



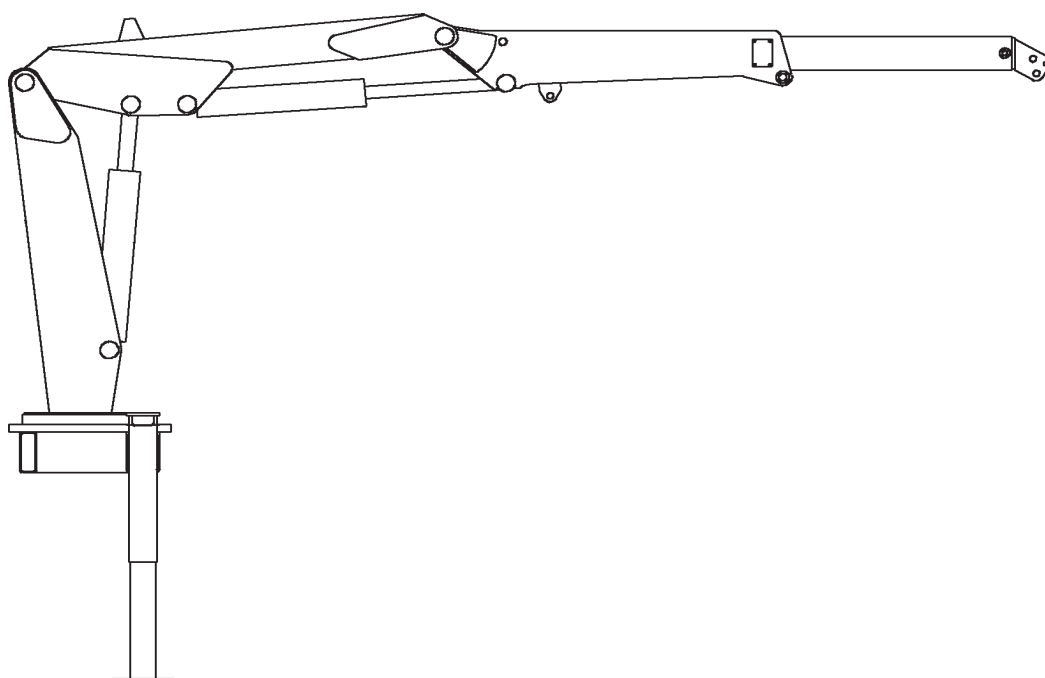
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Model 7415 Crane

Volume 2 - PARTS AND SPECIFICATIONS

Section 1	SPECIFICATIONS H-FRAME
Section 1A	SPECIFICATIONS A-FRAME
Section 2	CRANE REFERENCE
Section 3	REPLACEMENT PARTS
Section 4	GENERAL REFERENCE



IOWA MOLD TOOLING CO., INC.

BOX 189, GARNER, IA 50438-0189

TEL: 641-923-3711

MANUAL PART NUMBER 99900760

Iowa Mold Tooling Co., Inc. is an Oshkosh Corporation company.



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REVISIONS LIST

DATE	LOCATION	DESCRIPTION OF CHANGE
20010105	3-4&5	ECN9000-41712290-ADD SLEEVE WEB 89393036
20011127	3-28	ECN 8834 - NEW LIGHT KIT
	3-29,31	ECN 8794 - NEW HYD OVERLOAD VALVE BLOCK
	4-1,14	ECN 8780 - WARRANTY
20020206	3-31	ITEM #11 - 72532141 WAS 72532679
20020811	3-28	ECN 8972 - ADDED GROMMET & CLAMP TO FLOOD LIGHT KIT
	3-29	ECN 8968 - UPDATED CAPACITY ALERT & SHUTDOWN KITS
20021024	3-20	ECN 9009 - UPDATED 31713787 HYD SHUTDOWN KIT
20021202	3-29	ECN 9064 - ADDED LIGHT KIT 51717977
20040129	2-6, 3-11,17	ECN 9365 - CHANGED EXTENSION CYLIDNER TO DUAL HOLDING VALVES
20050712	3-19	ECN 9782-1 - CHANGE TO CLAMP PLATE ON 93715476
20050915	2-7	ECR 10667 - ADDED A-FRAME MOUNT DIAGRAM, TORQUE TO INSTALLATION INSTRUCTIONS
20051108	3-11,12,17	ECN 9832 - CYL 71411825 WAS 51718065
20060616	3-16	ECN 9832-2-REVERSED CYLINDER CHANGE
20061020	1-1, 3-3	NEW OWNERSHIP STATEMENT; UPDATED SERIAL TAG LOCATION INFO.
20070705	3-10	ECN 10299 - UPDATE TO 51718065
20071008	3-17,18,22,24,38	ECN 10523 - CLAMP 72661642 WAS 72066516
	3-21	ECN 10429 - PARTS UPDATE ON 31713788
	3-28	ECN 10425 - FLAT WASHERS ADDED TO 51717977
20081104	3-3,8	ECN 10767 - GEAR BEARING TEETH MATL CHANGE
20120104	THROUGHOUT	ECN 11628 - UPDATED STABILIZER WORDING, ADDED STAB DEPLOY DECALS, CRANE LEVELS
	3-22-25, 32	ECN 11621 - HYDRAULIC OVERLOAD KIT
20120419	3-6,13,15,35	ECN 11615 - CYLINDER DRAWING UPDATES, ADDED PROP RMT SETTING PROCEDURE



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INTRODUCTION

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

We recommend that this volume be kept in a safe place in the office.

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

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

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

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

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

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

NOTE

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

CAUTION

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

WARNING

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

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

**Read and familiarize yourself with the
IMT OPERATOR'S CRANE SAFETY MANUAL
before operating or performing any maintenance**



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NOTES

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SECTION 1. SPECIFICATIONS-7415 PWR OUT & DN

GENERAL3

PERFORMANCE CHARACTERISTICS.....4

POWER SOURCE4

CYLINDER HOLDING VALVES4

ROTATION SYSTEM4

HYDRAULIC SYSTEM4

STABILIZER DIMENSIONS4

GEOMETRIC CONFIGURATION5

CAPACITY CHART6

MINIMUM CHASSIS SPECIFICATIONS - FOR STANDARD 7415 CRANE7



1-2

NOTES

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1-3

SECTION 1. SPECIFICATIONS-PWR OUT & DN

7415 CRANE WITH POWER OUT & POWER DOWN SPECIFICATIONS

GENERAL

*CRANE RATING (ANSI B30.22)	74000 ft-lbs
*MAXIMUM CRANE RATING	74000 ft-lbs
HORIZONTAL REACH from centerline of rotation	15'-1"
HYDRAULIC EXTENSION	40"
MANUAL EXTENSION	None
VERTICAL REACH from mounting surface	21'-9"
VERTICAL REACH from ground / 39" frame ht.	25'-0"
CRANE WEIGHT	3620 lbs
STABILIZER SPAN	11'-10"
STABILIZER PADS	9" x 11"
CRANE STORAGE HEIGHT from mounting surface	7'-1"
CRANE STORAGE HEIGHT from ground / 39" frame ht.	10'-4"
**MOUNTING SPACE REQUIRED	29"
ROTATIONAL TORQUE	10850 ft-lbs
OPTIMUM PUMP CAPACITY	9 U.S. GPM
SYSTEM OPERATING PRESSURE	2350 PSI
OIL RESERVOIR CAPACITY	17 U.S. Gallons
HOOK APPROACH - HORIZONTAL from centerline of rotation	4'-9"
HOOK APPROACH - VERTICAL from mounting surface	8'-7"
HORIZONTAL CENTER OF GRAVITY from centerline of rotation and crane in stored position	19"
VERTICAL CENTER OF GRAVITY from mounting surface and crane in stored position	22"

* Maximum Crane Rating (ft-lbs) is defined as that rated load (lbs) which when multiplied by its respective distance (ft) from centerline of rotation gives the greatest ft-lb value.

ANSI B30.22 Crane Rating (ft-lbs) = With all extensions retracted and inner plus outer boom in a horizontal position, rated load (lbs) X respective distance (ft) from centerline of rotation = nominal ft-lb value.

** Allow an additional 3" between the cab and crane base for swing clearance.

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1-4

SECTION 1. SPECIFICATIONS-PWR OUT & DN

PERFORMANCE CHARACTERISTICS

CRANE ROTATION WITH TIREHAND:	370°	70 seconds
INNER BOOM ELEVATION:	-20° to +72°	24 seconds
OUTER BOOM ARTICULATION:	113°	14 seconds
EXTENSION BOOM:	40"	8 seconds
VERTICAL STABILIZER STROKE:	21"	6 seconds

POWER SOURCE

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

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 stabilizer cylinders have positive, pilot-operated holding valves that open only on command.

The inner cylinders have single pilot-operated counter balance valves while the outer and extension boom cylinders have double 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.

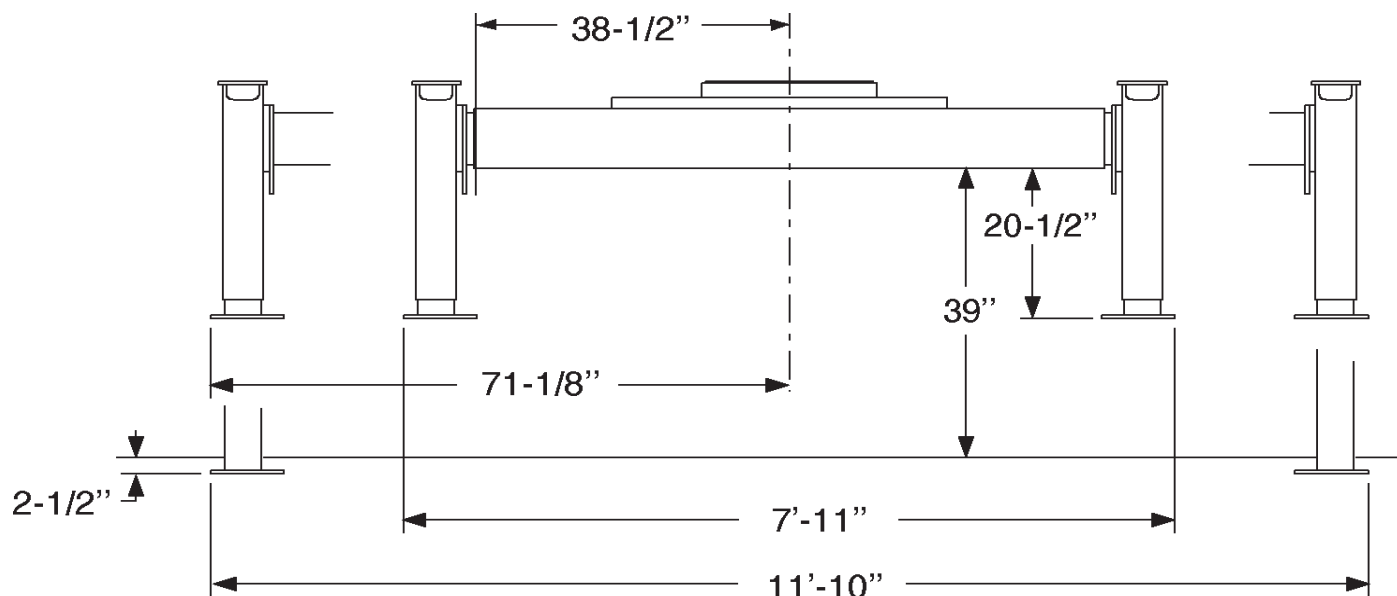
ROTATION SYSTEM

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 39.61 : 1.

HYDRAULIC SYSTEM

The hydraulic system is an open centered, full pressure system, requiring 9 GPM optimum oil flow, at 2350 PSI. The inner cylinder is limited to 1800 PSI. Eight-spool, stack-type control valve, six of which are used for the standard crane and the remaining two are plugged, but easily adapted for additional optional features. Dual operational handles for six functions are located at both sides of crane for convenient operation. System includes hydraulic oil reservoir, suction-line strainer, pump, 8-section control valve, return-line filter and all hoses and fittings.

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

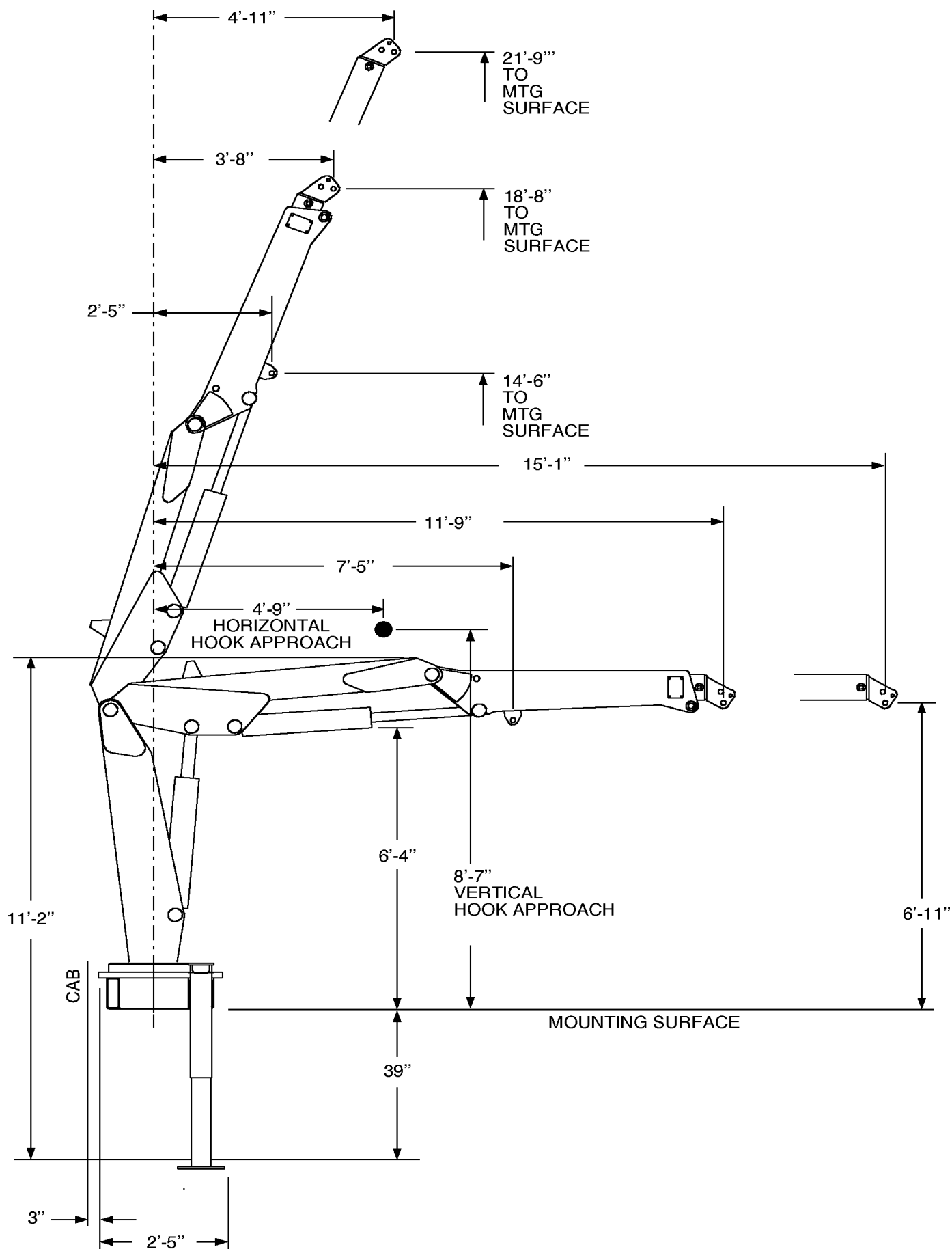
**STABILIZER DIMENSIONS**



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SECTION 1. SPECIFICATIONS-PWR OUT & DN



GEOMETRIC CONFIGURATION



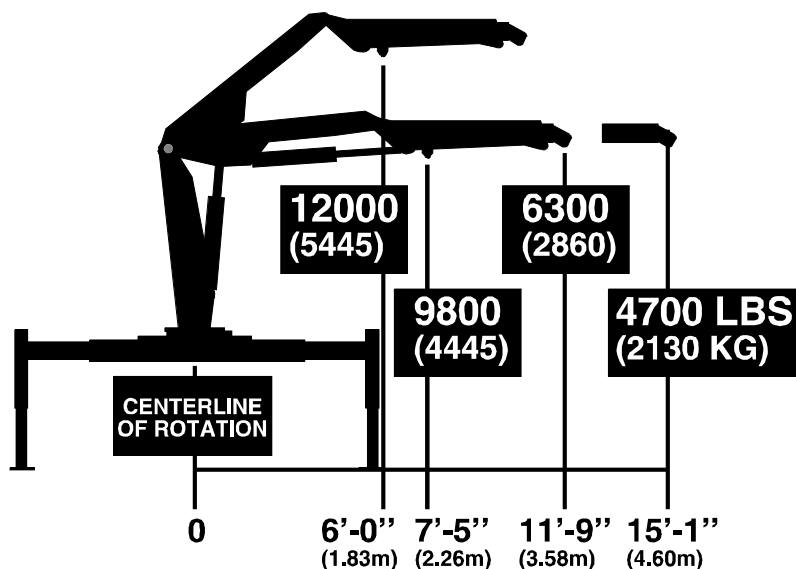
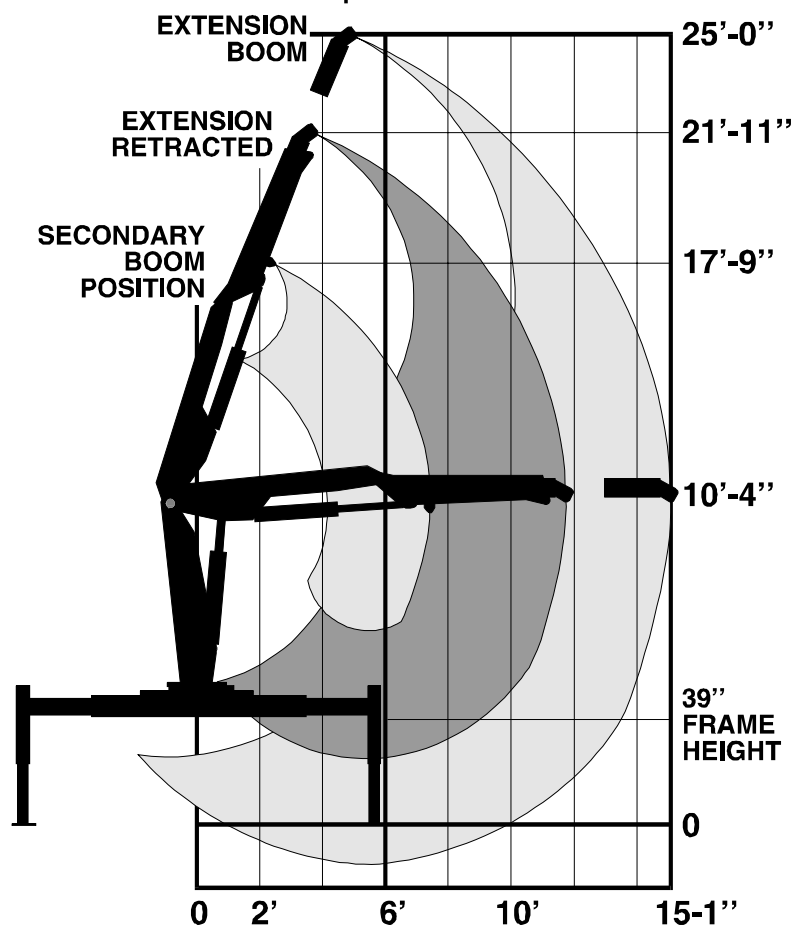
IOWA MOLD TOOLING CO., INC. • BOX 189 • GARNER • IA • 50438 • 641-923-3711

Capacities through geometric range are limited to those shown in horizontal position.



MODEL 7415 CRANE

- Loads shown are based on crane structural or hydraulic capability. Before lift is made, stability must be checked per SAE J765A.
- Working loads will be limited to those shown. Deduct the weight of load handling devices.
- Winch lifting capacity is limited to those shown - Maximum 4000 LBS for 1-part line.



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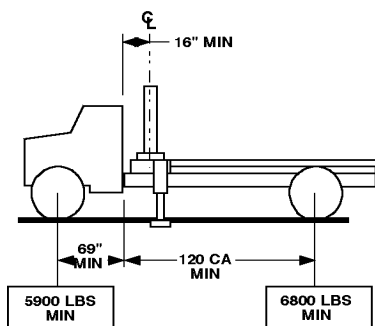
SECTION 1. SPECIFICATIONS-PWR OUT & DN

MINIMUM CHASSIS SPECIFICATIONS - FOR STANDARD 7415 CRANE

Crane Mount	Behind Cab
Crane Working Area	360°
Chassis Style	Conventional Cab
Front Axle Rating (GAWR)	9000 lbs
Rear Axle Rating (GAWR)	Single Axle 17,000 lbs
Wheelbase	189"
Cab-to-axle	120"
Outigger Width Required 11'-10"	
RBM	900,000 in-lbs
Frame Section Modulus	19.2 cubic inches
Frame Yield Strength	50,000 psi
Minimum Finished Unit Weight To Maintain Vehicle Stability	
Front Axle	* 5900 lbs
Rear Axle	* 6800 lbs
Total Finished Unit Wt.	12700 lbs

* Allows lifting full capacity load in a 360° arc when crane is installed immediately behind the cab. Great care should be taken when swinging the load from rear of vehicle to front of vehicle since the front axle springs will compress, thus affecting the levelness of the vehicle.

**FIGURE A.
360° WORKING AREA**



NOTES:

1. GAWR means Gross Axle Weight Rating and is dependent on all components of the vehicle such as axles, tires, wheels, springs, brakes, steering and frame strength meeting the manufacturer's recommendations. Always specify GAWR when purchasing a truck.
2. Minimum axle requirements may increase with use of diesel engines, longer wheelbase or service bodies. Contact the factory for further information.
3. Weight distribution calculations are required to determine final axle loading.
4. All chassis and crane combinations must be stability tested to ensure stability per ANSI B30.22



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1-8

SECTION 1. SPECIFICATIONS-PWR OUT & DN

IOWA MOLD TOOLING CO., INC.

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SECTION 1A. SPECIFICATIONS-7415 A-FRAME

GENERAL 3

PERFORMANCE CHARACTERISTICS..... 4

POWER SOURCE 4

CYLINDER HOLDING VALVES 4

ROTATION SYSTEM 4

HYDRAULIC SYSTEM 4

STABILIZER DIMENSIONS 4

GEOMETRIC CONFIGURATION 5

CAPACITY CHART 6

MINIMUM CHASSIS SPECIFICATIONS - FOR STANDARD 7415 CRANE 7



1A-2

NOTES

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1A-3

SECTION 1A. SPECIFICATIONS-A FRAME

7415 CRANE WITH A-FRAME STABILIZERS SPECIFICATIONS

GENERAL

*CRANE RATING (ANSI B30.22)	74000 ft-lbs
*MAXIMUM CRANE RATING	74000 ft-lbs
HORIZONTAL REACH from centerline of rotation	15'-1"
HYDRAULIC EXTENSION	40"
MANUAL EXTENSION	None
VERTICAL REACH from mounting surface	21'-9"
VERTICAL REACH from ground / 39" frame ht.	25'-0"
CRANE WEIGHT	4300 lbs
STABILIZER SPAN	12'-11"
STABILIZER PADS	16" x 16"
CRANE STORAGE HEIGHT from mounting surface	7'-3"
CRANE STORAGE HEIGHT from ground / 39" frame ht.	10'-6"
**MOUNTING SPACE REQUIRED	32"
ROTATIONAL TORQUE	10850 ft-lbs
OPTIMUM PUMP CAPACITY	9 U.S. GPM
SYSTEM OPERATING PRESSURE	2350 PSI
OIL RESERVOIR CAPACITY	21 U.S. Gallons
HOOK APPROACH - HORIZONTAL from centerline of rotation	4'-9"
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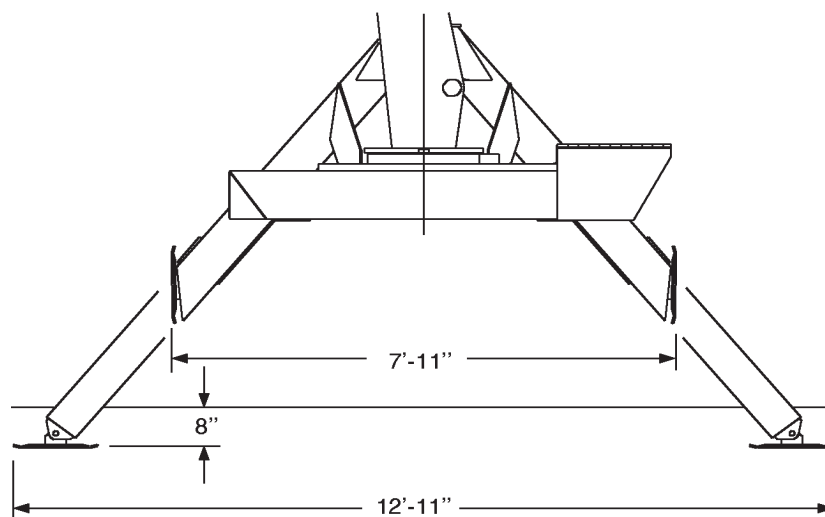
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Rotation of the crane is accomplished through a turntable bearing, powered by a high torque hydraulic motor through a ring and pinion type spur gear train. Total gear reduction is 39.61 : 1.

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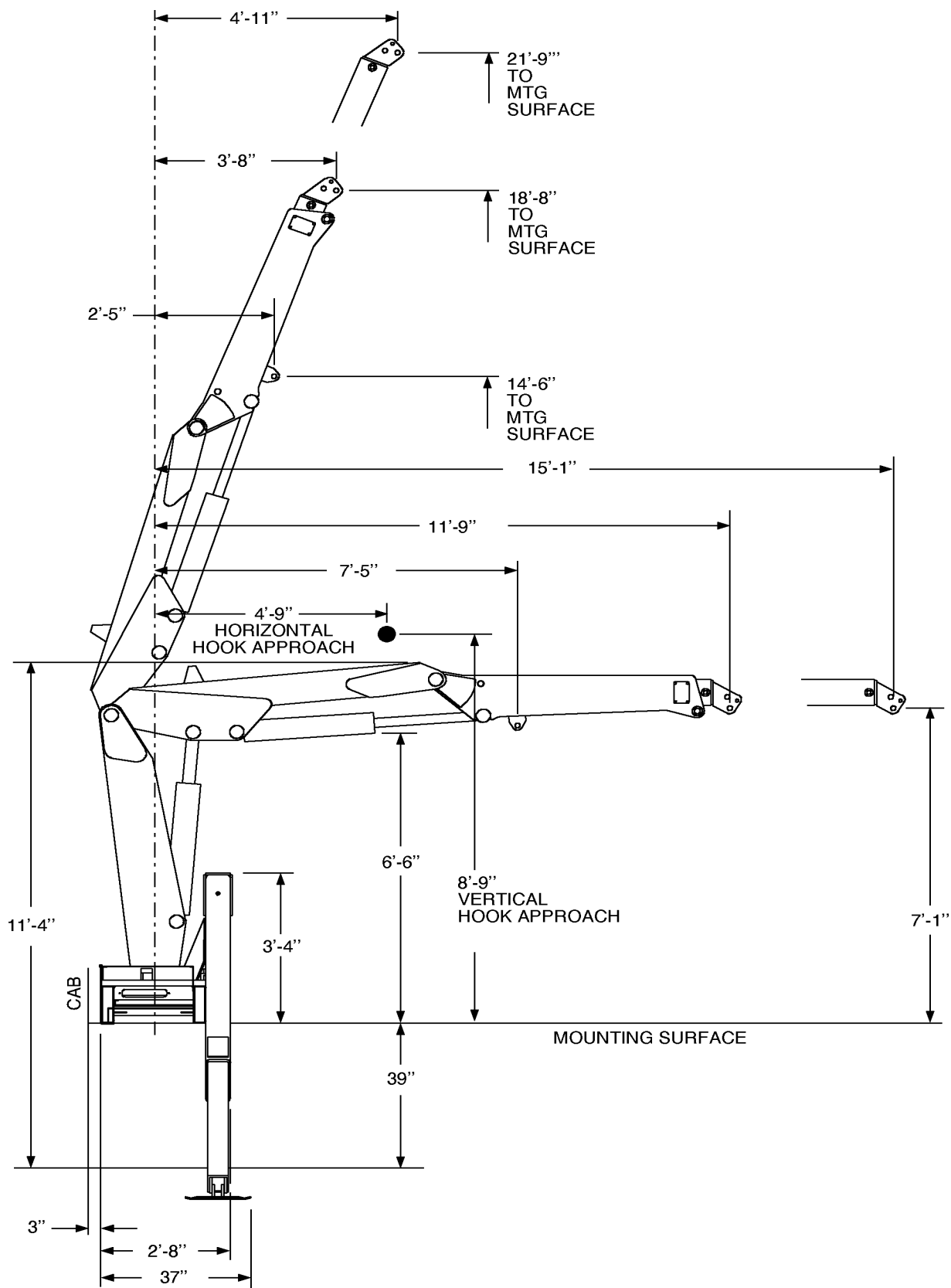
STABILIZER DIMENSIONS



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1A-5

SECTION 1A. SPECIFICATIONS-A FRAME



GEOMETRIC CONFIGURATION



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SECTION 1A. SPECIFICATIONS-A FRAME

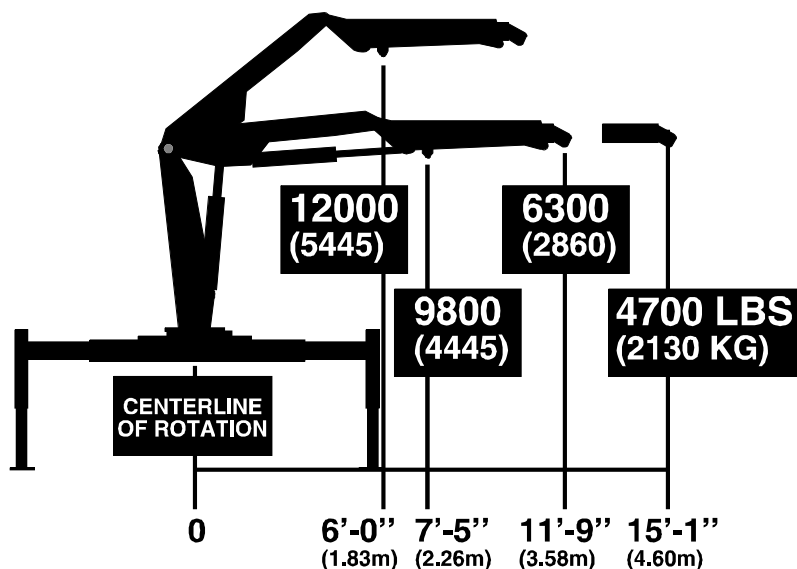
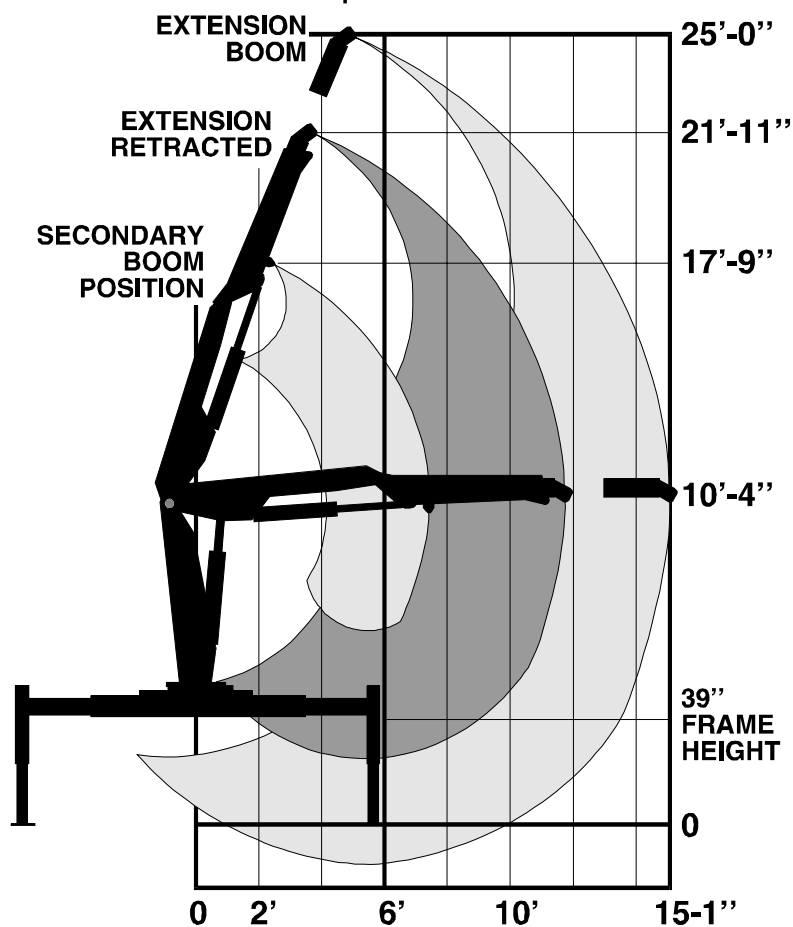
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Capacities through geometric range are limited to those shown in horizontal position.



MODEL 7415 CRANE

- Loads shown are based on crane structural or hydraulic capability. Before lift is made, stability must be checked per SAE J765A.
- Working loads will be limited to those shown. Deduct the weight of load handling devices.
- Winch lifting capacity is limited to those shown - Maximum 4000 LBS for 1-part line.



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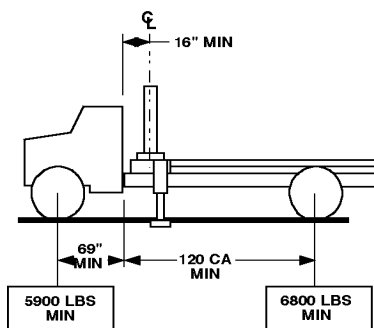
SECTION 1A. SPECIFICATIONS-A FRAME

MINIMUM CHASSIS SPECIFICATIONS - FOR STANDARD 7415 CRANE

Crane Mount	Behind Cab
Crane Working Area	360°
Chassis Style	Conventional Cab
Front Axle Rating (GAWR)	9000 lbs
Rear Axle Rating (GAWR)	Single Axle 17,000 lbs
Wheelbase	189"
Cab-to-axle	120"
Outigger Width Required	11'-10"
RBM	900,000 in-lbs
Frame Section Modulus	19.2 cubic inches
Frame Yield Strength	50,000 psi
Minimum Finished Unit Weight To Maintain Vehicle Stability	
Front Axle	* 5900 lbs
Rear Axle	* 6800 lbs
Total Finished Unit Wt.	12700 lbs

* Allows lifting full capacity load in a 360° arc when crane is installed immediately behind the cab. Great care should be taken when swinging the load from rear of vehicle to front of vehicle since the front axle springs will compress, thus affecting the levelness of the vehicle.

**FIGURE A.
360° WORKING AREA**

**NOTES:**

1. GAWR means Gross Axle Weight Rating and is dependent on all components of the vehicle such as axles, tires, wheels, springs, brakes, steering and frame strength meeting the manufacturer's recommendations. Always specify GAWR when purchasing a truck.
2. Minimum axle requirements may increase with use of diesel engines, longer wheelbase or service bodies. Contact the factory for further information.
3. Weight distribution calculations are required to determine final axle loading.
4. All chassis and crane combinations must be stability tested to ensure stability per ANSI B30.22



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1A-8

SECTION 1A. SPECIFICATIONS-A FRAME

IOWA MOLD TOOLING CO., INC.

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SECTION 2. CRANE REFERENCE

MAJOR CRANE ASSEMBLIES - POWER DOWN MODEL 3

MAJOR CRANE ASSEMBLIES - "A" FRAME MODEL 3

WELDMENT PART NUMBER LOCATIONS 4

GREASE ZERK LOCATIONS & LUBRICANT REQUIREMENTS 5

RECOMMENDED SPARE PARTS LIST 6

INSTALLATION 7

CRANE MOUNTING 7

HYDRAULIC INSTALLATION 8



2-2

NOTES

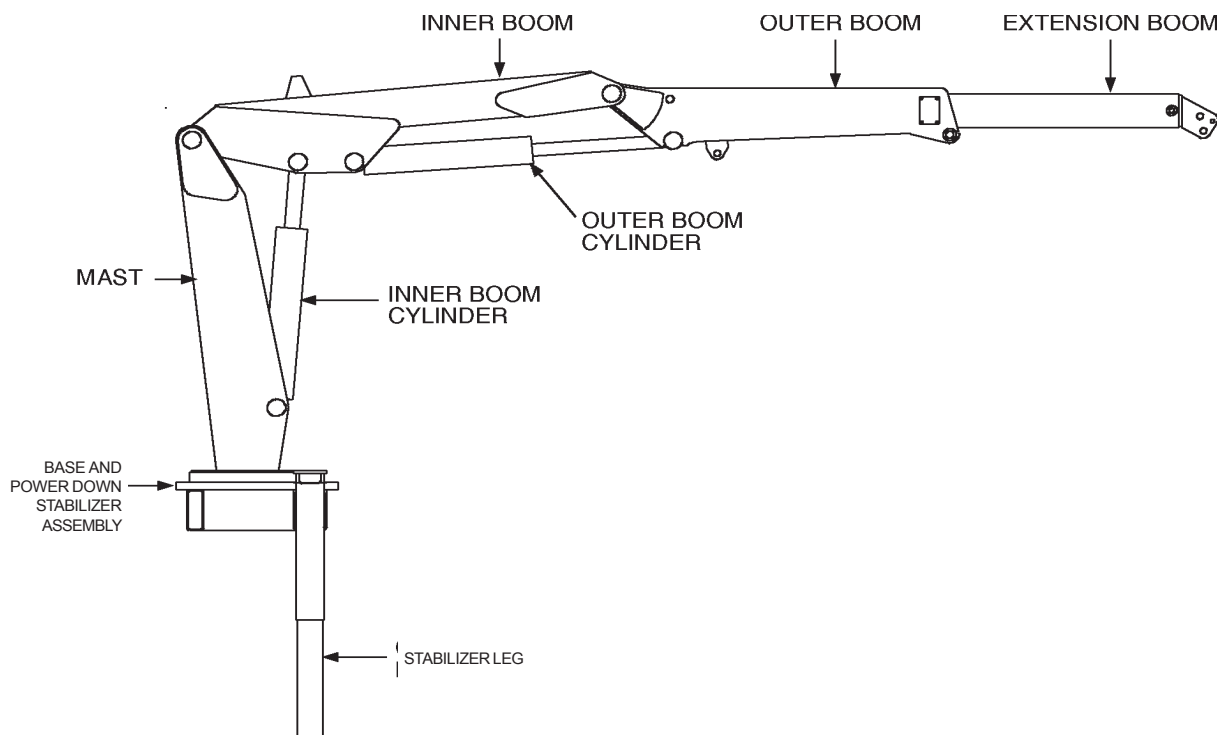
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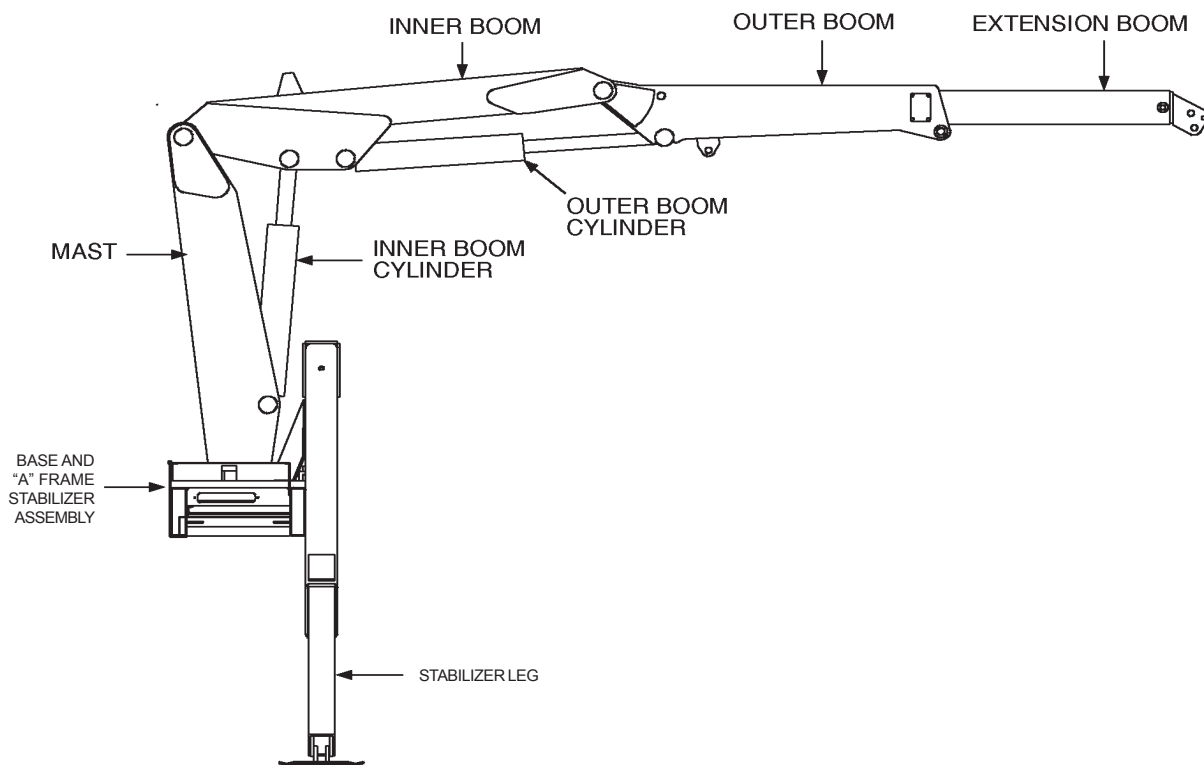
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SECTION 2. CRANE REFERENCE



MAJOR CRANE ASSEMBLIES - POWER DOWN MODEL



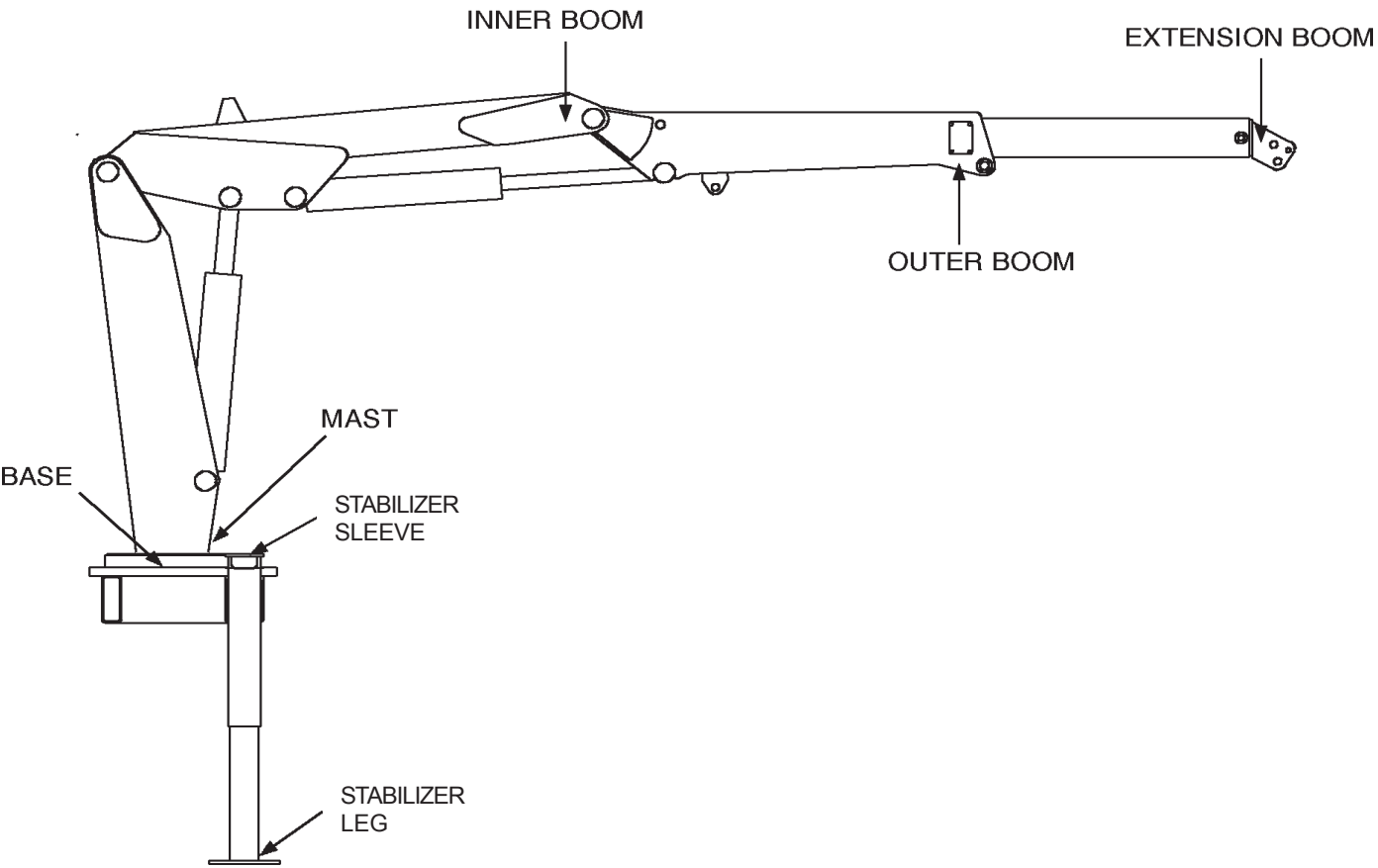
MAJOR CRANE ASSEMBLIES - "A" FRAME MODEL



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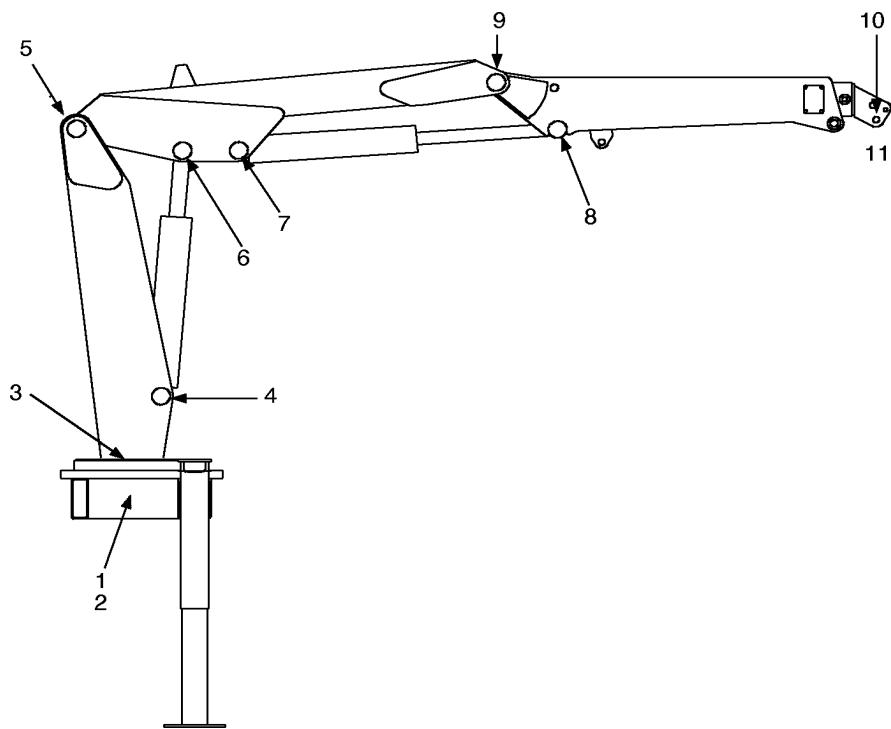
SECTION 2. CRANE REFERENCE



WELDMENT PART NUMBER LOCATIONS



GREASE ZERK LOCATIONS & LUBRICANT REQUIREMENTS



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		
	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.



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2-6

SECTION 2. CRANE REFERENCE

RECOMMENDED SPARE PARTS LIST**1 YEAR SUPPLY****7415 CRANE****FOR MANUAL: 99900760**

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 the minimal down-time waiting for parts. There may be parts failures not covered by this list. Parts not listed are considered as not being Critical or Normal Wear items during the first year of operations and you need to contact the distributor or manufacturer for availability.

ASSEMBLY DESIGNATION	ITEM NO.	PART NO.	DESCRIPTION	QTY	CODE	SHELF LIFE (MO)	ORDER QTY
41712290.01.19990216	BASE & MANUAL STAB ASM						
	10	60020187	BUSHING	1	W		
	11	60020115	BUSHING	1	W		
	12	60020116	BUSHING	1	W		
	13	60020188	BUSHING	1	W		
	31	71056265	PINION GEAR	1	W		
3B166820.01.19940609	POWER DOWN CYLINDER						
	5	73054004	VALVE	2	C		
	9	9B101214	SEAL KIT	2	W		
3B210522.01.19940609	POWER OUT CYLINDER						
	5	9B081012	SEAL KIT	2	W		
41712292.01.19990216	BASE &"A" FRAME STAB ASM						
	6	60020115	BUSHING	1	W		
	7	60020116	BUSHING	1	W		
	8	60020187	BUSHING	1	W		
	9	60020188	BUSHING	1	W		
	15	60030117	WEAR PAD	2	W		
	19	60030119	WEAR PAD	2	W		
51718065.02.20040129	EXTENSION CYLINDER						
	7	6H030020	HEAD	1	W		
	8	6I030106	PISTON	1	W		
	9	6C075020	SEAL KIT	2	C		
	28	73540052	C'BAL VALVE	2	W		
41701184.01.19970113	INNER BOOM ASM						
	3	7BF81520	BUSHING	4	W		
3C021611.01.19960108	INNER BOOM CYLINDER						
	3	6H060030	HEAD	1	W		
	4	6I060200	PISTON	1	W		
	5	73054242	COUNTERBALANCE VALVE	1	C		
	7	9C242432	SEAL KIT	1	W		
	21	7BF82020	BUSHING	2	W		
	22	7BF81520	BUSHING	2	W		
41703742.01.19970120	OUTER BOOM ASM WITH TIREHAND MOUNTING						
	3	7BF81520	BUSHING	4	W		
	7	60030018	WEAR PAD	2	W		
	9	60030083	WEAR PAD	1	W		
3C116612.01.19960108	OUTER BOOM CYLINDER						
	3	6H050020	HEAD	1	W		
	4	6I050181	PISTON	1	W		
	5	73054242	COUNTERBALANCE VALVE	1	C		
	6	9C202029	SEAL KIT	1	W		
	19	7BF81520	BUSHING	4	W		
41070018.01.19940505	EXTENSION BOOM						
	3	52701716	HOOK 5-TON	1	W		
	4	60030117	WEAR PAD	1	W		
91715301.01.19990216	HYDRAULIC KIT-8 SECTION OUT&DN						
	REF	70048148	FILTER	6	P		
	REF	73052014	FILTER	6	P		
91715471.01.19990216	HYDRAULIC KIT-8 SECTION "A" FRAME						
	REF	70048148	FILTER	6	P		
	REF	73052014	FILTER	6	P		
90713582.01.19980114	PROPORTIONAL REMOTE CONTROL KIT						
	1	77041390	AMP DRIVER	1	C		
	5	73054876	PRIORITY VALVE	1	W		
	10	77041251	RELAY	2	W		
	11	77041237	SOLENOID 12V	1	W		
	23	77041459	LIMIT SWITCH	2	W		
51713430.01.19961023	PROPORTIONAL REMOTE HANDLE ASM-6 FUNCTION						
	11	51707507	POTENTIOMETER	1	W		
	16	77040371	TOGGLE SWITCH SPST	1	W		
	17	77040372	TOGGLE SWITCH SPDT	6	W		
	18	77040373	TOGGLE SWITCH SPST	2	W		
51713570.01.19980219	CABLE ASM-JIC BOX 50"						
	3	77041345	TOGGLE SWITCH ST	2	W		
	4	77041354	TOGGLE SWITCH DT	1	W		



INSTALLATION

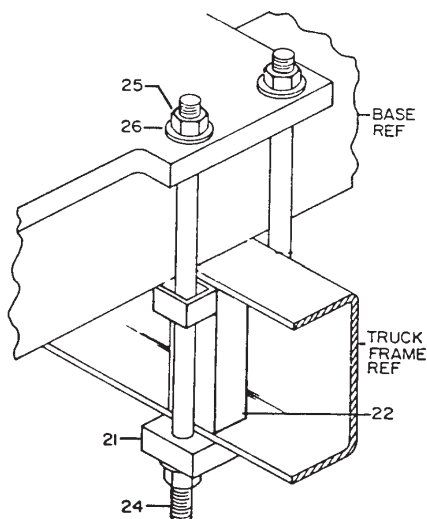
GENERAL

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).

CRANE MOUNTING

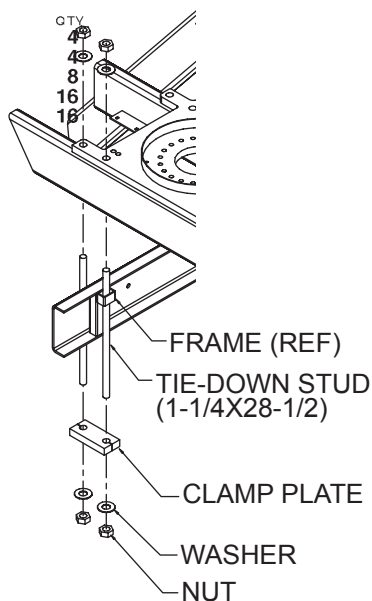
1. See SPECIFICATIONS in Section 1 for crane weight. Using an overhead hoist and fabric slings of adequate capacity, lift the crane about a foot to see if the crane is adequately balanced. If not, lower hoist and adjust slings. Re-check balance and re-position crane until mounting surface is level.

2. Install the truck frame support so that the tie-down studs pass through the supports (figures below). 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.



**CENTER
CRANE MOUNT
ILLUSTRATION**

ITEM	DESCRIPTION
21.	CLAMP PLATE
22.	FRAME SUPPORT
24.	TIE DOWN STUD
25.	LOCK NUT
26.	WASHER



**A-FRAME
CRANE MOUNT
ILLUSTRATION**

3. Allow 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 below. 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.

4. With a center mount installation, torque the 1"-8 UNC Grade 5 mounting hardware to 442 ft-lbs (62 kg-m). With an A-frame installation, torque the 1.25x28.5" tie down bolts to 840 ft-lb. 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) FOR A CENTER MOUNT, OR 840 FT-LB FOR AN A-FRAME MOUNT. EXCEEDING THESE TORQUE VALUES 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.



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2-8

SECTION 2. CRANE REFERENCE

HYDRAULIC INSTALLATION

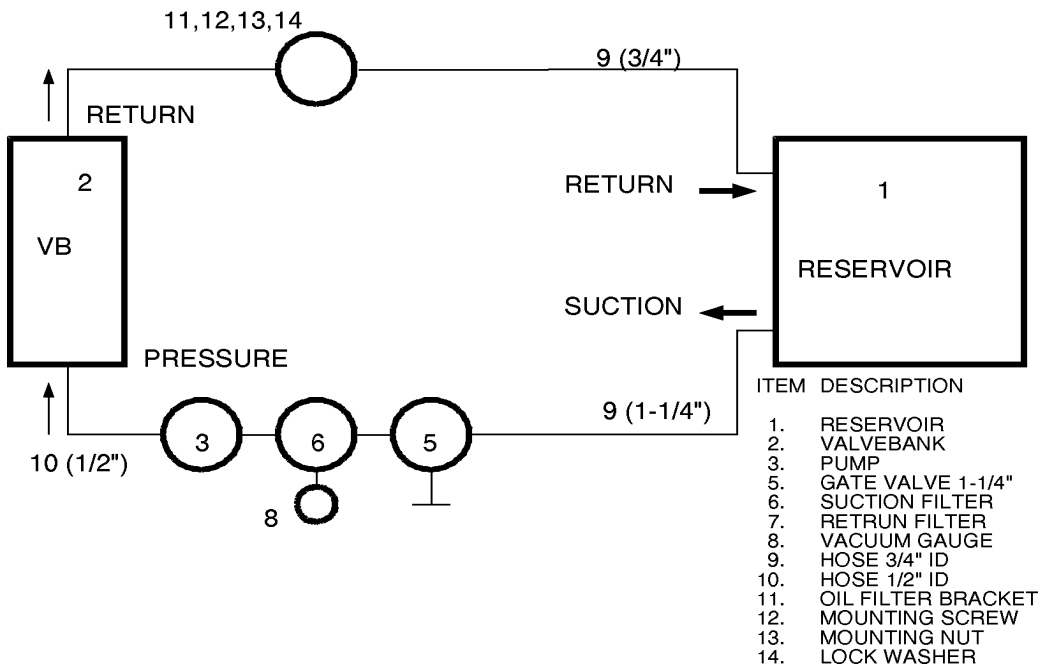
To install the hydraulic hoses, fittings, etc.:

1. Plumb the suction line filter as shown in figure below.
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.



HYDRAULIC INSTALLATION



SECTION 3: PARTS

PARTS INFORMATION	2
GENERAL	2
CRANE IDENTIFICATION	2
SERIAL NUMBER PLACARD	2
CYLINDER IDENTIFICATION	2
WELDMENT IDENTIFICATION	2
ORDERING REPAIR PARTS	2
CYLINDER PART NUMBER LOCATION	2
BASE & MNL STABILIZER ASM (41712290-1)	3
BASE & MNL STABILIZER ASM (41712290-2)	4
PWR OUT STABILIZER KIT (31712291)	5
PWR-DN STABILIZER CYLINDER (3B166820)	6
PWR OUT CYLINDER (3B210522)	7
BASE & A-FRAME STABILIZER ASM (41712292-1)	8
BASE & A-FRAME STABILIZER ASM (41712292-2)	9
EXTENSION CYLINDER (51718065)	10
MAST ASM (41711179)	11
INNER BOOM ASM (41701184)	12
INNER CYLINDER (3C021611)	13
OUTER BOOM ASM W/TIREHAND MNTG (41703742)	14
OUTER CYLINDER (3C116612)	15
EXTENSION BOOM (41070018)	16
INSTALLATION KIT-CTR MNT (93715104)	17
INSTALLATION KIT-A-FRAME (93715476)	18
HYD SHUTDOWN KIT A-FRAME (31713787) (EFF 9-4-02)	19
HYD SHUTDOWN KIT A-FRAME (31713787) (THRU 9-3-02)	20
HYD SHUTDOWN KIT OUT&DN (31713788)	21
(NOT AVAILABLE - SERVICE ONLY)	21
HYD KIT-8 SECT CTR MNT (91715301-1)	22
HYD KIT-8 SECT CTR MNT (91715301-2)	23
HYD KIT-8 SECT A-FRAME (91715474-1)	24
HYD KIT-8 SECT A-FRAME (91715474-2)	25
CONTROL KIT-MNL 6- FUNCTION (90704441)	26
VALVEBANK ASM 8-SECT (51715473)	27
VALVEBANK (51705394)	27
VALVEBANK (73731768)	27
LIGHT KIT-CRANE MAST MOUNTED (51717977) (EFF. 11/15/02)	28
OPTION - LIGHT KIT (31717218) (THRU 11/15/02)	29
CAPACITY ALERT KIT - 2800 PSI (31717169)	30
CAPACITY SHUTDOWN KIT - 2800 PSI (31717514)	30
OPTION-DRIVELINE MNTG (31701761)	31
HYD OVERLOAD KIT-3F (51717130)	32
PROP'L RMT CTRL KIT (90713582)	33
RMT HANDLE ASM-6 FUNCTION (51713430)	34
CABLE ASM-JIC BOX 50" (51713570)	35
TETHERED PROPORTIONAL REMOTE POTENTIOMETER ADJUSTMENT	35
DECAL KIT (95712293-1)	36
DECAL KIT (95712293-2)	37
HYD KIT-8 SECT RMT (91714594)	38
CTRL KIT-MNL 8F W/HYD SHUTDOWN (91714385-1)	39
CTRL KIT-MNL 8F W/HYD SHUTDOWN (91714385-2)	40
VALVEBANK ASM 8-SECT (51705505)	41



PARTS INFORMATION

GENERAL

This section contains the exploded parts drawings and accompanying parts lists 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 STATEMENTS MARKED WARNING, CAUTION, OR NOTE IN THAT SECTION. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN DAMAGE TO THE EQUIPMENT, PERSONAL INJURY, OR DEATH.

CRANE IDENTIFICATION

Every IMT crane has an identification placard (see figure) attached to the inner boom, mast or crane base. When ordering parts, communicating warranty information, or referring to the unit in correspondence, always include the serial number and model numbers. All inquiries should be addressed to:

Iowa Mold Tooling Co., Inc.
Box 189, Garner, IA 50438-0189
Telephone: 641-923-3711

IOWA MOLD TOOLING CO., INC. BOX 189, GARNER, IA 50438-0189	
MODEL NUMBER	
SERIAL NUMBER	
MFG DATE	
70029119	

SERIAL NUMBER PLACARD

Technical Support Fax: 641-923-2424

CYLINDER IDENTIFICATION

To insure proper replacement parts are received, it is necessary to specify the complete number/letter sequence for any part requested. Part numbers may be cross checked by comparing the stamped identification on the cylinder case (see figure below) against the information contained in the service manual. You must include the part number stamped on the cylinder case when ordering parts.

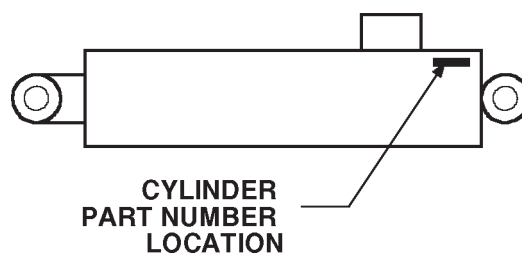
WELDMENT IDENTIFICATION

Each of the major weldments - base, mast, inner boom, outer boom, extension boom and stabilizer 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 Section 2.

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.



CYLINDER PART NUMBER LOCATION



00007415: 41712290.01.REV. G 20081104

3-3

SECTION 3. PARTS

BASE & MNL STABILIZER ASM (41712290-1)

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B166820	POWER DOWN CYLINDER	2
2.	51703624	RESERVOIR (PART OF 62)	1REF
3.	73052001	PLUG 3/4NPT MAG(PART OF 62)	1REF
4.	72531196	BARB NIPPLE 45° 1-1/4NPT 1-1/4 (PART OF 62)	1REF
5.	73014671	FILL CAP (PART OF 62)	1REF
6.	73141276	SCREEN (PART OF 62)	1REF
7.	52070138	T-PIN	2
8.	52701065	STABILIZER ARM	2
9.	52712287	BASE (INCL:10-14)	1
10.	60020187	BUSHING (PART OF 9)	1REF
11.	60020115	BUSHING (PART OF 9)	1REF
12.	60020116	BUSHING (PART OF 9)	1REF
13.	60020188	BUSHING (PART OF 9)	1REF
14.	71056011	DRIVE GEAR (PART OF 9)	1REF
15.	52704867	STABILIZER HOUSING	2
16.	52704868	STABILIZER LEG	2
17.	51395128	HOSE 1/8X31.5(PART OF HOSEKIT)	1REF
18.	51395387	HOSE 1/8X35.5(PART OF HOSEKIT)	1REF
19.	60010235	PINION COVER	1
20.	60010351	SPRING	2
21.	60010844	GREASE PLATE	1
22.	60030053	ROLLER	4
23.	60102767	COVER	1
24.	60102769	GUARD	1
25.	60106886	PINION SPACER	1
26.	60106032	STUD 1/2-13X2	2
27.	60106314	PIN	4
28.	60106968	PIN	2
29.	72060092	CAP SCR 1/2-13X1-1/4 HHGR5	2
30.	71056627	TURNTABLE GEAR-BEARING	1
31.	71056265	PINION GEAR	1
32.	71056264	INTERMEDIATE GEAR	1
33.	72532261	SIGHTGAUGE 3/4(PART OF 62)	1REF
34.	72053301	COUPLING 1/8NPT	2
35.	72053508	ZERK 1/8NPT	3
36.	72060002	CAP SCR 1/4-20X3/4 HHGR5	2
37.	72062107	NUT 1/2-13 CTR LOCK	4
38.	72060053	CAP SCR 3/8-16X2-3/4 HHGR5	2
39.	72060091	CAP SCR 1/2-13X1 HHGR5	3
40.	72060102	CAP SCR 1/2-13X5-1/2 HHGR5	4
41.	72060833	SCR 5/16-18X3/4 HH SLFTPG	2
42.	72062080	NUT 1/2-13 LOCK	2

CONTINUED ON FOLLOWING PAGE

43.	72062103	NUT 3/8-16 LOCK	4
44.	72063002	WASHER 5/16 WRT	2
45.	72063003	WASHER 3/8 WRT	2
46.	72063005	WASHER 1/2 WRT	3
47.	72063027	MACH BUSHING 5/8	2
48.	60106718	CHAIN	2
49.	72063075	MACH BUSHING 2X10GA NR	1
50.	72063049	WASHER 1/4 LOCK	2
51.	70058060	LINK-COLD SHUT	2
52.	72063053	WASHER 1/2 LOCK	5
53.	72063116	WASHER 3/4 FLAT	20
54.	72066095	RETAINING RING 2"	1
55.	72066125	RETAING RING 1"	4
56.	72066180	COTTER PIN 1/8X1-1/2	8
57.	72066185	COTTER PIN .16X1	2
58.	72601295	CAP SCR 3/4-10X3-1/2 HHGR8	20
59.	72060795	SCR 1/2-13X1-1/2 SH GR8	12
60.	73540004	HYD MOTOR (FROM 5-15-98)	1
	73051004	HYD MOTOR (TO 5-15-98)	1
	5V151830	MOTOR BLOCK (TO 5-15-98)	1
	73054470	C'BALANCE VALVE (TO 5-15-98)	2
	72060538	CAP SCR (TO 5-15-98)	4
	7Q072112	O-RING (TO 5-15-98)	2
61.	60010118	HOSE CLAMP	2
62.	51703624	RESERVOIR ASM (INCL:2-6,33)	1
63.	72531826	REDUCER BUSH 1/4X1/8NPT	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
67.	89393036	SLEEVE WEB-HD BLK 1"	4.5"

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.

TURNTABLE BEARING BACKLASH = .006"-.010"

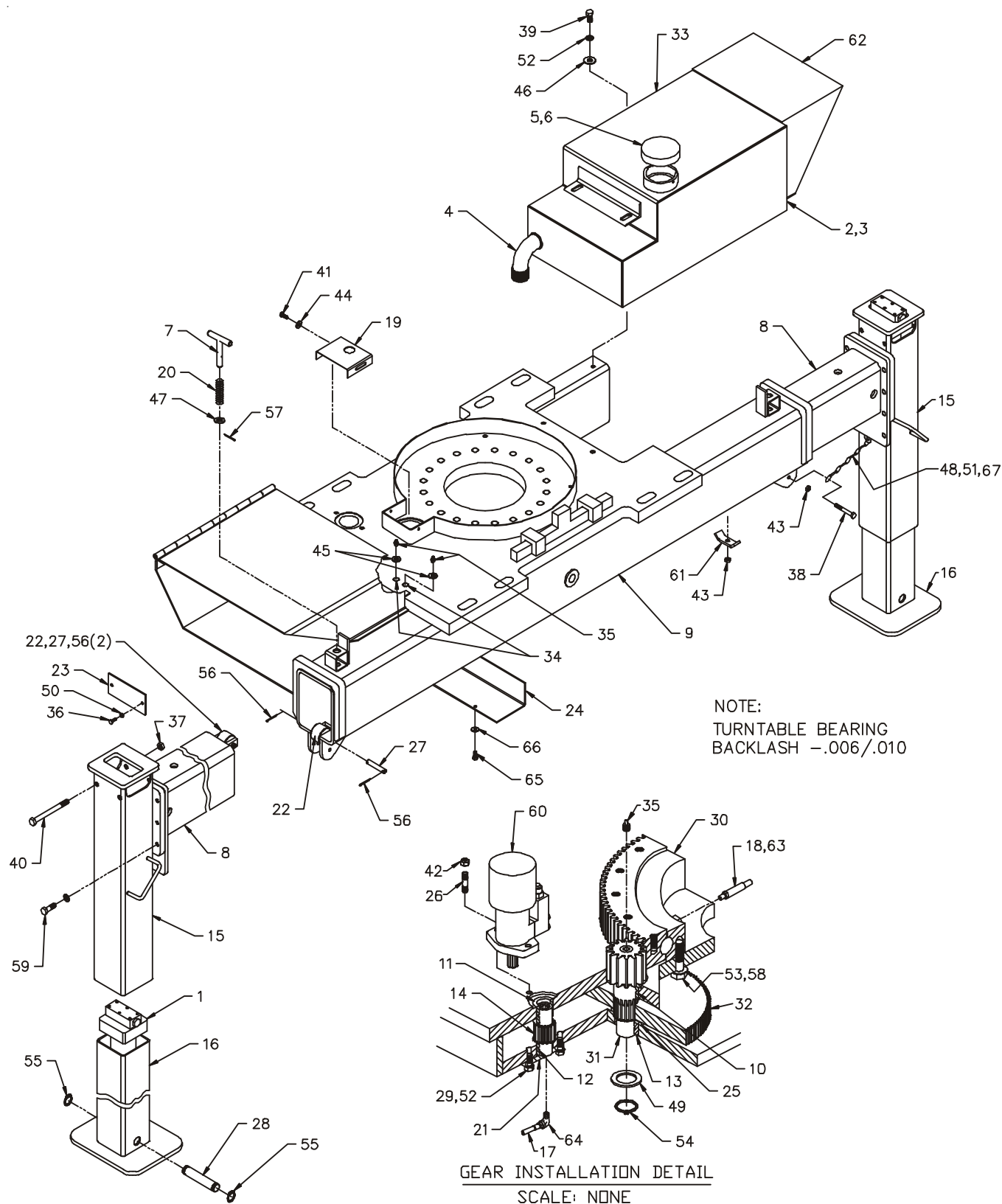


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3-4

SECTION 3. PARTS

BASE & MNL STABILIZER ASM (41712290-2)



NOTE

INSTALL 70399271 - DECAL-FULLY DEPLOYED - ON TOP OF STABILIZER BEAMS WHEN BEAMS ARE FULLY EXTENDED. DECAL MUST BE VISIBLE.



00007415: 31712291.01.20120104

3-5

SECTION 3. PARTS

PWR OUT STABILIZER KIT (31712291)

ITEM PART NO.	DESCRIPTION	QTY
1. 72532665	ADAPTER #4MJIC #8FJIC	4
2. 72531205	TEE 3/4JIC 1/2TUBE	2
3. 72532658	ELBOW #8MJIC #8FJIC SWVL	2
4. 51704008	HOSE ASM 3/8X25 FF	2
5. 51704022	HOSE ASM 1/4X13 FF	4
6. 3B210522	POWER OUT CYLINDER	2
7. 72532351	ADAPTER #4MSTR #4MJIC	4
8. 72532690	ELBOW #4MJIC #4FJIC SWVL	4
9. 60103202	PIN	1
10. 72063034	MACH BUSHING 1X10GA NR	2
11. 72066125	RETAINING RING 1 HD EXT	2
12. 60106281	PIN	2
13. 60106380	PIPE 1 SCH40 X 1-1/4	4
14. 72060581	SET SCR 3/8-16X3/4 SH	2
15. 71392277	DECAL-POWER OUT	1
16. 71039096	KNOB	2
17. 70141983	CONTROL HANDLE-VB SHORT	1
18. 94731839	LINK & PIN KIT	1
19. 52702018	CONTROL ROD-M	1
20. 52702016	CONTROL ROD-F	1
21. 72066168	COTTER PIN .09X.75	2
22. 72066338	CLEVIS PIN 5/16X1	2
23. 70141985	CONTROL HANDLE-DVB SHORT	1
24. 70399271	DECAL-FULLY DEPLOYED	2

WARNING

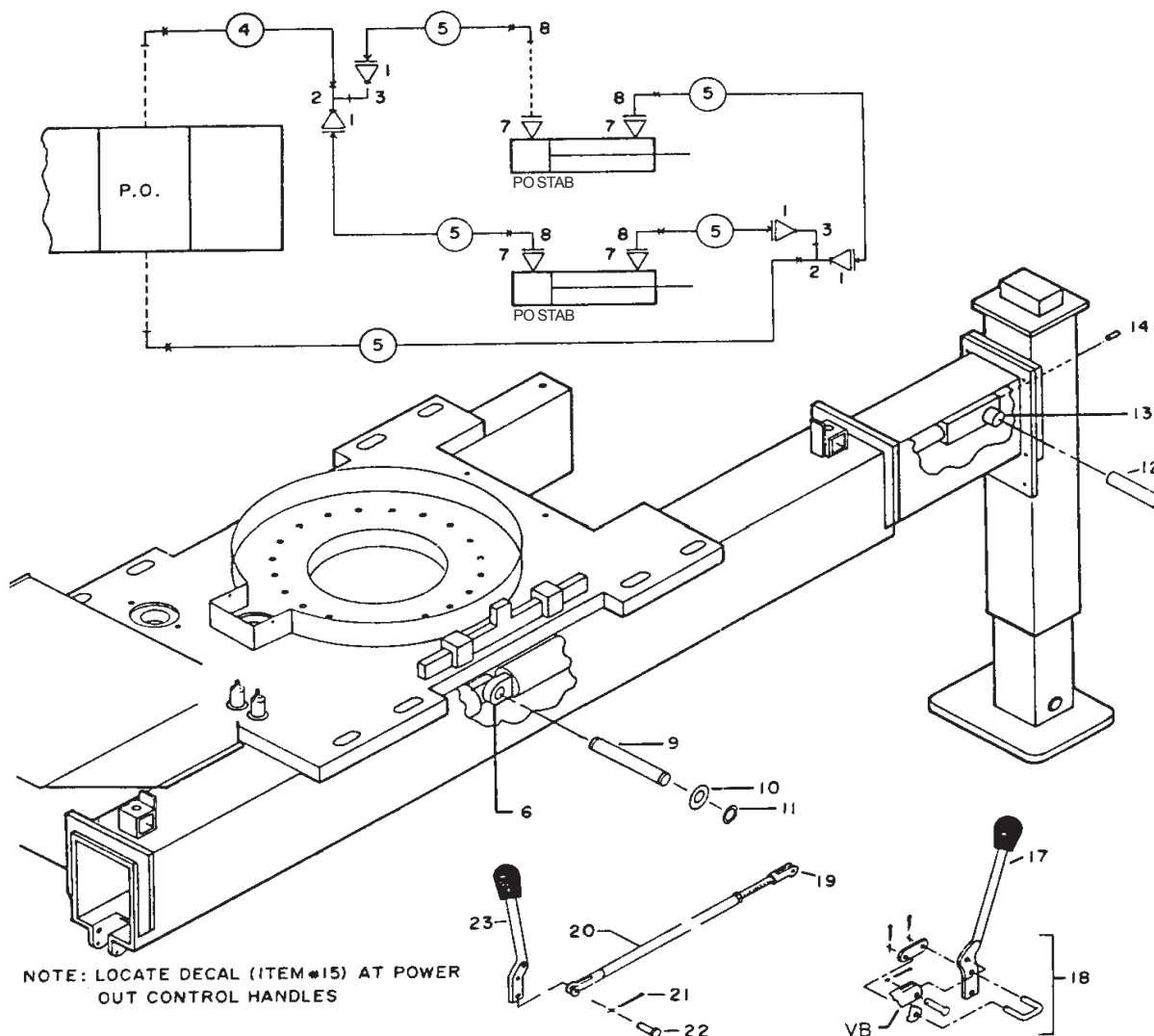
ANYTIME A GEAR-BEARING BOLT IS REMOVED, IT MUST BE REPLACED WITH A NEW BOLT OF THE IDENTICAL GRADE AND SIZE. FAILURE TO REPLACE GEAR-BEARING BOLTS MAY RESULT IN BOLT FAILURE DUE TO METAL FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

NOTE

ANYTIME THE PIN RETAINER PLATE BOLTS HAVE BEEN REMOVED, APPLY LOCTITE 262 TO THE THREADS BEFORE REASSEMBLY.

NOTE

INSTALL 70399271 - DECAL-FULLY DEPLOYED - ON TOP OF STABILIZER BEAMS WHEN BEAMS ARE FULLY EXTENDED. DECAL MUST BE VISIBLE.





00007415: 3B166820.01.REV C 20120410

3-6

SECTION 3. PARTS

**PWR-DN STABILIZER CYLINDER
(3B166820)**

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.	60138272	STOP TUBE (PART OF 9) (WAS 6A025015)	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
19.	60125699	PIN-LOCK TUBE (PART OF 9)	1REF

NOTE

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

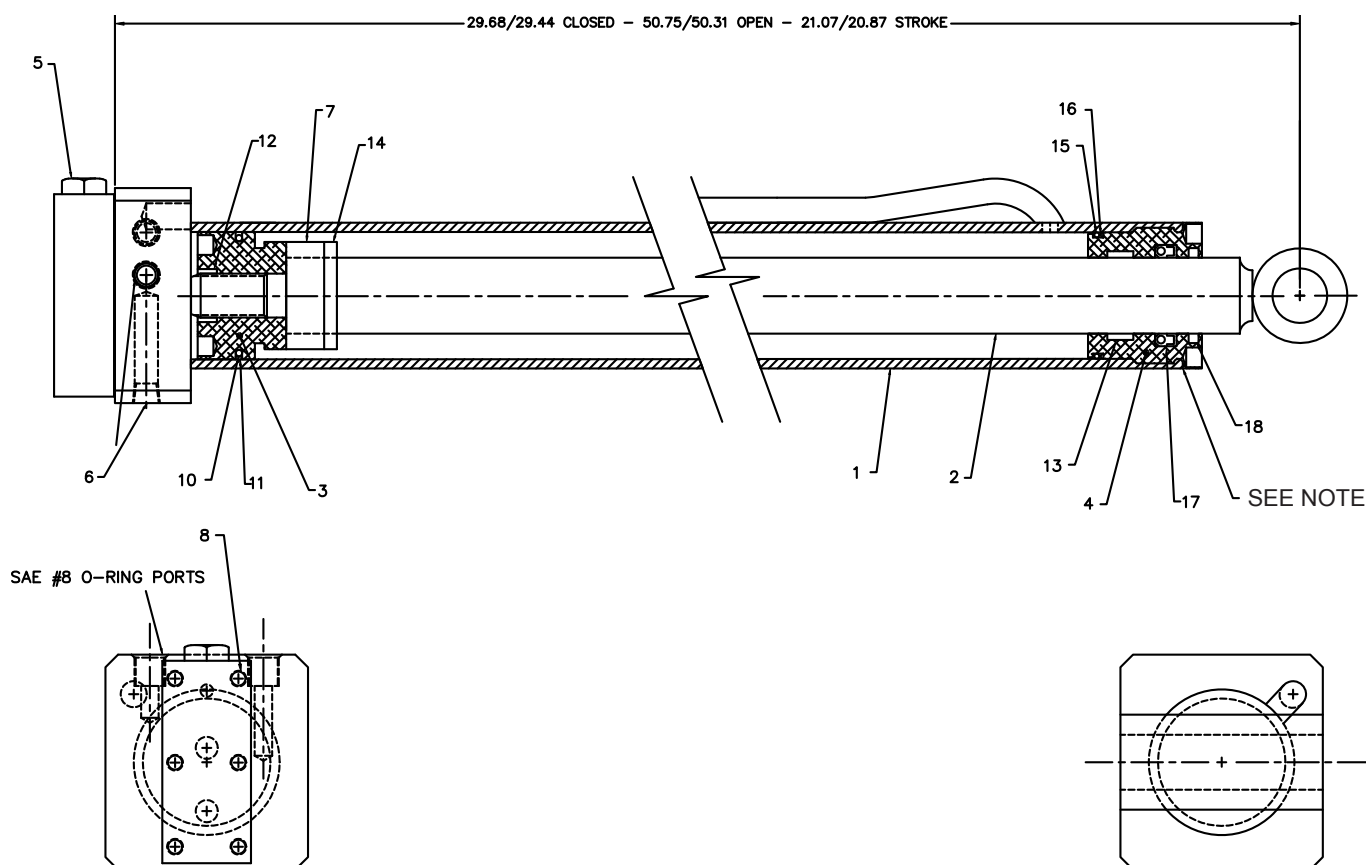
APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

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

ITEM #14, STOP TUBE, REPLACES 6A025015 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

PRESS LOCKING PIN (ITEM #19) INTO #15 HOLE DRILLED 0.188" DEEP.

TORQUE PISTON TO 100-130 FT-LB, HEAD TO 288 FT-LB, AND CARTRIDGE TO 30-35 FT-LB.





00007415: 3B210522.01.19940609

3-7

SECTION 3. PARTS

PWR OUT CYLINDER (3B210522)

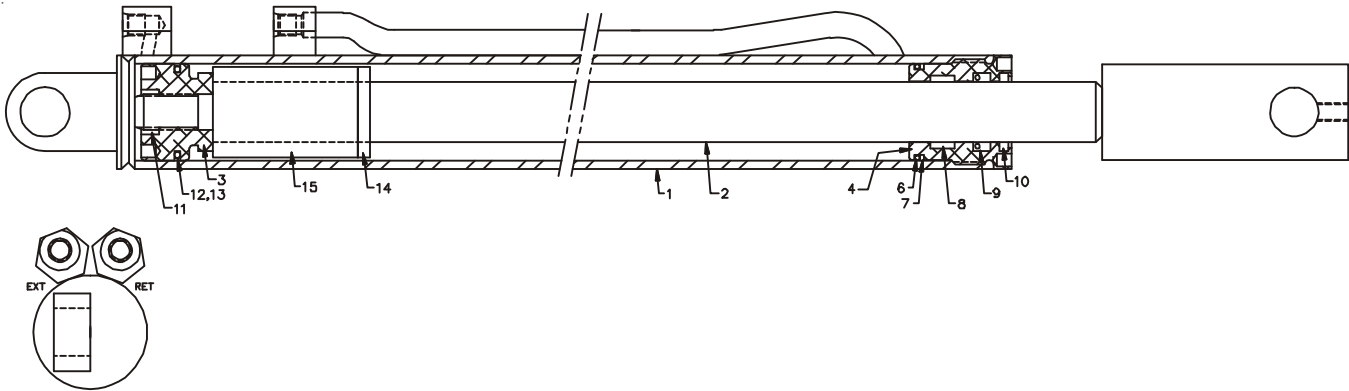
ITEM	PART NO.	DESCRIPTION	QTY
1.	4B210522	CASE ASM	1
3.	6I020075	PISTON	1
4.	6H020012	HEAD	1
5.	9B081012	SEAL KIT (INCL:6-14)	1
6.	7Q072224	O-RING (PART OF 5)	1REF
7.	7Q10P224	BACK-UP RING (PART OF 5)	1REF
8.	7T2N8012	WEAR RING (PART OF 5)	1REF
9.	7R546012	ROD SEAL (PART OF 5)	1REF
10.	7R14P012	ROD WIPER (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	WAFER LOCK (PART OF 5)	1REF
15.	6C300012	STOP TUBE	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.





00007415: 41712292.01.REV. H 20081104

3-8

SECTION 3. PARTS

**BASE & A-FRAME STABILIZER ASM
(41712292-1)**

ITEM PART NO.	DESCRIPTION	QTY
1. 3B116513	STABILIZER CYLINDER	2
2. 52713155	STABILIZER PAD	2
3. 52703565	RESERVOIR (PART OF 53)	1REF
4. 52705428	STABILIZER LEG	2
5. 52711142	BASE (INCL:6-10)	1
6. 60020115	BUSHING (PART OF 5)	1REF
7. 60020116	BUSHING (PART OF 5)	1REF
8. 60020187	BUSHING (PART OF 5)	1REF
9. 60020188	BUSHING (PART OF 5)	1REF
10. 71056011	DRIVE GEAR (PART OF 5)	1REF
11. 51395128	HOSE 1/8X31.5(PART OF HOSEKIT)	1REF
12. 51395387	HOSE 1/8X35.5(PART OF HOSEKIT)	1REF
13. 60010470	PIN	2
14. 60010844	GREASE PLATE	1
15. 60030117	WEAR PAD	2
16. 60101874	PIN	2
17. 60117218	GEAR GUARD	1
18. 60103367	COVER PLATE	1
19. 60030119	WEAR PAD	2
20. 60010235	PINION COVER	1
21. 60106032	STUD	2
22. 72063002	WASHER 5/16 WRT	2
23. 71056264	INTERMEDIATE GEAR	1
24. 71056265	PINION GEAR	1
25. 71056627	TURNTABLE GEAR	1
26. 72053281	STREET ELBOW 1/8NPT	1
27. 72053301	COUPLING 1/8NPT	2
28. 72053508	GREASE ZERK	3
29. 72060004	CAP SCR 1/4-20X1 HH GR5	4
30. 72060092	CAP SCR 1/2-13X1-1/4 HH GR5	2
31. 72060833	SCR 5/16-18X3/4 SLFTPG	8
32. 72062080	NUT 1/2-13 LOCK	2

CONTINUED ON FOLLOWING PAGE

33. 72063004	WASHER 7/16 WRT	2
34. 72063034	MACH BUSHING 1X10GA NR	8
35. 72063039	MACH BUSHING 2X10GA NR	1
36. 72063049	WASHER 1/4 LOCK	4
37. 72063053	WASHER 1/2 LOCK	2
38. 72063116	WASHER 3/4 HARD FLAT	20
39. 72066095	RETAINING RING 2 STD	1
40. 72066125	RETAING RING 1 HD	8
41. 72531550	BARB NIPPLE 1-1/4NPT (PART OF 53)	2REF
42. 72532261	SIGHT GAUGE 3/4NPT (PART OF 53)	1REF
43. 72601295	CAP SCR 3/4-10X3-1/2 HHGR8	20
44. 73014671	FILL CAP (PART OF 53)	1REF
45. 73540004	HYD MOTOR (FROM 5-15-98)	1
73051004	HYD MOTOR (TO 5-15-98)	1
5V151830	MOTOR BLOCK (TO 5-15-98)	1
73054538	C'BALANCE VALVE (TO 5-15-98)	2
72060738	CAP SCR (TO 5-15-98)	4
7Q072112	O-RING (TO 5-15-98)	2
46. 73052001	PLUG 3/4NPT MAG(PART OF 53)	1REF
47. 73141276	FILL NECK SCREEN (PART OF 53)	1REF
48. 60106886	THRUST WASHER (TO 5-15-98)	1
53. 51714623	RESERVOIR ASM-21GAL (INCL: 3,41,42,44,46,47)	1

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

TURNTABLE BEARING BACKLASH = .006"-.010"

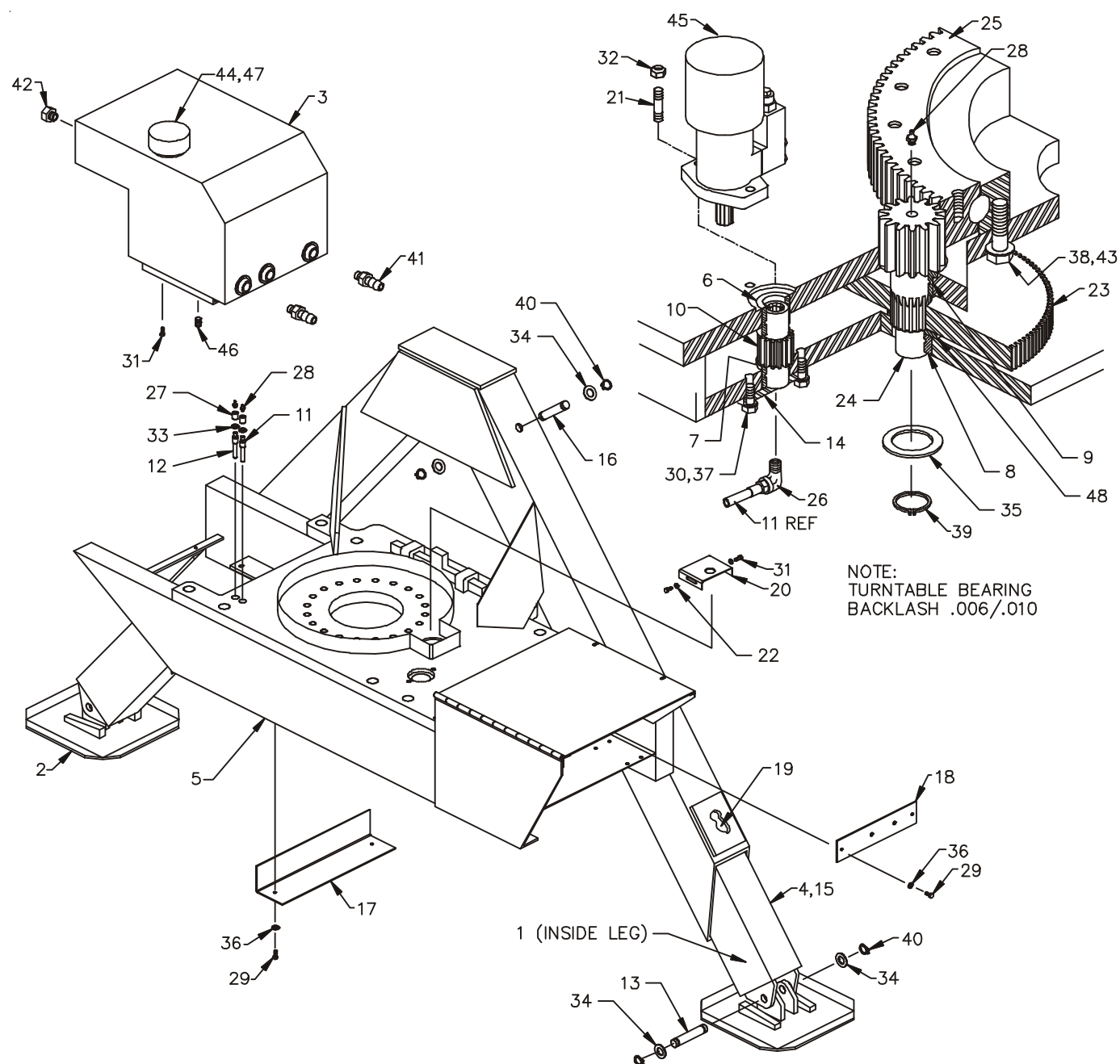


00007415: 41712292.02.19990216

3-9

SECTION 3. PARTS

BASE & A-FRAME STABILIZER ASM (41712292-2)





00007415: 51718065.01.REV. B 20070705

3-10

SECTION 3. PARTS

EXTENSION CYLINDER (51718065)

1.	4G116510 ROD ASSEMBLY	1
2.	52718045 CASE ASSEMBLY	1
3.	60125126 HOLDING VALVE	1
4.	6A025020 WAFER LOCK	1
5.	6c075020 STOP TUBE	3
8.	70149900 PORT TUBE	1
9.	72060055 CAP SCR .38-16X 3.50 HH GR5 Z	6
10.	72532358 ADPTR-M STR/M JIC 8 8	2
11.	73540052 VALVE-CBAL 1.75:1 3300 PSI ADJ (NOT SHOWN)	2
12.	7PNPXT02 PLUG-PIPE SOC HD TAPED .12	2
14.	7Q072016 O RING .62X .75X .06 70	5
15.	7Q072145 O RING 2.56X 2.75X .09 70	1
16.	7Q072334 O RING 2.62X 3.00X .19 70	1
17.	7Q10P334 BACKUP RING .62 ID X 3.00 OD	1
18.	7R14P020 ROD WIPER-TYPE D 2.00 ROD	1
19.	7R546020 U-CUP LOADED	1
20.	7T2N4022 WEAR RING-ROD	1
21.	7T61N106 LOCK RING NYLON 1.06"	1
22.	7T65I030 PISTON RING-3.00 HYD CYL	2
23.	7T66P030 PISTON SEAL-DYNAMIC 3.00in)	1
24.	9C121617 SEAL KIT-IMT 3.00B 2.00R 1.06S (INCL:4, 12-22)	1
25.	6H030020 HEAD-3.00 BORE X 2.00 ROD	1
26.	6I030106 PISTON-3.00 BORE X 1.06 STGR	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.

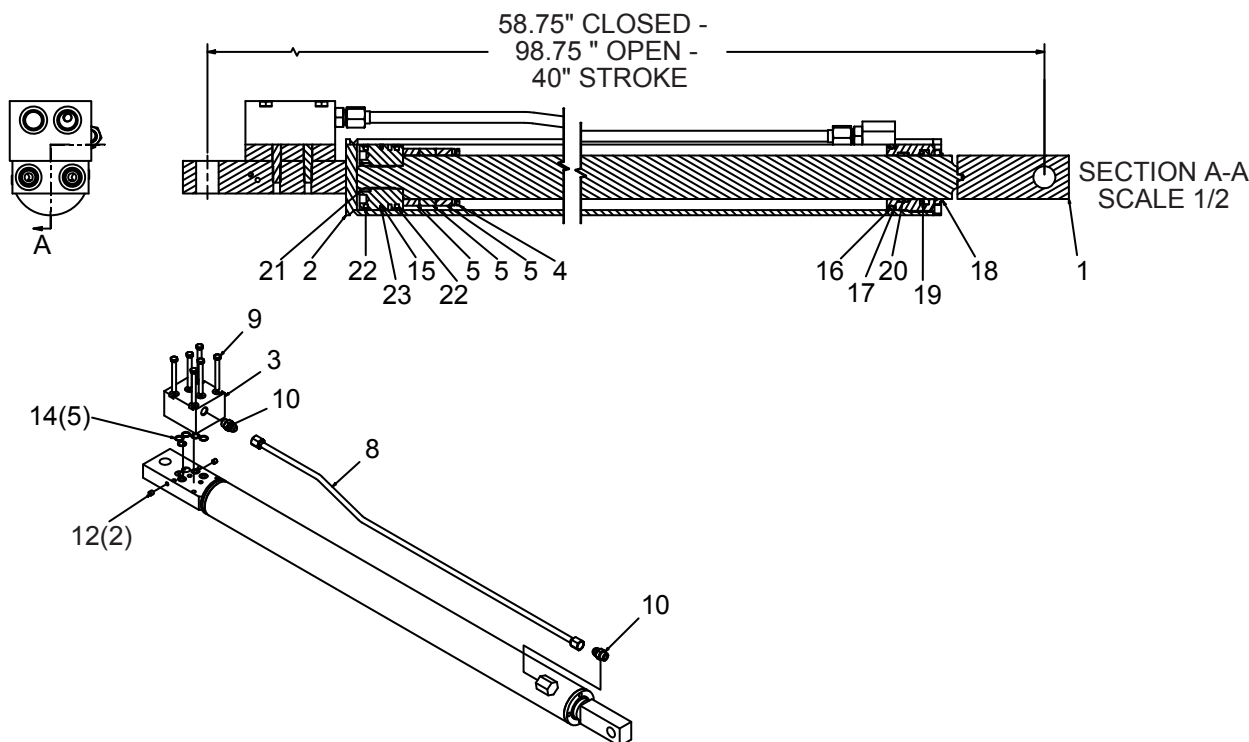
USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.

NOTE: 3B116513 USED THROUGH 2003. CYLINDER 51718065 EFFECTIVE ON ALL CRANES PRODUCED IN 2004 AND BEYOND.

NOTES:

1. PART ITEM #14 (2) AND ITEM #13 (3) ARE PLACED BETWEEN #2 AND #3.

2. USE SERVICEABLE LOCTITE ON #9.





00007415: 41711179.01.19940505

3-11

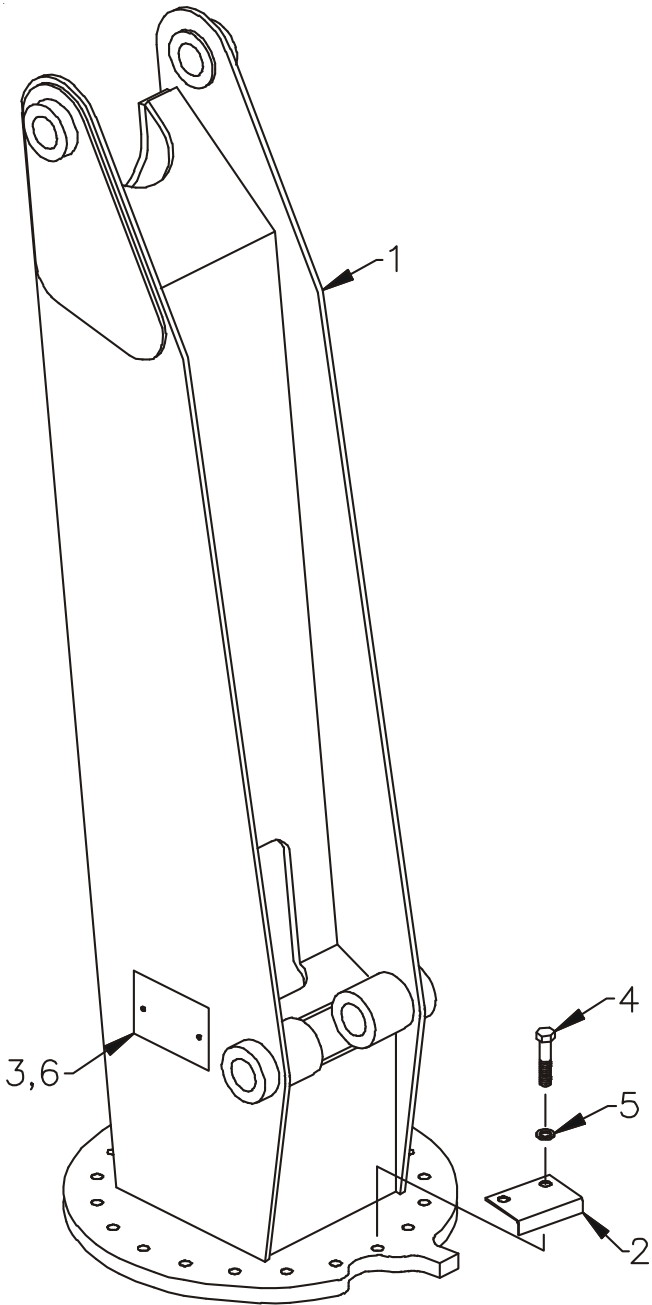
SECTION 3. PARTS

MAST ASM (41711179)

ITEM PART NO.	DESCRIPTION	QTY
1. 52705217	MAST	1
2. 60104539	PINION COVER	1
3. 70029119	SERIAL NO. PLACARD	1
5. 72060177	CAP SCR 5/8-11X3 HHGR8	20
6. 72063119	WASHER 5/8 HARD GR8	20
7. 72066340	POP RIVET 1/8X3/8	2

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.



00007415: 41701184.01.19970113

3-12

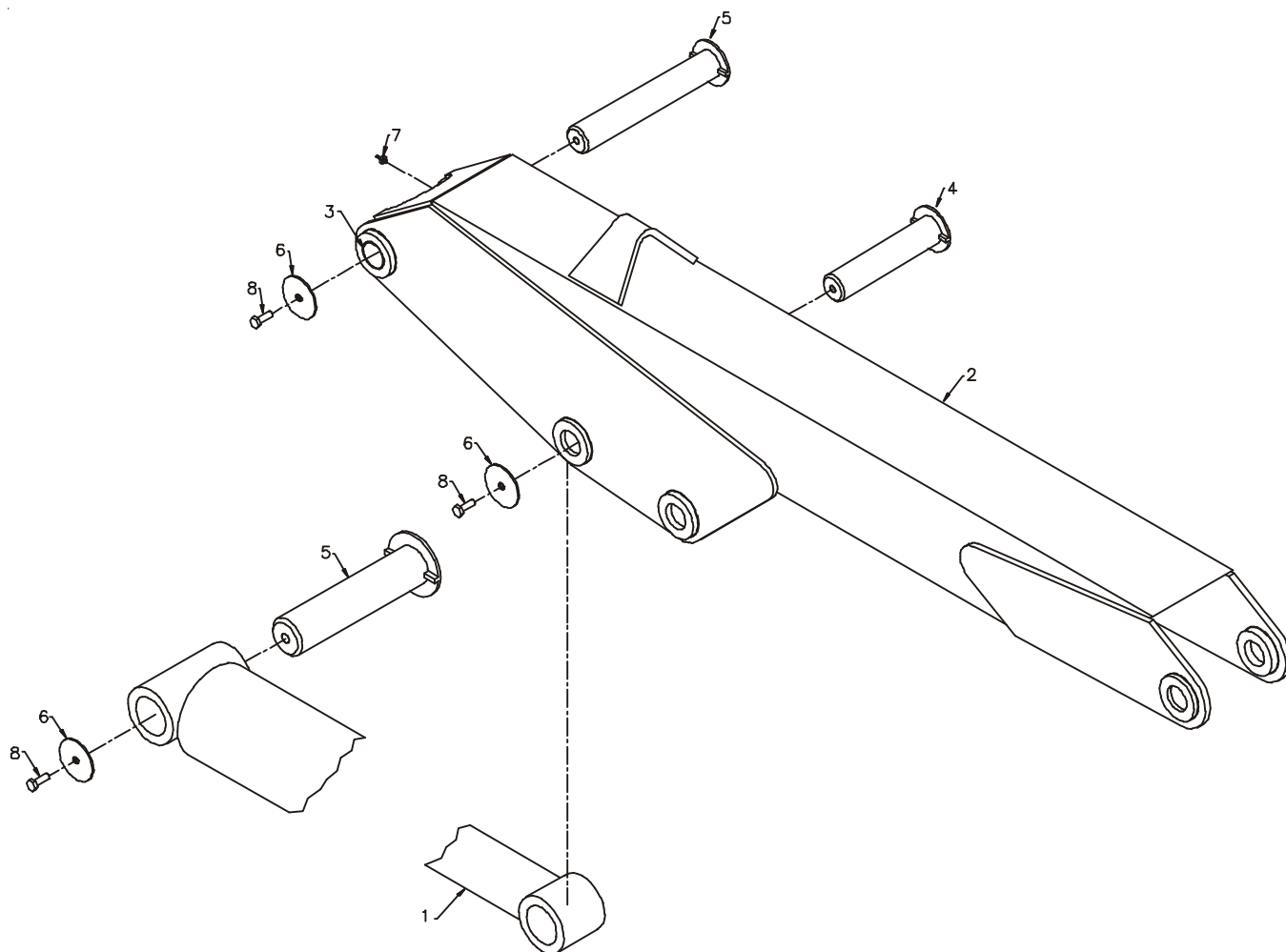
SECTION 3. PARTS

INNER BOOM ASM (41701184)

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





00007415: 3C021611.01.REV B 20120419

3-13

SECTION 3. PARTS

INNER CYLINDER (3C021611)

ITEM PART NO.	DESCRIPTION	QTY
1. 4C021611	CASE (INCL:19-22)	1
2. 4G021610	ROD (INCL:20-22)	1
3. 6H060030	HEAD	1
4. 6I060200	PISTON	1
5. 73054242	COUNTERBALANCE VALVE	1
6. 6C075030	STOP TUBE	1
7. 9C242432	SEAL KIT (INCL:8-18)	1
8. 7T2N4032	WEAR RING (PART OF 6)	1REF
9. 7T2N8032	WEAR RING (PART OF 6)	1REF
10. 7R546030	U-CUP LOADED (PART OF 6)	1REF
11. 7R14P030	ROD WIPER (PART OF 6)	1REF
12. 7T65I060	PISTON SEAL (PART OF 6)	1REF
13. 7Q072253	O-RING (PART OF 6)	1REF
14. 7T66P060	PISTON SEAL-DYNAMIC (#6)	1REF
15. 7T61N200	LOCK RING SEAL (PART OF 6)	1REF
16. 73054242	VALVE-CBAL 25 GPM	1
17. 60125699	PIN-LOCK TUBE (#6)	1
18. 7PNPXT02	PIPE PLUG (PART OF 1)	3REF
19. 7BF81520	BUSHING (PART OF 1 & 2)	2REF
20. 7BF82020	BUSHING (PART OF 1 & 2)	2REF
21. 72053507	ZERK 1/4-28 (PART OF 1 & 2)	2REF
22. 7Q10P358	BACK-UP RING (PART OF 6)	1REF
23. 60138277	STOP TUBE (#6)	1REF
(WAS 6A025030)		

NOTE

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

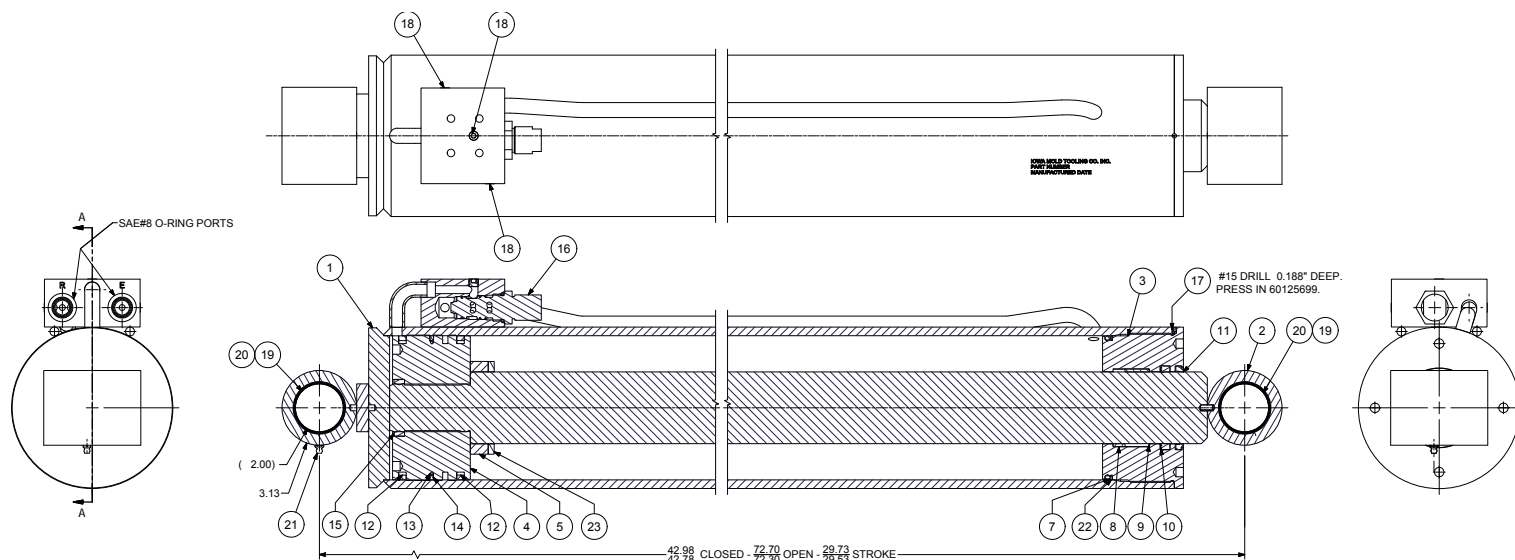
APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

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

ITEM #23, STOP TUBE, REPLACES 6A025030 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

PRESS LOCKING PIN (ITEM #17) INTO #15 HOLE DRILLED 0.188" DEEP.

TORQUE PISTON TO 710-740 FT-LB, HEAD TO 625 FT-LB, CARTRIDGE TO 65 FT-LB, LOCKNUT TO 12 FT-LB, AND CAP SCREW TO 16 FT-LB.



SECTION A-A



00007415: 41703742.01.19970120

3-14

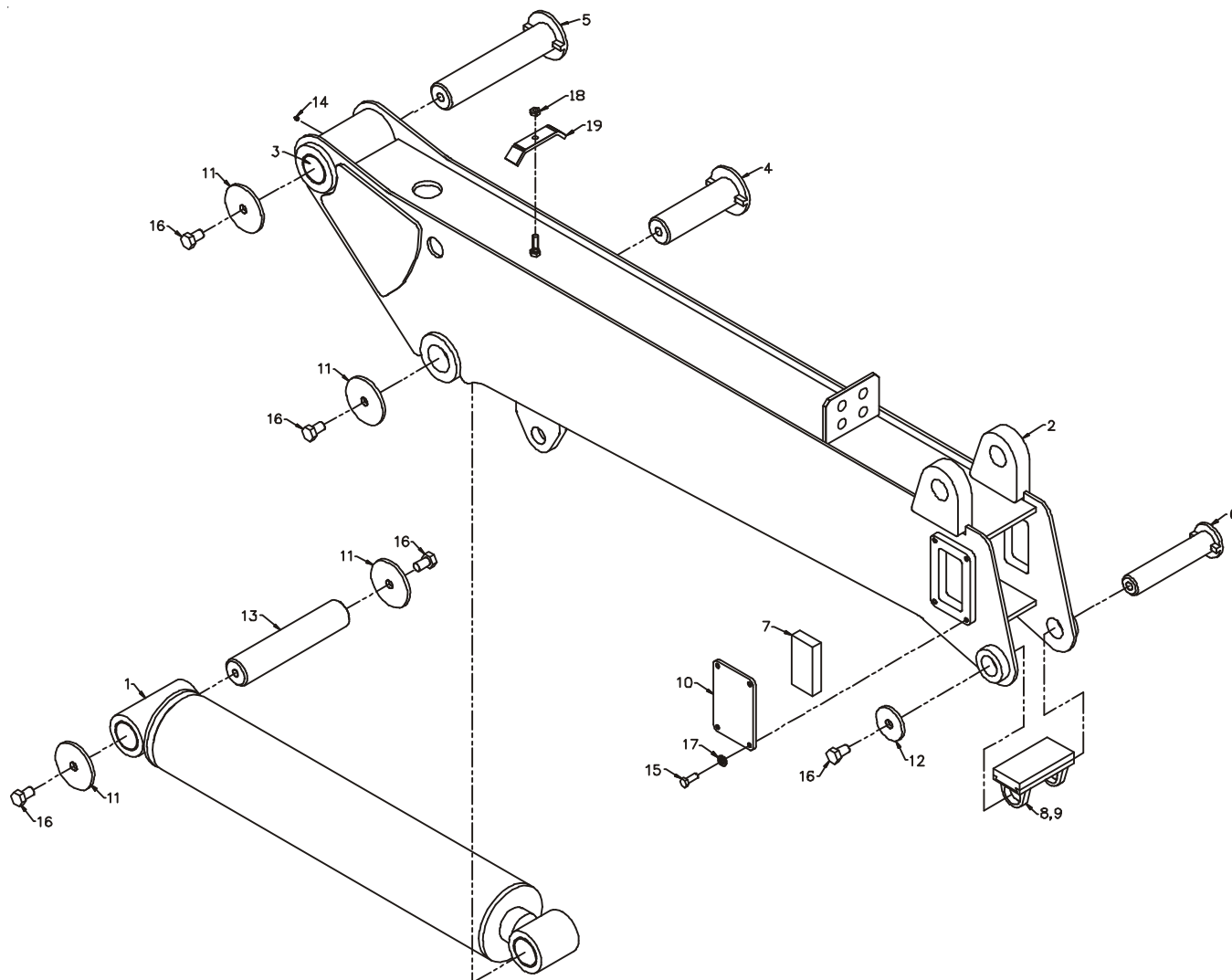
SECTION 3. PARTS

OUTER BOOM ASM W/TIREHAND MNTG (41703742)

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
18. 72062103	NUT 3/8-16 LOCK	1
19. 60010118	HOSE CLAMP	1

NOTE

ANYTIME THE PIN RETAINER PLATE BOLTS HAVE BEEN REMOVED, APPLY LOCTITE 262 TO THE THREADS BEFORE RE-ASSEMBLY.





00007415: 3C116612.01.REV C 20120419

3-15

SECTION 3. PARTS

OUTER CYLINDER (3C116612)

ITEM PART NO.	DESCRIPTION	QTY
1. 4C116611	CASE (INCL:17-19)	1
2. 4G116610	ROD (INCL:18 & 19)	1
3. 6H050020	HEAD	1
4. 6I050181	PISTON	1
5. 9C202029	SEAL KIT	1
6. 60138276	STOP TUBE (PART OF 5) (WAS 6A025025)	1
7. 7Q072157	O RING (PART OF 5)	1
8. 7Q072350	O RING (PART OF 5)	1
9. 7Q10P350	BACKUP RING (PART OF 5)	1
10. 7R14P025	ROD WIPER-TYPE D (PART OF 5)	1
11. 7R546025	U-CUP LOADED (PART OF 5)	1
12. 7T2N8027	WEAR RING-ROD	1
13. 7T61N181	LOCK RING-NYLON (PART OF 5)	1
14. 7T65I050	PISTON RING-5.00 HYD CYL (PART OF 5)	2
15. 7T66P050	PISTON SEAL DYN (PART OF 5)	1
16. 60125699	PIN - LOCK TUBE (PART OF 5)	1
17. 72053507	ZERK-STR THD .25-28 (#1 & #2)	2
18. 7BF81520	BUSHING-STL 2.00 PIN X 1.50 LG (#1 & #2)	4
19. 73054242	VALVE-CBAL 25GPM	1
20. 7PNPXT02	PLUG-PIPE SOC HD (#1)	3

NOTE

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

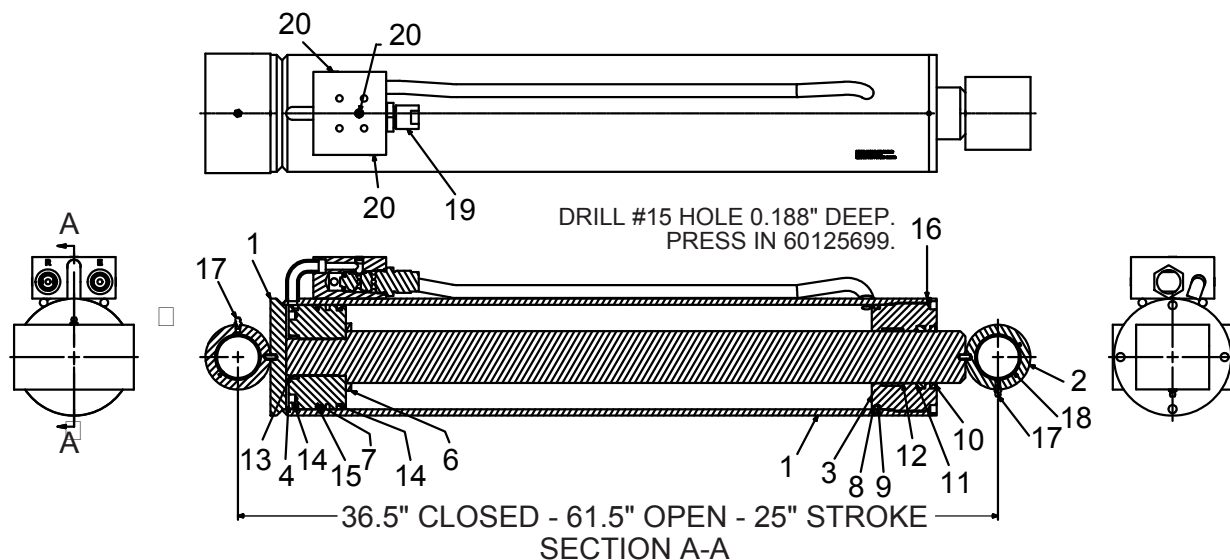
APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

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

ITEM #6, STOP TUBE, REPLACES 6A025025 WAFER LOCK. USE STOP TUBE INSTEAD OF WAFER LOCK WHEN RESEALING CYLINDER.

PRESS LOCKING PIN (ITEM #16) INTO #15 HOLE DRILLED 0.188" DEEP.

TORQUE PISTON TO 710-740 FT-LB, HEAD TO 525 FT-LB, CARTRIDGE TO 65 FT-LB, LOCKNUT TO 12 FT-LB, AND CAP SCREW TO 16 FT-LB.





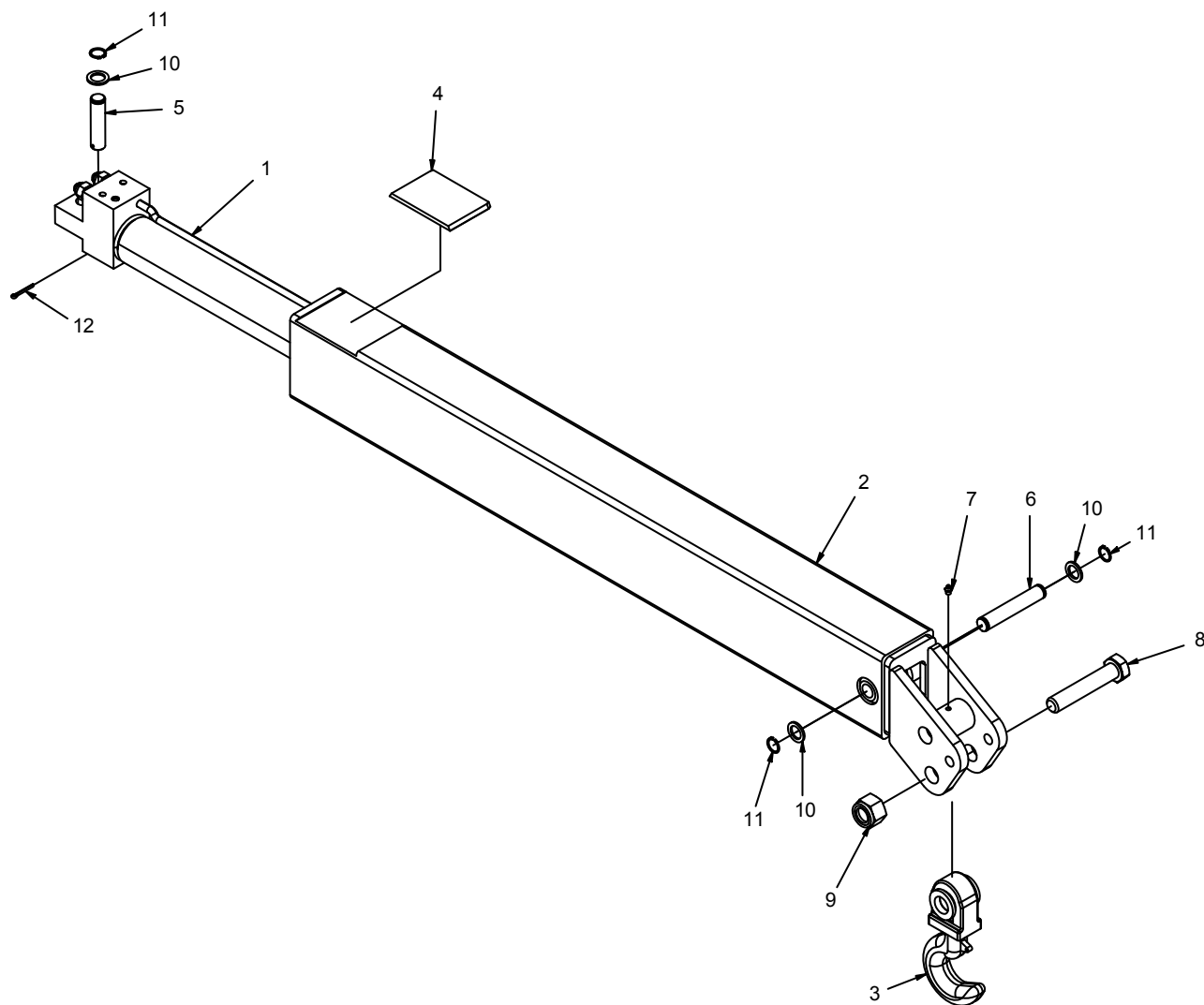
00007415: 41070018.01.REV D 20060616

3-16

SECTION 3. PARTS

EXTENSION BOOM (41070018)

ITEM PART NO.	DESCRIPTION	QTY
1. 51718065	EXTENSION CYLINDER (WAS 3B116513 THROUGH 2003)	1
2. 52070019	EXTENSION BOOM	1
3. 52701716	HOOK 5-TON	1
4. 60030117	WEAR PAD	1
5. 60101905	PIN	1
6. 60102522	PIN	1
7. 72053508	ZERK 1/8NPT	1
8. 72060238	CAP SCR 1 1/4-7X6 HH GR5	1
9. 72062243	NUT 1 1/4-7 HEX NYLOCK	1
10. 72063034	MACH BUSHING 1X10GA	3
11. 72066125	RETAINING RING 1" HD	3
12. 72066194	COTTER PIN .19X1-1/2	1





00007415: 93715104.01.REV B 20071005

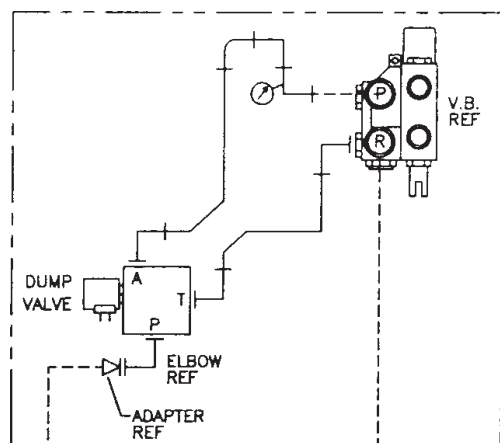
3-17

SECTION 3. PARTS

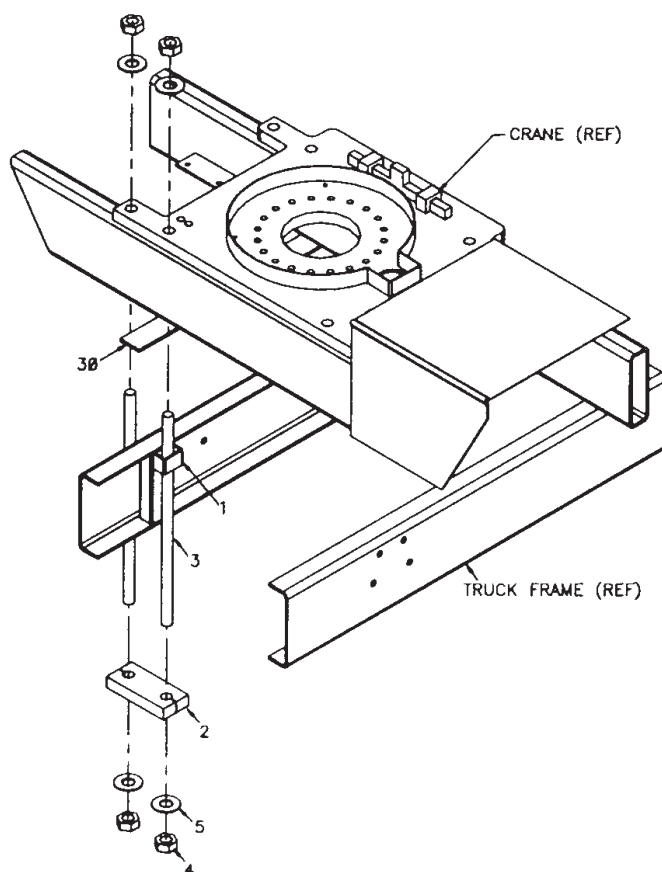
INSTALLATION KIT-CTR MNT (93715104)

ITEM PART NO.	DESCRIPTION	QTY
1. 52706660	SUPPORT	4
2. 60010354	CLAMP PLATE	4
3. 71014053	TIE DOWN STUD 1-8X26	8
4. 72062141	NUT 1-8 LOCK	16
5. 72063066	WASHER 1" HI-STR	16
6. 73052091	RETURN FILTER	1
7. 73052012	SUCTION FILTER	1
8. 60103870	OIL FILTER BRACKET	2
9. 72060025	CAP SCR 5/16-18X1 HH GR5	4
10. 72062109	NUT 5/16-18 LOCK	4
11. 70048031	VACUUM GAUGE	1
12. 72661642	CLAMP (WAS 72066516)(2REF)	6
13. 72532346	BARB NIPPLE 1-1/4 1-1/4 90°	3
14. 72531550	BARB NIPPLE 1-1/4MPT (2REF)	1

15. 72531196	BARB NIPPLE 1-1/4NPT 45°	1
16. 72053436	REDUCER COUPLING 1-3/4NPT	1
17. 72053301	COUPLING 1/8NPT	2
18. 72053558	ADAPTER 3/4MPT 3/4MPT	1
19. 72532834	BEAD NIPPLE 1MPT 1-1/4 90°	1
20. 72053002	PIPE NIPPLE 1/8NPTX2	2
21. 72053281	STREET ELBOW 1/8NPT 90°	2
22. 73054232	BALL VALVE 1-1/4NPT	2
23. 72053211	PIPE NIPPLE 1-1/4NPT X CLOSE	2
24.	PUMP	1REF
25.	PUMP ADAPTER	2REF
26. 72053287	STREET ELBOW 1-1/4NPT 90°	1
27. 60035832	HOSE 1-1/4 100R4X38(HYD KIT)	2REF
28. 60035829	HOSE 1-1/4 100R4 X 48	2
29. 51395384	HOSE 1/2X72 #8F#8F (HOSE KIT)	1REF
30. 60103563	BAR	2

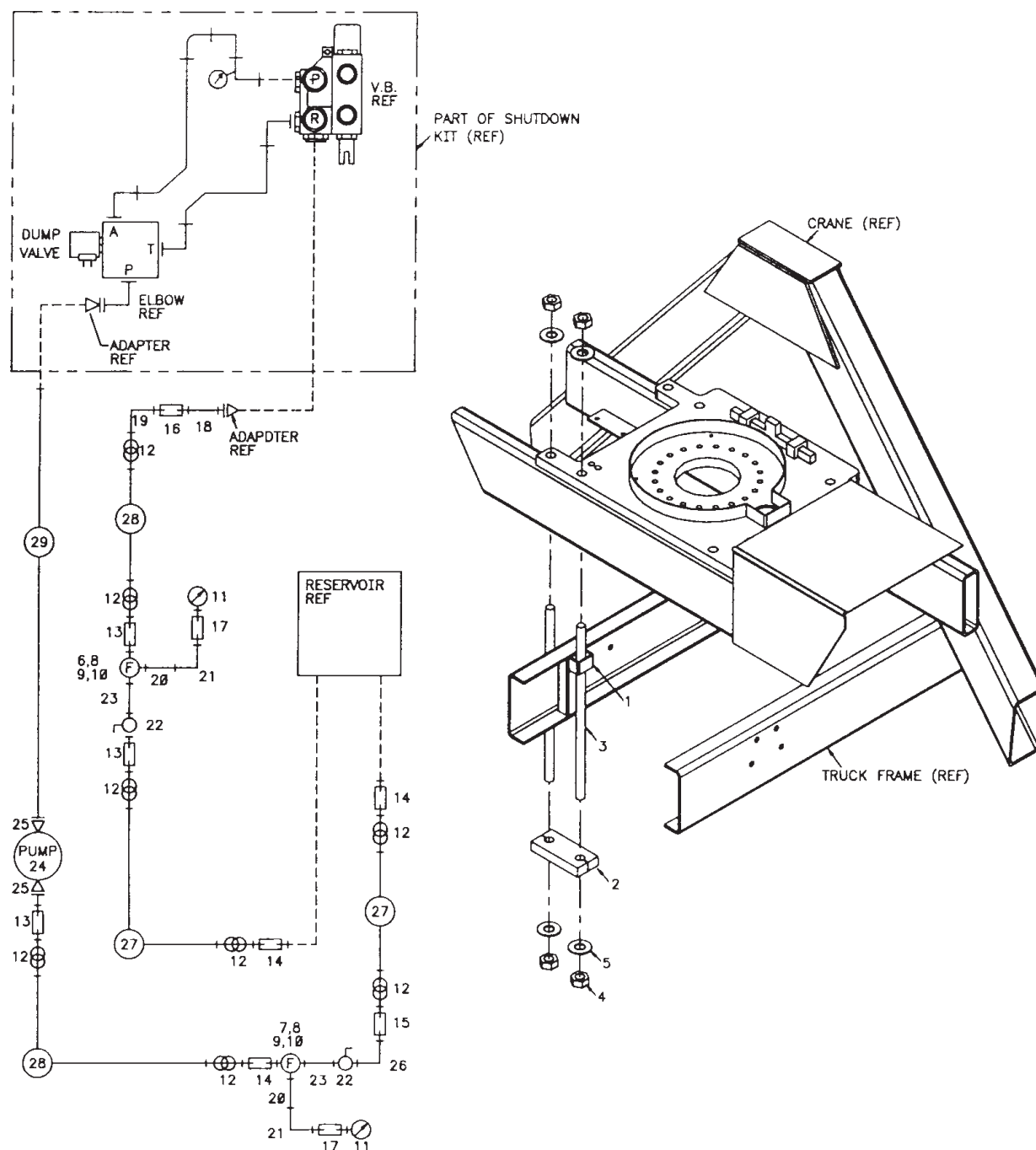


PART OF SHUTDOWN KIT (REF)



INSTALLATION KIT-A-FRAME (93715476)

ITEM PART NO.	DESCRIPTION	QTY
1. 52706660	FRAME SUPPORT	4
2. 60128960	CLAMP PLATE (WAS 60010665)	4
3. 71014847	TIE-DOWN STUD 1-1/4X28-1/2	8
4. 72062142	NUT 1 1/4-7 LOCK	16
5. 72063067	WASHER 1-1/4 HI STRENGTH	16
6. 73052091	RETURN FILTER	1
7. 73052012	SUCTION FILTER	1
8. 60103870	OIL FILTER BRACKET	2
9. 72060025	CAP SCR 5/16-18X1 HH GR5	4
10. 72062109	NUT 5/16-18 LOCK	4
11. 70048031	VACUUM GAUGE	2
70048149	ELEMENT 100MESH(PART OF 9)	1REF
73052014	ELEMENT 25MIC (PART OF 9)	1REF
12. 72661642	CLAMP (WAS 72066516) (2REF)	6
13. 72532346	BARB NIPPLE 1-1/4NPT 90°	3
15. 72531196	BARB NIPPLE 1-1/4NPT 45°	1
16. 72053436	REDUCER COUPLING 1 - 3/8NPT	1
17. 72053301	COUPLING 1/8NPT	2
18. 72053558	ADAPTER 3/4MPT 3/4MPT	1
19. 72532834	BEAD NIPPLE 1MPT 1-1/4 90°	1
20. 72053002	PIPE NIPPLE 1/8NPT X 2	2
21. 72053281	STREET ELBOW 1/8NPT 90°	2
22. 73054232	BALL VALVE 1-1/4NPT	2
23. 72053211	PIPE NIPPLE 1-1/4 X CLOSE	2
24.	PUMP	1REF
25.	PUMP ADAPTER	2REF
26. 72053287	STREET ELBOW 1-1/4NPT 90°	1
27. 60035832	HOSE 1-1/4X38 (HYD KIT)	2REF
28. 60035829	HOSE 1-1/4X48	2
29. 51395384	HOSE 1/2X72 #8F#8F(HOSE KIT)	1REF





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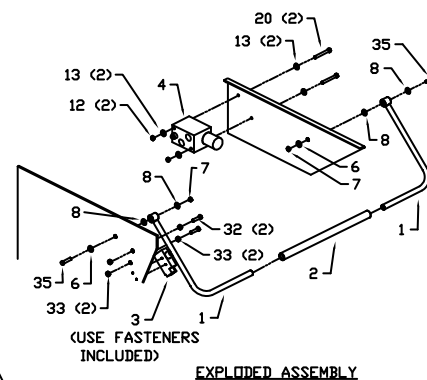
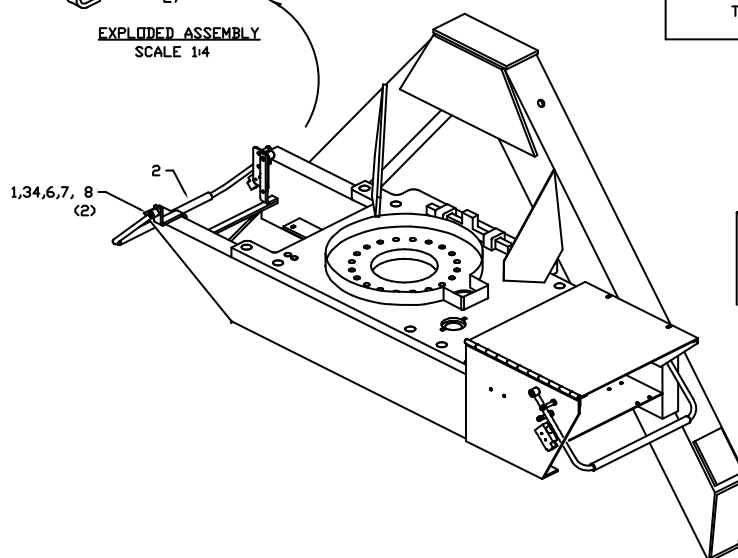
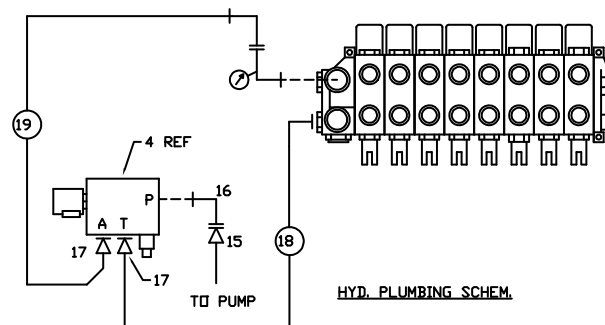
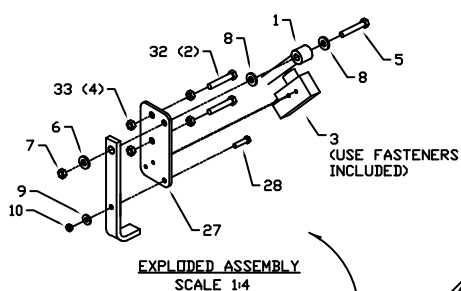
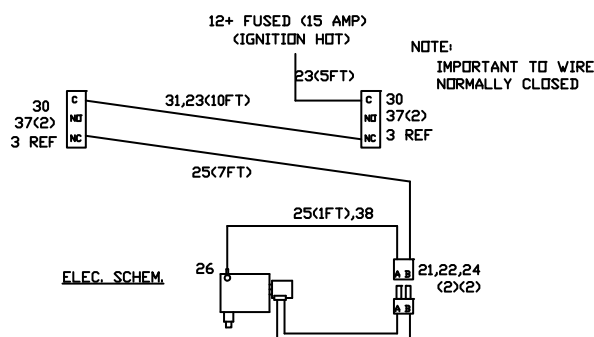
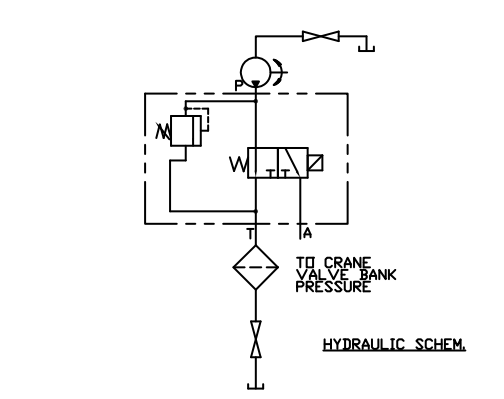
3-19

SECTION 3. PARTS

**HYD SHUTDOWN KIT A-FRAME
(31713787) (EFF 9-4-02)**

ITEM PART NO.	DESCRIPTION	QTY
1. 52713782	HANDLE	4
2. 60120092	TUBE	2
3. 77041459	LIMIT SWITCH	2
4. 73055278	VALVE ASM	1
5. 72060052	CAP SCR 3/8-16X2.50 HHGR5	1
6. 72063003	WASHER 3/8 WRT	4
7. 72062103	NUT 3/8-16 LOCK	4
8. 72063215	WASHER 3/8 SS BELLEVILLE	8
9. 72063001	WASHER 1/4 WRT	1
10. 72062104	NUT 1/4-20 LOCK	1
12. 72062109	NUT 5/16-18 LOCK	2
13. 72063002	WASHER 5/16 WRT	4
15. 72532972	ADAPTER #8MJIC #12FJIC	1
16. 72053767	ELBOW #12MSTR #12MJIC 90°	1
17. 72532366	ADPTR #12MSTR #12MJIC	2

18. 51395389	HOSE 3/4X26 #12#12 FJ(HOSEKIT)	1REF
19. 51395388	HOSE 3/4X14 #12#12 FJ(HOSEKIT)	1REF
20. 72060038	CAP SCR 5/16-18X4-1/2 HHGR5	2
21. 77044573	CONN 2-WAY	1
22. 77044552	TERM MALE 18-20GA	2
23. 89044232	WIRE 14GA RED	15FT
24. 70394069	SEAL-CABLE CONNECTOR	2
25. 89044274	WIRE 14GA BLK	8FT
26. 77040000	TERMINAL #10 RING 16-14GA	1
27. 60120438	BRACKET	1
28. 72060004	CAP SCR 1/4-20X1 HHGR5	1
30. 77044468	STRAIN RELIEF 1/2	2
31. 89044331	LOOM	11FT
32. 72060050	CAP SCR 3/8-16X2 HHGR5	4
33. 72062002	NUT 3/8-16 HEX	8
34. 72060030	CAPSCR 5/16-18X2-1/4 HHGR5Z	1
35. 72060031	CAP SCR 5/16-18X2 HHGR5Z	2
37. 77040051	TERM #8 STUD 16-14GA	4
38. 89034048	SPIRAL WRAP-CLEAR	3FT





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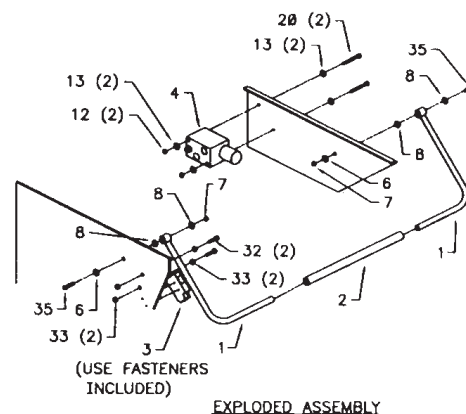
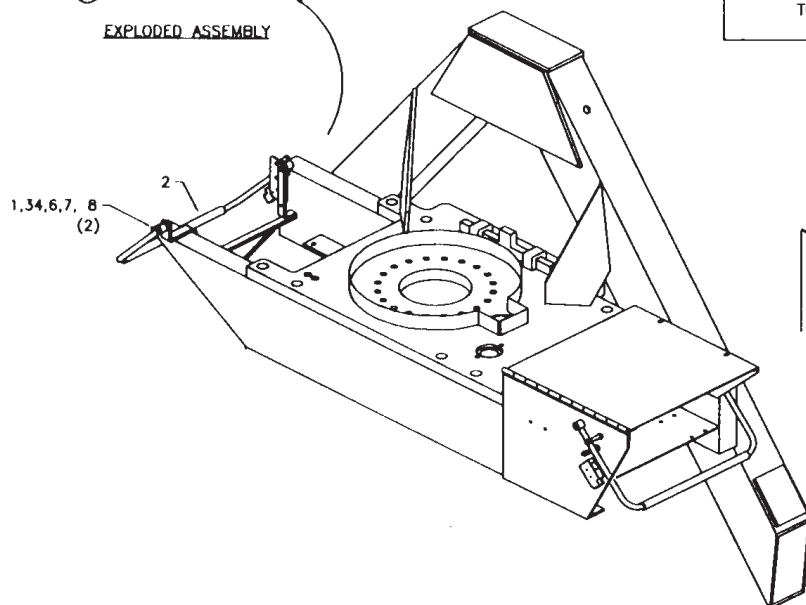
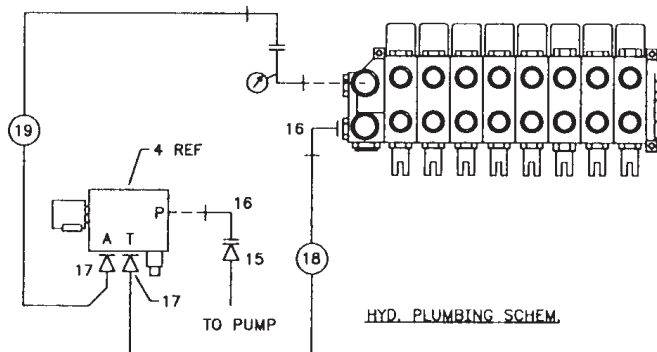
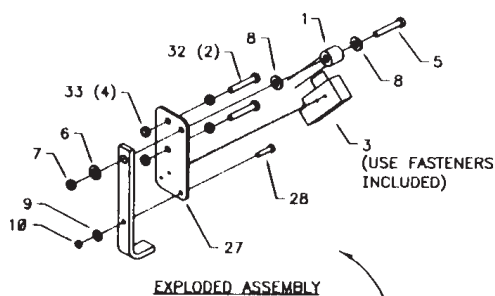
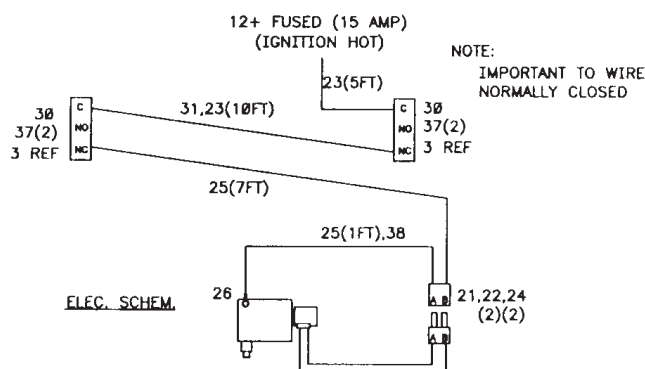
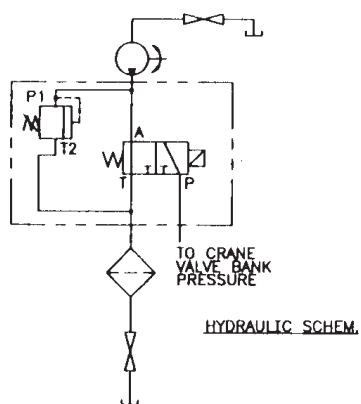
3-20

SECTION 3. PARTS

**HYD SHUTDOWN KIT A-FRAME
(31713787) (THRU 9-3-02)**

ITEM PART NO.	DESCRIPTION	QTY
1. 52713782	HANDLE	4
2. 60120092	TUBE	2
3. 77041459	LIMIT SWITCH	2
4. 73055278	VALVE ASM	1
5. 72060052	CAP SCR 3/8-16X2.50 HHGR5	1
6. 72063003	WASHER 3/8 WRT	4
7. 72062103	NUT 3/8-16 LOCK	4
8. 72063215	WASHER 3/8 SS BELLEVILLE	8
9. 72063001	WASHER 1/4 WRT	1
10. 72062104	NUT 1/4-20 LOCK	1
12. 72062109	NUT 5/16-18 LOCK	2
13. 72063002	WASHER 5/16 WRT	4
15. 72532972	ADAPTER #8MJIC #12FJIC	1
16. 72053767	ELBOW #12MSTR #12MJIC 90°	1
17. 72532366	ADPTR #12MSTR #12MJIC	2

18. 51395389	HOSE 3/4X26 #12#12 FJ(HOSEKIT)	1REF
19. 51395388	HOSE 3/4X14 #12#12 FJ(HOSEKIT)	1REF
20. 72060038	CAP SCR 5/16-18X4-1/2 HHGR5	2
21. 77044573	CONN 2-WAY	1
22. 77044552	TERM MALE 18-20GA	2
23. 89044232	WIRE 14GA RED	15FT
24. 70394069	SEAL-CABLE CONNECTOR	2
25. 89044274	WIRE 14GA BLK	8FT
26. 77040000	TERMINAL #10 RING 16-14GA	1
27. 60120438	BRACKET	1
28. 72060004	CAP SCR 1/4-20X1 HHGR5	1
30. 77044468	STRAIN RELIEF 1/2	2
31. 89044331	LOOM	11FT
32. 72060050	CAP SCR 3/8-16X2 HHGR5	4
33. 72062002	NUT 3/8-16 HEX	8
34. 72060030	CAPSCR 5/16-18X2-1/4 HHGR5Z	1
35. 72060031	CAP SCR 5/16-18X2 HHGR5Z	2
37. 77040051	TERM #8 STUD 16-14GA	4
38. 89034048	SPIRAL WRAP-CLEAR	3FT





00007415: 31713786.01.REV. G 20071008

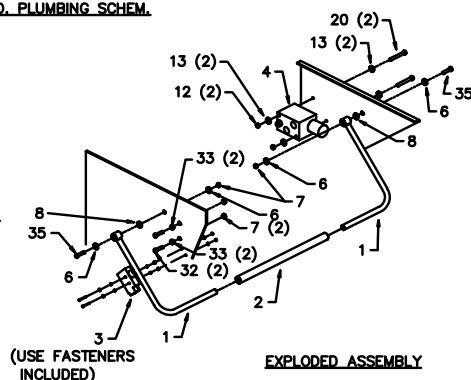
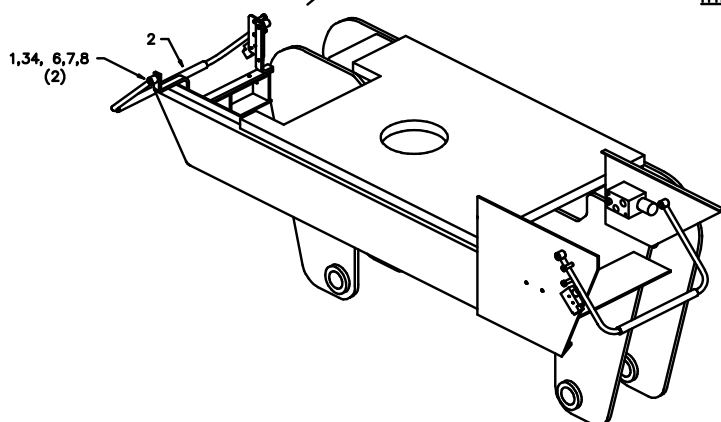
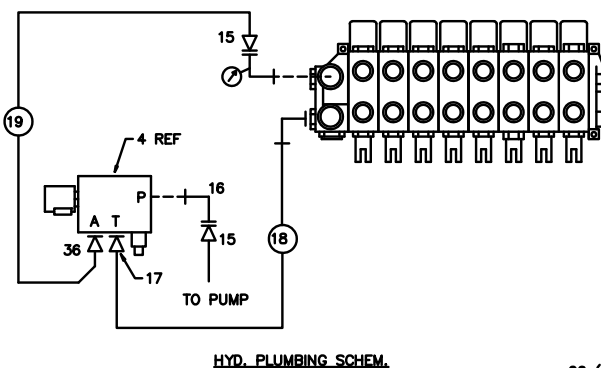
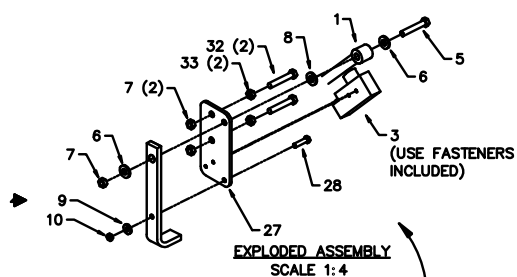
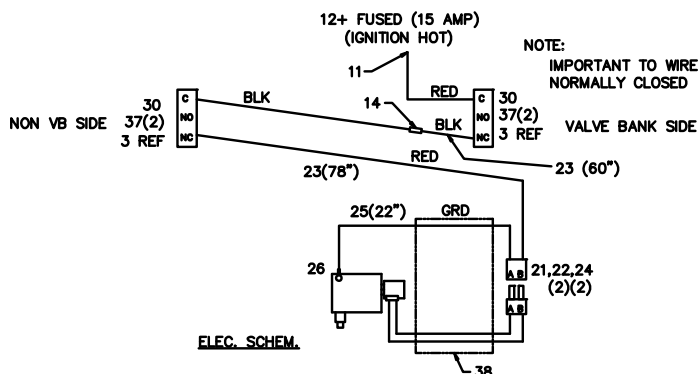
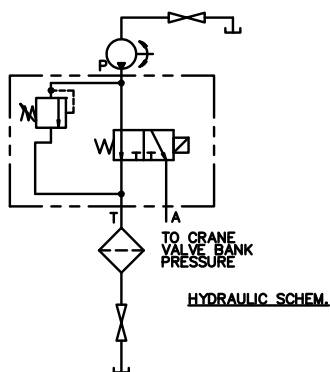
3-21

SECTION 3. PARTS

**HYD SHUTDOWN KIT OUT&DN (31713788)
(NOT AVAILABLE - SERVICE ONLY)**

ITEM PART NO.	DESCRIPTION	QTY
1. 52713782	HANDLE	4
2. 60120092	TUBE	2
3. 77041459	LIMIT SWITCH	2
4. 73055278	VALVE ASM	1
5. 72060052	CAP SCR 3/8-16X2.5 HHGR5 (WAS 72060049)	4
6. 72063003	WASHER 3/8 WRT	11
7. 72062103	NUT 3/8-16 LOCK	4
8. 72063215	WASHER-BELLEVILLE 3/8 SS (WAS 72060010)	4
9. 72063001	WASHER 1/4 WRT	6
10. 72062104	NUT 1/4-20 LOCK	4
11. 77040282	TERMINAL (WAS 51713371)	1
12. 72062109	NUT .31-18 NYLOC	4
13. 72063002	WASHER .31 WRT	4
14. 77040048	TERM-BUTT CONN 16-14 GA	1
15. 72532972	ADPTR-#8MJIC #12FJIC	2

16. 72063767	ELBOW #12MSTR /90/#12MJIC	1
17. 72532366	ADPTR-#12MSTR #12MJIC	1
18. 51394919	HOSE-FF 3/4X21 OAL (12-12)	1
19. 51394882	HOSE-FI 1/2X22 OAL (8-8)	1
20. 72060038	CAP SCR - .31-18 X 4.5 HHGR5Z	2
21. 77044573	CONN-PKRD M 2-WAY WP	1
22. 77044552	TERMINAL	2
23. 89044188	CABLE-14AWG DUPLX AUTO PRIM	12'
24. 70394069	SEAL	2
25. 89044274	WIRE	2'
26. 77040052	TERM-RING	1
27. 60120438	BRACKET-LIMIT SWITCH	1
28. 72060004	CAP SCR-1/4-20 X 1 HHGR5	1
30. 77044468	CONNECTOR-1/2 STR RLF .12-.25	2
32. 72060050	CAP SCR 3/8-16 X 2 HHGR5	4
33. 72062002	NUT-3/8 -16 HEX ZINC	4
34. 72060030	CAP SCR .31-18 X 2.25 HHGR5Z	1
35. 72060031	CAP SCR .31-18 X 2 HHGR5Z	2
36. 72532360	ADPTR-#12MSTR #8MJIC	1
37. 77040051	TERMINAL	4
38. 89034048	SPIRAL WRAP-CLEAR	3'





00007415: 91715301.01.REV 20120104

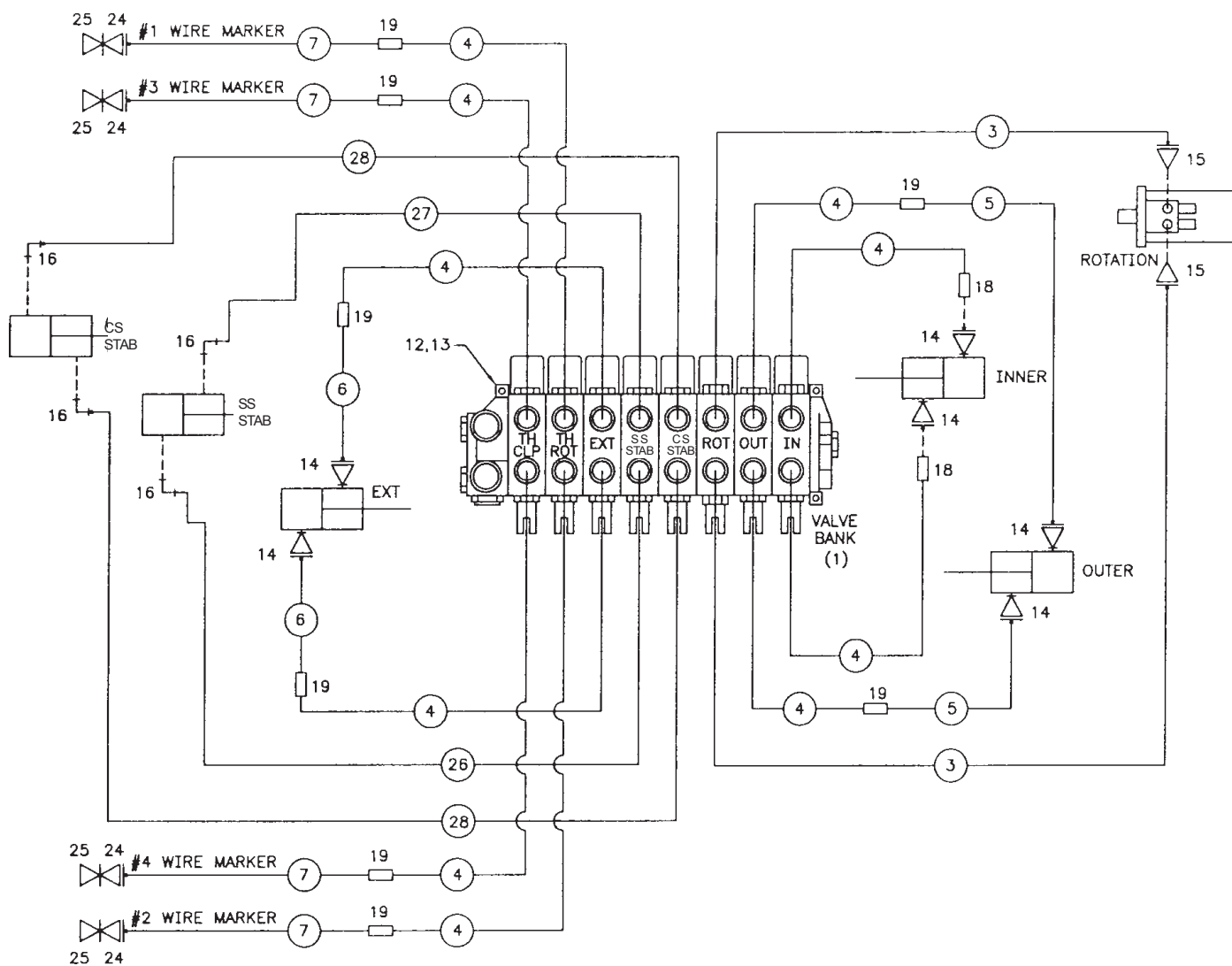
3-22

SECTION 3. PARTS

HYD KIT-8 SECT CTR MNT (91715301-1)

ITEM PART NO.	DESCRIPTION	QTY
1. 51715473	VALVEBANK 8-SECT	1REF
2. 51703624	RESERVOIR	1REF
3. 51395380	HOSE 1/4X22 #4F#6F	*2REF
4. 51395381	HOSE 3/8X63 #8F#8F	*10REF
5. 51395304	HOSE 3/8X93 #8F#8F	*2REF
6. 51395382	HOSE 3/8X142 #8F#8F	*2REF
7. 51395383	HOSE 3/8X192 #8F#8F	*4REF
8. 60035832	HOSE 1-1/4 100R4 X 38	2
10. 72531550	BARB NIPPLE 1-1/4MPT (part of 2)	2REF
11. 72661642	HOSE CLAMP (WAS 72066516)	2
12. 72060032	CAP SCR 5/16-18X2-3/4 HHGR5	3
13. 72062109	NUT 5/16-18 LOCK	3

14. 72532358	ADAPTER #8MSTR #8MJIC	6
15. 72532351	ADAPTER #4MSTR #4MJIC	2
16. 72532666	ELBOW #8MSTR #8MJIC XLG	4
17. 51715302	HOSE KIT (INCL:3-7,26-28)	1
18. 72532980	ADAPTER-PR SWVL INLINE	2
19. 72533566	SWIVEL #8MJIC #8MJIC INLINE	8
20. 70145798	WIRE MARKER (43-001)	2
21. 70145831	WIRE MARKER (43-002)	2
22. 70145832	WIRE MARKER (43-003)	2
23. 70145833	WIRE MARKER (43-004)	2
24. 72533373	UNION-BULKHD	4
25. 72532675	CAP #8JIC	4
26. 51395210	HOSE 3/8X90 #8F#8F(part of 17)	1REF
27. 51395386	HOSE 3/8X81 #8F#8F (part of 17)	1REF
28. 51395385	HOSE 3/8X121 #8F#8F (part of 17)	2REF



FOR HYDRAULIC OVERLOAD, SEE DRAWING 51717130.

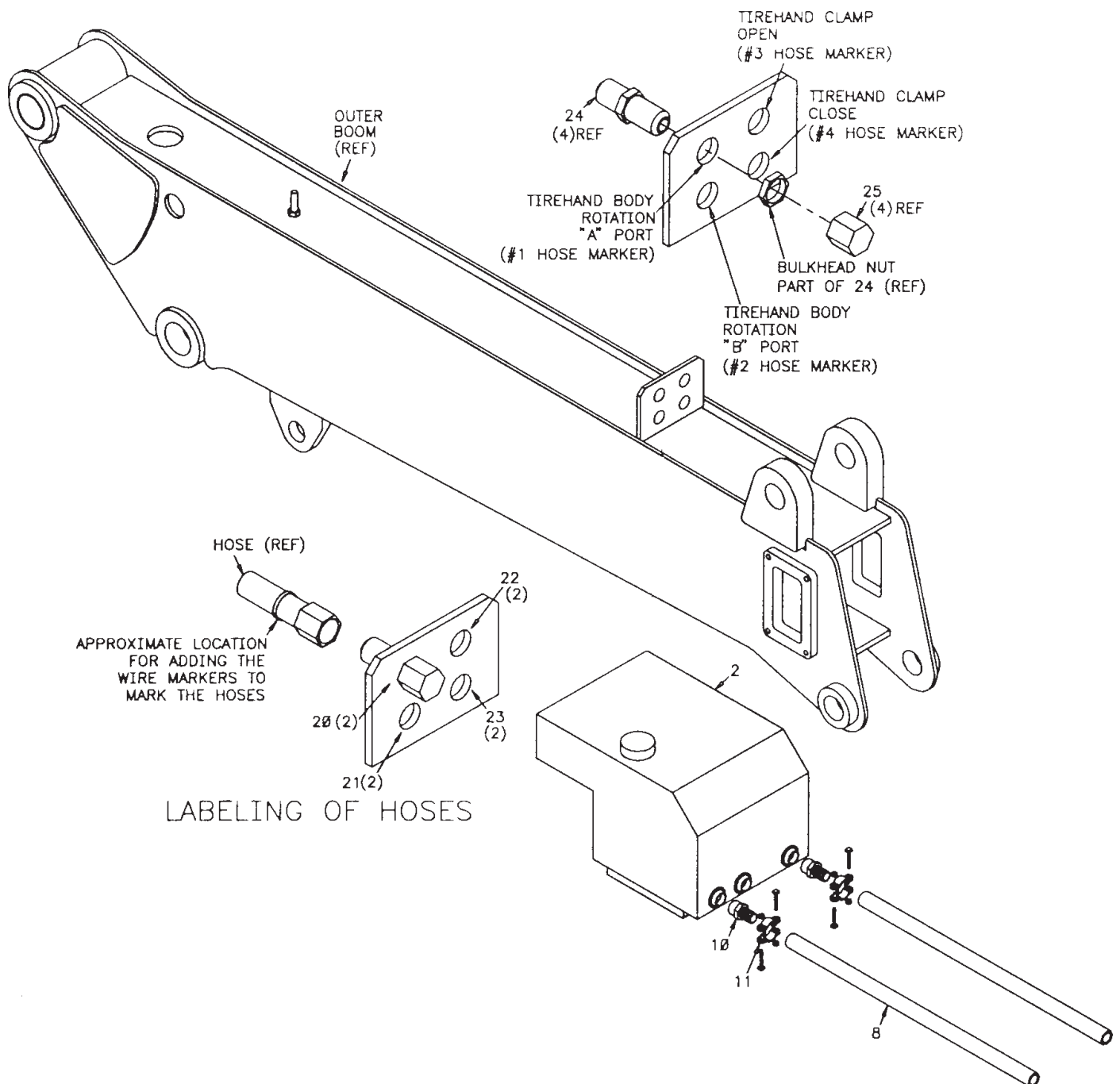


00007415: 91715301.02.19970120

3-23

SECTION 3. PARTS

HYD KIT-8 SECT CTR MNT (91715301-2)

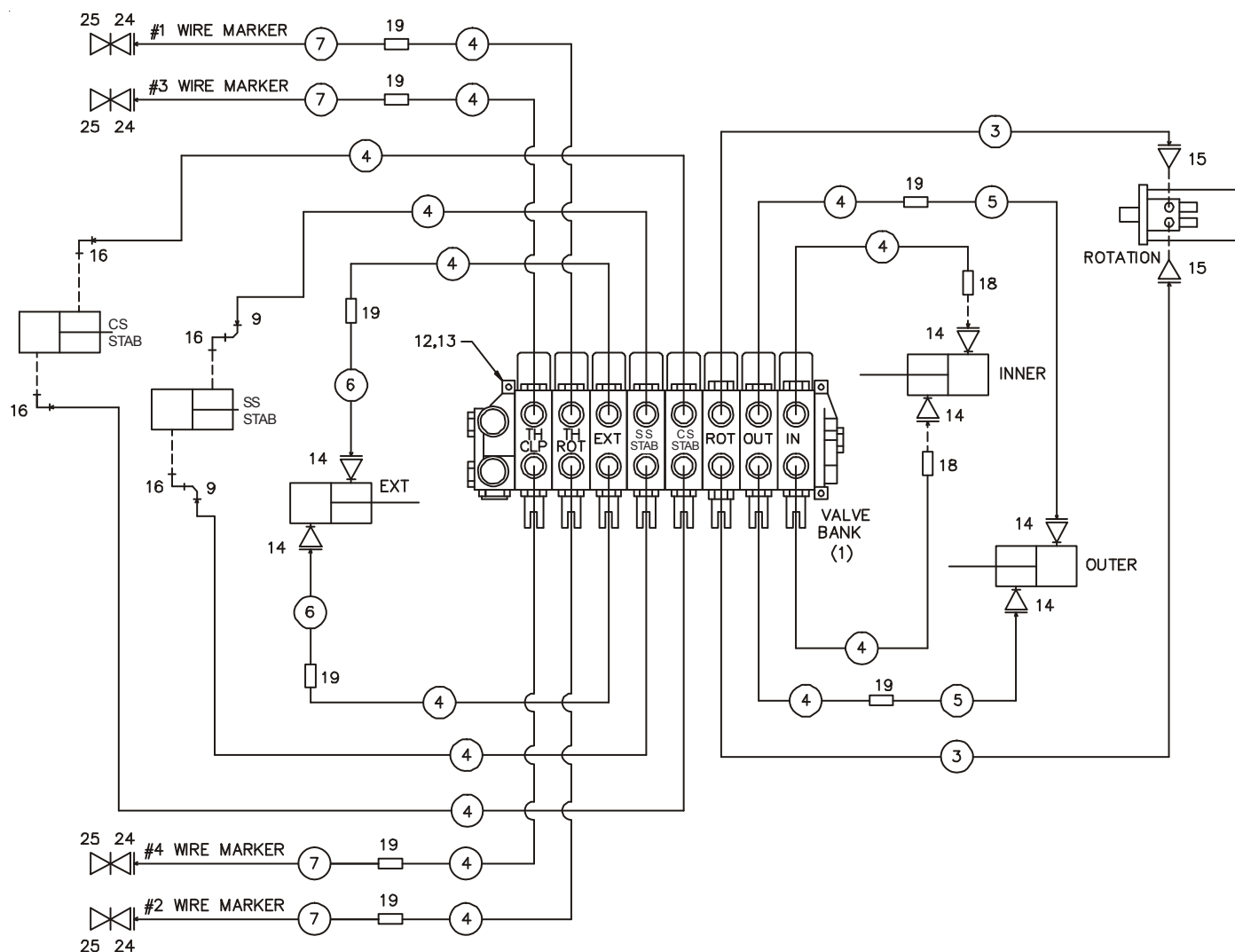


**HYD KIT-8 SECT A-FRAME (91715474-1)**

CONTINUED ON FOLLOWING PAGE

ITEM PART NO.	DESCRIPTION	QTY
1. 51715473	VB ASM (INCL:31)	1REF
2. 52703565	RESERVOIR (INCL:10)	1REF
3. 51395380	HOSE 1/4X22 #4F#6F(part of 17)	2REF
4. 51395381	HOSE 3/8X63 #8F#8F (part of 17)	14REF
5. 51395304	HOSE 3/8X93 #8F#8F (part of 17)	2REF
6. 51395382	HOSE 3/8X142 #8F#8F (part of 17)	2REF
7. 51395383	HOSE 3/8X192 #8F#8F (part of 17)	4REF
8. 60035832	HOSE 1-1/4 100R4X38	2
9. 72532670	ELBOW #8MJIC #8FJIC 45°	2
10. 72531550	BARB NIPPLE 1-1/4MPT (part of 1)	2REF
11. 72661642	HOSE CLAMP (WAS 72066516)	2
12. 72060032	CAP SCR 5/16-18X2-3/4 HHGR5	3

13. 72062109	NUT 5/16-18 LOCK	3
14. 72532358	ADAPTER #8MSTR #8MJIC	6
15. 72532351	ADAPTER #4MSTR #4MJIC	2
16. 72532666	ELBOW #8MSTR #8MJIC XLG	4
17. 51715475	HOSE KIT (INCL:3-7)	1
18. 72532980	ADAPTER-PR SWVL INLINE	2
19. 72533566	SWIVEL #8MJIC #8MJIC INLINE	8
20. 70145798	WIRE MARKER (43-001)	2
21. 70145831	WIRE MARKER (43-002)	2
22. 70145832	WIRE MARKER (43-003)	2
23. 70145833	WIRE MARKER (43-004)	2
24. 72533373	UNION-BULKHD	4
25. 72532675	CAP #8JIC	4



FOR HYDRAULIC OVERLOAD, SEE DRAWING 51717130.

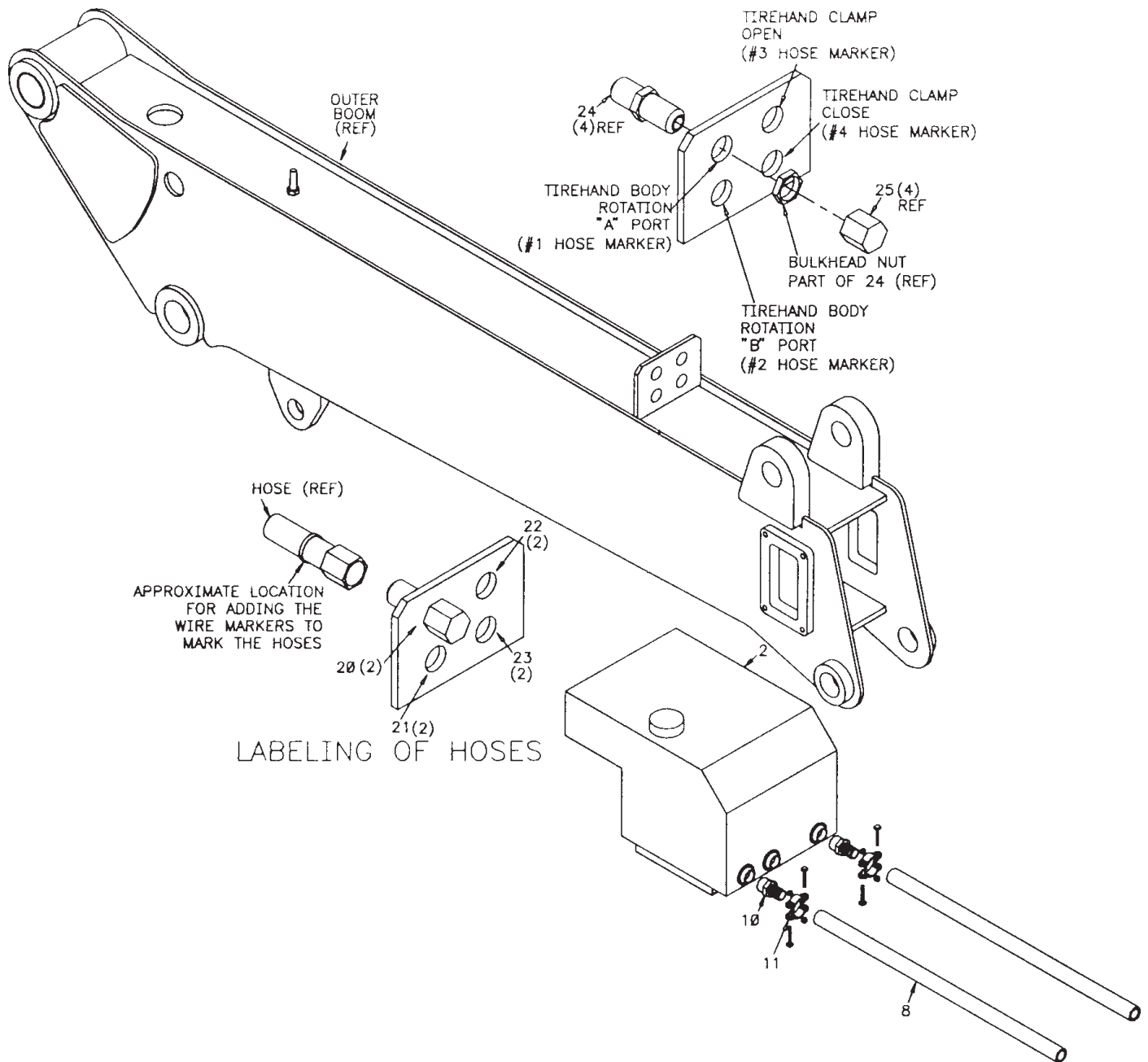


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3-25

SECTION 3. PARTS

HYD KIT-8 SECT A-FRAME (91715474-2)





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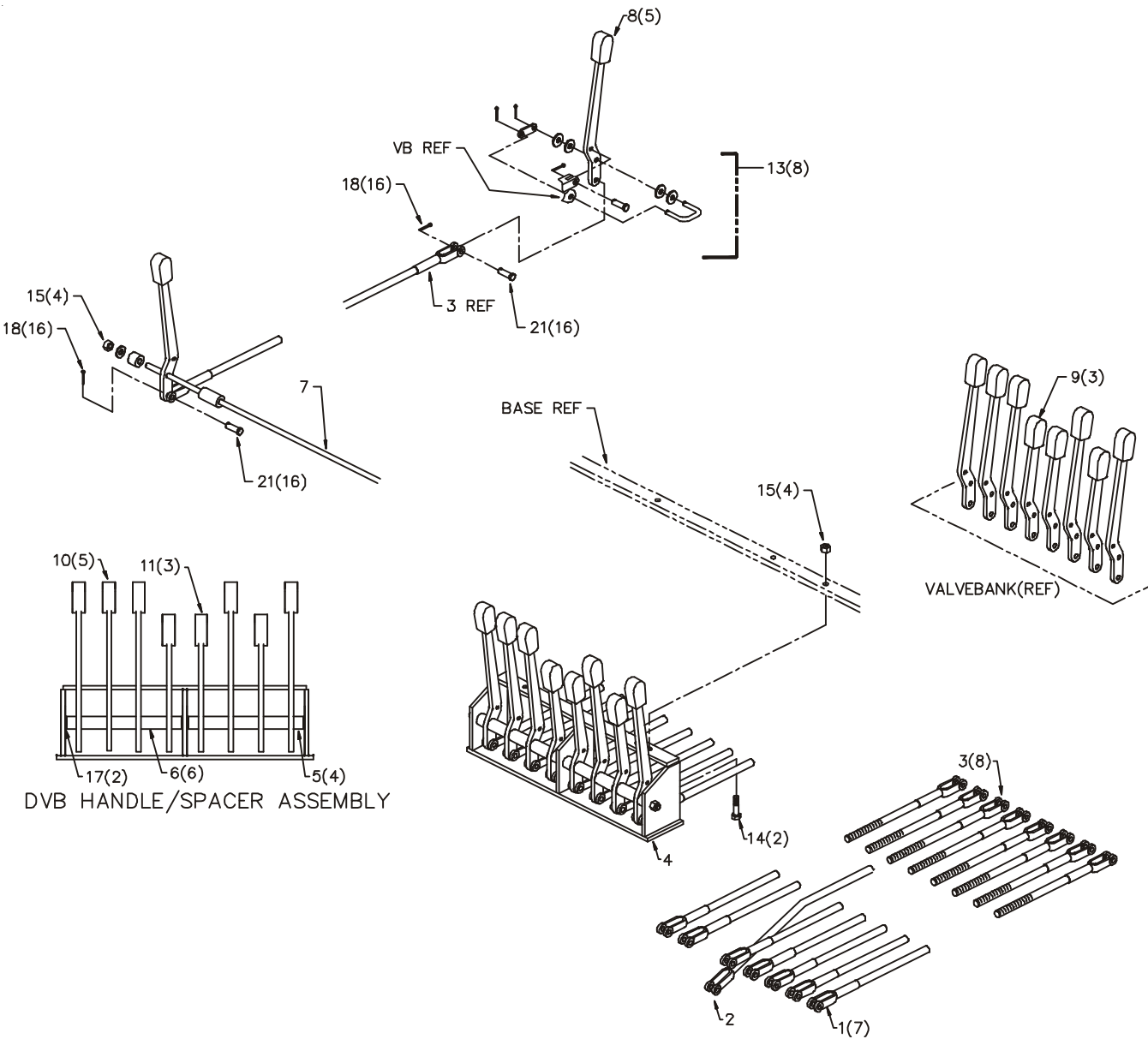
3-26

SECTION 3. PARTS

**CONTROL KIT-MNL 6- FUNCTION
(90704441)**

ITEM PART NO.	DESCRIPTION	QTY
1. 52702016	CTRL ROD - FEMALE	7
2. 52702017	CTRL ROD - FEMALE BENT	1
3. 52702018	CTRL ROD - MALE	8
4. 52702777	DUMMY VALVEBANK	1
5. 60030045	SPACER 5/8	4
6. 60030046	SPACER 1-1/2	6
7. 60105503	ROD DUMMY VB	1

8. 70141982	CTRL HANDLE - VB LONG	5
9. 70141983	CTRL HANDLE - VB SHORT	3
10. 70141984	CTRL HANDLE - CS LONG	5
11. 70141985	CTRL HANDLE - CS SHORT	3
13. 94731839	LINK & PIN KIT	8
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	16
21. 72066338	CLEVIS PIN	16





00007415: 51715473.01.19990216

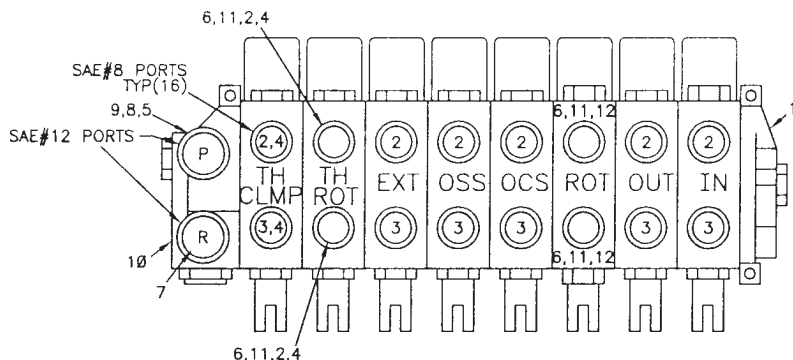
3-27

SECTION 3. PARTS

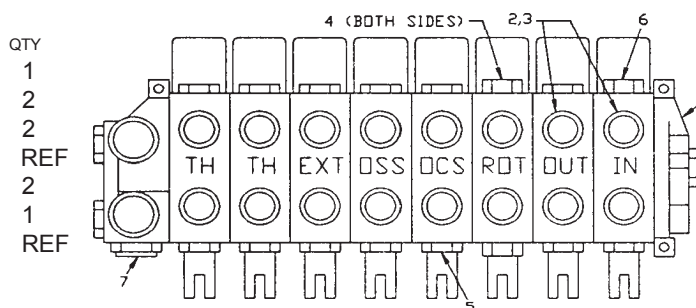
VALVEBANK ASM 8-SECT (51715473)

ITEM PART NO.	DESCRIPTION	QTY
1. 51705394	VALVEBANK 8-SECT	1
2. 72053763	ELBOW #8MSTR #8MJIC 90°	8
3. 72532666	ELBOW #8MSTR #8MJIC XLG	6
4. 72532675	CAP 3/4JIC STL	4
5. 60107995	ELBOW-MODIFIED	1

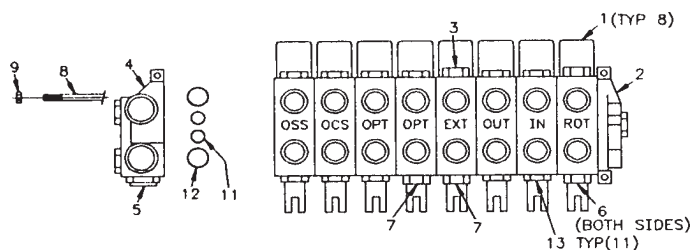
6. 72532728	UNION 3/4MSTR 3/4MSTR	4
7. 72053747	ADAPTER #12MSTR 3/4FPT	1
8. 73054435	PRESSURE GAUGE 5000PSI	1
9. 72053533	STREET ELBOW 1/4NPT 45° STL	1
10. 72532666	ADAPTER #12MSTR #12MJIC	1
11. 73054921	FLOW CTRL VALVE	4
12. 72053761	ELBOW #8MSTR #6MJIC 90°	2

**VALVEBANK (51705394)**

ITEM PART NO.	DESCRIPTION
1. 73731768	VALVEBANK 8-SECT
2. 70142402	ORIFICE PLATE
3. 70142403	SPRING
4. 73054516	RELIEF 1300PSI NON-ADJ
5. 73054010	LOAD CHECK PLUG
6. 73054472	RELIEF 2100PSI NON-ADJ
7. 73054643	RELIEF VALVE 2300PSI

**VALVEBANK (73731768)**

ITEM PART NO.	DESCRIPTION	QTY
1. 73054432	VALVE SECT V20 4WAY SAE#8	8
2. 73731241	END COVER RH W/CONV PLUG	1
3. 73054400	RELIEF 2300 PSI NON-ADJ	1
4. 73731424	END COVER LH (INCL:5)	1
5. 73054637	RELIEF VALVE (PART OF 4)	1 REF
6. 73054516	RELIEF 1300PSI NON-ADJ	2
7. 73054007	RELIEF 1800PSI NON-ADJ	2
8. 73014668	STUD 3/8X17	3
9. 72062037	NUT 3/8-24 HEX	6
10. 51393494	O-RING KIT	REF
11. 7Q072117	O-RING	18
12. 7Q072119	O-RING	18
13. 73054010	LOAD CHECK PLUG	11





00007415: 51717977.01.REV A 20071008

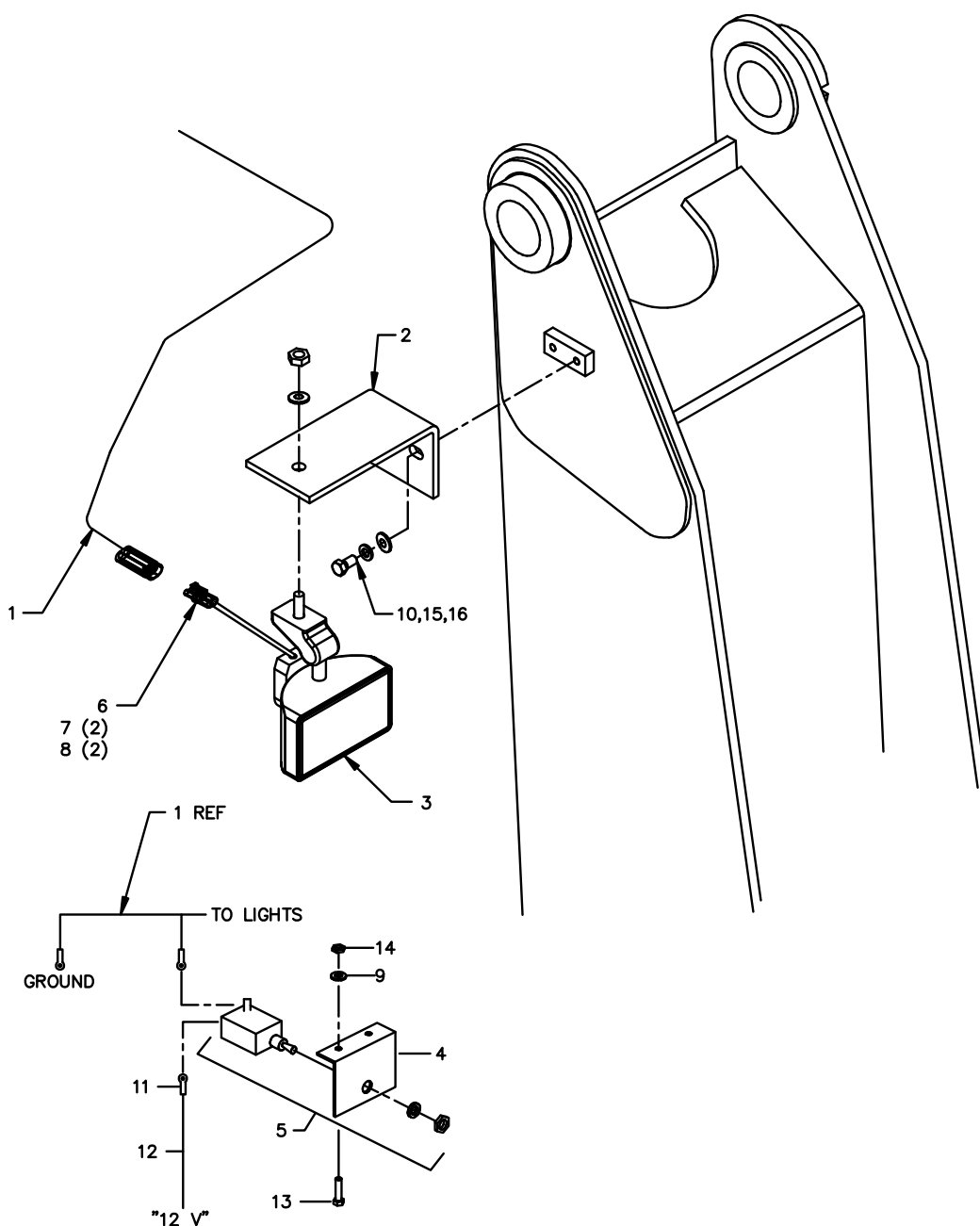
3-28

SECTION 3. PARTS

**LIGHT KIT-CRANE MAST MOUNTED
(51717977) (EFF. 11/15/02)**

EFFECTIVE 11/15/02 TO PRESENT

1.	51717219	CABLE ASM	1
2.	60113428	LIGHT BRACKET	2
3.	77040424	FLOODLIGHT, TOP MNT	2
4.	60103535	SWITCH BRACKET, 1 HOLE	1
5.	77041345	TOGGLE SWITCH	1
6.	77044574	CONN, PACKARD FEM 2-WAY WP	2
7.	77044550	TERM-FEM 18-20 GA WP	4
8.	70394069	SEAL, CABLE CONN. WP	4
9.	72063049	WASHER 1/4 LOCK ZINC	2
10.	72060044	CAP SCR 3/8-16 X 3/4 HHGR5Z	4
11.	77040000	RING TERM. I #10 STUD 16-14GA	1
12.	89044274	WIRE-BLACK STRD TYPE GPT	36"
13.	72060000	CAP SCR 1/4-20 X 1/2 HHGR5Z	2
14.	72062000	NUT 1/4-20 HEX ZINC	2
15.	72063051	WASHER 3/8 LOCK ZINC	4
16.	72063003	WASHER .38 FLAT	4





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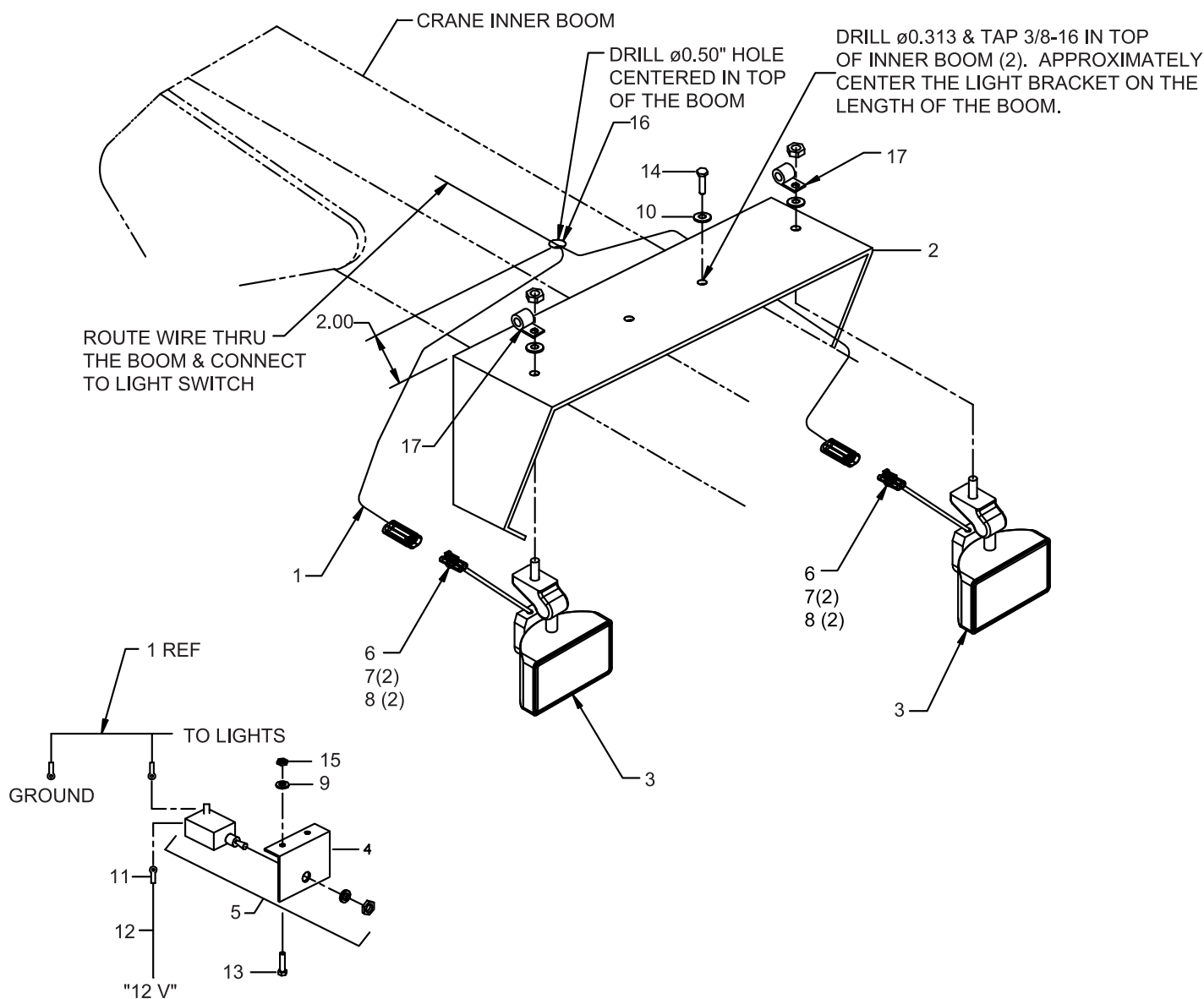
3-29

SECTION 3. PARTS

OPTION - LIGHT KIT (31717218) (THRU 11/15/02)

EFFECTIVE THROUGH 11/15/02

ITEM	PART NO.	DESCRIPTION	QTY
1.	51717219	CABLE ASM- FLOOD LIGHTS	1
2.	60107762	GUARD	1
3.	77040424	FLOOD-LT-COMP WORK LAMP	2
4.	60103535	SWITCH BRACKET - 1 HOLE	1
5.	77041345	TOGGLE SWITCH	1
6.	77044574	CONNECTOR	2
7.	77044550	TERMINAL-F 18-20 GA	4
8.	70394069	SEAL CABLE CONNECTOR	4
9.	72063049	WASHER 1/4 LOCK	2
10.	72063051	WASHER 3/8 LOCK	2
11.	77040000	TERMINAL, RING #10 STUD 16-14	1
12.	89044274	WIRE-BLACK STRD TYPE 36"	
13.	72060000	CAP SCR 1/4-20 X 1/2 HH GR5	2
14.	72060044	CAP SCR 3/8-16 X 3/4 HH GR5	2
15.	72062000	NUT 1/4-20 HEX ZINC	2
16.	76391200	GROMMET, RUBBER 9/16	1
17.	72661312	CLAMP 1/2 LOOP CUSHIONED	2





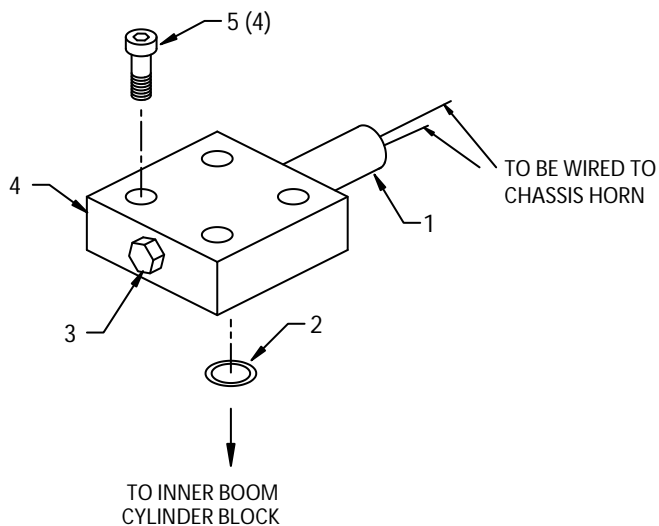
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3-30

SECTION 3. PARTS

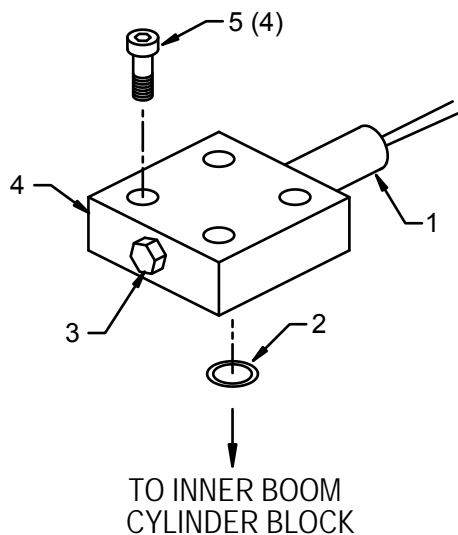
CAPACITY ALERT KIT - 2800 PSI (31717169)

- | | | | |
|----|----------|-------------------------------|---|
| 1. | 77041652 | PRESSURE SWITCH | 1 |
| 2. | 7Q072015 | O-RING | 1 |
| 3. | 72532140 | PLUG 9/16 STR HH STL | 1 |
| 4. | 60025221 | MANIFOLD, CAPACITY ALERT | 1 |
| 5. | 72060731 | CAP SCR 5/16-18 X 3/4 SH ZINC | 4 |



CAPACITY SHUTDOWN KIT - 2800 PSI (31717514)

- | | | | |
|----|----------|-------------------------------|---|
| 1. | 77041543 | PRESSURE SWITCH | 1 |
| 2. | 7Q072015 | O-RING | 1 |
| 3. | 72532140 | PLUG 9/16 STR HH STL | 1 |
| 4. | 60025221 | MANIFOLD, CAPACITY ALERT | 1 |
| 5. | 72060731 | CAP SCR 5/16-18 X 3/4 SH ZINC | 4 |





00007415: 31701761.01.19990216

3-31

SECTION 3. PARTS

OPTION-DRIVELINE MNTG (31701761)

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

WARNING

THE INSTALLER OF THE DRIVELINE MUST INSPECT THE FINAL POSITION OF THE DRIVELINE TO DETERMINE WHETHER ITS LOCATION PROVIDES SUFFICIENT PROTECTION TO AN OPERATOR, OR OTHER PERSONNEL, FROM HAZARDS ASSOCIATED WITH A ROTATING DRIVELINE. IF PROTECTION IS INSUFFICIENT, THE INSTALLATION OF A GUARD IS REQUIRED. IF YOU ARE UNSURE OF METHODS TO GUARD A ROTATING DRIVELINE, CALL IOWA MOLD TOOLING CO., INC. FOR INSTRUCTIONS. FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY OR DEATH.

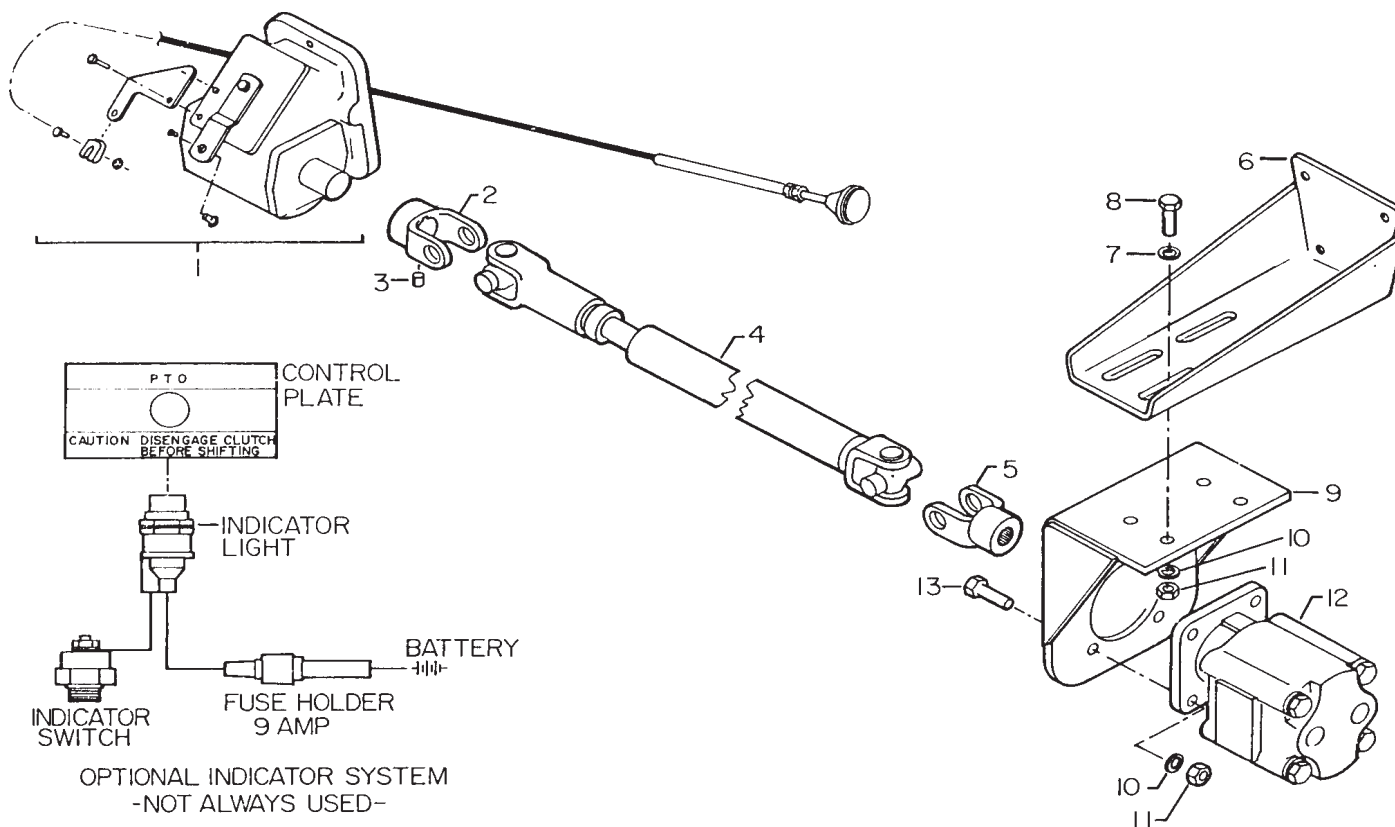
! DANGER

CONTACT WITH A ROTATING DRIVELINE
WILL CAUSE

DEATH OR SERIOUS INJURY**KEEP AWAY**

- Keep clear of rotating drive shaft.
- Never work on or near an installed power take-off or driveline with the engine running.

70392891





00007415: 51717130.01.REV B 20120104

3-32

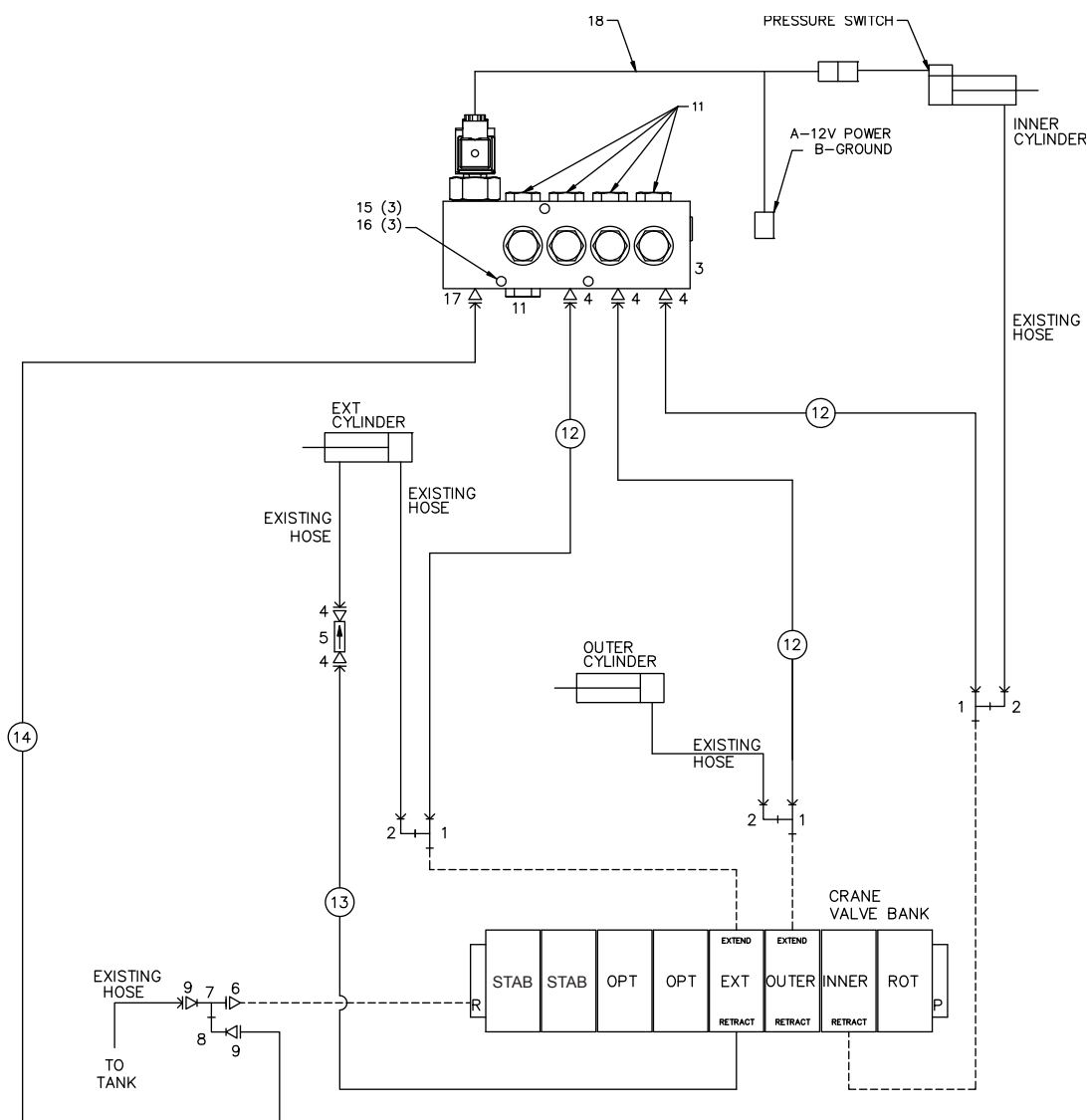
SECTION 3. PARTS

HYD OVERLOAD KIT-3F (51717130)

ITEM	PART NO.	DESCRIPTION	QTY
1.	72532657	TEE #8JIC SWVL NUT RUN	3
2.	72532658	ELBOW #8MJIC #8FJIC	3
3.	73540463	VALVE BLOCK ASM	1
4.	72532358	ADAPTER #8MSTR #8MJIC	5
5.	73054426	VALVE-ADJ RELIEF	1
6.	72053676	ADAPTER 3/4MPT #12MJIC	1
7.	72532950	TEE-SWIVEL NUT RUN JIC#12	1
8.	72532696	ELBOW-#12MJIC #12FJIC SW	1
9.	72532972	ADPTR-#8MJIC#12FJIC	2
11.	72532141	PLUG STR HEX HD STL 3/4 THD	4
12.	51703863	HOSE ASM-FF 3/8 X 14.00	3
13.	51706239	HOSE ASM-FF 1/2 X 5.00	1
14.	51704914	HOSE ASM-FF 3/8 X 60.00	1
15.	72060034	CAP SCR 5/16-18 X 3.25 HH	3
16.	72062109	NUT 5/16-18 HEX NYLOC ZINC	3
17.	72532360	ADPTR-#12MSTR #8MJIC	1
18.	77441025	HARNESS-OVERLOAD	1

NOTES

1. FUNCTION OF SYSTEM IS SUCH THAT WHEN THE INNER CYLINDERS ARE OVERLOADED, THE PRESSURE SWITCH WILL ACTIVATE THE SOLENOID DUMP VALVE(S); THUS DUMPING OIL TO "TANK" INSTEAD OF THE OUTER CYLINDER "EXTEND", EXTENSION CYLINDER "EXTEND", OR WINCH "UP" FUNCTIONS WHICH WILL NOT ALLOW PRESSURE TO BUILD FOR THESE FUNCTIONS. THIS SYSTEM IS BASED ON THE FACT THAT THE OIL WILL TAKE THE PATH OF LEAST RESISTANCE.
2. THE FUNCTIONS THAT ARE SHUT DOWN, IF OVERLOADED, ARE THE FOLLOWING:
 - A. INNER BOOM "RETRACT"
 - B. OUTER BOOM "EXTEND"
 - C. EXTENSION CYLINDER "EXTEND"
 - D. WINCH "UP"
3. INSTALL A RELIEF (PART NO. 73054426, 700PSI) IN THE EXTEND LINE OF THE EXTENSION CYLINDER SO CYLINDER WILL NOT EXTEND WHEN THE DUMP SYSTEM IS ACTIVATED.
4. USE KIT IN CONJUNCTION WITH ELECTRIC CAPACITY ALERT KIT.





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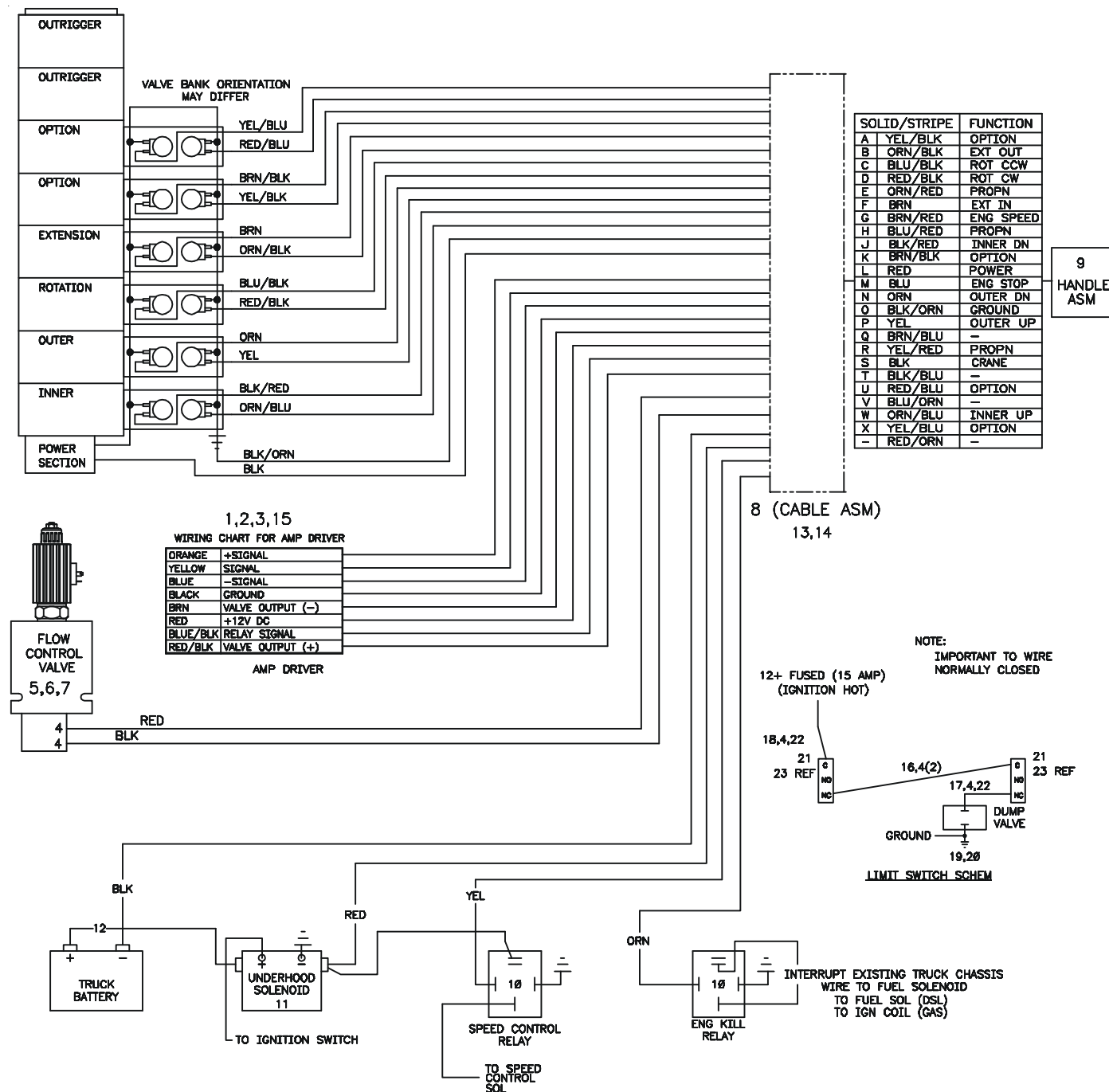
3-33

SECTION 3. PARTS

PROP'L RMT CTRL KIT (90713582)

ITEM PART NO.	DESCRIPTION	QTY
1. 77044837	VALVE DRIVER	1
2. 72060703	CAP SCR 1/4-20X1/2 SH	2
3. 72063049	WASHER 1/4 LOCK	2
4. 77040186	TERM 1/4 FSLPON 16-14GA	6
5. 73054876	PRIORITY VALVE	1
6. 72060051	CAP SCR 3/8-16X2-1/4 HHGR5	2
7. 72062103	NUT 3/8-16 LOCK	2
8. 51713570	CABLE ASM	1
9. 51713430	HANDLE ASM	1
10. 77041251	RELAY	2

11. 77041237	SOLENOID 12V	1
12. 51704784	CABLE ASM #1WIRE X 6	1
13. 72060004	CAP SCR 1/4-20X1 HHGR5	4
14. 72062104	NUT 1/4-20 LOCK	6
15. 60120994	MTG PLATE	1
16. 89044188	CABLE 14 AWG	11FT
17. 89044271	WIRE 14GA BLUE	3FT
18. 89044232	WIRE 14GA RED	10FT
19. 89044274	WIRE 14GA BLACK	1FT
20. 77040000	TERM	1
21. 77044468	CONNECTOR	2
22. 89044331	LOOM	11FT
23. 77041459	LIMIT SWITCH	2REF





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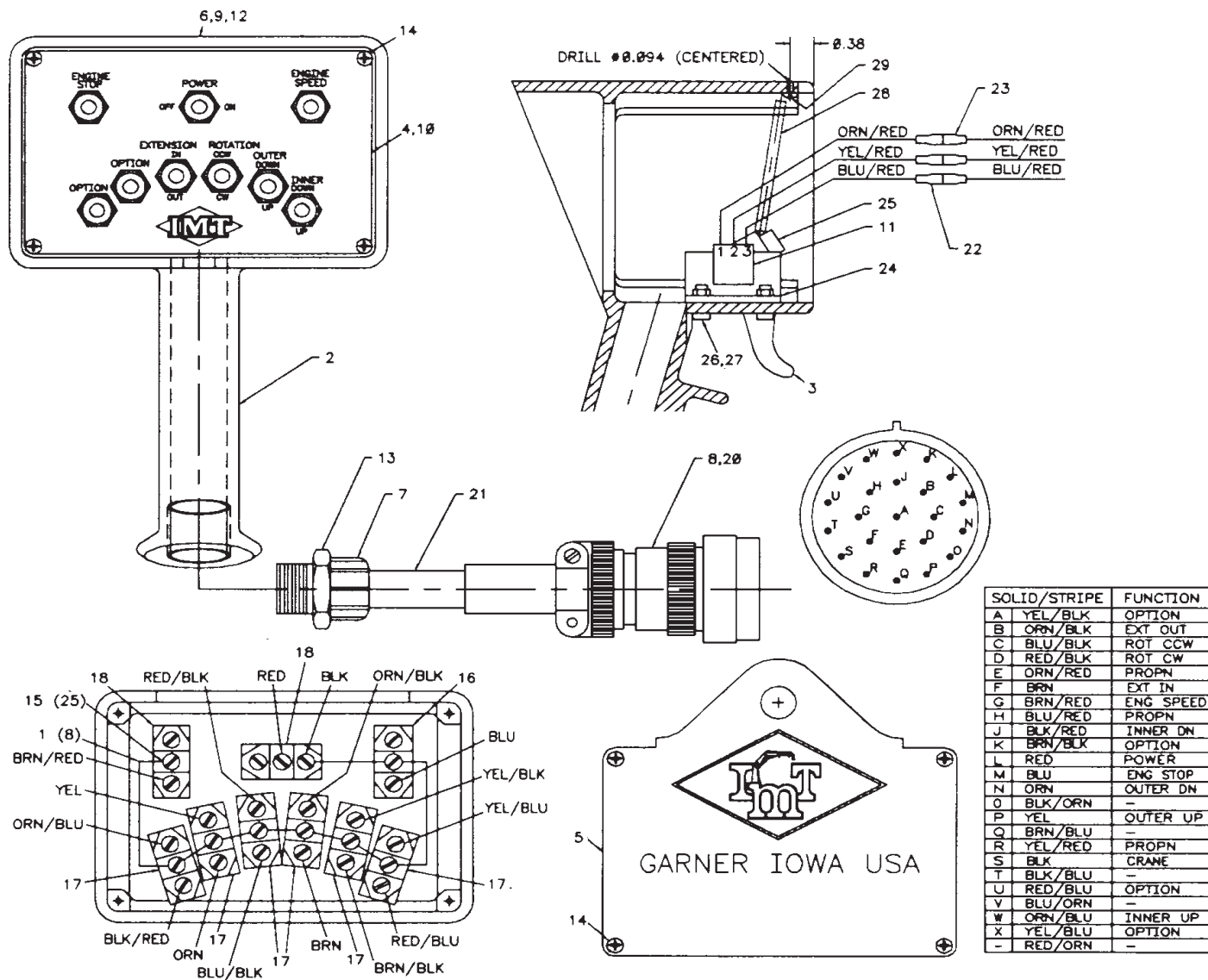
3-34

SECTION 3. PARTS

**RMT HANDLE ASM-6 FUNCTION
(51713430)**

ITEM PART NO.	DESCRIPTION	QTY
1. 60045031	WIRE 18GA GRN X 4	8
2. 60119335	CONTROL HANDLE	1
3. 60111141	TRIGGER	1
4. 60119277	COVER-RC	1
5. 70034306	BACK COVER-RC	1
6. 70029119	SER NO PLACARD	1
7. 77044096	CORD GRIP	1
8. 77044621	PIN	23
9. 70392862	DECAL-DGR RC ELECTRO SM	1
10. 71394283	DECAL-RC HANDLE	1
11. 51707507	POTENTIOMETER ASM(INCL 22)	1
12. 72066340	POP RIVET	2

13. 72531833	REDUCER BUSHING 3/4-1/2NPT	1
14. 72061009	SHT MTL SCR #6X3/4 PH	8
15. 77040051	TERM #8 SPRSPD 16-14GA	25
16. 77040371	TOGGLE SWITCH SPST	1
17. 77040372	TOGGLE SWITCH SPDT	6
18. 77040373	TOGGLE SWITCH SPST	2
20. 77044579	CONNECTOR	1
21. 89044100	CABLE 18GA/24WIRE X 30FT	1
22. 77040047	TERM (PART OF 22)	3REF
23. 77040186	TERM 1/4 FSLPON 16-14GA	3
24. 60111142	MTG BRACKET	1
25. 72060669	CAP SCR #10-32X5/8 SH	1
26. 72060636	CAP SCR #10-24X3/4 SH	2
27. 72062106	NUT #10-24 LOCK	2
28. 70143223	SPRING	1
29. 72061000	SHT MTL SCR #6X1/2 PH	1





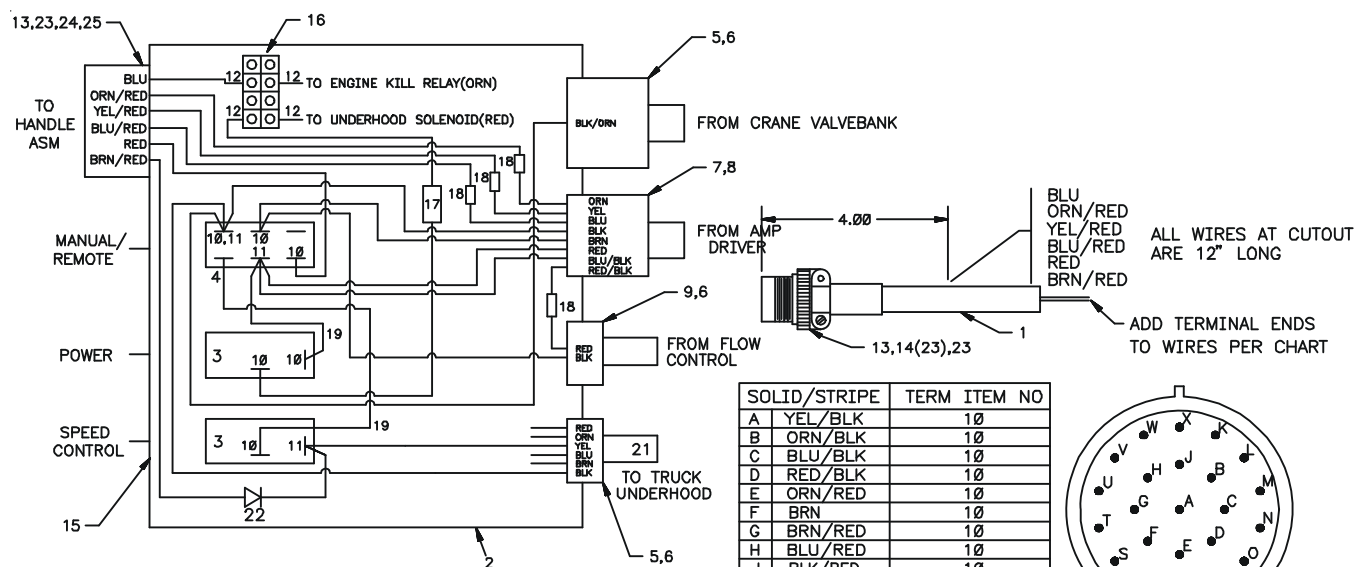
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3-35

SECTION 3. PARTS

CABLE ASM-JIC BOX 50" (51713570)

1. 89044100 CABLE 18GA/24WIRE	50"	13. 77044620 CONNECTOR	1
2. 90713575 JIC BOX	1	14. 77044580 SOCKET	23
3. 77041345 TOGGLE SWITCH ST	2	15. 70393257 DECAL-JIC BOX	1
4. 77041354 TOGGLE SWITCH DT	1	16. 77044341 TERMINAL BLOCK-4	1
5. 77044018 STRAIN RELIEF 1/2	2	17. 77041056 FUSE 20A IN-LINE	1
6. 77044201 NUT 1/2 ELEC LOCK	3	18. 77040048 BUTT CONNECTOR 16-14GA	4
7. 77044196 STRAIN RELIEF 3/4	1	19. 89044232 WIRE 14GA RED X 3	2
8. 77044202 NUT 3/4 ELEC LOCK	1	20. 77044668 PLUG-SEAL	1
9. 77044468 STRAIN RELIEF 1/8-1/4	1	21. 89044354 CABLE 14GA/6WIRE	84"
10. 77040186 TERM 1/4 FSLPON 16-14GA	25	22. 77041423 DIODE	1
11. 77040282 TERM 1/4 PIGBAC 16-14GA	3	23. 77044667 PLUG-CAP	1
12. 77040051 TERM #8 SPRSPD 16-14GA	4	24. 77044645 NUT	1
		25. 77044646 WASHER-LOCK	1

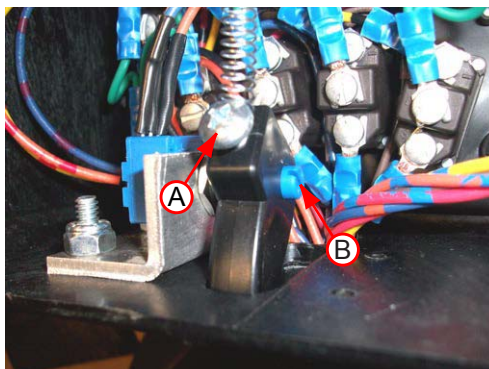


SOLID/STRIPE	TERM	ITEM NO
A YEL/BLK	10	
B ORN/BLK	10	
C BLU/BLK	10	
D RED/BLK	10	
E ORN/RED	10	
F BRN	10	
G BRN/RED	10	
H BLU/RED	10	
J BLK/RED	10	
K BRN/BLK	10	
L RED	10	
M BLU	12	
N ORN	10	
O #20	-	
P YEL	10	
Q BRN/BLU	-	
R YEL/RED	10	
S BLK	10	
T BLK/BLU	-	
U RED/BLU	10	
V BLU/ORN	-	
W ORN/BLU	10	
X YEL/BLU	10	
- RED/ORN	-	

TETHERED PROPORTIONAL REMOTE POTENTIOMETER ADJUSTMENT

NOTES: ONLY use this procedure to set the low-end output on the remote handle assembly if crane functions operate without pulling the proportional trigger. You may need a second operator to help with steps 4 and 5.

- Following proper crane and stabilizer set-up, with the PTO engaged and the truck running, move the crane from the stowed position to a position off to the side of the truck. Unstow the winch cable hook and lower the winch approx (6) six feet.
- Remove the back cover of the remote control handle.
- Loosen screw "A" slightly. (Note: Screw style may vary).
- While holding "WINCH DOWN" function, very slowly, rotate screw "B" clockwise until all movement has stopped.
- Release "WINCH DOWN" function.
- Tighten screw "A"
- Test by operating "WINCH DOWN", "WINCH UP", "ROTATE CCW", and "ROTATE CW" without pulling the trigger. If any of these functions move, repeat steps 2 through 6.
- Replace control back cover and properly stow the crane and stabilizers.





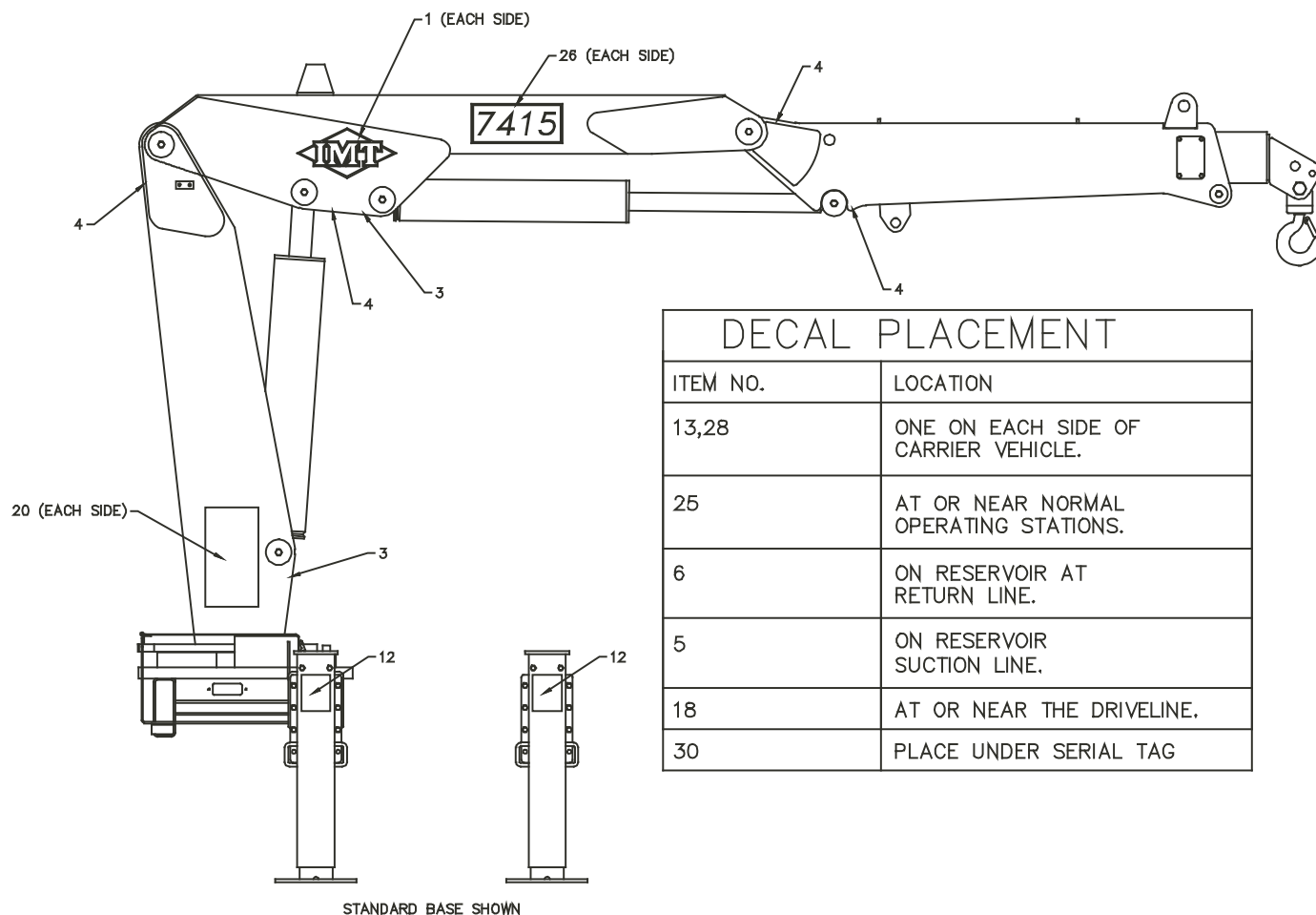
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3-36

SECTION 3. PARTS

DECAL KIT (95712293-1)

1. 70029251	PLACARD - IMT DIAMOND	2	16. 70392888	DECAL-DGR OPER RESTRICT	2
2. 70391583	DECAL-SETUP/STOW INST.	2	17. 70392890	DECAL-DGR STOW/UNFOLD	2
3. 70391612	DECAL-GREASE WEEKLY LEFT	3	18. 70392891	DECAL-DANGER DRIVELINE	2
4. 70391613	DECAL-GREASE WEEKLY RIGHT	5	19. 70392982	DECAL-CONTACT IMT	1
5. 70392108	DECAL-SUCTION LINE	1	20. 71393868	CAPACITY PLACARD	2
6. 70392109	DECAL-RETURN LINE	1	21. 71039134	DECAL-CAUTION OIL LEVEL	2
7. 70392213	DECAL-CAUTION WASH/WAX	1	22. 70395030	DECAL-CTRL SS	1
8. 70392524	DECAL-ROTATE CRN/GREASE	1	23. 70395031	DECAL-CTRL CS	1
9. 70392813	DECAL-DANGER ELECTROC'N	2	24. 71392365	DECAL-ALIGN CRANE	1
10. 70392814	DECAL-WARNING OPERATOR	2	25. 70392889	DECAL-DANGER RC ELECTRO	2
11. 70392815	DECAL-WARNING OPERATION	2	26. 71393866	DECAL-7415 IDENTIFICATION	2
12. 70392864	DECAL-WARNING STAB STDCLR	2	27. 70394189	DECAL-RECOMMEND HYD OIL	1
13. 70392865	DECAL-DANGER ELECTROC'N	4	28. 70392868	DECAL-WARNING CR LOADLINE	4
14. 70392866	DECAL-WARNING OPER COND	2	29. 70392863	DECAL-WARNING HOIST PERS	2
			30. 70395323	DECAL-ASME/ANSI B30.22	1
			31. 72042097	LEVEL	2



NOTE: PLACE ITEM #31, LEVEL, ON FRONT AND SIDE OF CRANE BASE.

Technical drawings of the "A" frame base, showing two views: a top view (left) and a side view (right). The top view shows a rectangular frame with a central circular opening and various mounting points. The side view shows the profile of the frame, including the base and the mounting points. Numerous numbered callouts (1-29) identify specific components and features.



00007415: 91714594.01.REV B 20071008

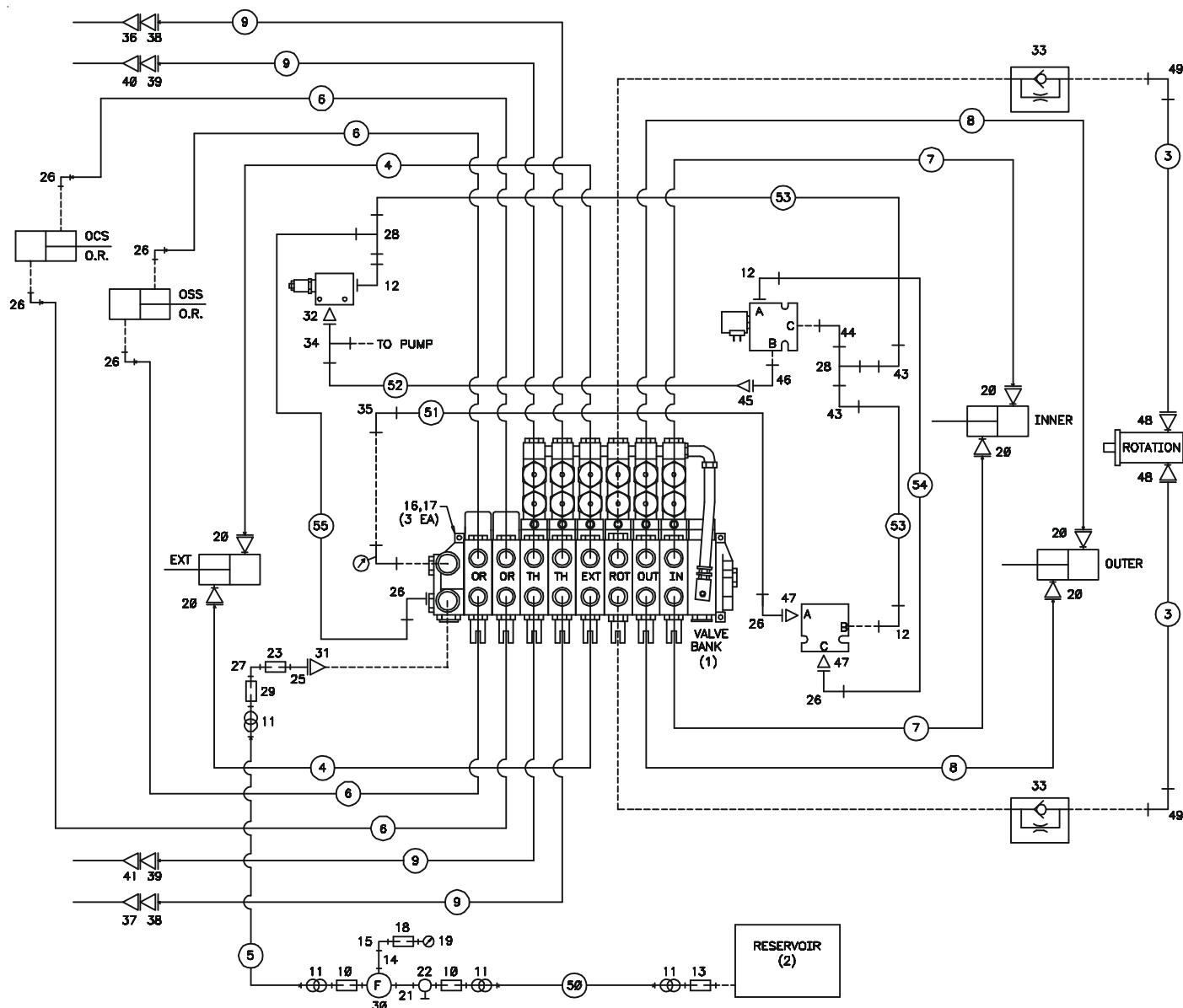
3-38

SECTION 3. PARTS

HYD KIT-8 SECT RMT (91714594)

1. 51705505 VALVEBANK ASM-8SECT V20	1REF	29. 72531196 NIPPLE-BARB 45° 1-1/4 1-1/4	1
2. 52703565 RESERVOIR-ASM 21 GAL	1REF	30. 73052091 FILTER-HYD RET 10MIC 1-1/4	1
3. 51394715 HOSE ASM-1/4X23 #4F#6F	2REF*	31. 72053747 ADPTR #12MSTR 3/4FPT	1
4. 51394932 HOSE ASM-3/8X221 #8F#8F	2REF*	32. 72532360 ADPTR #12MSTR #8MSTR	1
5. 51703945 HOSE ASM-FF 3/4X17	1	33. 73054921 VLV FLOW CTRL PRESS COMP	2
6. 51394930 HOSE ASM-3/8X78 #8F#8F	4REF*	34. 72532657 TEE-SWVL NUT RUN JIC 3/4	1
7. 51394929 HOSE ASM-3/8X76 #8F#8F	2REF*	35. 72532658 ELBOW #8MJIC #8FJIC	1
8. 51394933 HOSE ASM-3/8X188 #8F#8F	2REF*	36. 72533101 COUPLER-DISC 3/8NO-SPILL F	1
9. 51394931 HOSE ASM-3/8X270 #8F#8F	4REF*	37. 72533102 COUPLER-DISC 3/8NO-SPILL M	1
10. 72532346 NIPPLE-BARB 90° 1-1/4 1-1/4	2	38. 72053670 ADPTR 3/8MPT #8MJIC	2
11. 72661642 HOSE CLAMP (WAS 72066516)	4	39. 72053497 ADPTR 1/2MPT #8MJIC	2
12. 72053767 ELBOW#12MSTR #12MJIC 90°	3	40. 72532996 COUPLER-DISC 1/2NO-SPILL F	1
13. 72531550 NIPPLE-BRB STL 1-1/4MPT1-1/4	1REF	41. 72533118 NIPPLE-DISC 1/2-14FPT	1
14. 72053002 NIPPLE-PIPE BLK 1/8X2	1	42. 51714384 HOSE KIT(INCL: 3,4,6-9, & 51-55)	1
15. 72053281 ELBOW-STREET BLK 1/8X90°	1	43. 72532696 ELBOW #12MJIC #12FJIC SW	2
16. 72060033 CAP SCR 5/16-18X3 HHGR5Z	3	44. 72532366 ADPTR #12MSTR #12MJIC	1
17. 72062109 NUT 5/16-18 HEX NYLOC ZINC	3	45. 72532972 ADPTR #8MJIC #12FJIC	1
18. 72053468 COUPLING-STL 1/8	1	46. 72053781 ELBOW #12MSTR #12MJIC 45°	1
19. 70048031 GAUGE	1	47. 72532951 ADPTR #12MSTR #8FSTR	2
20. 72532358 ADPTR #8MSTR #8MJIC	6	48. 72533020 ELBOW #4MSTR #4MJIC 45°	2
21. 72053211 NIPPLE-PIPE BLK 1-1/4XCLOSE	1	49. 72053761 ELBOW #8MSTR #6MJIC 90°	2
22. 73054130 VALVE-GATE 1-1/4 BRASS	1	50. 60035832 HOSE 1-1/4 100R4X38	1
23. 72053489 COUPLING-RED BLK 1-1/4-3/4	1	51. 51394406 HOSE ASM-1/2X35 #8F#8F	1REF*
25. 72053141 NIPPLE-PIPE BLK 3/4XCLOSE	1	52. 51394031 HOSE ASM-1/2X33 #8F#8F	1REF*
26. 72053763 ELBOW #8MSTR #8MJIC 90°	7	53. 51394935 HOSE ASM-3/4X15 #12F#12F	2REF*
27. 72053287 ELBOW-STREET BLK 1-1/4X90°	1	54. 51394934 HOSE ASM-1/2X31 #8F#8F	1REF*
28. 72532950 TEE-SWVL NUT RUN JIC 1.06	2	55. 51394936 HOSE ASM-3/4X16 #8F#12F	1REF*

* PART OF 42



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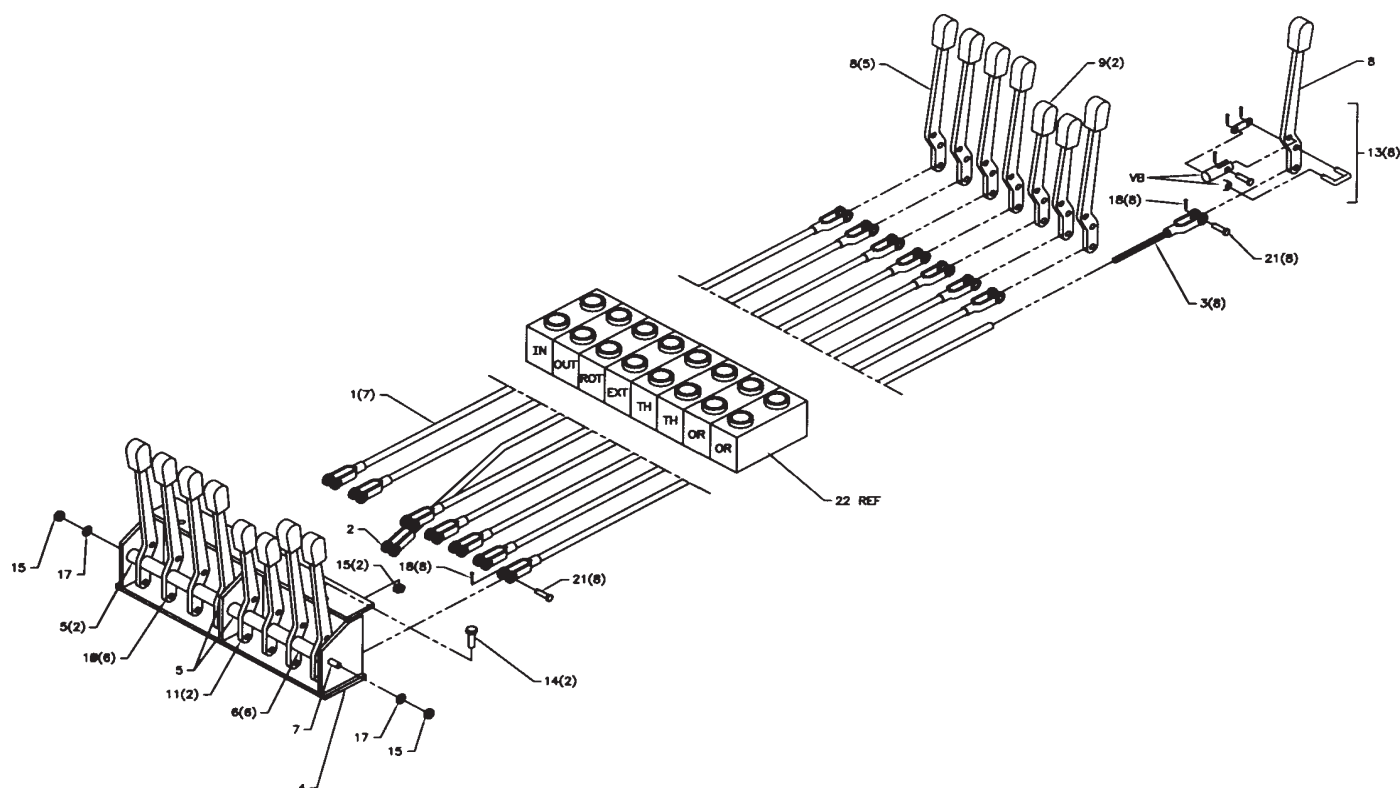
3-39

SECTION 3. PARTS

**CTRL KIT-MNL 8F W/HYD SHUTDOWN
(91714385-1)**

ITEM PART NO.	DESCRIPTION	QTY
1. 52702016	CONTROL ROD-FEMALE	7
2. 52702017	CONTROL ROD-BENT FEMALE	1
3. 52702018	CONTROL ROD-MALE	8
4. 52702777	DUMMY VALVE WELDMENT	1
5. 60030045	SPACER-POL .34X.75X.62	4
6. 60030046	SPACER-POL .34X.75X1.50	6
7. 60105503	ROD-DUMMY VB	1

8.	70141982	CONTROL HNDL-VB (LONG)	6
9.	70141983	CONTROL HNDL-VB (SHORT)	2
10.	70141984	CONTROL HNDL-DVB (LONG)	6
11.	70141985	CONTROL HNDL-DVB (SHORT)	2
13.	94731839	LINK & PIN KIT	8
14.	72060025	CAP SCR 5/16-18X1 HHGR5Z	2
15.	72062109	NUT 5/16-18 HEX NYLOC ZINC	4
17.	72063002	WASHER 5/16W FLAT	2
18.	72066168	COTTER PIN .14X1.50	16
21.	72066338	PIN-CLEVIS 5/16X1 PLAIN	16
22.		VALVEBANK	REF





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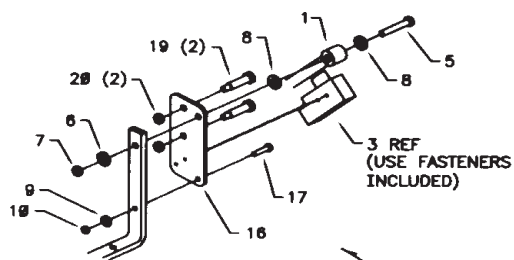
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SECTION 3. PARTS

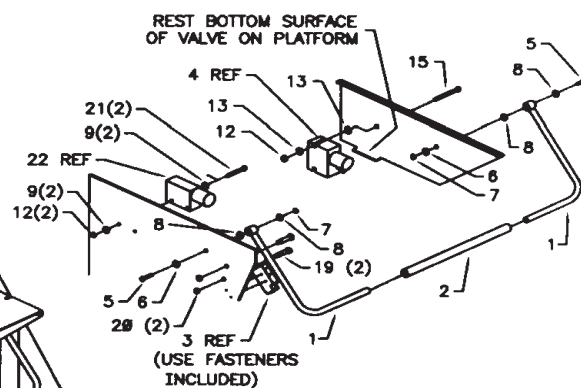
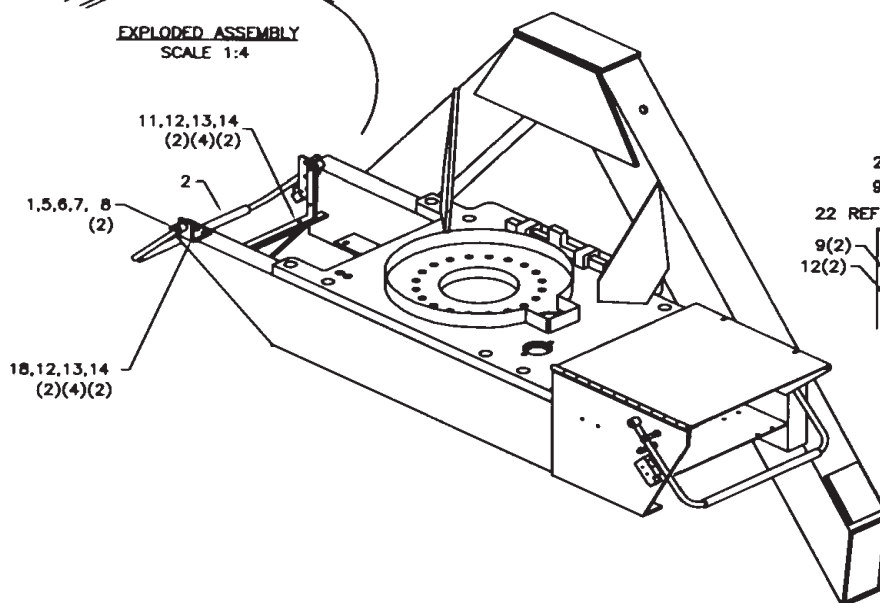
**CTRL KIT-MNL 8F W/HYD SHUTDOWN
(91714385-2)**

ITEM PART NO.	DESCRIPTION	QTY
1. 52713782	HNDL-SHUTDOWN UNIVERSAL	4
2. 60120092	TUBE 3/4X1X15-1/2	2
3. 77041459	LIMIT SWITCH	2REF
4. 73054979	DUMP VALVE	1REF
5. 72060050	CAP SCR 3/8-16X2 HHGR5	4
6. 72063003	WASHER 3/8W FLAT	4
7. 72062103	NUT 3/8-16 NYLOC	4
8. 72063215	WASHER 3/8 SS	8
9. 72063001	WASHER 1/4W FLAT	5

10. 72062104	NUT 1/4-20 NYLOC	1
11. 60118873	MTG BAR-HYD SHUTDOWN	1
12. 72062109	NUT 5/16-18 NYLOC	7
13. 72063002	WASHER 5/16WRT	10
14. 72060029	CAP SCR 5/16-18X2	4
15. 72060031	CAP SCR 5/16-18X2-1/2HHGR5Z	1
16. 60120438	BRKT-LIMIT SWITCH	1
17. 72060004	CAP SCR 1/4-20X1 HHGR5	1
18. 60118874	BRKT-SHUTDOWN BAR	1
19. 72061738	SHOULDER SCR 3/8-16X1-1/4	4
20. 72062179	NUT 3/8-16 HEX CNTR LOCK	4
21. 72060030	CAP SCR 5/16-18X2-1/4HHGR5Z	2
22. 72060030	VALVE-RELIEF INLINE	1REF



EXPLODED ASSEMBLY
SCALE 1:4



EXPLODED ASSEMBLY



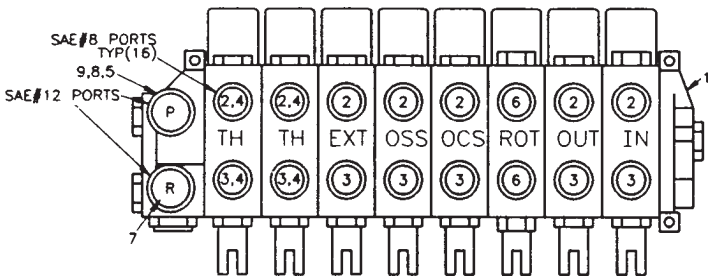
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3-41

SECTION 3. PARTS

VALVEBANK ASM 8-SECT (51705505)

ITEM PART NO.	DESCRIPTION	QTY
1. 51705394	VALVEBANK (see dwg)	1
2. 72053763	ELBOW #8MSTR #8MJIC 90°	7
3. 72532666	ELBOW #8MSTR #8MJIC XLG	7
4. 72532675	CAP #8JIC	4
5. 60107995	ELBOW-PR GAUGE	1
6. 72532728	UNION #8MSTR #8MSTR	2
7. 72053747	ADAPTER #12MSTR 3/4FPT	1
8. 7305443	GAUGE-5000PSI	1
9. 72053533	STREET ELBOW 1/4NPT 45°	1





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3-42

SECTION 3. PARTS



SECTION 4. GENERAL REFERENCE

INSPECTION CHECKLIST	3
WIRE ROPE INSPECTION	7
HOOK INSPECTION	7
HOLDING VALVE INSPECTION	8
TWO BLOCK PREVENTION DEVICE INSPECTION	8
TORQUE DATA CHART - DOMESTIC	9
TORQUE DATA CHART - METRIC	10
TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE	11
TURNTABLE BEARING INSPECTION FOR REPLACEMENT	12



4-2

SECTION 4. GENERAL REFERENCE

[illegible]



20111122

4-3

SECTION 4. GENERAL REFERENCE

NOTICE
The user of this form is responsible in determining that these inspections satisfy all applicable regulatory requirements
OWNER/COMPANY
CONTACT PERSON
CRANE MAKE & MODEL
CRANE SERIAL NUMBER
UNIT I.D. NUMBER
LOCATION OF UNIT

Inspection Checklist	
CRANES	
TYPE OF INSPECTION (check one) <input type="checkbox"/> DAILY (if deficiency found) <input type="checkbox"/> QUARTERLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> ANNUAL	
DATE INSPECTED	
HOUR METER READING (if applicable)	
INSPECTED BY (print)	
SIGNATURE OF INSPECTOR	

REV: 11-22-11

TYPE OF INSPECTION**NOTES:**

Daily and monthly inspections are to be performed by a "competent person", who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Quarterly and annual inspections are to be performed by a "qualified person" who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, successfully demonstrated the ability to solve/resolve problems relating to the subject matter, the work, or the project.

One hour of normal crane operation assumes 20 complete cycles per hour. If operation exceeds 20 cycles per hour, inspection frequency should be increased accordingly.

Consult Operator / Service Manual for additional inspection items, service bulletins and other information.

Before inspecting and operating crane, crane must be set up away from power lines and leveled with stabilizers deployed according to the crane manufacturer's directions.

DAILY (D): Before each shift of operation, those items designated with a (**D**) must be inspected.

MONTHLY (M): Monthly inspections or 100 hours of normal operation (which ever comes first) includes all daily inspections plus items designated with an (**M**). This inspection must be recorded and retained for a minimum of 3 months.

QUARTERLY (Q): Every three months or 300 hours of normal operation (which ever comes first) includes all daily and monthly inspection items plus items designated with a (**Q**). This inspection must be documented, maintained, and retained for a minimum of 12 months, by the employer that conducts the inspection.

ANNUAL (A): Each year or 1200 hours of normal operation (which ever comes first) includes all items on this form which encompasses daily, monthly and quarterly inspections plus those items designated by (**A**). This inspection must be documented, maintained, and retained for a minimum of 12 months, by the employer that conducts the inspection.

FREQUENCY	ITEM	KEY	✓=SATISFACTORY R=RECOMMENDATION (Should be considered for corrective action) NA = Not Applicable	X = Deficient (Note: If a deficiency is found, an immediate determination must be made as to whether the deficiency constitutes a safety hazard and must be corrected prior to operation.)	STATUS ✓, R, X, NA
			INSPECTION DESCRIPTION		
D	1	Labels	All load charts, safety & warning labels, & control labels are present and legible.		
D	2	Crane	Check all safety devices for proper operation.		
D	3	Controls	Control mechanisms for proper operation of all functions, leaks & cracks.		
D	4	Station	Control and operator's station for dirt, contamination by lubricants, & foreign materials.		
D	5	Hyd System	Hydraulic system (hoses, tubes & fittings) for leakage & proper oil level.		
D	6	Hook	Presence & proper operation of hook safety latches.		
D	7	Wire Rope	Inspect for apparent deficiencies per applicable requirements and manufacturer's specifications.		
D	8	Pins	Proper engagement of all connecting pins & pin retaining devices.		
D	9	General covers.	Overall observation of crane for damaged or missing parts, cracked welds & presence of safety		
D	10	Operation	During operation, observe crane for abnormal performance, unusual wear (loose pins, wire rope damage, etc.). If observed, discontinue use & determine cause & severity of hazard.		
D	11	Remote Ctrls	Operate remote control devices to check for proper operation.		
D	12	Electrical	Operate all lights, alarms, etc. to check for proper operation.		
D	13	Anti Two-Block or Two-Block Damage Prevention	Operate anti-two-blocking or two-block prevention devices to check for proper operation.		



<i>Inspection Checklist</i>			CRANES	2
FREQUENCY	ITEM	KEY	✓ = SATISFACTORY R = RECOMMENDATION (Should be considered for corrective action) NA = Not Applicable	STATUS ✓, R, X, NA
			INSPECTION DESCRIPTION	
D	14	Tires	Check tires (when in use) for proper inflation and condition.	
D	15	Ground conditions around and around stabilizers and supporting foundations, ground water accumulation, or similar.	Ground conditions around the equipment for proper support, including ground settling under and	
D	16	Level Position	The equipment for level position within tolerances specified by the equipment manufacturer's recommendations, both before each shift and after each move and setup.	
D	17	Operator Cab Windows	Significant cracks, breaks, or other deficiencies that would hamper the operator's view.	
D	18	Rails, rail stops, clamps, supporting surfaces.	Rails, rail stops, rail clamps and supporting surfaces when the equipment has rail traveling.	
D	19	Safety Devices	Safety devices and operational aids for proper operation.	
D	20	Electrical	Electrical apparatus for malfunctioning, signs of apparent excessive deterioration, dirt or moisture accumulation.	
D	21	Other		
D	22	Other		
M	23	Daily	All daily inspection items.	
M	24	Cylinders	Visual inspection of cylinders for leakage at rod, fittings & welds. Damage to rod & case.	
M	25	Valves	Holding valves for proper operation.	
M	26	Valves	Control valve for leaks at fittings & between sections.	
M	27	Valves	Control valve linkages for wear, smoothness of operation & tightness of fasteners. Relief valve for proper pressure settings.	
M	28	General	Bent, broken or significantly rusted/corroded parts.	
M	29	Electrical	Electrical apparatus for malfunctioning, signs of apparent excess deterioration, dirt or moisture accumulation. Electrical systems for presence of dirt, moisture and frayed wires.	
M	30	Structure	All structural members for damage.	
M	31	Welds	All welds for breaks & cracks.	
M	32	Pins	All pins for proper installation & condition.	
M	33	Hardware	All bolts, fasteners & retaining rings for tightness, wear & corrosion	
M	34	Wear Pads	Condition of wear pads.	
M	35	Pump & Motor mounting bolts.	Hydraulic pumps & motors for leakage at fittings, seals & between sections. Check tightness of	
M	36	PTO	Transmission/PTO for leakage, abnormal vibration & noise, alignment & mounting bolt torque.	
M	37	Hyd Fluid	Quality of hydraulic fluid and for presence of water.	
M	38	Hyd Lines	Hoses & tubes for leakage, abrasion damage, blistering, cracking, deterioration, fitting leakage & secured properly.	
M	39	Hook	Load hook for abnormal throat distance, twist, wear & cracks.	
M	40	Wire Rope	Condition of load line.	
M	41	Manual	Presence of operator's manuals with unit.	
M	42		Other	
M	43		Other	
Q	44	Daily	All daily inspection items.	
Q	45	Monthly	All monthly inspection items.	
Q	46	Rotation Sys	Rotation bearing for proper torque of all mounting bolts.	
Q	47	Hardware	Base mounting bolts for proper torque.	
Q	48	Structure	All structural members for deformation, cracks & corrosion.	
	49		● Base	
	50		● Stabilizer beams & legs	
	51		● Mast	
	52		● Inner boom	
	53		● Outer boom	
	54		● Extension(s)	
	55		● Jib boom	
	56		● Jib extension(s)	
	57		● Other	
Q	58	Hardware	Pins, bearings, shafts, gears, rollers, & locking devices for wear, cracks, corrosion & distortion.	



<i>Inspection Checklist</i>			CRANES	3
FREQUENCY	ITEM	KEY	✓ = SATISFACTORY R = RECOMMENDATION (Should be considered for corrective action) NA = Not Applicable X = Deficient (Note: If a deficiency is found, an immediate determination must be made as to whether the deficiency constitutes a safety hazard and must be corrected prior to operation.)	STATUS ✓, R, X, NA
			INSPECTION DESCRIPTION	
	59		● Rotation bearing(s)	
	60		● Inner boom pivot pin(s) & retainer(s)	
	61		● Outer boom pivot pin(s) & retainer(s)	
	62		● Inner boom cylinder pin(s) & retainer(s)	
	63		● Outer boom cylinder pin(s) & retainer(s)	
	64		● Extension cylinder pin(s) & retainer(s)	
	65		● Jib boom pin(s) & retainer(s)	
	66		● Jib cylinder pin(s) & retainer(s)	
	67		● Jib extension cylinder pin(s) & retainer(s)	
	68		● Boom tip attachments	
	69		● Other	
Q	70	Hyd Lines	Hoses, fittings & tubing for proper routing, leakage, blistering, deformation & excessive abrasion.	
	71		● Pressure line(s) from pump to control valve	
	72		● Return line(s) from control valve to reservoir	
	73		● Suction line(s) from reservoir to pump	
	74		● Pressure line(s) from control valve to each function	
	75		● Load holding valve pipe(s) and hose(s)	
	76		● Other	
Q	77	Pumps & Motors	Pumps & motors for loose bolts/fasteners, leaks, noise, vibration, loss of performance, heating & excess pressure.	
	78		● Winch motor(s)	
	79		● Rotation motor(s)	
	80		● Other	
Q	81	Valves	Hydraulic valves for cracks, spool return to neutral, sticking spools, proper relief valve setting, relief valve failure.	
	82		● Main control valve	
	83		● Load holding valve(s)	
	84		● Stabilizer or auxiliary control valve(s)	
	85		● Other	
	86		● Other	
Q	87	Cylinders	Hydraulic cylinders for drifting, rod seal leakage & leakage at welds. Rods for nicks, scores & dent s. Case for damage. Case & rod ends for damage & abnormal wear .	
	88		● Stabilizer cylinder(s)	
	89		● Inner boom cylinder(s)	
	90		● Outer boom cylinder(s)	
	91		● Extension cylinder(s)	
	92		● Rotation cylinder(s)	
	93		● Jib lift cylinder(s)	
	94		● Jib extension cylinder(s)	
	95		● Other	
Q	96	Winch	Winch, sheaves & drums for damage, abnormal wear , abrasions & other irregularities.	
Q	97	Hyd Filters	Hydraulic filters for replacement per maintenance schedule.	
A	98	Daily	All daily inspection items.	
A	99	Monthly	All monthly inspection items.	
A	100	Quarterly	All quarterly inspection items.	
A	101	Hyd Sys	Hydraulic fluid change per maintenance schedule.	
A	102	Controls	Control valve calibration for correct pressures & relief valve settings	
A	103	Valves	Safety valve calibration for correct pressures & relief valve settings.	
A	104	Valves	Valves for failure to maintain correct settings.	
A	105	Rotation Sys	Rotation drive system for proper backlash clearance & abnormal wear , deformation & cracks.	
A	106	Lubrication	Gear oil change in rotation drive system per maintenance schedule.	
A	107	Hardware	Check tightness of all fasteners and bolts.	
A	108	Wear Pads	Wear pads for excessive wear .	
A	109	Loadline	Loadline for proper attachment to drum.	



SECTION 4. GENERAL REFERENCE

4

If additional space is required, reproduce this page and attach to this report.



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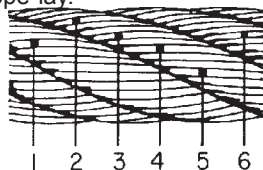
4-7

SECTION 4. GENERAL REFERENCE

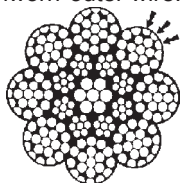
WIRE ROPE INSPECTION

Wire rope with any of the deficiencies shown below shall be removed and replaced immediately.

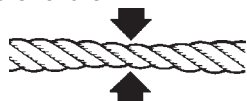
- A. Corrosion can be cause for replacement. Any development of corrosion must be noted and monitored closely.
- B. When there are either 3 broken wires in one strand or a total of six broken wires in all strands in any one rope lay.



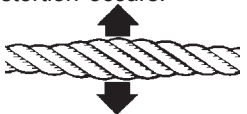
- C. When flat spots on the outer wires appear and those outside wires are less than 2/3 the thickness of the unworn outer wire.



- D. When there is a decrease of diameter indicating a core failure.



- E. When kinking, crushing, birdcaging or other distortion occurs.



- F. When there is noticeable heat damage (discoloration) of the rope by any means.



- G. When the diameter is reduced from nominal size by 1/32" or more.



- H. If a broken wire protrudes or loops out from the core of the rope.

**HOOK INSPECTION**

Hooks having any of the listed deficiencies shall be removed from service unless a qualified person approves their continued use and initiates corrective action. Hooks approved for continued use shall be subjected to periodic inspection.

A. DISTORTION**Bending / Twisting**

A bend or twist exceeding 10° from the plane of the unbent hook.

Increased Throat Opening

HOOK WITHOUT LATCH: An increase in throat opening exceeding 15% (Or as recommended by the manufacturer)

HOOK WITH LATCH: An increase of the dimension between a fully-opened latch and the tip section of the hook exceeding 8% (Or as recommended by the manufacturer)

B. WEAR

If wear exceeds 10% of the original sectional dimension. (Or as recommended by the manufacturer)

C. CRACKS, NICKS, GOUGES

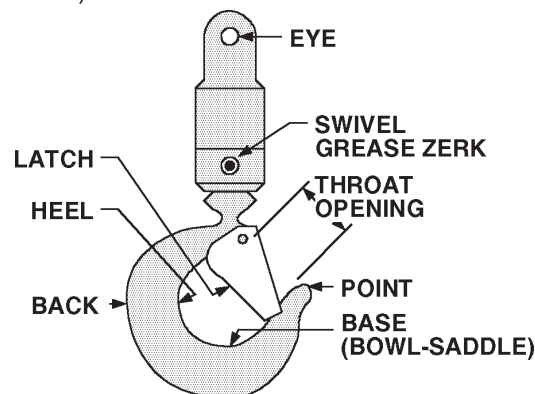
Repair of cracks, nicks, and gouges shall be carried out by a designated person by grinding longitudinally, following the contour of the hook, provided that no dimension is reduced more than 10% of its original value. (Or as recommended by the manufacturer) (A qualified person may authorize continued use if the reduced area is not critical.)

D. LATCH**Engagement, Damage & Malfunction**

If a latch becomes inoperative because of wear or deformation, and is required for the service involved, it shall be replaced or repaired before the hook is put back into service. If the latch fails to fully close the throat opening, the hook shall be removed from service or "moused" until repairs are made.

E. HOOK ATTACHMENTS & SECURING MEANS

If any indication of distortion, wear, cracks, nicks or gouges are present, unless a qualified person authorizes their use. (Or as recommended by the manufacturer)





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4-8

SECTION 4. GENERAL REFERENCE

HOLDING VALVE INSPECTION

The cylinders are equipped with holding valves that prevent sudden movement of the cylinder rods in the event of a hydraulic hose or other hydraulic component failure. The valve is checked in the following manner:

1. With a full rated load, extend the cylinder in question and kill the engine.
2. Operate the control valve to retract the cylinder. If the cylinder "creeps", replace the holding valve. If the cylinder does not "creep", the valve is serviceable.

TWO BLOCK PREVENTION DEVICE INSPECTION

(See Vol. 1, Operation, Maintenance and Repair for a complete description)

The two block prevention system halts the "winch-up" and "extension-out" crane functions before the block contacts the sheave. The two block prevention system should be checked daily as follows:

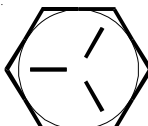

1. Examine flexible rod and weight to insure free unrestricted mechanical operation
2. Examine cord for damage, cuts or breaks. Grasp cord and pull to check operation of cord reel. The cord should retract on reel when released.
3. Start vehicle, engage PTO and slowly winch loadline up until anti-two block weight comes in contact with the hook end of the loadline cable. At the moment the weight is fully supported by the hook end, the winch up function should become non-functioning, because the two-block damage prevention switch will stop further movement.

If operation other than as described occurs, stop immediately and investigate. Failure to do so will risk damage to the cable or the crane.

Then, extend the winch cable to relieve the two-block condition, and actuate the boom extend function slowly. Again, once the weight is fully supported by the hook end, the boom extend function should become non-functioning, because the two-block damage prevention switch will stop further movement. If operation other than described occurs, stop immediately, reverse the function, and check the system.

If the anti two block function appears to be functioning normally, winch the cable down until the sensing weight swings free.

COARSE THREAD BOLTS

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

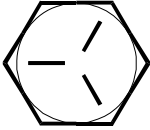

When using the torque data in the charts above, the following rules should be observed.

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

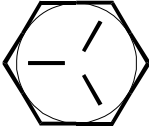

WARNING

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.

**TORQUE DATA CHART - DOMESTIC****FINE THREAD BOLTS**

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

COARSE THREAD BOLTS

SIZE (DIA-TPI)	BOLT DIA (INCHES)	TIGHTENING TORQUE			
					
		SAE J429 GRADE 5		SAE J429 GRADE 8	
		PLAIN (FT-LBS)	PLATED (FT-LBS)	PLAIN (FT-LBS)	PLATED (FT-LBS)
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.

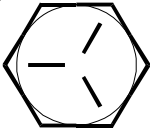

WARNING

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.

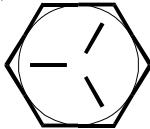
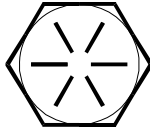


TORQUE DATA CHART - METRIC

FINE THREAD BOLTS

SIZE (DIA-TPI)	BOLT DIA (INCHES)	TIGHTENING TORQUE			
					
		SAE J429 GRADE 5		SAE J429 GRADE 8	
		PLAIN (KG-M)	PLATED (KG-M)	PLAIN (KG-M)	PLATED (KG-M)
5/16-24	0.3125	3	2	4	3
3/8-24	0.3750	5	4	7	5
7/16-20	0.4375	8	6	11	8
1/2-20	0.5000	12	9	17	12
9/16-18	0.5625	17	12	24	18
5/8-18	0.6250	24	18	33	25
3/4-16	0.7500	41	31	58	44
7/8-11	0.8750	62	45	93	69
1-12	1.0000	89	67	138	103
1 1/8-12	1.1250	123	93	200	150
1 1/4-12	1.2500	171	129	278	209
1 3/8-12	1.3750	232	174	375	281
1 1/2-12	1.5000	304	228	492	369

COARSE THREAD BOLTS

SIZE (DIA-TPI)	BOLT DIA (INCHES)	TIGHTENING TORQUE			
					
		SAE J429 GRADE 5		SAE J429 GRADE 8	
		PLAIN (KG-M)	PLATED (KG-M)	PLAIN (KG-M)	PLATED (KG-M)
5/16-18	0.3125	2	2	3	2
3/8-16	0.3750	4	3	6	5
7/16-14	0.4375	7	5	10	7
1/2-13	0.5000	10	8	15	11
9/16-12	0.5625	15	11	21	16
5/8-11	0.6250	21	16	30	22
3/4-10	0.7500	37	28	52	39
7/8-9	0.8750	55	41	84	63
1-8	1.0000	82	62	126	94
1 1/8-7	1.1250	110	82	178	133
1 1/4-7	1.2500	155	116	251	188
1 3/8-6	1.3750	203	152	329	246
1 1/2-6	1.5000	270	210	438	328

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 kilogram-meters.
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.

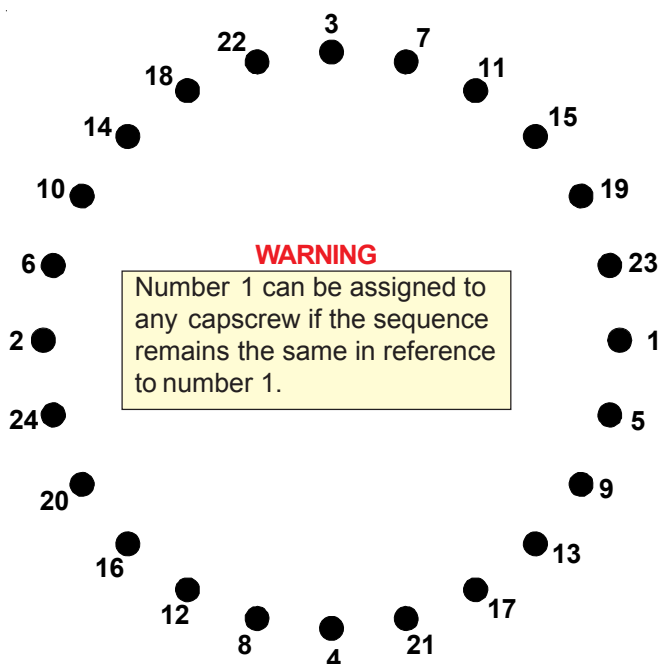
WARNING

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.



TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE

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



TIGHTENING PROCEDURE:

1. Refer to the Torque Data Chart to determine the proper torque value to apply to the size of cap screw used.
2. Follow the tightening sequence shown in the diagram. Note that the quantity of cap screws may differ from the diagram, but the sequence must follow the criss-cross pattern as shown in the diagram.
3. Torque all cap screws to approximately 40% of the specified torque value, by following the sequence.
(EXAMPLE: .40 x 265 FT-LBS = 106 FT-LBS)
(EXAMPLE-METRIC: .40 x 36 KG-M = 14.4 KG-M)
4. Repeat Step 3, but torquing all cap screws to 75% of the specified torque value. Continue to follow the tightening sequence.
(EXAMPLE: .75 x 265 FT-LBS = 199 FT-LBS)
(EXAMPLE-METRIC: .75 x 36 KG-M = 27 KG-M)
5. Using the proper sequence, torque all cap screws to the listed torque value as determined from the Torque Data Chart.



TURNTABLE BEARING INSPECTION FOR REPLACEMENT

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.

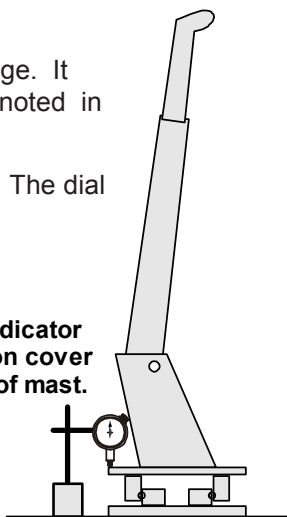
If none of the above conditions exists, the bearing is functioning properly and need not be replaced. But, if one or more of the above conditions exists, inspection may be required. Limits are measured in "TILT" which is dependent on the internal clearances of the bearing. TILT is the most practical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

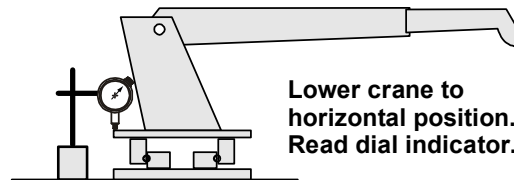
TEST PROCEDURE

1. Place crane in vertical position.
2. Set a dial indicator at 0 on the pinion cover plate at back side of mast.
3. Lower crane to the horizontal position.
4. Check and record the dial indicator change. It should not exceed the tilt measurement noted in the chart below.
5. Return the crane to the vertical position. The dial indicator should return to 0.

Set up dial indicator to 0" on pinion cover at back side of mast.



Lower crane to horizontal position. Read dial indicator.



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, LOADER OR TIREHAND MODEL	1007	5200	16000	9800
		1014	5200R	32018	12916
		1014A	5217	32027	13031
		1015	5800	32030	13034
		2015/2020	7020	T30	14000
		2109	7025	T40	15000
		3000	7200		18000
		3816/3820	7415		20017
		3016/3020	9000		8000L
		421/425	TH10 BODY ROT'N		H1200
		4300	TH14 BODY ROT'N		H1200RR
		5016/5020			T50
		6016/6020			TH2551B BODY ROT'N
		TH7 BODY ROT'N			TH2557B BODY ROT'N
		TH1449 BODY ROT'N			TH2557A BODY ROT'N
		TH15B CLAMP			
		TH2551B CLAMP			
		TH2557A CLAMP			
	BALL DIA. (REF)	.875"	1.00"	1.18"-1.25"	1.75"
		(22mm)	(25mm)	(30-32mm)	(44mm)
	TILT DIM. (A₁-A₂)	.060"	.070"	.075"	.090"
		(1.524mm)	(1.778mm)	(1.905mm)	(2.286mm)



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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	MANUAL PART NO.
SUBMITTED BY		
COMPANY		
ADDRESS		
CITY, STATE, ZIP		
TELEPHONE		

☐ ERROR FOUND

LOCATION OF ERROR (page no.): _____

DESCRIPTION OF ERROR: _____

☐ ERROR FOUND

DESCRIPTION OF ADDITION: _____

REASON FOR ADDITION: _____

MAIL TO:
IOWA MOLD TOOLING CO., INC.
BOX 189
GARNER, IA 50438-0189
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