

Volume 2
Parts and Specifications
Model 3625 Crane

IOWA MOLD TOOLING CO., INC.

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515-923-3711

PRODUCT SUPPORT FAX: 515-923-2424

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Introduction - Read Carefully!

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

	OPTIONAL 20'-Boom	STANDARD 3625
CRANE RATING	36,000 ft-lbs 4.98 ton-m	36,000 ft-lbs 4.98 ton-m
REACH - FROM CENTERLINE OF ROTATION	19'-10" 6.05m	25'-2" 7.67m
HYDRAULIC EXTENSION	64" 162.6cm	64" 162.6cm
MANUAL EXTENSION	---	64" 162.6cm
* LIFTING HEIGHT	28'-4" 8.64m	33'-2" 10.11m
CRANE WEIGHT	2770 lbs 1256 kg	2820 lbs 1279 kg
OUTRIGGER SPAN	7'-9" 2.36m	7'-9" 2.36m
* STORAGE HEIGHT	10'-0" 3.05m	10'-0" 3.05m
MINIMUM CRATING DIMENSIONS	90" X 28" X 84" 228.6 X 71.1 X 213.4cm	90" X 28" X 84" 228.6 X 71.1 X 213.4cm
** MOUNTING SPACE REQUIRED	28" 71.1cm	28" 71.1cm
OPTIMUM PUMP CAPACITY	7 U.S. GPM 26.5 liters/min	7 U.S. GPM 26.5 liters/min
OIL RESERVOIR CAPACITY	17 U.S. GAL. 64.35 liters	17 U.S. GAL. 64.35 liters
DESIGN FACTORS (PINS & HYDRAULICS)	4/1	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)

7'-6" 2.29m	4800 lbs 2177 kg	4800 lbs 2177 kg
14'-6" 4.42m	2500 lbs 1134 kg	2500 lbs 1134 kg
19'-10" 6.05m	1820 lbs 826 kg	1820 lbs 826 kg
25'-2" 7.67m		1430 lbs 649 kg

1-3. PERFORMANCE CHARACTERISTICS

ROTATION - 370 ⁰ (6.46 Rad.)	30 seconds
INNER BOOM ELEVATION - -52 ⁰ TO +71 ⁰ (-0.91 Rad. to +1.24 Rad.)	18 seconds
OUTER BOOM ARTICULATION - 139 ⁰ (2.43 Rad.)	21 seconds
EXTENSION - 64" (162.6cm)	17 seconds
OUTRIGGER - 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 cylinders have pilot operated counter-balance valves. 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/min.) optimum oil flow at 2,500 PSI (175.7 kg/cm²). Eight-spool, stack-type control valve, six of which are plugged but are easily adaptable for additional optional features. Dual operational control handles for six functions are located at both sides of the crane for convenient operation. System includes hydraulic oil reservoir, suction-line filter, pump, 8-section valve bank, return-line filter and all hoses and fittings.

1-8. CYLINDERS

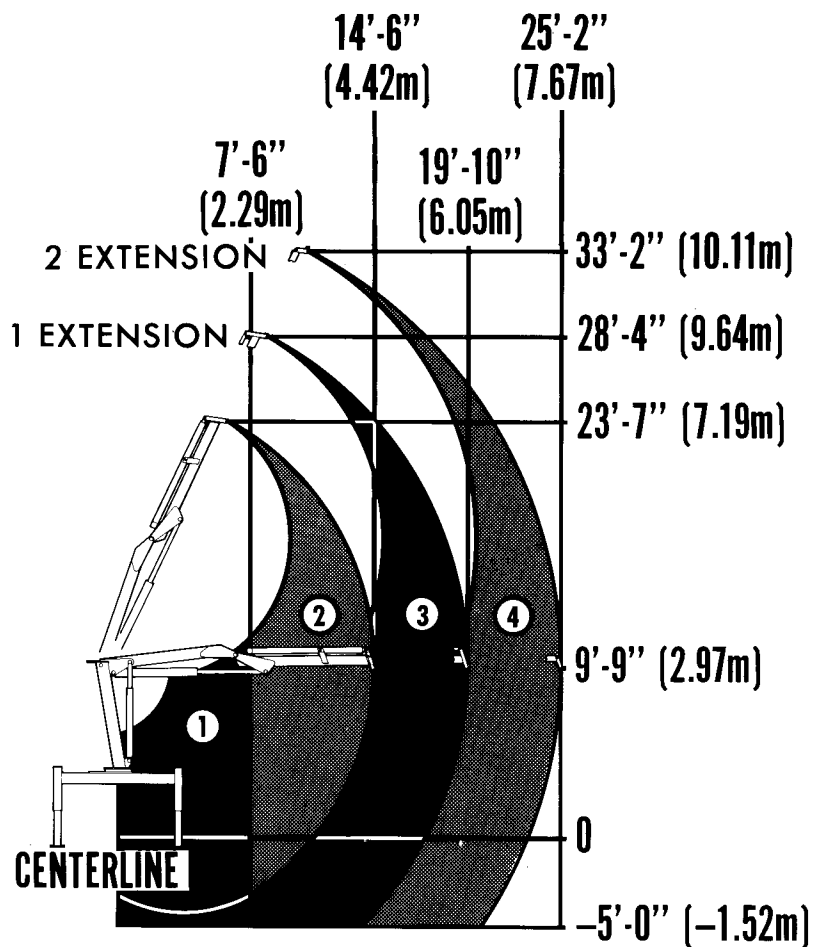
	<u>BORE</u>	<u>STROKE</u>
INNER CYLINDER	3" (7.6cm)	35" (88.9cm)
OUTER CYLINDER	4" (10.2cm)	44-3/8" (112.7cm)
EXTENSION CYLINDER	3" (7.6cm)	64" (162.6cm)
OUTRIGGER CYLINDER	2-1/2" (6.4cm)	21" (53.3cm)

1-9. MINIMUM CHASSIS SPECIFICATIONS

	<u>CONVENTIONAL CAB</u>	<u>TILT CAB</u>
WHEEL BASE	165" - 174" (419.1cm - 444.4cm)	135" 342.9cm)
CAB-TO-AXLE	102" (259.1cm)	108" (274.3cm)
FRAME SECTION MODULUS	12"³ (196.7cm³)	12"³ (196.7cm³)
R B M	540,000 in-lbs (6224 kg-m)	540,000 in-lbs (6224 kg-m)
FRONT AXLE RATING	7000 lbs (3180 kg)	7000 lbs (3180 kg)
REAR AXLE RATING	14,000 lbs (6360 kg)	14,000 (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 tachometer, auxiliary brake lock, power steering and 5-speed transmission in lieu of a 4-speed transmission.

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



Working loads will be limited to those shown. Deduct the weight of load-handling devices.

La capacidad de carga debe limitarse a las cantidades indicados. Deduzca de la capacidad de carga el peso del mecanismo de levantamiento de la carga, incluyendo todos los aparatos utilizados.

Ne pas dépasser le poids de la charge de travail indique. Pour calculer le poids de la charge pratique, deduire du poids de la charge de travail, le poids des auxiliaires de levage.

RANGE	REACH	CAPACITY	RANGE	REACH	CAPACITY
1	7'-6" (2.29m)	4,800 lbs. (2,177 kg.)	3	19'-10" (6.05m)	1,820 lbs. (826 kg.)
2	14'-6" (4.42m)	2,500 lbs. (1,134 kg.)	4	25'-2" (7.67m)	1,430 lbs. (649 kg.)

Figure A-1. CAPACITY CHART

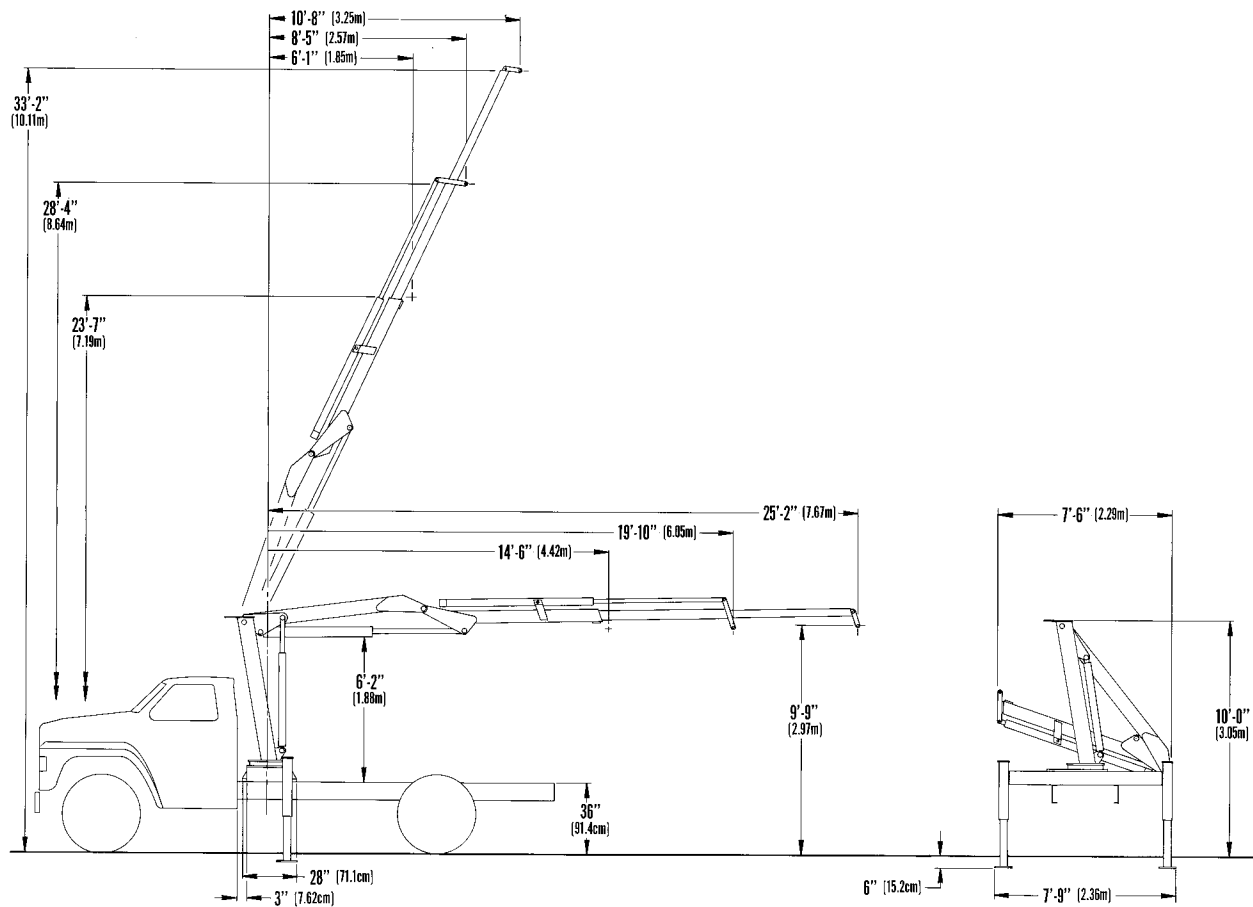


Figure A-2. GEOMETRIC CONFIGURATION

Section 2. CRANE DESCRIPTION

2-1. GENERAL

This section describes the major assemblies that are available with the IMT 3625 crane. Figure B-1 illustrates the locations of the assemblies.

2-2. BASE

The base provides the means for mounting the crane on a truck chassis. It incorporates the 370° (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° (2.15 Rad.) from -52° to +71° (-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° (2.43 Rad.). It is raised and lowered through the use of a double-acting hydraulic cylinder.

2-6. EXTENSION BOOMS

The 2-stage extension boom will increase the operating range of the crane from 14'-6" (4.42m) to 25'-2" (7.67m). The first stage is operated with a double-acting hydraulic cylinder which extends the reach an additional 64" (162.6cm) to 19'-10" (6.05m). The second stage is manually operated to provide an additional 64" (162.6cm) of reach.

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 of the sections plugged (for use with optional equipment).

2-8. HYDRAULICS

The crane hydraulics consist of double-braided pressure hoses, return hoses, filters, control valve bank and all necessary hydraulic fittings.

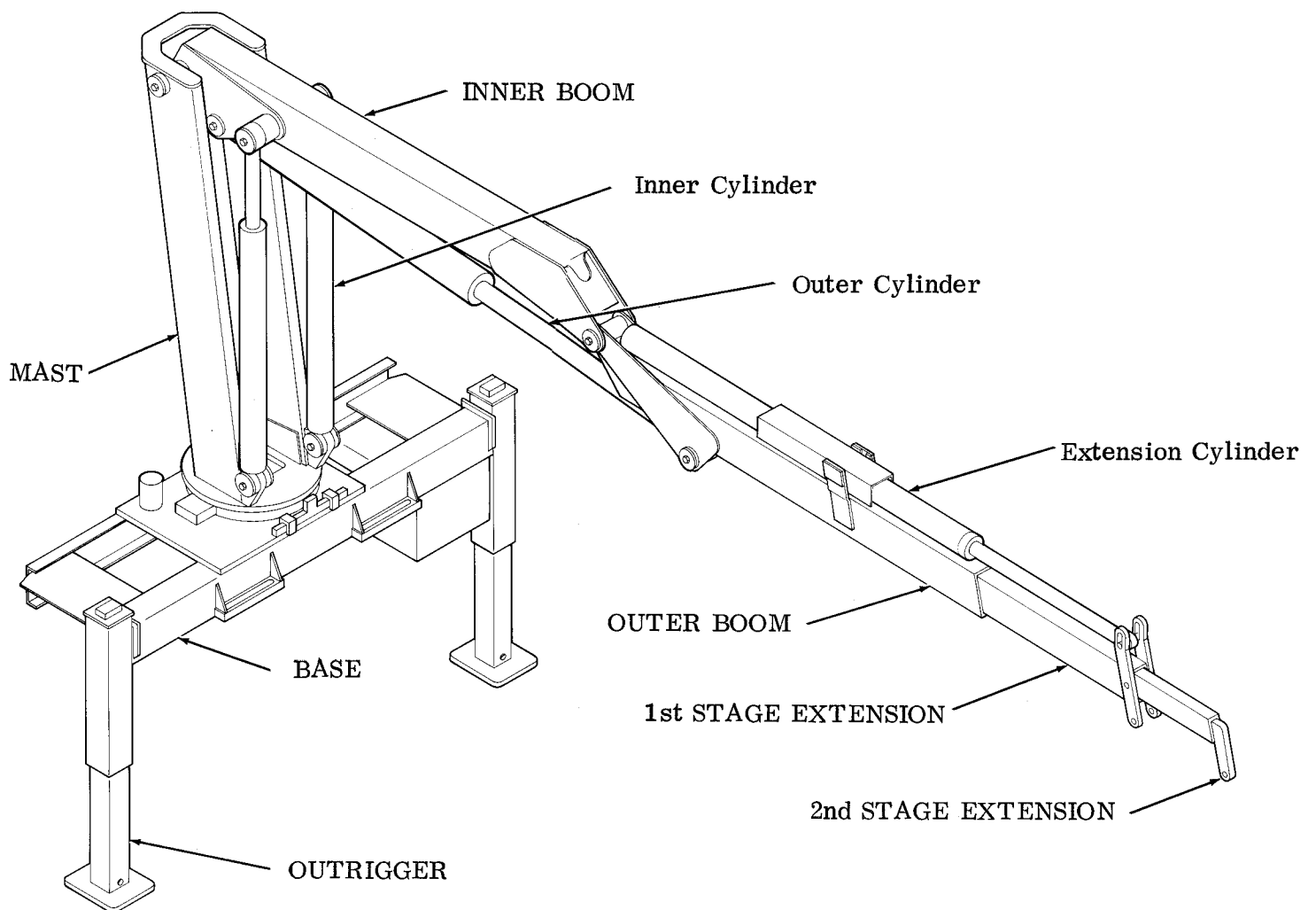


Figure B-1. 3625 CRANE GROUP

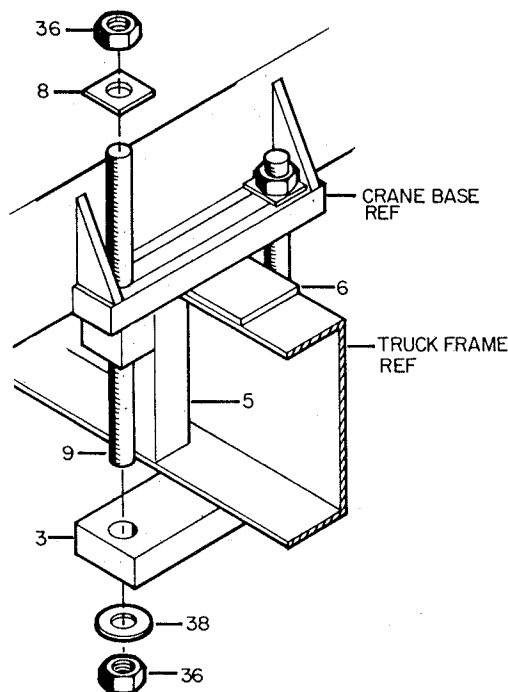
Section 3. INSTALLATION

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.:

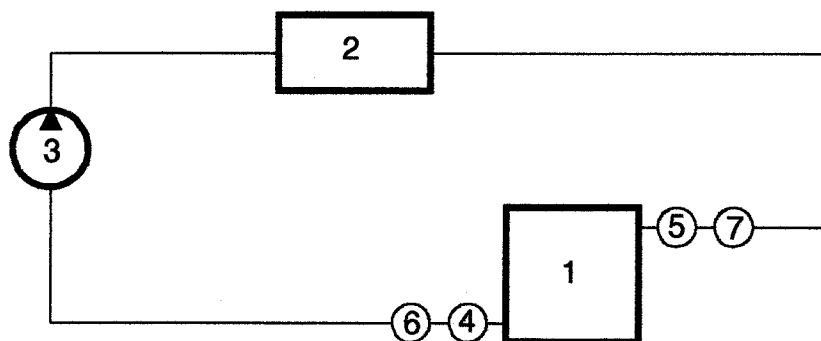
1. Plumb the suction line filter as shown in figure C-2.
2. Install the 1-1/4" suction hose between the suction-line filter and the pump inlet. Tighten the hose clamps.
3. Install the 1/2" pressure hose between the pump outlet and the inlet port on the valve bank.
4. Fill the hydraulic oil reservoir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

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 main weldments, always give the stamped part number.
4. Give a complete description of the part.
5. Specify the quantity required.

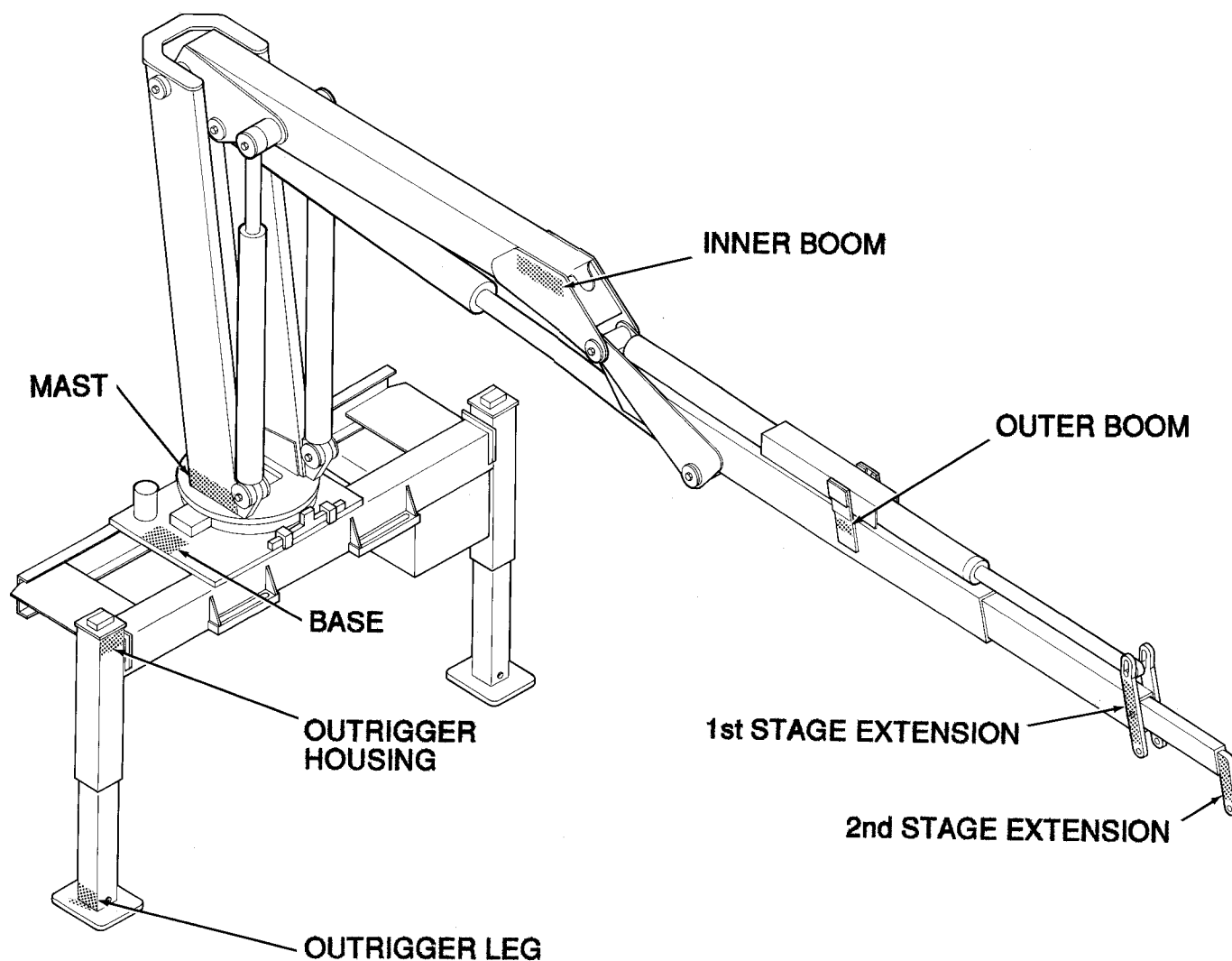


Figure D-3. WELDMENT PART NUMBER LOCATIONS

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

Figure D-1. SERIAL NUMBER PLACARD

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.

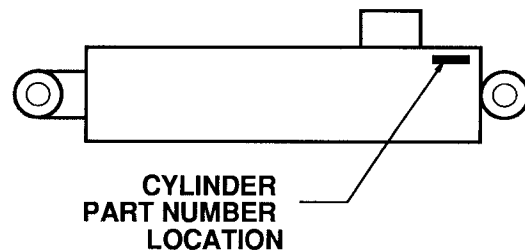
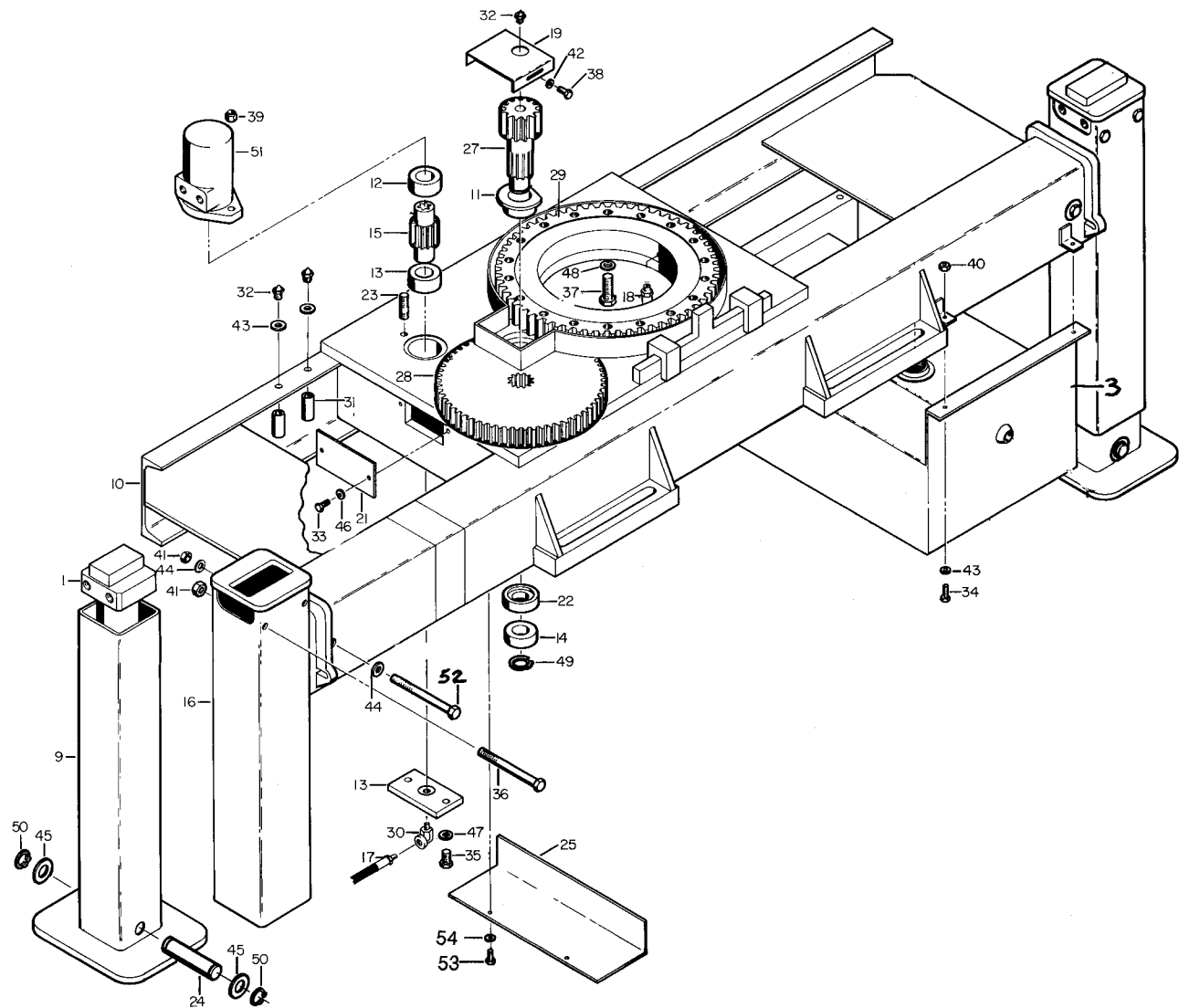
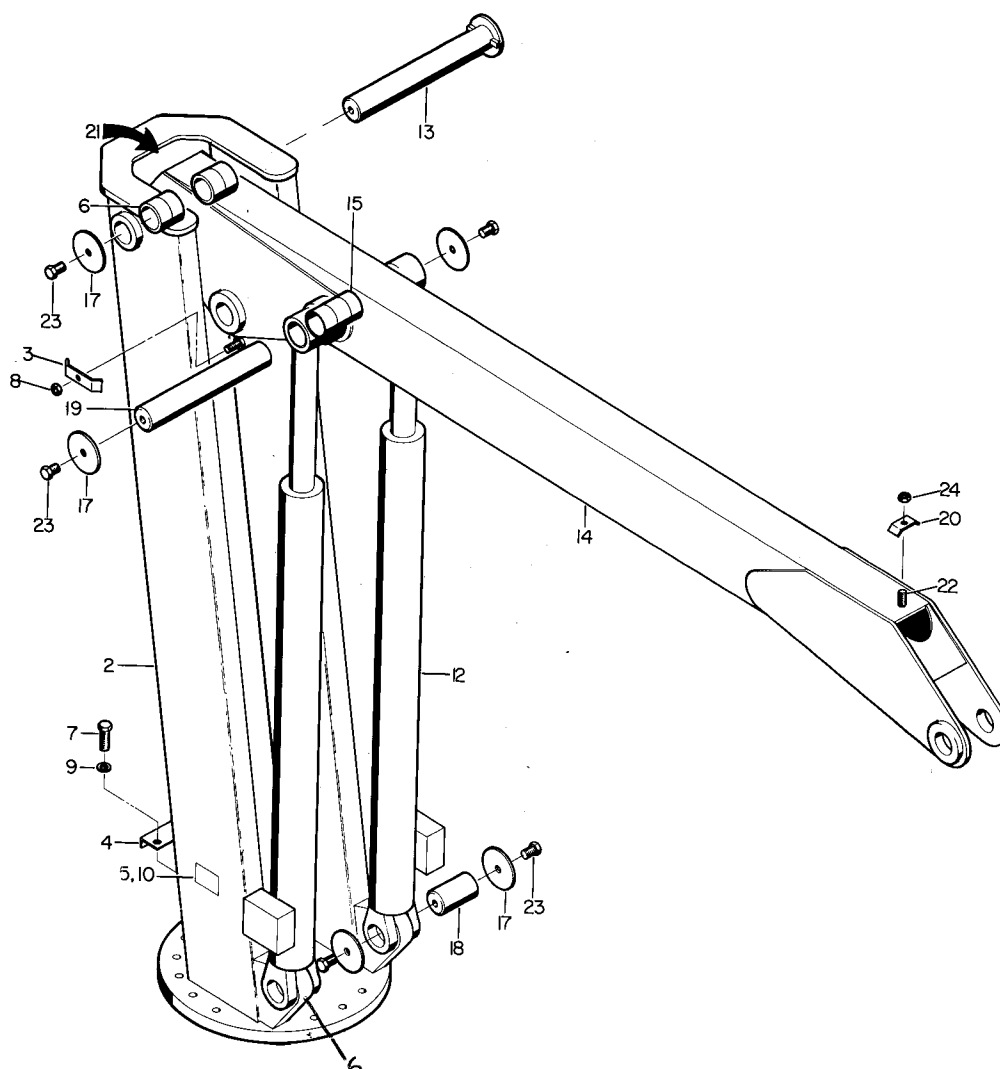


Figure D-2. CYLINDER IDENTIFICATION



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	SCR 5/16-18X3/4 SLFTPG	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 GEAR COVER	1	43.	72063003	WASHER 3/8 WRT	6
20.	60010844	GREASE PLATE	1	44.	72063005	WASHER 1/2 WRT	4
21.	60102767	COVER	1	45.	72063034	MACH BUSHING 1X10GA	4
22.	60104694	PINION 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	TURNTABLE BEARING	1	52.	72060103	CAP SCR 1/2X6 HH GR5	2
30.	72053281	STRT 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)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	41704411	MAST (INCL: 2-10)	REF	19.	60107411	PIN	1
2.	52704435	MAST	1	20.	60107648	HOSE CLAMP	1
3.	60010118	HOSE CLAMP	2	21.	72053508	ZERK 1/8NPT	1
4.	60107809	PINION COVER	1	22.	72060049	CAP SCR 3/8-16X1-3/4	1
5.	70029119	SERIAL NO. PLACARD	1	23.	72060147	CAP SCR 5/8-11X1	7
6.	7BF81520	BUSHING (PART OF 2)	4REF	24.	72062103	NUT 3/8 LOCK	1
7.	72060151	CAP SCR 5/8-11X2 HH GR8	14				
8.	72062103	NUT 3/8 LOCK	2				
9.	72063119	WASHER 5/8 FLAT HARD	14				
10.	72661216	GRIPNAIL	2				
11.	41704412	INNER BOOM (INCL: 12-24)	REF				
12.	3B127820	INNER BOOM CYLINDER	2				
13.	52704428	PIN	1				
14.	52704429	INNER BOOM	1				
15.	7BF81220	BUSHING (PART OF 14)	6REF				
16.	7BF81520	BUSHING (PART OF 14)	4REF				
17.	60106331	PIN RETAINER PLATE	7				
18.	60107305	PIN	2				

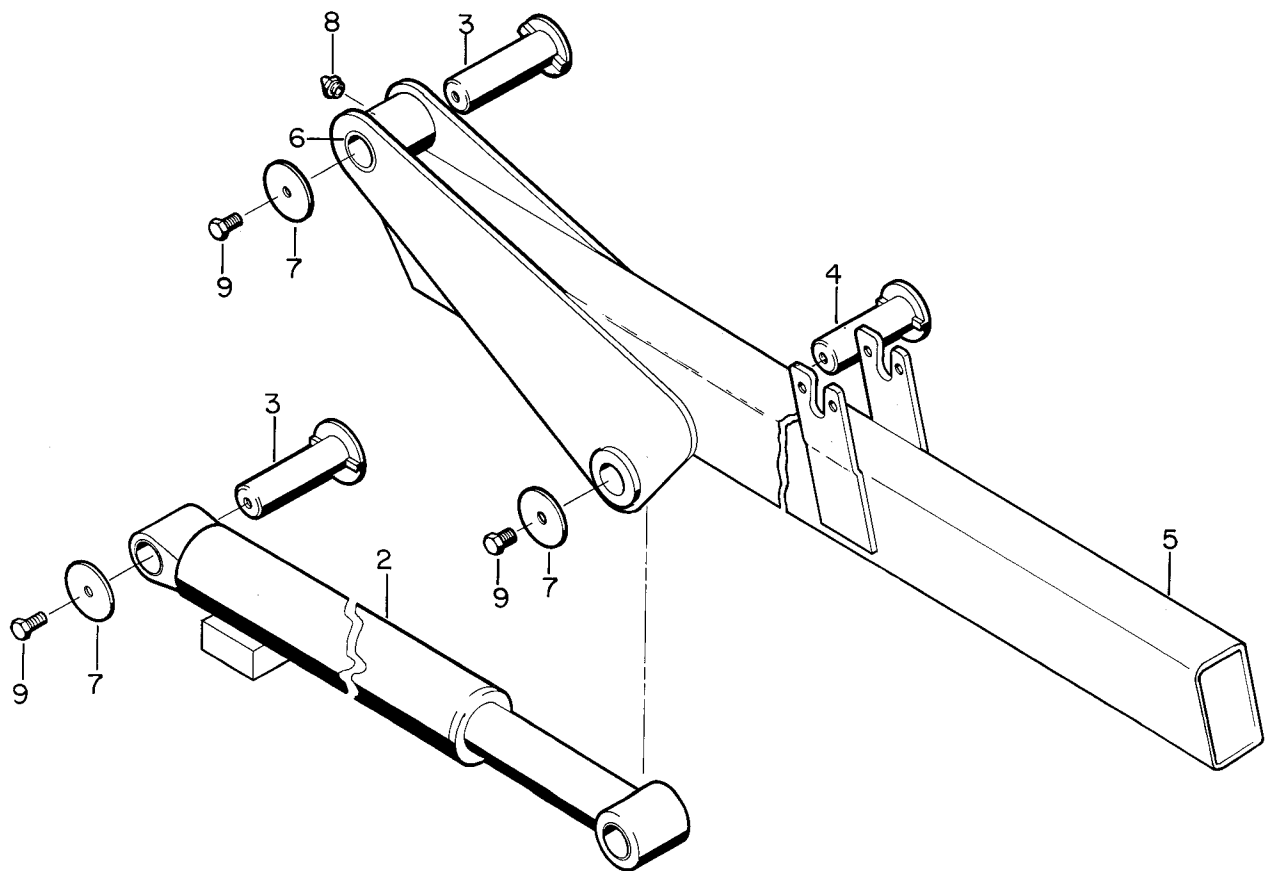
WARNING

Anytime a gear-bearing bolt 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.

NOTE

Anytime the pin retainer plate bolts have been removed, apply Loctite 262 to the threads before re-assembly.

Figure D-5. MAST ASSEMBLY (41704411) AND INNER BOOM ASSEMBLY (41704412)

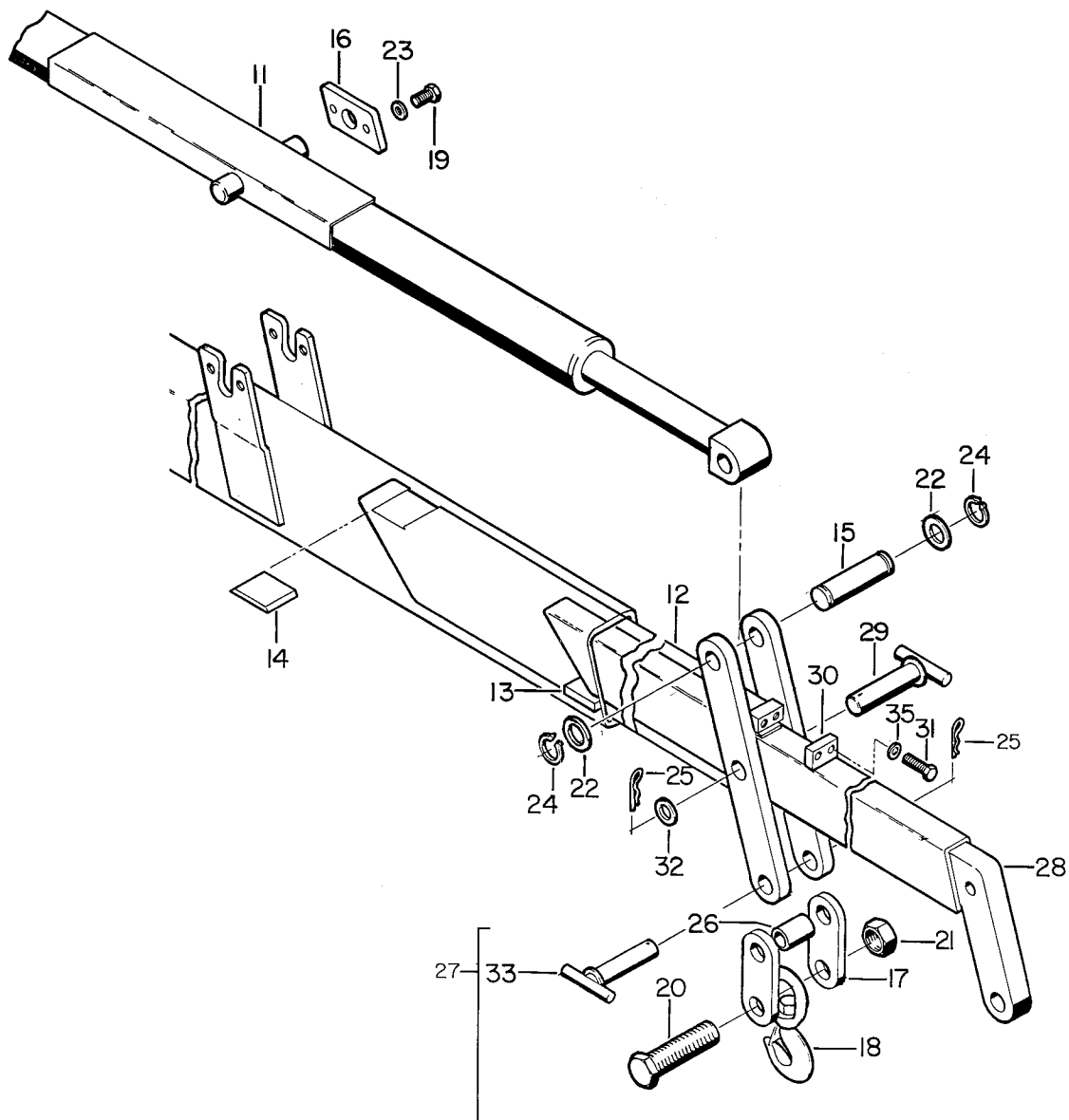


ITEM	PART NO.	DESCRIPTION	QTY
2.	3B167820	OUTER CYLINDER	1
3.	52704431	PIN	2
4.	52704432	PIN	1
5.	52704433	OUTER BOOM (INCL: 6)	1
6.	7BF81220	BUSHING (PART OF 5)	3REF
7.	60106331	PIN RETAINER PLATE	3
8.	72053508	ZERK 1/8NPT	2
9.	72060147	CAP SCR 5/8-11X1HH GR5	3

NOTE

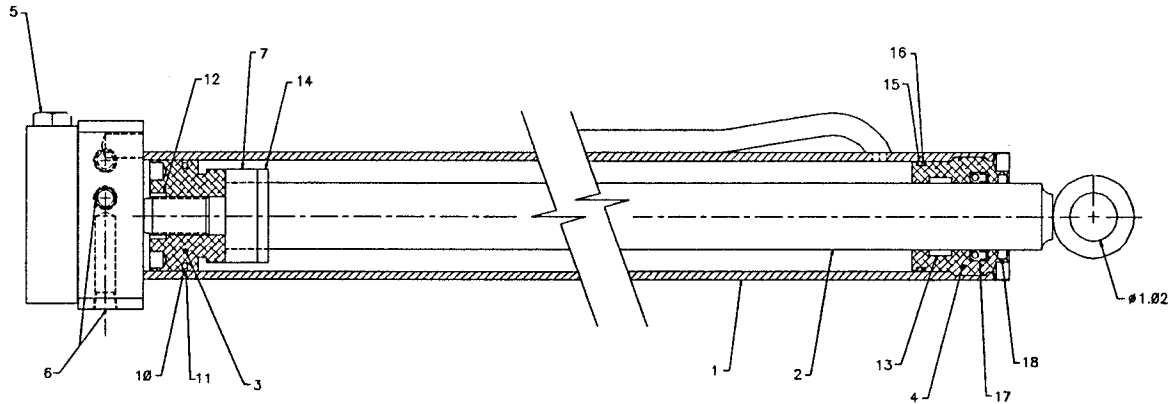
Anytime the pin retainer plate bolts have been removed, apply Loctite 262 to the threads before re-assembly.

Figure D-7. OUTER BOOM ASSEMBLY (41704414)



ITEM	PART	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
11.	3B126820	EXTENSION CYLINDER	1	23.	72063053	WASHER 1/2 LOCK	6
12.	52704434	1ST STG EXT BOO M	1	24.	72066129	RETAINING RING 1-1/4	2
13.	60030065	WEAR PAD	1	25.	72066145	HAIR PIN .19 (PART OF 27)	1REF
14.	60030066	WEAR PAD	1	26.	60108857	HOOK SPACER (PART OF 27)	1REF
15.	60106970	PIN	1	27.	51706199	HOOK ASM (INCL:17,18,20,21,25,26,33)	1
16.	60107292	LOCK PLATE	2	28.	52704346	2ND STG EXT BOOM	1
17.	60107324	LINK, HOOK (PART OF 27)	2REF	29.	52704383	PIN	1
18.	71073035	HOOK (PART OF 27)	1REF	30.	60107294	STOP PLATE	1
19.	72060091	CAP SCR 1/2-13X1 HH GR5	4	31.	72060094	CAP SCR 1/2-13X1-3/4 HH GR5	2
20.	72601666	CAP SCR 1 1/4-7X4 (PART OF 27)	1REF	32.	72063030	MACH BUSHING 3/4X10GA	1
21.	72062073	NUT1-1/4 (PART OF 27)	1REF	33.	52070151	PIN (PART OF 27)	1REF
22.	72063035	MACH BUSHING 1-1/4X10GA	2				

Figure D-7. EXTENSION BOOM ASSEMBLY 1H1M (41704415)



NOTE

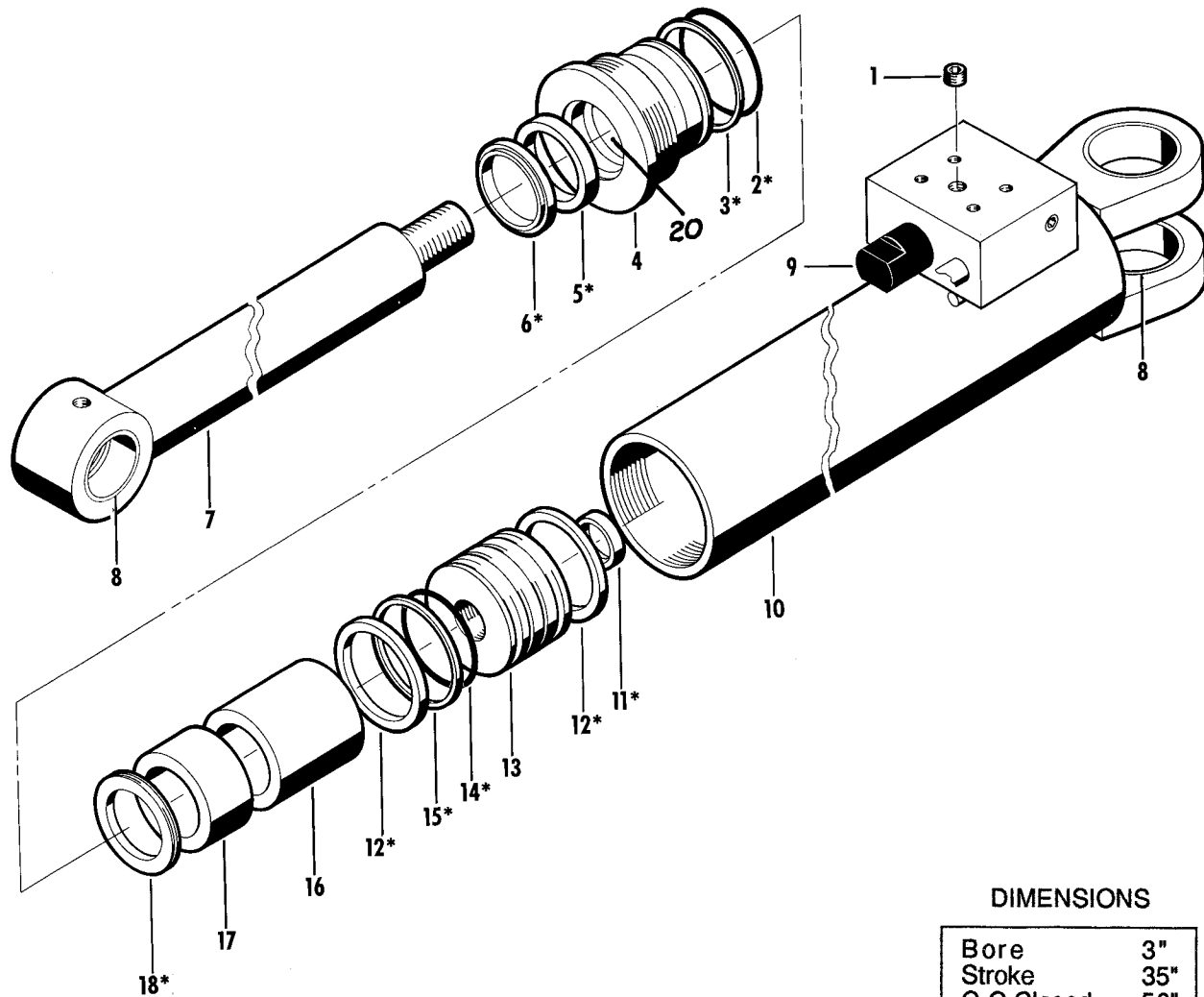
IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

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-8. OUTRIGGER CYLINDER (3B166820)



DIMENSIONS

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

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.	7PNPXT02	PIPE PLUG 1/8NPT	3REF
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	1
8.	7BF81020	BUSHING (PART OF 7 & 10)	4REF
9.	73054242	VALVE	1
10.	4B127820	CASE	1
11.	7T61N106	LOCK RING (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	1
		(INCL:2,3,5,6,11,12,14,15,18,20)	1
20.	7T2N4022	WEAR RING-ROD (PART OF 19)	1REF

Figure D-9. INNER CYLINDER (3B127820)

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 ASM (INCL:20&21)	1
3.	6C150030	STOP TUBE	1
4.	6C300030	STOP TUBE	1
5.	6H040030	HEAD	1
6.	6I040143	PISTON	1
7.	73054242	C'BALANCE VALVE	1
8.	9C162423	SEAL KIT (INCL:9-18)	1
9.	6A025030	WAFFER LOCK (PART OF 8)	1REF
10.	7Q072153	O-RING (PART OF 8)	1REF
11.	7Q072342	O-RING (PART OF 8)	1REF
12.	7Q10P342	BACKUP RING (PART OF 8)	1REF
13.	7R14P030	ROD WIPER (PART OF 8)	1REF
14.	7R546030	U-CUP (PART OF 8)	1REF
15.	7T61N143	LOCK RING (PART OF 8)	1REF
16.	7T65I040	PISTON RING (PART OF 8)	2REF
17.	7T66P040	PISTON SEAL (PART OF 8)	1REF
18.	7T2N8032	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)	3REF

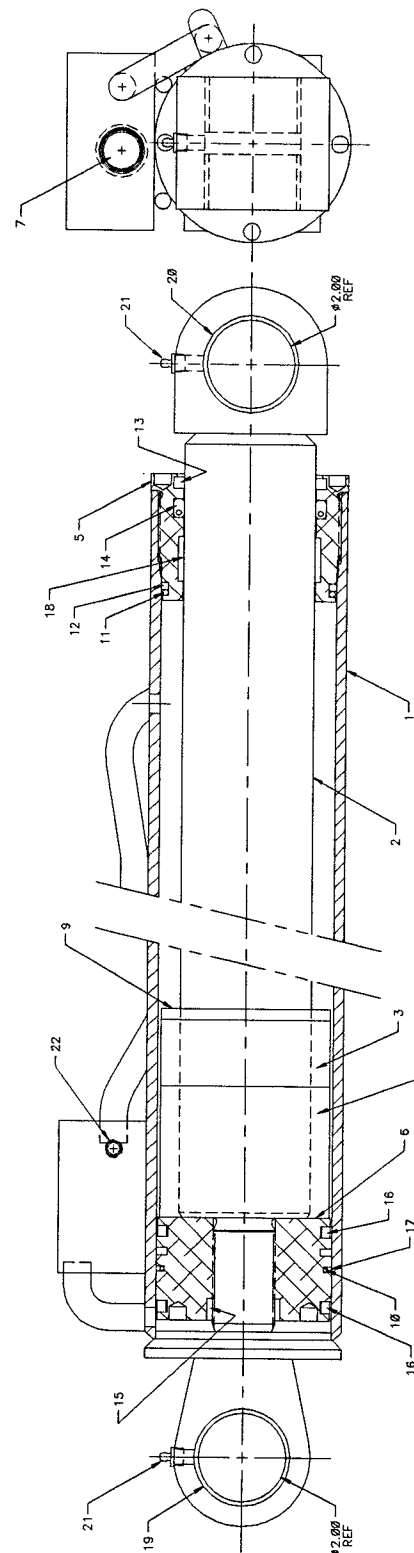


Figure D-10. OUTER CYLINDER (3B167820)

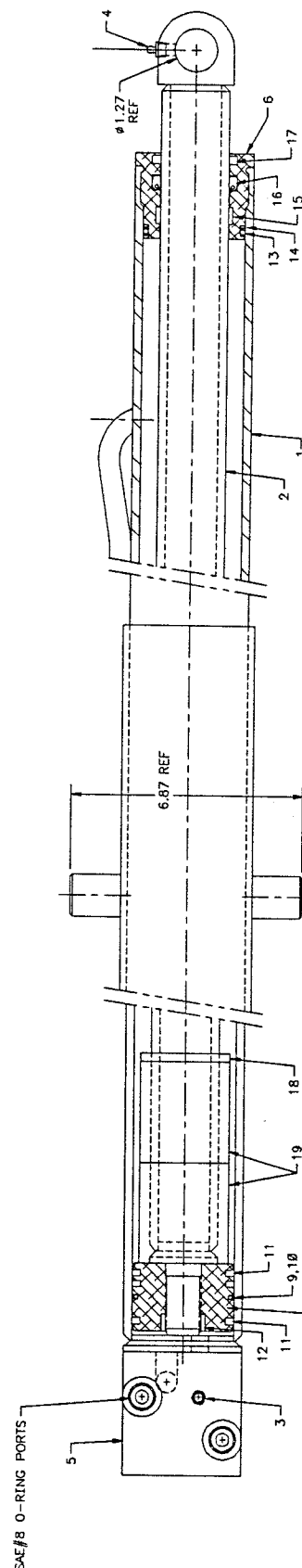
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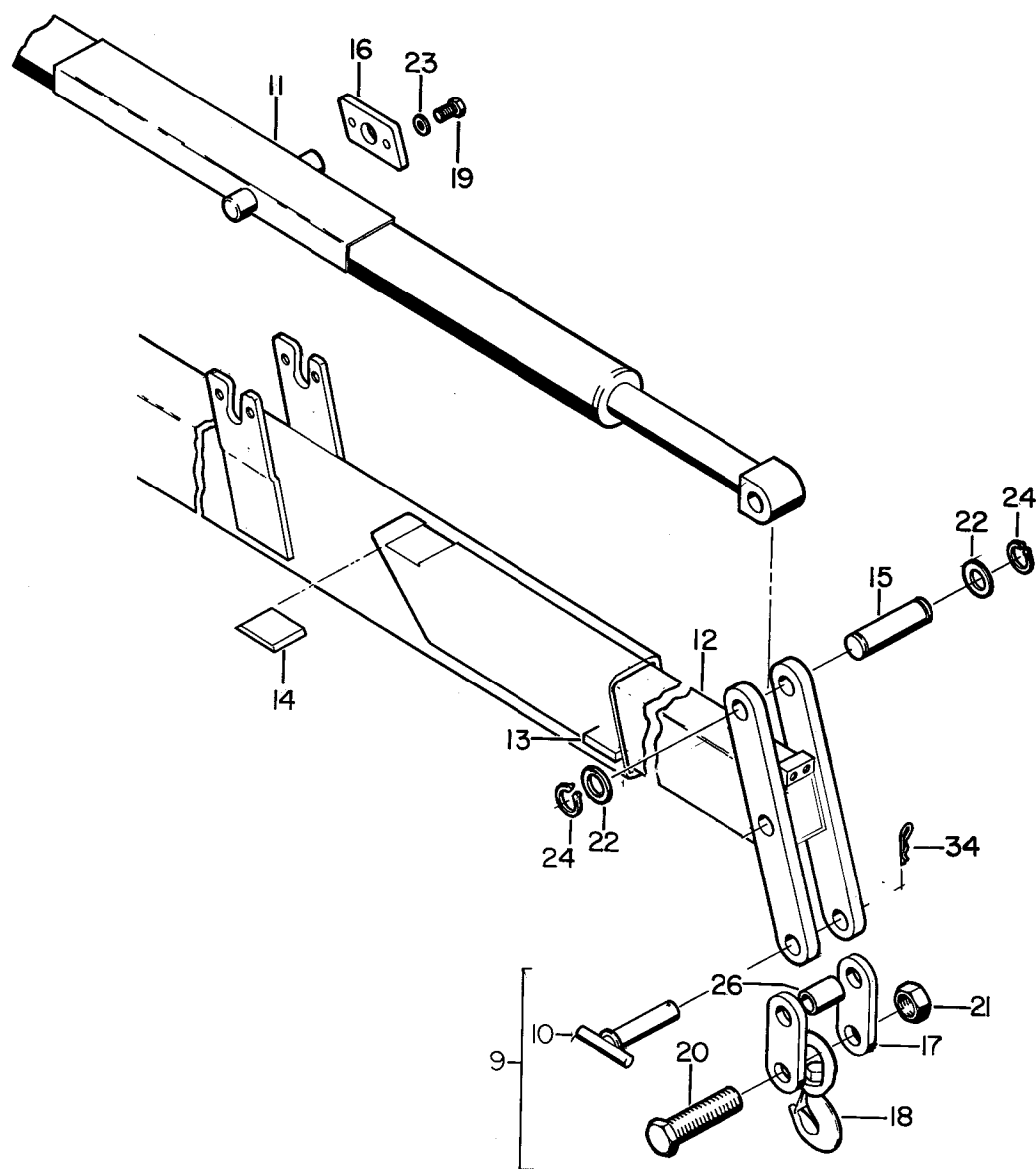
IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

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.

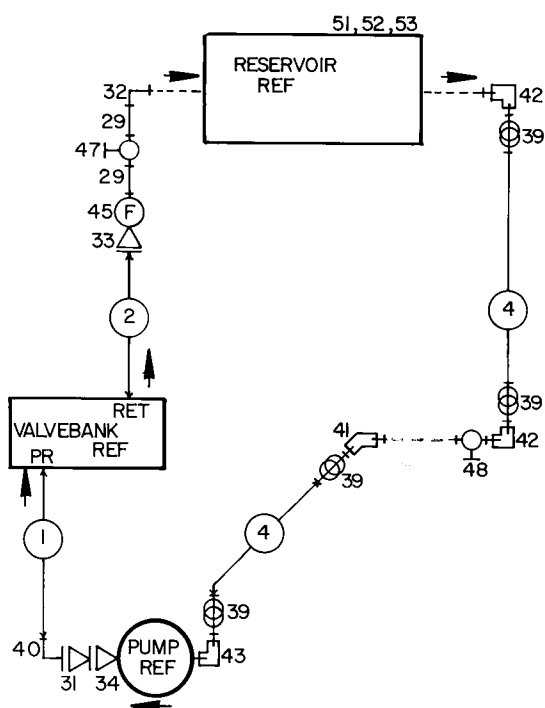
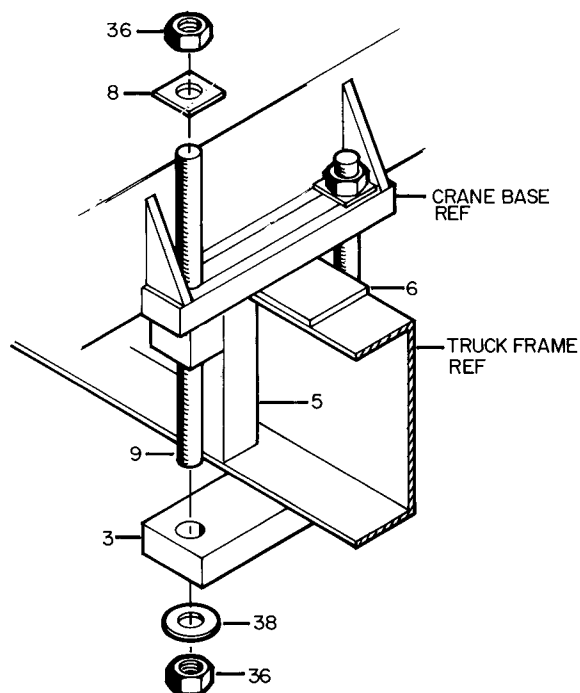
ITEM	PART NO.	DESCRIPTION	QTY
1.	4B126820	CASE (INCL:3)	1
2.	4G126820	ROD	1
3.	7PNPXT02	PLUG 1/8NPT (PART OF 1)	5REF
4.	72053507	ZERK 1/8NPT (PART OF 2)	1REF
5.	73054304	VALVE	2
6.	6H030020	HEAD	1
7.	6I030106	PISTON	1
8.	9C121617	SEAL KIT (INCL:9-18)	1
9.	7Q072145	O-RING (PART OF 8)	1REF
10.	7T66P030	PISTON SEAL (PART OF 8)	1REF
11.	7T65I030	PISTON RING (PART OF 8)	2REF
12.	7T61N106	LOCK RING SEAL (PART OF 8)	1REF
13.	7Q072334	O-RING (PART OF 8)	1REF
14.	7Q10P334	BACK-UP RING (PART OF 8)	1REF
15.	7T2N4022	WEAR RING-ROD (PART OF 8)	1REF
16.	7R546020	ROD SEAL (PART OF 8)	1REF
17.	7R14P020	ROD WIPER (PART OF 8)	1REF
18.	6A025020	WAFER LOCK (PART OF 8)	1REF
19.	6C300020	STOP TUBE	2





ITEM	PART NO.	DESCRIPTION	QTY
9.	51706199	HOOK ASM 4-1/2 TON	1
10.	52070151	PIN (PART OF 9)	1REF
11.	3B126820	EXTENSION CYLINDER	1
12.	52704434	1ST STG EXT BOOM	1
13.	60030065	WEAR PAD	1
14.	60030066	WEAR PAD	1
15.	60106970	PIN	1
16.	60107292	LOCKPLATE	2
17.	60107324	HOOK LINK (PART OF 9)	2REF
18.	71073035	HOOK (PART OF 9)	1REF
19.	72060091	CAP SCR 1/2-13X1 HH GR5	4
20.	72601666	CAP SCR 1 1/4-7X4 HH GR5 (PART OF 9)	1REF
21.	72062073	NUT 1 1/4-7 (PART OF 9)	1REF
22.	72063035	MACH BUSHING 1-1/4X10GA	2
23.	72063053	WASHER 1/2 LOCK	4
24.	72066129	RETAINER RING 1-1/4	2
25.	72066145	HAIR PIN 3/16 (PART OF 9)	1REF
26.	60108857	SPACER (PART OF 9)	1REF

Figure D-12. 3625-20 EXTENSION BOOM (41704637)

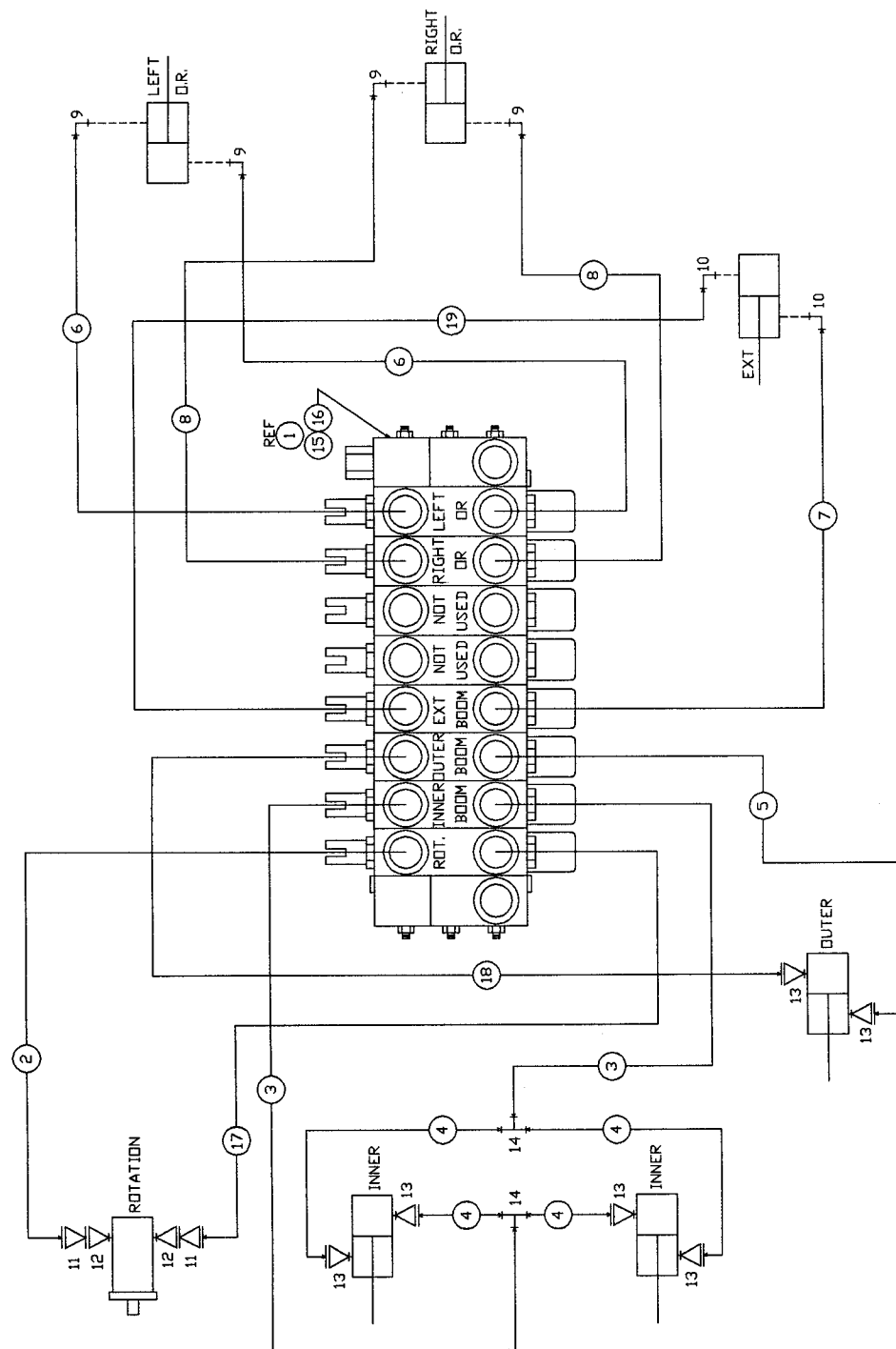


ITEM	PART NO.	DESCRIPTION	QTY
1.	51703939	HOSE ASM 1/2X96	1
2.	51704572	HOSE ASM 3/4X63	1
3.	60010354	CLAMP PLATE	4
4.	60035829	HOSE 1-1/4X48	2
5.	52706660	SUPPORT	4
6.	60103563	SPACER	2
8.	60107478	WASHER 1 SQUARE	8
9.	60107829	STUD 1X18 TIE-DOWN	8
29.	72053141	NIPPLE 3/4NPT	2
31.	72053497	ADAPTER 1/2MPT 3/4MJIC	1
32.	72053556	ST ELBOW 3/4NPT 90°	1
33.	72053676	ADAPTER 3/4MP 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	8
39.	72066516	HOSE CLAMP 1-1/4	4
40.	72531133	ST ELBOW 1/2NPT 90°	1
41.	72531196	BARB NIPPLE 1-1/4MPT 1-1/4 45°	1
42.	72532346	BARB NIPPLE 1-1/4MPT 1-1/4 90°	2
43.	72532708	BEAD NIPPLE 1-5/16MSTR 1-1/4 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	4REF
52.	72062002	WASHER 5/16	8REF
53.	72062109	NUT 5/16 LOCK	4REF

Figure D-13. INSTALLATION KIT (93704418)

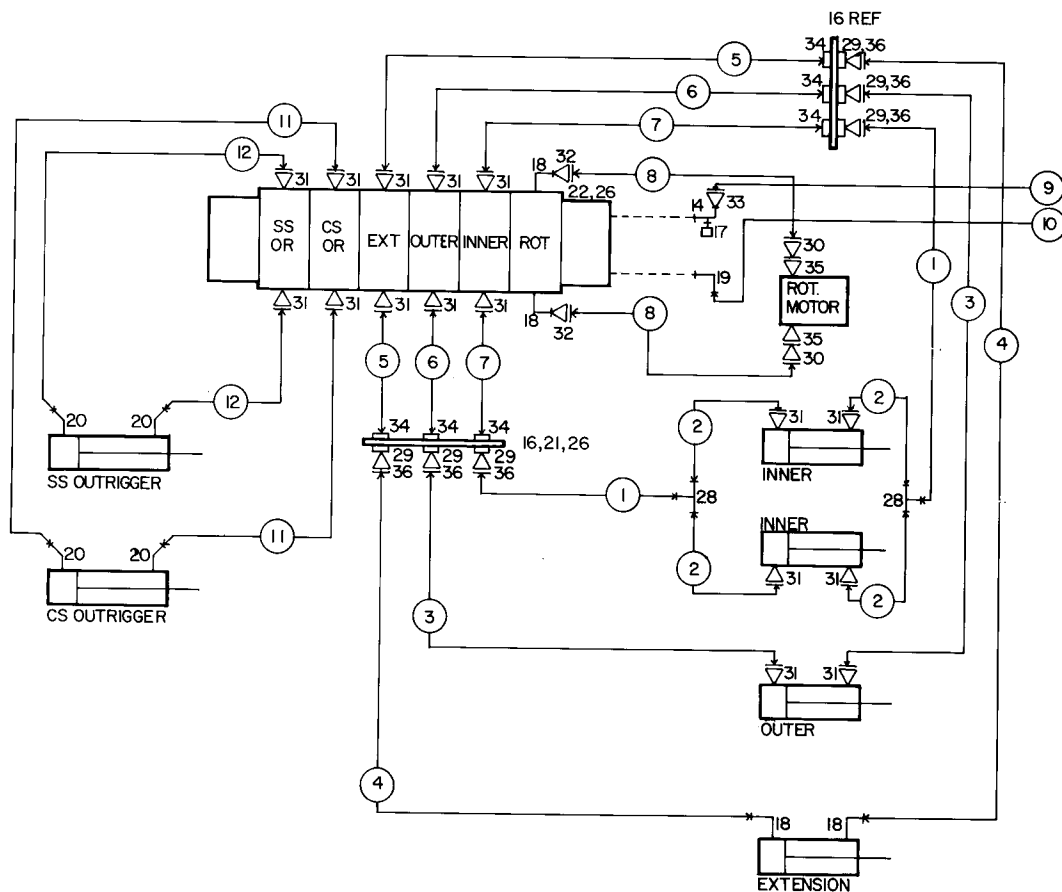
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ITEM	PART NO.	DESCRIPTION	QTY
1.	51710944	VALVEBANK ASM	1 REF
2.	51705893	HOSE ASM 1/4X46 FF	1
3.	51706164	HOSE ASM 3/8X28 FF	2
4.	51706163	HOSE ASM 3/8X22 FF	4
5.	51704581	HOSE ASM 3/8X108 FF	1
6.	51704618	HOSE ASM 3/8X62 FF	2
7.	51704582	HOSE ASM 3/8X209 FF	2
8.	51704617	HOSE ASM 3/8X44 FF	2
9.	720537763	ELBOW 9/16MSTR 9/16MJIC 45°	4

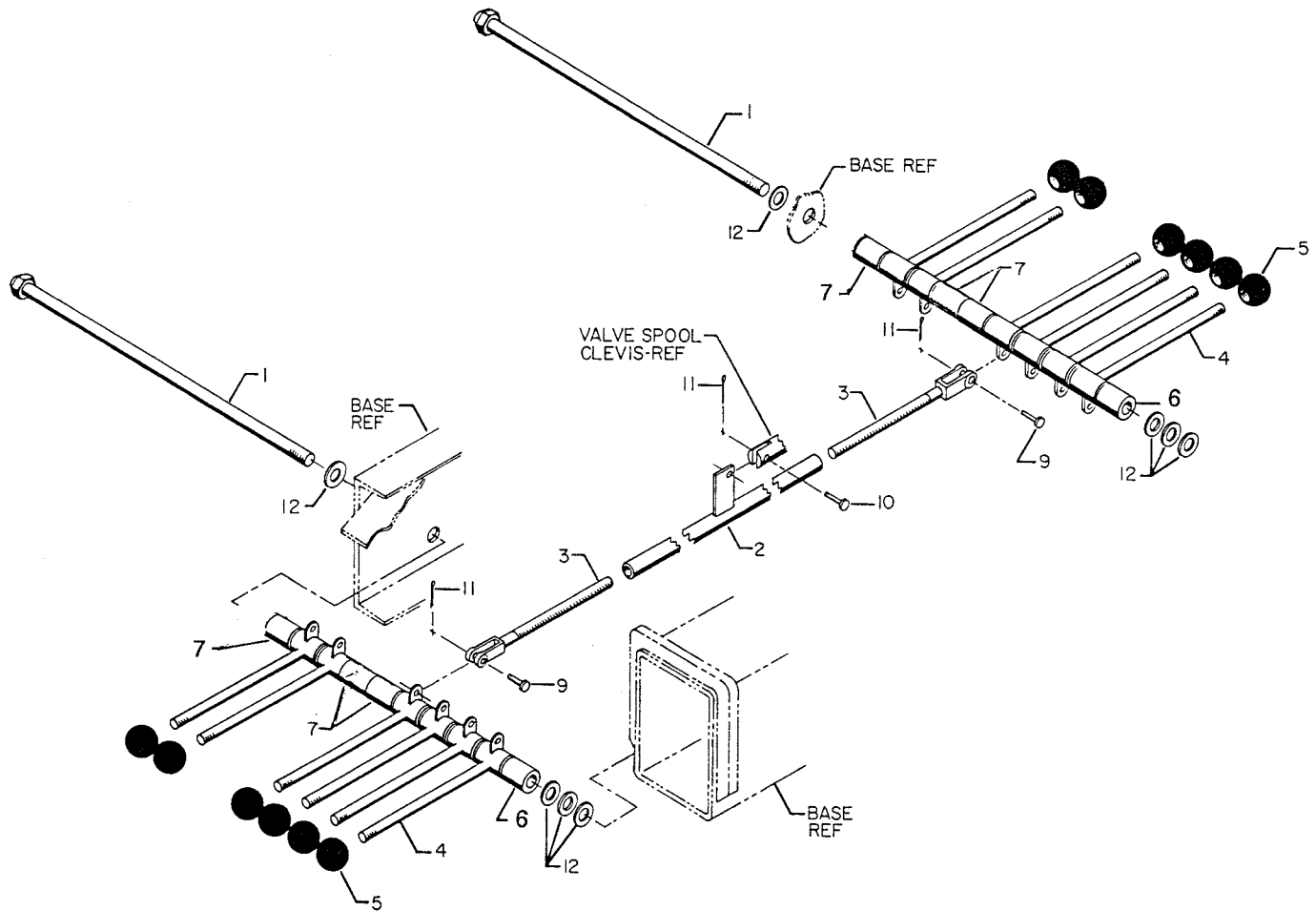
ITEM	PART NO.	DESCRIPTION	QTY
10.	72053763	ELBOW #8MSTR #8MJIC 45°	2
11.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2
12.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2
13.	72532358	ADAPTER 3/4MSTR 3/4MJIC	6
14.	72531205	TEE 3/4-16MJIC 1/2TUBE	2
15.	72062103	NUT 3/8-16 LOCK	3
16.	72060048	CAP SCR 3/8-16X1-1/2 HHGR5	3
17.	51705894	HOSE ASM 1/4X48 FF	1
18.	51705891	HOSE ASM 3/8X102 FF	1
19.	51704583	HOSE ASM 1/2X209 FF	1

Figure D-15. HYDRAULIC KIT (91704416)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	51704579	HOSE ASM 3/8X30	2	21.	72060025	CAP SCR 5/16-18X1 HH GR5	2
2.	51704580	HOSE ASM 3/8X23	4	22.	72060033	CAP SCR 5/16-18X3 HH GR5	3
3.	51704581	HOSE ASM 3/8X108	2	23.	72060046	CAP SCR 3/8-16X1 HH GR5	4
4.	51704582	HOSE ASM 3/8X209	2	24.	72060857	SCR 5/16X5/8 SLFTPG	6
5.	51705086	HOSE ASM 3/8X91	2	25.	72062103	NUT 3/8-16 LOCK	4
6.	51705087	HOSE ASM 3/8X89	2	26.	72062109	NUT 5/16-18 LOCK	5
7.	51705088	HOSE ASM 3/8X85	2	27.	72063050	WASHER 5/16 LOCK	6
8.	51705089	HOSE ASM 1/4X59	2	28.	72531205	TEE 3/4MJIC 1/2TUBE	2
9.	51705090	HOSE ASM 1/2X28	1	29.	72531708	NUT 3/4JIC BULKHD	6
10.	51705091	HOSE ASM 3/4X28	1	30.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2
11.	51705232	HOSE ASM 3/8X90	2	31.	72532358	ADAPTER 3/4MSTR 3/4MJIC	16
12.	51705233	HOSE ASM 3/8X46	2	32.	72532665	ADAPTER 7/16MJIC 3/4FJIC	2
13.	52705084	COVER (NOT SHOWN)	1	33.	72532669	ADAPTER 3/4MJIC 7/8FJIC	1
14.	60106322	ADAPTER-MOD	1	34.	72532672	UNION 3/4JIC BULKHD	6
15.	60108091	PLATE (NOT SHOWN)	1	35.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2
16.	60108092	MANIFOLD PLATE	1	36.	72532790	ADAPTER 9/16MJIC3/4FJIC	6
17.	72053245	PLUG 1/4NPT	1				
18.	72053763	ADAPTER 3/4MSTR 3/4MJIC 90°	4				
19.	72053767	ADAPTER 1-1/16MSTR 1-1/16MJIC 90°	1				
20.	72053776	ADAPTER 9/16MSTR 9/16MJIC 45°	4				

Figure D-16. HYDRAULIC KIT - REMOTE (91705234)



ITEM	PART NO.	DESCRIPTION	QTY
1.	52704397	CTRL HANDLE MTG ROD	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	8

Figure D-17. CONTROL KIT (90704417)

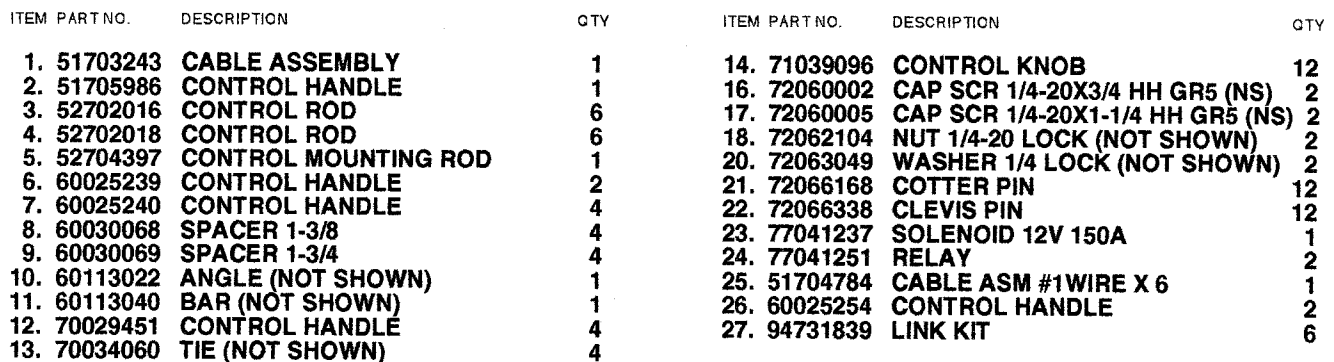


Figure D-18. CONTROL KIT - REMOTE (90705096)

ITEM	PART NO.	DESCRIPTION	QTY
1.	73054432	VALVE SECT 4-WAY SAE#8	2
2.	73054468	VALVE SECT 4-WAY SAE#8	4
3.	73054502	VALVE SECT UTILITY	1
4.	73054442	END COVER RH	1
5.	73073022	CONVERSION PLUG	1
6.	73731424	END COVER LH 2300PSI	1
7.	73054643	RELIEF VALVE 2300PSI	1
8.	73054007	RELIEF RC NON-ADJ 1800PSI	2
9.	73054400	RELIEF RC NON-ADJ 2300PSI	1
10.	73054010	LOAD CHECK PLUG ASM	9
11.	73014596	STUD 3/8-24X15-1/4	3
12.	72062037	NUT 3/8-24 HEX	6
13.	70142402	ORIFICE PLATE	3
14.	70142403	ORIFICE SPRING	6
15.	51393494	O-RING KIT (SERVICE PART)	REF
16.	7Q072117	O-RING .81X1X.09	16
17.	7Q072119	O-RING .94X1.12X.09	16
18.	51705093	TUBE ASM "L"	1
19.	51705092	TUBE ASM "U"	1

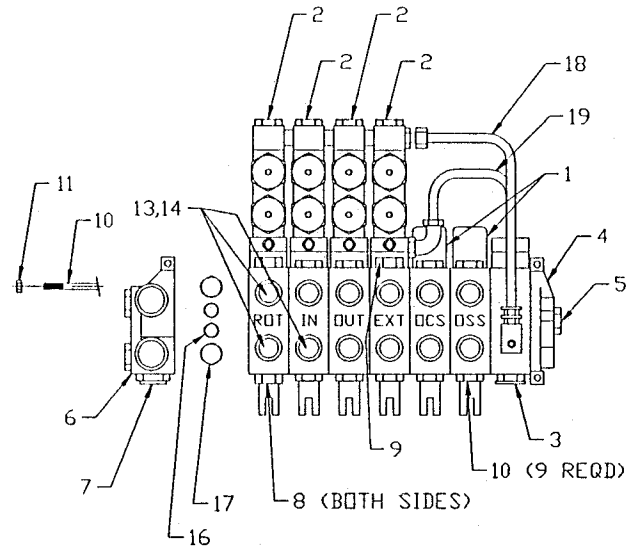
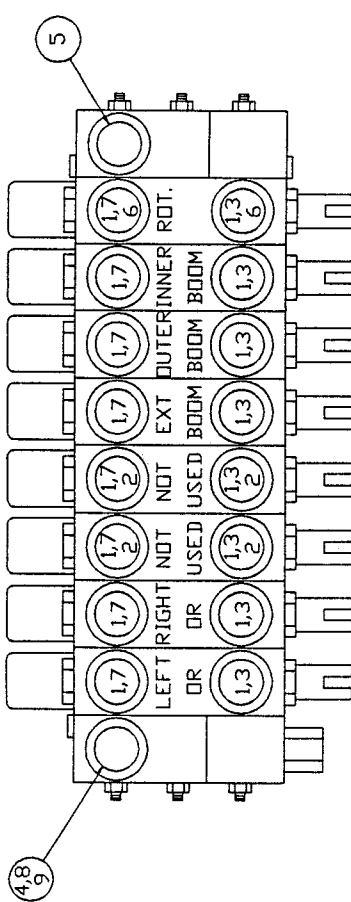
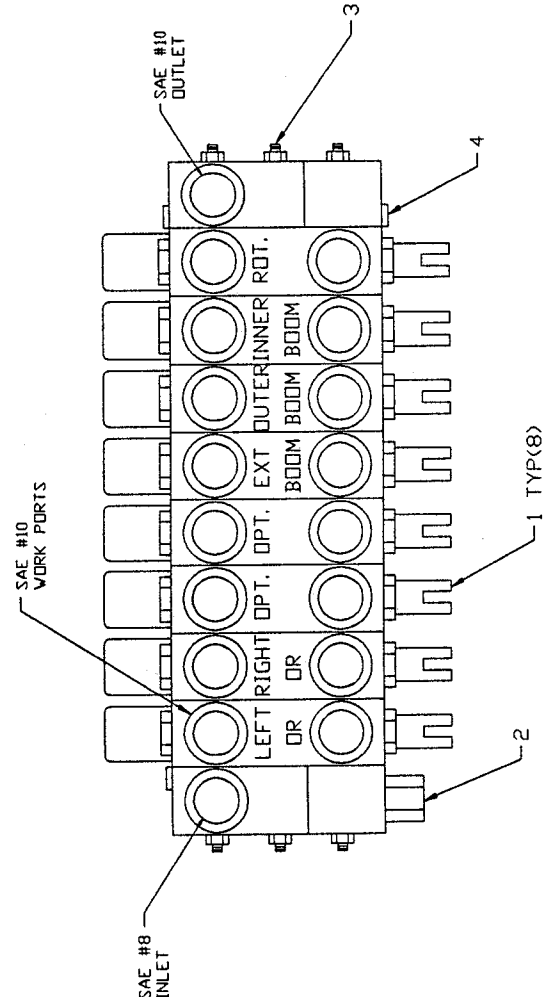


Figure D-19. VALVEBANK ASSEMBLY-4R/2M (51705094)



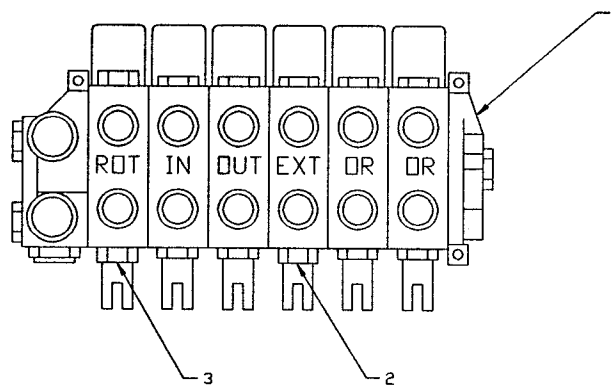
ITEM	PART NO.	DESCRIPTION	QTY
1.	72532722	ADAPTER 7/8MSTR 9/16FSTR	16
2.	72532738	CAP 9/16JIC STL	4
3.	72053760	ELBOW 9/16MSTR 9/16MJIC 90°	8
4.	72053763	ELBOW 3/4MSTR 3/4MJIC 90°	1
5.	72053766	ELBOW 7/8MSTR 1-1/16MJIC 90°	1
6.	72532707	ADAPTER 7/16MJIC 9/16FJIC	2
7.	72532700	ELBOW 9/16MSTR 9/16MJIC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

Figure D-19A. VALVEBANK ASM-8 SECT/MNL (51710944)



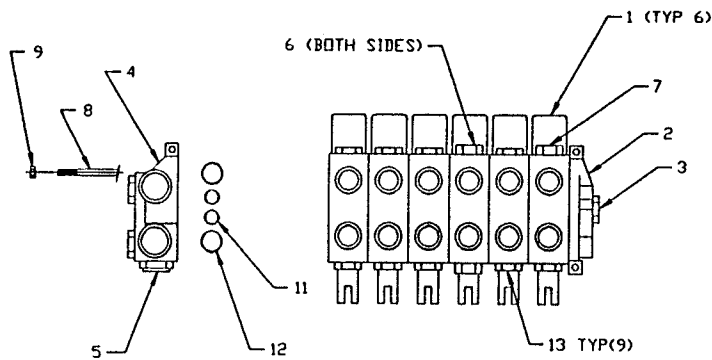
ITEM	PART NO.	DESCRIPTION	QTY
1.	73054490	TANDEM VALVE SECTION	8
2.	73054488	END CAP LH	1
3.	94731681	TIE ROD KIT	1
4.	73731576	END CAP RH	1
5.	7Q072018	O-RING (NOT SHOWN)	18
6.	7Q072021	O-RING (NOT SHOWN)	18

Figure D-19B. VALVEBANK (70731499)



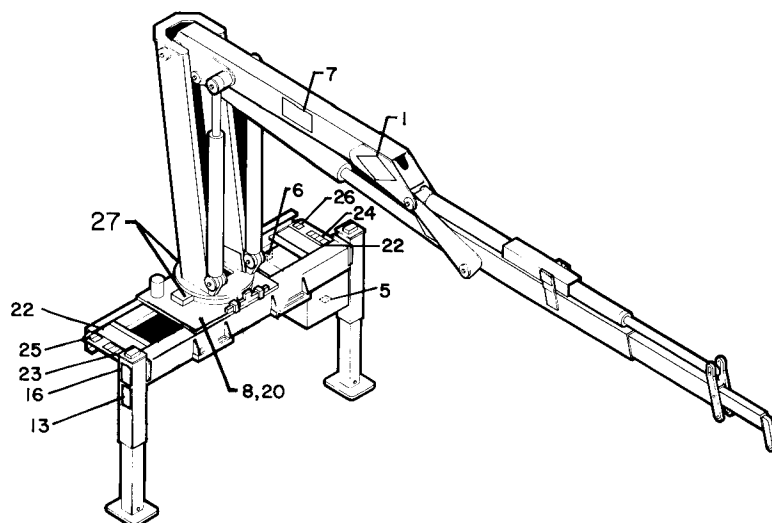
ITEM	PART NO.	DESCRIPTION	QTY
1.	73731386	VALVEBANK 6-SECT V20	1
2.	73054400	RELIEF 2300PSI NON-ADJ	1
3.	73054007	RELIEF 1800PSI NON-ADJ	1

Figure D-20. VALVEBANK ASSEMBLY 6-SECTION V20 (51705277)



ITEM	PART NO.	DESCRIPTION	QTY
1.	73054432	VALVE SECT V20 4WAY	6
2.	73054442	END COVER RH	1
3.	73073022	CONVERSION PLUG	1
4.	73731424	END COVER LH	1
5.	73054643	RELIEF VALVE 2300PSI	1
6.	73054516	RELIEF 1300PSI NON-ADJ	2
7.	73054007	RELIEF 1800PSI NON-ADJ	1
8.	73014595	STUD 3/8X13-1/2	3
9.	72062037	NUT 3/8-24 HEX	6
10.	51393494	O-RING KIT	REF
11.	7Q072117	O-RING	14
12.	7Q072119	O-RING	14
13.	73054010	LOAD CHECK PLUG	9

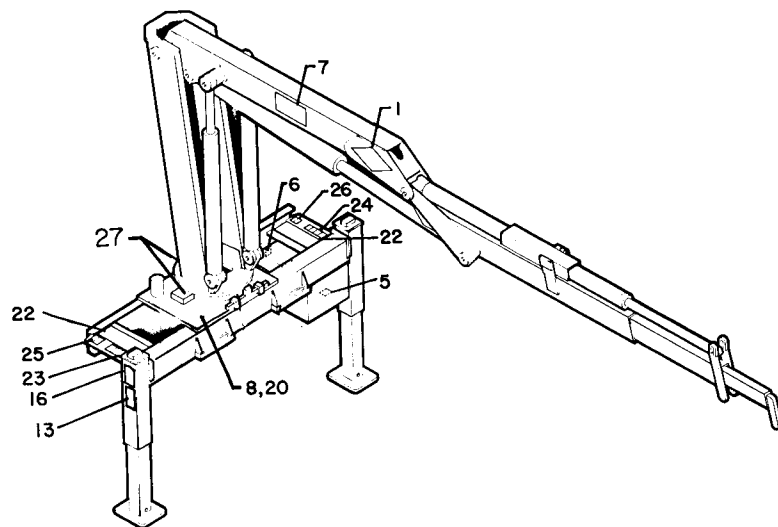
Figure D-20A. VALVEBANK (73731386)



DECAL PLACEMENT	
ITEM NO.	LOCATION
2,10,11,12,15, 17,18,19,21	AT OR NEAR THE NORMAL OPERATING STATIONS
13,16	ONE ON EACH OUTRIGGER
14	ONE 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	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	70029251	PLACARD-IMT DIAMOND	2	14.	70392865	DECAL-DANGER ELECTRO	4
2.	70391583	DECAL-SET UP/STOW	2	15.	70392866	DECAL-DANGER OPER COND	2
3.	70391612	DECAL-GREASE WEEKLY-LT	6	16.	70392867	DECAL-DANGER OR MOVING	2
4.	70391613	DECAL-GREASE WEEKLY-RT	6	17.	70392888	DECAL-DANGER OPER RESTRICT	2
5.	70392108	DECAL-SUCTION LINE	1	18.	70392890	DECAL-DANGER STOW/UNFOLD	2
6.	70392109	DECAL-RETURN LINE	1	19.	70392891	DECAL-DANGER DRIVELINE	2
7.	70392208	DECAL-3625 IDENTIFICATION	2	20.	70392982	DECAL-CONTACT IMT	1
8.	70392213	DECAL-CAUTION WASH/WAX	1	21.	71039134	DECAL-CAUTION OIL LEVEL	2
9.	70392524	DECAL-ROTATE CRANE/GREASE	1	22.	71392253	CAPACITY PLACARD	2
10.	70392813	DECAL-DANGER ELECTRO	2	23.	71392255	DECAL-CONTROL-LT	1
11.	70392814	DECAL-DANGER OPERATOR	2	24.	71392256	DECAL-CONTROL-RT	1
12.	70392815	DECAL-DANGER OPERATION	2	25.	71392257	DECAL-OUTRGR PWR DN-LT	1
13.	70392864	DECAL-DANGER OR STD CLR	2	26.	71392258	DECAL-OUTRGR PWR DN-RT	1
				27.	71392365	DECAL-ALIGNMENT CRANE ROT	1

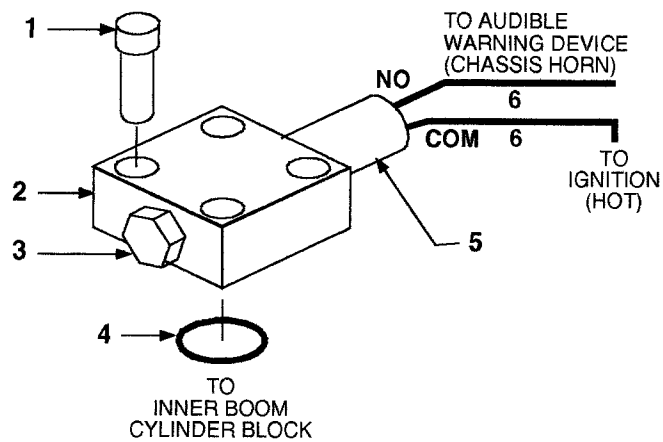
Figure D-21. DECAL KIT (95708688)



DECAL PLACEMENT	
ITEM NO.	LOCATION
2,10,11,12,15, 17,18,19,28,21	AT OR NEAR THE NORMAL OPERATING STATIONS
13,16	ONE ON EACH OUTRIGGER
14	ONE ON EACH SIDE OF CARRIER VEHICLE
9	AT TURNABLE GREASE ZERK
3,4	AT ALL GREASE ZERKS
6	ON RESERVOIR AT RETURN LINE
5	ON RESERVOIR AT SUCTION LINE

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	70029251	PLACARD-IMT DIAMOND	2	14.	70392865	DECAL-DANGER ELECTRO	4
2.	70391583	DECAL-SET UP/STOW	2	15.	70392866	DECAL-DANGER OPER COND	2
3.	70391612	DECAL-GREASE WEEKLY-LT	6	16.	70392867	DECAL-DANGER OR MOVING	2
4.	70391613	DECAL-GREASE WEEKLY-RT	6	17.	70392888	DECAL-DANGER OPER RESTRICT	2
5.	70392108	DECAL-SUCTION LINE	1	18.	70392890	DECAL-DANGER STOW/UNFOLD	2
6.	70392109	DECAL-RETURN LINE	1	19.	70392891	DECAL-DANGER DRIVELINE	2
7.	70392208	DECAL-3625 IDENTIFICATION	2	20.	70392982	DECAL-CONTACT IMT	1
8.	70392213	DECAL-CAUTION WASH/WAX	1	21.	71039134	DECAL-CAUTION OIL LEVEL	2
9.	70392524	DECAL-ROTATE CRANE/GREASE	1	22.	71392253	CAPACITY PLACARD	2
10.	70392813	DECAL-DANGER ELECTRO	2	23.	71392255	DECAL-CONTROL-LT	1
11.	70392814	DECAL-DANGER OPERATOR	2	24.	71392256	DECAL-CONTROL-RT	1
12.	70392815	DECAL-DANGER OPERATION	2	25.	71392257	DECAL-OUTRGR PWR DN-LT	1
13.	70392864	DECAL-DANGER OR STD CLR	2	26.	71392258	DECAL-OUTRGR PWR DN-RT	1
				27.	71392365	DECAL-ALIGNMENT CRANE ROT	1
				28.	70392889	DECAL-DANGER RC ELECTRO	2

Figure D-22. DECAL KIT - REMOTE (95708689)



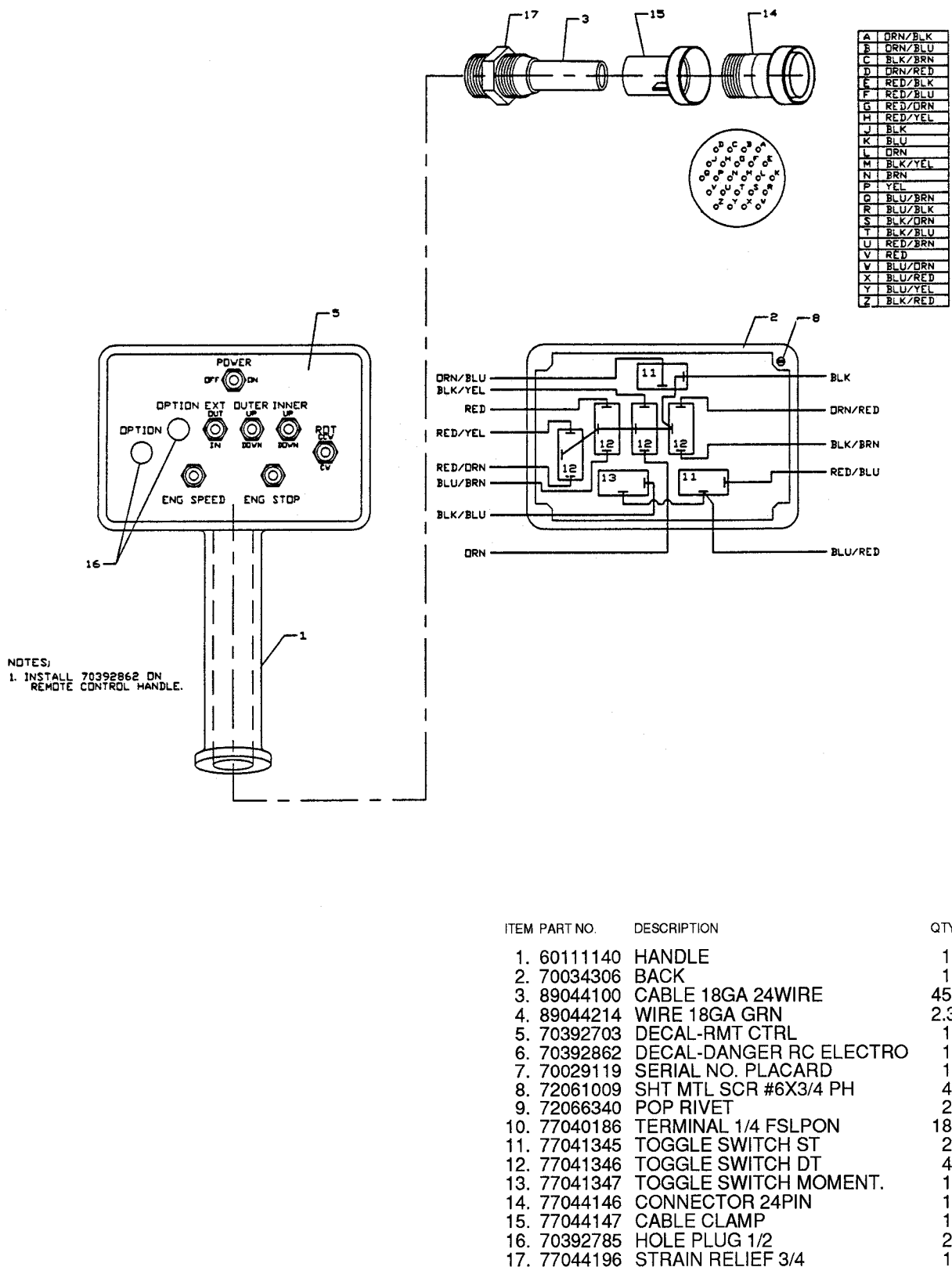
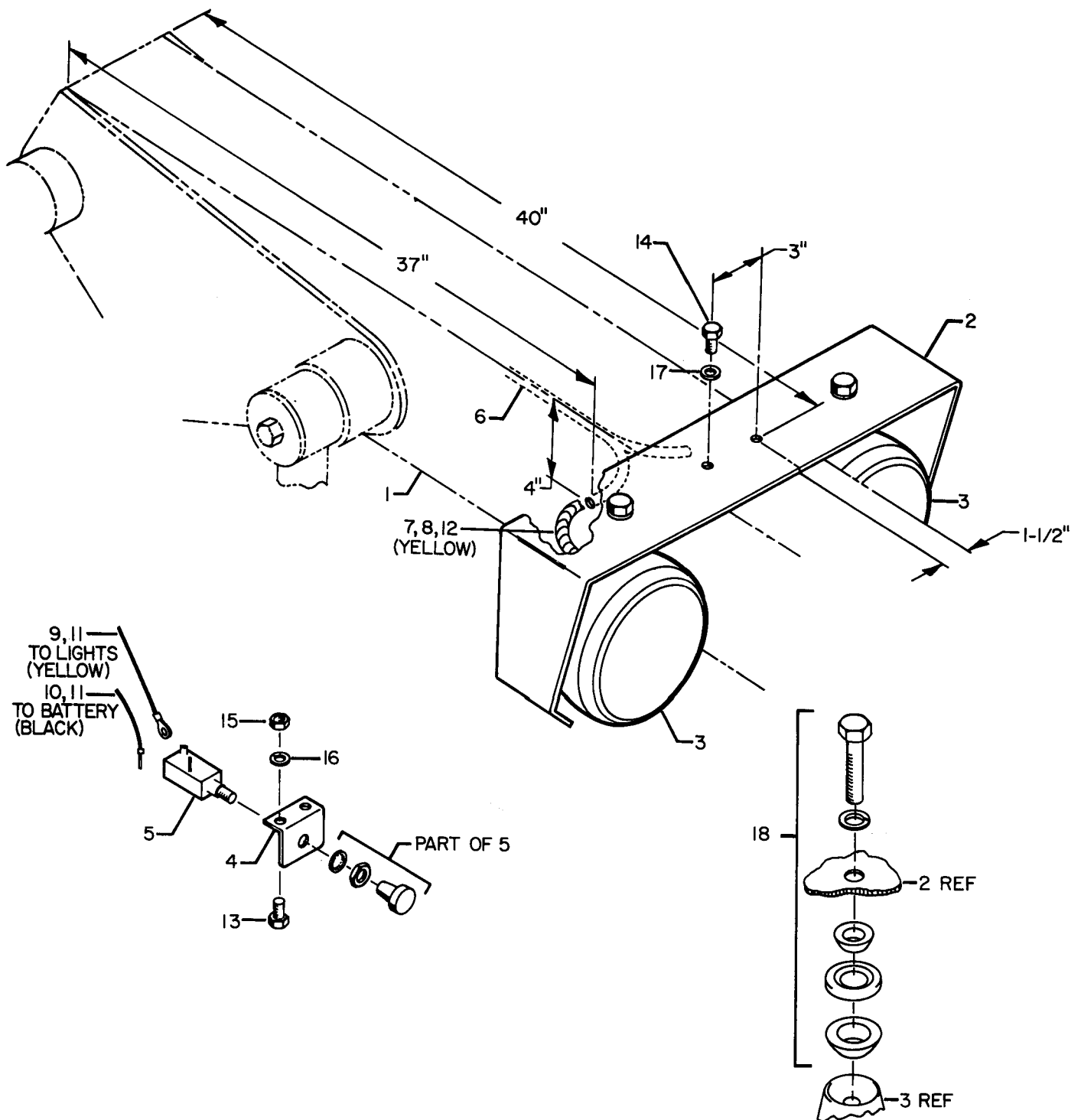
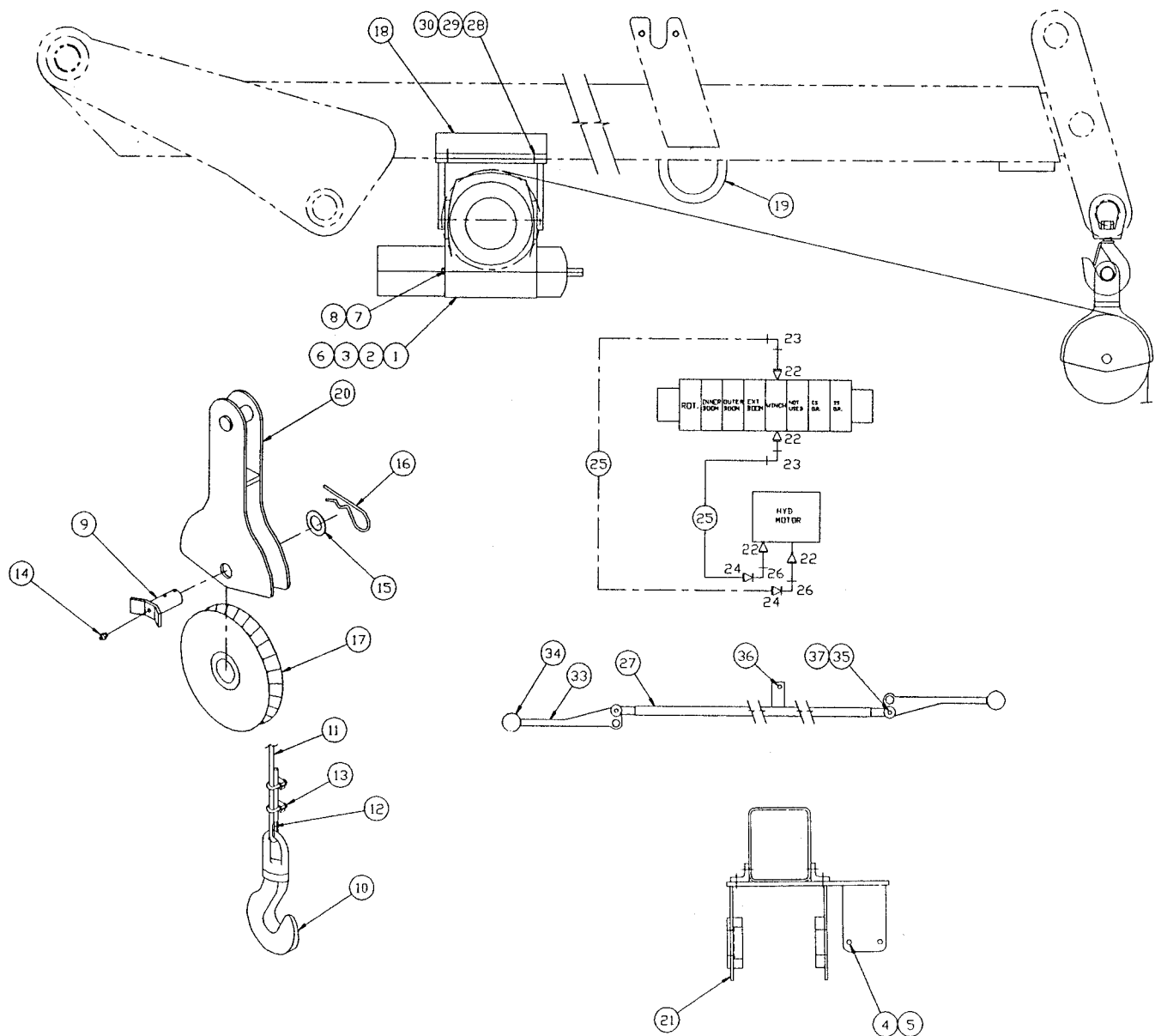


Figure D-26. REMOTE HANDLE ASSEMBLY 4F PTO W/SPD (51705986)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	99900020	BOOM MOD DWG	1	10.	60045056	WIRE 14GA BLKX36	1
2.	60107762	LIGHT GUARD	1	11.	77040000	TERMINAL	2
3.	77040281	FLOOD LIGHT 12VDC	2	12.	77040048	BUTT CONNECTOR	2
4.	60103535	SWITCH BRACKET	1	13.	72060000	CAP SCR 1/4-20X1/2 HH GR5	2
5.	77041014	SWITCH-PUSH/PULL	1	14.	72060046	CAP SCR 3/8-16X1 HH GR5	2
6.	60030048	LOOM 5/16X240	1	15.	72062000	NUT 1/4-20	2
7.	60030049	SPIRAL WRAP CLEARX10	2	16.	72063049	WASHER 1/4 LOCK	2
8.	60045055	WIRE 14GA YELX60	2	17.	72063051	WASHER 3/8 LOCK	2
9.	60045054	WIRE 14GA YELX240	1	18.	77040280	FLOOD LIGHT MTG KIT	2REF

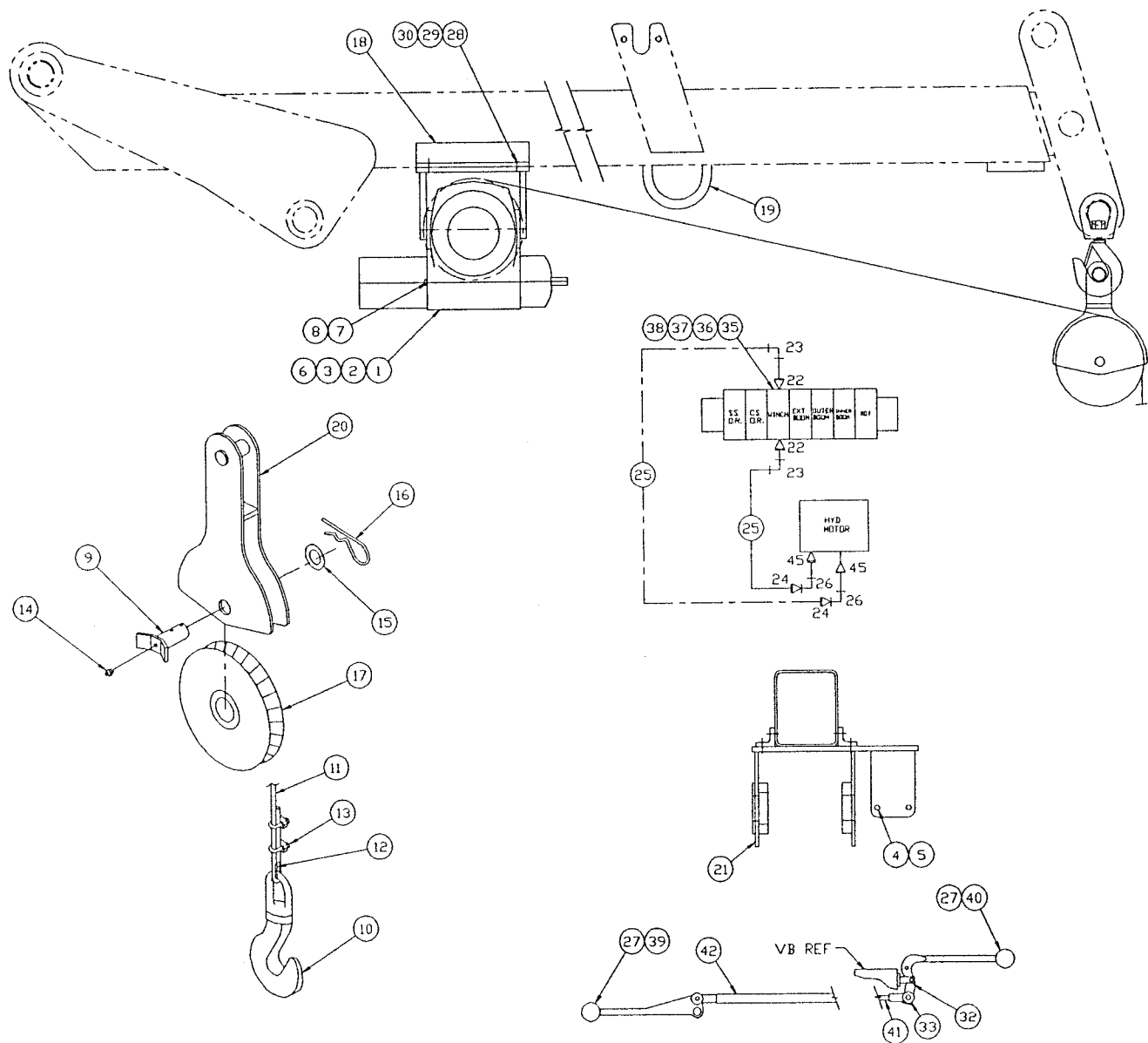
Figure D-27. OPTIONAL LIGHT KIT (31704780)



ITEM	PART NO.	DESCRIPTION	QTY
1.	60025211	WINCH DRUM	1
2.	70055142	BEARING	1
3.	51711082	SPEED REDUCER	1
4.	72060046	CAP SCR 3/8-16X1 HH GR5	4
5.	72063051	WASHER 3/8 LOCK	4
6.	73051690	MOTOR	1
7.	72060063	CAP SCR 7/16-14X1-1/4 HH GR5	2
8.	72063052	WASHER 7/16 LOCK	2
9.	52704255	PIN	1
10.	71073921	HOOK 2-TON	1
11.	89058903	CABLE 5/16	65'
12.	70058026	THIMBLE	1
13.	70058909	CLAMP 5/16	2
14.	72053508	GREASE ZERK	1
15.	72063030	WASHER	1
16.	72066145	HAIR PIN 3/16	1
17.	60030082	SHEAVE 7"	1
18.	60116540	ANGLE	2
19.	60107589	LOOP	1

ITEM	PART NO.	DESCRIPTION	QTY
20.	52711079	SHEAVE BRACKET	1
21.	52711081	WINCH MTG BRACKET	1
22.	72532722	ADAPTER #10MSTR #6FSTR	4
23.	72053760	ELBOW #6MSTR #6MJIC 90°	3
24.	72532707	ADAPTER #4MJIC #6FJIC 90°	4
25.	51711085	HOSE ASM 258" FF	2
26.	72532699	ELBOW #6MSTR #4MJIC 90°	1
27.	52704397	CONTROL ROD	1
28.	72060093	CAP SCR 1/2-13X1-1/2 HH GR5	4
29.	72062004	NUT 1/2-13 HEX	4
30.	72063053	WASHER 1/2 LOCK	4
31.	99990019	MODIFICATION DRAWING	1
32.	52704745	CONTROL ROD M	2
33.	70029451	CONTROL HANDLE	2
34.	71039096	KNOB	2
35.	72066338	CLEVIS PIN	2
36.	72661169	CLEVIS PIN	1
37.	72066168	COTTER PIN	3
38.	71393608	CAPACITY PLACARD	2

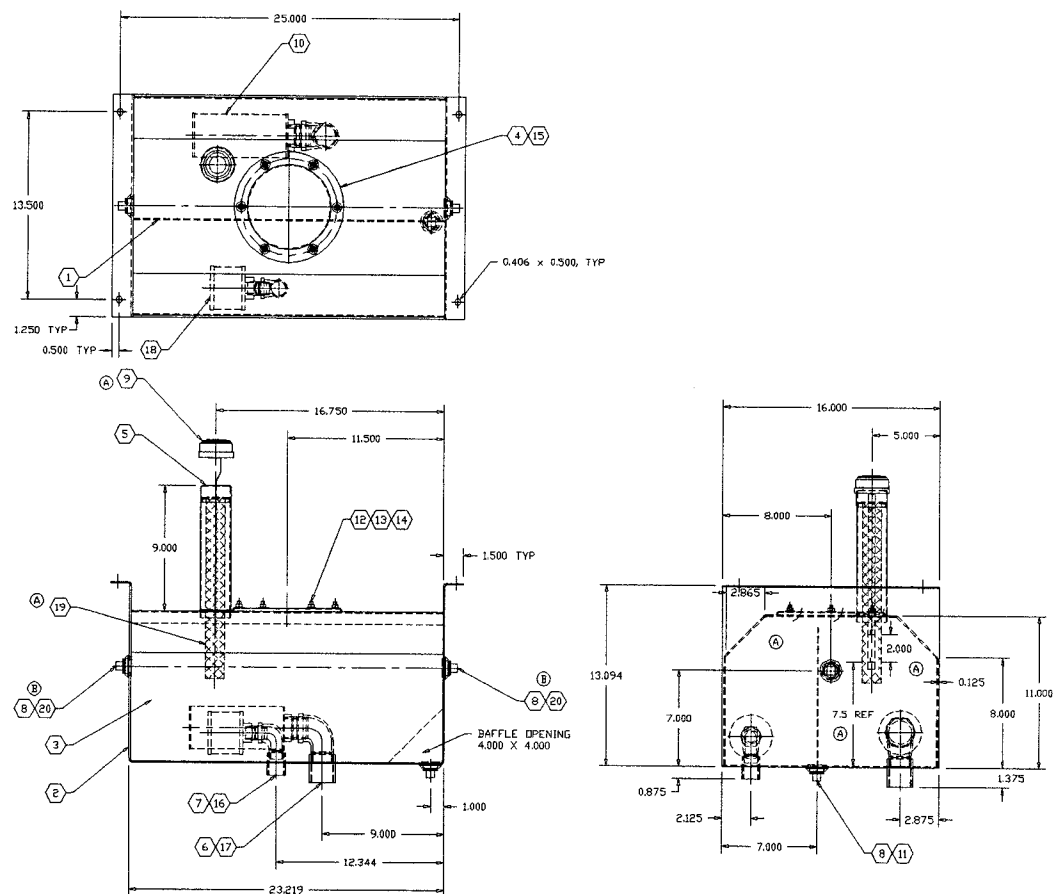
Figure D-28. WINCH KIT WITH MANUAL CONTROLS (31711083)



ITEM	PART NO.	DESCRIPTION	QTY
1.	60025211	WINCH DRUM	1
2.	70055142	BEARING	1
3.	51711082	SPEED REDUCER	1
4.	72060046	CAP SCR 3/8-16X1 HH GR5	4
5.	72063051	WASHER 3/8 LOCK	4
6.	73051690	MOTOR	1
7.	72060063	CAP SCR 7/16-14X1-1/4 HH GR5	2
8.	72063052	WASHER 7/16 LOCK	2
9.	52704255	PIN	1
10.	71073921	HOOK 2-TON	1
11.	89058903	CABLE 5/16	65'
12.	70058026	THIMBLE	1
13.	70058909	CLAMP 5/16	2
14.	72053508	GREASE ZERK	1
15.	72063030	WASHER	1
16.	72066145	HAIR PIN 3/16	1
17.	60030082	SHEAVE 7"	1
18.	60116540	ANGLE	2
19.	60107589	LOOP	1
20.	52711079	SHEAVE BRACKET	1
21.	52711081	WINCH MTG BRACKET	1
22.	72533052	ADAPTER #8MSTR #6FSTR	2
23.	72053760	ELBOW #6MSTR #6MJIC 90°	2

ITEM	PART NO.	DESCRIPTION	QTY
24.	72532707	ADAPTER #4MJIC #6FJIC 90°	2
25.	51711085	HOSE ASM 258" FF	2
26.	72532699	ELBOW #6MSTR #4MJIC 90°	1
27.	71039096	KNOB	2
28.	72060093	CAP SCR 1/2-13X1-1/2 HH GR5	4
29.	72062004	NUT 1/2-13 HEX	4
30.	72063053	WASHER 1/2 LOCK	4
31.	99990019	MODIFICATION DRAWING	1
32.	94731839	LINK & PIN KIT	1
33.	72066168	COTTER PIN 3/32X3/4	2
34.	72066338	CLEVIS PIN	2
35.	73054468	VALVE SECTION	1
36.	73014668	TIE RODS	3
37.	7Q072019	O-RING	2
38.	7Q072021	O-RING	2
39.	70029451	CONTROL HANDLE LONG DVB	1
40.	60025240	CONTROL HANDLE LONG VB	1
41.	52702018	CONTROL ROD M	1
42.	52702016	CONTROL ROD F	1
43.	77041346	TOGGLE SWITCH DT	1
44.	71393608	CAPACITY PLACARD	2
45.	72532722	ADAPTER #10MSTR #6FSTR	2

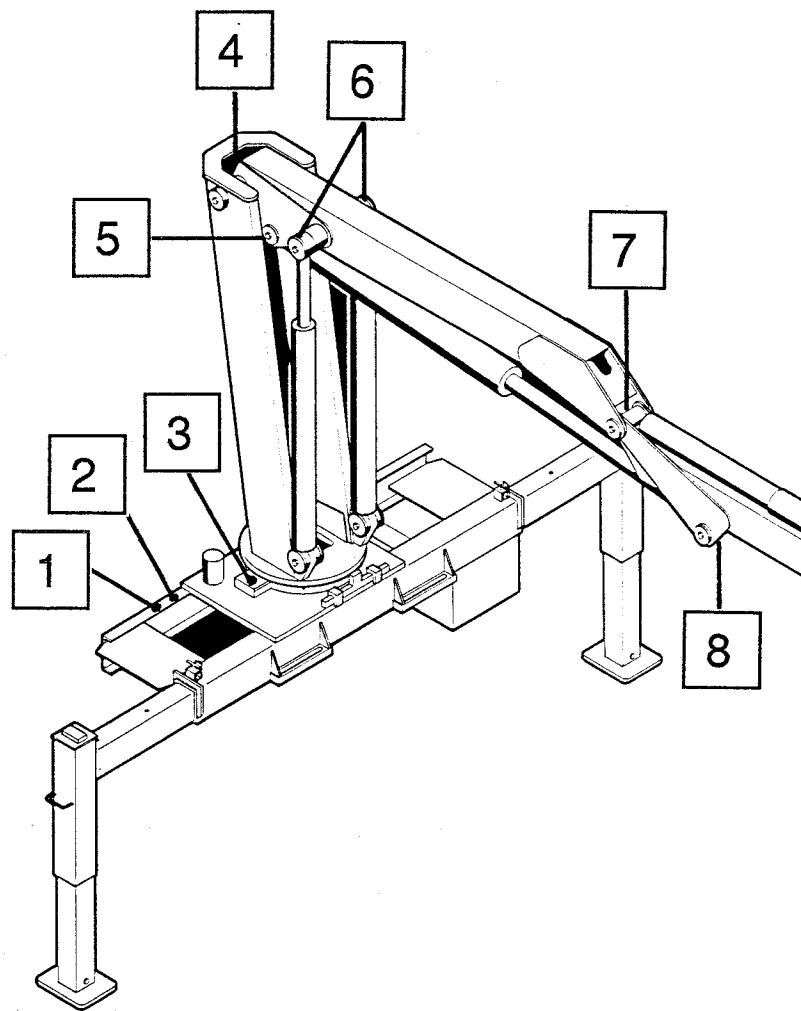
Figure D-28. WINCH KIT WITH REMOTE CONTROLS (31711098)



ITEM	PART NO.	DESCRIPTION	QTY
1.	*	BAFFLE	
2.	*	SHELL	
3.	*	SHELL	
4.	70144163	COVER	1
5.	*	FILLNECK ASM	
6.	*	PIPE ASM 1-1/4NPT	
7.	*	PIPE ASM	
8.	*	FLANGE	
9.	70732790	DIPSTICK ASM	1
10.	70144326	STRAINER 100MESH	1
11.	73052001	PLUG 3/4FPT SQHD MAGNETIC	1
12.	*	WELD STUD	
13.	*	NUT 1/4-28 HEX	
14.	*	WASHER 1/4 FLAT	
15.	76393565	O-RING	1
16.	*	PLASTIC CLOSURE	
17.	*	PLASTIC CLOSURE	
18.	70034410	DIFFUSER 3/4NPT	1
19.	70732793	SCREEN 100MESH	1
20.	*	PLUG 3/4FPT SQHD	
* NOT AVAILABLE SEPARATELY.			

Figure D-30. 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.

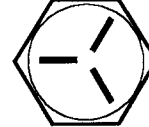
Figure E-1. GREASE ZERK LOCATIONS AND LUBRICANT REQUIREMENTS

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.

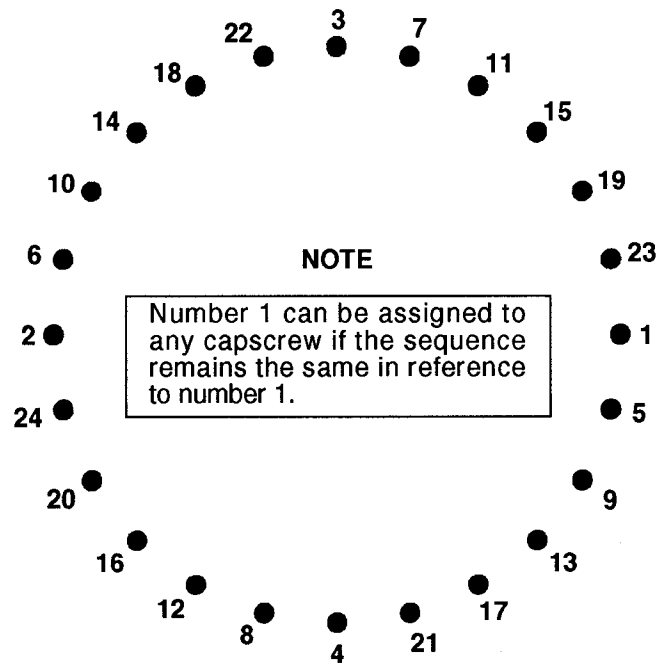
1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
4. Torque values specified are for bolts with residual oils or no special lubricants applied. If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum disulphite, collodial 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/torquing 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 torquing 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.

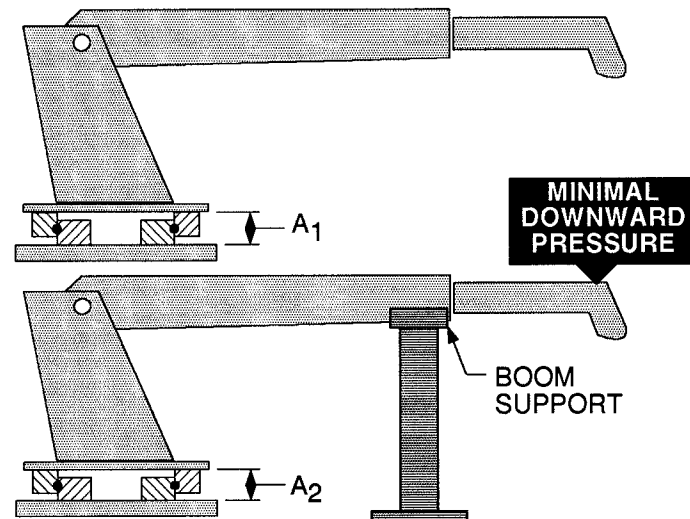
With the crane horizontal and fully extended, measure between the top and bottom mounting surfaces of the turntable bearing (A_1), using a dial indicator for accuracy.

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	IMT CRANE OR TIREHAND MODEL	814	4817	32018	9616
		1007	4825	32030	9825
		1014	516	HAWK-H1150	9831
THE FIGURES LISTED IN THIS CHART ARE SERVICE GUIDELINES AND DO NOT, IN THEMSELVES, REQUIRE THAT THE BEARING BE INSPECTED.		2010	525	HAWK-H1150TL	10020
		215	5826	HAWK-H4961	10025
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.		2015	6014		1216
		2109	6425		1325
		2815	725		1331
		3016	7020		13031
		315A	7025		13034
		320H	8025		13426
		3515	8031		14018
		3617	TH10 BODY ROT'N		14048
		3625	TH12 BODY ROT'N		14126
		421			15033
		425			1725
		5016			18026
		TH7 BODY ROT'N			20017
		TH1449A BODY ROT'N			HAWK-H1200
		TH15A CLAMP			TH1836 BODY ROT'N
		TH1836A CLAMP			TH1836A BODY ROT'N
		TH2551 CLAMP			TH2551 BODY ROT'N
		TH2557 CLAMP			TH2557 BODY ROT'N
		TH2557A CLAMP			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 in order to minimize down time due to not having replacement parts. It is only a suggested parts list and is not complete.

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 driven 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, Hydraulic	1
4-4.	6.	7BF81520	Bushing, Mast ears	4
4-4.	15.	7BF81220	Bushing, Inner boom/cylinder hinge	6
4-4.	16.	7BF81520	Bushing, Mast inner boom hinge	4
4-5.	6.	7BF81220	Bushing, Inner Boom	3
4-6.	13.	60030065	Pad, Wear, Outer boom	1
4-6.	14.	60030066	Pad, Wear, 1st stage extension	1
4-7.	9.	9B101214	Kit, Seal	2
4-7.	5.	73054004	Valve, Holding	2
4-8.		9C121617	Kit, Seal	2
4-8.	8.	7BF81020	Bushing, Inner cylinder	8
4-8.	9.	73054242	Valve, Counter balance	2
4-9.		9C162423	Kit, Seal	1
4-9.	4.	7BF81220	Bushing, Outer cylinder	2
4-9.	17.	73054242	Valve, Counter balance	1
4-9.	18.	7BF81520	Bushing, Outer cylinder	2
4-10.		9C121617	Kit, Seal.	1
4-10.	8.	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	3625 Crane	MANUAL PART NO.	99900053-2/91
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

This parts manual is provided to the user to assist in servicing the equipment. It is the property of Iowa Mold Tooling Co., Inc and, as such, may not be reproduced either whole or in part, whether by chemical, electrostatic, mechanical or photographic means without the expressed written permission of an officer of Iowa Mold Tooling Co., Inc. One manual is provided with each piece of new equipment and additional manuals may be obtained at a nominal price.

IOWA MOLD TOOLING Co., Inc.

BOX 189, GARNER, IA 50438-0189

TEL: 515-923-3711

PRODUCT SUPPORT FAX: 515-923-3674