

**Volume 2
Parts and Specifications
Model 516 Crane**

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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 you IMT truck-mounted articulating crane. It also contains additional instructions regarding you 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 - "H" FRAME

1-1. GENERAL

Crane Rating	74,000 ft-lbs (10.24 ton-meters)
Reach (from centerline of rotation)	15'-2" (4.62m)
** Lifting Height	25'-1" (7.65m)
Crane Weight -Center mount	3620 lbs (1642 kg)
Side mount	3700 lbs (1678 kg)
Outrigger Span	11'-11" (3.63m)
** Crane Storage Height	10'-4" (3.15m)
* Mounting Space Required	29" (73.7cm)
Optimum Pump Capacity	9 U.S. GPM (33.75 liters/min)
Oil Reservoir Capacity	17 U.S. gallons (64.4 liters)
Horizontal Center of Gravity - stored position	
Center mount - from centerline of rotation	19" (48.3cm)
Side mount - from centerline of rotation	2" (5.1cm)
Vertical Center of Gravity - stored position	
Center mount - from bottom of crane base	22" (55.9cm)
Side mount - from bottom of crane base	22" (55.9cm)
Design Factor s - pins and hydraulics	4/1

* Add 3" (7.6cm) for truck cab clearance.

** Based on 39" (99.1cm) truck frame height.

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

5'-10" (1.78m)	12,000 lbs (5443 kg)
7'-6" (2.29m)	9,800 lbs (4445 kg)
11'-10" (3.61m)	6,300 lbs (2858 kg)
15'-2" (4.62m)	4,700 lbs (2132 kg)

1-3. PERFORMANCE CHARACTERISTICS

Rotation: 370° (6.46 Rad.)	24 seconds
Inner Boom Elevation: -20° to +72° (-0.35 Rad. to +1.26 Rad.)	24 seconds
Outer Boom Articulation: 113° (1.97 Rad.)	14 seconds
Extension Boom: 40" (101.6cm)	8 seconds
Power Down Outrigger	6 seconds
Power Out Outrigger	4 seconds

All times are theoretical and based on an optimum pump capacity of 9 GPM (33.75 liters/min).

1-4. CYLINDERS

	Bore	Stroke
Inner Boom Cylinder	6" (15.2cm)	29-5/8" (75.2cm)
Outer Boom Cylinder	5" (12.7cm)	25" (64.5cm)
Extension Boom Cylinder	3" (7.6cm)	40" (101.6cm)
Power Down Outrigger Cylinder	2-1/2" (6.4cm)	21" (53.3cm)
Power Out Outrigger Cylinder	1-1/4" (3.2cm)	23-3/4" (60.3cm)

1-5. POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 15 horsepower.

1-6. CYLINDER HOLDING VALVES

The holding sides of all standard cylinders are equipped with integral-mounted holding or counter-balance valves to prevent sudden cylinder collapse in case of hose or other hydraulic failure. The extension and outriggers have have positive, pilot operated valves that will open only on command. The inner and outer boom 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.

1-7. ROTATION SYSTEM

Rotation of the crane is accomplished through a turntable bearing, powered by a high torque hydraulic motor through a ring and pinion type spur gear train. Total gear reduction is 39.6 to 1.

1-8. HYDRAULIC SYSTEM

The hydraulic system is an open centered, full pressure system, requiring 9 gpm (33.75 liters/min) optimum oil flow, at 2350 PSI (162.1 bar). The inner cylinder is limited to 1800 PSI (124.1 bar). Eight-spool, stack type control valve - six functions for crane operation and two functions plugged for use with optional equipment. System includes hydraulic oil reservoir, suction and return line filters, pump, control valvebank and all necessary hoses and fittings.

1-9. MINIMUM CHASSIS SPECIFICATIONS

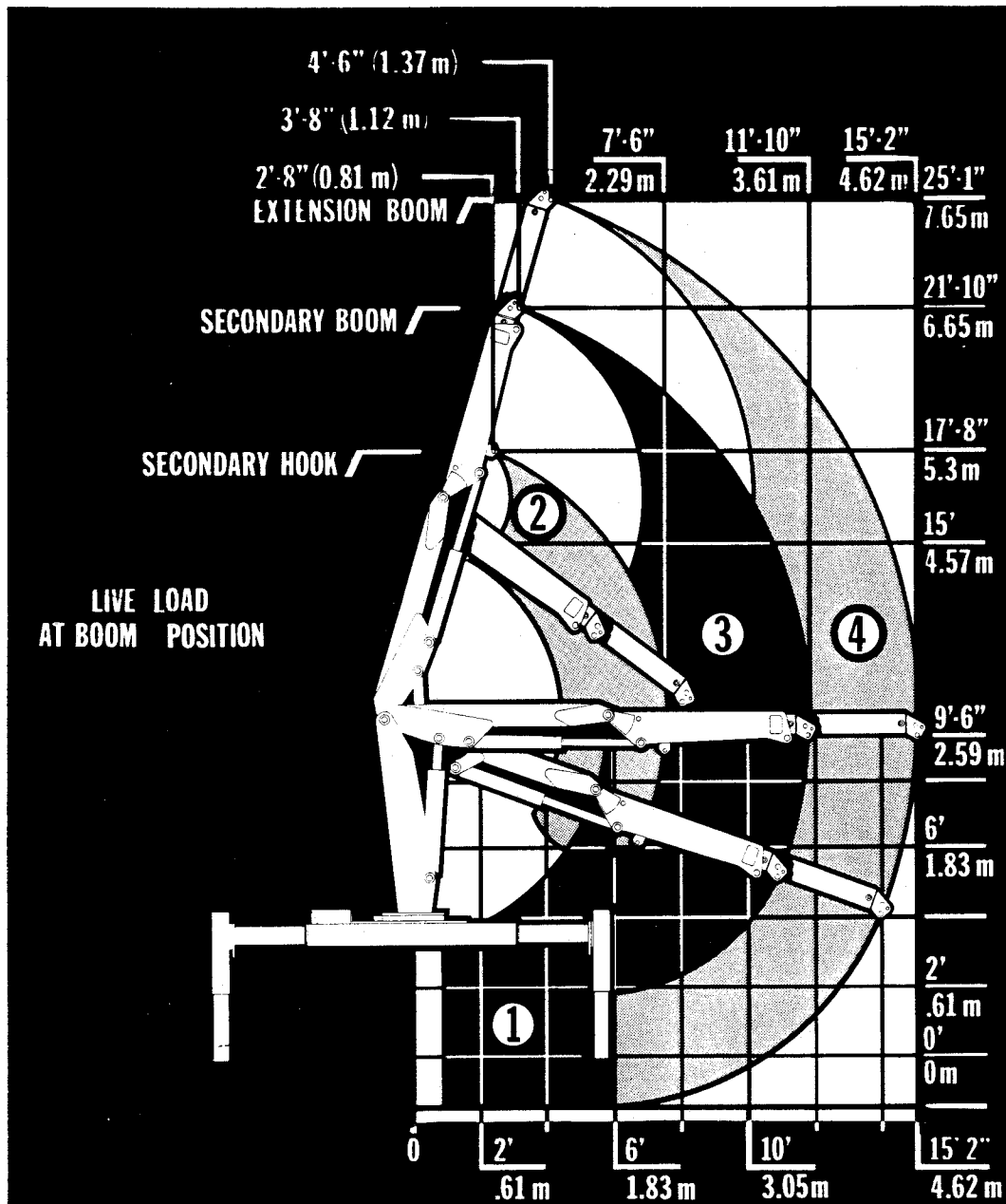
	Conventional Cab	Conventional Cab
Body Style		
Wheelbase	189"	480.1cm
Cab-to-axle	120"	304.8cm
Frame Section Modulus	19.2 in ³	314.6cc
RBM	900,000 in-lbs	10,733 kg-m
Front Axle Rating	9,000 lbs	4082 kg
Rear Axle Rating	17,500 lbs	7938 kg
Transmission	4 speed	4 speed

To maintain 100% stability for the above chassis, the finished unit should weigh approximately:

Front Axle	7100 lbs (3221 kg)
Rear Axle	10,200 lbs (4627 kg)

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 and power steering and a 5-speed transmission in lieu of the 4-speed transmission.

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



Deduct the weight of load-handling devices.

①	MAIN BOOM	12,000 lbs. (5,443 kg.)
②	SECONDARY HOOK	9,800 lbs. (4,445 kg.)
③	SECONDARY BOOM	6,300 lbs. (2,858 kg.)
④	EXTENSION BOOM	4,700 lbs. (2,132 kg.)

Figure A-1. CAPACITY CHART

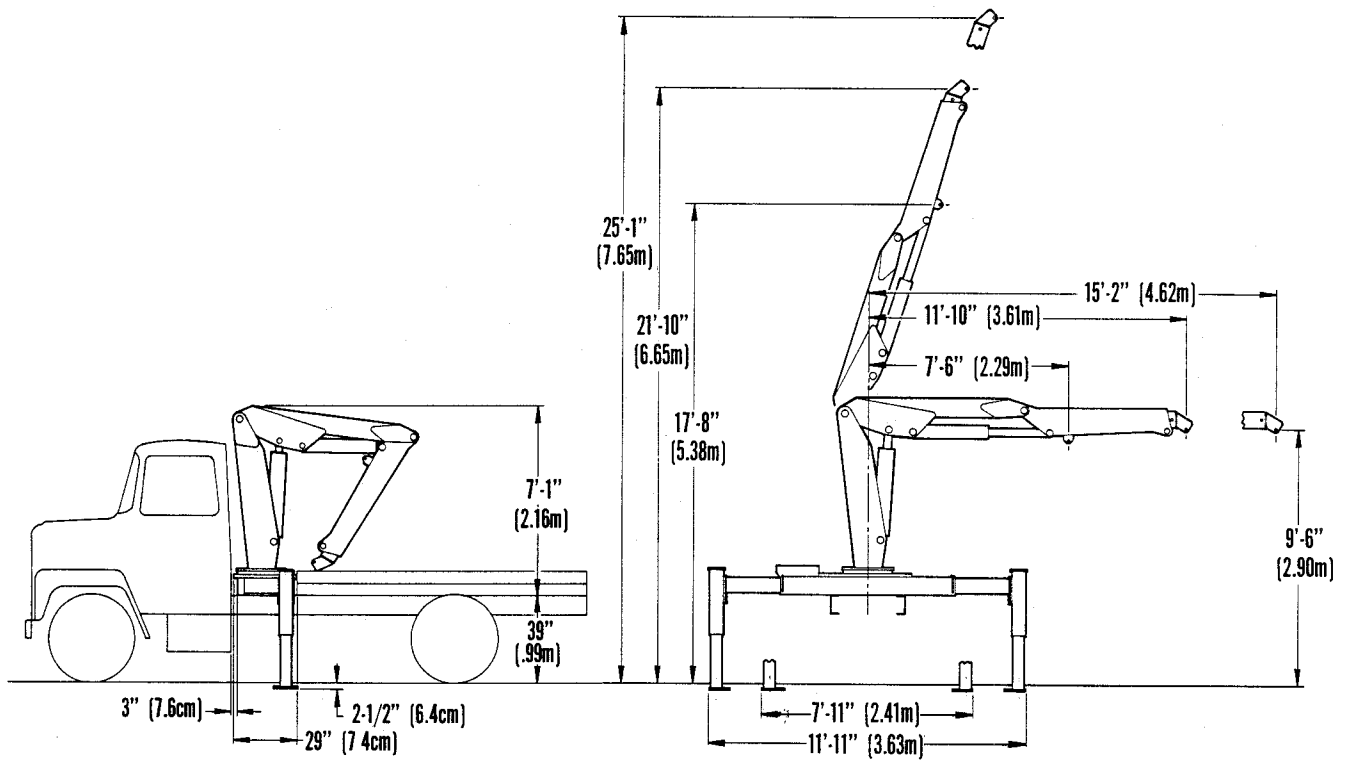


Figure A-2. GEOMETRIC CONFIGURATION - CENTER MOUNT

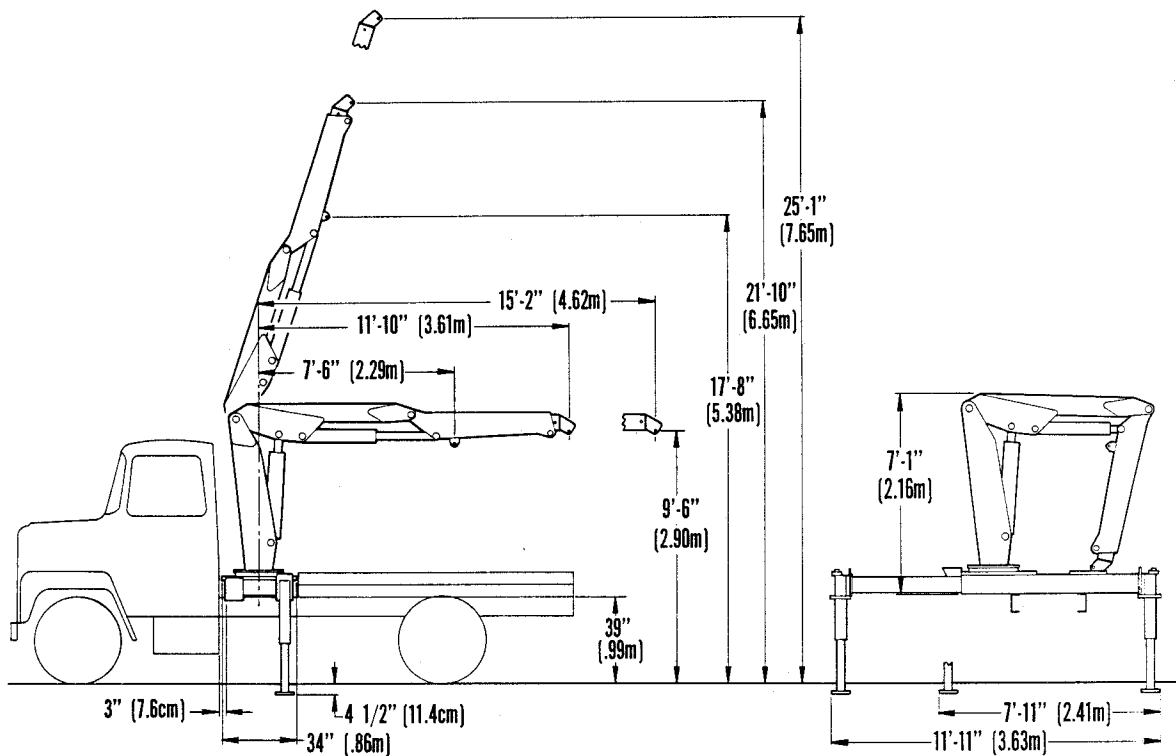


Figure A-2A. GEOMETRIC CONFIGURATION - SIDE MOUNT

Section 1A. SPECIFICATIONS - "A" FRAME

1A-1. GENERAL

CRANE RATING	74,000 ft-lbs (10.24 ton-meters)
REACH (from centerline of rotation)	15'-2" (4.62m)
* LIFTING HEIGHT	25'-1" (7.63m)
CRANE WEIGHT	4300 lbs (1950 kg)
OUTRIGGER SPAN	12'-11" (3.95m)
* CRANE STORAGE HEIGHT	10'-7" (3.23m)
** MOUNTING SPACE REQUIRED	32" (81cm)
OPTIMUM PUMP CAPACITY	9 U.S. GPM (33.75 liters/min)
OIL RESERVOIR CAPACITY	21 U.S. gallons (79.5 liters)
HORIZONTAL CENTER OF GRAVITY stored position from centerline of rotation	19" (48.3cm)
VERTICAL CENTER OF GRAVITY stored position from bottom of crane base	24" (61.0cm)
DESIGN FACTORS - pins and hydraulics	4/1
* Based on 39" (99.1cm) truck frame height.	
** Add 3" (7.6cm) for truck cab clearance.	

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

5'-10" (1.78m)	12,000 lbs (5443 kg)
7'-6" (2.29m)	9,800 lbs (4445 kg)
11'-10" (3.61m)	6,300 lbs (2858 kg)
15'-2" (4.62m)	4,700 lbs (2132 kg)

1A-3. PERFORMANCE CHARACTERISTICS

ROTATION: 370° (6.46 Rad.)	24 seconds
INNER BOOM ELEVATION: -20° to +72° (-0.35 Rad. to +1.26 Rad.)	24 seconds
OUTER BOOM ARTICULATION: 113° (1.97 Rad.)	14 seconds
EXTENSION BOOM: 40" (101.6cm)	8 seconds
OUTRIGGER: 40" (101.6cm)	16 seconds

All times are theoretical and based on an optimum pump capacity of 9 GPM (33.75 liters/min).

1A-4. CYLINDERS

	Bore	Stroke
INNER BOOM CYLINDER	6" (15.2cm)	29-5/8" (75.2cm)
OUTER BOOM CYLINDER	5" (12.7cm)	25" (64.5cm)
EXTENSION BOOM CYLINDER	3" (7.6cm)	40" (101.6cm)
OUTRIGGER CYLINDER	3" (7.6cm)	40" (101.6cm)

1A-5. POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 15 horsepower.

1A-6. CYLINDER HOLDING VALVES

The holding sides of all standard cylinders are equipped with integral-mounted holding or counter-balance valves to prevent sudden cylinder collapse in case of hose or other hydraulic failure. The extension and outriggers have positive, pilot operated valves that will open only on command. The inner and outer boom 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.

1A-7. ROTATION SYSTEM

Rotation of the crane is accomplished through a turntable bearing, powered by a high torque hydraulic motor through a ring and pinion type spur gear train. Total gear reduction is 39.6 to 1.

1A-8. HYDRAULIC SYSTEM

The hydraulic system is an open centered, full pressure system, requiring 9 gpm (33.75 liters/min) optimum oil flow, at 2350 PSI (162.1 bar). The inner cylinder is limited to 1800 PSI (124.1 bar). Eight-spool, stack type control valve - six functions for crane operation and two functions plugged for use with optional equipment. System includes hydraulic oil reservoir, suction strainer, return line filter, pump, control valvebank and all necessary hoses and fittings.

1A-9. MINIMUM CHASSIS SPECIFICATIONS

	Conventional Cab	Conventional Cab
BODY STYLE		
WHEELBASE	189"	480.1cm
CAB-TO-AXLE	120"	304.8cm
FRAME SECTION MODULUS	19.2 in ³	314.6cc
RBM	900,000 in-lbs	10,733 kg-m
FRONT AXLE RATING	9,000 lbs	4082 kg
REAR AXLE RATING	17,500 lbs	7938 kg
TRANSMISSION	4 speed	4 speed

To maintain 100% stability for the above chassis, the finished unit should weigh approximately:

FRONT AXLE	7100 lbs (3221 kg)
REAR AXLE	10,200 lbs (4627 kg)

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 and power steering and a 5-speed transmission in lieu of the 4-speed transmission.

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

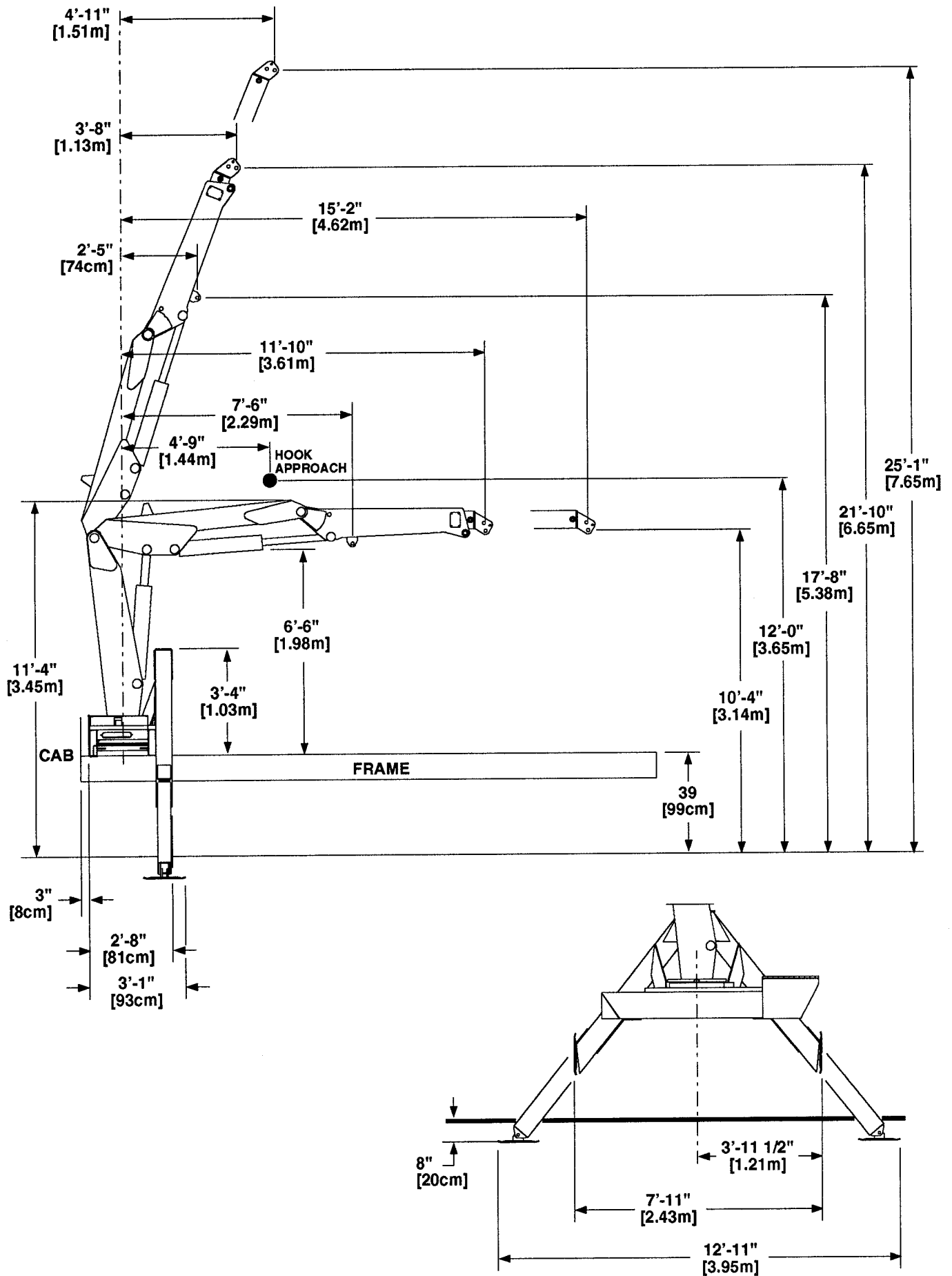


Figure A1-1. GEOMETRIC CONFIGURATION - "A" FRAME

Section 2. CRANE DESCRIPTION

2-1. GENERAL

This section describes the major assemblies that are available with the IMT Model 516 Crane. Figure B-1 illustrates the locations of the assemblies.

2-2. BASE

The base provides a platform for mounting the crane to a truck chassis. It incorporates the 370° (6.46 Rad.) rotation mechanism and houses the outriggers. Manual pull-out outriggers are standard with hydraulic power-out outriggers optional. Crane stabilization is provided by hydraulic power-down outriggers.

An optional base and outrigger assembly is also available which utilizes "A" Frame style outriggers.

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 92° (1.61 Rad.) from -20° to +72° (-0.35 to +1.26 Rad.). It is raised and lowered through the use of a single double-acting hydraulic cylinder.

2-5. OUTER BOOM

The outer boom will swing through a full 113° (1.97 Rad.). The boom is raised and lowered with a single double-acting hydraulic cylinder mounted below the inner boom. It provides the mounting point for the optional winch and an additional location for attachment of the crane hook. It also provides storage for the extension boom in the retracted position.

2-6. EXTENSION BOOM

This crane is equipped with an extension boom which increases the operating range of the crane from 11'-10" (3.61m) to 15'-2" (4.62m). The boom is powered by a single-stage, double-acting hydraulic cylinder mounted inside the outer boom.

2-7. CONTROLS

The crane may be operated from either side of the base or from an optional remote control with 35' (10.67m) cable.

2-8. HYDRAULICS

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

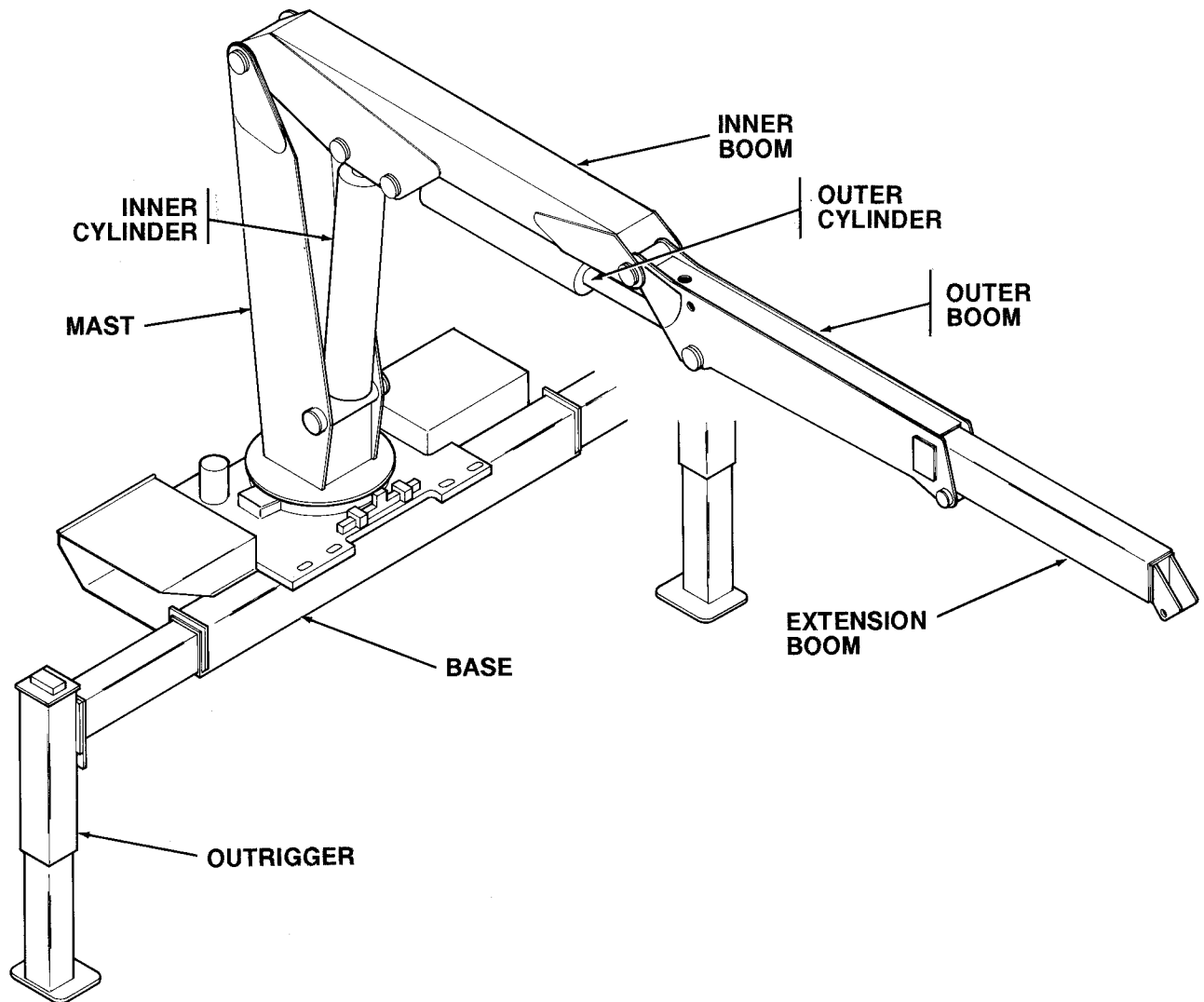


Figure B-1. 516 CRANE GROUP

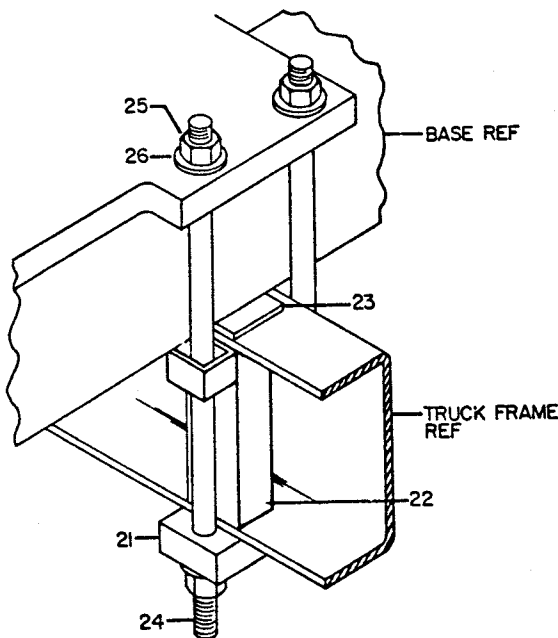
Section 3. INSTALLATION

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
21.	CLAMP PLATE	4
22.	FRAME SUPPORT	4
23.	SPACER	2
24.	TIE DOWN STUD	8
25.	LOCK NUT	16
26.	WASHER	16

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 3" (7.6cm). 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

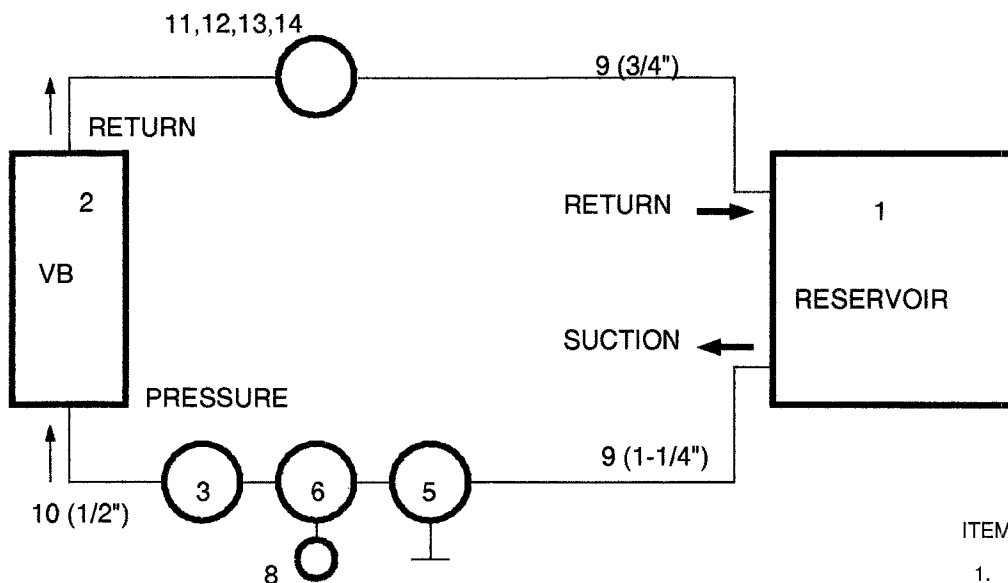
To install the hydraulic hoses, fittings, etc.:

1. Plumb the suction line filter as shown in Figure C-2.
2. Install the suction hose between the suction line filter and the pump inlet. Tighten the hose clamps.
3. Install the pressure hose between the pump outlet and the inlet port on the valvebank.
4. Install the return line between the reservoir return line filter and valvebank (if applicable).
5. Fill the hydraulic oil reservoir.
6. 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.

7. Start the vehicle's 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" mercury or less). If the vacuum reading is too high, check to make certain that the gate valve is opened completely. If the valve is fully opened, check for a collapsed or restricted suction line.
8. Cycle all hydraulic functions. Check for leaks, and refill the reservoir if necessary.



ITEM DESCRIPTION

- | | |
|-----|--------------------|
| 1. | RESERVOIR |
| 2. | VALVEBANK |
| 3. | PUMP |
| 5. | GATE VALVE 1-1/4" |
| 6. | SUCTION FILTER |
| 7. | RETRUN FILTER |
| 8. | VACUUM GAUGE |
| 9. | HOSE 3/4" ID |
| 10. | HOSE 1/2" ID |
| 11. | OIL FILTER BRACKET |
| 12. | MOUNTING SCREW |
| 13. | MOUNTING NUT |
| 14. | LOCK WASHER |

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, INJURY OR 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 ensure proper replacement parts are received, it is necessary to specify a complete number/letter sequence for any part request. Part numbers may be cross 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.

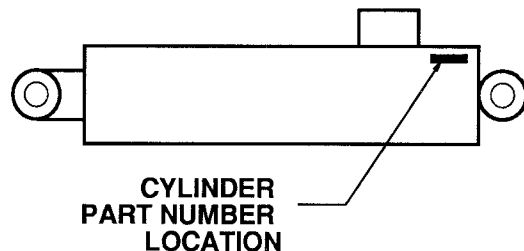


Figure D-2. CYLINDER IDENTIFICATION

4-4. WELDMENT IDENTIFICATION

Each of the major weldments - base, mast, inner boom, outer boom, extension boom and outrigger leg 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.

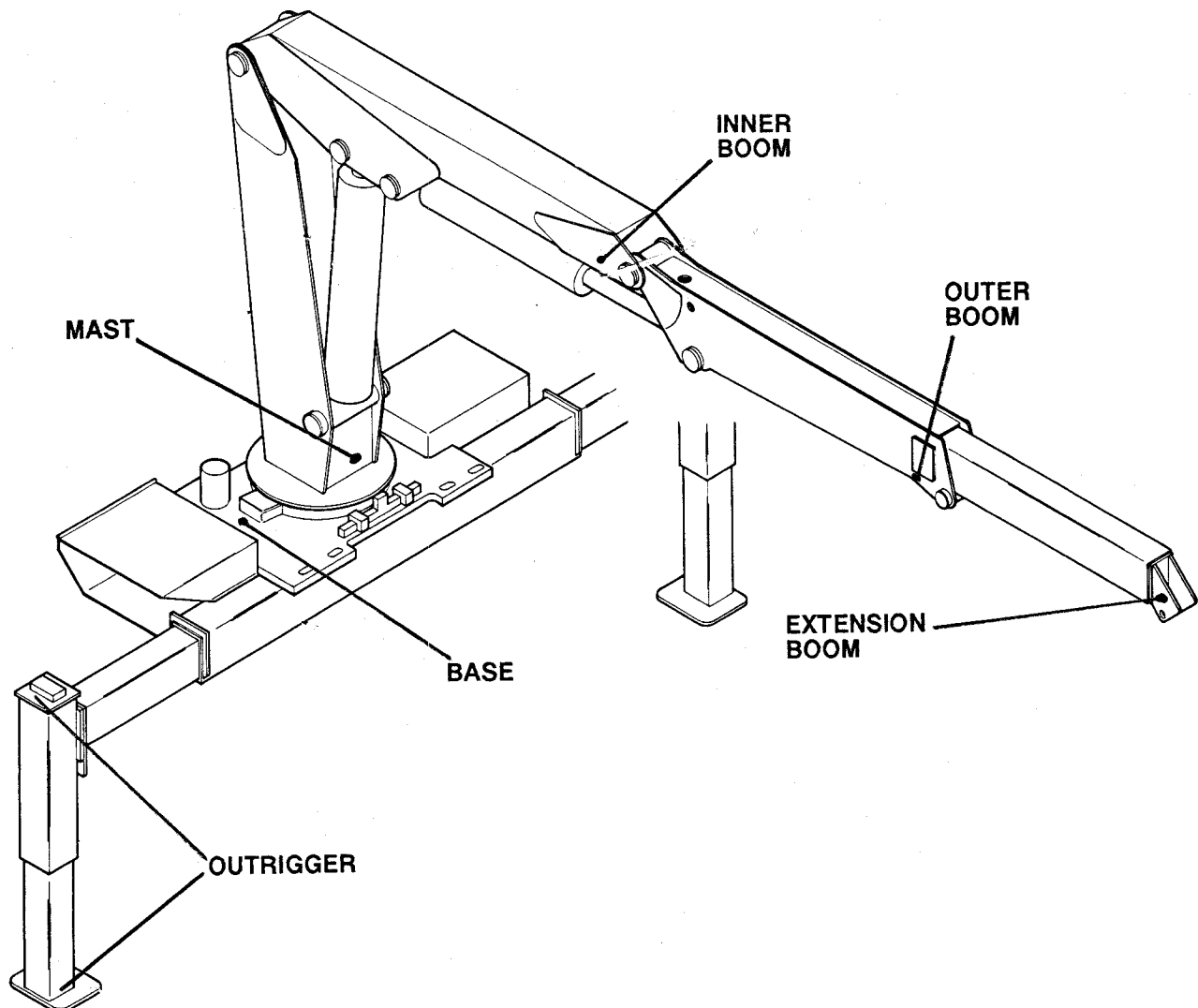


Figure D-3. WELDMENT PART NUMBER LOCATIONS

WARNING

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue, causing serious injury or death.

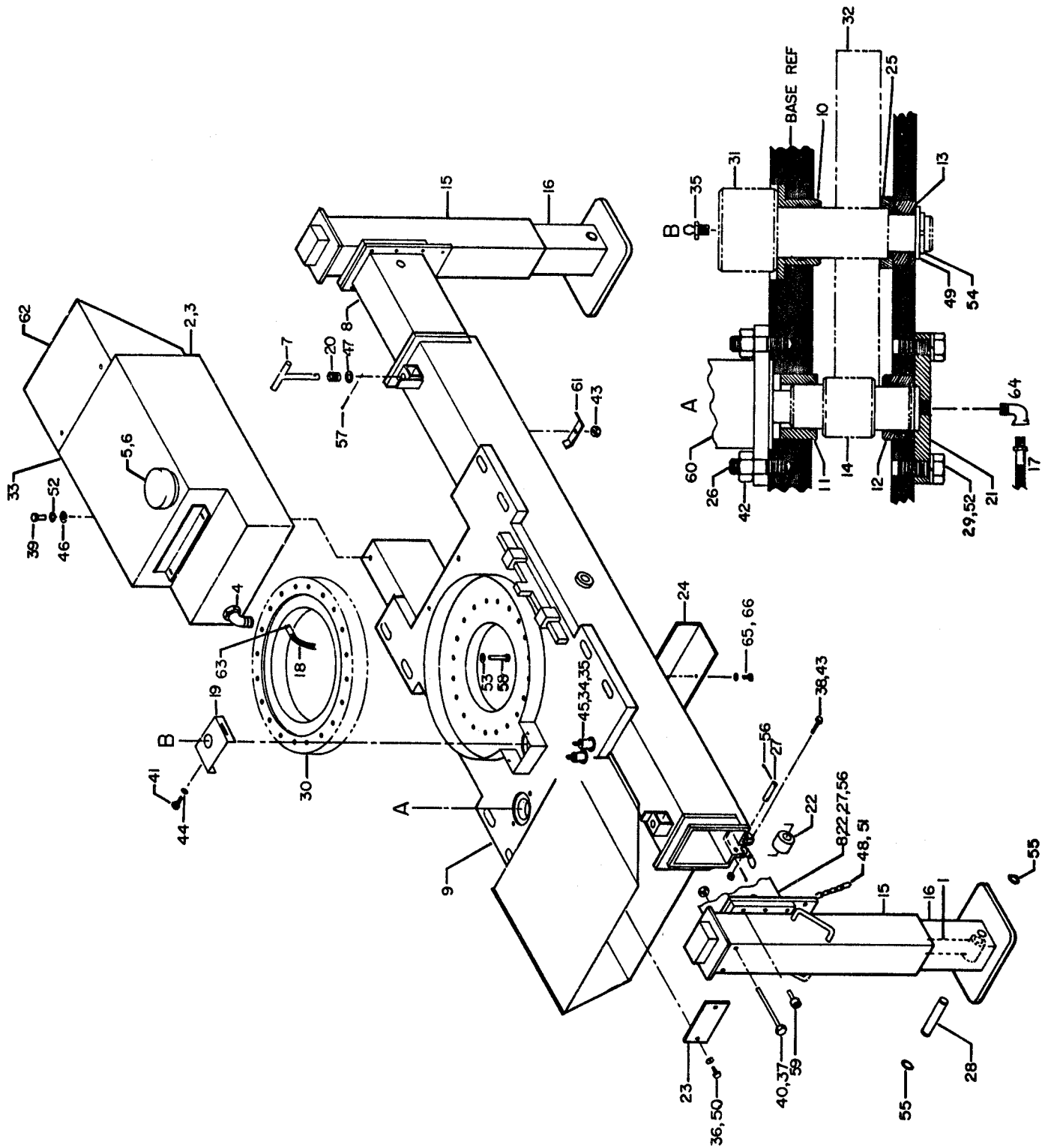
NOTE

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

SEE FOLLOWING PAGE FOR DRAWING

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	3B166820	POWER DOWN CYLINDER	2	33.	72532261	SIGHT GAUGE 3/4NPT	
2.	52703583	RESERVOIR (PART OF 62)	1REF			MAGNETIC (PART OF 62)	1REF
3.	73052001	PIPE PLUG 3/4NPT MAGNETIC (PART OF 62)	1REF	34.	72053301	COUPLING 1/8NPT	1
4.	72531196	BARB NIPPLE 45° (PART OF 62)	1REF	35.	72053508	ZERK 1/8NPT	3
5.	73014671	1-1/4NPT 1-1/4HOSE	1REF	36.	72060002	CAP SCR 1/4-20X3/4 HH GR5	2
6.	73141276	FILL CAP (PART OF 62)	1REF	37.	72062107	NUT 1/2-13 CTR LOCK	4
7.	52070138	SCREEN (PART OF 62)	1REF	38.	72060053	CAP SCR 3/8-16X2-3/4 HH GR5	2
8.	52701065	T-PIN	2	39.	72060091	CAP SCR 1/2-13X1 HH GR5	3
9.	52704103	OUTRIGGER ARM	2	40.	72060102	CAP SCR 1/2-13X5-1/2 HH GR5	4
10.	60020187	BASE (INCL:10-14)	1	41.	72060833	SCR 5/16-18X3/4 HH SLFTPG	2
11.	60020115	BUSHING (PART OF 9)	1REF	42.	72062080	NUT 1/2-13 LOCK	2
12.	60020116	BUSHING (PART OF 9)	1REF	43.	72062103	NUT 3/8-16 LOCK	4
13.	60020188	BUSHING (PART OF 9)	1REF	44.	72063002	WASHER 5/16 WRT	2
14.	71056011	BUSHING (PART OF 9)	1REF	45.	72063003	WASHER 3/8 WRT	2
15.	52704867	DRIVE GEAR (PART OF 9)	1REF	46.	72063005	WASHER 1/2 WRT	3
16.	52704868	OUTRIGGER HOUSING	2	47.	72063027	MACH BUSHING 5/8	2
17.	53000715	OUTRIGGER LEG	2	48.	60106718	CHAIN	2
18.	53000712	GREASE EXTENSION 16"	1	49.	72063075	MACH BUSHING 2X10GA NR	1
19.	60010235	GREASE EXTENSION 29"	1	50.	72063049	WASHER 1/4 LOCK	2
20.	60010351	PINION COVER	1	51.	70058060	LINK-COLD SHUT	2
21.	60010844	SPRING	2	52.	72063053	WASHER 1/2 LOCK	5
22.	60030053	GREASE PLATE	1	53.	72063119	WASHER 5/8 FLAT	20
23.	60102767	ROLLER	4	54.	72066095	RETAINING RING 2"	1
24.	60102769	COVER	1	55.	72066125	RETAING RING 1"	4
25.	60106886	GUARD	1	56.	72066180	COTTER PIN 1/8X1-1/2	8
26.	60106032	PINION SPACER	1	57.	72066185	COTTER PIN .16X1	2
27.	60106314	STUD 1/2-13X2	2	58.	72601482	CAP SCR 5/8-11X2-1/2 HH GR8	20
28.	60106968	PIN	4	59.	72060795	SCR 1/2-13X1-1/2 SH GR8	12
29.	72060092	PIN	2	60.	73051378	MOTOR	1
30.	71056001	CAP SCR 1/2-13X1-1/4 HH GR5	2	61.	60010118	HOSE CLAMP	2
31.	71056265	TURNTABLE GEAR-BEARING	1	62.	51703624	RESERVOIR ASM (INCL:2-6,33)	1
32.	71056264	PINION GEAR	1	63.	72531826	REDUCER BUSHING 1/4X1/8NPT	1
		INTERMEDIATE GEAR	1	64.	72053281	STREET ELBOW 1/8NPT 90°	1
				65.	72060023	CAP SCR 5/16-18X3/4 HH GR5	2
				66.	72063050	WASHER 5/16 LOCK	2

Figure D-4. BASE AND MANUAL OUTRIGGER ASSEMBLY (41705210)



SEE PREVIOUS PAGE FOR PARTS LIST

Figure D-4A. BASE AND MANUAL OUTRIGGER ASSEMBLY (41705210)

WARNING

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue, causing serious injury or death.

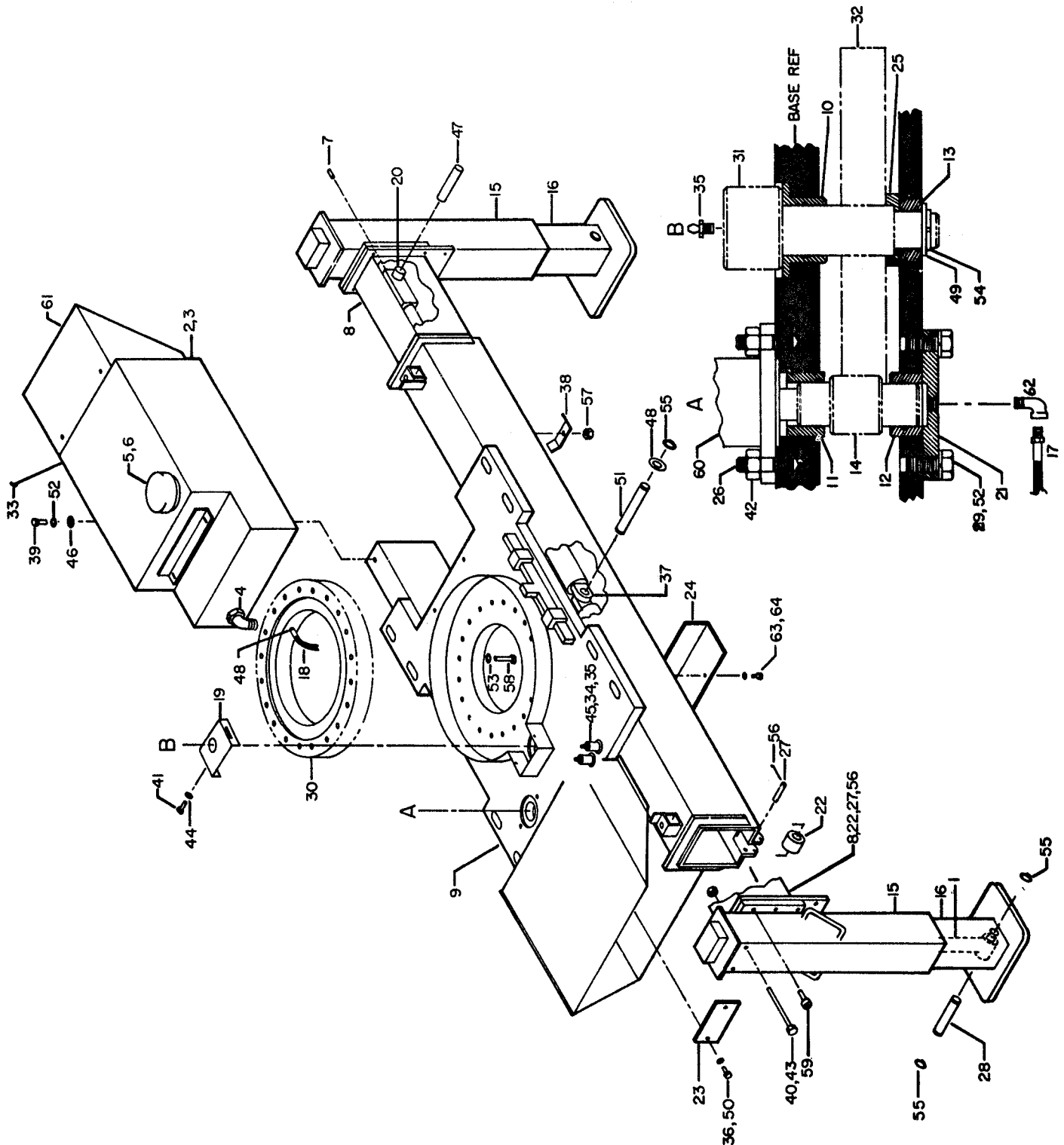
NOTE

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

SEE FOLLOWING PAGE FOR DRAWING

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	3B166820	POWER DOWN CYLINDER	2	33.	72532261	SIGHT GAUGE 3/4NPT	
2.	52703583	RESERVOIR (PART OF 61)	1REF			MAGNETIC (PART OF 62)	1REF
3.	73052001	PIPE PLUG 3/4NPT MAGNETIC (PART OF 61)	1REF	34.	72053301	COUPLING 1/8NPT	1
4.	72531196	BARB NIPPLE 45° (PART OF 61)	1REF	35.	72053508	ZERK 1/8NPT	3
		1-1/4NPT 1-1/4HOSE	1REF	36.	72060002	CAP SCR 1/4-20X3/4 HH GR5	2
5.	73014671	FILL CAP (PART OF 61)	1REF	37.	3B210522	POWER OUT CYLINDER	2
6.	73141276	SCREEN (PART OF 61)	1REF	38.	60010118	HOSE CLAMP	2
7.	72060581	SET SCREW 3/8-16X3/4 SH	2	39.	72060091	CAP SCR 1/2-13X1 HH GR5	3
8.	52701065	OUTRIGGER ARM	2	40.	72060102	CAP SCR 1/2-13X5-1/2 HH GR5	4
9.	52704103	BASE (INCL:10-14)	1	41.	72060833	SCR 5/16-18X3/4 HH SLFTPG	2
10.	60020188	BUSHING (PART OF 9)	1REF	42.	72062080	NUT 1/2-13 LOCK	2
11.	60020115	BUSHING (PART OF 9)	1REF	43.	72062107	NUT 1/2-13 CTR LOCK	4
12.	60020116	BUSHING (PART OF 9)	1REF	44.	72063002	WASHER 5/16 WRT	2
13.	60020187	BUSHING (PART OF 9)	1REF	45.	72063003	WASHER 3/8 WRT	2
14.	71056011	DRIVE GEAR (PART OF 9)	1REF	46.	72063005	WASHER 1/2 WRT	3
15.	52704867	OUTRIGGER HOUSING	2	47.	60106281	PIN	2
16.	52704868	OUTRIGGER LEG	2	48.	72531826	REDUCER BUSHING 1/4X1/8NPT	1
17.	53000715	GREASE EXTENSION 16"	1	49.	72063075	MACH BUSHING 2X10GA NR	1
18.	53000712	GREASE EXTENSION 29"	1	50.	72063049	WASHER 1/4 LOCK	2
19.	60010235	PINION COVER	1	51.	70058060	LINK-COLD SHUT	2
20.	60106380	SPACER	4	52.	72063053	WASHER 1/2 LOCK	5
21.	60010844	GREASE PLATE	1	53.	72063119	WASHER 5/8 FLAT	20
22.	60030053	ROLLER	4	54.	72066095	RETAINING RING 2"	1
23.	60102767	COVER	1	55.	72066125	RETAING RING 1"	6
24.	60102769	GUARD	1	56.	72066180	COTTER PIN 1/8X1-1/2	8
25.	60106886	PINION SPACER	1	57.	72062103	NUT 3/8-16 LOCK	2
26.	60106032	STUD 1/2-13X2	2	58.	72601482	CAP SCR 5/8-11X2-1/2 HH GR8	20
27.	60106314	PIN	4	59.	72060794	SCR 1/2-13X1-1/4 SH GR8	12
28.	60106968	PIN	2	60.	73051378	MOTOR	1
29.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	2	61.	51703624	RESERVOIR ASM (INCL:2-6,33)	1
30.	71056001	TURNTABLE GEAR-BEARING	1	62.	72053281	STREET ELBOW 1/8NPT 90°	1
31.	71056265	PINION GEAR	1	63.	72060023	CAP SCR 5/16-18X3/4 HH GR5	2
32.	71056264	INTERMEDIATE GEAR	1	64.	72063050	WASHER 5/16 LOCK	2

Figure D-5. BASE AND POWER OUT OUTRIGGER ASSEMBLY (41705211)



SEE PREVIOUS PAGE FOR DRAWING

Figure D-5A. BASE AND POWER OUT OUTRIGGER ASSEMBLY (41705211)

WARNING

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue, causing serious injury or death.

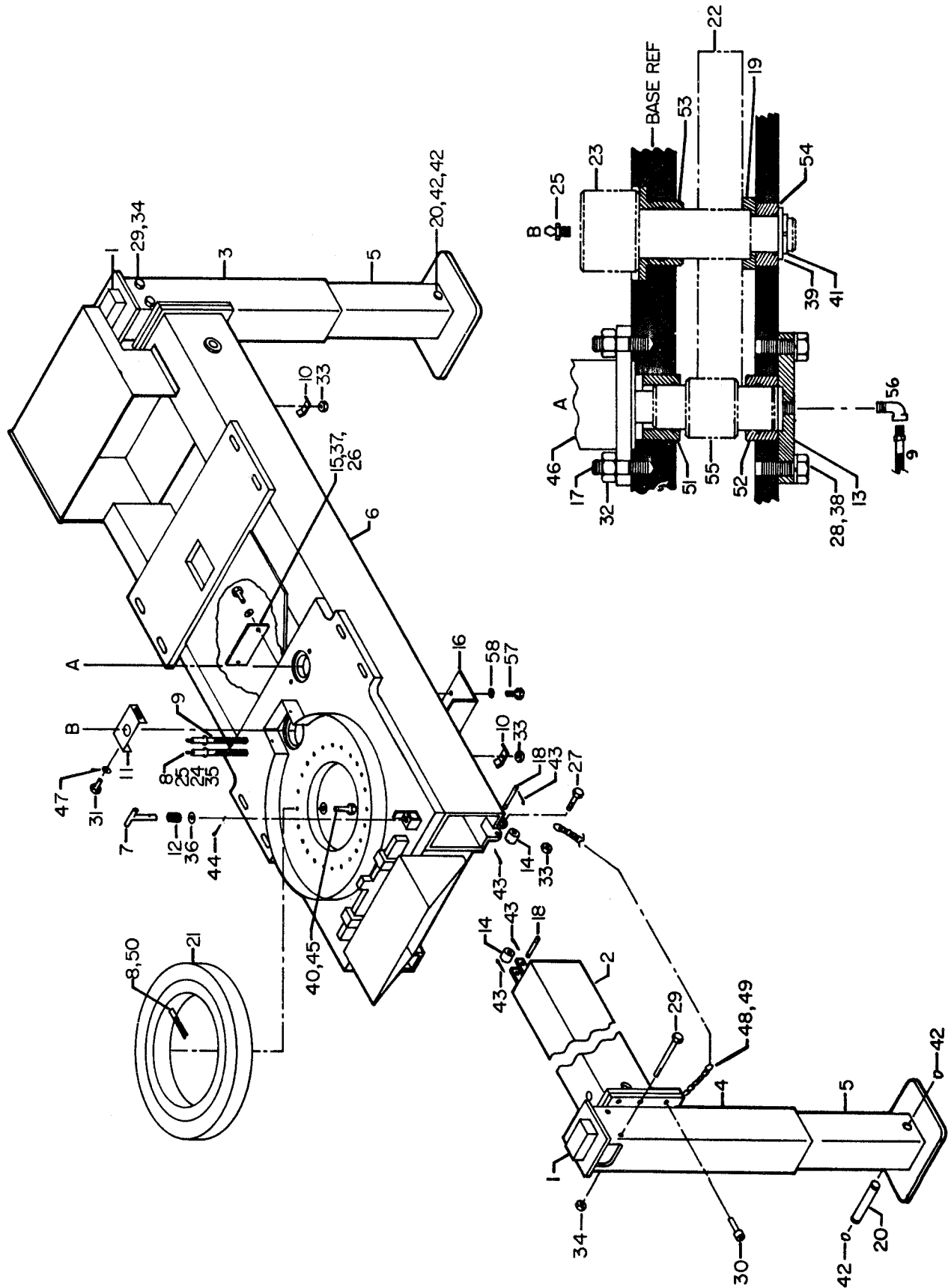
NOTE

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

SEE FOLLOWING PAGE FOR DRAWING

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	3B166820	POWER DOWN CYLINDER	2	30.	72060794	CAP SCR 1/2-13X1-1/4 SH	12
2.	52704041	OUTRIGGER ARM	1	31.	72060833	SCR 5/16-18X3/4 HH SLFTPG	2
3.	52704518	OUTRIGGER HOUSING RH	1	32.	72062080	NUT 1/2-13 LOCK	2
4.	52704519	OUTRIGGER HOUSING LH	1	33.	72062103	NUT 3/8-16 LOCK	3
5.	52704868	OUTRIGGER LEG	2	34.	72062107	NUT 1/2-13 CTR LOCK	4
6.	52705218	BASE (INCL:51-55)	1	35.	72063003	WASHER 3/8 WRT	2
7.	52705037	T-PIN	1	36.	72063027	MACH BUSHING 5/8	1
8.	53000710	GREASE EXTENSION 29"	1	37.	72063049	WASHER 1/4 LOCK	2
9.	53000715	GREASE EXTENSION 18"	1	38.	72063053	WASHER 1/5 LOCK	2
10.	60010118	HOSE CLAMP	2	39.	72063075	MACH BUSHING 2X10GA NR	1
11.	60010235	PINION COVER	1	40.	72063119	WASHER 5/8 FLAT	20
12.	60010351	SPRING	1	41.	72066095	RETAINING RING 2" EXT STD	1
13.	60010844	GREASE PLATE	1	42.	72066125	RETAINING RING 1" HD EXT	4
14.	60030053	ROLLER	2	43.	72066180	COTTER PIN 1/8X1-1/2	4
15.	60102767	ACCESS COVER	1	44.	72066185	COTTER PIN .16X1	1
16.	60102769	GEAR GUARD	1	45.	72601482	CAP SCR 5/8-11X2-1/2 HH GR8	20
17.	60106032	STUD 1/2-13X2	2	46.	73051378	MOTOR	1
18.	60106314	PIN	2	47.	72063002	WASHER 5/16 WRT	2
19.	60106886	PINION SPACER	1	48.	60102556	CHAIN	1
20.	60106968	PIN	2	49.	70058060	LINK-COLD SHUT	1
21.	71056001	TURNTABLE GEAR-BEARING	1	50.	72531826	REDUCER BUSHING 1/4X1/8NPT	1
22.	71056264	INTERMEDIATE GEAR	1	51.	60020115	BUSHING (PART OF 6)	1REF
23.	71056265	PINION GEAR	1	52.	60020116	BUSHING (PART OF 6)	1REF
24.	72053301	COUPLING 1/8NPT	2	53.	60020187	BUSHING (PART OF 6)	1REF
25.	72053508	ZERK 1/8NPT	3	54.	60020188	BUSHING (PART OF 6)	1REF
26.	72060002	CAP SCR 1/4-20X3/4 HH GR5	2	55.	71056011	DRIVE GEAR (PART OF 6)	1REF
27.	72060053	CAP SCR 3/8-16X2-3/4 HH GR5	1	56.	72053281	STREET ELBOW 1/8NPT 90°	1
28.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	2	57.	72060023	CAP SCR 5/16-18X3/4 HH GR5	2
29.	72060102	CAP SCR 1/2-13X5-1/2 HH GR5	4	58.	72063050	WASHER 5/16 LOCK	2

Figure D-6. BASE AND MANUAL OUTRIGGER ASSEMBLY - LH SIDE MOUNT (41705212)



SEE PREVIOUS PAGE FOR DRAWING

Figure D-6A. BASE AND MANUAL OUTRIGGER ASSEMBLY - LH SIDE MOUNT (41705212)

WARNING

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue, causing serious injury or death.

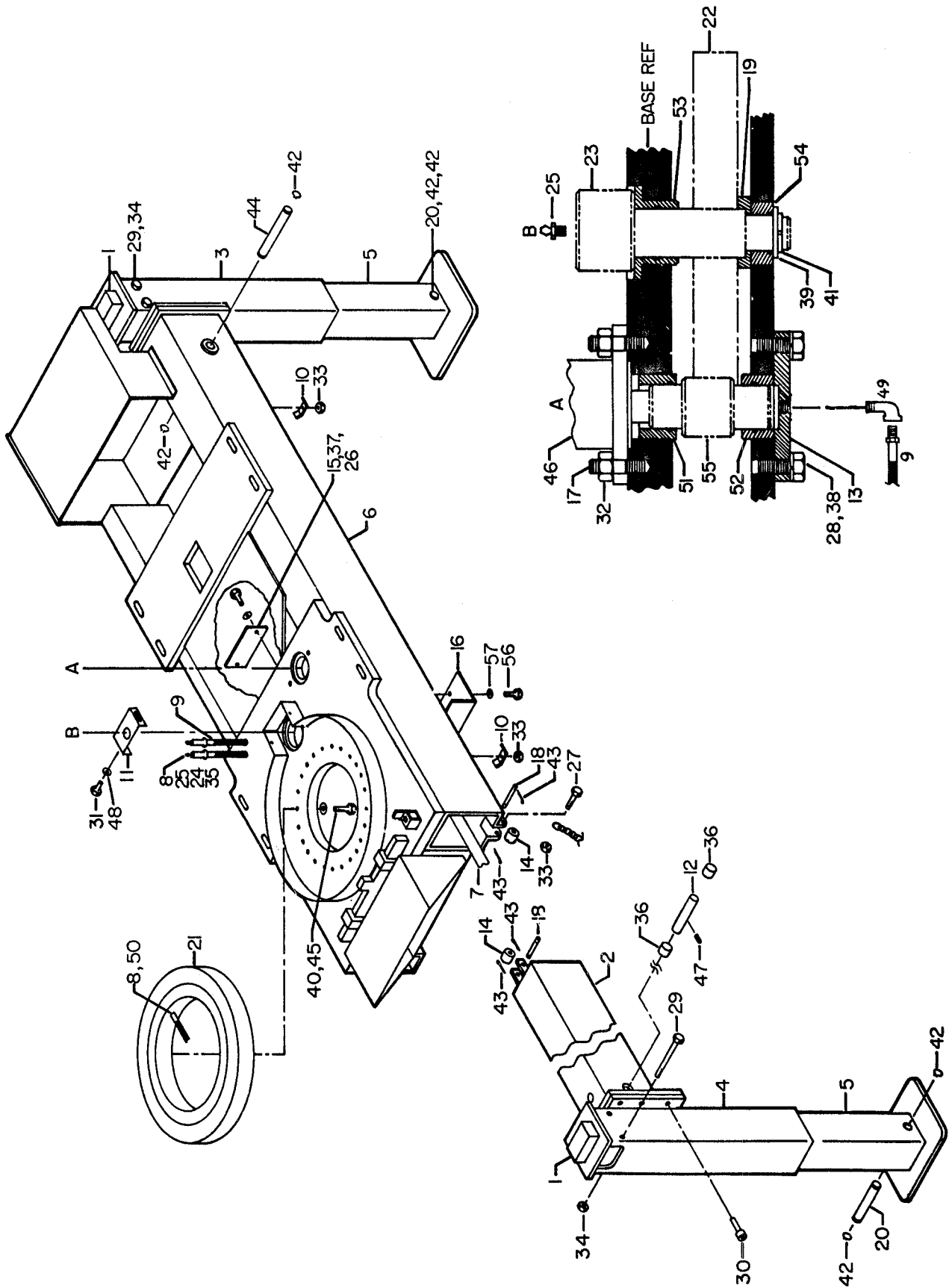
NOTE

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

SEE FOLLOWING PAGE FOR DRAWING

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	3B166820	POWER DOWN CYLINDER	2	30.	72060794	CAP SCR 1/2-13X1-1/4 SH	12
2.	52704041	OUTRIGGER ARM	1	31.	72060833	SCR 5/16-18X3/4 HH SLFTPG	2
3.	52704518	OUTRIGGER HOUSING RH	1	32.	72062080	NUT 1/2-13 LOCK	2
4.	52704519	OUTRIGGER HOUSING LH	1	33.	72062103	NUT 3/8-16 LOCK	3
5.	52704868	OUTRIGGER LEG	2	34.	72062107	NUT 1/2-13 CTR LOCK	4
6.	52705218	BASE (INCL:51-55)	1	35.	72063003	WASHER 3/8 WRT	2
7.	3B267811	POWER OUT CYLINDER	1	36.	60106380	SPACER 1X1-1/4	2
8.	53000710	GREASE EXTENSION 29"	1	37.	72063049	WASHER 1/4 LOCK	2
9.	53000715	GREASE EXTENSION 18"	1	38.	72063053	WASHER 1/5 LOCK	2
10.	60010118	HOSE CLAMP	2	39.	72063075	MACH BUSHING 2X10GA NR	1
11.	60010235	PINION COVER	1	40.	72063119	WASHER 5/8 FLAT	20
12.	60106281	PIN	1	41.	72066095	RETAINING RING 2" EXT STD	1
13.	60010844	GREASE PLATE	1	42.	72066125	RETAINING RING 1" HD EXT	4
14.	60030053	ROLLER	2	43.	72066180	COTTER PIN 1/8X1-1/2	4
15.	60102767	ACCESS COVER	1	44.	60106833	PIN	1
16.	60102769	GEAR GUARD	1	45.	72601482	CAP SCR 5/8-11X2-1/2 HH GR8	20
17.	60106032	STUD 1/2-13X2	2	46.	73051378	MOTOR	1
18.	60106314	PIN	2	47.	72060581	SET SCREW 3/8-16X3/4 SH	1
19.	60106886	PINION SPACER	1	48.	72063002	WASHER 5/16 WRT	2
20.	60106968	PIN	2	49.	72053281	STREET ELBOW 1/8NPT 90D155	1
21.	71056001	TURNABLE GEAR-BEARING	1	50.	72531826	REDUCER BUSHING 1/4X1/8NPT	1
22.	71056264	INTERMEDIATE GEAR	1	51.	60020115	BUSHING (PART OF 6)	1REF
23.	71056265	PINION GEAR	1	52.	60020116	BUSHING (PART OF 6)	1REF
24.	72053301	COUPLING 1/8NPT	2	53.	60020187	BUSHING (PART OF 6)	1REF
25.	72053508	ZERK 1/8NPT	3	54.	60020188	BUSHING (PART OF 6)	1REF
26.	72060002	CAP SCR 1/4-20X3/4 HH GR5	2	55.	71056011	DRIVE GEAR (PART OF 6)	1REF
27.	72060053	CAP SCR 3/8-16X2-3/4 HH GR5	1	56.	72060023	CAP SCR 5/16-18X3/4 HH GR5	2
28.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	2	57.	72063050	WASHER 5/16 LOCK	2
29.	72060102	CAP SCR 1/2-13X5-1/2 HH GR5	4				

Figure D-7. BASE AND POWER OUTRIGGER ASSEMBLY - LH SIDE MOUNT (41705213)



SEE PREVIOUS PAGE FOR DRAWING

Figure D-7A. BASE AND POWER OUTRIGGER ASSEMBLY - LH SIDE MOUNT (41705213)

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

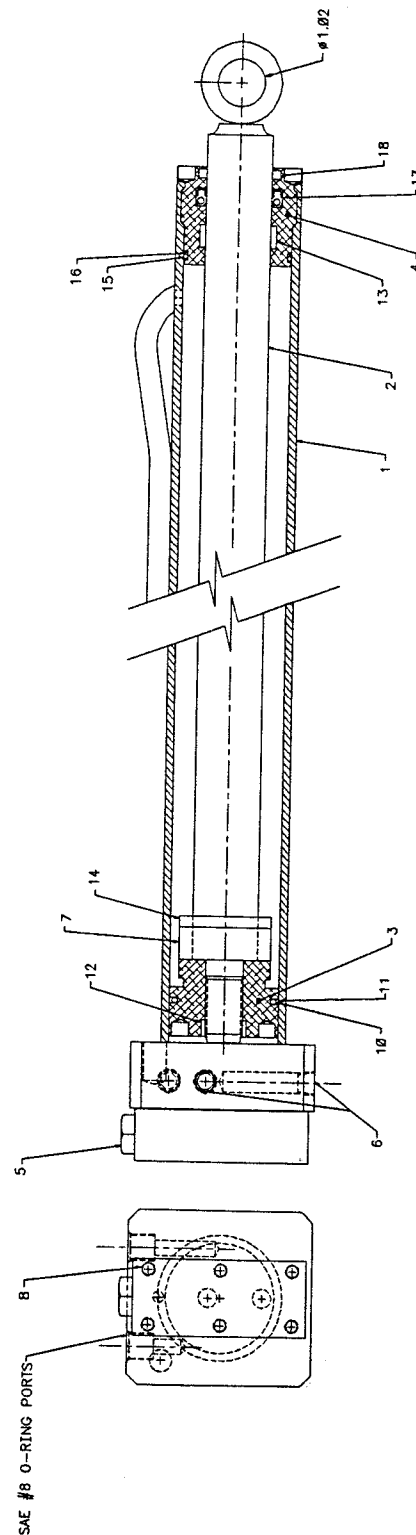


Figure D-8. POWER DOWN CYLINDER (3B166820)

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.	4B210522	CASE ASM	1
3.	6I020075	PISTON	1
4.	6H020012	HEAD	1
5.	9B081012	SEAL KIT (INCL:6-14)	1
6.	7Q072224	O-RING (PART OF 5)	1REF
7.	7Q10P224	BACK-UP RING (PART OF 5)	1REF
8.	7T2N8012	WEAR RING (PART OF 5)	1REF
9.	7R546012	ROD SEAL (PART OF 5)	1REF
10.	7R14P012	ROD WIPER (PART OF 5)	1REF
11.	7T61N075	LOCK RING SEAL (PART OF 5)	1REF
12.	7Q072129	O-RING (PART OF 5)	1REF
13.	7T66P020	PISTON SEAL (PART OF 5)	1REF
14.	6A025012	WAFFER LOCK (PART OF 5)	1REF
15.	6C300012	STOP TUBE	1

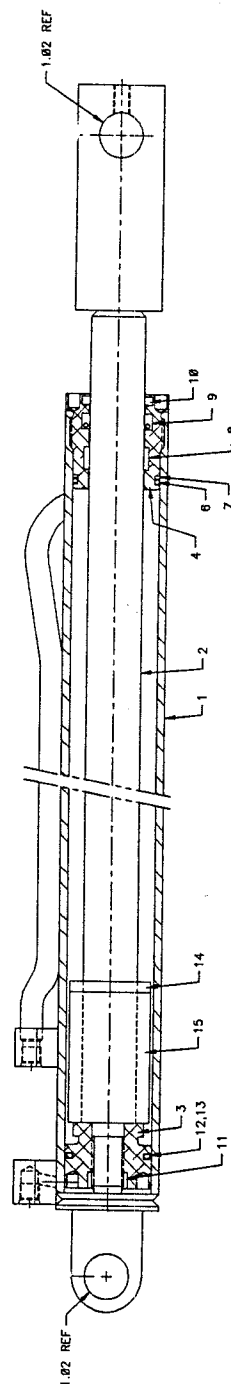
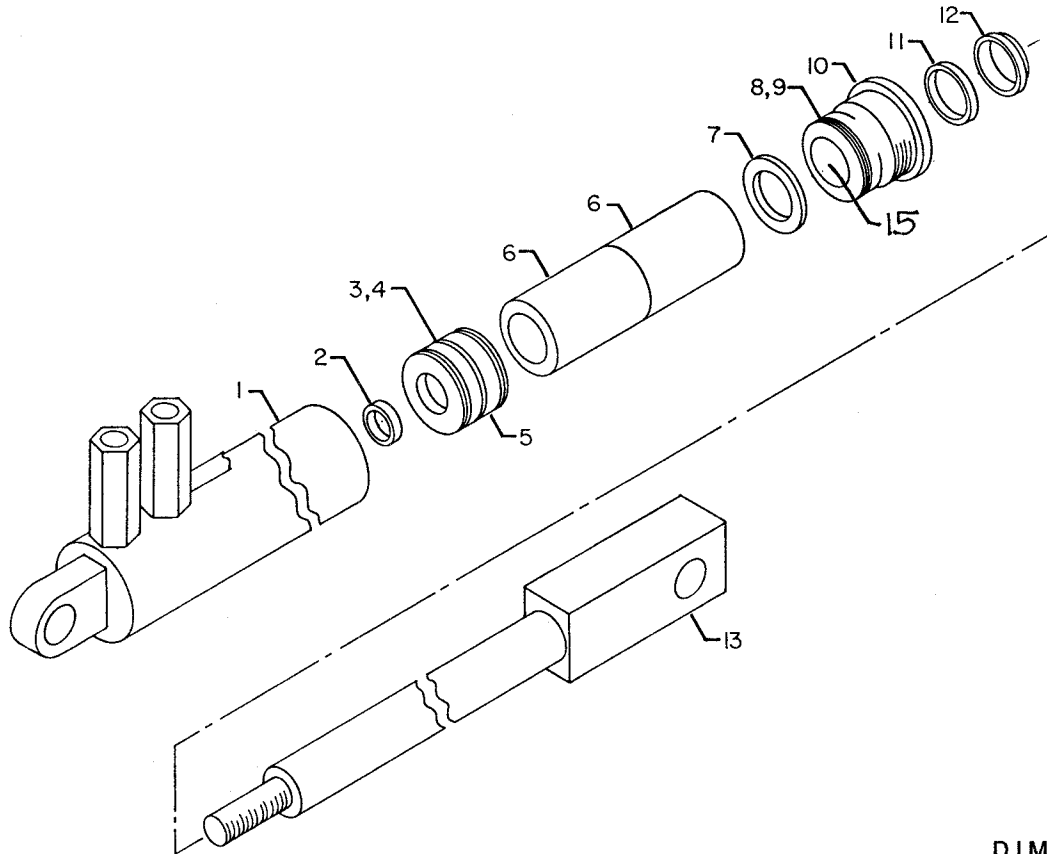


Figure D-9. POWER OUT CYLINDER (3B210522)



DIMENSIONS

BORE	2"
STROKE	48"
CTR-CTR CL	73-1/4"
ROD DIA	1-1/4"
PIN DIA	1"

NOTE

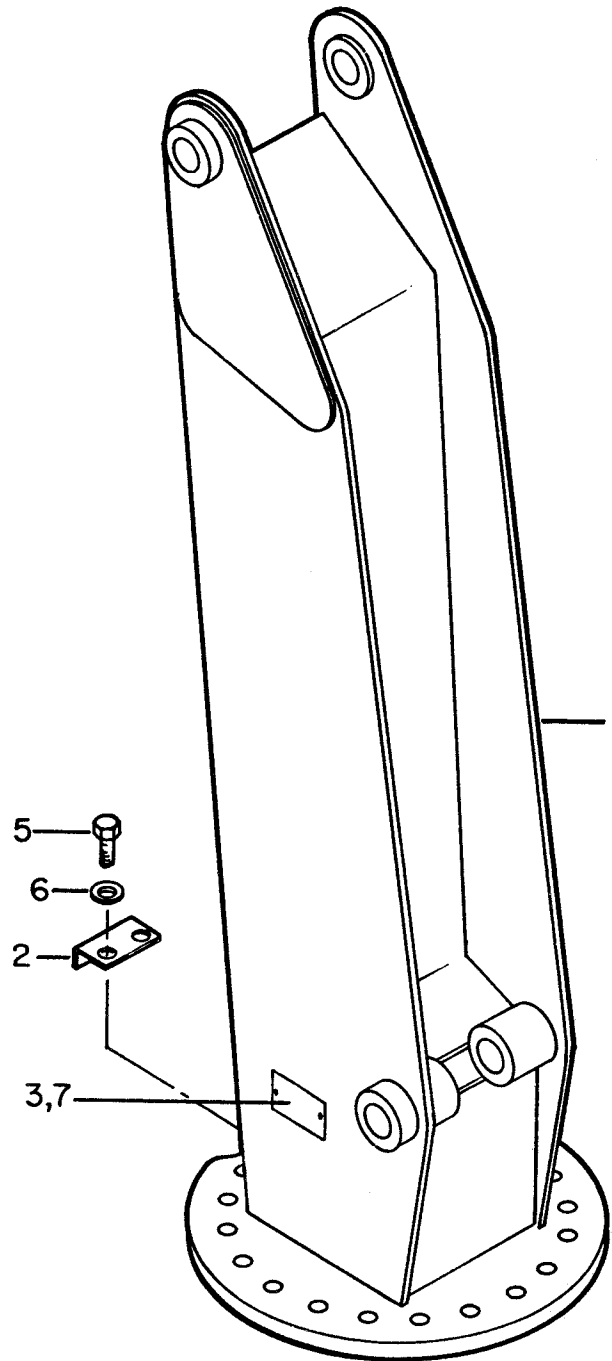
IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

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 NO.	DESCRIPTION	QTY
1.	4B267811	CASE ASM	1
2.	7T61N075	LOCK RING SEAL (PART OF 14)	1REF
3.	7Q072129	O-RING (PART OF 14)	1REF
4.	7T66P020	PISTON SEAL (PART OF 14)	1REF
5.	6I020075	PISTON	1
6.	6C300012	STOP TUBE	2
7.	6A025012	WAFER LOCK (PART OF 14)	1REF
8.	7Q072224	O-RING (PART OF 14)	1REF
9.	7Q10P224	BACK-UP RING (PART OF 14)	1REF
10.	6H020012	HEAD	1
11.	7R546012	ROD SEAL (PART OF 14)	1REF
12.	7R14P012	ROD WIPER (PART OF 14)	1REF
13.	4G267810	ROD ASM	1
14.	9B081012	SEAL KIT (INCL:2-4,7-9,11,12,15)	1
15.	7T2N8012	WEAR RING (PART OF 14)	1REF

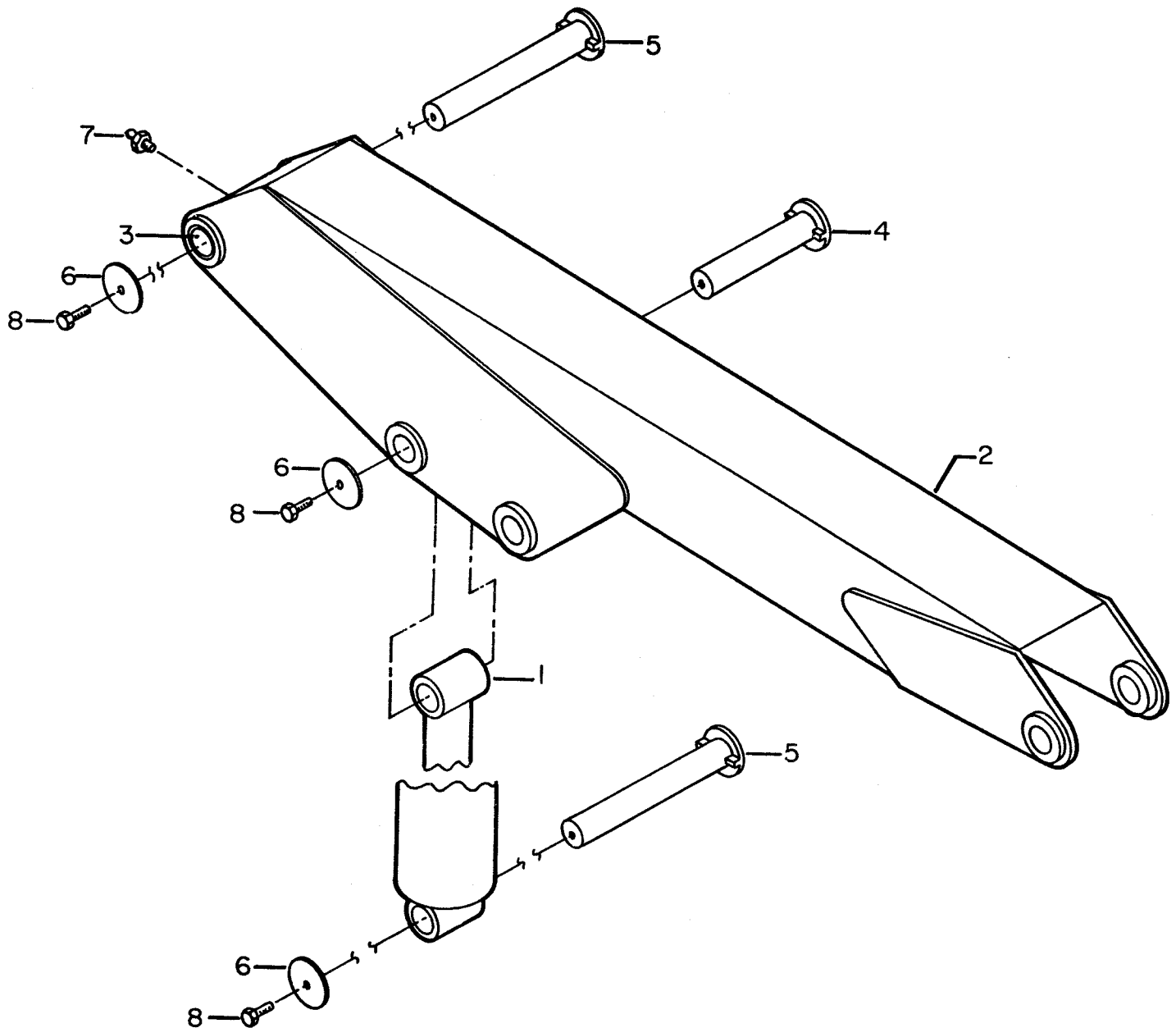
Figure D-10. POWER OUT CYLINDER - SIDE MOUNT (3B267811)

**WARNING**

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue, causing serious injury or death.

ITEM	PART NO.	DESCRIPTION	QTY
1.	52705217	MAST	1
2.	60104539	PINION COVER	1
3.	70029119	SER. NO. PLACARD (NOT SHWN)	1
5.	72060151	CAP SCR 5/8-11X2 HH GR8	20
6.	72063119	WASHER 5/8 HARD GR8	20
7.	72661216	GRIP NAIL 1/8	2

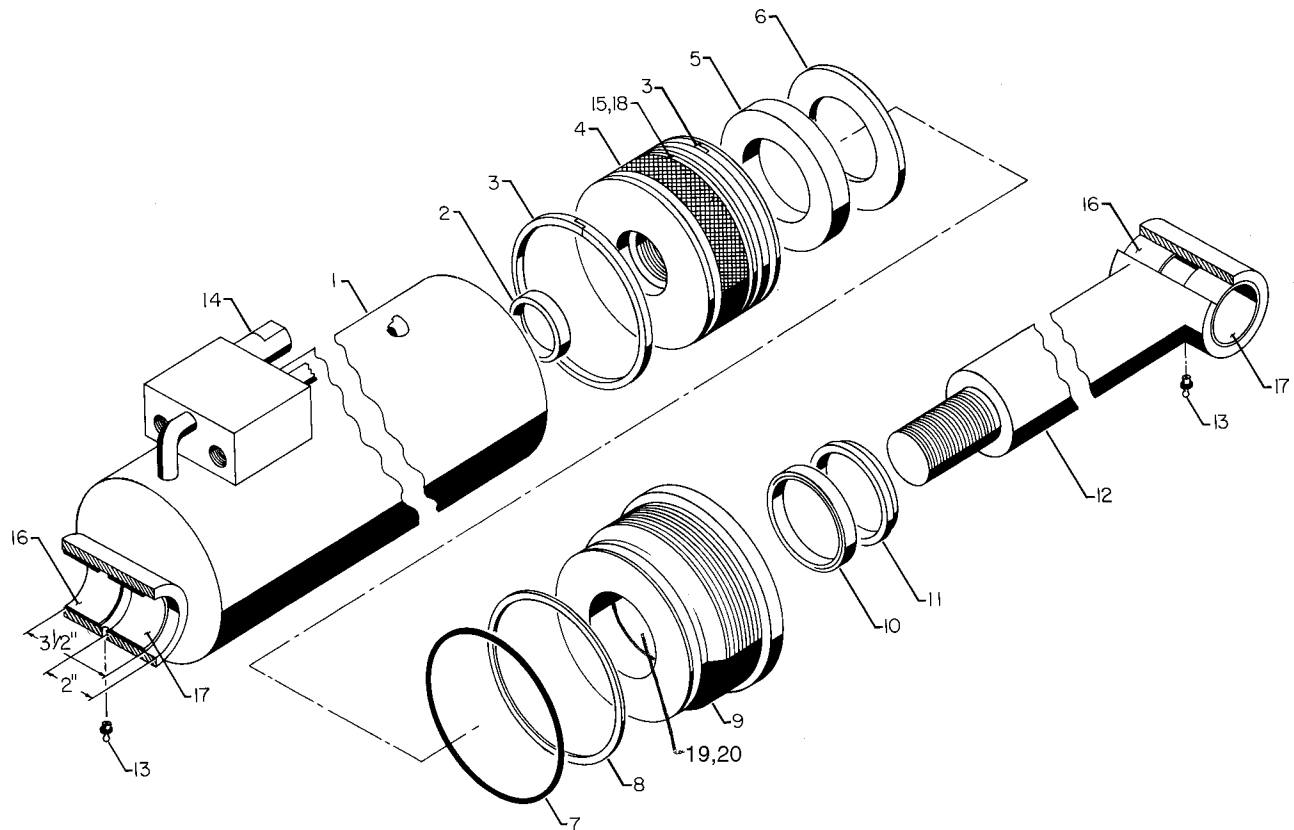
Figure D-11. MAST ASSEMBLY (41705216)

**NOTE**

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

ITEM	PART NO.	DESCRIPTION	QTY
1.	3C021611	INNER CYLINDER	1
2.	52701441	INNER BOOM (INCL:3)	1
3.	7BF81520	BUSHING (PART OF 2)	4REF
4.	52703714	PIN	1
5.	52703715	PIN	2
6.	60106331	PIN RETAINER PLATE	3
7.	72053508	ZERK 1/8NPT	1
8.	72060147	CAP SCR 5/8-11X1 HH GR5	3

Figure D-12. INNER BOOM ASSEMBLY (41701184)



DIMENSIONS

Bore	6"
Stroke	29-5/8"
C - C Closed	42-7/8"
Rod Diameter	3"
Pin Diameter	2"

NOTE

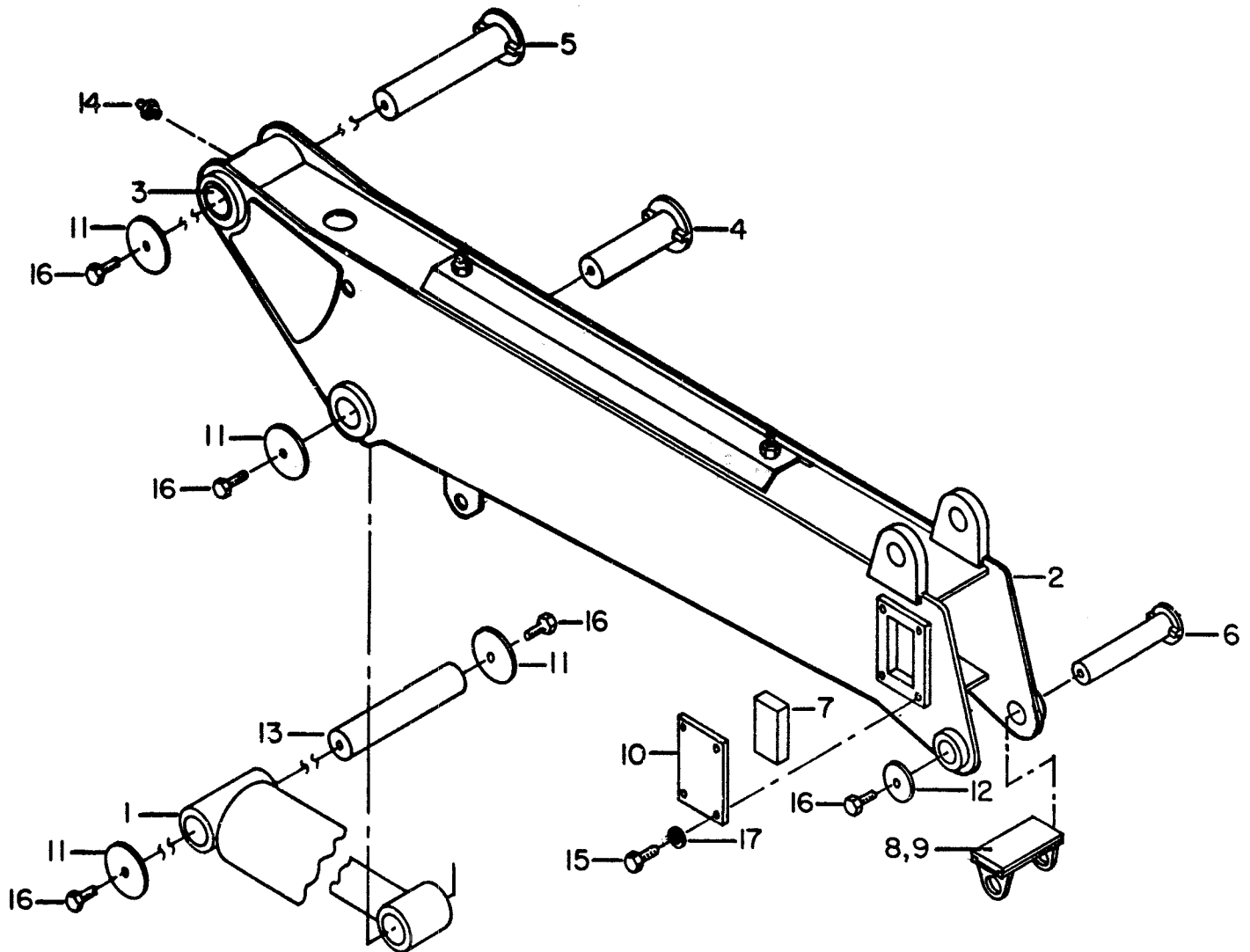
IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

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.	4C021611	CASE (INCL:13,16,17)	1
2.	7T61N200	LOCK RING SEAL (PART OF 21)	1REF
3.	7T65I060	PISTON RING (PART OF 21)	2REF
4.	6I060200	PISTON	1
5.	6C075030	STOP TUBE	1
6.	6A025030	WAFFER LOCK (PART OF 21)	1REF
7.	7Q072358	O-RING (PART OF 21)	1REF
8.	7Q10P358	BACK-UP RING (PART OF 21)	1REF
9.	6H060030	HEAD	1
10.	7R546030	ROD SEAL (PART OF 21)	1REF
11.	7R14P030	ROD WIPER (PART OF 21)	1REF
12.	4G021610	ROD (INCL:13,16,17)	1
13.	72053507	ZERK 1/4-28 (PART OF 1 & 12)	2REF
14.	73054242	COUNTERBALANCE VALVE	1
15.	7Q072253	O-RING (PART OF 21)	1REF
16.	7BF81520	BUSHING (PART OF 1 & 12)	2REF
17.	7BF82020	BUSHING (PART OF 1 & 12)	2REF
18.	7T66P060	PISTON SEAL (PART OF 21)	1REF
19.	7T2N4032	WEAR RING (PART OF 21)	1REF
20.	7T2N8032	WEAR RING (PART OF 21)	1REF
21.	9C242432	SEAL KIT (INCL:2,3,6-8,10,11,15,18-20)	1

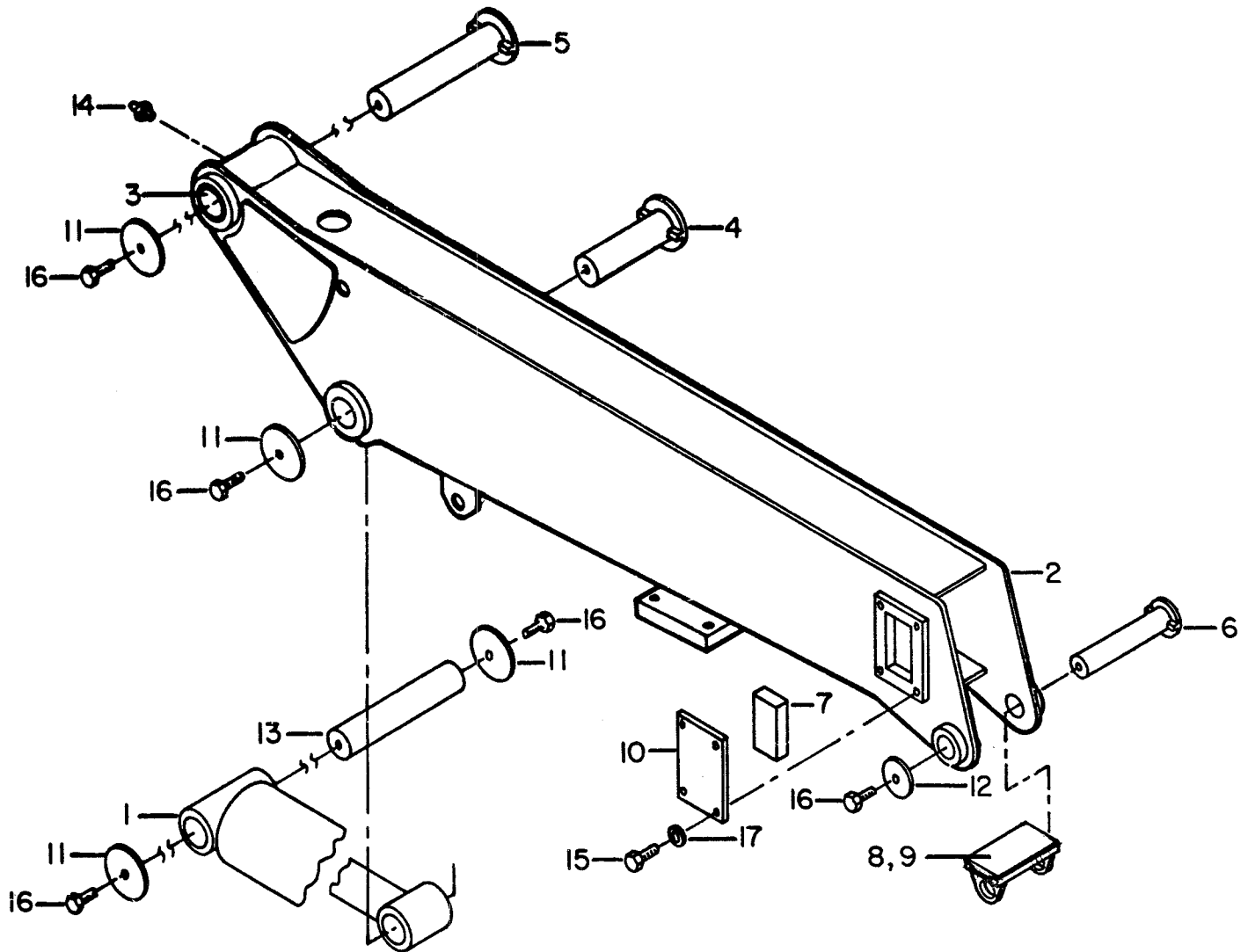
Figure D-13. INNER CYLINDER (3C021611)

**NOTE**

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

ITEM	PART NO.	DESCRIPTION	QTY
1.	3C116612	OUTER CYLINDER	1
2.	52701558	OUTER BOOM (INCL:3)	1
3.	7BF81520	BUSHING (PART OF 2)	4REF
4.	52703712	PIN	1
5.	52703713	PIN	1
6.	52709000	PIN	1
7.	60030018	WEAR PAD	2
8.	52709123	TRUNNION	1
9.	60030083	WEAR PAD	1
10.	60104191	RETAINER PLATE	2
11.	60106331	PIN RETAINER PLATE	4
12.	60106333	PIN RETAINER PLATE	1
13.	60106344	PIN	1
14.	72053508	ZERK 1/8NPT	1
15.	72060046	CAP SCR 3/8-16X1 HH GR5	8
16.	72060147	CAP SCR 5/8-11X1 HH GR5	5
17.	72063051	WASHER 3/8 LOCK	8

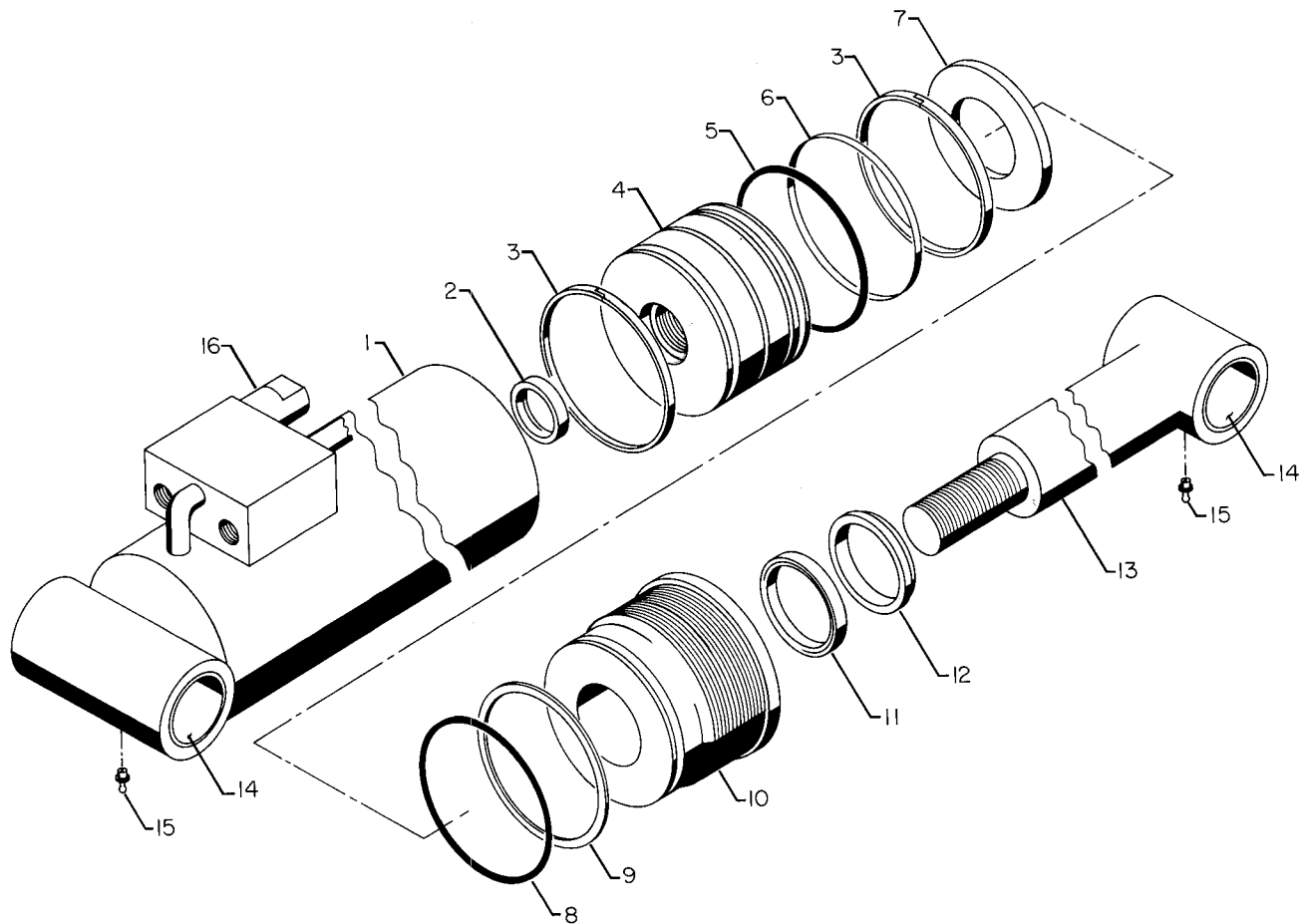
Figure D-14. OUTER BOOM ASSEMBLY WITH THIREHAND MOUNTING (41703742)

**NOTE**

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

ITEM	PART NO.	DESCRIPTION	QTY
1.	3C116612	OUTER CYLINDER	1
2.	52703740	OUTER BOOM (INCL:3)	1
3.	7BF81520	BUSHING (PART OF 2)	4REF
4.	52703712	PIN	1
5.	52703713	PIN	1
6.	52709000	PIN	1
7.	60030018	WEAR PAD	2
8.	52709123	TRUNNION	1
9.	60030083	WEAR PAD	1
10.	60104191	RETAINER PLATE	2
11.	60106331	PIN RETAINER PLATE	4
12.	60106333	PIN RETAINER PLATE	1
13.	60106344	PIN	1
14.	72053508	ZERK 1/8NPT	1
15.	72060046	CAP SCR 3/8-16X1 HH GR5	8
16.	72060147	CAP SCR 5/8-11X1 HH GR5	5
17.	72063051	WASHER 3/8 LOCK	8

Figure D-15. OUTER BOOM ASSEMBLY WITH WINCH MOUNTING (41703741)

**DIMENSIONS**

Bore	5"
Stroke	25"
C-C Closed	36-1/2"
Rod Diameter	2-1/2"
Pin Diameter	2"

NOTE

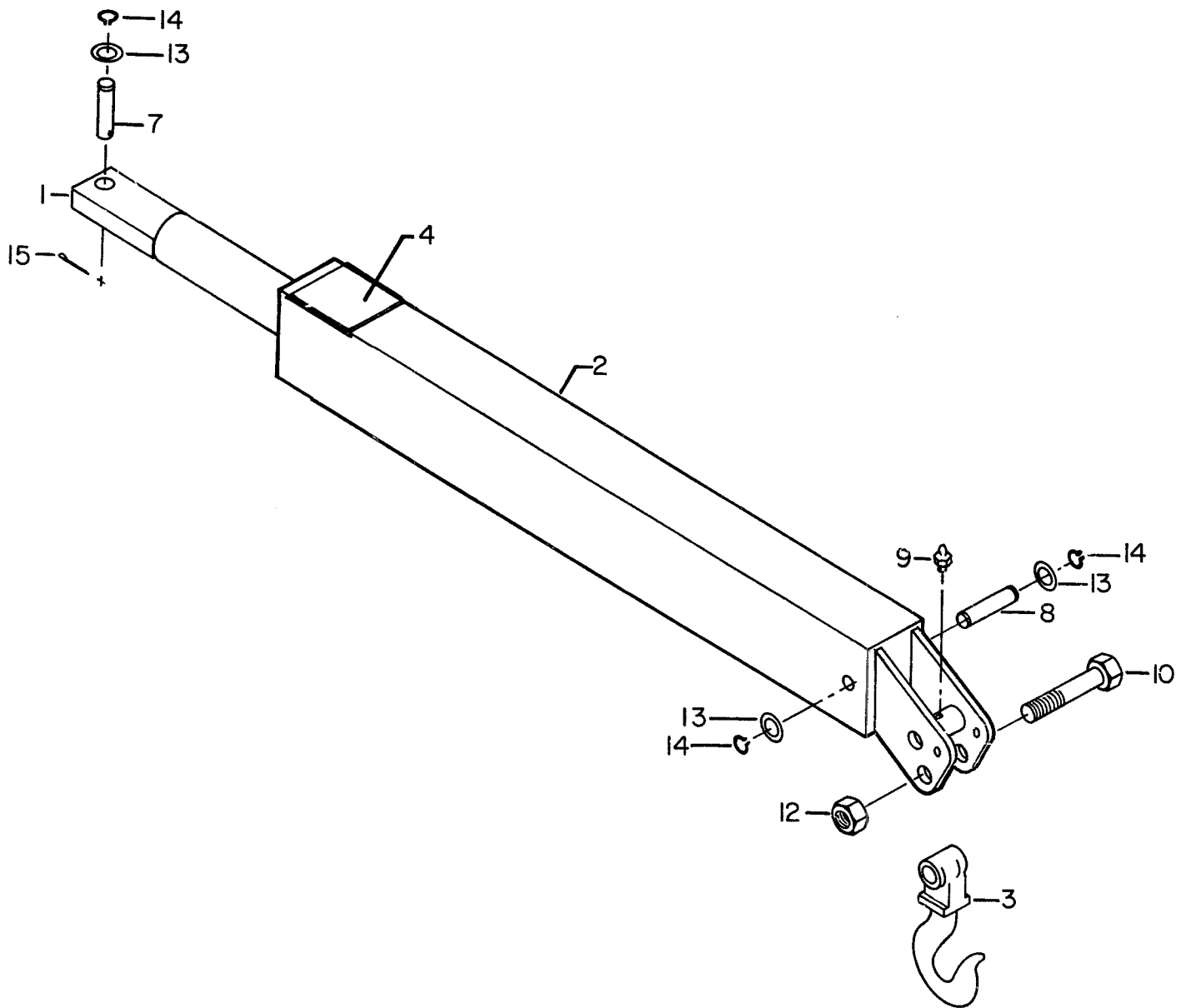
IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

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.	4C116611	CASE (INCL:14 & 15)	1
2.	7T61N181	SEAL (PART OF 17)	1REF
3.	7T65I050	PISTON RING (PART OF 17)	2REF
4.	6I050181	PISTON	1
5.	7Q072157	O-RING (PART OF 17)	1REF
6.	7T66P050	SEAL (PART OF 17)	1REF
7.	6A025025	WAFFER LOCK (PART OF 17)	1REF
8.	7Q072350	O-RING (PART OF 17)	1REF
9.	7Q10P350	BACK-UP RING (PART OF 17)	1REF
10.	6H050020	HEAD	1
11.	7R546025	ROD SEAL (PART OF 17)	1REF
12.	7R14P025	ROD WIPER (PART OF 17)	1REF
13.	4G116610	ROD (INCL:14 & 15)	1
14.	7BF81520	BUSHING (PART OF 1 & 13)	4REF
15.	72053507	ZERK 1/4-28 (PART OF 1 & 13)	2REF
16.	73054242	VALVE 25-GPM	1
17.	9C202029	SEAL KIT (INCL:2,3,5-9,11,12)	1

Figure D-16. OUTER CYLINDER (3C116612)



ITEM	PART NO.	DESCRIPTION	QTY
1.	3B116513	EXTENSION CYLINDER	1
2.	52070019	EXTENSION BOOM	1
3.	52701716	HOOK 5-TON	1
4.	60030117	WEAR PAD	1
7.	60101905	PIN	1
8.	60101906	PIN	1
9.	72053508	ZERK 1/8NPT	1
10.	72060238	CAP SCR 1 1/4-7X6 HH GR5	1
12.	72062073	NUT 1 1/4-7 LOCK	1
13.	72063034	MACH BUSHING 1X10GA	3
14.	72066125	RETAINING RING 1" HD	3
15.	72066194	COTTER PIN .19X1-1/2	1

Figure D-17. EXTENSION BOOM (41070018)

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.	4B218412	CASE (INCL:17)	1
2.	4G116510	ROD	1
3.	6I030106	PISTON	1
4.	6H030020	HEAD	1
5.	73054004	VALVE	1
6.	7PNPXT02	PLUG 1/8NPT (PART OF 1)	2REF
7.	6C075020	STOP TUBE	3
8.	72060708	CAP SCR 1/4-20 X 1-1/4 SH	6
9.	9C121617	SEAL KIT (INCL:10-19)	1
10.	7Q072145	O-RING (PART OF 9)	1REF
11.	7T66P030	PISTON SEAL (PART OF 9)	1REF
12.	7T651030	PISTON RING (PART OF 9)	2REF
13.	7T61N106	LOCK RING SEAL (PART OF 9)	1REF
14.	7T2N4022	WEAR PAD-ROD(PART OF 9)	1REF
15.	6A025020	WAFFER LOCK (PART OF 9)	1REF
16.	7Q072334	O-RING (PART OF 9)	1REF
17.	7Q10P334	BACK-UP RING (PART OF 9)	1REF
18.	7R546020	ROD SEAL (PART OF 9)	1REF
19.	7R14P020	ROD WIPER (PART OF 9)	1REF

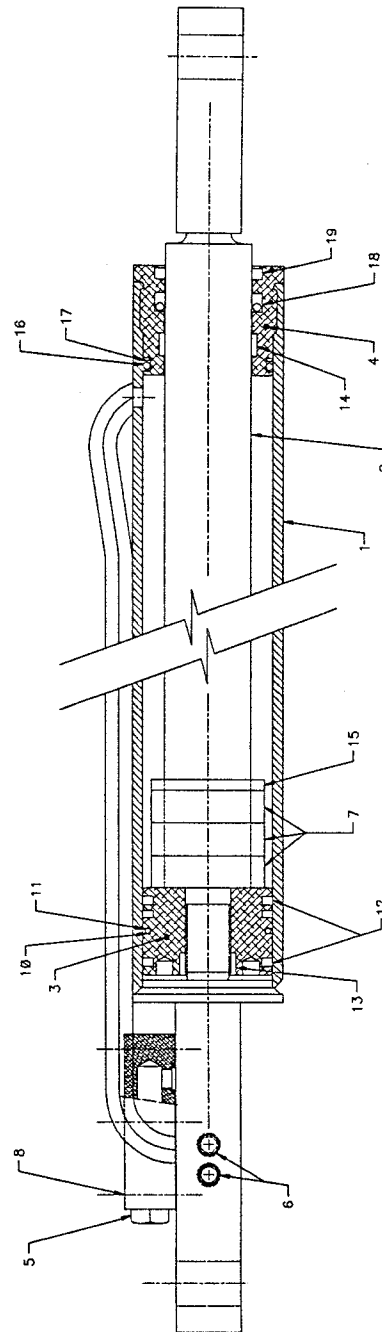
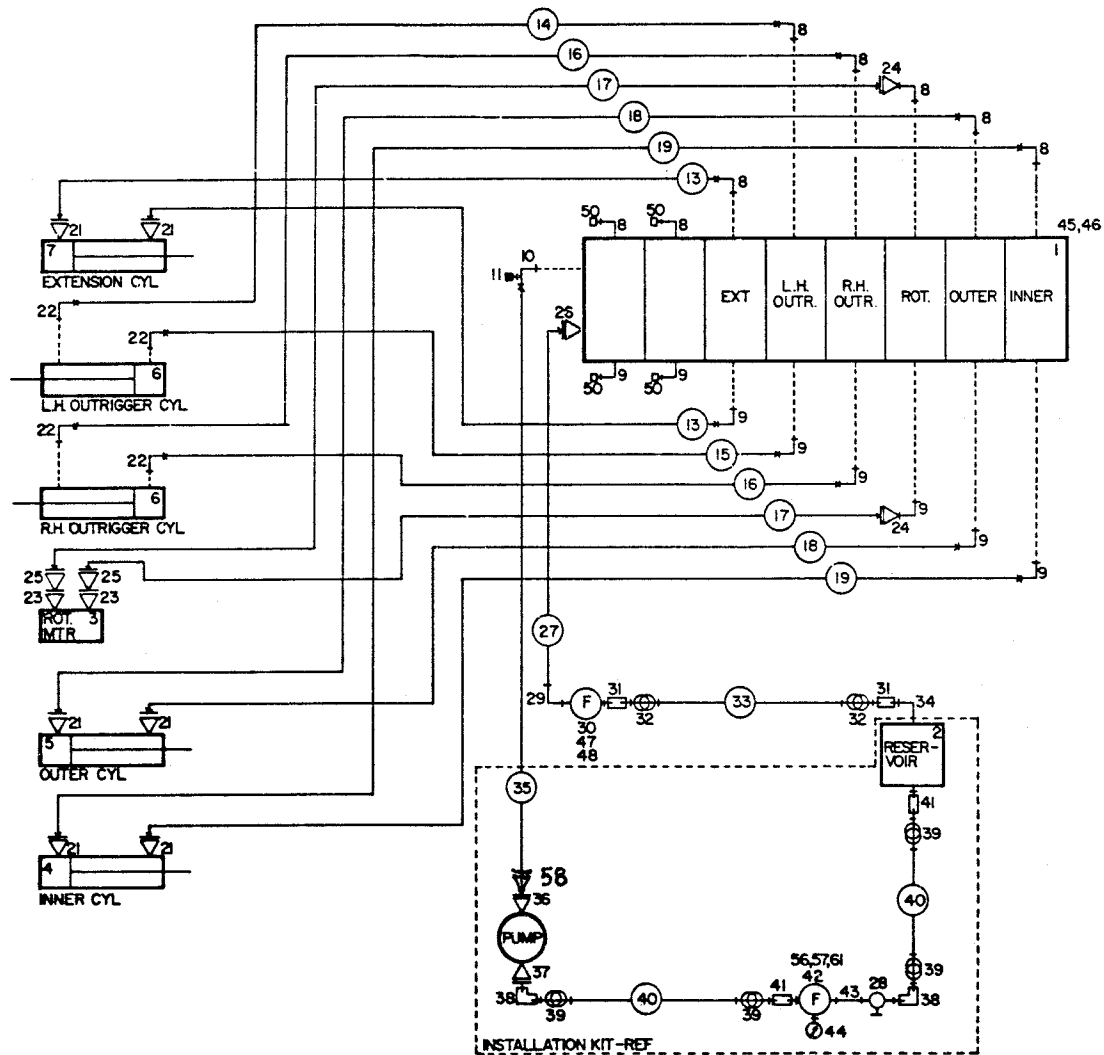


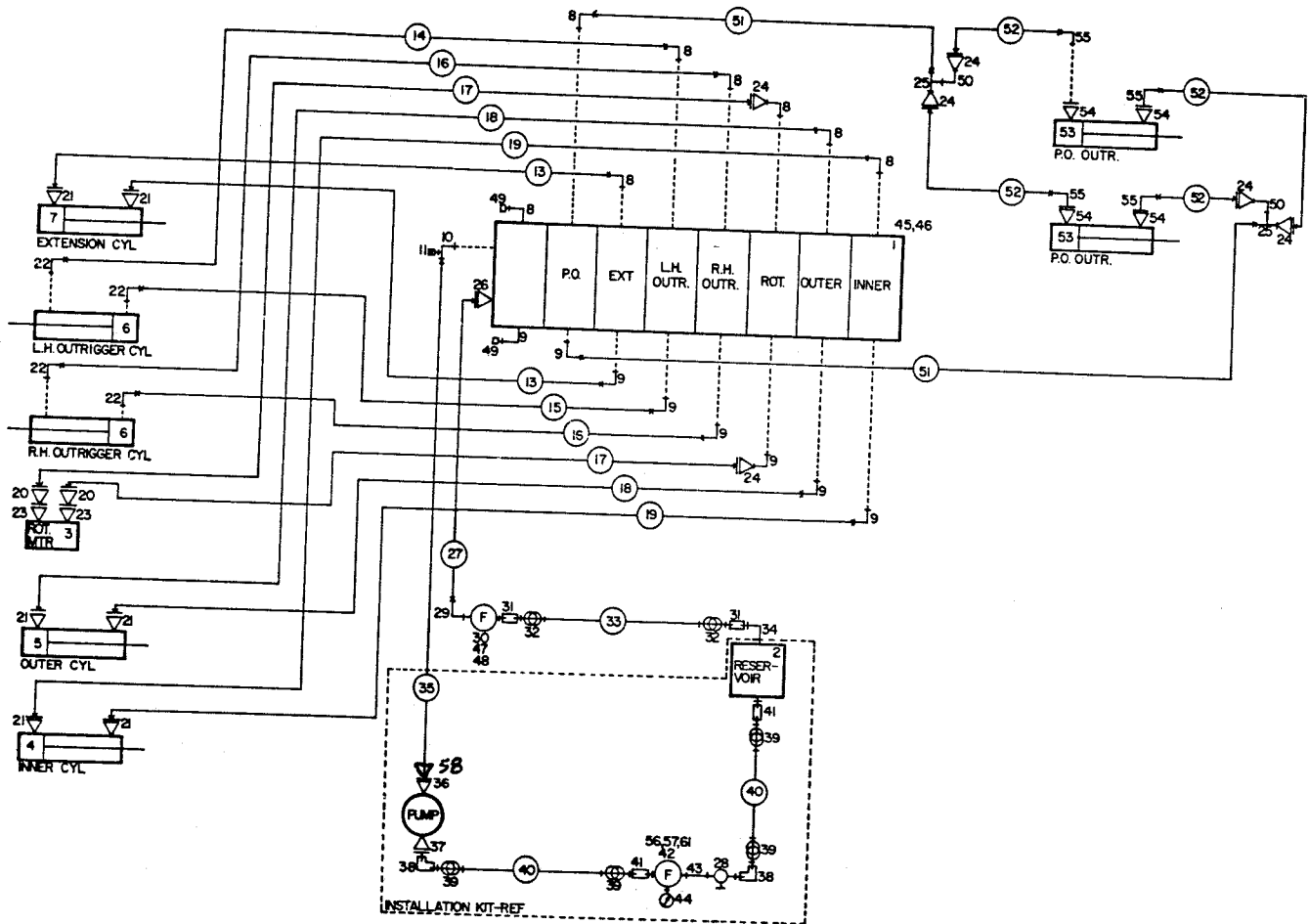
Figure D-18. EXTENSION CYLINDER (3B116513)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK 8-SECT	1REF	30.	73052000	RETURN FILTER	1
2.		RESERVOIR	1REF	31.	72053458	BARB NIPPLE 3/4MPT 3/4HOSE	2
3.		MOTOR	1REF	32.	72066000	HOSE CLAMP SAE12	2
4.		INNER CYLINDER	1REF	33.	60035823	HOSE 3/4 100R4X52	1
5.		OUTER CYLINDER	1REF	34.	72053556	STREET ELBOW 3/4NPT 90°	1
6.		POWER DOWN CYLINDER	2REF	35.	51703703	HOSE ASM 1/2X72	1*
7.		EXTENSION CYLINDER	1REF	36.	72532948	ADAPTER #16MSTR #12FSTR	1*
8.		ELBOW 3/4MSTR 3/4MJIC 90°	8REF	37.	72053753	ADAPTER 1-5/8MSTR 1-1/4FPT	1*
9.		ELBOW 3/4MSTR 3/4MJIC XLG	8REF	38.	72532346	BARB NIPPLE 1-1/4 1-1/4 90°	2*
10.	60106322	ELBOW-MODIFIED	1	39.	72066516	HOSE CLAMP 1-1/4 2-BOLT	4*
11.	73054435	PR GAUGE 5000PSI LIQ FILLED	1	40.	60035829	HOSE 1-1/4 100R4X48	2*
13.	51703726	HOSE ASM 3/8X204	2	41.	72531550	BARB NIPPLE 1-1/4MPT 1-1/4	2*
14.	51704297	HOSE ASM 3/8X78	1	42.	73052012	SUCTION FILTER	1*
15.	51704996	HOSE ASM 3/8X86	1	43.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1*
16.	51705378	HOSE ASM 3/8X118	2	44.	70048031	VACUUM GAUGE	1*
17.	51703591	HOSE ASM 1/4X20	2	45.	72060033	CAP SCR 5/16-18X3 HH GR5	3
18.	51706045	HOSE ASM 3/8X146	2	46.	72062109	NUT 5/16-18 LOCK	3
19.	51706044	HOSE ASM 3/8X58	2	47.	72060000	CAP SCR 1/4-20X1/2 HH GR5	2
21.	72532358	ADAPTER 3/4MSTR 3/4MJIC	6	48.	72063049	WASHER 1/4 LOCK	2
22.	72532779	ELBOW 9/16MSTR 3/4MJIC XLG	4	50.	72532675	CAP 3/4MJIC	4REF
23.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2	56.	72060025	CAP SCR 5/16-18X1 HH GR5	2*
24.	72532665	ADAPTER 7/16MJIC 3/4FJIC	2	57.	72063050	WASHER 5/16 LOCK	2*
25.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2	58.	72532360	ADAPTER #12MSTR #8MJIC	1*
26.	72532366	ADAPTER 1-1/16MSTR 1-1/16MJIC	1	61.	60103870	OIL FILTER BRACKET	1*
27.	51703945	HOSE ASM 3/4X17	1				
28.	73054130	GATE VALVE 1-1/4NPT	1*				
29.	72532507	ELBOW 3/4MPT 1-1/16MJIC	1				

QUANTITIES FOLLOWED BY * ARE PART OF
INSTALLATION KIT.

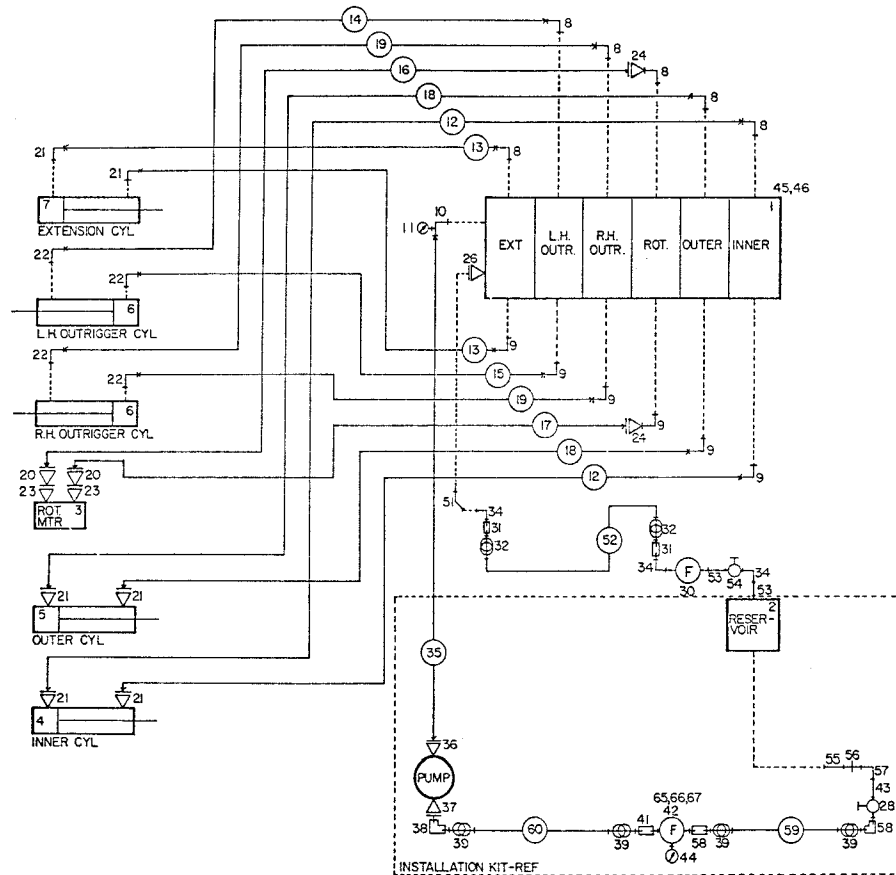
Figure D-19. HYDRAULIC KIT - 6 SECTION CENTER MOUNT (91703707)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK 8-SECT	1REF	32.	72066000	HOSE CLAMP SAE12	2
2.		RESERVOIR	1REF	33.	60035823	HOSE 3/4 100R4X52	1
3.		MOTOR	1REF	34.	72053556	STREET ELBOW 3/4NPT 90°	1
4.		INNER CYLINDER	1REF	35.	51703703	HOSE ASM 1/2X72	1*
5.		OUTER CYLINDER	1REF	36.	72532948	ADAPTER #16MSTR #12FSTR	1*
6.		POWER DOWN CYLINDER	2REF	37.	72053753	ADAPTER 1-5/8MSTR 1-1/4FPT	1*
7.		EXTENSION CYLINDER	1REF	38.	72532346	BARB NIPPLE 1-1/4 1-1/4 90°	2*
8.		ELBOW 3/4MSTR 3/4MJIC 90°	8REF	39.	72066516	HOSE CLAMP 1-1/4 2-BOLT	4*
9.		ELBOW 3/4MSTR 3/4MJIC XLG	8REF	40.	60035829	HOSE 1-1/4 100R4X48	2*
10.	60106322	ELBOW-MODIFIED	1	41.	72531550	BARB NIPPLE 1-1/4MPT 1-1/4	2*
11.	73054435	PR GAUGE 5000PSI LIQ FILLED	1	42.	73052012	SUCTION FILTER	1*
13.	51703726	HOSE ASM 3/8X204	2	43.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1*
14.	51704297	HOSE ASM 3/8X78	1	44.	70048031	VACUUM GAUGE	1*
15.	51704996	HOSE ASM 3/8X86	1	45.	72060033	CAP SCR 5/16-18X3 HH GR5	3
16.	51705378	HOSE ASM 3/8X118	2	46.	72062109	NUT 5/16-18 LOCK	3
17.	51703591	HOSE ASM 1/4X20	2	47.	72060000	CAP SCR 1/4-20X1/2 HH GR5	2
18.	51706045	HOSE ASM 3/8X146	2	48.	72063049	WASHER 1/4 LOCK	2
19.	51706044	HOSE ASM 3/8X58	2	49.	72532675	CAP 3/4JIC	2REF
20.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2	50.	72532658	ELBOW 3/4MJIC 3/4FJIC SWVL	2
21.	72532358	ADAPTER 3/4MSTR 3/4MJIC	6	51.	51704008	HOSE ASM 3/8X25	2
22.	72532779	ELBOW 9/16MSTR 3/4MJIC XLG	4	52.	51704022	HOSE ASM 1/4X13	4
23.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2	53.		POWER OUT CYLINDER	2REF
24.	72532665	ADAPTER 7/16MJIC 3/4FJIC	2	54.	72532351	ADAPTER 7/16MSTR 7/16MJIC	4
25.	72531205	TEE 3/4MJIC	2	55.	72532690	ELBOW 7/16MJIC 7/16FJIC SWVL	4
26.	72532366	ADAPTER 1-1/16MSTR 1-1/16MJIC	1	56.	72060025	CAP SCR 5/16-18X1 HH GR5	2*
27.	51703945	HOSE ASM 3/4X17	1	57.	72063050	WASHER 5/16 LOCK	2*
28.	73054130	GATE VALVE 1-1/4NPT	1*	58.	72532360	ADAPTER #12MSTR #8MJIC	REF
29.	72532507	ELBOW 3/4MPT 1-1/16MJIC	1	61.	60103870	OIL FILTER BRACKET	1*
30.	73052000	RETURN FILTER	1				
31.	72053458	BARB NIPPLE 3/4MPT 3/4HOSE	2				

QUANTITIES FOLLOWED BY * ARE PART OF
INSTALLATION KIT.

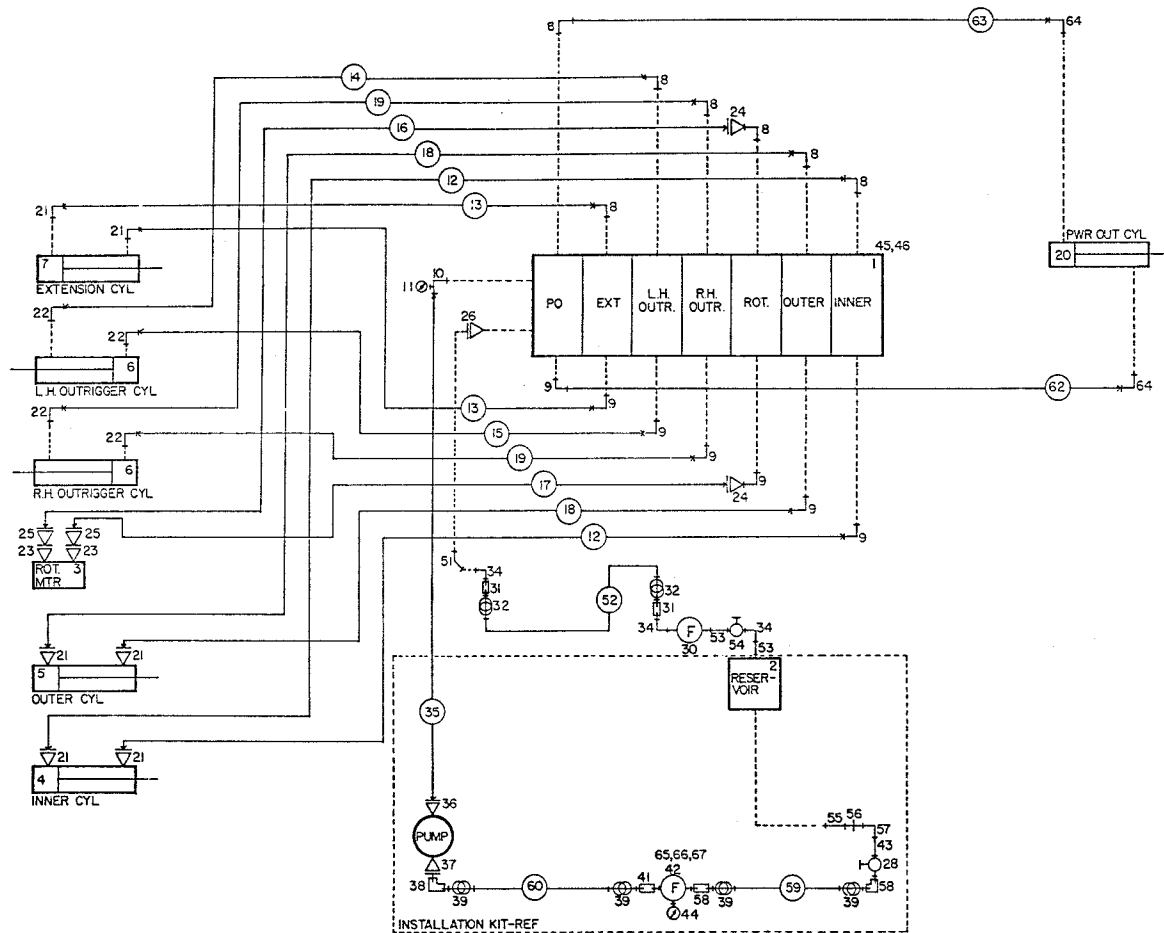
Figure D-20. HYDRAULIC KIT - 7 SECTION CENTER MOUNT W/PWR OUT(91703717)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK 8-SECT	1REF	32.	72066000	HOSE CLAMP SAE12	2
2.		RESERVOIR	1REF	34.	72053556	STREET ELBOW 3/4NPT 90°	2
3.		MOTOR	1REF	35.	51703703	HOSE ASM 1/2X72	1*
4.		INNER CYLINDER	1REF	36.	72053764	ELBOW 7/8MSTR 3/4MJIC 90°	1*
5.		OUTER CYLINDER	1REF	37.	72053753	ADAPTER 1-5/8MSTR 1-1/4FPT	1*
6.		POWER DOWN CYLINDER	2REF	38.	72532346	BARB NIPPLE 1-1/4 1-1/4 90°	2*
7.		EXTENSION CYLINDER	1REF	39.	72066516	HOSE CLAMP 1-1/4 2-BOLT	4*
8.	72053763	ELBOW 3/4MSTR 3/4MJIC 90°	6	41.	72531550	BARB NIPPLE 1-1/4MPT 1-1/4	2*
9.	72532666	ELBOW 3/4MSTR 3/4MJIC XLG	6	42.	73052012	SUCTION FILTER	1*
10.	60106322	ELBOW-MODIFIED	1	43.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1*
11.	73054435	PR GAUGE 5000PSI LIQ FILLED	1	44.	70048031	VACUUM GAUGE	1*
12.	51704030	HOSE ASM 1/2X84	2	45.	72060033	CAP SCR 5/16-18X3 HH GR5	3
13.	51703589	HOSE ASM 3/8X228	2	46.	72062109	NUT 5/16-18 LOCK	3
14.	51703604	HOSE ASM 3/8X138	1	51.	72053535	STREET ELBOW 3/4NPT 45°	1
15.	51705379	HOSE ASM 3/8X140	1	52.	60035822	HOSE 3/4 100R4 X 25	1
16.	51703733	HOSE ASM 3/8X44	1	53.	72053141	PIPE NIPPLE 3/4 X CLOSE	2
17.	51703734	HOSE ASM 1/4X48	1	54.	73054129	GATE VALVE 3/4NPT	1
18.	51705380	HOSE ASM 3/8X176	2	55.	72053185	PIPE NIPPLE 1 X CLOSE	1*
19.	51705377	HOSE ASM 3/8X48	2	56.	72053437	REDUCER COUPLING 1-1/4 X 1	1*
20.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2	57.	72531104	ELBOW 1-1/4NPT 90°	1*
21.	72532358	ADAPTER 3/4MSTR 3/4MJIC	4	58.	72531196	BARB NIPPLE 1-1/4 1-1/4 45°	2*
22.	72532779	ELBOW 9/16MSTR 3/4MJIC XLG	4	59.	60035836	HOSE 1-1/4 100R4 X 12	1*
23.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2	60.	60035828	HOSE 1-1/4 100R4 X 74	1*
24.	72532665	ADAPTER 7/16MJIC 3/4FJIC	2	65.	60103870	OIL FILTER BRACKET	1*
26.	72053747	ADAPTER #12MSTR 3/4FPT	1	66.	72060025	CAP SCR 5/16-18X1 HH GR5	2*
28.	73054130	GATE VALVE 1-1/4NPT	1*	67.	72063050	WASHER 5/16 LOCK	2*
30.	73052000	RETURN FILTER	1				
31.	72053458	BARB NIPPLE 3/4MPT 3/4HOSE	2				

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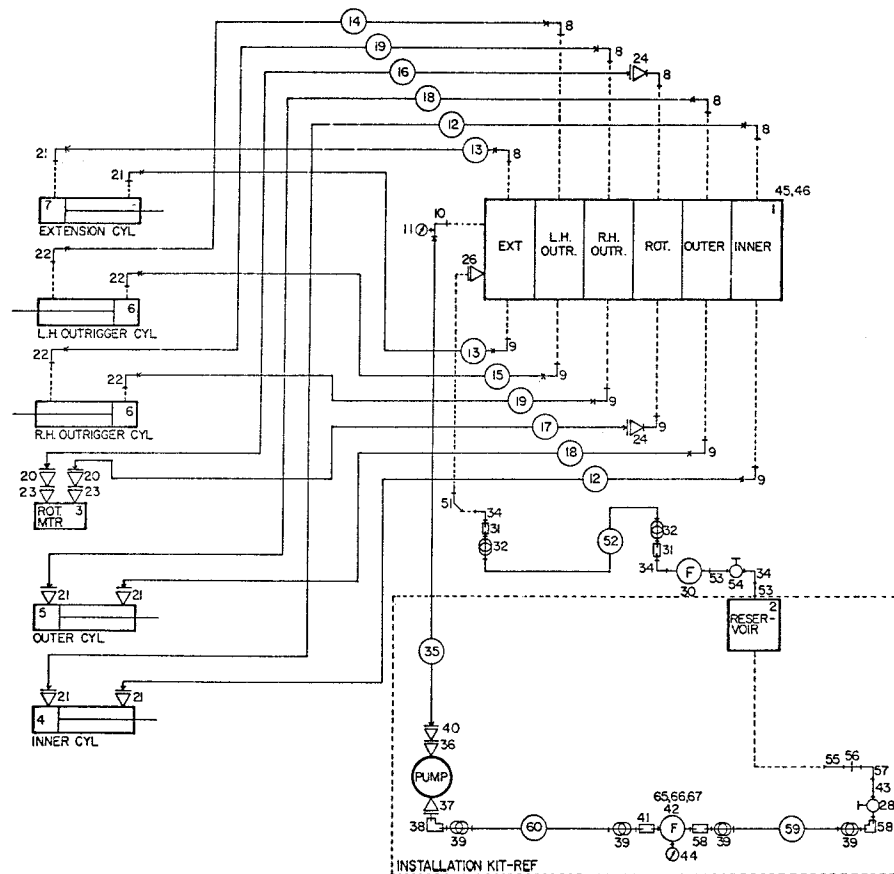
Figure D-21. HYDRAULIC KIT - 6 SECTION RH SIDE MOUNT (91705384)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK 8-SECT	1REF	35.	51703703	HOSE ASM 1/2X72	1*
2.		RESERVOIR	1REF	36.	72053764	ELBOW 7/8MSTR 3/4MJIC 90°	1*
3.		MOTOR	1REF	37.	72053753	ADAPTER 1-5/8MSTR 1-1/4FPT	1*
4.		INNER CYLINDER	1REF	38.	72532346	BARB NIPPLE 1-1/4 1-1/4 90°	2*
5.		OUTER CYLINDER	1REF	39.	72066516	HOSE CLAMP 1-1/4 2-BOLT	4*
6.		POWER DOWN CYLINDER	2REF	41.	72531550	BARB NIPPLE 1-1/4MPT 1-1/4	2*
7.		EXTENSION CYLINDER	1REF	42.	73052012	SUCTION FILTER	1*
8.	72053763	ELBOW 3/4MSTR 3/4MJIC 90°	7	43.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1*
9.	72532666	ELBOW 3/4MSTR 3/4MJIC XLG	7	44.	70048031	VACUUM GAUGE	1*
10.	60106322	ELBOW-MODIFIED	1	45.	72060033	CAP SCR 5/16-18X3 HH GR5	3
11.	73054435	PR GAUGE 5000PSI LIQ FILLED	1	46.	72062109	NUT 5/16-18 LOCK	3
12.	51704030	HOSE ASM 1/2X84	2	50.	52704030	HOSE ASM 3/8X84	2
13.	51703589	HOSE ASM 3/8X228	2	51.	72053535	STREET ELBOW 3/4NPT 45°	1
14.	51703604	HOSE ASM 3/8X138	1	52.	60035822	HOSE 3/4 100R4 X 25	1
15.	51705379	HOSE ASM 3/8X140	1	53.	72053141	PIPE NIPPLE 3/4 X CLOSE	2
16.	51703733	HOSE ASM 3/8X44	1	54.	73054129	GATE VALVE 3/4NPT	1
17.	51703734	HOSE ASM 1/4X48	1	55.	72053185	PIPE NIPPLE 1 X CLOSE	1*
18.	51705380	HOSE ASM 3/8X176	2	56.	72053437	REDUCER COUPLING 1-1/4 X 1	1*
19.	51705377	HOSE ASM 3/8X48	2	57.	72531104	ELBOW 1-1/4NPT 90°	1*
20.		POWER OUT CYLINDER	2REF	58.	72531196	BARB NIPPLE 1-1/4 1-1/4 45°	2*
21.	72532358	ADAPTER 3/4MSTR 3/4MJIC	6	59.	60035836	HOSE 1-1/4 100R4 X 12	1*
22.	72532779	ELBOW 9/16MSTR 3/4MJIC XLG	4	60.	60035828	HOSE 1-1/4 100R4 X 74	1*
23.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2	63.	51703771	HOSE ASM 1/4X30	2
24.	72532665	ADAPTER 7/16MJIC 3/4FJIC	2	64.	72053758	ELBOW 7/16MSTR 7/16MJIC 90°	2
25.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2	65.	60103870	OIL FILTER BRACKET	1*
26.	72053747	ADAPTER #12MSTR 3/4FPT	1	66.	72060025	CAP SCR 5/16-18X1 HH GR5	2*
28.	73054130	GATE VALVE 1-1/4NPT	1*	67.	72063050	WASHER 5/16 LOCK	2*
30.	73052000	RETURN FILTER	1				
31.	72053458	BARB NIPPLE 3/4MPT 3/4HOSE	2				
32.	72066000	HOSE CLAMP SAE12	2				
34.	72053556	STREET ELBOW 3/4NPT 90°	2				

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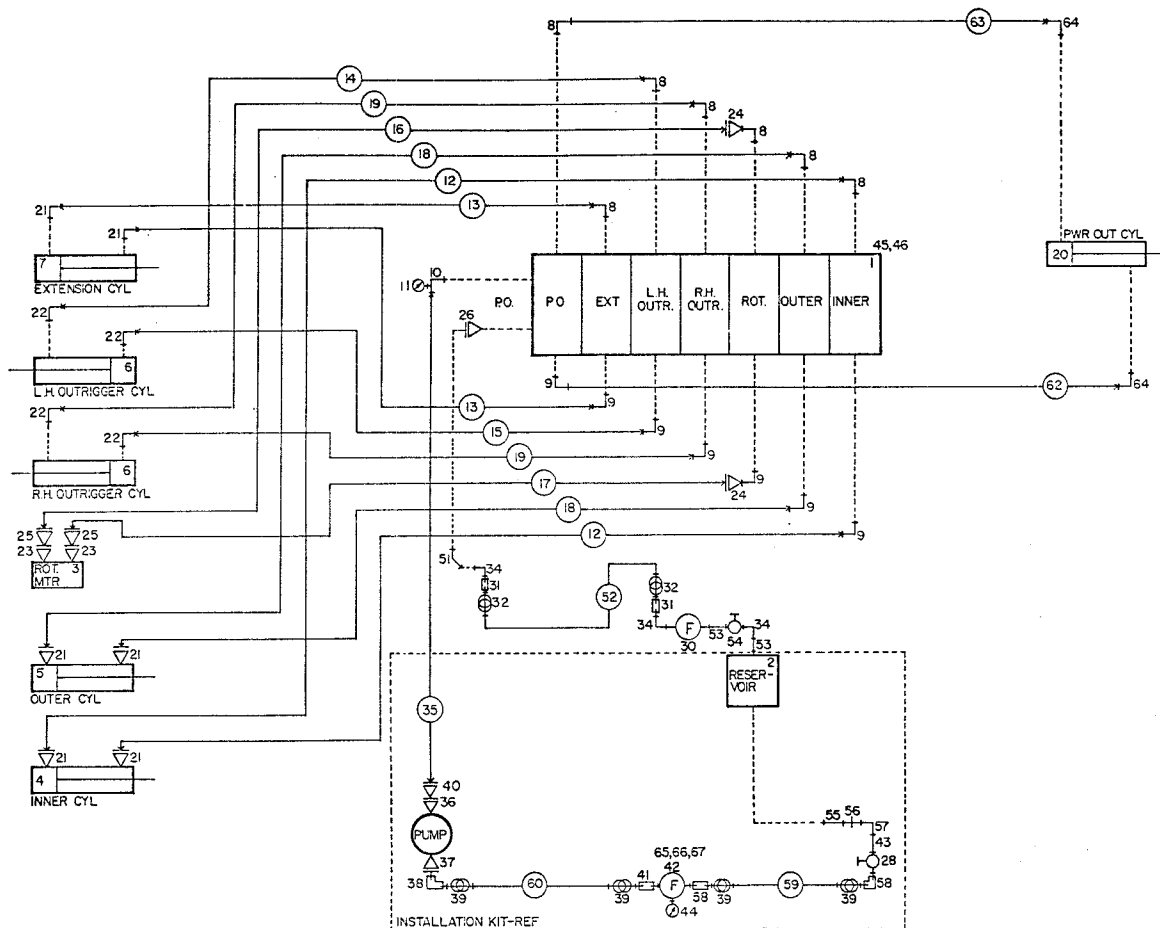
Figure D-22. HYDRAULIC KIT - 7 SECTION RH SIDE MOUNT (91705385)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK 8-SECT	1REF	34.	72053556	STREET ELBOW 3/4NPT 90°	2
2.		RESERVOIR	1REF	35.	51703703	HOSE ASM 1/2X72	1*
3.		MOTOR	1REF	36.	72532948	ADAPTER #16MSTR #12FSTR	1*
4.		INNER CYLINDER	1REF	37.	72053753	ADAPTER 1-5/8MSTR 1-1/4FPT	1*
5.		OUTER CYLINDER	1REF	38.	72532346	BARB NIPPLE 1-1/4 1-1/4 90°	2*
6.		POWER DOWN CYLINDER	2REF	39.	72066516	HOSE CLAMP 1-1/4 2-BOLT	4*
7.		EXTENSION CYLINDER	1REF	40.	72532360	ADAPTER #12MSTR #8MJIC	1*
8.	72053763	ELBOW 3/4MSTR 3/4MJIC 90°	6	41.	72531550	BARB NIPPLE 1-1/4MPT 1-1/4	2*
9.	72532666	ELBOW 3/4MSTR 3/4MJIC XLG	6	42.	73052012	SUCTION FILTER	1*
10.	60106322	ELBOW-MODIFIED	1	43.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1*
11.	73054435	PR GAUGE 5000PSI LIQ FILLED	1	44.	70048031	VACUUM GAUGE	1*
12.	51704030	HOSE ASM 1/2X84	2	45.	72060033	CAP SCR 5/16-18X3 HH GR5	3
13.	51703589	HOSE ASM 3/8X228	2	46.	72062109	NUT 5/16-18 LOCK	3
14.	51703604	HOSE ASM 3/8X138	1	47.	72053535	STREET ELBOW 3/4NPT 45°	1
15.	51705379	HOSE ASM 3/8X140	1	48.	60035822	HOSE 3/4 100R4 X 25	1
16.	51703733	HOSE ASM 3/8X44	1	49.	72053141	PIPE NIPPLE 3/4 X CLOSE	2
17.	51703734	HOSE ASM 1/4X48	1	50.	73054129	GATE VALVE 3/4NPT	1
18.	51705380	HOSE ASM 3/8X176	2	51.	72053185	PIPE NIPPLE 1 X CLOSE	1*
19.	51704997	HOSE ASM 3/8X42	2	52.	72053437	REDUCER COUPLING 1-1/4 X 1	1*
20.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2	53.	72531104	ELBOW 1-1/4NPT 90°	1*
21.	72532358	ADAPTER 3/4MSTR 3/4MJIC	6	54.	72531196	BARB NIPPLE 1-1/4 1-1/4 45°	2*
22.	72532779	ELBOW 9/16MSTR 3/4MJIC XLG	4	55.	60035836	HOSE 1-1/4 100R4 X 12	1*
23.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2	56.	60035828	HOSE 1-1/4 100R4 X 74	1*
24.	72532665	ADAPTER 7/16MJIC 3/4FJIC	2	57.	60103870	OIL FILTER BRACKET	1*
25.	72053747	ADAPTER #12MSTR 3/4FPT	1	58.	72060025	CAP SCR 5/16-18X1 HH GR5	2*
26.	73054130	GATE VALVE 1-1/4NPT	1*	59.	72063050	WASHER 5/16 LOCK	2*
27.	73052000	RETURN FILTER	1				
28.	72053458	BARB NIPPLE 3/4MPT 3/4HOSE	2				
29.	72066000	HOSE CLAMP SAE12	2				

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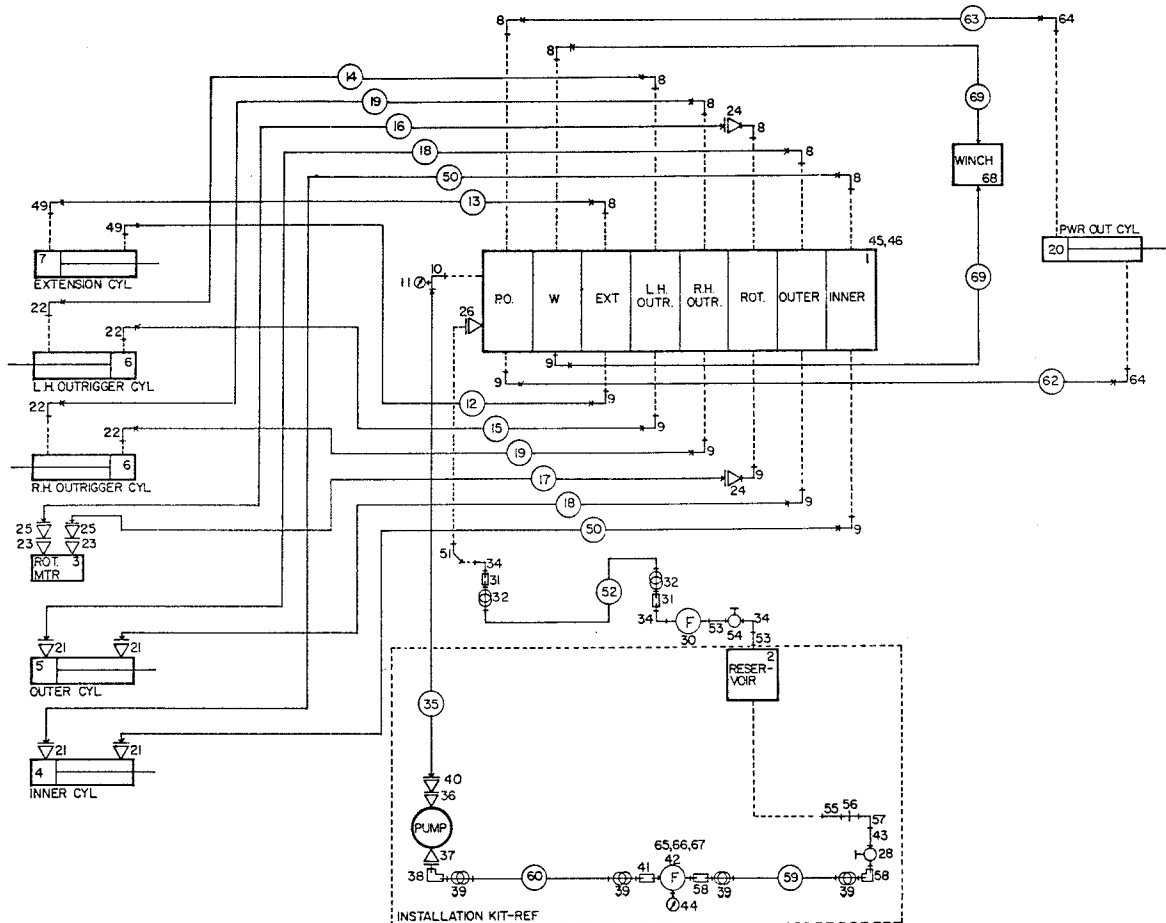
Figure D-23. HYDRAULIC KIT - 6 SECTION LH SIDE MOUNT (91705535)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK 8-SECT	1REF	35.	51703703	HOSE ASM 1/2X72	1*
2.		RESERVOIR	1REF	36.	72532948	ADAPTER #16MSTR #12FSTR	1*
3.		MOTOR	1REF	37.	72053753	ADAPTER 1-5/8MSTR 1-1/4FPT	1*
4.		INNER CYLINDER	1REF	38.	72532346	BARB NIPPLE 1-1/4 1-1/4 90°	2*
5.		OUTER CYLINDER	1REF	39.	72066516	HOSE CLAMP 1-1/4 2-BOLT	4*
6.		POWER DOWN CYLINDER	2REF	40.	72532360	ADAPTER #12MSTR #8MJIC	1*
7.		EXTENSION CYLINDER	1REF	41.	72531550	BARB NIPPLE 1-1/4MPT 1-1/4	2*
8.	72053763	ELBOW 3/4MSTR 3/4MJIC 90°	7	42.	73052012	SUCTION FILTER	1*
9.	72532666	ELBOW 3/4MSTR 3/4MJIC XLG	7	43.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1*
10.	60106322	ELBOW-MODIFIED	1	44.	70048031	VACUUM GAUGE	1*
11.	73054435	PR GAUGE 5000PSI LIQ FILLED	1	45.	72060033	CAP SCR 5/16-18X3 HH GR5	3
12.	51704030	HOSE ASM 1/2X84	2	46.	72062109	NUT 5/16-18 LOCK	3
13.	51703589	HOSE ASM 3/8X228	2	50.	52704030	HOSE ASM 3/8X84	2
14.	51703604	HOSE ASM 3/8X138	1	51.	72053535	STREET ELBOW 3/4NPT 45°	1
15.	51705379	HOSE ASM 3/8X140	1	52.	60035822	HOSE 3/4 100R4 X 25	1
16.	51703733	HOSE ASM 3/8X44	1	53.	72053141	PIPE NIPPLE 3/4 X CLOSE	2
17.	51703734	HOSE ASM 1/4X48	1	54.	73054129	GATE VALVE 3/4NPT	1
18.	51705380	HOSE ASM 3/8X176	2	55.	72053185	PIPE NIPPLE 1 X CLOSE	1*
19.	51704997	HOSE ASM 3/8X42	2	56.	72053437	REDUCER COUPLING 1-1/4 X 1	1*
20.		POWER OUT CYLINDER	2REF	57.	72531104	ELBOW 1-1/4NPT 90°	1*
21.	72532358	ADAPTER 3/4MSTR 3/4MJIC	6	58.	72531196	BARB NIPPLE 1-1/4 1-1/4 45°	2*
22.	72532779	ELBOW 9/16MSTR 3/4MJIC XLG	4	59.	60035836	HOSE 1-1/4 100R4 X 12	1*
23.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2	60.	60035828	HOSE 1-1/4 100R4 X 74	1*
24.	72532665	ADAPTER 7/16MJIC 3/4FJIC	2	62.	51703595	HOSE ASM 1/4X17	1
25.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2	63.	51705375	HOSE ASM 1/4X14	1
26.	72053747	ADAPTER #12MSTR 3/4FPT	1	64.	72053758	ELBOW 7/16MSTR 7/16MJIC 90°	2
28.	73054130	GATE VALVE 1-1/4NPT	1*	65.	60103870	OIL FILTER BRACKET	1*
30.	73052000	RETURN FILTER	1	66.	72060025	CAP SCR 5/16-18X1 HH GR5	2*
31.	72053458	BARB NIPPLE 3/4MPT 3/4HOSE	2	67.	72063050	WASHER 5/16 LOCK	2*
32.	72066000	HOSE CLAMP SAE12	2				
34.	72053556	STREET ELBOW 3/4NPT 90°	2				

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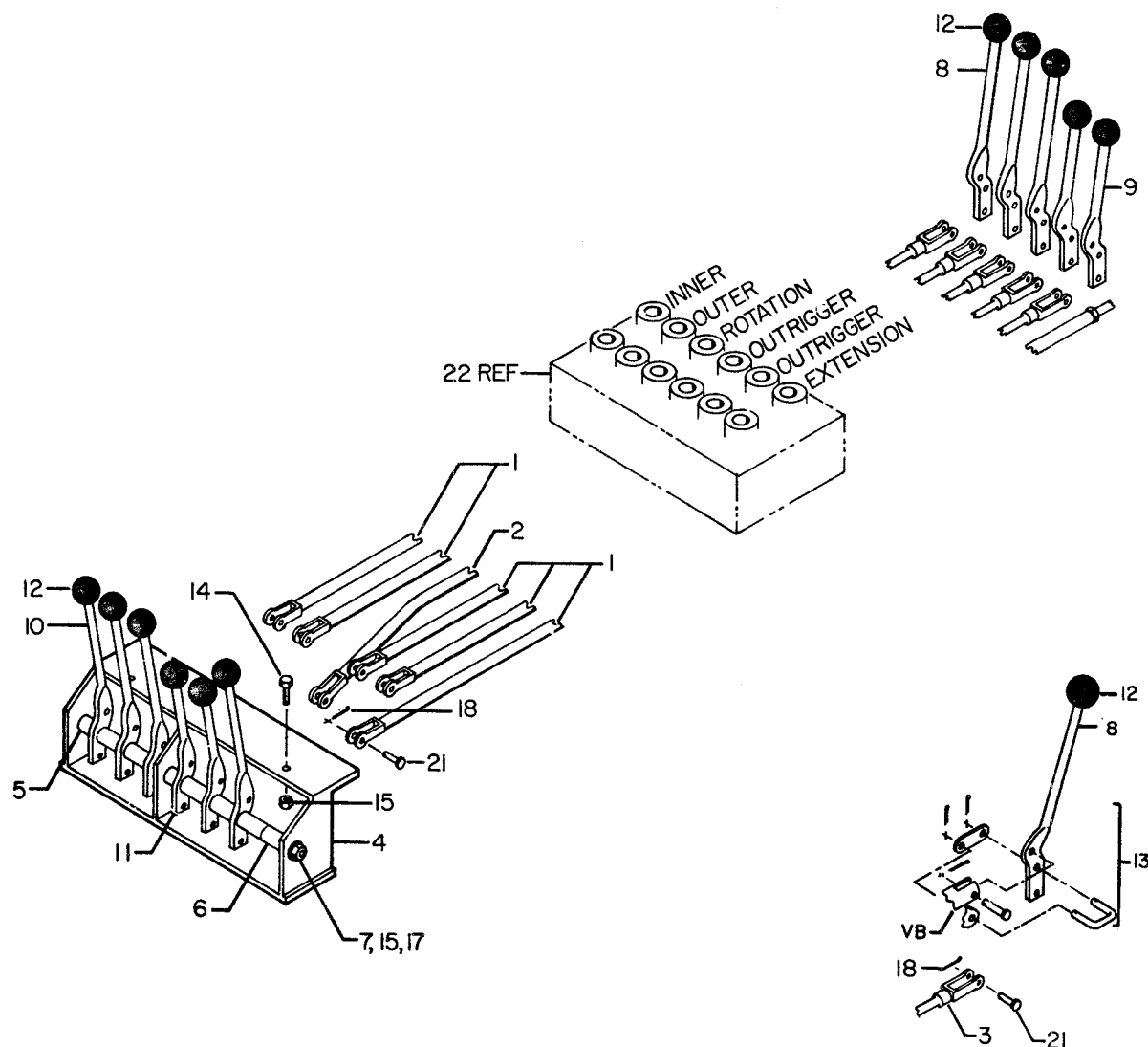
Figure D-24. HYDRAULIC KIT - 7 SECTION LH SIDE MOUNT W/PWR OUT (91705536)



ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK 8-SECT	1REF	37.	72053753	ADAPTER 1-5/8MSTR 1-1/4FPT	1*
2.		RESERVOIR	1REF	38.	72532346	BARB NIPPLE 1-1/4 1-1/4 90°	2*
3.		MOTOR	1REF	39.	72066516	HOSE CLAMP 1-1/4 2-BOLT	4*
4.		INNER CYLINDER	1REF	40.	72532360	ADAPTER #12MSTR #8MJIC	REF
5.		OUTER CYLINDER	1REF	41.	72531550	BARB NIPPLE 1-1/4MPT 1-1/4	2*
6.		POWER DOWN CYLINDER	2REF	42.	73052012	SUCTION FILTER	1*
7.		EXTENSION CYLINDER	1REF	43.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1*
8.	72053763	ELBOW 3/4MSTR 3/4MJIC 90°	8	44.	70048031	VACUUM GAUGE	1*
9.	72532666	ELBOW 3/4MSTR 3/4MJIC XLG	8	45.	72060033	CAP SCR 5/16-18X3 HH GR5	3
10.	60106322	ELBOW-MODIFIED	1	46.	72062109	NUT 5/16-18 LOCK	3
11.	73054435	PR GAUGE 5000PSI LIQ FILLED	1	49.	72532740	ELBOW 90° SWVL	2
12.	51705382	HOSE ASM 1/2X243	1	50.	52704030	HOSE ASM 3/8X84	2
13.	51705381	HOSE ASM 3/8X243	1	51.	72053535	STREET ELBOW 3/4NPT 45°	1
14.	51703604	HOSE ASM 3/8X138	1	52.	60035822	HOSE 3/4 100R4 X 25	1
15.	51705379	HOSE ASM 3/8X140	1	53.	72053141	PIPE NIPPLE 3/4 X CLOSE	2
16.	51703733	HOSE ASM 3/8X44	1	54.	73054129	GATE VALVE 3/4NPT	1
17.	51703734	HOSE ASM 1/4X48	1	55.	72053185	PIPE NIPPLE 1 X CLOSE	1*
18.	51705380	HOSE ASM 3/8X176	2	56.	72053437	REDUCER COUPLING 1-1/4 X 1	1*
19.	51704997	HOSE ASM 3/8X42	2	57.	72531104	ELBOW 1-1/4NPT 90°	1*
20.		POWER OUT CYLINDER	2REF	58.	72531196	BARB NIPPLE 1-1/4 1-1/4 45°	2*
21.	72532358	ADAPTER 3/4MSTR 3/4MJIC	4	59.	60035836	HOSE 1-1/4 100R4 X 12	1*
22.	72532779	ELBOW 9/16MSTR 3/4MJIC XLG	4	60.	60035828	HOSE 1-1/4 100R4 X 74	1*
23.	72532722	ADAPTER 7/8MSTR 9/16FSTR	2	62.	51703595	HOSE ASM 1/4X17	1
24.	72532665	ADAPTER 7/16MJIC 3/4FJIC	2	63.	51705375	HOSE ASM 1/4X14	1
25.	72532353	ADAPTER 9/16MSTR 7/16MJIC	2	64.	72053758	ELBOW 7/16MSTR 7/16MJIC 90°	2
26.	72053747	ADAPTER #12MSTR 3/4FPT	1	65.	60103870	OIL FILTER BRACKET	1*
28.	73054130	GATE VALVE 1-1/4NPT	1*	66.	72060025	CAP SCR 5/16-18X1 HH GR5	2*
30.	73052000	RETURN FILTER	1	67.	72063050	WASHER 5/16 LOCK	2*
31.	72053458	BARB NIPPLE 3/4MPT 3/4HOSE	2	68.		WINCH	REF
32.	72066000	HOSE CLAMP SAE12	2	69.	51703608	HOSE ASM 3/8X270	2
34.	72053556	STREET ELBOW 3/4NPT 90°	2				
35.	51703703	HOSE ASM 1/2X72	1*				
36.	72532948	ADAPTER #16MSTR #12FSTR	1*				

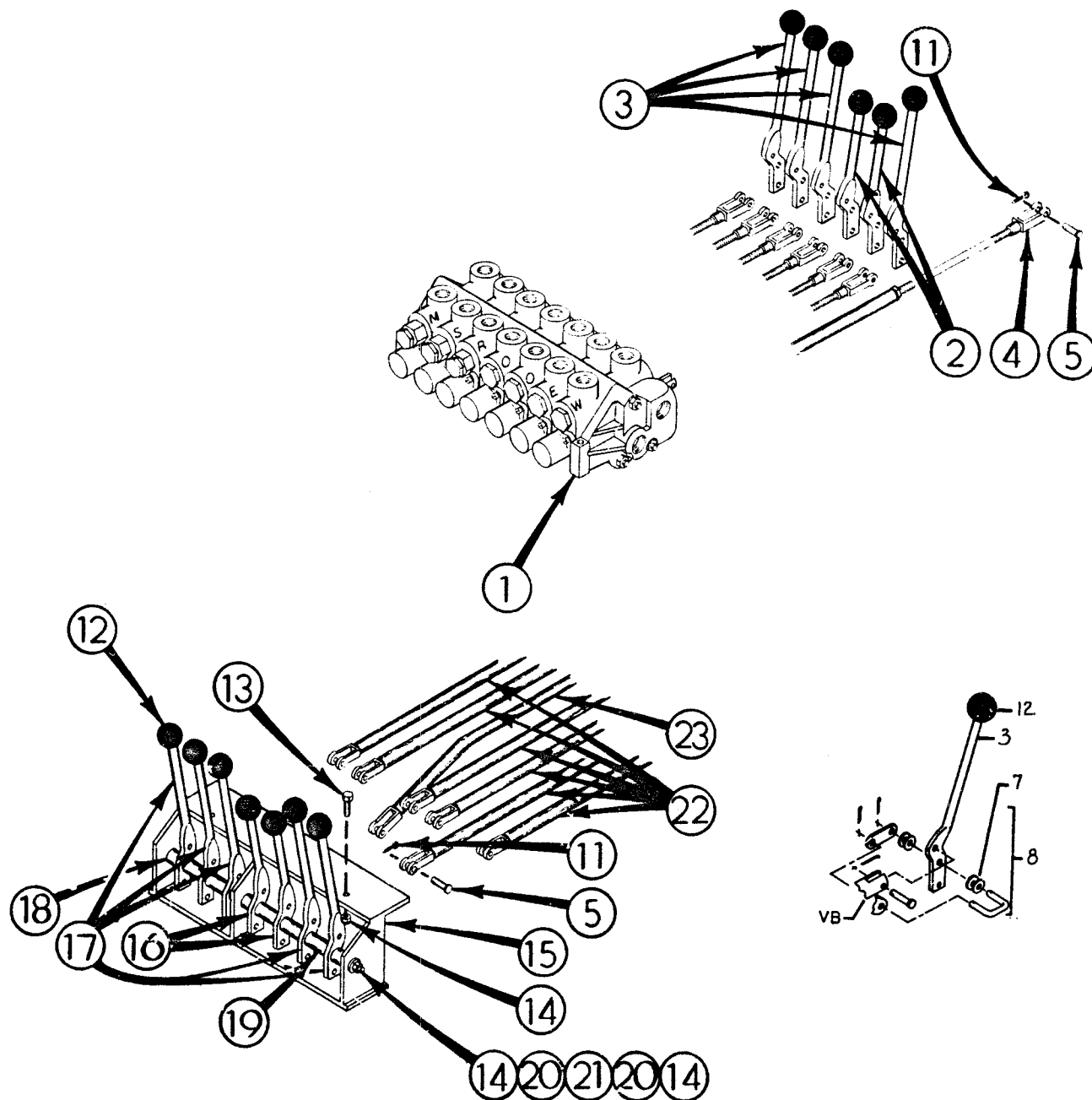
QUANTITIES FOLLOWED BY * ARE PART OF
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Figure D-25. HYDRAULIC KIT - 8 SECTION W/PWR OUT & WINCH (91705539)



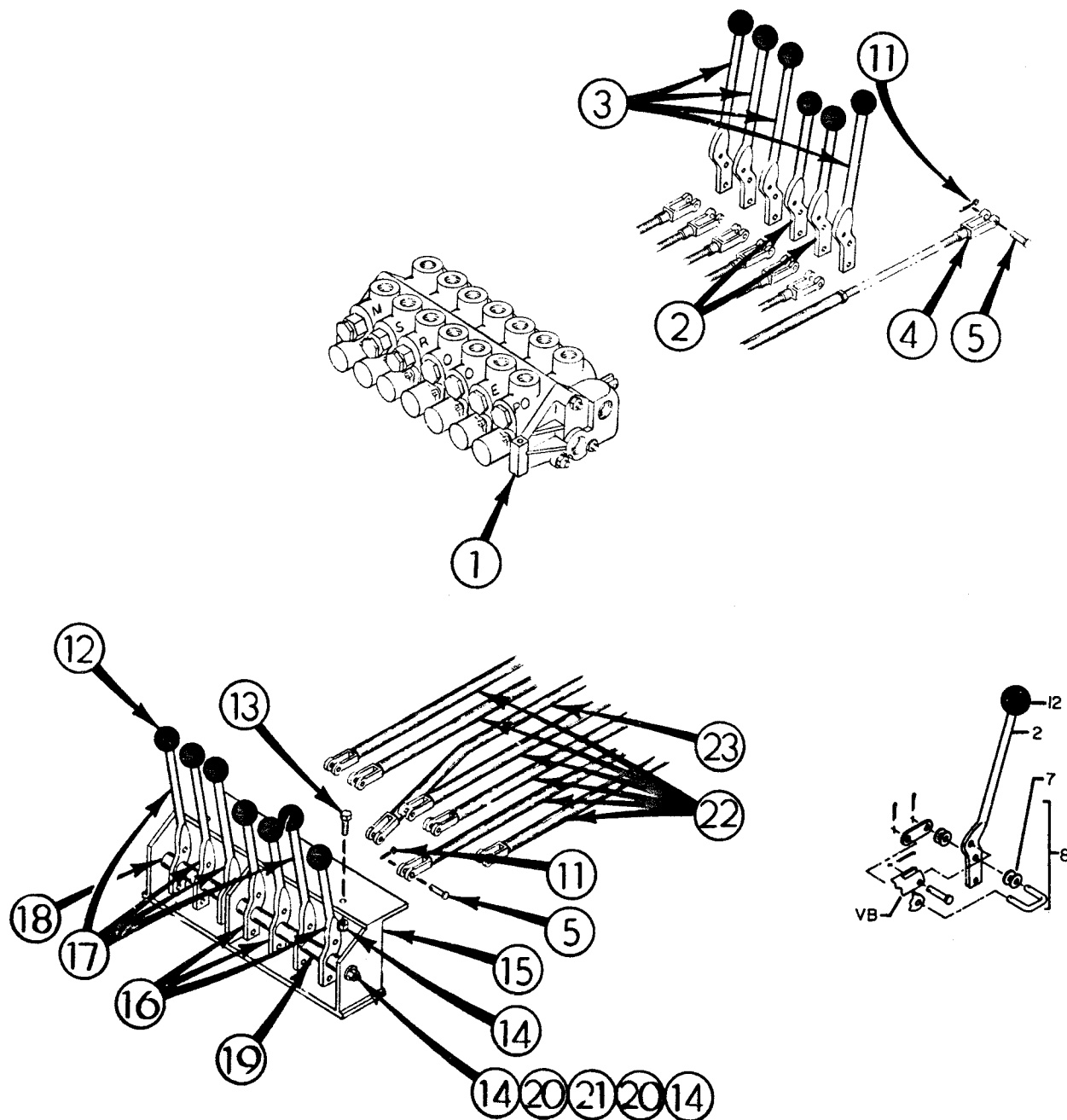
ITEM	PART NO.	DESCRIPTION	QTY
1.	52702016	CTRL ROD - FEMALE	5
2.	52702017	CTRL ROD - FEMALE BENT	1
3.	52702018	CTRL ROD - MALE	6
4.	52702715	DUMMY VALVEBANK	1
5.	60030045	SPACER 5/8	3
6.	60030046	SPACER 1-1/2	6
7.	60105501	ROD DUMMY VB	1
8.	70141982	CTRL HANDLE - VB LONG	4
9.	70141983	CTRL HANDLE - VB SHORT	2
10.	70141984	CTRL HANDLE - CS LONG	4
11.	70141985	CTRL HANDLE - CS SHORT	2
12.	71039096	KNOB	12
13.	94731839	LINK & PIN KIT	6
14.	72060025	CAP SCR 5/16-18 X 1 HH GR5	2
15.	72062109	NUT 5/16-18 LOCK	4
17.	72063002	WASHER 5/16 WRT	2
18.	72066168	COTTER PIN	12
21.	72066338	CLEVIS PIN	12
22.		VALVEBANK	REF

Figure D-26. CONTROL KIT - MANUAL 6- FUNTION(90702850)



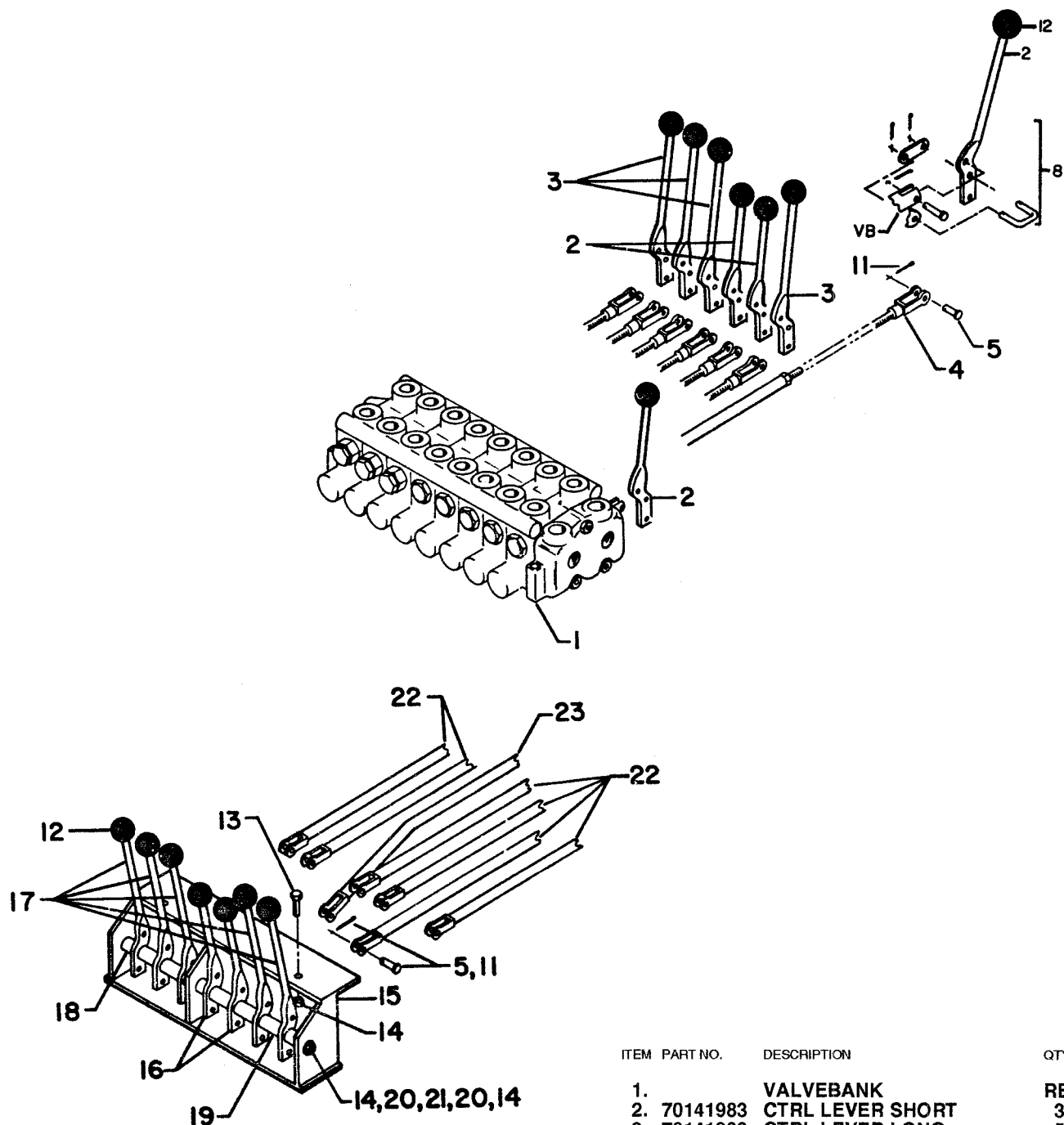
ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK	REF
2.	70141983	CTRL LEVER SHORT	2
3.	70141982	CTRL LEVER LONG	5
4.	52702018	CTRL LINK - M	7
5.	72066338	CLEVIS PIN	14
7.	72063001	WASHER 1/4 WRT	28
8.	94731839	LINK & PIN KIT	7
11.	72066168	COTTER PIN	14
12.	71039096	KNOB	14
13.	72060025	CAP SCR 5/16-18X1 HH GR5	2
14.	72062109	NUT 5/16-18 LOCK	4
15.	52702715	DUMMY VALVEBANK	1
16.	70141985	CTRL LEVER SHORT	2
17.	70141984	CTRL LEVER LONG	5
18.	60030045	SPACER SHORT	5
19.	60030046	SPACER LONG	5
20.	72063002	WASHER 5/16 WRT	2
21.	60105501	ROD	1
22.	52702016	CTRL LINK F	6
23.	52702017	CTRL LINK F BENT	1

Figure D-27. CONTROL KIT - MANUAL 7- FUNTION W/WINCH (90702827)



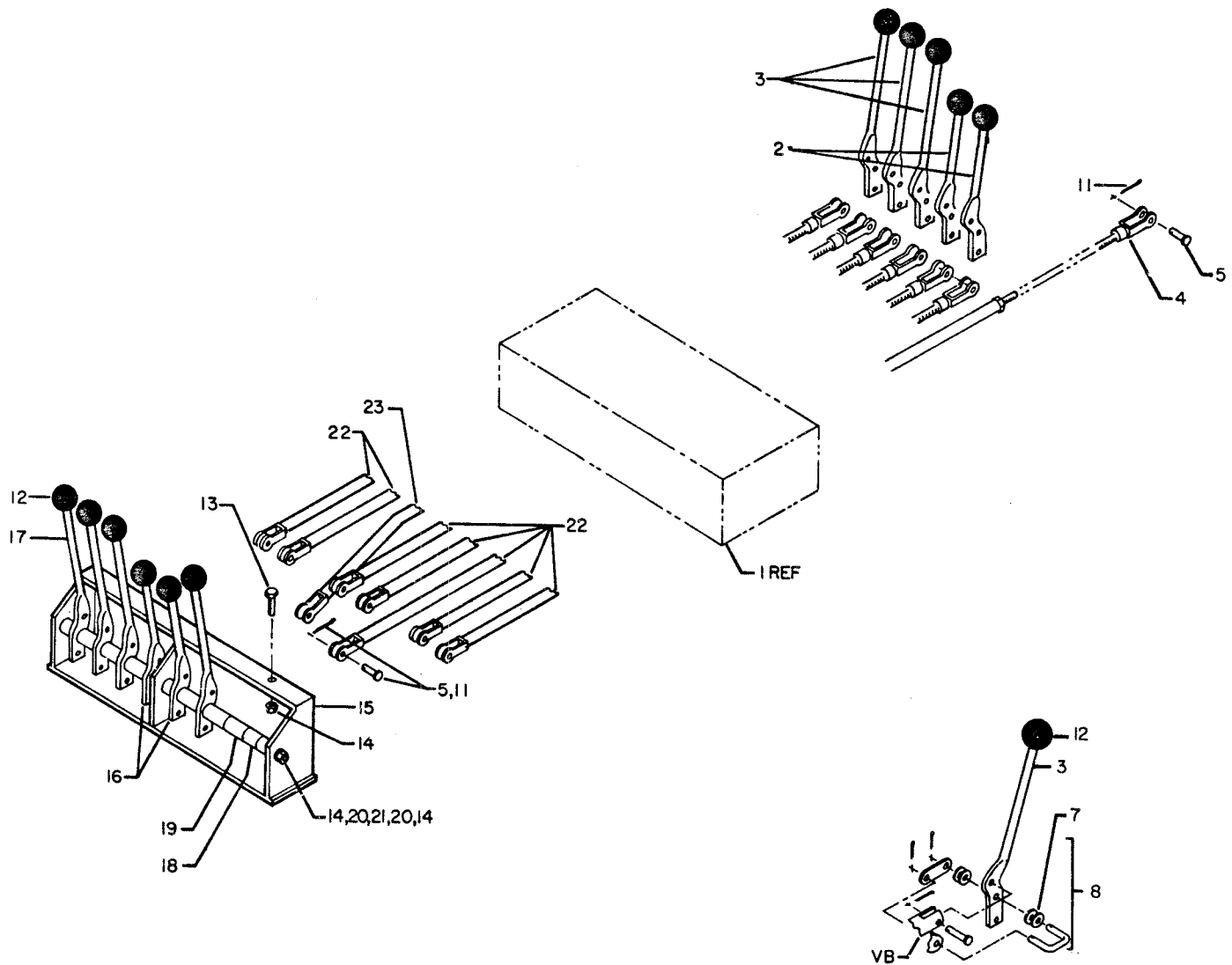
ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK	REF
2.	70141983	CTRL LEVER SHORT	3
3.	70141982	CTRL LEVER LONG	4
4.	52702018	CTRL LINK - M	7
5.	72066338	CLEVIS PIN	14
7.	72063001	WASHER 1/4 WRT	28
8.	94731839	LINK & PIN KIT	7
11.	72066168	COTTER PIN	14
12.	71039096	KNOB	14
13.	72060025	CAP SCR 5/16-18X1 HH GR5	2
14.	72062109	NUT 5/16-18 LOCK	4
15.	52702715	DUMMY VALVEBANK	1
16.	70141985	CTRL LEVER SHORT	3
17.	70141984	CTRL LEVER LONG	4
18.	60030045	SPACER SHORT	5
19.	60030046	SPACER LONG	5
20.	72063002	WASHER 5/16 WRT	2
21.	60105501	ROD	1
22.	52702016	CTRL LINK F	6
23.	52702017	CTRL LINK F BENT	1

Figure D-28. CONTROL KIT - MANUAL 7- FUNTION W/PWR OUT (90702828)



ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK	REF
2.	70141983	CTRL LEVER SHORT	3
3.	70141982	CTRL LEVER LONG	5
4.	52702018	CTRL LINK - M	7
5.	72066338	CLEVIS PIN	14
8.	94731839	LINK & PIN KIT	8
11.	72066168	COTTER PIN	14
12.	71039096	KNOB	15
13.	72060025	CAP SCR 5/16-18X1 HH GR5	2
14.	72062109	NUT 5/16-18 LOCK	4
15.	52702715	DUMMY VALVEBANK	1
16.	70141985	CTRL LEVER SHORT	2
17.	70141984	CTRL LEVER LONG	5
18.	60030045	SPACER SHORT	5
19.	60030046	SPACER LONG	5
20.	72063002	WASHER 5/16 WRT	2
21.	60105501	ROD	1
22.	52702016	CTRL LINK F	6
23.	52702017	CTRL LINK F BENT	1

Figure D-29. CONTROL KIT - MANUAL 8- FUNTION W/PWR OUT & WINCH (90702829)



SEE FOLLOWING PAGE FOR DRAWING

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.		VALVEBANK	REF	21.	60105503	ROD	1
2.	70141983	CTRL LEVER SHORT	2	22.	52702016	CTRL LINK F	5
3.	70141982	CTRL LEVER LONG	4	23.	52702017	CTRL LINK F BENT	1
4.	52702018	CTRL LINK - M	6	26.	51703243	CABLE ASM 50"	1
5.	72066338	CLEVIS PIN	12	27.	51705055	HANDLE AND CABLE ASM	1
7.	72063001	WASHER 1/4 WRT	24	28.	60107719	BOX	1
8.	94731839	LINK & PIN KIT	6	29.	51704784	CABLE ASM #1WIRE X 6	1
10.	72066335	COTTER PIN	8REF	30.	77041237	SOLENOID 12V 150A	1
11.	72066168	COTTER PIN	12	32.	51705902	CABLE ASM 16GA 4WIRE X 180"	1REF
12.	71039096	KNOB	12	33.	77041006	TOGGLE SWITCH DT	4REF
13.	72060025	CAP SCR 5/16-18X1 HH GR5	2	34.	77041004	TOGGLE SWITCH ST	2REF
14.	72062109	NUT 5/16-18 LOCK	4	35.	77041023	PUSH BUTTON SWITCH	1REF
15.	52702777	DUMMY VALVEBANK	1	36.	72060000	CAP SCR 1/4-20X1/2 HH GR5	4
16.	70141985	CTRL LEVER SHORT	2	37.	72062104	NUT 1/4-20 LOCK	4
17.	70141984	CTRL LEVER LONG	4	38.	77041251	RELAY	2
18.	60030045	SPACER SHORT	5				
19.	60030046	SPACER LONG	6				
20.	72063002	WASHER 5/16 WRT	2				

Figure D-30. CONTROL KIT -6 REMOTE/2 MANUAL (90704721)

SEE PREVIOUS PAGE FOR PARTS LIST

PREVIOUS WIRE COLOR CODE ITT(K-1 METHOD 1)			NEW WIRE COLOR CODE ITT(K-2 METHOD 1)		
TRACER	BASE	COND #	TRACER	BASE	
	BLK	1		BLK	
	WHT	2		RED	
	RED	3		BLU	
	GRN	4		ORN	
	ORN	5		YEL	
	BLU	6		BRN	
BLK	WHT	7	BLK	RED	
BLK	RED	8	BLK	BLU	
BLK	GRN	9	BLK	ORN	
BLK	ORN	10	BLK	YEL	
BLK	BLU	11	BLK	BRN	
WHT	BLK	12	RED	BLK	
WHT	RED	13	RED	BLU	
WHT	GRN	14	RED	ORN	
WHT	BLU	15	RED	YEL	
RED	BLK	16	RED	BRN	
RED	WHT	17	BLU	BLK	
RED	ORN	18	BLU	RED	
RED	BLU	19	BLU	ORN	
GRN	RED	20	BLU	YEL	
GRN	ORN	21	BLU	BRN	
WHT & RED	BLK	22	ORN	BLK	
BLK & RED	WHT	23	ORN	RED	
WHT & BLK	RED	24	ORN	BLU	

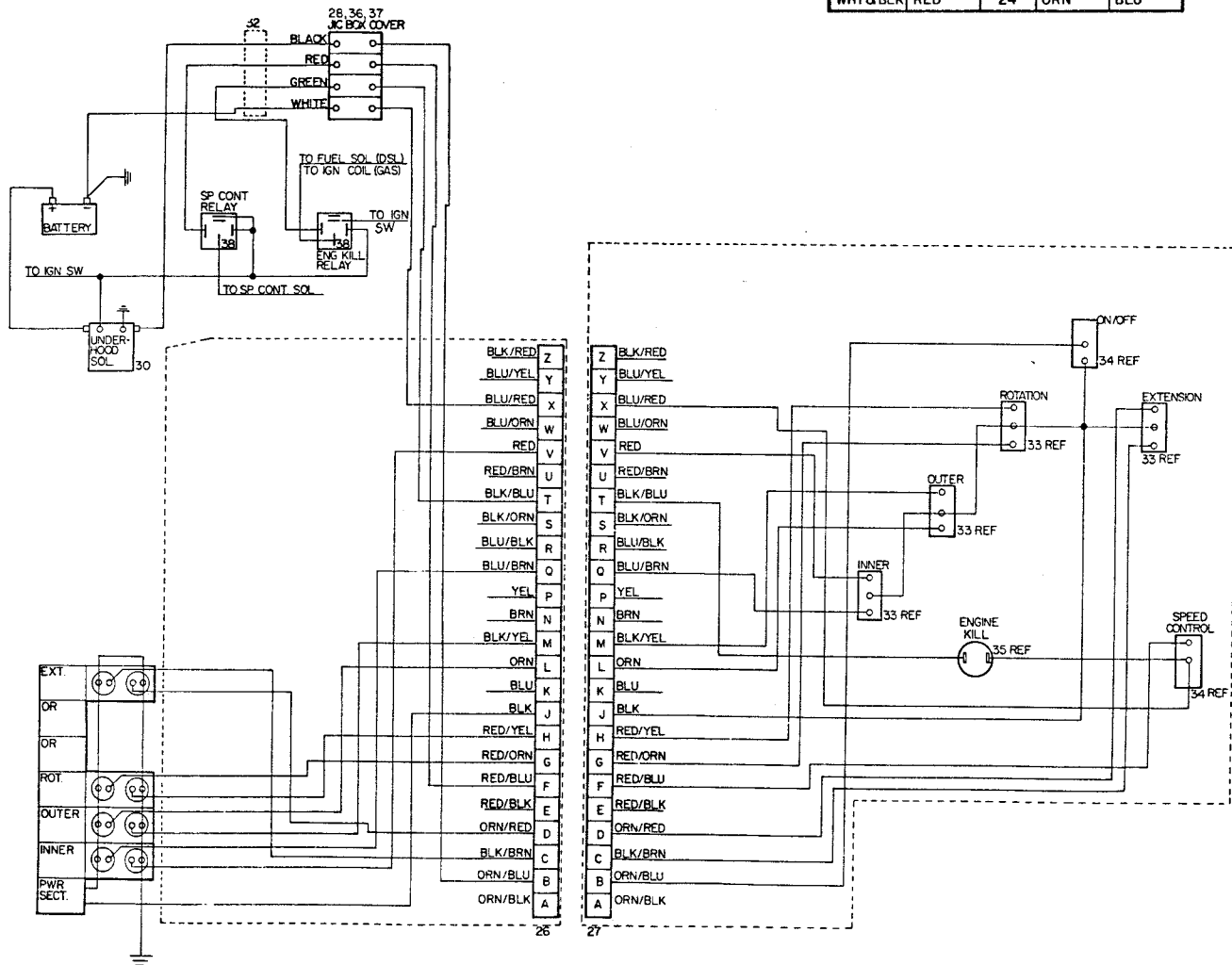
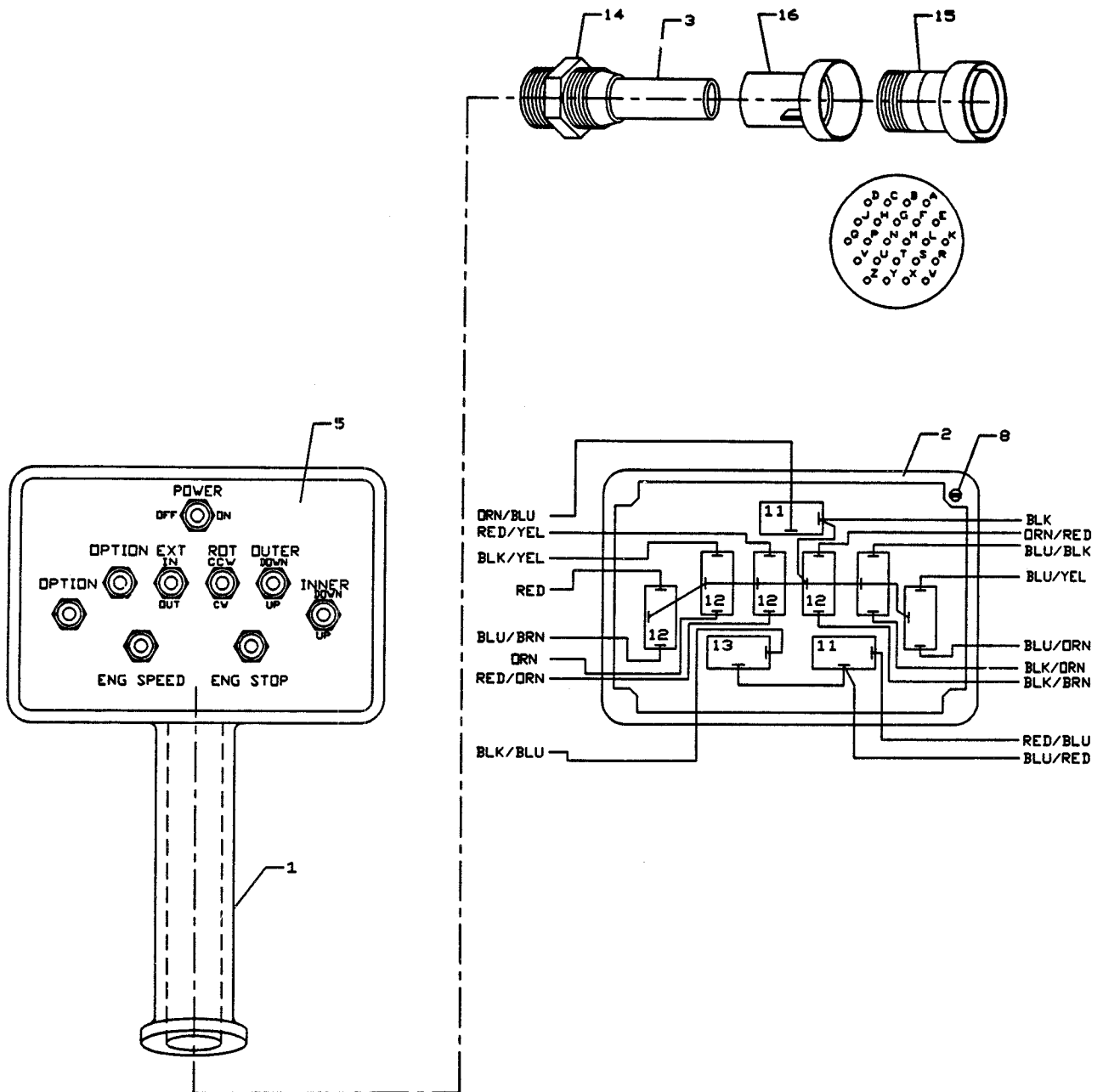


Figure D-30A. CONTROL KIT -6 REMOTE/2 MANUAL (90704721)



ITEM	PART NUMBER	DESCRIPTION	QTY
1.	60111140	HANDLE	1
2.	70034306	BACK	1
3.	89044100	CABLE 18GA/24WIRE X 420	1
4.	89044214	WIRE 18GA GRN	2.33'
5.	70393262	DECAL - REMOTE CONTROL	1
6.	70392862	DECAL - DANGER ELECTROCUTION	1
7.	70029119	PLACARD - SERIAL NUMBER	1
8.	72061009	SHT MTL SCREW #6 X 3/4 PH	4
9.	72066340	POP RIVET 1/8	2
10.	77040186	TERMINAL 1/4 FSLPON 16-14GA	24
11.	77041345	TOGGLE SWITCH - SGL THRW	2
12.	77041346	TOGGLE SWITCH - DBL THRW	6
13.	77041347	TOGGLE SWITCH - MOMENTARY	1
14.	77044196	STRAIN RELIEF 3/4	1
15.	77044146	CONNECTOR 24-PIN	1
16.	77044147	CABLE CLAMP	1

Figure D-31. REMOTE CONTROL HANDLE ASSEMBLY (51705055)

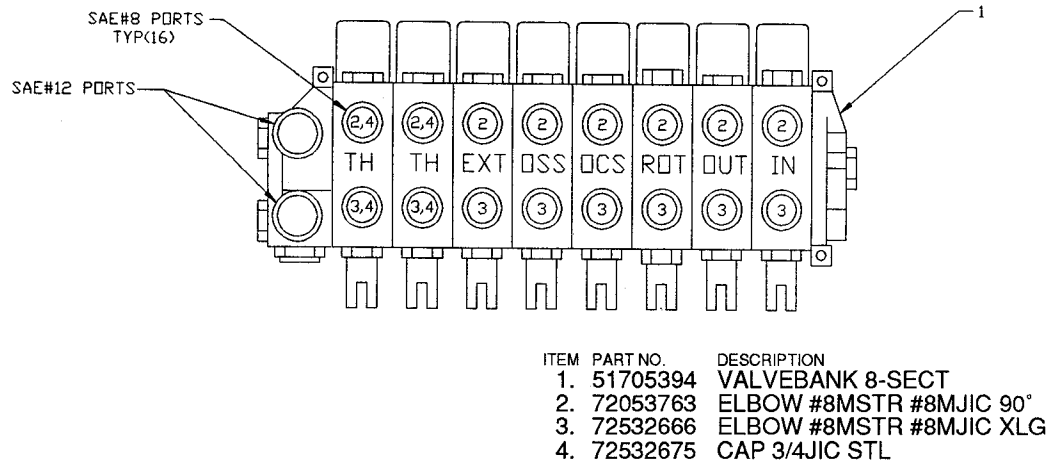


Figure D-32. VALVEBANK ASSEMBLY 8-SECTION (51705505)

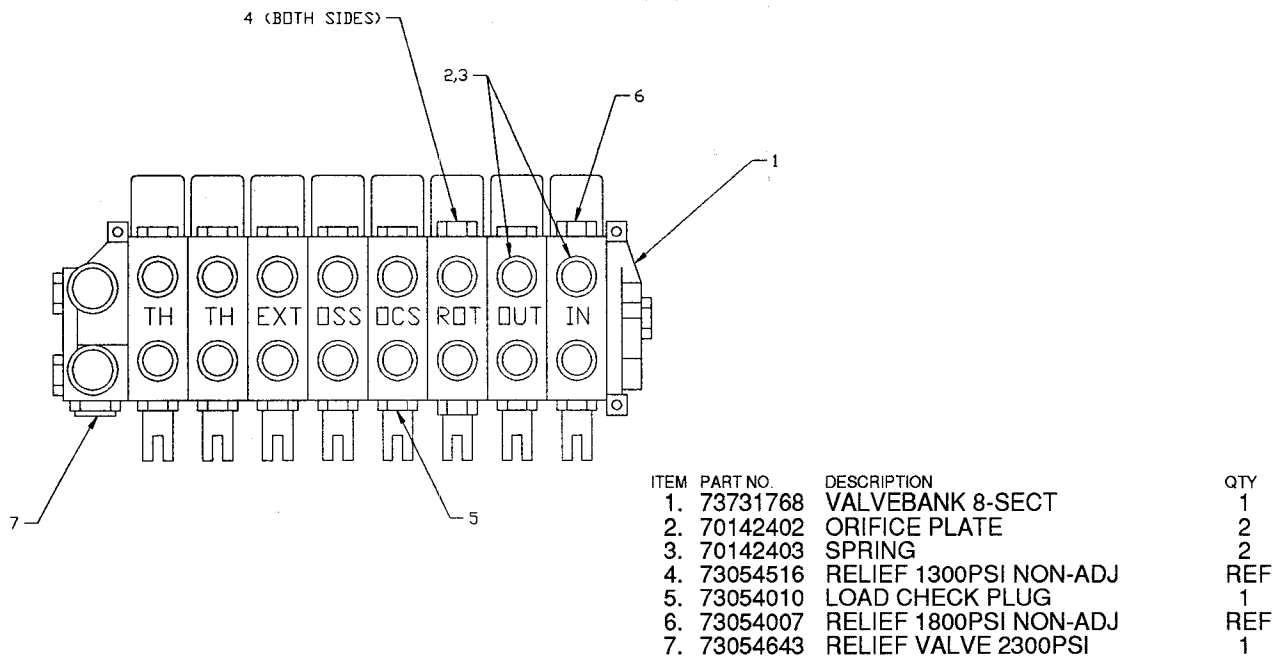


Figure D-32A. VALVEBANK (51705394)

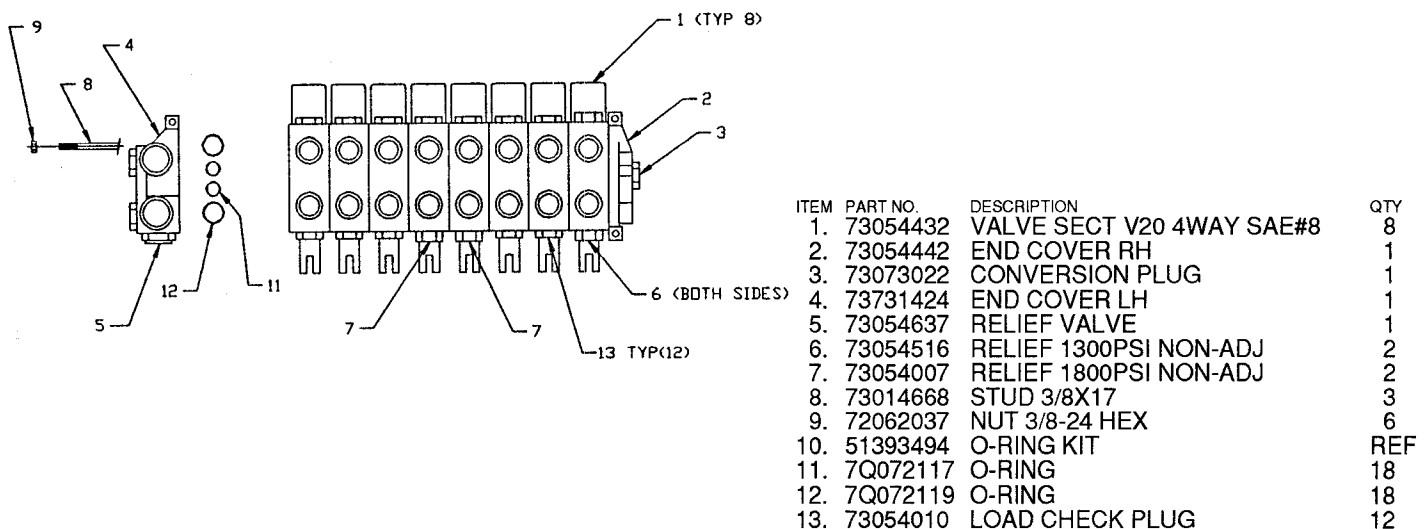
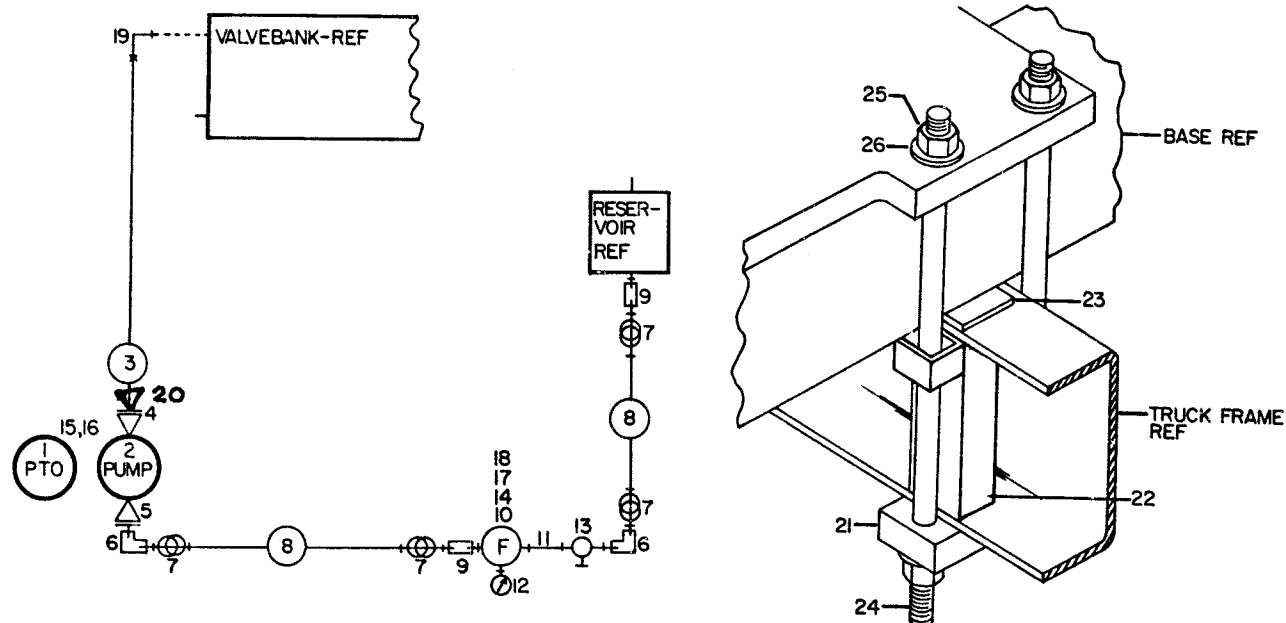
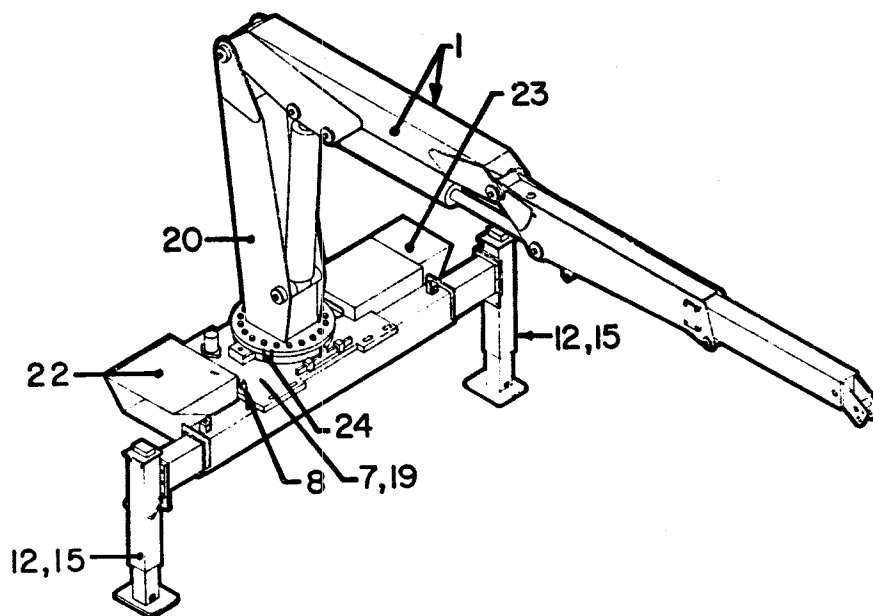


Figure D-32B. VALVEBANK (73731768)



ITEM	PART NO.	DESCRIPTION	QTY
1.		PTO	REF
2.		PUMP	REF
3.	51703703	HOSE ASM 1/2X72	1
4.	72532948	ADAPTER #16MSTR #12FSTR	1
5.	72053753	ADAPTER 1-5/8MSTR 1-1/4FPT	1
6.	72532346	BARB NIPPLE 1-1/4 1-1/4 90°	2
7.	72066516	HOSE CLAMP 1-1/4 2-BOLT	4
8.	60035829	HOSE 1-1/4 100R4 X 48	2
9.	72531550	BARB NIPPLE 1-1/4MPT 1-1/4	2
10.	73052012	SUCTION FILTER	1
11.	72053211	PIPE NIPPLE 1-1/4NPT X CLOSE	1
12.	70048031	VACUUM GAUGE	1
13.	73054130	GATE VALVE 1-1/4NPT	1
14.	60103870	OIL FILTER BRACKET	1
15.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	4
16.	72063053	WASHER 1/2 LOCK	4
17.	72060025	CAP SCR 5/16-18X1 HH GR5	2
18.	72063050	WASHER 5/16 LOCK	2
19.	60106322	ELBOW-MODIFIED	REF
20.	72532360	ADAPTER #12MSTR #8MJIC	1
21.	60010354	CLAMP PLATE	4
22.	52706660	SUPPORT	4
23.	60103563	FRAME FLANGE SPACER	2
24.	71014053	TIE DOWN STUD 1-8X26	8
25.	72062141	NUT 1-8 LOCK	16
26.	72063066	WASHER 1" HI-STR	16

Figure D-33. INSTALLATION KIT - MANUAL CONTROLS CENTER MOUNT (93703205)

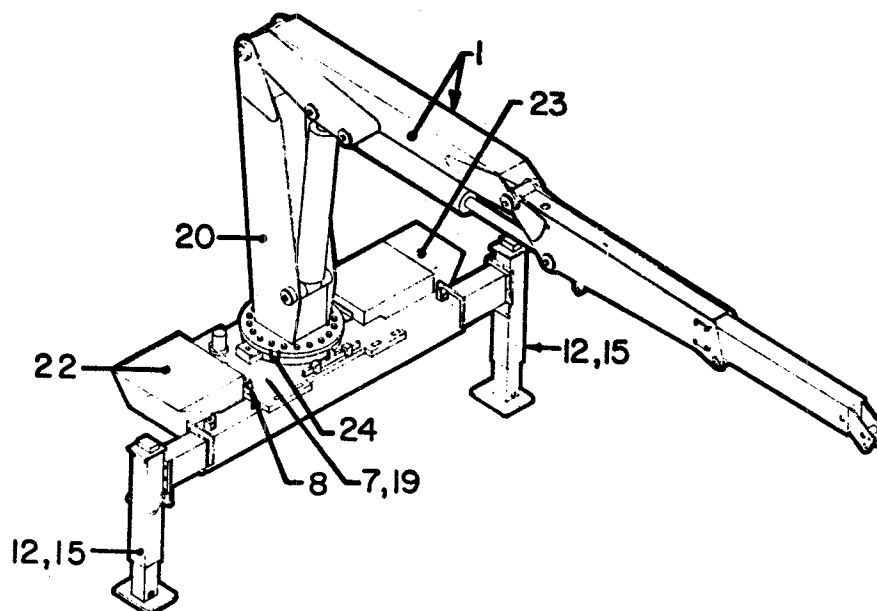


NOTE: CENTER MOUNT CRANE SHOWN.

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

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	70029251	PLACARD - IMT DIAMOND	2	14.	70392866	DECAL-DANGER OPER COND	2
2.	70391583	DECAL-SETUP/STOW INST.	2	15.	70392867	DECAL-DANGER OUTR MOVING	2
3.	70391612	DECAL-GREASE WEEKLY LEFT	6	16.	70392888	DECAL-DANGER OPER RESTRICT	2
4.	70391613	DECAL-GREASE WEEKLY RIGHT	6	17.	70392890	DECAL-DANGER STOW/UNFOLD	2
5.	70392108	DECAL-SUCTION LINE	1	18.	70392891	DECAL-DANGER DRIVELINE	2
6.	70392109	DECAL-RETURN LINE	1	19.	70392982	DECAL-CONTACT IMT	1
7.	70392213	DECAL-CAUTION WASH/WAX	1	20.	71029163	CAPACITY PLACARD	2
8.	70392524	DECAL-ROTATE CRANE/GREASE	1	21.	71039134	DECAL-CAUTION OIL LEVEL	2
9.	70392813	DECAL-DANGER ELECTROC'N	2	22.	71039168	DECAL-CTRL W/WINCH CS	1
10.	70392814	DECAL-DANGER OPERATOR	2	23.	71039169	DECAL-CTRL W/WINCH SS	1
11.	70392815	DECAL-DANGER OPERATION	2	24.	71392365	DECAL-ALIGN CRANE	1
12.	70392864	DECAL-DANGER OUTR STD CLR	2				
13.	70392865	DECAL-DANGER ELECTROC'N	4				

Figure D-34. DECAL KIT - MANUAL CONTROLS (95708849)



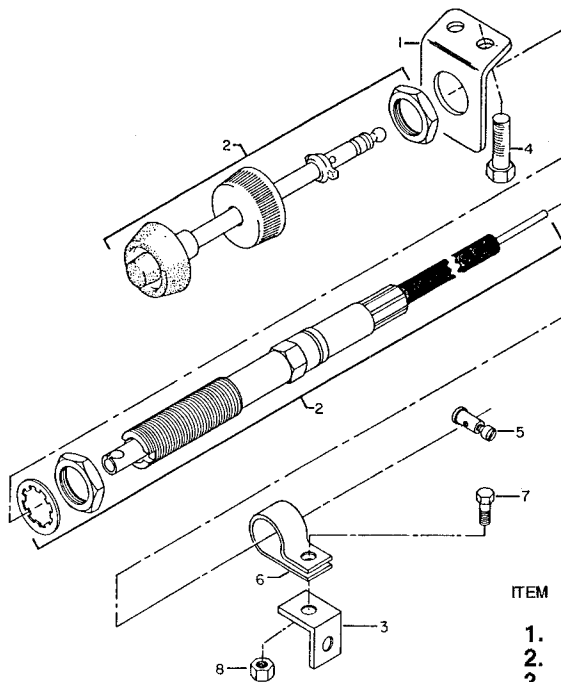
NOTE: CENTER MOUNT CRANE SHOWN.

DECAL PLACEMENT	
ITEM NO.	LOCATION
2,9,10,11,14, 16,17,18,21,25	AT OR NEAR THE NORMAL OPERATING STATIONS.
12,15	ONE ON EACH OUTRIGGER
13	ONE ON EACH SIDE OF CARRIER VEHICLE
8	AT THE TURNTABLE GREASE ZERK
3,4	AT ALL GREASE ZERKS
6	ON THE RESERVOIR, AT THE RETURN LINE
5	ON THE RESERVOIR, AT THE SUCTION LINE

ITEM	PART NO.	DESCRIPTION	QTY
1.	70029251	PLACARD - IMT DIAMOND	2
2.	70391583	DECAL-SETUP/STOW INST.	2
3.	70391612	DECAL-GREASE WEEKLY LEFT	6
4.	70391613	DECAL-GREASE WEEKLY RIGHT	6
5.	70392108	DECAL-SUCTION LINE	1
6.	70392109	DECAL-RETURN LINE	1
7.	70392213	DECAL-CAUTION WASH/WAX	1
8.	70392524	DECAL-ROTATE CRANE/GREASE	1
9.	70392813	DECAL-DANGER ELECTROC'N	2
10.	70392814	DECAL-DANGER OPERATOR	2
11.	70392815	DECAL-DANGER OPERATION	2
12.	70392864	DECAL-DANGER OUTR STD CLR	2
13.	70392865	DECAL-DANGER ELECTROC'N	4

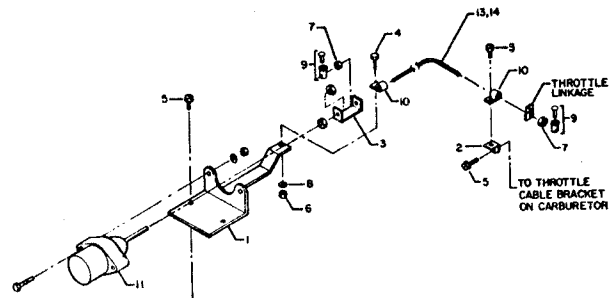
ITEM	PART NO.	DESCRIPTION	QTY
14.	70392866	DECAL-DANGER OPER COND	2
15.	70392867	DECAL-DANGER OUTR MOVING	2
16.	70392888	DECAL-DANGER OPER RESTRICT	2
17.	70392890	DECAL-DANGER STOW/UNFOLD	2
18.	70392891	DECAL-DANGER DRIVELINE	2
19.	70392982	DECAL-CONTACT IMT	1
20.	71029163	CAPACITY PLACARD	2
21.	71039134	DECAL-CAUTION OIL LEVEL	2
22.	71039168	DECAL-CTRL W/WINCH CS	1
23.	71039169	DECAL-CTRL W/WINCH SS	1
24.	71392365	DECAL-ALIGN CRANE	1
25.	70392889	DECAL-DANGER RC ELECTRO'C	2

Figure D-35. DECAL KIT - REMOTE CONTROLS (95708850)



ITEM	PART NO.	DESCRIPTION	QTY
1.	60105400	MOUNTING BRACKET	1
2.	70058067	THROTTLE CONTROL 18'	1
3.	60106760	LINKAGE BRACKET	1
4.	72060962	SCR 5/16-18 X 1 HH SLFTP	2
5.	72066377	CABLE STOP	1
6.	72066523	CLAMP	1
7.	72060636	MACH SCR #10-24 X 3/4 RDHD	2
8.	72062106	NUT #10-24 LOCK	2

Figure D-36. OPTION - MANUAL THROTTLE CONTROL KIT (31702746)



ITEM	PART NO.	DESCRIPTION	QTY
1.	52705080	BRACKET	1
2.	60106760	LINKAGE BRACKET	1
3.	60108086	PLUNGER BRACKET	1
4.	72060002	CAP SCR 1/4-20 X 3/4 HH GR5	5
5.	72061004	SCREW #14 X 3/4 SHT METAL	5
6.	72062000	NUT 1/4-20 HEX	5
7.	72062093	NUT #8-32 HEX	2
8.	72063049	WASHER 1/4 LOCK	5
9.	72066377	CABLE STOP	2
10.	72066523	CLAMP	2
11.	73054654	SOLENOID VALVE 12V	1
13.	89058892	CASING	3.5'
14.	89058934	CABLE	4'
15.	77041251	RELAY	1
16.	89044233	WIRE - 14GGA BRN	20'
17.	77040186	TERMINAL	4
18.	60103535	SWITCH BRACKET (NOT SHOWN)	2
19.	77041345	TOGGLE SWITCH (NOT SHOWN)	2

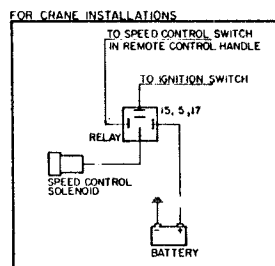


Figure D-37. OPTION - SYNCHRO START THROTTLE CONTROL (31705270)

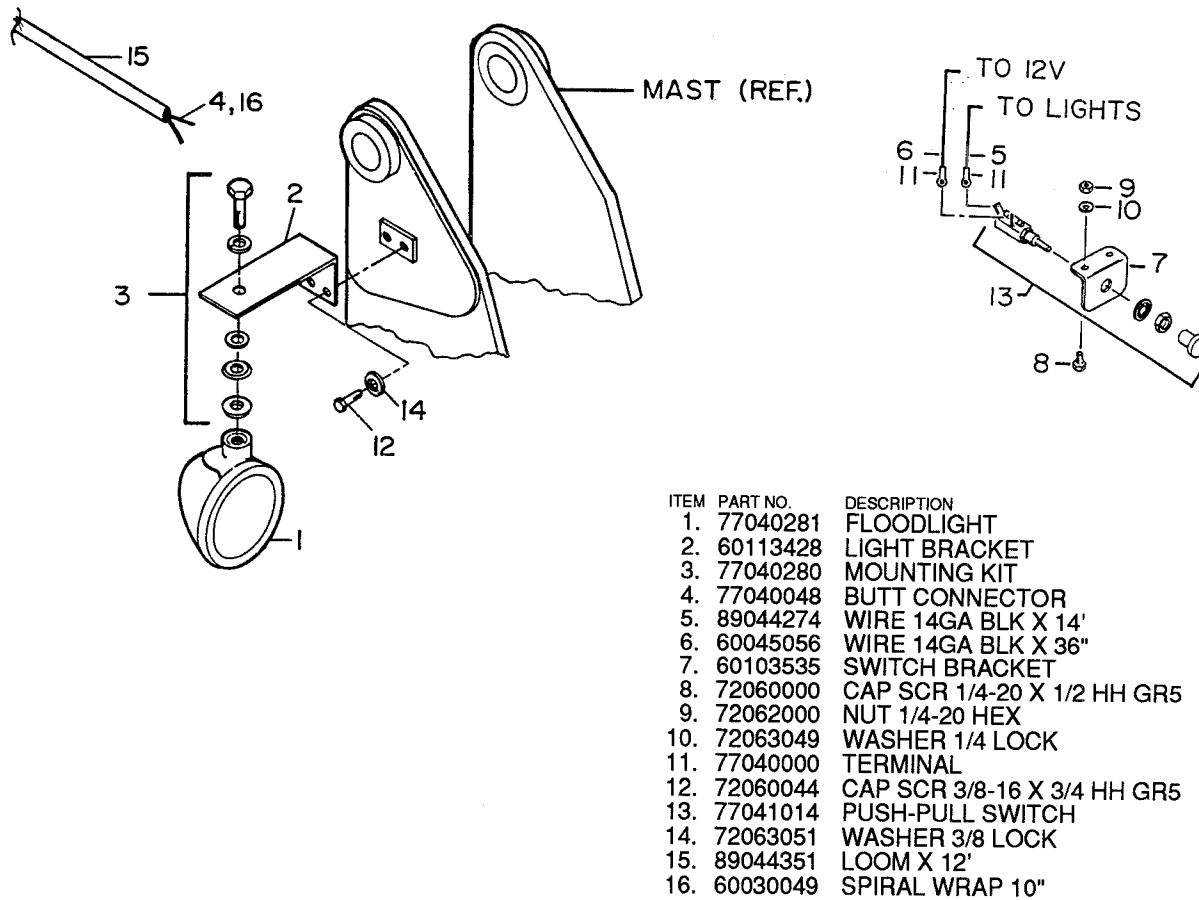


Figure D-38. OPTION - CHROME FLOOD LIGHT KIT (51709312)

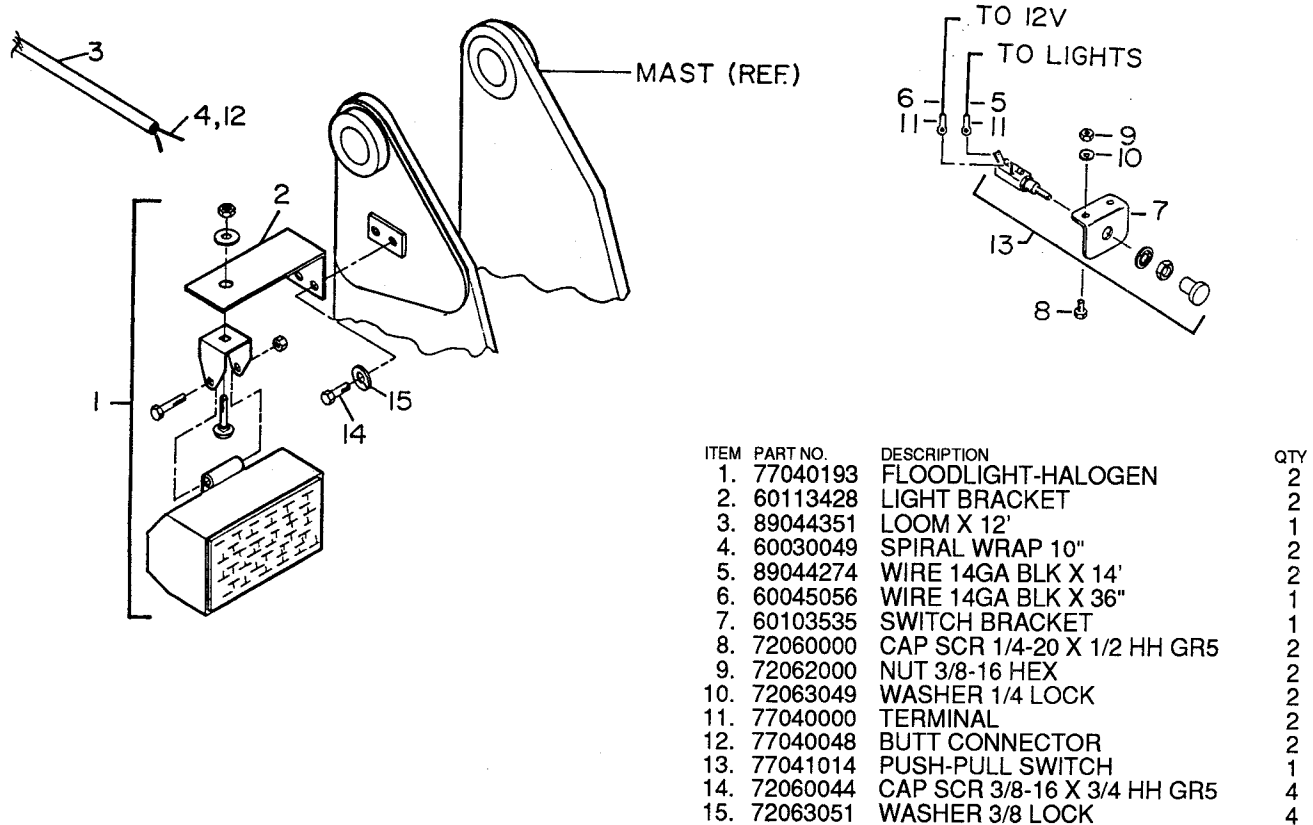
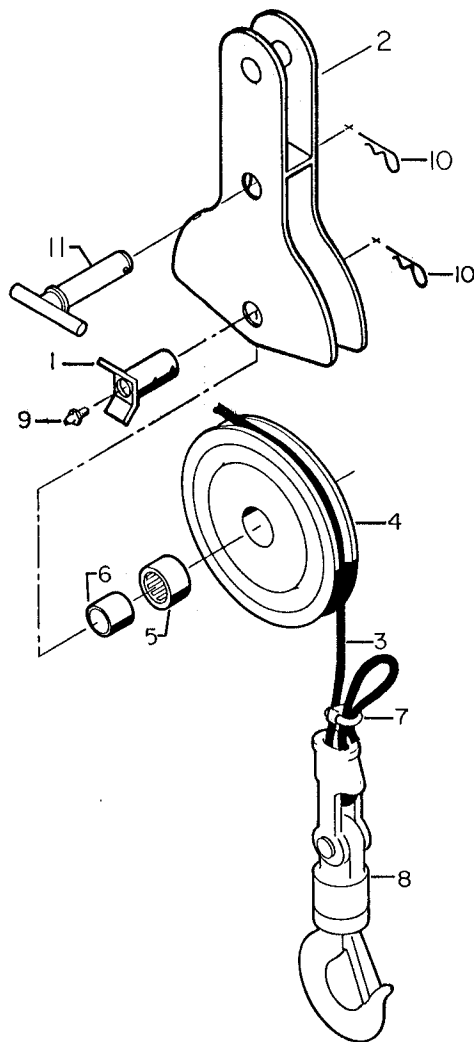
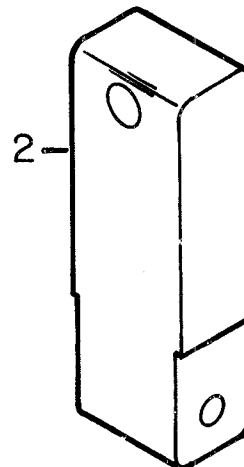
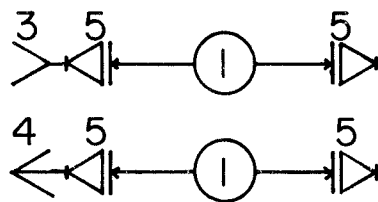


Figure D-39. OPTION - HALOGEN FLOOD LIGHT KIT (51709313)



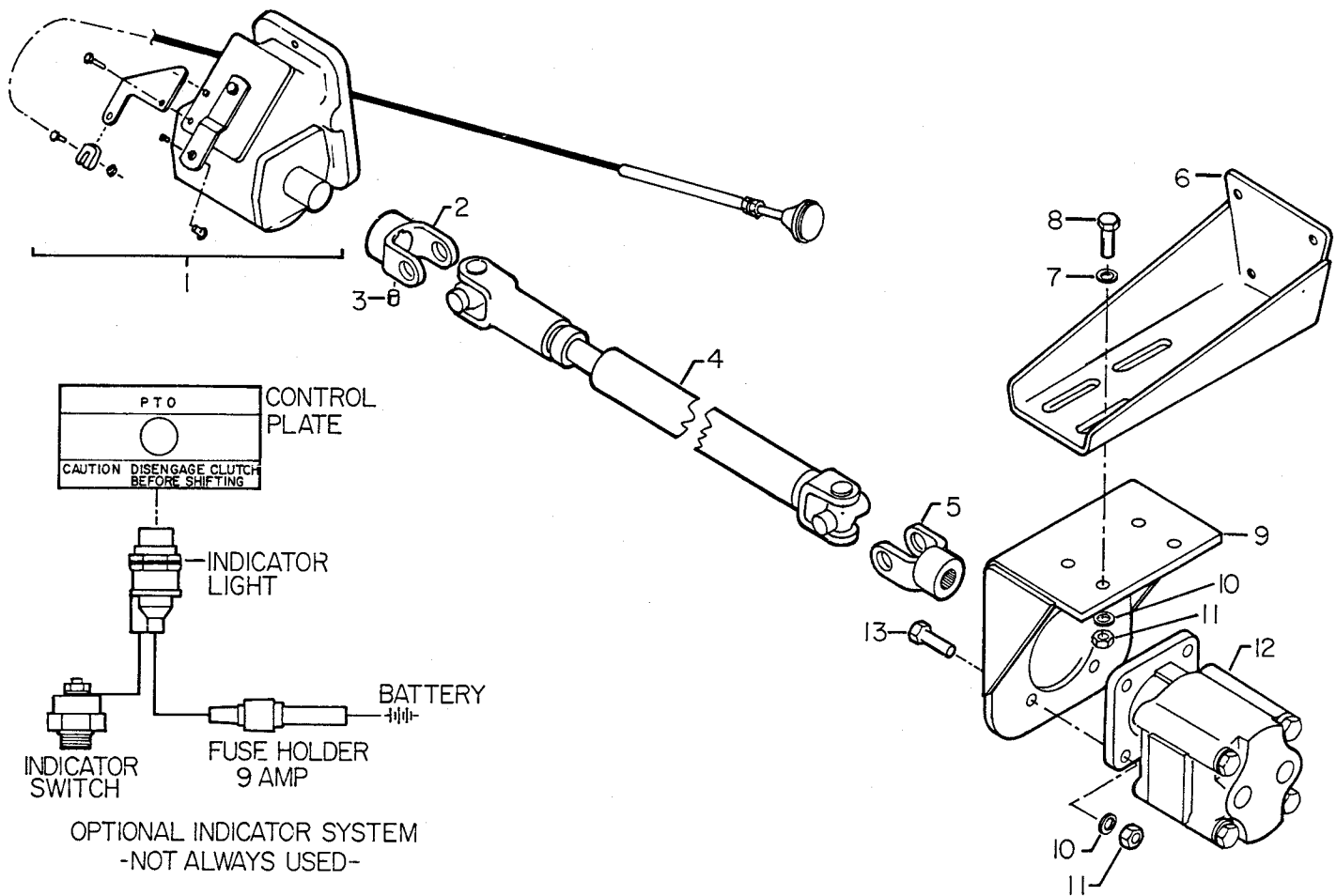
ITEM	PART NO.	DESCRIPTION	QTY
1.	52070705	PIN	1
2.	52704143	YOKE	1
3.	60107592	CABLE 3/8X65'	1
4.	70034204	SHEAVE	1
5.	70055024	BEARING	1
6.	70055025	RACE	1
7.	70058033	CABLE CLAMP	1
8.	70731716	SWIVEL HOOK	1
9.	72053508	ZERK 1/8NPT	1
10.	72066145	HAIR PIN	2
11.	52070151	PIN	1

Figure D-40. OPTION - CABLE AND HOOK KIT (31705637)



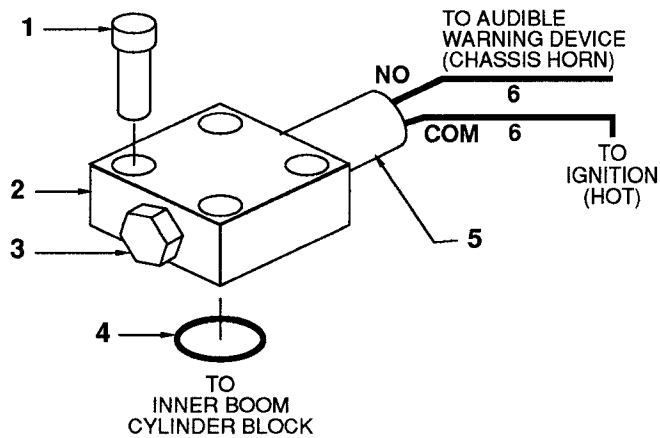
ITEM	PART NO.	DESCRIPTION	QTY
1.	51705062	HOSE ASM 1/2X48	2
2.	60108961	SWIVEL LINK	1
3.	72053540	DISCONNECT COUPLER 3/8FPT	1
4.	72053542	DISCONNECT NIPPLE 3/8FPT	1
5.	72053670	ADAPTER 3/8MPT 3/4MJIC	4

Figure D-41. OPTION - AUGER MOUNTING KIT (51707059)



ITEM	PART NO.	DESCRIPTION	QTY
1.		PTO	REF
2.	70058146	END YOKE	1
3.	72060578	SET SCR 3/8-16X3/8 HH	1
4.	70058195	DRIVESHAFT ASM	1
5.	70058094	END YOKE	1
6.	60101988	MOUNTING BRACKET	1
7.	72063005	WASHER 1/2 WRT	4
8.	72060093	CAP SCR 1/2-13X1-1/2 HH GR5	4
9.	52703382	PUMP MOUNTING BRACKET	1
10.	72063053	WASHER 1/2 LOCK	8
11.	72062004	NUT 1/2-13 HEX	8
12.		HYDRAULIC PUMP	REF
13.	72060094	CAP SCR 1/2-13X1-3/4 HH GR5	4

Figure D-42. OPTION - DRIVELINE MOUNTING (31701761)

**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.	77041222	PRESSURE SWITCH	1
6.	89044188	WIRE-14GA (Customer Supplied)	REF
7.	99900118	INSTALLATION DWG	1

Figure D-43. CAPACITY ALERT KIT - 2400 PSI - AUDIBLE (31711428)

WARNING

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Failure to replace gear-bearing 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 reassembly.

SEE FOLLOWING PAGE FOR DRAWING

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	3B116513	OUTRIGGER CYLINDER (SEE FIGURE D-18 FOR PARTS)	2	24.	71056265	PINION GEAR	1
2.	52070005	OUTRIGGER PAD	2	25.	71056361	TURNTABLE GEAR	1
3.	52703565	RESERVOIR	1	27.	72053301	COUPLING 1/8NPT	2
4.	52705428	OUTRIGGER LEG	2	28.	72053508	GREASE ZERK	3
5.	52711142	BASE (INCL:6-10)	1	29.	72060004	CAP SCR 1/4-20X1 HH GR5	4
6.	60020115	BUSHING (PART OF 5)	1REF	30.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	2
7.	60020116	BUSHING (PART OF 5)	1REF	31.	72060833	SCR 5/16-18X3/4 SLFTPG	8
8.	60020187	BUSHING (PART OF 5)	1REF	32.	72062080	NUT 1/2-13 LOCK	2
9.	60020188	BUSHING (PART OF 5)	1REF	33.	72063004	WASHER 7/16 WRT	2
10.	71056011	DRIVE GEAR (PART OF 5)	1REF	34.	72063034	MACH BUSHING 1X10GA NR	8
11.	53000710	GREASE EXTENSION 29"	1	35.	72063039	MACH BUSHING 2X10GA NR	1
12.	53000704	GREASE EXTENSION 34"	1	36.	72063049	WASHER 1/4 LOCK	4
13.	60010470	PIN	2	37.	72063053	WASHER 1/2 LOCK	2
14.	60010844	GREASE PLATE	1	38.	72063116	WASHER 3/4 HARD FLAT	20
15.	60030117	WEAR PAD	2	40.	72066095	RETAINING RING 2 STD	1
16.	60101874	PIN	2	41.	72066125	RETAINING RING 1 HD	8
17.	60117218	GEAR GUARD	1	42.	72531550	BARB NIPPLE 1-1/4NPT	2
18.	60103367	COVER PLATE	1	43.	72532261	SIGHT GAUGE 3/4NPT	1
19.	60030119	WEAR PAD	2	45.	72601295	CAP SCR 3/4-10X3-1/2 HH GR8	20
20.	60010235	PINION COVER	1	46.	73014671	FILL CAP	1
21.	60106032	STUD	2	47.	73051378	HYDRAULIC MOTOR	1
22.	72063002	WASHER 5/16 WRT	2	48.	73052001	PIPE PLUG 3/4NPT MAGNETIC	1
23.	71056264	INTERMEDIATE GEAR	1	49.	73141276	FILL NECK SCREEN	1
				50.	60106886	THRUST WASHER	1

Figure D-44. BASE & "A" FRAME OUTRIGGER ASSEMBLY (41711141)

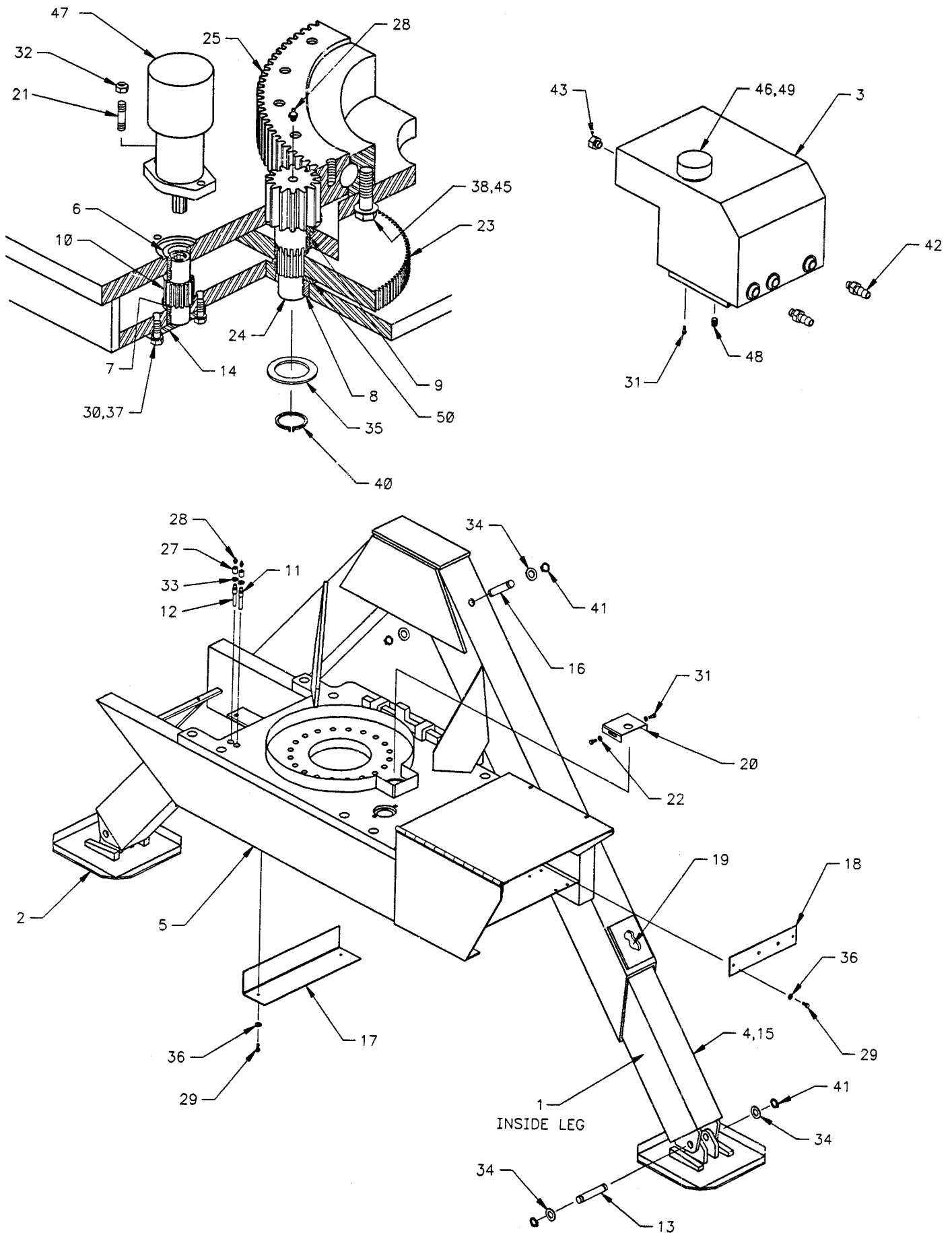
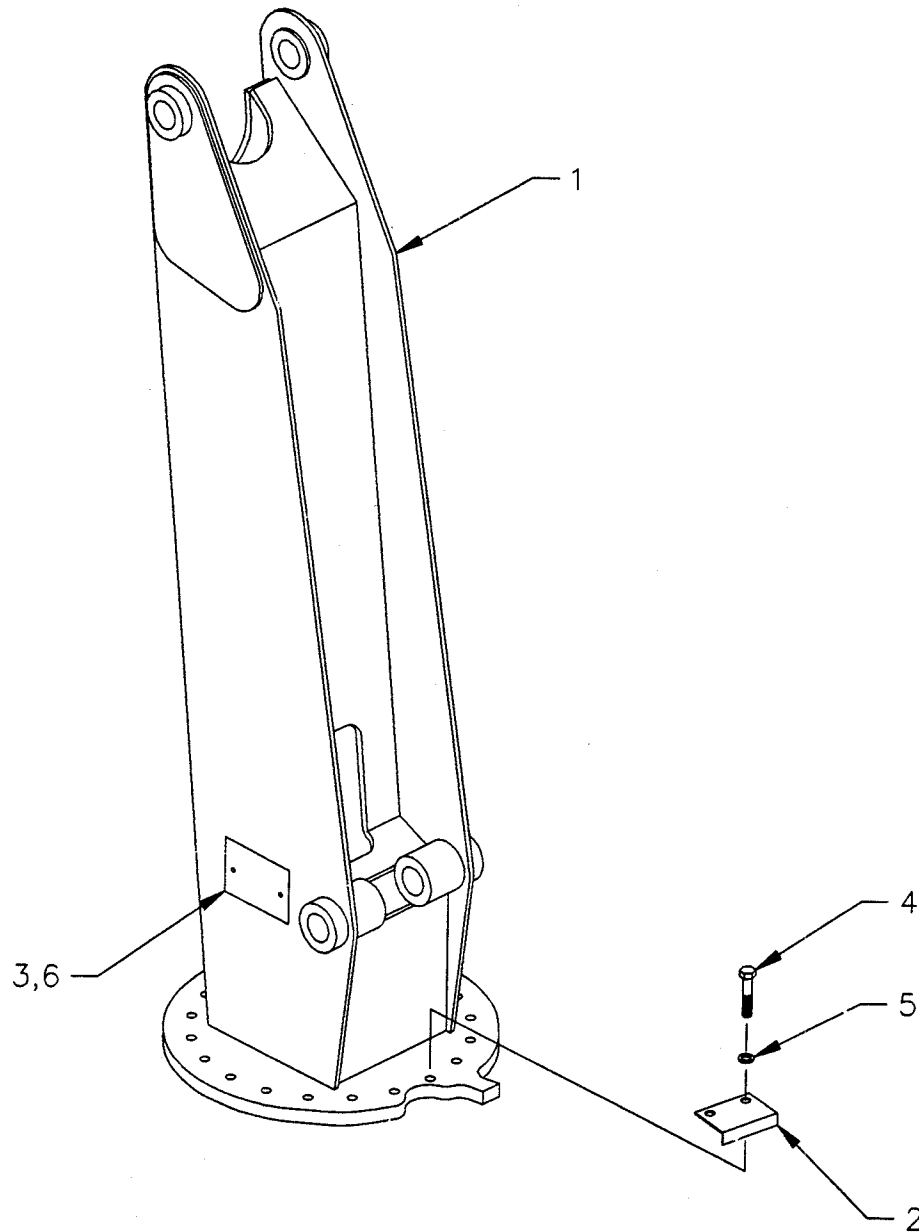


Figure D-44A. BASE & "A" FRAME OUTRIGGER ASSEMBLY (41711141)

**WARNING**

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue, causing serious injury or death.

ITEM	PART NO.	DESCRIPTION	QTY
1.	52705217	MAST	1
2.	60104539	PINION COVER	1
3.	70029119	SERIAL NO. PLACARD	1
4.	72060177	CAP SCR 5/8-11X3 HH GR8	20
5.	72063119	WASHER 5/8 HARD FLAT	20
6.	72066340	POP RIVET 1/8X3/8	2

Figure D-45. MAST ASSEMBLY 516 A-FRAME (41711179)

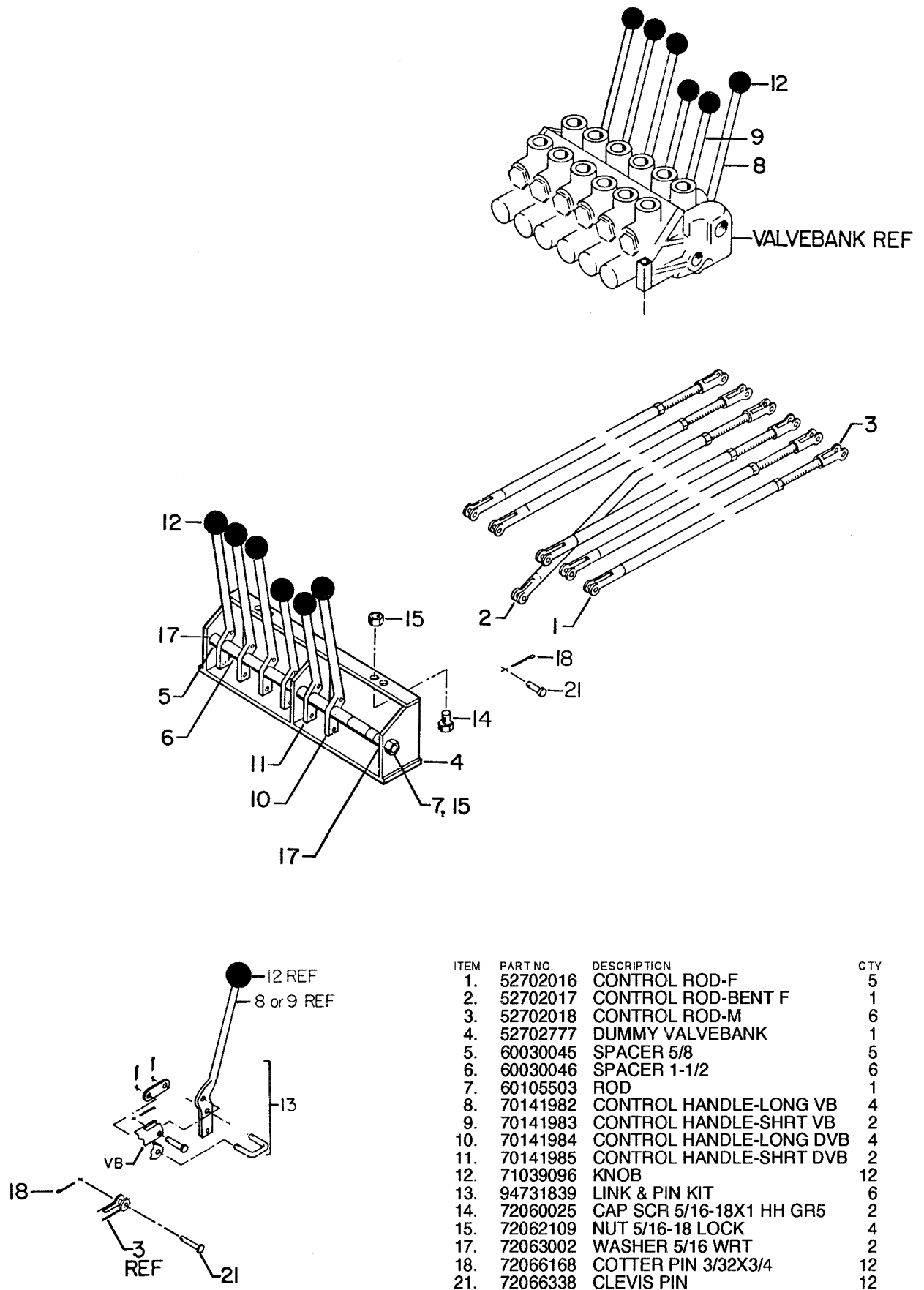
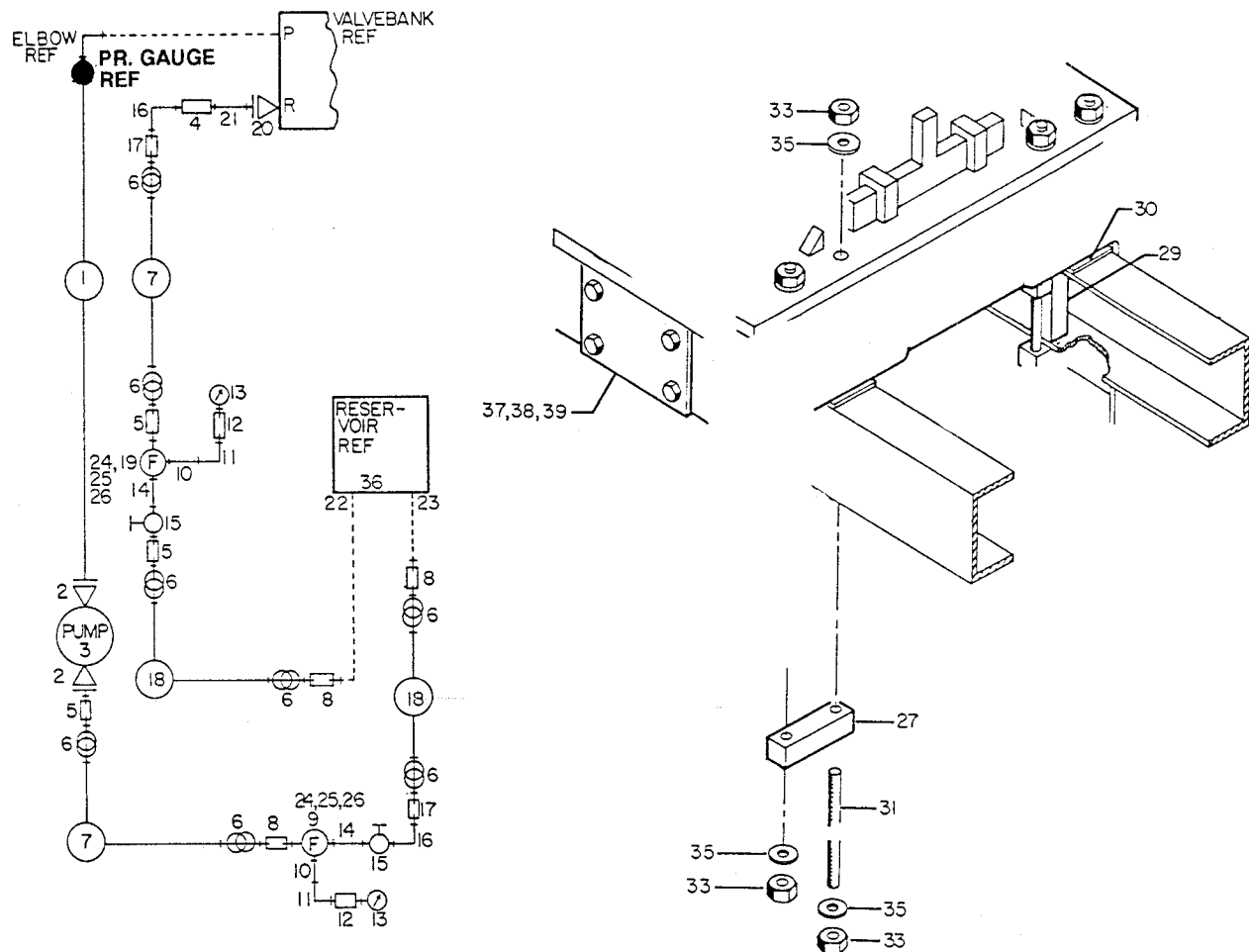
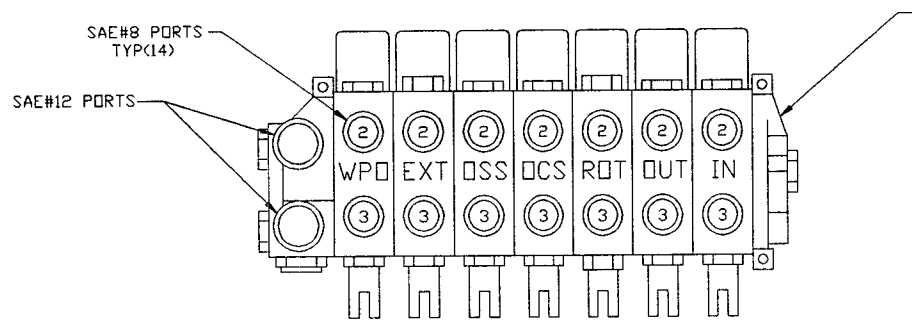


Figure D-46. MANUAL CONTROL KIT (90704441)



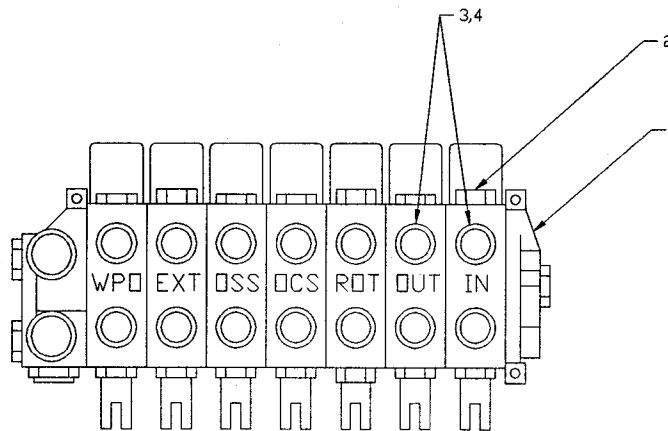
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	51703703	HOSE ASM 1/2X72	1	18.	60035832	HOSE 1-1/4X38	2
2.		PUMP ADAPTER	2REF	19.	73052040	RETURN FILTER W/ELEMENT	1
3.		PUMP	1REF		73052014	ELEMENT 25MIC	1REF
4.	72053489	REDUCER COUPLING 1-1/4 3/4	1	20.	72053747	ADAPTER 1-1/16MSTR 3/4FPT	1
5.	72532346	BARB NIPPLE 1-1/4NPT 90°	3	21.	72053141	PIPE NIPPLE 3/4NPT X CLOSE	1
6.	72066516	HOSE CLAMP 1-1/4	8	24.	60103870	OIL FILTER BRACKET	2
7.	60035829	HOSE 1-1/4X48	2	25.	72060025	CAP SCR 5/16-18X1 HH GR5	4
8.	72531550	BARB NIPPLE 1-1/4NPT	3	26.	72062109	NUT 5/16-18 LOCK	4
9.	73052012	SUCTION FILTER (INCL:13)	1	27.	60010665	CLAMP PLATE	4
10.	72053002	PIPE NIPPLE 1/8NPT X 2	2	29.	52706660	FRAME SUPPORT	4
11.	72053281	STREET ELBOW 1/8NPT 90°	2	30.	60103563	SPACER	2
12.	72053468	COUPLING 1/8NPT	2	31.	71014847	TIE-DOWN STUD 1-1/4X28-1/2	8
13.	70048031	VACUUM GAUGE (PART OF 9)	2REF	33.	72062142	NUT 1 1/4-7 LOCK	16
	70048149	ELEMENT 100MESH (PART OF 9)	1REF	35.	72063067	WASHER 1-1/4 HI STRENGTH	16
	73052014	ELEMENT 25MIC (PART OF 9)	1REF	36.	RESERVOIR		REF
14.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	2	37.	60105107	TIE PLATE	2
15.	73054130	GATE VALVE 1-1/4NPT	2	38.	72060183	CAP SCR 3/10X1-1/2 HH GR5	8
16.	72053287	STREET ELBOW 1-1/4NPT 90°	2	39.	72062114	NUT 3/4-10 LOCK	8
17.	72531196	BARB NIPPLE 1-1/4NPT 45°	2				

Figure D-47. INSTALLATION KIT (93705446)



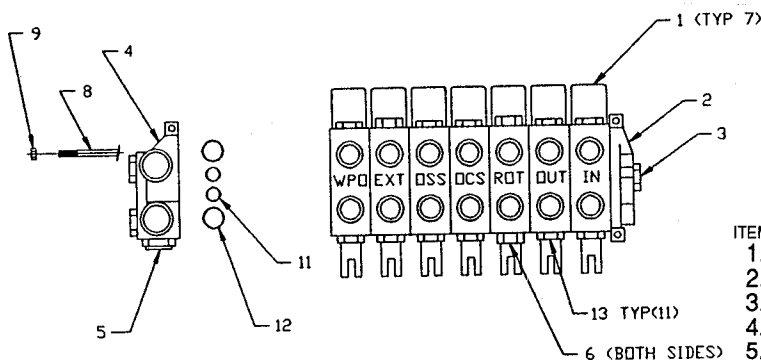
ITEM	PART NO.	DESCRIPTION	QTY
1.	51705393	VALVEBANK 7-SECT	1
2.	72053763	ELBOW #8MSTR #8MJIC 90°	7
3.	72532666	ELBOW #8MSTR #8MJIC XLG	7

Figure D-48. VALVEBANK ASSEMBLY 7-SECTION (51705504)



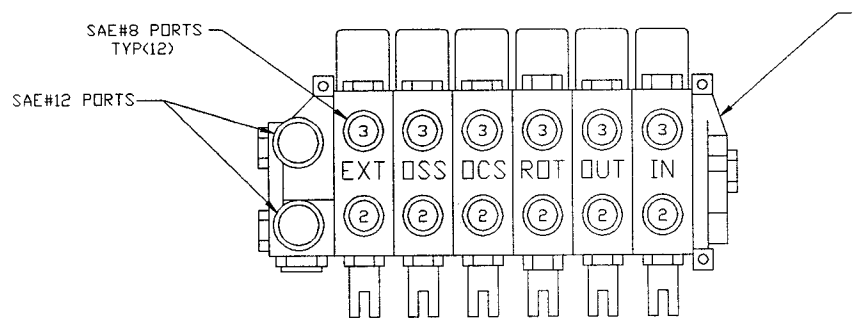
ITEM	PART NO.	DESCRIPTION	QTY
1.	51705073	VALVEBANK 7-SECT	1
2.	73054007	RELIEF 1800PSI NON-ADJ	1
3.	70142402	ORIFICE PLATE	2
4.	70142403	SPRING	2

Figure D-48A. VALVEBANK (51705393)



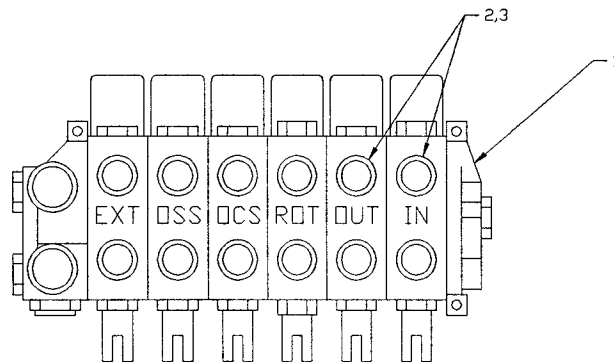
ITEM	PART NO.	DESCRIPTION	QTY
1.	73054432	VALVE SECT V20 4WAY	7
2.	73054442	END COVER RH	1
3.	73073022	CONVERSION PLUG	1
4.	73731424	END COVER LH	1
5.	73054643	RELIEF VALVE 2300PSI	1
6.	73054516	RELIEF 1300PSI NON-ADJ	2
7.	73054007	RELIEF 1800PSI NON-ADJ	1
8.	73014596	STUD 3/8X15-1/4	3
9.	72062037	NUT 3/8-24 HEX	6
10.	51393494	O-RING KIT	REF
11.	7Q072117	O-RING	16
12.	7Q072119	O-RING	16
13.	73054010	LOAD CHECK PLUG	11

Figure D-48B. VALVEBANK (51705073)



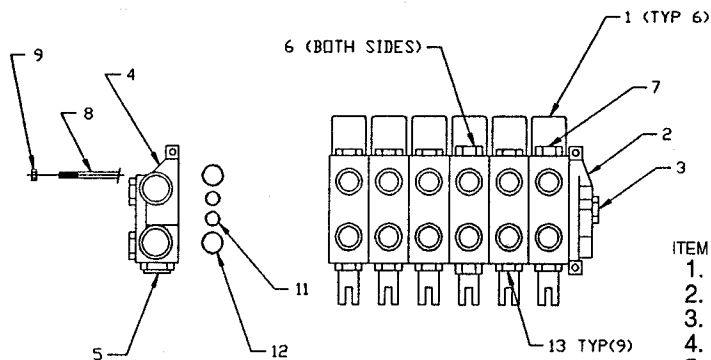
ITEM	PART NO.	DESCRIPTION	QTY
1.	51705389	VALVEBANK 6-SECT	1
2.	72053763	ELBOW #8MSTR #8MJIC 90°	6
3.	72532666	ELBOW #8MSTR #8MJIC XLG	6

Figure D-49. VALVEBANK ASSEMBLY 6-SECTION (51705503)



ITEM	PART NO.	DESCRIPTION	QTY
1.	73731386	VALVEBANK 6-SECT	1
2.	70142402	ORIFICE PLATE	2
3.	70142403	SPRING	2

Figure D-49A. VALVEBANK (51705389)



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-49B. VALVEBANK (73731386)

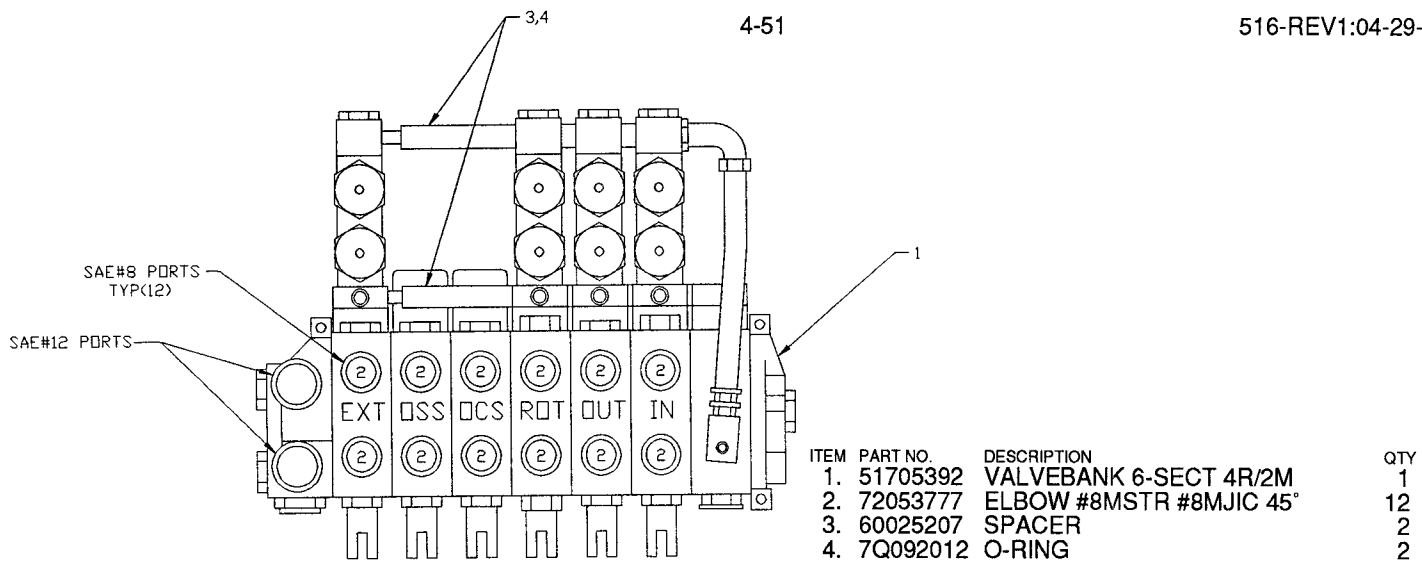


Figure D-50. VALVEBANK ASSEMBLY 4 REMOTE/2 MANUAL (51705506)

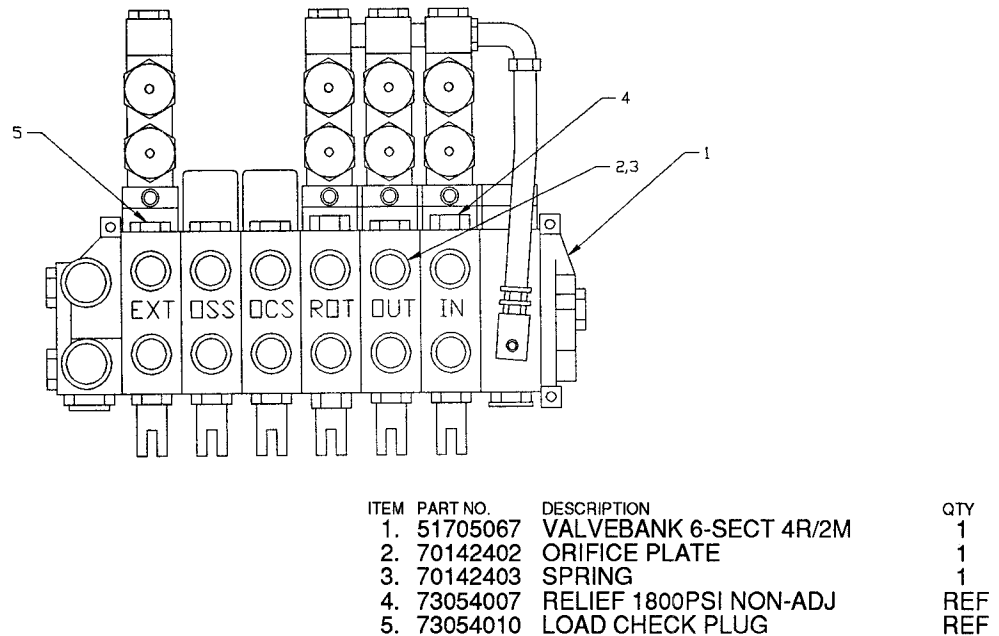


Figure D-50A. VALVEBANK (51705392)

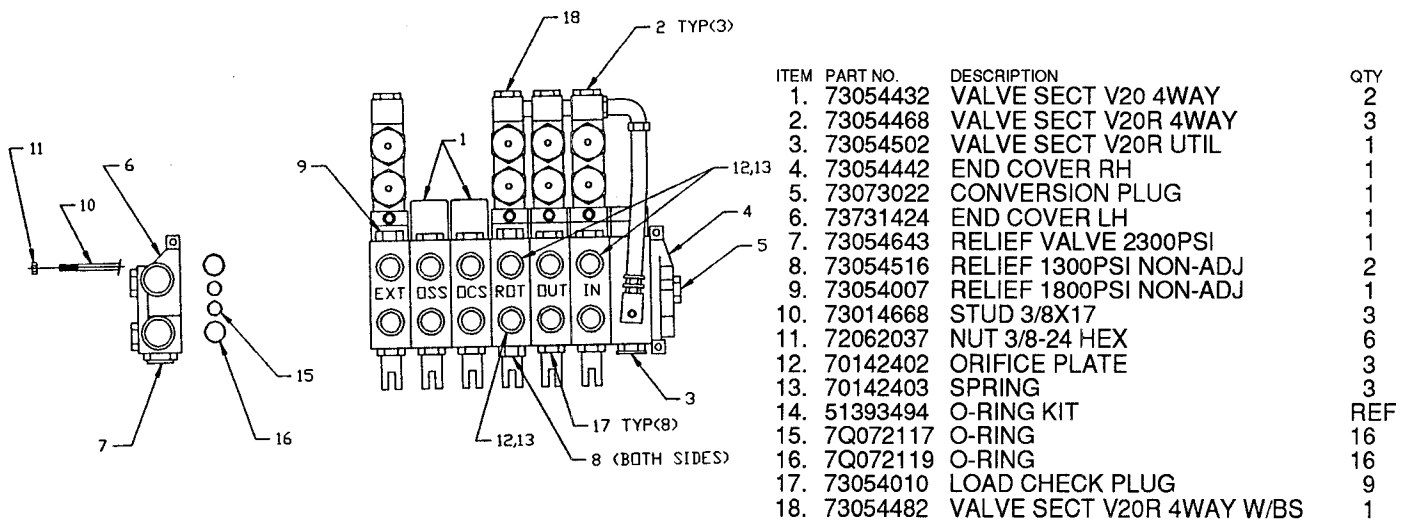
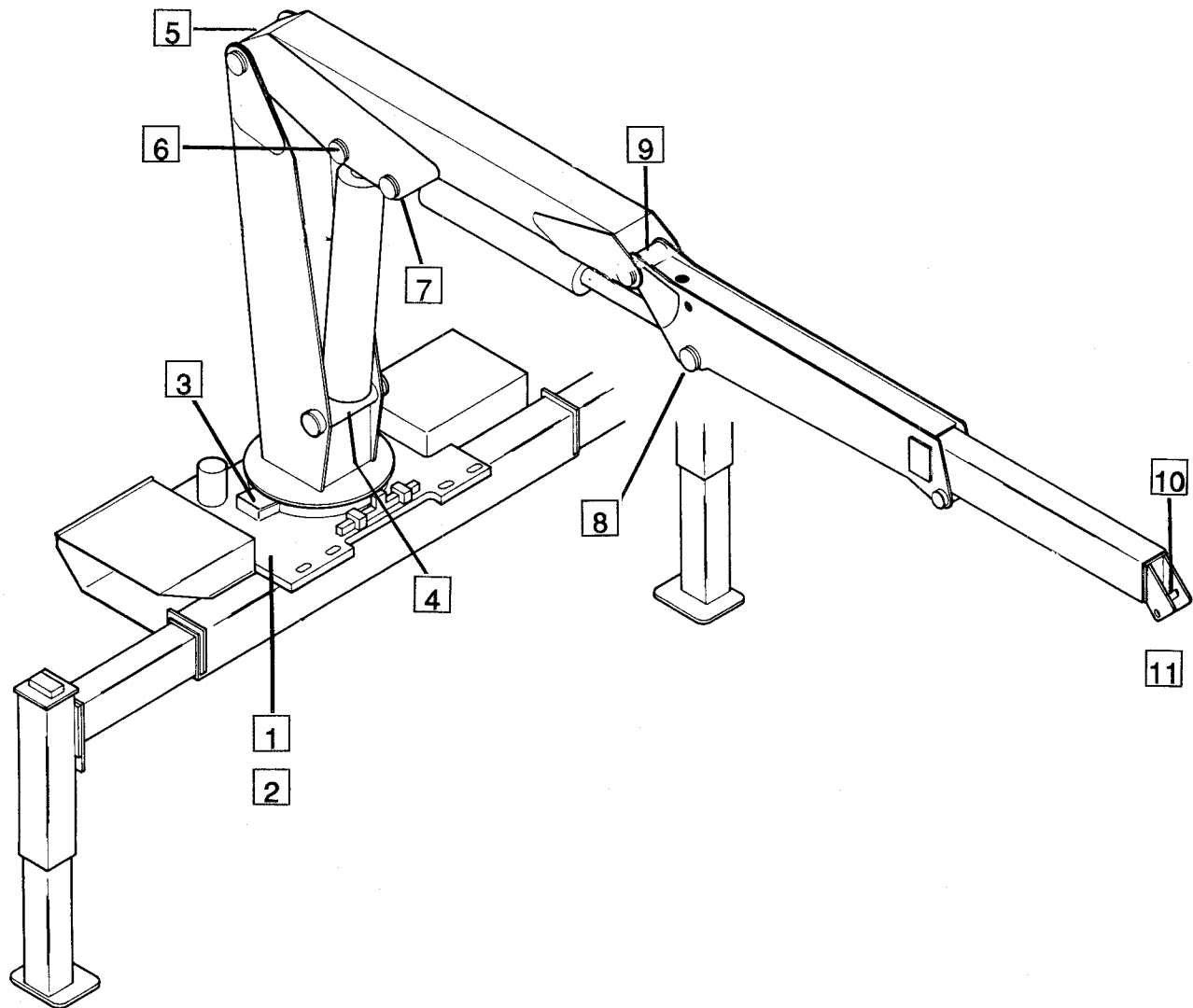


Figure D-50B. VALVEBANK (51705067)

Section 5. REFERENCE



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

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			
					
		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			
					
		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.

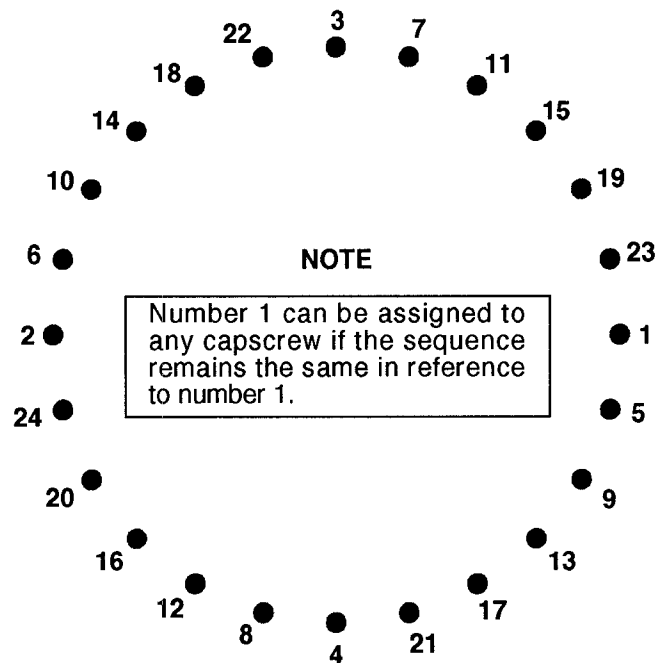
1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
4. Torque values specified are for bolts with residual oils or no special 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/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.

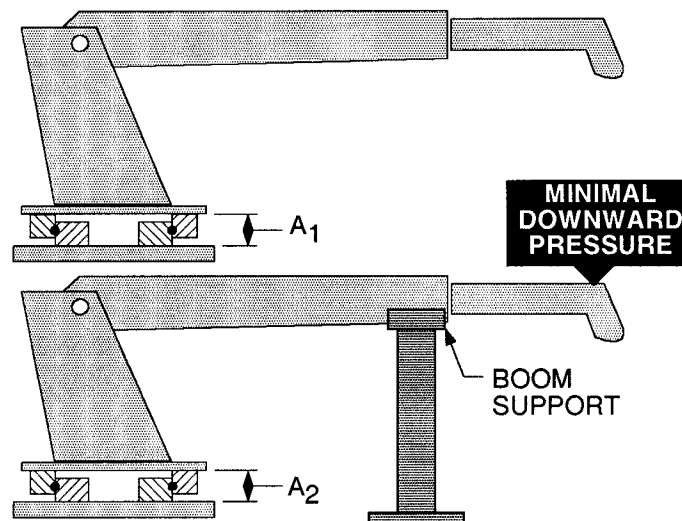
With the crane horizontal and fully extended, measure between the top and bottom mounting surfaces of the turntable bearing (A_1), using a dial indicator for accuracy.

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

(Major Assemblies Only)

1-Year Supply

This spare parts list does not necessarily indicate that the items can be expected to fail in the course of a year. It is intended to provide the user with a stock of parts sufficient to keep the unit operating with minimal down-time waiting for parts. Obviously, there may be part failures not covered by this list.

The item numbers shown on this list correspond to the item numbers on the page listed.

FIGURE	ITEM NO.	PART NO.	DESCRIPTION	QTY
D-4.	10	60020187	BUSHING	1
D-4.	11	60020115	BUSHING	1
D-4.	12	60020116	BUSHING	1
D-4.	13	60020188	BUSHING	1
D-4.	14	71056011	DRIVE GEAR	1
D-4.	30	71056001	TURNTABLE-BEARING	1
D-4.	31	71056265	PINION GEAR	1
D-4.	32	71056264	INTERMEDIATE GEAR	1
D-4.	53	72063119	WASHER 5/8HARD GR8	20
D-4.	58	72601482	CAP SCR 5/8-11X2-1/2 HH GR8	20
D-4.	60	73051378	MOTOR	1
D-8.	5	73054004	VALVE	1
D-8.	9	9B101214	SEAL KIT	1
D-9.	5	9B081012	SEAL KIT	2
D-11.	5	72060151	CAP SCR 5/8-11X2 HH GR8	20
D-11.	6	72063119	WASHER 5/8 HARD GR8	20
D-12.	3	7BF81520	BUSHING	4
D-13.	14	73054242	COUNTERBALANCE VALVE	1
D-13.	16	7BF81520	BUSHING	2
D-13.	17	7BF82020	BUSHING	2
D-13.	21	9C242432	SEAL KIT	1
D-14.	3	7BF81520	BUSHING	4
D-14.	7	60030018	WEAR PAD	2
D-14.	9	60030083	WEAR PAD	1
D-16.	14	7BF81520	BUSHING	4
D-16.	16	73054242	VALVE 25GPM	1
D-16.	17	9C202029	SEAL KIT	1
D-17.	3	52701716	HOOK	1
D-17.	4	60030117	WEAR PAD	
D-18.	9	9C121617	SEAL KIT	1
D-26.	13	94731839	LINK AND PIN KIT	6
D-31.	11	77041345	TOGGLE SWITCH - SINGLE THROW	2
D-31.	12	77041346	TOGGLE SWICH - DOUBLE THROW	6
D-31.	13	77041347	TOGGLE SWITCH - MOMENTARY	1
REF		73052000	RETURN FILTER-COMplete	
REF		73052006	RETURN FILTER ELEMENT	6
REF		73052012	SUCTION FILTER - COMPLETE	
REF		70048031	VACUUM GAUGE	
REF		70048149	SUCTION FILTER ELEMENT 100 MESH	6
REF		73052014	ELEMENT 25MIC SPIN	

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	516 Crane	MANUAL PART NO.	99900271-11/91
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
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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