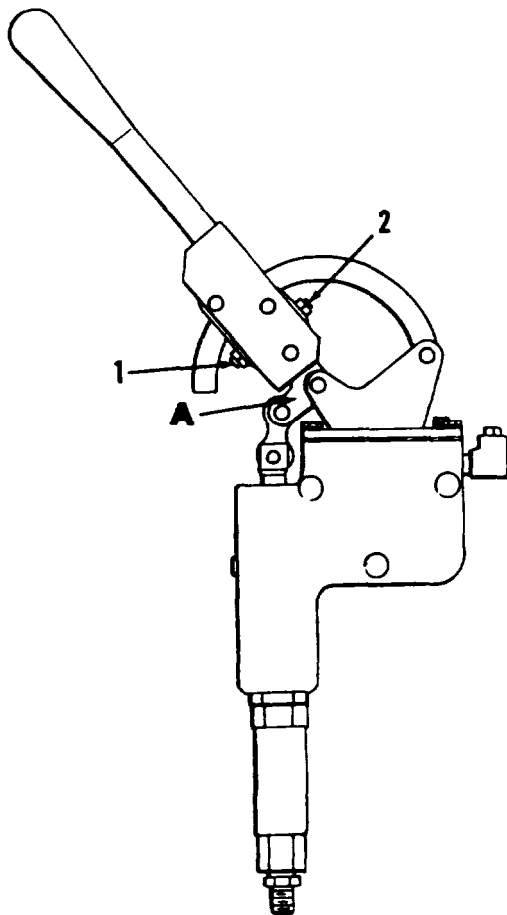


MEC 3895-265-15/42

- |                |                |                 |           |
|----------------|----------------|-----------------|-----------|
| 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 accompany 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 for use 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.	(b) Item NO.
PC	7520-559-9618	3100-BASIC ISSUE ITEMS, MANUFACTURER OR DEPOT INSTALLED							
		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 additional 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, mechan-

ical, 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 re-assembly 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 MAINTENANCE ALLOCATION CHART

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



(1) Group No.	(2) Functional group	(3) Maintenance functions											(4) Tools and equipment	(5) Remarks
		A	B	C	D	E	F	G	H	I	J	K		
		Inspect	Test	Service	Adjust	Align	Calibrate	Install	Replace	Repair	Overhaul	Rebuild		
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	O			F				O	F				
	Hydraulic													
	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	C							O					
	Driving													
	Hammer, pile driving	C	C						O	O	F			
	Hitch, assembly	O							O					



**Section III. SPECIAL TOOL AND SPECIAL TEST  
EQUIPMENT REQUIREMENTS**

<i>Reference code</i>	<i>Maintenance Category</i>	<i>Nomenclature</i>	<i>Tool number</i>
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**

<i>Reference code</i>	<i>Remarks</i>
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 Load 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 <i>in</i> 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 Allowance.**

(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.

#### **1. 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. 1-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 Arms Corp.

Code	Manufacturer
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		(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)		(3) 15-day org maint alw.			
	Description	useable on code	(A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100
	GROUP 03-FUEL SYSTEM-Continued					
3895-116-0382	0306-TANK, LINES, FITTINGS 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.
P O	3895-104-6622	SECTION III - REPAIR PARTS FOR ORGANIZATIONAL MAINTENANCE  GROUP 01 – ENGINE  0100 – ENGINE ASSEMBLY  ROLLER ASSEMBLY: <b>UPPER CYLINDER HEAD</b> 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: <b>ROLLER MTG, NYLON INSERT, ¾-16 THD SIZE</b> 1X109 (36422)	EA	2					D1	3
0	4730-288-7829	PLUG, PIPE: <b>CYLINDER HEAD</b> 1X830 (36422)	EA	1					D1	4
P O	3895-105-0415	COVER, PORT: <b>UPPER CYLINDER</b> 15N25 (36422)	EA	1	*	*	*	*	D1	12
X1		GASKET 15N24 (36422)	EA	1					D1	13
0		PLUG, PIPE: <b>UPPER CYLINDER</b> 1X2249 (36422)	EA	2					D1	18
0	4730-050-4208	FITTING, LUBRICATING: <b>ROLLER MTG SCREW</b> 1610BL (70270)	EA	2					D1	26
0	5305-530-9295	SCREW, CAP, HEXAGON HEAD: ROLLER MTG, ¾-16 <b>THD</b> SIZE, 4 IN. LG 15B36 (36422)	EA	2					D1	27
M 0		WIRE, LOCK: <b>COVER MTG SCREWS</b> 5Z624 (36422) MANUFACTURE FROM:  WIRE, 4 EA, FSN 9505-186-9170	EA	4					D2	1
0	5305-105-4190	SCREW, CAP, HEXAGON HEAD: <b>PLATE MTG, DRILLED HEAD,</b> ½-20 <b>THD SIZE</b> , 1 IN. LG 5Z526 (36422)	EA	2					D2	2
P O	3895-105-2707	PLATE, COVER ASSEMBLY: <b>LOWER CYLINDER</b> 7Z456 (36422)	EA	1	*	*	*	*		
X1		PLATE: <b>CYLINDER COVER</b> 7Z458 (36422)	EA	1					D2	3
X1		CHANNEL, RUBBER: <b>CYLINDER COVER</b> 7Z108 (36422)	EA	1					D2	4
P O	3895-603-0327	STRIP, WEAR: <b>CYLINDER COVER</b> 7Z102 (36422)	EA	2	*	*	*	2	D2	5
P O	3895-010-1376	COVER, EHAUST: <b>LOWER CYLINDER</b> 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: <b>LOWER CYLINDER</b> 1610BL (70270)	EA	6					D2	13



(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  USABLE ON	(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		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)	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)	EA	2	*	*	*	*	D3	30
X1		GASKET 15N31 (36422)	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 O 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  USABLE ON		(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.
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 1/2 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: <b>PUMP</b> A3000C5-4 (98660)	EA	1					D7	8
X20		CLAMP: <b>TUBE MTG</b> 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: <b>LEVEL</b> 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: <b>LEVER MTG</b> 7Z80 (36422)	EA	2	*	*	*	2	D8	6
P 0	5340-603-0330	SPRING: <b>LEVER</b> 5Z61 (36422)	EA	1	*	*	*	*	D8	7
0		SHACKLE, SNAP HOOK: <b>LEVER</b> FIG249SIZE3 (06762)	EA	1					D8	8
0		ROPE, STARTING 5Z63 (36422)	EA	1					D8	9
P 0	3040-603-0355	LINK, CONNECTING: <b>STARTING LEVERS</b> 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: <b>HOUSING</b> 59-077-375-3000 (72962)	EA	1	*	*	*	*	D8	13
P 0	3895-105-0413	LEVER 15D10 (36422)	EA	1	*	*	*	*	D8	14
X20		PIN, DOWEL: <b>LEVER MTG</b> 7Z77 (36422)	EA	1					D8	15
P 0	5340-603-0360	SPRING: <b>LEVER</b> 7Z75 (36422)	EA	1	*	*	*	2	D8	16
X20		KEY: <b>BLOCK AND LEVER</b> 7Z98 (36422)	EA	1					D8	17
P 0	2815-682-0603	BLOCK, LATCH: <b>LEVER</b> 7Z260 (36422)	EA	1	*	*	*	*	D8	18
X20		SPACER: <b>LEVER MTG</b> 15D5 (36422)	EA	1					D8	19
P 0	5340-282-0814	RING, RETAINING: <b>LEVER MTG</b> 5133-75 (79136)	EA	2	*	*	*	*	D8	20
P 0	5340-282-0081	RING, SNAP: <b>PIN MTG</b> 5100-75 (79136)	EA	6	*	*	2	2	D8	21
P 0	5315-603-4825	PIN, STRAIGHT, HEADLESS: <b>LEVER MTG</b> 7Z74 (36422)	EA	3	*	*	*	2	D8	22
P 0	5340-263-5865	RING, SNAP: <b>PIN MTG</b> 5100-100 (79136)	EA	4	*	*	2	2	D8	23
P 0	5315-105-4152	PIN, ROLL: <b>LEVER MTG</b> 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	(4) UNIT OF MEAS  USABLE ON	(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.
		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  USABLE ON	(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	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 1/2 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
X20		0309-FUEL FILTERS 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	(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
P O R	2910-105-6101	0311 – ENGINE STARTING AIDS INJECTOR, START ASSEMBLY 15H47 (36422)	EA	1	*	*	*	2	D14	
0	5310-010-3323	WASHER, LOCK: TANK MTG, 1/2 IN. SCREW SIZE 1X30 (36422)	EA	2					D14	1
0	5305-012-3605	SCREW, CAP, HEXAGON HEAD: TANK MTG, 1/2-20 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, 3/4 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		(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) 15-DAY ORGANIZATIONAL MAINTENANCE ALW				(7) ILLUS- TRATION	
		REF NUMBER & MFR CODE	USABLE ON			(a) 1-5	(b) 6-20	(c) 21-50	(d) 51-100	(a) Fig. NO.	(b) ITEM NO.
X20	4720-104-6372	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: <b>REMOTE CONTROL</b> 5Z62 (36422)		EA	2					D15	1
0		PIN, GROOVED: <b>CLEVIS PIN MTG</b> 1X2219 (36422)		EA	2					D15	2
0		PIN, CLEVIS: <b>CLEVIS MTG</b> 5Z454 (36422)		EA	2					D15	3
P 0		HOSE ASSEMBLY: <b>TRANSMITTER</b> 13J59 (36422)		EA	2	*	*	2	2	D15	4
X20		BAR: <b>BRACKET MTG</b> 15J31 (36422)		EA	2					D15	5
0		NUT, PLAIN, HEXAGON: <b>BRACKET MTG, 3/8-24 THD SIZE</b> 1X167 (36422)		EA	4					D15	6
0		WASHER, LOCK: <b>BRACKET MTG, 3/8 IN. SCREW SIZE</b> 1X28 (36422)		EA	6					D15	7
0	CONNECTOR: HOSE TO <b>COUPLING, 3/8 X ¼ NPT</b> 6FTXS (45681)		EA	7					D15	8	
0	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: <b>BRACKET MTG, 3/8-24 THD SIZE, 2 IN. LG</b> 1X209 (36422)		EA	4				D15	11	
X20		BRACKET: <b>HOSE MTG</b> 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: <b>BRACKET MTG, DRILLED HEAD, 3/8-24 THD SIZE, 1 ¾ IN. LG</b> 5Z583 (36422)		EA	2				D15	14	
M 0		WIRE, LOCK: <b>BRACKET MTG SCREW</b> 5Z624 (36422) MANUFACTURE FROM:  WIRE, 1 EA, FSN 9505-186-9170		EA	1				D15	15	



(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.
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 EQUIPMENT								
		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, 3/4 IN. SCREW SIZE 1X32 (36422)	EA	24					D19	4
0	5305-297-0794	SCREW, CAP, HEXAGON HEAD: GUIDE AND ANGLE MTG, 3/4-16 THD SIZE, 1 1/4 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  REF NUMBER & MFR CODE	(4) UNIT OF MEAS  USABLE ON	(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) ITE M NO.
		SECTION V – REPAIR PARTS FOR DS AND GS MAINTENANCE											
		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: <b>UPPER CYLINDER HEAD</b> 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: <b>ROLLER MTG, NYLON INSERT, 3/4-16 THD SIZE</b> 1X109 (36422)	EA	2								D1	3
0	4730-288-7829	PLUG, PIPE: <b>CYLINDER HEAD</b> 1X830 (36422)	EA	1								D1	4
F	5305-543-4892	SCREW, CAP, HEXAGON HEAD: <b>CYLINDER HEAD MTG, 5/8-18 THD SIZE, 1 1/2 IN. LG</b> 1X2618 (36422)	EA	16								D1	5
F	5310-209-2976	WASHER, LOCK: <b>CYLINDER HEAD MTG, 5/8 IN. SCREW SIZE</b> 1X31 (36422)	EA	16								D1	6
P F	3895-104-6622	HEAD, CYLINDER: <b>UPPER CYLINDER</b> 15B29 (36422)	EA	1	*	*	*	*	*	*	*	D1	7
P F	3895-603-1267	GASKET: <b>CYLINDER HEAD MTG</b> 7Z136 (36422)	EA	1	2	2	2	2	2	2	2	D1	8
F	5310-265-9219	NUT, PLAIN, HEXAGON: <b>CYLINDER MTG, 5/8-18 THD SIZE</b> 1X171 (36422)	EA	14								D1	9
F	5310-209-2976	WASHER, LOCK: <b>CYLINDER MTG, 5/8 SIZE IN. SCREW</b> 1X31 (36422)	EA	28								D1	10
F		STUD, MOUNTING: <b>CYLINDER</b> 7Z9 (36422)	EA	2								D1	11
P 0	3895-105-0415	COVER, PORT: <b>UPPER CYLINDER</b> 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: <b>COVER MTG</b> 15A17 (36422)	EA	2								D1	14
F	5310-010-3320	WASHER, LOCK: <b>COVER MTG, 5/16 IN. SCREW SIZE</b> 1X27 (36422)	EA	2								D1	15
F		SCREW, CAP, HEXAGON HEAD: <b>COVER MTG, 5/16-24 THD SIZE, 1 IN. LG</b> 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) ITE M NO.
F	5305-298-3184	SCREW, CAP, HEXAGON HEAD: <b>CYLINDER MTG</b> , 5/-18 <b>THD SIZE</b> 3 1/2 IN. LG 1X2749 (36422)	EA	12								D1	17
0		PLUG, PIPE: <b>UPPER CYLINDER</b> 1X2515 (36422)	EA	2								D1	18
F		BOLT: <b>PLATE MTG</b> 1X2515 (36422)	EA	4								D1	19
F	5305-105-4187	SCREW, CAP, SOCKET HEAD: <b>CLAMPING PLATE</b> , 3/8-16 THD <b>SIZE</b> , 1/2 IN. LG 1X2234 (36422)	EA	4								D1	20
F	5310-105-4183	WASHER, LOCK: <b>CLAMPING PLATE, HIGH COLLAR TYPE</b> , 3/8 IN. <b>SCREW SIZE</b> 1X1571 (36422)	EA	4								D1	21
P F	3895-104-6620	PLATE, CLAMPING: <b>PRESSURE PLATE</b> 15A16 (36422)	EA	4	2	2	3	2	2	3	36	D1	22
P F	5330-603-4786	RING, SEAL: <b>PRESSURE PLATE</b> 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	4730-050-4208	CYLINDER, UPPER 15A12 (36422)	EA	1								D1	25
0		FITTING, LUBRICATING: <b>ROLLER MTG SCREW</b> 1610BL (70270)	EA									D1	26
0		SCREW, CAP, HEXAGON HEAD: <b>ROLLER MTG</b> , 3/4-16 THD <b>SIZE</b> , 4 IN. LG 15B36 (36422)	EA	2								D1	27
M 0	5305-105-4190	WIRE, LOCK: <b>COVER MTG SCREWS</b> 5Z624 (36422)	EA	4								D2	1
		WIRE, 4 EA, FSN 9505-186-9170											
0		SCREW, CAP, HEXAGON HEAD: <b>PLATE MTG, DRILLED HEAD</b> , 1/2-20 <b>THD SIZE</b> , 1 IN. LG 5Z526 (36422)	EA	2								D2	2
P 0	3895-105-2707	PLATE, COVER ASSEMBLY: <b>LOWER CYLINDER</b> 7Z456 (36422)	EA	1	*	*	*	*	*	*	5		
X1	3895-603-0327	PLATE: <b>CYLINDER COVER</b> 7Z458 (36422)	EA	1								D2	3
X1		CHANNEL, RUBBER: CYLINDER COVER 7Z108 (36422)	EA	1								D2	4
P 0		STRIP, WEAR: <b>CYLINDER COVER</b> 7Z102 (36422)	EA	2	*	2	2	*	2	2	12	D2	5
X1	5310-010-3320	CYLINDER, LOWER 15A13 (36422)	EA	1								D2	6
X2F		SPACER: COVER MTG 15A17 (36422)	EA	2								D2	7
F		WASHER, LOCK: <b>COVER MTG</b> , 5/16 IN. <b>SCREW SIZE</b> 1X27 (36422)	EA	2								D2	8
F		SCREW, CAP, HEXAGON HEAD: <b>COVER MTG</b> , 5/16-24 <b>THD SIZE</b> , 1 IN. LG 1X1353 (36422)	EA	2								D2	9



(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  REF NUMBER & MFR CODE	(4) UNIT OF MEAS  USABLE ON	(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	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
													19
X2F		COVER, AIR INTAKE: LOWER CYLINDER 15N15 (36422)	A	EA	2							D2	
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			(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	5310-010-3323	WASHER, LOCK: <b>COVER MTG,</b> ½ IN. <b>SCREW SIZE</b> 1X20 (36422)	B	EA	4							D3	2
F	5305-012-3605	SCREW, CAP, HEXAGON HEAD: <b>COVER MTG,</b> ½-20 THD SIZE, 1 IN. <b>LG</b> 1X214 (36422)	B	EA	4							D3	3
P O	3895-105-0414	COVER, AIR INTAKE: <b>LOWER</b> <b>CYLINDER</b> 15N29 (36422)	B	EA	2	*	*	*	*	*	3	D3	4
XI		GASKET 15N31 (36422)	B	EA	2							D3	5
XI		EMBLEM 15N18 (36422)		EA	2							D3	6
XI		LATCH 5Z250 (36422)		EA	2								
P F	3895-603-1268	RING, PISTON: <b>RAM AND</b> <b>ANVIL</b> 7Z267 (36422)		EA	11	3	5	11	3	5	11	D4	1
F	5310-105-4186	WASHER, SPRING: <b>STUD MTG</b> 15B26 (00535)		EA	7							D4	2
F		PIN, COTTER: <b>STUD NUT</b> 1X1304 (36422)		EA	22							D4	3
F		NUT, HEXAGON, SLOTTED: <b>STUD MTG,</b> ¾-16 <b>THD</b> <b>SIZE</b> 1X2164 (36422)		EA	22							D4	4
P F	3895-603-1291	SPACER: <b>ANVIL STUD MTG</b> 7Z314 (36422)		EA	10	2	2	14	2	2	14	D4	5
F	5310-105-4185	WASHER, SPRING: <b>ANVIL STUD MTG</b> 5Z455 (00535)		EA	10							D4	6
P F	3895-105-0410	RETAINER, STUD: <b>ANVIL MTG</b> 15B17 (36422)		EA	10	2	2	4	2	2	4	D4	7
P F	5307-105-4231	STUD: <b>ANVIL MTG</b> 15B18 (36422)		EA	1	*	*	*	*	*	*	D4	8
P F	3895-105-9247	GUIDE, ANVIL 15B28 (36422)		EA	1	*	*	*	*	*	*	D4	9
O	4730-050-4208	FITTING, LUBRICATION: <b>ANVIL GUIDE</b> 1610BL (70270)		EA	2							D4	10
P F	3895-603-1290	ANVIL 15B14 (36422)		EA	1	*	*	*	*	*	*	D4	11
P F	3895-603-1278	DAMPENER, RECOIL: <b>ANVIL</b> 15B13 (36422)		EA	1	*	*	*	*	*	*	D4	12
P F	3895-682-0600	RING, COOLING: <b>ANVIL</b> 15B16 (36422)		EA	1	*	*	*	*	*	*	D4	13
P F	3895-603-1272	RING, WEAR: <b>RAM</b> 7Z360 (36422)		EA	2	*	2	2	*	2	2	D4	14
P F	3895-106-5641	RAM 15B9 (36422)		EA	1	*	*	*	*	*	*	D4	15
		0106 – ENGINE LUBRICATION SYSTEM											
P O R	2940-105-6099	PUMP, LUBRICATING OIL ASSEMBLY 6Z590 (36422)		EA	1	*	*	2	*	*	2	D5	
F	5305-105-4188	SCREW, LOCK: <b>PUMP SPRING,</b> 3/8-16 <b>THD SIZE</b> 1X1792 (36422)		EA	2							D5	1



(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  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)	(b)	(c)	(a)	(b)	(c)		(a)	(b)
					1-20	21-50	51-100	1-20	21-50	51-100		Fig. NO.	ITEM NO.
P F	2910-105-9252	SPRING, HELICAL, <b>COMPRESSION</b> 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, <b>COMPRESSION</b> 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: <b>PUMP</b> 5Z130 (36422)	EA	V	2	2	2	2	2	2	24	D5	10
F	4730-018-9566	PLUG, PIPE: <b>PUMP HOUSING</b> 1X823 (36422)	EA	1								D5	11
0	4730-657-9723	WASHER, SPRING: <b>PUMP MTG.</b> 5/16 <b>IN. SCREW SIZE</b> 5Z318 (00535)	EA	2								D5	12
0		SCREW, CAP, HEXAGON HEAD: <b>PUMP MTG, DRILLED HEAD.</b> 5/16-18 <b>THD SIZE</b> , 2 1/2 <b>IN. LG</b> 5Z365 (36422)	EA	2								D5	13
M 0		WIRE, LOCK 5Z766 (36422) <b>MANUFACTURE FROM:</b>	EA	1								D5	14
X20		WIRE, 1 <b>EA</b> , FSN 9505-186-9170											
		FILTER, OIL 5Z1033 (36422) <b>(COMPONENTS SAME AS, FILTER OIL ASSEMBLY, STOCK No. 2940-6088, EXCEPT N O. 2940-105-6088, EXCEPT WHERE ANNOTATED)</b>	A	EA	1							D6	
P20	2940-105-6088												
0	5310-105-4177	FILTER, OIL 13H201 (36422)	B	EA	1	*	*	*	*	*	5		
		NUT, LOCK: <b>ELEMENT MTG.</b> NYLON INSERT, NF, 1-14 <b>THD SIZE</b> 1X2449 (36422)		EA	1							D6	1
P 0	2940-105-6091												
P 0	2940-105-6090	PLATE, TOP: <b>ELEMENT MTG</b> 5Z1029 (36422)		EA	1	*	*	2	*	*	2	D6	2
P 0	2940-105-6089	ELEMENT 15H55 (36422)		EA	1	*	*	*	*	*	5	D6	3
P 0	5330-196-5382	PLATE, BOTTOM: <b>ELEMENT MTG</b> 5Z1030 (36422)		EA	1	*	*	2	*	*	2	D6	4
0		PACKING, PREFORMED: <b>ELEMENT MTG</b> S7-19 (73277)		EA	1	*	2	2	*	2	2	D6	5
X1		PLUG, PIPE: <b>FILTER HEAD</b> 1X862 (36422)		EA	1							D6	6
X1		HEAD 5Z1026 (36422)	A	EA	1							D6	7
		HEAD ASSEMBLY 13H202 (36422)	B	EA	1								



(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  REF NUMBER & MFR CODE	(4) UNIT OF MEAS  USABLE ON	(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)	(b)	(c)	(a)	(b)	(c)		(a) Fig. NO.	(b) ITEM NO.	
					1-20	21-50	51-100	1-20	21-50	51-100				
X1		HEAD 13H199 (36422)	B	EA	1							D6	7	
P 0	5330-105-4136	GASKET: <b>HEAD</b> 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: <b>HEAD MTG</b> , 3/8 IN. SCREW SIZE 1X28 (36422)		EA	4							D6	10	
00	5305-637-4039	SCREW, CAP, HEXAGON HEAD: <b>HEAD MTG</b> , 3/8-16 <b>THD SIZE</b> , 1 1/8 <b>IN. LG</b> 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: <b>CLAMP MTG</b> , 3/8-24 <b>THD SIZE</b> 1/2 <b>IN. LG</b> 1X2670 (36422)		EA	2							D7	2	
0	5310-261-7340	WASHER, LOCK: <b>CLAMP MTG</b> , 3/8 <b>IN. SCREW SIZE</b> 1X28 (36422)		EA	2							D7	3	
P 0	4720-603-0429	HOSE ASSEMBLY: <b>TEE TO UPPER</b> <b>CYLINDER</b> 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: <b>OIL FILTER TO PUMP</b> 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: <b>PUMP TO TEE</b> 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: <b>PUMP</b> A3000C5-4 (98660)		EA	1							D7	8	
X20		CLAMP: <b>TUBE MTG</b> 5Z621 (36422)		EA	2							D7	9	
		0110 – DIESEL STARTING CONTROLS												
P 0	4010-105-4237	WIRE ROPE ASSEMBLY 15D11 (36422)		EA	1	*	*	*	*	*	*	5	D8	



(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)	(b)	(c)	(a)	(b)	(c)		(a)	(b)
					1-20	21-50	51-100	1-20	21-50	51-100		Fig. NO.	ITEM NO.
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: <b>LEVER</b> 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: <b>LEVER MTG</b> 7Z80 (36422)	EA	2	*	2	2	*	2	2	12	D8	6
0	5340-603-0330	SPRING: <b>LEVER</b> 5Z61 (36422)	EA	1	*	*	2	*	*	2	6	D8	7
0		SHACKLE, SNAP HOOK: <b>LEVER</b> FIG249SIZE3 (06762)	EA	1								D8	8
P 0		ROPE, STARTING 5Z63 (36422)	EA	1								D8	9
P 0	3040-603-0355	LINK, CONNECTING: <b>STARTING LEVERS</b> 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: <b>HOUSING</b> 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: <b>LEVER MTG</b> 7Z77 (36422)	EA	1								D8	15
X20	5340-603-0360	SPRING: <b>LEVER</b> 7Z75 (36422)	EA	1	*	2	2	*	2	2	12	D8	16
P 0		KEY: BLOCK AND <b>LEVER</b> 7Z98 (36422)	EA	1								D8	17
X20	2815-682-0603	BLOCK, LATCH: <b>LEVER</b> 7Z260 (36422)	EA	1	*	*	2	*	*	2	6	D8	18
P 0		SPACER: <b>LEVER MTG</b> 15D5 (36422)	EA	1								D8	19
P 0	5340-282-0814	RING, RETAINING: <b>LEVER MTG</b> 5133-75 (79136)	EA	2	*	*	2	*	*	2	6	D8	20
P 0	5340-282-0081	RING, SNAP: <b>PIN MTG</b> 5100-75 (79136)	EA	6	2	2	2	*	2	2	24	D8	21
P 0	5315-603-4825	PIN, STRAIGHT, HEADLESS: <b>LEVER MTG</b> 7Z74 (36422)	EA	3	*	2	2	*	2	2	18	D8	22
P 0	5340-263-5865	RING, SNAP: <b>PIN MTG</b> 5100-100 (79136)	EA	4	2	2	2	*	2	2	24	D8	23
X20	5315-105-4152	PIN, ROLL: <b>LEVER MTG</b> 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)	(b)	(c)	(a)	(b)	(c)		(a)	(b)
					1-20	21-50	51-100	1-20	21-50	51-100		Fig. NO.	ITEM NO.
P 0	4720-603-0424	GROUP 03 – FUEL SYSTEM  0301 – INJECTORS  HOSE ASSEMBLY: <b>FUEL FILTER TO PUMP</b> 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: <b>HOSE MTG</b> 5Z623 (36422)	EA	1								D9	
0	5310-261-7340	WASHER, LOCK: <b>CLAMP MTG</b> , 3/8 IN. <b>SCREW SIZE</b> 1X28 (36422)	EA	1								D9	
0	5305-638-8876	SCREW, CAP, HEXAGON HEAD: <b>CLAMP MTG</b> , 3/8-24 <b>THD SIZE</b> , ½ IN. <b>LG</b> 1X2670 (36422)	EA	1								D9	
0	4730-106-1741	ELBOW, TUBE: UEL <b>PUMP</b> 5Z189 (36422)	EA	1								D9	
P F	5325-105-9458	GROMMET: <b>CLAMP MTG</b> 5Z421 (36422)	EA	2	*	2	2	*	2	2	12	D9	
X2F		CLAMP: <b>TUBE MTG</b> CL50 (03743)	EA	2								D9	
F	5310-010-3320	WASHER, LOCK: <b>CLAMP MTG</b> , 5/16 IN. <b>SCREW SIZE</b> 1X27 (36422)	EA	2								D9	
F	5305-208-7737	SCREW, CAP, HEXAGON HEAD: <b>CLAMP MTG</b> , 5/16-24 <b>THD</b> <b>SIZE</b> , 5/8 IN. <b>LG</b> 1X2198 (36422)	EA	2								D9	
P F	3895-855-5598	TUBE ASSEMBLY: <b>PUMP TO INJECTOR</b> 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: <b>HEXAGON</b> , ¾ IN. 1 ¼ IN. <b>LG</b> 5Z197 (36422)	EA	2									
X1	4730-052-9877	SLEEVE, CYLINDER, TUBE 8165X4 (79470)	EA	2									
P 0 R	3895-603-0386	INJECTOR, ASSEMBLY: <b>FUEL</b> 7Z511 (36422)	EA	1	*	2	2	*	2	2	12	D9	
X1	3895-603-0370	HOLDER: <b>NOZZEL</b> 6Z304 (36422)	EA	1									
X1	3895-603-0379	NOZZEL 7Z462 (36422)	EA	1									
X1		PLUG: <b>HOLDER</b> 5Z204 (36422)	EA	1									



(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)	(b)	(c)	(a)	(b)	(c)		(a)	(b)
					1-20	21-50	51-100	1-20	21-50	51-100		Fig. NO.	ITEM NO.
M F		WIRE, LOCK: <b>INJECTOR MTG, SCREW</b> 5Z624 (36422) MANUFACTURE FROM:	EA	1								D9	12
F	5305-105-6849	WIRE, 1 <b>EA</b> , FSN 9505-186-9170	EA	2								D9	13
X2F		SCREW, SOCKET HEAD: <b>INJECTOR MTG, ½-20 THD SIZE, 1 ½ IN. LG</b> 5Z724 (36422)	EA	1								D9	14
F	2910-105-9257	WASHER, SPRING: <b>NOZZLE MTG</b> 5Z240M (05234)	EA	1								D9	15
X2F		FITTING ASSEMBLY: <b>TUBE TO PUMP</b> 7Z432 (36422)	EA	1								D9	16
X2F		COUPLING 5Z510 (36422)	EA	1								D9	17
X2F		NIPPLE 7Z431 (36422)	EA	1								D9	18
X2F		BUSHING 5Z509 (36422)	EA	1								D9	
M F		WIRE, LOCK: <b>COUPLING</b> MANUFACTURE FROM  WIRE STEEL, 1 <b>EA</b> , FSN 9505-294-7986	EA	1								D9	
P O R	3895-754-4075	0302 – FUEL PUMPS											
X2F		PUMP, FUEL 7Z463 (01843)	EA	1	*	*	2	*	*	2	6	D10	
P F	2910-105-9256	SHIM: <b>PUMP MTG</b> 7Z30 (36422)	EA	V								D10	1
F	5305-543-4501	PLATE, LOCK: <b>PUMP MTG</b> 7Z440 (36422)	EA	2	*	2	2	*	2	2	12	D10	2
M F		SCREW, CAP, HEXAGON HEAD: <b>PUMP MTG, DRILLED HEAD,</b> 9/16-12 <b>THD SIZE, 2 IN. LG</b> 1X2744 (36422)	EA	2								D10	3
P F	2910-105-6100	WIRE, LOCK 5Z621 (36422) MANUFACTURE FROM:  WIRE, 2 <b>EA</b> , FSN 9505-186-9170	EA	2								D10	4
P F	2910-511-2370	RACK, CONTROL RD76129 (36422)	EA	1	*	*	2	*	*	2	6	D10	5
X2F	5340-598-3236	GASKET: <b>COVER MTG</b> PPTI7A1X (01843)	EA	1	*	2	2	*	2	2	12	D10	6
F	5305-365-7868	COVER, WINDOW PDEI7A1X (01843)	EA	1								D10	7
F		SCREW, MACHINE: <b>COVER MTG</b> SC22-5CA (01843)	EA	2								D10	8
F		GASKET: <b>COVER SCREW MTG</b> SM2055-400X (36422)	EA	2								D10	9
P F	3895-658-0101	SCREW, CAP, HEXAGON HEAD: <b>PUMP HOUSING</b> SC7695 (01843)	EA	1								D10	10
X20		GASKET: <b>PUMP MTG</b> WMS2055 (36422)	EA	12	*	*	2	*	*	2	6	D10	11
P O	5330-366-8836	SCREW, BLEED: <b>PUMP HOUSING</b> SC7698 (01843)	EA	1								D10	12
		GASKET: <b>BLEED SCREW</b> 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 UNI T	(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: <b>PUMP</b> HG76553A (01843)	EA	1								D10	14
X2F		BUSHING GA7611 (36422)	EA	2								D10	15
P F	3895-603-0596	GASKET: <b>HOUSING VENT SCREW</b> GA7611 (36422)	EA	1	*	*	2	*	*	2	6	D10	16
F		SCREW, CAP, HEXAGON HEAD: <b>PUMP HOUSNG</b> SC7694 (01843)	EA	1								D10	17
P F	2910-105-9254	SLEEVE: <b>PLUNGER</b> SV7613 (01843)	EA	1	*	2	2	*	2	2	12	D10	18
X1		PLATE, NAME: FUEL <b>PUMP</b> NP7659 (01843)	EA	1								D10	19
F		RIVIT: FUEL <b>PUMP NAME PLATE</b> <b>SC150-2 (01843)</b>	EA	2								D10	20
P F	3895-105-0412	HOLDER: <b>PLUNGER</b> HP76105 (001843)	EA	1	*	*	2	*	*	2	6	D10	21
P F	3895-603-0694	GASKET: <b>HOLDER</b> <b>GA76188 (01843)</b>	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: <b>SPRING</b> WMS2160-1X (01843)	EA	1	*	*	2	*	*	2	6	D10	26
P F	3895-603-0587	SPRING, HELICAL, COMPRESSION: <b>PLUNGER</b> 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: <b>PLUNGER</b> PMH2-3X (01843)	EA	1	*	*	2	*	*	2	6	D10	29
P F	5340-658-7501	RING, RETAINING: <b>CUP</b> 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: <b>LEVER</b> 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: <b>HOUSING SCREW</b> 5Z631 (36422) MANUFACTURE FROM:  WIRE, 2 EA, FSN 9505-186-9170	EA	2								D11	4
P F	2910-105-9251	COVER: <b>HOUSING</b> 7Z156 (36422)	EA	1	*	*	2	*	*	2	2	D11	5
F	5310-261-7340	WASHER, LOCK: <b>COVER MTG.</b> 3/8 <b>IN. SCREW SIZE</b> 1X28 (36422)	EA	1								D11	6



(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.
F	5305-012-2119	SCREW, CAP, HEXAGON HEAD: <b>COVER MTG, 3/8-16 THD SIZE, 3/4 IN. LG 1X528 (36422)</b>	EA	1								D11	7
0	5310-265-9219	NUT, PLAIN, HEXAGON: <b>GUARD MTG, 5/8-18 THD SIZE 1X171 (36422)</b>	EA	2								D11	8
0	5305-558-4899	SCREW, CAP, HEXAGON HEAD: <b>GUARD MTG, 3/4-16 THD SIZE, 3 IN. LG 1X2251 (36422)</b>	EA	2								D11	9
0	5310-010-3326	WASHER, LOCK: <b>GUARD MTG, 3/4 IN. SCREW SIZE</b>	EA	2								D11	10
X20	3895-936-5209	GUARD, PUMP 15N12 (36422)	EA	1								D11	11
0	5305-043-3494	SCREW, CAP, HEXAGON HEAD: <b>GUARD MTG, 5/8-18 THD SIZE, 5IN. LG 7Z290 (36422)</b>	EA	2								D11	12
0	5310-209-2976	WASHER, LOCK: <b>GUARD MTG, 5/8 IN. SCREW SIZE 1X31 (36422)</b>	EA	2								D11	13
X20		SPACER: <b>GUARD MTG 7Z449 (36422) (AS REQUIRED)</b>	EA									D11	14
F	5305-527-3890	SCREW, CAP, HEXAGON HEAD: <b>HOUSING MTG, 5/8-18 THD SIZE, 3 IN. LG 7Z345 (36422)</b>	EA	6								D11	15
F		WASHER, SPRING: <b>HOUSING MTG, 5/8 IN. ID, 1 1/4 IN. OD, 1/8 IN. THK 1250-62 (06092)</b>	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: <b>LEVER 15H61 (36422)</b>	EA	1	*	2	2	*	2	2	12	D11	20
X1		ROD 15H62 (36422)	EA	1									
X1		DOWEL 15H60 (36422)	EA	1									
X1		SCREW, LOCK: <b>HOLLOW, 1/4-20 THD SIZE 1X1790 (36422)</b>	EA	1									
P F	2910-105-9248	ROLLER, CAM: <b>LEVER 7Z129 (36422)</b>	EA	1	2	2	2	2	2	2	24	D11	21
F	5305-105-6848	SETSCREW: <b>LEVER, SOCKET HEAD, CUP POINT, 1/4-20 THD SIZE, 1/4 IN. LG 1X481 (36422)</b>	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			(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) ITE M NO.
X20		0306 – TANKS, LINES, FITTINGS SPACER, MOUNTING: <b>TANK MTG</b> 15H54 (36422)	A	EA	4							D12	1
X20		SHIM, MOUNTING: <b>TANK MTG</b> CC509 (36422)	A	EA	4							D12	2
0		SCREW, CAP, HEXAGON HEAD: <b>TANK MTG, 5/8-24 THD</b> <b>SIZE, 2 3/4 IN. LG</b> 1X2619 (36422)	A	EA	4							D12	3
0	5310-209-2976	WASHER, LOCK: <b>TANK MTG,</b> <b>5/8 IN. SCREW SIZE</b> 1X31 (36422)		EA	12							D12	4
0	5305-543-4892	SCREW, CAP, HEXAGON HEAD: <b>TANK MTG, 5/8-18 THD SIZE,</b> <b>1 1/2 IN. LG</b> 1X2618 (36422)		EA	12							D12	5
X20		TANK, FUEL AND LUBRICATION 15H43 (36422)	A	EA	1							D12	6
0	4730-904-3695	PLUG, PIPE: <b>SQUARE HEAD, 1/8 IN.</b> 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	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
X20		0309 – FUEL FILTERS FILTER, FUEL OIL, ASSEMBLY 15H75 (36422) (COMPONENTS SAME AS FILTER, FUEL OIL ASSEMBLY, STOCK No. FSN 2910-105-6092, <b>EXCEPT WHERE ANNOTATED</b> )	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: <b>ELEMENT,</b> <b>NYLON INSERT, 1/14 THD</b> <b>SIZE</b> 1X2449 (36422)		EA	1							D13	1
P 0	2910-105-6094	PLATE, TOP: <b>ELEMNT</b> 5Z932 (356422)		EA	1	*	*	2	*	*	2	D13	2
P 0	3895-603-0945	ELEMENT 5Z986(36422)		EA	1	4	8	16	4	8	16	D13	3
0		PLUG, PIPE: <b>HEAD</b> 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 <b>THD SIZE 7 IN. LG</b> 5Z985 (36422)	B	EA	1								



(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  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)	(b)	(c)	(a)	(b)	(c)		(a) Fig. NO.	(b) ITEM NO.
					1-20	21-50	51-100	1-20	21-50	51-100			
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
													6
X20		TUBE, COPPER 15H37 (36422)	EA	1								D14	
													7
X20		CLAMP: TUBE MTG JC2630 (36422)	EA	2								D14	
													8
0	5310-010-6497	WASHER, LOCK: CLAMP MTG, No. 10 SCREW SIZE 1X25 (36422)	EA	2								D14	
													9
0	5305-271-8048	SCREW, MACHINE: ROUND HEAD, CLAMP MTG, 10-24 THD SIZE, ¾ IN. LG HA1396 (36422)	EA	2								D14	
													10
0	4730-544-2400	NUT, UNION, FLARED TUBING 41F (30327)	EA	1								D14	
													11
P 0	1650-682-0610	VALVE, CHECK 417-455-5 (86768)	EA	1	*	*	2	*	*	2	6	D14	
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



(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION		(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)	(b)	(c)	(a)	(b)	(c)		(a)	(b)
		REF NUMBER & MFR CODE	USABLE ON			1-20	21-50	51-100	1-20	21-50	51-100	Fig. NO.	ITEM NO.	
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, LUNNICATION 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 LD 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 LD 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: <b>PLATE MTG, TYPE U</b> , No. 10, 3/8 <b>IN. LG</b> 1X1516 (36422)		EA	16									
		GROUP 43 – HYDRAULIC, FLUID, AIR AND VACUUM CONTROLS												
		4301 – STRAINERS, FILTERS, HOSE, PIPE, FITTINGS, TUBING, ETC.												
X20		ROPE, WIRE: <b>REMOTE CONTROL</b> 5Z62 (36422)		EA	2								D15	1
0		PIN, GROOVED: <b>CLEVIS PIN MTG</b> 1X2219 (36422)		EA	2								D15	2
0		PIN, CLEVIS: <b>CLEVIS MTG</b> 5Z454 (36422)		EA	2								D15	3
P 0	4720-104-6372	HOSE ASSEMBLY: <b>TRANSMITTER</b> 13J59 (36422)		EA	2	2	2	2	2	2	2	24	D15	4



(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  REF NUMBER & MFR CODE	(4) UNIT OF MEAS  USABLE ON	(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		HOSE 5Z1295 (36422)	EA	2									
X1		SLEEVE 900705-2-9 (0127)	EA	2									
X1		SWIVEL, FEMALE 4721-6-4 (01276)	EA	4									
X20		BAR: <b>BRACKET MTG</b> 15J31 (36422)	EA	2								D15	5
0	5310-011-0814	NUT, PLAIN, HEXAGON: <b>BRACKET MTG</b> , 3/8-24 <b>THD SIZE</b> 1X167 (36422)	EA	4								D15	6
0	5310-261-7340	WASHER, LOCK: <b>BRACKET MTG</b> , 3/8 <b>IN. SCREW SIZE</b> 1X28 (36422)	EA	6								D15	7
0	4730-194-1121	CONNECTOR: <b>HOSE TO</b> <b>COUPLING</b> , 3/8 X 1/4 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: <b>BRACKET MTG</b> , 3/8-24 <b>THD</b> <b>SIZE</b> , 2 <b>IN. LG</b> 1X209 (36422)	EA	4								D15	11
X20		BRACKET: <b>HOSE MTG</b> 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: <b>BRACKET MTG</b> , <b>DRILLED HEAD</b> , 3/8-24 <b>THD SIZE</b> , 1 3/4 <b>IN. LG</b> 5Z583 (36422)	EA	2								D15	14
M 0		WIRE, LOCK: <b>BRACKET MTG SCREW</b> 5Z624 (36422) MANUFACTURE FROM:  WIRE, 1 <b>EA</b> , 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	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) <b>(COMPONENTS SAME AS</b> HYDRAULIC CONTROL ASSEMBLY, STOCK No. 3895-105-0416, <b>EXCEPT WHERE ANNOTATED)</b>	A	EA	1							D15	



(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION  REF NUMBER & MFR CODE	(4) UNIT OF MEAS  USABLE ON	(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)	(b)	(c)	(a)	(b)	(c)		(a)	(b)
					1-20	21-50	51-100	1-20	21-50	51-100		Fig. NO.	ITEM NO.
P O R	3895-105-0416	HYDRAULIC CONTROL ASSEMBLY 13J57 (36422)	B	EA	1	*	*	*	*	*	5	D16	
P O	4010-191-0091	LINK: CONTROL MTG PLATE NR991 (36422)		EA	1	2	2	2	2	2	24	D16	1
X20		PLATE: CONTROL MTG 15J33 (36422)		EA	1							D16	2
P O 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	12		
P O R	3895-105-0400	TRANSMITTER ASSEMBLY 13J45 (36422)	B	EA	1	*	*	2	2	2	12		
F	5310-045-1395	NUT, JAM: SETSCREW 1X180 (36422)		EA	2							D16	3
P O	3895-105-0402	PIN, ROLL: LEVER LOCK 1X2437 (36422)		EA	3	2	2	2	2	2	24	D16	4
P O	3895-658-0323	PIN, ROLL: LEVER LOCK 50-028-125-1375 (72962)		EA	1	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	24	D16	7
X1		LEVER 5Z1040 (36422)		EA	1							D16	8
P F	5305-105-6846	SETSCREW: LEVER 1X2345 (36422)		EA	1	*	*	2	*	*	6	D16	9
X1		QUADRANT: LEVER 5Z1209 (36422)		EA	1							D16	10
P O	4730-791-6031	BREATHER: COVER PLATE 543 (24981)		EA	1	2	2	2	2	2	24	D16	11
F	5305-022-7433	SCREW, CAP, HEXAGON HEAD: COVER MTG, 1/4-20 7HD SIZE, 3/4 IN. LG 1X512 (36422)		EA	4							D16	12
F	5310-010-3319	WASHER, LOCK: COVER MTG, 1/4 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	25	D16	15
F	4730-042-8988	PLUG, PIPE: ELBOW TO BODY 1X824 (36422)		EA	1	*	*	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			(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		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 <b>DIA x 1 IN. LG</b> 1X2242 (36422)	EA	1								D16	24
F	4730-018-9566	PLUG, PIPE: <b>BODY</b> 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: <b>BAR AND LEVER MTG</b> 55-077-375 (72962)	EA	2	2	2	2	2	2	2	24	D16	28
F	5305-105-6847	SETCREW: <b>LEVER</b> 1X2381 (36422)	EA	1								D16	29
X1		LEVER 5Z1039 (36422)	EA	1								D16	30
P 0	3895-658-0322	PIN, ROLL: <b>LEVER MTG</b> 59-077-375-1375 (72962)	EA	2	2	2	2	2	2	2	24	D16	31
X1		BAR, SIDE: <b>PISTON</b> 903C (36394)	EA	1								D16	32
F	5310-010-3320	WASHER, LOCK: <b>BODY MTG</b> , 5/16 IN. SCREW SIZE 1X27 (36422)	EA	2								D16	33
F	5305-018-6278	SCREW, CAP, HEXAGON HEAD: <b>BODY MTG</b> , 5/16-18 <b>THD SIZE</b> , 2 1/2 <b>IN. LG</b> 1X2021 (36422)	EA	2								D16	34
P F	4820-603-0955	VALVE, RELIEF 5Z989 (36422) <b>(COMPONENTS SAME AS VALVE RELIEF, P/N 13J50 EXCEPT WHERE ANNOTATED)</b>	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: <b>CADMIUM PLATED, No. 10</b> 1X1776 (36422)	EA	2								D16	40
X1		BODY ASSEMBLY 5Z1377 (36422)	A	EA	1								



(1)	(2)	(3)		(4)	(5)	(6)			(7)			(8)	(9)		
SMR CODE	FEDERAL STOCK NUMBER	DESCRIPTION		UNIT OF MEAS	QTY INC IN UNIT	30-DAY DS MAINT ALLOWANCE			30-DAY GS MAINT ALLOWANCE			1-YR ALW PER 100 EQUIP CNTGY	ILLUS- TRATION		
		REFERENCE NO. & MFR CODE	USABLE ON CODE			(a)	(b)	(c)	(a)	(b)	(c)		(a)	(b)	
						1-20	21-50	51-100	1-20	21-50	51-100				
X1		BODY ASSEMBLY 13J51 (36422)	B	EA	1										
X1		BODY 5Z793 (36422)	A	EA	1										
X1		BODY 13J52 (36422)	B	EA	1								D16	41	
X1		PISTON 5Z794 (36422)	A	EA	1								D16	42	
X1		PISTON 13J53 (36422)	B	EA	1								D16	43	
X1		DOWELL 5Z794 (36422)		EA	2								D16	44	
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	
PF	3895-105-0404	PISTON 5Z975 (36422)		EA	1	*	2	2	*	2	2	12	D17	4	
P F	5330-618-0801	PACKING, PREFORMED MS8775-114 (96906)		EA	1	REF	REF	REF	REF	REF	REF	REF	D17	5	
X1	3810-425-9136	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		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)		EA	V	*	2	2	*	2	2	12	D17	11
P F		3895-073-4338	SHIM, CYLINDER MTG 5Z725 (36422)		EA	1								D17	12
F	5340-603-1229	SETSCREW, BRACKET HEXAGON SOCKET, HEAD CUP POINT, 3/8-24 THD SIZE, 3/8 IN. LG 1X485 (36422)		EA	1	*	2	2	*	2	2	12	D17	13	
P F		PLUG: BRACKET 5Z725 (36422)		EA	1	*	2	2	*	2	2	12	D17	14	
P F		3895-105-0405	CRANK, BELL: BRACKET 7Z145 (36422)												

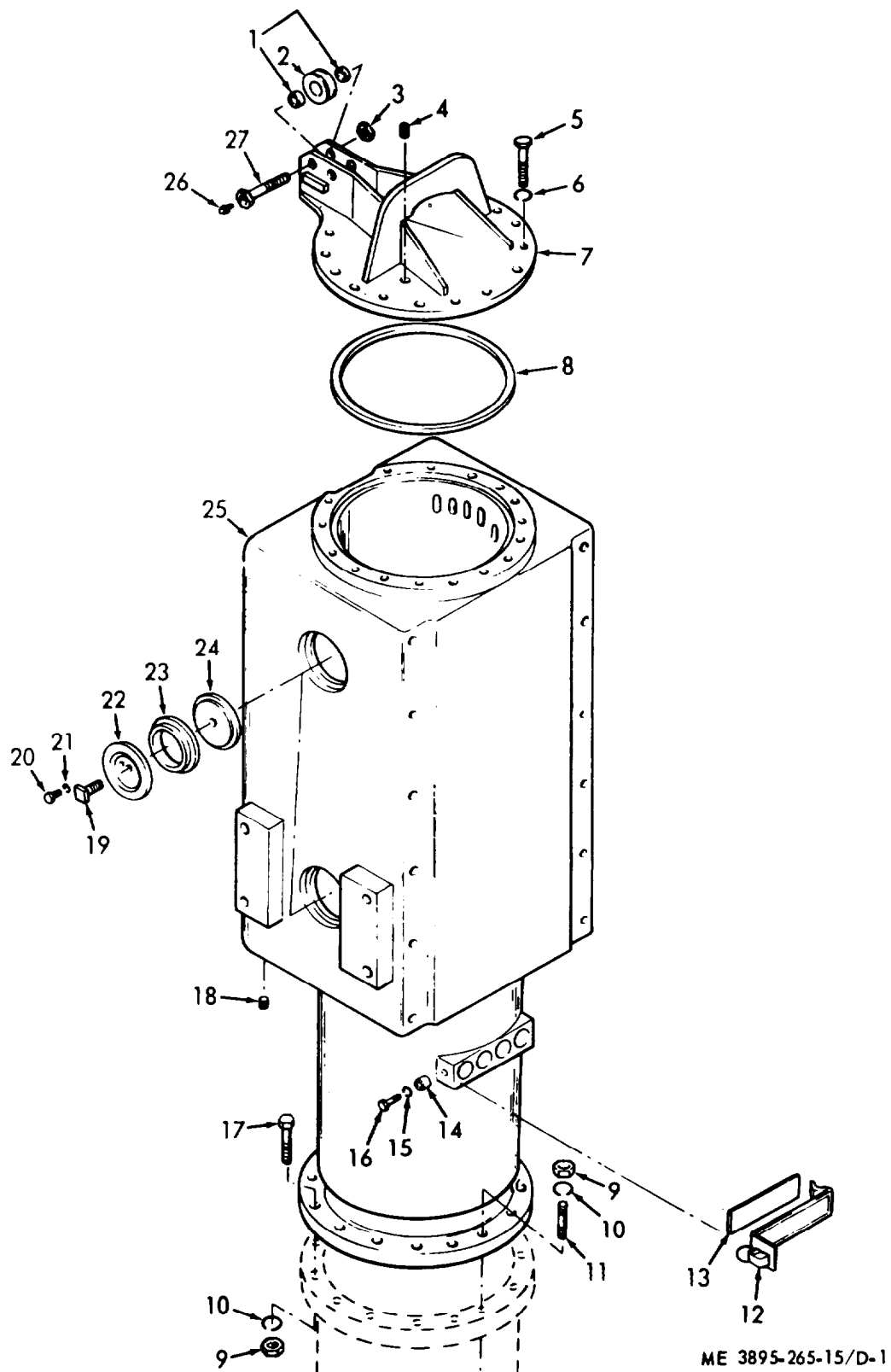


(1)  SMR CODE	(2)  FEDERAL STOCK NUMBER	(3)  DESCRIPTION   USABLE ON   REF NUMBER & MFR CODE CODE	(4)  UNIT OF MEAS	(5)  QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8) 1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS- TRATION	
					(a)	(b)	(c)	(a)	(b)	(c)		(a) FIG. NO.	(b) ITEM NO.
					1-20	21-50	51-100	1-20	21-50	51-100			
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	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
X2F		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)  GROUP 74-CRANES, SHOVELS AND EARTH MOVING EQUIPMENT  7413-PILE DRIVER ATTACHMENT	EA	2	2	2	2	2	2	2	24	D17	25
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



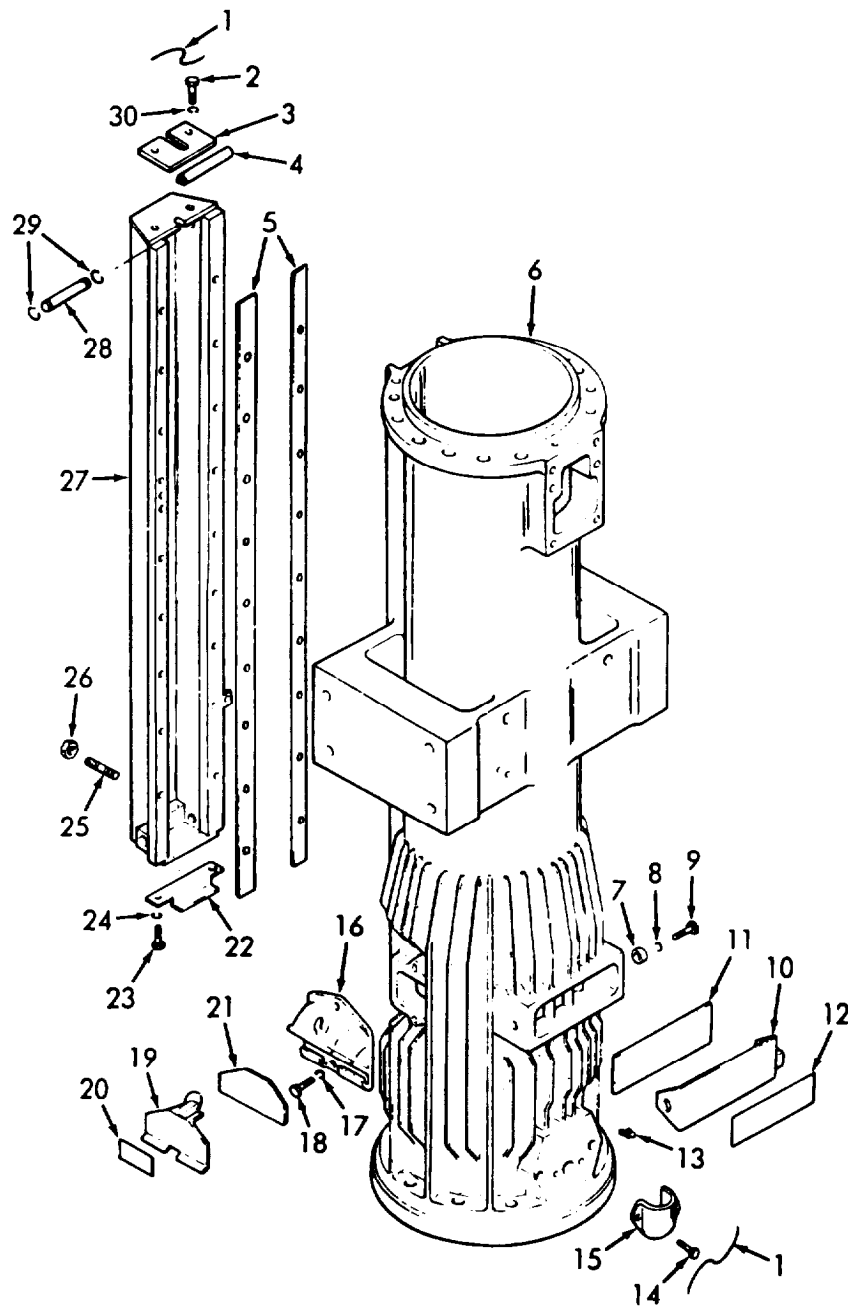
(1)  SMR CODE	(2)  FEDERAL STOCK NUMBER	(3)  DESCRIPTION  REFERENCE NO. & MFR CODE      USABLE ON CODE	(4)  UNIT OF MEAS	(5)  QTY INC IN UNIT	(6) 30-DAY DS MAINT ALLOWANCE			(7) 30-DAY GS MAINT ALLOWANCE			(8)  1-YR ALW PER 100 EQUIP CNTGY	(9) ILLUS- TRATION	
					(a)	(b)	(c)	(a)	(b)	(c)		(a) FIG NO	(b) ITE M 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.**

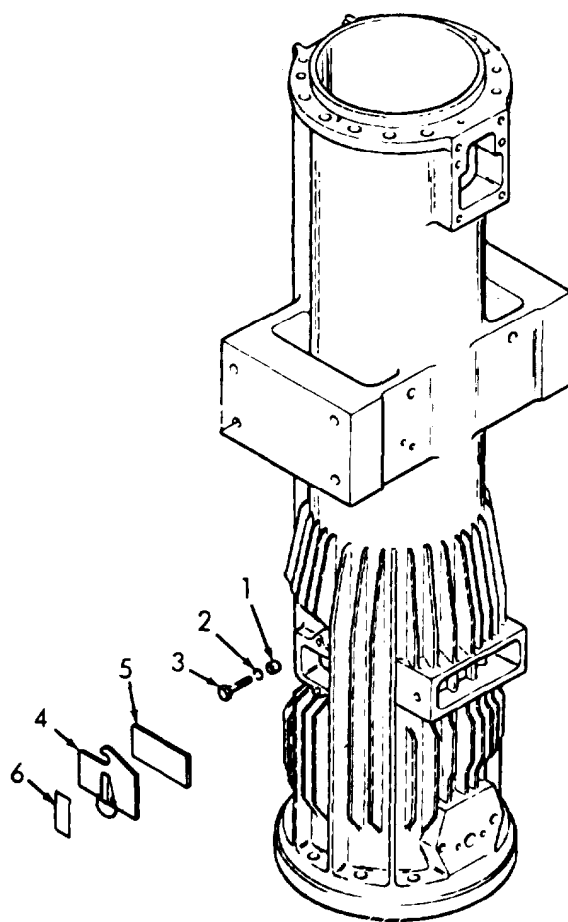




ME 3895-265-15/D-2

Figure D-2. Lower cylinder.





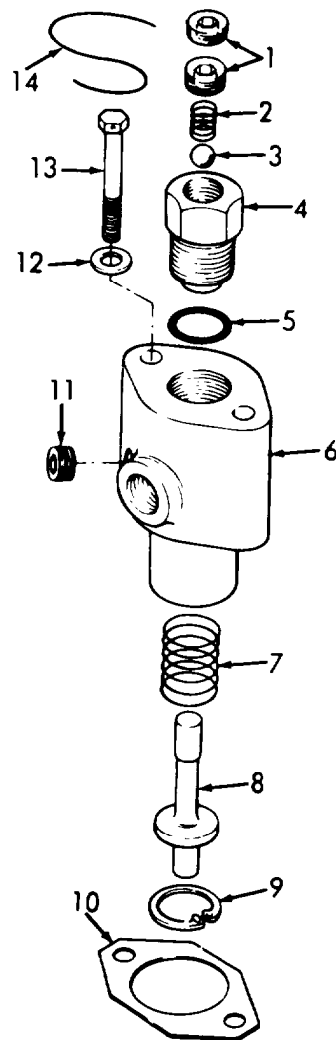
ME 3895-265-15/D-3

*Figure D-3. Air intake cover.*





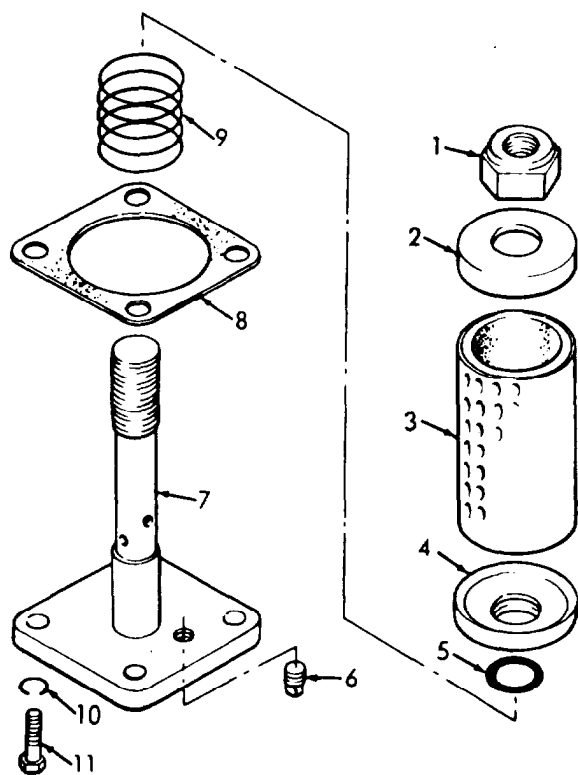




ME 3895-265-15/D-5

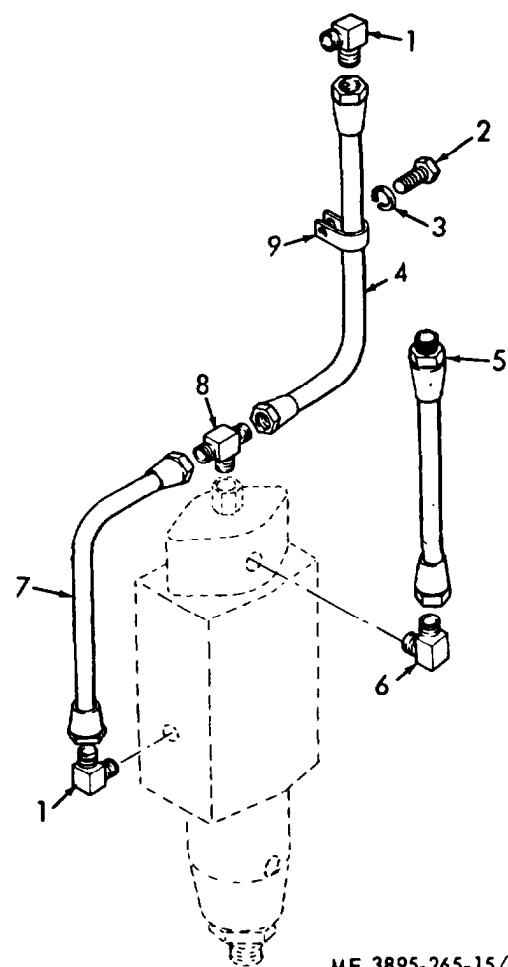
*Figure D-5. Lubricating oil pump.*





ME 3895-265-15/D-6

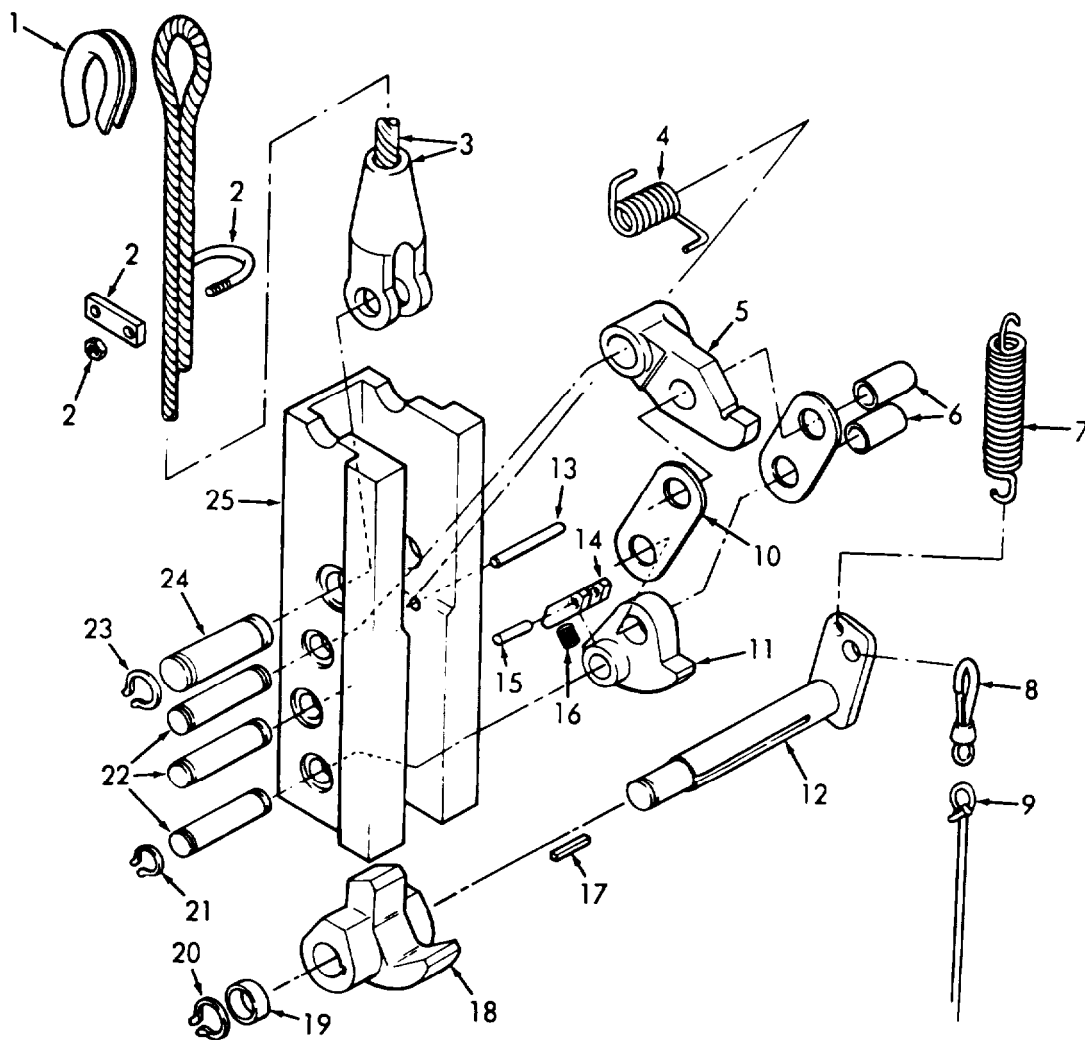
*Figure D-6. Lubricating oil filter.*



ME 3895-265-15/D-7

*Figure D-7. Lubricating oil lines and fittings.*

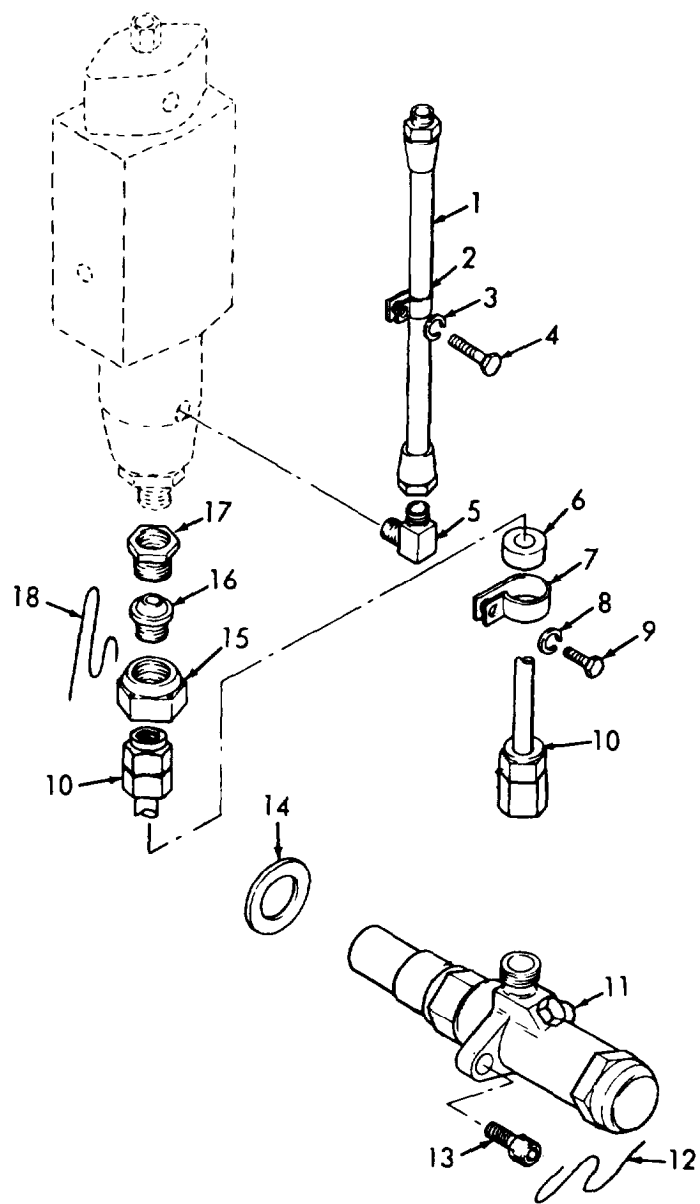




ME 3895-265-15/D-8

Figure D-8. Starting device.





ME 3895-265-15/D-9

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



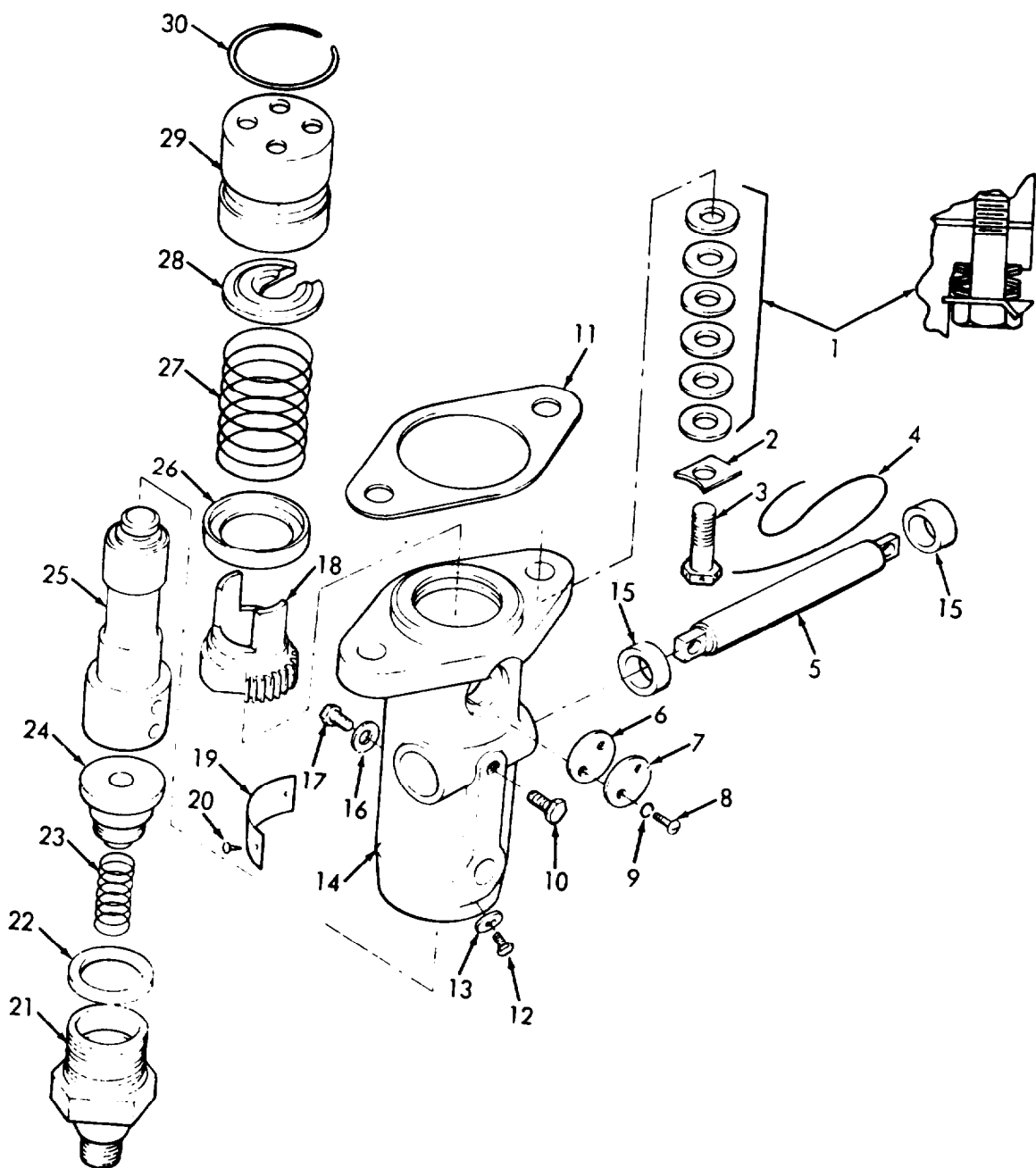
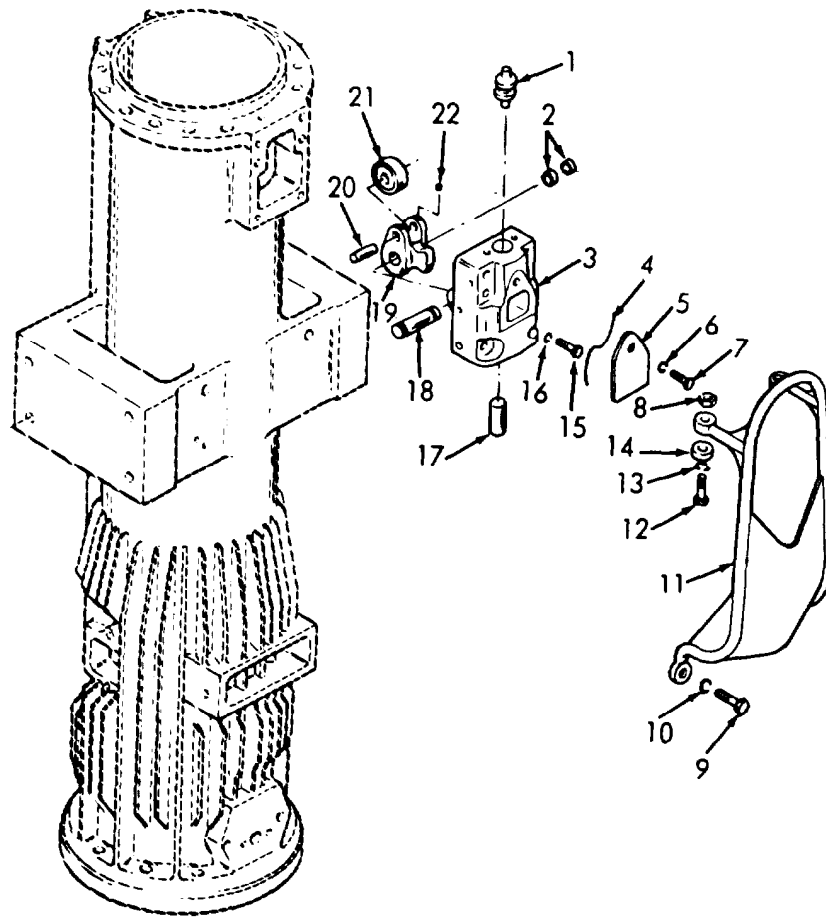


Figure D-10. Fuel Pump.

ME 3895-265-15/D-10

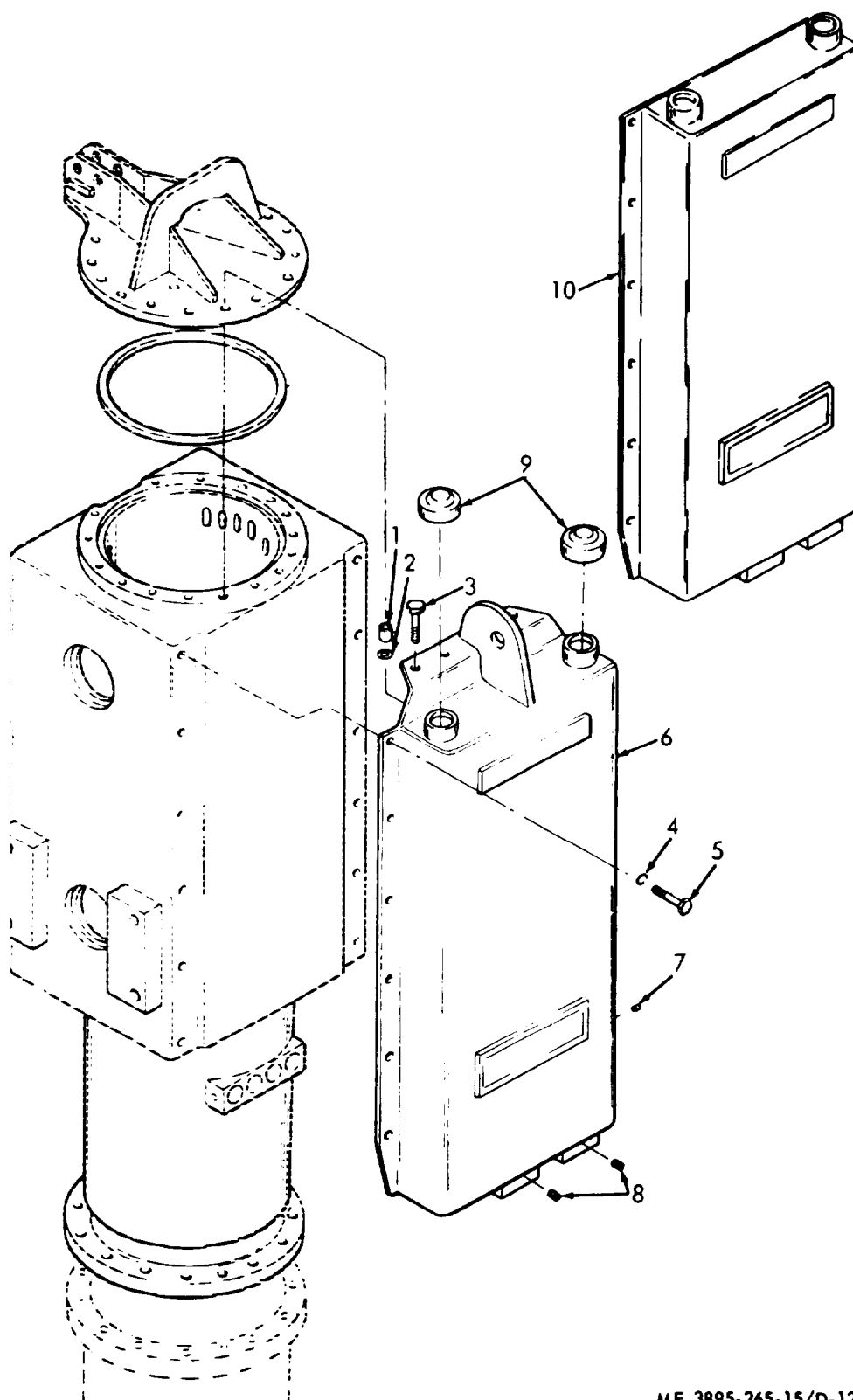




ME 3895-265-15/D-11

Figure D-11. Pump drive.

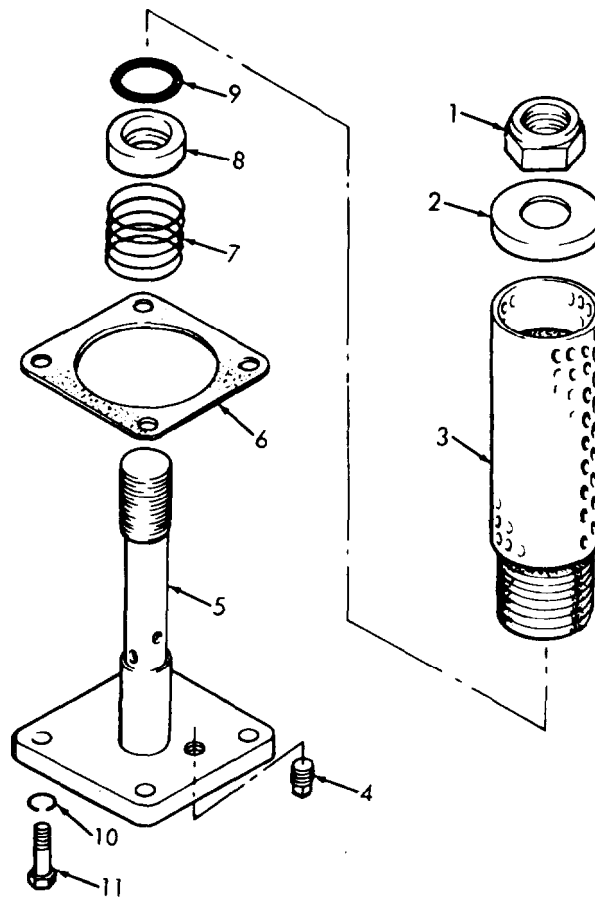




ME 3895-265-15/D-12

Figure D-12. Fuel and lubricating tank.





ME 3895-265-15/D-13

*Figure D-13. Fuel filter.*



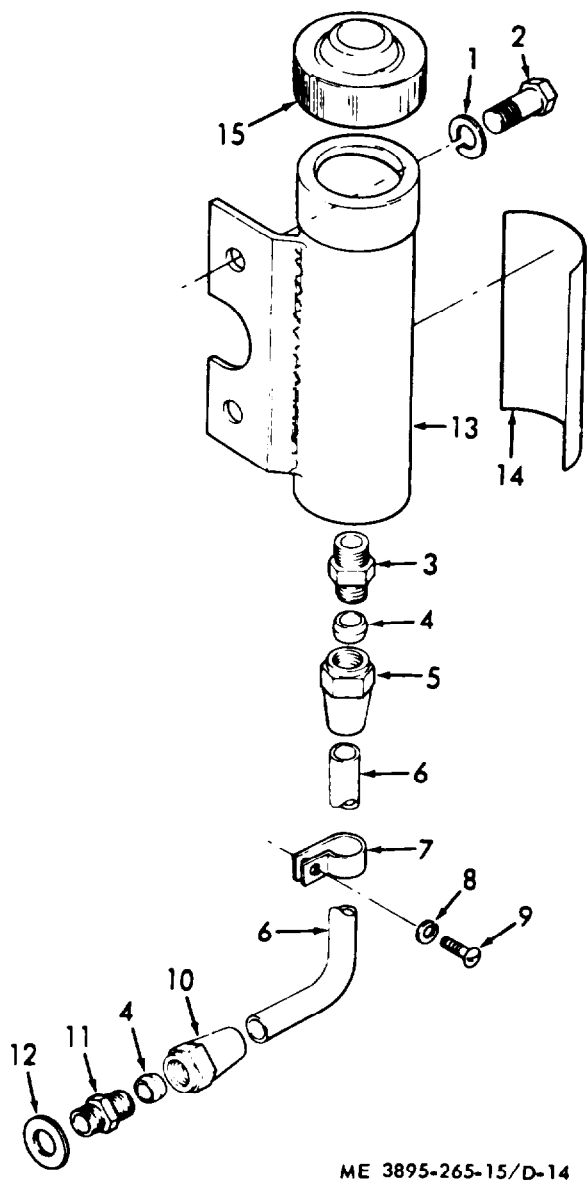


Figure D-14. Starting fluid injector.

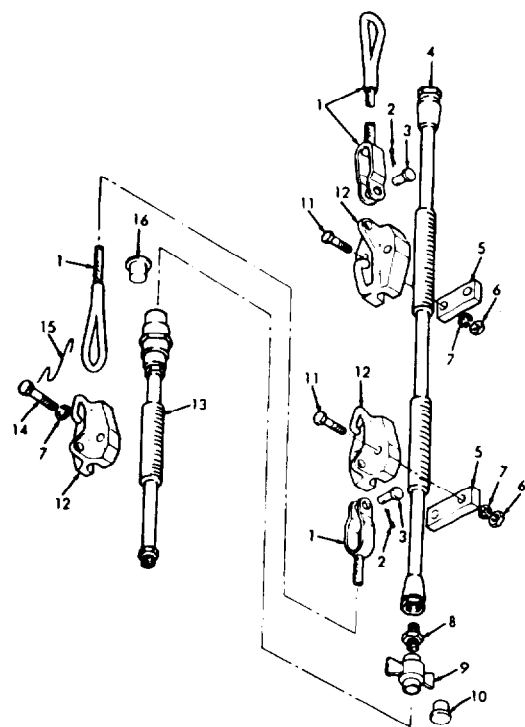
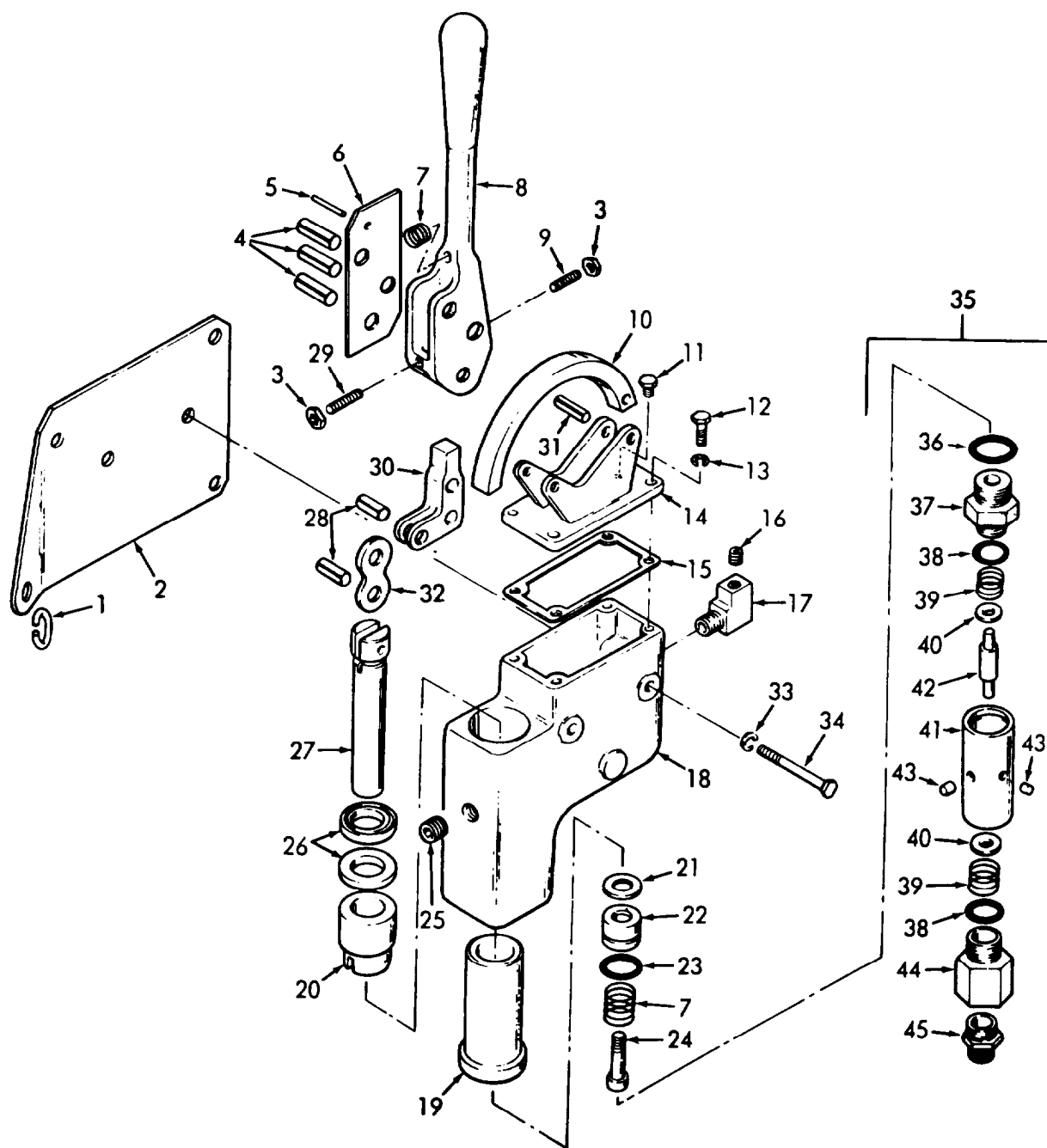


Figure D-15. Hydraulic hoses and cables.

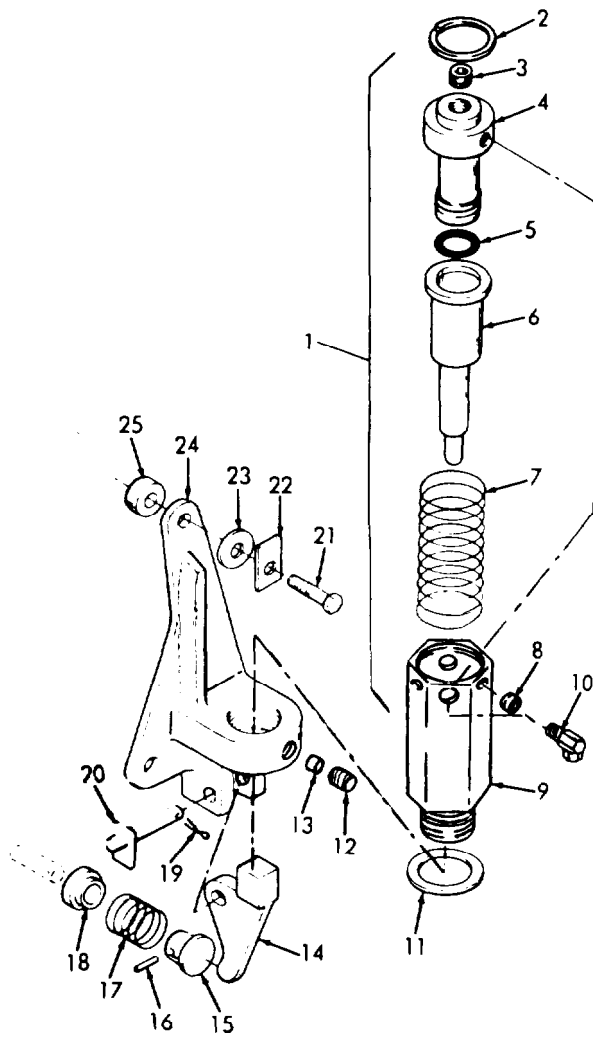




ME 3895-265-15/D-16

Figure D-16. Hydraulic transmitter and relief valve.





ME 3895-265-15/D-17

Figure D-17. Hydraulic receiver.



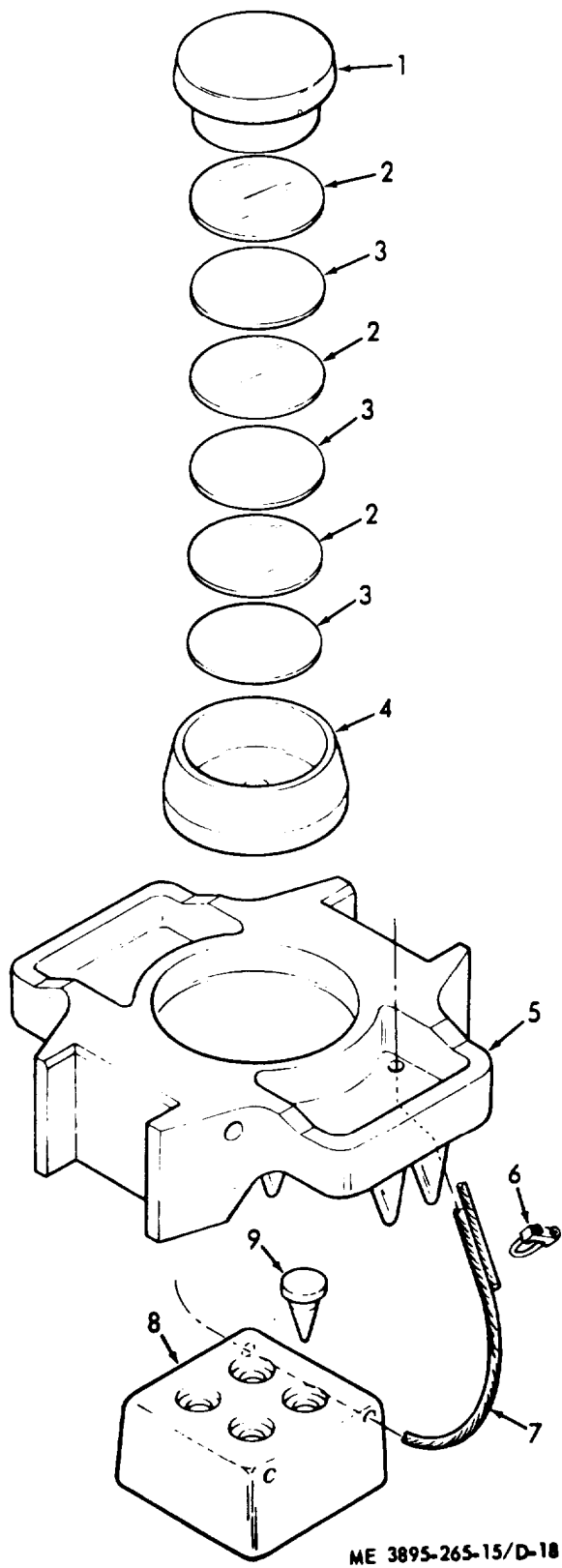


Figure D-18. Driving head and adapter.

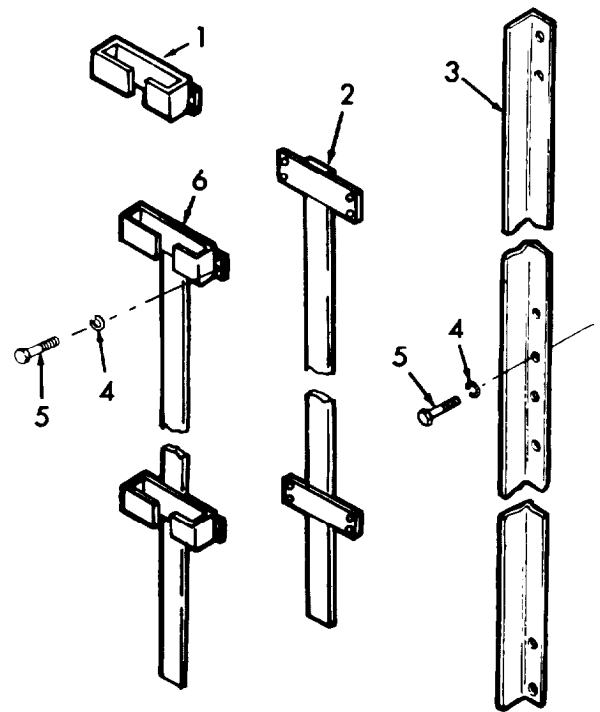


Figure D-19. Guides and angles.



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

<u>Stock Number</u>	<u>FIGURE NO.</u>	<u>Item No.</u>	<u>Stock Number</u>	<u>Figure No.</u>	<u>Item No.</u>
1650-682-0610	D14	11	3895-603-1268	D4	1
2815-687-05-0597	D16	22	3895-613-1772	D4	14
2815-697-0599	D1	1	3895-603-1278	D4	12
2815-682-0602	D17	25	3895-603-1290	D4	11
2815-682-0603	D8	18	3895-603-1291	D4	5
2910-105-6093	D13	4	3895-657-9414	D8	13
2910-105-6094	D13	2	3895-657-9932	D10	28
2910-105-6095	D12	10	3895-658-0101	D10	11
2910-105-6096	D11	1	3895-658-0210	D16	28
2910-105-6098	D11	2	3895-658-0322	D16	11
2910-105-6100	D10	5	3895-658-0323	D16	5
2910-105-6101	D14				
2910-105-6102	D14	3	3895-682-0600	DC	13
2910-105-6997	D11	19	3895-754-4070	D18	5
2917-105-9248	D11	21	3895-854-6327	D15	13
2910-105-9249	D11	20	3895-855-5598	D9	10
2910-105-9250	D11	18	3895-929-0745	D18	1
2910-175-9251	D11	5	3895-929-8186	D8	5
2910-105-9252	D5	7	3895-930-2532	D8	25
2910-105-9253	D10	24	3895-936-5209	D11	11
2910-105-9254	D10	18	4010-105-4237	D8	
2910-105-9255	D10	29	4010-191-0091	D16	1
2910-105-9256	D10	2	4720-104-6372	D15	4
2910-297-6692	D10	23	4720-603-0424	D9	1
2910-511-2370	D11	6	4720-603-0429	D7	4
2940-105-6089	D6	4	4720-603-0452	D7	7
2940-105-6090	D6	3	4720-603-0458	D7	5
2940-105-6091	D6	2	4730-018-9566	D5	11
2940-105-6099	D5			D12	8
3040-603-0355	D8	10		D16	25
305-105-6848	D11	22	4730-042-8988	D16	16
310-739-4470	D16	40	4730-044-4692	D17	1
3110-198-1051	D5	7	4730-050-4208	D1	26
3810-475-9136	D17	7		D2	13
3895-010-1376	D2	10		D4	10
3895-073-4338	D17	11	4730-105-6031	D15	9
3895-076-1371	D5	10	4730-106-1741	D9	5
3895-104-6620	D1	22	4710-194-1171	D15	8
3895-104-6622	D1		4730-278-8764	D14	4
	D1	7	4730-288-7829	D1	4
3895-105-0401	D16	27	4730-318-6661	D15	10
3895-105-9452	D16	4	4730-544-2400	D14	i n
3095-105-0403	D17	1	4730-657-9723	D5	12
3895-105-0404	D17	4	4730-791-6031	D16	11
3895-105-0405	D17	14	4730-027-7616	D16	17
3895-105-0406	D17	18	4730-904-3965	D17	7
3895-105-0407	D15	16	4730-457-7445	D16	45
3895-105-0408	D17	10	4730-979-9915	D7	1
3895-105-0409	D1	24	4820-603-0955	D16	35
3895-105-0410	D4	7	5305-017-2119	D11	7
3895-105-0411	D10	26	5305-012-3605	D3	1
3895-105-3412	D10	21		D14	2
3895-105-0413	D8	14	5305-018-1648	D15	11
3895-105-0414	D3	4	5305-018-6278	D16	34
1895-105-1415	D1	12	5305-022-7413	D16	12
3895-105-0416	D16		5305-043-3494	D11	12
3895-105-2706	D8	11	5305-105-4187	D1	20
3895-105-9247	D4	9	5305-105-4188	D5	
3895-106-5641	D4	15	5305-195-4189	D2	23
3895-116-0382	D12	9	5305-105-4190	D7	2
3895-603-0165	D18	9	5305-105-6846	D16	9
3895-603-0237	D18	8	5305-105-6847	D16	29
3895-603-0322	D18	3	5305-105-6849	D9	13
3895-603-0323	D19	2	5305-208-7837	D9	9
3895-603-0324	D14	12	5305-271-8048	D14	9
3495-603-0327	D2	5	5305-297-0794	D19	5
3895-603-0359	D8	4	5305-298-3184	D1	17
3895-613-0386	D9	11		D1	17
3895-603-0587	D10	27	5305-365-7868	D10	8
3895-603-0596	D10	1b	5305-527-3890	D11	15
3895-603-0694	D10	22	5305-530-9295	D1	27
3895-603-0842	D5	7	5305-530-9298	D15	14
3895-603-0885	D11	1	5305-543-4501	D10	3
3895-603-0897	D11	17	5305-543-4892	D1	5
3895-603-0945	D13	3		D12	5
3895-603-0948	D6	9	5305-558-3692	D17	21
	D13	7	5305-558-4899	D11	9
3895-603-1085	D16	7	5305-637-4039	D6	11
3895-603-1386	D16	15		D13	11
3895-603-1215	D17	1	5305-638-8876	D7	7
3895-603-1266	D17	17		D9	4
3895-603-1267	D1	8	5306-105-4109	D16	24



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

<u>Stock Number</u>	<u>Figure No.</u>	<u>Item No.</u>
5307-105-4231	D4	8
5310-010-3319	D16	13
5310-010-3320	D1	15
	D2	8
	D9	8
	D16	33
5310-010-3323	D3	2
	D14	1
5310-010-3326	D11	10
	D19	4
5310-010-6497	D14	8
5319-011-0814	D15	6
5310-045-1395	D16	3
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
	D6	10
	D7	3
	D9	1
	D11	6
	D13	10
	D15	7
5310-265-9219	D1	9
	D11	8
5310-595-7473	D13	1
5315-105-4152	D8	24
5315-105-4156	D2	20
5315-252-5992	D17	19
5315-603-4825	D8	22
5315-603-4868	D8	6
5325-105-9458	D9	6
5330-062-7034	D16	38
5336-105-4136	D6	8
	D13	6
5330-105-4169	D16	26
5330-141-7756	D5	5
5310-196-5382	D6	5
	D13	9
5330-366-8836	D17	13
5330-603-4786	D1	23
5330-618-0801	D16	23
	D17	5
5330-836-9918	D16	36
5340-263-5865	D8	23
5340-282-0081	D8	21
5340-282-0814	D8	20
5340-282-5315	D17	2
5340-578-3236	D10	7
5340-598-1395	D5	9
5340-603-0330	D8	7
5340-603-0360	D8	16
5340-603-1214	D16	39
5340-603-1229	D17	13
5340-603-1742	D17	15
5340-658-7501	D11	30
5340-690-3351	D17	25
730-657-9723	D7	8



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

<u>REFERENCE NO.</u>	<u>MFG CODE</u>	<u>FIG NO.</u>	<u>ITEM NO.</u>	<u>REFERENCE NO.</u>	<u>MFG CODE</u>	<u>FIG NO.</u>	<u>ITEM NO.</u>
1X2021	36422	D16	34	1X2577	36422	D8	1
A2000-5-4	58660	D7	6	1x26	36422	D16	13
A2000C5	58660	D7		1X2618	36472	D1	5
A3000C5-4	98660	D7	8		36422	D12	5
BC76120-7A	91843	D10	25	1X2619	36422	D12	3
BG7646	91843	D10	15	1X2670	36422	D7	2
CC2701	81118	D17	9		36422	D8	4
CC509	36422	D12	7	1X27	36422	D1	15
CL50	03743	D19	7		36422	D2	8
ERT130	36422	D17	7		36422	D9	8
FIG249SIZE3	06762	D8	8		36422	D16	33
GA7611	36422	D10	16	1X2744	36422	D10	3
GA7613	91843	D10	13	1X2744	36422	D17	21
GA7618A	91843	D10	22	1X2749	36422	D1	17
GRC 27-10	91265	D5	5		36422	D1	17
HA1396	36422	D14	9	1X28	36422	D6	10
HG76593A	91843	D10	14		36422	D7	3
HP76105	01843	D10	21		36422	D9	
JC2630	36422	D14	7		36422	D11	6
MS19060-22	96906	D5	3		36422	D13	10
MS2875-114	96906	D17	5		36422	D15	7
MS8775-114	96906	D16	23	1X30	36422	D2	17
NP7659	91843	D10	19		36422	D2	30
N8991	36422	D16			36422	D14	1
N5000-175	79136	D17		1X31	36422	D1	6
PDE17A1X	01843	D10	7		36422	D1	10
PMH2-3X	01843	D10	29		36422	D11	13
PPT17A1X	01843	D10	6		36422	D12	4
B076129	36422	D10	5	1X37	36422	D19	4
RR75	80756	D5	9	1X4	36422	D2	24
SC157-2	01843	D10	20	1X481	36422	D11	22
SC22-5CA	01843	D17	8	1X485	36422	D17	12
SC7694	01843	D10	17	1X51	36422	D18	6
SC7695	01843	D10	10	1X512	36422	D16	12
SC7698	01843	D10	12	1X528	36422	D11	7
SM2055-400X	36422	D10	9	1X823	36422	D5	11
SP7438	01843	D10	27		36422	D12	8
SV7613	01843	D10	18		36422	D16	25
57-19	73277	D6	5	1X824	36422	D16	16
	73277	D13	9	1X82436422		D17	3
VA7696A	01843	D10	24	1X826	36422	D12	7
WMR2055-0X		D10	30		36422	D13	4
WMS2055-400X	36422	D10	11	1X830	36422	D1	4
WMS2160-1X	01843	D10	26	1X862	36422	D6	6
WMS2161-1X	01843	D10	28	1259-62	06092	D11	16
WSF2056A2X	01843	D10	23	13H199	36422	D6	7
1H174	36422	D16	7		36422	D13	5
1X1086	36422	D17	19	13H203	36422	D6	8
1X109	36422	D1	3		36422	D13	6
1X1290	36422	D2	18	13J47	36422	D16	19
1X1304	36422	D4	3	13J48	36422	D16	27
1X1353	36422	D1	16	13J49	36422	D16	14
	36422	D2	9	13J52	36422	D16	41
1X15	36422	DR	2	13J53	36422	D16	42
1X1571	36422	D1	21	13J54	36422	D17	1
1X1647	36422	D2	26	13J55	36422	D17	6
1X167	36422	D15	6	13J57	36422	D16	
1X171	36422	D1	9	13J59	36422	D15	4
	36422	D11	8	140629	97532	D16	26
1X1776	36422	D16	40	15A12	36422	D1	25
1X1792	36422	D5	1	15A13	36422	D2	6
1X180	36422	D16	3	15A15	36422	D1	24
1X20	36422	D3	2	15A16	36422	D1	22
1X206	36427	D6	11	15A17	36422	D1	14
	36422	D13	11		36422	D7	7
1X209	36422	D15	11	15A20	36422	D3	1
1X214	36422	D3	3	15813	36422	D4	17
	36422	D14	2	15814	36422	D4	11
1X2164	36422	D4	4	15816	36422	D4	11
1X2198	36422	D9	9	15817	36422	D4	7
1X2219	36422	D15	7	15818	36422	D4	8
1X2234	36422	D1	20	15826	00535	D4	2
1X2242	36422	D16	24	15828	36422	D4	9
1X2249	36422	D1	18	15829	36422	D1	7
1X2251	36422	D11	9	15836	36422	D1	27
1X2345	36422	D16	9	1589	36422	D4	15
1X2381	36422	D16	29	15D10	36422	D8	14
1X2437	36422	D16	4	15D11	36422	D9	
1X2449	36422	D6	1	15D12	36422	D8	3
	36422	D13	1	15D14	36422	D2	23
1X25	36422	D14	8	15D4	36422	D8	17
1X2515	36422	D1	19	15D5	36422	D8	19



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

<u>REFERENCE NO.</u>	<u>MFG CODE</u>	<u>FIG. NO.</u>	<u>ITEM NO.</u>	<u>REFERENCE NO.</u>	<u>MFG CODE</u>	<u>FIG. NO.</u>	<u>ITEM NO.</u>
15D9	36422	D2	27	SZ365	36422	D5	13
15H2	36422	D11	17	SZ421	36422	D9	6
15H22	36422	D14	13	SZ454	36422	D15	3
15H28	36422	D7	4	SZ455	00535	D4	6
15H32	36422	D9	10	SZ496	36422	D17	6
15H33	36422	D11	19	SZ498	36422	D16	18
15H37	36422	D14	6	SZ509	36422	D9	17
15H39	36422	D7	5	SZ518	36422	D9	15
15H41	36422	D9	1	SZ526	36422	D2	2
15H43	36422	D12	6	SZ550	36422	D16	15
15H47	36422	D14		SZ555	36422	D16	39
15H54	36422	D12	1	SZ583	36422	D15	14
15H55	36422	D6	3	S761	36422	D8	7
15H57	36422	D14	14	S762	36422	D15	1
15H58	36422	D11	3	SZ621	36422	D7	9
15H61	36422	D11	20		36422	D10	4
15H63	36422	D11	18	SZ623	36422	D8	2
15H67	36422	D7	7	SZ624	36422	D2	1
15H69	36422	D14	13		36422	D9	12
15H72	36422	D14	15		36422	D15	15
15H75	36422	D12	10	S263	36422	D8	9
15J27	36422	D17	24	SZ631	36422	n i l	4
15J28	36422	D17	18	SZ720	36422	D5	4
15J29	36422	D17	15	SZ724	36422	D2	14
15J30	36422	D15	12		36422	D9	13
15J31	36422	D15	5	SZ725	36422	D17	11
15J32	36422	D16		SZ756	36422	D16	20
15J33	36422	D16	2	SZ757	36422	D16	19
15L133	36422	D19	1	SZ758	36422	D16	27
15L157	36422	D19	1	SZ759	36422	D16	22
15L159	36422	D19	6	SZ793	36422	D16	41
15L163	36422	D19	2		36422	D17	1
15N12	36422	D11	11	SZ794	36422	D16	42
15N14	36422	D2	16	SZ795	36422	D16	43
15N15	36422	D2	19	S791	36422	D6	9
15N17	36422	D2	21		36422	D13	7
15N19	36422	D2	20	SZ916	36422	D16	6
	36422	D3	6	S7928	36422	D13	8
15N19	36422	D2	12	S7930	36422	D13	7
15N20	36422	D2	10	SZ935	36422	D16	44
15N24	36422	D1	13	SZ974	36422	D17	9
15N25	36422	D1	12	SZ975	36422	D17	4
15N29	36422	D3	4	SZ986	36422	D13	3
15N31	36422	D3	5	SZ989	36422	D16	35
1557	36422	D18	5	SZ990	36422	D16	17
1558	36422	D18	8	50-028-125-1375	72962	D16	5
1559	36422	D18	9	5100-100	79136	D8	23
161F	30327	D14	5		79136	D2	29
16108L	70270	D4	10	5100-32-8	01276	D15	16
16108L	70270	D1	26	5100-41-8	01276	D15	10
	70270	D2	13	5100-75	79136	D8	21
2-112	83259	D16	36	5100S5-6	01276	D15	9
2-116	02697	D16	38	5133-75	79136	D8	20
2043A	79150	D14	12	S2766	36422	D5	14
216P	91821	D11	7	S43	24981	D16	11
36422		D17	11	55-077-375	72962	D16	28
4ME4F	80713	D16	17	59-048-250-0687	72962	D17	16
41F	30327	S14	10	59-077-175-1375	72962	D16	11
417-455-S	86768	D14	11	59-077-375-3000	72962	D8	13
SZ1026	36422	D6	7	6-6F TXS	45681	D16	45
SZ1029	36422	D6	2	6FTXS	45681	D15	8
SZ1030	36422	D6	4	6Z341	36422	D14	3
SZ1031	36422	D13		6Z590	36422	D5	
SZ1032	36422	D13	5	6Z591	36422	D5	2
SZ1033	36422	D6		6Z331	81118	D14	14
SZ1038	36422	D16	14	7Z102	36422	D2	5
SZ1039	36422	D16	30	7Z103	36422	D2	29
SZ1040	36422	D16	8	77108	36422	D2	4
SZ1209	36422	D16	10	7Z11	36422	D2	25
SZ121	36422	D5	6	7Z129	36422	D11	71
SZ1211	36422	D17	10	7Z136	36422	D1	8
SZ122	36422	D5	8	7Z137	36422	D1	
SZ125	36422	D5	7	1713A	36422	D1	2
SZ130	36422	D5	10	7Z139	36422	D1	1
SZ1315	36422	1	2	7Z143	73015	D17	25
SZ1376	36422	D16	21	7Z145	36422	D17	14
S71535	36422	D17	8	7Z151	36422	D17	17
SZ189	36422	D9	5	7Z154	36422	D11	1
SZ240	05234	D17	23	7Z156	36422	D11	5
SZ240M	05234	D9	14	7Z162	36422	D18	4
SZ289	36422	D18	7	7Z163	36422	D18	2
SZ318	00535	D5	12	7Z164	36422	D18	1



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

<u>REFERENCE NO.</u>	<u>MFG CODE</u>	<u>FIG NO.</u>	<u>ITEM NO.</u>
7Z165	36422	D18	1
7Z19	36422	D1	23
7Z198	36422	D19	5
7Z256	36422	D2	15
7Z258	36422	D17	22
7Z260	36422	D8	18
7Z267	36422	D4	1
7Z290	36422	D11	12
7Z297	36422	D2	11
7Z30	36422	D10	1
7Z315	36422	D4	5
7Z345	36422	D11	15
7Z360	36422	D2	14
7Z385	36422	D17	20
7Z428	36422	D8	25
7Z430	36422	D2	22
7Z431	36422	D9	1 b
7Z440	36422	D10	2
7Z449	36422	D11	14
7Z458	36422	D2	3
7Z460	36422	D15	13
7Z511	36422	D9	11
7Z74	36422	D8	22
7Z75	36422	D8	1 b
7Z77	36422	D6	15
7Z78	36422	D8	11
7Z79	36422	D8	10
7Z80	36422	D8	6
7Z81	36422	D8	5
7Z82	36422	D8	4
7Z85	36422	D8	24
7Z9	36422	D1	11
7Z98	36422	D8	17
903C	36394	D16	32



## INDEX

	Paragraph	Page		Paragraph	Page
Adapter -----	3-30	3-10	Head, cylinder -----	6-1	6-1
Adjustment:			Head, driving -----	3-31	3-10
Oil pump -----	6-3	6-1	Hose, hydraulic -----	3-23	3-9
Fuel pump -----	6-4	6-2	Hydraulic :		
After movement, reinstallation -----	2-5	2-3	Control system -----	3-22	3-7
Anvil -----	6-9	6-7	Hose -----	3-23	3-9
Altitudes, operation at high -----	2-17	2-9	Receiver -----	6-12	6-11
Areas, operation in dusty or sandy -----	2-14	2-9	Relief valve -----	6-14	6-13
Areas, operation in salt water -----	2-16	2-9	Transmitter -----	6-13	6-11
Basic issue tools and equipment -----	3-1	3-1	Identification data -----	1-4	1-3
Before movement, dismantling -----	2-4	2-3	Information :		
Cold, operation in extreme -----	2-12	2-9	Detailed lubrication -----	3-4	3-1
Controls -----	2-7	2-4	General lubrication -----	3-3	3-1
Control system, hydraulic -----	3-22	3-7	Injector:		
Cylinder, lower -----	6-8	6-7	Fuel -----	6-6	6-4
Cylinder, upper -----	6-8	6-7	Starting fluid -----	3-21	3-7
Cylinders -----	6-7	6-7	Inspection and maintenance of equipment		
Cylinder head -----	6-1	6-1	in storage -----	4-4	4-1
Daily preventive maintenance checks			Inspection and servicing -----	2-1	2-1
and services -----	3-6	3-1	Installation of separately packed com-		
Dampener, recoil -----	6-10	6-9	ponents -----	2-2	2-1
Data, identification -----	1-4	1-3	Installation instructions -----	2-3	2-1
Data, tabulated -----	1-4	1-3	Instructions, installation or setting up-----	2-3	2-1
Demolition :			Lines, fuel -----	8-18	3-7
Explosives or weapons fire -----	4-7	4-1	Lines, oil -----	3-14	3-6
Other methods -----	4-8	4-2	Lower cylinder -----	6-8	6-7
Render the hammer inoperative -----	4-6	4-1	Lubrication information :		
Training -----	4-9	4-2	Detailed -----	3-4	3-1
Description, equipment -----	1-3	1-3	General -----	3-3	3-1
Device, starting -----	3-27	3-9	Lubricating oil filter service -----	3-8	3-2
Differences in models -----	1-5	1-4	Lubricating system -----	3-13	3-5
Dismantling for movement -----	2-4	2-3	Maintenance :		
Drive system, fuel pump -----	6-5	6-4	Operators -----	3-7	3-2
Driving head -----	3-30	3-10	Direct and general support and		
Equipment:			depot -----	5-1	5-1
Basic issue -----	3-1	3-1	Models, differences -----	1-5	1-4
Description -----	1-3	1-3	Movement:		
Inspection -----	2-1	2-1	Dismantling -----	2-4	2-3
Operation -----	2-8	2-5	Reinstallation -----	2-6	2-2
Servicing -----	2-1	2-1	Oil:		
Errors, comments, and suggestions -----	1-2	1-1	Filter -----	3-9	3-4
Explosives, demolition -----	4-7	4-1	Filter service -----	3-9	3-4
Filter, fuel -----	3-8	3-2	Lines -----	3-14	3-5
Filter, oil -----	3-9	3-4	Pump -----	6-3	6-1
Fluid injector, starting -----	3-11	3-4	Pump adjustment -----	6-3	6-1
Forms, record and report -----	1-2	1-1	Operation :		
Fuel :			At high altitudes -----	2-17	2-9
Filter -----	3-8	3-2	In dusty or sandy places -----	2-14	2-9
Injector -----	6-6	6-4	In extreme cold -----	2-19	2-9
Lines -----	3-18	3-7	In extreme heat -----	2-13	2-9
Pump -----	6-4	6-2	In salt water areas -----	2-16	2-9
Pump adjustment -----	6-4	6-2	Of equipment -----	2-11	2-6
Tank -----	3-18	3-7	Under rainy or humid conditions---	2-16	2-9
Fuel pump drive system -----	6-5	6-4	Under usual conditions -----	2-8	2-5
			Operator's maintenance -----	3-7	3-2



	Paragraph	Page
Organizational repair parts -----	3-2	3-1
Pattern, spray, fuel injector -----	6-6	6-4
Preventive maintenance checks and services -----	3-5	3-1
Pump :		
Fuel -----	6-4	6-2
Fuel adjustment -----	6-4	6-2
Fuel drive system -----	6-5	6-4
Oil -----	6-3	6-1
Ram -----	6-9	6-7
Receiver, hydraulic -----	6-12	6-11
Recoil dampener -----	6-10	6-9
Record and report forms -----	1-2	1-1
Reinstallation after movement -----	2-5	2-3
Relief valve -----	6-14	6-13
Repair parts :		
Organizational -----	3-2	3-1
Direct and general support and depot -----	5-6	5-2
Scope -----	1-1	1-1
Separately packed components, installation -----	2-2	2-1
Service :		
Fuel filter -----	3-8	3-2
Lubricating oil filter -----	3-9	3-4
Preventive maintenance -----	3-5	3-1
Servicing equipment -----	2-1	2-1
Setting up instructions -----	2-3	2-1
Shipment:		
Loading equipment -----	4-2	4-1

	Paragraph	Page
Shipment-Continued		
Preparation of equipment -----	4-1	4-1
Spray pattern, fuel injector -----	6-6	6-4
Starting device -----	3-27	3-9
Starting fluid injector -----	3-21	3-7
Starting the equipment -----	2-9	2-5
Stopping the equipment -----	2-10	2-6
Storage :		
Inspection and maintenance -----	4-4	4-1
Preparation of equipment -----	4-3	4-1
System :		
Fuel -----	3-17	3-6
Fuel pump drive -----	6-5	6-4
Hydraulic control -----	3-22	3-7
Lubrication -----	3-13	3-5
Tabulated data -----	1-4	1-3
Tank, fuel -----	3-18	3-7
Timing, fuel pump -----	6-4	6-2
Tools, basic issue -----	3-1	3-1
Training -----	4-9	4-2
Transmitter, hydraulic -----	6-13	6-11
Troubleshooting, direct and general support and depot -----	5-8	5-2
Troubleshooting, operator and organizational -----	3-12	3-4
Unpacking equipment -----	2-2	2-1
Upper cylinder -----	6-8	6-7
Valve, Relief -----	6-14	6-13
Weapons fire, demolition -----	4-7	4-1



By Order of the Secretary of the Army:

W. C. WESTMORELAND,  
*General, United States Army,*  
*Chief of Staff.*

Official :

KENNETH G. WICKHAM,  
*Major General, United States Army,*  
*The Adjutant General.*

Distribution :

To be distributed in accordance with DA Form 12-25, Section II, (qty rqr block no. 418) organizational maintenance requirements for Hammers, Pile Driving.



# RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN...JOT DOWN THE  
DOPE ABOUT IT ON THIS FORM.  
CAREFULLY TEAR IT OUT, FOLD IT  
AND DROP IT IN THE MAIL.

## SOMETHING WRONG WITH PUBLICATION

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

PUBLICATION DATE

PUBLICATION TITLE

BE EXACT PIN-POINT WHERE IT IS

PAGE  
NO.

PARA-  
GRAPH

FIGURE  
NO.

TABLE  
NO.

IN THIS SPACE, TELL WHAT IS WRONG  
AND WHAT SHOULD BE DONE ABOUT IT.

TEAR ALONG PERFORATED LINE

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS  
ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR  
RECOMMENDATION MAKE A CARBON COPY OF THIS  
AND GIVE IT TO YOUR HEADQUARTERS.



## THE METRIC SYSTEM AND EQUIVALENTS

### LENGTH MEASURE

1 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

### WEIGHTS

1 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

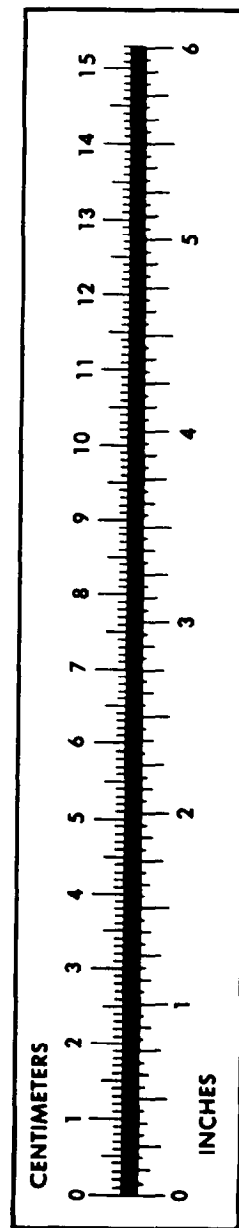
### TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$   
 212° Fahrenheit is equivalent to 100° Celsius  
 90° Fahrenheit is equivalent to 32.2° Celsius  
 32° Fahrenheit is equivalent to 0° Celsius  
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

### 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
Quarts	Liters	0.473
Gallons	Liters	0.946
Ounces	Liters	3.785
Pounds	Grams	28.349
Short Tons	Kilograms	0.454
Pound-Feet	Metric Tons	0.907
Pounds per Square Inch	Newton-Meters	1.356
Miles per Gallon	Kilopascals	6.895
Miles per Hour	Kilometers per Liter	0.425
	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
Liters	Gallons	0.264
Grams	Ounces	0.035
Grams	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621









This fine document...

Was brought to you by me:



### [Liberated Manuals -- free army and government manuals](#)

Why do I do it? I am tired of sleazy CD-ROM sellers, who take publicly available information, slap “watermarks” and other junk on it, and sell it. Those masters of search engine manipulation make sure that their sites that sell free information, come up first in search engines. They did not create it... They did not even scan it... Why should they get your money? Why are not letting you give those free manuals to your friends?

I am setting this document FREE. This document was made by the US Government and is NOT protected by Copyright. Feel free to share, republish, sell and so on.

I am not asking you for donations, fees or handouts. If you can, please provide a link to [liberatedmanuals.com](http://liberatedmanuals.com), so that free manuals come up first in search engines:

<A HREF=<http://www.liberatedmanuals.com/>>Free Military and Government Manuals</A>

- Sincerely  
Igor Chudov  
<http://igor.chudov.com/>
- [Chicago Machinery Movers](#)