

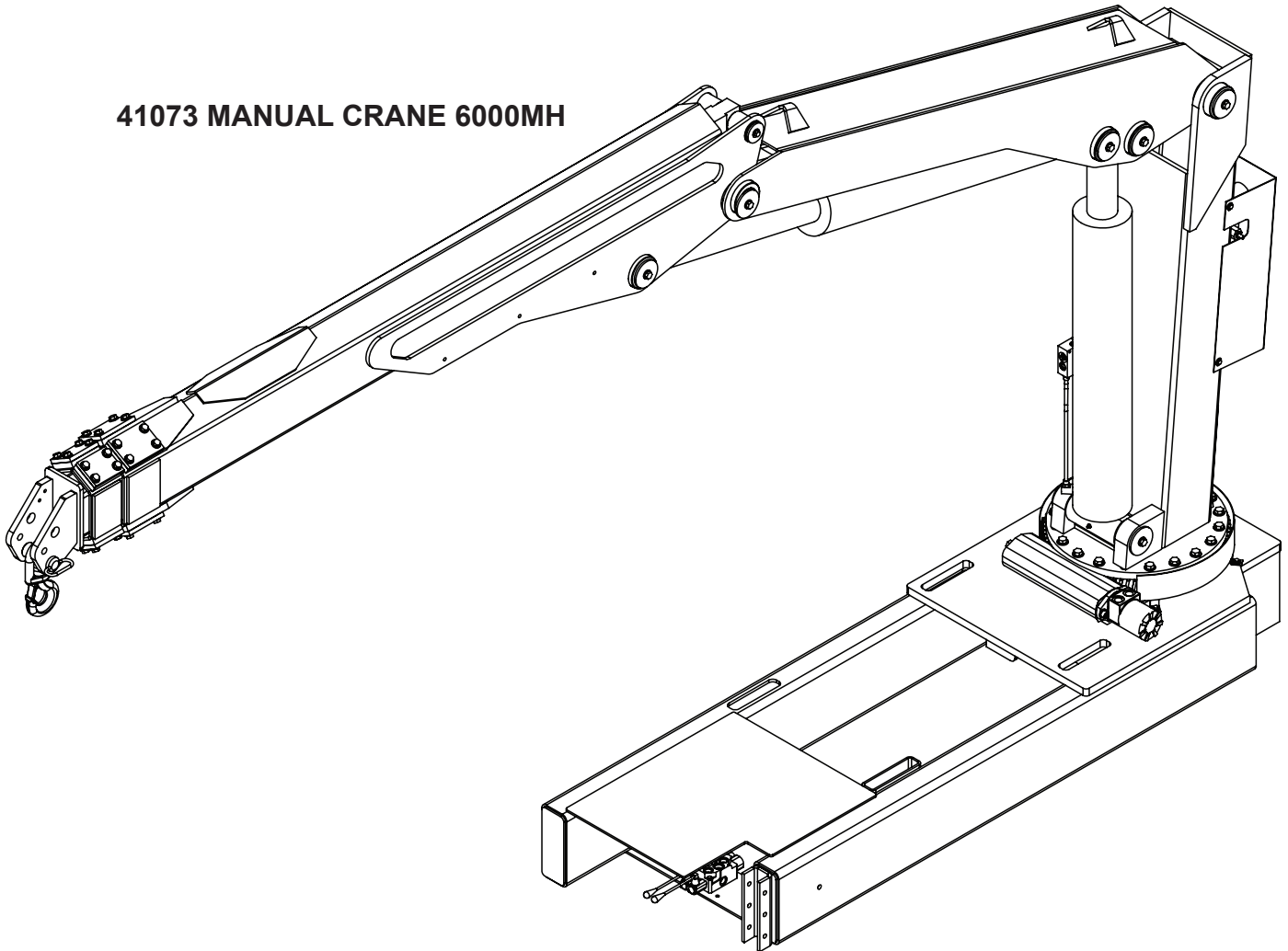
STELLAR[®] MODEL 6000MH

ARTICULATING CRANE

OWNERS' MANUAL

Safety • Installation • Maintenance • Operation • Assembly Drawings

41073 MANUAL CRANE 6000MH



Stellar Industries, Inc.

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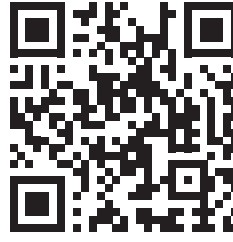
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Rev 1
PN 41073

Special 6000MH Manual Revisions

⚠️ WARNING

Operating, maintaining, and servicing a Stellar product may expose you to chemicals including, but not limited to, engine exhaust, carbon monoxide, phthalates, and lead. These chemicals are known to the State of California to cause cancer and birth defects (or other reproductive harm). To keep your exposure to a minimum, be sure to avoid breathing exhaust and service your Stellar product in a well-ventilated area while wearing gloves or washing your hands frequently. For more information, go to www.P65Warnings.ca.gov/passenger-vehicle.



www.p65warnings.ca.gov

NOTICE

Cold Weather Performance

Although clear data on cold weather performance from every steel manufacturer is not available for all types and thicknesses of steel, Stellar Industries is confident that the weldments on our products will operate to 100% of their intended purpose to temperatures down to -40° F / C.

It is recommended if Stellar manufactured equipment needs to be used in temperatures below -40° F / C, the operator should pull the unit into a climate-controlled area and allow the weldments to warm up to and then maintain a temperature above this level.

Serial Tag Location

STELLAR[®]

DATE

PATENT INFORMATION
<http://www.stellarindustries.com/ip>

MODEL NO. SERIAL NO.

MADE IN THE U.S.A. BY STELLAR INDUSTRIES, INC.
PN C5942

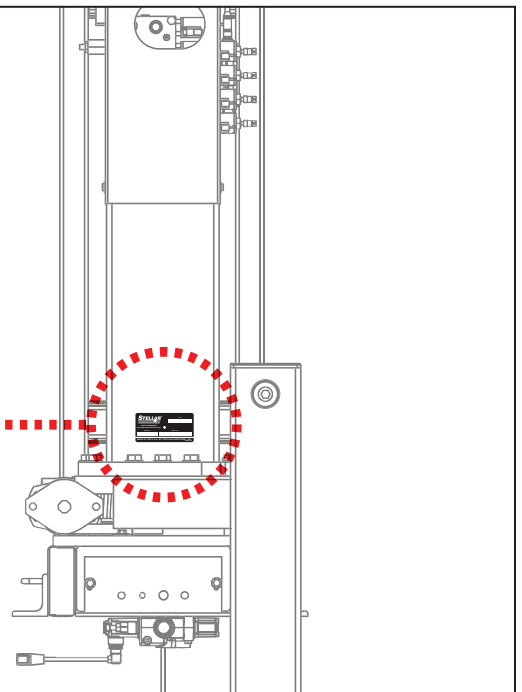


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Introduction

Stellar Cranes are designed to provide safe and dependable service for a variety of operations. With proper use and maintenance, these cranes will operate at peak performance for many years.

To promote this longevity, carefully study the information contained in this manual before putting the equipment into service. Though it is not intended to be a training manual for beginners, this manual should provide solid guidelines for the safe and proper usage of the crane.

Once you feel comfortable with the material contained in this manual, strive to exercise your knowledge as you safely operate and maintain the crane. This process is vital to the proper use of the unit.

A few notes on this manual:

A copy of this manual is provided with every crane and shall remain with the crane at all times. Information contained within this manual does not cover all maintenance, operating, or repair instructions pertinent to all possible situations.

Please be aware that some sections of this manual contain information pertaining to Stellar manufactured cranes in general and may or may

not apply to your specific model.

This manual is not binding. Stellar Industries, Inc. reserves the right to change, at any time, any or all of the items, components, and parts deemed necessary for product improvement or commercial/production purposes. This right is kept with no requirement or obligation for immediate mandatory updating of this manual.

In closing:

If more information is required or technical assistance is needed, or if you feel that any part of this manual is unclear or incorrect, please contact the Stellar Customer Service Department by phone at 800-321-3741 or email at service@stellarindustries.com.

ATTENTION

Failure to adhere to the instructions could result in property damage or even serious bodily injury to the operator or others close to the crane.

**For Technical Questions, Information, Parts, or Warranty, Call Toll-Free at
800-321-3741**

Hours: Monday - Friday, 8:00 a.m. - 5:00 p.m. CST

Or email at the following addresses:

Technical Questions, and Information

service@stellarindustries.com

Order Parts

parts@stellarindustries.com

Warranty Information

warranty@stellarindustries.com

Chapter 1 - Safety

Please Read the Following Carefully! This portion of the manual contains information regarding all Stellar manufactured cranes. Some items contained within this chapter may not apply to your specific equipment.

Safety should be the number one thought on every operator's mind. Three factors should exist for safe operation: a qualified operator, well-maintained equipment, and the proper use of this equipment. The following information should be read and understood completely by everyone working with or near the crane before putting the unit into operation.

Please take note that Stellar Industries, Inc. is not liable for accidents incurred by the crane because of non-fulfillment from the operator's side of current rules, laws, and regulations.

GENERAL

It is the responsibility of the owner to instruct the operator in the safe operation of your equipment and to provide the operator with properly maintained equipment.

Trainees or untrained persons shall be under the direct supervision of qualified persons.

Do not operate equipment under the adverse influence of alcohol, drugs, or medication.

PERSONAL SAFETY

Keep clear of all moving parts.

Always wear the prescribed personal safety devices.

Always wear approved accident-prevention clothing such as: protective helmets, anti-slip shoes with steel toes, protective gloves, anti-noise headphones, protective glasses, and reflective jackets with breathing apparatus. Consult your employer regarding current safety regulations and accident-prevention equipment.

Do not wear rings, wristwatch, jewelry, loose-fitting or hanging clothing such as ties, torn garments, scarves, unbuttoned jackets or unzipped overalls, which could get caught up in the moving parts of the crane.

Keep a first-aid box and a fire extinguisher readily available on the truck. Regularly check to make sure the fire extinguisher is fully charged and the first-aid kit is stocked.

Do not use controls and hoses as handholds. These parts move and cannot provide stable support.

Never allow anyone to ride the crane hook or load.

MAINTENANCE SAFETY

Never modify or alter any of the equipment, whether mechanical, electrical, or hydraulic, without explicit approval from Stellar Industries.

Do not perform any maintenance or repair work on the crane unless authorized and trained to do so.

Release system pressure before attempting to make any adjustments or repairs.

Do not attempt service or repair when the PTO is engaged.

Failure to correctly plumb and wire the crane can cause a malfunction and damage to the crane and/or operator.

Decals are considered safety equipment. They must be maintained, as would other safety devices. Do not remove any Decals. Replace any Decals that are missing, damaged, or not legible.

The safety instruction plates, notices, load charts and any other sticker applied to the crane or service body must be kept legible and in good condition. If necessary, replace them.

STABILITY

Know the crane components and their capabilities and limitations. Overloading the crane may result in serious injury to self and others, and damage to the equipment and immediate surroundings.

Never exceed manufacturer's load ratings. These ratings are based on the machine's hydraulic, mechanical, and structural design rather than stability.

The supporting surface under the service truck must be able to support the weight of the machine and its load. Use outrigger pads if necessary.

Park the vehicle on level ground and extend the outriggers fully out and then down.

Keep feet and legs clear when lowering outrigger jacks.

Never operate the crane without making sure the outriggers are positioned on stable, flat ground.

Set the parking brake and disengage the drive axle before attempting a lift.

LOAD SAFETY

Operate the crane in compliance with the load capacity chart at all times. Know the weight of the load being lifted.

Do not rely on the overload device to determine maximum rated loads.

Never use a sling bar or anything larger than the hook throat that could prevent the hook latch from closing. This would negate the safety feature.

Do not apply side loads to the booms.
Do not leave a crane load suspended or unattended.

Do not walk under suspended loads.

Do not position any load over a person nor should any person be permitted to place him or herself under a load.

Do not use the boom or the winch to drag a load.

Do not use the crane boom to push downward onto anything.

ELECTROCUTION

Allow extra space for swaying power lines in windy conditions.

Keep a minimum of ten feet between any portion of the crane and an electrical line. Add an additional 12" for every additional 30,000 Volts or less.

Remember - Death or serious injury can occur when working near power lines or during electrical storms.

Use a signal person when operating near electrical sources.

ENVIRONMENT

Do not operate the crane during electrical storms.

In extreme cold, allow adequate time to warm the truck before engaging the PTO. Do not rev the truck engine and over speed the hydraulic pumps as permanent damage to the pumps may occur. Follow the vehicle owner's manual regarding operating the vehicle in such adverse conditions.

In dusty work areas, every effort must be taken to keep dust and sand out of the moving parts of the machinery.

In high humidity work areas, keep parts as dry as possible and well lubricated.



Crane Controls

1. Be familiar with the sequence and operation of the crane controls.
2. Each individual crane function should have control function decals. Replace them immediately if they are missing or illegible.
3. Keep hands, feet and control levers free from mud, grease and oil.
4. Be familiar with the remote control and how it operates before attempting to lift a load.
5. Be prepared before beginning operation of the crane:
 - All protective guards must be in place.
 - Be aware of the surroundings: low branches, power lines, unstable ground.
 - Be sure all safety devices provided are in place and in good operating condition.
 - Be prepared for all situations. Keep fire extinguisher and first aid kit near.
 - Be sure all regular maintenance has been performed.
 - Visually inspect all aspects of the crane for physical damage.
 - Check for fluid leaks.
 - Make sure the outriggers are down and stable.

ATTENTION

Stellar Industries, Inc. is not liable for accidents incurred by the crane because of the operator's non-fulfillment of current rules, laws and regulations

Chapter 2 - Operation

This chapter contains information regarding the operation of Stellar manufactured articulating cranes. Please study the following pages to ensure your familiarity with the operation process. This understanding is vital to the safe and efficient operation of the crane.

Job-Site Set-Up

Thoroughly plan the lift before positioning the vehicle.
Consider the following:

1. The vehicle should be positioned in an area free from overhead obstructions to eliminate the need for repositioning.
2. Position the vehicle so that it is impossible for any portion of the equipment to come within the minimum required safe distance of any power line. Maintain a clearance of at least 10 feet between any part of the crane, load line, or load, and any electrical line or apparatus carrying up to 50,000 volts. One foot additional clearance is required for every additional 30,000 volts or less. Remember to allow for winds that cause power lines to sway. It is recommended that a signal person be used when the vehicle is set-up near power lines.
3. The vehicle should also be positioned on a firm and level surface that will provide adequate support for the outrigger loading. Use extreme caution when setting up near overhanging banks or excavations.
4. The parking brake must be set on the vehicle and the drive axle disengaged before performing a crane operation.
5. The outriggers must be extended to stabilize the truck before beginning operation.

NOTICE

The parking brake must be fully engaged in order to operate any Stellar Equipment.

Unit Operation Overview

1. Engage the PTO
2. Turn on Power to Crane
3. Position Outriggers
4. Operate Crane
5. Store Outriggers
6. Turn Off Power to Crane
7. Disengage the PTO

1. Engage the PTO

- A. Engage the **parking brake**.
- B. Place the transmission in the Neutral position.
- C. Make certain the PTO switch is in the 'off' position.
- D. Start the vehicle engine.
- E. Depress the clutch on manual transmission vehicles.
- F. Engage the PTO switch for cable and air type shifters. Turn on the dash switch for electrical operated style. Consult vehicle owner's manual for location and operation of OEM style in-dash PTO switch.
- G. Slowly release the clutch on a manual transmission vehicle.
- H. Allow a few moments to warm the hydraulic system oil. In cold weather, it is especially important to let the system run for a few minutes before operating.



PTO Switch

2. Turn on Power to Crane

Activate power to the crane and outriggers. The power switch is located on the control panel in the vehicle cab.

3. Position Outriggers

Once the PTO is engaged, extend the outriggers using the control levers or switches marked 'outrigger'. These may be located on the crane base or in the compartment under the crane.

4. Operate Crane

- A. Turn on necessary power to the crane.
- B. Activate toggle switch for desired crane function.
- D. Activate the variable speed trigger to control the desired function.
- E. When operation is complete, store remote handle in a safe, dry location.

5. Store Outriggers

Retract outriggers using the control levers or switches marked 'outrigger'.

6. Turn Off Power to Crane

Deactivate power to crane and outriggers.

7. Disengage the PTO

- A. On manual transmission vehicles, depress the clutch pedal completely.
- B. Disengage the PTO switch.
- C. If vehicle is a manual transmission, release the clutch pedal gradually.

Radio Remote Operation



The crane is operated by a radio control system which operates an electronic valve bank. The controller (as shown above) operates the following functions:

- Main Boom Up and Down
- Outer Boom Up and Down
- Extension Boom In and Out
- Rotation Clockwise and Counter-Clockwise
- Boom Tip Clockwise and Counter-Clockwise

To operate the crane, activate the desired toggle switch. The crane will not function until the trigger on the remote handle is activated. The crane speed will change as the trigger is pulled or released.

Note: If the crane does not operate, check the batteries located in the remote handle and replace if necessary.

Note About Battery Condition

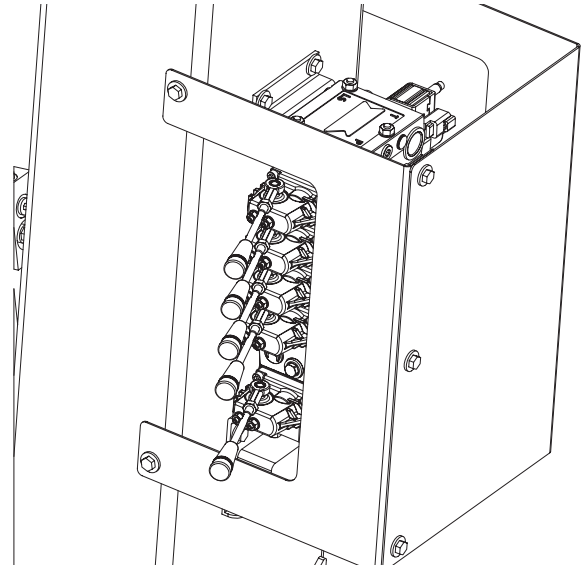
The batteries included with this equipment may be rechargeable. To keep rechargeable batteries in optimal working condition, follow these simple guidelines:

1. Keep battery away from moisture. Store in a cool, dry location.
2. Do not store or carry battery so that metal objects can contact exposed metal end. Keep battery cap on when not in use.
3. The batteries should be recharged when they fail to produce sufficient power.
4. Never attempt to open the battery for any reason.

Manual Operation

In case of radio failure, the crane can be operated using manual overrides located on the valve bank.

Valve Manual Override Operation



1. **Switch to Manual Operation:**

Flip the toggle switch (shown below) up to "Manual"

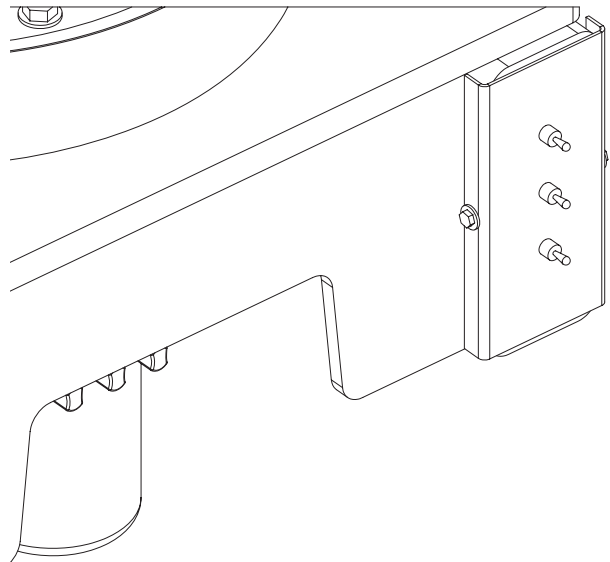
2. **Operate Levers on the Valve Bank:**

Push or pull levers to operate listed function.

3. **Switch Controls Off:**

Flip the toggle switch to the middle "Off" position.

4. **Have Unit Serviced.**



Crane Precautions

1. Movement of the control levers should be slow and smooth to meter oil flow for safe operation. Avoid jerky and sudden movements.
2. The crane controls should be clearly marked with decals. If these are missing or illegible, replace immediately. (See Chapter 5: Decals)
3. Lift load slightly off the ground to check the safety of the cargo. Do not use stability to determine the safety. Consult the capacity charts and strictly adhere to them.
4. Be constantly aware of the boom position when operating the controls.
5. The boom tip should be centered directly over the load before making the lift to avoid swinging.
6. Do not drag loads with the crane.
7. Do not attempt to lift fixed loads.
8. Do not load boom in a sideways direction.
9. Know the weight of the rigging and load to avoid overloading the crane.
10. Do not extend or rotate a load over anyone.
11. Wear protective gear such as hard hat, safety glasses, steel-toed boots, and gloves.

Crane Transport

Before transporting the crane, do the following:

1. The crane must be in the stored position.
2. Outriggers must be securely stowed and not extended horizontally or vertically.
3. Hook and sheave assemblies must be securely fastened to prevent swinging.
4. All loose accessories, tools, and remote controls must be securely stored in their respective compartments or fasteners.
5. The PTO must be disengaged.
6. The parking brake must not be released until all of the above procedures are completed.
7. Do not drive the carrier vehicle while a load is present on the hook.
8. Do not drive the carrier vehicle with less than proper tire inflation.
9. Do not drive the carrier vehicle in areas where the vertical clearance is unknown.
10. Do not allow personnel to ride on the equipment during transport.

Hook Precautions

1. Hooks are designed and manufactured to lift specific loads. The specified rated load of a hook applies to loads held uniformly in direct tension and does not take into account shock loads, hook tip loading, side loading, bending, torsional, or related loads.
2. Do not attempt to lift a load that is larger than the load rating of the hook.
3. Never use a hook's yield point as an indicator of its capacity.
4. Do not use a hook to lift personnel.
5. Know the rated load of the hook in use.
6. Never weld attachments to a finished hook in field applications. This will alter and destroy the design properties of the hook material.
7. Keep fingers, hands, body, and loose clothing from between the hook and the load.
8. Avoid shock loading.
9. Inspect the hook regularly for excessive wear and maintain it in safe operating condition.

Operator Information

OPERATOR REQUIREMENTS

1. Operation is limited to the following people:

- A. Designated individual.
- B. Trainees under direct supervision of the designated individual.
- C. Test or maintenance individual.
- D. Crane Inspector.

2. Operators must meet the following physical qualifications:

- A. Vision of at least 20/30 Snellen in one eye and 20/50 in the other, with or without corrective lenses.
- B. Ability to distinguish colors if color differentiation is required.
- C. Adequate hearing, with or without a hearing aid.
- D. No physical or emotional defects that may create a hazard to the operator or others.
- E. Normal depth perception and coordination.

3. In addition to the physical qualifications, Operators must:

- A. Demonstrate the ability to understand all decals, the owner's manual, and any other information required for safe operation of the crane.
- B. Be able to demonstrate the ability to safely control the crane.
- C. Know all safety regulations.
- D. Be responsible for maintenance requirements.
- E. Understand and be fully capable of implementing all emergency procedures.
- F. Understand the operating procedures as outlined by this manual, ANSI B30.2, and Federal/State Laws.

OPERATOR CONDUCT

1. Operators will not engage in any operation that would cause them to divert attention away from the operation of the crane.
2. Operators are responsible for all operations under their direct control.
3. Operators will not leave a suspended load unattended.
4. Operators will be familiar with the equipment and the maintenance required for proper care.

HANDLING THE LOAD

1. Size of the load:

- A. Do not load the crane beyond the rated capacity.
- B. It is the responsibility of the operator to know the weight of the handled load.

2. Attaching the load:

- A. Attach the load to the hook by means of slings or other approved devices.
- B. Do not wrap the hoist rope around the load.

3. Moving the load:

- A. Make certain that the crane is level and properly blocked.
- B. Ensure that the load is secure and balanced within the sling before moving it.
- C. Be sure that the crane is stable before moving the load. Use stabilizer pads to ensure the proper distribution of weight.
- D. Do not drag the load sideways.
- E. Make sure the hook is brought over the load to minimize swinging.
- F. No suspended load should pass over a person.
- G. Avoid sudden starts and stops when moving a load.

Chapter 3 - Maintenance

WARNING - Read the Following before performing any maintenance on the crane.

1. Only authorized service personnel are to perform maintenance on the crane.
2. Disengage the PTO before any service or repair is performed.
3. Do not disconnect hydraulic hoses while there is still pressure in those components.
4. Before disconnecting hydraulic components, place the boom on the ground or have it supported, shut off the engine, release any air pressure on the hydraulic reservoir, and move pedals and control levers repeatedly through their operating positions to relieve all pressures.
5. Keep the crane and service body clean and free from grease build-up, oil and dirt to prevent slippery conditions.
6. Perform all safety and maintenance checks before each period of use.
7. Replace parts with Stellar Industries, Inc. approved parts only.
8. Immediately repair or have repaired any components found to be inadequate.

Maintenance Procedures

1. Position the crane where it will be out of the way of other operations or vehicles in the area.
2. Be sure boom is lowered to the ground or otherwise secured from dropping.
3. Place all controls in the off position and secure operating features from inadvertent motion.
4. Disconnect power source.
5. Relieve hydraulic oil pressure from all hydraulic circuits before loosening or removing hydraulic components.
6. Label or tag parts when disassembling.

Daily Inspection

Daily Inspection should occur each day before the crane is put into use. Each day, inspect the crane for all of the following:

1. Hydraulic oil level.
2. Loose parts or damage to structures or weld.
3. Cylinder movement due to leakage.
4. Hoses and gearboxes for evidence of oil leaks.
5. Controls, including hand throttle for malfunction or adjustment.
6. Truck hand brake operation.
7. All securing hardware such as cotter pins, snap rings, hairpins, and pin keepers for proper installation.
8. All safety covers for proper installation.
9. Cylinder holding valves for proper operation.
10. Wire rope for broken wires, extensive wear, distortion, and heat damage.

Periodic Inspection

Periodic Inspection should occur while the crane is in use. For the duration of the usage, inspect the crane for all of the following:

1. Loose bolts and fasteners.
2. All pins, bearings, shafts, and gears for wear, cracks, or distortion to include all pivots, outriggers, sheave pins, and bearings.
3. Hydraulic systems for proper operating pressure.
4. Main frame mount bolts.
5. Cylinders for:
 - A. Damaged rods.
 - B. Dented barrels.
 - C. Drift from oil leaking internally.
 - D. Leaks at rod seals or holding valves.
6. PTO drive line system for proper alignment, lubrication, and tightness.
7. Hydraulic hose and tubing for evidence of damage such as blistering, crushing, or abrasion.

Weekly Inspection

Weekly Inspection should occur at the beginning of every work week. Each week, inspect the crane for all of the following:

1. Lubrication of points required by lubrication chart located in this chapter.
2. Proper operation of load hook safety latch.
3. Presence of this owner's manual.

Monthly Inspection

Monthly Inspection should occur at the beginning of every work month. Each month, inspect the crane for all of the following:

1. Frame bolt tightness - turn barrel nuts and mounting bolts during the first month of operation on new machines and then quarterly thereafter.
2. Cylinders and valves for leaks.
3. Lubrication.
4. Load hook for the following:
 - a. Cracks or having more than 5% normal throat opening.
 - b. Any visible bend or twist from the plane of the unbent hook.
5. Structural members for bends, cracks, or broken members.
6. All welds for breaks and cracks.
7. All pins and keepers for proper installation.
8. All control, safety, and capacity placards for readability and secure attachment.
9. Inspect all electrical wires and connections for worn, cut, or deteriorated insulation and bare wire. Replace or repair wires as required.
10. Tightness of all boom wear, pad-retaining bolts.

Service

The following general suggestions should be helpful in analyzing and servicing your crane. Using the following systematic approach should be helpful in finding and fixing problems:

1. Determine the problem.
2. List and record possible causes.
3. Devise checks.
4. Conduct checks in a logical order to determine the cause.
5. Consider the remaining service life of components against the cost of parts and labor necessary to replace them.
6. Make the necessary repair.
7. Recheck to ensure that nothing has been overlooked.
8. Functionally test the new part in its system.

Inspection Checklist

For a more detailed outline of scheduled inspection points, refer to the Stellar[®] Crane Inspection Log. The Stellar[®] Crane Inspection Log is an essential guide for the daily, monthly, quarterly and annual inspection tasks that will help maintain the quality of your Stellar product.

ATTENTION

Every six (6) months, remove the hydraulic pump from the PTO and lubricate the splines using Chelsea Lubricant #379831 or Stellar PN 20885. Failure to lubricate shaft splines will cause damage to the PTO and Hydraulic pump.

Stellar Industries recommends the first filter change to occur after the first 250 hours of service.* The second, and every subsequent change, should occur after every 1,000 hours of service. By following these guidelines, the hydraulic oil should last up to 6,500 hours.

*Note: These recommendations are based on normal working parameters. If operating in less than favorable conditions (excessive dust, moisture, etc.), be sure to check the filter gauge often for filter change notice.

Lubrication Recommendations

CRANE LUBRICATION		
COMPONENT	LOCATION	RECOMMENDATION
HYDRAULIC SYSTEM	RESERVOIR	
	BELOW -5°F	HIGH VI, LOW POUR, ISO 22, AW HYDRAULIC OIL
	-5°F TO 90°F	HIGH VI, LOW POUR, ISO 32, AW HYDRAULIC OIL
	ABOVE 90°	ISO 46, AW HYDRAULIC OIL
OPEN GEAR TEETH	CRANE ROTATION GEAR	MOLY GREASE 936SF HEAVY (STELLAR PN 4460)
WORM DRIVE BEARINGS (INCLUDING TURNTABLE BEARING INNER RACE)	CRANE ROTATION GEAR, INSIDE CRANE COMPARTMENT	EP2 LITHIUM COMPLEX GREASE (STELLAR PN 78090)
CYLINDERS	CRANE PIVOT AREAS	EP2 LITHIUM COMPLEX GREASE (STELLAR PN 78090)
CRANE PINS & BUSHINGS	CRANE PIVOT POINTS	EP2 LITHIUM COMPLEX GREASE (STELLAR PN 78090)
WEAR PAD LUBRICATION	EXTENSION BOOMS	SYNTHETIC LUBRICANT CONTAINING TEFLON®
COMPRESSOR LUBRICATION		
COMPONENT	LOCATION	RECOMMENDATION
RECIPROCATING SINGLE STAGE	COMPRESSOR CRANKCASE	ISO 100 COMPRESSOR OIL
RECIPROCATING DOUBLE STAGE	COMPRESSOR CRANKCASE	ISO 100 COMPRESSOR OIL
SCREW COMPRESSOR	COMPRESSOR CRANKCASE	
	CRANKCASE -15°F TO 86°F	SYNTHETIC PERFORMING ISO 46 COMPRESSOR OIL
	-23°F TO 100°F	SYNTHETIC PERFORMING ISO 32 COMPRESSOR OIL
	32°F TO 113°F	SYNTHETIC PERFORMING ISO 68 COMPRESSOR OIL

Holding Valve Inspection Procedure

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

1. Identify the cylinder in question.
2. Identify the holding valves and the cylinder direction in question.
 - a. Cylinder Extend.
 - b. Cylinder Retract.
3. Place the machine so that the cylinder will be located in the appropriate testing position.
4. Pick the load (Do not exceed capacity, rated or stability).
5. Disengage hydraulics.
6. Operate crane functions.
 - A. If the cylinder creeps (lowering the load), replace the holding valve.
 - B. If the cylinder does not creep (load stays suspended), the valve is operational.

Gear-Bearing Bolt Maintenance

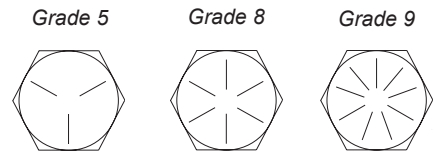
Anytime a gear-bearing bolt is removed, it must be replaced with a new bolt of the identical grade and size. Once a bolt has been torqued to 75% of its proof load and then removed, the torque coefficient may no longer be the same as when the bolt was new thus giving indeterminate damp loads after torquing.

Warning!

Failure to replace gear-bearing bolts may result in bolt failure due to metal fatigue causing serious injury or even death.

Torque Data Chart

Note: For Crane Tie Down Rods, see Chapter 6: Installation Overview.



Size (DIA-TPI)	Bolt DIA (Inches)	Plain (Ft-Lb)	Plated (Ft-Lb)	Plain (Ft-Lb)	Plated (Ft-Lb)	Plated (Ft-Lb)
5/16-18	0.3125	17	13	25	18	22
3/8-16	0.3750	31	23	44	33	39
7/16-14	0.4375	49	37	70	52	63
1/2-13	0.5000	75	57	105	80	96
9/16-12	0.5625	110	82	155	115	139
5/8-11	0.6250	150	115	220	160	192
3/4-10	0.7500	265	200	375	280	340
7/8-9	0.8750	395	295	605	455	549
1-8	1.000	590	445	910	680	823
1 1/8-7	1.1250	795	595	1290	965	1167
1 1/4-7	1.2500	1120	840	1815	1360	1646
1 3/8-6	1.3750	1470	110	2380	1780	2158
1 1/2-6	1.500	1950	1460	3160	2370	2865

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.

Chapter 4 - Specifications

Model 6000MH Crane

Crane Rating:	60,000 ft-lbs (8.30 ton-meters)
Standard Boom Length:	14'9" (4.50 m)-from CL of Crane
Boom Extension:	Hydraulic 70" (177.8 cm), stage 1 Hydraulic 70" (177.8 cm), stage 2
Maximum Horizontal Reach:	26'5" (8.05 m)-from CL of Crane
Max Vertical Lift (From truck frame):	29' (8.84 m)
Inner Lift Cylinder:	6" (15.24 cm) bore with integral pilot operated counterbalance valves.
Outer Lift Cylinder:	6" (15.24 cm) bore with integral pilot operated counterbalance valves.
Extension Cylinder:	2.5" (6.35 cm) bore x 2.5" (6.35 cm) bore piggy-back with pilot operated counterbalance valves.
Rotation:	450 degree power (worm gear drive)
Lifting Capacities (From CL of crane):	6,000 lbs @ 10' (2720 kg @ 3.05 m) 4,050 lbs @ 14'9" (1835 kg @ 4.50 m) 2,925 lbs @ 20'7" (1325 kg @ 6.27 m) 2,275 lbs @ 26'5" (1030 kg @ 8.05 m)
Power Supply Required:	PTO & Pump Boom Tip Version (5 section valve bank): 18-20 gpm @ 3200 psi (68-75 lpm @ 220 bar) Standard Version: 12 gpm @ 3200 psi (45 lpm @ 22 bar)
Controls:	Radio control standard for all functions.
Stowed Height (Above crane base):	7' (2.13 m)
Mounting Space required:	30 inches (76.2 cm)
Approximate Shipping Weight:	4400 lbs (1995 kg)

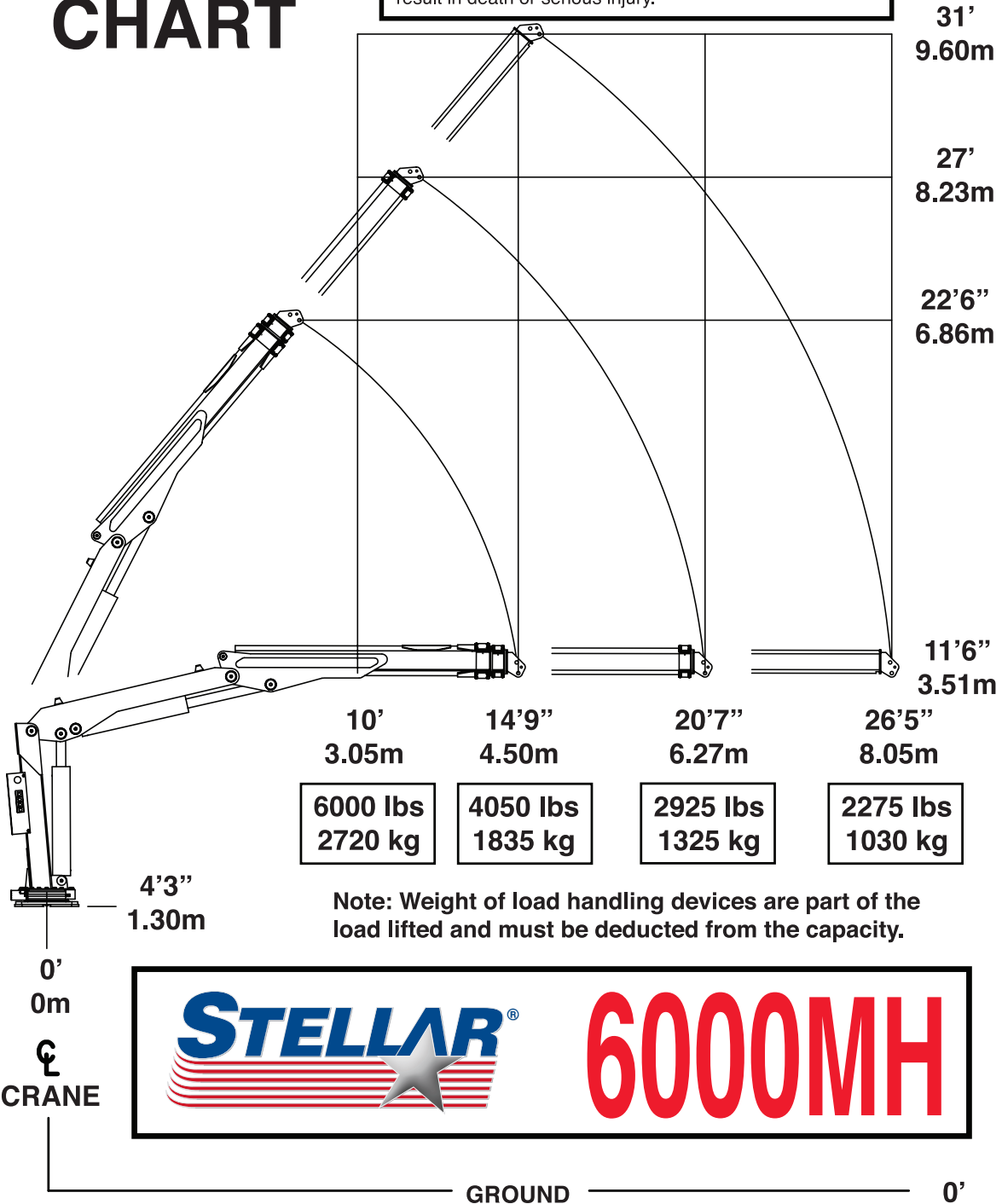
Capacity Chart - Decal PN 41206

CAPACITY CHART

⚠ WARNING

Overload Hazard

Do not exceed equipment load charts and ratings. Failure to follow equipment load charts and ratings can result in death or serious injury.



Note: Weight of load handling devices are part of the load lifted and must be deducted from the capacity.

190 STATE STREET GARNER, IA 50438
 PHONE: (800) 321-3741 FAX: (641) 923-2812 41206 - Rev A

Chapter 5 - Installation

Notice: Read this Page Before Installation of the Crane

General Installation

This chapter is designed to serve as a general guide for the installation of a Stellar 6000MH Articulating Crane on a Stellar Service Body. Each installation is considered unique so certain portions of this chapter may or may not apply to your direct application. If a question should arise during the installation process, please contact Stellar Customer Service at (800) 321 3741.

This crane is designed for use with a Stellar Service Body installed on a vehicle that meets the minimum chassis requirements of the crane. Check with Stellar Industries before installing this crane on a body other than a Stellar Service Body.

WARNING!

The use of this crane on a body not capable of handling the loads imposed on it may result in serious injury or death.

Notice:

PTO and Pump installation instructions are provided by the corresponding manufacturers. For more information on which PTO and Pump fit your application, please contact your local Stellar Distributor or Stellar Customer Service.

Installation Notice

According to Federal Law (49 cfr part 571), each final-stage manufacturer shall complete the vehicle in such a manner that it conforms to the standards in effect on the date of manufacture of the incomplete vehicle, the date of final completion, or a date between those two dates. This requirement shall, however, be superseded by any conflicting provisions of a standard that applies by its terms to vehicles manufactured in two or more stages.

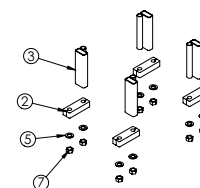
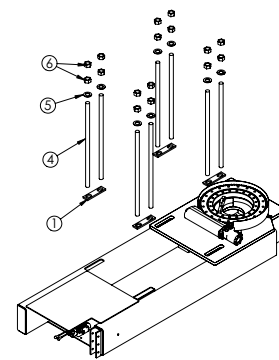
Therefore, the installer of Stellar cranes and bodies is considered one of the manufacturers of the vehicle. As such a manufacturer, the installer is responsible for compliance with all applicable federal and state regulations. They are required to certify that the vehicle is in compliance with the Federal Motor Vehicle Safety Standards and other regulations issued under the National Traffic and Motor Vehicle Safety Act.

Please reference the Code of Federal Regulations, title 49 - Transportation, Volume 5 (400-999), for further information, or visit <http://www.gpoaccess.gov/nara/index.html> for the full text of Code of Federal Regulations.

Installation Overview

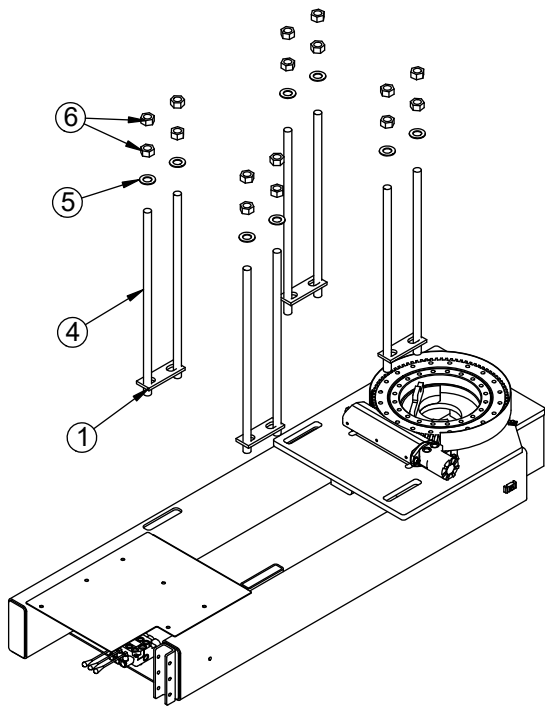
Installation Guidelines (For more detail, please contact Stellar Customer Service)

1. Relocate any obstructions on the frame that will be in the way of mounting the crane.
2. Measure the inside of the frame rails and cut the frame support to this length. Ensure that the frame supports have a tight fit between the frame rails.
3. Set the crane on the chassis and allow a minimum of 2" from the cab.
4. Install the crane tie downs. Start at one corner and tighten both tie downs to 200 ft-lbs. Move to the diagonal set and tighten to 200 ft-lbs. Tighten the remaining 2 corners. Continue this pattern at 200 ft-lb increments until 500-550 ft-lbs is achieved. Be sure the mounting block stays perpendicular to the frame rail as they are tightened down.
5. Connect the pressure and return lines per the hydraulic kit.
6. Connect the (+12V) power and ground wires.
7. Check the reservoir for oil and fill if necessary.
8. Operate the crane for several cycles.

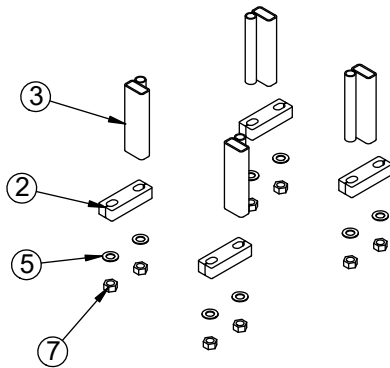
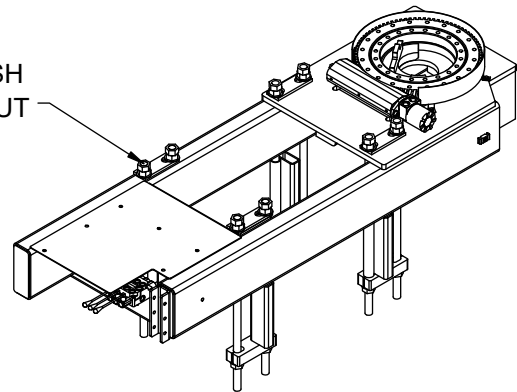


See next page for details

Installation Kit - PN 24145



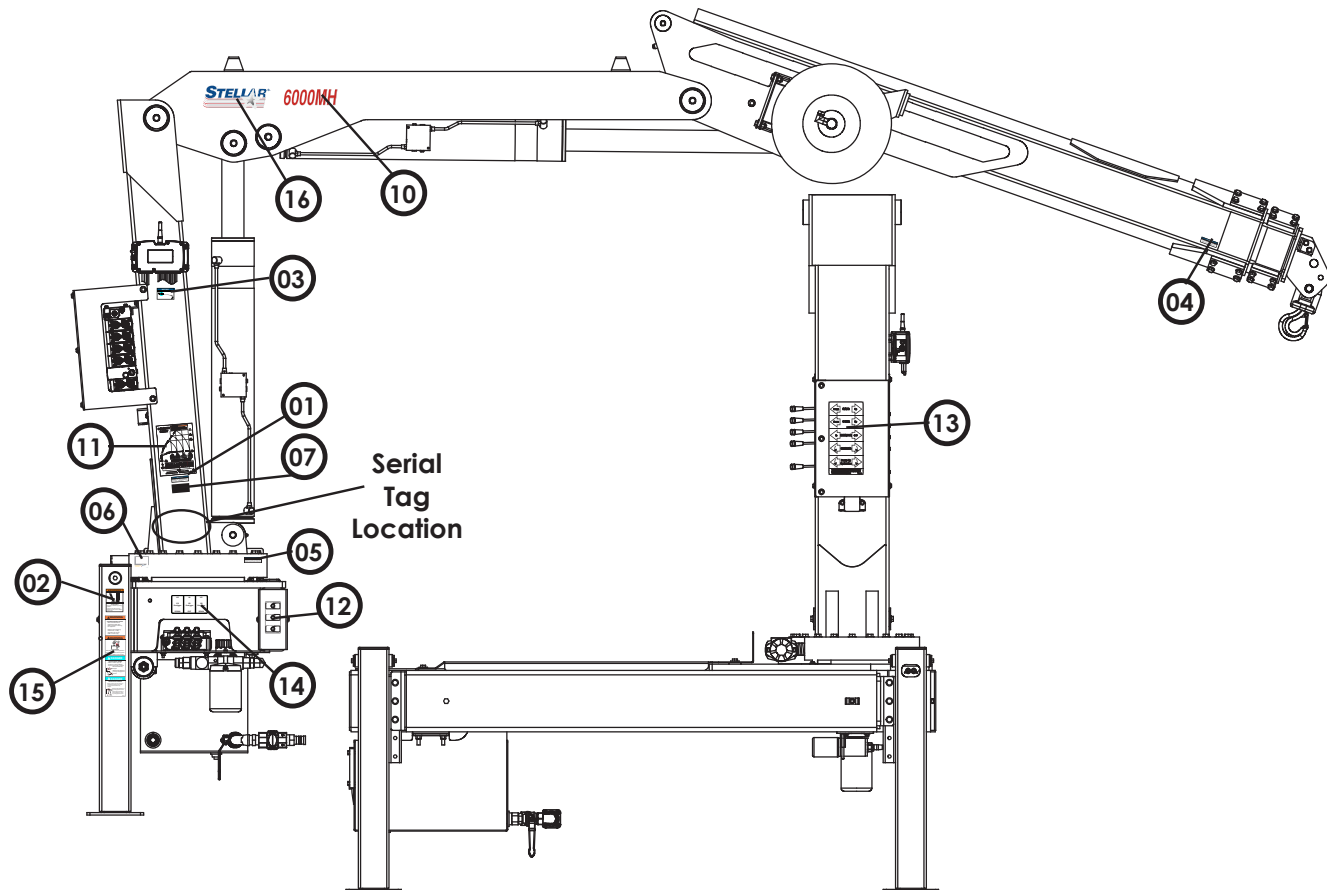
INSTALL
ROD FLUSH
TO THE NUT



PN 24145

ITEM	PART	DESCRIPTION	QTY
1	22256	PLATE MTG 6000MH PC BLACK	4
2	8054	MTG BLOCK 15000 PC BLACK	4
3	8202	FRAME SUPPORT 15000 CRANE PC BLACK	4
4	8900	TIE DOWN ROD 15000	8
5	9180	WASHER 1.25 SAE FLAT YELLOW GR8	16
6	8978	NUT 1.25-7 HHGR8	16
7	8834	NUT 1.25-7 HHGR8 TOP LOCKING	8
REV. INITIAL RELEASE			

Decal Kit Placement - PN 41215



DECALS IN BOLD ARE NOT SHOWN - PLACE ON BODY

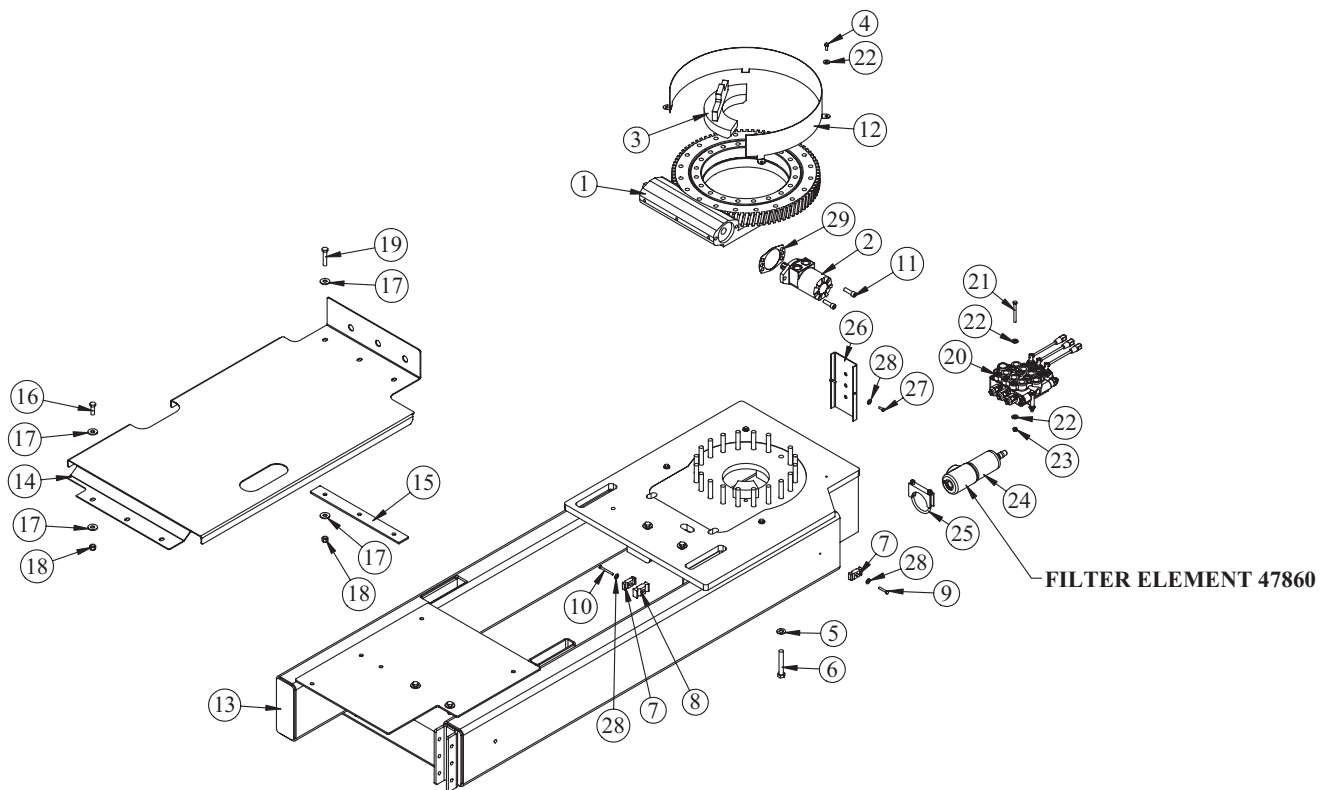
General Tire Crane Decal Kit - PN 85362				
Item No.	PN	Description	Location	QTY
01	15172	DECAL ASME/ANSI B30.22/B30.5	Crane Mast	1
02	C4795	DECAL DANGER FOOT	Stabilizers - CS & SS	2
03	73929	DECAL RADIO PRESSURE WASHER NOTICE	Crane Mast	1
04	16973	DECAL USE STELLAR APPROVED ATTACHMT	Main Boom - Both Sides	2
05	9188	DECAL WORM GEAR LUBRICATION	Crane Base	1
06	35234	MADE IN THE USA - STELLAR	Crane Base/Optional	2
07	4214	DECAL CONTACT STELLAR	Crane Mast	1
08	C4545	DECAL DANGER ELECTROCUTION	Four Corners of the Body	4
09	C5910	DECAL STELLAR LOGO 4.00X9.50 PRE-MASKED	Body - Optional	3

6000MH Decal Kit - PN 85510				
Item No.	PN	Description	Location	QTY
10	54855	DECAL 6000MH ID PRE-MASKED	Main Boom - Both Sides	2
11	41206	DECAL CAPACITY 6000MH	Crane Mast - Both Sides	2
12	114699	DECAL SWITCH PLATE 6000MH SIGN TRUCK	Crane Control Center	1
13	80892	DECAL VB CONTROL 6000MH SIGN TRUCK	Crane Control Center	1
14	24462	DECAL CRANE OUTRIGGER	Crane Base	1
15	85504	DECAL WARNING PLACARD SMALL	Stabilizers CS & SS	2
16	53850	DECAL STELLAR LOGO 4X11.5 PRE-MASKED	Main Boom - Both Sides	2

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Chapter 6 - Assembly Drawings

Base Assembly - PN 80507



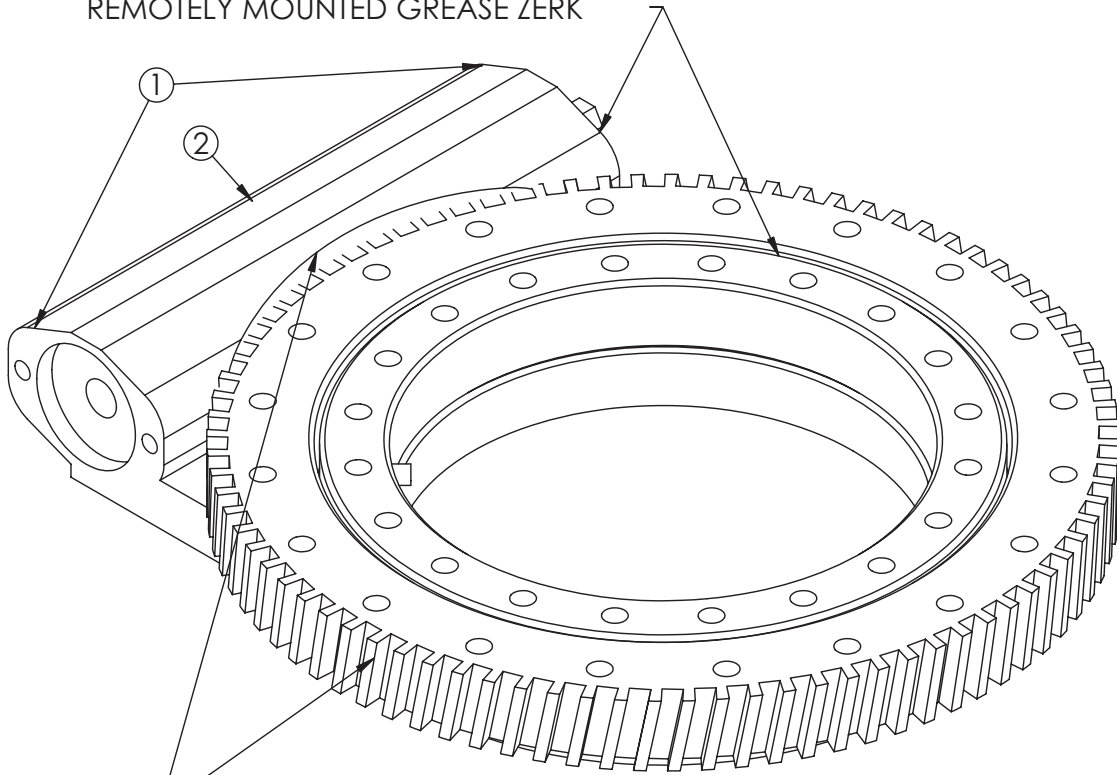
PN 80507

ITEM	PART	DESCRIPTION	QTY.
1	4032	BEARING SWING DRIVE 6000	1
2	11458	MOTOR HYD 10 CU IN/ PNT BLK	1
3	16381	ROTATION STOP 6025 450 DEG ROT	1
4	0420	CAP SCR 0.31-18X0.75 HHGR5	4
5	C5902	WASHER 0.63 SAE FLAT YELLOW GR8	20
6	D1313	CAP SCR 0.63-11X4.00 HHGR8 ZY	20
7	8622	CLAMP HOSE/TUBE AG-2	2
8	8621	CLAMP HOSE/TUBE AG-3	1
9	0220	CAP SCR 0.25-20 X 1.50 HHGR5	1
10	0339	CAP SCR 0.25-20X2.50 HHGR5	1
11	62484	CAP SCR 12MMX40MM SH	2
12	44605	GUARD TTB 6000 CRANE LZR PC BLACK	1
13	80585	BASE 6000MH SIGN TRUCK	1
14	80583	PANEL STEP TOP 6000 MH SIGN TRUCK	1
15	80584	PLATE SPACER TOP 6000MH SIGN TRUCK	1
16	0359	CAP SCR 0.50-13X1.50 HHGR5	3
17	0352	WASHER 0.50 USS FLAT	12
18	C6106	NUT 0.50-13 HHGR5 NYLOC	6
19	0502	CAP SCR 0.50-13X2.50 HHGR5	3
20	79706	VB 3-SECT VDM8 C4-C4-C4-3400MRV-WCHA-YE-BLK	1
21	12178	CAP SCR 0.31-18X3.25 HHGR5	2
22	0343	WASHER 0.31 USS FLAT	8
23	0342	NUT 0.31-18 HHGR5 NYLOC	2
24	78432	FILTER HIGH PRESSURE 1.06-12SAE 5000PSI 10 MICRON	1
25	78433	CLAMP HIGH PRESSURE FILTER 3.00	1
26	80829	PLATE SWITCH MTG 6000MH	1
27	0479	CAP SCR 0.25-20X0.75 HHGR5	2
28	0340	WASHER 0.25 USS FLAT	4
29	21151	GASKET MOTOR 008-10056-1	1

Gear Bearing - PN 4032

USE EP2 LITHIUM COMPLEX GREASE, STELLAR PN 78090
ON WORM BEARINGS AND BEARING RACE

GREASE MAIN BEARING RACE THROUGH
REMOETLY MOUNTED GREASE ZERK



USE MOLY GREASE 936SF HEAVY, STELLAR PN 4460
ON WORM AND BEARING GEAR TEETH

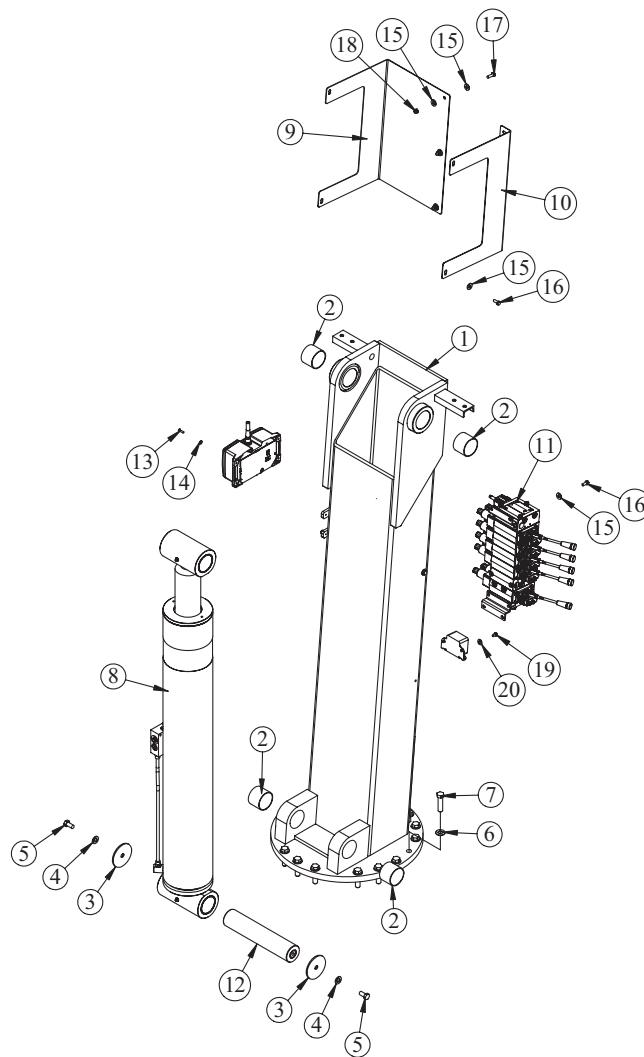
PN 4032

ITEM	PART No.	DESCRIPTION	QTY.
1	27184	BEARING AND SEAL KIT 3200/4500/6000GP	1
2	29458	WORM 6000 GP 170-10063-1	1

ITEM	PART No.	DESCRIPTION	QTY.
1	16931	BEARING AND SEAL KIT 6000 TTB KNMTS BEFORE 2006	1
2	30440	WORM 6000 KINEMATICS W17A02 BEFORE 2006	1

ITEM	PART No.	DESCRIPTION	QTY.
1	67866	BEARING AND SEAL KIT 6000 TTB KNMTS AFTER 2006	1
2	65679	WORM 6000 KINEMATICS W17B02 AFTER 2006	1

Mast Assembly - PN 80508

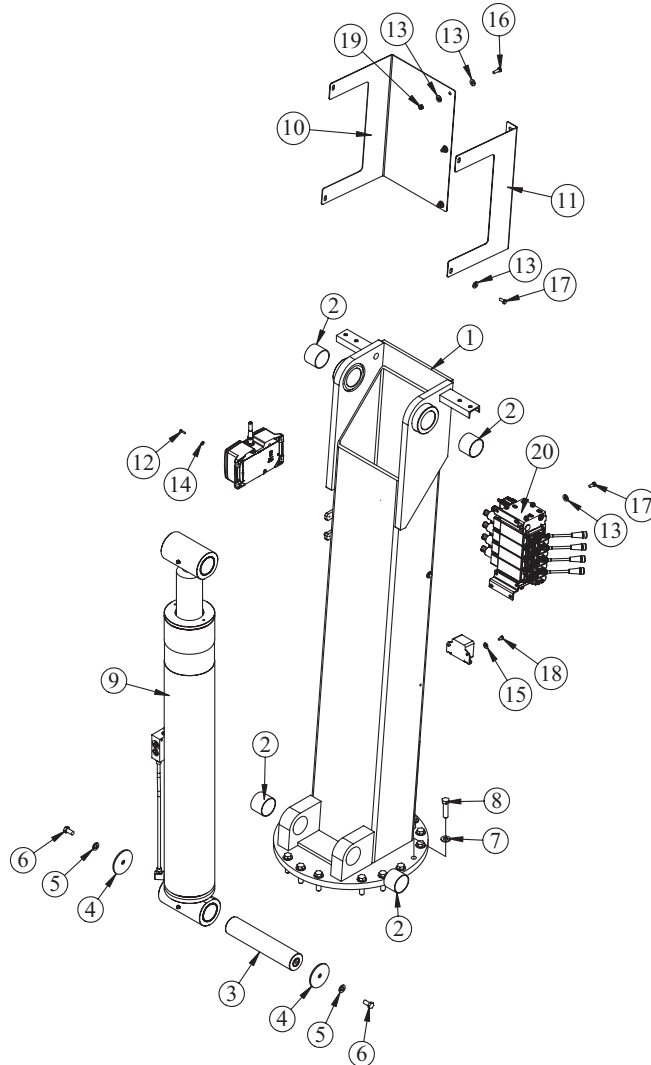


PN 80508

ITEM	PART	DESCRIPTION	QTY.
1	80586	MAST 6000MH SIGN TRUCK	1
2	0635	BUSHING 40DXR32 GARLOCK	4
3	8377	PIN CAP 0.56X3.50X0.19 YZ	2
4	D0790	WASHER 0.50 FLAT GR8	2
5	10172	CAP SCR 0.50-13X1.00 HHGR8 ZY	2
6	C5902	WASHER 0.63 SAE FLAT YELLOW GR8	16
7	66838	CAP SCR 0.63-11X2.50 HHGR8 W/RED PATCH	16
8	51291	CYLINDER ASM INNER 6000MH V2	1
9	80589	GUARD VB 6000MH SIGN TRUCK	1
10	80893	GUARD VB 6000MH SIGN TRUCK SIDE	1
11	79707	VB 5-SECT DANFOSS PVG32 W/ PRIORITY INLET 6000MH	1
12	16345CR	PIN 2.50X12.13 D&T ZC	1
13	D0894	CAP SCR #10-24X0.75 BTNHD SS	4
14	D0178	WASHER #10 SAE FLAT	4
15	0343	WASHER 0.31 USS FLAT	16
16	0420	CAP SCR 0.31-18X0.75 HHGR5	10
17	C0922	CAP SCR 0.31-18X1.00 HHGR5	3
18	0342	NUT 0.31-18 HHGR5 NYLOC	3
19	0478	CAP SCR 0.25-20X0.50 HHGR5	2
20	0340	WASHER 0.25 USS FLAT	2

**RADIO RECEIVER AND ALARM
SHOWN FOR REFERENCE**

Standard Mast Assembly - PN 99696

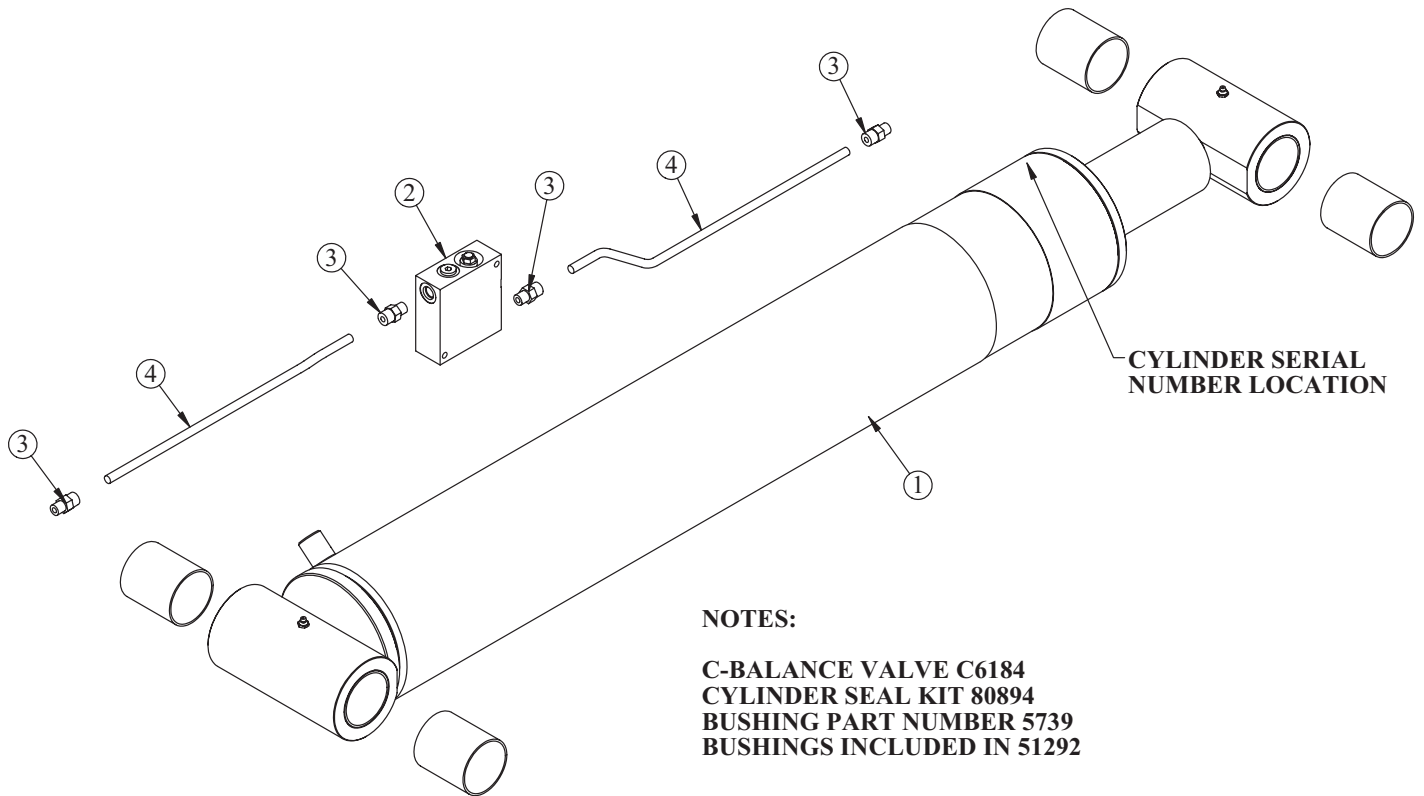


PN 99696

ITEM	PART	DESCRIPTION	QTY.
1	80586	MAST 6000MH SIGN TRUCK	1
2	0635	BUSHING 40DXR32 GARLOCK	4
3	16345CR	PIN 2.50X12.13 D&T ZC	1
4	8377	PIN CAP 0.56X3.50X0.19 YZ	2
5	D0790	WASHER 0.50 FLAT GR8	2
6	10172	CAP SCR 0.50-13X1.00 HHGR8 ZY	2
7	C5902	WASHER 0.63 SAE FLAT YELLOW GR8	16
8	66838	CAP SCR 0.63-11X2.50 HHGR8 W/RED PATCH	16
9	51291	CYLINDER ASM INNER 6000MH V2	1
10	80589	GUARD VB 6000MH SIGN TRUCK	1
11	80893	GUARD VB 6000MH SIGN TRUCK SIDE	1
12	D0894	CAP SCR #10-24X0.75 BTNHD SS	4
13	0343	WASHER 0.31 USS FLAT	14
14	D0178	WASHER #10 SAE FLAT	4
15	0340	WASHER 0.25 USS FLAT	2
16	C0922	CAP SCR 0.31-18X1.00 HHGR5	3
17	0420	CAP SCR 0.31-18X0.75 HHGR5	8
18	0478	CAP SCR 0.25-20X0.50 HHGR5	2
19	0342	NUT 0.31-18 HHGR5 NYLOC	3
20	99659	VB 4 SECT DANFOSS PVG32 6000MH	1
21	78246	BACKUP ALARM 87 DECIBEL	1

**RADIO RECEIVER AND ALARM
SHOWN FOR REFERENCE**

Inner Cylinder Assembly - PN 51291



NOTES:

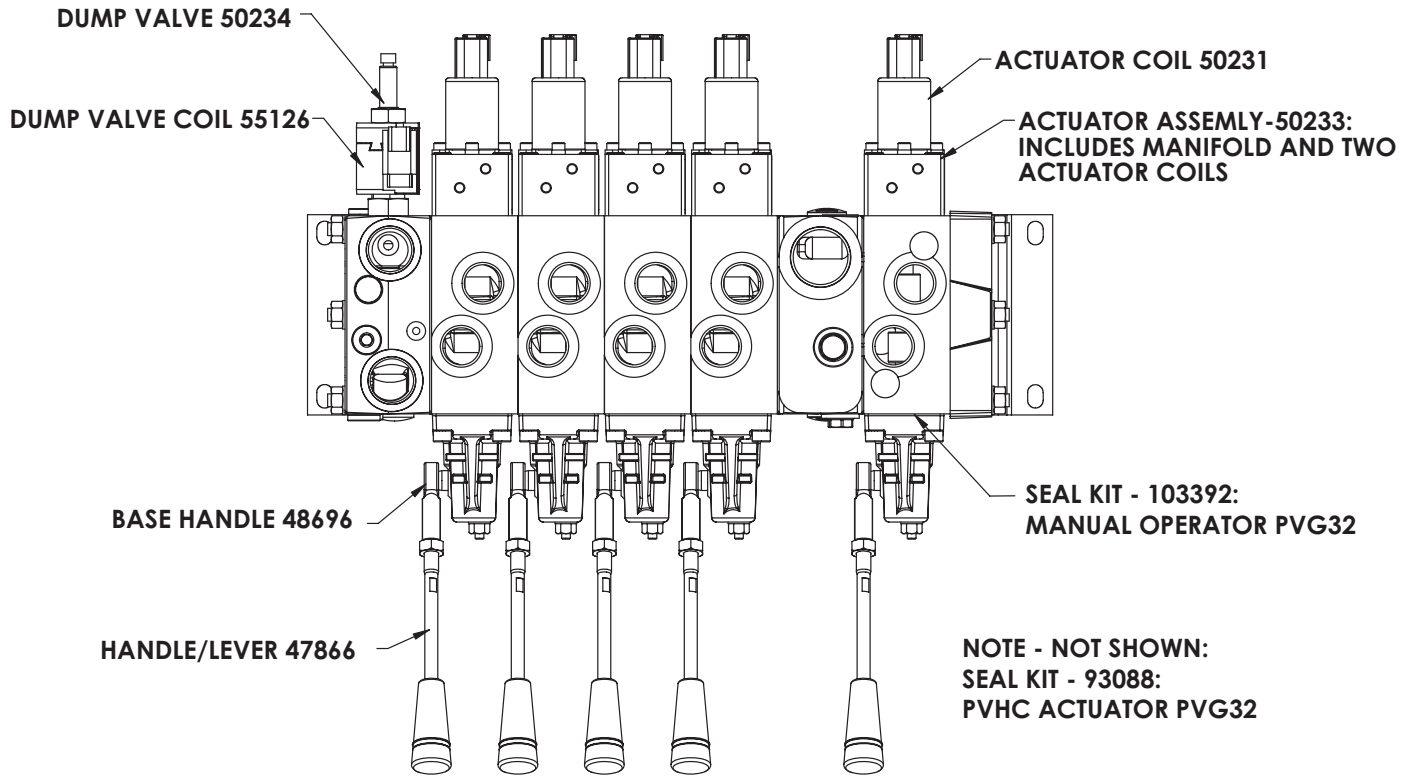
**C-BALANCE VALVE C6184
 CYLINDER SEAL KIT 80894
 BUSHING PART NUMBER 5739
 BUSHINGS INCLUDED IN 51292**

PN 51291

ITEM	PART	DESCRIPTION	QTY.
1	51292	CYLINDER INNER 6000MH 6.00X21.31	1
2	15822	MANIFOLD DOUBLE T11A 5000 PSI	1
3	0279	FTG 6-6 MFS-MORB STRAIGHT	4
4	51290	TUBE ASM 0.38X16.03 YZ	2

Valve Bank Assembly - PN 79707

PN 79707



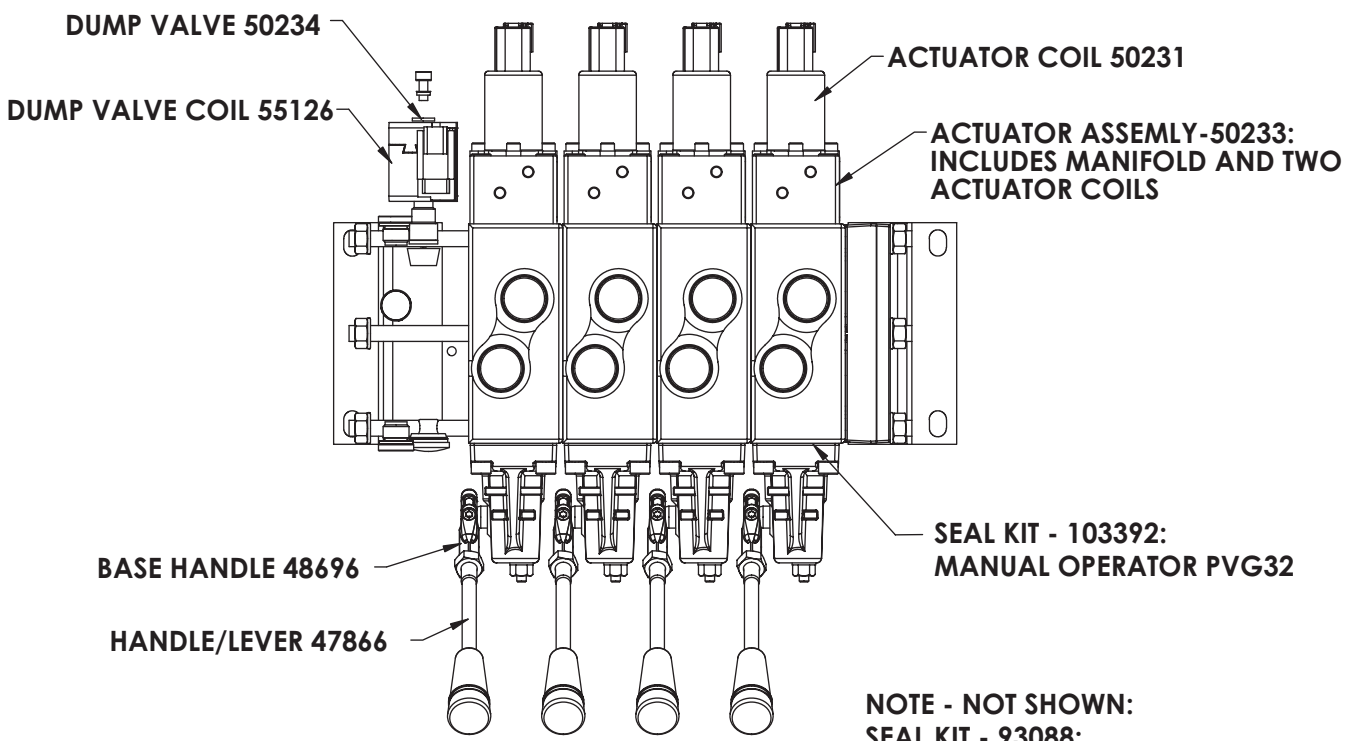
6000MH crane Main Relief 3200PSI

Function	gpm(lpm)	Pressure	
		Extend	Retract
Inner	6.6(25.0)	3200	3200
Outer	6.6(25.0)	3200	3200
Extension	6.6(25.0)	3200	3200
Rotation	6.6(25.0)	3200	3200
Auger	17.2(65.0)	3000	3000

Note: Main relief controls pressure for all functions except auger

Standard Valve Bank Assembly - PN 99659

PN 99659

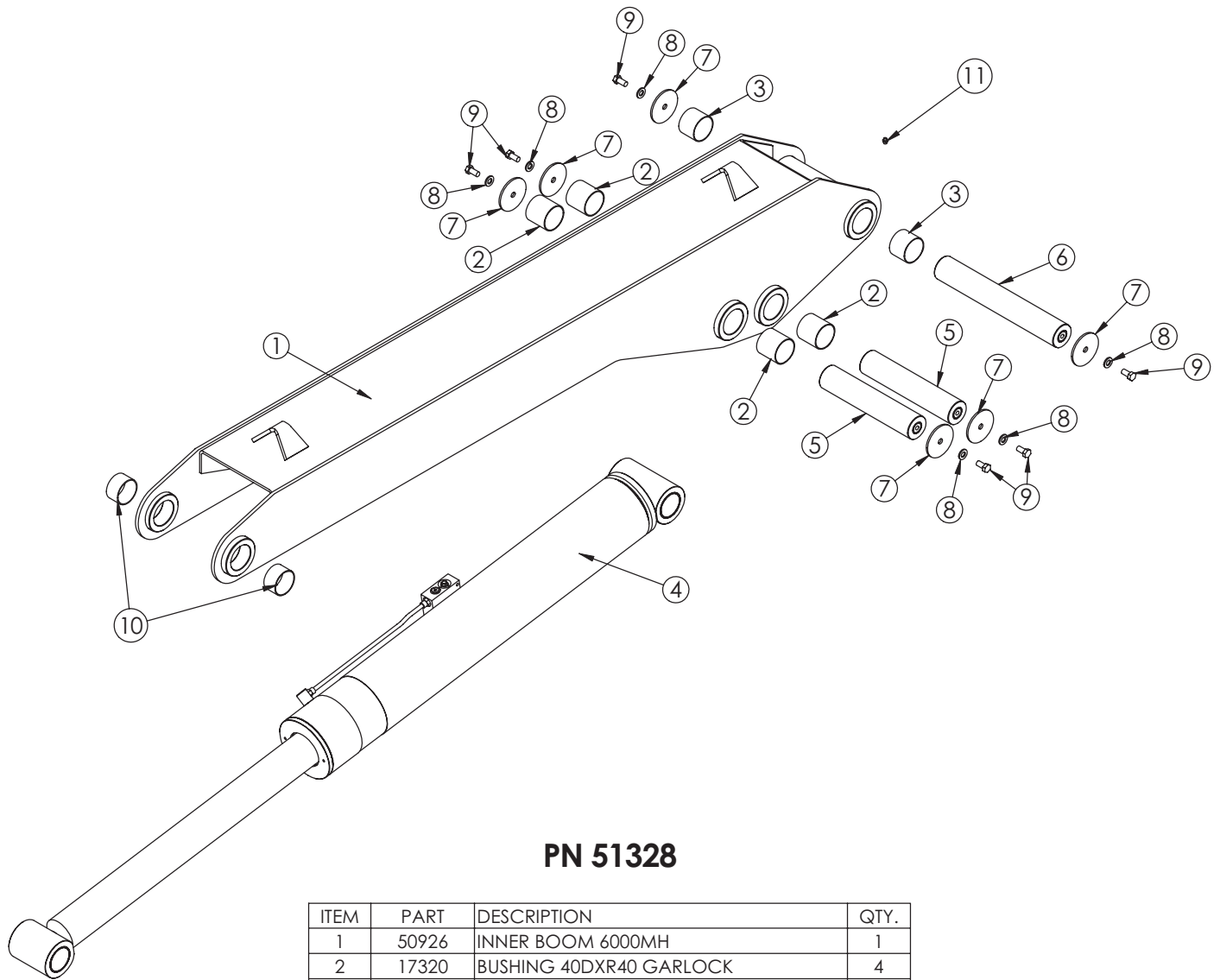


NOTE - NOT SHOWN:
 SEAL KIT - 93088:
 PVHC ACTUATOR PVG32

**6000MH crane
 Main Relief 3200PSI**

Function	gpm(lpm)	Pressure	
		Extend	Retract
Inner	6.6(25.0)	3200	3200
Outer	6.6(25.0)	3200	3200
Extension	6.6(25.0)	3200	3200
Rotation	6.6(25.0)	3200	3200

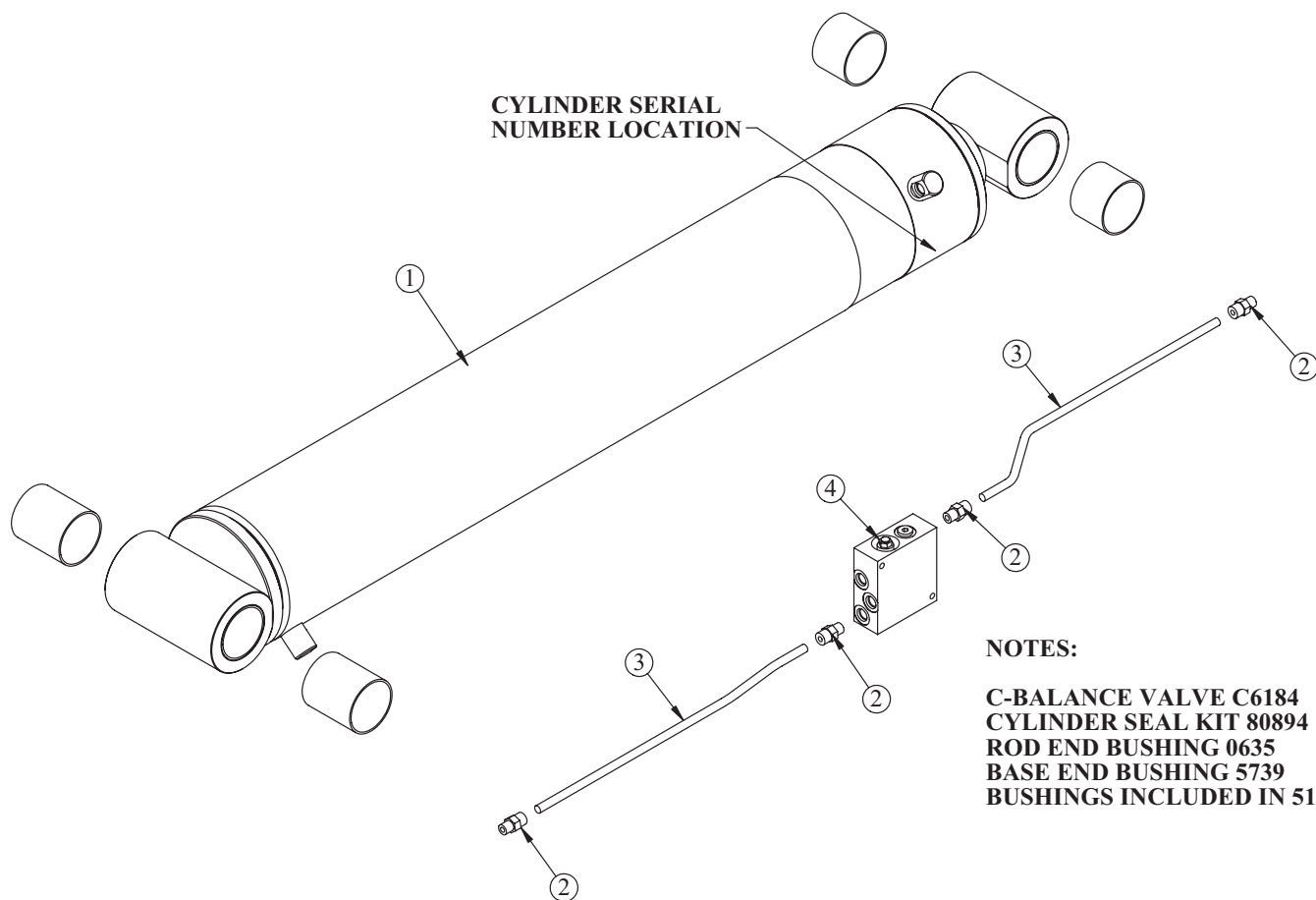
Main Boom Assembly - PN 51328



PN 51328

ITEM	PART	DESCRIPTION	QTY.
1	50926	INNER BOOM 6000MH	1
2	17320	BUSHING 40DXR40 GARLOCK	4
3	0635	BUSHING 40DXR32 GARLOCK	2
4	51288	CYLINDER ASM OUTER 6000MH V2	1
5	16345ZP	PIN 2.50X12.13 D&T	2
6	16344ZP	PIN 2.50X16.25 D&T	1
7	8377	PIN CAP 0.56X3.50X0.19	6
8	D0790	WASHER 0.50 FLAT GR8	6
9	10172	CAP SCR 0.50-13X1.00 HHGR8 ZY	6
10	13817	BUSHING 40DXR24 2.50X1.50 GARLOCK	2
11	c1592	ZERK 1/8 NPT STRAIGHT	1

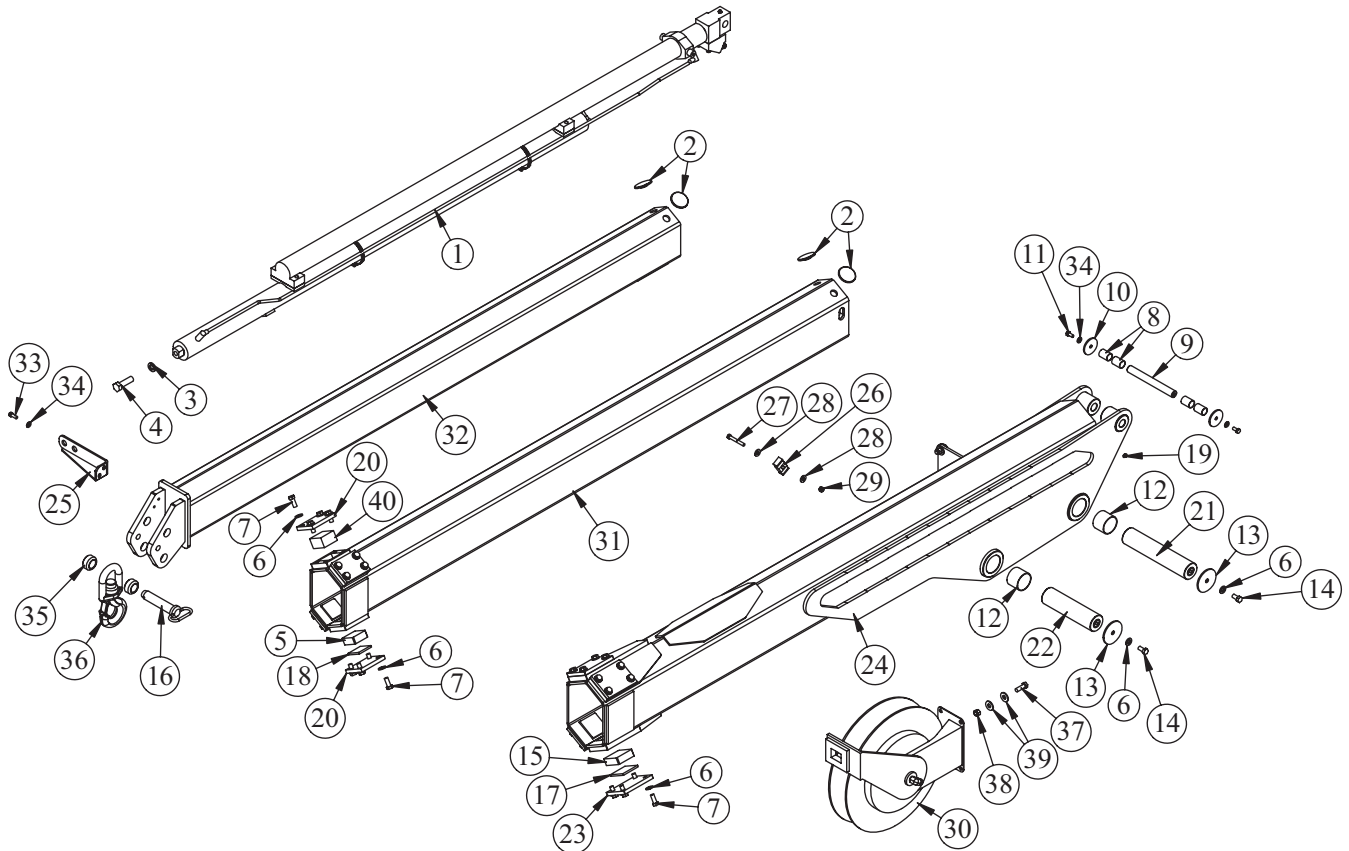
Outer Cylinder Assembly - PN 51288



PN 51288

ITEM	PART	DESCRIPTION	QTY.
1	51289	CYLINDER OUTER 6000MH 6.00X32.25	1
2	0279	FTG 6-6 MFS-MORB STRAIGHT	4
3	51290	TUBE ASM 0.38X16.03 YZ	2
4	15822	MANIFOLD DOUBLE T11A 5000 PSI	1

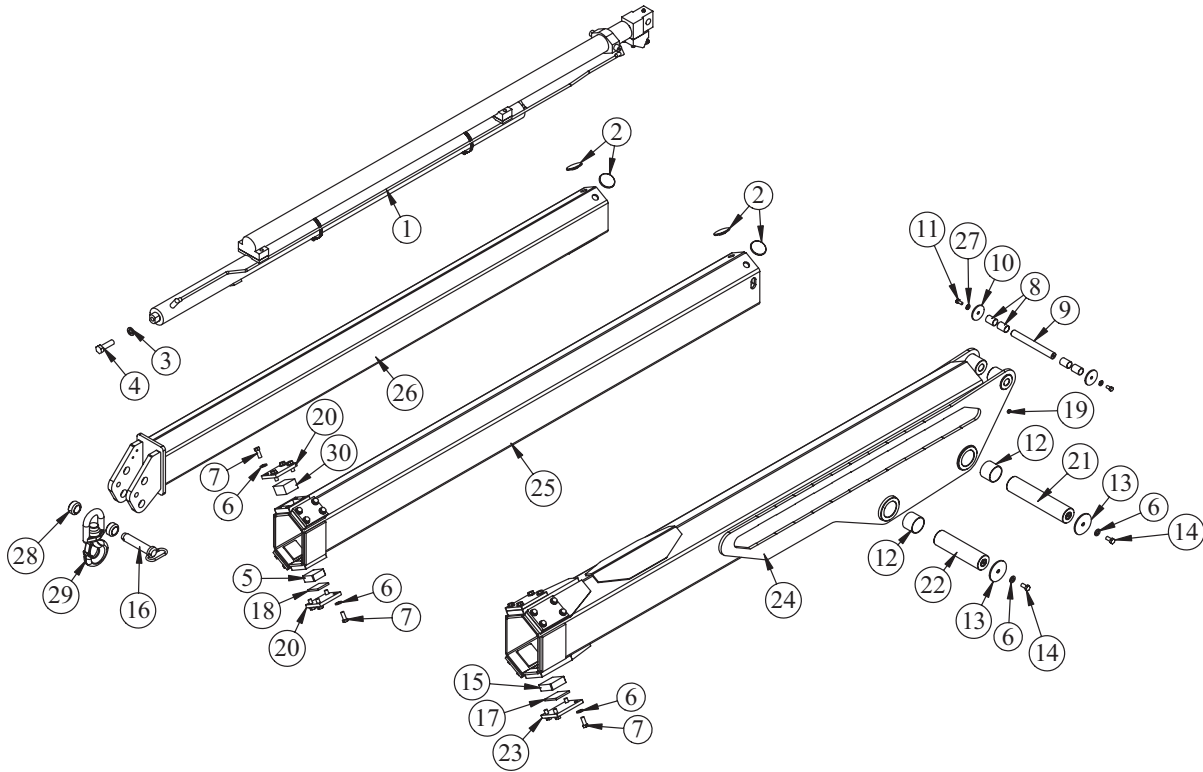
Extension Boom Assembly - PN 80509



PN 80509

ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	28858	CYLINDER EXT ASM 6000MH 19897P	1	15	13395	WEAR PAD 3.00X3.00X1.00 NYLATRON	4
2	9991	WEAR PAD 0.19X2.50 RND NYLATRON	4	16	5192	PIN HITCH 1.25X5.13	1
3	C6219	WASHER 0.75 SAE FLAT YELLOW GR8	1	17	35451	PLATE AL 0.25X2.88X2.88	4
4	4974	CAP SCR 0.75-10X2.50 HHGR8 ZY	1	18	35452	PLATE AL 0.25X2.38X2.38	2
5	13396	WEAR PAD 2.50X2.50X1.00 NYLATRON	2	19	c1592	ZERK 1/8 NPT STRAIGHT	1
6	D0790	WASHER 0.50 FLAT GR8	36	20	13397	PLATE 1ST EXT 9620 WEAR PAD	4
7	10666	CAP SCR 0.50-13X1.25 HHGR8	32	21	16345CR	PIN 2.50X12.13 D&T	1
8	0068	BUSHING QSI-1618-24	4	22	16652CR	PIN 2.50X9.50 D&T	1
9	16795	PIN 1.00X8.75 D&T	1	23	13398	PLATE WEAR PAD SUPPORT 9620	4
10	7403	PIN CAP 0.44X2.50X0.19 YZ	2	24	80576	OUTER BOOM 6000MH SIGN TRUCK	1
11	9843	CAP SCR 0.38-16X0.75 HHGR8 (TRQ 33 FT/LBS)	2	25	80580	BRKT BULKHEAD 6000MH HOSE REEL	1
12	0635	BUSHING 40DXR32 GARLOCK	4	26	8621	CLAMP HOSE/TUBE AG-3	2
13	8377	PIN CAP 0.56X3.50X0.19 YZ	4	27	0530	CAP SCR 0.38-16X2.75 HHGR5	2
14	10172	CAP SCR 0.50-13X1.00 HHGR8 ZY	4	28	0346	WASHER 0.38 USS FLAT	4
				29	0347	NUT 0.38-16 HHGR5 NYLOC	2
				30	86935	HOSE REEL KIT 6000MH	1
				31	80816	BOOM 1ST EXT 6000MH SIGN TRUCK	1
				32	80817	EXT BOOM 2ND 6000MH SIGN TRUCK	1
				33	13573	CAP SCR 0.38-16X1.00 HHGR8	2
				34	C6353	WASHER 0.38 SAE FLAT YELLOW GR8	4
				35	28496	COLLAR 1.28x2.00x1.00	2
				36	25831	HOOK 5 TON SWIVEL CROSBY 1028623	1
				37	0359	CAP SCR 0.50-13X1.50 HHGR5	4
				38	C6106	NUT 0.50-13 HHGR5 NYLOC	4
				39	0352	WASHER 0.50 USS FLAT	8
				40	26758	WEAR PAD 2.50X2.50X1.50 NYLATRON	2

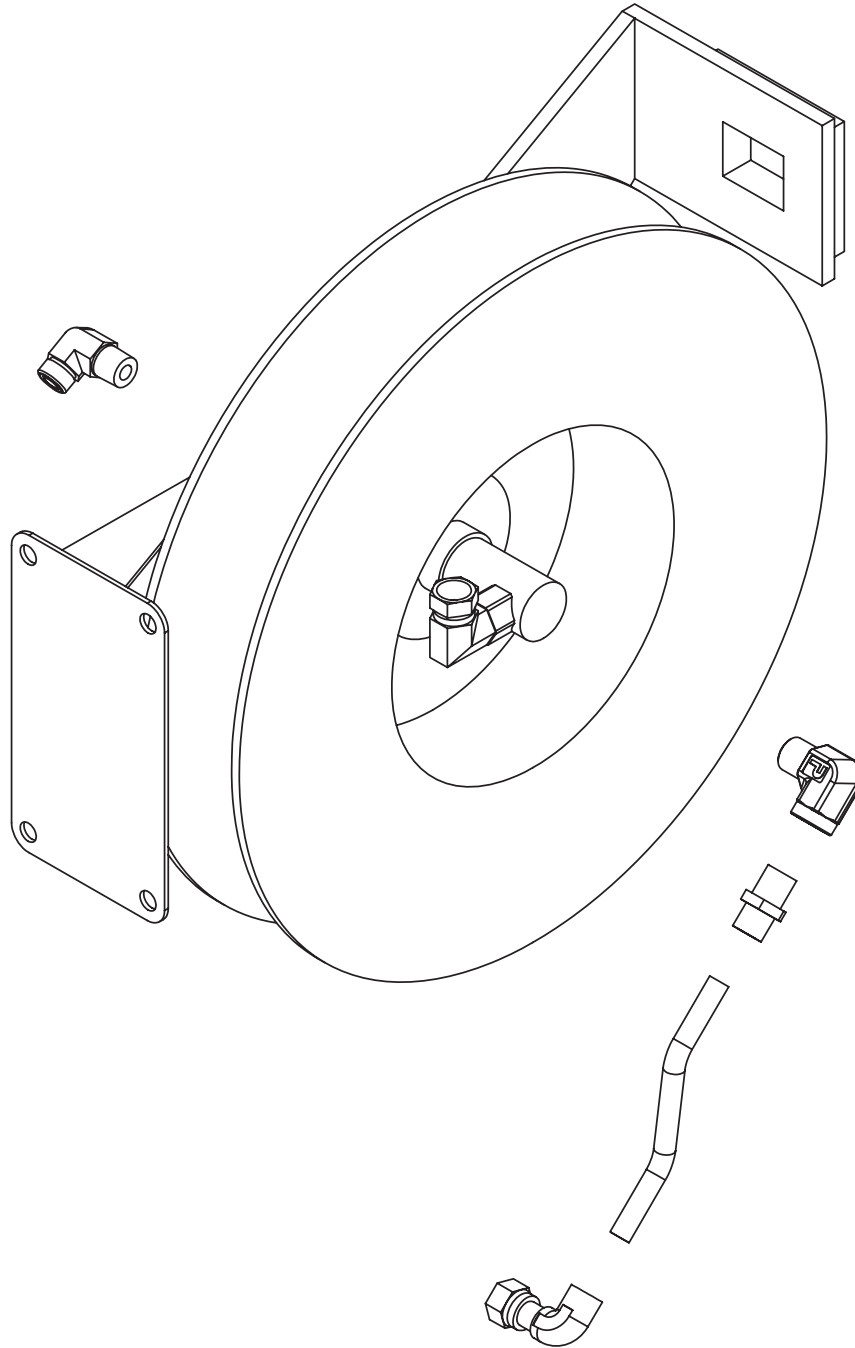
Standard Extension Boom Assembly - PN 99697



PN 99697

ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	28858	CYLINDER EXT ASM 6000MH 19897P	1	15	13395	WEAR PAD 3.00X3.00X1.00 NYLATRON	4
2	9991	WEAR PAD 0.19X2.50 RND NYLATRON	4	16	5192	PIN HITCH 1.25X5.13	1
3	C6219	WASHER 0.75 SAE FLAT YELLOW GR8	1	17	35451	PLATE AL 0.25X2.88X2.88	4
4	4974	CAP SCR 0.75-10X2.50 HHGR8 ZY	1	18	35452	PLATE AL 0.25X2.38X2.38	2
5	13396	WEAR PAD 2.50X2.50X1.00 NYLATRON	2	19	c1592	ZERK 1/8 NPT STRAIGHT	1
6	D0790	WASHER 0.50 FLAT GR8	36	20	13397	PLATE 1ST EXT 9620 WEAR PAD	4
7	10666	CAP SCR 0.50-13X1.25 HHGR8	32	21	16345CR	PIN 2.50X12.13 D&T	1
8	0068	BUSHING QSI-1618-24	4	22	16652CR	PIN 2.50X9.50 D&T	1
9	16795	PIN 1.00X8.75 D&T	1	23	13398	PLATE WEAR PAD SUPPORT 9620	4
10	7403	PIN CAP 0.44X2.50X0.19 YZ	2	24	99700	OUTER BOOM 6000MH V2 FULLY PROP	1
11	9843	CAP SCR 0.38-16X0.75 HHGR8 (TRQ 33 FT/LBS)	2	25	80816	BOOM 1ST EXT 6000MH SIGN TRUCK	1
12	0635	BUSHING 40DXR32 GARLOCK	4	26	80817	EXT BOOM 2ND 6000MH SIGN TRUCK	1
13	8377	PIN CAP 0.56X3.50X0.19 YZ	4	27	C6353	WASHER 0.38 SAE FLAT YELLOW GR8	2
14	10172	CAP SCR 0.50-13X1.00 HHGR8 ZY	4	28	28496	COLLAR 1.28x2.00x1.00	2
				29	25831	HOOK 5 TON SWIVEL CROSBY 1028623	1
				30	26758	WEAR PAD 2.50X2.50X1.50 NYLATRON	2

Hose Reel Assembly - PN 86935

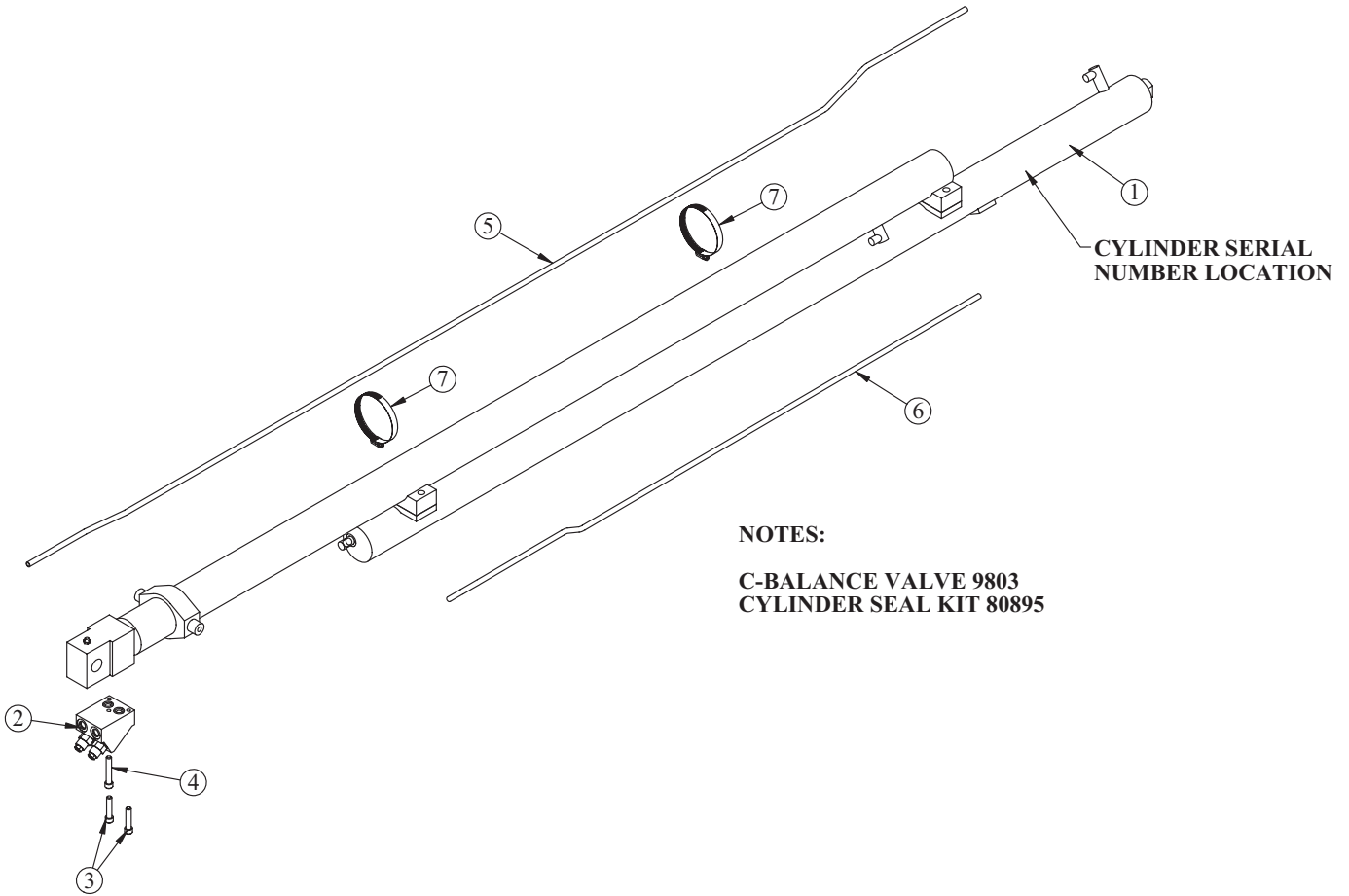


PN 86935

ITEM	PART	DESCRIPTION	QTY.
1	80504	HOSE REEL HYD DUAL 0.50 CONSTANT TENSION	1
2	55189	FTG 8-8 MFS-MP 90	1
3	C6149	FTG 8-8 MP-FP STREET ELBOW 90	1
4	C1557	FTG 8-8 MFS-MP STRAIGHT	1
5	16256	TUBE ASM 0.50X6.25 YZ	1
6	C2376	FTG 8-8 MFS-FFSS 90	1

NOT SHOWN:
86936 HOSE DUAL 0.50(3200PSI)-8FFSS SHORT-8FJS-300CL

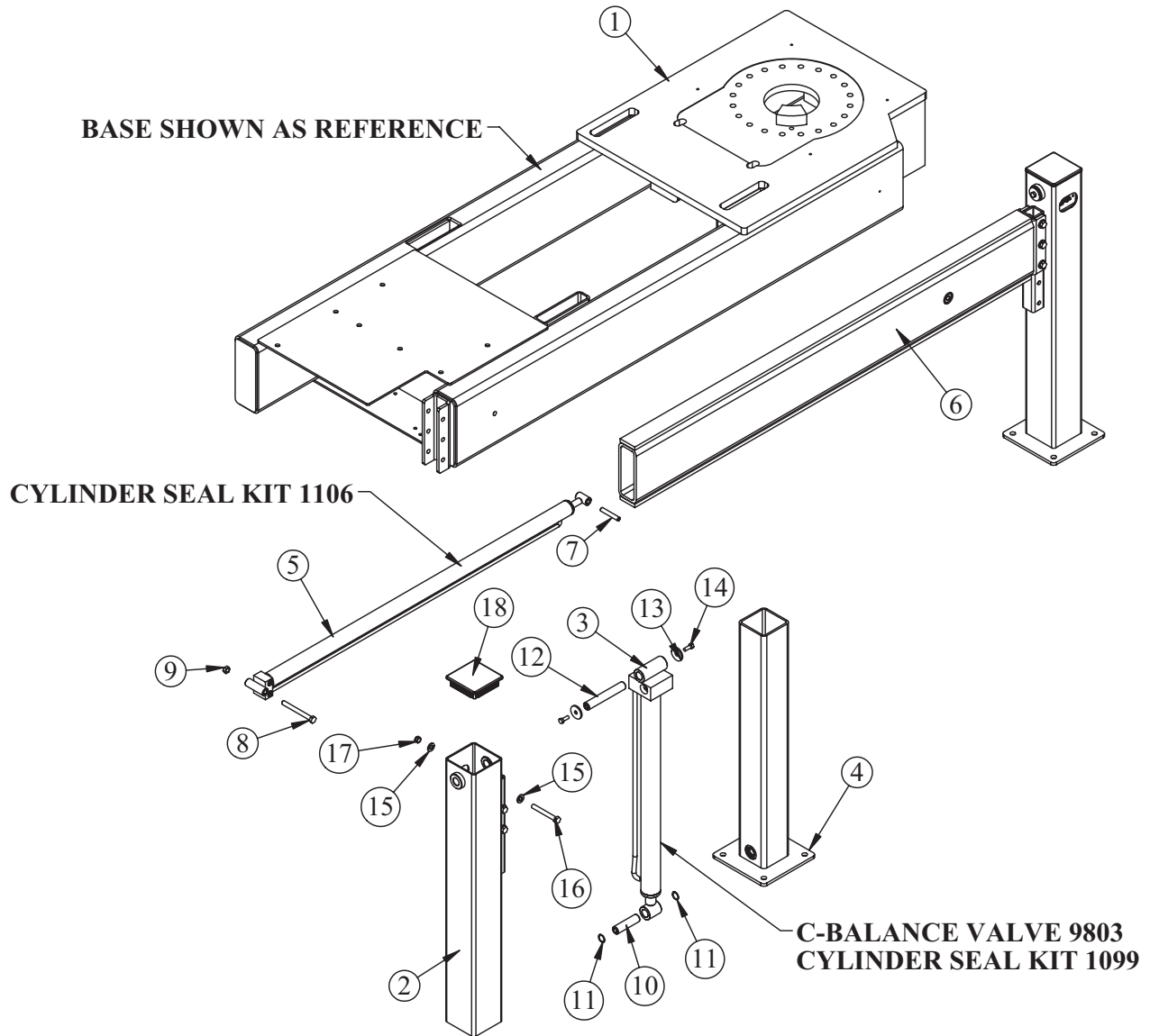
Extension Cylinder Assembly - PN 28858



PN 28858

ITEM	PART	DESCRIPTION	QTY.
1	19897P	CYLINDER EXT 19897 PAINTED	1
2	14115	MANIFOLD ASM 6620 EXT CBBD-LJN-XVN	1
3	11882	CAP SCR 0.38-16X1.75 SH ZC	2
4	14601	CAP SCR 0.38-16X2.25 SH ZC	1
5	19900	TUBE ASM 0.38 X 93.75 6000MH EXT YZ	1
6	19899	TUBE ASM 0.38 X 51.75 60RR EXT YZ	1
7	24729	HOSE CLAMP #52 3.00 - 3.75	2

Stabilizer Assembly - PN 47814



PN 47814

ITEM	PART	DESCRIPTION	QTY.
1	73941	BASE 6000MH	1
2	40078	OUTRIGGER LEG 6000MH 20.25	2
3	47815	CYLINDER 2.00X25.75	2
4	47816	OUTRIGGER 6000 MH 25.75	2
5	21689	CYLINDER 1.50X48.00	1
6	16388	LEG HOR OUTRIGGER 6000MH	1
7	12384	ROLL PIN .50X3.00 302 SS	1
8	C1000	CAP SCR 0.50-13X5.00 HHGR5	1
9	C6106	NUT 0.50-13 HHGR5 NYLOC	1
10	D0977CR	PIN 1.00X3.75	2
11	3875	SNAP RING 1.00 INTERNAL	4
12	11688CR	PIN 1.00X6.31D&T	2
13	9320	PIN CAP 0.44X1.75X0.19 YZ	4
14	0351	CAP SCR 0.38-16X1.00 HHGR5	4
15	D0790	WASHER 0.50 FLAT GR8	12
16	5466	CAP SCR 0.50-13X4.00 HHGR8	6
17	5468	NUT 0.50-13 HHGR8 NYLOC	6
18	53569	PLUG PLASTIC 5.00X5.00 SQ-5	2

Chapter 7 - Hydraulics - Electrical

WARNING!

Please read the following section before performing any work on the hydraulic/electrical system of your crane. This section contains vital safety information and maintenance guidelines for your crane. If questions should arise, please contact Stellar Customer Service at 800-321-3741

Never modify or alter any of the equipment, whether mechanical, electrical, or hydraulic, without Stellar Industries' approval.

Release system pressure before attempting to make adjustments or repairs.

Do not attempt service or repair when PTO is engaged.

Disassemble and assemble hydraulic components on a clean surface.

Clean all metal parts in a nonflammable cleaning fluid. Then lubricate all components to aid in assembly.

Hydraulic fluid expands when heated. This raises the pressure in an unventilated tank. Release the tank pressure before removing the cap completely. Failure to do so may cause the oil to shoot out of the tank very rapidly and cause severe burns.

Warning! If hydraulic fluid escapes, the boom or crane can fall immediately. Make sure the ground or blocking is supporting the boom before performing any maintenance or repair. Do not rely on the hydraulic fluid to support the boom or crane.

Contaminants in a hydraulic system affect operation and will result in serious damage to the system components. Dirty hydraulic systems are a major cause of component failures.

If evidence of foreign particles is found in the hydraulic system, flush the system.

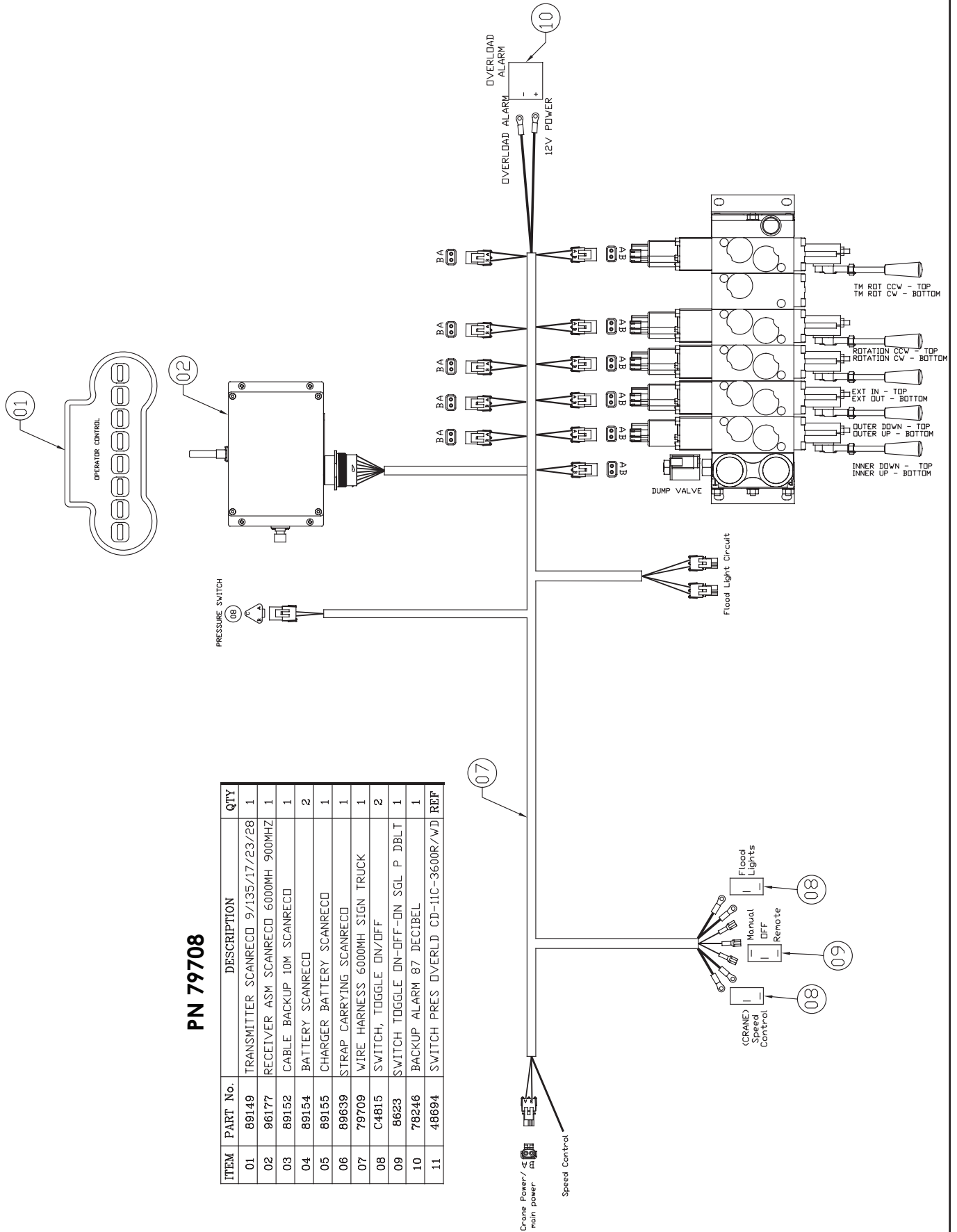
When installing metal hydraulic tubes, tighten all bolts finger tight. Then, in order, tighten the bolts at the rigid end, the adjustable end, and the mounting brackets. After tubes are mounted, install the hoses. Connect both ends of the hose with all bolts finger tight. Position the hose so it does not rub the machine or another hose and has a minimum of bending and twisting. Tighten bolts in both couplings.

Due to manufacturing methods, there is a natural curvature to a hydraulic hose. The hose should be installed so any bend is with this curvature.

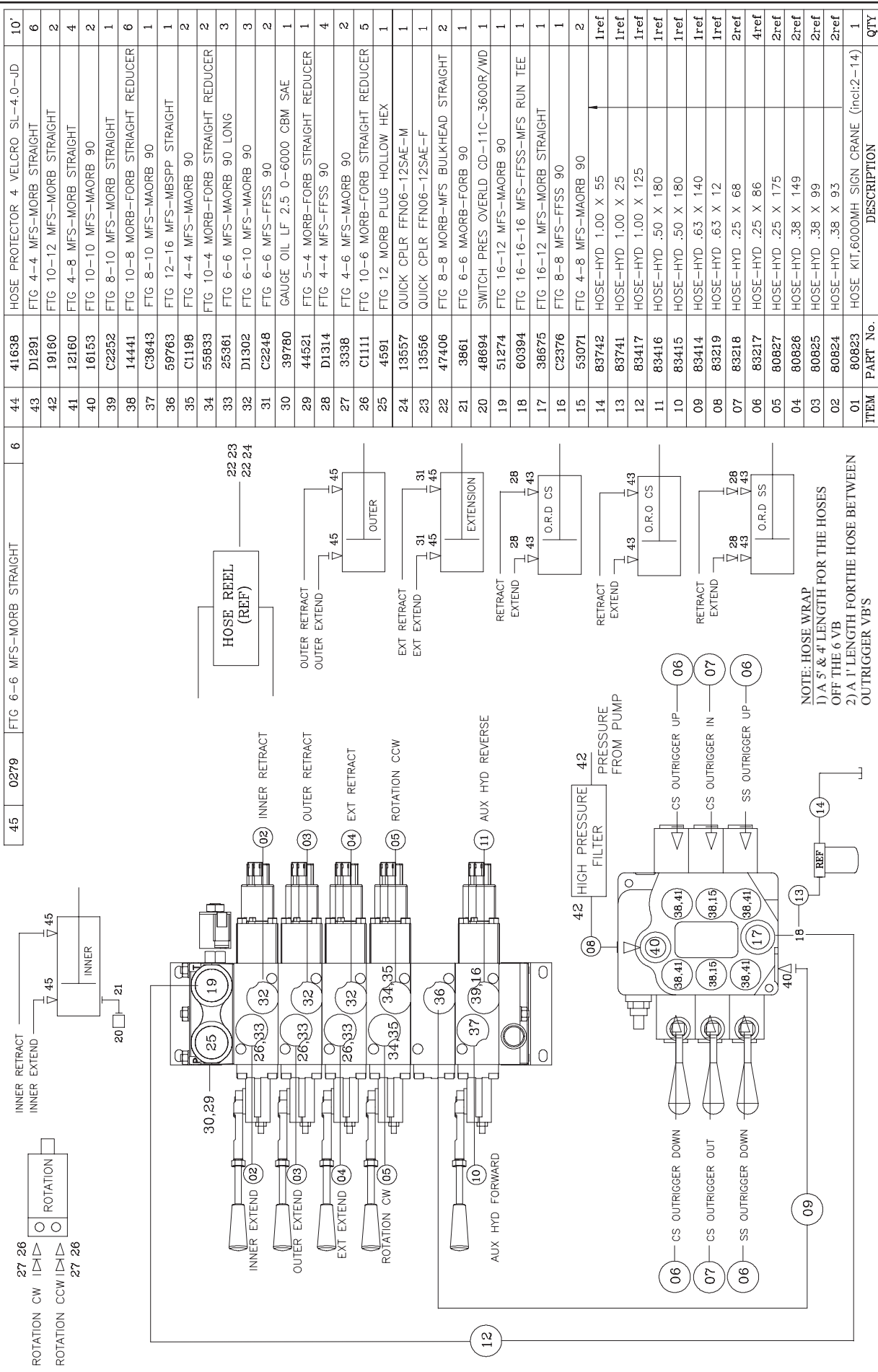
Control Kit - PN 79708

PN 79708

ITEM	PART No.	DESCRIPTION	QTY
01	89149	TRANSMITTER SCANRECO 9/135/17/23/28	1
02	96177	RECEIVER ASM SCANRECO 6000MH 900MHZ	1
03	89152	CABLE BACKUP 10M SCANRECO	1
04	89154	BATTERY SCANRECO	2
05	89155	CHARGER BATTERY SCANRECO	1
06	89639	STRAP CARRYING SCANRECO	1
07	79709	WIRE HARNESS 6000MH SIGN TRUCK	1
08	C4815	SWITCH, TOGGLE ON/OFF	2
09	8623	SWITCH TOGGLE ON-OFF-ON SGL P DBLT	1
10	78246	BACKUP ALARM 87 DECIBEL	1
11	48694	SWITCH PRES OVERLID CD-11C-3600R/w/D	REF

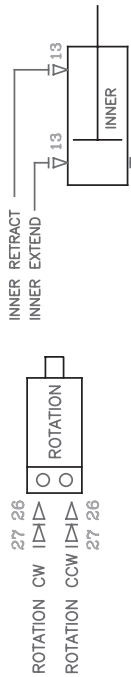


Hydraulic Kit - PN 80822



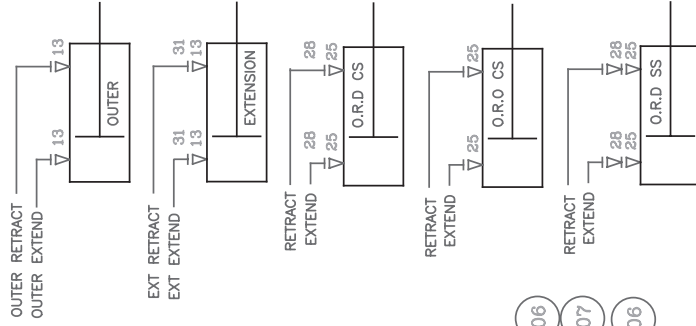
ITEM	PART No.	DESCRIPTION	QTY
45	0279	FTG 6-6 MFS-MORB STRAIGHT	6
44	41638	HOSE PROTECTOR 4 VELCRO SL-4.0-JD	10'
43	DI291	FTG 4-4 MFS-MORB STRAIGHT	6
42	19160	FTG 10-12 MFS-MORB STRAIGHT	2
41	12160	FTG 4-8 MFS-MORB STRAIGHT	4
40	16153	FTG 10-10 MFS-MAORB 90	2
39	C2252	FTG 8-10 MFS-MORB STRAIGHT	1
38	14441	FTG 10-8 MORB-FORB STRIAIGHT REDUCER	6
37	C3643	FTG 8-10 MFS-MAORB 90	1
36	59763	FTG 12-16 MFS-MBSPP STRAIGHT	1
35	C1198	FTG 4-4 MFS-MAORB 90	2
34	55833	FTG 10-4 MORB-FORB STRAIGHT REDUCER	2
33	25361	FTG 6-6 MFS-MAORB 90 LONG	3
32	DI302	FTG 6-10 MFS-MAORB 90	3
31	C2248	FTG 6-6 MFS-FFSS 90	2
30	39780	GAUGE OIL LF 2.5 0-6000 CBM SAE	1
29	44521	FTG 5-4 MORB-FORB STRAIGHT REDUCER	1
28	DI314	FTG 4-4 MFS-FFSS 90	4
27	3338	FTG 4-6 MFS-MAORB 90	2
26	C1111	FTG 10-6 MORB-FORB STRAIGHT REDUCER	5
25	4591	FTG 12 MORB PLUG HOLLOW HEX	1
24	13557	QUICK CPLR FFN06-12SAE-M	1
23	13556	QUICK CPLR FFN06-12SAE-F	1
22	47406	FTG 8-8 MORB-MFS BULKHEAD STRAIGHT	2
21	3861	FTG 6-6 MAORB-FORB 90	1
20	48694	SWITCH PRES OVERLD CD-11C-3600R/WD	1
19	51274	FTG 16-12 MFS-MAORB 90	1
18	60394	FTG 16-16-16 MFS-FFSS-MFS RUN TEE	1
17	38675	FTG 16-12 MFS-MORB STRAIGHT	1
16	C2376	FTG 8-8 MFS-FFSS 90	1
15	53071	FTG 4-8 MFS-MAORB 90	2
14	83742	HOSE-HYD 1.00 X 55	1ref
13	83741	HOSE-HYD 1.00 X 25	1ref
12	83417	HOSE-HYD 1.00 X 125	1ref
11	83416	HOSE-HYD .50 X 180	1ref
10	83415	HOSE-HYD .50 X 180	1ref
09	83414	HOSE-HYD .63 X 140	1ref
08	83219	HOSE-HYD .63 X 12	1ref
07	83218	HOSE-HYD .25 X 68	2ref
06	83217	HOSE-HYD .25 X 86	4ref
05	80827	HOSE-HYD .25 X 175	2ref
04	80826	HOSE-HYD .38 X 149	2ref
03	80825	HOSE-HYD .38 X 99	2ref
02	80824	HOSE-HYD .38 X 93	2ref
01	80823	HOSE KIT-6000MH SIGN CRANE (incl:2-14)	1

Standard Hydraulic Kit - PN 99698

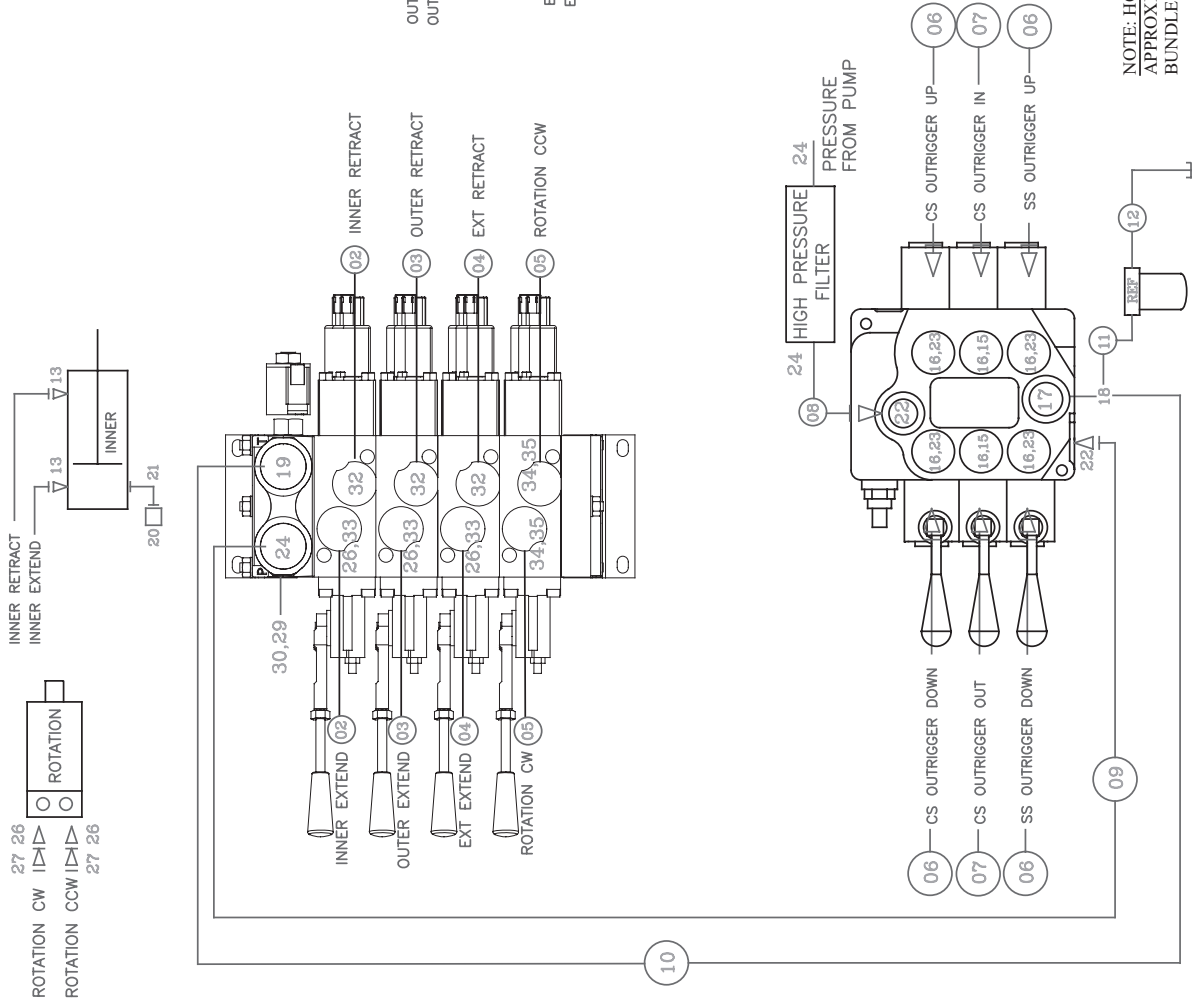


NOTE: USE CAPS 76063 ON UNUSED HARNESS CONNECTORS FOR BOOM TIP FUNCTION

ITEM	PART No.	DESCRIPTION	QTY
36	76063	CAP 2P PLUG AT CONNECTOR	2
35	C1198	FTG 4-4 MFS-MAORB 90	2
34	55833	FTG 10-4 MORB-FORB STRAIGHT REDUCER	2
33	25361	FTG 6-6 MFS-MAORB 90 LONG	3
32	D1302	FTG 6-10 MFS-MAORB 90	3
31	C2248	FTG 6-6 MFS-FFSS 90	2
30	39780	GAUGE OIL LF 2.5 0-6000 CBM SAE	1
29	44521	FTG 5-4 MORB-FORB STRAIGHT REDUCER	1
28	D1314	FTG 4-4 MFS-FFSS 90	4
27	3338	FTG 4-6 MFS-MAORB 90	2
26	C1111	FTG 10-6 MORB-FORB STRAIGHT REDUCER	5
25	D1291	FTG 4-4 MFS-MORB STRAIGHT	6
24	C1180	FTG 8-12 MFS-MORB STRAIGHT	3
23	12160	FTG 4-8 MFS-MORB STRAIGHT	4
22	C3643	FTG 8-10 MFS-MAORB 90	2
21	3861	FTG 6-6 MAORB-FORB 90	1
20	48694	SWITCH PRES OVERLD CD-11C-3600R/WD	1
19	C5968	FTG 12-12 MFS-MAORB 90	1
18	D0525	FTG 12-12-12 MFS-FFSS-MFS RUN TEE	1
17	C2142	FTG 12-12 MFS-MORB STRAIGHT	1
16	14441	FTG 10-8 MORB-FORB STRIAIGHT REDUCER	6
15	53071	FTG 4-8 MFS-MAORB 90	2
14	41638	HOSE PROTECTOR 4 VELCRO SL-4.0-JD	5'
13	0279	FTG 6-6 MFS-MORB STRAIGHT	6
12	99704	HOSE-HYD 0.75 X 55	1ref
11	72381	HOSE-HYD 0.75 X 26	1ref
10	99703	HOSE-HYD 0.75 X 125	1ref
09	99702	HOSE-HYD .50 X 132	1ref
08	99701	HOSE-HYD .50 X 12	1ref
07	83218	HOSE-HYD .25 X 68	2ref
06	83217	HOSE-HYD .25 X 86	4ref
05	80827	HOSE-HYD .25 X 175	2ref
04	80826	HOSE-HYD .38 X 149	2ref
03	80825	HOSE-HYD .38 X 99	2ref
02	80824	HOSE-HYD .38 X 93	2ref
01	99699	HOSE KIT.6000MH V2 FULLY PROP (2-12)	1



NOTE: HOSE WRAP APPROXIMATELY 5' LENGTH FOR BUNDLE OF HOSES OFF THE CRANE VB



Chapter 8 - Troubleshooting

This chapter will list a number of potential problems that may occur while operating the crane. Most problems are easily solved using the solutions portion of this chapter. If problems persist, please contact Customer Service at Stellar Industries 1-800-321-3741.

Problem: Crane will not operate.

Solutions:

- Make sure that the parking brake is engaged.
- Make sure that the PTO is engaged.
- Make sure that there is 12V power going to the radio receiver. If there is no power going to the receiver, trace back to the power source and check for a blown fuse or loose ground connection. Refer to radio remote troubleshooting guide at the end of this chapter.
- Make sure that the transmitter batteries are fully charged. (Rechargeable batteries are good for 11 months or 200 charges)
- Make sure that the hydraulic pump is operating at its rated flow or GPMs. Check the flow by using the flow meter to determine the GPMs. It is possible that the hydraulic pump is getting weak. If this is suspected, contact Stellar Customer Service.

Problem: Not all crane functions operate using the radio remote transmitter or crane operates intermittently.

Solutions:

- Make sure that the toggle switch is working properly. If the switch is defective, simply replace it.
- Make sure that there is power going from the valve bank coil solenoid or to the function that will not operate. If no power is going to the coil solenoid, check wiring connections on wire harness plug connector for broken wires, loose connection or poor crimp. If power is going to the solenoid valve, it may not be opening to allow hydraulic oil to the function that is not operating. Remove stem valve, thoroughly clean, lubricate, and reinstall valve. Do not over tighten. If the valve will not close, simply replace it.

Problem: Crane will operate manually but will not operate electrically.

Solutions:

- Make sure that there is 12V power going to the radio receiver. If there is no power going to the receiver, trace back to the power source and check for a blown fuse or loose ground connection. Refer to radio remote troubleshooting guide at the end of this chapter.
- Make sure that the parking brake is engaged.
- Make sure that the parking brake switch is working properly. Check the parking brake switch by performing a continuity test. If the switch is defective, simply replace it.

Problem: Two functions operate at the same time while only toggling one function.

Solutions:

- Make sure that the solenoid valves manual override sleeves are all in the center position.
- Determine the function that is operating on its own. Check to see if there is power going to the solenoid valve from a function that should not be operating. If voltage is present at the solenoid valve without operating the function, the toggle switch has failed and is stuck in the "on" function. If no voltage is present, the solenoid valve may be partially open. Remove the stem valve, thoroughly clean, lubricate, and reinstall the valve. Do not over tighten. If valve will not close, simply replace it.

Problem: Crane only operates at full speed.**Solutions:**

- Check to see if there is 12V power constantly going to the proportional valve. If 12 volts are showing up at the proportional valve without pulling on the transmitter trigger, the handle/trigger assembly may be defective. If 8 volts are showing at the proportional valve, it is possible that the valve is stuck open and will not close. Remove the valve, clean it thoroughly and reinstall. Do not over tighten. If the problem persists, replace the proportional valve.
- Check to see if the manual override on the proportional valve is turned out. Turn the manual override on the flow valve in.

Problem: Crane operates slowly.**Solutions:**

- Make sure that the crane is receiving the recommended GPMs to operate.
- Check the level of hydraulic fluid in the reservoir. Add fluid as needed.
- Check to see if the valve bank orifice is plugged. If so, replace the orifice. Call Stellar Customer Service for instructions.
- Make sure the proportional valve is receiving 12V power when fully engaging the transmitter trigger. If there is not 12V power while pulling the trigger, check for loose connections inside the transmitter or replace the handle trigger assembly. If the proportional valve is receiving 12 volts, loosen the solenoid holding nut and check to see if the solenoid coil is magnetizing. If no polarity is present, replace the coil. If coil is magnetizing, remove the stem valve, thoroughly clean, lubricate, and reinstall the valve.

Problem: Cylinder drifts outward or downward.**Solutions:**

- Check to see if there is air in the hydraulic system. Operate all cylinders connected to the hydraulic system. Start with the extension cylinder, then operate the main boom, winch, rotation, and ending with the hydraulic outriggers, if installed. When operating, extend each cylinder halfway out, retract all the way in, and then extend until the cylinder rod is at the end of its stroke. Operate cylinders slowly so air is pushed thru the system to the reservoir. Repeat this cycle 2-3 times.
- Make sure the holding valves are operating properly. Remove, clean, and then inspect each holding valve. When removing a holding valve, always relieve the pressure inside the cylinder by loosening jam nut of the holding valve and turning set screw inward/clockwise. Count the number of turns until the set screw is seated. When reinstalling the holding valve, make sure the valve is reset by turning the set screw the number of turns it took to relieve the pressure. Finish by tightening the jam nut.
- Check the cylinder rod for scratches. If a scratch is located on the cylinder rod, hydraulic fluid can pass thru and cause a loss of pressure. Replace cylinder rod or cylinder.
- Check to see if the piston seals are damaged. If they show signs of damage, install a new cylinder seal kit.

**If problems persist, please contact
Stellar Customer Service at:
1-800-321-3741**



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