



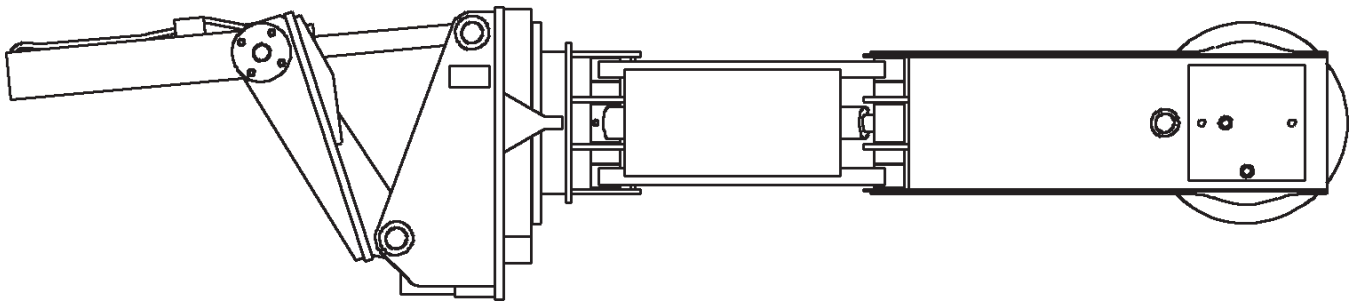
Tirehand 15B

PARTS AND SPECIFICATIONS

Section 1 SPECIFICATIONS

Section 2 PARTS

Section 3 REFERENCE



IOWA MOLD TOOLING CO., INC.

BOX 189, GARNER, IA 50438-0189

TEL: 641-923-3711

TECHNICAL SUPPORT FAX: 641-923-2424

MANUAL PART NUMBER 99900757

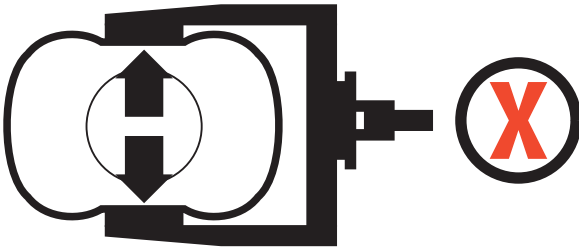
Iowa Mold Tooling Co., Inc. is an Oshkosh Corporation company.

TIREHAND OPERATING RESTRICTIONS

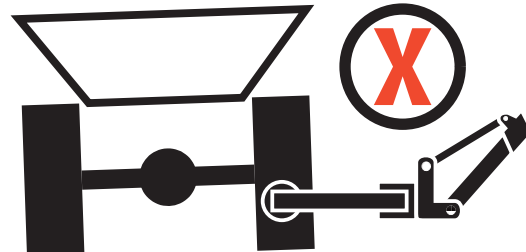
DANGER

FAILURE TO OBEY THE FOLLOWING
WILL RESULT IN
**DEATH, SERIOUS INJURY,
INSTABILITY OR EQUIPMENT DAMAGE**

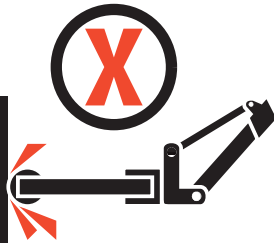
NEVER clamp an uninflated tire and then inflate. Damage or injury **WILL** result.



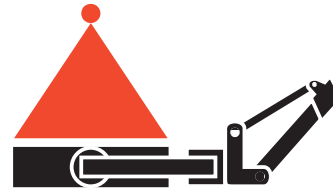
NEVER use the unit for any jacking, pulling or dragging operation involving an object or another vehicle.



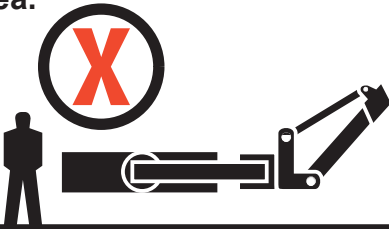
NEVER impact-load or hammer-push with the unit.



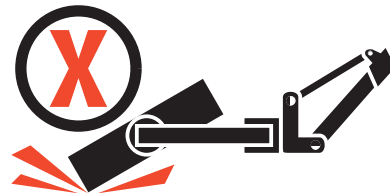
NEVER attempt to handle tires filled with ballast. Stability or structural failure may result if the load limit is exceeded.



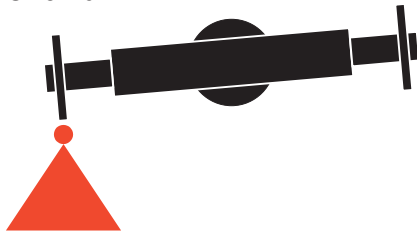
NEVER operate the unit while persons not required for operation are in the work area.



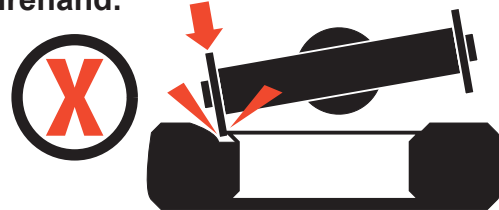
NEVER drag the tire-the unit is designed to lift and position.



NEVER sling a load using one arm of the Tirehand.



NEVER use crane functions to break beads using only one arm of the Tirehand.

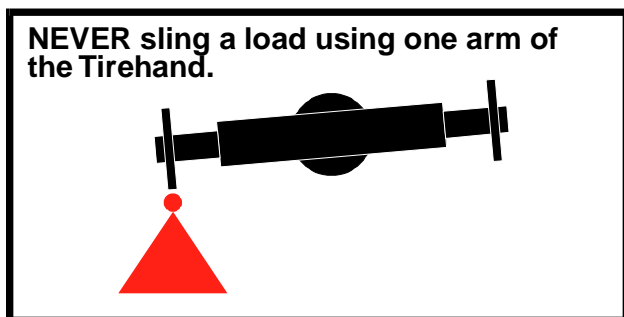


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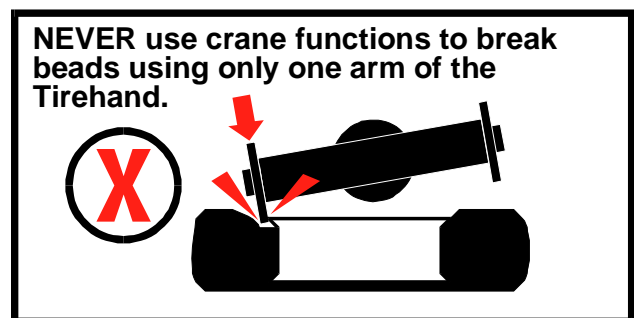
TIREHAND OPERATING RESTRICTIONS

The Tirehand 15B mounted on the 32018 crane is intended to be a tire lifting and positioning device. There are possible misapplications of this machine that can cause serious damage to the Tirehand rotation gears. It is possible to break the teeth on the Tirehand rotation bearing by applying forces with the crane while attempting to break tire beads **with one arm** of the tire hand, or by slinging a load **under one arm** of the tire hand.

A load-carrying hook is attached to the outer boom of the 32018 for carrying loads other than tires. There is also an open clevis at the end of the extension boom on the crane that can be used for attaching slings. **Use of a single Tirehand arm for lifting or carrying a load will void the tire hand warranty.**



The rotation system on the Tirehand is designed to allow the user to manipulate large tires. It is a precision function that was not designed to apply high loads. However, the load holding valves that are built into this system to help control the tire during handling will also prevent the body of the Tirehand from rotating freely when loads are applied to a single Tirehand arm. The crane is capable of producing very large forces in the downward and outward directions. When one arm is used for bead breaking, these forces can translate into torques that attempt to rotate the body of the Tirehand. The load holding valves will not allow this to occur. In this situation, the forces that are created in the Tirehand rotation turntable are well in excess of what the gear teeth can tolerate. **Using one arm of the Tirehand for bead breaking will void the warranty of the Tirehand.**



A separate bead breaker or a push bar that carries the load to both arms of the Tirehand must be used to separate the tire from the rim. It is acceptable to use the Tirehand for holding the sidewall and flange away from the bead while O-rings and locking rings are being installed.

INTRODUCTION - READ CAREFULLY!

This manual is provided to assist you in the identification and ordering of parts, for your IMT equipment. It contains information such as specifications, parts lists, capacities, and parts identification.

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

Warranty of this equipment will be void on any part of the unit subjected 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 on 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 equipment.

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 work environment.

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NOTES

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NOTES



TIREHAND 15B SPECIFICATIONS

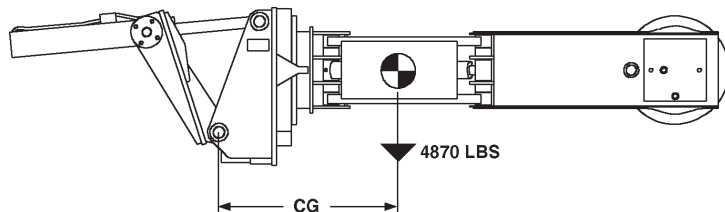
GENERAL SPECIFICATIONS

IMT CRANE WHICH TIREHAND IS DESIGNED	IMT Model 32018 (truck chassis mounted)
TIREHAND MAXIMUM CAPACITY	12,000 lb (5443 kg)
MINIMUM STOWED WIDTH	102" (259.1cm)
BODY ROTATION	350° (6.11 Rad)
CLAMPING SPAN	60" to 155" (152.4cm - 393.7cm)
METHOD OF CLAMPING	Parallelogram
CLAMPING PAD ROTATION	360° (6.28 Rad.) continuous
TIREHAND TILT	+33° to -42° (+.58 to -.73 Rad.)
CLAMPING LOAD HOLDING VALVES	Pilot operated counterbalance valves on clamping side
HYDRAULIC CONTROLS	Incorporated with crane controls
ROTATION SYSTEM	Spur gear drive
TIREHAND WEIGHT	4870 lbs (2209 kg)
ALLOWABLE BEAD BREAKING METHOD	Push Bar, ONLY

CYLINDERS

	BORE	STROKE
CLAMPING	4" (10.16cm)	16-1/4" (41.3cm)
TILT 3" (7.62cm)	5" (12.7cm)	29-5/8" (75.2cm)

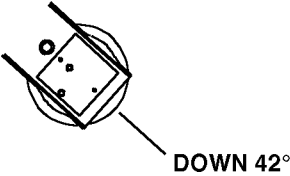
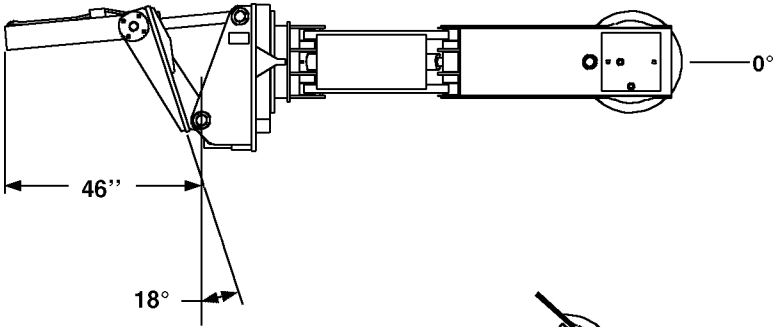
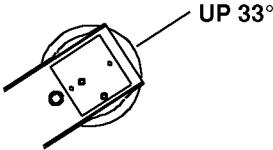
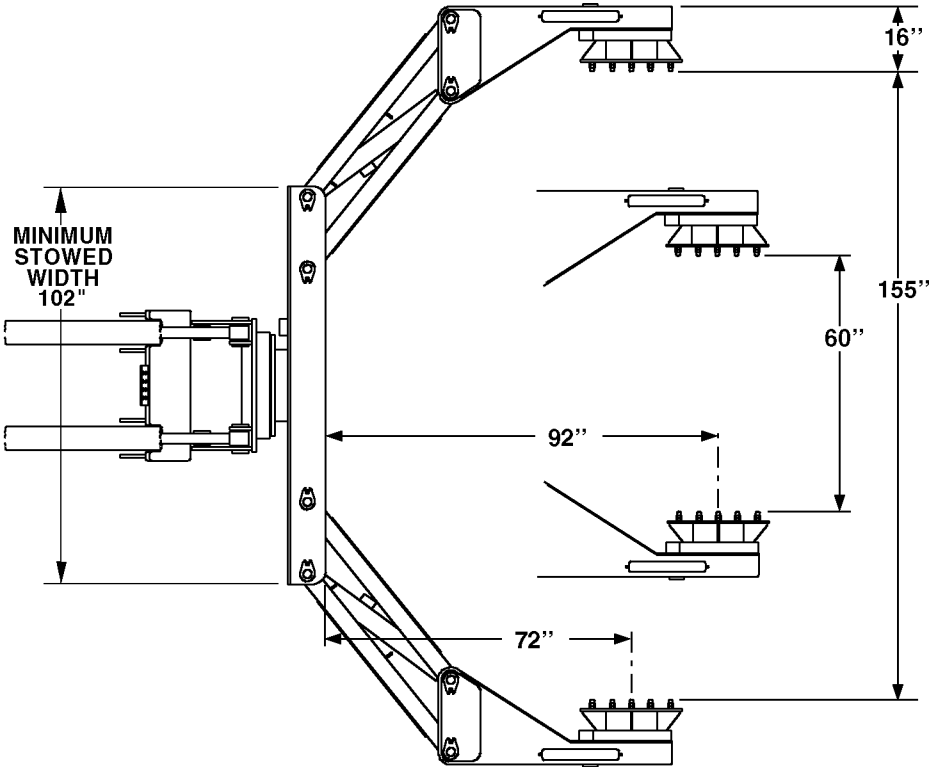
CENTER OF GRAVITY



CG (ARMS EXTENDED) = 37-1/4" (94.6cm)
 CG (ARMS RETRACTED) = 43-1/4" (109.9cm)

IMT reserves the right to change specifications and design without notice. Where applicable, specifications are in accordance with SAE standards.

GEOMETRIC CONFIGURATION



CAPACITY CHART



**Tirehand 15B
CAPACITY CHART**

MAXIMUM CAPACITY

**12,000 LB
(5,443 KG)**

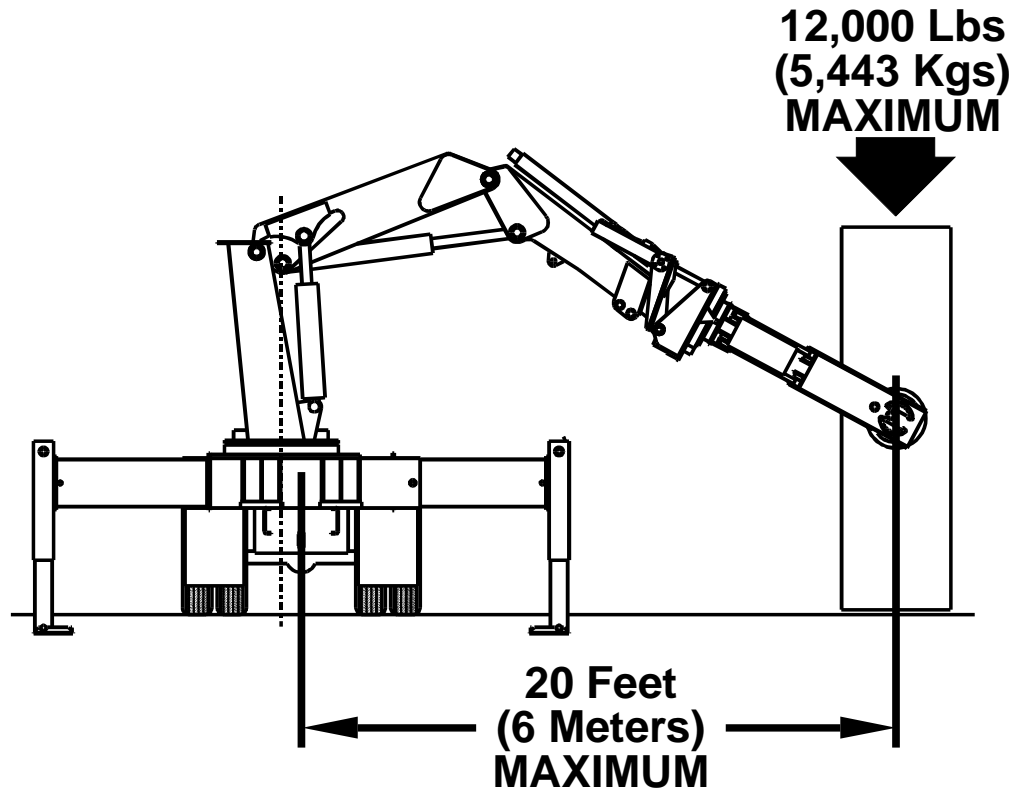
CLAMPING SPAN

**MIN: 60" (152.4 cm)
MAX: 155" (393.7 cm)**

70397320

MAXIMUM LIFT CAPABILITY

Model 32018 Crane with TH15B



- Load shown is based on Crane and Tirehand structural or hydraulic capability.
- To assure proper stability, lift must not exceed 20 feet (6 meters) from centerline of chassis to centerline of load
- Working loads will be limited to those shown.
- Deduct the weight of any load handling devices other than Tirehand.



IOWA MOLD TOOLING CO., INC.
BOX 189, GARNER, IA 50438-0189
TEL: 641-923-3711
FAX: 641-923-2424

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NOTES

GENERAL

This section contains the exploded parts drawings with the accompanying parts list for the assemblies used on the Tirehand-15B. These drawings are intended to be used in conjunction with those in the 32018 Crane manual and the instructions found in the REPAIR section in Volume 1.

WARNING

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

TIREHAND IDENTIFICATION

Every Tirehand has an identification placard, as shown below, attached to the body assembly. When ordering parts, communicating warranty information or referring to the unit in correspondence, always include the assigned serial and model numbers. All inquiries should be addressed to:

Iowa Mold Tooling Company, Inc.
Box 189, Garner, Iowa 50438-0189
Telephone: 641-923-3711
Product Support Fax: 641-923-2424

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

SERIAL NUMBER PLACARD

CYLINDER IDENTIFICATION

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

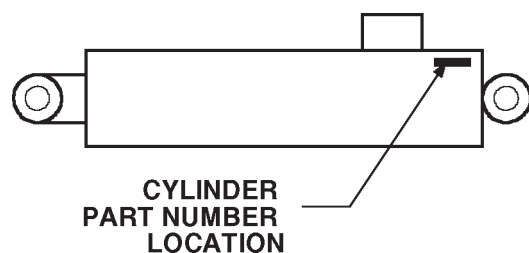
WELDMENT IDENTIFICATION

Each of the major weldments of the Tirehand bears 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 on the next page.

ORDERING REPAIR PARTS

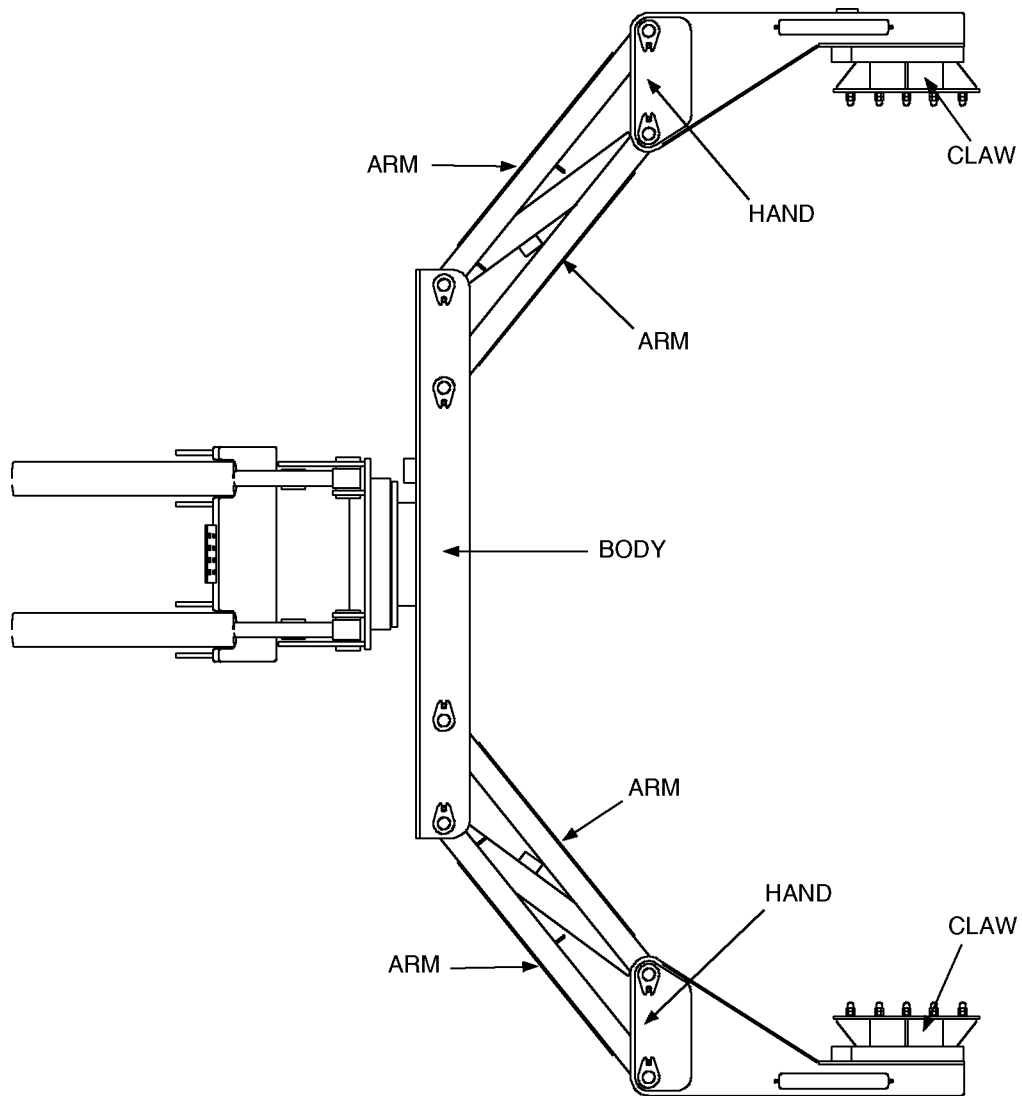
When ordering replacement parts:

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.



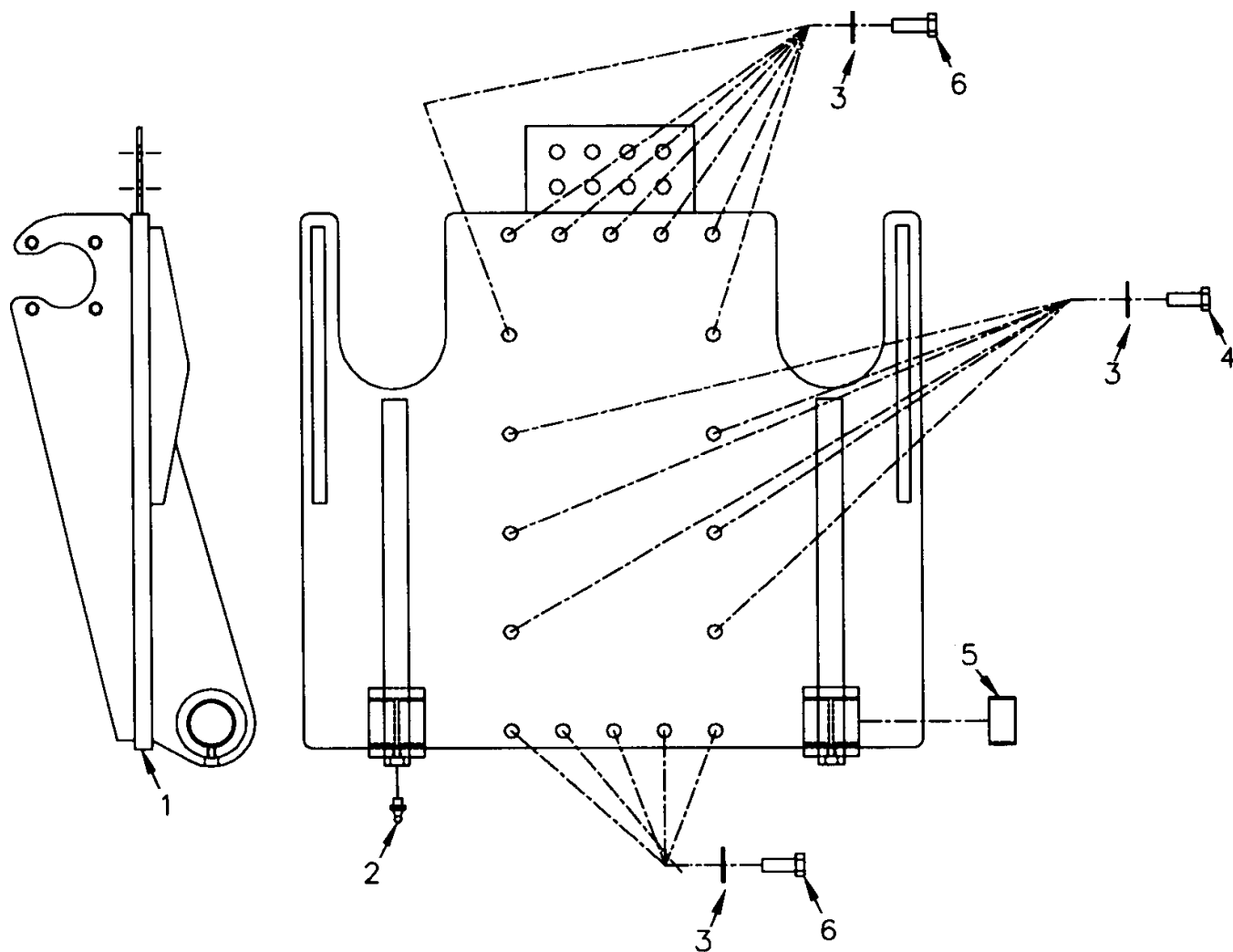
CYLINDER IDENTIFICATION

WELDMENT PART NUMBER LOCATIONS



MAST ASM (40710232)

ITEM	PART NO.	DESCRIPTION	QTY
1.	52710233	MAST	1
2.	72053508	ZERK 1/8NPT	2
3.	72063116	WASHER 3/4 FLAT HARDENED	18
4.	72601484	CAP SCR 3/4-10X1-3/4 HH GR8	6
5.	70055219	BEARING	4
6.	72060206	CAP SCR 3/4-10X2 HHGR8	12



BASE ASM (40712335)

ITEM	PART NO.	DESCRIPTION	QTY
1.	3C162920	TILT CYLINDER	2
2.	51703568	SPUR GEAR BOX (INCL:35-39)	1
3.	52715060	PIN	4
5.	52710287	CYL LOCK PLATE (INCL:34)	4
6.	52715061	BASE	1
7.	53000703	GREASE EXTENSION 20"	1
8.	60020172	THRUST WASHER	1
9.	60105964	SUPPORT PLATE	1
10.	60106032	STUD 1/2-13X2	2
11.	60106035	PINION SUPPORT SPACER	1
12.	60106043	SPUR GEAR BOX GUARD	1
14.	71056273	TURNTABLE GEAR BEARING	1
15.	71056073	PINION GEAR	1
16.	71056264	INTERMEDIATE GEAR	1
17.	72053301	COUPLING 1/8NPT	1
18.	72053508	ZERK 1/8NPT	7
19.	72060089	CAP SCR 1/2-13X3/4 HH GR5	2
21.	72060151	CAP SCR 5/8-11X2 HH GR8	7
22.	72601148	CAP SCR 7/8-9X3 HH GR8	23
23.	72062080	NUT 1/2-13 LOCK	6
24.	72063053	WASHER 1/2 LOCK	6
25.	72063075	MACH BUSHING 2X10GA WR	1
26.	72063116	WASHER 3/4 FLAT HARD	16
27.	72063117	WASHER 9/16 FLAT HARD	4
28.	72063119	WASHER 5/8 FLAT HARD	7

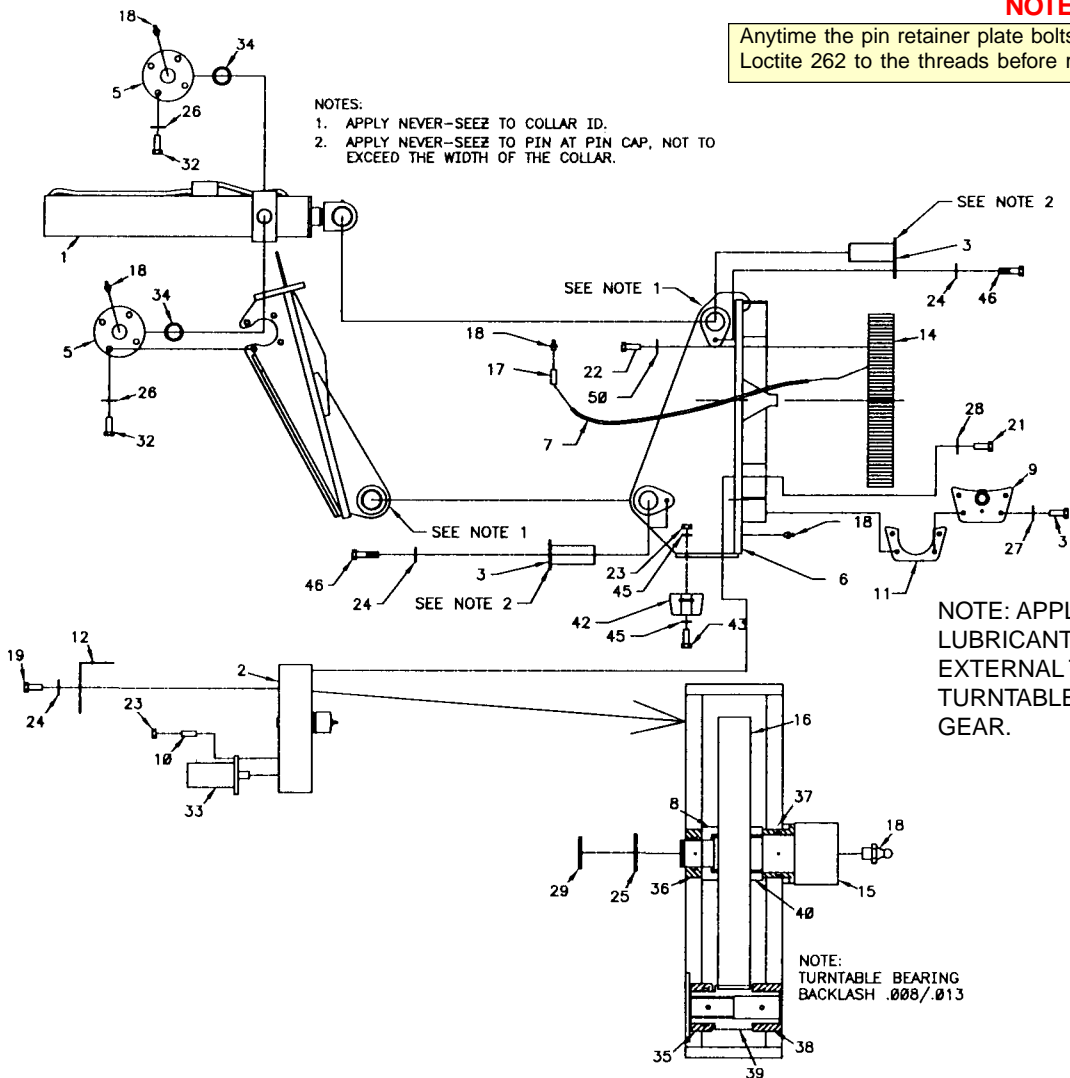
29.	72066095	RETAINING RING 2" STD	1
31.	72601144	CAP SCR 9/16-12X2 HH GR8	4
32.	72601484	CAP SCR 3/4-10X1-3/4 HH GR8	16
33.	73540004	HYD MOTOR (FROM 5-15-98)	1
	73051004	HYD MOTOR (TO 5-15-98)	1
	5V151830	C'BALANCE BLOCK (TO 5-15-98)	1
	73054538	C'BALANCE VLV (TO 5-15-98)	2
	72060738	CAP SCR (TO 5-15-98)	4
	7Q072112	O-RING (TO 5-15-98)	2
34.	60020222	BEARING (PART OF 5)	4REF
35.	60020173	BUSHING (PART OF 2)	1REF
36.	60020174	BUSHING (PART OF 2)	1REF
37.	60020176	BUSHING (PART OF 2)	1REF
38.	60020177	BUSHING (PART OF 2)	1REF
39.	71056011	DRIVE GEAR (PART OF 2)	1REF
40.	60020175	THRUST WASHER	1
42.	76393209	BUMPER	2
43.	72060097	CAP SCR 1/2-13X3 HHGR5	4
45.	72063005	WASHER 1/2 WRT	8
46.	72060092	CAP SCR 1/2-13X1-1/2 HHGR5	4
50.	72063115	WASHER 7/8 HARD FLAT	23

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.

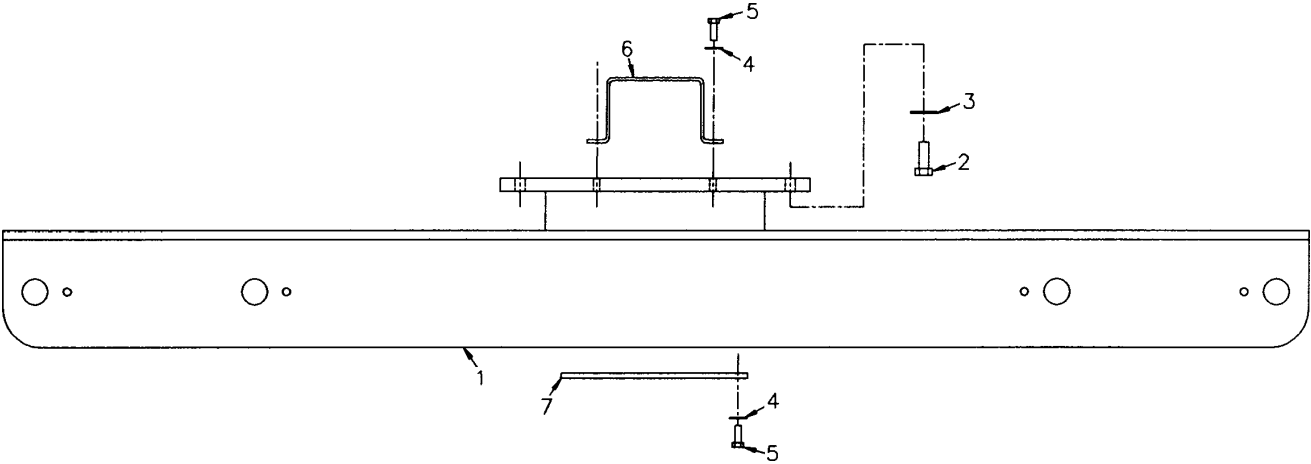


BODY ASM (40712246)

ITEM	PART NO.	DESCRIPTION	QTY
1.	52712245	BODY	1
2.	72060206	CAP SCR 3/4-10X2 HH GR8	18
3.	72063116	WASHER 3/4 FLAT HARD	18
4.	72063005	WASHER 1/2 WRT	6
5.	72060091	CAP SCR 1/2-13X1 HH GR5	6
6.	60108401	BULKHEAD PLATE	1
7.	60116214	ACCESS COVER PLATE	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.



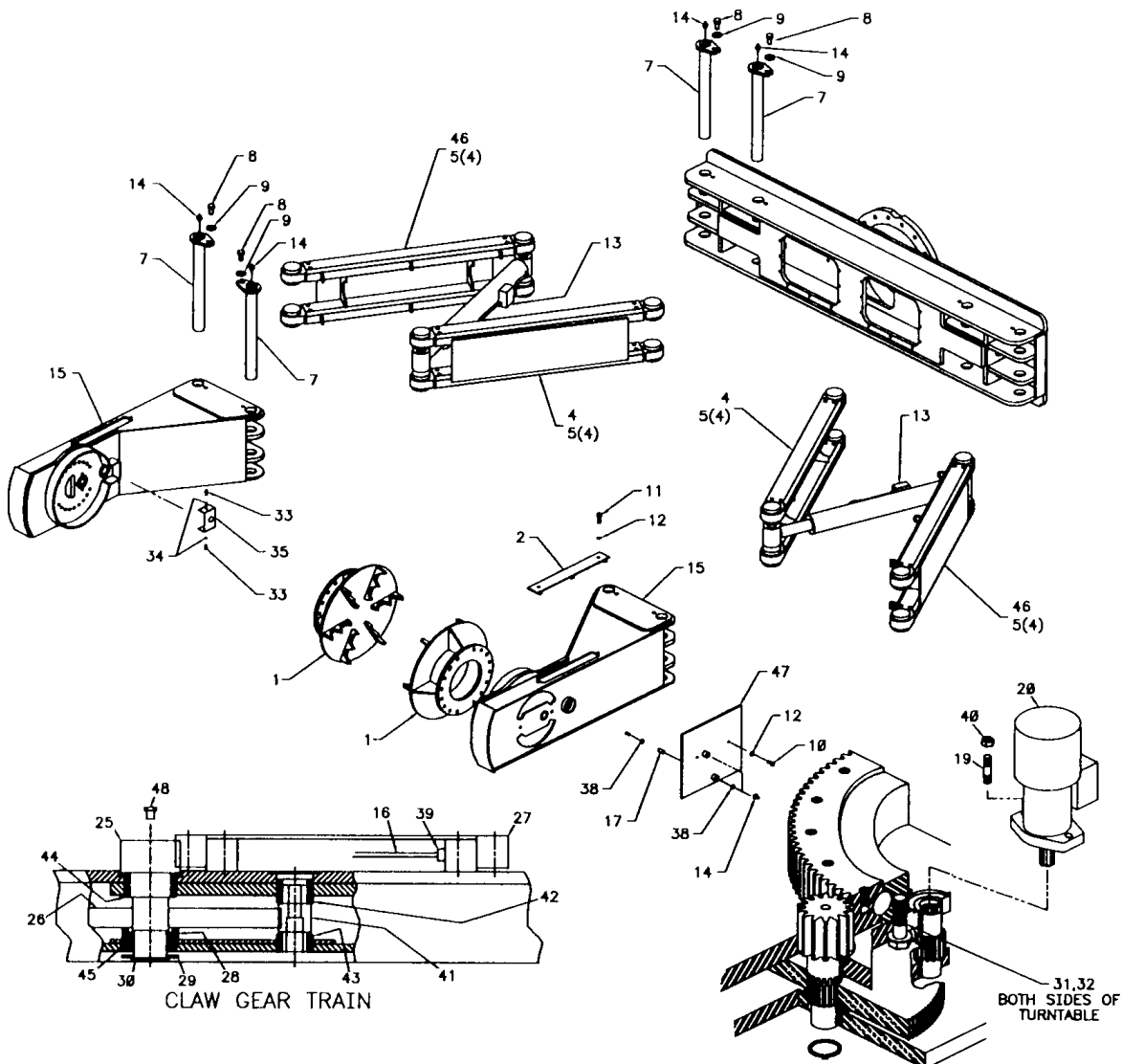
CLAMP ASM (40712248)

ITEM	PART NO.	DESCRIPTION	QTY
1.	52715013	CLAW	2
2.	52704284	COVER PLATE	4
4.	52710356	ARM (INCL:5)	2
5.	60020223	BUSHING (PART OF 4&46)	16REF
7.	52710354	PIN	8
8.	72060183	CAP SCR 3/4-10X1-1/2 HHGR5	8
9.	72063008	WASHER 3/4 WRT	12
10.	72060182	CAP SCR 3/4-10X1 HHGR5	4
11.	72060091	CAP SCR 1/2-13X1 HHGR5	8
12.	72063056	WASHER 3/4 LOCK	12
13.	3B160920	CLAMP CYLINDER	2
14.	72053508	ZERK 1/8NPT	22
15.	52710358	HAND (INCL:41-45)	2
16.	53000701	GREASE EXTENSION	2
17.	72053301	COUPLING 1/8NPT	2
19.	60106032	STUD	4
20.	73540004	HYD MOTOR (FROM 5-15-98)	2
	73051004	HYD MOTOR (TO 5-15-98)	2
	5V151830	C'BALANCE BLOCK (TO 5-15-98)	2
	73054538	C'BALANCE VALVE (TO 5-15-98)	2
	72060738	CAP SCR (TO 5-15-98)	8
	7Q072112	O-RING (TO 5-15-98)	4
25.	71056010	PINION GEAR	2
26.	71056012	INTERMEDIATE GEAR	2
27.	71056389	TURNABLE GEAR	2

28.	60102942	THRUST WASHER	2
29.	72063035	WASHER 1-1/4 10GA NR	2
30.	72066084	RETAINING RING 1-1/4	2
31.	72060151	CAP SCR 5/8-11X2 HHGR8	68
32.	72063119	WASHER 5/8 FLAT HARD	68
33.	72060833	CAP SCR 5/16-18X3/4 SLFTPG	4
34.	72063002	WASHER 5/16 WRT	4
35.	60104763	PINION COVER	2
38.	72063003	WASHER 3/8 WRT	4
39.	72531826	REDUCER BUSHING 1/4-1/8	2
40.	72062080	NUT 1/2-13 LOCK	4
41.	71056011	DRIVE GEAR (PART OF 15)	REF
42.	60020115	BUSHING (PART OF 15)	REF
43.	60020100	BUSHING (PART OF 15)	REF
44.	60020114	BUSHING (PART OF 15)	REF
45.	60020081	BUSHING (PART OF 15)	REF
46.	52710355	ARM WELDMENT W/ BULKHEAD & RING(INCL:5)	2
47.	52715064	COVER	2
48.	72053240	PIPE PLUG 1/8NPT	2

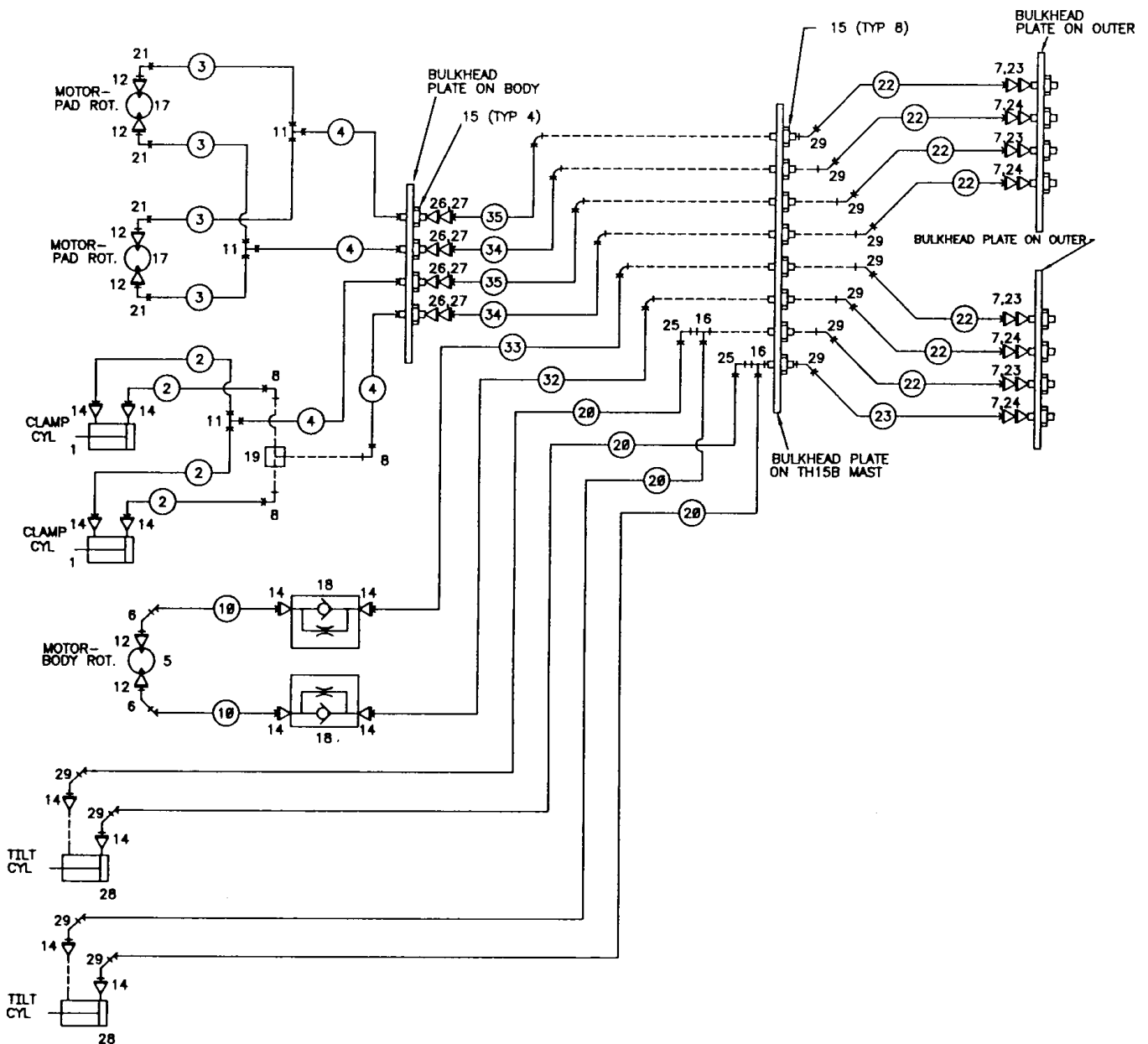
WARNING

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.



HYDRAULIC KIT (91712250)

ITEM	PART NO.	DESCRIPTION	QTY			
1.	3B192910	CLAMP CYLINDER	REF	18.	73054921	VALVE-FLOW CONTROL 2
2.	51394482	HOSE ASM 3/8X61 #8F#8F	*4REF	19.	73054922	FLOW DIVIDER VALVE 1
3.	51394592	HOSE ASM 3/8X152 #6F#8F	*4REF	20.	51392462	HOSE ASM 3/8X27 #8F#8F *4REF
4.	51394589	HOSE ASM 3/8X13 #8F#8F	*4REF	21.	72053760	ELBOW #6MSTR #6FJIC 90° 4
5.	73051004	HYDRAULIC MOTOR	REF	22.	51394591	HOSE ASM 3/8X50 #8F#8F *8REF
6.	72053776	ELBOW #6MJIC #6FJIC 45°	2	23.	72533101	DISCONNECT COUPLER 3/8FPT 4
7.	72053670	ADAPTER 3/8MPT 3/4MJIC	8	24.	72533102	DISCONNECT NIPPLE 3/8FPT 4
8.	72053673	ELBOW 3/8MSTR 3/8MJIC 90°	3	25.	72532658	ELBOW 3/4MJIC 3/4FJIC SWVL 2
10.	51394590	HOSE ASM 3/8X19 #6F#8F	*2REF	26.	72532739	ADAPTER 3/4MJIC 3/4MJIC 4
11.	72531205	TEE 3/4MJIC	3	27.	72532980	ADPTR 3/4FJIC PR SW IN-LINE 4
12.	72532992	ADAPTER #4MSTR #6FSTR	6	28.	3C170910	TILT CYLINDER REF
14.	72532358	ADAPTER 3/4MSTR 3/4MJIC	12	29.	72532670	ELBOW 3/4MJIC 3/4FJIC 45° 18
15.	72533373	UNION 3/4JIC BULKHEAD	12	31.	51714055	HOSE KIT (INCL: *) 1
16.	72532657	TEE 3/4JIC SWVL NUT RUN	2	32.	51395132	HOSE FJ 3/8X14 #8#8 *1REF
17.	73051004	HYDRAULIC MOTOR	REF	33.	51395133	HOSE FJ 3/8X15 #8#8 *1REF
				34.	51395134	HOSE FJ 3/8X36 #8#8 *2REF
				35.	51395135	HOSE FJ 3/8X37 #8#8 *2REF

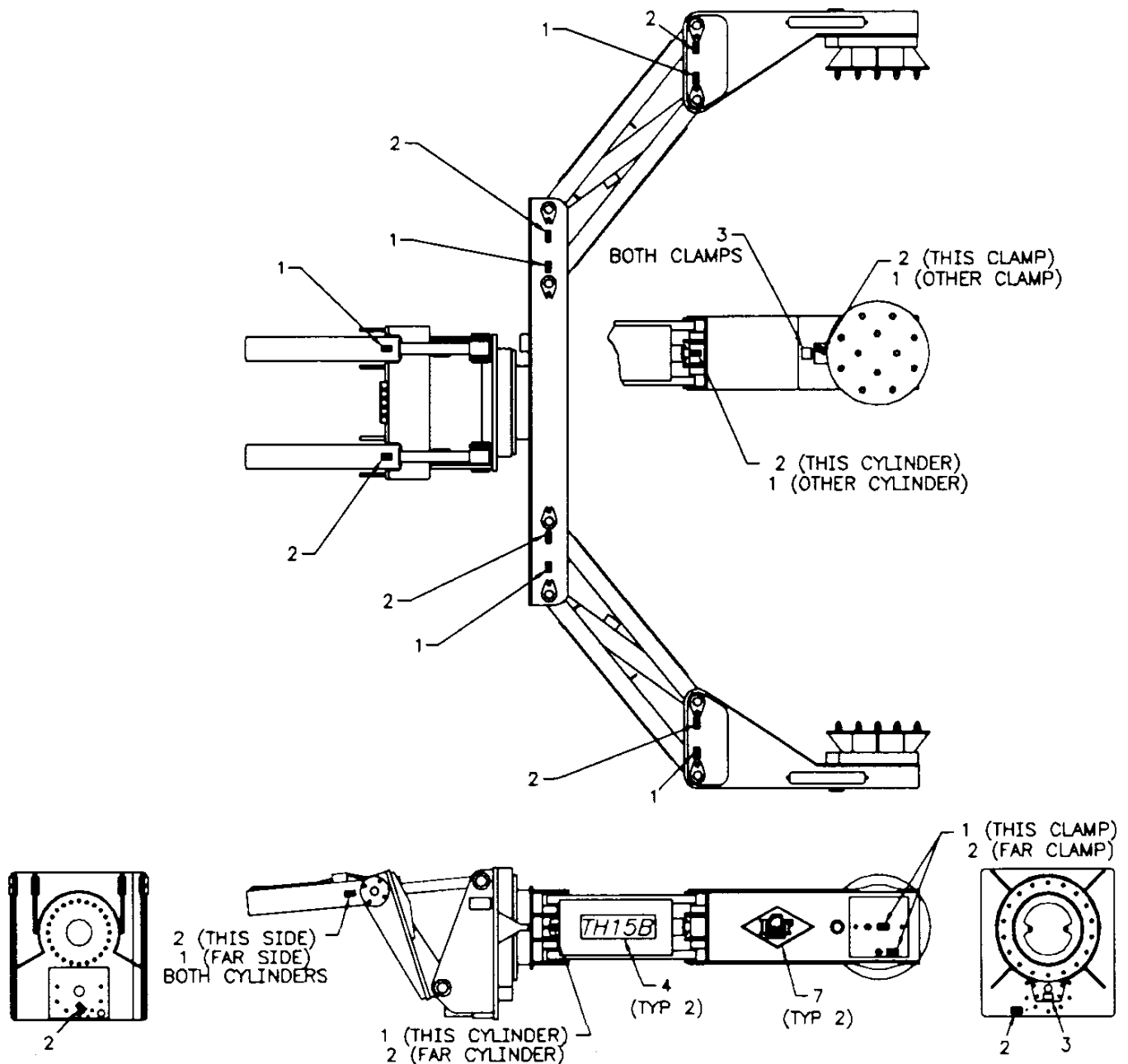


DECAL KIT (95712251)

ITEM	PART NO.	DESCRIPTION	QTY
1.	70391612	DECAL - GREASE WKLY LH	12
2.	70391613	DECAL - GREASE WKLY RH	14
3.	70392524	DECAL - ROTATE/GREASE	3
4.	71393875	DECAL - TH-15B ID	2
5.	71392727	DECAL - CONTROL SS	1
6.	71392728	DECAL - CONTROL CS	1
7.	70392887	IMT DIAMOND	2
8.	71393876	CAPACITY PLACARD	2
9.	70394272	DECAL-OP RESTRICTIONS	2

DECAL PLACEMENT

ITEM	LOCATION
8,9	NEAR EACH CRANE OPERATOR STATION IN CLEAR VIEW OF OPERATOR



CLAMP CYLINDER (3B160920)

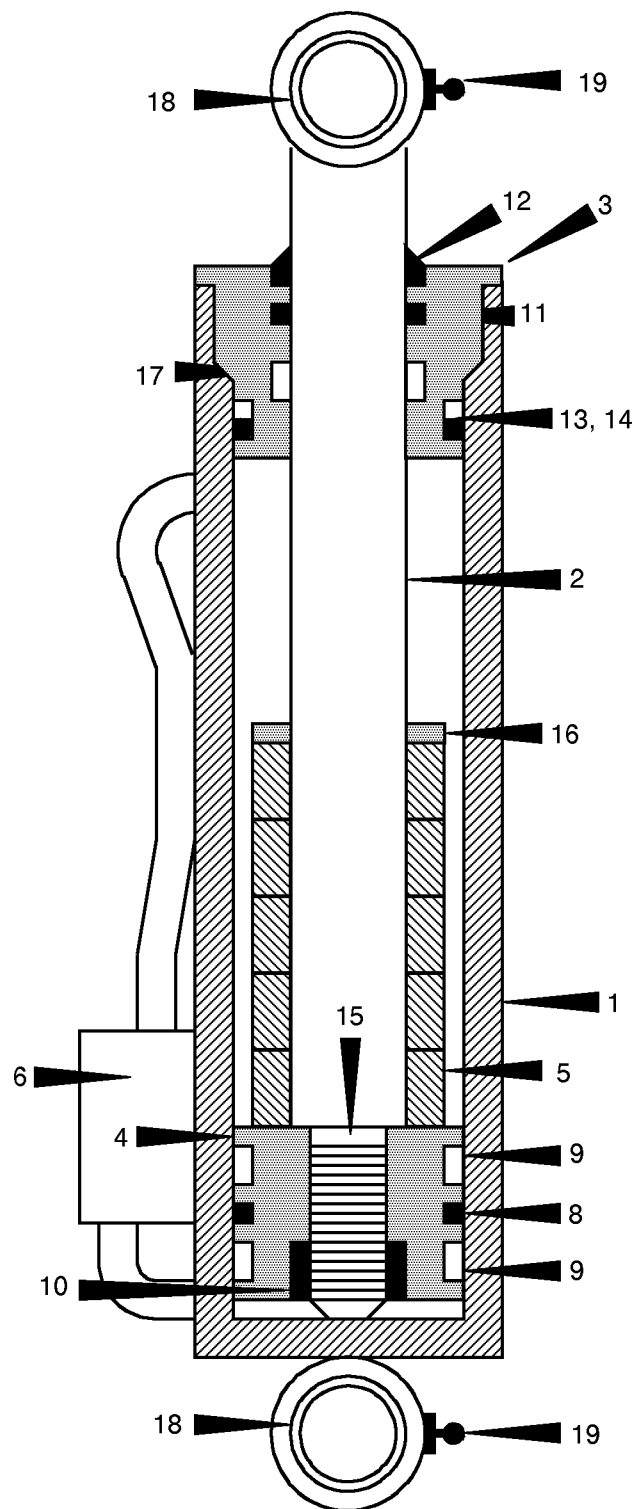
ITEM	PART NO.	DESCRIPTION	QTY
1.	4B160920	CASE ASM	1
2.	4G192910	ROD ASM	1
3.	6H040025	HEAD	1
4.	6I402144	PISTON	1
5.	6C300025	STOP TUBE	5
6.	73054242	VALVE	1
7.	9C160920	SEAL KIT (INCL:8-16)	1
8.	7T66P400	PISTON SEAL (PART OF 7)	1REF
9.	7T2N4040	WEAR RING (PART OF 7)	2REF
10.	7T61N143	LOCK RING (PART OF 7)	1REF
11.	7R546025	U-CUP SEAL (PART OF 7)	1REF
12.	7R14P025	ROD WIPER (PART OF 7)	1REF
13.	7Q10P342	BACKUP RING (PART OF 7)	1REF
14.	7Q072342	O-RING (PART OF 7)	1REF
15.	7Q072127	O-RING (PART OF 7)	1REF
16.	6A025025	WAFFER LOCK (PART OF 7)	1REF
17.	7T2N8027	WEAR RING (PART OF 7)	1REF
18.	70055203	BEARING (PART OF 1 & 2)	4REF
19.	72053507	ZERK 1/4-28 (PART OF 1 & 2)	2REF

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.



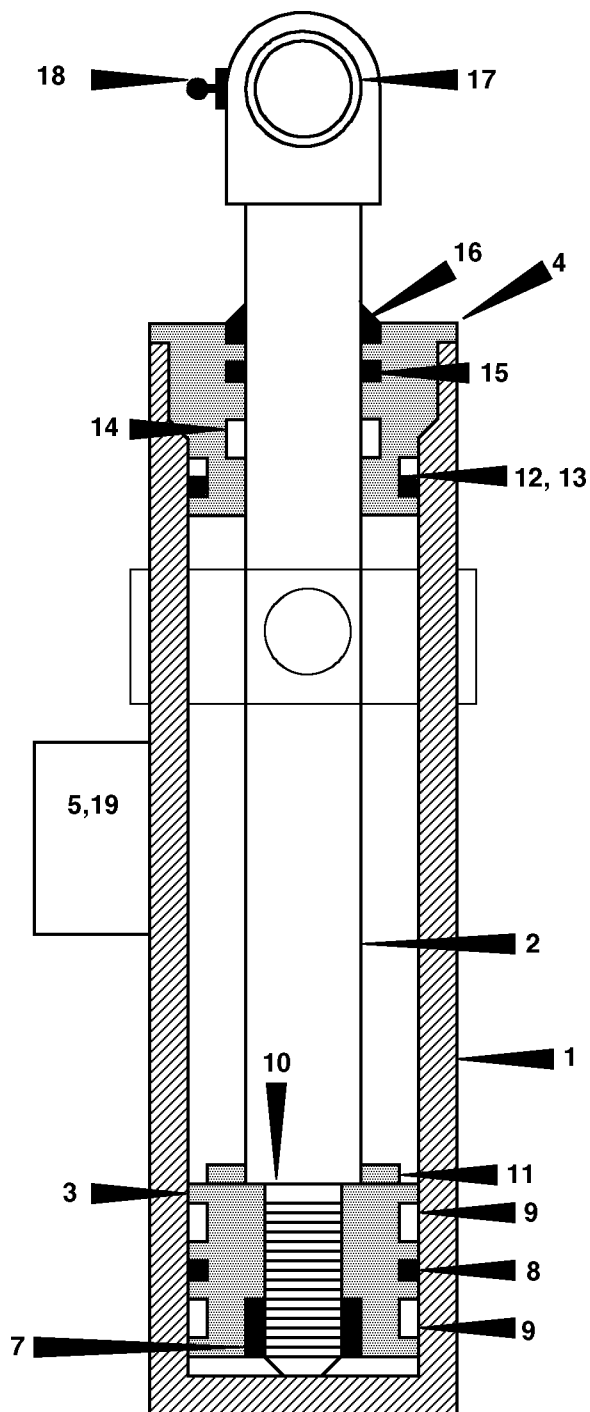
TILT CYLINDER (3C162920)

NOTE

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

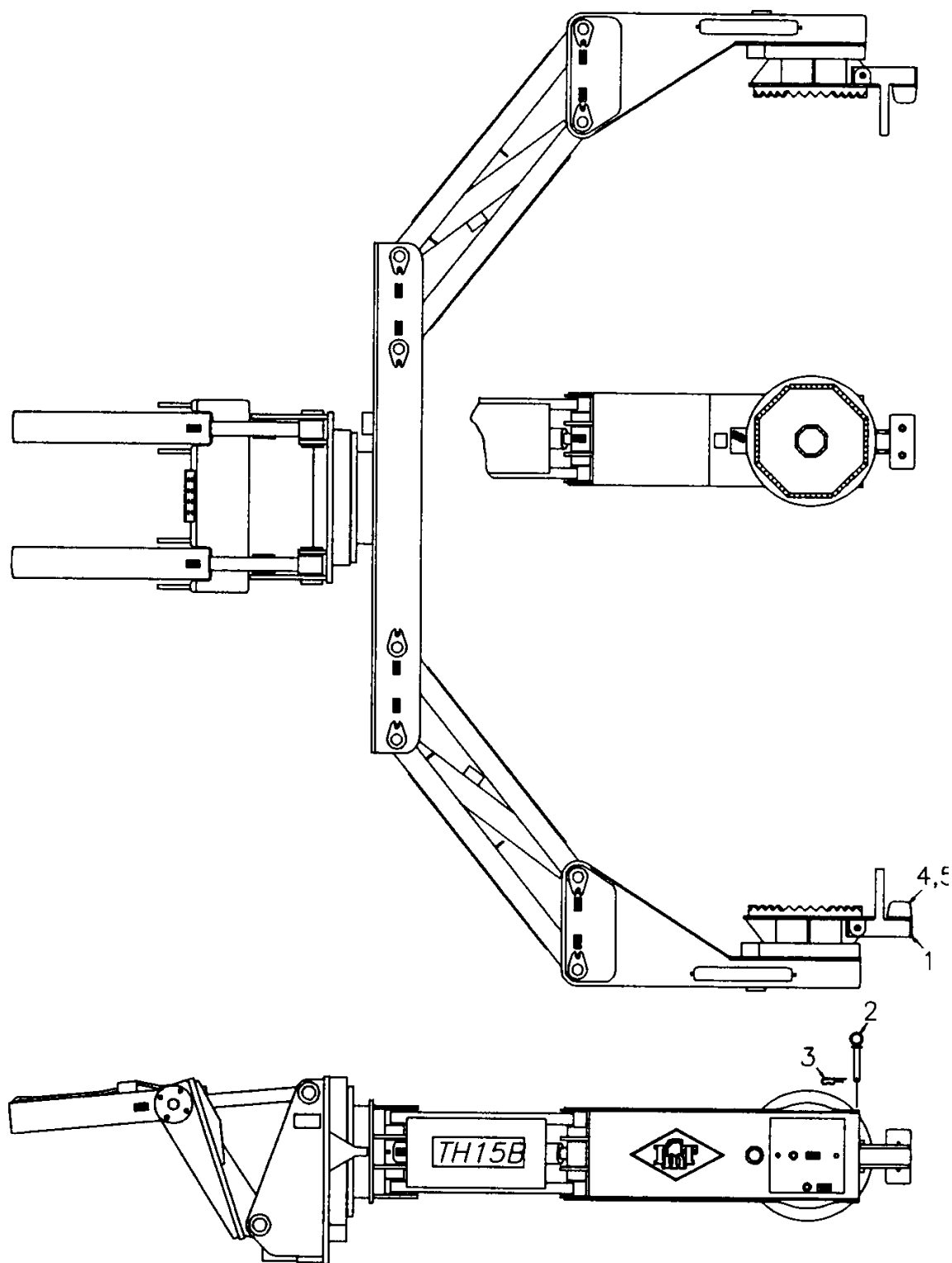
APPLY “LUBRIPLATE #630-2” MEDIUM HEAVY,MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

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



OPTION-RIM FLANGE ATTACHMENT KIT (30712767)

ITEM	PART NO.	DESCRIPTION	QTY
1.	52712768	FLANGE ARM	2
2.	52702082	PIN	2
3.	72066145	HAIR PIN 3/16	2
4.	76393209	RUBBER DOCK BUMPER	2
5.	72060095	CAP SCR 1/2-13X2 HHGR5	4



000TH15B:

2-14

BLANK

SECTION 3. TIREHAND 15B REFERENCE

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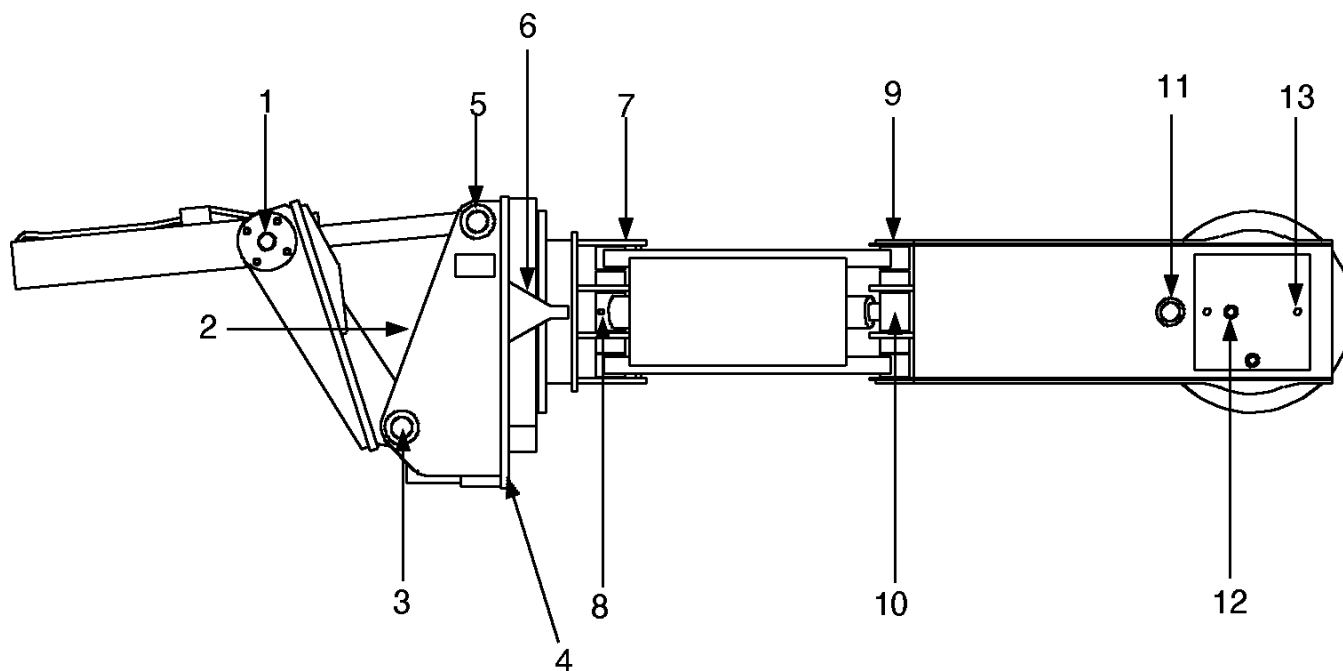
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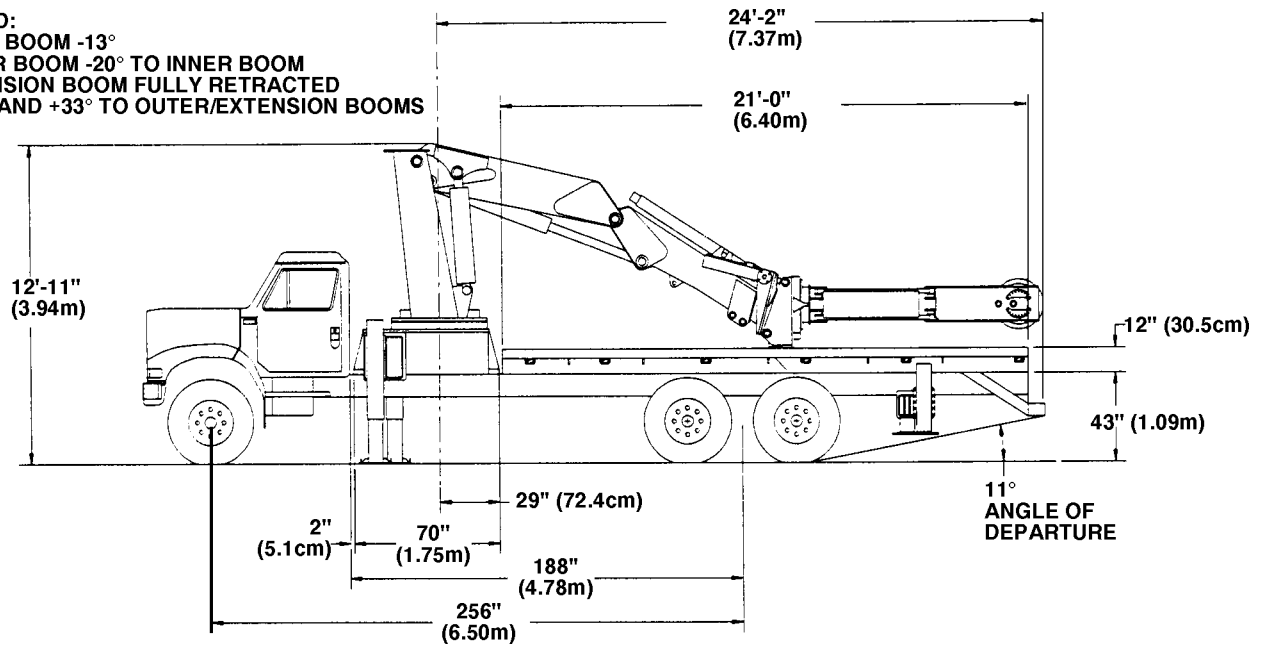
GREASE ZERK LOCATIONS & LUBRICANT REQUIREMENTS



ITEM	LOCATION DESCRIPTION	LUBRICANT	FREQUENCY
1.	TILT CYLINDER BASE PIN	SHELL ALVANIA 2EP OR SHELL RETINAX "A"	WEEKLY
2.	TURNTABLE BEARING GREASE EXTENSION *ROTATE TIREHAND WHILE GREASING		
3.	MAST/BASE HINGE PINS		
4.	SPUR GEAR BOX ZERK (DRIVE GEAR)		
5.	TILT CYLINDER ROD		
6.	PINION GEAR		
7.	ARM PINS-TOP & BOTTOM (8 PLACES)		
8.	CLAMP CYLINDER BASE		
9.	ARM PINS-TOP & BOTTOM (8)		
10.	CLAMP CYLINDER ROD		
11.	PAD PINION ZERK		
12.	PAD DRIVE GEAR ZERK		
13.	PAD TURNTABLE GREASE EXTENSIONS *ROTATE PADS WHILE GREASING		

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.

STORED:
 INNER BOOM -13°
 OUTER BOOM -20° TO INNER BOOM
 EXTENSION BOOM FULLY RETRACTED
 TIREHAND +33° TO OUTER/EXTENSION BOOMS

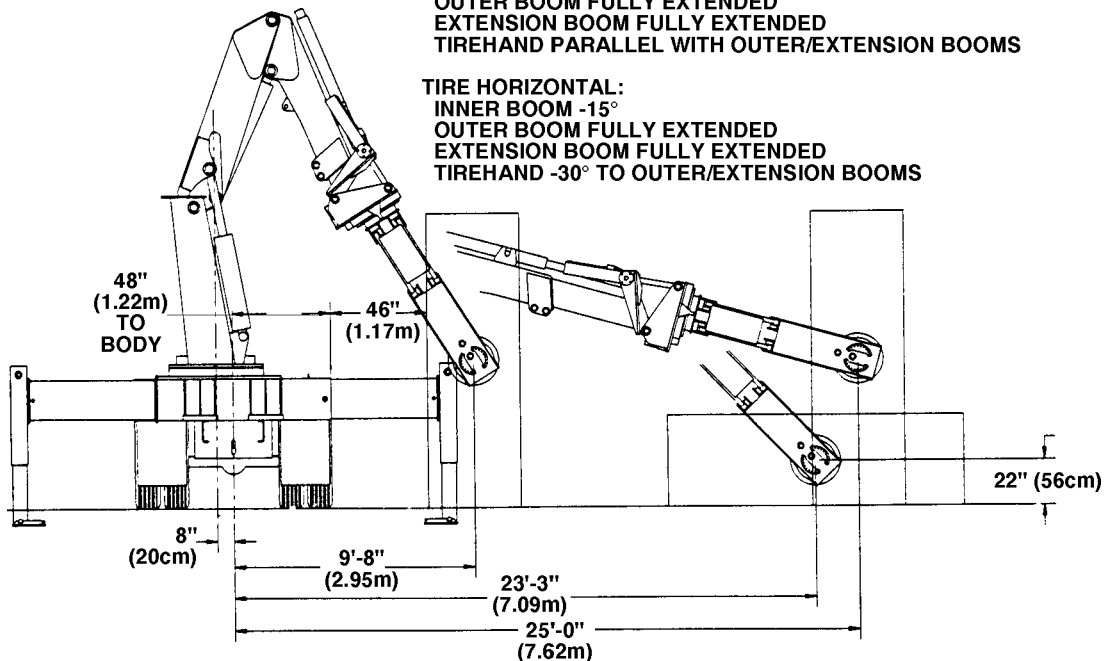


IMT MODEL 32018 WITH TH15B - STORED POSITION

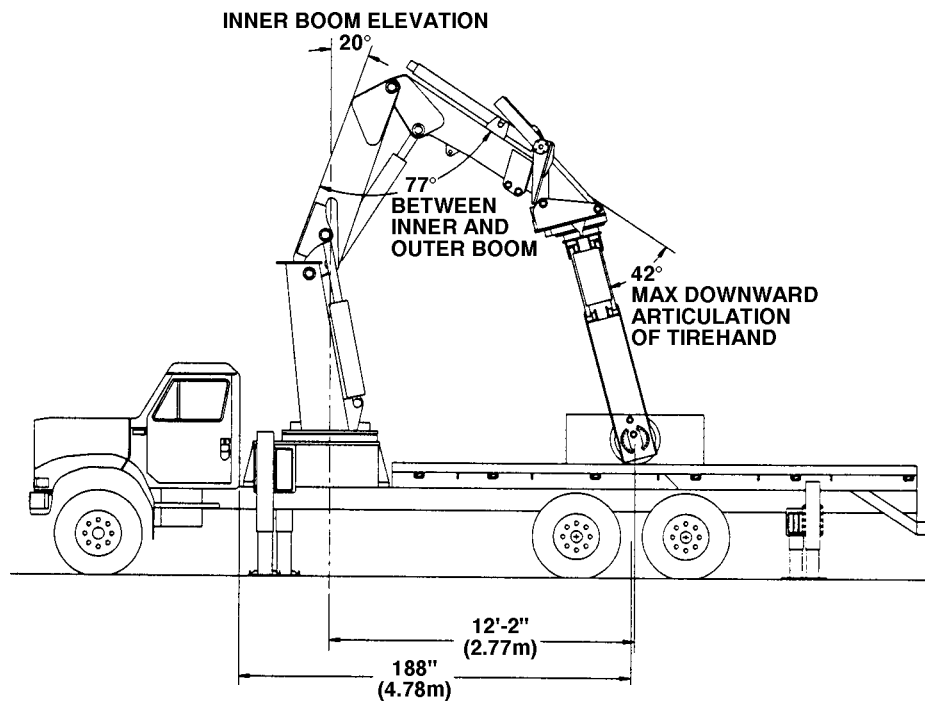
IN:
 INNER BOOM +70° (MAX)
 OUTER BOOM -137° (MAX)
 EXTENSION BOOM RETRACTED
 TIREHAND +9° TO OUTER/EXTENSION BOOMS

OUT:
 INNER BOOM -15°
 OUTER BOOM FULLY EXTENDED
 EXTENSION BOOM FULLY EXTENDED
 TIREHAND PARALLEL WITH OUTER/EXTENSION BOOMS

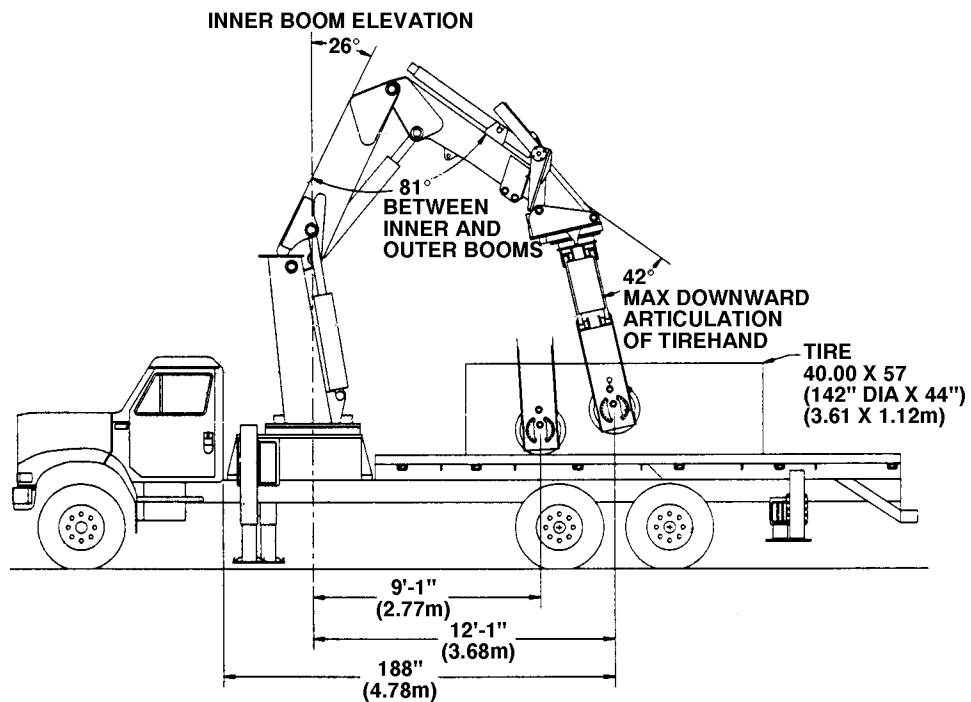
TIRE HORIZONTAL:
 INNER BOOM -15°
 OUTER BOOM FULLY EXTENDED
 EXTENSION BOOM FULLY EXTENDED
 TIREHAND -30° TO OUTER/EXTENSION BOOMS



IMT MODEL 32018 WITH TH15B - SURFACE MOVEMENT



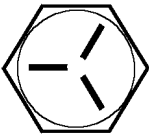

IMT MODEL 32018 WITH TH15B - INWARD MOVEMENT



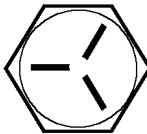

IMT MODEL 32018 WITH TH15B - INWARD MOVEMENT (40.00 X 57 TIRE)

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

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

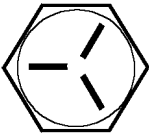

1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
4. Torque values specified are for bolts with residual oils or no special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

WARNING

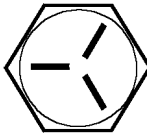

Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate clamp loads after torquing.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

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.

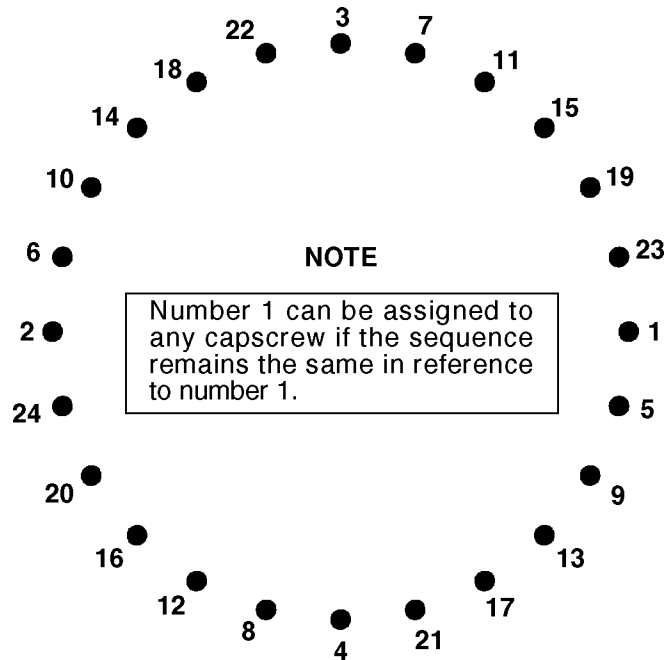
1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in kilogram-meters.
4. Torque values specified are for bolts with residual oils or no special lubricants applied. If special lubricants 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.
5. Torque values for socket-head capscrews are the same as for Grade 8 capscrews.

WARNING

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

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: $.40 \times 265 \text{ FT-LBS} = 106 \text{ FT-LBS}$)
 (EXAMPLE-METRIC: $.40 \times 36 \text{ KG-M} = 14.4 \text{ KG-M}$)
4. Repeat Step 3, but torqueing all cap screws to 75% of the specified torque value. Continue to follow the tightening sequence.
 (EXAMPLE: $.75 \times 265 \text{ FT-LBS} = 199 \text{ FT-LBS}$)
 (EXAMPLE-METRIC: $.75 \times 36 \text{ KG-M} = 27 \text{ KG-M}$)
5. Using the proper sequence, torque all cap screws to the listed torque value as determined from the Torque Data Chart.

TURNABLE 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

STEP 1.

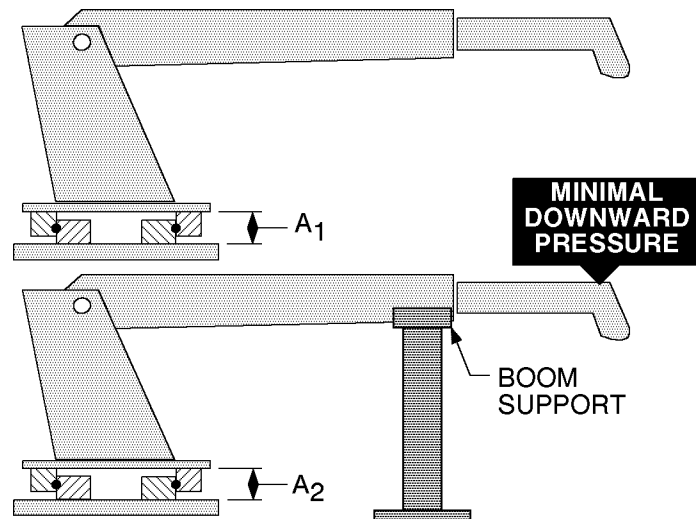
With the crane horizontal and fully extended, measure between the top and bottom mounting surfaces of the turntable bearing (A_1), using a dial indicator for accuracy.

STEP 2.

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

STEP 3.

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



COMPARISON CHART - MODEL TO MEASURED TILT DIMENSION

NOTE THE FIGURES LISTED IN THIS CHART ARE SERVICE GUIDELINES AND DO NOT, IN THEMSELVES, REQUIRE THAT THE BEARING BE INSPECTED. IF THERE IS REASON TO SUSPECT AN EXCESS OF BEARING WEAR AND THE MEASURED TILT DIMENSION EXCEEDS THE DIMENSION LISTED, REMOVE THE BEARING FOR INSPECTION.	IMT CRANE, LOADER OR TIREHAND MODEL	1007 1014 2015 2015GH 2109 2200 3000 3016 321GH 3816 425 4300 5016 6016 TH7 BODY ROT'N TH1449 BODY ROT'N TH15B CLAMP TH2551B CLAMP TH2557A CLAMP	5200 5200R 5217 5800 7020 7025 7200 7415 9000 TH10 BODY ROT'N TH14 BODY ROT'N	16035 16042 32018 32030 T30 T40	9800 12916 13031 13034 14000 15000 18000 20017 H1200 H1200RR T50 TH2551B BODY ROT'N TH2557B BODY ROT'N TH2557A BODY ROT'N
	BALL DIA. (REF)	.875" (22mm)	1.00" (25mm)	1.18"-1.25" (30-32mm)	1.75" (44mm)
	TILT DIM. (A₁-A₂)	.060" (1.524mm)	.070" (1.778mm)	.075" (1.905mm)	.090" (2.286mm)

RECOMMENDED SPARE PARTS LIST**1 YEAR SUPPLY****TIREHAND 15B****FOR MANUAL: 99900757**

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
40710232.01.19961112	MAST ASM						
	3	72063116	WASHER	18			
	4	72601484	CAP SCR	6			
	5	70055219	BEARING	4			
40712335.01.19980204	6	72060206	CAP SCR	12			
	BASE ASM						
	8	60020172	THRUST WASHER	1			
	14	71056273	TURNABLE GEAR BEARING	1			
	15	71056073	PINION GEAR	1			
	16	71056264	INTERMEDIATE GEAR	1			
	21	72060151	CAP SCR	7			
	22	72601148	CAP SCR	23			
	26	72063116	WASHER	39			
	27	72063117	WASHER	4			
	28	72063119	WASHER	7			
	31	72601144	CAP SCR	4			
	32	72601484	CAP SCR	16			
	33	73051004	HYD MOTOR	1			
	34	60020222	BEARING	4			
	35	60020173	BUSHING	1			
	36	60020174	BUSHING	1			
	37	60020176	BUSHING	1			
	38	60020177	BUSHING	1			
	39	71056011	DRIVE GEAR	1			
	40	60020175	THRUST WASHER	1			
	47	73054538	C'BALANCE VALVE	2			
	49	71072112	O-RING	2			
	50	72063115	WASHER	23			
40712246.01.19940415	BODY ASM						
	2	72060206	CAP SCR	18			
40712248.01.19960205	3	72063116	WASHER	18			
	CLAMP ASM						
3B160920.01.19940415	5	60020223	BUSHING	16			
	20	73051004	MOTOR	2			
	22	73054538	C'BALANCE VALVE	2			
	24	7Q072112	O-RING	4			
	25	71056010	PINION GEAR	2			
	26	71056012	INTERMEDIATE GEAR	2			
	27	71056389	TURNABLE GEAR	2			
	31	72060151	CAP SCR	68			
	32	72063119	WASHER	68			
	41	71056011	DRIVE GEAR	2			
	42	60020115	BUSHING	2			
	43	60020100	BUSHING	2			
	44	60020114	BUSHING	2			
	45	60020081	BUSHING	2			
3C162920.01.19940415	CLAMP CYLINDER						
	6	73054242	VALVE	2			
	7	9C160920	SEAL KIT	2			
3B160920.01.19940415	18	70055203	BEARING	8			
	TILT CYLINDER						
	5	73054242	VALVE	2			
3C162920.01.19940415	6	9C170910	SEAL KIT	2			
	17	70055219	BEARING	4			

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: _____

☐

REQUEST FOR ADDITION TO MANUAL

DESCRIPTION OF ADDITION: _____

REASON FOR ADDITION: _____

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

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IOWA MOLD TOOLING CO., INC.
BOX 189, GARNER, IA 50438-0189
TEL: 641-923-3711
TECHNICAL SUPPORT FAX: 641-923-2424