

Volume 2
Parts and Specifications
Model 3617 Crane

IOWA MOLD TOOLING CO., INC.

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INTRODUCTION

This volume deals with information applicable to your particular crane. For operating, maintenance and repair instructions, refer to Volume 1, OPERATION, MAINTENANCE AND REPAIR. Volume 1 contains the following information:

- SECTION 1. OPERATION
- SECTION 2. MAINTENANCE
- SECTION 3. REPAIR
- SECTION 4. INSPECTION & TEST REPORT
- SECTION 5. INSTALLATION - CHASSIS PREPARATION
- SECTION 6. APPENDIX

We recommend that Volume 2, PARTS AND SPECIFICATIONS be kept in a safe place in the office.

This manual is provided to assist you with ordering parts for your IMT truck-mounted articulating crane. It also contains additional instructions regarding your particular installation.

It is the user's responsibility to maintain and operate this unit in a manner that will result in the safest working conditions possible.

Warranty of this unit will be void on any part of the unit subjected to misuse due to overloading, abuse, lack of maintenance and unauthorized modifications. No warranty - verbal, written or implied - other than the official, published IMT new machinery and equipment warranty will be valid with this unit.

In addition, it is also the user's responsibility to be aware of existing Federal, State and Local codes and regulations governing the safe use and maintenance of this unit. Listed below is a publication that the user should thoroughly read and understand.

ANSI/ASME B30.22
ARTICULATING BOOM CRANES
The American Society of Mechanical Engineers
United Engineering Center
345 East 47th Street
New York, NY 10017

Three means are used throughout this manual to gain the attention of personnel. They are NOTE's, CAUTION's and WARNING's and are defined as follows:

NOTE

A NOTE is used to either convey additional information or to provide further emphasis for a previous point.

CAUTION

A CAUTION is used when there is the very strong possibility of damage to the equipment or premature equipment failure.

WARNING

A WARNING is used when there is the potential for personal injury or death.

Treat this equipment with respect and service it regularly. These two things can add up to a safer working environment.

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Section 1. SPECIFICATIONS

1-1. GENERAL

CRANE RATING	36,000 ft.-lbs (4.98 ton-meters)
REACH - FROM CENTERLINE OF ROTATION	17'-0" (5.18m)
HYDRAULIC EXTENSION	48" (121.9cm)
* LIFTING HEIGHT	26'-0" (7.92m)
* STORAGE HEIGHT	10'-0" (3.05m)
OUTRIGGER SPAN	7'-9" (2.36m)
CRANE WEIGHT	2570 lbs (1166 kg)
OPTIMUM PUMP CAPACITY	7 U.S.Gallons/minute (26.5 liters/minute)
OIL RESERVOIR CAPACITY	17 U.S. Gallons (64.4 liters)
** MOUNTING SPACE REQUIRED	28" (71.1cm)
DESIGN FACTORS - PINS AND HYDRAULICS	4/1

* Based on 36" (91.4 cm) truck frame height.

** Add approximately 3" (7.62 cm) for truck cab clearance.

1-2. LIFTING CAPACITY (from centerline of rotation)

6'-0" (1.83m)	6000 lbs (2722 kg)
10'-0" (3.05m)	3600 lbs (1633 kg)
13'-0" (3.96m)	2800 lbs (1270 kg)
17'-0" (5.18m)	2100 lbs (953 kg)

1-3. PERFORMANCE CHARACTERISTICS

ROTATION: 370° (6.46 Rad.)	30 seconds
INNER BOOM ELEVATION: -52° to +71° (-0.91 Rad. to +1.24 Rad.)	18 seconds
OUTER BOOM ARTICULATION: 139° (2.43 Rad.)	21 seconds
EXTENSION BOOM: 48" (121.9cm)	9 seconds
OUTRIGGER EXTENSION: 21" (53.3cm)	8 seconds

1-4. POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 12 horsepower.

1-5. CYLINDER HOLDING VALVES

The holding sides of all cylinders are equipped with integral-mounted holding and/or counter-balance valves to prevent sudden cylinder collapse in case of hose or other hydraulic failure. The outrigger cylinders have positive, pilot-operated holding valves that open only upon command.

The inner, outer and extension cylinder have pilot operated, integral-mounted counter-balance valves. The inner and outer cylinders have the counter-balance valve on the extend side only. The extension cylinder features double counter-balance valves on both the extend and retract sides. The counter-balance valve serves several functions. First, it is a holding valve. Secondly, it is so constructed that it will control the lowering function and allow that motion to be feathered while under load. Finally, if a hose breaks the only oil loss will be that in the hose.

1-6. ROTATION SYSTEM

Turntable bearing powered with a high-torque hydraulic motor through a ring-and-pinion type spur-gear train (total gear reduction is 43.1 to 1).

1-7. HYDRAULIC SYSTEM

Open-centered, full-pressure system that requires 7 GPM (26.5 liters/minute) optimum oil flow at 2,500 PSI (172.4 bar). Eight-spool, stack-type control valve, six of which are used for the standard crane and the remaining two are plugged but easily adaptable for additional optional features. Dual operational handles for six functions are located at both sides of crane for convenient operation. System includes hydraulic oil reservoir, suction and return-line filters, pump, 8-section control valve and all hoses and fittings.

1-8. CYLINDERS

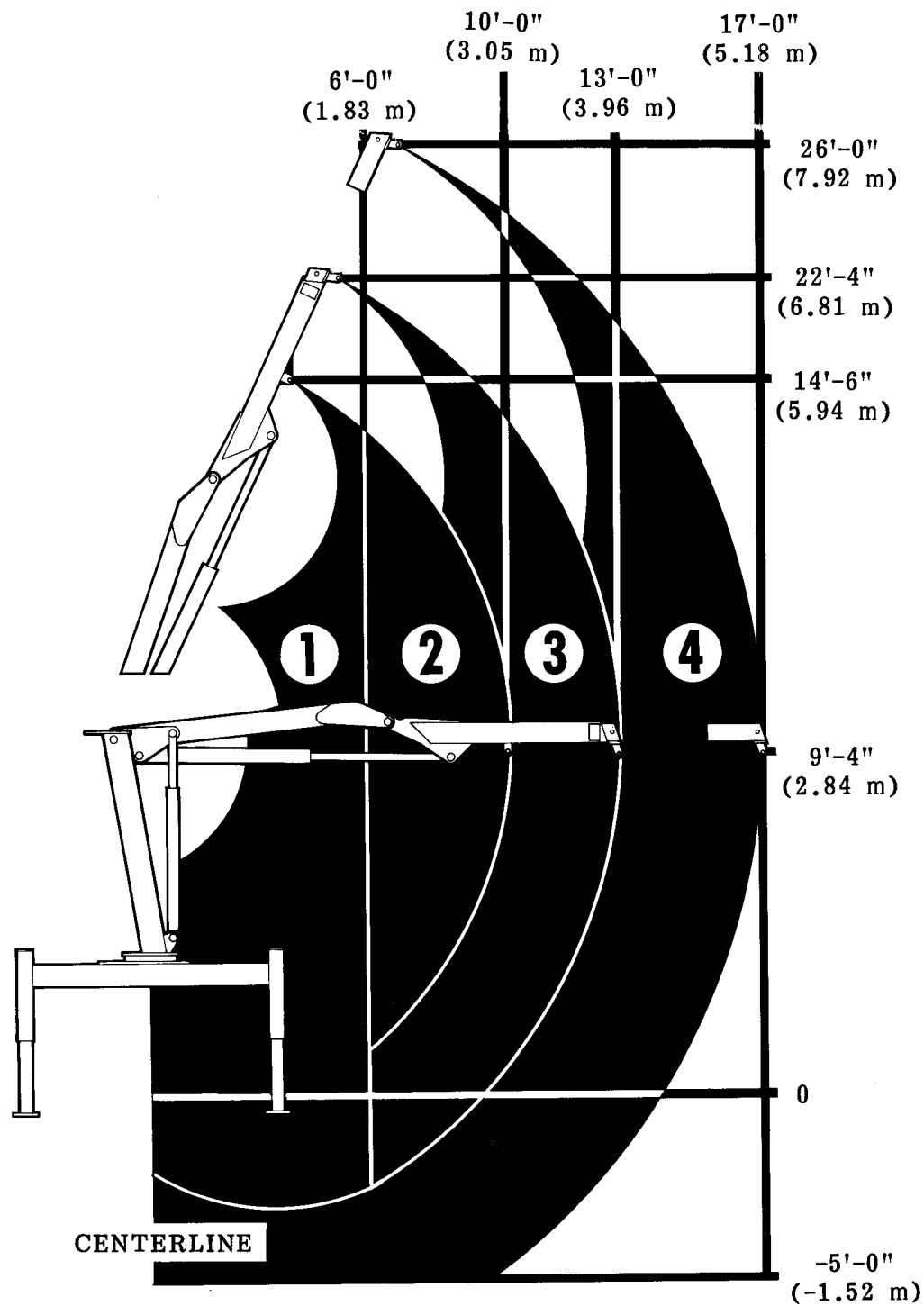
	BORE	STROKE
INNER CYLINDER	3" (7.6cm)	35" (88.9cm)
OUTER CYLINDER	4"(10.2cm)	44-3/8" (112.7cm)
EXTENSION CYLINDER	2-1/2" (6.4cm)	48" (121.9cm)
OUTRIGGER CYLINDER	2-1/2" (6.4cm)	21" (53.3cm)

1-9. MINIMUM CHASSIS SPECIFICATIONS

	CONVENTIONAL CAB	TILT CAB
WHEEL BASE	165" - 174" (419.1cm - 445.5cm)	135" (342.9cm)
CAB-TO-AXLE	102" (259.1cm)	108" (274.3cm)
FRAME SECTION MODULUS	12 in ³ (196.7cc)	12 in ³ (196.7cc)
R B M	540,000 in-lbs (6224 kg-m)	540,000 in-lbs (6224 kg-m)
FRONT AXLE RATING	7,000 lbs (3180 kg)	7,000 lbs (3180 kg)
REAR AXLE RATING	14,000 lbs (6360 kg)	14,000 lbs (6360 kg)
TRANSMISSION	4-speed	4-speed

In addition to these specifications, heavy-duty electrical and cooling systems and dual rear wheels are required. It is recommended that the vehicle be equipped with an electric engine tachometer, auxiliary brake lock, power steering and a 5-speed transmission in lieu of a 4-speed transmission.

IMT reserves the right to change specifications and design without notice.



RANGE	REACH	CAPACITY	RANGE	REACH	CAPACITY
1	6'-0" 1.83 m	6,000 lbs. 2,722 kg.	3	13'-0" 3.96 m	2,800 lbs. 1,270 kg.
2	10'-0" 3.05 m	3,600 lbs. 1,633 kg.	4	17'-0" 5.18 m	2,100 lbs. 953 kg.

Figure A-1. CAPACITY CHART

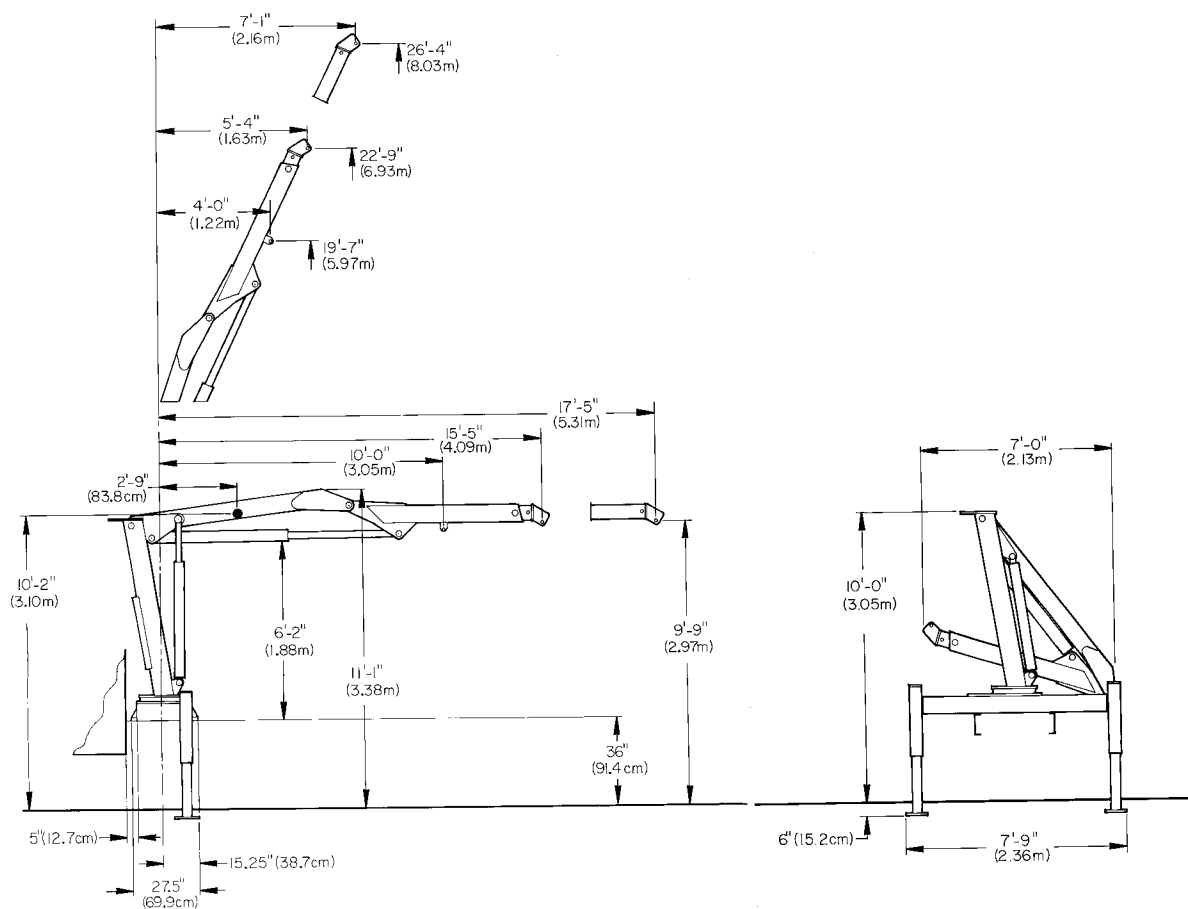


Figure A-2. GEOMETRIC CONFIGURATION

Section 2. CRANE DESCRIPTION

2-1. GENERAL

This section shows the major assemblies that are available with the IMT 3617 crane. Figure B-1 illustrates the locations of the assemblies.

2-2. BASE

The base provides the means for mounting the crane on the truck chassis. It incorporates the 370 degree (6.46 rad.) rotation mechanism.

2-3. MAST

The mast provides the necessary elevation for crane operation as well as a hinge point for the inner boom.

2-4. INNER BOOM

The inner boom will swing through a full 123 degrees (2.15 rad.), from -52 degrees to + 72 degrees (-0.91 rad. to +1.24 rad.). It is raised and lowered through the use of twin, double-acting hydraulic cylinders.

2-5. OUTER BOOM

The outer boom will swing through a full 139 degrees (2.43 rad.). It is raised and lowered through the use of a double-acting hydraulic cylinder.

2-6. EXTENSION BOOM

The extension boom will increase the operating range of the crane from 13'-0" (3.96 m) to 17'-0" (5.18m). The extension boom is operated with a double-acting hydraulic cylinder which extends the reach an additional 48" (121.9 cm).

2-7. CONTROLS

The crane may be operated from either side of the base. The standard crane uses an eight section valve bank with two sections plugged for use with optional equipment.

2-8. HYDRAULICS

The crane hydraulic system consists of double braided pressure hoses, return hoses, filters, control valve bank and all necessary fittings.

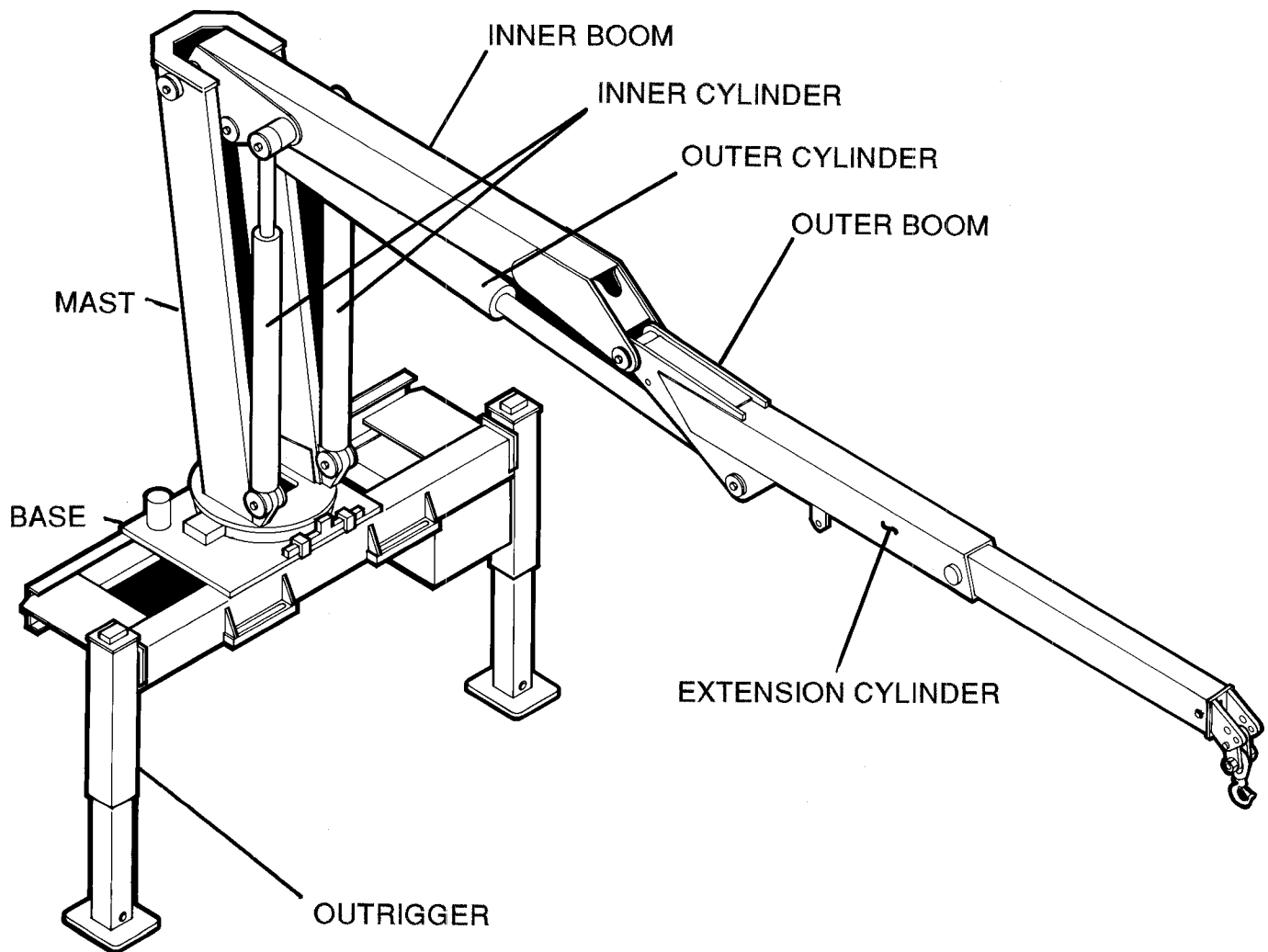


Figure B-1. 3617 Crane Group

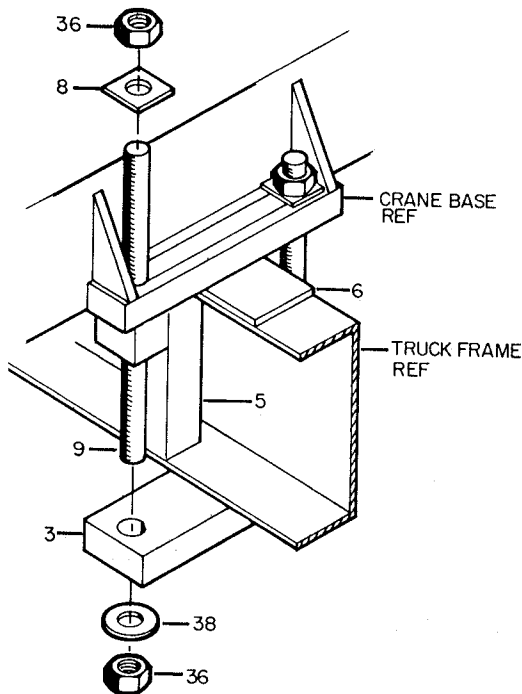
Section 3. INSTALLATION

3-1. GENERAL

This section contains specific instructions for the installation of your crane. Prior to installing the crane and hydraulic components, make sure the chassis is ready to receive the crane (refer to VOLUME 1, Installation).

3-2. CRANE MOUNTING

1. See SPECIFICATIONS in Section 1 for crane weight. Using an overhead hoist and fabric slings of adequate capacity, lift the crane about a foot to see if the crane is adequately balanced. If not, lower hoist and adjust slings. Re-check balance and re-position crane until mounting surface is level.
2. Install the truck frame support so that the tie-down studs pass through the supports (Figure C-1). Cut the support to the inside dimensions of the truck frame. Allow about 1/16" extra. Grind the end of the support to fit inside the frame channel. Use a hammer to drive it into position if necessary.



ITEM	DESCRIPTION	QTY
3.	CLAMP PLATE	4
5.	FRAME REINFORCEMENT BAR	4
6.	SPACER	2
8.	SQUARE WASHER	8
9.	TIE DOWN STUD	8
36.	LOCK NUT	16
38.	WASHER	8

3. Position one bar on top of each frame rail where crane will be located, allowing sufficient clearance between the cab and crane base, at least 5" (12.7cm). Position the crane on the chassis per the applicable installation drawing, centering the mounting slots over the truck frame rails. While holding crane with hoist, start mounting hardware per Figure C-1. Note position of support weldments on truck frame. Hand tighten nuts. Observe underside of crane base. No clearance between base and frame bars is allowed. Grind bar on frame rails to eliminate clearance.
4. Torque the 1"-8 UNC Grade 5 mounting hardware to 442 ft-lbs (62 kg-m). When torquing the mounting hardware the following precautions must be followed:
 - A. Never use lock washers.
 - B. Hardened washers must be used, and under the turning element, whether the turning element is the nut or the head of the bolt.
 - C. Torque values specified are with residual oils or without special lubricants applied to the threads. If special lubricants are used, such as Never-Seize compound graphite and oil, molybdenum disulphite colloidal copper or white lead, reduce torque values 10%. Torque values for threaded fasteners are not affected with the use of Loctite.
 - D. Do not use rusty fasteners, the rust will alter torque values significantly.
 - E. Touch-up paint around mounting anchor plates.

CAUTION

Do not attempt to apply the same torque to the tie rod and self-locking nuts as shown in the Torque Data Chart. Do not exceed 442 ft. lbs. (62 kg-m). Exceeding this torque value could damage either the chassis or crane base.

Power wrenching is not recommended until the lead thread of the nut insert is engaged by hand turning.

Figure C-1. CRANE INSTALLATION

3-3. HYDRAULIC INSTALLATION

To install the hydraulic hoses, fittings, etc.:

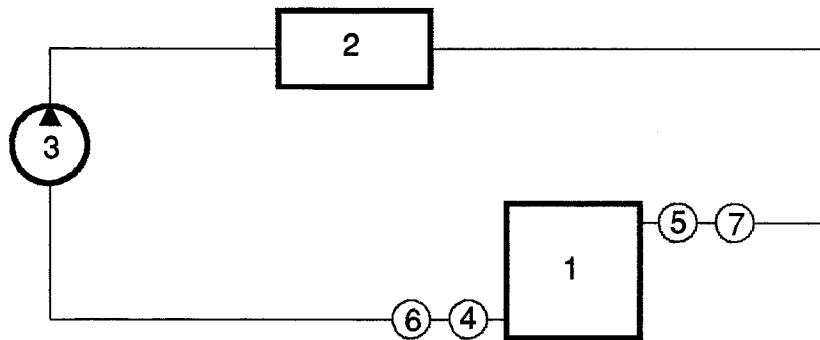
1. Plumb the suction line filter as shown in figure C-2.
2. Install the 1-1/4" suction hose between the suction-line filter and the pump inlet. Tighten the hose clamps.
3. Install the 1/2" pressure hose between the pump outlet and the inlet port on the valve bank.
4. Fill the hydraulic oil reservoir to the "FULL" mark.

5. Open the gate valve at the suction line filter.

CAUTION

Failure to open the gate valve will result in a dry running pump which may damage the pump.

6. Open the return gate valve.
7. Start the vehicle engine and engage the PTO. Allow the system to run for about five minutes and then check the vacuum gauge on the suction line filter (it should read 8" or less of mercury). If the vacuum reading is too high, check to make certain that the gate valve is open. If the valve is open, check for a collapsed or restricted suction line.



Item No.	Description	Qty
1.	Oil Reservoir	1
2.	Valve Bank	1
3.	Pump	1
4.	Gate Valve	1
5.	Ball Valve	1
6.	Suction Filter	1
7.	Return Filter	1

Figure C-2. Hydraulic Installation

Section 4. PARTS LIST

4-1. GENERAL

This section contains the exploded parts drawings with the accompanying parts list for the assemblies used on this crane. These drawings are intended to be used in conjunction with the instructions found in the REPAIR section in Volume 1. For optional equipment such as winches and remote controls, refer to the appropriate service manual.

WARNING

DO NOT ATTEMPT TO REPAIR ANY COMPONENT WITHOUT READING THE INFORMATION CONTAINED IN THE REPAIR SECTION IN VOLUME 1. PAY PARTICULAR ATTENTION TO THE WARNING'S, CAUTION'S AND NOTE'S CONTAINED IN THAT SECTION. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN DAMAGE TO THE EQUIPMENT, AN INJURY OR EVEN DEATH.

4-2. CRANE IDENTIFICATION


Every crane has an identification placard (Figure D-1) attached to the mast. When ordering parts, communicating warranty information, or referring to the unit in correspondence, always include the assigned serial and model numbers.

All inquiries should be addressed to:

Iowa Mold Tooling Co., Inc.
Box 189, Garner, IA 50438-0189
Telephone: 515-923-3711
Product Support Fax: 515-923-3674

or

IMT Cranes Canada, Ltd.
385 West Street South
Orillia, Ontario, L3V 5H2, Canada
Telephone: 705-325-7458
Fax: 705-325-7625

MODEL MODELO MODELE	SERIAL NUMBER NUMERO DE SERIE NUMERO DE SERIE
DRAWING NUMBER NUMERO DE PLANO NUMERO DE PLAN	DATE FECHA DE FABRICACION DATE
	
Iowa Mold Tooling Co., Inc. Garner, Iowa U.S.A.	IMT Cranes Canada, Ltd. Orillia, Ontario, Canada

4-3. CYLINDER IDENTIFICATION

To insure proper replacement parts are received, it is necessary to specify a complete number/letter sequence for any parts request. Part numbers may be checked by comparing the stamped identification of the cylinder case (Figure D-2) against the information contained in this manual. You must use the part number stamped on the cylinder case when ordering parts.

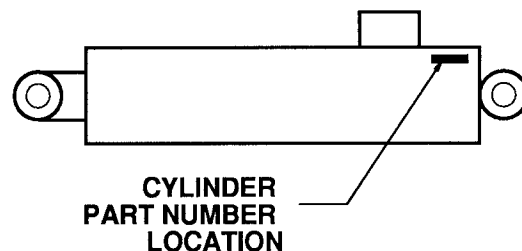


Figure D-1. SERIAL NUMBER PLACARD

Figure D-2. CYLINDER PART NUMBER LOCATION

4-4. WELDMENT IDENTIFICATION

Each of the major weldments - base, mast, inner boom, outer boom, extension boom and outrigger weldments - bear a stamped part number. Any time a major weldment is replaced, you must specify the complete part number as stamped on the weldment. The locations of the part numbers are shown in Figure D-3.4-5.

ORDERING REPAIR PARTS

When ordering replacement parts:

1. Give the model number of the unit.
2. Give the serial number of the unit.
3. Specify the complete part number. When ordering cylinder parts or one of the main4. Give a complete description of the part.
5. Specify the quantity required.

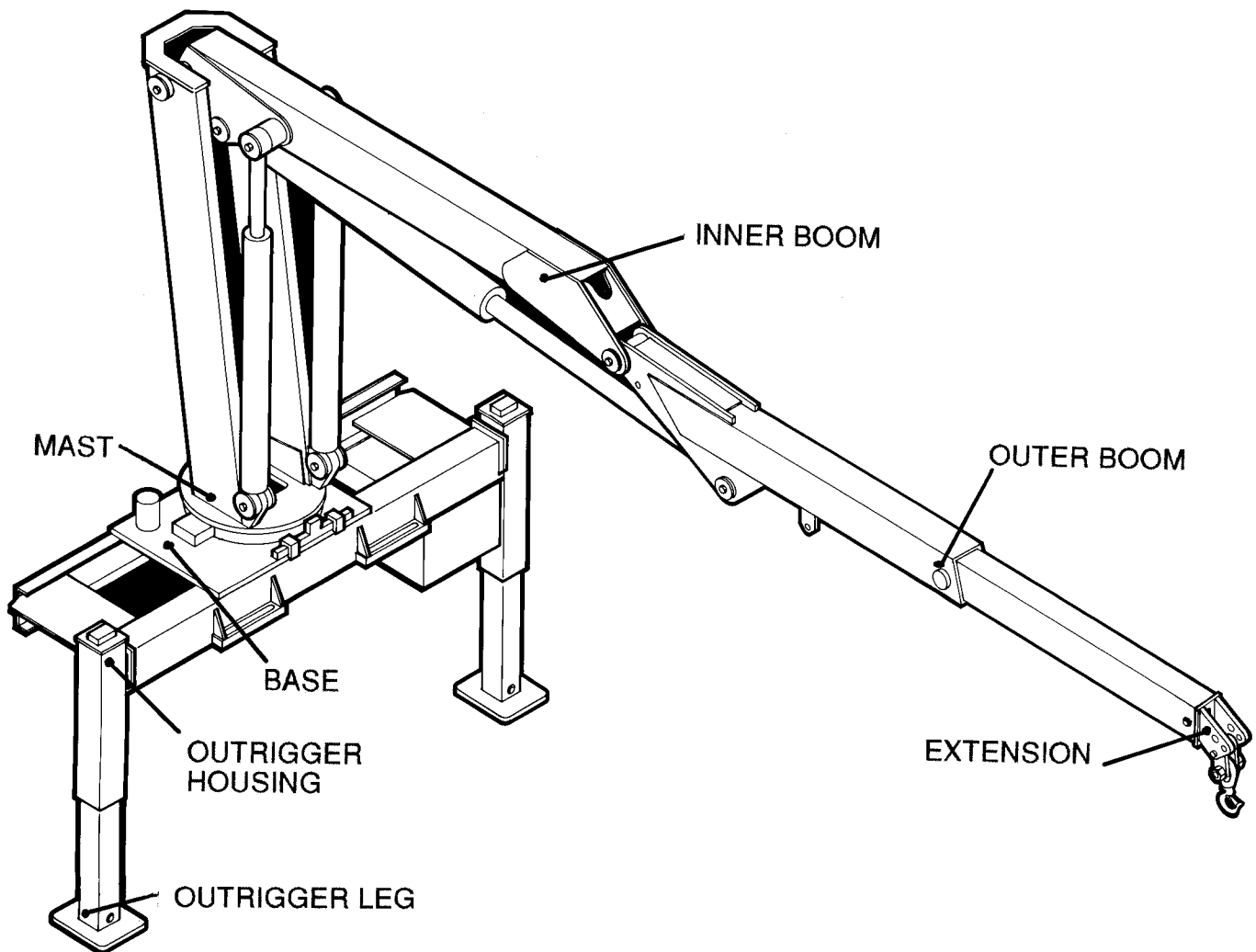
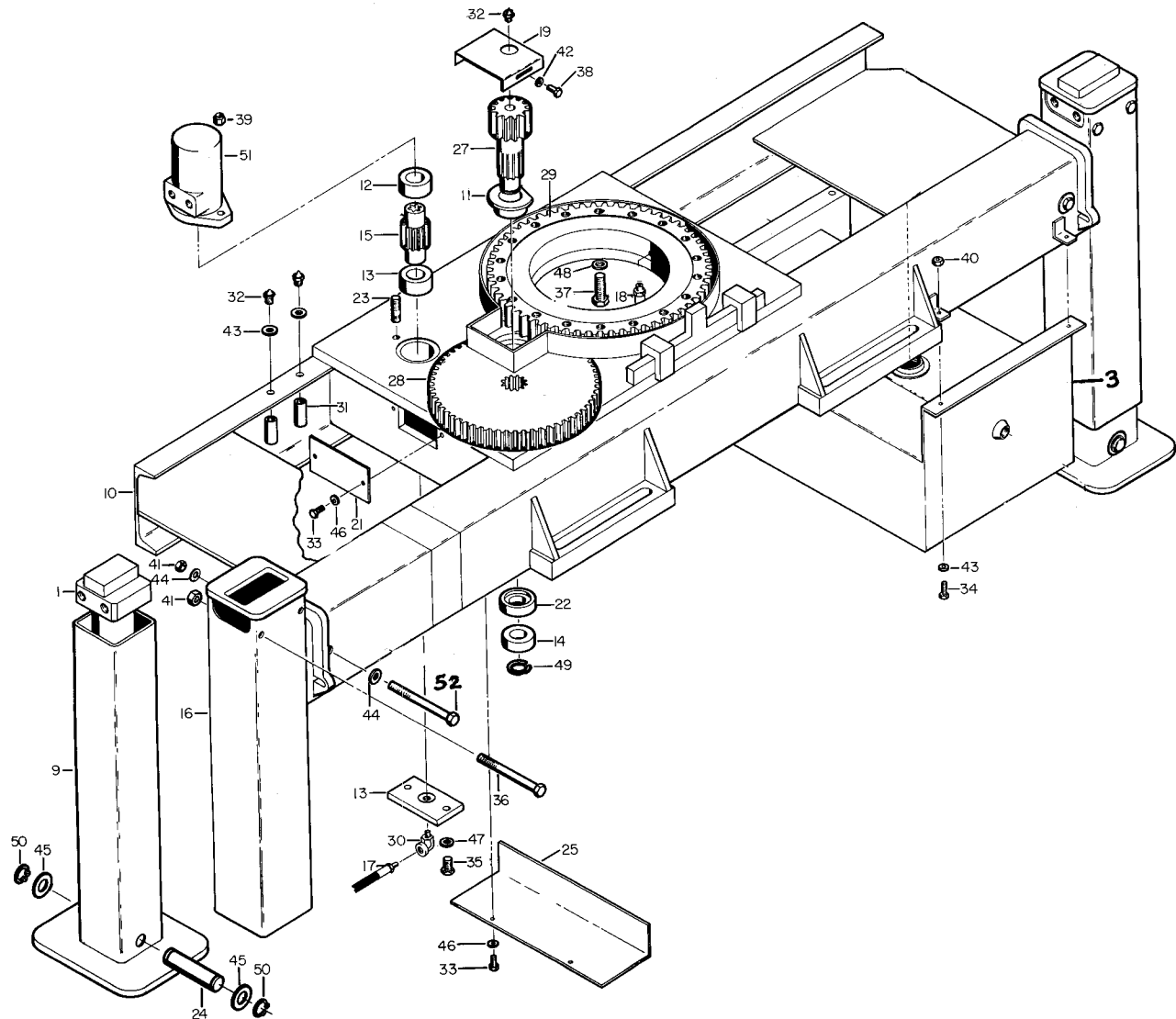


Figure D-3. Weldment Part Number Locations



ITEM PART NO.	DESCRIPTION	QTY	ITEM PART NO.	DESCRIPTION	QTY
1. 3B166820	POWER DOWN CYLINDER	2	31. 72053301	COUPLING 1/8NPT	2
3. 70732573	RESERVOIR ASM	1	32. 72053508	ZERK 1/8NPT	3
9. 52704388	OUTRIGGER LEG	2	33. 72060002	CAP SCR 1/4-20X3/4 HH GR5	2
10. 52704427	BASE (INCL: 11-15)	1	34. 72060046	CAP SCR 3/8-16X1 HH GR5	4
11. 60020114	BUSHING (PART OF 10)	1REF	35. 72060092	CAP SCR 1/2-13X1-1/4 HH GR5	2
12. 60020115	BUSHING (PART OF 10)	1REF	36. 72060102	CAP SCR 1/2-13X5-1/2 HH GR5	4
13. 60020116	BUSHING (PART OF 10)	1REF	37. 72060151	CAP SCR 5/8-11X2 HH GR8	23
14. 60020154	BUSHING (PART OF 10)	1REF	38. 72060833	CAP SCR 5/16X3/4 SLFTP G	2
15. 71056011	DRIVE GEAR (PART OF 10)	1REF	39. 72062080	NUT 1/2-13 LOCK	2
16. 52704430	OUTRIGGER HOUSING	2	40. 72062103	NUT 3/8-16 LOCK	4
17. 53000714	GREASE EXTENSION 10"	1	41. 72062107	NUT 1/2-13 CTR LOCK	6
18. 53000717	GREASE EXTENSION 32"	1	42. 72063002	WASHER 5/16 WRT	2
19. 60010235	PINION COVER	1	43. 72063003	WASHER 3/8 WRT	6
20. 60010844	GREASE PLATE-DRIVE GEAR	1	44. 72063005	WASHER 1/2 WRT	4
21. 60102767	ACCESS HOLE COVER	1	45. 72063034	BUSHING 1X10GA	4
22. 60104694	PINION GEAR SPACER	1	46. 72063049	WASHER 1/4 LOCK	2
23. 60106032	STUD 1/2-13X2	2	47. 72063053	WASHER 1/2 LOCK	2
24. 60106968	PIN	2	48. 72063127	WASHER 5/8 FLAT HARD	23
25. 60107524	INTERMEDIATE GEAR GUARD	1	49. 72066084	RETAINING RING 1-1/4	1
27. 71056010	PINION GEAR	1	50. 72066125	RETAINING RING 1	4
28. 71056012	INTERMEDIATE GEAR	1	51. 73051384	HYDRAULIC MOTOR	1
29. 71056062	GEAR BEARING	1	52. 72060103	CAP SCR 1/2-13X6 HH GR5	2
30. 72053281	STREET ELBOW 1/8NPT 90°	1	53. 72060023	CAP SCR 5/16-18X3/4 HH GR5	2
			54. 72063050	WASHER 5/16 WRT	2

Figure D-4. BASE & OUTRIGGER ASSEMBLY (41704410)

NOTE

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.

ITEM	PART NO.	DESCRIPTION	QTY
1.	4B166820	CASE (INCL:6)	1
2.	4G166820	ROD	1
3.	6I025087	PISTON	1
4.	6H025015	HEAD	1
5.	73054004	VALVE	1
6.	7PNPXT02	PIPE PLUG 1/8 (PART OF 1)	3REF
7.	6C075015	STOP TUBE	1
8.	72060708	CAP SCR 1/4-20 X 1-1/4 SH	6
9.	9B101214	SEAL KIT (INCL:10-18)	1
10.	7Q072137	O-RING (PART OF 9)	1REF
11.	7T66P025	PISTON SEAL (PART OF 9)	1REF
12.	7T61N087	LOCK RING SEAL (PART OF 9)	1REF
13.	7T2N8015	WEAR RING (PART OF 9)	1REF
14.	6A025015	WAFFER LOCK (PART OF 9)	1REF
15.	7Q072228	O-RING (PART OF 9)	1REF
16.	7Q10P228	BACK-UP RING (PART OF 9)	1REF
17.	7R546015	ROD SEAL (PART OF 9)	1REF
18.	7R14P015	ROD WIPER (PART OF 9)	1REF

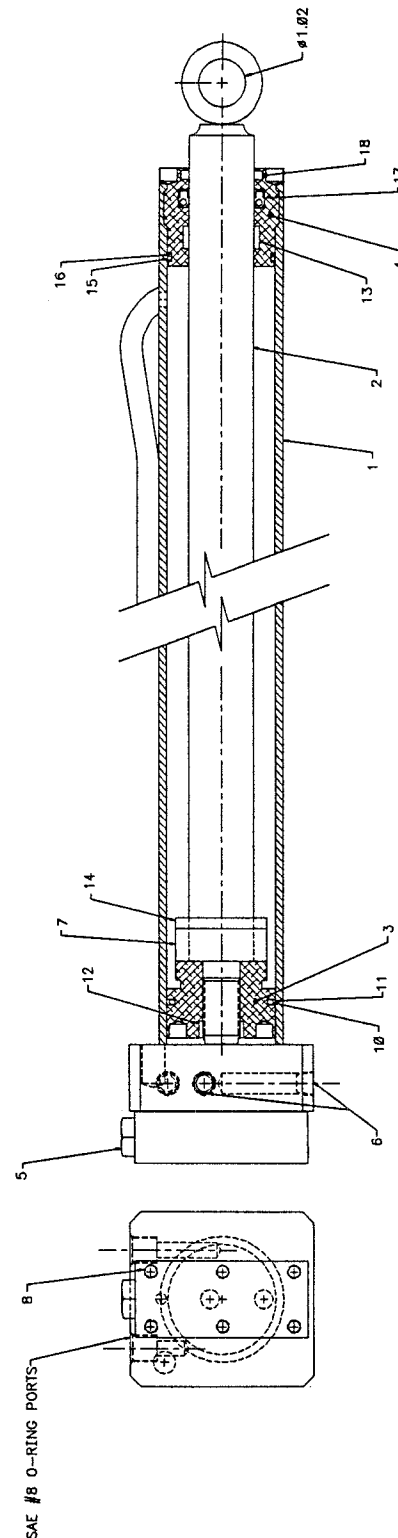
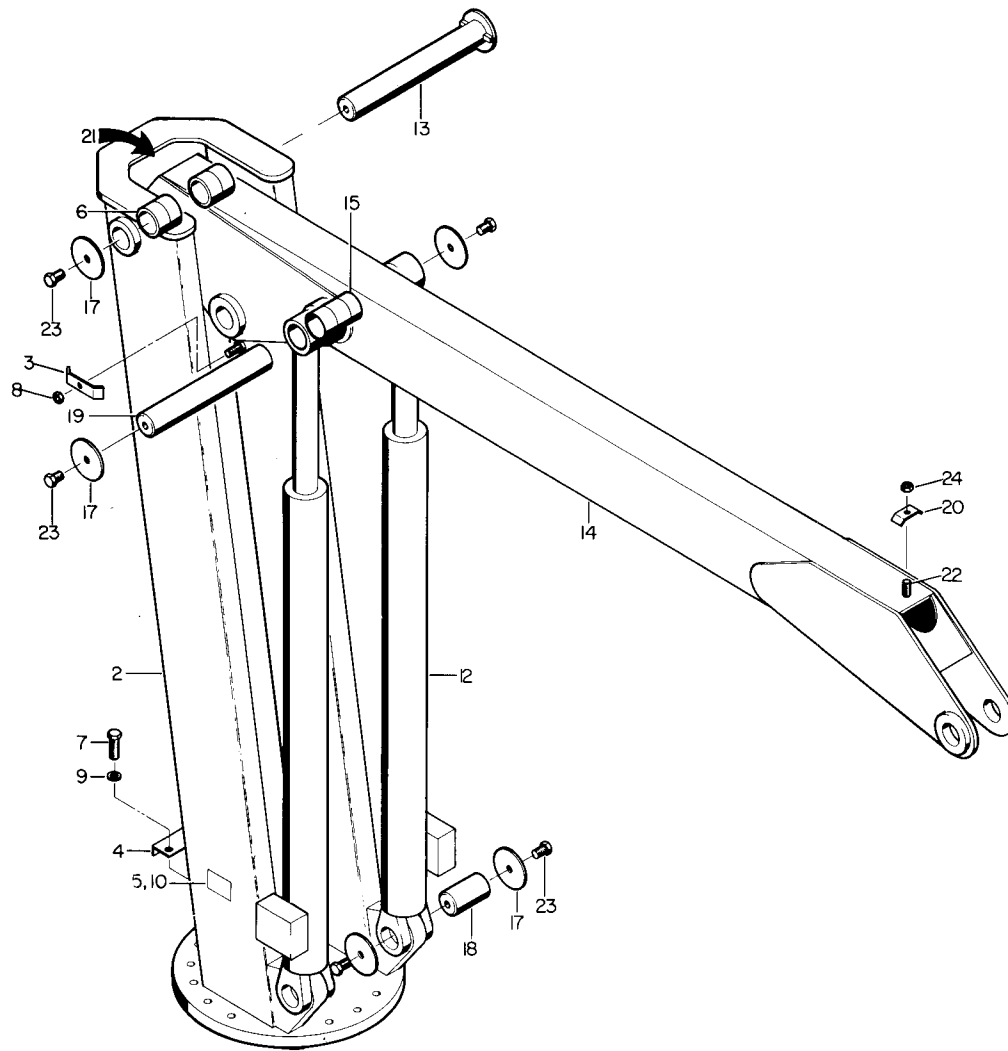
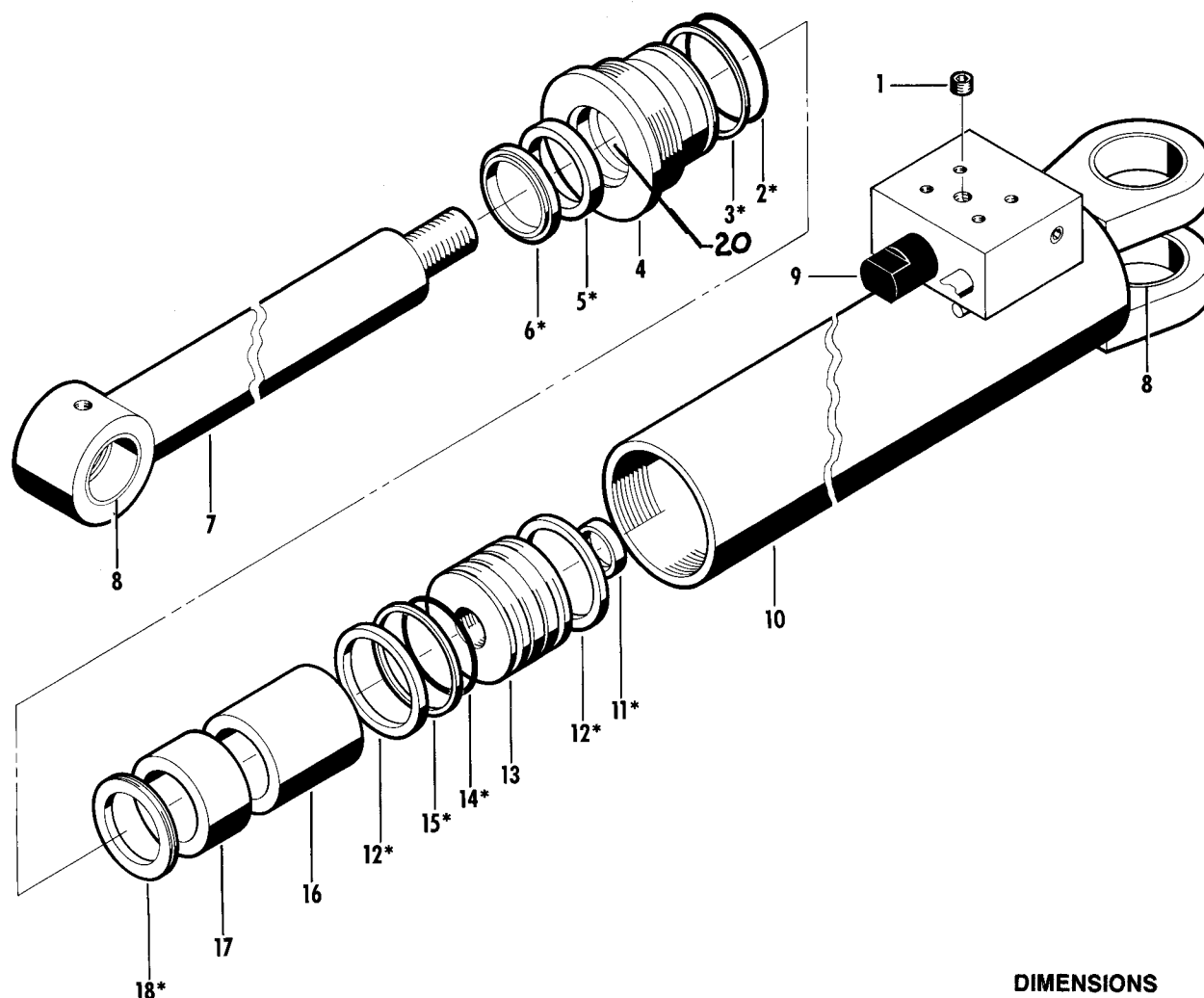


Figure D-5. OUTRIGGER CYLINDER (3B166820)



Item No.	Part No.	Description	Qty	Item No.	Part No.	Description	Qty
1.	41704411	Mast (incl. 2-10)	Ref.	19.	60107411	Pin	1
2.	52704435	Mast	1	20.	60107648	Clamp, Hose	1
3.	60010118	Clamp, Hose	2	21.	72053508	Zerk; 1/8 npt	1
4.	60107809	Cover, Pinion	1	22.	72060049	Screw, 3/8 x 1 3/4	1
5.	70029119	Placard, Serial number	1	23.	72060147	Screw, 5/8 x 1	7
6.	7BF81520	Bushing (part of 2)	4ref	24.	72062103	Nut, lock, 3/8	1
7.	72060151	Screw; 5/8 x 2 gr8	14	<p>WARNING</p> <p>Anytime a gear-bearing bolt (item 7) is removed, it must be replaced with a new bolt of the identical size and grade. Failure to replace these bolts may result in bolt failure due to metal fatigue causing serious injury or death.</p>			
8.	72062103	Nut, Lock, 3/8	2				
9.	72063119	Washer, Flat, 5/8 Hardened	14	<p>NOTE</p> <p>Anytime the pin retainer plate bolts (item 23) have been removed, apply Loctite 262 to the threads before re-assembly.</p>			
10.	72661216	Gripnail	2				
11.	41704412	Boom, Inner (incl. 12-24)	Ref.				
12.	3B127820	Cylinder, Inner boom	2				
13.	52704428	Pin	1				
14.	52704429	Boom, Inner	1				
15.	7BF81220	Bushing (part of 14)	6ref				
16.	7BF81520	Bushing (part of 14)	4ref				
17.	60106331	Plate, Pin retainer	7				
18.	60107305	Pin	2				

**Figure D-6. Mast (Part Number 41704411)
and Inner Boom (Part Number 41704412)**



DIMENSIONS

Bore	3"
Stroke	35"
C-C Closed	50"
Rod Diameter	2"
Pin Diameter	2"

ITEM	PART NO.	DESCRIPTION	QTY
1.	7PNPXT02	PLUG 1/8NPT	3
2.	7Q072334	O-RING (PART OF 19)	1REF
3.	7Q10P334	BACK-UP RING (PART OF 19)	1REF
4.	6H030020	HEAD	1
5.	7R546020	ROD SEAL (PART OF 19)	1REF
6.	7R14P020	ROD WIPER (PART OF 19)	1REF
7.	4G127820	ROD (INCL:8)	1
8.	7BF81020	BUSHING (PART OF 7 & 10)	4REF
9.	73054242	COUNTERBALANCE VALVE	1
10.	4B127820	CASE (INCL:8)	1
11.	7T61N106	LOCK RING SEAL (PART OF 19)	1REF
12.	7T65I030	PISTON RING (PART OF 19)	2REF
13.	6I030106	PISTON	1
14.	7Q072145	O-RING (PART OF 19)	1REF
15.	7T66P030	PISTON SEAL (PART OF 19)	1REF
16.	6C300020	STOP TUBE	1
17.	6C150020	STOP TUBE	1
18.	6A025020	WAFER LOCK (PART OF 19)	1REF
19.	9C121617	SEAL KIT (INCL:2,3,5,6,11,12,14,15,18,20)	1
20.	7T2N4022	WEAR RING-ROD (PART OF 19)	1REF

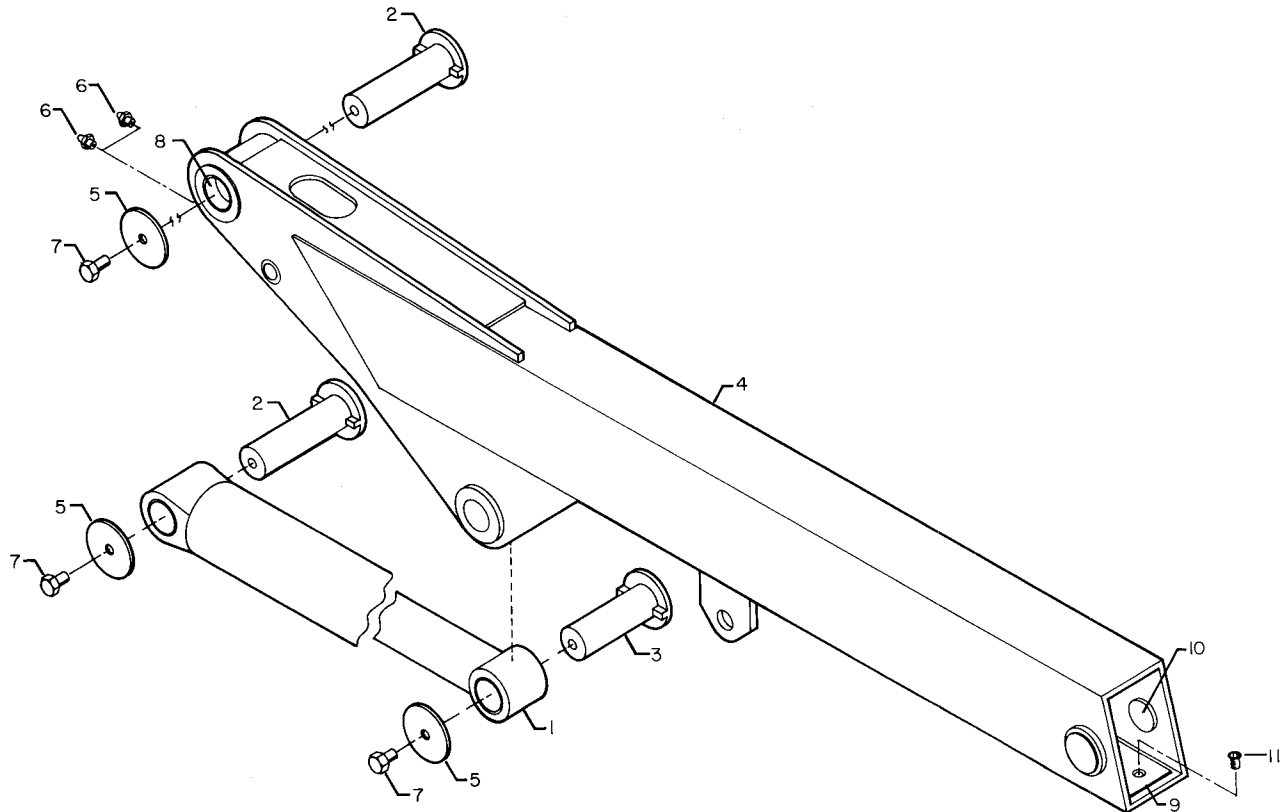
NOTE

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.

Figure D-7. INNER CYLINDER (3B127820)



Item No.	Part No.	Description	Qty
1.	3B167820	Cylinder, Outer	1
2.	52704431	Pin, Type Y, 2 x 7 1/4	2
3.	52704432	Pin, Type Y, 2 x 6 1/8	1
4.	52708032	Boom, Outer (incl. 8)	1
5.	60106331	Plate, Pin retainer	3
6.	72053508	Zerk, 1/8npt	2
7.	72060147	Cap screw, 5/8 x 1, gr5	3
8.	7BF81220	Bushing (part of 4)	3
9.	60030145	Pad, Wear, 2 1/2 x 3 1/2 x 1/2	1
10.	60030060	Pad, Wear, 2 x 7/8	2
11.	72060915	Cap screw, 3/8 x 1	2

Figure D-8. Outer Boom (Part Number 41708034)

NOTE

IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.

ITEM	PART NO.	DESCRIPTION	QTY
1.	4B167820	CASE ASM (INCL:19-21,22)	1
2.	4H180920	ROD (INCL:20,21)	1
3.	6C150030	STOP TUBE	1
4.	6C300030	STOP TUBE	1
5.	6H040030	HEAD	1
6.	6I040143	PISTON	1
7.	73054242	COUNTER BALANCE VALVE	1
8.	9C162423	SEAL KIT (INCL:9-18)	1
9.	6A025030	WAFLER LOCK (PART OF 8)	1REF
10.	7Q072153	O-RING (PART OF 8)	1REF
11.	7Q072342	O-RING (PART OF 8)	1REF
12.	7Q10P342	BACK-UP RING (PART OF 8)	1REF
13.	7R14P030	ROD WIPER (PART OF 8)	1REF
14.	7R546030	ROD SEAL (PART OF 8)	1REF
15.	7T61N143	LOCK RING SEAL (PART OF 8)	1REF
16.	7T65I040	PISTON RING (PART OF 8)	2REF
17.	7T66P040	PISTON SEAL (PART OF 8)	1REF
18.	7T2N8032	ROD WEAR RING (PART OF 8)	1REF
19.	7BF81520	BUSHING (PART OF 1)	2REF
20.	7BF81220	BUSHING (PART OF 2)	2REF
21.	72053508	ZERK 1/8NPT (PART OF 1 & 2)	2REF
22.	7PNPXT02	PIPE PLUG 1/8NPT (PART OF 1)	3

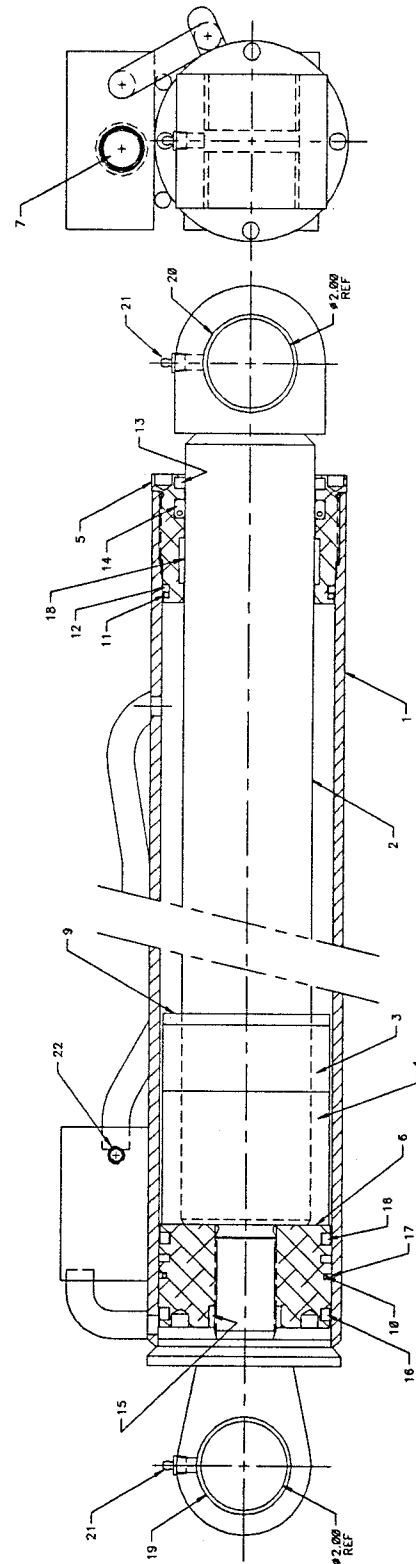
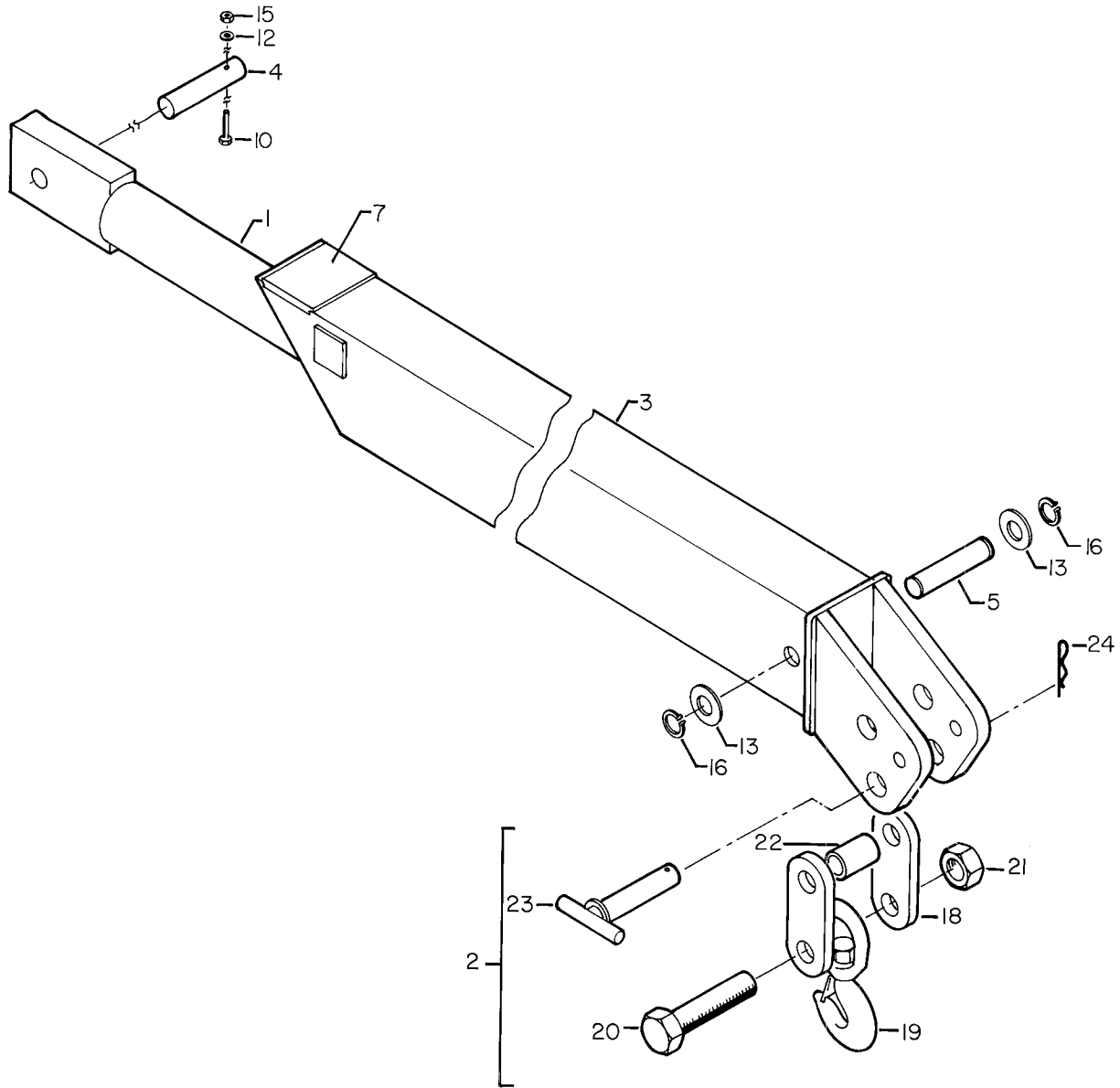


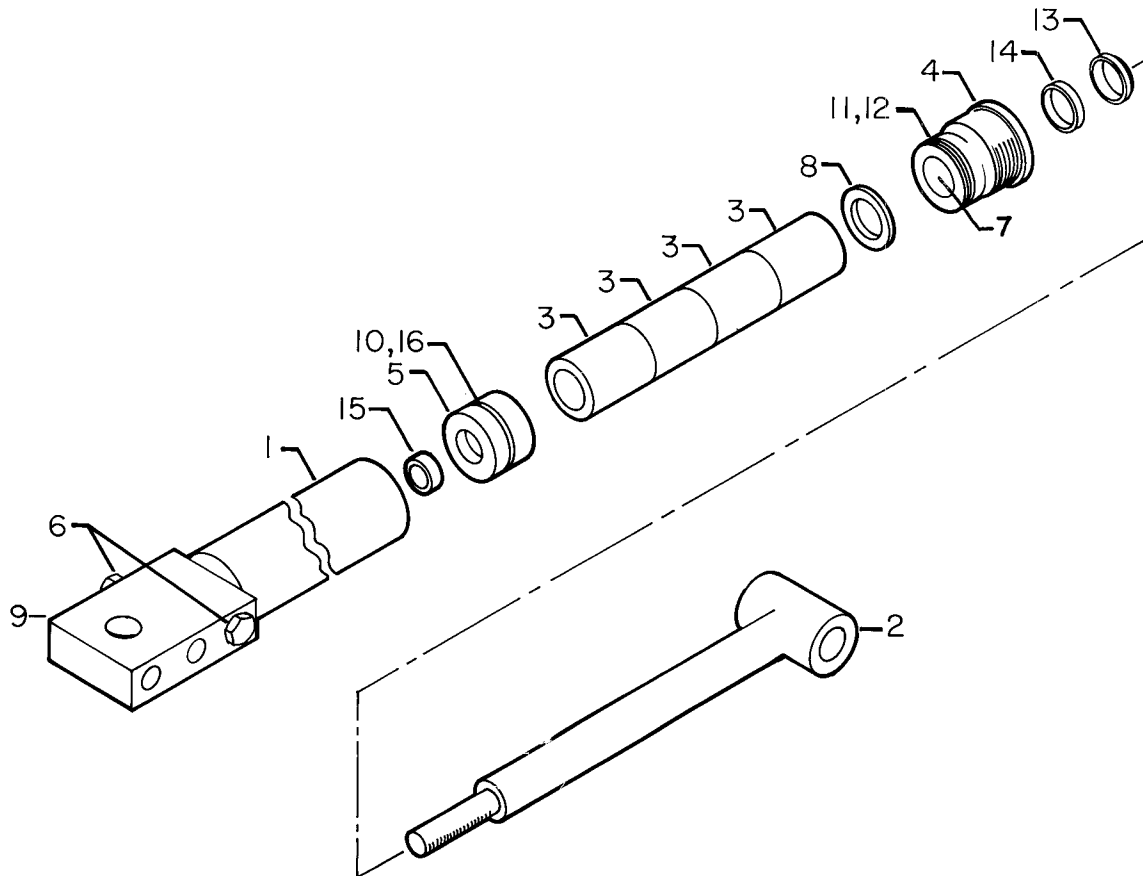
Figure D-9. OUTER CYLINDER (3B167820)



ITEM	PART	DESCRIPTION	QTY
1.	3B077880	EXTENSION CYLINDER	1
2.	51706199	HOOK ASM (INCL:18-24)	1
3.	52708033	EXTENSION BOOM	1
4.	60111956	PIN 1X4-5/8	1
5.	60010470	PIN 1X4-3/4	1
7.	60030064	WEAR PAD	1
10.	72060008	CAP SCR 1/4X2 GR5	1
12.	72063001	WASHER 1/4 WRT	1
13.	72063034	MACH BUSHING 1"	2
15.	72062104	NUT 1/4-20 LOCK	1

ITEM	PART	DESCRIPTION	QTY
16.	72066125	RETAINING RING 1"	2
18.	60107324	HOOK LINK (PART OF 2)	2REF
19.	71073035	HOOK (PART OF 2)	1REF
20.	72601666	CAP SCR 1-1/4X4 GR5 (PART OF 2)	1REF
21.	72062073	NUT 1-1/4 (PART OF 2)	1REF
22.	60108857	SPACER (PART OF 2)	1REF
23.	52070151	PIN (PART OF 2)	1REF
24.	72066145	PIN (PART OF 2)	1

Figure D-10. EXTENSION BOOM (41708035)



DIMENSIONS

Bore	2-1/2"
Stroke	48"
C-C Closed	71-1/2"
Rod Diameter	1-1/2"
Pin Diameter	1"

NOTE

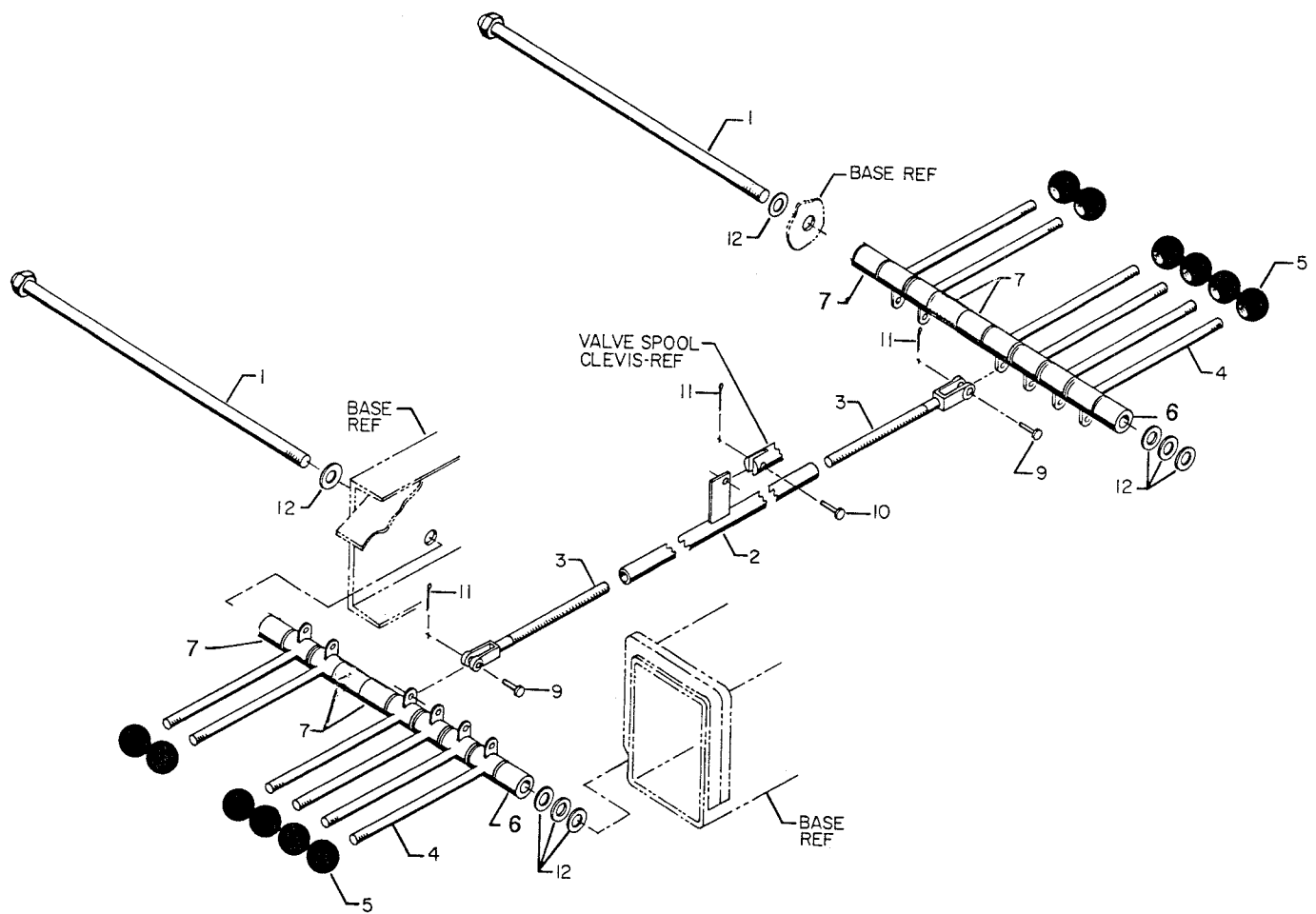
IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.

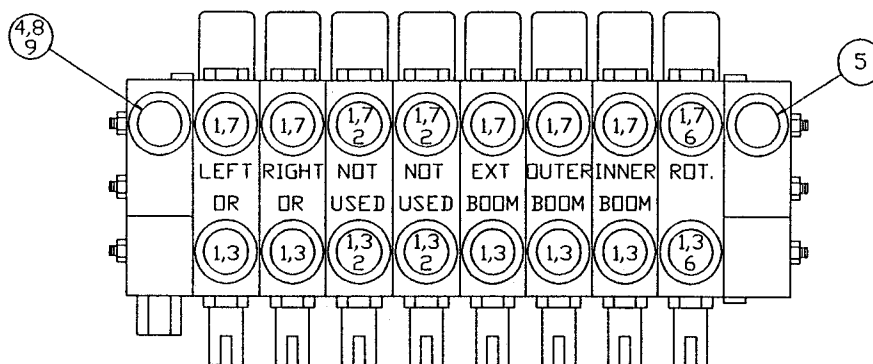
ITEM	PART	DESCRIPTION	QTY
1.	4B077880	CASE (INCL. 9)	1
2.	4G077880	ROD	1
3.	6C300015	STOP TUBE	4
4.	6H025015	HEAD	1
5.	6I025087	PISTON	1
6.	73054304	HOLDING VALVE	2
7.	7T2N8015	WEAR RING (PART OF 17)	1REF
8.	6A025015	WAFER LOCK (PART OF 17)	1REF
9.	7PNPXT02	PLUG (PART OF 1)	4REF
10.	7Q072137	O-RING (PART OF 17)	1REF
11.	7Q072228	O-RING (PART OF 17)	1REF
12.	7Q10P228	BACK-UP RING (PART OF 17)	1REF
13.	7R14P015	ROD WIPER (PART OF 17)	1REF
14.	7R546015	ROD SEAL (PART OF 17)	1REF
15.	7T61N087	LOCK RING (PART OF 17)	1REF
16.	7T66P025	PISTON SEAL (PART OF 17)	1REF
17.	9B101214	SEAL KIT (INCL: 7, 8, 10-16)	1

Figure D-11. EXTENSION CYLINDER (3B077880)



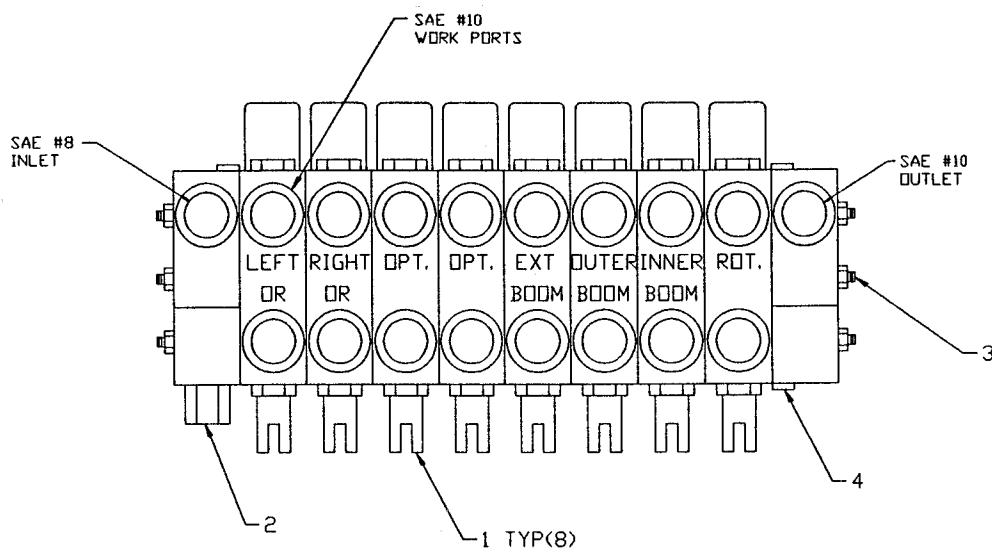
ITEM	PART	DESCRIPTION	QTY
1.	52704397	ROD-CTRL HANDLE MTG	2
2.	52704744	CONTROL ROD	6
3.	52704745	CONTROL ROD	12
4.	70029451	CONTROL HANDLE	12
5.	71039096	KNOB	12
6.	60030068	SPACER 1-3/8	2
7.	60030069	SPACER 1-3/4	6
9.	72066338	CLEVIS PIN	12
10.	72661169	CLEVIS PIN	6
11.	72066168	COTTER PIN	18
12.	72063119	WASHER 5/8 WRT	8

Figure D-12. CONTROL KIT (90704417)



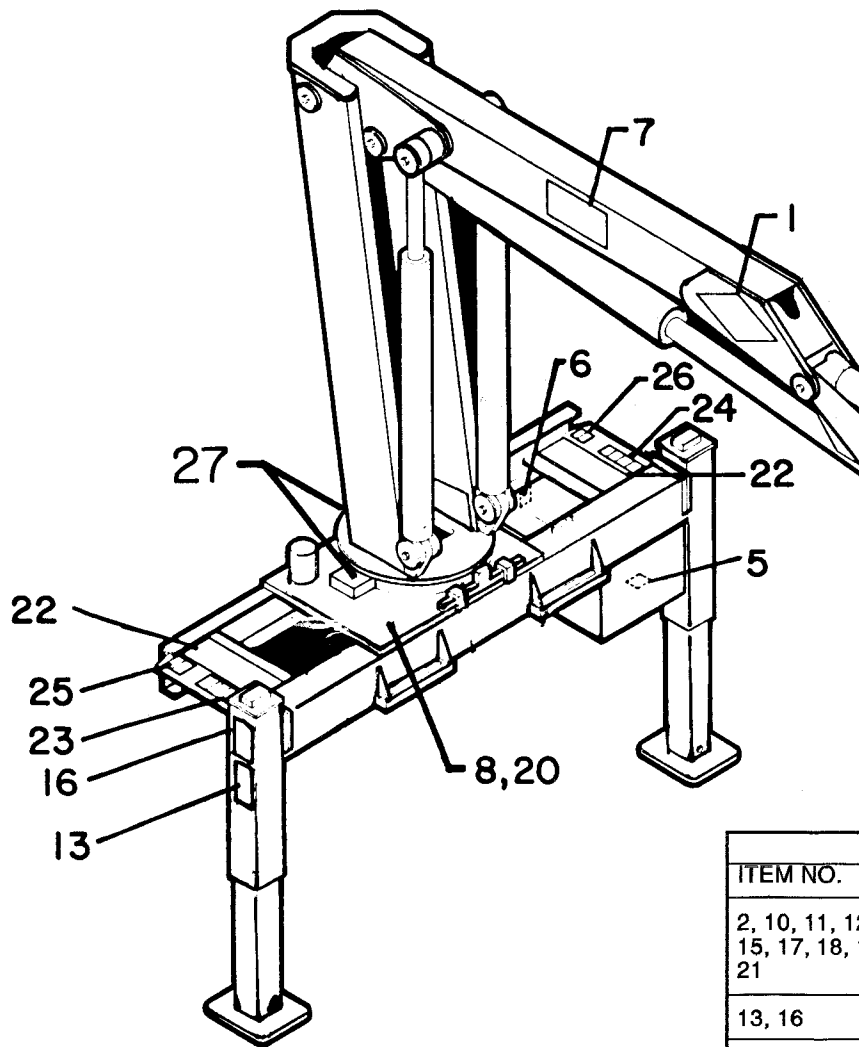
ITEM	PART NO.	DESCRIPTION	QTY
1.	72532722	ADAPTER 7/8MSTR 9/16FSTR	16
2.	72532738	CAP 9/16JIC STL	4
3.	72053760	ELBOW 9/16MSTR 9/16MJIC 90°	8
4.	72053763	ELBOW 3/4MSTR 3/4MJIC 90°	1
5.	72053766	ELBOW 7/8MSTR 1-1/16MJIC 90°	1
6.	72532707	ADAPTER 7/16MJIC 9/16FJIC	2
7.	72532700	ELBOW 9/16MSTR 9/16MJIC XLG	8
8.	72532657	TEE 3/4JIC SWIVEL NUT RUN	1
9.	72532675	CAP 3/4JIC STL	1
10.	70731499	VALVEBANK 8-SPOOL	1

Figure D-13. VALVEBANK ASSEMBLY-8 SECTION MANUAL (51710944)



ITEM	PART NO.	DESCRIPTION	QTY
1.	73054490	TANDEM VALVE SECTION	8
2.	73054488	END CAP LH	1
3.	94731681	TIE ROD KIT	1
4.	73731576	END CAP RH	1
5.	7Q072018	O-RING (NOT SHOWN)	18
6.	7Q072021	O-RING (NOT SHOWN)	18

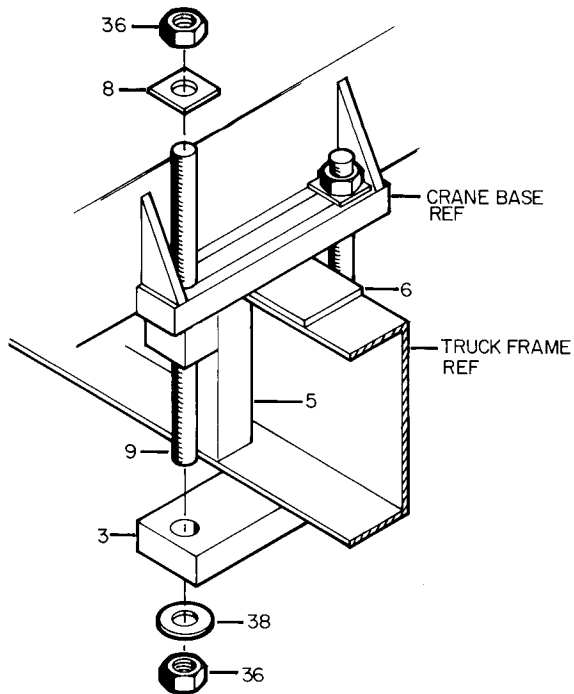
Figure D-13A. VALVEBANK (70731499)



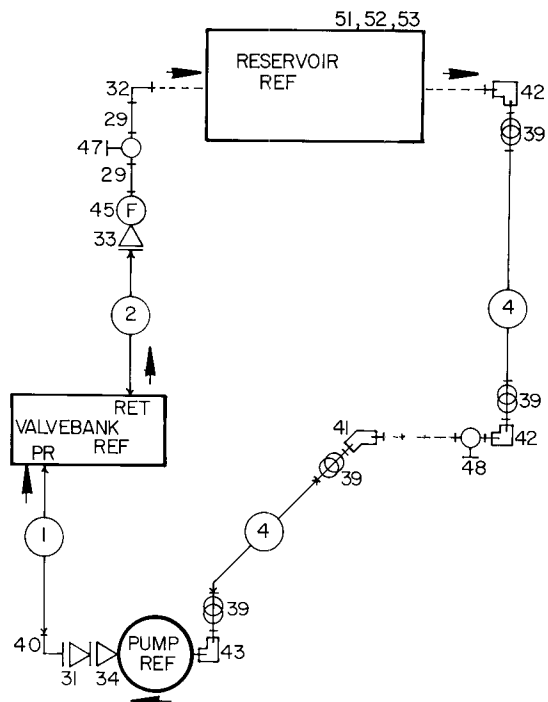
DECAL PLACEMENT	
ITEM NO.	LOCATION
2, 10, 11, 12, 15, 17, 18, 19, 21	AT OR NEAR THE NORMAL OPERATING STATION
13, 16	ON EACH OUTRIGGER
14	ON EACH SIDE OF CARRIER VEHICLE
9	AT TURNTABLE GREASE ZERK
3, 4	AT ALL GREASE ZERKS
6	ON RESERVOIR AT RETURN LINE
5	ON RESERVOIR AT SUCTION LINE

Item No.	Part No.	Description	Qty	Item No.	Part No.	Description	Qty
1.	70029251	Placard, IMT diamond	2	15.	70393866	Decal, Danger oper. cond.	2
2.	70391583	Decal, Set-up/stow instr.	2	16.	70392867	Decal, Danger outrg. moving	2
3.	70391612	Decal, Grease weekly, Lt.	6	17.	70392888	Decal, Danger oper. restric.	2
4.	70391613	Decal, Grease weekly, Rt.	6	18.	70392890	Decal, Danger stow/unfold.	2
5.	70392108	Decal, Suction line	1	19.	70392891	Decal, Danger driveline	2
6.	70392109	Decal, Return line	1	20.	70392982	Decal, Contact IMT	1
7.	70392805	Decal, 3617 identification	2	21.	71039134	Decal, Caution oil level	2
8.	70392213	Decal, Caution, Wash/wax	1	22.	71392806	Placard, 3617 capacity	2
9.	70392524	Decal, Rotate crane/grease	1	23.	71392255	Decal, Control, SS	1
10.	70392813	Decal, Danger Electrocution	2	24.	71392256	Decal, Control, CS	1
11.	70392814	Decal, Danger operator	2	25.	71392257	Decal, Outrg. power dn., SS	1
12.	70392815	Decal, Danger operation	2	26.	71392258	Decal, Outrg. power dn., CS	1
13.	70392864	Decal, Danger outrg. std. clear	2	27.	71392365	Decal, Alignment, Crane rot.	1
14.	70392865	Decal, Danger Electrocution	4				

Figure D-14. Decal Kit (Part Number 95708510)



HARDWARE

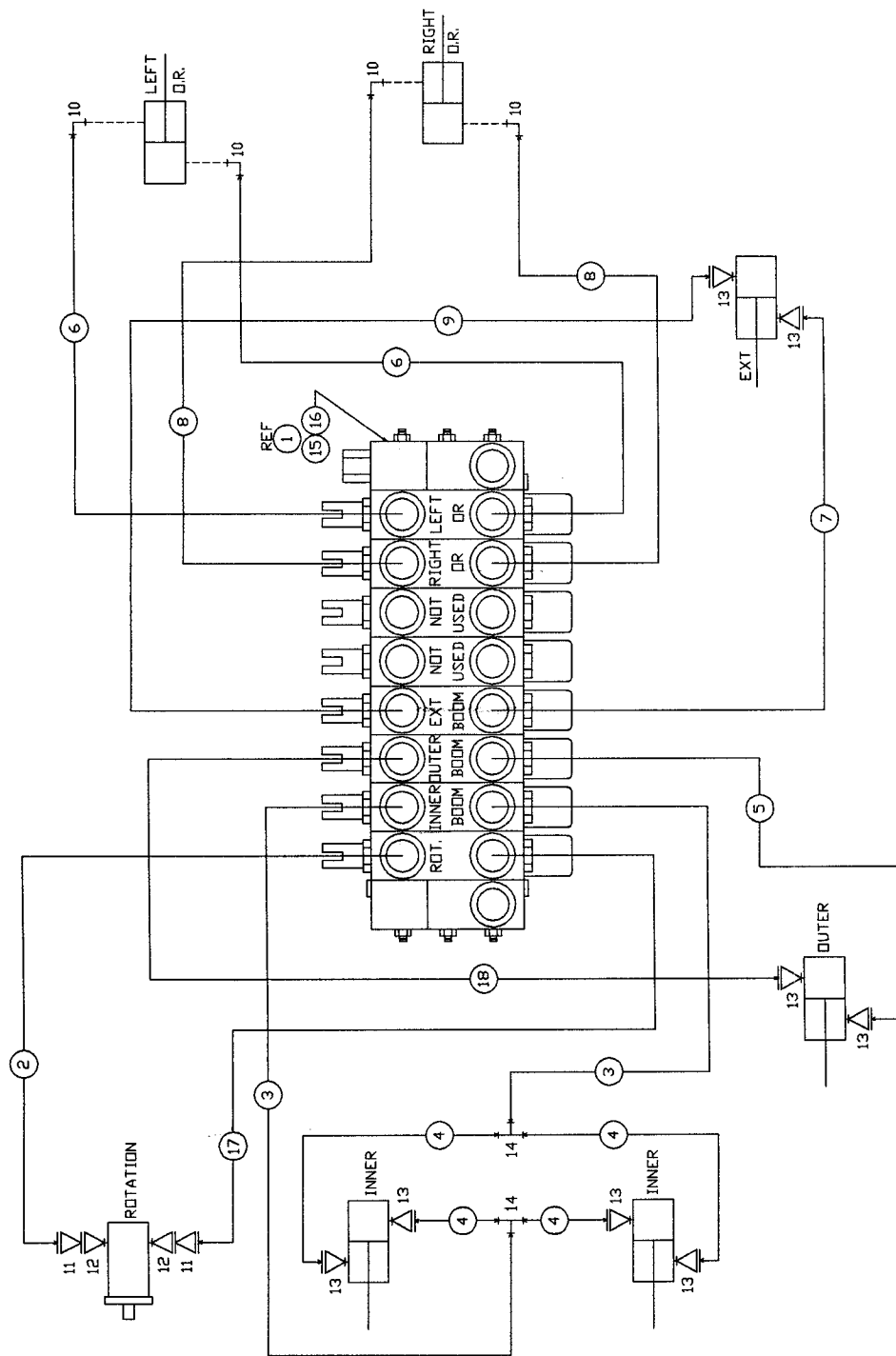


HYDRAULICS

ITEM	PART NO.	DESCRIPTION	QTY
1.	51703939	HOSE ASM 1/2X96	1
2.	51704572	HOSE ASM 3/4X63	1
3.	60010354	CLAMP PLATE	4
4.	60035829	HOSE 1-1/4X48	2
5.	52706660	REINFORCING BAR	4
6.	60103563	SPACER	2
8.	60107478	WASHER 1" SQ	8
9.	60107829	TIE-DOWN STUD	8
29.	72053141	NIPPLE 3/4NPT X CLOSE	2
31.	72053497	ADAPTER 1/2MNPT 3/4MJIC	1
32.	72053556	STREET ELBOWR 3/4NPT 90°	1
33.	72053676	ADAPTER 3/4MNPT 1-1/16MJIC	1
34.	72053749	ADAPTER 1-5/16MSTR 1/2FPT	1

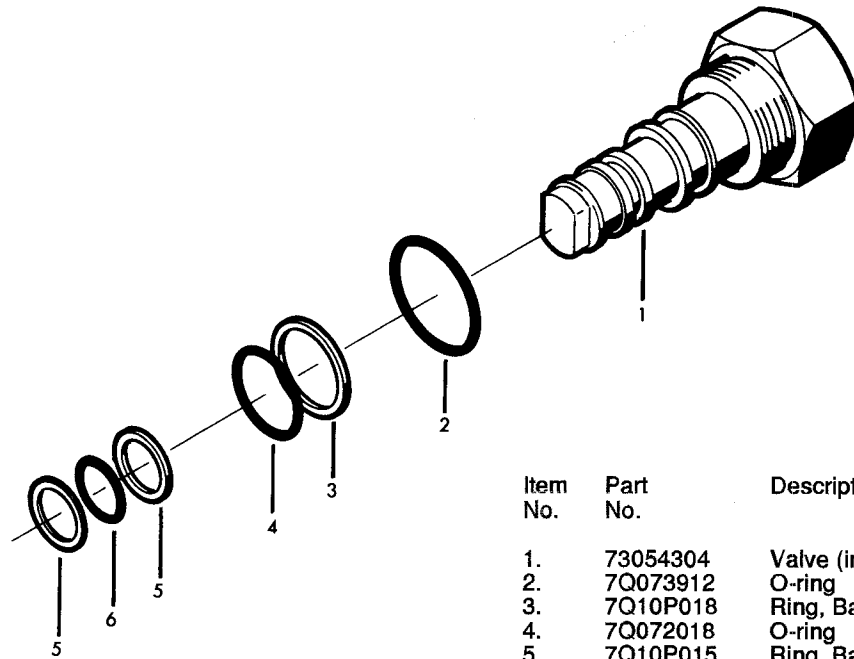
ITEM	PART NO.	DESCRIPTION	QTY
36.	72062141	NUT 1" LOCK	16
38.	72063066	WASHER 1" WRT	8
39.	72066516	HOSE CLAMP 1-1/4"	4
40.	72531133	STREET ELBOW 1/2NPT 90°	1
41.	72531196	BARB NIPPLE 1-1/4NPT 45°	1
42.	72532346	BARB NIPPLE 1-1/4NPT 90°	2
43.	72532708	BEAD NIPPLE 1-5/16MSTR 1-1/4HOSE 90°	1
45.	73052000	RETURN FILTER	1
47.	73054129	GATE VALVE 3/4NPT	1
48.	73054130	GATE VALVE 1-1/4NPT	1
51.	72060026	CAP SCR 5/16-18X1-1/4 HH GR5	1REF
52.	72062002	WASHER 5/16 WRT	4REF
53.	72062109	NUT 5/16-18 LOCK	4REF

Figure D-15. INSTALLATION KIT (93704418)



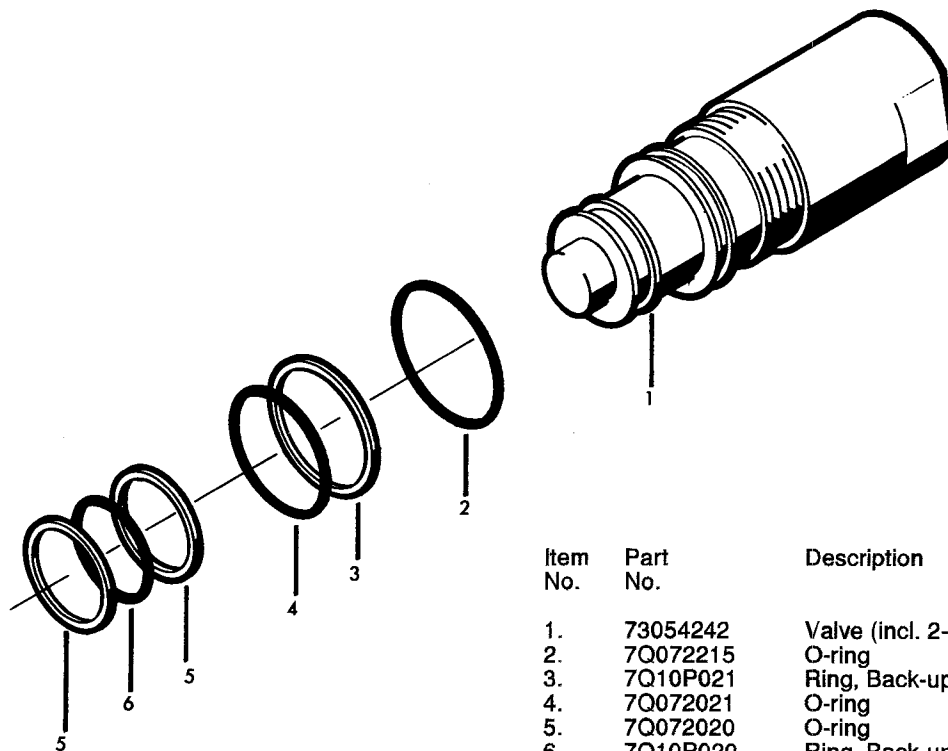
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	51710944	VALVEBANK ASM	1REF	10.	72053776	ELBOW 9/16MSTR 9/16MJIC 45°	4
2.	51705893	HOSE ASM 1/4X46 FF	1	11.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2
3.	51706164	HOSE ASM 3/8X28 FF	2	12.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2
4.	51706163	HOSE ASM 3/8X22 FF	4	13.	72532358	ADAPTER 3/4MSTR 3/4MJIC	8
5.	51704581	HOSE ASM 3/8X108 FF	1	14.	72531205	TEE 3/4-16MJIC 1/2TUBE	2
6.	51704618	HOSE ASM 3/8X62 FF	2	15.	72062103	NUT 3/8-16 LOCK	3
7.	51704582	HOSE ASM 3/8X209 FF	2	16.	72060048	CAP SCR 3/8-16X1-1/2 HHGR5	3
8.	51704617	HOSE ASM 3/8X44 FF	2	17.	51705894	HOSE ASM 1/4X48 FF	1
9.	51704583	HOSE ASM 1/2X209 FF	1	18.	51705891	HOSE ASM 3/8X102 FF	1

Figure D-16. HYDRAULIC KIT (91708043)



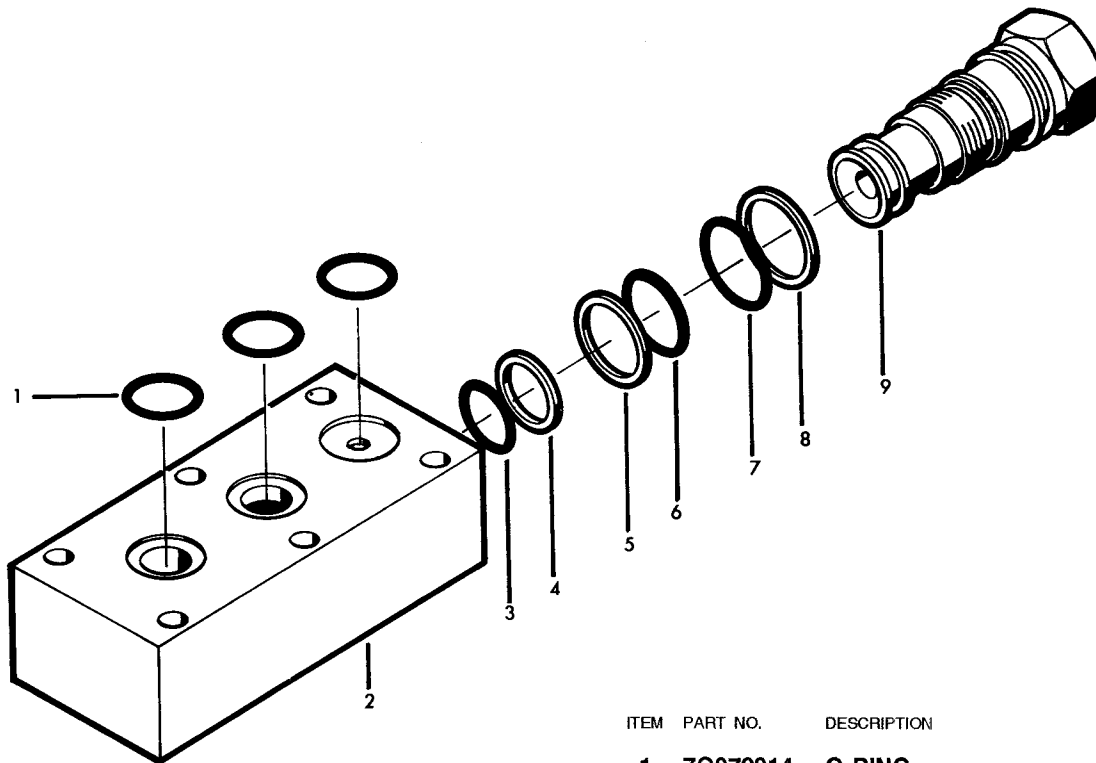
Item No.	Part No.	Description	Qty
1.	73054304	Valve (incl. 2-6)	1
2.	7Q073912	O-ring	1
3.	7Q10P018	Ring, Back-up	1
4.	7Q072018	O-ring	1
5.	7Q10P015	Ring, Back-up	2
6.	7Q072016	O-ring	1

Figure D-17. Counter Balance Valve (Part Number 73054304)



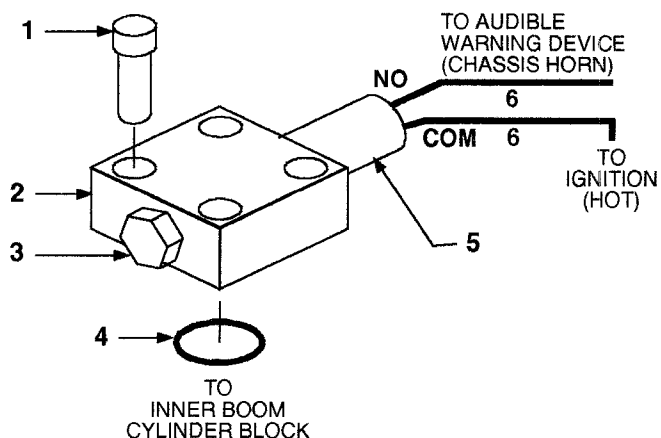
Item No.	Part No.	Description	Qty
1.	73054242	Valve (incl. 2-6)	1
2.	7Q072215	O-ring	1
3.	7Q10P021	Ring, Back-up	1
4.	7Q072021	O-ring	1
5.	7Q072020	O-ring	1
6.	7Q10P020	Ring, Back-up	2

Figure D-18. Counter Balance Valve (Part Number 73054242)



ITEM	PART NO.	DESCRIPTION	QTY
1.	7Q072014	O-RING	3
2.		BLOCK (NOT SOLD SEPERATELY)	1
3.	7Q072015	O-RING	1
4.	7Q10P015	BACK-UP RING	1
5.	7Q10P017	BACK-UP RING	1
6.	7Q072017	O-RING	1
7.	7Q072018	O-RING	1
8.	7Q10P018	BACK-UP RING	1
9.		BODY (NOT SOLD SEPERATELY)	1
10.	73054004	VALVE (INCL. 1-9)	1

Figure D-19. HOLDING VALVE (73054004)

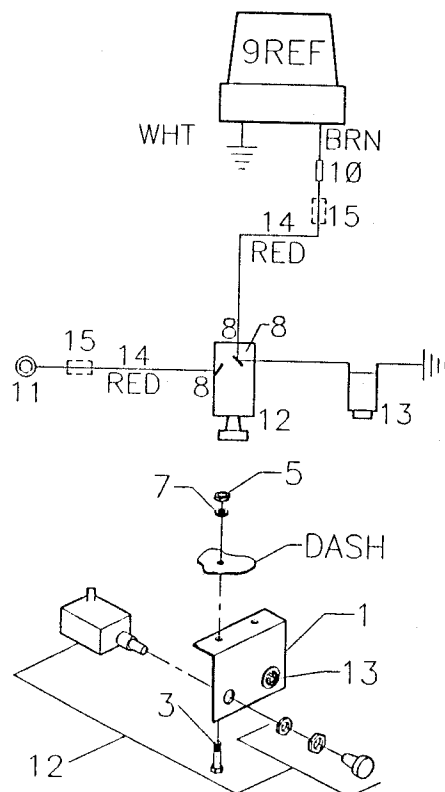
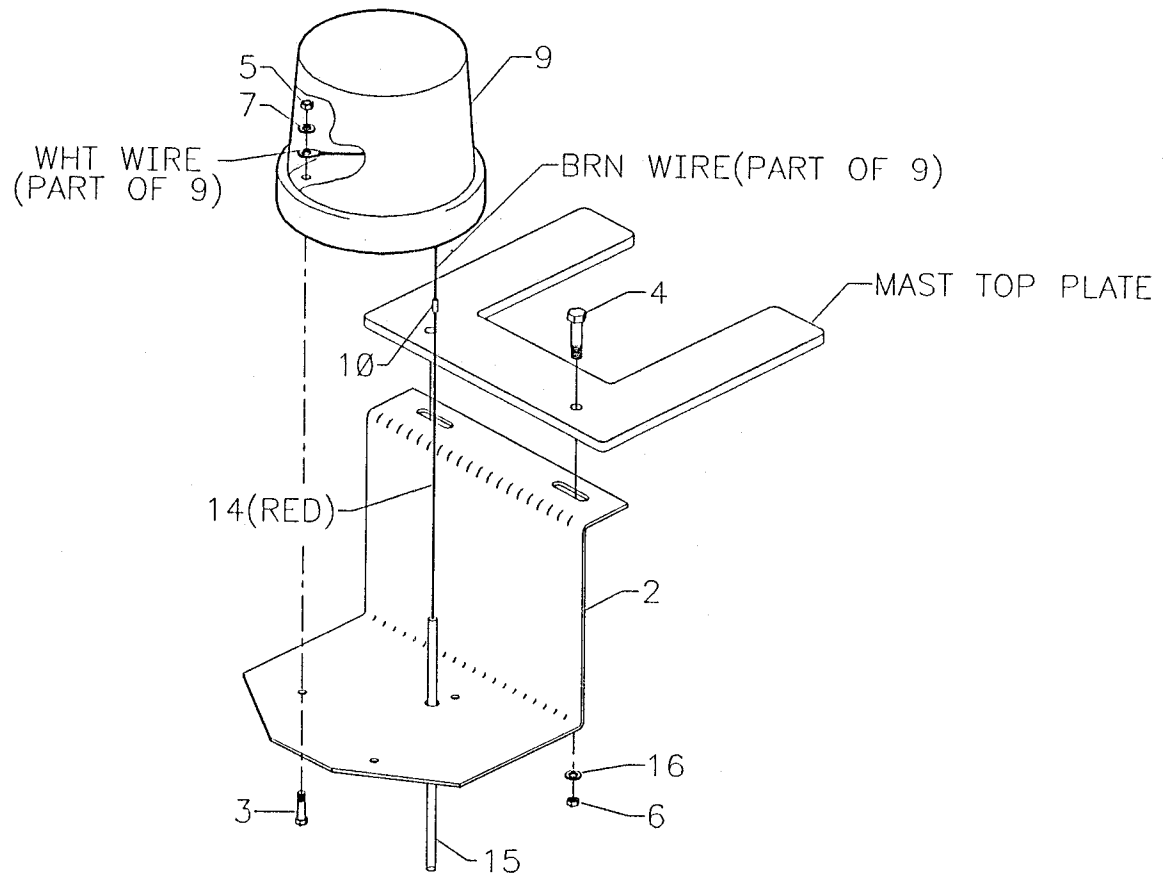


NOTE

This capacity alert system consists of a pressure switch mounted on the lift side of the inner boom lift cylinder which senses hydraulic pressure. It is to be connected electrically (by the customer) to an audible warning device such as the truck chassis horn, using 14-gauge wire.

ITEM	PART NO.	DESCRIPTION	QTY
1.	72060731	CAP SCR 5/16-18X3/4 SH	4
2.	60025221	MANIFOLD	1
3.	72532140	PLUG 9/16-18 STR THD HH	1
4.	7Q072015	O-RING	1
5.	77041283	PRESSURE SWITCH	1
6.	89044188	WIRE-14GA (Customer Supplied)	REF
7.	99900118	INSTALLATION DWG	1

Figure D-20. CAPACITY ALERT KIT - AUDIBLE (31705698)



ITEM	PART NO.	DESCRIPTION	QTY
1.	60103464	DASH BRACKET	1
2.	60116337	BRACKET-LOW MOUNT	1
3.	72060004	CAP SCR 1/4-20X1 HH GR5	5
4.	72060048	CAP SCR 3/8-16X1-1/2 HH GR5	2
5.	72062000	NUT 1/4-20 HEX	5
6.	72062002	NUT 3/8-16 HEX	2
7.	72063049	WASHER 1/4 LOCK	5
8.	77040000	TERMINAL RING #10 16-14GA	3
9.	77040013	BEACON LIGHT-AMBER	1
10.	77040048	BUTT CONNECTOR 16-14GA	1
11.	77040053	TERMINAL RING 1/4 12-10GA	1
12.	77041014	SWITCH-PUSH/PULL W/FUSE	1
13.	77042001	INDICATOR LIGHT-RED	1
14.	89044001	WIRE 14GA	18FT
15.	89044056	LOOM .31 ID	18FT
16.	72063051	WASHER 3/8 LOCK	2

Figure D-21. BEACON LIGHT KIT-LOW MOUNT (51710948)

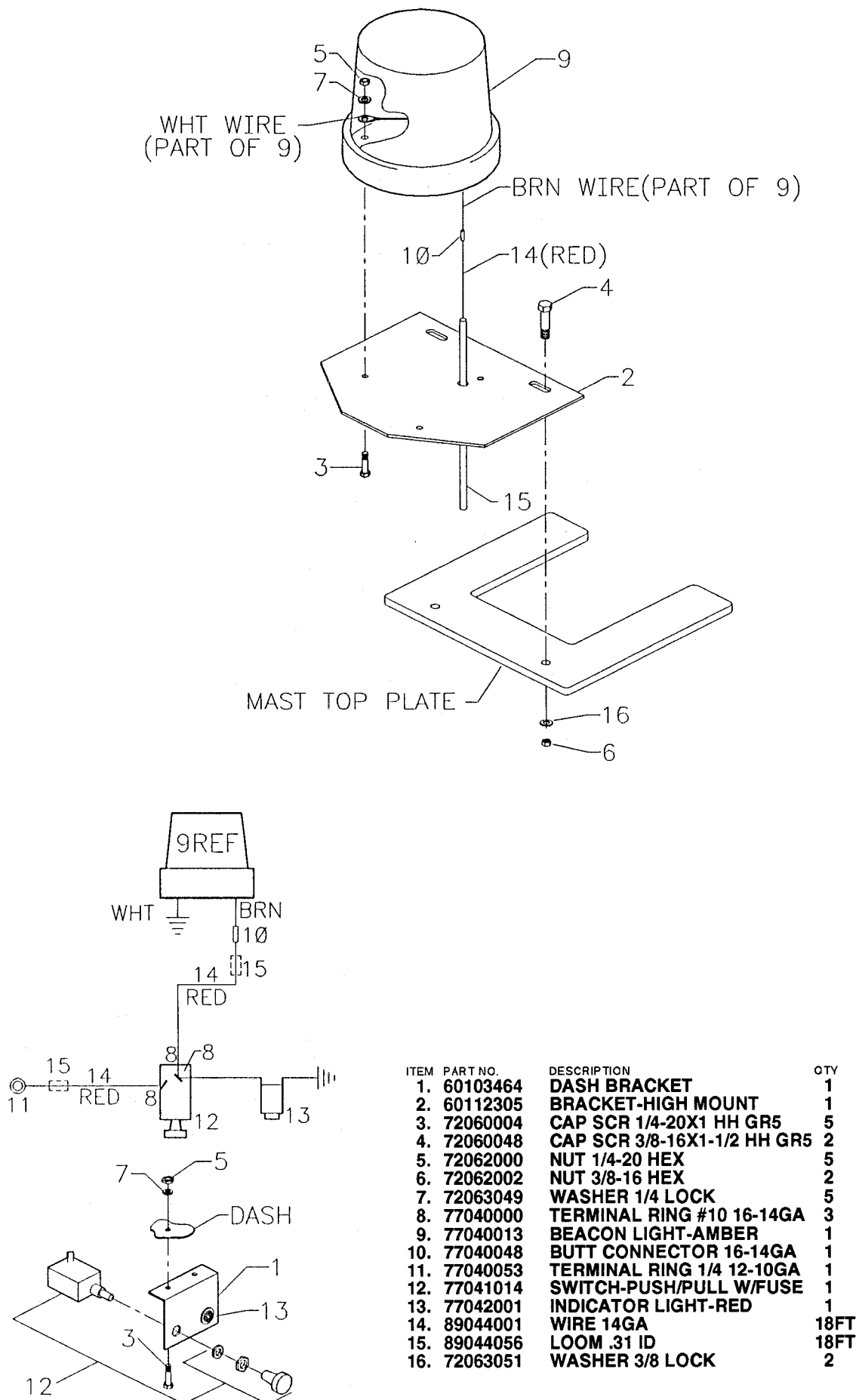


Figure D-22. BEACON LIGHT KIT-HIGH MOUNT (51708392)

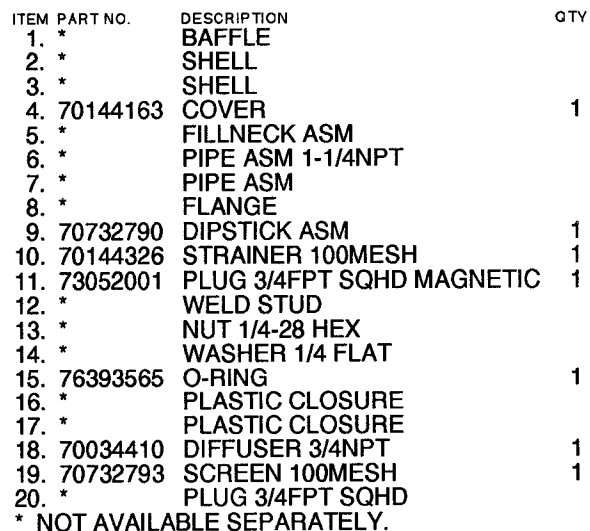
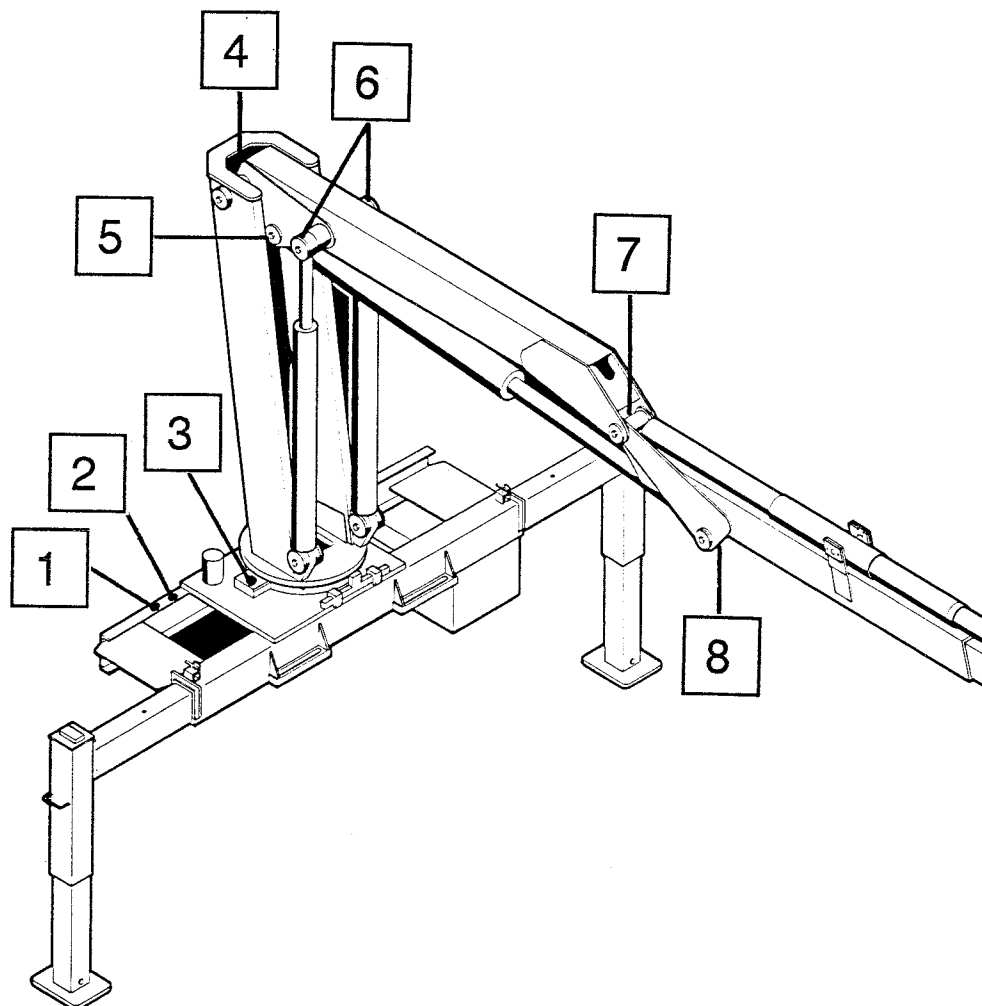


Figure D-23. RESERVOIR ASSEMBLY (70732573)

Section 5. REFERENCE





ITEM	LOCATION DESCRIPTION	LUBRICANT	FREQUENCY
1.	DRIVE GEAR GREASE EXTENSION	SHELL ALVANIA 2EP OR SHELL RETINAX "A"	WEEKLY
2.	TURNTABLE/BEARING GREASE EXTENSION *ROTATE CRANE WHILE GREASING		
3.	PINION GEAR		
4.	MAST/INNER BOOM HINGE PIN		
5.	OUTER CYLINDER BASE		
6.	INNER CYLINDER ROD		
7.	INNER BOOM/OUTER BOOM HINGE PIN		
8.	OUTER CYLINDER ROD		

NOTE: All application points must be greased weekly under normal work loads and moderate weather conditions. Under severe operating conditions, lubrication should be performed more frequently. See Volume 1; Operation, Maintenance and Repair for additional lubrication requirements.



Figure E-1. GREASE ZERK LOCATIONS AND LUBRICANT REQUIREMENTS

TORQUE DATA CHART

FINE THREAD BOLTS

SIZE (DIA-TPI)	BOLT DIA (INCHES)	TIGHTENING TORQUE			
		 SAE J429 GRADE 5		 SAE J429 GRADE 8	
		PLAIN (LB FT)	PLATED (LB FT)	PLAIN (LB FT)	PLATED (LB FT)
5/16-24	0.3125	19	14	27	20
3/8-24	0.3750	35	26	49	35
7/16-20	0.4375	55	41	78	58
1/2-20	0.5000	90	64	120	90
9/16-18	0.5625	120	90	170	130
5/8-18	0.6250	170	130	240	180
3/4-16	0.7500	300	225	420	315
7/8-11	0.8750	445	325	670	500
1-12	1.0000	645	485	995	745
1 1/8-12	1.1250	890	670	1445	1085
1 1/4-12	1.2500	1240	930	2010	1510
1-3/8-12	1.3750	1675	1255	2710	2035
1 1/2-12	1.5000	2195	1645	3560	2670

COARSE THREAD BOLTS

SIZE (DIA-TPI)	BOLT DIA (INCHES)	TIGHTENING TORQUE			
		 SAE J429 GRADE 5		 SAE J429 GRADE 8	
		PLAIN (LB FT)	PLATED (LB FT)	PLAIN (LB FT)	PLATED (LB FT)
5/16-18	0.3125	17	13	25	18
3/8-16	0.3750	31	23	44	33
7/16-14	0.4375	49	37	70	52
1/2-13	0.5000	75	57	105	80
9/16-12	0.5625	110	82	155	115
5/8-11	0.6250	150	115	220	160
3/4-10	0.7500	265	200	375	280
7/8-9	0.8750	395	295	605	455
1-8	1.0000	590	445	910	680
1 1/8-7	1.1250	795	595	1290	965
1 1/4-7	1.2500	1120	840	1815	1360
1-3/8-6	1.3750	1470	1100	2380	1780
1 1/2-6	1.5000	1950	1460	3160	2370

When using the torque data in the charts above, the following rules should be observed.

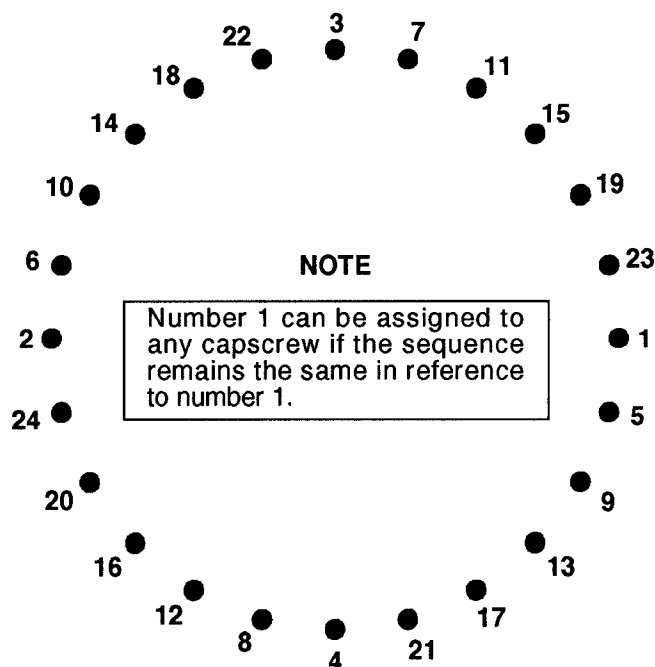
1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
4. Torque values specified are for bolts with residual oils or no special lubricants applied. If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum disulphite, colloidal copper or white lead are applied, multiply the torque values in the charts by the factor .90. The use of Loctite does not affect the torque values listed above.
5. Torque values for socket-head capscrews are the same as for Grade 8 capscrews.

WARNING

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate clamp loads after torquing. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue causing serious injury or DEATH.

Figure E-2. TORQUE DATA CHART

Refer to the diagram below for proper tightening/torqueing sequence of the turntable bearing to the crane base and crane mast. The total quantity of cap screws varies dependent on crane model.



TIGHTENING PROCEDURE:

1. Refer to the Torque Data Chart to determine the proper torque value to apply to the size of capscrew used.
2. Follow the tightening sequence shown in the diagram. Note that the quantity of capscrews may differ from the diagram, but the sequence must follow the criss-cross pattern as shown in the diagram.
3. Torque all capscrews to approximately 40% of the specified torque value, by following the sequence. (EXAMPLE: $.40 \times 265 \text{ FT-LBS} = 106 \text{ FT-LBS}$)
4. Repeat Step 3, but torqueing all capscrews to 75% of the specified torque value. Continue to follow the tightening sequence. (EXAMPLE: $.75 \times 265 \text{ FT-LBS} = 199 \text{ FT-LBS}$)
5. Using the proper sequence, torque all capscrews to the listed torque value as determined from the Torque Data Chart.

Figure E-3. TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE

Before a bearing is removed from a crane for inspection, one of the following conditions should be evident:

1. Metal particles present in the bearing lubricant.
2. Increased drive power required to rotate the crane.
3. Noise emitting from the bearing during crane rotation.
4. Rough crane rotation.
5. Uneven or excessive wear between the pinion gear and turntable gear.

If none of the above conditions exists, the bearing is functioning properly and need not be replaced. But, if one or more of the above conditions exists, inspection may be required. Limits are measured in "TILT" which is dependent on the internal clearances of the bearing. TILT is the most practical determination of a bearing's internal clearance once mounted on a crane.

Periodic readings indicating a steady increase in TILT may be an indicator of bearing wear. Note that a bearing found to have no raceway cracks or other structural irregularities should be reassembled and returned to service.

TEST PROCEDURE

STEP 1.

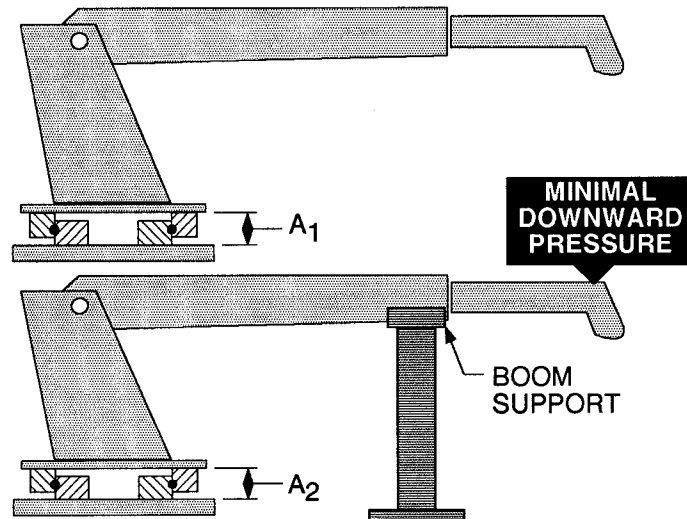
With the crane horizontal and fully extended, measure between the top and bottom mounting surfaces of the turntable bearing (A_1), using a dial indicator for accuracy.

STEP 2.

Reverse the load by applying minimal downward pressure on the boom while the boom is in the boom support or on a solid surface. Again measure A_2 .

STEP 3.

Subtract A_1 from A_2 to determine tilt and compare the result with the accompanying chart.



COMPARISON CHART - MODEL TO MEASURED TILT DIMENSION					
NOTE THE FIGURES LISTED IN THIS CHART ARE SERVICE GUIDELINES AND DO NOT, IN THEMSELVES, REQUIRE THAT THE BEARING BE INSPECTED. IF THERE IS REASON TO SUSPECT AN EXCESS OF BEARING WEAR AND THE MEASURED TILT DIMENSION EXCEEDS THE DIMENSION LISTED, REMOVE THE BEARING FOR INSPECTION.	IMT CRANE OR TIREHAND MODEL	814 1007 1014 2010 215 2015 2109 2815 3016 315A 320H 3515 3617 3625 421 425 5016 TH7 BODY ROT'N TH1449A BODY ROT'N TH15A CLAMP TH1836A CLAMP TH2551 CLAMP TH2557 CLAMP TH2557A CLAMP	4817 4825 516 525 5826 6014 6425 725 7020 7025 8025 8031 TH10 BODY ROT'N TH12 BODY ROT'N	32018 32030 HAWK-H1150 HAWK-H1150TL HAWK-H4961	9616 9825 9831 10020 10025 1216 1325 1331 13031 13034 13426 14018 14048 14126 15033 1725 18026 20017 HAWK-H1200 TH1836 BODY ROT'N TH1836A BODY ROT'N TH2551 BODY ROT'N TH2557 BODY ROT'N TH2557A BODY ROT'N
	BALL DIA. (REF)	.875" (22mm)	1.00" (25mm)	1.18" - 1.25" (30 - 32mm)	1.75" (44mm)
	TILT DIM. ($A_1 - A_2$)	.060" (1.524mm)	.070" (1.778mm)	.075" (1.905mm)	.090" (2.286mm)

Figure E-4. TURNTABLE BEARING INSPECTION FOR REPLACEMENT

SPARE PARTS LIST

1-YEAR SUPPLY

This spare parts list does not suggest that the parts listed can be expected to fail in the course of a year. It is intended to provide the user with a representative inventory of spare parts sufficient to keep the unit operating and to minimize downtime due to waiting for parts. Obviously, there may be part failures not covered by this list.

Page No.	Item No.	Part No.	Description	Qty
4-3.	11.	60020114	Bushing, Top pinion gear	1
4-3.	12.	60020115	Bushing, Top drive gear	1
4-3.	13.	60020116	Bushing, Bottom drive gear	1
4-3.	14.	60020154	Bushing, Bottom pinion gear	1
4-3.	15.	71056011	Gear, Drive	1
4-3.	27.	71056010	Gear, Pinion	1
4-3.	28.	71056012	Gear, Intermediate	1
4-3.	29.	71056062	Gear-bearing, Turntable	1
4-3.	51.	73051384	Motor, Rotation	1
4-4.	9.	9B101214	Seal Kit, Outtrigger cylinder	2
4-4.	5.	73054004	Valve, Holding	2
4-5.	6.	7BF81520	Bushing, Mast ear	4
4-5.	15.	7BF81220	Bushing, Inner Boom cylinder hinge	6
4-5.	16.	7BF81520	Bushing, Mast inner boom hinge	4
4-6.		9C121617	Seal Kit, Inner cylinder	2
4-6.	8.	7BF81020	Bushing, Inner cylinder	8
4-6.	9.	73054242	Valve, Counter balance	2
4-7.	8.	7BF81220	Bushing, Inner boom outer boom hinge	3
4-7.	9.	60030145	Pad, Wear	1
4-7.	10.	60030060	Pad, Wear	2
4-8.		9C162423	Seal Kit, Outer cylinder	1
4-8.	4.	7BF81220	Bushing, Outer cylinder	2
4-8.	17.	73054242	Valve, Counter balance	1
4-8.	18.	7BF81520	Bushing, Outer cylinder	2
4-10.		9B101214	Seal Kit, Extension cylinder	1
4-10.	6.	73054304	Valve, Counter balance	2
		73052006	Element, Return filter	1
		73052014	Element, Suction filter	1

The information within this manual has been compiled and checked but errors do occur. To provide our customers with a method of communicating those errors we have provided the Manual Change Request form below. In addition to error reporting, you are encouraged to suggest changes or additions to the manual which would be of benefit to you. We cannot guarantee that these additions will be made but we do promise to consider them. When completing the form, please write or print clearly. Submit a copy of the completed form to the address listed below.

MANUAL CHANGE REQUEST

DATE	PRODUCT MANUAL	3617 Crane	MANUAL PART NO.	99900266-2/91
SUBMITTED BY				
COMPANY				
ADDRESS				
CITY, STATE, ZIP				
TELEPHONE				

☐ ERROR FOUND

LOCATION OF ERROR (page no.): _____

DESCRIPTION OF ERROR: _____

☐ REQUEST FOR ADDITION TO MANUAL

DESCRIPTION OF ADDITION: _____

REASON FOR ADDITION: _____

MAIL TO: IOWA MOLD TOOLING Co., Inc.
Box 189,
Garner IA 50438-0189
ATTN: Technical Publications

MANUFACTURER'S LIMITED WARRANTY

WARRANTY COVERAGE - Products manufactured by Iowa Mold Tooling Co., Inc. (IMT) are warranted to be free from defects in material and workmanship, under proper use, application and maintenance in accordance with IMT's written recommendations, instructions and specifications as follows:

1. Ninety (90) days; labor on IMT workmanship from the date of delivery to the end user.
2. One (1) year; original IMT parts from the date of delivery to the end user.

IMT's obligation under this warranty is limited to, and the sole remedy for any such defect shall be the repair or replacement (at IMT's option) of unaltered parts returned to IMT, freight prepaid, provided such defect occurs within the above stated warranty period and is reported within fourteen (14) days of its occurrence.

IMPLIED WARRANTY EXCLUDED - This is the only authorized IMT warranty and is in lieu of all other express or implied warranties or representations, including any implied warranties of merchantability or fitness for any particular purpose or of any other obligations on the part of IMT.

ITEMS EXCLUDED - The manufacturer gives no warranty on any components or parts purchased by the manufacturer, and such components as are covered only by the warranties of their respective manufacturers.

WARRANTY CLAIMS - Warranty claims must be submitted and shall be processed in accordance with IMT's established warranty claim procedure.

WARRANTY SERVICE - Warranty service will be performed by any IMT distributor authorized to sell new IMT products of the type involved or by any IMT Service Center authorized to service the type of product involved or by IMT in the event of direct sales made by IMT. At the time of requesting warranty service, the purchaser must present evidence of the date of delivery of the product. The purchaser shall pay any premium for overtime labor requested by the purchaser, any charge for making service calls and for transporting the equipment to the place where warranty work is performed.

WARRANTY VOIDED - All obligations of IMT under this warranty shall be terminated: (1) if service other than normal maintenance or normal replacement of service items is performed by someone other than an authorized IMT dealer, (2) if product is modified or altered in ways not approved by IMT.

PURCHASER'S RESPONSIBILITY - This warranty covers only defective material and workmanship. It does not cover depreciation or damage caused by normal wear, accident, improper protection in storage, or improper use. The purchaser has the obligation of performing the care and maintenance duties discussed in IMT's written recommendations, instructions and specifications. Any damage which results because of purchaser's failure to perform such duties shall not be covered by this warranty. The cost of normal maintenance and normal replacement of service items such as filters, belts, etc. shall be paid by the purchaser.

CONSEQUENTIAL DAMAGES - The only remedies the purchaser has in connection with the breach or performance of any warranty on IMT products are those set forth above. In no event will the dealer, IMT or any company affiliated with IMT, be liable for business interruptions, loss of sales and/or profits, rental or substitute equipment, costs of delay or for any other special, indirect, incidental or consequential losses, costs or damages.

REPRESENTATIONS EXCLUDED - IMT products are subject to no expressed, implied or statutory warranty other than herein set forth, and no agent, representative or distributor of the manufacturer has any authority to alter the terms of this warranty in any way whatsoever or to make any representations or promises, express or implied, as to the quality or performance of IMT products other than those set forth above.

CHANGE IN DESIGN - IMT reserves the right to make changes in design or improvements upon its products without imposing any obligation upon itself to install the same upon its products theretofore manufactured.

Effective January, 1984

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