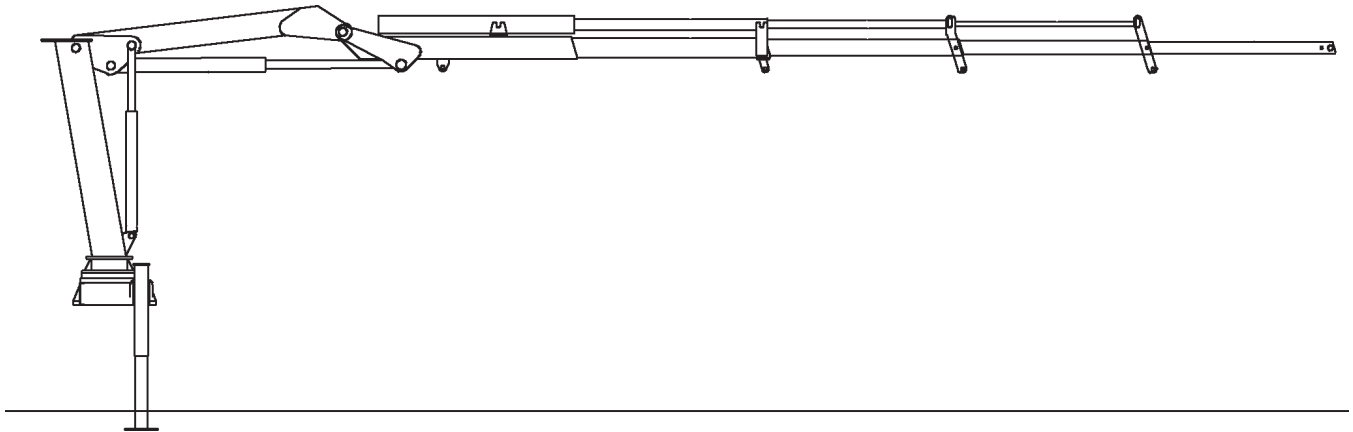




9000 Series Crane & Model 1295 (Metric Version)

Volume 2 - PARTS AND SPECIFICATIONS

Section 1	SPECIFICATIONS-9000 SERIES
Section 1A.	SPECIFICATIONS-1295 CRANE
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 99900918

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

REVISIONS LIST

DATE	LOCATION	DESCRIPTION OF CHANGE
20000905	3-58	ECN 9000-3K120200-ITEM 26 7R336030 U-CUP SEAL WAS 7R546300
20001003	3-41	ECN9000-51713047-ITEM 40 89044231 WIRE WAS 89044395
20001101	2-05	REV SPL
	3-14	ECN8615-41712042-CHG INNER CYL PN
	3-15	3B272000-REPLACE INNER CYL (CBAL VALVE)
	3-16	REMOVE OLD INNER CYL
	3-29	91706401-CHG BOM & DWG (NEW CBAL VALVE)
	3-35	91712984-CHG BOM & DWG (NEW CBAL VALVE)
20010413	3-29, 3-35	ITEM 32 - 51393922 WAS 51395858 (NEW HOSE)
20011023	3-1,3-76-80	ECN 8783 NEW RADIO REMOTE RETROFIT KIT.
20011127	3-5,7	ADDED NOTE ABOUT MOBILTAC LUBRICANT
	3-57,59	ECN 8794 - NEW VALVE BLOCK
	3-60	ECN 8834 - NEW FLOOD LIGHT KIT
20020206	3-59	ITEM #11 - 72532141 WAS 72532679
20020318	3-57	ECN 8886 - ADDED 31717516 CAP ALERT KIT
	3-80,81	ECN 8871 - RMV BATTERY HOUSING FROM 73733600
20020801	3-57	ECN 8961 - CHANGES TO CAP ALERT/SHUTDOWN KITS
	3-60	ECN 8972 - ADDED GROMMET & CLAMP TO FLOOD LIGHT KIT
20021104	3-80,81	ECN 9036 - CHANGED BATTERY CHARGER IN 73733600
20030715	3-57	ECN 9201 - CHANGE TO CAP SHUTDOWN 31717516
20031103	3-76,77	ADDED KIT 91717058 TO DRAWING 99903330
20051107	3-4-14	ECN 9832 - CYL 71411814 REPL 3B221850
20060717	3-4,5,9	ECN 9832-2-REVERSE ECN 9832 - 3B221850 REPLACED 71411814
	3-4,6,8,11	ECN 10185 - EXTENDED BOLT LENGTHS
20061020	1-1	UPDATED OWNERSHIP STATEMENT.
	3-22,24,25,26	ECN 10300-1 - REPLACED HOOK WITH 70734177 IN 41709700, 41709701, 41709703, 41709704

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 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
on your crane.**

SECTION 1. 9000 SERIES CRANE SPECIFICATIONS

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9000 SERIES CRANE SPECIFICATIONS

GENERAL

	1H	2H	2H1M 3H	3H1M
*CRANE RATING (ANSI B30.22)	90400 ft-lbs	90400 ft-lbs	89000 ft-lbs	87800 ft-lbs
*MAXIMUM CRANE RATING	90400 ft-lbs	90400 ft-lbs	90400 ft-lbs	90400 ft-lbs
HORIZONTAL REACH from centerline of rotation	19'-8"	25'-7"	31'-3"	36'-7"
HYDRAULIC EXTENSION				
1-STAGE HYDRAULIC (1H)	64"	None	None	None
2-STAGE HYDRAULIC (2H)	None	64" x 2	64" x 2	64" x 2
3-STAGE HYDRAULIC (3H)	None	None	64" x 3	64" x 3
MANUAL EXTENSION				
2-STAGE HYDRAULIC (2H)	None	None	64"	64" x 2
3-STAGE HYDRAULIC (3H)	None	None	None	64"
VERTICAL REACH from mounting surface	26'-7"	32'-1"	37'-4"	42'-6"
VERTICAL REACH from ground / 38" frame ht.	29'-9"	35'-3"	40'-6"	45'-8"
CRANE WEIGHT	3960 lbs	4245 lbs	4375 lbs (2H1M) 4515 lbs (3H)	4580 lbs (3H1M)
OUTRIGGER SPAN	12'-3"	12'-3"	12'-3"	12'-3"
OUTRIGGER PADS	12" x 12"	12" x 12"	12" x 12"	12" x 12"
CRANE STORAGE HEIGHT from mounting surface	8'-0"	8'-0"	8'-0"	8'-0"
CRANE STORAGE HEIGHT from ground / 38" frame ht.	11'-2"	11'-2"	11'-2"	11'-2"
**MOUNTING SPACE REQUIRED	30"	30"	30"	30"
ROTATIONAL TORQUE	12660 ft-lbs	12660 ft-lbs	12660 ft-lbs	12660 ft-lbs
OPTIMUM PUMP CAPACITY	11 U.S. GPM	11 U.S. GPM	11 U.S. GPM	11 U.S. GPM
SYSTEM OPERATING PRESSURE	2800 PSI	2800 PSI	2800 PSI	2800 PSI
OIL RESERVOIR CAPACITY	20 U.S. Gallons	20 U.S. Gallons	20 U.S. Gallons	20 U.S. Gallons
***VERTICAL CENTER OF GRAVITY from mounting surface	27'-1/4"	27'-1/2"	27'-3/4"	28"
***HORIZONTAL CENTER OF GRAVITY from centerline of rotation	3/4"	1/2"	3/8"	1/4"
HOOK APPROACH - HORIZONTAL from centerline of rotation	31"	31"	36"	36"
HOOK APPROACH - VERTICAL from mounting surface	88"	88"	84"	84"

* 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 5" between the cab and crane base for swing clearance.

*** Crane in stowed position.

PERFORMANCE CHARACTERISTICS

ROTATION:	450°	30 seconds
INNER BOOM ELEVATION:	-52° to +75°	24 seconds
OUTER BOOM ARTICULATION:	139°	23 seconds
TELESCOPIC EXTENSIONS (3H):		
1st Stage	64"	30 seconds
2nd Stage	64"	15 seconds
3rd Stage	64"	8 seconds
TELESCOPIC EXTENSIONS (2H):		
1st Stage	64"	21 seconds
2nd Stage	64"	9 seconds
SINGLE STAGE EXTENSION (1H):	64"	12 seconds
VERTICAL OUTRIGGER STROKE:	24"	7 seconds
POWER OUT OUTRIGGER (OPTION)	26"	3 seconds

POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 21 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 outrigger cylinders have positive, pilot-operated holding valves that open only on command.

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

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 50.7 to 1.

HYDRAULIC SYSTEM

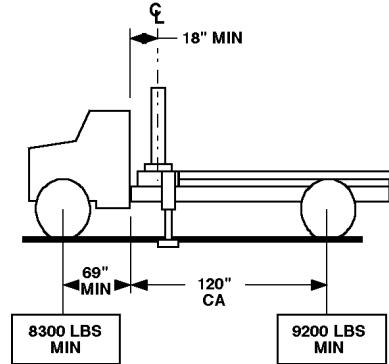
The hydraulic system is an open centered, full pressure system, requiring 11 GPM optimum oil flow, at 2800 PSI. Eight-spool, stack-type control valve, six of which are used for the standard crane and the remaining two are plugged, but easily adapted for additional optional features. Dual operational 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.

**MINIMUM CHASSIS SPECIFICATIONS-
FOR STANDARD 9000 SERIES CRANE**

CRANE MOUNT	Behind Cab
CRANE WORKING AREA	360°
CHASSIS STYLE	Conventional Cab
WHEELBASE	189"
CAB-TO-AXLE	120"
FRONT AXLE RATING (GAWR)	10,000 lbs
REAR AXLE RATING (GAWR)	18,500 lbs
RBM	1,200,000
FRAME SECTION MODULUS	24 cubic inches
FRAME YIELD STRENGTH	50,000
MINIMUM FINISHED UNIT WEIGHT TO MAINTAIN VEHICLE STABILITY	
FRONT AXLE	8300
REAR AXLE	9200
TOTAL FINISHED UNIT WT.	17500

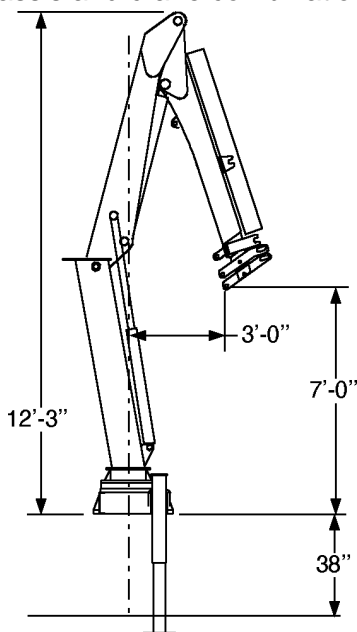
360° WORKING AREA



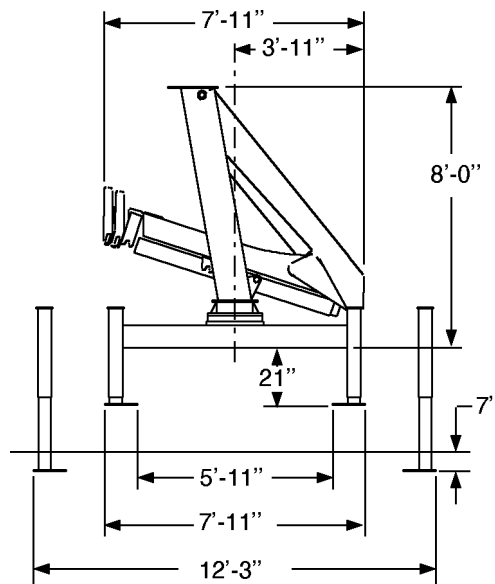
Allows lifting full capacity load in a 360° arc when crane is installed immediately behind the cab. Great care should be taken when swinging the load from rear of vehicle to front of vehicle since the front axle springs will compress, thus affecting the levelness of the vehicle.

NOTES:

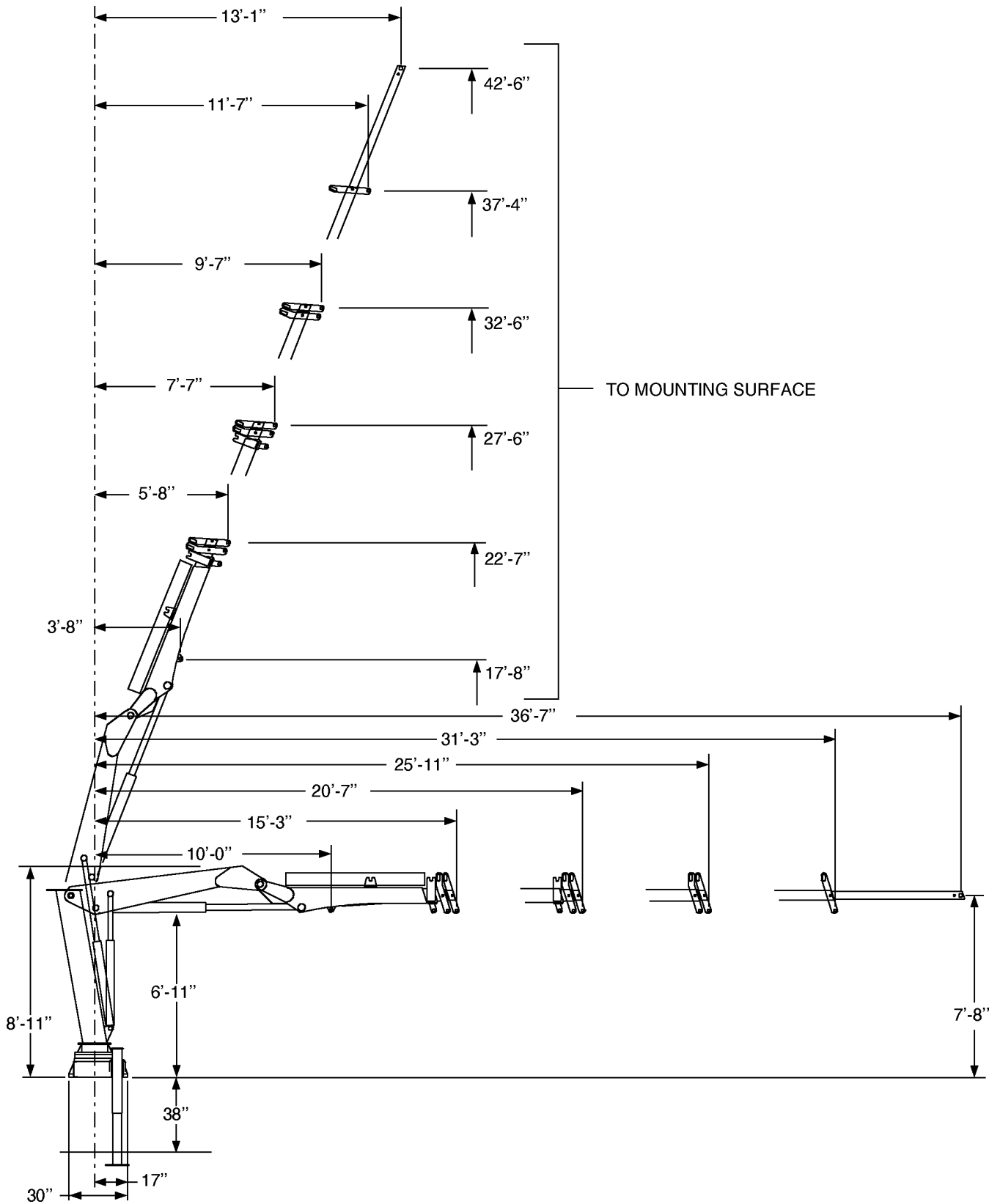
1. GAWR means Gross Axle Weight Rating and is dependent on all components of the vehicle such as axles, tires, wheels, springs, brakes, steering and frame strength meeting the manufacturer's recommendations. Always specify GAWR when purchasing a truck.
2. Minimum axle requirements may increase with use 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



HOOK APPROACH



STOWED POSITION & OUTRIGGER DIMENSIONS



GEOMETRIC CONFIGURATION - 9000 SERIES CRANE

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

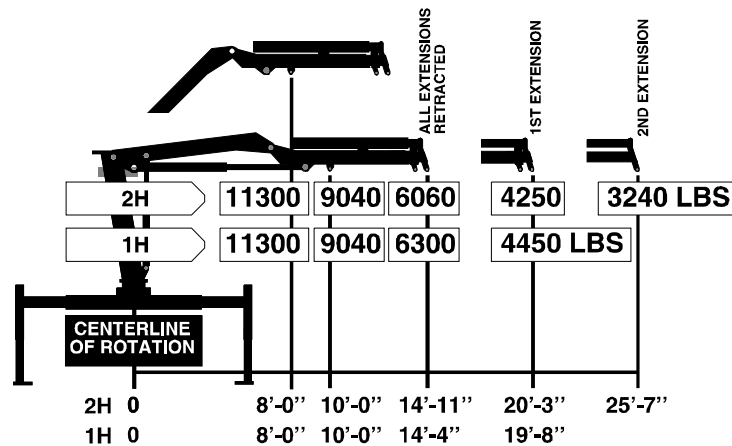
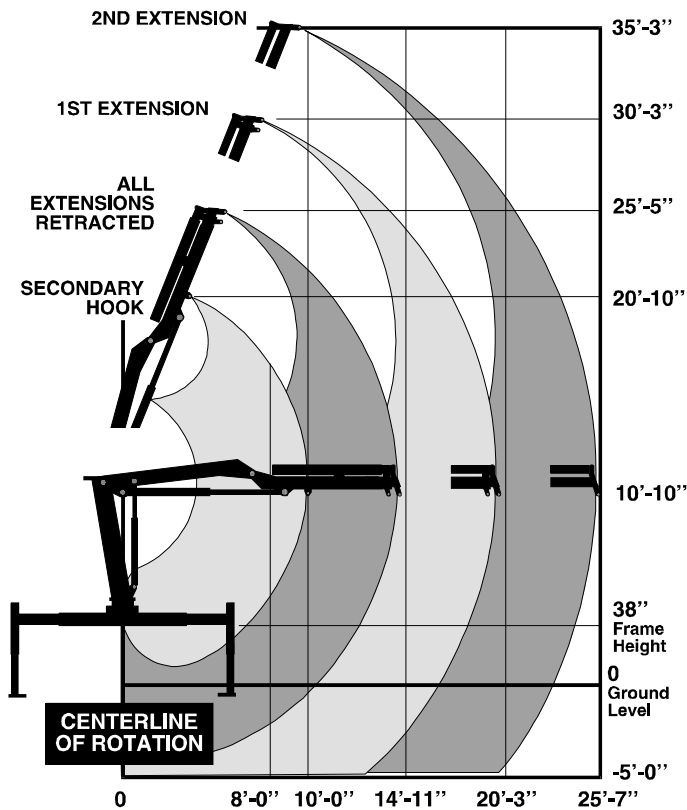
Capacities through geometric range are limited to those shown in horizontal position.



9000

Series Crane 1H & 2H

- 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 5000 lbs for 1-part line.



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CAPACITY CHART-1H & 2H

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.



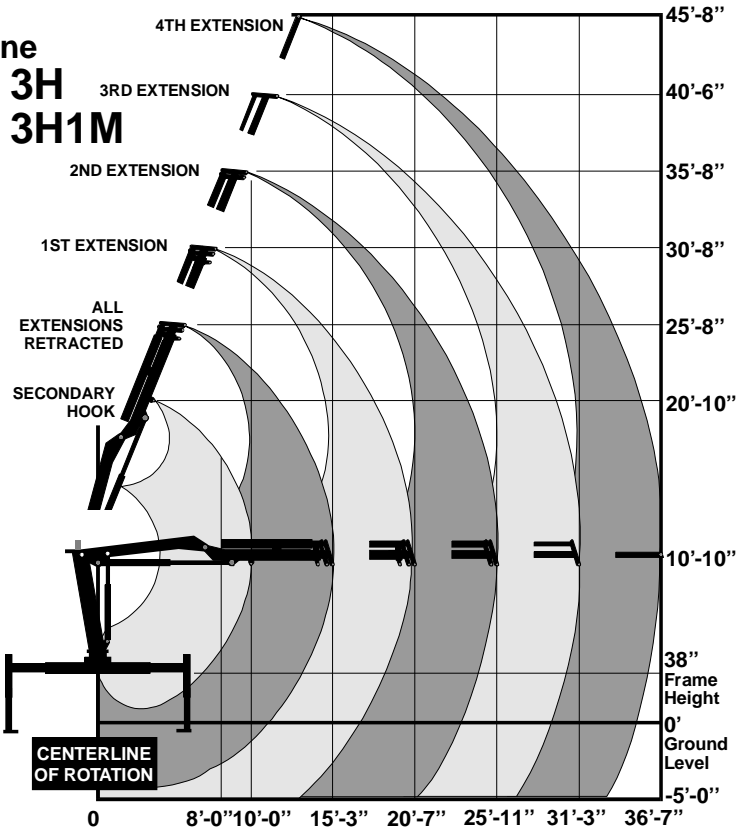
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- Working loads will be limited to those shown. Deduct the weight of load handling devices.
- Winch lifting capacity is limited to those shown - Maximum 5000 lbs for 1-part line.

9000

Series Crane

2H1M & 3H

2H2M & 3H1M



2H2M/3H1M	11300	9000	5760	3950	3050	2260	1700 LBS
2H1M/3H	11300	9000	5840	4060	3150	2360 LBS	

Labels: ALL EXTENSIONS RETRACTED, 1ST EXTENSION, 2ND EXTENSION, 3RD EXTENSION, 4TH EXTENSION

0 8'-0" 10'-0" 15'-3" 20'-7" 25'-11" 31'-3" 36'-7"

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CAPACITY CHART-2H1M & 3H - 3H1M

SECTION 1A. MODEL 1295 CRANE SPECIFICATIONS

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MODEL 1295 CRANE SPECIFICATIONS

GENERAL

	1295 - 1H	1295 - 2H	1295 - 2H1M 1295 - 3H	1295 - 3H1M
CRANE RATING	12.6 ton-meters	12.5 ton-meters	12.3 ton-meters	12.1 ton-meters
HORIZONTAL REACH from centerline of rotation	5.99m	7.80m	9.53m	11.15m
HYDRAULIC EXTENSION				
1-STAGE HYDRAULIC (1H)	163cm	None	None	None
2-STAGE HYDRAULIC (2H)	None	163cm x 2	163cm x 2	163cm x 2
3-STAGE HYDRAULIC (3H)	None	None	163xm x 3	163cm x 3
MANUAL EXTENSION				
2-STAGE HYDRAULIC (2H)	None	None	163cm	163cm x 2
3-STAGE HYDRAULIC (3H)	None	None	None	163cm
VERTICAL REACH from mounting surface	8.11m	9.79m	11.40m	12.97m
VERTICAL REACH from ground / 97cm frame ht.	9.08m	10.76m	12.37m	13.94m
**BASE CRANE WEIGHT	1565 kg	1695 kg	1755 kg (2H1M) 1815 kg (3H)	1845 kg (3H1M)
OUTRIGGER SPAN	3.73m	3.73m	3.73m	3.73m
OUTRIGGER PADS	30 x 30cm	30 x 30cm	30 x 30cm	30 x 30cm
CRANE STORAGE HEIGHT from mounting surface	2.44m	2.44m	2.44m	2.44m
CRANE STORAGE HEIGHT from ground / 97cm frame ht.	3.41m	3.41m	3.41m	3.41m
*MOUNTING SPACE REQUIRED	76cm	76cm	76cm	76cm
ROTATIONAL TORQUE	1750 kg-m	1750 kg-m	1750 kg-m	1750 kg-m
OPTIMUM PUMP CAPACITY	42 liters/min	42 liters/min	42 liters/min	42 liters/min
SYSTEM OPERATING PRESSURE	194 bar	194 bar	194 bar	194 bar
OIL RESERVOIR CAPACITY	76 liters	76 liters	76 liters	76 liters
***VERTICAL CENTER OF GRAVITY from mounting surface	69cm	70cm	70cm	71cm
***HORIZONTAL CENTER OF GRAVITY from centerline of rotation	1.9cm	1.3cm	0.9cm	0.6cm
HOOK APPROACH - HORIZONTAL from centerline of rotation	79cm	79cm	91cm	91cm
HOOK APPROACH - VERTICAL from mounting surface	2.24m	2.24m	2.13m	2.13m
DESIGN FACTOR - pins & hydraulics	4/1	4/1	4/1	4/1

* Allow an additional 13cm between the cab and crane base for swing clearance.

** Without outriggers, hydraulic oil reservoir and mounting accessories.

*** Crane in stowed position.

PERFORMANCE CHARACTERISTICS

ROTATION:	450°/7.85 rad	30 seconds
INNER BOOM ELEVATION:	-.91 to +1.31 rad	24 seconds
OUTER BOOM ARTICULATION:	2.43 rad	23 seconds
TELESCOPIC EXTENSIONS (3H):		
1st Stage	163cm	30 seconds
2nd Stage	163cm	15 seconds
3rd Stage	163cm	8 seconds
TELESCOPIC EXTENSIONS (2H):		
1st Stage	163cm	21 seconds
2nd Stage	163cm	9 seconds
SINGLE STAGE EXTENSION (1H):	163cm	12 seconds
VERTICAL OUTRIGGER STROKE:	61cm	8 seconds
POWER OUT OUTRIGGER (OPTION)	66cm	3 seconds

POWER SOURCE

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be utilized - minimum power required is 19 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 outrigger cylinders have positive, pilot-operated holding valves that open only on command.

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

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 50.7 to 1.

HYDRAULIC SYSTEM

The hydraulic system is an open centered, full pressure system, requiring 42 liters/min optimum oil flow, at 194 bar. 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.

SELECTED WEIGHT OF ANCILLARY EQUIPMENT

OUTRIGGERS	206 kg
HYDRAULIC OIL RESERVOIR	27 kg

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

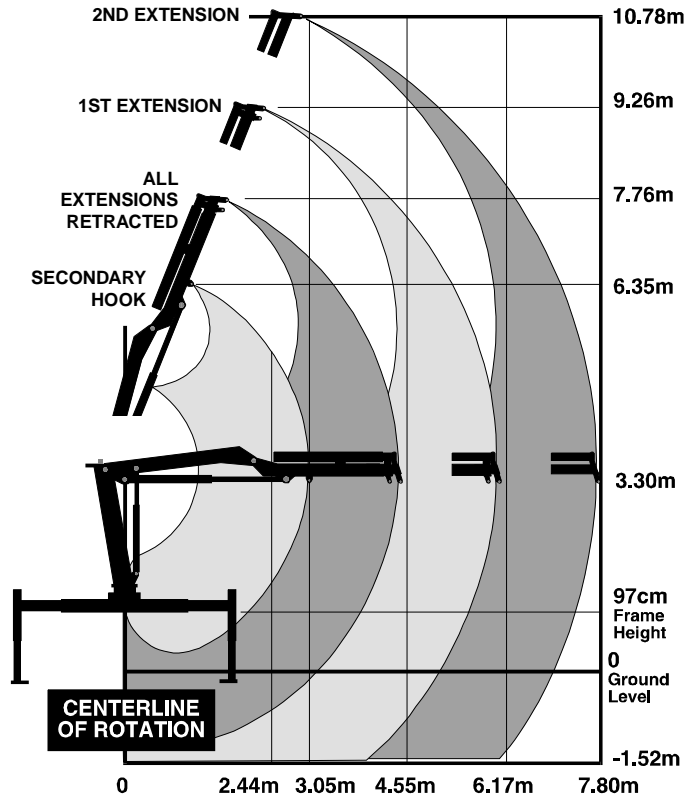
IOWA MOLD TOOLING CO., INC. ● BOX 189 ● GARNER ● IA ● 50438 ● 641-923-3711

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



**MODEL
1295
1H & 2H**

- 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 2268 kgs for 1-part line.



Configuration	0m	2.44m	3.05m	4.55m	6.17m	7.80m
2H	5120	4080	2750	1930	1470 KG	
1H	5120	4080	2880	2020 KG		

Reaches for 2H: 0, 2.44m, 3.05m, 4.55m, 6.17m, 7.80m
 Reaches for 1H: 0, 2.44m, 3.05m, 4.37m, 5.99m

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CAPACITY CHART - MODEL 1295 1H & 2H

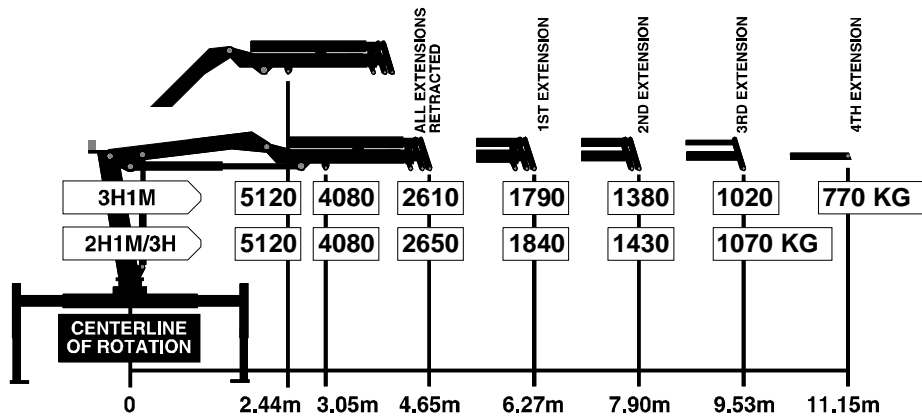
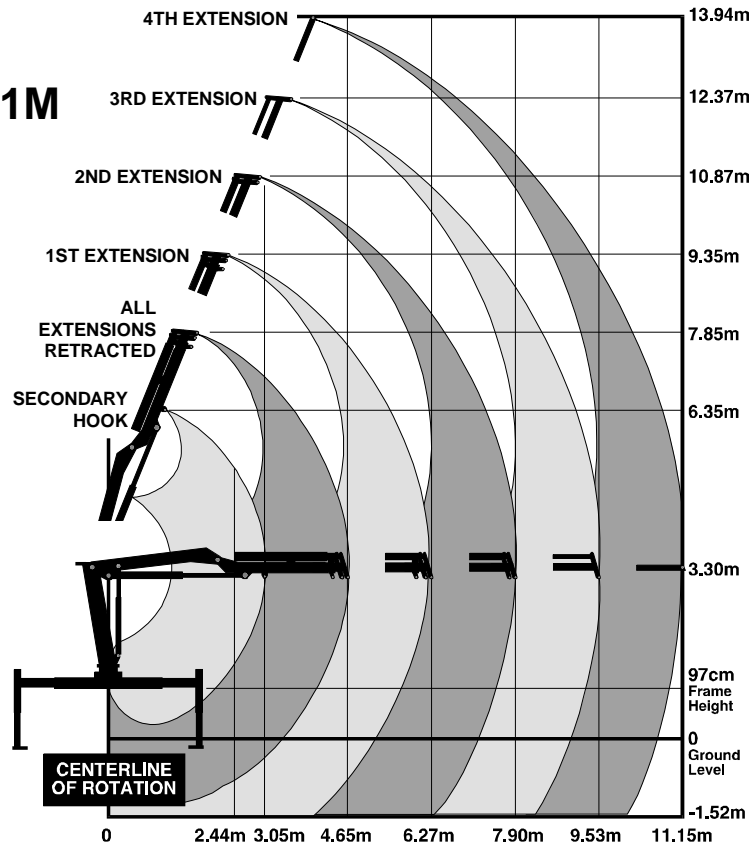
IOWA MOLD TOOLING CO., INC. ● BOX 189 ● GARNER ● IA ● 50438 ● 641-923-3711

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



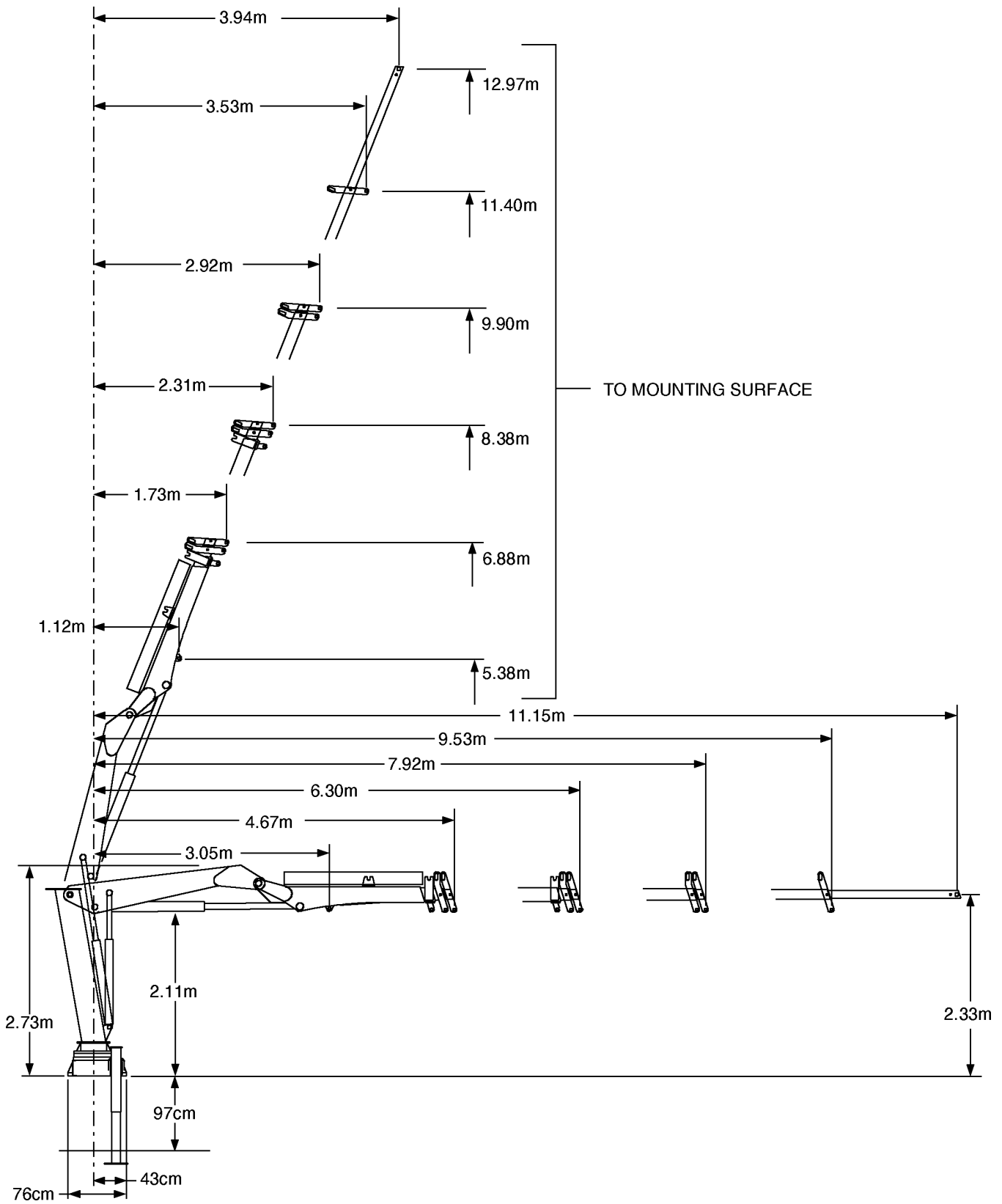
- Loads shown are based on crane structural or hydraulic capability. Before lift is made, stability must be checked per SAE J765A.
- Working loads will be limited to those shown. Deduct the weight of load handling devices.
- Winch lifting capacity is limited to those shown. Maximum 2268 kgs for 1-part line.

**MODEL
1295
2H1M
3H & 3H1M**

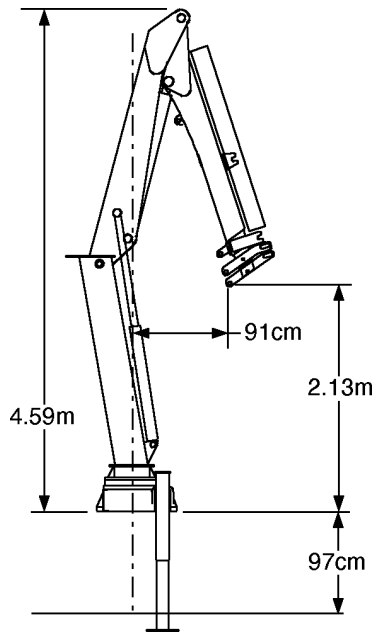


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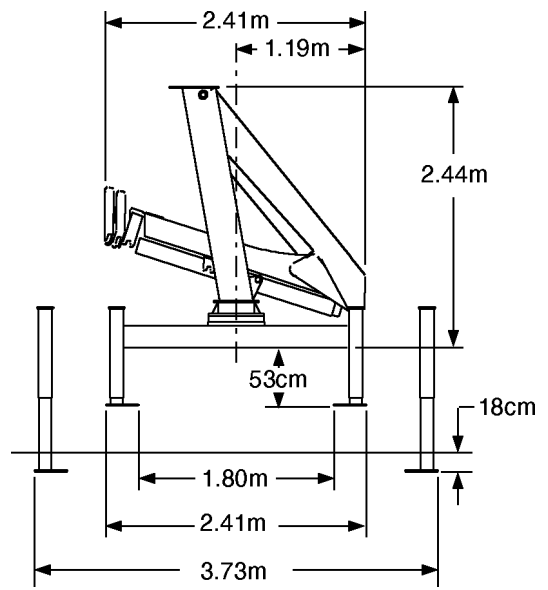
CAPACITY CHART - MODEL 1295 2H1M & 3H - 3H1M



GEOMETRIC CONFIGURATION - MODEL 1295 CRANE



HOOK APPROACH

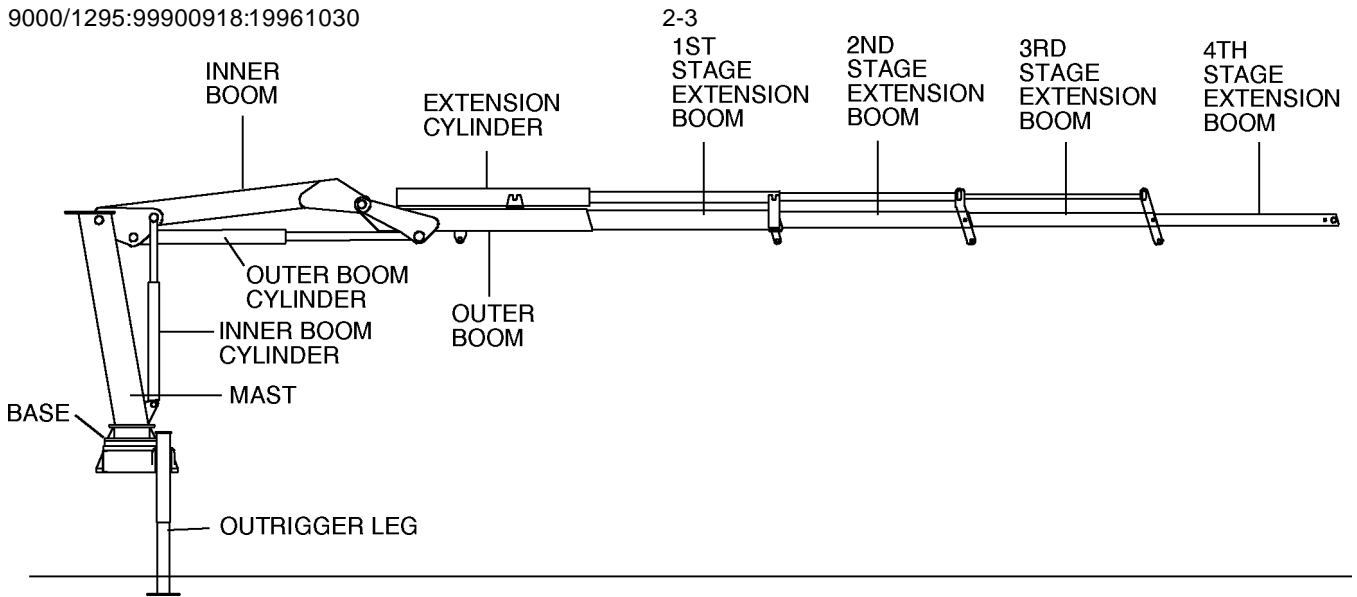


STOWED POSITION & OUTRG DIMENSIONS

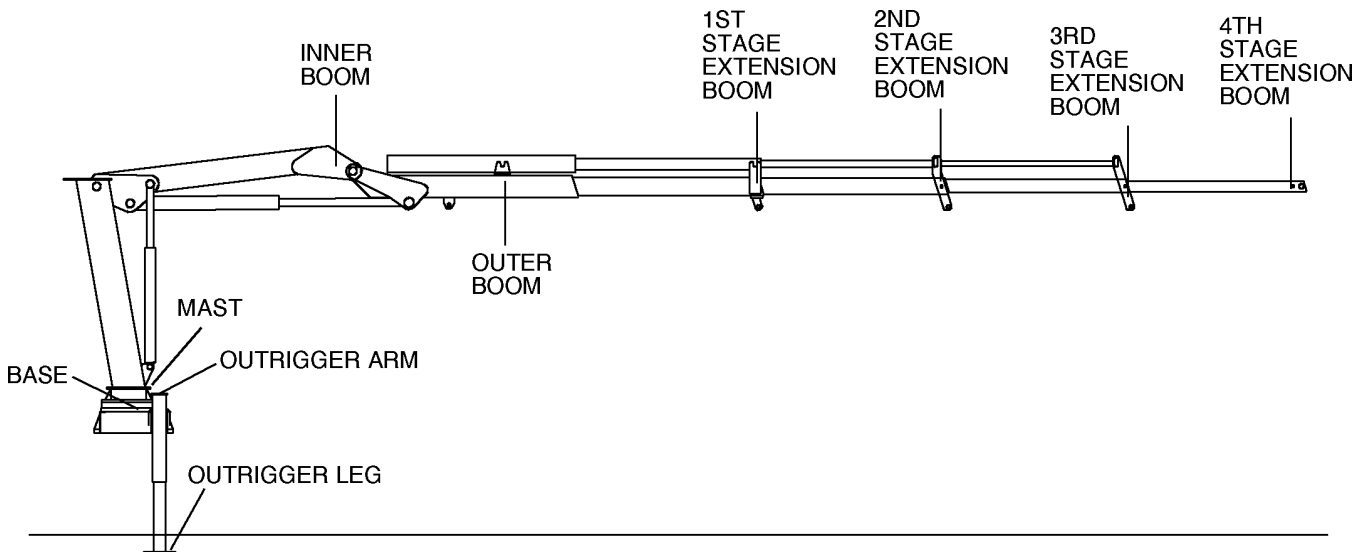
SECTION 2. 9000/1295 CRANE REFERENCE

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9000/1295:99900918:19961030

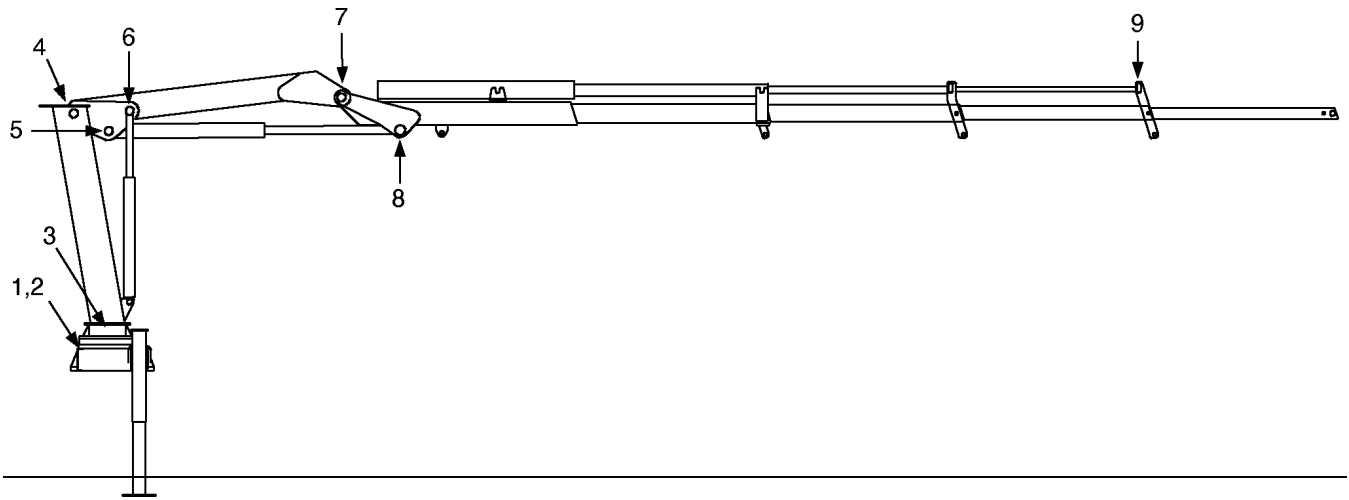


MAJOR CRANE ASSEMBLIES



WELDMENT PART NUMBER LOCATIONS

GREASE ZERK LOCATIONS AND LUBRICANT REQUIREMENTS



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

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

RECOMMENDED SPARE PARTS LIST**1 YEAR SUPPLY****9000/1295 CRANE****FOR MANUAL: 99900918**

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
41712071.01.19961030	BASE & MANUAL OUTRG ASM						
	9	60020115	BUSHING	1	W		
	10	60020116	BUSHING	1	W		
	11	60020187	BUSHING	1	W		
	12	60020188	BUSHING	1	W		
	22	60030053	ROLLER	2	W		
	30	71056265	PINION GEAR	1	W		
	32	7Q072112	O-RING	2	W		
	54	73054538	VALVE	2	C		
41712070.01.19961030	BASE & POWER OUTRG ASM						
	SAME AS BASE AND MANUAL OUTRIGGER ASSEMBLY ABOVE						
3B220850.01.19961030	POWER OUT CYLINDER						
	6	9B050608	SEAL KIT	1	W		
3B221850.01.19961030	POWER DOWN OUTRG CYLINDER						
	5	73054004	VALVE	2	C		
	9	9B101214	SEAL KIT	2	W		
41712072.01.19961030	MAST ASM						
	2	7BF81225	BUSHING	2	W		
41712042.01.19970320	INNER BOOM ASM						
	4	7BF81220	BUSHING	6	W		
	5	7BF81225	BUSHING	9	W		
3B272000.01.20001101	INNER CYLINDER						
	3	6H040025	HEAD	1	W		
	4	6I402144	PISTON	1	W		
	7	73054887	C'BAL VALVE	2	C		
	8	9C160920	SEAL KIT	2	W		
	19	7BF81025	BUSHING	8	W		
41712065.01.19970320	OUTER BOOM ASM						
	5	7BF81520	BUSHING	4	W		
3C078970.01.19970320	OUTER CYLINDER FROM 3-1-97						
	3	73054242	VALVE 25GPM	1	C		
	6	6H050030	HEAD	1	W		
	7	6I050181	PISTON	1	W		
	8	9C010960	SEAL KIT	1	W		
	19	7BF81520	BUSHING	1	W		
	20	7BF82020	BUSHING	3	W		
41709699.01.19961030	EXTENSION BOOM ASM-1H						
	10	60030118	WEAR PAD	1	W		
	12	60030119	WEAR PAD	1	W		
3B099910.01.19961030	EXTENSION CYLINDER-FIRST STAGE						
	16	73054304	COUNTERBALANCE VALVE	2	W		
	18	9C121617	SEAL KIT	1	W		
41709700.01.19961030	EXTENSION BOOM ASM-2H						
	11	60030118	WEAR PAD	1	W		
	13	60030123	WEAR PAD	1	W		
	14	60030122	WEAR PAD	1	W		
	16	60030119	WEAR PAD	2	W		
3K120850.01.19970721	EXTENSION CYLINDER-SECOND STAGE						
	4	6H271511	HEAD	1	W		
	5	6H112820	HEAD	1	W		
	6	6I025087	PISTON	1	W		
	7	6I095850	PISTON	1	W		
	11	73054242	COUNTERBALANCE VALVE	2	C		
	13	9X095850	SEAL KIT	1	W		
41709701.01.19961030	EXTENSION BOOM ASM-2H1M						
	11	60030118	WEAR PAD	1	W		
	13	60030123	WEAR PAD	1	W		
	14	60030122	WEAR PAD	1	W		
	16	60030202	WEAR PAD	1	W		
	17	60030203	WEAR PAD	1	W		
	27	60030119	WEAR PAD	1	W		

(CONTINUED)

RECOMMENDED SPARE PARTS LIST (CON'T)

ASSEMBLY DESIGNATION	ITEM NO.	PART NO.	DESCRIPTION	QTY	CODE	SHELF LIFE (MO)	ORDER QTY
41709703.01.19961030	EXTENSION BOOM ASM-3H						
	11	60030118	WEAR PAD	1	W		
	13	60030123	WEAR PAD	1	W		
	14	60030122	WEAR PAD	1	W		
	16	60030202	WEAR PAD	1	W		
	17	60030203	WEAR PAD	1	W		
	27	60030119	WEAR PAD	1	W		
41709704.01.19961030	EXTENSION BOOM ASM-3H1M						
	11	60030118	WEAR PAD	1	W		
	13	60030123	WEAR PAD	1	W		
	14	60030122	WEAR PAD	1	W		
	16	60030202	WEAR PAD	1	W		
	17	60030203	WEAR PAD	1	W		
	27	60030119	WEAR PAD	1	W		
3K150920.01.19971009	EXTENSION CYLINDER-THIRD STAGE						
	8	6I503369	PISTON	1	W		
	9	6I352268	PISTON	1	W		
	10	6I252144	PISTON	1	W		
	11	6H503450	HEAD	1	W		
	12	6H352300	HEAD	1	W		
	13	6H271511	HEAD	1	C		
	15	73054817	COUNTERBALANCE VALVE	1	C		
	16	73054902	COUNTERBALANCE VALVE	1	W		
17	9X355900	SEAL KIT	1	W			
90713554.01.19961030	PROPORTIONAL REMOTE CONTROL KIT						
	1	77041390	AMP DRIVER	1	C		
	5	73054876	FLOW VALVE	1	W		
	10	77041251	RELAY	2	W		
	11	77041237	SOLENOID 12V	1	W		
51713429.01.19961030	PROPORTIONAL REMOTE HANDLE ASM						
	16	77040371	TOGGLE SWITCH SPST	1	W		
	17	77040372	TOGGLE SWITCH SPDT	6	W		
	18	77040373	TOGGLE SWITCH SPST	2	W		
51713568.01.19961030	CABLE ASM-JIC BOX 94"						
	3	77041345	TOGGLE SWITCH ST	2	W		
	4	77041354	TOGGLE SWITCH DT	1	W		
93709977.01.19970829	INSTALLATION KIT						
4	73052006	RETURN FILTER ELEMENT	6	P			
31712572.01.19961030	CABLE & HOOK KIT-5000LB DP WINCH						
	3	60030255	SHEAVE	1	W		
	13	70580089	WIRE ROPE ASM	1	W		
51711963.01.19961030	SNATCH BLOCK KIT						
	3	60030134	SHEAVE	1	W		

INSTALLATION

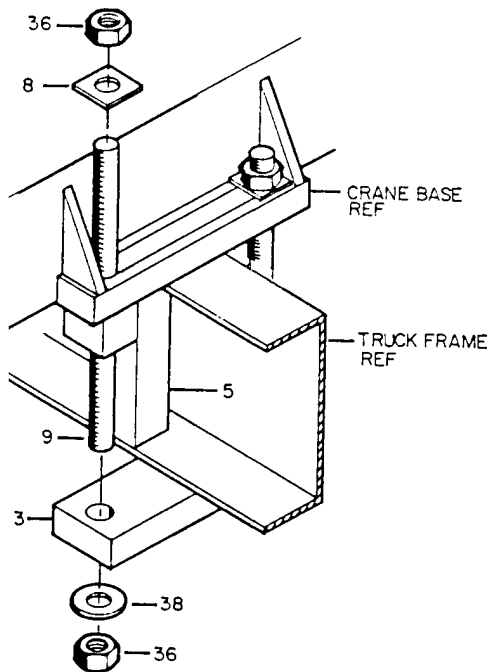
GENERAL

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 (See figure below). Cut the support to the inside dimensions of the truck frame. Allow about 1/16" (1.5mm) extra. Grind the end of the support to fit inside the frame channel. Use a hammer to drive it into position if necessary.



ITEM	DESCRIPTION	QTY
3.	CLAMP PLATE	4
5.	FRAME SUPPORT	4
8.	SQUARE WASHER	8
9.	TIE DOWN STUD	8
36.	LOCK NUT	16
38.	WASHER	8

CRANE INSTALLATION

3. Position one bar on top of each frame rail where crane will be located, allowing sufficient clearance between the cab and crane base, at least 5" (127mm). 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. Grind bar on frame rails to eliminate clearance.

4. Torque the 1"-8 UNC Grade 5 mounting hardware to 448 ft-lbs (62 kg-m). When torquing the mounting hardware the following precautions must be followed:

- A. Never use lock washers.
- B. Hardened washers must be used, and under the turning element, whether the turning element is the nut or the head of the bolt.
- C. Torque values specified are with residual oils or without special lubricants applied to the threads. If special lubricants are used, such as Never-Seize compound graphite and oil, molybdenum disulphite colloidal copper or white lead, reduce torque values 10%. Torque values for threaded fasteners are not affected with the use of Loctite.
- D. Do not use rusty fasteners, the rust will alter torque values significantly.
- E. Touch-up paint around mounting anchor plates.

CAUTION

Do not attempt to apply the same torque to the tie rod and self-locking nuts as shown in the Torque Data Chart. Do not exceed 448 ft-lbs (62 kg-m). Exceeding this torque value could damage either the chassis or crane base.

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

HYDRAULIC INSTALLATION

To install the hydraulic hoses, fittings, etc.:

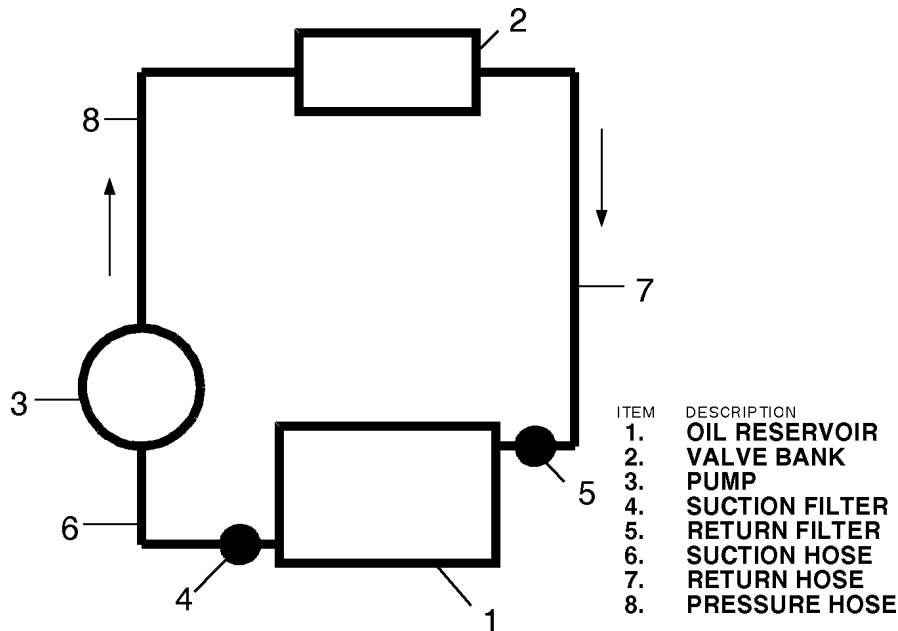
1. Install the hydraulic reservoir on the crane base.
2. Plumb the suction-line filter as shown in the figure below.
3. Install the suction hose between the suction-line filter and the pump inlet. Tighten the hose clamps.
4. Install the pressure hoses between the pump outlet and the inlet port on the valvebank.
5. Install the return filter and gate valve on the reservoir. Install the hose between the valve bank and return filter.
6. Fill the hydraulic reservoir to the "FULL" mark.

7. 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.

8. Open the return gate valve.
9. 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" of 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.
10. Cycle all hydraulic functions. Check for leaks, and refill the reservoir if necessary.



HYDRAULIC INSTALLATION

WINCH TROUBLESHOOTING

POSSIBLE CAUSE	PROBABLE CURE
WINCH WON'T LIFT HEAVY LOADS	
TOO MUCH LOAD	RIG TO REDUCE LOADING ON WINCH
LOW OR NO GEARBOX OIL	CHECK OIL LEVEL AND ADD PROPER OIL IF NECESSARY
MOTOR INLET PRESSURE LESS THAN SPECIFICATIONS WITH LOAD STALLED	TEST HYDRAULIC PUMP
MOTOR OUTLET PRESSURE TOO HIGH WITH LOAD STALLED	FIND AND REMOVE SOURCE OF RESTRICTION
BRAKE SHOULD ENGAGE IN PAYOUT DIRECTION ONLY	RUN WINCH WITH NO LOAD IN BOTH DIRECTIONS. SYSTEM PRESSURE SHOULD BE SLIGHTLY HIGHER IN PAYOUT DIRECTION.
CHECK FLOW TO WINCH MOTOR WITH WINCH UNDER LOAD	TEST PUMP IF NOT TO SPECIFICATIONS
CHECK END PLAY IN WORM	IF GREATER THAN 0.030", INSPECT WORM BEARINGS FOR WEAR. REPLACE IF NECESSARY.
WINCH WON'T HOLD LOAD	
BRAKE MAY NEED ADJUSTMENT	TURN ADJUSTING SCREW CLOCKWISE 1/4 TURN AT A TIME AND TEST WINCH AGAIN
BRAKE DISKS MAY BE WORN	INSPECT AND REPLACE IF NECESSARY. ADJUST AND RETEST
CAM CLUTCH IN BRAKE MAY BE INSTALLED INCORRECTLY	REVERSE CLUTCH AND RETEST
JOURNAL ON WORM WHERE CAM CLUTCH RUNS MAY BE GALLED OR WORN	INSPECT AND REPLACE WORM IF NECESSARY
WINCH RUNS TOO SLOW	
SYSTEM MAY HAVE LOW FLOW	INSTALL FLOW METER IN SYSTEM AND TEST UNDER LOAD. IF FLOW IS BELOW SPECIFICATIONS, INSPECT PUMP.
MOTOR WORN OUT	REPLACE MOTOR
WINCH WILL NOT RUN UNDER NO LOAD (RELIEF VALVE OPENS WITHOUT WINCH TURNING)	
MOTOR SEIZED UP	REMOVE MOTOR FROM WINCH AND TEST IF OPERABLE. IF NOT, REPLACE MOTOR.
WORM AND GEAR SET DAMAGED	REPAIR GEARBOX

See Section 3 for parts drawing.

9000/1295:99900918:19961030

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SECTION 3. REPLACEMENT PARTS 9000/1295 CRANE

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REPLACEMENT PARTS 9000/1295 CRANE (CON'T)

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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.

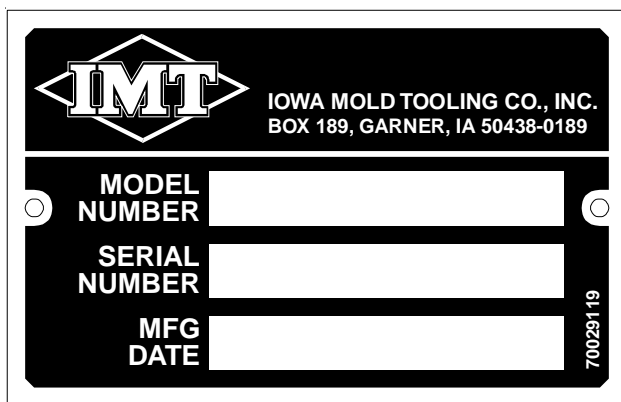
WARNING

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
 Product Support Fax: 641-923-2424



SERIAL NUMBER PLACARD

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.

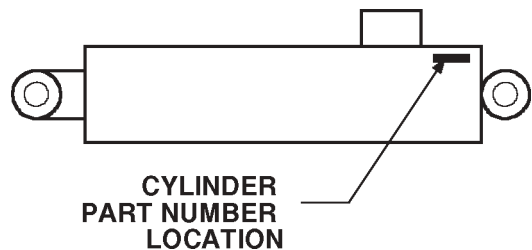
WELDMENT IDENTIFICATION

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

**BASE & MNL OUTRIGGER ASM
(41712071-1)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B221850	OUTRIGGER CYLINDER	2
3.	70732578	RESERVOIR ASM	1
5.	71145016	STOP BLOCK-SLIDING	1
7.	52070138	"T"-PIN	2
8.	52712069	BASE (INCL:9-13)	1
9.	60020115	BUSHING (PART OF 8)	1REF
10.	60020116	BUSHING (PART OF 8)	1REF
11.	60020187	BUSHING (PART OF 8)	1REF
12.	60020188	BUSHING (PART OF 8)	1REF
13.	71056011	DRIVE GEAR (PART OF 8)	1REF
14.	52706167	OUTRIGGER ARM	2
15.	52705871	OUTRIGGER LEG	2
16.	53000703	GREASE EXTENSION 20"	1
17.	53000713	GREASE EXTENSION 38"	1
18.	60107648	HOSE CLAMP	2
19.	60010235	PINION COVER	1
20.	60010351	SPRING	2
21.	60010844	GREASE PLATE	1
22.	60030053	ROLLER	4
23.	60102767	ACCESS COVER	1
24.	60106032	STUD 1/2-13 X 2	2
25.	60106314	PIN	4
26.	60106886	PINION SPACER	1
27.	60106968	PIN	2
28.	60108888	INTERMEDIATE GEAR GUARD	1
29.	71056072	INTERMEDIATE GEAR	1
30.	71056265	PINION GEAR	1
31.	71056361	TURNTABLE BEARING	1
33.	72053301	COUPLING 1/8NPT	2
34.	72053508	ZERK 1/8NPT	3
35.	72060002	CAP SCR 1/4-20X3/4 HH GR5	2
36.	72060053	CAP SCR 3/8-16X2-3/4 HH GR5	2
37.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	2
38.	72060102	CAP SCR 1/2-13X5-1/2 HH GR5	4
39.	72060833	SCR 5/16-18X3/4 HH SLFTPG	2
40.	72062080	NUT 1/2-13 LOCK	2
41.	72062103	NUT 3/8-16 LOCK	8
42.	72062107	NUT 1/2-13 CTR LOCK	4
43.	72063002	WASHER 5/16 WRT	2
44.	72063003	WASHER 3/8 WRT	2
45.	72063027	MACH BUSHING 5/8X14GA	2
46.	72063039	MACH BUSHING 2 X 10GA NR	1
47.	72063049	WASHER 1/4 LOCK	2
48.	72063053	WASHER 1/2 LOCK	2
49.	72063116	WASHER 3/4 HARDENED	20

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SEE FOLLOWING PAGE FOR DRAWING

50.	72066095	RETAINING RING 2" EXT STD	1
51.	72066178	COTTER PIN 1/8 X 1	8
52.	72601295	CAP SCR 3/4-10X3-1/2 HH GR8	20
53.	73540004	HYD MOTOR (FROM 5-15-98)	1
	73051004	HYD MOTOR (TO 5-15-98)	1
	73054538	VALVE CARTRIDGE (TO 5-15-98)	2
	72060738	CAP SCR (TO 5-15-98)	4
	5V151830	MOTOR BLOCK (TO 5-15-98)	1
	7Q072112	O-RING (TO 5-15-98)	2
55.	72066125	RETAINING RING 1" EXT HD	4
56.	72066185	COTTER PIN .16 X 1	2
58.	72060046	CAP SCR 3/8-16X1 HH GR5	4
59.	72063003	WASHER 3/8 WRT	8
60.	60108883	CHAIN	2
61.	70058060	COLD-SHUT LINK	2
62.	89393036	SLEEVE	5'
63.	72053281	STREET ELBOW 1/8NPT	1
64.	72531826	REDUCER BUSHING 1/4-1/8NPT	1
65.	72060023	CAP SCR 5/16-18X3/4 HH GR5	2
66.	72063050	WASHER 5/16 LOCK	2
67.	60119748	CTRL HANDLE GUARD	1
68.	72060006	CAP SCR 1/4-20X1-1/2 HHGR5 (WAS 72060005)	8
69.	72063001	WASHER 1/4 WRT	16
70.	72062104	NUT 1/4-20 LOCK	8
71.	60119747	CTRL HANDLE GUARD	1

WARNING

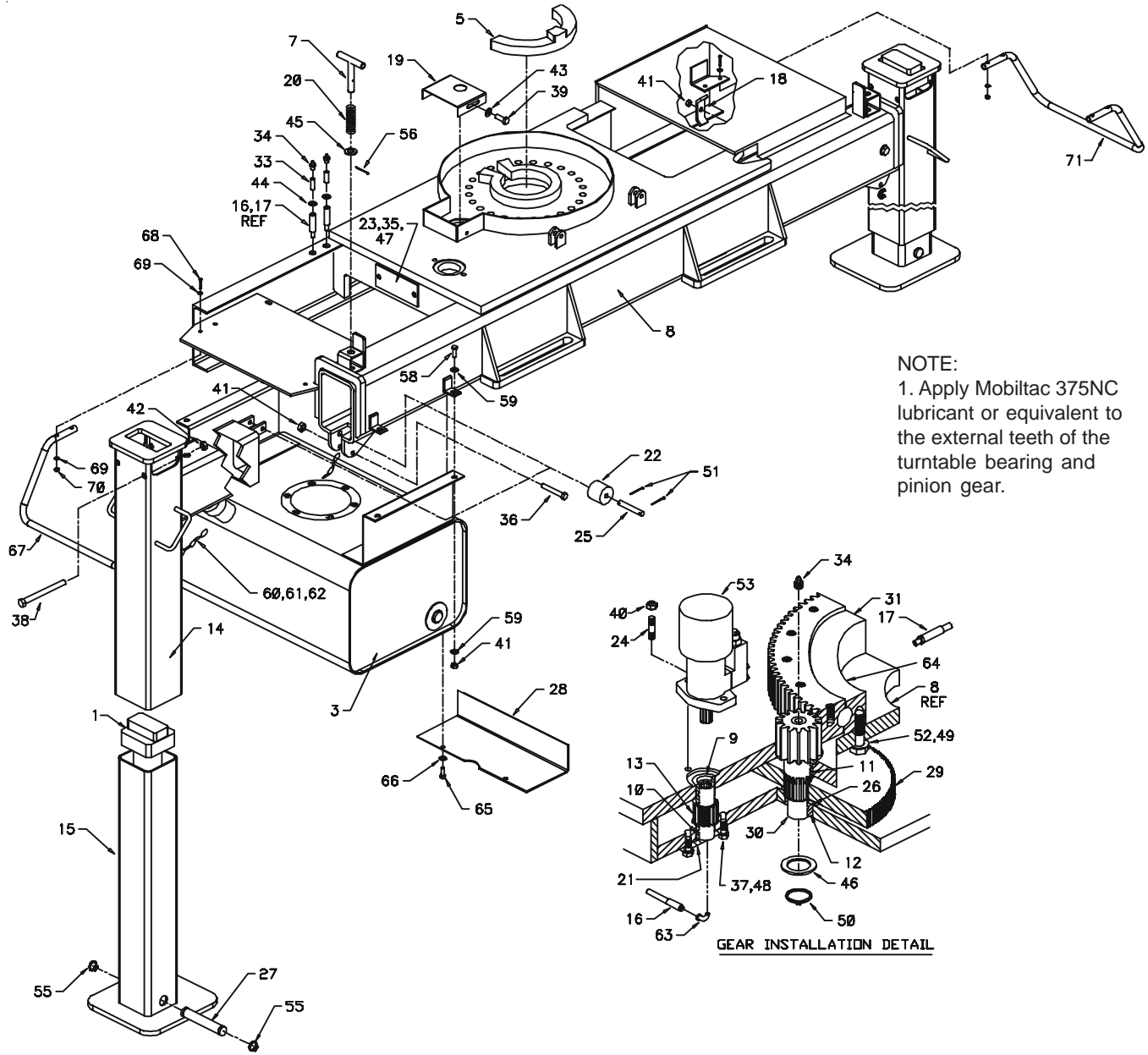
ANYTIME A GEAR-BEARING BOLT IS REMOVED, IT MUST BE REPLACED WITH A NEW BOLT OF THE IDENTICAL GRADE AND SIZE. FAILURE TO REPLACE GEAR-BEARING BOLTS MAY RESULT IN BOLT FAILURE DUE TO FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

CAUTION

BEFORE TIGHTENING TURNTABLE BEARING BOLTS, REFER TO THE TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE AND TORQUE DATA CHART IN THE REFERENCE SECTION.

NOTE: TURNTABLE BEARING BACKLASH = .006"-.010"
(.152-.254mm)

BASE & MNL OUTRIGGER ASM (41712071-2)



NOTE:
1. Apply Mobilnac 375NC
lubricant or equivalent to
the external teeth of the
turntable bearing and
pinion gear.

GEAR INSTALLATION DETAIL

**BASE & PWR OUTRIGGER ASM
(41712070-1)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B221850	OUTRIGGER CYLINDER	2
3.	70732578	RESERVOIR ASM	1
5.	71145016	STOP BLOCK-SLIDING	1
8.	52712068	BASE (INCL:9-13)	1
9.	60020115	BUSHING (PART OF 8)	1REF
10.	60020116	BUSHING (PART OF 8)	1REF
11.	60020187	BUSHING (PART OF 8)	1REF
12.	60020188	BUSHING (PART OF 8)	1REF
13.	71056011	DRIVE GEAR (PART OF 8)	1REF
14.	52706167	OUTRIGGER ARM	2
15.	52705871	OUTRIGGER LEG	2
16.	53000703	GREASE EXTENSION 20"	1
17.	53000713	GREASE EXTENSION 38"	1
18.	60107648	HOSE CLAMP	2
19.	60010235	PINION COVER	1
21.	60010844	GREASE PLATE	1
22.	60030053	ROLLER	4
23.	60102767	ACCESS COVER	1
24.	60106032	STUD 1/2-13 X 2	2
25.	60106314	PIN	4
26.	60106886	PINION SPACER	1
27.	60106968	PIN	2
28.	60108888	INTERMEDIATE GEAR GUARD	1
29.	71056072	INTERMEDIATE GEAR	1
30.	71056265	PINION GEAR	1
31.	71056361	TURNTABLE BEARING	1
33.	72053301	COUPLING 1/8NPT	2
34.	72053508	ZERK 1/8NPT	3
35.	72060002	CAP SCR 1/4-20X3/4 HH GR5	2
36.	72060053	CAP SCR 3/8-16X2-3/4 HH GR5	2
37.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	2
38.	72060102	CAP SCR 1/2-13X5-1/2 HH GR5	4
39.	72060833	SCR 5/16-18X3/4 HH SLFTPG	2
40.	72062080	NUT 1/2-13 LOCK	2
41.	72062103	NUT 3/8-16 LOCK	8
42.	72062107	NUT 1/2-13 CTR LOCK	4
43.	72063002	WASHER 5/16 WRT	2
44.	72063003	WASHER 3/8 WRT	2
45.	72053281	STREET ELBOW 1/8NPT	1
46.	72063039	MACH BUSHING 2 X 10GA NR	1
47.	72063049	WASHER 1/4 LOCK	2

48.	72063053	WASHER 1/2 LOCK	2
49.	72063116	WASHER 3/4 HARDENED	20
50.	72066095	RETAINING RING 2" EXT STD	1
51.	72066178	COTTER PIN 1/8 X 1	8
52.	72601295	CAP SCR 3/4-10X3-1/2 HH GR8	20
53.	73540004	HYD MOTOR (FROM 5-15-98)	1
	73051004	HYD MOTOR (TO 5-15-98)	1
	73054538	VALVE CARTRIDGE (TO 5-15-98)	2
	72060738	CAP SCR(TO 5-15-98)	4
	7Q072112	O-RING (TO 5-15-98)	2
	5V151830	MOTOR BLOCK (TO 5-15-98)	1
55.	72066125	RETAINING RING 1" EXT HD	4
56.	72531826	REDUCER BUSHING 1/4-1/8NPT	1
58.	72060046	CAP SCR 3/8-16X1 HH GR5	4
59.	72063003	WASHER 3/8 WRT	8
60.	72060023	CAP SCR 5/16-18X3/4 HH GR5	2
61.	72063050	WASHER 5/16 WRT	2
62.	60119748	CTRL HANDLE GUARD	1
63.	72060006	CAP SCR 1/4-20X1-1/2 HHGR5 (WAS 72060005)	8
64.	72063001	WASHER 1/4 WRT	16
65.	72062104	NUT 1/4-20 LOCK	8
66.	60119747	CTRL HANDLE GUARD	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 FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

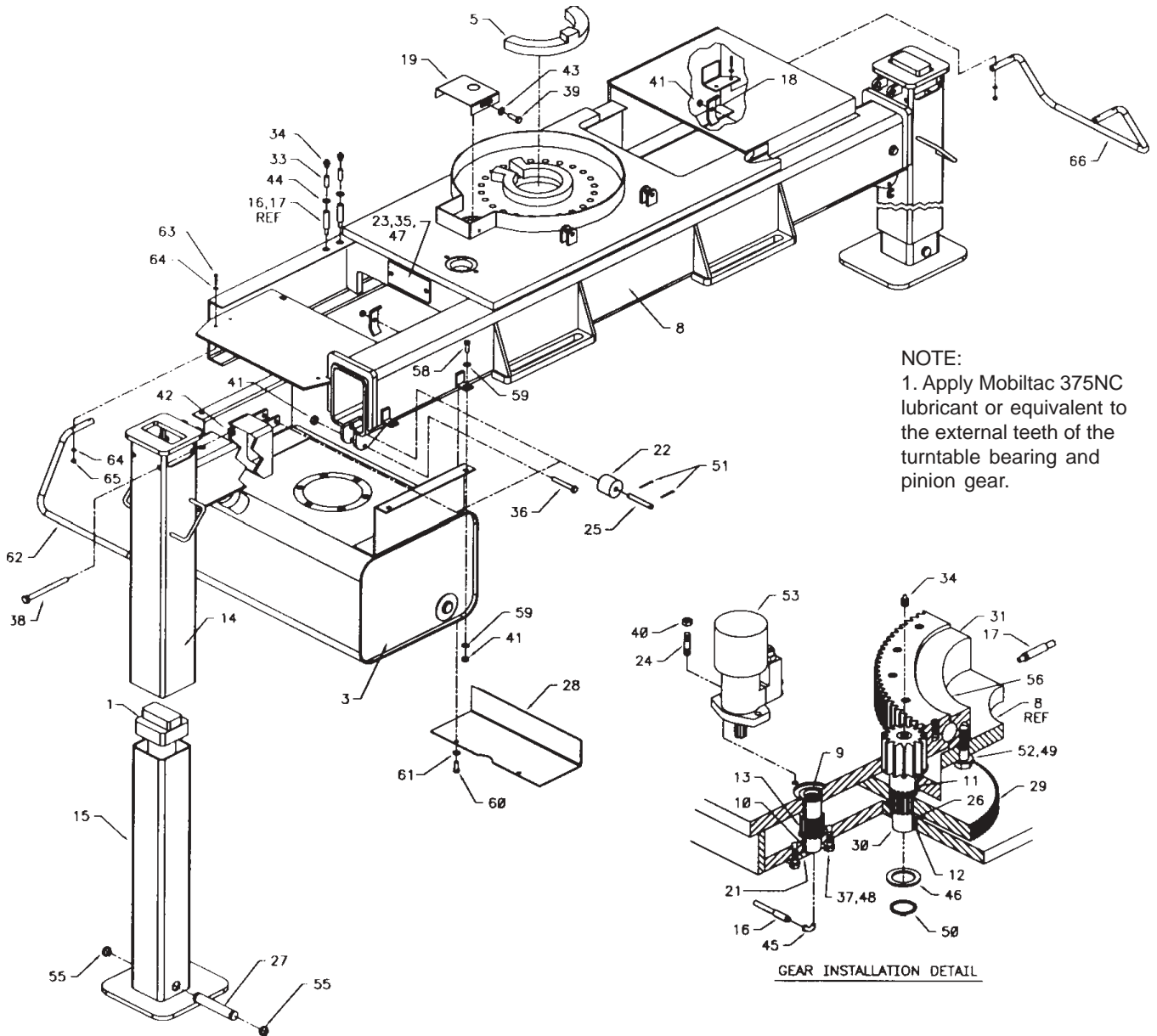
CAUTION

BEFORE TIGHTENING TURNTABLE BEARING BOLTS, REFER TO THE TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE AND TORQUE DATA CHART IN THE REFERENCE SECTION.

NOTE:TURNTABLE BEARING BACKLASH =.006"-.010"
(.152-.254mm)

SEE FOLLOWING PAGE FOR DRAWING

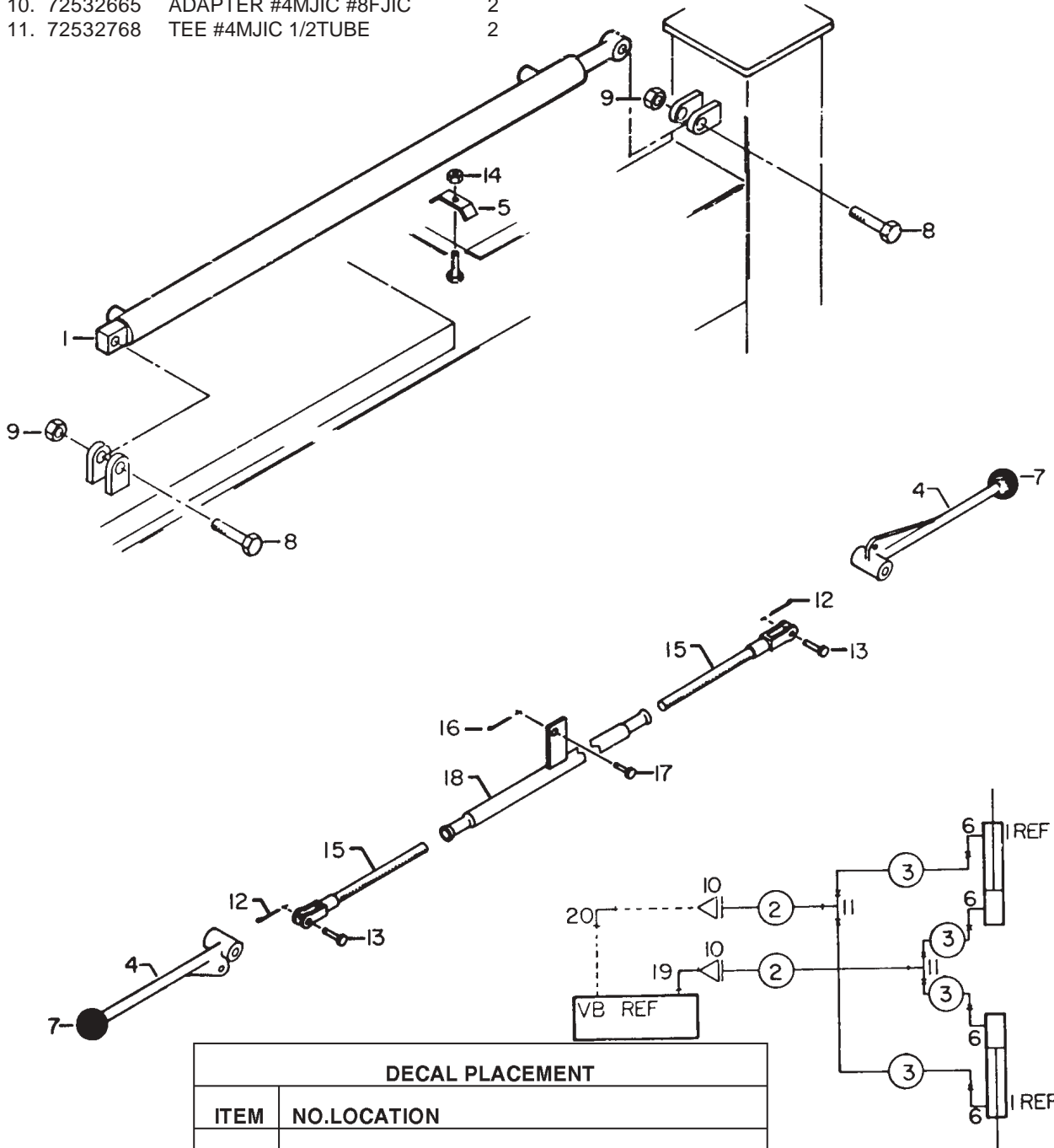
BASE & PWR OUTRIGGER ASM (41712070-2)



**OPTION-KIT-PWR OUT OUTRIGGER
(31705851)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B220850	CYLINDER	2
2.	51703771	HOSE ASM FF 1/4X29	2
3.	51704280	HOSE ASM FF 1/4X40	4
4.	60025254	CONTROL HANDLE-VB SHORT	2
5.	60103278	HOSE CLAMP-TWIN	2
6.	72053758	ELBOW #4MSTR #4MJIC 90°	4
7.	71039096	KNOB	2
8.	72060930	CAP SCR 1/2-13X2-1/2 HHGR5	4
9.	72062080	NUT 1/2-13 LOCK	4
10.	72532665	ADAPTER #4MJIC #8FJIC	2
11.	72532768	TEE #4MJIC 1/2TUBE	2

12.	72066168	COTTER PIN 3/32X3/4	2
13.	72066338	CLEVIS PIN 5/16X1	2
14.	72062104	NUT 1/4-20 LOCK	2
15.	52704745	CONTROL ROD-MALE	2
16.	72066336	COTTER PIN-SPCL SHORT	1
17.	72066337	PIN-SPECIAL VB	1
18.	52705877	CONTROL ROD-FEMALE	1
19.	72053763	ELBOW #8MSTR #8MJIC	REF
20.	72532666	ELBOW #8MSTR #8MJIC XLG	REF
21.	71392277	DECAL-POWER OUT	2
22.	70392864	DECAL-DANGER STAND CLEAR	2
23.	70392867	DECAL-DANGER OUTR MOVING	2



DECAL PLACEMENT	
ITEM	NO.LOCATION
22	ONE ON EACH OUTRIGGER
23	AT OR NEAR NORMAL OPERATING STATION
21	AT POWER OUT CONTROLS

**OPTION-PWR OUT OUTRIGGER CYL
(3B220850)**

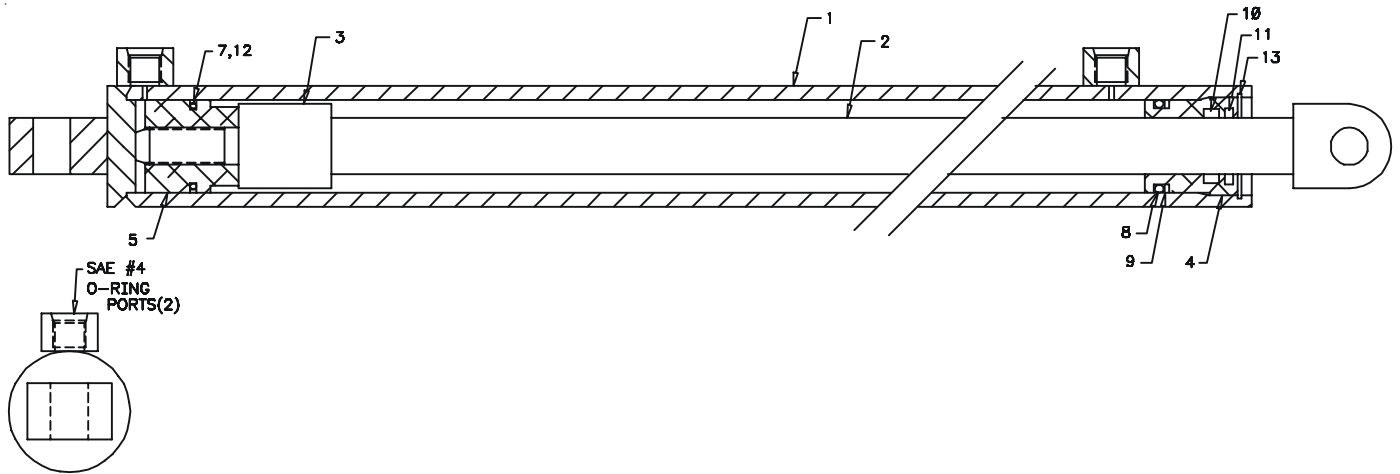
1.	4B220850	CASE ASM	1
2.	4G220850	ROD ASM	1
3.	6C125007	STOP TUBE 1-1/4	1
4.	6H012007	HEAD	1
5.	6I012050	PISTON	1
6.	9B050608	SEAL KIT (INCL:7-12)	1
7.	7Q072021	O-RING (PART OF 6)	1REF
8.	7Q072214	O-RING (PART OF 6)	1REF
9.	7Q10P214	BACK-UP RING (PART OF 6)	1REF
10.	7R100750	U-CUP SEAL (PART OF 6)	1REF
11.	7R13P007	ROD WIPER (PART OF 6)	1REF
12.	7T66P012	PISTON SEAL (PART OF 6)	1REF
13.	72066029	RETAINING RING	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, HEAD GLAND, AND HOLDING VALVE SEALS, NYLON LOCK RING, CAST IRON PISTON RINGS, AND ROD STINGER THREADS.

APPLY "NEVER-SEEZ" REGULAR GRADE ANTI-SEIZE AND LUBRICATING COMPOUND TO CYLINDER HEAD AND CASE THREADS.



BASE & PWR OUTRIGGER ASM-VOAC (41712976)

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B221850	OUTRIGGER CYLINDER	2
3.	52705871	OUTRIGGER LEG	2
4.	52706167	OUTRIGGER ARM	2
5.	52712975	BASE (INCL:41-45)	1
6.	53000703	GREASE EXTENSION 20"	1
7.	53000713	GREASE EXTENSION 38"	1
8.	60010235	PINION COVER	1
9.	60010844	GREASE PLATE	1
10.	60030053	ROLLER	4
11.	60102767	ACCESS COVER	1
12.	60106032	STUD 1/2-13 X 2	2
13.	60106314	PIN	4
14.	60106886	PINION SPACER	1
15.	60106968	PIN	2
16.	60107648	HOSE CLAMP	2
17.	60108888	INTERMEDIATE GEAR GUARD	1
18.	70732578	RESERVOIR ASM 20GAL	1
19.	71056072	INTERMEDIATE GEAR	1
20.	71056265	PINION GEAR	1
21.	71056361	TURNTABEL GEAR BEARING	1
22.	71145016	SLIDE 45°	1
23.	72053281	STREET ELBOW 1/8NPT	1
24.	72053301	COUPLING 1/8NPT	2
25.	72053508	ZERK 1/8NPT	3
26.	72060002	CAP SCR 1/4-20X3/4 HH GR5	2
27.	72060023	CAP SCR 5/16-18X3/4 HH GR5	2
28.	72060046	CAP SCR 3/8-16X1 HH GR5	4
30.	72060092	CAP SCR 1/2-13X1-1/4 HHGR5	2
31.	72060102	CAP SCR 1/2-13X5-1/2 HH GR5	4
33.	72060833	SCR 5/16-18X3/4 HH SLFTPG	2
34.	72062080	NUT 1/2-13 LOCK	2
35.	72062103	NUT 3/8-16 LOCK	6
36.	72062107	NUT 1/2-13 CTR LOCK	4
37.	72063002	WASHER 5/16 WRT	4
38.	72063003	WASHER 3/8 WRT	4
39.	72063039	MACH BUSHING 2 X 10GA NR	1
40.	72063049	WASHER 1/4 LOCK	2

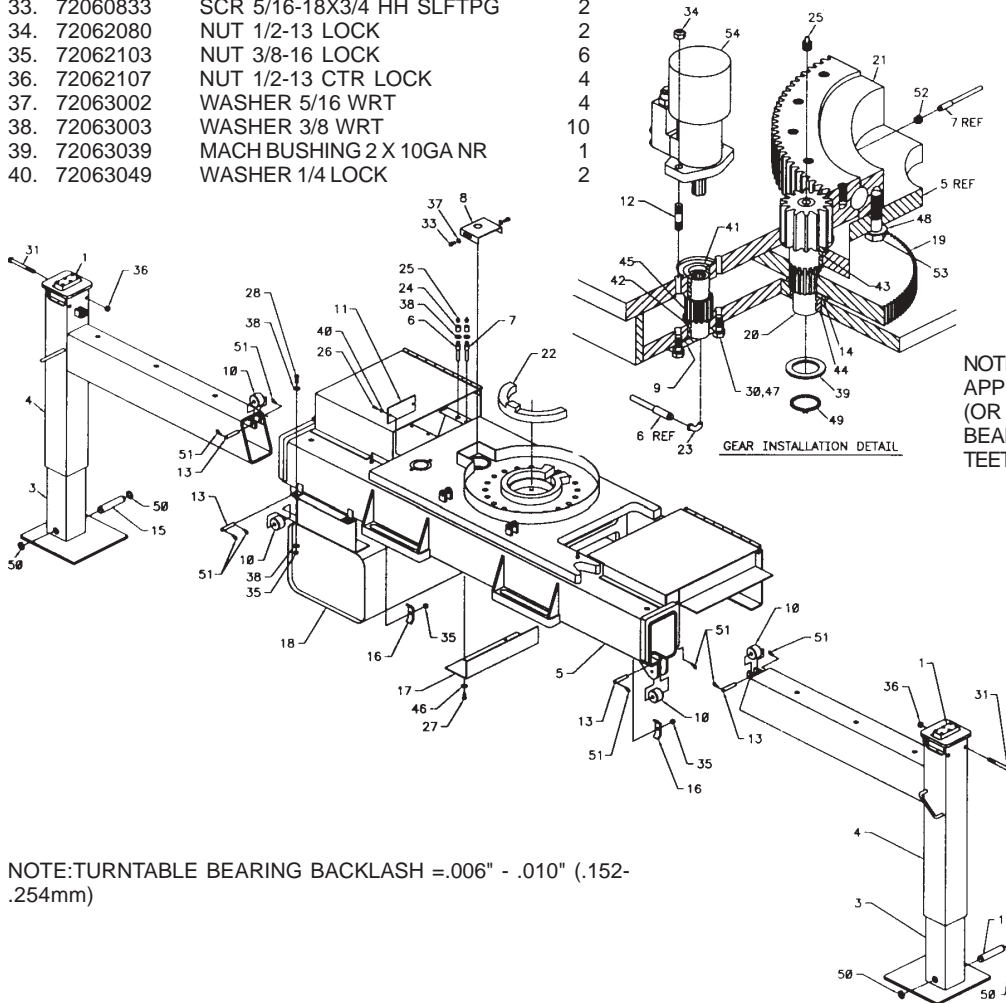
41.	60020115	BUSHING (PART OF 5)	1REF
42.	60020116	BUSHING (PART OF 5)	1REF
43.	60020187	BUSHING (PART OF 5)	1REF
44.	60020188	BUSHING (PART OF 5)	1REF
45.	71056011	DRIVE GEAR (PART OF 5)	1REF
46.	72063050	WASHER 5/16 WRT	2
47.	72063053	WASHER 1/2 LOCK	2
48.	72063116	WASHER 3/4 HARDENED	20
49.	72066095	RETAINING RING 2" EXT STD	1
50.	72066125	RETAINING RING 1" EXT HD	4
51.	72066178	COTTER PIN 1/8 X 1	8
52.	72531826	REDUCER BUSHING 1/4-1/8NPT	1
53.	72601295	CAP SCR 3/4-10X3-1/2 HH GR8	20
54.	73540004	HYD MOTOR (FROM 5-15-98)	1
	73051004	HYD MOTOR (TO 5-15-98)	1
	73054538	VALVE CARTRIDGE (TO 5-15-98)	2
	5V151830	MOTOR BLOCK (TO 5-15-98)	1
	7Q072112	O-RING (TO 5-15-98)	2
	72060738	CAP SCR (TO 5-15-98)	4

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 FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

CAUTION

BEFORE TIGHTENING TURNTABLE BEARING BOLTS, REFER TO THE TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE AND TORQUE DATA CHART IN THE REFERENCE SECTION.



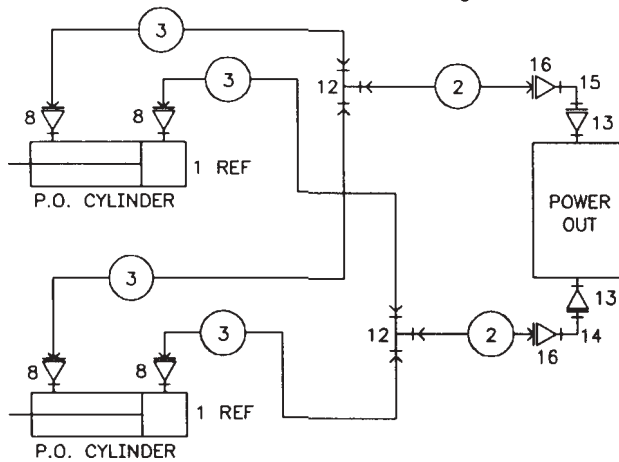
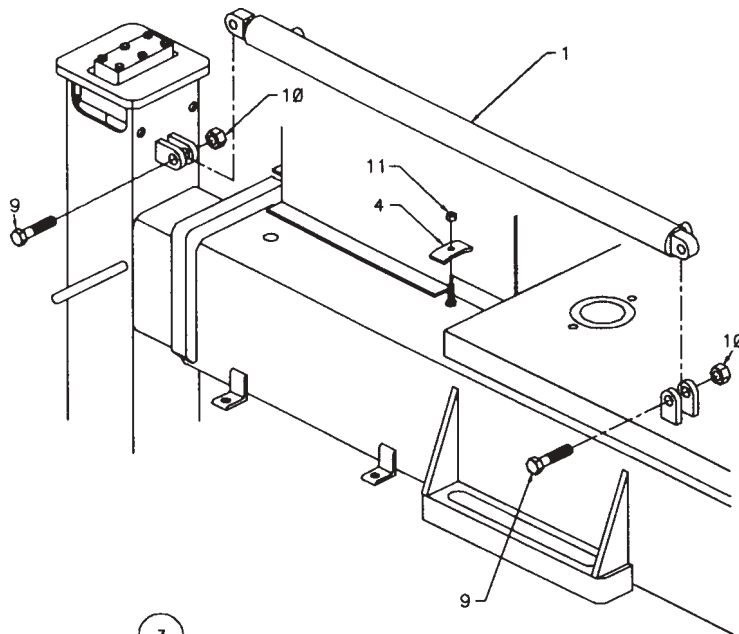
NOTE:
APPLY MOBILTAC 375NC LUBRICANT
(OR EQUIVALENT) TO TURNTABLE
BEARING AND PINION GEAR EXTERNAL
TEETH.

NOTE: TURNTABLE BEARING BACKLASH = .006" - .010" (.152-.254mm)

PWR OUT OUTRIGGER KIT-VOAC (31712993)

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B220850	POWER OUT CYLINDER	2
2.	51710569	HOSE ASM 1/4X36 FF	2
3.	51704280	HOSE ASM 1/4X40 FF	4
4.	60103278	HOSE CLAMP-TWIN	2
5.	70392864	DECAL-DANGER STAND CLEAR	2
6.	70392867	DECAL-DGR OUTRG MOVING	2
7.	71392277	DECAL-PWR OUT CTRL	1
8.	72053758	ELBOW #4MSTR #4MJIC 90°	4
9.	72060930	CAP SCR 1/2-13X2.5 HHGR5Z (WAS 72060928)	4
10.	72062080	NUT 1/2-13 LOCK	4
11.	72062104	NUT 1/4-20 LOCK	2
12.	72532768	TEE #4MJIC	2
13.	72531206	ADAPTER #10MSTR #8FSTR	2REF
14.	72053763	ELBOW #8MSTR#8MJIC 90°	1REF
15.	72532666	ELBOW #8MSTR#8MJIC 90°XLG	1REF
16.	72532665	ADAPTER #4MJIC #8FJIC	2REF

DECAL PLACEMENT	
ITEM	LOCATION
5	ONE ON EACH OUTRIGGER
6	AT OR NEAR THE NORMAL OPERATING STATION
7	AT PWR OUT CONTROLS



**PWR DN OUTRIGGER CYLINDER
(3B221850)**

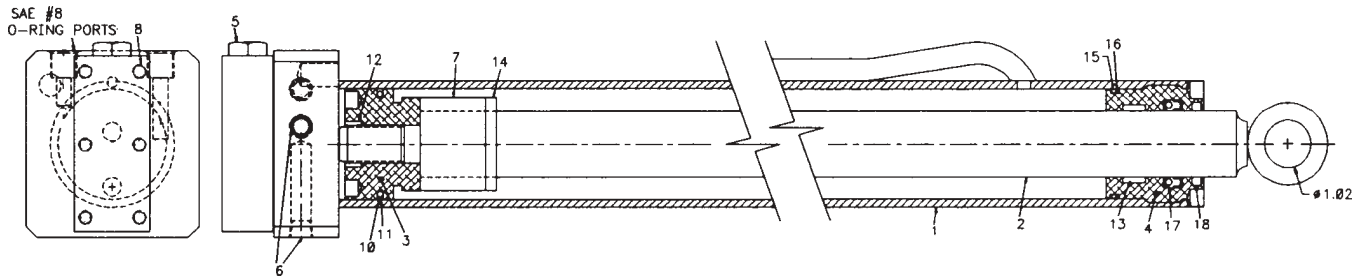
ITEM	PART NO.	DESCRIPTION	QTY
1.	4B221850	CASE (INCL:6)	1
2.	2G221850	ROD	1
3.	6I025087	PISTON	1
4.	6H025015	HEAD	1
5.	73054004	VALVE	1
6.	7PNPXT02	PIPE PLUG 1/8 (PART OF 1)	3REF
7.	6C150015	STOP TUBE	1
8.	72060708	CAP SCR 1/4-20 X 1-1/4 SH	6
9.	9B101214	SEAL KIT (INCL:10-18)	1
10.	7Q072137	O-RING (PART OF 9)	1REF
11.	7T66P025	PISTON SEAL (PART OF 9)	1REF
12.	7T61N087	LOCK RING SEAL (PART OF 9)	1REF
13.	7T2N8015	WEAR RING (PART OF 9)	1REF
14.	6A025015	WAFER LOCK (PART OF 9)	1REF
15.	7Q072228	O-RING (PART OF 9)	1REF
16.	7Q10P228	BACK-UP RING (PART OF 9)	1REF
17.	7R546015	ROD SEAL (PART OF 9)	1REF
18.	7R14P015	ROD WIPER (PART OF 9)	1REF

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.



MAST ASM (41712072)

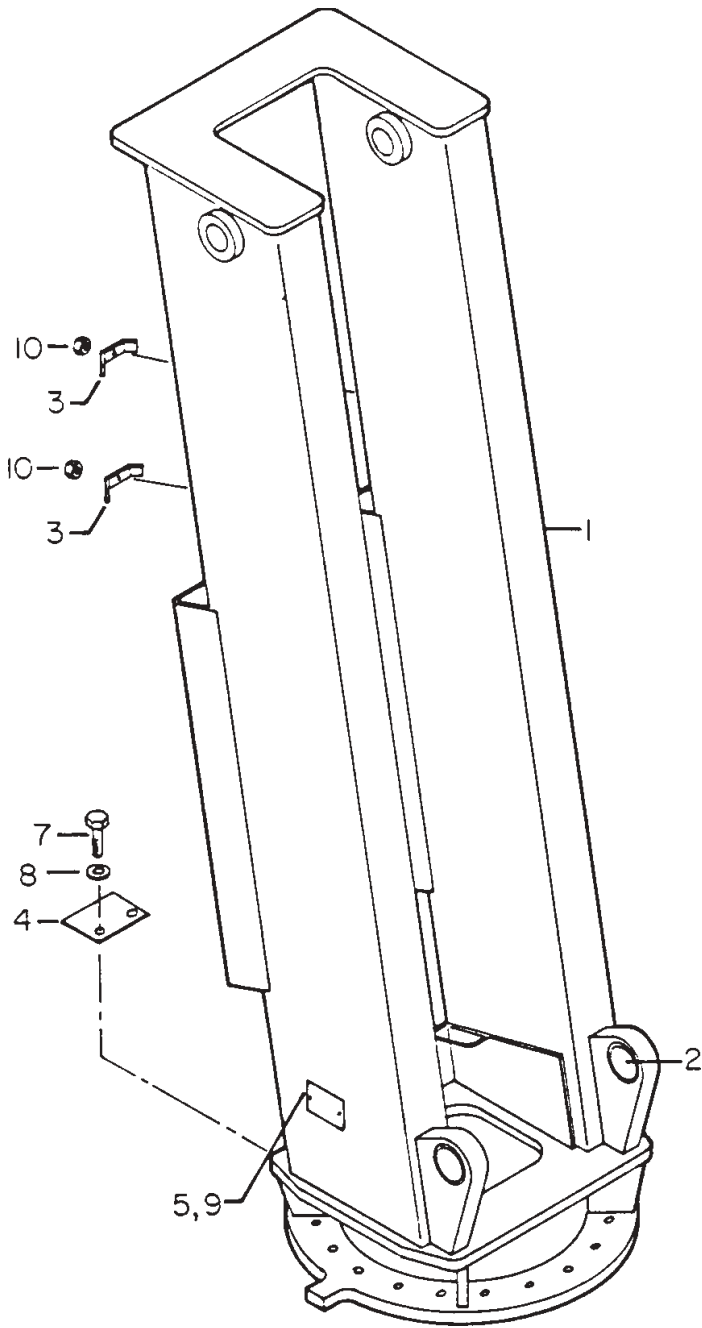
ITEM	PART NO.	DESCRIPTION	QTY
1.	52712066	MAST (INCL: 2)	1
2.	7BF81225	BUSHING (PART OF 1)	2REF
3.	60010118	HOSE CLAMP	2
4.	60104539	PINION COVER	1
5.	70029119	SER. NO. PLACARD	1
7.	72060177	CAP SCR 5/8-11X3 HHGR9	20
8.	72063119	WASHER 5/8 FLAT HARDENED	20
9.	72066340	POP RIVET 1/8	2
10.	72062103	NUT 3/8-16 LOCK	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 FATIGUE, CAUSING SERIOUS INJURY OR DEATH.

CAUTION

BEFORE TIGHTENING TURNTABLE BEARING BOLTS, REFER TO THE TURNTABLE BEARING FASTENER TIGHTENING SEQUENCE AND TORQUE DATA CHART IN THE REFERENCE SECTION.



INNER BOOM ASM (41712042)

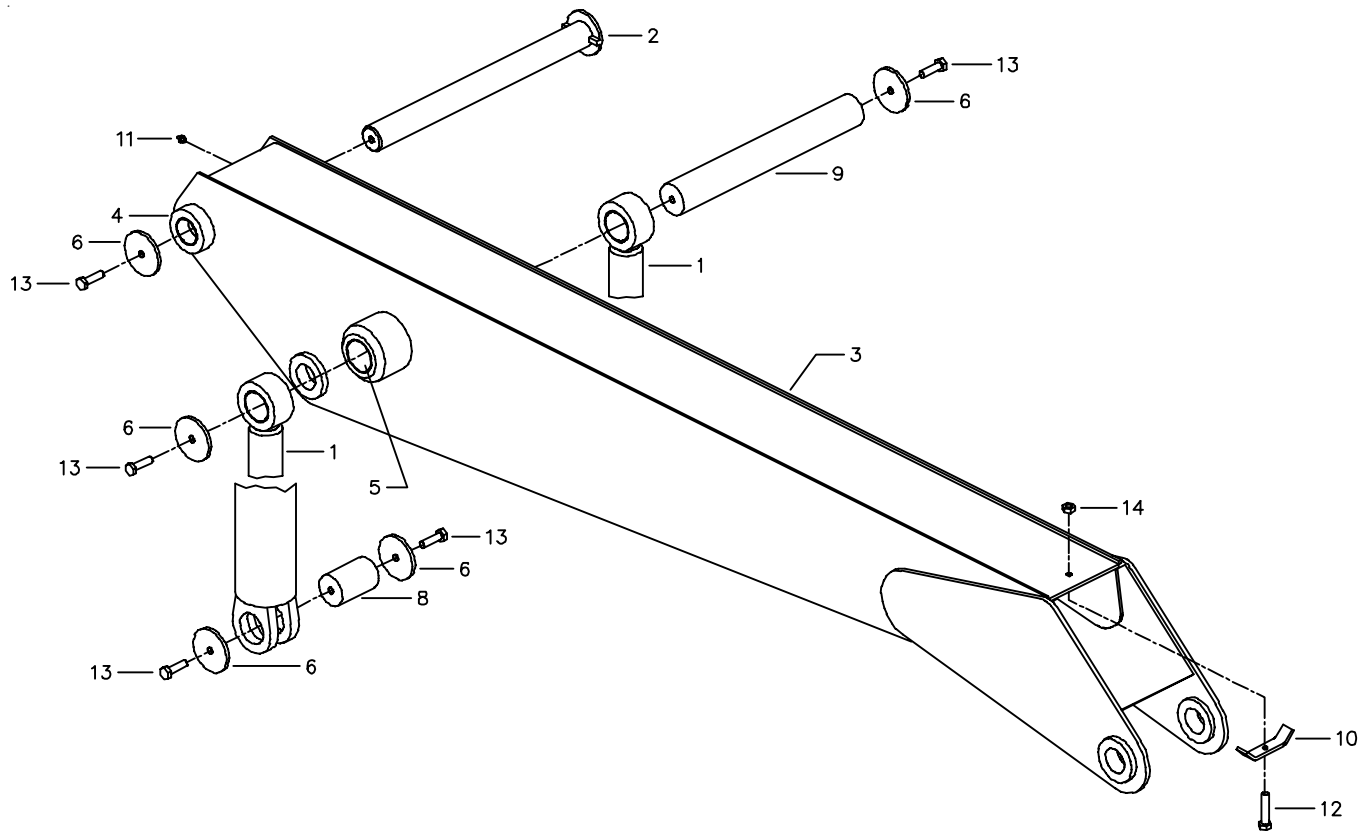
1.	3B272000	INNER CYL	2
2.	52703709	PIN	1
3.	52712034	INNER BOOM (INCL: 4,5)	1
4.	7BF81220	BUSHING (PART OF 3)	6REF
5.	7BF81225	BUSHING (PART OF 3)	9REF
6.	60106331	PIN RETAINER PLATE 3-1/2"	7
8.	60106341	PIN	2
9.	60106353	PIN	1
10.	60010118	HOSE CLAMP	1
11.	72053508	GREASE ZERK 1/8NPT	1
12.	72060049	CAP SCR 3/8-16X1-3/4 HHGR5	1
13.	72060147	CAP SCR 5/8-11X1 HHGR5	7
14.	72062103	NUT 3/8-16 LOCK	1

NOTE

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

CAUTION

CYLINDERS ARE NOT INTERCHANGEABLE UNLESS DONE AS A SET, DUE TO TWIN CYLINDER DESIGN. BOTH CYLINDERS MUST INCORPORATE THE SAME TYPE COUNTERBALANCE VALVE.



INNER CYLINDER (3B272000)

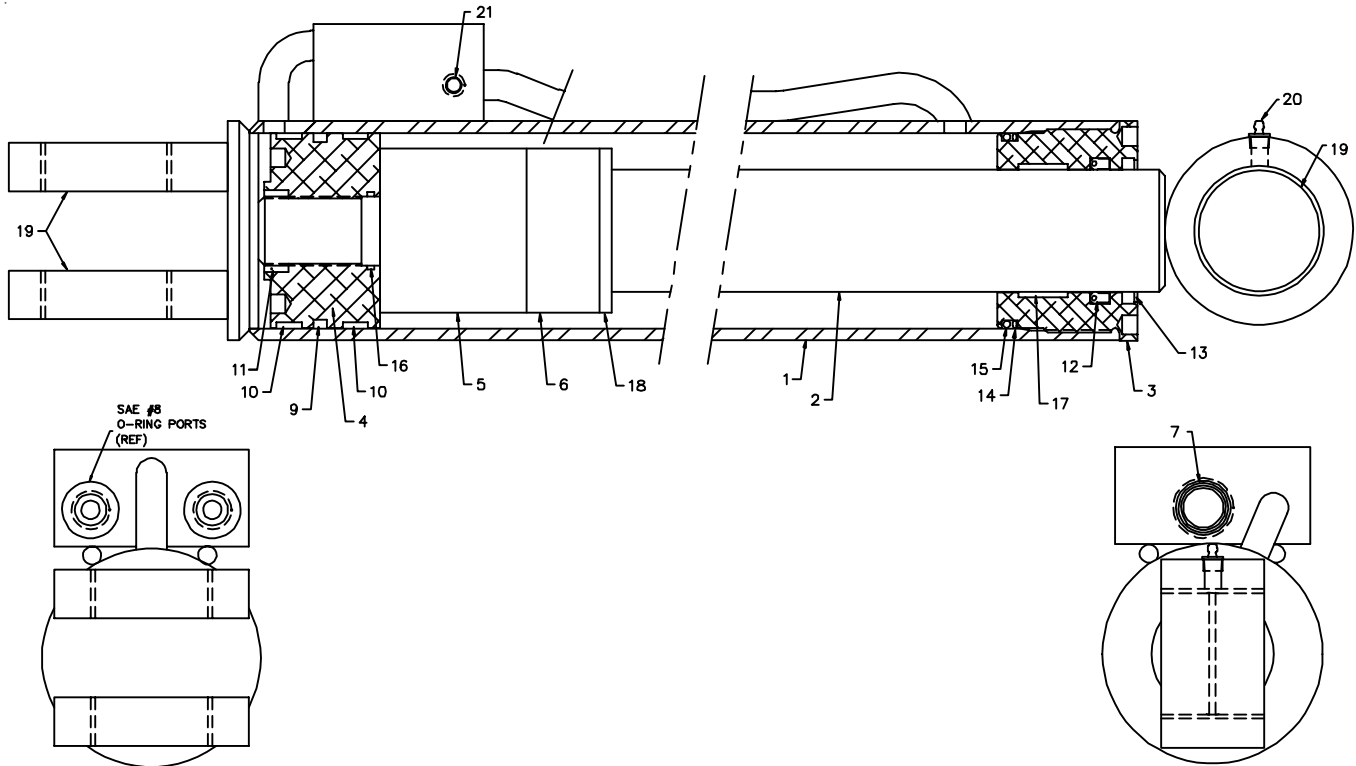
1.	4B223850	CASE (INCL:19,21)	1
2.	4G223850	ROD (INCL:19,20)	1
3.	6H040025	HEAD	1
4.	6I402144	PISTON	1
5.	6C300025	STOP TUBE	1
6.	6C150025	STOP TUBE	1
7.	73054887	C'BAL VALVE	1
8.	9C160920	SEAL KIT (INCL:9-18)	1
9.	7T66P400	PISTON SEAL (PART OF 8)	1REF
10.	7T2N4040	WEAR RING (PART OF 8)	2REF
11.	7T61N143	LOCK RING SEAL (PART OF 8)	1REF
12.	7R546025	ROD SEAL (PART OF 8)	1REF
13.	7R14P025	ROD WIPER (PART OF 8)	1REF
14.	7Q10P342	BACK-UP RING (PART OF 8)	1REF
15.	7Q072342	O-RING (PART OF 8)	1REF
16.	7Q072127	O-RING (PART OF 8)	1REF
17.	7T2N8027	WEAR RING (PART OF 8)	1REF
18.	6A025025	WAFER LOCK (PART OF 8)	1REF
19.	7BF81025	BUSHING (PART OF 1&2)	4REF
20.	72053507	ZERK (PART OF 2)	1REF
21.	7PNPXT02	PIPE PLUG 1/8NPT (PART OF 1)	3REF

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.



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3-16

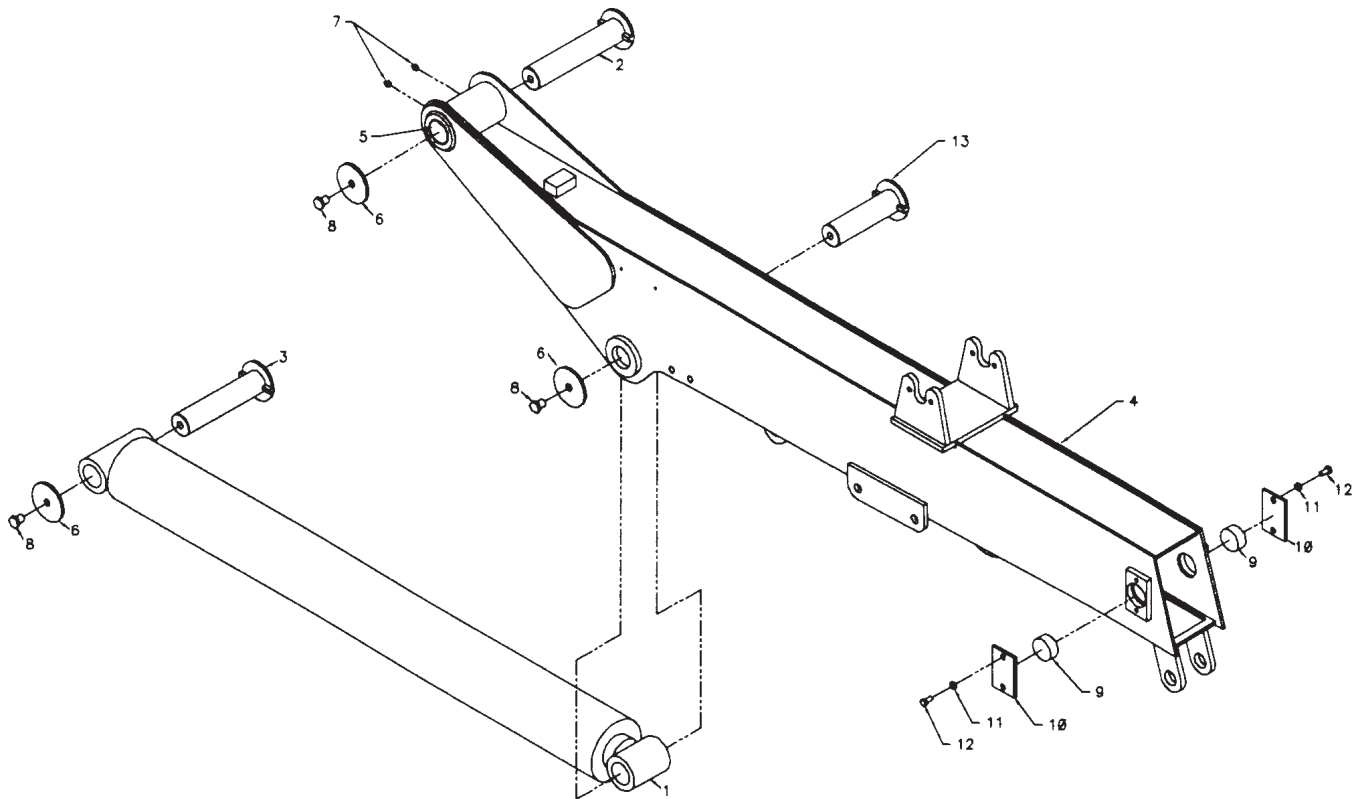
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OUTER BOOM ASM (41712065)

ITEM	PART NO.	DESCRIPTION	QTY
1.	3C078970	OUTER CYL (FROM 3-1-97)	1
	3C224850	OUTER CYL (TO 3-1-97)	1
2.	52703714	PIN	2
3.	52703767	PIN	1
4.	52712064	OUTER BOOM (INCL. 5)	1
5.	7BF81520	BUSHING (PART OF 4)	4REF
6.	60106331	PIN RETAINER PLATE 3-1/2"	3
7.	72053508	GREASE ZERK 1/8NPT	2
8.	72060147	CAP SCR 5/8-11X1 HHGR5	3
9.	60030060	WEAR PAD 2X7/8	2
10.	60107550	LOCK PLATE	2
11.	72063051	WASHER 3/8 LOCK	4
12.	72060044	CAP SCR 3/8-16X3/4 HHGR5	4
13.	52704431	PIN	1

NOTE

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



**OUTER CYLINDER-FROM 3-1-97
(3C078970)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	4C224850	CASE (INCL:20-22)	1
2.	4G224850	ROD (INCL:20,22)	1
3.	73054242	VALVE 25GPM	1
4.	6C150030	STOP TUBE	1
5.	6C300030	STOP TUBE	1
6.	6H050030	HEAD	1
7.	6I050181	PISTON	1
8.	9C010960	SEAL KIT (INCL:9-18)	1
9.	7T61N181	LOCK RING SEAL (PART OF 8)	1REF
10.	7T66P500	PISTON SEAL (PART OF 8)	1REF
12.	7T2N4050	WEAR RING (PART OF 8)	2REF
13.	6A025030	WAFER LOCK (PART OF 8)	1REF
14.	7Q072350	O-RING (PART OF 8)	1REF
15.	7Q10P350	BACK-UP RING (PART OF 8)	1REF
16.	7R546030	ROD SEAL (PART OF 8)	1REF
17.	7R14P030	ROD WIPER (PART OF 8)	1REF
18.	7T2N8032	WEAR RING (PART OF 8)	1REF
19.	7BF81520	BUSHING (PART OF 2)	1REF

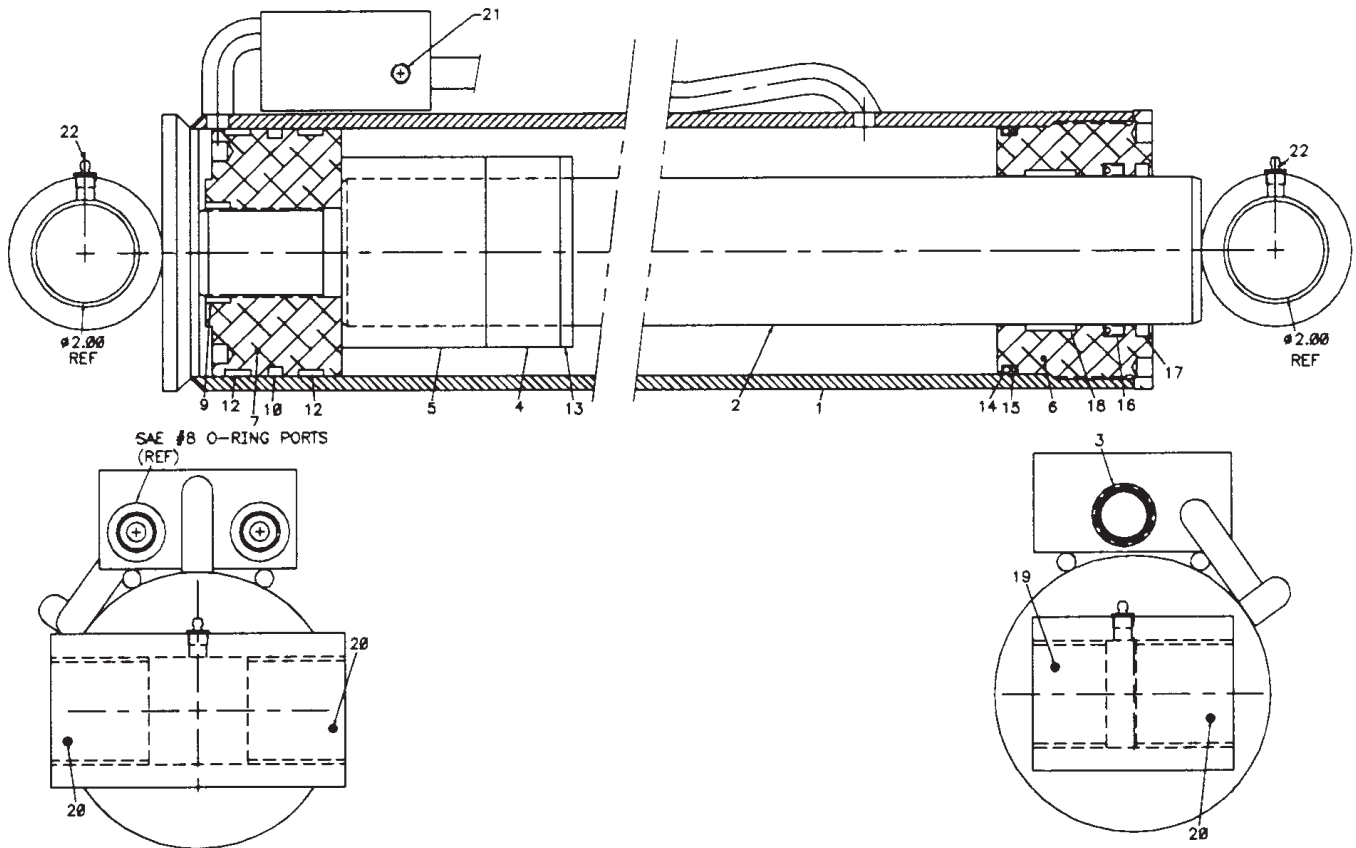
20.	7BF82020	BUSHING (PART OF 1&2)	3REF
21.	7PNPXT02	PIPE PLUG 1/8 (PART OF 1)	3REF
22.	72053507	ZERK 1/4-28 (PART OF 1&2)	2REF

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.



OUTER CYLINDER-TO 3-1-97 (3C224850)

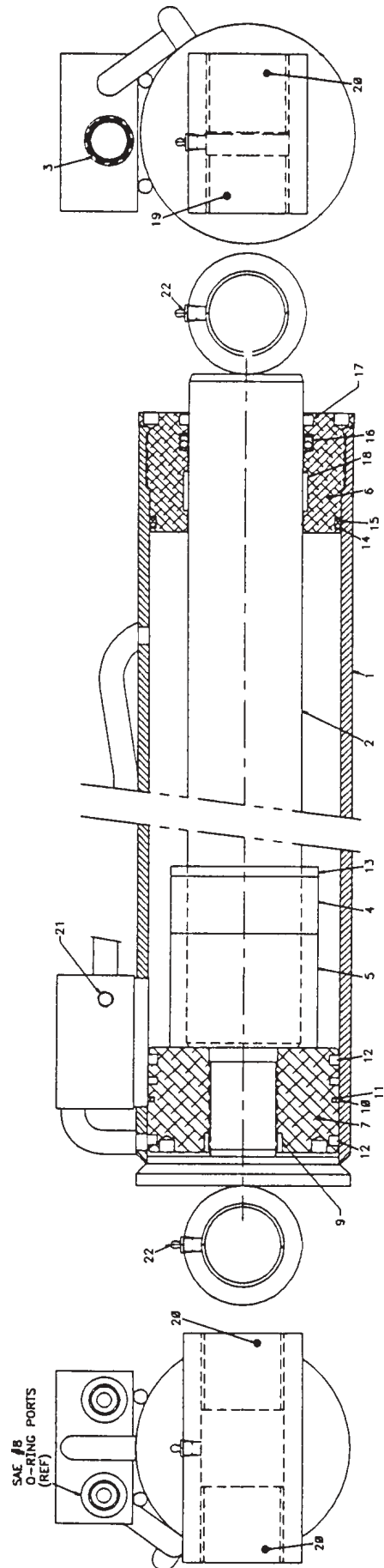
ITEM	PART NO.	DESCRIPTION	QTY
1.	4C224850	CASE (INCL:20-22)	1
2.	4G224850	ROD (INCL:20,22)	1
3.	73054242	VALVE 25GPM	1
4.	6C150030	STOP TUBE	1
5.	6C300030	STOP TUBE	1
6.	6H050030	HEAD	1
7.	6I050181	PISTON	1
8.	9C202429	SEAL KIT (INCL:9-18)	1
9.	7T61N181	LOCK RING SEAL (PART OF 8)	1REF
10.	7T66P500	PISTON SEAL (PART OF 8)	1REF
11.	7Q072157	O-RING (PART OF 8)	1REF
12.	7T65I050	PISTON RING (PART OF 8)	2REF
13.	6A025030	WAFER LOCK (PART OF 8)	1REF
14.	7Q072350	O-RING (PART OF 8)	1REF
15.	7Q10P350	BACK-UP RING (PART OF 8)	1REF
16.	7R546030	ROD SEAL (PART OF 8)	1REF
17.	7R14P030	ROD WIPER (PART OF 8)	1REF
18.	7T2N8032	WEAR RING (PART OF 8)	1REF
19.	7BF81520	BUSHING (PART OF 2)	1REF
20.	7BF82020	BUSHING (PART OF 1&2)	3REF
21.	7PNPXT02	PIPE PLUG 1/8 (PART OF 1)	3REF
22.	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.

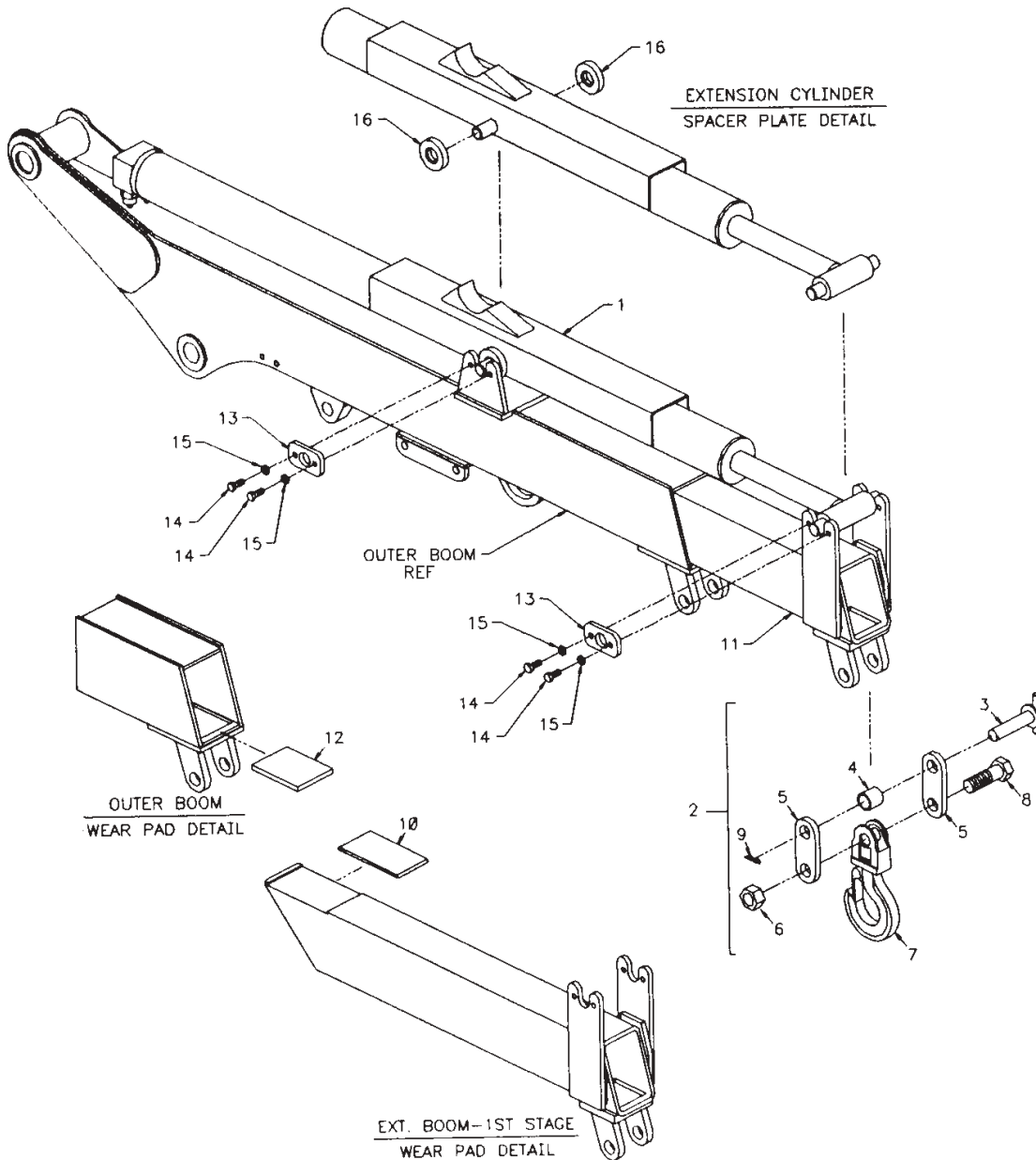
APPLY "LUBRIPLATE #630-2" MEDIUM HEAVY, MULTI-PURPOSE LUBRICANT OR EQUIVALENT TO ALL PISTON AND HEAD GLANDS, LOCK RING AND ROD THREADS BEFORE ASSEMBLY.

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



EXT BOOM ASM-1H (41709699)

ITEM PART	DESCRIPTION	QTY
1. 3B099910	EXTENSION CYLINDER	1
2. 51706200	HOOK ASM 8-TON SW (INCL:3-9)	1
3. 52070151	PIN (PART OF 2)	1REF
4. 60108902	PIPE (PART OF 2)	1REF
5. 60107324	HOOK LINK (PART OF 2)	2REF
6. 72062073	NUT 1-1/4-7 LOCK (PART OF 2)	1REF
7. 60103575	HOOK 8-TON (PART OF 2)	1REF
8. 72601666	CAP SCR 1-1/4-7X4 HHGR5 (PART OF 2)	1REF
9. 72066145	HAIR PIN (PART OF 2)	1REF
10. 60030118	WEAR PAD	1
11. 52709681	EXTENSION BOOM - 1ST STG	1
12. 60030119	WEAR PAD	1
13. 60107152	CYL RETAINING PLATE	4
14. 72060092	CAP SCR 1/2-13X1-1/4 HHGR5	8
15. 72063053	WASHER 1/2 LOCK	8
16. 60113933	SPACER	2



1-STG EXT CYLINDER (3B099910)

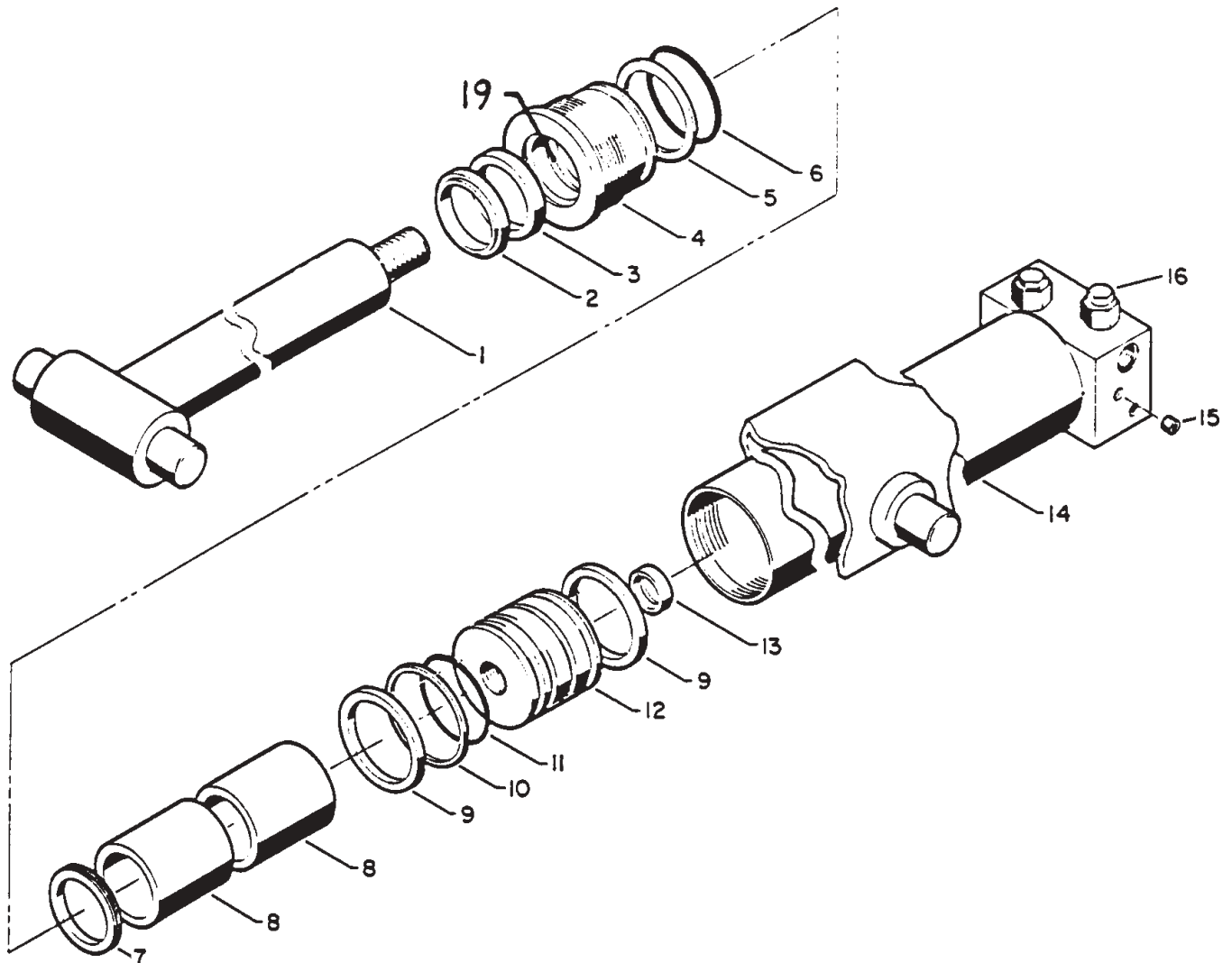
ITEM	PART	DESCRIPTION	QTY
1.	4G099910	ROD	1
2.	7R14P020	ROD WIPER (PART OF 18)	1REF
3.	7R546020	ROD SEAL (PART OF 18)	1REF
4.	6H030020	HEAD	1
5.	7Q10P334	BACK-UP RING (PART OF 18)	1REF
6.	7Q072334	O-RING (PART OF 18)	1REF
7.	6A025020	WAFER LOCK (PART OF 18)	1REF
8.	6C300020	STOP TUBE	2
9.	7T65I030	PISTON RING (PART OF 18)	2REF
10.	7T66P030	PISTON SEAL (PART OF 18)	1REF
11.	7Q072145	O-RING (PART OF 18)	1REF
12.	6I030106	PISTON	1
13.	7T61N106	LOCK RING SEAL (PART OF 18)	1REF
14.	4B099910	CASE (INCL: 15)	1
15.	7PNPXT02	PLUG 1/8NPT (PART OF 14)	6REF
16.	73054304	COUNTER BALANCE VALVE	2
17.	5M126820	SADDLE (WELDED TO 14)	1
18.	9C121617	SEAL KIT (INCL:2,3,5-7,9-11,13,15,19)	1
19.	7T2N4022	WEAR RING-ROD(PART OF 18)	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.

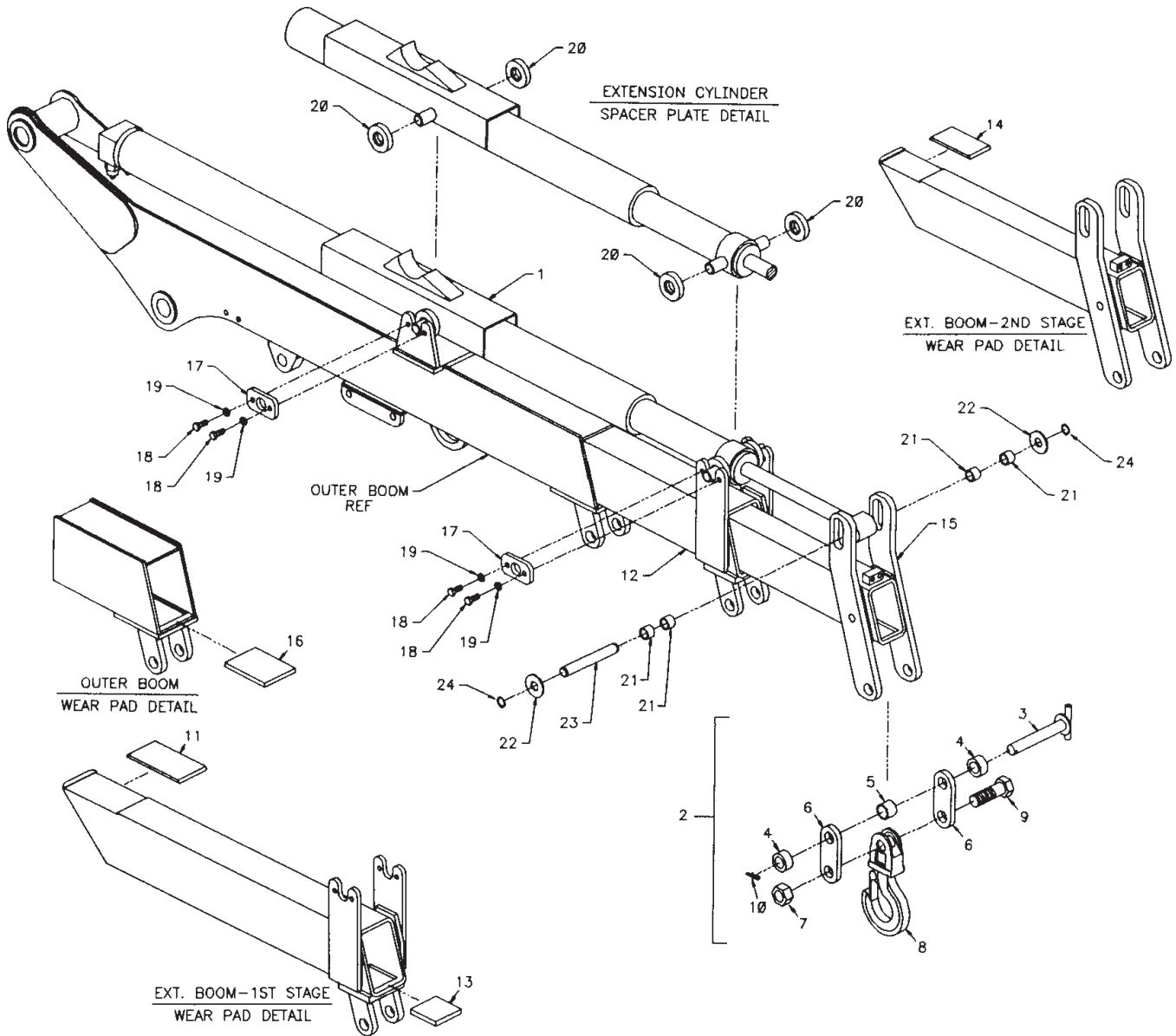
USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.



EXT BOOM ASM-2H (41709700)

ITEM	PART NO.	DESCRIPTION	QTY
1.	3K120850	EXTENSION CYLINDER	1
2.	51706266	HOOK ASM 8-TON (INCL:3-10)	1
3.	52705801	PIN (PART OF 2)	1REF
4.	60102466	SLEEVE (PART OF 2)	2REF
5.	60108857	SLEEVE (PART OF 2)	1REF
6.	60107324	HOOK LINK (PART OF 2)	2REF
7.	72062073	NUT 1-1/4-7 LOCK (PART OF 2)	1REF
8.	70734177	HOOK 7-TON (PART OF 2) (WAS 60103575)	1REF
9.	72601666	CAP SCR 1-1/4-7X4 HHGR5 (PART OF 2)	1REF
10.	72066145	HAIR PIN (PART OF 2)	1REF

11.	60030118	WEAR PAD	1
12.	52709681	1ST STG EXT BOOM	1
13.	60030123	WEAR PAD	1
14.	60030122	WEAR PAD	1
15.	52709682	2ND STG EXT BOOM	1
16.	60030119	WEAR PAD	1
17.	60107152	PLATE	4
18.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	8
19.	72063053	WASHER 1/2 LOCK	8
20.	60113933	SPACER	4
21.	60020197	ROLLER	4
22.	72063010	WASHER 1 WRT	2
23.	60106833	PIN	1
24.	72066125	RETAINING RING 1" EXT HD	2



2-STG EXT CYLINDER (3K120850)

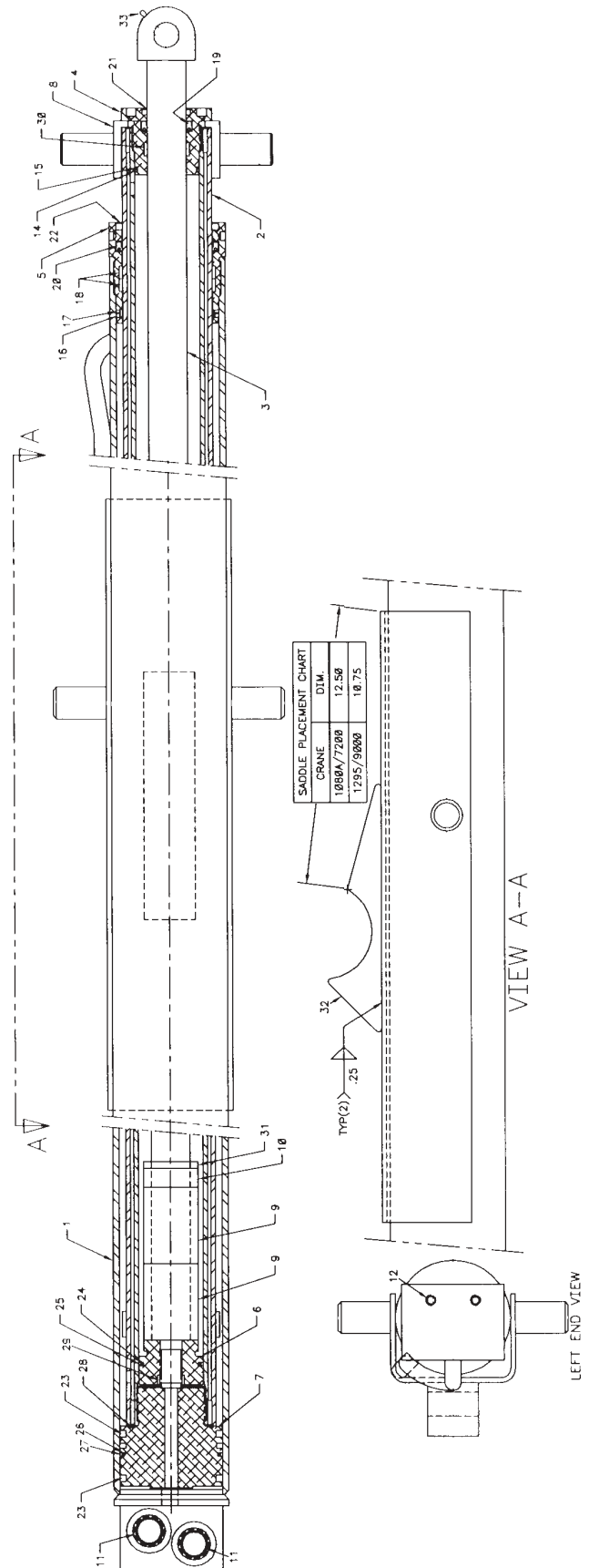
ITEM	PART NO.	DESCRIPTION	QTY
1.	4K120850	CASE	1
2.	4H120850	INNER CASE	1
3.	4G120850	ROD (INCL:33)	1
4.	6H271511	HEAD	1
5.	6H112820	HEAD	1
6.	6I025087	PISTON	1
7.	6I095850	PISTON	1
8.	4FG12085	MOUNTING RING	1
9.	6C300015	STOP TUBE	2
10.	6C075015	STOP TUBE	1
11.	73054242	COUNTER BALANCE VALVE	2
12.	7PNPXT02	PLUG 1/8NPT (PART OF 1)	8REF
13.	9X095850	SEAL KIT (INCL:14-31)	1
14.	7Q072228	O-RING (PART OF 13)	1REF
15.	7Q10P228	BACK-UP RING (PART OF 13)	1REF
16.	7Q072342	O-RING (PART OF 13)	1REF
17.	7Q10P342	BACK-UP RING (PART OF 13)	1REF
18.	7T2N4037	WEAR RING (PART OF 13)	1REF
19.	7R546015	ROD SEAL (PART OF 13)	1REF
20.	7R546035	ROD SEAL (PART OF 13)	1REF
21.	7R14P015	ROD WIPER (PART OF 13)	1REF
22.	7R14P035	ROD WIPER (PART OF 13)	1REF
23.	7T65I040	PISTON RING (PART OF 13)	2REF
24.	7Q072137	O-RING (PART OF 13)	1REF
25.	7T66P025	PISTON SEAL (PART OF 13)	1REF
26.	7Q072153	O-RING (PART OF 13)	1REF
27.	7T66P040	PISTON SEAL (PART OF 13)	1REF
28.	7Q072147	O-RING (PART OF 13)	1REF
29.	7T61N087	LOCK RING SEAL (PART OF 13)	1REF
30.	7T2N8015	WEAR RING (PART OF 13)	1REF
31.	6A025015	WAFFER LOCK (PART OF 13)	1REF
32.	5M126820	SADDLE	1
33.	72053507	ZERK 1/8NPT (PART OF 3)	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.

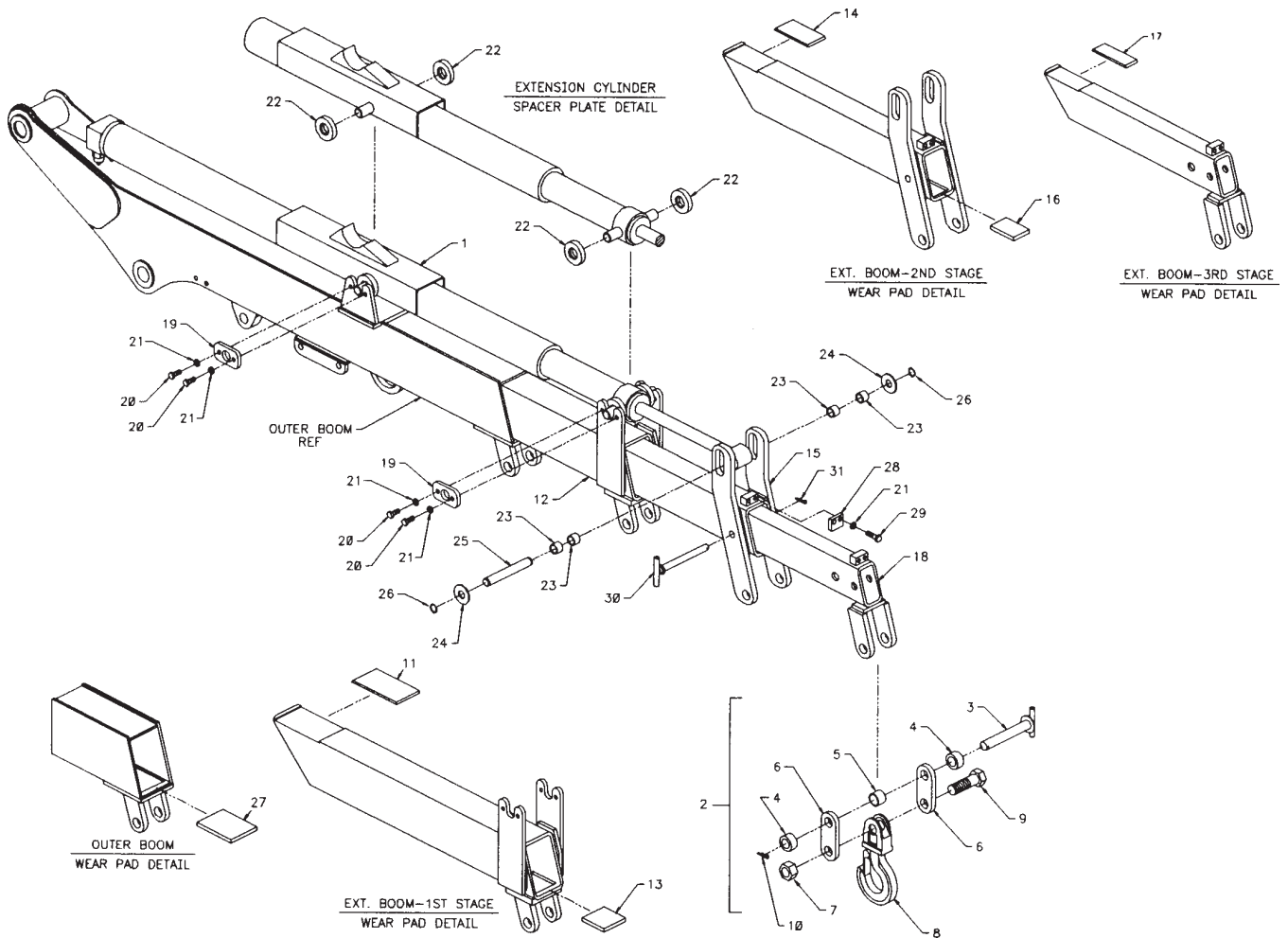
USE "NEVER-SEEZ" OR EQUIVALENT BETWEEN THE HEAD AND THE CASE WHEN ASSEMBLING THE CYLINDER.



EXT BOOM ASM-2H1M (41709701)

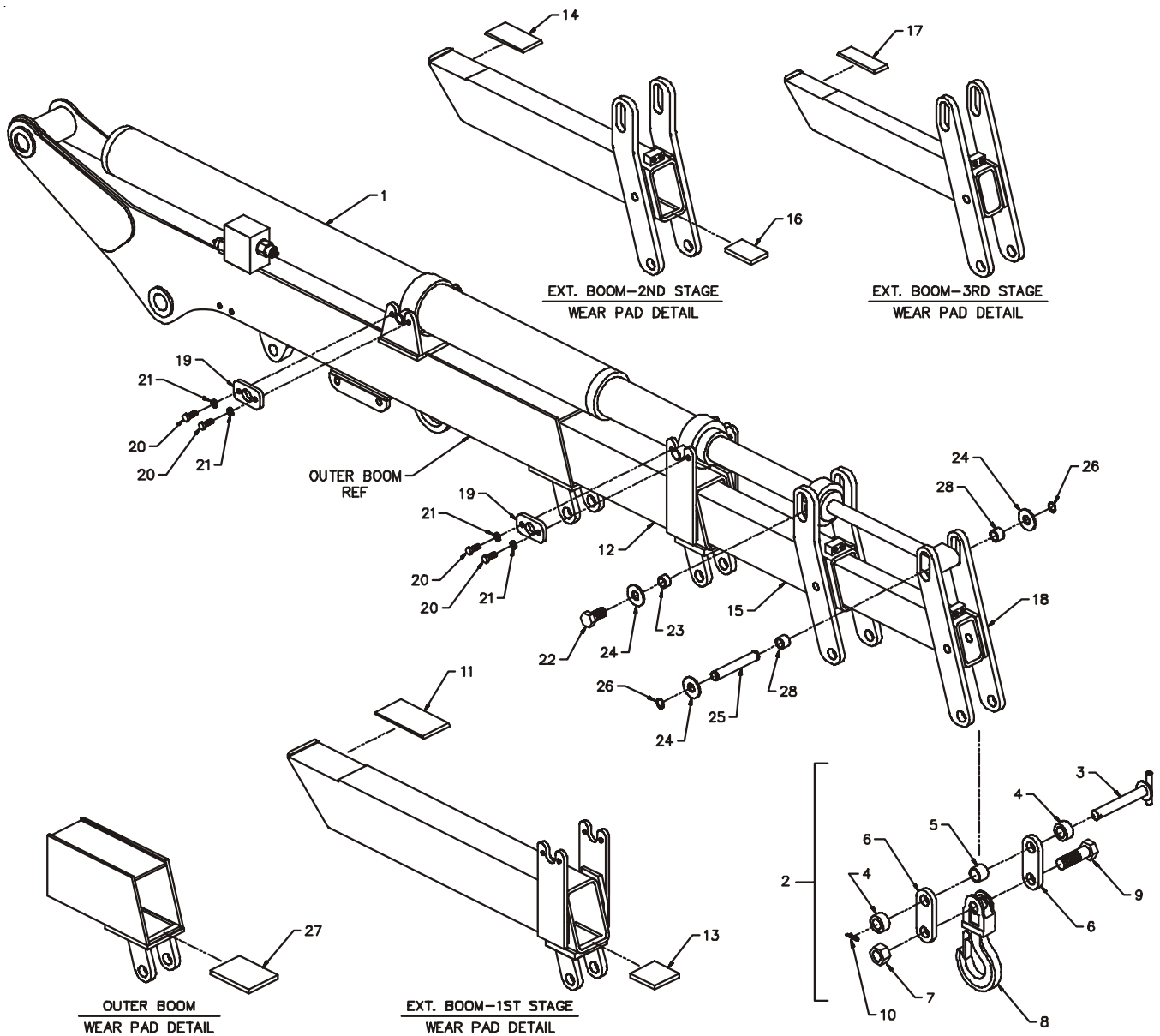
ITEM	PART NO.	DESCRIPTION	QTY
1.	3K120850	EXTENSION CYLINDER	1
2.	51706266	HOOK ASM 7-TON (INCL:3-10)	1
3.	52705801	PIN (PART OF 2)	1REF
4.	60102466	SLEEVE (PART OF 2)	2REF
5.	60108857	SLEEVE (PART OF 2)	1REF
6.	60107324	LINK (PART OF 2)	2REF
7.	72062073	NUT 1 1/4-7 LOCK (PART OF 2)	1REF
8.	70734177	HOOK 7-TON (PART OF 2) (WAS 60103575)	1REF
9.	72601666	CAP SCR 1 1/4-7X4 HHGR5 (PART OF 2)	1REF
10.	72066145	HAIR PIN (PART OF 2)	1REF
11.	60030118	WEAR PAD	1
12.	52709681	1ST STG EXT BOOM	1
13.	60030123	WEAR PAD	1

14.	60030122	WEAR PAD	1
15.	52709682	2ND STG EXT BOOM	1
16.	60030202	WEAR PAD	1
17.	60030203	WEAR PAD	1
18.	52709683	3RD STG EXT BOOM - MANUAL	1
19.	60107152	PLATE	4
20.	72060092	CAP SCR 1/2-13X1-1/4 HHGR5	8
21.	72063053	WASHER 1/2 LOCK	10
22.	60113933	SPACER	4
23.	60020197	ROLLER	4
24.	72063010	WASHER 1 WRT	2
25.	60106833	PIN	1
26.	72066125	RETAINING RING 1" EXT HD	2
27.	60030119	WEAR PAD	1
28.	60107294	STROKE STOP	1
29.	72060094	CAP SCR 1/2-13X1-3/4 HHGR5	2
30.	52705802	PIN	1
31.	72066145	HAIR PIN 3/16	1



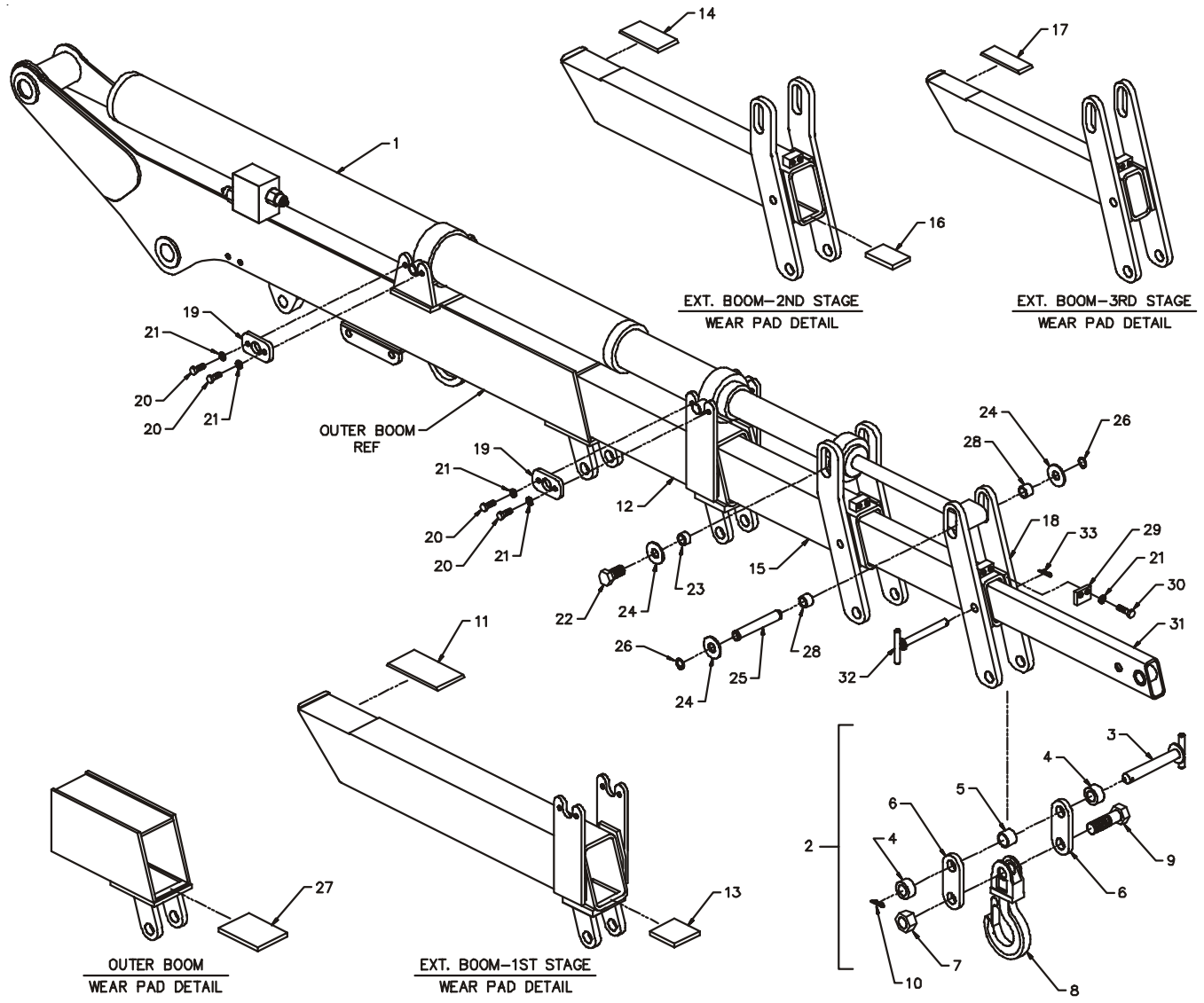
EXT BOOM ASM-3H (41709703)

1. 3K120200	EXT CYL (EFF:5-22-00)	1	13. 60030123	WEAR PAD	1
3K150920	EXT CYL (PRE:5-22-00)	1	14. 60030122	WEAR PAD	1
2. 51706266	HOOK ASM 8-TON(INCL:3-10)	1	15. 52709682	2ND STG EXT BOOM	1
3. 52705801	PIN (PART OF 2)	1REF	16. 60030202	WEAR PAD	1
4. 60102466	SLEEVE (PART OF 2)	2REF	17. 60030203	WEAR PAD	1
5. 60108857	SLEEVE (PART OF 2)	1REF	18. 52709684	3RD STG EXT BOOM	1
6. 60107324	HOOK LINK (PART OF 2)	2REF	19. 60107152	CYL RETAINING PLATE	4
7. 72062073	NUT 1-1/2-7 LOCK	1REF	20. 72060092	CAP SCR 1/2-13X1-1/4 HH GR5	8
8. 70734177	HOOK 7-TON (PART OF 2)	1REF	21. 72063053	WASHER 1/2 LOCK	8
	(WAS 60103575)		22. 72601591	CAP SCR 1-14X2 HH GR5	2
9. 72601666	CAP SCR 1-1/4-7X4 HH GR5	1REF	23. 60020198	ROLLER	2
	(PART OF 2)		24. 72063010	WASHER 1 WRT	4
10. 72066145	HAIR PIN (PART OF 2)	1REF	25. 60106065	PIN	1
11. 60030118	WEAR PAD	1	26. 72066125	RETAINING RING 1"	2
12. 52709681	1ST STG EXT BOOM	1	27. 60030119	WEAR PAD	1
			28. 60020197	ROLLER	2



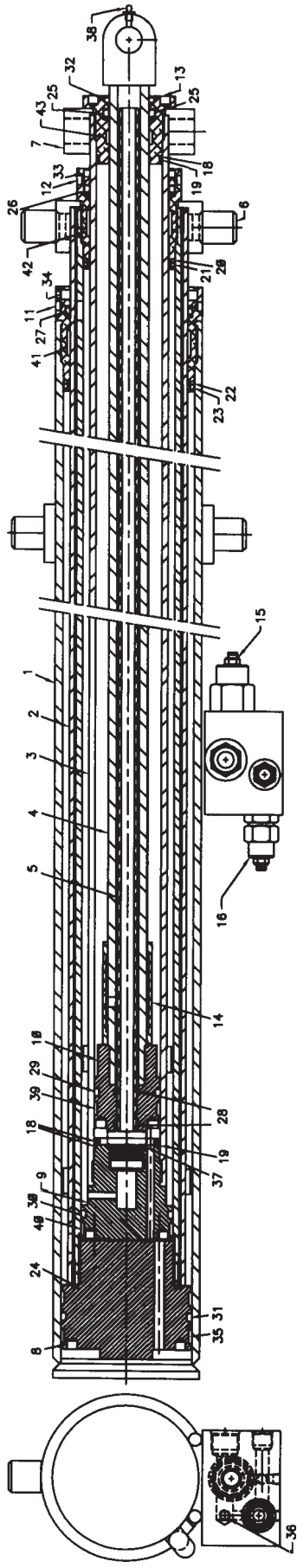
EXT BOOM ASM-3H1M (41709704)

1.	3K120200	EXT CYL (EFF:5-22-00)	1	15.	52709682	2ND STG EXT BOOM	1
	3K150920	EXT CYL (PRE:5-22-00)	1	16.	60030202	WEAR PAD	1
2.	51706266	HOOK ASM 8-TON (INCL:3-10)	1	17.	60030203	WEAR PAD	1
3.	52705801	PIN (PART OF 2)	1REF	18.	52709684	3RD STG EXT BOOM	1
4.	60102466	SLEEVE (PART OF 2)	2REF	19.	60107152	PLATE	4
5.	60108857	SLEEVE (PART OF 2)	1REF	20.	72060092	CAP SCR 1/2-13X1-1/4 HH GR5	8
6.	60107324	LINK (PART OF 2)	1REF	21.	72063053	WASHER 1/2 LOCK	10
7.	72062073	NUT 1 1/4-7 LOCK (PART OF 2)	1REF	22.	72061591	CAP SCR 1-14 X 2 HH GR5	2
8.	70734177	HOOK 7-TON (PART OF 2) (WAS 60103575)	1REF	23.	60020198	ROLLER	2
9.	72601666	CAP SCR 1 1/4-7X4 HH GR5 (PART OF 2)	1REF	24.	72063010	WASHER 1" WRT	4
10.	72066145	HAIR PIN (PART OF 2)	1REF	25.	60106065	PIN	1
11.	60030118	WEAR PAD	1	29.	60107294	STOP	1
12.	52709681	1ST STG EXT BOOM	1	27.	60030119	WEAR PAD	1
13.	60030123	WEAR PAD	1	30.	72060094	CAP SCR 1/2-13X1-3/4 HH GR5	2
14.	60030122	WEAR PAD	1	31.	52709502	4TH STG EXT BOOM	1
				32.	52705883	PIN	1
				33.	72066145	HAIR PIN	1
				26.	72066125	RETAINING RING 1" EXT HD	2
				28.	60020197	ROLLER	2



**3-STG EXT CYLINDER PRE:5-22-00
(3K150920)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	4C150920	CASE ASM	1
2.	4J148920	ROD / CASE ASM 4-1/2 OD	1
3.	4K148920	ROD / CASE ASM 3 OD	1
4.	4H066900	ROD ASM	1
5.	4P066900	INTERNAL PORT ASM	1
6.	4FG06690	MTG RING 4-1/2 ID	1
7.	5FG66900	MTG RING 3 ID	1
8.	6I503369	PISTON 5"	1
9.	6I352268	PISTON 3-1/2"	1
10.	6I252144	PISTON 2-1/2"	1
11.	6H503450	HEAD 5"	1
12.	6H352300	HEAD 3-1/2"	1
13.	6H271511	HEAD 2-1/2"	1
14.	6C400150	STOP TUBE 1-1/2 X 4L	1
15.	73054817	COUNTERBALANCE VALVE	1
16.	73054902	COUNTERBALANCE VALVE	1
17.	9X355900	SEAL KIT (INCL:18-35,39-43)	1
18.	7Q10P228	BACK-UP RING (PART OF 17)	3REF
19.	7Q072228	O-RING (PART OF 17)	2REF
20.	7Q10P338	BACK-UP RING (PART OF 17)	1REF
21.	7Q072338	O-RING (PART OF 17)	1REF
22.	7Q10P350	BACK-UP RING (PART OF 17)	1REF
23.	7Q072350	O-RING (PART OF 17)	1REF
24.	7Q072240	O-RING (PART OF 17)	1REF
25.	7R546015	U-CUP SEAL (PART OF 17)	1REF
26.	7R546030	U-CUP SEAL (PART OF 17)	1REF
27.	7R488450	U-CUP SEAL (PART OF 17)	1REF
28.	7R100750	U-CUP SEAL (PART OF 17)	3REF
29.	7T66P250	PISTON SEAL (PART OF 17)	1REF
30.	7T66P350	PISTON SEAL (PART OF 17)	1REF
31.	7T66P500	PISTON SEAL (PART OF 17)	1REF
32.	7R14P015	ROD WIPER (PART OF 17)	1REF
33.	7R14P030	ROD WIPER (PART OF 17)	1REF
34.	7R14P045	ROD WIPER (PART OF 17)	1REF
35.	7T2N4050	WEAR RING (PART OF 17)	2REF
36.	7PNPXT02	PLUG 1/8NPT (PART OF 1)	4REF
37.	7Q092916	O-RING (PART OF 5)	1REF
38.	72053507	ZERK 1/4-28	1
39.	7T2N4025	WEAR RING (PART OF 17)	1REF
40.	7T2N4035	WEAR RING (PART OF 17)	1REF
41.	7T2N8047	ROD WEAR RING (PART OF 17)	1REF
42.	7T2N8032	ROD WEAR RING (PART OF 17)	1REF
43.	7T2N8015	ROD WEAR RING (PART OF 17)	1REF



NOTE

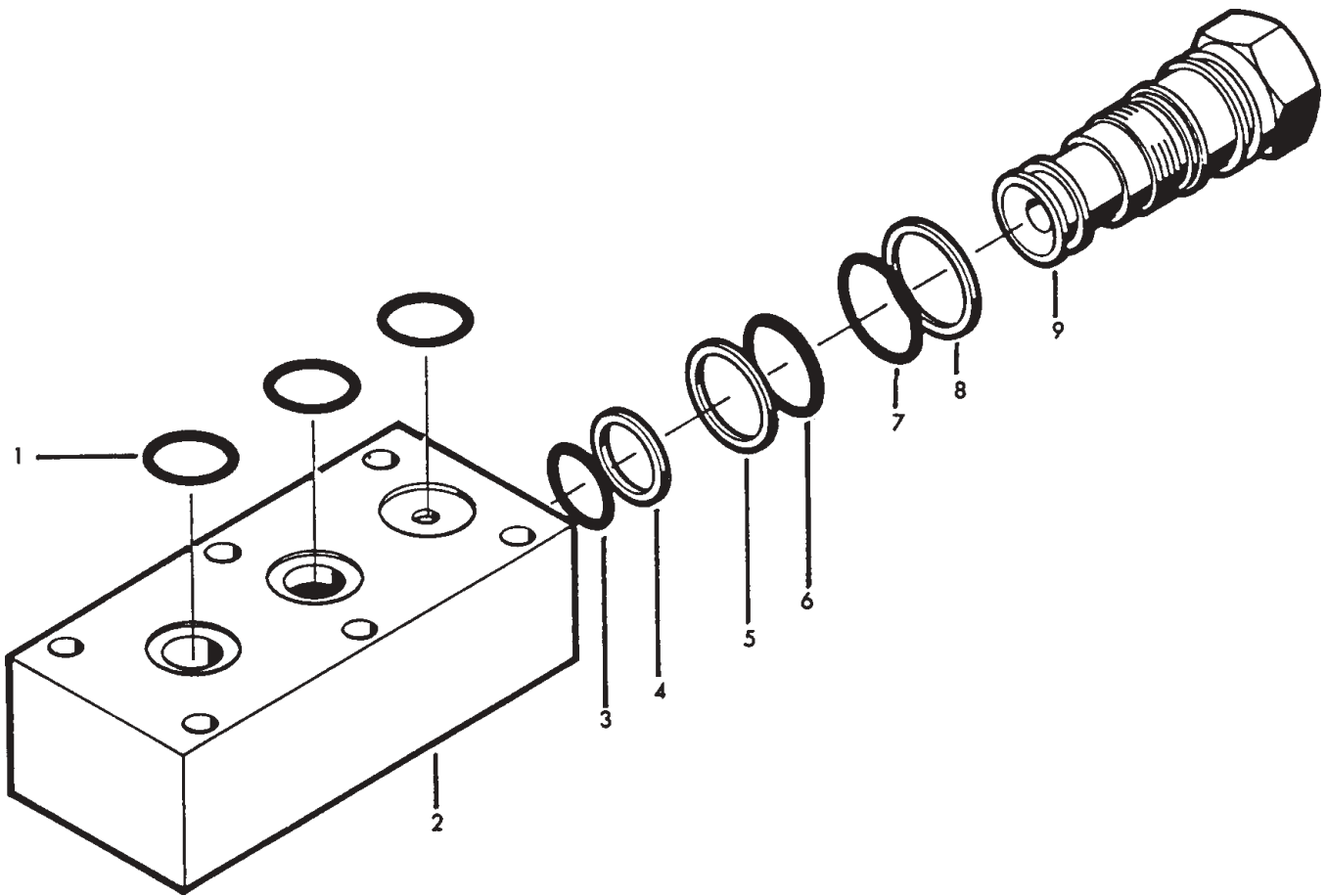
IT IS RECOMMENDED THAT ALL COMPONENTS OF THE SEAL KIT BE REPLACED WHENEVER THE CYLINDER IS DISASSEMBLED. THIS WILL REDUCE FUTURE DOWNTIME.

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.

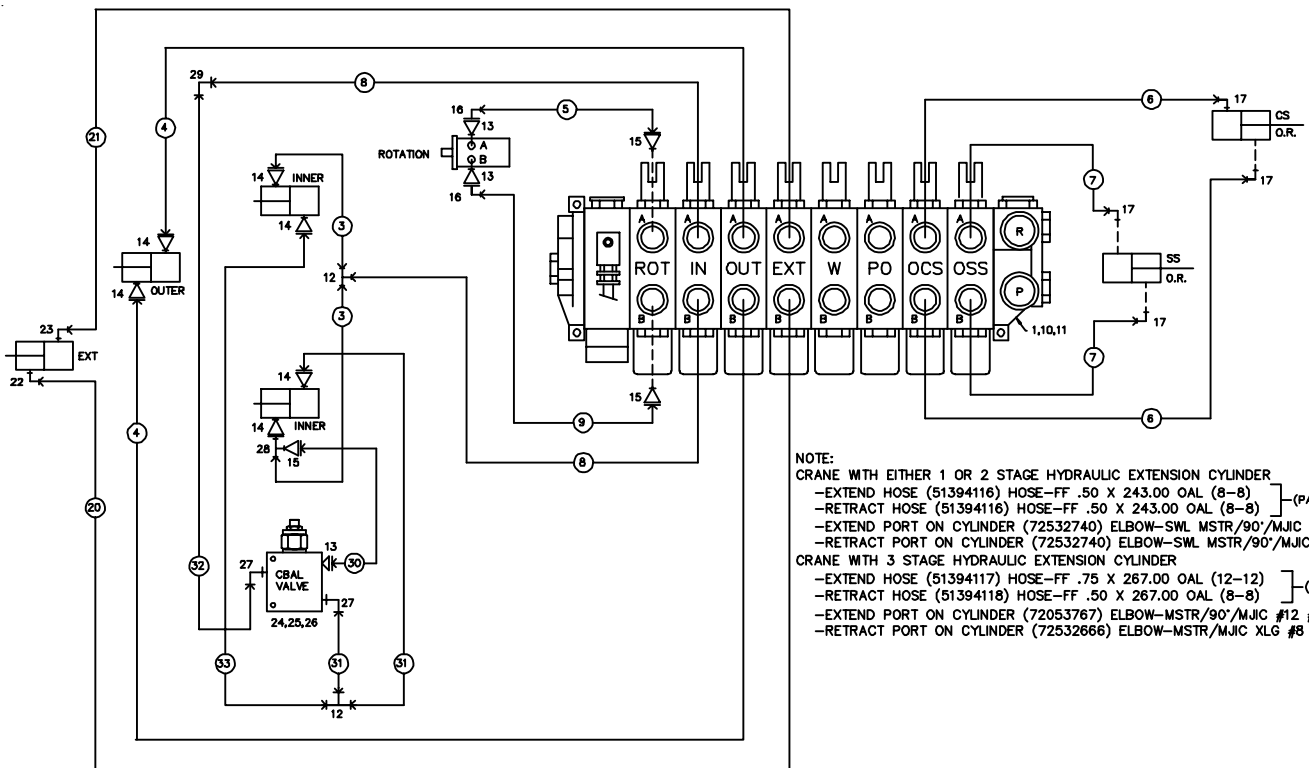
LOCKING/HOLDING VALVE (73054004)

ITEM	PART NO.	DESCRIPTION	QTY
1.	7Q072014	O-RING	3
2.		VALVE BLOCK	
		(ORDER COMPLETE VALVE - ITEM 10)	1
3.	7Q072015	O-RING	1
4.	7Q10P015	BACK-UP RING	1
5.	7Q10P017	BACK-UP RING	1
6.	7Q072017	O-RING	1
7.	7Q072018	O-RING	1
8.	7Q10P018	BACK-UP RING	1
9.		VALVE BODY	
		(ORDER COMPLETE VALVE - ITEM 10)	1
10.	73054004	VALVE (INCL. ITEMS 1-9)	1



HYD KIT-6 SECT (91706401)

1.	VALVEBANK ASM	1REF	17.	72532779	ELBOW #6MSTR #8MJIC XLG	4	
2.	51716375	HOSE KIT (INCL:3-9,30-33)	1	18.	51713020	HOSE KIT:1-2STG EXT(INC:20-21)	1
3.	51394110	HOSE ASM 3/8X34 #8F #8F	2REF	19.	51713021	HOSE KIT:3 STG EXT(INCL:20-21)	1
4.	51394111	HOSE ASM 3/8X147 #8F #8F	2REF	20.		HOSE-SEE NOTE	1REF
5.	51393971	HOSE ASM 1/4X57 #4F #4F	1REF	21.		HOSE-SEE NOTE	1REF
6.	51394112	HOSE ASM 3/8X83 #8F #8F	2REF	22.		HYD FTG-SEE NOTE	1REF
7.	51394113	HOSE ASM 3/8X113 #8F #8F	2REF	23.		HYD FTG-SEE NOTE	1REF
8.	51394114	HOSE ASM 3/8X45 #8F #8F	2REF	24.	73540061	C'BAL VALVE	1
9.	51394115	HOSE ASM 1/4X59 #4F #4F	1REF	25.	72060008	CAP SCR 1/4-20X2 HHGR5	2
10.	72060032	CAP SCR 5/16-18X2-3/4 HHGR5	3	26.	72063049	WASHER 1/4 LOCK	2
11.	72062109	NUT 5/16-18 LOCK	3	27.	72053763	ELBOW #8MSTR #8MJIC 90°	2
12.	72531205	TEE 3/4MJIC 1/2TUBE	2	28.	72532657	TEE #8JIC SWVLNUTRUN	1
13.	72532351	ADAPTER #4MSTR #4MJIC	3	29.	72533663	ELBOW #8MJIC #8MJIC 90°	1
14.	72532358	ADAPTER #8MSTR #8MJIC	6	30.	51395859	HOSE-FJ .25X13 #4#4 (PO 2)	1REF
15.	72532665	ADAPTER #4MJIC #8FJIC	3	31.	51394424	HOSE-FF .38X12 #8#8 (PO 2)	2REF
16.	72532690	ELBOW #4MJIC #4FJIC SW	2	32.	51393922	HOSE-FF .38X26 #8#8 (PO 2)	1REF
				33.	51394399	HOSE-FF .38X49 #8#8 (PO 2)	1REF

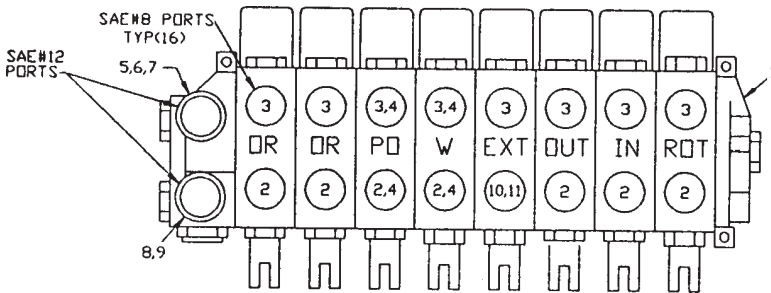


NOTE:
 CRANE WITH EITHER 1 OR 2 STAGE HYDRAULIC EXTENSION CYLINDER
 -EXTEND HOSE (51394116) HOSE-FF .50 X 243.00 OAL (8-8)]-(PART OF 18)
 -RETRACT HOSE (51394116) HOSE-FF .50 X 243.00 OAL (8-8)
 -EXTEND PORT ON CYLINDER (72532740) ELBOW-SWL MSTR/90°/MJIC #8 #8
 -RETRACT PORT ON CYLINDER (72532740) ELBOW-SWL MSTR/90°/MJIC #8 #8
 CRANE WITH 3 STAGE HYDRAULIC EXTENSION CYLINDER
 -EXTEND HOSE (51394117) HOSE-FF .75 X 267.00 OAL (12-12)]-(PART OF 19)
 -RETRACT HOSE (51394118) HOSE-FF .50 X 267.00 OAL (8-8)
 -EXTEND PORT ON CYLINDER (72053767) ELBOW-MSTR/90°/MJIC #12 #12
 -RETRACT PORT ON CYLINDER (72532666) ELBOW-MSTR/MJIC XLG #8 #8

VB ASM-8 SECT MNL (51705853)

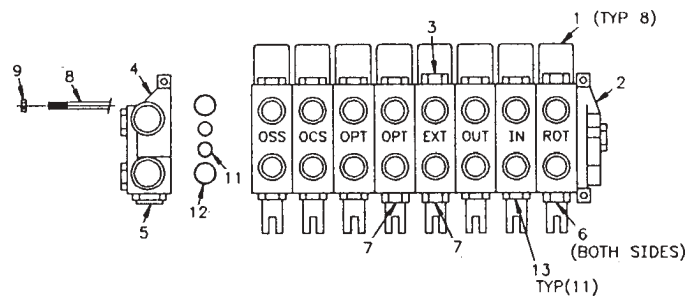
ITEM	PART NO.	DESCRIPTION	QTY
1.	73731768	VALVEBANK 8-SECT	1
2.	72053763	ELBOW #8MSTR#8MJIC 90°	7
3.	72532666	ELBOW #8MSTR#8MJIC 90°XLG	8
4.	72532675	CAP 3/4JIC STL	4
5.	60106322	ELBOW-PR GAUGE MOD	1
6.	72532669	ADAPTER #8MJIC #10FJIC	1
7.	72053241	PIPE PLUG 1/4NPT HOL HEX	1
8.	72053747	ADAPTER #12MSTR 3/4FPT	1
9.	72053556	STREET ELBOW 3/4NPT 90°	1
10.	72532364	ADAPTER #8MSTR #12MJIC	1
11.	72532696	ELBOW #12MJIC #12FJIC SWVL	1

NOTE:
SET SYSTEM PRESSURE AT 2500PSI.



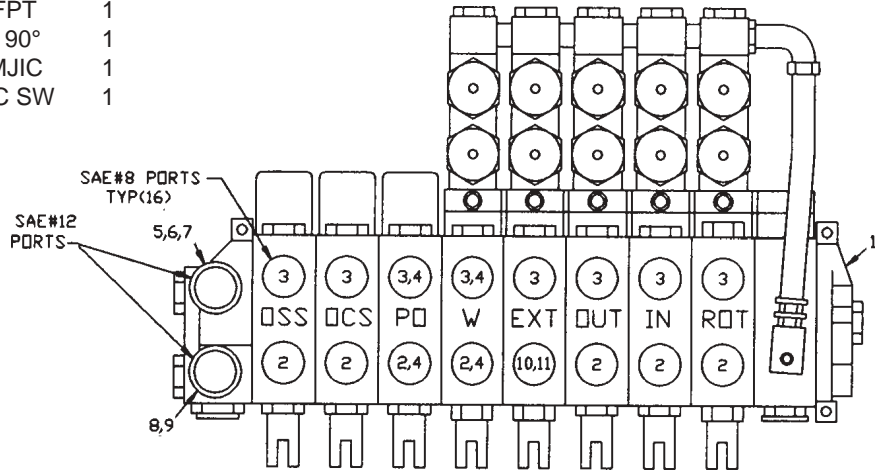
VALVEBANK (73731768)

ITEM	PART NO.	DESCRIPTION	QTY
1.	73054432	VALVE SECT V20 4WAY SAE8	8
2.	73731241	END COVER RH W/CONV PLUG	1
3.	73054400	RELIEF 2300PSI NON-ADJ	1
4.	73731424	END COVER LH (INCL:5)	1
5.	73054673	RELIEF VALVE (PART OF 4)	1REF
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 ASM	11



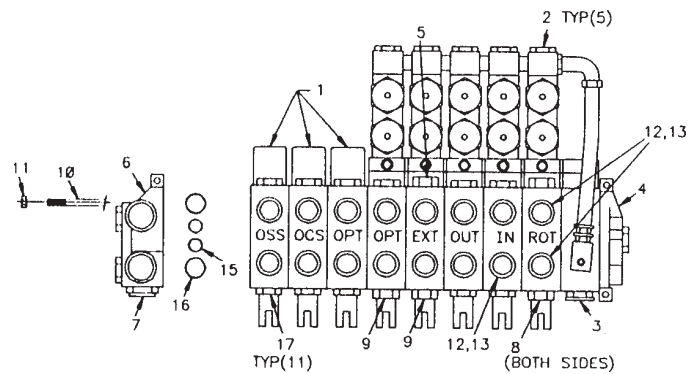
VB ASM-5R/3M (51705935)

ITEM	PART NO.	DESCRIPTION	QTY
1.	51705934	VALVEBANK 5R/3M	1
2.	72053763	ELBOW #8MSTR#8MJIC 90°	7
3.	72532666	ELBOW #8MSTR#8MJIC 90°XLG	8
4.	72532675	CAP 3/4JIC STL	4
5.	60106322	ELBOW-PR GAUGE MOD	1
6.	72532669	ADAPTER #8MJIC #10FJIC	1
7.	72053241	PIPE PLUG 1/4 HOLHEX	1
8.	72053747	ADAPTER #12MSTR 3/4FPT	1
9.	72053556	STREET ELBOW 3/4NPT 90°	1
10.	72532364	ADAPTER #8MSTR #12MJIC	1
11.	72532696	ELBOW #12MJIC #12FJIC SW	1



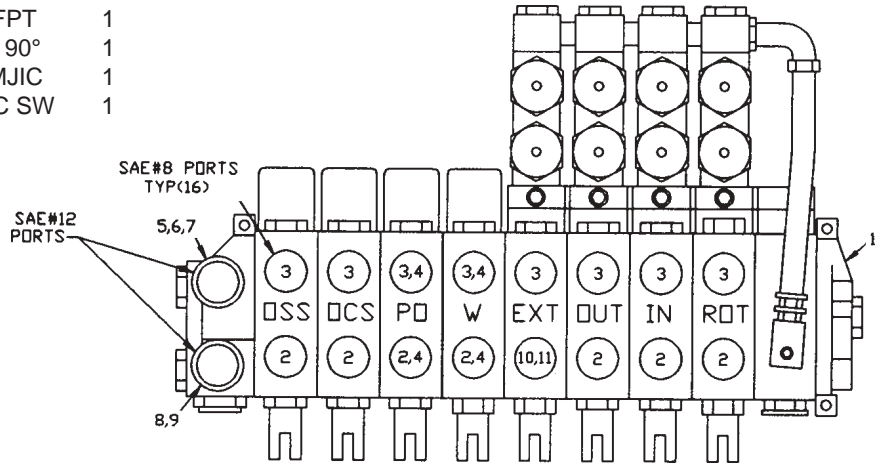
VALVEBANK (51705934)

ITEM	PART NO.	DESCRIPTION	QTY
1.	73054432	VALVE SECT V20 4WAY SAE8	3
2.	73054468	VALVE SECT V20R 4WAY SAE8	5
3.	73054502	VALVE SECT V20R UTILITY	1
4.	73731241	END COVER RH W/CONV PLUG	1
5.	73054400	RELIEF 2300PSI NON-ADJ	1
6.	73731424	END COVER LH (INCL:7)	1
7.	73054673	RELIEF VALVE (PART OF 6)	1REF
8.	73054516	RELIEF 1300PSI NON-ADJ	2
9.	73054007	RELIEF 1800PSI NON-ADJ	2
10.	73014672	STUD 3/8X18-3/4	3
11.	72062037	NUT 3/8-24 HEX	6
12.	70142402	ORIFICE PLATE	3
13.	70142403	SPRING	3
14.	51393494	O-RING KIT	REF
15.	7Q072117	O-RING	20
16.	7Q072119	O-RING	20
17.	73054010	LOAD CHECK PLUG ASM	11



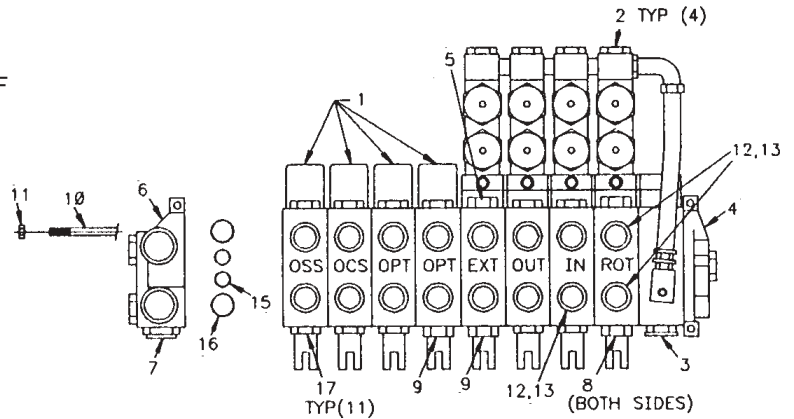
VB-4R/4M (51706377)

ITEM	PART NO.	DESCRIPTION	QTY
1.	51706376	VALVEBANK 8-SECT 4R/4M	1
2.	72053763	ELBOW #8MSTR#8MJIC 90°	7
3.	72532666	ELBOW #8MSTR#8MJIC 90°XLG	8
4.	72532675	CAP 3/4JIC STL	4
5.	60106322	ELBOW-PR GAUGE MOD	1
6.	72532669	ADAPTER #8MJIC #10FJIC	1
7.	72053241	PIPE PLUG 1/4NPT HOLHEX	1
8.	72053747	ADAPTER #12MSTR 3/4FPT	1
9.	72053556	STREET ELBOW 3/4NPT 90°	1
10.	72532364	ADAPTER #8MSTR #12MJIC	1
11.	72532696	ELBOW #12MJIC #12FJIC SW	1



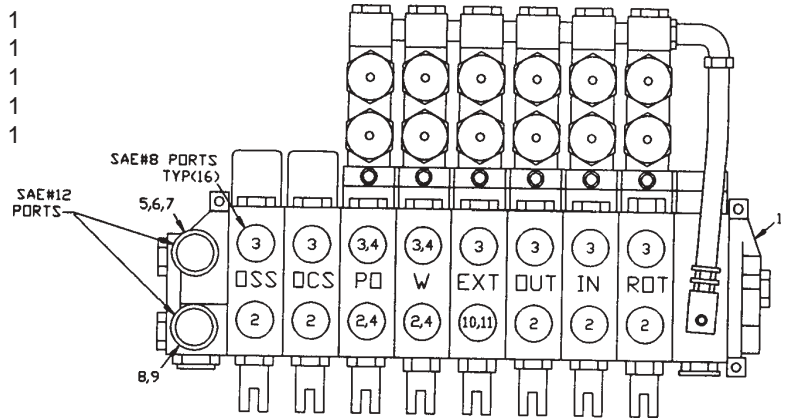
VALVEBANK (51706376)

ITEM	PART NO.	DESCRIPTION	QTY
1.	73054432	VALVE SECT V20 4WAY SAE8	4
2.	73054468	VALVE SECT V20R 4WAY SAE8	4
3.	73054502	VALVE SECT V20R UTILITY	1
4.	73731241	END COVER RH W/CONV PLUG	1
5.	73054400	RELIEF 2300PSI NON-ADJ	1
6.	73731424	END COVER LH (INCL:7)	1
7.	73054673	RELIEF VALVE (PART OF 6)	1REF
8.	73054516	RELIEF 1300PSI NON-ADJ	2
9.	73054007	RELIEF 1800PSI NON-ADJ	2
10.	73014672	STUD 3/8X18-3/4	3
11.	72062037	NUT 3/8-24 HEX	6
12.	70142402	ORIFICE PLATE	3
13.	70142403	SPRING	3
14.	51393494	O-RING KIT	REF
15.	7Q072117	O-RING	20
16.	7Q072119	O-RING	20
17.	73054010	LOAD CHECK PLUG ASM	11



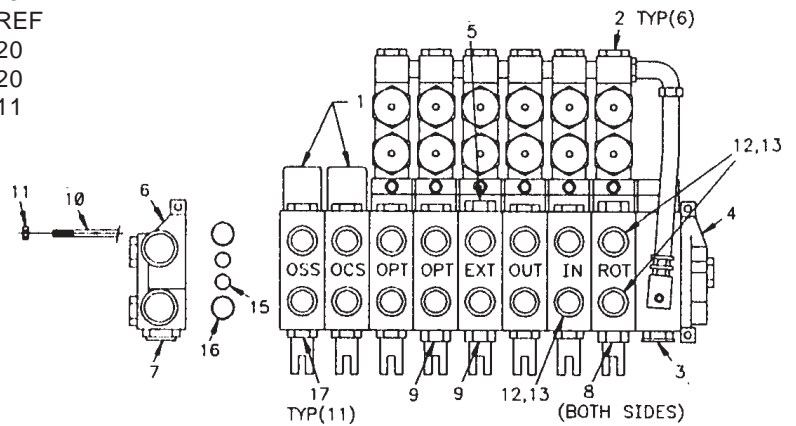
VB ASM-6R/2M (51706389)

ITEM	PART NO.	DESCRIPTION	QTY
1.	51706378	VALVEBANK 6R/2M	1
2.	72053763	ELBOW #8MSTR#8MJIC 90°	7
3.	72532666	ELBOW #8MSTR#8MJIC XLG90°	8
4.	72532675	CAP 3/4JIC STL	4
5.	60106322	ELBOW-PR GAUGE MOD	1
6.	72532669	ADAPTER #8MJIC #10FJIC	1
7.	72053241	PIPE PLUG 1/4NPT HOLHEX	1
8.	72053747	ADAPTER #12MSTR 3/4FPT	1
9.	72053556	STREET ELBOW 3/4NPT 90°	1
10.	72532364	ADAPTER #8MSTR #12MJIC	1
11.	72532696	ELBOW #12MJIC #12FJIC SW	1



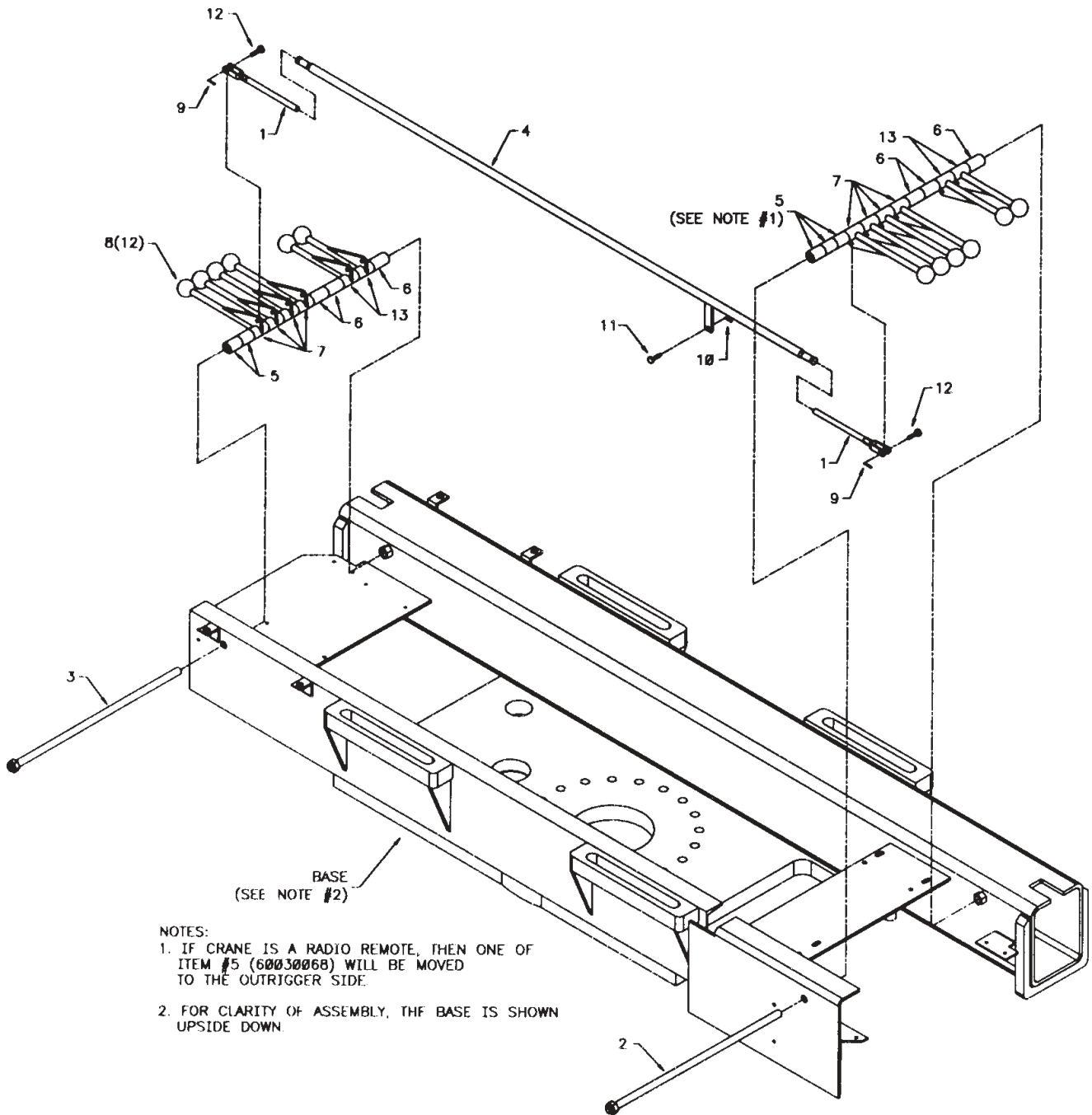
VALVEBANK (51706378)

ITEM	PART NO.	DESCRIPTION	QTY
1.	73054432	VALVE SECT V20 4WAY SAE8	2
2.	73054468	VALVE SECT V20R 4WAY SAE8	6
3.	73054502	VALVE SECT V20R UTILITY	1
4.	73731241	END COVER RH W/CONV PLUG	1
5.	73054400	RELIEF 2300PSI NON-ADJ	1
6.	73731424	END COVER LH (INCL:7)	1
7.	73054673	RELIEF VALVE (PART OF 6)	1REF
8.	73054516	RELIEF 1300PSI NON-ADJ	2
9.	73054007	RELIEF 1800PSI NON-ADJ	2
10.	73014672	STUD 3/8X18-3/4	3
11.	72062037	NUT 3/8-24 HEX	6
12.	70142402	ORIFICE PLAE	3
13.	70142403	SPRING	3
14.	51393494	O-RING KIT	REF
15.	7Q072117	O-RING	20
16.	7Q072119	O-RING	20
17.	73054010	LOAD CHECK PLUG ASM	11



CTRL KIT-6M (90705854)

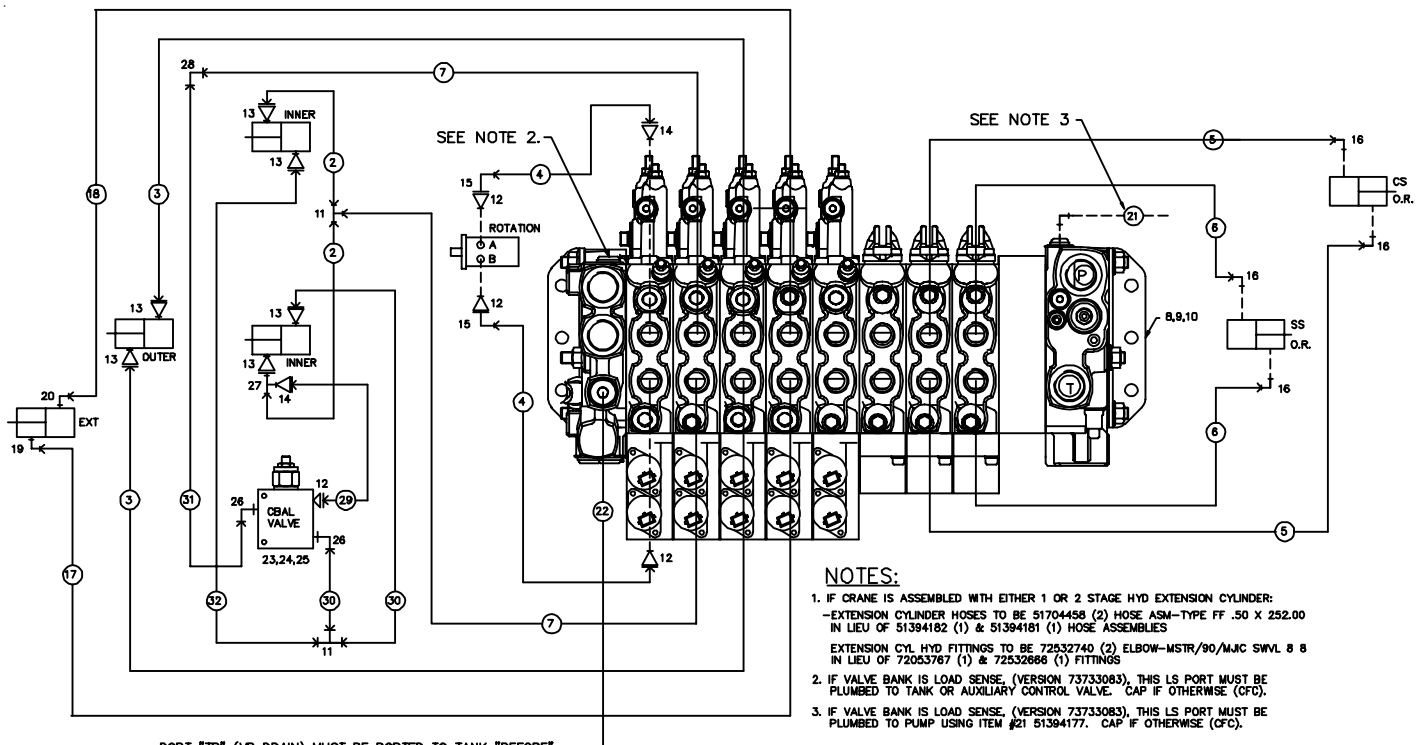
ITEM	PART NO.	DESCRIPTION	QTY
1.	52704745	CONTROL ROD - MALE	12
2.	52705400	ROD - CONTROL HANDLE	1
3.	52705407	ROD - CONTROL HANDLE	1
4.	52705877	CONTROL ROD - FEMALE	6
5.	60030068	SPACER 1-3/8	5
6.	60030069	SPACER 1-3/4	6
7.	70029451	CONTROL HANDLE	8
8.	71039096	CONTROL KNOB	12
9.	72066168	COTTER PIN 3/32 X 3/4	12
10.	72066336	COTTER PIN	6
11.	72066337	CLEVIS PIN	6
12.	72066338	CLEVIS PIN 5/16 X 1	12
13.	60025254	CONTROL HANDLE - SHORT	4



HYD KIT-8 SECT VOAC (91712984)

1.	51716376	HOSE KIT (INCL:2-7,18,21,22,29-32)	1
2.	51394110	HOSE ASM 3/8X34 #8F #8F	2REF
3.	51394933	HOSE ASM 3/8X188 #8F #8F	2REF
4.	51394180	HOSE ASM 1/4X15 #4F #4F	2REF
5.	51394175	HOSE ASM 3/8X130 #8F #8F	2REF
6.	51394176	HOSE ASM 3/8X94 #8F #8F	2REF
7.	51394179	HOSE ASM 3/8X58 #8F #8F	2REF
8.		VB ASM	1REF
9.	72060032	CAP SCR 5/16-18X2-3/4 HHGR5	3
10.	72062109	NUT 5/16-18 LOCK	3
11.	72531205	TEE #8MJIC 1/2TUBE	2
12.	72532351	ADAPTER #4MSTR #4MJIC	3
13.	72532358	ADAPTER #8MSTR #8MJIC	6
14.	72532665	ADAPTER #4MJIC #8FJIC	3
15.	72532690	ELBOW #4MJIC #4FJIC SWVL	2
16.	72532779	ELBOW #6MSTR #8MJIC XLG	4

17.	51394182	HOSE ASM 1/2X282 #12F#12F	1REF
18.	51394181	HOSE ASM 3/4X282 #8F#8F	1REF
19.	72532666	ELBOW #8MSTR #8MJIC XLG	1
20.	72053767	ELBOW #12MSTR #12MJIC 90°	1
21.	51394177	HOSE ASM 3/8X148#6(LS ONLY)	1REF
22.	51394178	HOSE ASM 1/2X76 #8	1REF
23.	73540061	C'BAL VALVE	1
24.	72060008	CAP SCR 1/4-20X2 HHGR5	2
25.	72063049	WASHER 1/4 LOCK	2
26.	72053763	ELBOW #8MSTR #8MJIC 90°	2
27.	72532657	TEE #8JIC SWVLNUTRUN	1
28.	72533663	ELBOW #8MJIC #8MJIC 90°	1
29.	51395859	HOSE-FJ .25X13 #4#4 (PO 1)	1REF
30.	51394424	HOSE-FF .38X12 #8#8 (PO 1)	1REF
31.	51393922	HOSE-FF .38X26 #8#8 (PO 1)	1REF
32.	51394399	HOSE-FF .38X49 #8#8 (PO 1)	1REF

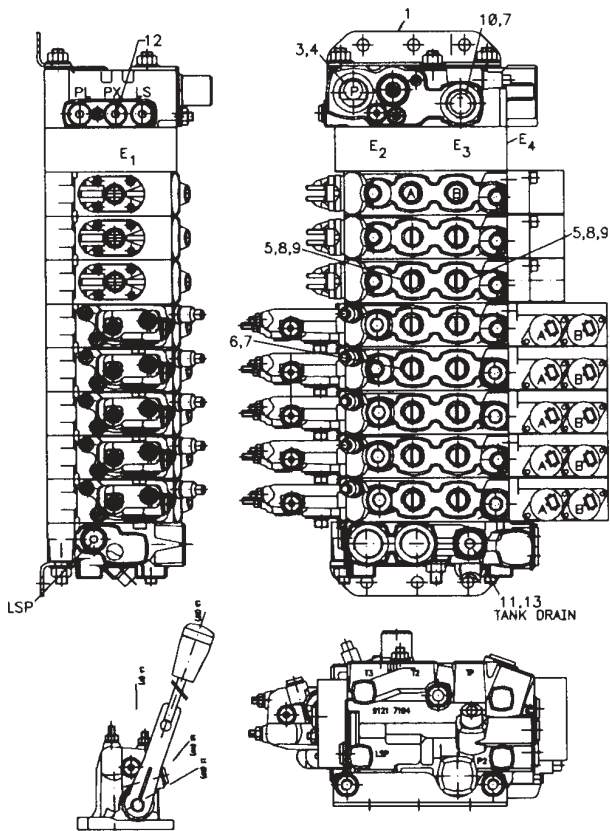


PORT "TP" (VB DRAIN) MUST BE PORTED TO TANK "BEFORE" OPERATION OF VALVE BANK. MAY RESULT IN DAMAGED LEVER HOUSING, VENDOR P/N 393000K319.

NOTES:

- IF CRANE IS ASSEMBLED WITH EITHER 1 OR 2 STAGE HYD EXTENSION CYLINDER:
 -EXTENSION CYLINDER HOSES TO BE 51704458 (2) HOSE ASM-TYPE FF .50 X 252.00 IN LIEU OF 51394182 (1) & 51394181 (1) HOSE ASSEMBLIES
 EXTENSION CYL HYD FITTINGS TO BE 72532740 (2) ELBOW-MSTR/90/MJIC SWVL 8 8 IN LIEU OF 72053767 (1) & 72532666 (1) FITTINGS
- IF VALVE BANK IS LOAD SENSE (VERSION 73733083), THIS LS PORT MUST BE PLUMBED TO TANK OR AUXILIARY CONTROL VALVE. CAP IF OTHERWISE (CFC).
- IF VALVE BANK IS LOAD SENSE (VERSION 73733083), THIS LS PORT MUST BE PLUMBED TO PUMP USING ITEM #21 51394177. CAP IF OTHERWISE (CFC).

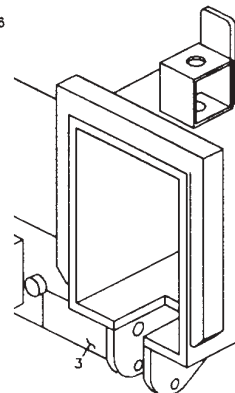
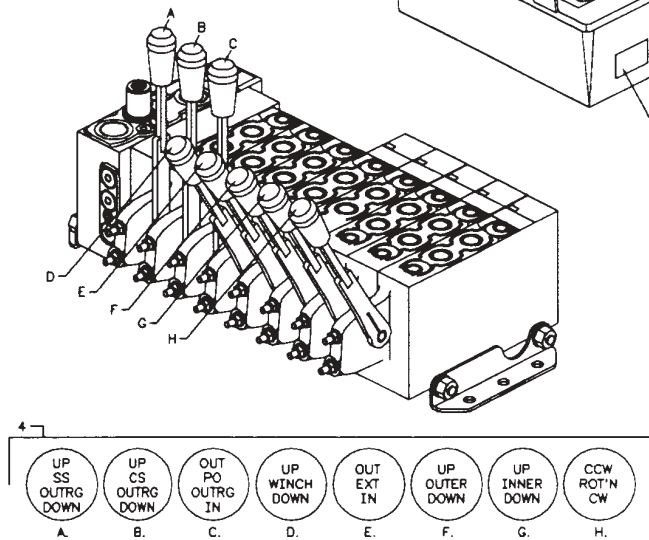
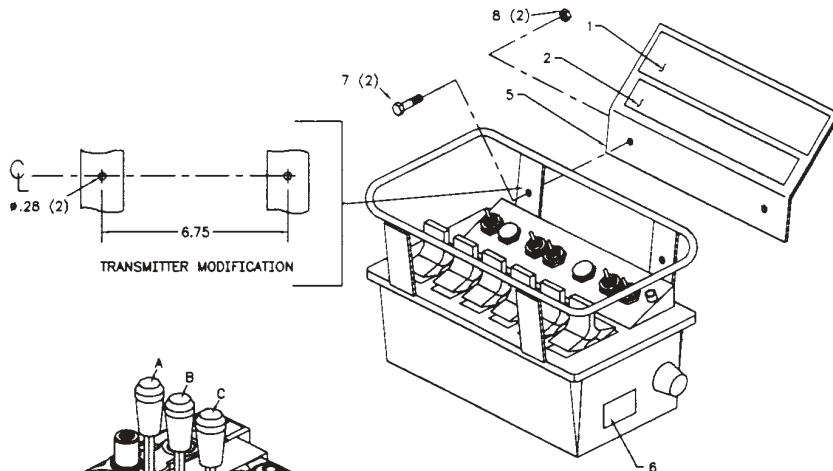
VB ASM-8 SECT VOAC HARDWIRE RMT CFC (51712977)



ITEM	PART NO.	DESCRIPTION	QTY
1.	73732995	VALVEBANK 8-SECT CFC	1
3.	72532951	ADAPTER #12MSTR #8FSTR	1
4.	72532666	ELBOW #8MSTR#8MJIC 90° XLG	1
5.	72531206	ADAPTER #10MSTR #8FSTR	15
6.	72532365	ADAPTER #10MSTR #12MJIC	1
7.	72533032	ELBOW #12MJIC #12FJIC 45°	2
8.	72532665	ADAPTER #4MJIC #8FJIC	2
9.	72053777	ELBOW #8MSTR #8MJIC 45°	15
10.	72053767	ELBOW #12MSTR #12MJIC 90°	1
11.	72053763	ELBOW #8MSTR #8MJIC 90°	1
12.	72533451	NIPPLE-DIAG W/CAP 9/16-18	1
13.	70393231	PLASTIC CAP 3/4-16 1/2 TUBE	1

DECALS

1.	70394143	DECAL-HARDWIRE BUTTONS	1
2.	70394144	DECAL-HARDWIRE PADDLES	1
3.	70394146	DECAL-EMERG OVERRIDE	1
4.	70394145	DECAL-CTRL CIRCLES	1
5.	60119079	MTG PLATE-DECALS	1
6.	70394096	DECAL-EMERGENCY STOP	1
7.	72060002	CAP SCR 1/4-20X3/4 HHGR5	2
8.	72062104	NUT 1/4-20 LOCK	2



**VB-8 SECT HARDWIRE 5R/3M CFC
(73732995-1)**

TP	END SECTION	SAE # 8 (.75-16)
PX, LS, PL	INLET SECTION	SAE # 6 (.56-18)
A, B	SPOOL SECTION	SAE #10 (.88-14)
T2, T3	END SECTION	SAE #12 (1.06-12)
T1	INLET SECTION	SAE #12 (1.06-12)
P1	INLET SECTION	SAE #12 (1.06-12)
CONNECTIONS		
THREAD SIZE		

PRESSURE SETTINGS BAR (PSI)	1,2,3	4	5	6	7	8
A PORT	SYSM. PRESS. 160 (2300)	SYSM. PRESS. 160 (2300)	SYSM. PRESS. 160 (2300)	SYSM. PRESS. 160 (2300)	SYSM. PRESS. 125 (1800)	SYSM. PRESS. 125 (1800)
B PORT	SYSM. PRESS. 160 (2300)	SYSM. PRESS. 160 (2300)	SYSM. PRESS. 160 (2300)	SYSM. PRESS. 160 (2300)	SYSM. PRESS. 125 (1800)	SYSM. PRESS. 125 (1800)
SPOOL SEC. TYPE	OOT	TOT	TOT	TOT	TOT	TOT

FLOW DEMAND L/MIN (GPM)	1,2,3	4	5	6	7	8
A PORT	75 (19.81)	45 (11.89)	45 (11.89)	45 (11.89)	45 (11.89)	20 (5.28)
B PORT	75 (19.81)	45 (11.89)	30 (7.93)	30 (7.93)	30 (7.93)	20 (5.28)

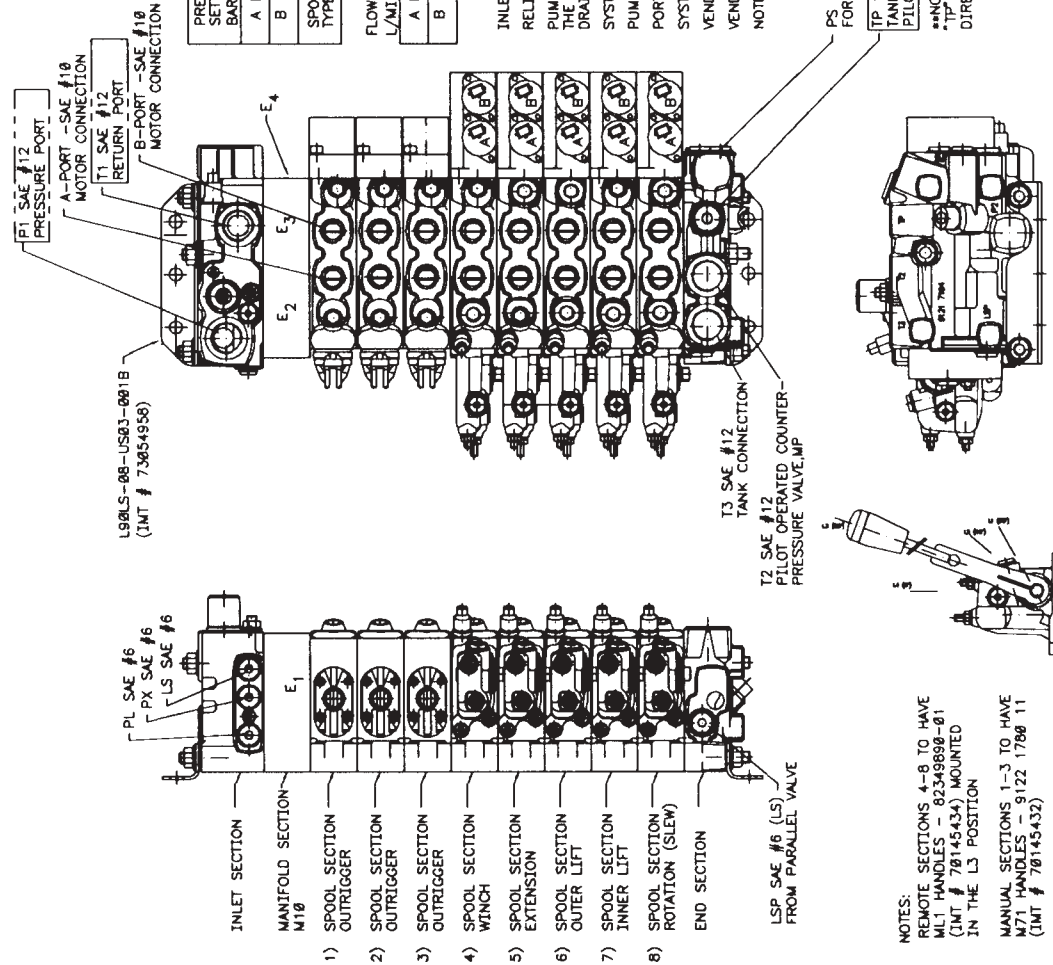
INLET SECTION TYPE : CFC
 RELIEF VALVE SETTING : 210 BAR / 3045 PSI
 PUMP BLOCKAGE FUNCTION : BEN (ELECTRICALLY CONTROLLED EMERGENCY STOP FUNCTION, WHEN THE CURRENT TO THE ELECTROMAGNET IS BROKEN, THE PUMP IS BLOCKED AND THE LOAD SIGNAL DRAINED TO TANK.)

SYSTEM : PUMP CAPACITY = 75 l/min (19.81 GPM)
 PUMP PRESSURE = 190 BAR (2756 PSI)
 PORT THREADS = UNF
 SYSTEM VOLTAGE = 12 VOLT
 VENDOR : VOAC HYDRAULICS
 VENDOR P/N : K00093

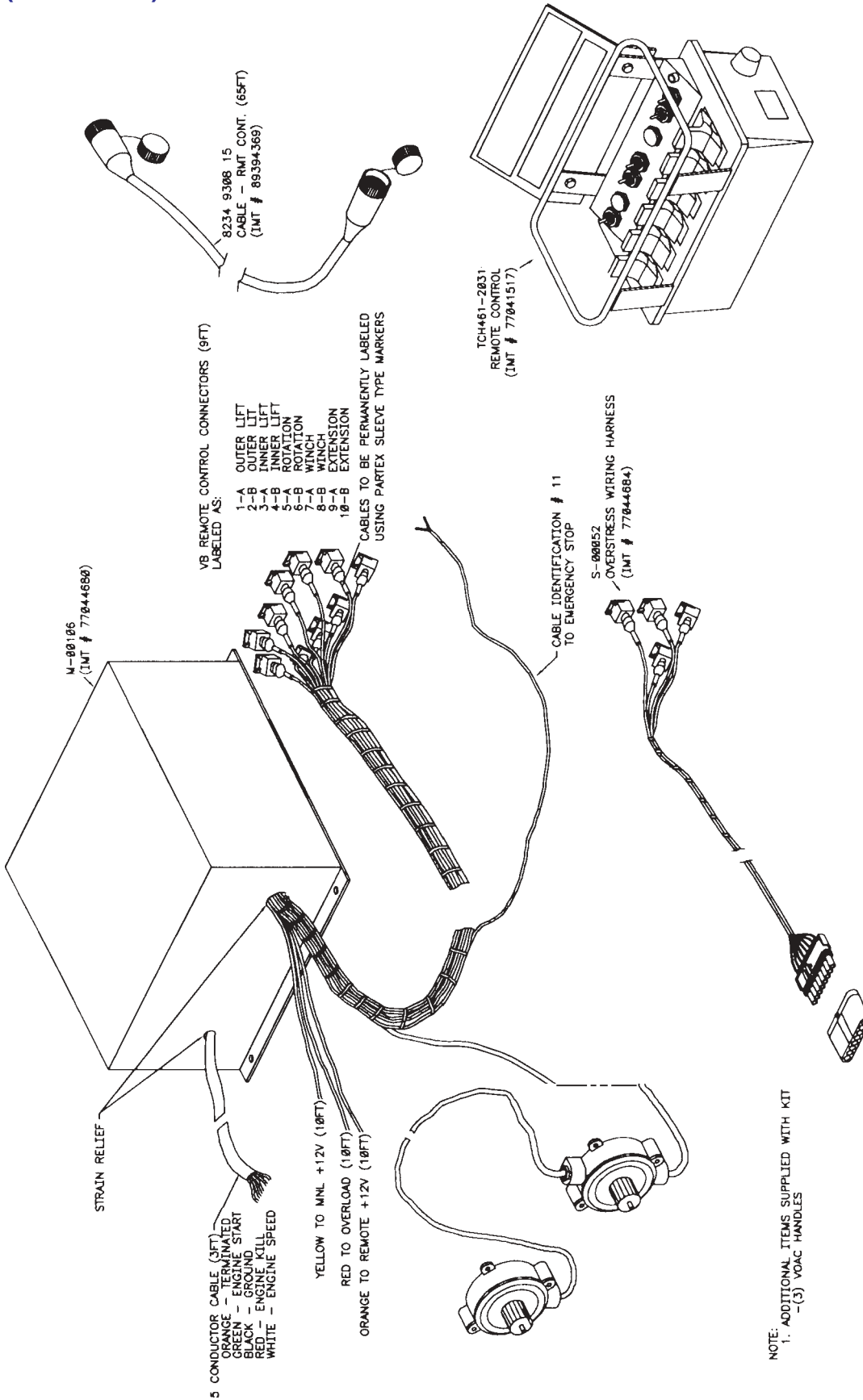
NOTES:
 PS - PILOT PRESSURE SUPPLY FOR EXTERNAL USE

TP SAE #8 TANK CONNECTION FOR PILOT SYSTEM

**NOTE: PORT MUST BE PORTED DIRECTLY BACK TO TANK.

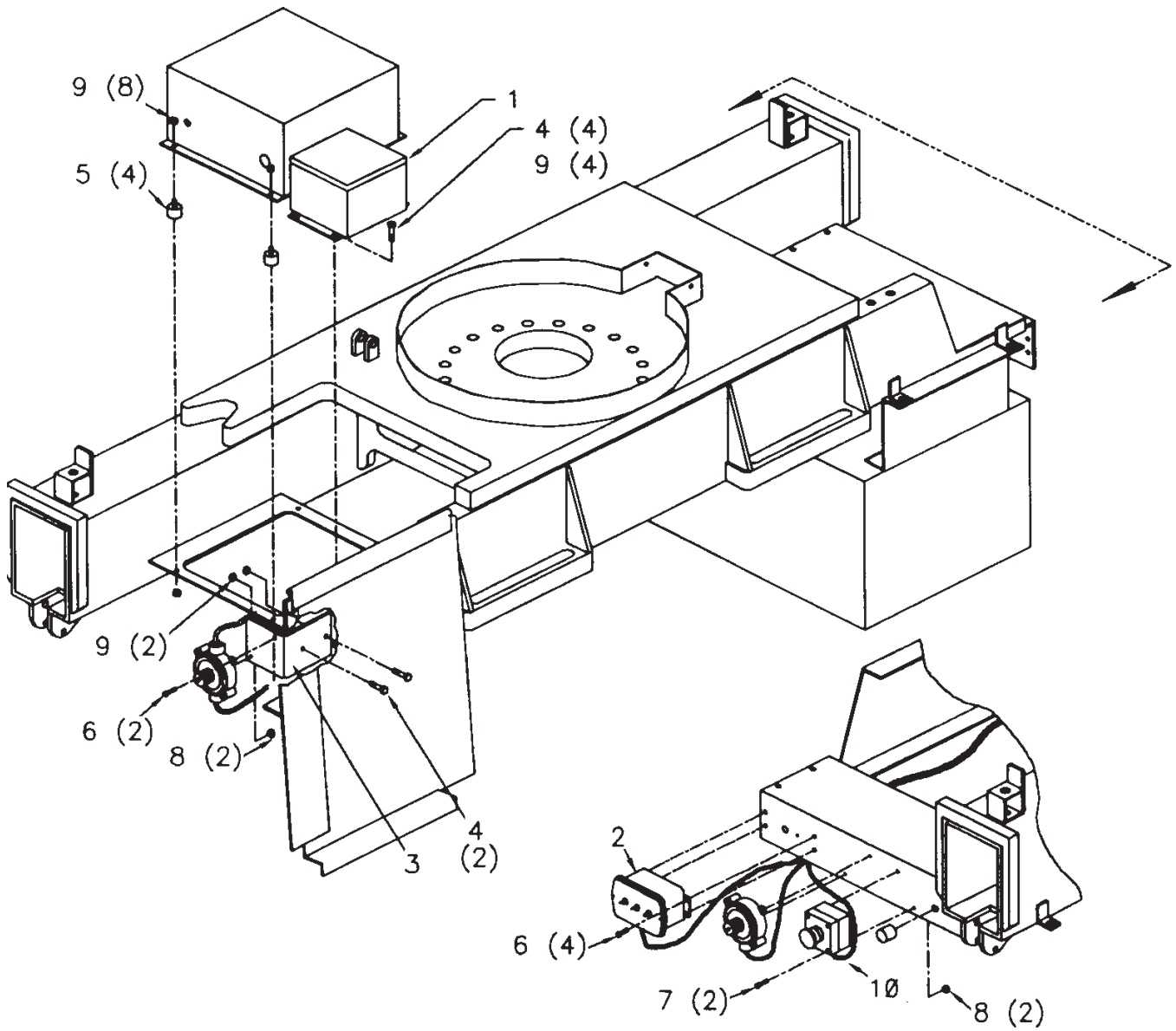


VB-8 SECT HARDWARE 5R/3M CFC (73732995-2)



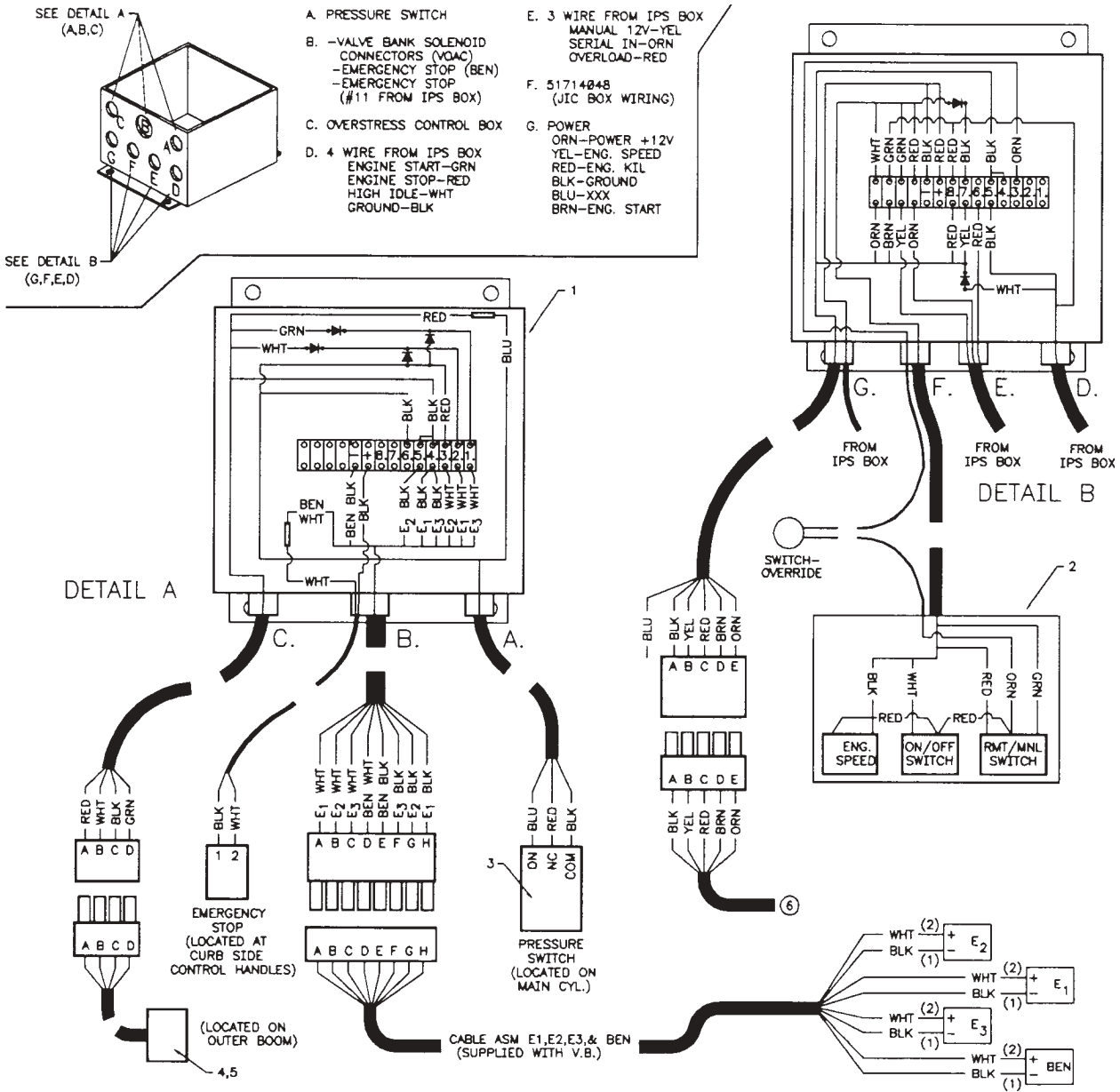
CTRL KIT-HARDWIRE RMT (90713139-1)

ITEM	PART NO.	DESCRIPTION	QTY
1.	51713047	CABLE ASM-JIC BOX	1
2.	51713048	CABLE ASM-JIC BOX	1
3.	60119096	MOUNTING BRACKET	1
4.	72060004	CAP SCR 1/4-20X1 HHGR5	6
5.	70393259	SHOCK MOUNT	4
6.	72060636	SCREW #10-24X3/4	8
7.	72060683	SCREW #10-24X7/8	2
8.	72062106	NUT #10-24 LOCK	6
9.	72062104	NUT 1/4-20 LOCK	14
10.	51713200	CABLE ASM-EMER STOP SWCH	1

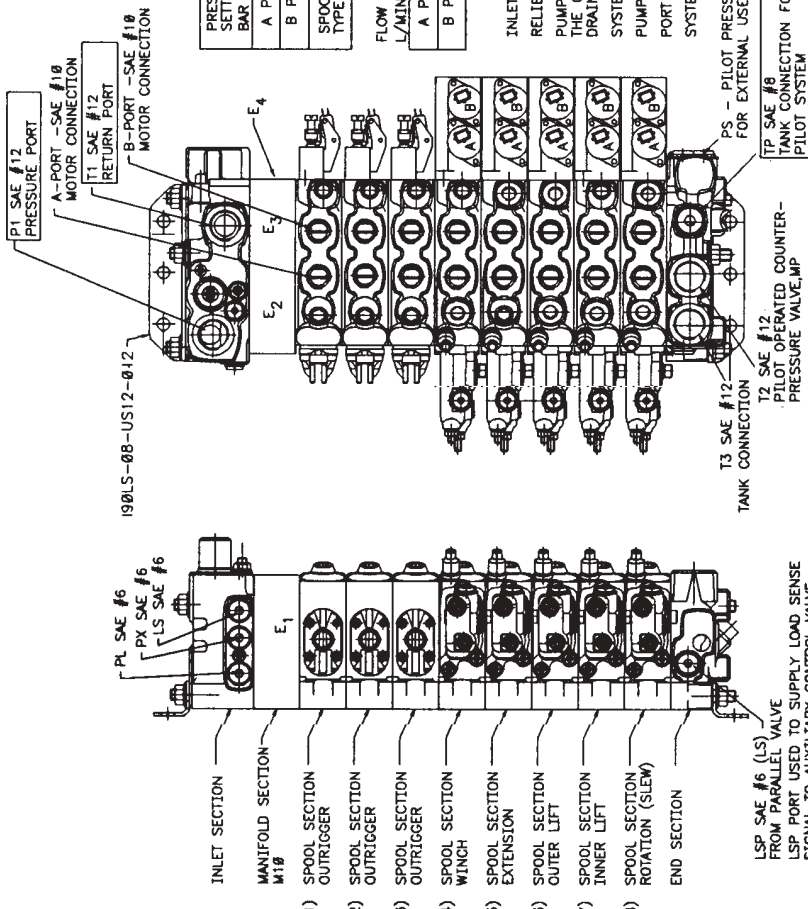


CTRL KIT-HARDWIRE RMT (90713139-2)

ITEM	PART NO.	DESCRIPTION	QTY
1.	51713048	CABLE ASM-JIC BOX	REF
2.	51713047	CABLE ASM-JIC BOX	REF
3.	77041476	PRESSURE SWITCH	1
4.	77041457	CONTROL BOX-OVERLOAD SYS	1
5.	72060000	CAP SCR 1/4-20X1/2 HHGR5	2
6.	51712882	CABLE ASM-POWER	1
7.	89034048	SPIRAL WRAP	40FT



VB 8-SECT HARDWIRE 5R/3M LS1 (73733083-1)



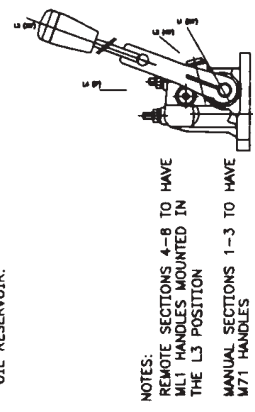
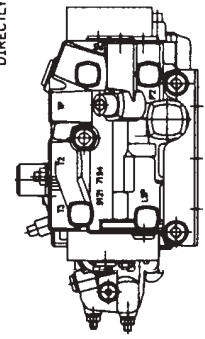
SPPOOL SEC. TYPE	4	5	6	7	8
1,2,3					
SYSTM. PRESS. BAR (PSI)	230 (3336)	250 (3626)			
A PORT					
B PORT					
TOT					

FLOW DEMAND L/MIN (GPM)	4	5	6	7	8
A PORT	45 (11.89)	45 (11.89)	45 (11.89)	45 (11.89)	20 (5.28)
B PORT	45 (11.89)	30 (7.93)	30 (7.93)	30 (7.93)	20 (5.28)
TOT					

INLET SECTION TYPE : LS1
 RELIEF VALVE SETTING : 210 BAR / 3045 PSI
 PUMP BLOCKAGE FUNCTION : BEN (ELECTRICALLY CONTROLLED EMERGENCY STOP FUNCTION, WHEN THE CURRENT TO THE ELECTROMAGNET IS BROKEN, THE PUMP IS BLOCKED AND THE LOAD SIGNAL DRAINED TO TANK.)
 SYSTEM : PUMP CAPACITY = 75 l/min (19.81 GPM)
 PUMP PRESSURE = 190 BAR (2756 PSI)
 PORT THREADS = UNF
 SYSTEM VOLTAGE = 12 VOLT

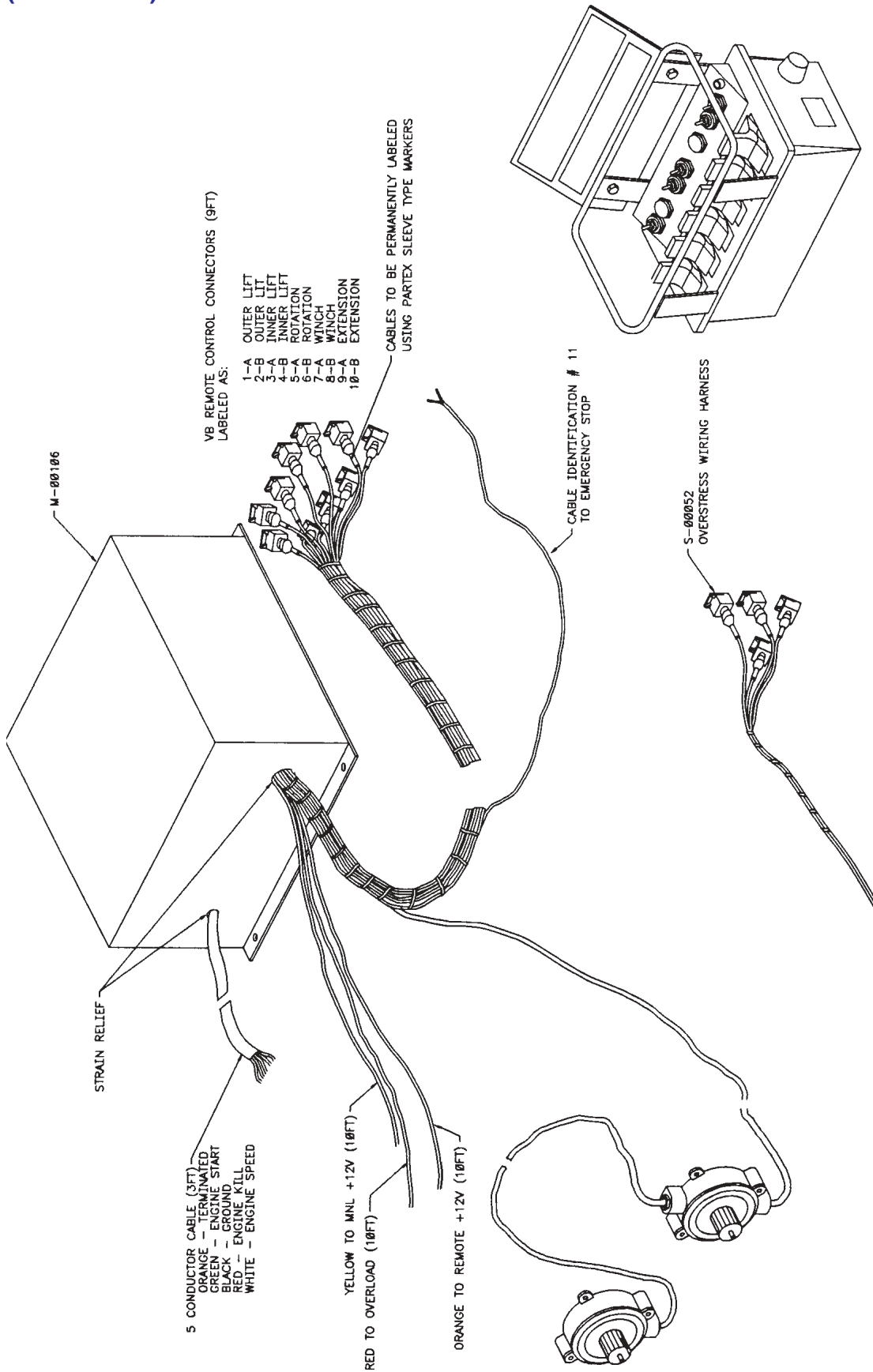
CONNECTIONS	END SECTION	SAE # B	THREAD SIZE
TP	END SECTION	SAE # B (.75-16)	
PX, LS, PL	INLET SECTION	SAE # 6 (.56-18)	
A, B	SPOOL SECTION	SAE #10 (.88-14)	
T2, T3	END SECTION	SAE #12 (1.06-12)	
T1	INLET SECTION	SAE #12 (1.06-12)	
P1	INLET SECTION	SAE #12 (1.06-12)	
CONNECTIONS			

**NOTE:
 TP PORT MUST BE PORTED DIRECTLY BACK TO TANK.



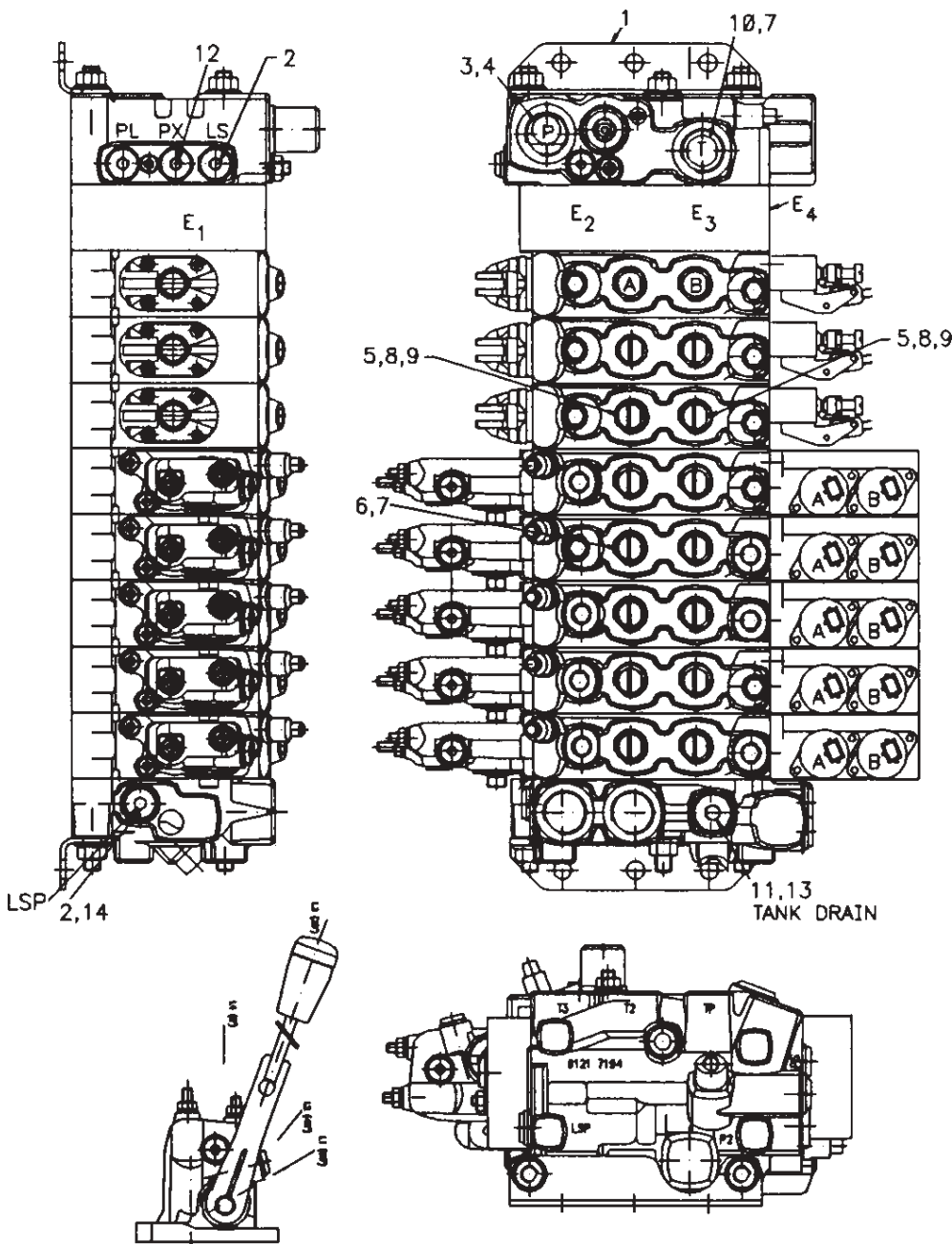
NOTES:
 REMOTE SECTIONS 4-8 TO HAVE M1 HANDLE MOUNTED IN THE L3 POSITION
 MANUAL SECTIONS 1-3 TO HAVE M71 HANDLES

**VB 8-SECT HARDWIRE 5R/3M LS1
(73733083-2)**



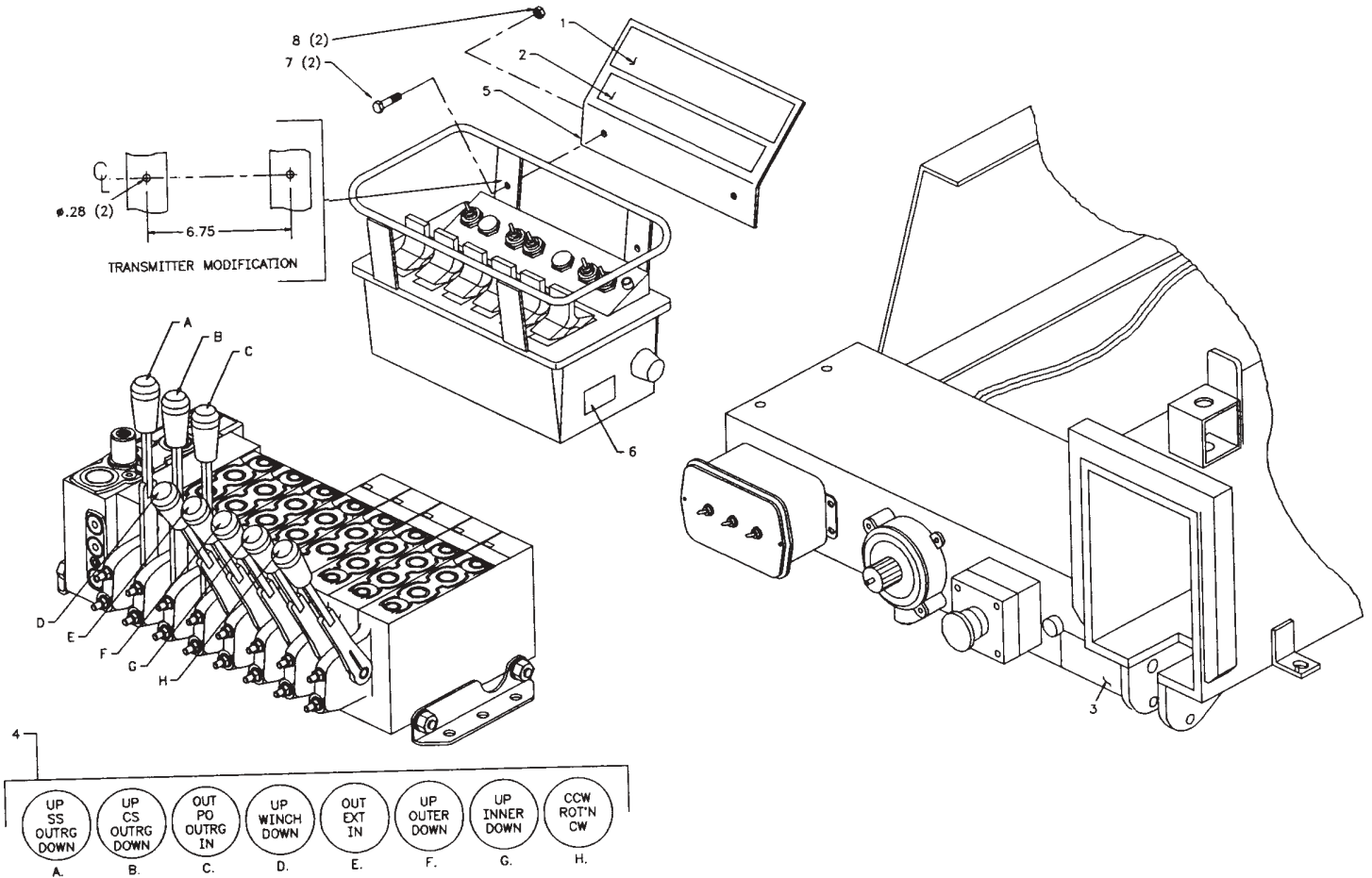
**VB 8-SECT VOAC HARDWARE RMT LS1
(51713211-1)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	73733083	VB-VOAC 80SECT HARDWARE	1
2.	72053760	ELBOW #6MSTR #6MJIC 90°	2
3.	72532951	ADAPTER #12MSTR #8FSTR	1
4.	72532666	ELBOW #8MSTR#8MJIC 90° XLG	1
5.	72531206	ADAPTER #10MSTR #8FSTR	15
6.	72532365	ADAPTER #10MSTR #12MJIC	1
7.	72533032	ELBOW #12MJIC #12FJIC 45°	2
8.	72532665	ADAPTER #4MJIC #8FJIC	2
9.	72053777	ELBOW #8MSTR #8MJIC 45°	15
10.	72053767	ELBOW #12MSTR #12MJIC 90°	1
11.	72053763	ELBOW #8MSTR #8MJIC 90°	1
12.	72533451	NIPPLE-DIAG W/CAP 9/16-18	1
13.	70393231	CAP-PLASTIC 3/4-16 1/2TUBE	1
14.	70393230	CAP-PLASTIC 9/16-18 3/8TUBE	1

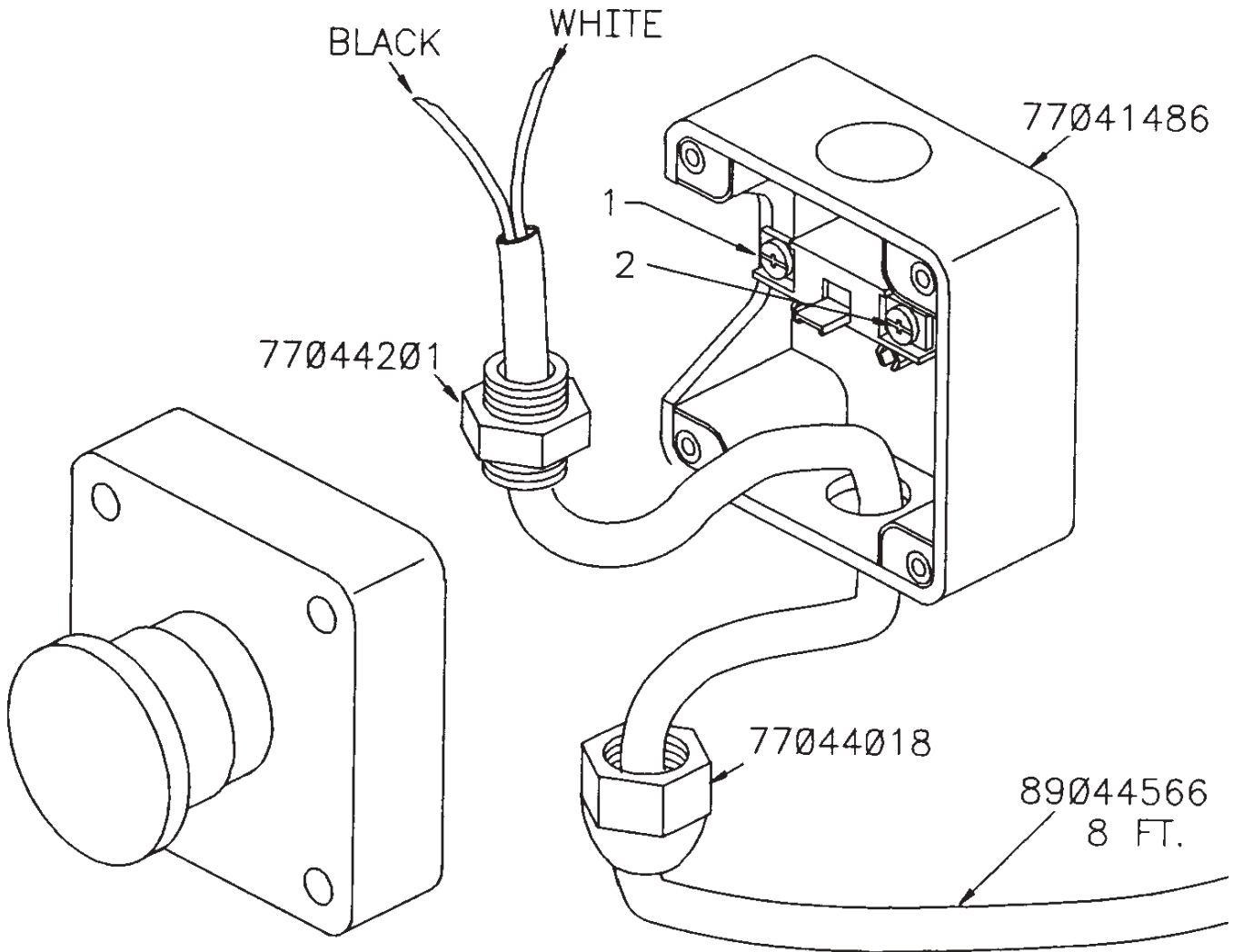


**VB 8-SECT VOAC DECAL KIT
(51713211-2)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	70394143	DECAL-VOAC RC BUTTONS	1
2.	70394144	DECAL-VOAC RC PADDLES	1
3.	70394146	DECAL-EMER OVERRIDE	1
4.	70394145	DECAL-CTRL CIRCLES	1
5.	60119079	MTG PLATE-DECAL	1
6.	70394096	DECAL-EMERGENCY STOP	1
7.	72060002	CAP SCR 1/4-20X3/4 HHGR5	2
8.	72062104	NUT 1/4-20 LOCK	2



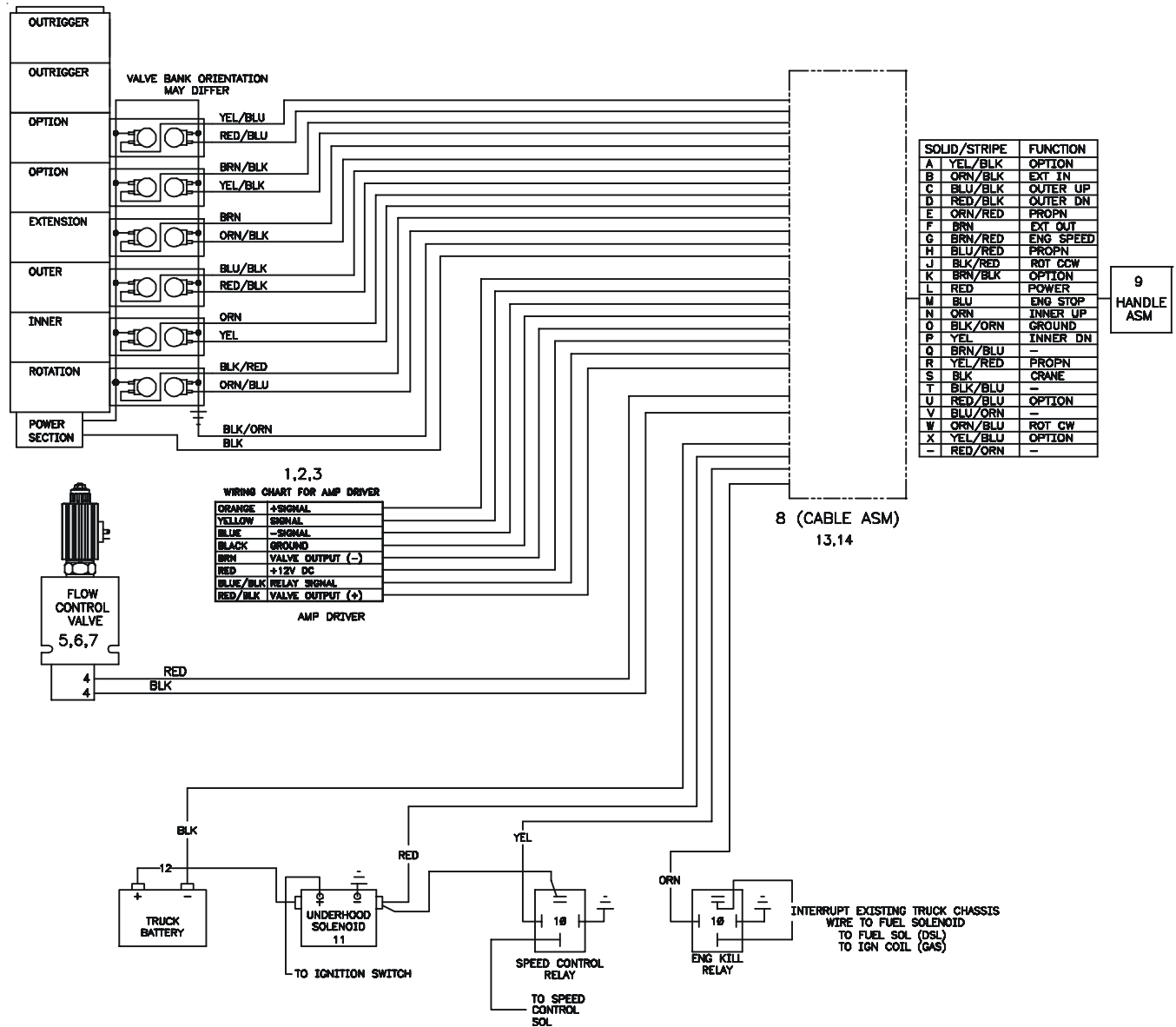
**CABLE ASM-EMERGENCY STOP
SWITCH (51713200)**



ASSEMBLE AS SHOWN;
CONNECT WHITE WIRE TO "2"
CONNECT BLACK WIRE TO "1"

PROP'L RMT CTRL KIT (90713554)

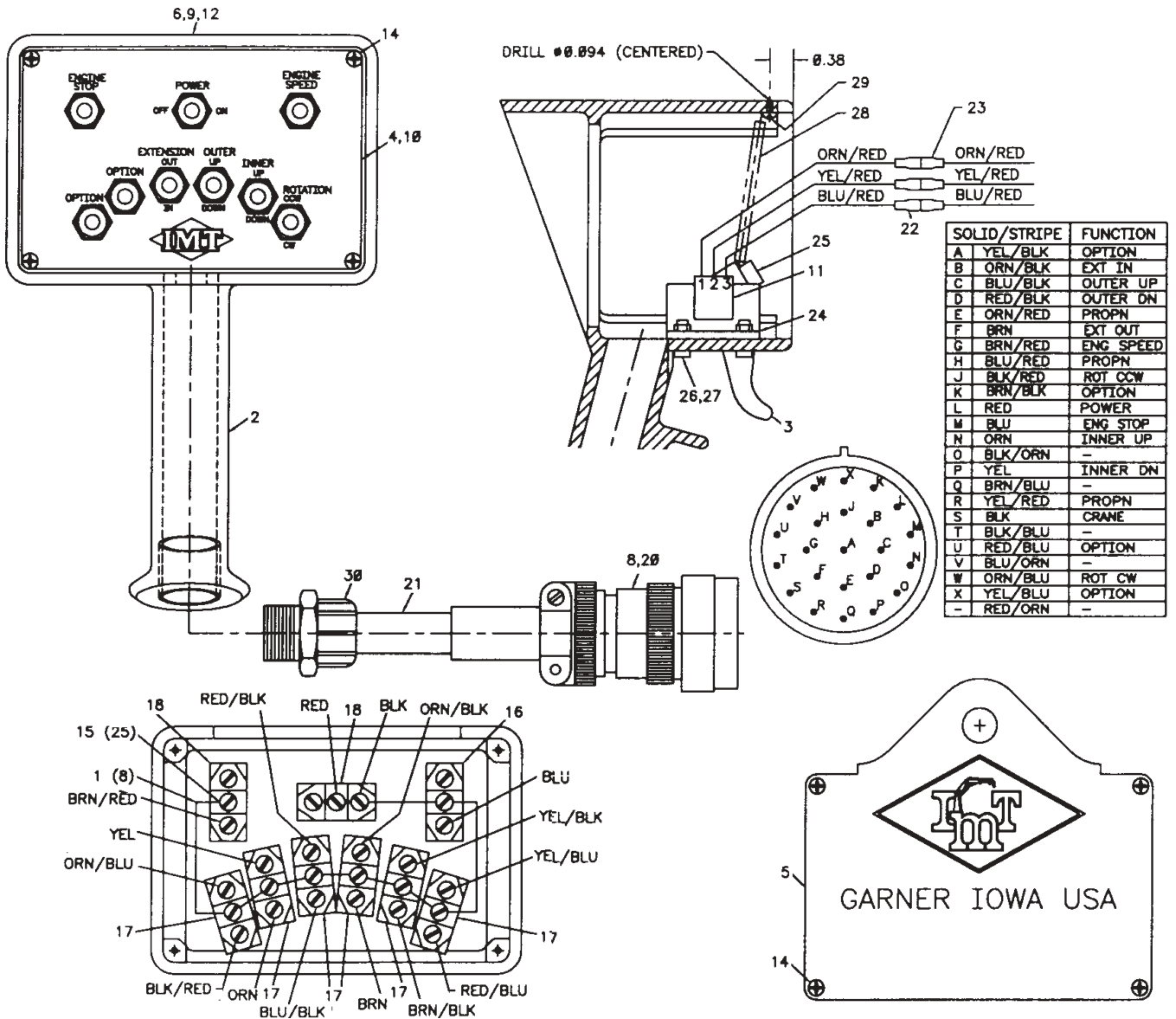
- | | | | |
|-----|----------|----------------------------|---|
| 1. | 77044837 | VALVE DRIVER | 1 |
| 2. | 72060703 | CAP SCR 1/4-20X1/2 SH | 2 |
| 3. | 72063049 | WASHER 1/4 LOCK | 2 |
| 4. | 77040186 | TERM 1/4 FSLPON 16-14GA | 2 |
| 5. | 73054876 | FLOW VALVE | 1 |
| 6. | 72060051 | CAP SCR 3/8-16X2-1/4 HHGR5 | 2 |
| 7. | 72062103 | NUT 3/8-16 LOCK | 2 |
| 8. | 51713568 | CABLE ASM | 1 |
| 9. | 51713429 | 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 | 4 |



PROP'L RMT HANDLE ASM (51713429)

ITEM	PART NO.	DESCRIPTION	QTY
1.	60045031	WIRE 18GA X 4 GRN	8
2.	60119335	CONTROL HANDLE BACK	1
3.	60111141	TRIGGER	1
4.	60119277	COVER	1
5.	70034306	BACK COVER	1
6.	70029119	SERIAL NUMBER PLACARD	1
8.	77044621	PIN	23
9.	70392862	DECAL-DGR RC ELECTRO	1
10.	71394282	DECAL-RC HANDLE	1
11.	51707507	POTENTIOMETER ASM (INCL:22)	1
12.	72066340	POP RIVET	2
14.	72061009	SHT MTL SCR #6X3/4 PH	8
15.	77040051	TERM #8 SPRSPD 16-14GA	25

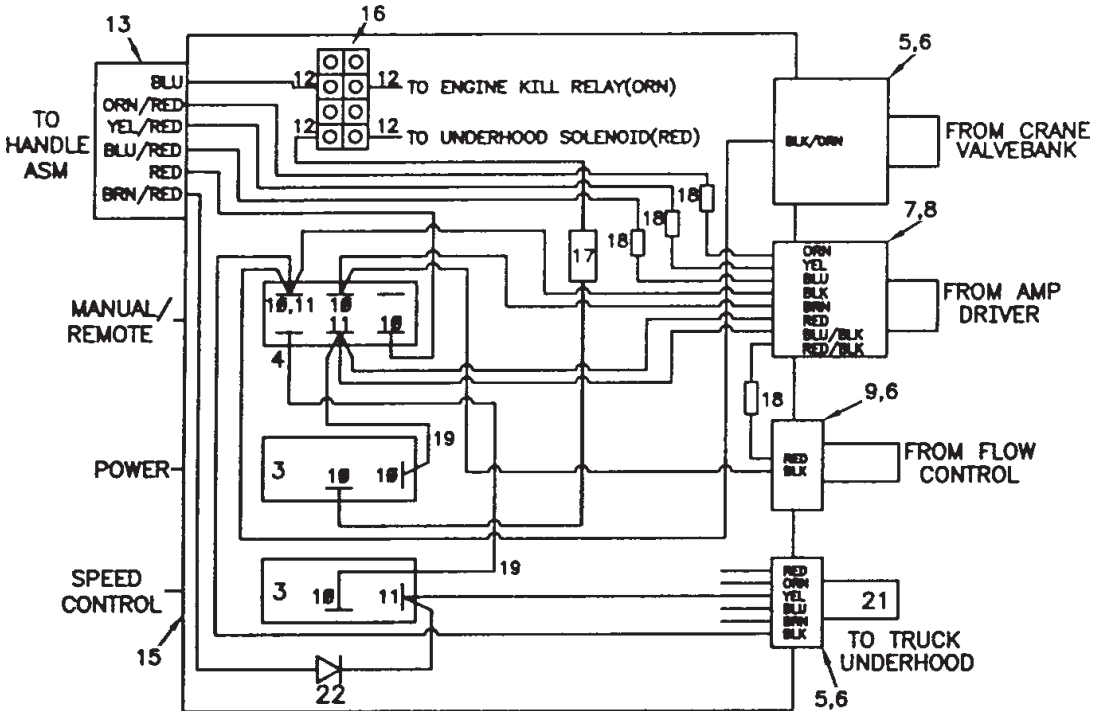
16.	77040371	TOGGLE SWITCH SPST	1
17.	77040372	TOGGLE SWITCH SPDT	6
18.	77040373	TOGGLE SWITCH SPST	2
20.	77044579	CONNECTOR	1
21.	89044100	CABLE 18GA/24WIRE X 45FT	1
22.	77040047	TERM MSLPON(PART OF 11)	3REF
23.	77040186	TERML 1/4 FSLPON 16-14GA	3
24.	60111142	MTG BRACKET	1
25.	72060669	CAP SCR #10-32X5/8 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
30.	77044196	CONNECTOR	1



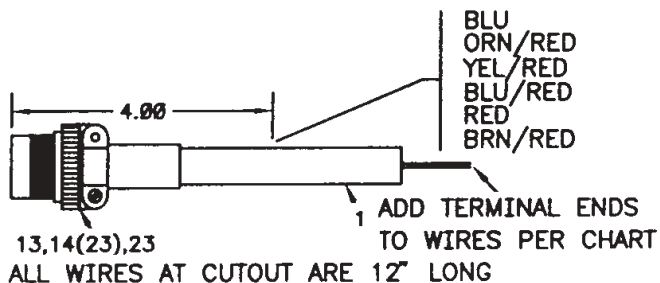
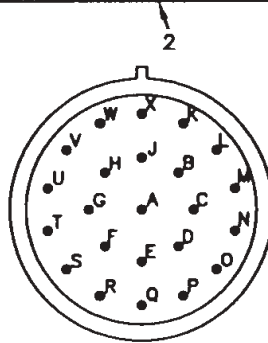
CABLE ASM-JIC BOX 94" (51713568)

ITEM	PART NO.	DESCRIPTION	QTY
1.	89044100	CABLE 18GA/24WIRE X 94	1
2.	90713575	JIC BOX	1
3.	77041345	TOGGLE SWITCH ST	2
4.	77041354	TOGGLE SWITCH DT	1
5.	77044018	STRAIN RELIEF 1/2	2
6.	77044201	NUT 1/2 ELEC LOCK	3
7.	77044196	STRAIN RELIEF 3/4	1
8.	77044202	NUT 3/4 ELEC LOCK	1
9.	77044468	STRAIN RELIEF 1/2	1
10.	77040186	TERM 1/4 FSLPON 16-14GA	25
11.	77040282	TERM 1/4 PIGBAC 16-14GA	3

12.	77040051	TERM #8 SPRSPD 16-14GA	4
13.	77044620	CONNECTOR	1
14.	77044580	SOCKET	23
15.	70393257	DECAL-JIC BOX	1
16.	77044341	TERMINAL BLOCK-4	1
17.	77041056	FUSE 20A IN-LINE	1
18.	77040048	BUTT CONNECTOR 16-14GA	4
19.	89044232	WIRE 14GA RED X 3	2
20.	77044668	PLUG-SEAL	1
21.	89044354	CABLE 14GA/6WIR	84"
22.	77041423	DIODE	1
23.	77044667	PLUG-CAP	1

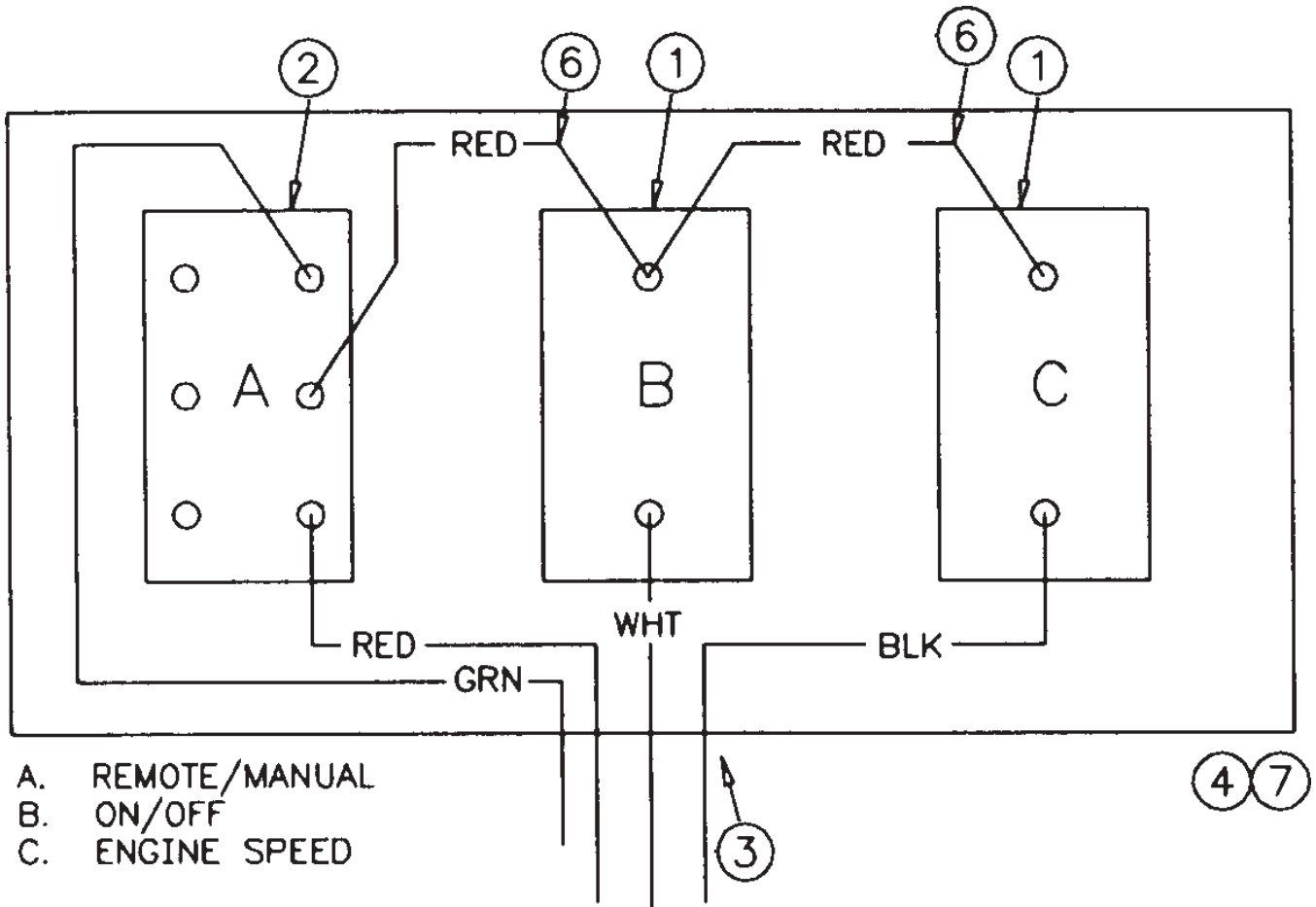


SOLID/STRIPE	TERM	ITEM NO
A	YEL/BLK	10
B	ORN/BLK	10
C	BLU/BLK	10
D	RED/BLK	10
E	ORN/RED	10
F	BRN	10
G	BRN/RED	10
H	BLU/RED	10
J	BLK/RED	10
K	BRN/BLK	10
L	RED	10
M	BLU	12
N	ORN	10
O	20	-
P	YEL	10
Q	BRN/BLU	-
R	YEL/RED	10
S	BLK	10
T	BLK/BLU	-
U	RED/BLU	10
V	BLU/ORN	-
W	ORN/BLU	10
X	YEL/BLU	10
-	RED/ORN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

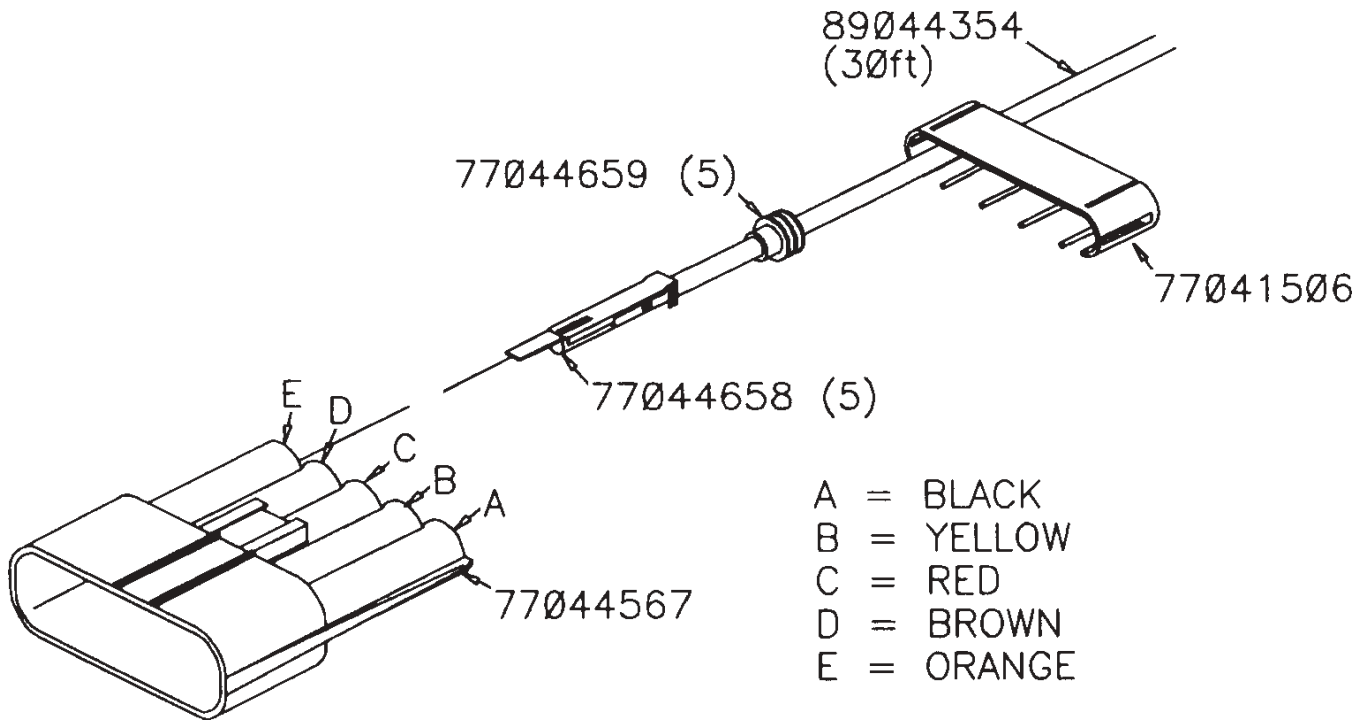


**CABLE ASM-JIC BOX (1-403C)
(51713048)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	77041345	TOGGLE SWITCH ST	2
2.	77041354	TOGGLE SWITCH DT	1
3.	77044018	STRAIN RELIEF	1
4.	60119077	JIC BOX (A-403C)	1
5.	77040186	TERM 1/4 FSLPON 16-14GA	7
6.	89044400	WIRE 16GA RED X 5	2
7.	70393257	DECAL-JIC BOX	1



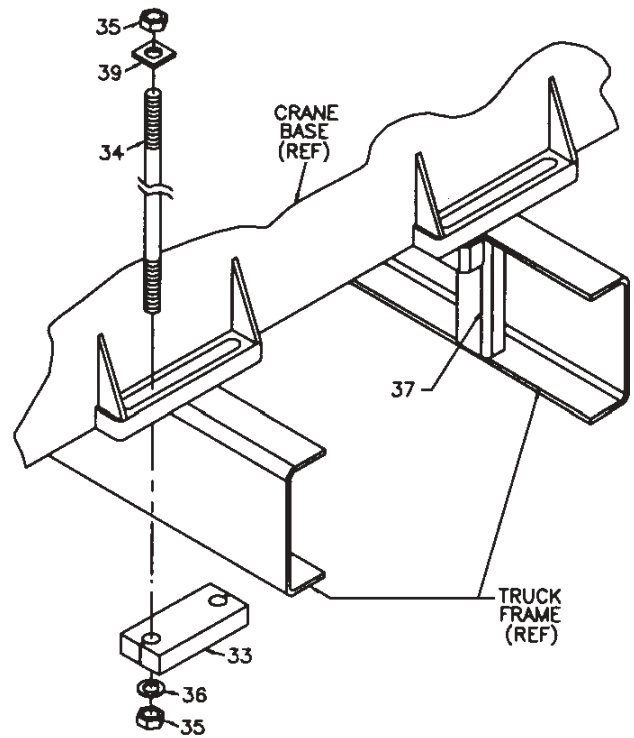
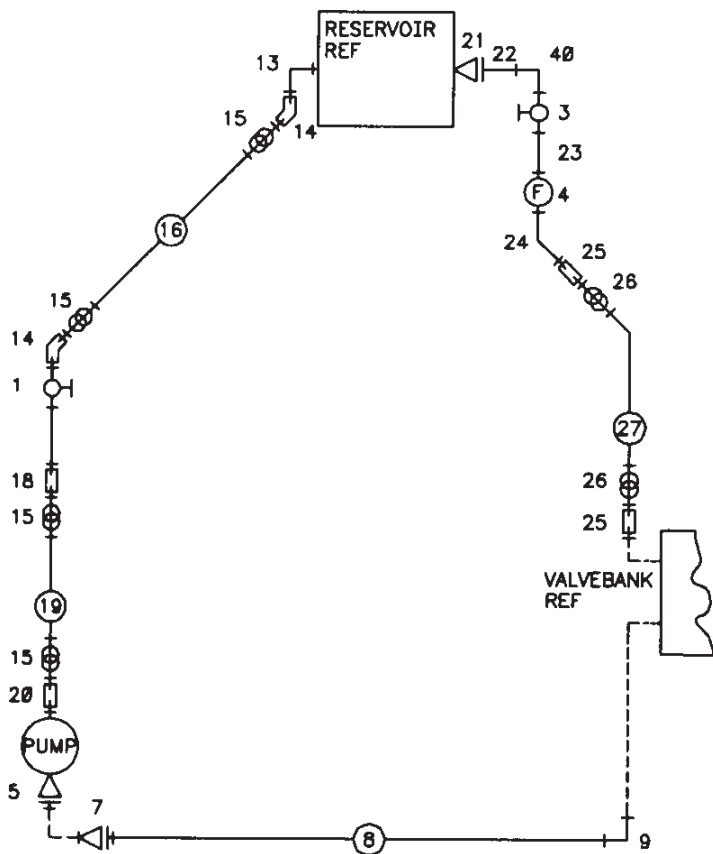
CABLE ASM-POWER (51712882)



**INSTALLATION KIT-MNL CTRLS
(93709977)**

ITEM	PART NO	DESCRIPTION	QTY
1.	73054130	GATE VALVE 1-1/4	1
3.	73054129	GATE VALVE 3/4	1
4.	72052000	RETURN FILTER	1
	72052006	RETURN FILTER ELEMENT	REF
5.	72532948	ADPTR 1-5/16MSTR 1-1/16FSTR	1
7.	72532360	ADPTR 1-1/16MSTR X 3/4MJIC	1
8.	51705643	HOSE ASM, 1/2ID X 62	1
9.	72532658	ELBOW 3/4MJIC3/4FJIC 90°SWL	1
13.	72531135	ELBOW 1-1/4NPT 90°	1
14.	72531196	BARB NIPPLE 1-1/4 45°	2
15.	72066516	HOSE CLAMP 1-1/4	4
16.	60035837	HOSE 1-1/4ID X 23	1
18.	72532346	BARB NIPPLE 1-1/4 90°	1

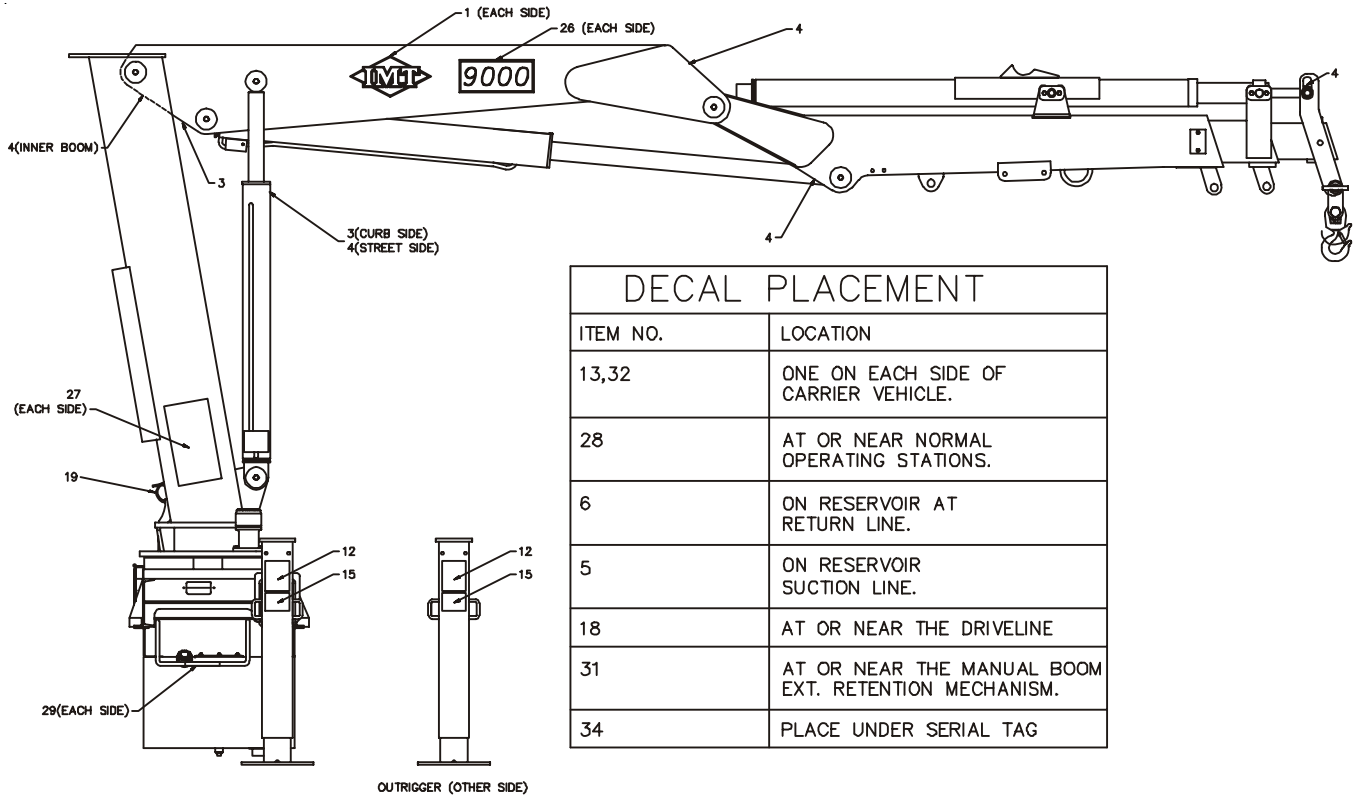
19.	60035829	HOSE 1-1/4 X 48	1
20.	72532708	BARB NIPPLE 1-5/16 X 1-1/4 90°	1
21.	72531836	RED. BUSHING 1-1/4 X 3/4NPT	1
22.	72053558	NIPPLE 3/4NPT	1
23.	72053141	NIPPLE 3/4NPT X CLOSE	1
24.	72053535	ELBOW 3/4NPT 45°	1
25.	72531548	BARB NIPPLE 3/4	2
26.	72066000	HOSE CLAMP 3/4	2
27.	60035818	HOSE 3/4 100R4 X 72"	1
33.	60010354	TIE-DOWN BLOCK	4
34.	60107829	TIE-DOWN STUD 1 X 18	8
35.	72062141	NUT 1-7 LOCK	16
36.	72063066	WASHER 1" HI-STRGTH	8
37.	52706660	SUPPORT	4
39.	60107478	WASHER 2" SQUARE	8
40.	72053556	STREET ELBOW 3/4NPT 90°	1



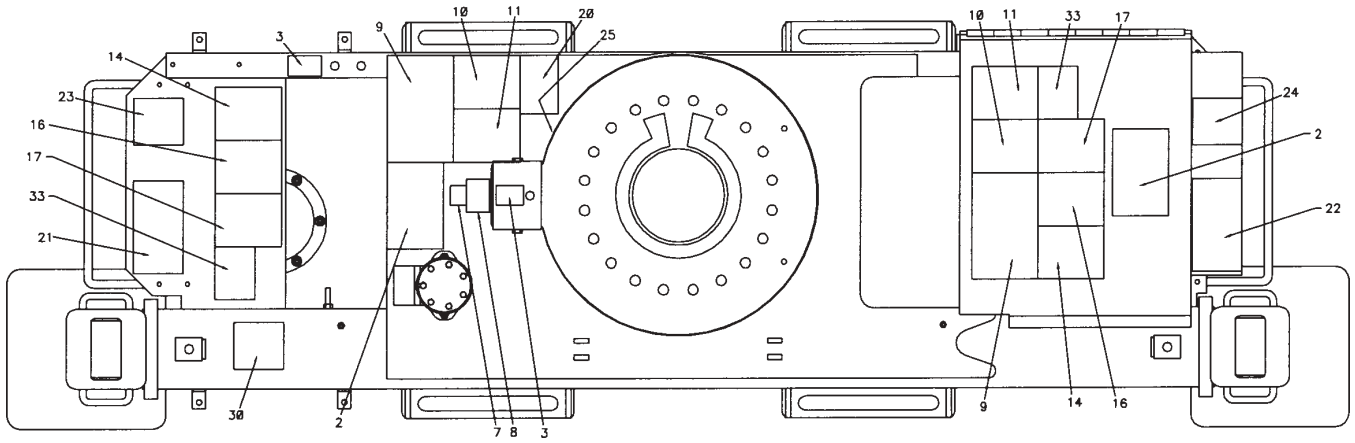
**DECAL KIT-9000 SERIES 1H & 2H
(95712081-1)**

CONTINUED ON FOLLOWING PAGE

1. 70029251	PLACARD - IMT DIAMOND	2	18. 70392891	DECAL-DANGER DRIVELINE	2
2. 70391583	DECAL-SETUP/STOW INST.	2	19. 70392982	DECAL-CONTACT IMT	1
3. 70391612	DECAL-GREASE WEEKLY LEFT	4	20. 71039134	DECAL-CAUTION OIL LEVEL	1
4. 70391613	DECAL-GREASE WEEKLY RIGHT	5	21. 71392255	DECAL-CONTROL STRT SIDE	1
5. 70392108	DECAL-SUCTION LINE	1	22. 71392256	DECAL-CONTROL CURB SIDE	1
6. 70392109	DECAL-RETURN LINE	1	23. 71392257	DECAL-OUTR PD STRT SIDE	1
7. 70392213	DECAL-CAUTION WASH/WAX	1	24. 71392258	DECAL-OUTR PRD CURB SIDE	1
8. 70392524	DECAL-ROT CRANE/GREASE	1	25. 71392365	DECAL-ALIGNMENT CRNE ROT	1
9. 70392813	DECAL-DANGER ELECTROC'N	2	26. 71393818	DECAL-9000 SERIES IDENT	2
10. 70392814	DECAL-DANGER OPERATOR	2	27. 71393780	CAPACITY PLACARD-1H & 2H	2
11. 70392815	DECAL-DANGER OPERATION	2	28. 70392889	DECAL-RC ELECTROCUTION	2
12. 70392864	DECAL-DGR OUTR STD CLR	2	29. 70394190	DECAL-CAUTION NOT A STEP	2
13. 70392865	DECAL-DANGER ELECTROC'N	4	30. 70394189	PLACARD-OIL REC	1
14. 70392866	DECAL-DANGER OPER COND	2	31. 70394446	DECAL-DGR FREEFALL BOOM	1 REF
15. 70392867	DECAL-DGR OUTR MOVING	2	32. 70392868	DECAL-DGR CR LOADLINE	4
16. 70392888	DECAL-DGR OPER RESTRICT	2	33. 70392863	DECAL-DGR HOIST PERS	2
17. 70392890	DECAL-DGR STOW/UNFOLD	2	34. 70395323	ASME/ANSI B30.22	1



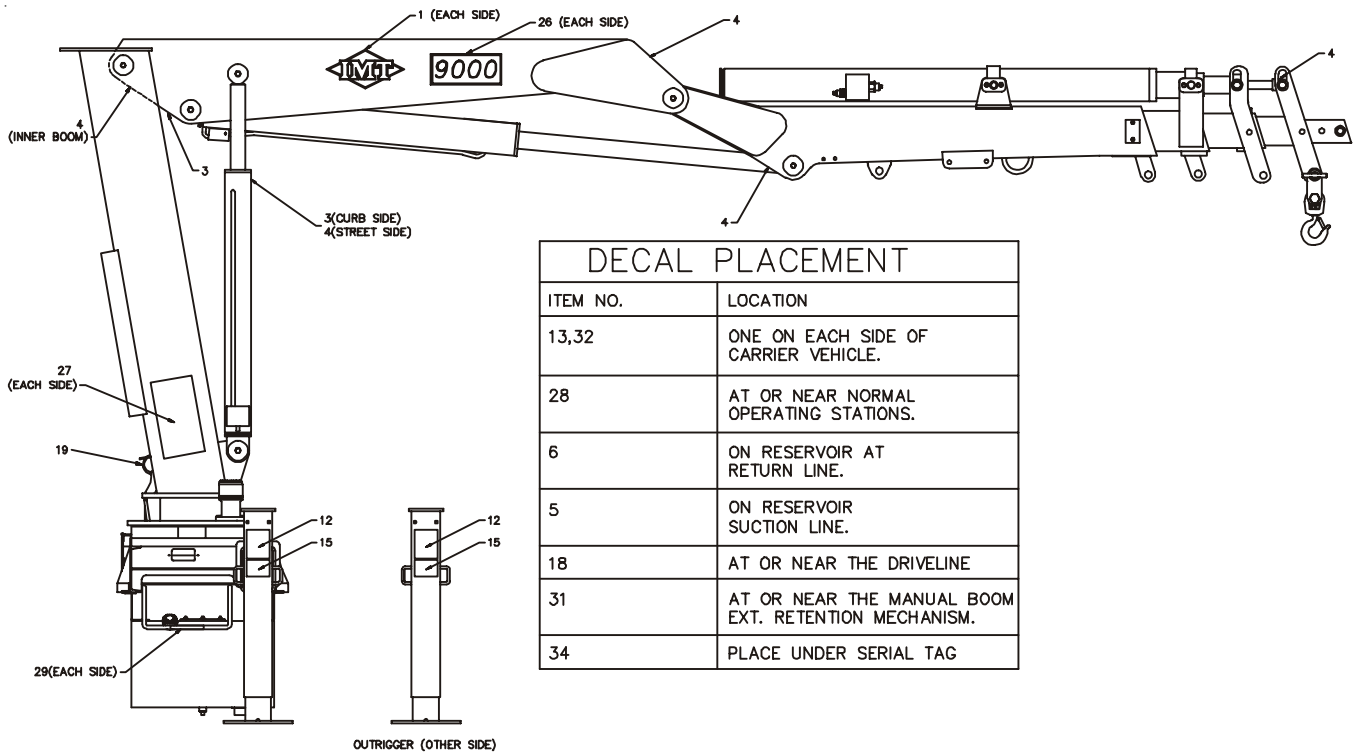
**DECAL KIT-9000 SERIES 1H & 2H
(95712081-2)**



**DECAL KIT-9000 SERIES 2H1M-3H1M
(95712082-1)**

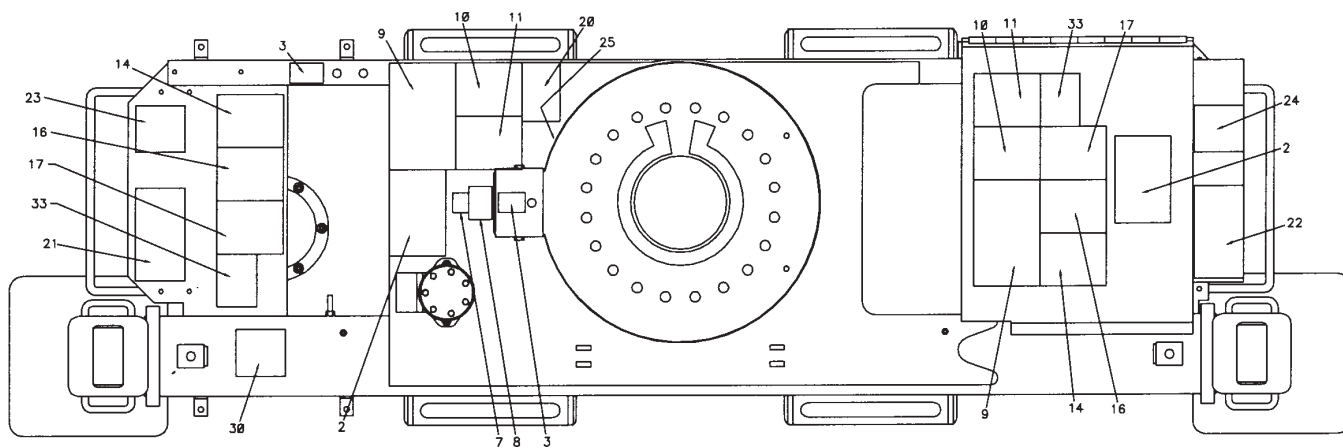
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- | | | | | | |
|--------------|---------------------------|---|--------------|--------------------------|-------|
| 1. 70029251 | PLACARD - IMT DIAMOND | 2 | 18. 70392891 | DECAL-DANGER DRIVELINE | 2 |
| 2. 70391583 | DECAL-SETUP/STOW INST. | 2 | 19. 70392982 | DECAL-CONTACT IMT | 1 |
| 3. 70391612 | DECAL-GREASE WEEKLY LEFT | 4 | 20. 71039134 | DECAL-CAUTION OIL LEVEL | 1 |
| 4. 70391613 | DECAL-GREASE WEEKLY RIGHT | 5 | 21. 71392255 | DECAL-CONTROL STRT SIDE | 1 |
| 5. 70392108 | DECAL-SUCTION LINE | 1 | 22. 71392256 | DECAL-CONTROL CURB SIDE | 1 |
| 6. 70392109 | DECAL-RETURN LINE | 1 | 23. 71392257 | DECAL-OUTR PD STRT SIDE | 1 |
| 7. 70392213 | DECAL-CAUTION WASH/WAX | 1 | 24. 71392258 | DECAL-OUTR PD CURB SIDE | 1 |
| 8. 70392524 | DECAL-ROT CRANE/GREASE | 1 | 25. 71392365 | DECAL-ALIGNMENT CRNE ROT | 1 |
| 9. 70392813 | DECAL-DANGER ELECTROC'N | 2 | 26. 71393818 | DECAL-9000 SERIES IDENT | 2 |
| 10. 70392814 | DECAL-DANGER OPERATOR | 2 | 27. 71393781 | CAP PLACARD-2H1M-3H1M | 2 |
| 11. 70392815 | DECAL-DANGER OPERATION | 2 | 28. 70392889 | DECAL-RC ELECTROCUTION | 2 |
| 12. 70392864 | DECAL-DGR OUTR STD CLR | 2 | 29. 70394190 | DECAL-CAUTION NOT A STEP | 2 |
| 13. 70392865 | DECAL-DANGER ELECTROC'N | 4 | 30. 70394189 | PLACARD-OIL REC | 1 |
| 14. 70392866 | DECAL-DANGER OPER COND | 2 | 31. 70394443 | DECAL-DGR FREEFALL BOOM | 1 REF |
| 15. 70392867 | DECAL-DGR OUTR MOVING | 2 | 32. 70392868 | DECAL-DGR CR LOADLINE | 4 |
| 16. 70392888 | DECAL-DGR OPER RESTRICT | 2 | 33. 70392863 | DECAL-DGR HOIST PERS | 2 |
| 17. 70392890 | DECAL-DGR STOW/UNFOLD | 2 | 34. 70395323 | DECAL-ASME/ANSI B30.22 | 1 |



DECAL PLACEMENT	
ITEM NO.	LOCATION
13,32	ONE ON EACH SIDE OF CARRIER VEHICLE.
28	AT OR NEAR NORMAL OPERATING STATIONS.
6	ON RESERVOIR AT RETURN LINE.
5	ON RESERVOIR SUCTION LINE.
18	AT OR NEAR THE DRIVELINE
31	AT OR NEAR THE MANUAL BOOM EXT. RETENTION MECHANISM.
34	PLACE UNDER SERIAL TAG

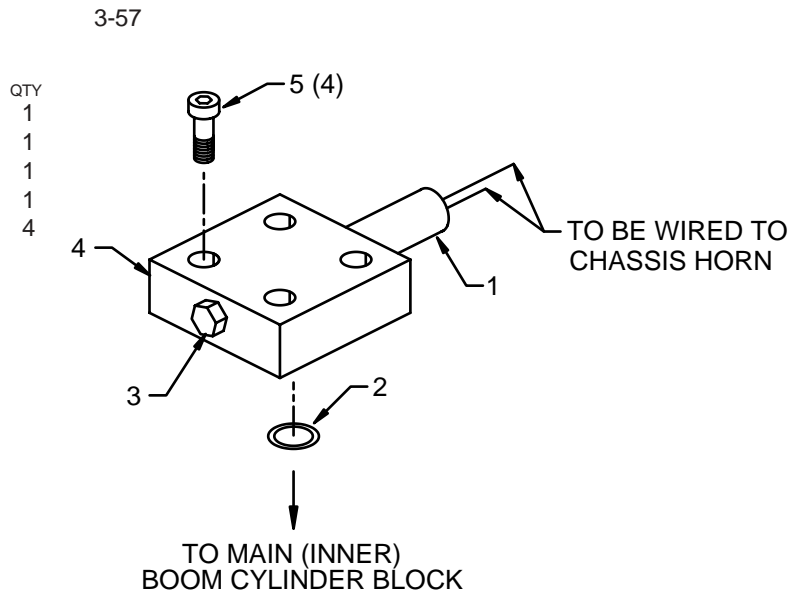
**DECAL KIT-9000 SERIES 2H1M-3H1M
(95712082-2)**



9000/1295: 31717516.01.20030715

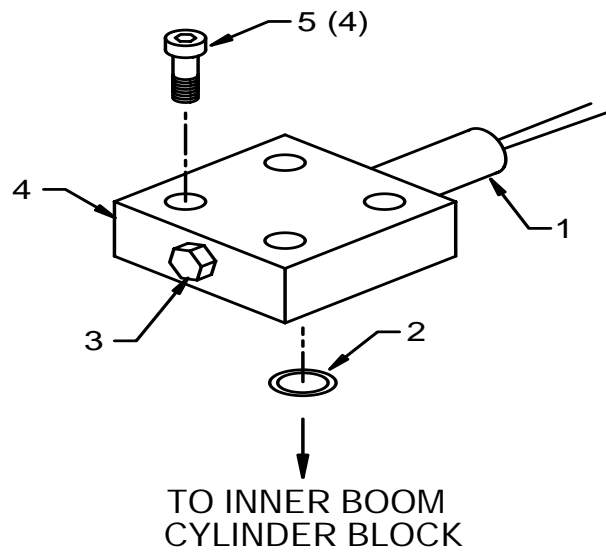
CAPACITY ALERT KIT (31713333)

ITEM	PART NO.	DESCRIPTION
1.	77041476	PRESSURE SWITCH
2.	7Q072015	O-RING
3.	72532140	PLUG 9/16-18 HH STR
4.	60025221	MANIFOLD
5.	72060731	CAP SCREW 5/16-18 X 3/4



CAPACITY SHUTDOWN KIT - 3100 PSI (31717516)

ITEM	PART NO.	DESCRIPTION	QTY
1.	77041476	PRESSURE SWITCH	1
2.	7Q072015	O-RING	1
3.	72532140	PLUG 9/16 STR HH STL	1
4.	60025221	MANIFOLD	1
5.	72060731	CAP SCR 5/16-18 X 3/4 SHZ	4



**3-STG EXT CYLINDER EFF:5-22-00
(3K120200)**

1.	4C150920	CASE ASM (INCL:36)	1
2.	4J118200	ROD / CASE ASM 4-1/2 OD	1
3.	4K118200	ROD / CASE ASM 3 OD	1
4.	4H066900	ROD ASM	1
5.	4P052960	INTERNAL PORT (INCL:37)	1
6.	4FG06690	MTG RING 4-1/2 ID	1
7.	5FG66900	MTG RING 3 ID	1
8.	6I050369	PISTON 5"	1
9.	6I035269	PISTON 3-1/2"	1
10.	6I025144	PISTON 2-1/2"	1
11.	6HL50345	HEAD 5"	1
12.	6HL35230	HEAD 3-1/2"	1
13.	6HL25015	HEAD 2-1/2"	1
14.	6C250150	STOP TUBE 1-1/2 X 2-1/2L	1
15.	73054817	COUNTERBALANCE VALVE	1
16.	73054902	COUNTERBALANCE VALVE	1
17.	9X118200	SEAL KIT (INCL:18-35,39-43)	1
18.	7Q10P228	BACK-UP RING (PART OF 17)	3REF
19.	7Q072228	O-RING (PART OF 17)	2REF
20.	7Q10P338	BACK-UP RING (PART OF 17)	1REF
21.	7Q072338	O-RING (PART OF 17)	1REF
22.	7Q10P350	BACK-UP RING (PART OF 17)	1REF
23.	7Q072350	O-RING (PART OF 17)	1REF
24.	7Q072240	O-RING (PART OF 17)	1REF
25.	7R546015	U-CUP SEAL (PART OF 17)	1REF
26.	7R336030	U-CUP SEAL (PART OF 17)	1REF
27.	7R488450	U-CUP SEAL (PART OF 17)	1REF
28.	7R100750	U-CUP SEAL (PART OF 17)	3REF
29.	7T66P250	PISTON SEAL (PART OF 17)	1REF

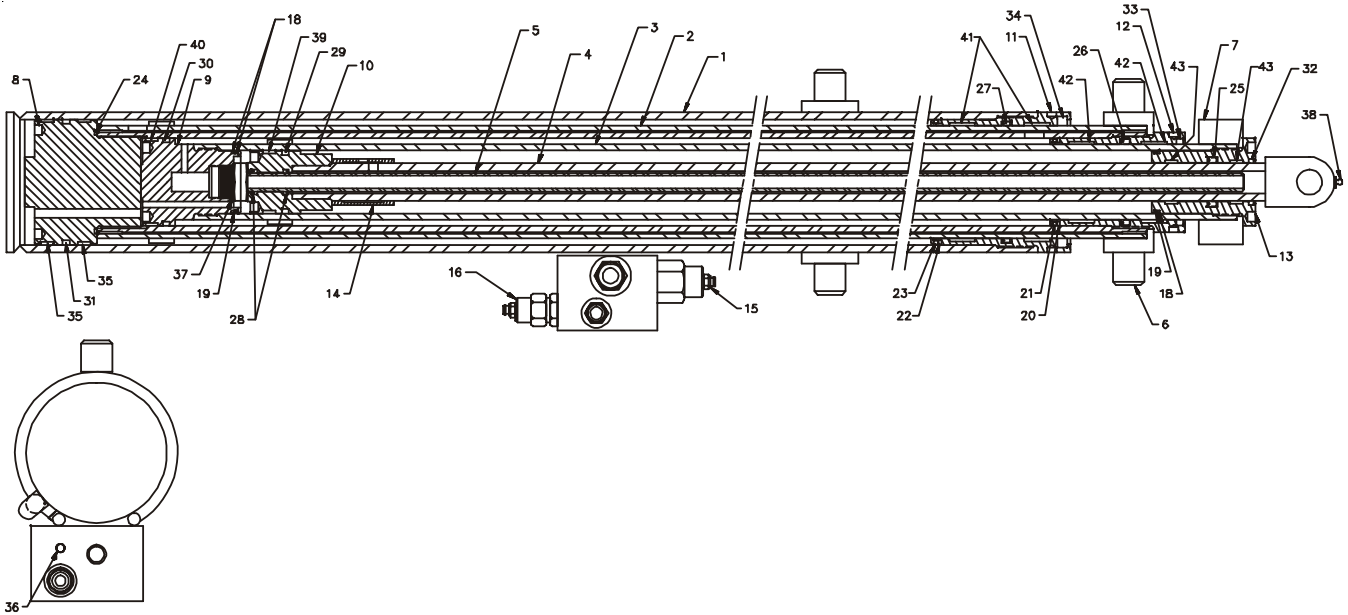
30.	7T66P350	PISTON SEAL (PART OF 17)	1REF
31.	7T66P500	PISTON SEAL (PART OF 17)	1REF
32.	7R14P015	ROD WIPER (PART OF 17)	1REF
33.	7R14P030	ROD WIPER (PART OF 17)	1REF
34.	7R14P045	ROD WIPER (PART OF 17)	1REF
35.	7T2N4050	WEAR RING (PART OF 17)	2REF
36.	7PNPXT02	PLUG 1/8NPT (PART OF 1)	4REF
37.	7Q092916	O-RING (PART OF 5)	1REF
38.	72053507	ZERK 1/4-28	1
39.	7T2N4025	WEAR RING (PART OF 17)	1REF
40.	7T2N4035	WEAR RING (PART OF 17)	1REF
41.	7T2NX847	ROD WEAR RING (PART OF 17)	1REF
42.	7T2NX832	ROD WEAR RING (PART OF 17)	1REF
43.	7T2NX417	ROD WEAR RING (PART OF 17)	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.



OPTION-HYD OVERLOAD KIT-3F (51717128)

ITEM	PART NO.	DESCRIPTION	QTY
1.	72532657	TEE #8JIC SWVL NUT RUN	3
2.	72532658	ELBOW #8MJIC #8FJIC	3
3.	73540085	VALVE BLOCK ASM	1
4.	72532358	ADAPTER #8MSTR #8MJIC	5
5.	73054426	VALVE-ADJ RELIEF	1
6.	72532366	ADAPTER #12MSTR #12MJIC	2
7.	72532950	TEE-SWIVEL NUT RUN JIC#12	2
8.	72532696	ELBOW-#12MJIC #12FJIC SW	2
9.	72532972	ADPTR-#8MJIC#12FJIC	2
11.	72532141	PLUG STR HEX HD STL 3/4 THD	3
12.	51706443	HOSE ASM-FF 3/8 X 53.00	4
13.	51706239	HOSE ASM-FF 1/2 X 5.00	1
14.	51706238	HOSE ASM-FF 3/4 X 6.00	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	HARNES-OVERLOAD	1

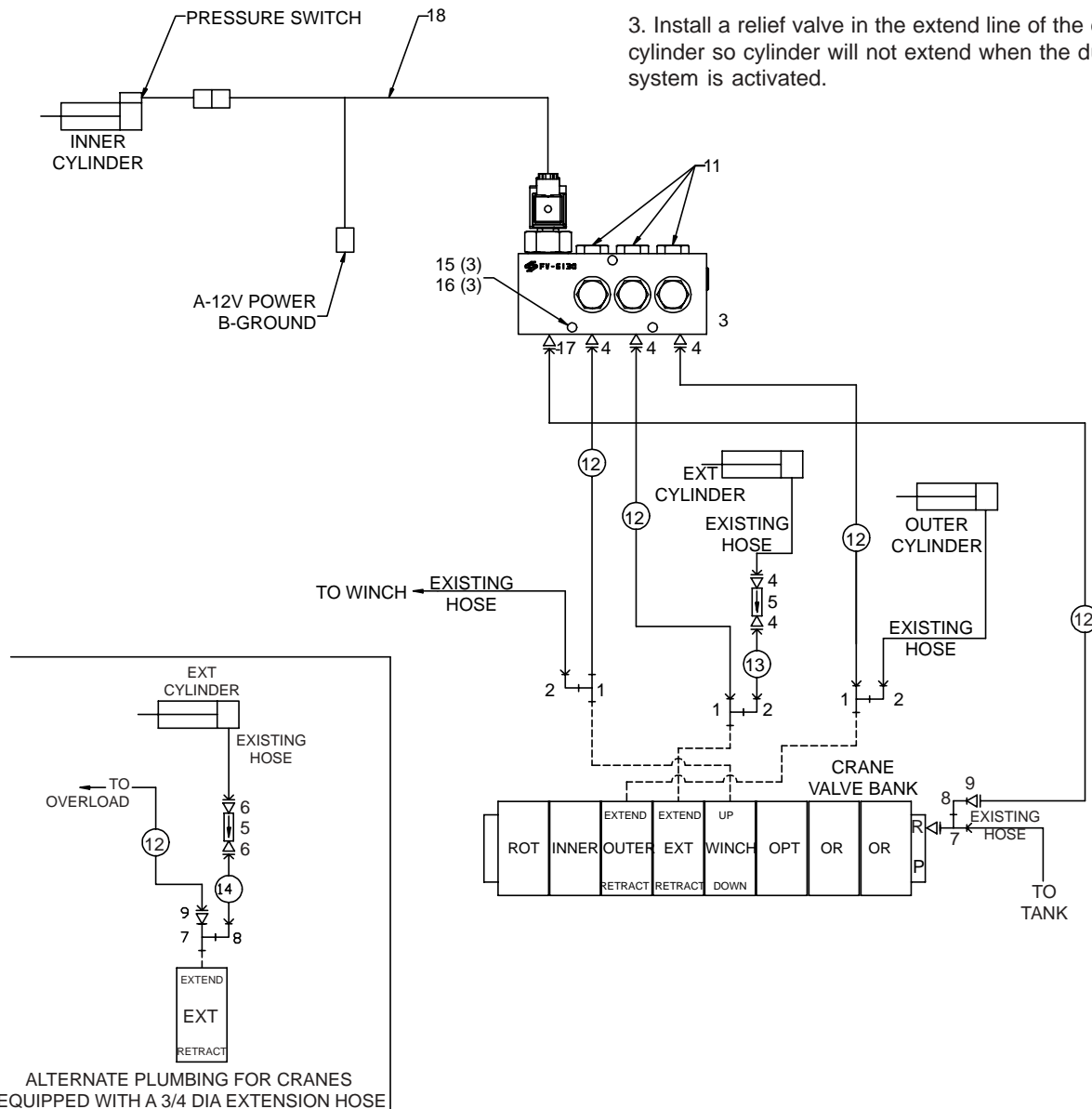
NOTES:

1. Function of system is such that when the inner cylinders are overloaded, the pressure switch, mounted on the inner cylinder, 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 following functions will shut down if overloaded:

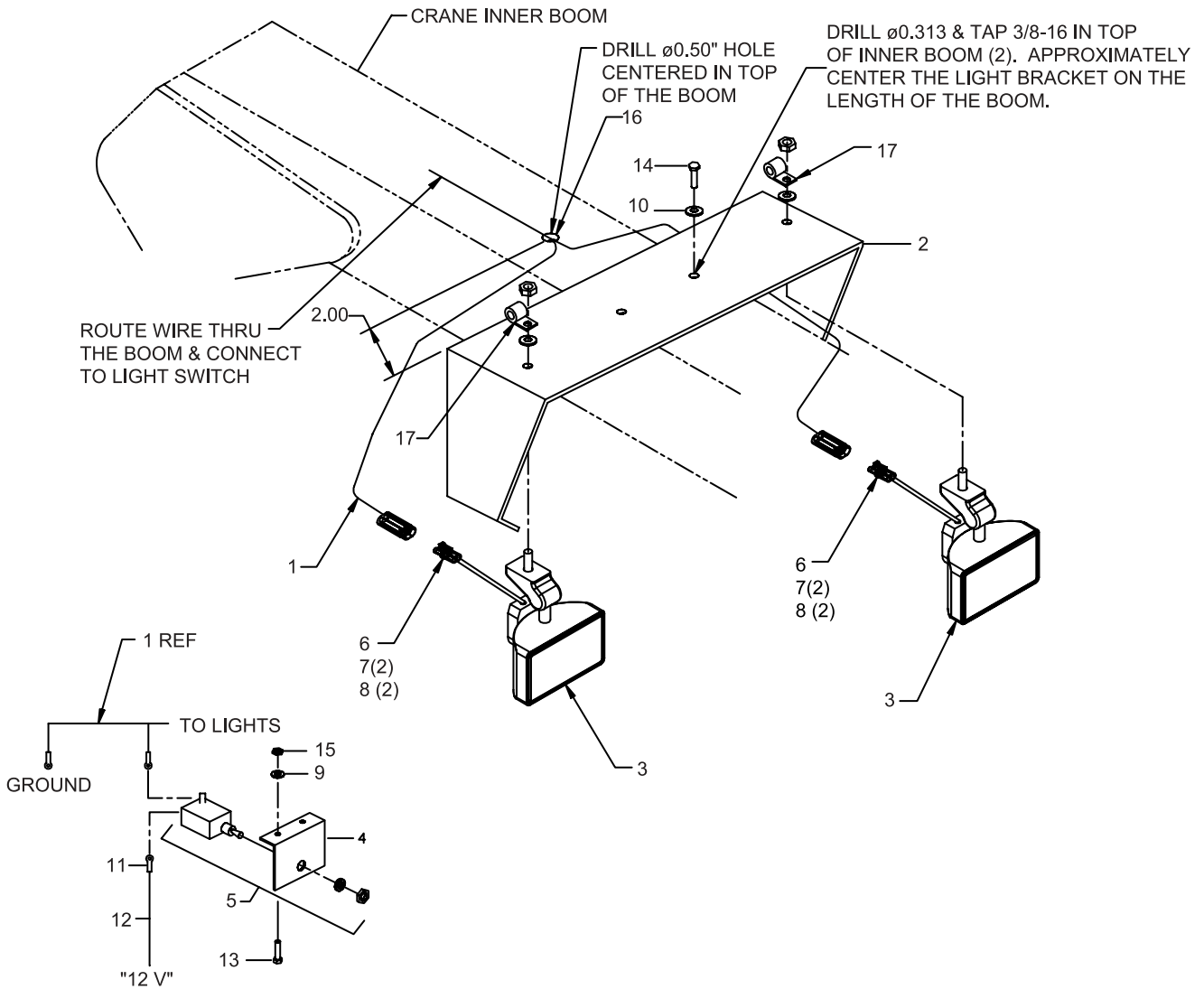
- Outer boom "extend"
- Extension cylinder "extend"
- Winch "up"

3. Install a relief valve in the extend line of the extension cylinder so cylinder will not extend when the dump system is activated.



OPTION - LIGHT KIT (31717218)

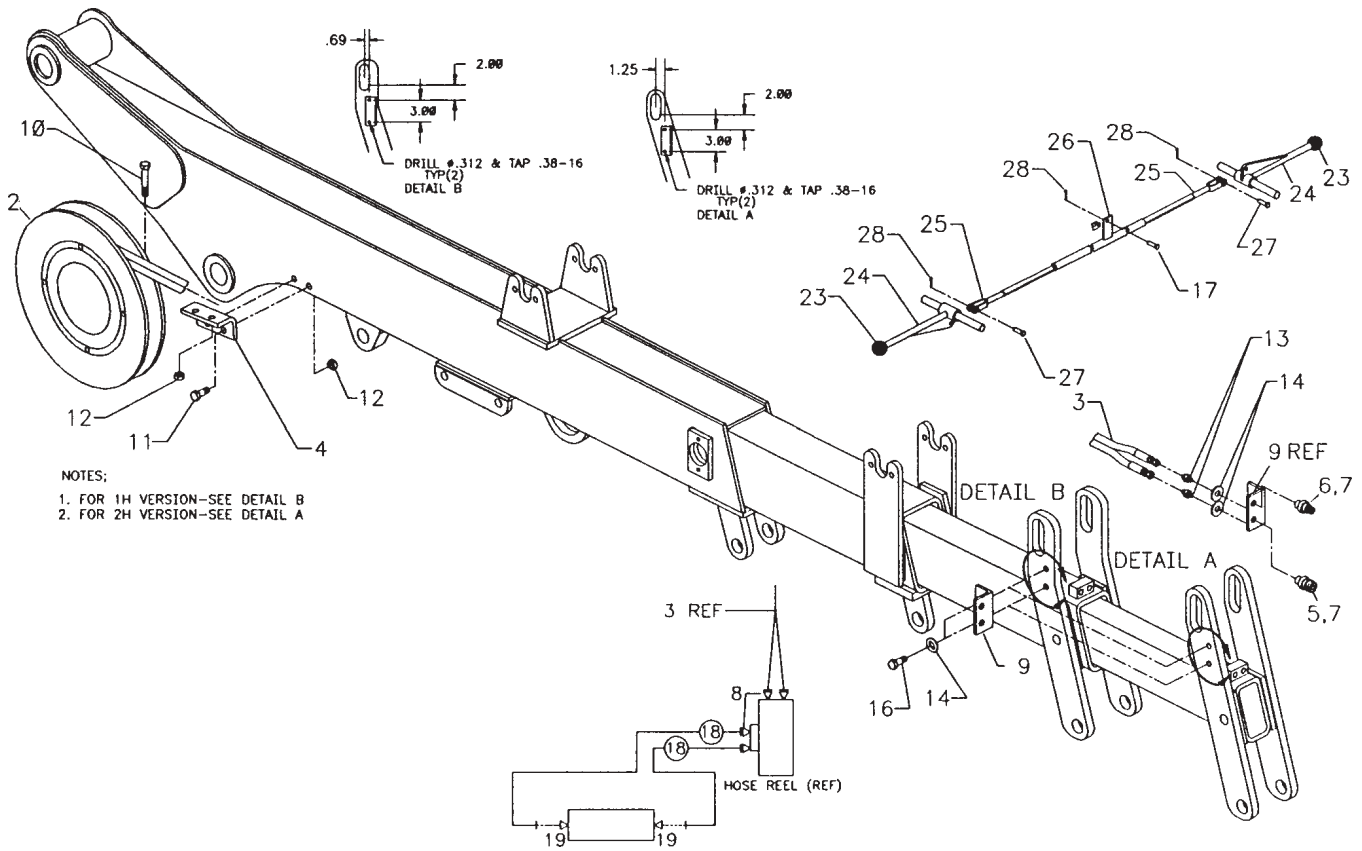
ITEM	PART NO.	DESCRIPTION	QTY
1.	51717219	CABLE ASM- FLOOD LIGHTS	1
2.	60107762	GUARD	1
3.	77040424	FLOOD-LT-COMP WORK LAMP	2
4.	60103535	SWITCH BRACKET - 1 HOLE	1
5.	77041345	TOGGLE SWITCH	1
6.	77044574	CONNECTOR	2
7.	77044550	TERMINAL-F 18-20 GA	4
8.	70394069	SEAL CABLE CONNECTOR	4
9.	72063049	WASHER 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"	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	RUBBER GROMMET 9/16	1
17.	72661312	CLAMP 1/2 LOOP CUSHIONED	2



**OPTION-SGL HOSE REEL KIT-V20
(31712010)**

ITEM	PART NO.	DESCRIPTION	QTY
2.	70732864	HOSE REEL-RH	1
3.	51393812	HOSE ASM 1/4X300 TWIN-LINE	1
4.	60117715	BRACKET	1
5.	72533380	DISCONNECT COUPLER 1/4NPT	1
6.	72533382	DISCONNECT NIPPLE 1/4NPT	1
7.	72533381	DUST CAP	2
8.	72532353	ADAPTER #6MSTR #4MJIC	4
9.	60115137	ANGLE	1
10.	72060097	CAP SCR 1/2-13X3 HHGR5	2
11.	72060093	CAP SCR 1/2-13X1-1/2 HHGR5	2

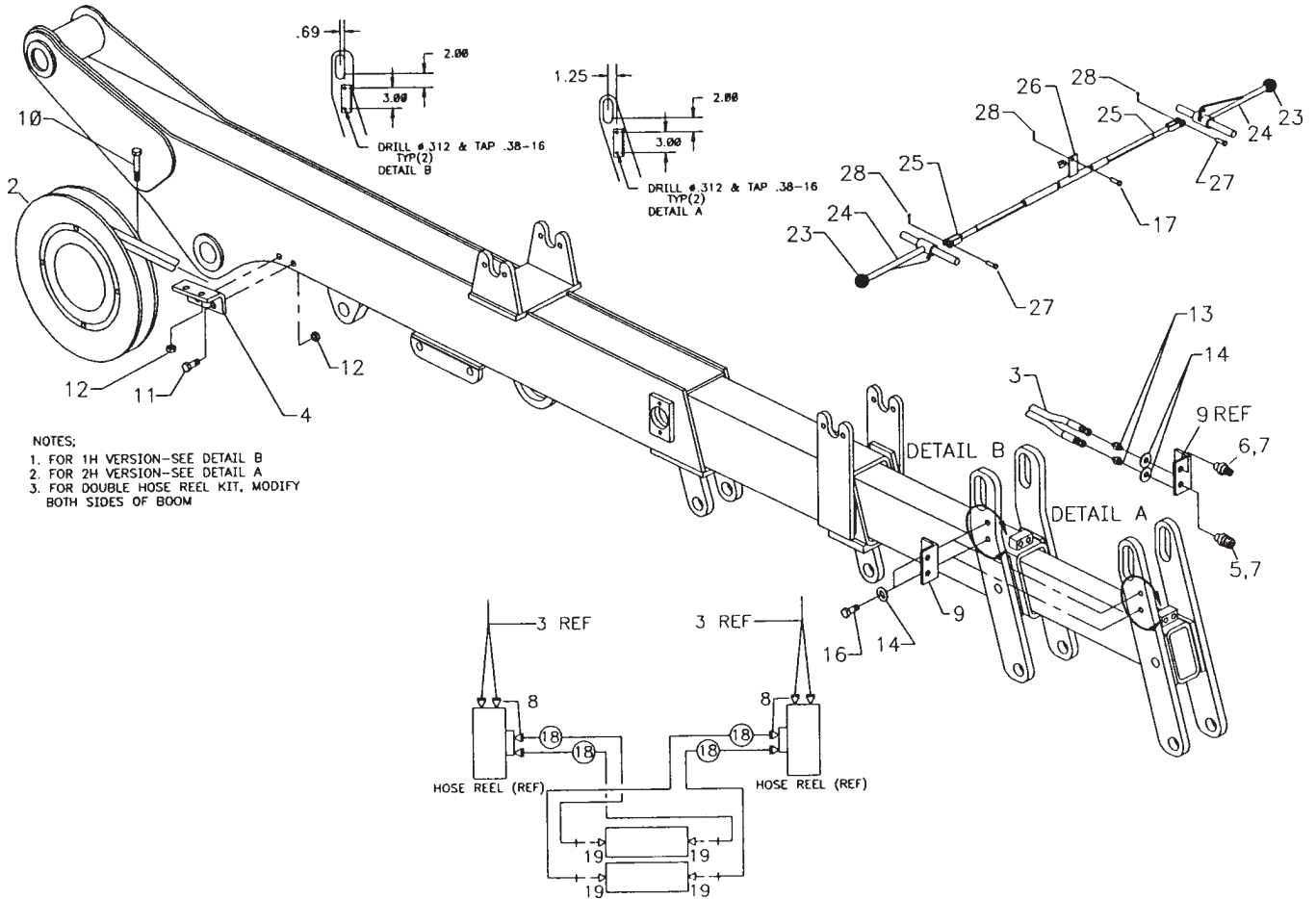
12.	72062080	NUT 1/2-13 LOCK	4
13.	72053499	ADAPTER 1/4MPT #4MJIC	2
14.	72063003	WASHER 3/8 WRT	4
16.	72060044	CAP SCR 3/8-16X3/4	2
17.	72066337	PIN-SPECIAL	2
18.	51708888	HOSE ASM 1/4X323 FF	2
19.	72532665	ADAPTER #4MJIC #8FJIC	2
23.	71039096	KNOB	2
24.	70029451	CONTROL HANDLE	2
25.	52704745	CONTROL ROD-M	2
26.	52705877	CONTROL ROD-F	1
27.	72066338	CLEVIS PIN 5/16X1	2
28.	72066168	COTTER PIN .09X.75	3



**OPTION-DBL HOSE REEL KIT-V20
(31712011)**

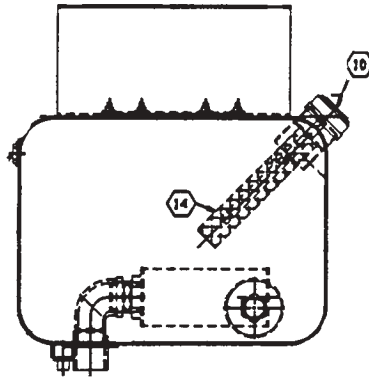
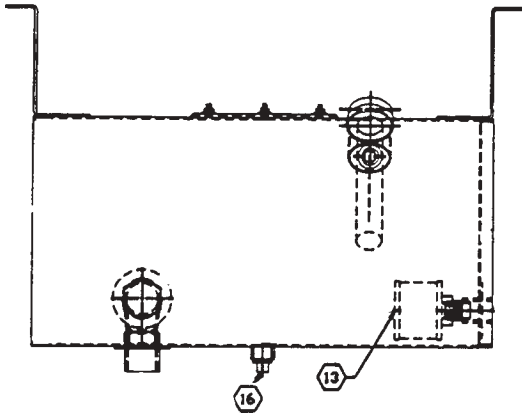
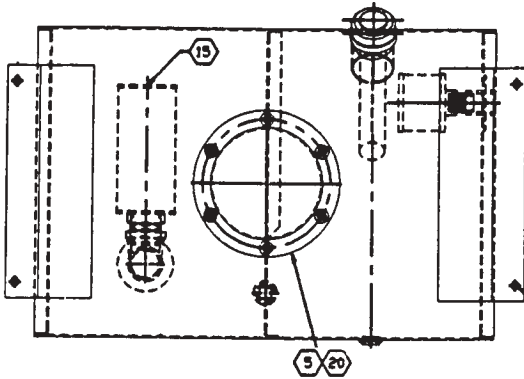
ITEM	PART NO.	DESCRIPTION	QTY
1.	70732863	HOSE REEL-LH	1
2.	70732864	HOSE REEL-RH	1
3.	51393812	HOSE ASM 1/4X300 TWIN-LINE	2
4.	60117715	BRACKET	2
5.	72533380	DISCONNECT COUPLER 1/4NPT	2
6.	72533382	DISCONNECT NIPPLE 1/4NPT	2
7.	72533381	DUST CAP	4
8.	72532353	ADAPTER #6MSTR #4MJIC	8
9.	60115137	ANGLE	2
10.	72060097	CAP SCR 1/2-13X3 HHGR5	4
11.	72060093	CAP SCR 1/2-13X1-1/2 HHGR5	4

12.	72062080	NUT 1/2-13 LOCK	8
13.	72053499	ADAPTER 1/4MPT #4MJIC	4
14.	72063003	WASHER 3/8 WRT	8
16.	72060044	CAP SCR 3/8-16X3/4	4
17.	72066337	PIN-SPECIAL	2
18.	51708888	HOSE ASM 1/4X323 FF	4
19.	72532665	ADAPTER #4MJIC #8FJIC	4
23.	71039096	KNOB	4
24.	70029451	CONTROL HANDLE	4
25.	52704745	CONTROL ROD-M	4
26.	52705877	CONTROL ROD-F	2
27.	72066338	CLEVIS PIN 5/16X1	4
28.	72066168	COTTER PIN .09X.75	6



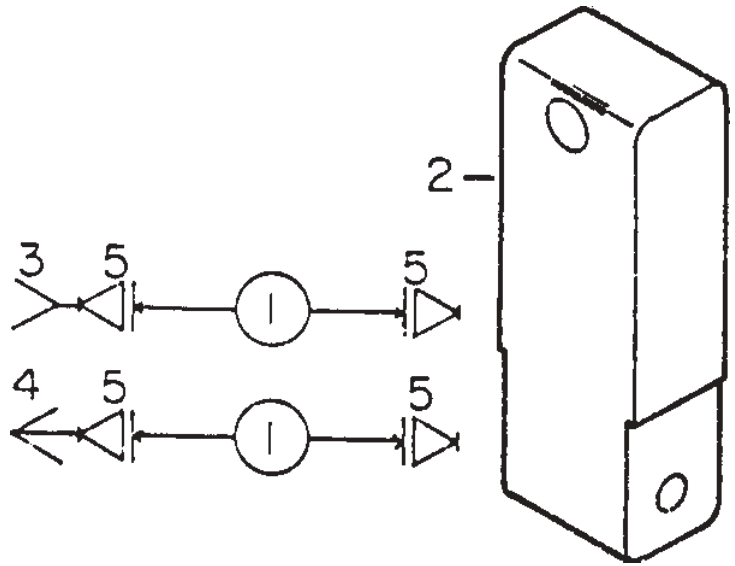
OPTION-RESERVOIR ASM 25-GAL (70732578)

ITEM	PART NO.	DESCRIPTION	QTY
5.	70144163	COVER	1
10.	70732789	DIPSTICK ASM	1
13.	70034410	DIFFUSER 3/4NPT 33GPM	1
14.	70732791	SCREEN 100MESH	1
15.	70144166	STRAINER 100MESH 20GPM	1
16.	73052001	PLUG 3/4FPT SQHD MAGNETIC	1
20.	76393565	O-RING 6 ID X 6-1/2 OD	1



OPTION-AUGER MTG KIT (51707059)

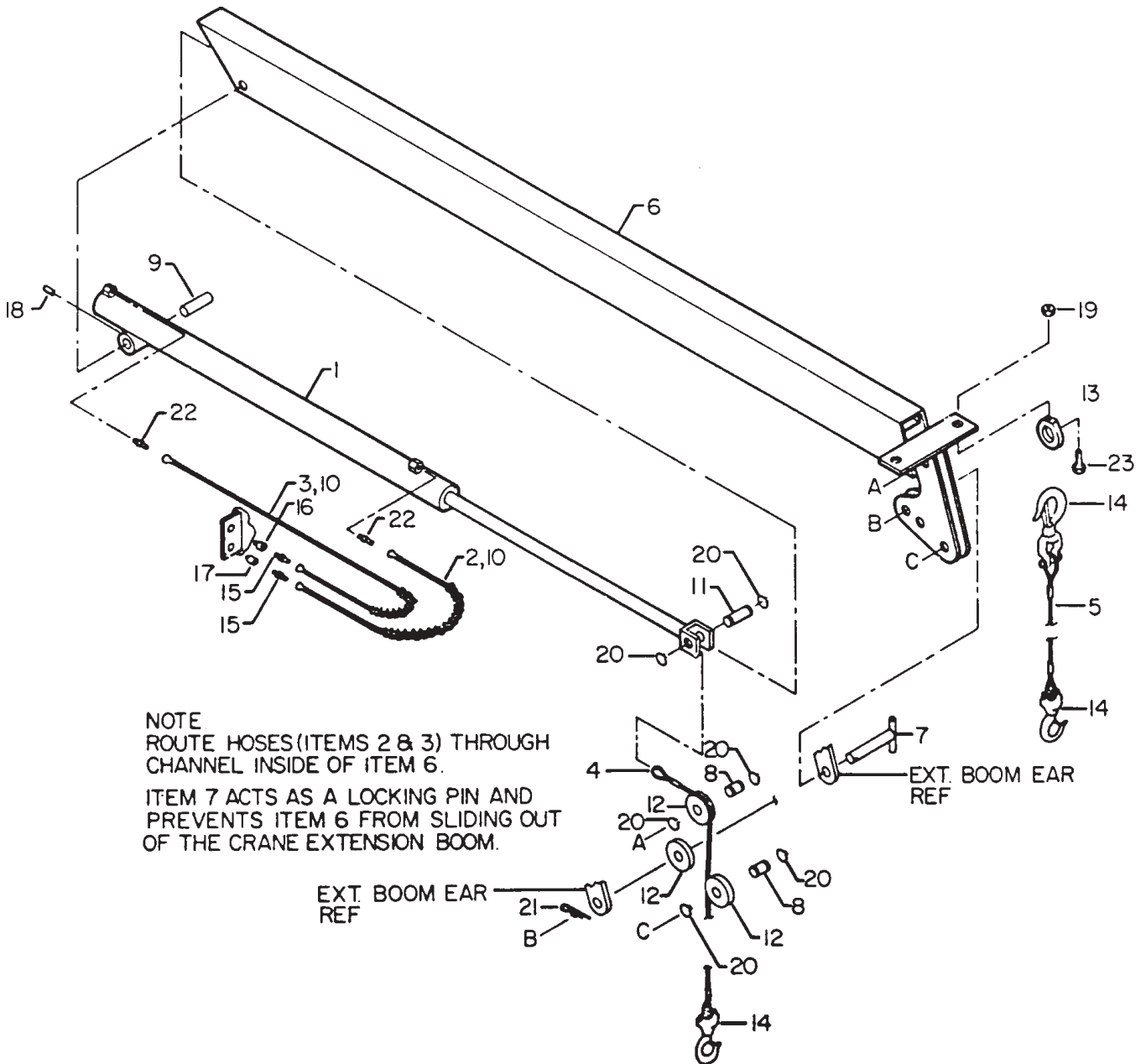
ITEM	PART NO.	DESCRIPTION	QTY
1.	51705062	HOSE ASM 1/2X48 FF	2
2.	60108961	SWIVEL LINK	1
3.	72533101	COUPLER 3/8FPT DISCONNECT	1
4.	72533102	NIPPLE 3/8FPT DISCONNECT	1
5.	72053670	ADAPTER 3/8MPT 3/4MJIC	4



**OPTION-IGLOO HANDLING KIT
(51709224)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B289890	CYLINDER-IGLOO CABLE	1
2.	51704024	HOSE ASM 1/4X54 FF	1
3.	51705191	HOSE ASM 1/4X96 FF	1
4.	51709391	LIFT CABLE 1/4X63-3/4	1
5.	51709392	LIFT CABLE 1/4X33-1/4	1
6.	52709372	BOOM	1
7.	52705802	PIN	1
8.	60113559	PIN	2
9.	60113561	PIN	1
10.	60113567	SPRING GUARD	2

11.	60113568	PIN	1
12.	70056426	SHEAVE	3
13.	70143644	NUT #4 EYE STD	1
14.	70580020	HOOK 1/2 TON	3
15.	72053499	ADAPTER 1/4MPT 7/16MJIC	2
16.	72053539	COUPLER 1/4FPT DISCONNECT	1
17.	72053541	NIPPLE 1/4FPT DISCONNECT	1
18.	72060578	SET SCR 3/8-16X3/8 SH	1
19.	72062102	NUT 5/8-11 LOCK	1
20.	72066123	RETAINING RING 3/4 STD EXT	6
21.	72066145	HAIR PIN .19	1
22.	72532351	ADAPTER 7/16MSTR 7/16MJIC	2
23.	72601258	CAP SCR 5/8-11X1-1/2 HHGR8	1



**OPTION-RECYCLING CONTAINER KIT-3
HOLE (31709622)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	3B044900	CYLINDER	1
2.	3B045900	CYLINDER	1
3.	3B046900	CYLINDER	1
4.	5V051900	VALVE BLOCK	2
5.	51709554	LIFT CABLE 1/4X98-3/4	2
6.	51709391	LIFT CABLE 1/4X63-3/4	1
7.	72061100	SCR #10X1/2 HH SLOT SLFTPG	4
9.	52709555	PIN	2
10.	52709556	CABLE GUIDE	2
11.	52709594	EXT BOOM	1
12.	60107237	BLOCK	2
13.	60113559	PIN	3
14.	60113561	PIN	1
15.	60113567	SPRING GUARD	2
16.	60113568	PIN	1
17.	60113786	HOOK-HOSE MTG	1
18.	60113788	CABLE END CAP	2
19.	60113789	SOLENOID MTG PLATE	1
20.	60113790	SPACER BAR	2
21.	60113791	CABLE GUIDE	1
22.	60113815	CORD REEL MTG BRACKET	2
23.	60113851	CABLE ID PLATE	2
24.	60113957	PIN	2
25.	70034381	SUPPORT	2
26.	70056426	SHEAVE	11
27.	70580020	HOOK-1/2 TON	3
28.	72060002	CAP SCR 1/4-20X3/4 HHGR5	2
29.	72060090	CAP SCR 1/2-13X7/8 HHGR5	2
30.	72060578	SET SCR 3/8-16X3/8 SH	1
31.	72062080	NUT 1/2-13 LOCK	2
32.	72062109	NUT 5/16-18 LOCK	21
33.	72063005	WASHER 1/2 WRT	2
34.	72066074	RETAINING RING 3/4 EXT STD	12
35.	72601597	CAP SCR 5/16-18X1 FLH SOC	8
36.	72601598	CAP SCR 5/16-18X1-1/2 FLHSOC	4
37.	72601599	CAP SCR 5/16-18X2-1/2 FLHSOC	4
38.	72661386	ROLL PIN	2
39.	99900373	HYDRAULIC SCHEMATIC	1
40.	72060030	CAP SCR 5/16-18X2-1/4 HHGR5	4
42.	72053541	NIPPLE 1/4FPT DISCONNECT	1

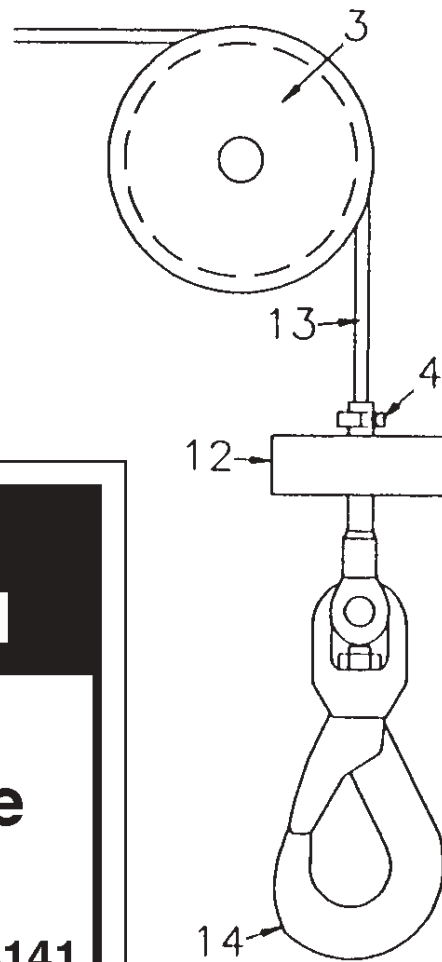
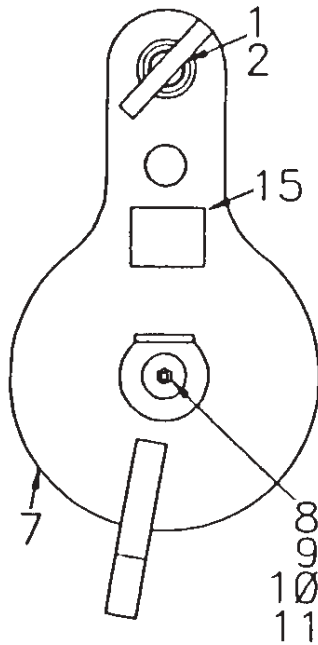
43.	72531412	ELBOW 1/4MPT 7/16MJIC 90°	1
44.	72053539	COUPLER 1/4FPT DISCONNECT	1
45.	72533013	ADAPTER 1/4MSTR 7/16MPT	1
46.	72532770	ELBOW 7/16MJIC 7/16FJIC 45°	2
47.	72532351	ADAPTER 7/16MSTR 7/16MJIC	9
48.	72532690	ELBOW 7/16MJIC 7/16FJIC SWVL	4
49.	72533020	ELBOW 7/16MSTR 7/16MJIC 45°	1
50.	72533758	ELBOW 7/16MSTR 7/16MJIC 90°	3
51.	51709592	HOSE ASM 1/4X5 FJ	1
52.	51709800	HOSE ASM 1/4X13 FJ	1
53.	51703593	HOSE ASM 1/4X11 FF	1
54.	51703733	HOSE ASM 1/4X45 FF	1
55.	51709580	HOSE ASM 1/4X68 FF	1
56.	51704023	HOSE ASM 1/4X19 FF	1
57.	51709741	HOSE ASM 1/4X24 FJ	1
58.	99900374	ELECTRICAL SCHEMATIC	1
59.	73054638	VALVE-NORMALLY OPEN	2
60.	73054705	VALVE-NORMALLY CLOSED	4
61.	77044491	CONNECTOR-3 WAY	1
62.	70732291	CABLE REEL	1
63.	72060023	CAP SCR 5/16-18X3/4	2
64.	72062109	NUT 5/16-18 LOCK	2
65.	72063002	WASHER 5/16 WRT	2
66.	77041346	TOGGLE SWITCH DT	2
67.	77041251	RELAY	2
68.	77041147	DIODE	2
69.	89044039	CABLE 14GA/3 WIRE	18'
70.	89044398	WIRE 16GA BLK	2.5'
71.	89044395	WIRE 16GA GRN	2.5'
72.	89044235	WIRE 14GA WHT	1.25'
73.	89044232	WIRE 14GA RED	.5'
74.	89044034	CABLE 14GA/4 WIRE	10'
75.	89044188	WIRE 14GA/DUPLEX	1'
76.	60113847	JIC BOX-MACHINED	1
77.	52709633	JIC BOX-WELDMENT	1
78.	72060004	CAP SCR 1/4-20X1 HHGR5	4
79.	77040048	BUTT CONNECTOR	6
80.	77044238	TERMINAL-BULLET	2
81.	77040282	TERMINAL-PIGGYBACK	17
82.	77040186	TERMINAL-FSLPON	30
83.	77040047	TERMINAL-MSLPON	1
84.	72062104	NUT 1/4-20 LOCK	4

SEE FOLLOWING PAGE FOR DRAWING

**OPTION-CABLE & HOOK KIT-5000 LB
DP WINCH (31712572)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	52070151	PIN	1
2.	72066145	HAIR PIN .19	1
3.	60030255	SHEAVE 9" NYLON	1
4.	70145121	COLLAR	1
7.	52712573	YOKE	1

8.	52707730	PIN	1
9.	72053508	ZERK 1/8NPT	1
10.	60109337	PIN RETAINER PLATE 3"	1
11.	72060147	CAP SCR 5/8-11X1 HHGR5	1
12.	60118434	DOWN HAUL WEIGHT	1
13.	70580089	WIRE ROPE ASM	1
14.	70732882	SWIVEL HOOK 5.9 TON	1
15.	70394141	DECAL-STORAGE PIN	2



SAFETY
INSTRUCTION

This hole to be
used for sheave
storage pin.

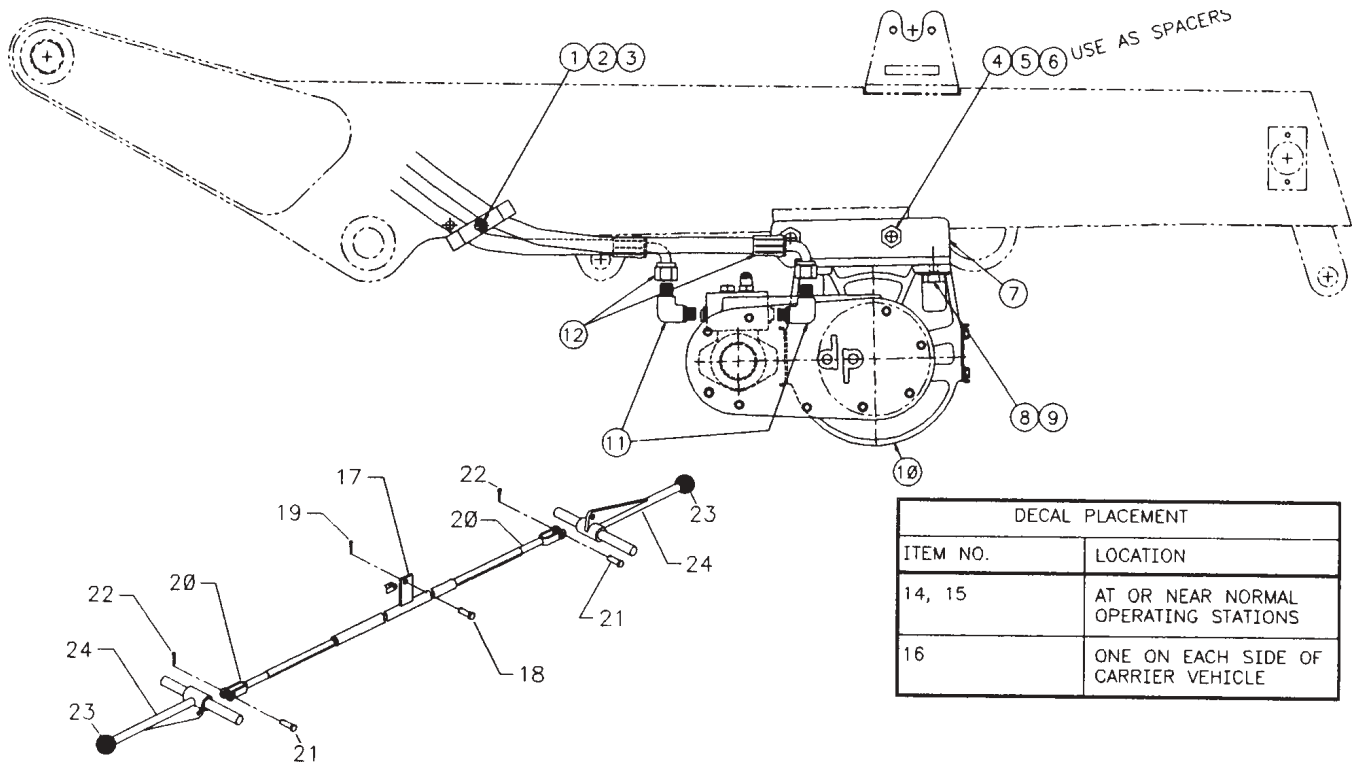
70394141

**DETAIL
ITEM 15**

**OPTION-WINCH KIT-DP 5000# BOLT-ON
(31905000)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	72062103	NUT 3/8-16 LOCK	1
2.	60107648	HOSE CLAMP	1
3.	72060048	CAP SCR 3/8-16X1-1/2 HHGR5	1
4.	72062114	NUT 3/4-10 LOCK	2
5.	72060199	CAP SCR 3/4-10X9 HHGR5	2
6.	72063028	MACH BUSHING 3/4X14GA	4
7.	52712475	MTG BRACKET	1
8.	72601272	CAP SCR 1/2-13X1-1/4 HHGR8	4
9.	72063053	WASHER 1/2 LOCK	4
10.	71570217	WINCH-5000#	1

11.	72053763	ELBOW #8MSTR #8MJIC 90°	2
12.	51712981	HOSE ASM 3/8X312 FJ #8#8	2
14.	70392861	DECAL-DANGER 2-BLOCKING	2
15.	70392863	DECAL-DANGER HOIST PERS	2
16.	70392868	DECAL-DANGER CRANE LOAD	4
17.	52705877	CONTROL ROD-F	1
18.	72066337	PIN-SPCL VB	1
19.	72066336	COTTER PIN-SPCL SHORT	1
20.	52704745	CONTROL ROD-M	2
21.	72066338	CLEVIS PIN 5/16X1	2
22.	72066168	COTTER PIN 3/32X3/4	2
23.	71039096	CONTROL KNOB 1-1/2	2
24.	70029451	CONTROL HANDLE VB	2

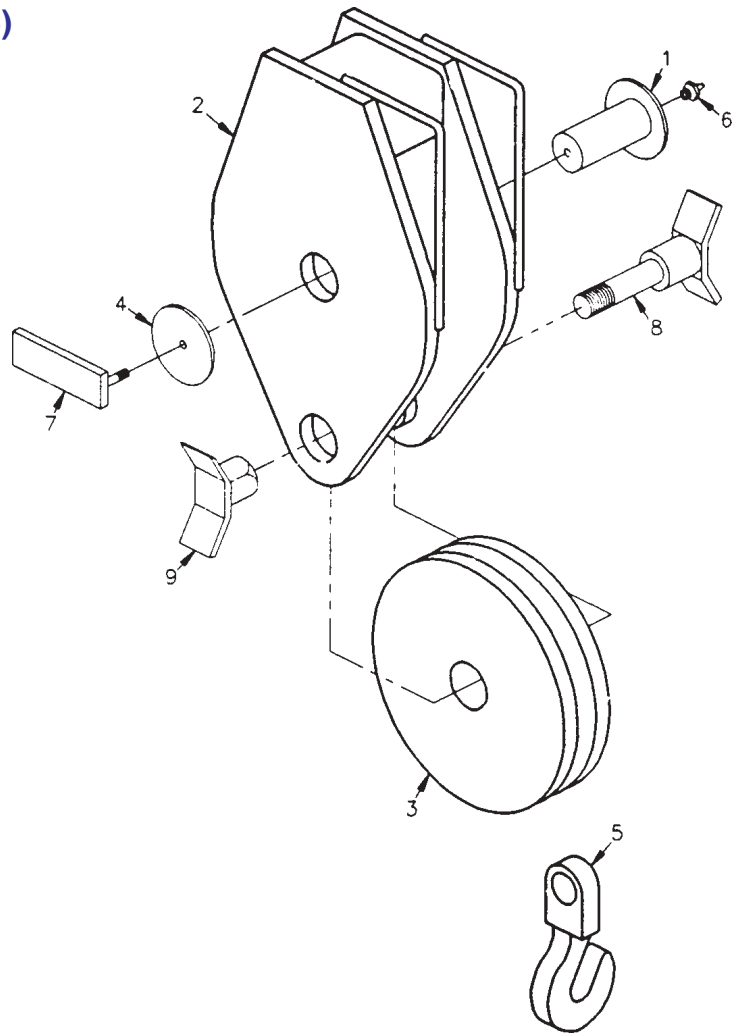


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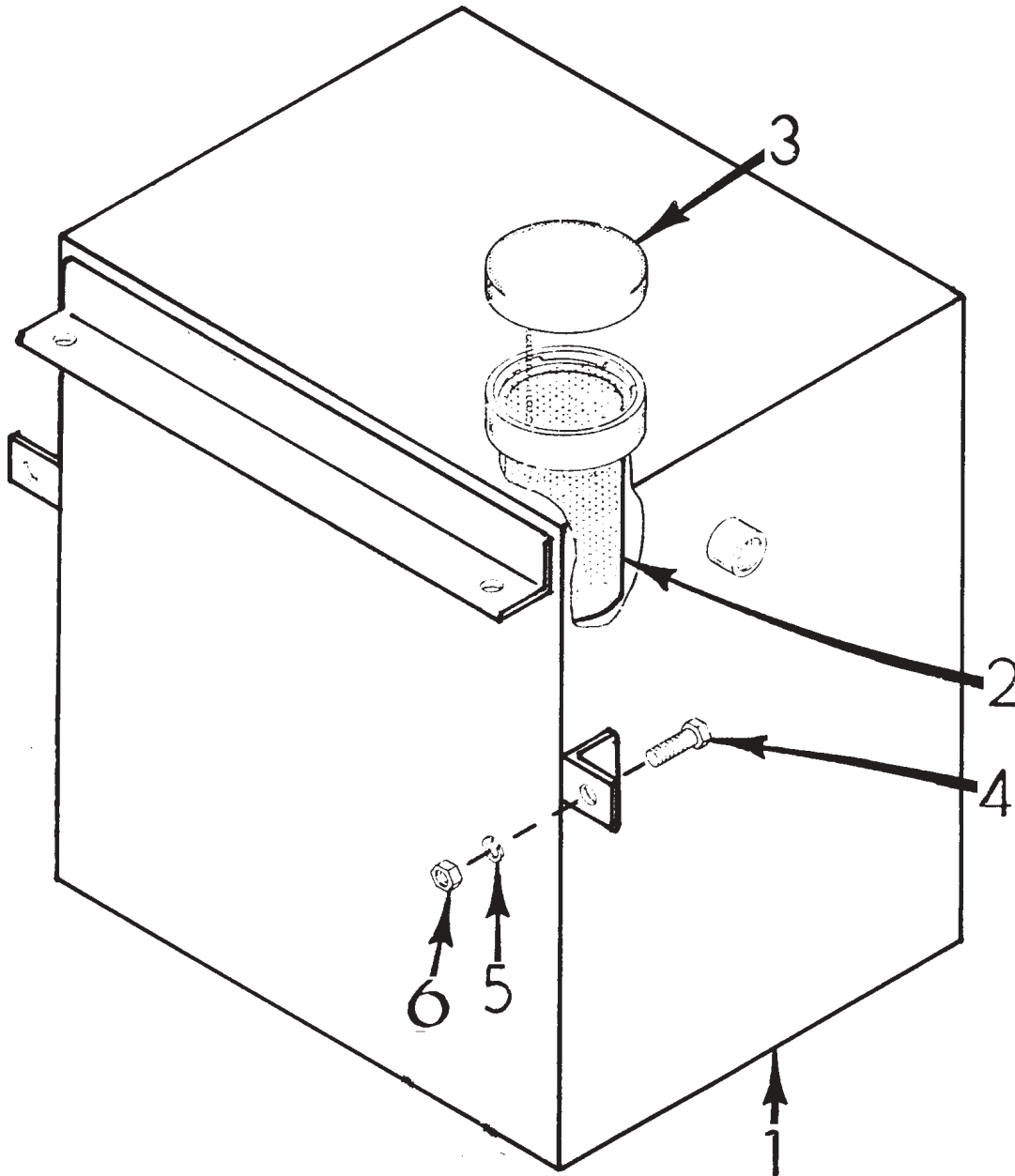
OPTION-SNATCH BLOCK KIT (51711963)

ITEM	PART NO.	DESCRIPTION	QTY
1.	52707731	PIN	1
2.	52707735	SNATCH BLOCK	1
3.	60030134	SHEAVE-8" NYLON	1
4.	60109337	PIN RETAINER PLATE 3"	1
5.	71073035	HOOK 4.5 TON SWVL	1
6.	72053508	ZERK 1/8NPT	1
7.	52709458	WING BOLT	1
8.	52711964	PIN	1
9.	52706671	RETAINER PLATE W/NUT	1



**OPTION-AUX RESERVOIR-30 GAL
(31701760)**

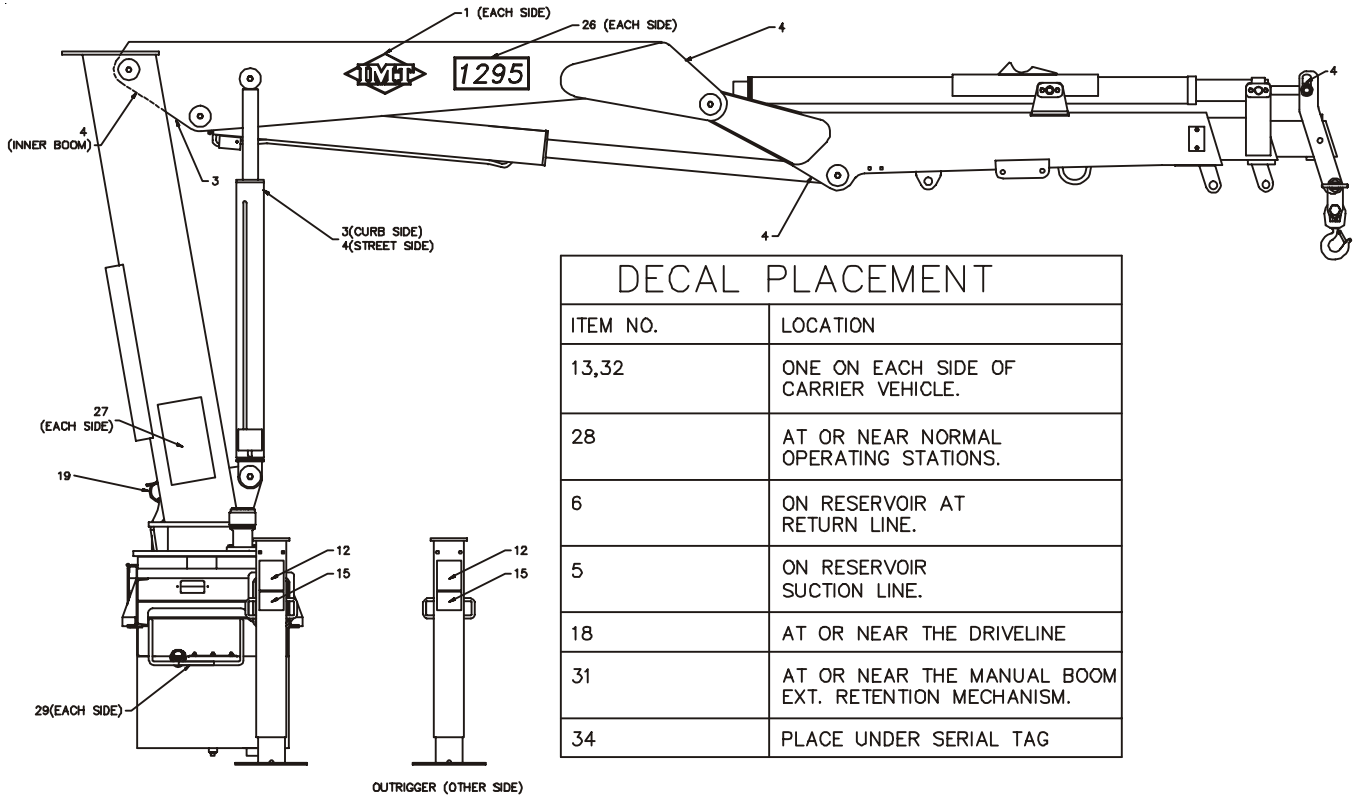
ITEM	PART NO.	DESCRIPTION	QTY
1.	52701550	RESERVOIR	1
2.	73141276	STRAINER	1
3.	73014671	FILL CAP	1
4.	72060093	CAP SCR 1/2-13X1-1/2 HHGR5	4
5.	72063053	WASHER 1/2 LOCK	4
6.	72062004	NUT 1/2-13 HEX	4



**DECAL KIT-MODEL 1295 1H & 2H
(95712013-1)**

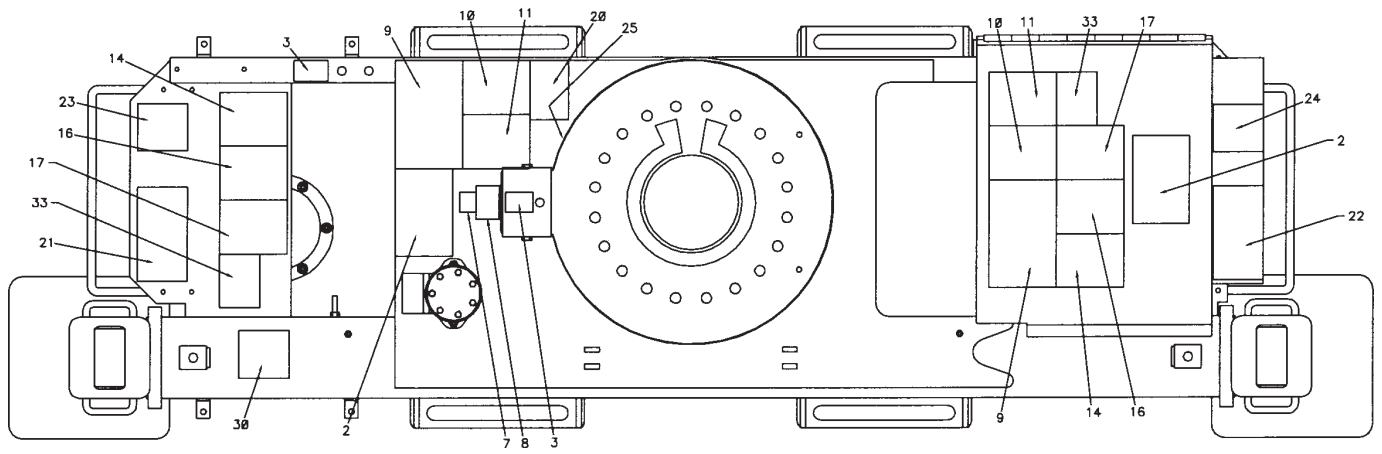
CONTINUED ON FOLLOWING PAGE

1. 70029251	PLACARD - IMT DIAMOND	2	18. 70392891	DECAL-DANGER DRIVELINE	2
2. 70391583	DECAL-SETUP/STOW INST.	2	19. 70392982	DECAL-CONTACT IMT	1
3. 70391612	DECAL-GREASE WEEKLY LEFT	3	20. 71039134	DECAL-CAUTION OIL LEVEL	1
4. 70391613	DECAL-GREASE WEEKLY RIGHT	7	21. 71392255	DECAL-CONTROL STRT SIDE	1
5. 70392108	DECAL-SUCTION LINE	1	22. 71392256	DECAL-CONTROL CURB SIDE	1
6. 70392109	DECAL-RETURN LINE	1	23. 71392257	DECAL-OUTR PD STRT SIDE	1
7. 70392213	DECAL-CAUTION WASH/WAX	1	24. 71392258	DECAL-OUTR PD CURB SIDE	1
8. 70392524	DECAL-ROTATE CRNE/GREASE	1	25. 71392365	DECAL-ALIGNMENT CRNE ROT	1
9. 70392813	DECAL-DANGER ELECTROC'N	2	26. 71393793	DECAL-1295 IDENTIFICATION	2
10. 70392814	DECAL-DANGER OPERATOR	2	27. 71393779	CAPACITY PLACARD-1H & 2H	2
11. 70392815	DECAL-DANGER OPERATION	2	28. 70392889	DECAL-RC ELECTROCUTION	2
12. 70392864	DECAL-DGER OUTR STD CLR	2	29. 70394190	DECAL-CAUTION NOT A STEP	2
13. 70392865	DECAL-DANGER ELECTROC'N	4	30. 70394189	PLACARD-OIL REC	1
14. 70392866	DECAL-DANGER OPER COND	2	31. 70394443	DECAL-DGR FREEFALL BOOM	1 REF
15. 70392867	DECAL-DGER OUTR MOVING	2	32. 70392868	DECAL-DGR CR LOADLINE	4
16. 70392888	DECAL-DGER OPER RESTRICT	2	33. 70392863	DECAL-DGR HOIST PERS	2
17. 70392890	DECAL-DGER STOW/UNFOLD	2	34. 70395323	DECAL-ASME/ANSI B30.22	1



DECAL PLACEMENT	
ITEM NO.	LOCATION
13,32	ONE ON EACH SIDE OF CARRIER VEHICLE.
28	AT OR NEAR NORMAL OPERATING STATIONS.
6	ON RESERVOIR AT RETURN LINE.
5	ON RESERVOIR SUCTION LINE.
18	AT OR NEAR THE DRIVELINE
31	AT OR NEAR THE MANUAL BOOM EXT. RETENTION MECHANISM.
34	PLACE UNDER SERIAL TAG

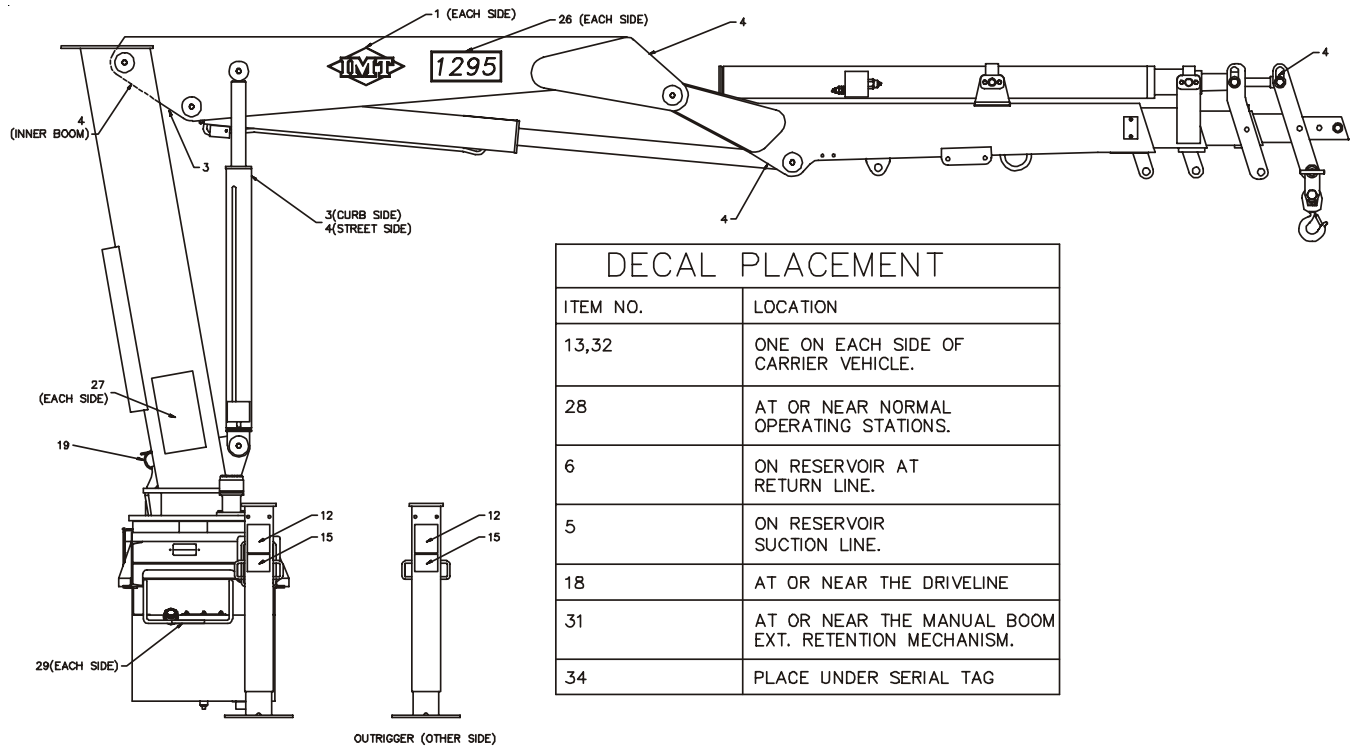
**DECAL KIT-MODEL 1295 1H & 2H
(95712013-2)**



**DECAL KIT-MODEL 1295 2H1M-3H1M
(95711908-1)**

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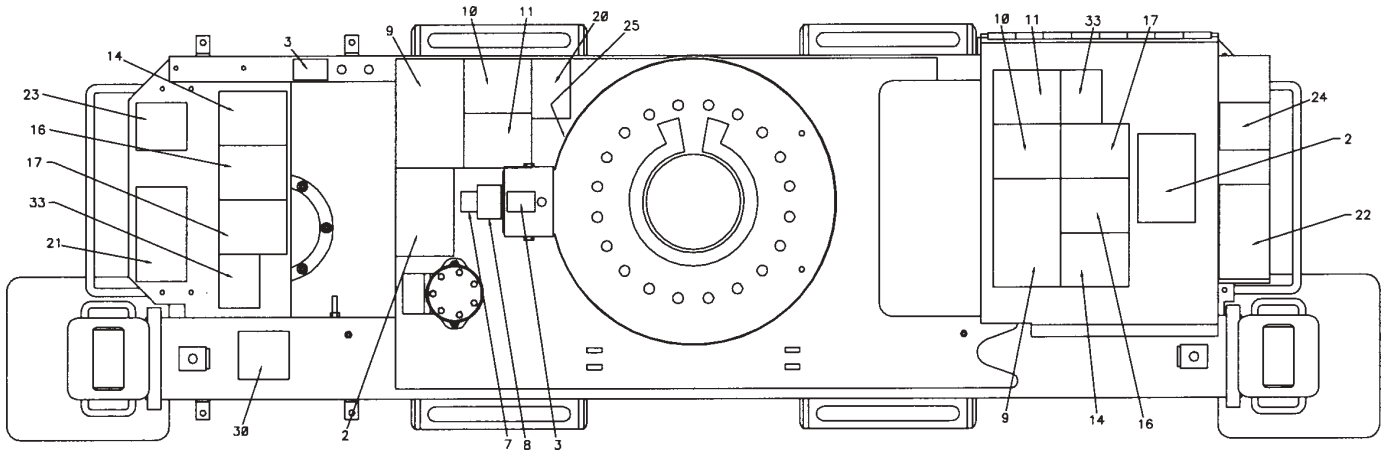
- | | | | | | |
|-----|------------------------------------|---|-----|------------------------------------|-------|
| 1. | 70029251 PLACARD - IMT DIAMOND | 2 | 18. | 70392891 DECAL-DANGER DRIVELINE | 2 |
| 2. | 70391583 DECAL-SETUP/STOW INST. | 2 | 19. | 70392982 DECAL-CONTACT IMT | 1 |
| 3. | 70391612 DECAL-GREASE WEEKLY LEFT | 4 | 20. | 71039134 DECAL-CAUTION OIL LEVEL | 1 |
| 4. | 70391613 DECAL-GREASE WEEKLY RIGHT | 5 | 21. | 71392255 DECAL-CONTROL STRT SIDE | 1 |
| 5. | 70392108 DECAL-SUCTION LINE | 1 | 22. | 71392256 DECAL-CONTROL CURB SIDE | 1 |
| 6. | 70392109 DECAL-RETURN LINE | 1 | 23. | 71392257 DECAL-OUTR PD STRT SIDE | 1 |
| 7. | 70392213 DECAL-CAUTION WASH/WAX | 1 | 24. | 71392258 DECAL-OUTR PD CURB SIDE | 1 |
| 8. | 70392524 DECAL-ROT CRANE/GREASE | 1 | 25. | 71392365 DECAL-ALIGNMENT CRNE ROT | 1 |
| 9. | 70392813 DECAL-DANGER ELECTROCN | 2 | 26. | 71393793 DECAL-1295 IDENTIFICATION | 2 |
| 10. | 70392814 DECAL-DANGER OPERATOR | 2 | 27. | 71393757 CAP PLACARD-2H1M-3H1M | 2 |
| 11. | 70392815 DECAL-DANGER OPERATION | 2 | 28. | 70392889 DECAL-RC ELECTROCUTION | 2 |
| 12. | 70392864 DECAL-DGR OUTR STD CLR | 2 | 29. | 70394190 DECAL-CAUTION NOT A STEP | 2 |
| 13. | 70392865 DECAL-DANGER ELECTROCN | 4 | 30. | 70394189 PLACARD-OIL REC | 1 |
| 14. | 70392866 DECAL-DANGER OPER COND | 2 | 31. | 70394446 DECAL-DGR FREEFALL BOOM | 1 REF |
| 15. | 70392867 DECAL-DGR OUTR MOVING | 2 | 32. | 70392868 DECAL-DGR CR LOADLINE | 4 |
| 16. | 70392888 DECAL-DGR OPER RESTRICT | 2 | 33. | 70392863 DECAL-DGR HOIST PERS | 2 |
| 17. | 70392890 DECAL-DGR STOW/UNFOLD | 2 | 34. | 70395323 DECAL-ASME/ANSI B30.22 | 1 |



DECAL PLACEMENT	
ITEM NO.	LOCATION
13,32	ONE ON EACH SIDE OF CARRIER VEHICLE.
28	AT OR NEAR NORMAL OPERATING STATIONS.
6	ON RESERVOIR AT RETURN LINE.
5	ON RESERVOIR SUCTION LINE.
18	AT OR NEAR THE DRIVELINE
31	AT OR NEAR THE MANUAL BOOM EXT. RETENTION MECHANISM.
34	PLACE UNDER SERIAL TAG

OUTRIGGER (OTHER SIDE)

**DECAL KIT-MODEL 1295 2H1M-3H1M
(95711908-2)**

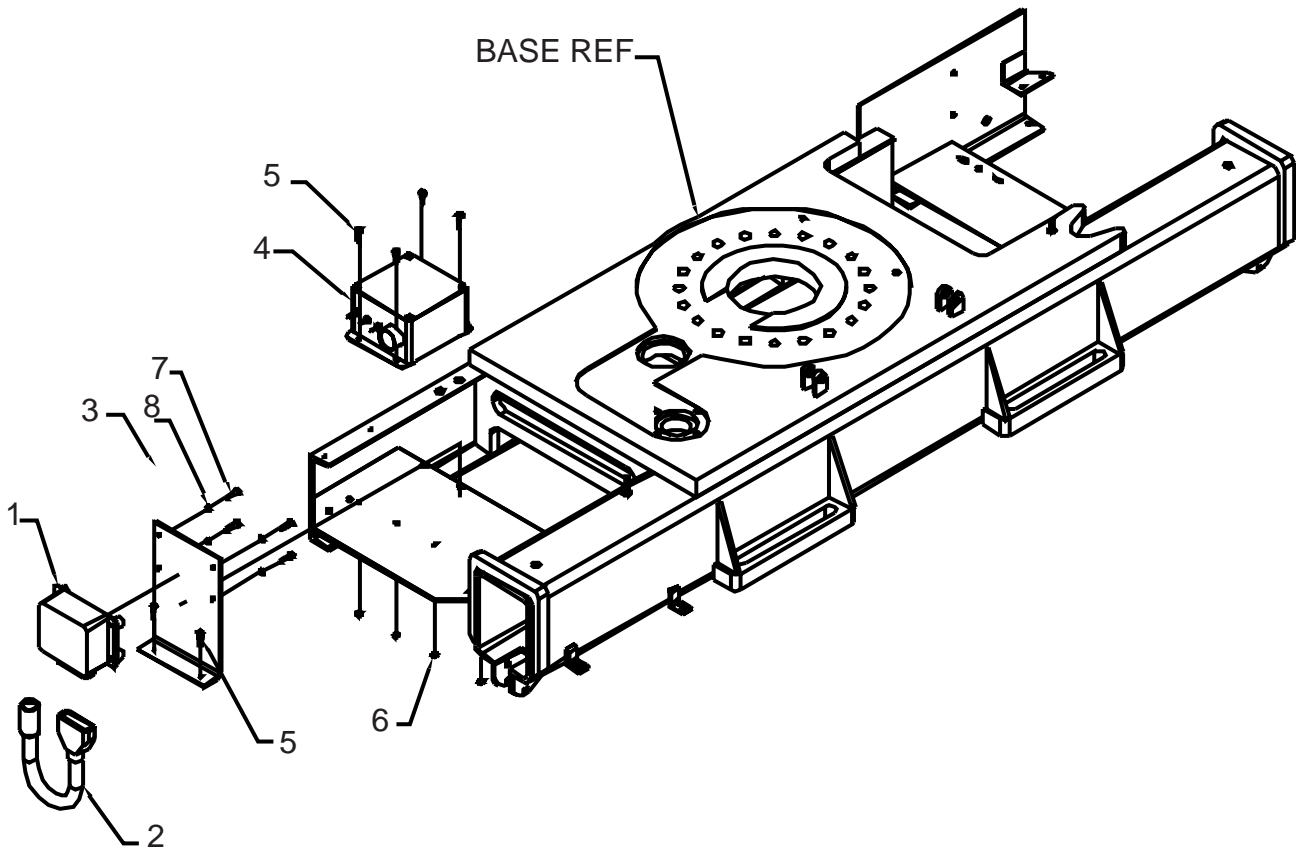


RADIO REMOTE RETROFIT KIT (DWG. 99903330-1) (KIT 91717058)

1.	73733600	RADIO REMOTE KIT	1
2.	77045894	HARNESS	1
3.	60123676	MOUNTING PLATE	1
4.	51717059	JIC BOX ASM	1
5.	72060005	CAP SCR 1/4-20X1.25	6
6.	72062104	NUT 1/4-20HEX NYLOC ZINC	6
7.	72601761	CAP SCR 6MMX12MMX1.00	4
8.	72601762	WASHER LOCK 6MM	4
10.	73054876	VALVE-PROP N PRIORITY FLOW	1 REF
11.	72060051	CAP SCR 3/8-16X2.25	2
12.	72062103	NUT 3/8-16 HEX NYLOC ZINC	2
13.	77041251	RELAY	3
14.	77041237	SOLENOID	1
15.	51704784	CABLE ASM	1

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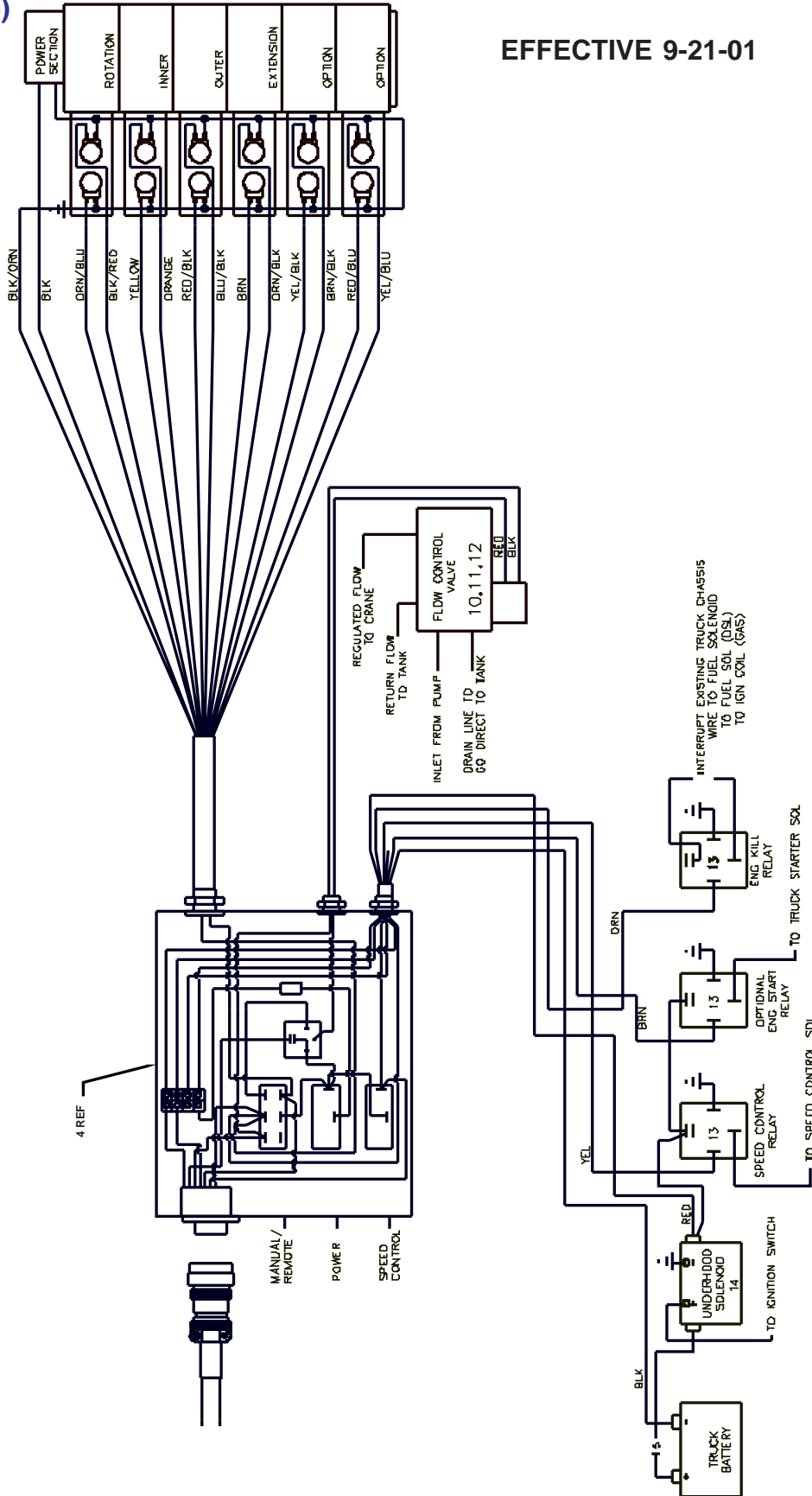
EFFECTIVE 9-21-01



ELEC. SCHEMATIC - RADIO REMOTE RETROFIT (KIT 99903330-2) (DWG. 91717058)

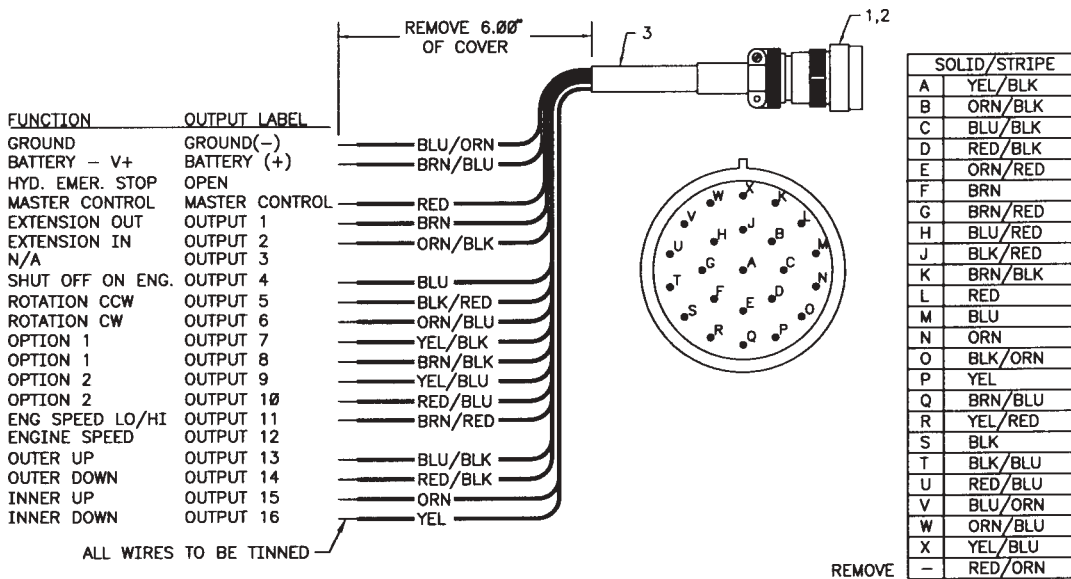
PARTS LIST ON PREVIOUS PAGE

EFFECTIVE 9-21-01



CABLE ASM-18GA/24 WIREX115 (51714624)

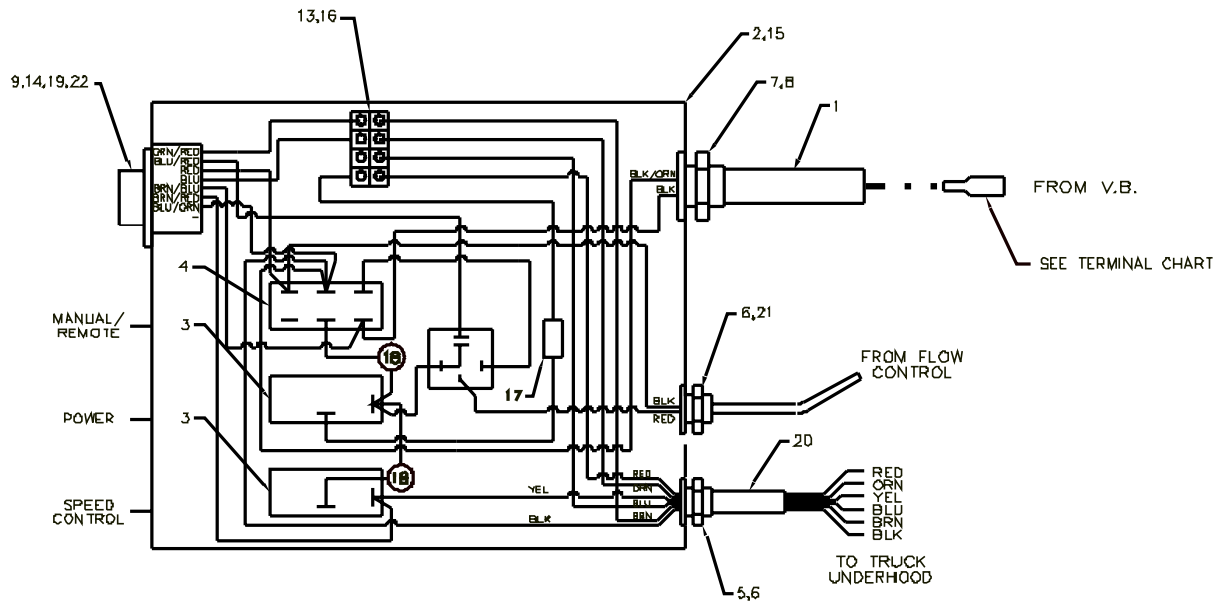
ITEM	PART NO.	DESCRIPTION	QTY
1.	77044621	PIN	24
2.	77044579	CONNECTOR	1
3.	89044100	CABLE 18GA/24 WIREX115	1



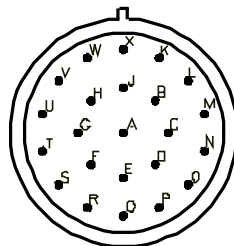
JIC BOX ASM-RADIO REMOTE (51717059)

EFFECTIVE 9-21-01

- | | | | |
|-----|----------|--------------------------|---------|
| 1. | 89044100 | CABLE 18GA/24 | 7.83 FT |
| 2. | 90714496 | JIC BOX ASM 6X6X6 | 1 |
| 3. | 77041237 | SOLENOID 12V/80% | 2 |
| 4. | 77041354 | TOGGLE SWITCH | 1 |
| 5. | 77044018 | CONNECTOR 1/2 STR RLF | 3 |
| 6. | 77044201 | NUT ELEC 1/2 LOCK | 3 |
| 7. | 77044196 | CONNECTOR 3/4 STR RLF | 1 |
| 8. | 77044202 | NUT ELEC 3/4 LOCK | 1 |
| 9. | 77044620 | CONNECTOR | 1 |
| 10. | 77040186 | TERMINAL FSLPON 1.25TAB | 14 |
| 11. | 77040282 | TERMINAL PIGBAC | 6 |
| 12. | 77044668 | SEAL PLUG | 2 |
| 13. | 77040051 | TERMINAL SPRSPADE | 6 |
| 14. | 77044667 | CAP PLUG | 1 |
| 15. | 70393257 | DECAL 6X6X4 JIC BOX | 1 |
| 16. | 77044341 | TERMINAL BLOCK 4 CONTACT | 1 |
| 17. | 77041056 | IN-LINE 20 AMP FUSE | 1 |
| 18. | 89044232 | WIRE 14GA RED | .5 FT |
| 19. | 77044646 | WASHER LOCK | 1 |
| 20. | 89044354 | CABLE 14GA/6 | 7 FT |
| 21. | 77044468 | CONNECTOR 1/2 STR RLF | 1 |
| 22. | 77044645 | NUT DEUTSCH | 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	-
F	BRN	10
G	BRN/RED	-
H	BLU/RED	-
J	BLK/RED	10
K	BRN/BLK	10
L	RED	-
M	BLU	-
N	ORN	10
O	#12	-
P	YEL	10
Q	BRN/BLU	-
R	YEL/RED	-
S	#12	-
T	BLK/BLU	-
U	RED/BLU	10
V	BLU/ORN	-
W	ORN/BLU	10
X	YEL/BLU	10
-	RED/ORN	-

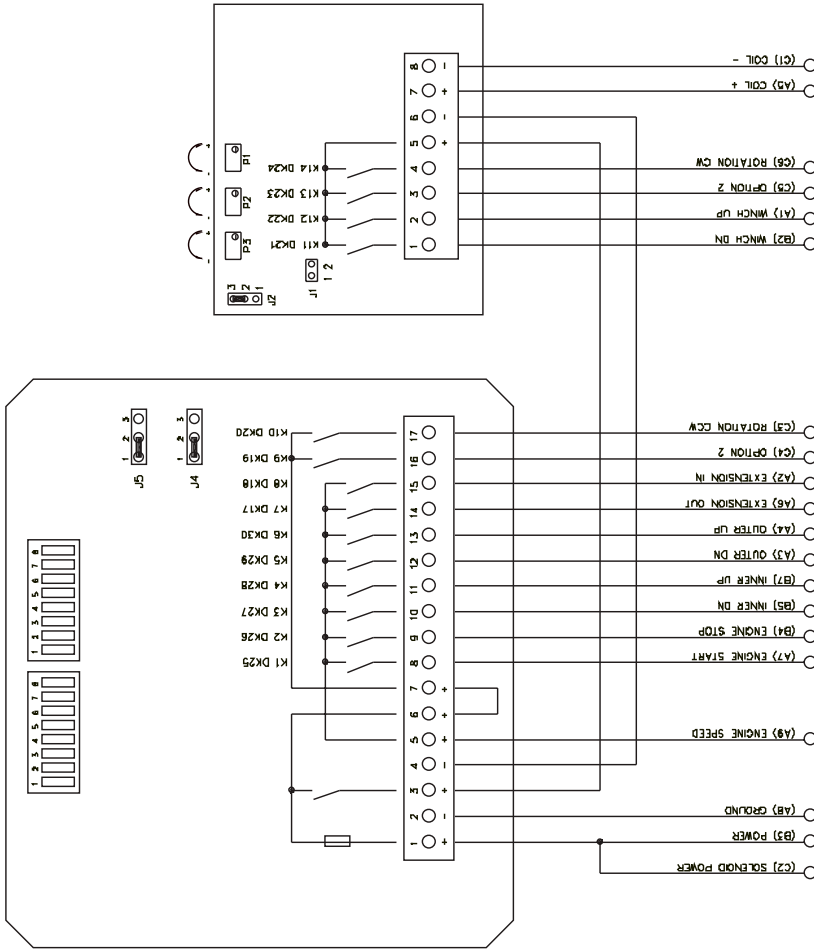


RADIO REMOTE KIT (73733600-1)

- 1. 73733588 RADIO RMT RECEIVER 1
- 2. 73733589 RADIO RMT TRANSMITTER 1
- 3. 70146100 BATTERY-VERSA PAK 3.6V 2
- 5. 70146279 BATTERY CHARGER (EFF. 10/02) 1
- 70146102 BATTERY CHARGER (THRU 9/30/02) 1
- 6. 70146103 MAGNET- RADIO RMT TRANSM. 1

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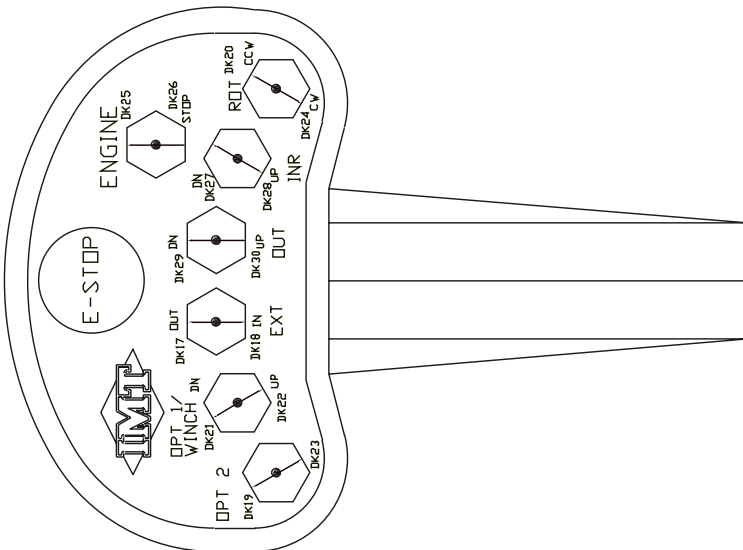
EFFECTIVE 9-21-01



JUMPER CONNECTIONS INSIDE RECEIVER

J1: PULSE/DITHER FREQUENCY
- NO JUMPER

J2: CONTROL RANGE OF OUTPUT CURRENT
(ONLY CURRENT - CONTROL)
- PIN 2/3 CONNECTED: D-2A

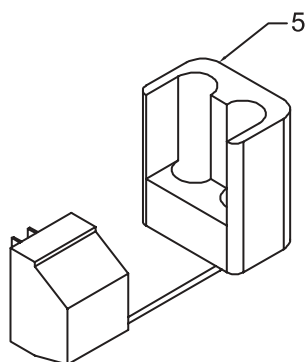
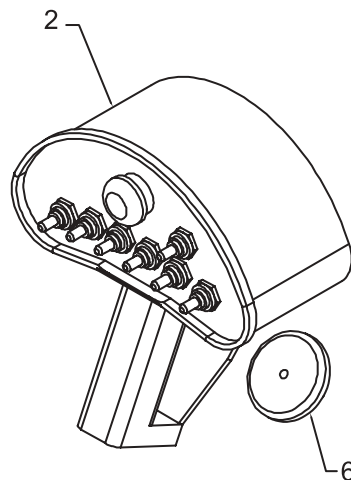
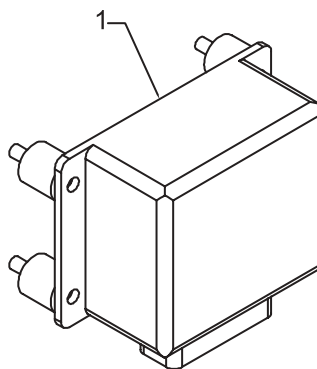
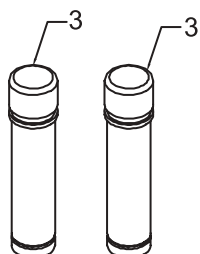


- P1: Trimming Potentiometer for Maximum Values.
On transmitter handle, engage Rotation CW or CCW function switch and pull trigger fully on. Crane MAY or MAY NOT begin to move at this time due to initial P1 setting. Turn P1 potentiometer counter-clockwise until desired maximum speed is obtained or until speed no longer continues to increase.
- P2: Trimming Potentiometer for Initial Value Adjustment
On transmitter, engage Rotation CW or CCW function switch. Without pulling trigger, adjust P2 counterclockwise until crane begins to move. At this time, adjust P2 clockwise until no movement is detected. Slightly engage trigger and adjust P2 to fine tune.
- P3: Trimming Potentiometer to Adjust Dither Amplitude
Adjust clockwise or counterclockwise for smoothness of operation.

RADIO REMOTE KIT (73733600-2)

PARTS LIST ON PREVIOUS PAGE

EFFECTIVE 9-21-01



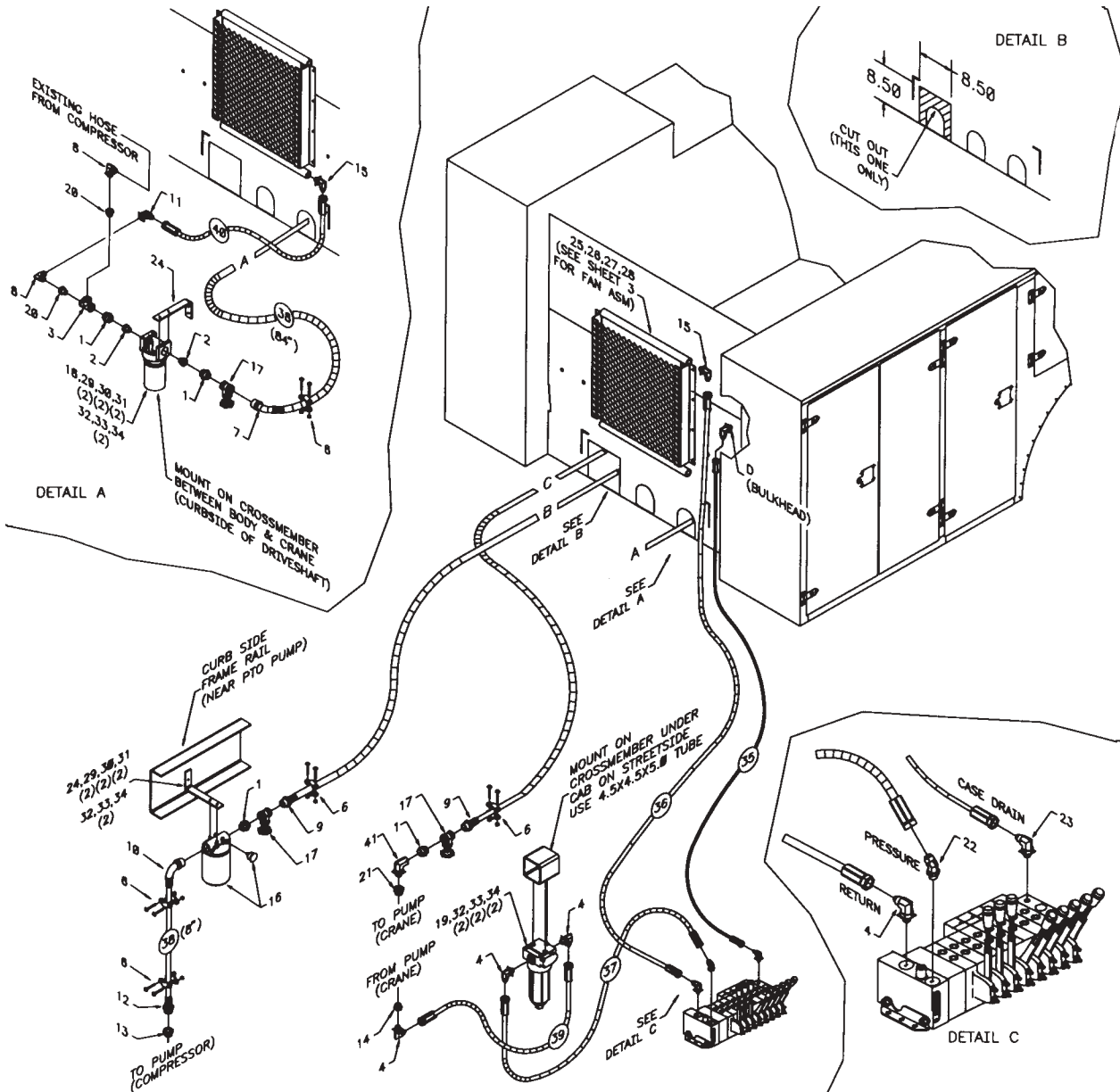
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**INSTALLATION DWG-PLUMBING
(99901277-2)**

3-83

ITEM	PART NO.	DESCRIPTION	QTY
1.	72053729	ADPTR 1-1/4MPT MPT	4
2.	72053378	REDUCER BUSH-BLK 1-1/2 1-1/4 2	2
3.	72053606	TEE-BLK 1-1/4	1
4.	72053767	ELBOW #12MSTR #12MJIC 90°	4
5.	72053781	ELBOW #12MSTR #12MJIC 45°	1
6.	72066516	CLAMP-HOSE 1-1/4 2-BOLT	5
7.	72531196	NIPPLE-BARB 45° 1-1/4 1-1/4	1
8.	72531427	ELBOW 3/4MPT #12MJIC 90°	1
9.	72531550	NIPPLE-BARB STL 1-1/4MPT	2
10.	72532346	NIPPLE-BARB 90° 1-1/4 1-1/4	1
11.	72532696	ELBOW #12MJIC #12FJIC SW	1
12.	72532833	NIPPLE-BEAD 1MPT 1-1/4HOSE	1
13.	72532854	ADPTR #24MSTR 1FPT	1
14.	72532949	ADPTR #20MSTR #12FSTR	1
15.	72533372	ELBOW #16MSTR #12MJIC 90°	1
16.	73052012	FILTER-HYD 100MESH W/GAGE	1
17.	73054130	VALVE-GATE 1-1/4 BRASS	3
18.	73054973	FILTER-RETURN 10MIC	1
19.	73540000	FILTER-PRES	1

20.	72053180	REDUCER BUSH-BLK 1-1/4 3/4	2
21.	72053753	ADPTR #20MSTR 1-1/4FPT	1
22.	72053781	ELBOW #12MSTR #12MJIC 45°	1
23.	72053763	ELBOW #8MSTR #8MJIC 90°	1
24.	60103870	BRACKET-OIL FILTER	2
25.	70145028	FAN-12" PUSHER	2
26.	70143824	OIL COOLER W/O FAN	1
27.	52715022	GUARD-AFTERCOOLER	1
28.	52715021	MTG BRKT-AFTERCOOLER	1
29.	72060025	CAP SCR 5/16-18X1 HHGR5	4
30.	72063002	WASHER 5/16W FLAT	4
31.	72063050	WASHER 5/16 LOCK ZINC	4
32.	72060048	CAP SCR 3/8-16X1-1/2 HHGR5	5
33.	72063003	WASHER 3/8W FLAT	7
34.	72062103	NUT 3/8-16 HEX NYLOC	5
35.	51394016	HOSE 1/2X67 #8F#8F	1
36.	51395064	HOSE 3/4X94 #12F#12F	1
37.	51394605	HOSE 3/4X69 #12F#12F	1
38.	89393401	HOSE-HYD 1-1/4	92"
39.	51394526	HOSE 3/4X73 #12F#12F	1
40.	51394364	HOSE 3/4X83 #12F#12F	1
41.	72531135	ELBOW STR STL 1-1/4X90°	1

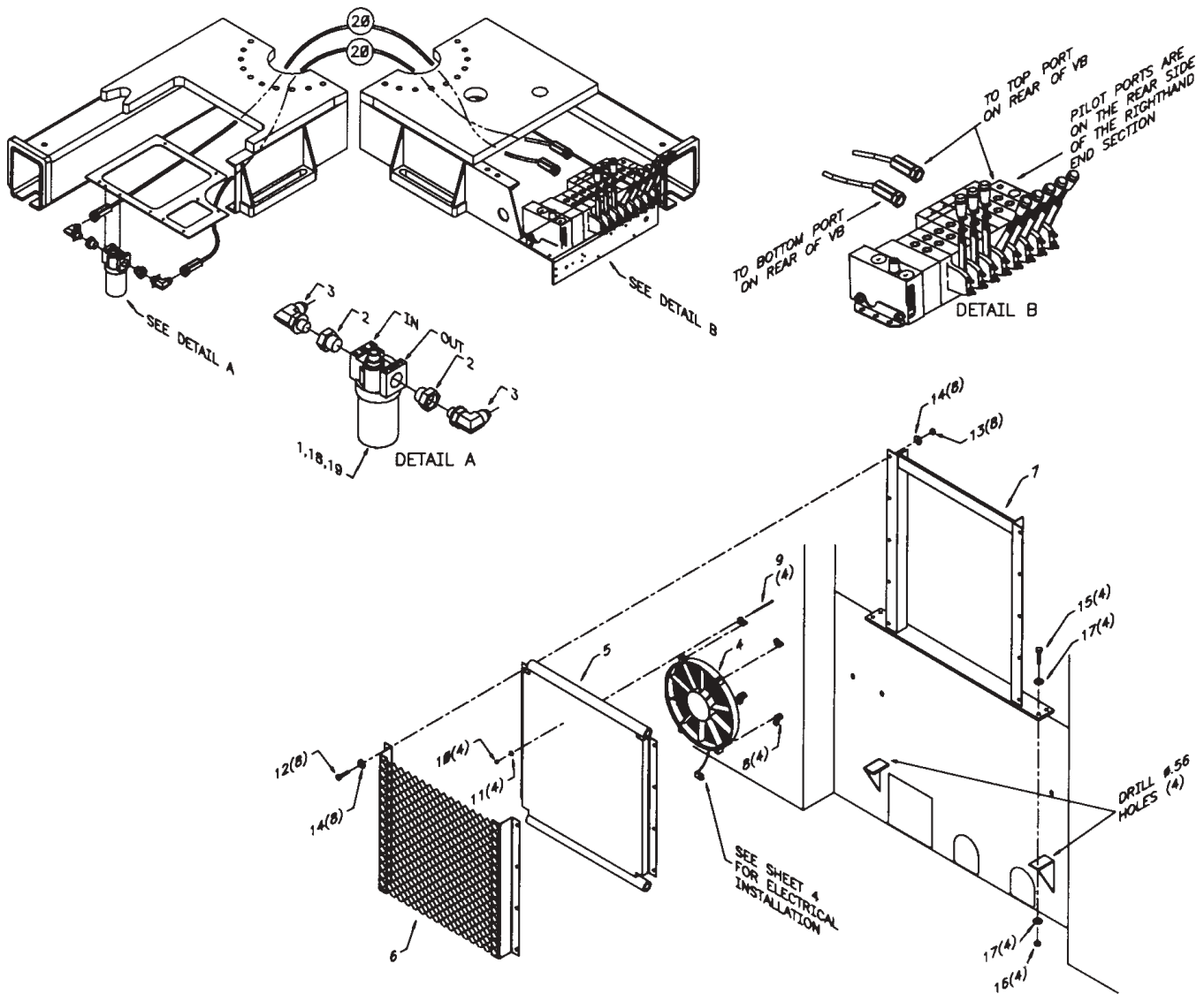


INSTALLATION DWG-PILOT & COOLER ASM (99901277-3)

ITEM	PART NO.	DESCRIPTION	QTY
1.	73054975	FILTER-PILOT LINE 5MIC	1
2.	72532951	ADPTR #12MSTR #8FSTR	2
3.	72053761	ELBOW #8MSTR #6MJIC 90°	2
4.	70145028	FAN-12" PUSHER	1REF
5.	70143824	OIL COOLER W/O FAN	1REF
6.	52715022	GUARD-AFTERCOOLER	1REF
7.	52715021	MTG BRKT-AFTERCOOLER	1REF
8.	70145030	BRKT-FAN MTG 90°	4
9.	72601753	SCR-MACH #10-24X3-1/2	4

10.	72062106	NUT #10-24 HEX NYLOC ZINC	4
11.	72063123	WASHER #10W FLAT	4
12.	72060064	CAP SCR 7/16-14X1-1/2 HHGR5	8
13.	72062105	NUT 7/16-14 HEX NYLOC Z	8
14.	72063004	WASHER 7/16W FLAT	16
15.	72060093	CAP SCR 1/2-13X1-1/2 HHGR5Z	4
16.	72062080	NUT 1/2-13 HEX NYLOC Z	4
17.	72063005	WASHER 1/2W FLAT	8
18.	72060004	CAP SCR 1/4-20X1 HHGR5 Z	2
19.	72063001	WASHER 1/4W FLAT	2
20.	51393908	HOSE 1/2X81#8F#8F	2

CONTINUED ON FOLLOWING PAGE



SECTION 4. GENERAL REFERENCE

INSPECTION CHECKLIST	3
WIRE ROPE INSPECTION	7
HOOK INSPECTION	7
HOLDING VALVE INSPECTION	8
ANTI-TWO BLOCKING 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

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	

<i>Inspection Checklist</i>	
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. 6-18-99

1

TYPE OF INSPECTION
NOTES:
Daily and monthly inspections are to be performed by a "designated" person, who has been selected or assigned by the employer or the employer's representative as being competent to perform specific duties.
Quarterly and annual inspections are to be performed by a "qualified" person who, by possession of a recognized degree in an applicable field or certificate of professional standing, or who, by extensive knowledge, training and experience has successfully demonstrated the ability to solve or resolve problems related to the subject matter and work.
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 outriggers fully extended.

DAILY (D): Before each day of operation, those items designated with a **(D)** must be inspected. This inspection need not be recorded unless a deficiency (**X**) is found. If the end user chooses to record all daily inspections and those daily inspections include the monthly inspection requirements, there would be no need for a separate monthly inspection.

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.

QUARTERLY (Q): Every three to four 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 recorded.

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 recorded.

FREQUENCY	ITEM	KEY	✓ = SATISFACTORY ✗ = DEFICIENCY (must be corrected prior to operation)	R = RECOMMENDATION (should be considered for corrective action) NA = NOT APPLICABLE	STATUS ✓, ✗, R, NA
			INSPECTION DESCRIPTION		
D	1	Labels	All load charts, safety & warning labels, & control labels are present and legible.		
D	2		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	Rope	Proper reeving of wire rope on sheaves & winch drum.		
D	8	Pins	Proper engagement of all connecting pins & pin retaining devices.		
D	9	General	Overall observation of crane for damaged or missing parts, cracked welds & presence of safety covers.		
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 Ctrl	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 2-Blocking	Operate anti 2-blocking device to check for proper operation.		
D	14		Other		
D	15		Other		

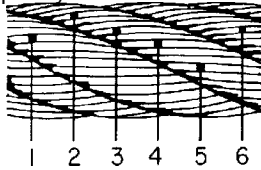
<i>Inspection Checklist</i>	CRANES	2
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FREQUENCY	ITEM	KEY	✓ = SATISFACTORY ✗ = DEFICIENCY (must be corrected prior to operation)	R = RECOMMENDATION (should be considered for corrective action) NA = NOT APPLICABLE	STATUS
			INSPECTION DESCRIPTION	✓, ✗, R, NA	
M	16	Daily	All daily inspection items.		
M	17	Cylinders	Visual inspection of cylinders for leakage at rod, fittings & welds. Damage to rod & case.		
M	18	Valves	Holding valves for proper operation.		
M	19	Valves	Control valve for leaks at fittings & between sections.		
M	20	Valves	Control valve linkages for wear, smoothness of operation & tightness of fasteners.		
M	21	General	Bent, broken or significantly rusted/corroded parts.		
M	22	Electrical	Electrical systems for presence of dirt, moisture & frayed wires.		
M	23	Structure	All structural members for damage.		
M	24	Welds	All welds for breaks & cracks.		
M	25	Pins	All pins for proper installation & condition.		
M	26	Hardware	All bolts, fasteners & retaining rings for tightness, wear & corrosion		
M	27	Wear Pads	Presence of wear pads.		
M	28	Pump & Motor	Hydraulic pumps & motors for leakage at fittings, seals & between sections.		
M	29	PTO	Transmission/PTO for leakage, abnormal vibration & noise.		
M	30	Hyd Fluid	Quality of hydraulic fluid and for presence of water.		
M	31	Hyd Lines	Hoses & tubes for leakage, abrasion damage, blistering, cracking, deterioration, fitting leakage & secured properly.		
M	32	Hook	Load hook for abnormal throat distance, twist, wear & cracks.		
M	33	Rope	Condition of load line.		
M	34	Manual	Presence of operator's manuals with unit.		
M	35		Other		
Q	36	Daily	All daily inspection items.		
Q	37	Monthly	All monthly inspection items.		
Q	38		Condition of wear pads		
Q	39	Rotation Sys	Rotation bearing for proper torque of all accessible mounting bolts.		
Q	40	Hardware	Base mounting bolts for proper torque.		
Q	41	Structure	All structural members for deformation, cracks & corrosion.		
	42		● Base		
	43		● Outrigger beams & legs		
	44		● Mast		
	45		● Inner boom		
	46		● Outer boom		
	47		● Extension(s)		
	48		● Jib boom		
	49		● Jib extension(s)		
	50		● Other		
Q	51	Hardware	Pins, bearings, shafts, gears, rollers, & locking devices for wear, cracks, corrosion & distortion.		
	52		● Rotation bearing(s)		
	53		● Inner boom pivot pin(s) & retainer(s)		
	54		● Outer boom pivot pin(s) & retainer(s)		
	55		● Inner boom cylinder pin(s) & retainer(s)		
	56		● Outer boom cylinder pin(s) & retainer(s)		
	57		● Extension cylinder pin(s) & retainer(s)		
	58		● Jib boom pin(s) & retainer(s)		
	59		● Jib cylinder pin(s) & retainer(s)		
	60		● Jib extension cylinder pin(s) & retainer(s)		
	61		● Boom tip attachments		
	62		● Other		
Q	63	Hyd Lines	Hoses, fittings & tubing for proper routing, leakage, blistering, deformation & excessive abrasion.		
	64		● Pressure line(s) from pump to control valve		
	65		● Return line(s) from control valve to reservoir		
	66		● Suction line(s) from reservoir to pump		
	67		● Pressure line(s) from control valve to each function		
	68		● Load holding valve pipe(s) and hose(s)		
	69		● Other		

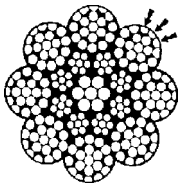
WIRE ROPE INSPECTION

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

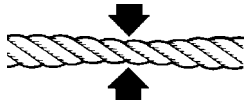
- A. Corrosion can be cause for replacement. Any development of corrosion must be noted and monitored closely.
- B. When there are either 3 broken wires in one strand or a total of six broken wires in all strands in any one rope lay.



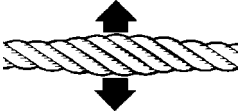
- C. When flat spots on the outer wires appear and those outside wires are less than 2/3 the thickness of the unworn outer wire.



- 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.)

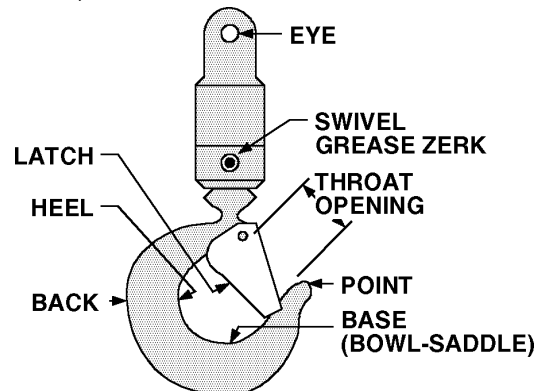
D. LATCH

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)



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.

ANTI-TWO BLOCKING DEVICE INSPECTION

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

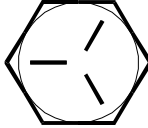

The anti two block system should be checked daily as follows:

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, a marked difference in winch operation should be noted. At this point, the winch up function should become very sluggish or non-functioning and have very little pull capability. Slowly increase truck engine speed while simultaneously actuating the winch up function. The winch characteristics should remain sluggish with little or no tensioning of the cable. If operation other than as described occurs, stop immediately and investigate. Failure to do so will risk damage to the cable or the crane. If all is well at this point, actuate the boom extend function slowly, and gradually increase to full actuation. Once again the function should be sluggish or non-existent with no tightening of the winch cable. If operation other than described occurs, stop immediately and reverse the function.

The final check involves actuating both the winch up and extend functions together and checking for proper operation of the anti two blocking circuit. Once again, start slowly and stop if it appears the cable is being tensioned.

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.

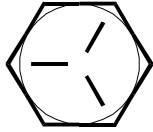

1. Bolt manufacturer's particular specifications should be consulted when provided.
2. Flat washers of equal strength must be used.
3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
4. Torque values specified are for bolts with residual oils or no special 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.
5. Torque values for socket-head capscrews are the same as for Grade 8 capscrews.

WARNING

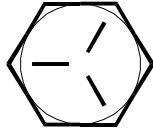
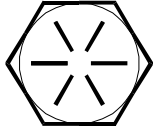
Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate clamp loads after torquing.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

TORQUE DATA CHART - 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

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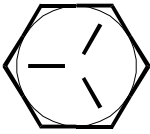
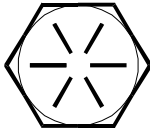
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3. All torque measurements are given in foot-pounds. To convert to inch-pounds, multiply by 12.
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If special lubricants of high stress ability, such as Never-Seez compound graphite and oil, molybdenum 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

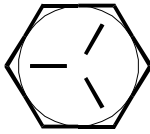
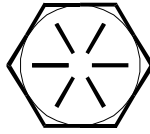
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TORQUE DATA CHART - METRIC

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.
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WARNING

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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 bearings 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.

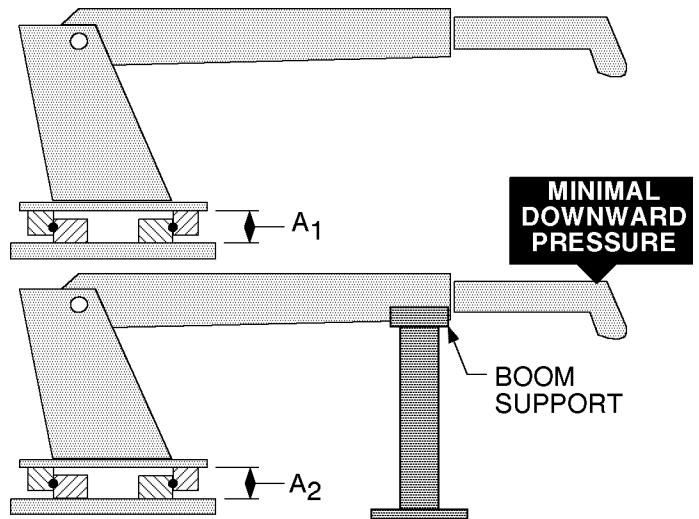
With the crane horizontal and fully extended, measure between the top and bottom mounting surfaces of the turntable bearing (A1), using a dial indicator for accuracy.

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 A2.

STEP 3.

Subtract A1 from A2 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 1014A 1015 2015/2020 2109 3000 3816/3820 3016/3020 421/425 4300 5016/5020 6016/6020 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	16000 32018 32027 32030 T30 T40	9800 12916 13031 13034 14000 15000 18000 20017 8000L 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. (A ₁ -A ₂)	.060" (1.524mm)	.070" (1.778mm)	.075" (1.905mm)	.090" (2.286mm)	