

# 6006EH OWNERS MANUAL

**Manual No. 366904000** Rev. 07/30/2004

Serial			
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# **Auto Crane Warranty Registration**

Fax Transmission

To:	Warranty Depar	tment	Fax:	(918) 83	4-5979
From:			Date:		
Re:	Product Registr	ation	Pages:		
End Use	er Information:	(Required for Warranty Ad	ctivation)		
Name:			Phone:		
Address:					
City:		State:		Zip:	
Contact:		E-mail A	ddress:		
<u>Distribu</u>	tor Information:	(Required for Warranty Ad	ctivation)		
Name:					
Address:					
City:		State:		Zip:	
Contact:		E-mail A	ddress:		
<u>Product</u>	Information:	(Required for Warranty Ad	ctivation)		
Model No	D.:		Serial No.:		
Date Pro	duct Delivered:		Date Processed:	*	
VIN#					* For Auto Crane use only

### ONE REGISTRATION FORM PER UNIT (CRANE OR BODY)

Registration form must be mailed or faxed within 15 days of customer installation.

Mail to:

Warranty Department Auto Crane Company P.O. Box 581510 Tulsa, OK 74158-0697

Warranty Registration Rev. 072403

# 6006EH SERIES OWNER'S MANUAL – REVISION RECORD

Revision Date	Section(s) Or Page(s)	Description of Change
07/30/04	All	New Design

# WARNINGS

**WARNING!** Federal law (49 cfr part 571) requires that the Final Stage Manufacturer of a vehicle certify that the vehicle complies with all applicable federal regulations. Any modifications performed on the vehicle prior to the final state are also considered intermediate stage manufacturing and must be certified as to compliance. The installer of this crane and body is considered on of the manufacturers of the vehicle. As such a manufacturer, the installer is responsible for compliance with all applicable federal and state regulations, and is required to certify that the vehicle is in compliance.

**WARNING!** It is the further responsibility of the installer to comply with the OSHA Truck Crane Stability Requirements as specified by 29 CFR part 1910.180 (C) (1).

#### WARNING! NEVER OPERATE THE CRANE NEAR ELECTRICAL POWER LINES!

**Death** or serious injury will result from boom, line, or load contacting electric lines. Do not use crane within 10 feet (3.05m) of electric power lines carrying up to 50,000 volts. One foot additional clearance is required for every additional 30,000 volts or less. **SEE DANGER DECAL (P/N 040529)** in this Owner's Manual.

#### WARNING! NEVER.....

- ◆ EXCEED load chart capacities (centerline of rotation to hoist hook).
- Un-reel last 5 wraps of cable from drum!
- Wrap cable around load!
- Attempt to lift or drag a load from the side! The boom can fail far below its rated capacity.
- Weld, modify, or use unauthorized components on any Auto Crane unit! This will void any warranty or liability. Also failure of the crane may result.
- Place a chain link on the tip of the hook and try to lift a load!
- Use a sling bar or anything larger than the hook throat that could prevent the hook latch from closing, thus negating the safety feature!
- Hold on any pendant Select Switch that will cause unsafe operating conditions!

**WARNING!** In using a hook with latch, **ALWAYS** make sure that the hook throat is closed before lifting a load! Proper attention and common sense applied to the use of the hoist hook and various slings will prevent possible damage to material being hoisted and may prevent injury to personnel.

**WARNING!** Failure to correctly plumb and wire crane can cause inadvertent operation and damage to crane and/or personnel!

**WARNING!** Auto Crane Company remote controlled cranes are not designed or intended to be used for any applications involving the lifting or moving of personnel.

**WARNING!** ALWAYS operate the crane in compliance with the load capacity chart. **DO NOT USE** the overload shutdown device to determine maximum rated loads, if the crane is equipped with this type of device.

### **READ THIS PAGE**

Warnings 12/2002

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# INTRODUCTION 6006EH SERIES

Auto Crane products are designed to provide many years of safe, trouble-free, dependable service when properly used and maintained.

To assist you in obtaining the best service from your crane and to avoid untimely crane and/or vehicle failure, this manual provides the following operating and service instructions. It is **specifically recommended** that all operating and service personnel consider this manual as mandatory material for reading and study before operating or servicing Auto Crane products. It is **highly recommended** that crane owners, equipment managers and supervisors also read this manual.

Auto Crane has incorporated several safety features in the 6006EH crane for your protection.

For your convenience the overall dimensions of the 6006EH crane are included on the General Dimension Drawing. Rotation and turning radius are also listed on that drawing.

Remember, the crane adds weight to the vehicle. Adding weight may change the driving and riding characteristics of the vehicle unless the appropriate overload spring(s) are installed on the truck. The payload of the vehicle is reduced by the weight of the crane. The operator should exercise care when loading the vehicle. Distributing the payload on the vehicle evenly will greatly improve the driving and riding characteristics of the vehicle.

The 6006EH cranes are connected to your truck electrical system through the supplied voltage switching unit. The power cable is included with the crane. The 6006EH is another highly efficient Auto Crane product. The use of a maintenance-free battery is not recommended for use on any Auto Crane product. The recommended alternator and battery that will give the longest life with the most useful duty cycle is a 75 amp alternator with a 500 cold cranking amp battery. These specifications should be considered minimum.

# Auto Crane Company issues a limited warranty certificate with each unit sold. See last page for warranty

It has always been Auto Crane Company policy to handle all warranty claims we receive as promptly as possible. If a warranty claim involves discrepant material or workmanship, Auto Crane will take immediate corrective action. It is understandable that Auto Crane Company cannot assume responsibility of liability when it is obvious that our products

have been abused, misused, overloaded or otherwise damaged by inexperienced persons trying to operate the equipment without reading the manual.

Auto Crane will not assume responsibility or liability for any modifications or changes made to unit, or installation of component parts done without authorization.

Auto Crane maintains a strong distributor network and a knowledgeable Customer Service Department. In most cases, an equipment problem is solved via phone conversation with our customer service department. The customer service department also has the ability to bring a local distributor, a regional sales manager, or a factory serviceman into the solution of an equipment problem. If, through no fault of Auto Crane Company, it is necessary to send an experienced factory serviceman on a field service call, the rates stated in the Auto Crane Distributor's Flat Rate Manual will apply.

Auto Crane Company's extensive Research and Development Program allow our customers to use the best equipment on the market. Our Engineering Staff and our knowledgeable sales people, are always available to our customers in solving crane and winch-type application problems. When in doubt, call the Auto Crane factory.

#### **DISTRIBUTOR ASSISTANCE:**

Should you require any assistance not given in this manual, we recommend that you consult your nearest Auto Crane Distributor. Our distributors sell authorized parts and have service departments that can solve almost any needed repair.

# **NOTE:** THIS MANUAL SHOULD REMAIN WITH THE CRANE AT ALL TIMES.

This manual does not cover all maintenance, operating, or repair instructions pertinent to all possible situations. If you require additional information, please contact the **Auto Crane** Company at the following telephone number: (918) 836-0463. The information contained in the manual is in effect at the time of this printing. Auto Crane Company reserves the right to update this material without notice or obligation.

# --- IMPORTANT ---SAFETY TIPS AND PRECAUTIONS

- No unqualified or unauthorized person shall be allowed to operate the crane.
- 2. WARNING: Never weld, modify, or use unauthorized components / parts on any Auto Crane unit. This will void any warranty or liability. Also, failure of the crane may result.
- 3. Make certain the vehicle meets minimum chassis requirements. (These requirements do not guarantee unit stability.)
- 4. Make certain the crane is installed per factory specifications. Contact your local distributor or the Auto Crane factory if any questions arise.
- Visual inspections and tests should be conducted at the beginning of each shift each day to ensure that the crane and all its operating systems are in good condition and working order before it is used.
- 6. Inspect hydraulic hoses frequently for signs of deterioration, and replace them as required.
- 7. If a hydraulic break occurs, leave the area of the break and do not attempt to stop the break by hand as the hydraulic oil may be hot and under high pressure which can cause serious injury. Shut the system down as soon as possible.
- 8. Check the hook at least every thirty days for distortions or cracks and replace it as required.
- 9. Oil gears as required.
- 10. Stop all operations when cleaning, adjusting or lubricating the machine.
- 11. Keep dirt and grit out of moving parts by keeping a crane clean. Make sure machine is free of excess oil, grease, mud and rubbish, thus reducing accidents and fire hazards.
- 12. When a new cable is installed, operate first with a light load to let the cable adjust itself.
- 13. Locate the vehicle at the work site for the best stability possible.
- 14. Keep the vehicle in a level position while loading or unloading.
- 15. Observe operating area for obstructions and/or power lines that might be a hazard

- 16. WARNING: NEVER OPERATE THE CRANE NEAR ELECTRICAL POWER LINES. Auto Crane Company recommends that the crane never be any closer to a power line (including telephone lines) than 10 feet at any point.
- 17. Allow the vehicle engine to warm up before operating crane.
- 18. Know the weight of your rigging and load to avoid overloading the crane.
- Deduct the weight of the load handling equipment from the load rating to determine how much weight can be lifted.
- 20. All load ratings are based on crane capacity, NOT the vehicle stability.
  Remember in lifting a heavy load, the weight can create enough tipping moment to overturn the vehicle
- 21. Always comply with load chart capacities, (centerline of rotation to hook).
- 22. Secure all loads before lifting.
- 23. Always set the emergency brake before beginning operation.
- Keep objects and personnel clear of crane path during operation.
- 25. Operate control levers slowly and smoothly in order to meter oil flow for safe operation.
- 26. Always use outriggers from vehicle to the ground during crane operation. Ensure that they are firmly positioned on solid footings. Stand clear of outriggers while they are being extended.
- 27. If any outrigger, when extended, rests on a curb or other object that prevents it from extending to its maximum distance, shorten bearing or fulcrum point and reduce the maximum load accordingly.
- 28. When an outrigger will not reach the ground due to holes or grades, it shall be blocked up to provide level and firm support for the truck.
- 29. When working in soft earth, use wide pads under outrigger feet to prevent sinking.
- 30. Always store outriggers before transportation.

#### **WARNING!**

Auto Crane Company cranes are not designed or intended for use in lifting or moving persons. Any such use shall be considered to be improper and the seller shall not be responsible for any claims arising there from. This sale is made with the express understanding that there is no warranty that the goods shall be fit for the purpose of lifting or moving persons or other improper use and there is no implied warranty or responsibility for such purposes.

### --- IMPORTANT ---SAFETY TIPS AND PRECAUTIONS

- 31. Always store the crane in its stowed position for transportation.
- 32. Remember the overall height of the entire unit for garage door clearance or when moving under objects with low overhead clearance
- 33. Disengage power takeoff (PTO) before moving the vehicle.
- 34. Always walk around the vehicle before moving.
- 35. Never drive with a load suspended from crane.
- 36. Do not take your eyes off a moving load. Look in the direction you are moving.
- 37. Never swing a load over people.
- 38. Do not stop the load sharply in midair so that it swings like a pendulum. Meter the control levers to avoid this situation.
- 39. Crane boom length should be kept as short as possible for maximum lifting capacity and greater safety. Longer booms require additional care in accelerating and decelerating the swing motion, and thus slow down the working cycle and reduce productivity.
- 40. Keep the load directly and vertically under the boom point at all times. Crane booms are designed primarily to handle vertical loads, not side lifts.
  - WARNING: Never attempt to lift, drag, tow or pull a load from the side. The boom can fail far below its rated capacity.

- 41. Do not push down on anything with boom extensions, lift or outer boom function.
- 42. Do not lift personnel with any wire rope attachment or hook. There is no implied warranty or responsibility for such purposes.
- 43. WARNING: In using a safety hook, ALWAYS close the hook throat before lifting a load. Proper attention and common sense applied to the use of the hook and various slings will prevent possible damage to material being hoisted and may prevent injury to personnel.
- 44. WARNING: Never place a chain link on the tip of the hook and try to lift a load with the hoist.
- 45. WARNING: Never use a sling bar or anything larger than the hook throat which could prevent the safety latch from closing, thus negating the safety feature.
- 46. If the crane is equipped with an optional winch:
  - do NOT allow personnel to ride on loadline, hook, load, or any other device attached to winch line.
  - do NOT extend boom without reeling off line at the same time when using winch.
  - do pull load-block up against the boom tip.
- 47. Do not wrap the wire rope around sharp objects when using winch.
- 48. WARNING: Never unreel last 5 wraps of cable from drum.

# --- IMPORTANT --OPERATING PRACTICES AND WARNINGS

- 1. Make certain the vehicle meets minimum chassis requirements. (These requirements do not guarantee unit stability)
- 2. Make certain the crane is installed per factory specifications. Contact your local Distributor or the Auto Crane factory if any questions arise.
- 3. Keep the vehicle in as level a position as possible while loading or unloading.
- 4. **ALWAYS** set the vehicle emergency brake before beginning crane operations.
- ALWAYS use outriggers from vehicle to the ground during crane operation. Make sure they are firmly positioned on solid footings.
- All load ratings are based on crane capacity, NOT truck/crane stability.
- 7. Keep objects and personnel clear of crane path during operation.
- 8. Keep hoist cable pulled tight at all times.
- REMEMBER, in lifting a heavy load, the weight can create enough tipping momentum to overturn the vehicle.
- 10. ALWAYS keep load as close to ground as possible.
- 11. Hydraulic hoses need to be inspected frequently for signs of deterioration, and be replaced as required.
- 12. The hoist hook is an important item that an operator should consider and use properly. It should be checked on a daily basis for distortion or cracks.
- 13. **ALWAYS** store outriggers before road travel.

- 14. WARNING! NEVER OPERATE THE CRANE NEAR ELECTRICAL POWER LINES! <u>Death</u> or serious injury will result from boom, line, or load contacting electric lines. Do not use crane within 10 feet (3.05m) of electric power lines carrying up to 50,000 volts. One foot additional clearance is required for every additional 30,000 volts or less.
- 15. WARNING! NEVER EXCEED load characapacities (centerline of rotation to hoist hook).
- 16. **WARNING! NEVER** un-reel last 5 wraps of cable from drum!
- 17. WARNING! NEVER wrap cable around load!
- 18. **WARNING! NEVER** attempt to lift or drag a load from the side! The boom can fail far below its rated capacity.
- 19. **WARNING! NEVER** weld, modify, or use unauthorized components on any Auto Crane unit! This will void any warranty or liability. Also failure of the crane may result.
- 20. **WARNING! NEVER** place a chain link on the tip of the hook and try to lift a load!
- 21. **WARNING! NEVER** use a sling bar or anything larger than the hook throat that could prevent the hook latch from closing, thus negating the safety feature!
- 22. WARNING! In using a hook with latch, ALWAYS insure that the hook throat is closed before lifting a load! Proper attention and common sense applied to the use of the hoist hook and various slings will prevent possible damage to material being hoisted and may prevent injury to personnel. Switch on that will cause unsafe operating conditions!

**WARNING! NEVER** hold any Control Select Switch on that will cause unsafe operating conditions!

#### **WARNING!**

Auto Crane Company remote controlled, stiff boom cranes are not designed or intended to be used for any applications involving the lifting or moving of personnel.

# --- IMPORTANT --OPERATION OF UNIT

- 1. Make sure this manual has been thoroughly read by all crane operating personnel and supervisors.
- 2. A routine inspection of the crane should be mandatory before each operating day. Any defects should be corrected immediately.
- 3. At a job site the vehicle should be positioned so that the crane can adequately reach the load within the rated capacity (centerline of rotation to hoist hook).
- 4. Keep the vehicle as level as possible during operation.
- 5. For electric cranes, engage emergency brake and leave ignition on with transmission in neutral (or in park for automatic transmissions). Activate any crane power switches. For Auto Crane units requiring battery and hydraulic operation, engage emergency brake, place gear selector in neutral, press clutch, activate PTO, release clutch and after hydraulic fluid is warm, set throttle control to proper engine speed.
- Always use outriggers from the truck to the ground. Be sure these are firm and adequately positioned. When rotating, keep load as low to the ground as possible.
- 7. Remove the transmitter from cab or storage area. Power transmitter on. Detach hook from dead man. Crane is now ready for operation.

- 8. Always boom up before rotating so the boom will clear the required boom support.
- When extending the boom, always maintain clearance between the boom crown and the traveling block or hoist hook.
- Always observe safe and practical operation to avoid possible accidents. Refer to Safety Tips and Precautions.
- 11. After completing lifting operations, return the boom to stowed position on the boom support. Avoid unneeded pressure on the boom support.
- 12. Store transmitter in proper location (in cab or storage area).
- 13. Return outriggers to stowed position. Make sure they are pinned in place or jacklegs are returned to compartment.
- 14. Check work area for any tools or equipment not stored.
- 15. Release throttle control, depress clutch and disengage PTO. Deactivate any crane power switches.
- 16. Report any unusual occurrence during crane operation that may indicate required maintenance or repair.
- 17. **NEVER** use two cranes to support a load too large for either crane.

# OPERATION OF OUTRIGGERS

For hydraulic outriggers:

- 1. Shift crane/outrigger control valve to "outrigger" position.
- 2. Operate the outrigger control valves to position the outriggers.
- 3. After outriggers are positioned, return crane/outrigger selector to "crane" position.
- 4. Crane is now ready to operate.

For manual outriggers:

- 1. Pull lock pins to release jack leg or drop down outrigger and move to outermost lock position.
- 2. Make sure lock pins are reinstalled properly.
- 3. Lower outrigger pad to firm ground and adjust foot to take out slack.
- 4. Crane is now ready to operate.

# QUALIFICATIONS FOR AND CONDUCT OF OPERATORS AND OPERATING PRACTICES

#### **OPERATORS**

- 1. Crane operation shall be limited to personnel with the following minimum qualifications:
  - A. Designated persons.
  - B. Trainees under the direct supervision of a designated person.
  - C. Maintenance and test personnel (when it is necessary in the performance of their duties).
  - D. Inspectors (crane).
- 2. No one other than the personnel specified above shall enter the operating area of a crane with the exception of persons such as oilers, supervisors, and those specified persons authorized by supervisors whose duties require them to do so and then only in the performance of their duties and with the knowledge of the operator or other persons.

#### **QUALIFICATIONS FOR OPERATORS**

- 3. Operators shall be required by the employer to pass a practical operating examination.

  Qualifications shall be limited to the specific type of equipment for which examined.
- 4. Operators and operator trainees shall 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, regardless of position, if colors differentiation is required for operation.
  - C. Adequate hearing with or without hearing aid for the specific operation.
- 5. Evidence of physical defects or emotional instability which render a hazard to operator or others, which in the opinion of the examiner could interfere with the operator's performance may be sufficient cause for disqualification. In such cases, specialized clinical or medical judgment and tests may be required.
- 6. Evidence that the operator is subject to seizures or loss of physical control shall be sufficient reason for disqualification. Specialized medical tests may be required to determine these conditions.
- 7. Operators and operator trainees should have normal depth perception, coordination, and no

- tendencies to dizziness or similar undesirable characteristics.
- 8. In addition to the above listed requirements, the operator shall:
  - A. Demonstrate the ability to comprehend and interpret all labels, operator's manuals, safety codes and other information pertinent to correct crane operations.
  - B. Possess knowledge of emergency procedures and implementation of same.
  - C. Demonstrate to the employer the ability to operate the specific type of equipment.
  - D. Be familiar with the applicable safety regulations.
  - E. Understand responsibility for maintenance requirements of crane.
  - F. Be thoroughly familiar with the crane and its control functions.
  - G. Understand the operating procedures as outlined by the manufacturer.

#### **CONDUCT OF OPERATORS**

- 9. The operator shall not engage in any practice, which will divert his attention while actually operating the crane.
- 10. Each operator shall be responsible for those operations under the operator's direct control. Whenever there is any doubt as to safety, the operator shall consult with the supervisor before handling the loads.
- 11. The operator should not leave a suspended load unattended unless specific precautions have been instituted and are in place.
- 12. If there is a warning sign on the switch or engine starting controls, the operator shall not close the switch or start the engine until the warning sign has been removed by the appointed person.
- 13. Before closing the switch or starting the engine, the operator shall see that all controls are in the "OFF" or neutral position and all personnel are in the clear.
- 14. If power fails during operation, the operator shall:
  - A. move power controls to the "OFF" or neutral position.
  - B. land the suspended load and boom, if practical.

# QUALIFICATIONS FOR AND CONDUCT OF OPERATORS AND OPERATING PRACTICES

- 15. The operator shall be familiar with the equipment and its proper care. If adjustments or repairs are necessary, the operator shall report the same promptly to the appointed person, and shall also notify the next operator.
- 16. All controls shall be tested by the operator at the start of each shift. If any controls do not operate properly, they shall be adjusted or repaired before operations are begun
- 17. Stabilizers shall be visible to the operator while extending or setting unless operator is assisted by a signal person.

# OPERATING PRACTICES HANDLING THE LOAD

#### 18. Size of load

- A. No crane shall be loaded beyond the rated load except for test purposes.
- B. The load to be lifted is to be within the rated load of the crane and its existing configuration.
- C. When loads which are not accurately known are to be lifted, the person responsible for the job shall ascertain that the weight of the load does not exceed the crane rated load at the radius at which the load is to be lifted.

#### 19. Attaching the load

- A. The load shall be attached to the hook by means of slings or other devices of sufficient capacity.
- B. Hoist rope shall not be wrapped around the load.

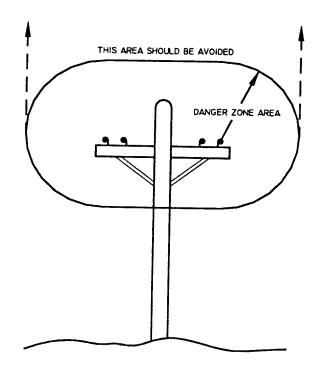
#### 20. Moving the load

- A. The operator shall determine that:
- B. The crane is level and, where necessary, the vehicle/carrier is blocked properly.
- C. The load is well secured and balanced in the sling or lifting device before it is lifted more than a few inches.
- D. Means are provided to hold the vehicle stationary while operating the crane.
- E. Before starting to lift, the hook shall brought over the load in such a manner as to minimize swinging.
- F. During lifting care shall be taken that:

- 1. There is no sudden acceleration or deceleration of the moving load.
- 2. Load, boom or other parts of the crane do not contact any obstruction.
- G. Cranes shall not be used for dragging loads sideways.
- H. This standard recognizes that articulating boom cranes are designed and intended for handling materials. They do not meet personnel lift or elevator requirements. Therefore, no lifting, lowering, swinging or traveling shall be done while a person is on the hook or load. Hook attached suspended work platforms (baskets) shall not be used with cranes covered by this standard. Work platforms attached to the boom must be approved by crane manufacturer.
- The operator should avoid carrying loads over people.
- J. When the crane is so equipped, the stabilizers shall be fully extended and set. Blocking under stabilizers shall meet the requirements as follows:
  - 1. Strong enough to prevent crushing.
  - 2. Of such thickness, width and length as to completely support the stabilizer pad.
- K. Firm footing under all tires, or individual stabilizer pads should be level. Where such a footing is not otherwise supplied, it should be provided by timbers, cribbing, or other structural members to distribute the load so as to not exceed allowable bearing capacity or the underlying material.
- L. In transit, the boom shall be carried in stowed position.
- M. When rotating the crane, sudden starts and stops shall be avoided rotational speed shall be such that the load does not swing out beyond the radius at which it can be controlled.
- N. The crane shall not be transported with a load on the hook unless recommended by the manufacturer.
- O. No person should be permitted to stand or pass under a suspended load.
- 21. Stowing procedure. Follow the manufacturer's procedure and sequence when stowing and unstowing the crane

# QUALIFICATIONS FOR AND CONDUCT OF OPERATORS AND OPERATING PRACTICES

# MISCELLANEOUS OPERATING NEAR ELECTRICAL POWER LINES



22. Cranes shall be operated so that no part of the crane or load enters into the danger zone shown above.

#### **EXCEPTIONS**

- A. The danger zone may be entered after confirmation by an appointed person that the electrical distribution and transmission lines have been de-energized and visibly grounded at the point of work; or
- B. The danger zone may be entered if insulating barriers (not a part of nor an attachment to the crane) have been erected to prevent physical contact with the lines.
- 23. For lines rated 50 kV or below, minimum clearance between the lines and any part of the crane or load (including handling appendages) shall be 10-ft. (3m). For higher voltages, see Table1.
- 24. Caution shall be exercised when working near overhead lines, because they can move horizontally or vertically due to wind, moving the danger zone to new positions.

- 25. In transit with no load and boom lowered the clearance shall be specified in Table 1.
- 26. A qualified signalperson shall be assigned to observe the clearance and give warning before approaching the above limits.
  - A. Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities verify that it is not an energized line.
  - B. Exceptions to this procedure, if approved by the administrative or regulatory authority if the alternate procedure provides equivalent protection and set forth in writing.
  - C. Durable signs shall be installed at the operator's station and on the outside of the crane, warning that electrocution or serious bodily injury may occur unless a minimum clearance of 10 ft. (3.0m) between the crane or the load being handled and energized power lines. Greater clearances are required because of higher voltage as stated above. These signs shall be revised but not removed when local jurisdiction requires greater clearances.

#### TABLE 1

			IADL	<u> </u>			
				minim	um required		
				cle	earance		
normal voltage, kV							
(phas	e to pha	ise)		ft	(m)		
when	operatir	ng n	ear high	voltage p	oower lines		
over		to	50	10	(3.50)		
over	50	to	200	15	(4.6)		
over	200	to	350	20	(6.1)		
over	350	to	500	25	(7.62)		
over	500	to	750	35	(10.67)		
over	750	to	1000	45	(13.72)		
while	in trans	it wi	th no loa	id and boo	om lowered		
			0.75	4	(4.00)		
over	0.75	to	0.75	4	(1.22)		
over	0.75	to	50	6	(1.83)		
over	50	to	345	10	(3.83)		
over	345	to	750	16	(4.87)		
over	750	to	1000	20	(6.1)		

#### INSPECTION CLASSIFICATION

- Initial inspection. Prior to initial use, all new, altered, modified or extensively repaired cranes shall be inspected by a designated person to insure compliance with provisions of this standard.
- 2. Regular inspection. Inspection procedure for cranes in regular service is divided into two general classifications based upon the intervals at which inspection should be performed. The intervals in turn are dependent upon the nature of the components of the crane and the degree of their exposure to wear, deterioration, or malfunction. The two general classifications are herein designated as "frequent" and "periodic" with respective intervals between inspections as defined below.
  - A. frequent inspection daily to monthly intervals
  - B. periodic inspection one to twelve intervals or as specifically recommended by the manufacturer

#### FREQUENT INSPECTION

- Inspection shall be performed by designated personnel.
  - A. control mechanisms for maladjustment interfering with proper operation - daily, when used
  - B. control mechanisms for excessive wear of components and contamination by lubricants or other foreign matter
  - C. safety devices for malfunction
  - all hydraulic hoses, particularly those which flex in normal operation of crane functions, should be visually inspected once every working day, when used
  - E. hooks and latches for deformation, chemical damage, cracks, and wear. Refer to ANSI/ASME B30.10
  - F. rope reeving for compliance with crane manufacturer's specifications, if optional winch is used

- G. electrical apparatus for malfunctioning, signs of excessive deterioration, dirt and moisture accumulation
- H. hydraulic system for proper oil level and leaks daily
- I. tires for recommended inflation pressure, cuts and loose wheel nuts
- J. connecting pins and locking device for wear, damage and loose retaining bolts

#### PERIODIC INSPECTION

- Deformed, cracked or corroded members in the crane structure and carrier
- 5. Loose bolts, particularly mounting bolts.
- 6. Cracked or worn sheaves and drums.
- 7. Worn, cracked, or distorted parts such as pins, bearings, shafts, gears, rollers and devices.
- 8. Excessive wear on brake and clutch system parts and lining.
- 9. Crane hooks inspected for cracks.
- 10. Travel steering, braking, and locking devices, for malfunction.
- 11. Excessively worn or damaged tires.
- 12. Hydraulic and pneumatic hose, fittings, and tubing inspection.
  - A. evidence of leakage at the surface of the flexible hose or its junction with metal and coupling
  - B. A. blistering, or abnormal deformation to the outer covering of the hydraulic or pneumatic hose
  - C. A. leakage at threaded or clamped joints that cannot be eliminated by normal tightening or recommended procedures
  - D. A. evidence or excessive abrasion or scrubbing on the outer surface of a hose, rigid tube, or fitting. Means shall be taken to eliminate the interference of elements in contact or otherwise protect the components

- 13. Hydraulic and pneumatic pumps and motors inspection.
  - A. loose bolts or fasteners
  - B. leaks at joints between sections
  - C. shaft seal leaks
  - D. unusual noises or vibrations
  - E. loss of operating speed
  - F. excessive heating of the fluid
  - G. loss of pressure

#### 14. Hydraulic and pneumatic valves inspection

- A. cracks in valve housing
- B. improper return of spool to neutral position
- C. leaks at spools or joints
- D. sticking spools
- E. failure of relief valves to attain or maintain correct pressure setting
- F. relief valve pressure shall be checked as specified by the manufacturers

#### 15. Hydraulic and pneumatic cylinders inspection.

- A. drifting caused by fluid leaking across piston
- B. rod seals leaking
- C. leaks at welding joints
- D. scored, nicked, or dented cylinder rods
- E. damaged case (barrel)
- F. loose or deformed rod eyes or connecting joints
- 16. Hydraulic filters. Evidence of rubber particles on the filter elements may indicate hose, "O" ring, or other rubber component deterioration. Metal chips or pieces on the filter may denote failure in pumps, motors, or cylinders. Further checking will be necessary to determine origin of the problem before corrective action can be taken.
- 17. Labels are to be in place and legible.

#### <u>CRANES NOT IN REGULAR USE</u>

18. A crane which has been idle for a period of over one month or more, but not less than six months, shall be given an inspection conforming with the initial-regular- frequent inspections 19. A crane which has been idle for a period of over six months shall be given a complete inspection conforming with the initial-regularfrequent inspection requirements.

#### **INSPECTION RECORDS**

20. Dated records for periodic inspection should be made on critical items such as brakes, crane hooks, rope, hydraulic and pneumatic cylinders, and hydraulic and pneumatic relief pressure valves. Records should be kept available to an appointed person.

#### **OPERATIONAL TESTS**

- 21. Prior to initial use, all new, altered, modified, or extensively repaired cranes shall be tested for compliance with the operational requirements of this section, including functions such as the following:
  - A. load lifting and lowering mechanisms
  - B. boom lifting and lowering mechanisms
  - C. boom extension and retraction mechanisms
  - D. swing mechanisms
  - E. safety devices
  - F. operating controls comply with appropriate function labels

Operational crane test results shall be made available to an appointed person.

#### RATED TEST LOAD

Prior to initial use, altered, modified, or extensively repaired cranes shall be load tested by or under the direction of an appointed person.

- 22. Test loads shall not exceed 110% of the manufacturer's load ratings.
- 23. Written reports shall be maintained showing test procedures and confirming the adequacy of repairs.

#### **MAINTENANCE**

#### PREVENTIVE MAINTENANCE

- 24. Before adjustment and repairs are started on a crane, the following precautions shall be taken as applicable:
  - A. crane placed where it will cause the least interference with other equipment or operations
  - B. all controls at the "off" position
  - C. starting means rendered inoperative
  - D. boom lowered to the ground if possible or otherwise secured against dropping
  - relieve hydraulic oil pressure from all hydraulic circuits before loosening or removing hydraulic components
- 25. Warning or "OUT OF ORDER" signs shall be placed on the crane controls.
- 26. After adjustments and repairs have been made, the crane shall not be returned to service until all guards have been reinstalled, trapped air removed from hydraulic system (if required), safety devices reactivated, and maintenance equipment removed.

#### ADJUSTMENTS AND REPAIRS

- 27. Any hazardous conditions disclosed by the inspection requirements shall be corrected before operation of crane is resumed, Adjustments and repairs shall be done only by designated personnel.
- 28. Adjustments shall be maintained to assure correct functioning of components, The following are examples:
  - A. functional operating mechanism
  - B. safety devices
  - C. control systems

29. Repairs or replacements shall be provided as needed for operation.

#### The following are examples:

- A. critical parts of functional operating mechanisms which are cracked, broken, corroded, bent, or excessively worn
- B. critical parts of the crane structure which are cracked, bent, broken, or excessively corroded
- C. crane hooks showing cracks, damage, or corrosion shall be taken out of service. Repairs by welding are not recommended
- 30. Instructions shall be provided by the manufacturer for the removal of air from hydraulic circuits.

#### LUBRICATION

All moving parts of the crane, for which lubrication is specified, should be regularly lubricated per the manufacturer's recommendations and procedures.

#### **ROPE INSPECTION**

#### 31. Frequent Inspection

- A. All running ropes in service should be visually inspected once each working day. A visual inspection shall consist of observation of all rope which can be in use during the days operations. These visual observations should be considered with discovering gross damage such as listed below, which may be an immediate hazard.
  - distortion of the rope such as kinking, crushing, un-stranding, birdcaging, main strand displacement, or core protrusion. Loss of rope diameter in a short length or unevenness of outer strands should be replaced
  - 2. general corrosion
  - 3. broken or cut strands;
  - number, distribution and type of visible broken wires. When such damage is discovered, the rope shall either be removed from service or given as inspection.

B. Care shall be taken when inspecting sections of rapid deterioration such as flange points, crossover points, and repetitive pickup points on drums.

#### 32. Periodic inspection

- A. The inspection frequency shall be determined by a qualified person and shall be based on such factors as
  - expected rope life as determined by experience on the particular installation or similar installations
  - 2. severity of environment
  - 3. percentage of capacity lifts
  - 4. frequency rates of operation
  - 5. exposure to shock loads

Inspection need not be at equal calendar intervals and should be more frequent as the rope approaches the end of it's service life. This inspection shall be made at least annually.

- B. Periodic inspection shall be performed by a designated person. This inspection shall cover the entire length of the rope. Only the surface wires need be inspected. No attempt should be made to open the rope. Any deterioration results in appreciable loss of original strength, such as described below, shall be noted and determination made as to whether use of the rope would constitute a hazard: points listed above reduction of rope diameter below nominal diameter due to loss of core support, internal or external corrosion, or wear of outside wires; severely corroded, cracked, bent, worn or improperly applied connections;
- C. Care shall be taken when inspecting sections subject to rapid deterioration such as the following:
  - sections in contact with saddles, equalizer sheaves, or other sheaves where rope travel is limited
  - 2. sections of the rope at or near terminal ends where corroded or broken wires may protrude

#### ROPE REPLACEMENT

33. No precise rules can be given for determination of the exact time for replacement of rope, since many variable factors are involved.

Continued use in this respect depends upon good judgement by a designated person in evaluating remaining strength in a used rope after allowance for deterioration disclosed by inspection. Continued rope operation depends upon this remaining strength.

- 34. Conditions such as the following shall be reason for questioning continued use of the rope or increasing the frequency of inspection:
  - A. in running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay
  - B. one outer wire broken at the contact point with the core of the rope structure and protrudes or loops out of the rope structure. Additional inspection of this section is required
  - C. wear of one third of the original diameter of the outside individual wire
  - D. kinking, crushing, birdcaging, or any other damage resulting in distortion of the rope structure
  - E. evidence of any heat damage from any cause
  - F. reduction from nominal diameter of more than 1/64 in. (0.4mm) for diameters up to and including 5/16 in. (8 mm), 1/32 in. (0.8 mm) for diameter 3/8 in. (9.5 mm) to and including 1/2 in. (13 mm), 3/64 in. (1.2 mm) for diameter 9/16 in. (14.5 mm) to and including 3/4 in. (19 mm). 1/16 in. (1.6 mm) for diameter 7/8 in. (22 mm) to and including 11/8 in. (29 mm), 3/32 in. (2.4 mm) for diameters 11/4 in. (32 mm) to and including 11/2 in. (38 mm)
  - G. In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.

- H. Replacement rope shall have a strength rating at least as great as the original rope furnished or recommended by the crane manufacturer. Any deviation from the original size, grade, or construction shall be specified by a rope manufacturer, or a qualified person.
- 35. Rope not in regular use: all rope which has been idle for a period of a month or more due to shutdown or storage of a crane on which it is installed, shall be given and inspection in accordance with above information before it is placed in service. This inspection shall be for all types of deterioration and shall be performed by a qualified person.
- 36. Inspection records
  - A. A. frequent inspection- no records required
  - B. A. periodic inspections- in order to establish data as a basis for judging the proper time for replacement, a dated report condition at each periodic inspection should be kept on file. This report shall cover points of deterioration listed above.

#### **ROPE MAINTENANCE**

- 37. Rope should be stored to prevent damage or deterioration.
- 38. Unreeling or uncoiling of rope shall be done as recommended by the rope manufacturer and with care to avoid kinking or inducing twist.
- 39. Before cutting a rope, seizing shall be placed on each side of the place where the rope is to

- be cut to prevent unlaying of the strands. On pre-formed rope, one seizing on each side of the cut is required. On non-preformed ropes of 7/8 in. (22 mm) diameter or smaller, two seizings on each side of the cut are required, and for non-preformed rope 1 in. (25 mm) diameter or larger, three seizings on each side of the cut are required.
- 40. During installation care should be exercised to avoid dragging of the rope in the dirt or around objects which will scrape, nick crush or induce sharp bends in it.
- 41. Rope should be maintained in a well-lubricated condition. It is important that lubricant applied as a part of a maintenance program shall be compatible with the original lubricant and to this end the rope manufacturer should be consulted. Lubricant applied shall be the type which does not hinder visual inspection. Those sections of rope which are located over sheaves or otherwise hidden during inspection and maintenance procedures require special attention when lubricating rope. The object of rope lubrication is to reduce internal friction and to prevent corrosion.
- 42. When an operating rope shows greater wear or well defined localized areas than on the remainder of the rope, rope life can be extended in cases where a section at the worn end, and thus shifting the wear to different areas of the rope.

### SAFETY DECAL SECTION 6006EH SERIES

PART NO.: 040579000

DECAL: OPERATING INSTRUCTIONS

FUNCTION: To inform the operator of the proper

procedure to follow for safe operation

of the crane.

USED ON: All Cranes

QUANTITY: 1

PLACEMENT: Right side plate

PART NO.: 040580000

DECAL: OPERATING TRAINING

FUNCTION: To inform the operator of the need to

receive proper training before using the

crane.

USED ON: All Cranes

QUANTITY: 1

PLACEMENT: Right side plate

PART NO.: 040632000

DECAL: TAMPERING WITH OVERLOAD DEVICE

FUNCTION: To inform the operator that tamperating

with the overload device may cause a unit failure or possible personal injury.

USED ON: All Cranes equiped with a load sensor

QUANTITY: 1

PLACEMENT: Right side of valve sensor.

#### **ACAUTION**

- INSPECT VEHICLE AND CRANE INCLUDING OPERATION, PRIOR TO USE DAILY.
- DO NOT USE THIS EQUIPMENT EXCEPT ON SOLID, LEVEL SURFACE WITH OUTRIGGERS PROPERLY EXTENDED AND CRANE MOUNTED ON FACTORY—RECOMMENDED TRUCK.
- 3. BEFORE OPERATING THE CRANE, REFER TO MAXIMUM LOAD (CAPACITY) CHART ON CRANE FOR OPERATING (LOAD) LIMITATIONS.
- 4. OPERATE ALL CONTROLS SLOWLY AND SMOOTHLY.
- 5. KEEP LOAD UNDER BOOM TIP. DO NOT SIDE LOAD BOOM OR DRAG LOADS. AVOID FREE SWINGING LOADS.
- 6. DO NOT OPERATE, WALK OR STAND BENEATH BOOM OR A SUSPENDED LOAD.
- 7. KEEP AT LEAST 5 WRAPS OF LOADLINE ON HOIST DRUM.
- 8. FOR TRAVELING, BOOM AND OUTRIGGERS MUST BE IN THE STOWED POSITION.
- 9. ALL REMOVABLE PENDANTS MUST BE STORED IN CAB OR TOOL COMPARTMENT WHEN CRANE IS NOT IN USE.

P/N 040579

### 

AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO

#### **DEATH OR SERIOUS INJURY**

- 1.) YOU MUST HAVE BEEN TRAINED IN THE OPERATION OF THIS CRANE, AND
- 2.) YOU MUST KNOW AND FOLLOW THE SAFETY AND OPERATING RECOMMENDATIONS CONTAINED IN THE MANUFACTURER'S MANUAL, YOUR EMPLOYER'S WORK RULES AND APPLICABLE GOVERNMENT REGULATIONS.

P/N 040580

### **AWARNING**

TAMPERING WITH OVERLOAD DEVICE VOIDS WARRANTY. OVERLOADED CRANE MAY HYDRAULICALLY RELEASE AND LET LOAD DOWN TO GROUND.

OVERLOAD PROTECTION DEVICE CANNOT FUNCTION WITH BOOM BELOW HORIZONTAL (0°).

HOIST UP, BOOM DOWN, AND EXTEND OUT WILL BE INOPERATIVE WHEN CRANE IS IN OVERLOAD CONDITION.

P/N 040632

### SAFETY DECAL SECTION 6006EH SERIES

PART NO.: 040529000

DECAL: ELECTROCUTION HAZARD FUNCTION: To inform the operator of the

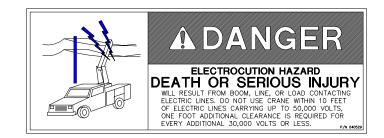
hazard involved with contacting electrical power lines with crane

boom.

USED ON: Articulated & Stiff Boom Cranes

QUANTITY: 2

PLACEMENT: Both sides of end of lower boom



PART NO.: 040517000

DECAL: STAY CLEAR OF BOOM

FUNCTION: To inform the operator of the

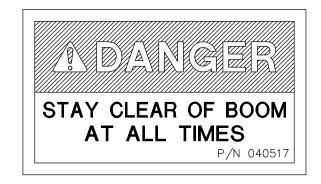
hazard of proximity or contact with the crane boom during

operation.

USED ON: All Cranes

QUANTITY: 2

PLACEMENT: Both sides of crown



PART NO.: 040518000

DECAL: STAY CLEAR OF LOAD

FUNCTION: To inform the operator of the

hazard of proximity or contact

with the crane load during

operation.

USED ON: All Cranes

QUANTITY: 2

PLACEMENT: Both sides of traveling block



# **NOTES**

# SAFETY DECAL SECTION 6006EH SERIES

PART NO.: 040587000 USED ON: All cranes equipped with a load

sensor.

DECAL: LOAD SENSOR, DON'T TAMPER QUANTITY: 2

FUNCTION: To inform the operator that the load PLACEMENT: Both sides of the lift cylinder near

the load sensor

sensor is pre-set and that tampering with the sensor may cause potentially

hazardous situation.



LOAD SENSOR FACTORY PRE-SET DO NOT TAMPER

P/N 040587

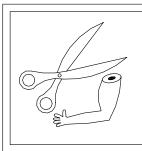
PART NO.: 040519000 USED ON: All cranes.

DECAL: SCISSORS POINT QUANTITY: 2

FUNCTION: To inform the operator of possible

danger at scissors point on crane.

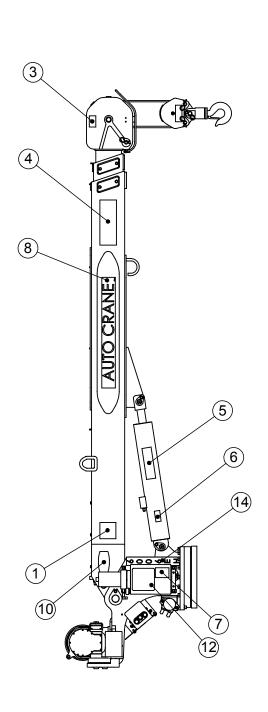
PLACEMENT: Both sides of the lift cylinder

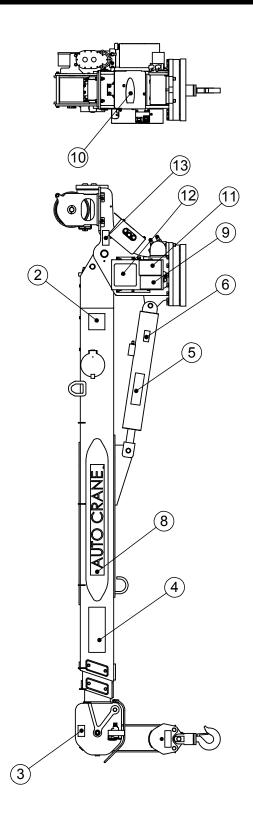


SCISSORS POINT SERIOUS INJURY WILL RESULT KEEP HANDS AND ARMS CLEAR AT ALL TIMES

P/N 0405

# DECAL LAYOUT 6006EH (P/N:366704000)





# DECAL LAYOUT 6006EH (P/N:366704000)

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	320318	DECAL ANGLE IND RIGHT
2	1	320318001	DECAL ANGLE IND RIGHT
3	2	040517	DECAL STAY CLEAR OF BOOM
4	2	040529	DECAL POWER LINE HAZARD
5	2	040519	DECAL DANGER SCISSOR POINT
6	2	040587	DECAL WARNING LOAD SENSOR
7	1	040632	DECAL WARNING - OVERLOAD
8	2	366389	DECAL AUTO CRANE
9	1	040579	DECAL OPERATION INSTRUCTIONS
10	2	360034	DECAL AUTO CRANE LOGO
11	1	040580	DECAL TRAINED OPERATOR
12	2	366710000	DECAL, LOAD CHART 6006EH
13	1	330622	DECAL SERIAL NO
14	1	366804	DECAL 6006 EH

# GENERAL SPECIFICATIONS 6006EH

#### **DIMENSIONS**

**Width:** 21.75 in (0.55 m)

**Height:** 35.88 in (0.91 m)

**Length:** 13 ft 1 in (3.99 m)

[boom(s) stored]

Weight:

1,670 lbs (758 kg)

#### **CAPACITY**

36,000 ft-lbs (4.98 ton-m)

[ft-lbs = horizontal distance from centerline of rotation to free hanging weight (feet) x amount of weight (pounds)]

LIFTING CAPACITIES					
ft	lbs	ft	lbs		
3	6,000	12	3,000		
4	6,000	13	2,769		
5	6,000	14	2,571		
6	6,000	15	2,400		
7	5,143	16	2,250		
8	4,500	17	2,118		
9	4,000	18	2,000		
10	3,600	19	1,895		
11	3,273	20	1,800		

#### **REACH**

Second boom will reach from 10 feet 4

inches to 16 feet 4 inches.

Third boom will reach from 16 feet 4

inches to 20 feet 4 inches.

#### **CABLE**

95 ft (28.9 m) of 3/8 in (9.5 mm) diameter aircraft quality cable. This cable has a single line breaking strength of 14,400 lbs (6,531 kg).

#### **CHASSIS REQUIREMENTS**

14,500 lbs (6,577 kg) GVWR minimum 360,000 in-lbs RBM

# ELECTRICAL SYSTEM REQUIREMENTS

Voltage: 12 VDC

**Alternator:** 75 amp (minimum)

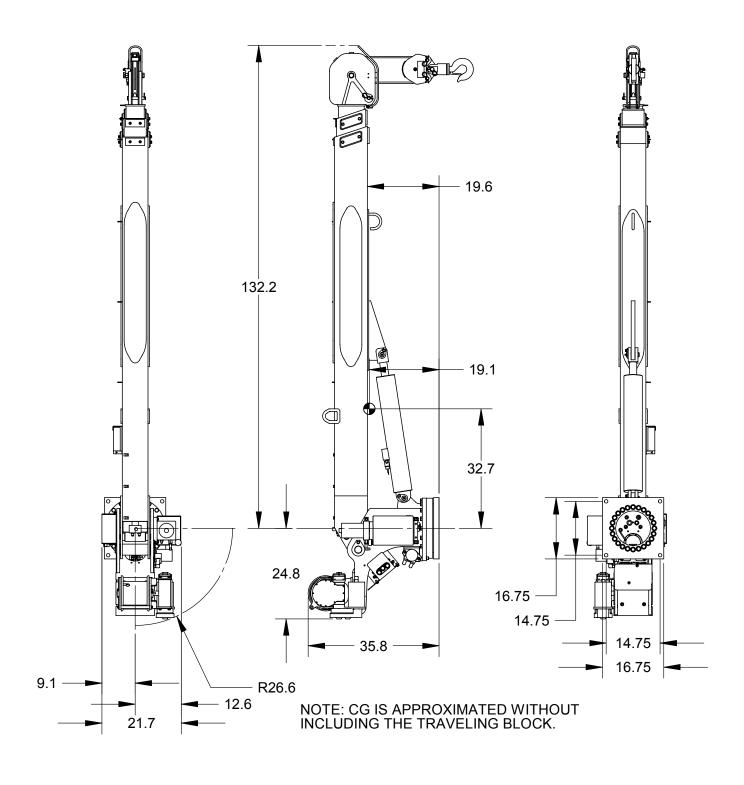
**Battery:** 130 minute reserve

capacity (minimum)
Maintenance type

#### ROTATION

360° Continuous Rotation.

# GENERAL DIMENSIONS 6006EH SERIES



### MOUNTING AND INSTALLATION 6006EH

1. Check to make sure the following items are with your crane.

ITEM	QTY	PART NO.	DESCRIPTION		
1	4	015104	SCREW, HX. HD, 7/8-14NF X 5" LG. GRADE 8		
2	4	022200	WASHER, SP. LK. 7/8		
3	4	018900	NUT, HEX 7/8-14NF		
4	6	083800	CLIP, CABLE #838 (FRAME)		
5	1	366904000	OWNER'S MANUAL (6006EH)		
6	1	366692000	VSU ASSEMBLY		
7	1	366709000	PENDANT		
8	1	366699000	SLIP RING INSTALLATION		
9	1	366710000	LOAD CHART 6006EH		

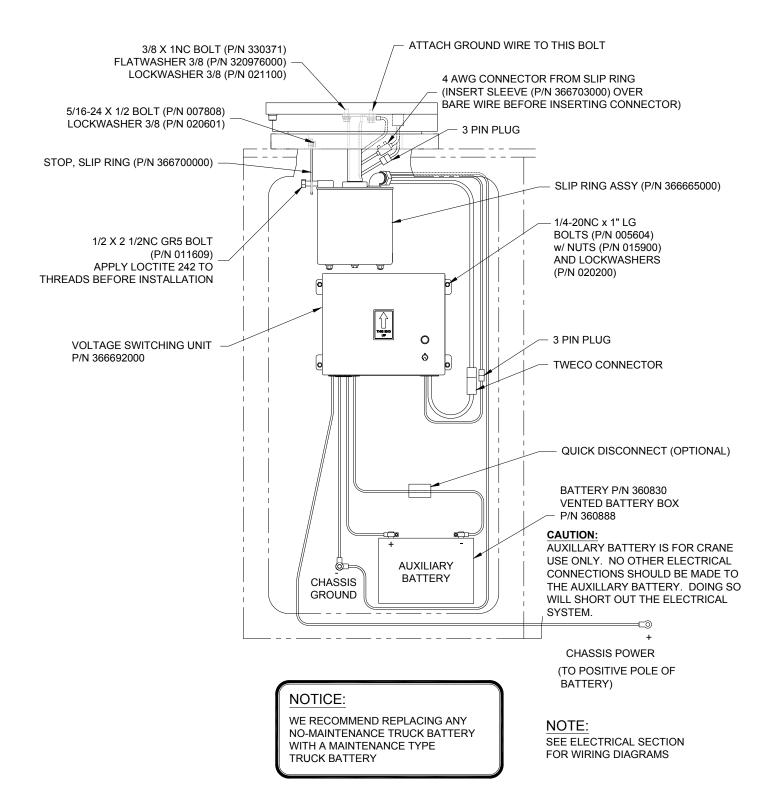
- 2. Vehicle should meet minimum GVW rating of 14,500 pounds. (does not include bodies or accessories)
- 3. Make sure mounting surface is properly reinforced to withstand **36,000 ft-lb** capacity loading of crane and that outriggers are used to provide total stability for the truck.
- 4. A 12" dia. hole should be cut out of mounting location (centered with mounting bolts) for access. Reference general dimensions for bolt pattern.
- 5. Make sure the mounting blots are 7/8" dia, grade 8. Torque bolts to 501 ft-lbs (dry).
- 6. When crane is not in operation, a boom support should always be used. Traveling block should be connected to hook loop. Contact Auto Crane dealer for recommended Auto Crane boom support P/N.
- 7. Install **Voltage switching unit** inside compartment safe from weather and contamination. See following page for installation.
- 8. See the following pages for additional electrical installation.
- 9. Load test the crane to ensure proper functioning and truck stability
- 10. Make certain the owner's manual is delivered to the customer.
- 11. For additional help: call the service department at the Auto Crane Company. (918) 836-0463 (Tulsa, Oklahoma)

#### WARNING

FEDERAL LAW (49 CFR PART 571) REQUIRES THAT THE FINAL STAGE MANUFACTURER OF A VEHICLE CERTIFY THAT HE VEHICLE COMPLIES WITH ALL APPLICABLE FEDERAL REGULATIONS. ANY MODIFICATIONS PERFORMED ON THE VEHICLE PRIOR TO THE FINAL STAGE ARE ALSO CONSIDERED INTERMEDIATE STAGE MANUFACTURING AND MUST BE CERTIFIED AS TO COMPLIANCE. THE INSTALLER OF THIS CRANE AND BODY 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, AND IS REQUIRED TO CERTIFY THAT THE VEHICLE IS IN COMPLIANCE.

IT IS THE FURTHER RESPONSIBILITY OF THE INSTALLER OF THE CRANE TO COMPLY WITH THE OSHA TRUCK CRANE STABILITY REQUIREMENTS AS SPECIFIED BY 29 CFR PART 1910.180 (C) (1).

### MOUNTING AND INSTALLATION 6006EH



# **NOTES**

# MOUNTING AND INSTALLATION 6006EH

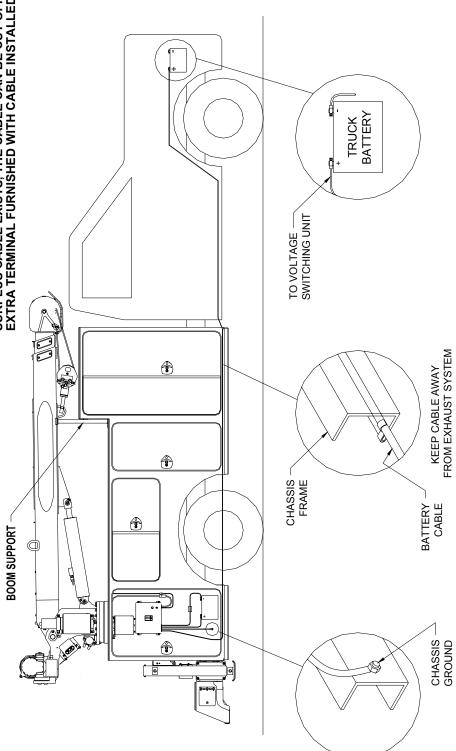
1. DRILL 3/4 HOLE IN COMP FLOOR OR BACK WALL. ROUTE CABLE THROUGH GROMMET INCLUDED IN THE SHIP KIT. AND THEN THROUGH HOLE. INSTALL GROMMET IN HOLE. WRAP ELECTRICAL TAPE AROUND CABLE TO GIVE WIRE A SNUG FIT IN GROMMET.

BOOM MUST BE PROPERLY SECURED

CAUTION:

IN PLACE, ON A BOOM SUPPORT BRACKET, WHEN CRANE IS NOT IN USE. (TO PREVENT GEAR DAMAGE)

2. RUN CABLE INSIDE CHASSIS FRAME TO POSITIVE BATTERY CONNECTION. LOCATE CABLE SO THAT IT WILL BE PROTECT, AVOID SHARP EDGES. INSTALL THE NO. FRAME CLIPS TO HOLD CABLE SECURELY IN PLACE. IF SURPLUS CABLE EXISTS, THE CABLE CAN BE CUT OFF, AND EXTRA TERMINAL FURNISHED WITH CABLE INSTALLED.



# LUBRICATION & MAINTENANCE SCHEDULE 6006EH SERIES

SERVICE PERFORMED	DAY	WEEKLY	3 MOS	6 MOS	YEAR	NOTES	
LOAD HOOK	Х					INSPECT HOOK & LATCH FOR DEFORMATION, CRACKS, & CORROSION	
CABLE DRUM	Х					MAKE SHURE CABLE IS WOUND EVENLY ON DRUM	
HOIST CABLE	Х					CHECK FOR FLATTENING, KINKS, & BROKEN STRANDS, SEE MANUAL	
HYD. HOSES	Х					VISUAL INSPECTION	
HYD. FLUID	Х					CHECK FLUID LEVEL	
MOUNTING BOLTS		Х				CHECK-TORQUE TO 501 FT-LBS (DRY) AS REQUIIRED	
ROTATION RING GEAR		X				LUBE WITH MOBILETAC LL, OR LUBRIPLATE P/N 15263, OR EQUAL	
SHEAVE BEARINGS		Х				SEALED BEARING, REPLACE IF ROUGH OR LOOSE	
ALL OTHER BOLTS		Х				CHECK-TIGHTEN AS REQUIRED	
ROTATION BEARING			X			GREASE WITH MOBILEPLEX EP-2 OR EQUIVALENT @ ZERKS	
ROTATION BEARING BOLTS			Х			CHECK TORQUE TO 180 FT-LBS (DRY) AS REQUIRED	
ROTATION GEAR BOX			Х			CHECK TORQUE TO 90 FT-LBS (SOCKET HEAD) AND 55 FT-LBS (HEX HEAD) AS REQUIRED	
ROTATION GEAR BOX				Х		EP GEAR LUBE SAE 80-90	
HYDRAULIC FLUID					X	DRAIN, FLUSH, AND REFILL WITH SUN 2105 HYD. OIL, SAE 5W-20	
BOOM SLIDE PADS	PAUS GREASED WHEN REPLACED						

FOR 1) OWNER'S MANUAL
ADDITIONAL 2) OSHA SECTION 1910.180
INFORMATION 3) ANSI B30.5-1989

SEE:

#### LUBRICATION & MAINTENANCE SCHEDULE 6006EH SERIES

**CAUTION:** Routine maintenance insures trouble-free operation and protects your investment. All warranties are void if maintenance is neglected.

#### **NOTES:**

- 1. Use only authorized parts. Any damage or malfunction caused by the use of unauthorized parts is not covered by Warranty or Product Liability
- 2. Once a bolt has been torqued to its rated capacity and then removed; the bolt should be replaced with a new one.
- 3. Auto Crane Company recommends that this crane be serviced per "Crane Inspection Log" P/N 999978. These logs should be filled in at the intervals noted and kept as a permanent record. Additional copies are available from your local distributor.

#### MAINTENANCE OF BATTERIES

Maintenance of Auto Crane unit batteries differs very little from the generally prescribed maintenance of any lead acid battery. All batteries must be kept *properly* charged, properly filled with water, and relatively clean.

#### **Keep Properly Charged**

Many things affect the proper charge to a battery, such as:

- 1 Regulator settings
- 2 Proper tightness of belts on the alternator or generator
- 3 Good, clean connections of all cables and wires at the following places:
  - A. Battery
  - B. Regulator
  - C. Starting motor
  - D. Alternator or generator
  - E. Ground connections (most important)

It is of extreme importance to keep the battery as fully charged as possible without overcharging, especially when vehicles are left outside for extended periods in extremely cold climates. A battery *can* freeze. Freezing points for various specific gravities of acid are as follows:

Specific Gravity	Freezing Temp
(Corrected to 80°F)	Degrees F.
1.280	-90°F
1.250	-62°F
1.200	-16°F
1.150	5°F
1.100	19°F

As shown, a half-charged battery (about 1.200 specific gravity) cannot stand for any length of time at 20°F or it will freeze.

The *main reason* for keeping the battery as fully charged as possible without over-charging is to ensure that power is available even though the vehicle has been standing for some time.

#### **Keep Properly Filled with Water**

The battery should *always* be properly filled with water. If the electrolyte level is allowed to fall below the top of the plates, the results become threefold:

- 1 The exposed portion of the plate will become sulfated.
- 2 The portion of the plate exposed is not usable.
- 3 That portion of the acid remaining becomes more concentrated and may cause more rapid deterioration of the remaining parts of the battery.

#### **Keep A Relatively Clean Battery**

The battery should be kept clean. Batteries filled with acid and which are not in use self-discharge to a limited degree because of the nature of the materials within the battery. If dirt is allowed to collect on the top of the battery (and this dirt absorbs moisture) and electrical path can be set up between the various terminals of the battery and the ground. Once such a path has been established, the self-discharge of the battery is accelerated. This also accelerates corrosion of the battery cables at the terminals.

#### Periodic Maintenance is Needed

A definite program of periodic maintenance of all batteries should be conducted on a regular basis. Periodic maintenance includes:

- 1 Checking belts for tightness on the charging equipment
- 2 Checking battery electrolyte levels
- 3 Checking cables for good connections
- 4 Cleaning where corrosion is apparent

When corrosion is cleaned off, the cable terminals and battery terminals should be coated with a light coating of petroleum jelly before they are replaced. When terminals are cleaned, the top of the battery should be cleaned with a mild solution of soda water.

#### MAINTENANCE OF BATTERIES

#### Low Maintenance Batteries (Maintenance Free)

Low maintenance batteries should not be used on Auto Cranes or trucks equipped with Auto Cranes. The batteries are not designed for "deep" discharge.

#### **Testing Your Battery**

If the condition of the battery is in question, it should be removed from the vehicle, taken to the shop, and allowed to reach room temperature. It should then be recharged until specific gravity readings taken at one-half hour intervals. If the specific gravity readings are fairly uniform, the battery should be checked with a high rate tester. Use the tester in accordance with the manufacturer's instructions. The high rate tester is the best method to test a questionable battery.

If, after charging, it is noted that the specific gravity reading of one cell is 30 points less than any of the other cells, it may be assumed that the cell is bad and that the battery should be replaced. If all cells are uniform but not up to full charge, a low rate of charge should be attempted for an extended time. This usually will recover a badly sulfated battery.

#### Replacing a Battery

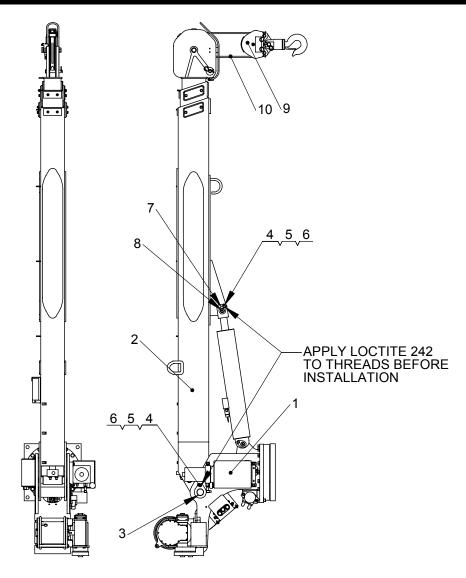
If it is necessary to replace a battery, and a dry charge battery is used, the following procedure applies:

- 1 Fill the battery with electrolyte of the proper specific gravity.
- 2 Place the battery on charge according to the manufacturer's instructions

It is essential that the second step above be followed to ensure that the battery going on the vehicle is fully charged.

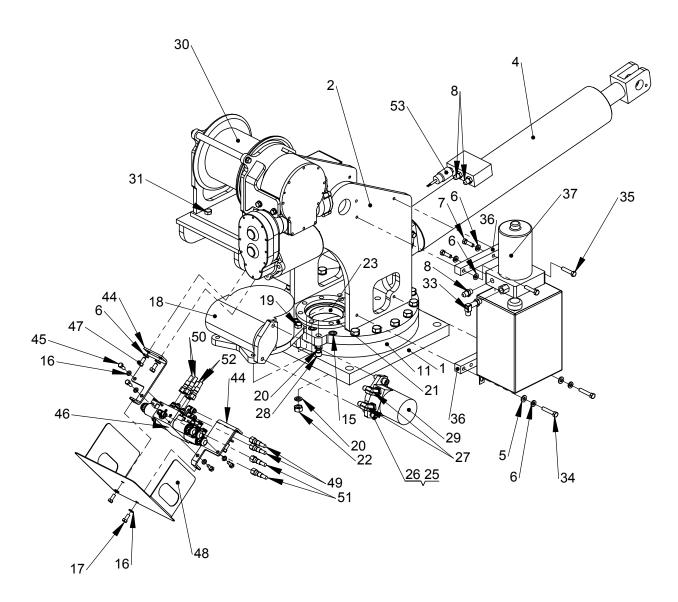
It is also very important that the battery hold-downs be checked periodically to ensure that the batteries are properly positioned to avoid vibration problems, breakage of cables or terminals. Care must be taken to avoid cracking or breaking containers or covers by tightening hold-down fixtures excessively. They also must not be so loose that breakage results from a hold-down that is too loose.

# GENERAL ASSEMBLY 6006EH SERIES (P/N:366600000)



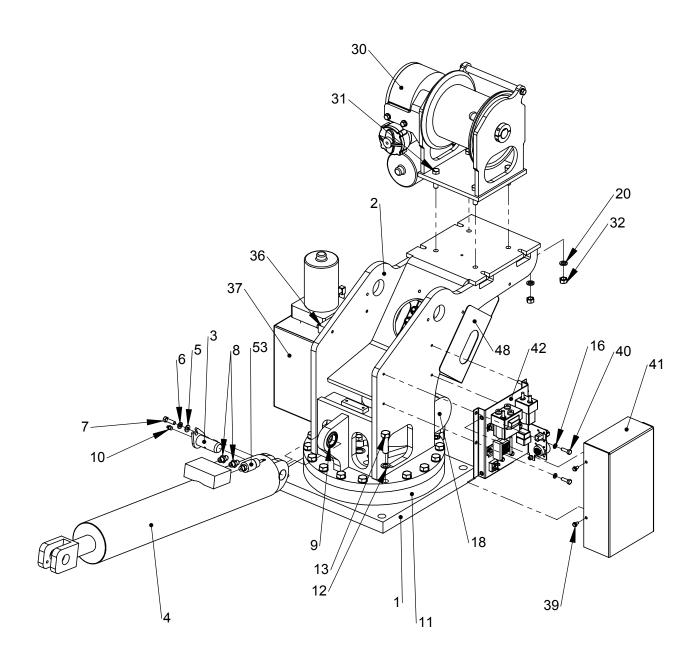
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	366640000	PEDESTAL ASSEMBLY
2	1	366630000	BOOM ASSEMBLY
3	1	366491	PIN 2 DIA X 10.5 LG
4	2		WASHER, FLAT, 3/8 SAE HARDENED
5	2		WASHER SPLK 3/8
6	2		SCW HX 3/8-16 X 1 1/4 GR5
7	1	366492	PIN 1.25 DIA X 3.00 LG
8	1	239300	ZERK, GREASE
9	1	366063	TRAVELING BLOCK
10	1	480031	WIRE ROPE ASSEMBLY 3/8"
11	1	366697000	SHIP KIT 6006EH CRANE
12	1	366704000	DECAL LAYOUT 6006EH

# **PEDESTAL ASSEMBLY** 6006EH (P/N: 366040000)

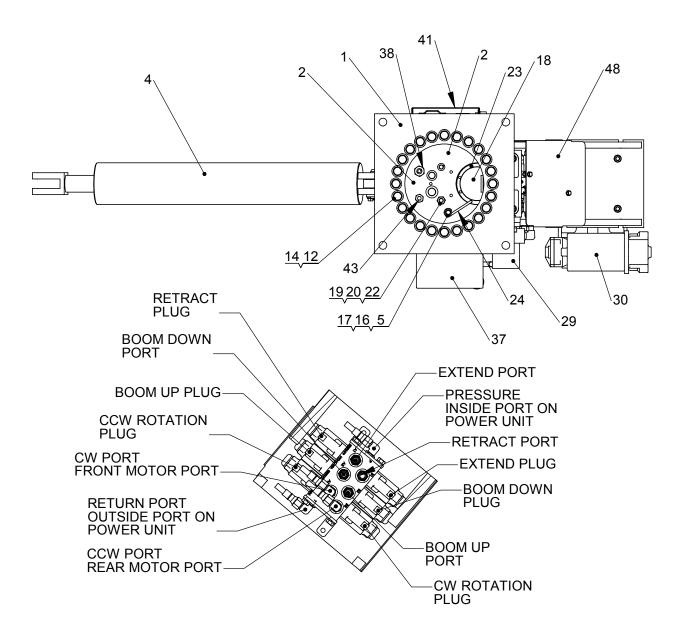


CYLINDER SEAL KIT P/N: 366342001 COUNTERBALANCE CARTRIDGE P/N: 480188000

# PEDESTAL ASSEMBLY 6006EH (P/N: 366040000)



## PEDESTAL ASSEMBLY 6006EH (P/N: 366040000)



TOP VIEW OF HYDRAULIC CONTROL VALVE SHOWN FITTINGS MAY BE ORIENTED DIFFERENTLY

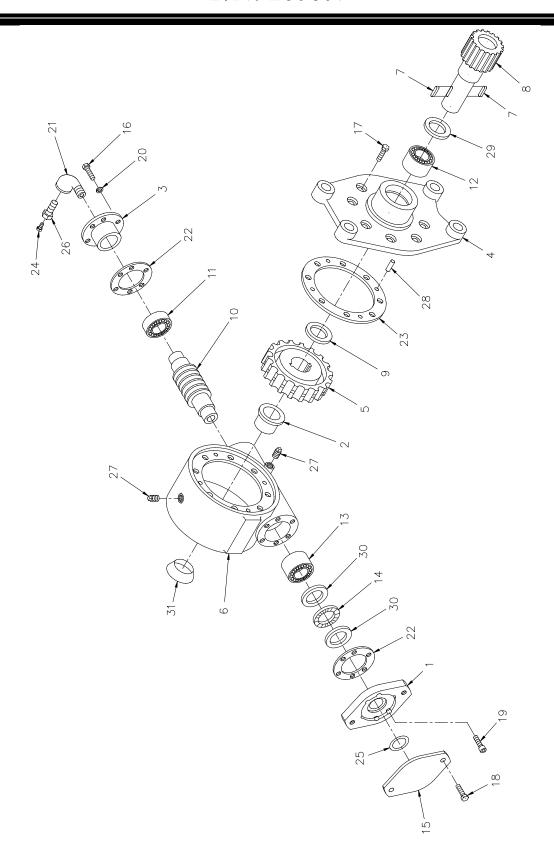
# **PEDESTAL ASSEMBLY 6006EH (P/N: 366040000)**

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	366641000	BASE PLATE WELDMENT
2	1	366642000	PEDESTAL WELDMENT
3	1	366492	PIN 1.25 DIA X 3.00 LG
4	1	366652000	CYLINDER, LIFT
5	4		WASHER, FLAT, 3/8 SAE HARDENED
6	11		WASHER SPLK 3/8
7	3		SCW HX 3/8-16 X 1 1/4 GR5
8	3	200876	FITTING 6 SAE/6 JIC STRAIGHT
9	1	366333	BEARING, SPHERICAL 1.25 ID
10	1	239300	ZERK, GREASE
11	1	480023002	BEARING, ROTATION
12	38	023902	WASHER, 5/8 FLAT HARDENED
13	14		CAPSCREW 5/8-11 X 2.25 GR8
14	24		CAPSCREW 5/8-11 X 1.75 GR8
15	4		SOC HD 5/8 X 1 1/4
16	11		WASHER 5/16 LOCK
17	3		SCW HEX 5/16-18 3/4LG GR5
18	1	160407	GEAR BOX, ROTATION
19	2		SCW HX HD 1/2-20 X 2 3/4 GR5
20	8		WASHER SP LK 1/2
21	1	480011	SEAL ROTATION BOX
22	2		NUT HX HVY 1/2 NF
23	1	360162	RING, ECCENTRIC
24	1	360207	RETAINER ECCENTRIC RING
25	2		WASHER SP/LK 1/2 HI COLLAR
26	2		SOC HD 1/2-13 X 1-1/2
27	2	490198	FITTING 10SAE(M)/6JIC ELBOW 90
28	2		SOC HD 1/2 UNC X 2
29	1	366440	ROTATION MOTOR
30	1	366655000	HOIST ASSEMBLY
31	4		SCW, 1/2-13 X 2 ZP GR5
32	4		NUT 1/2 NC
33	1	330645	FITTING 90 6-SAE/6-JIC LONG
34	2		SCW HX 3/8 NC X 2 GR5
35	2		SCW, HEX 3/8-16 X 1-3/4 GR8
36	2	366651000	BAR, POWER UNIT MOUNT
37	1	366650000	HYDRAULIC POWER UNIT
38	1	366698000	CORD GRIP .375500 3/4" HUB
39	4		SCW WHIZ-LK 1/4NCX 1/2
40	4		SCW HEX 5/16-18 X 1 GR5

# **PEDESTAL ASSEMBLY 6006EH (P/N: 366040000)**

ITEM NO.	QTY.	PART NO.	DESCRIPTION
41	1	366687000	COVER, RELAY PANEL
42	1	366682000	RELAY PANEL ASSY
43	1	642908	CORD CONNECTOR
44	2	366653000	BRACKET, VALVE MOUNT
45	4		SCW HX 5/16 NC X 3/4 GR5
46	1	320826000	VALVE ASSEMBLY PRX
47	4		SCW HEX HD 3/8-16 UNC X 3/4 GR 5
48	1	366688000	COVER, REAR
49	2	812026018	HOSE ASSY
50	2	812026016	HOSE ASSY -4 HOSE -6 FEMALE JIC
51	2	812026014	HOSE ASSY
52	2	812026031	HOSE ASSY -4 HOSE -6 FEMALE JIC
53	1	480880000	LOAD SENSOR SWITCH, 2500 PSI

### ROTATION GEAR BOX P/N: 160407

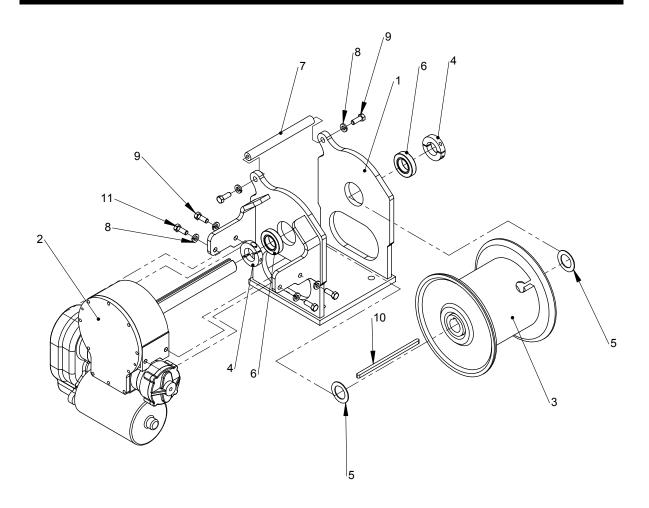


#### ROTATION GEAR BOX P/N: 160407

ITEM	QTY	PART NO.	DESCRIPTION
1	1	480240000	ADAPTER
2	1	480241000	BUSHING
3	1	480242000	CAP BEARING
4	1	480243000	COVER
5	1	480244000	GEAR R.H.
6	1	480237000	HOUSING GEAR
7	2	480246000	KEY
8	1	480247000	SHAFT OUTPUT
9	1	480248000	WASHER THRUST
10	1	480249000	WORM R.H.
11	1	480251000	BEARING BALL
12	1	480252000	BEARING NEEDLE
13	1	480253000	BEARING NEEDLE
14	1	480254000	BEARING THRUST
15	1	480255000	COVER
16	6		SCREW HX HD 5/16 NC X 1 GR5
17	8		SCREW HX HD 5/16 NC X 1 1/4 GR5
			(NYLON HEAVY PATCH)
18	2		SCREW HX HD 1/2 NC X 3/4 GR5
19	6		SCREW SOC HD 5/16 NC X 1
20	6	480258000	WASHER LK 5/16 MED SECT
21	1	480259000	ELL 90 DEG
22	2	480260000	GASKET
23	1	480250000	GASKET
24	1	480262000	FITTING RELIEF
25	1	480239000	O-RING
26	1	480263000	REDUCER
27	2	480264000	PLUG PIPE
28	4	480265000	PIN DOWEL
29	1	480266000	SEAL OIL
30	2	480268000	WASER THRUST

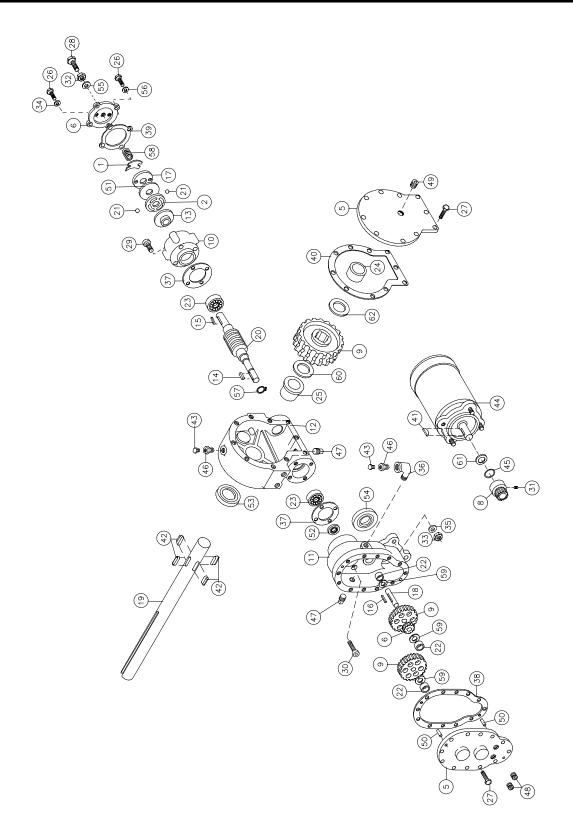
### **NOTES**

### HOIST ASSEMBLY 6006EH SERIES (P/N: 113001)



ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	242177	HOIST FRAME
2	1	297025	SPEED REDUCER, DCSG24-246R
3	1	436037	DRUM WELDMENT
4	2	479016	COLLAR, SPLIT 1.25 I.D.
5	2	518063	BEARING, BRONZE
6	2	402128	BEARING 1.25 I.D.
7	1	448100	TIE BAR, HOIST ASSEMBLY
8	6		WASHER SPLK 3/8
9	4		SCW HX 3/8 UNC X 1-1/4 GR8
10	1	342199	KEY, 5/16 X 7 1/2
11	2		SCW HX 3/8 UNC X 7/8 GR8

### ACTUATOR ASSEMBLY 6006EH SERIES (P/N: 297025)



### ACTUATOR ASSEMBLY 6006EH SERIES (P/N: 297025)

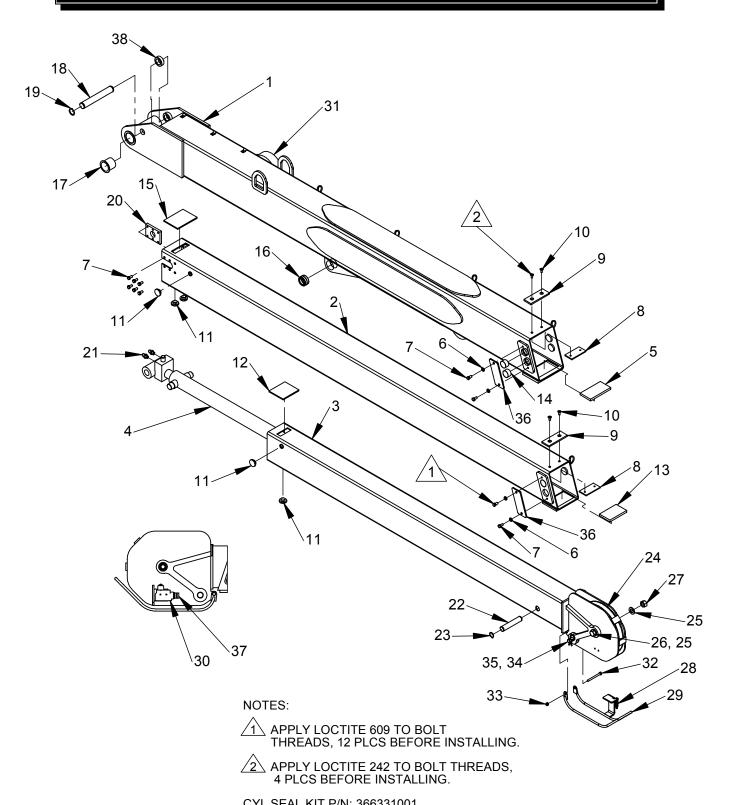
ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	306034	SPRING - FLAT
2	1	314008	PLATE - CAM
3	1	328106	COVER - SPUR GEAR HSG.
4	1	328128	COVER - BRAKE
5	1	328134	COVER - WORM GEAR HSG.
6	1	334001	IDLER GEAR
7	2	334003	SPUR GEAR
8	1	334129	PINION GEAR
9	1	334163	GEAR - WORM., R.H.
10	1	338007	HOUSING - BRAKE
11	1	338203	SPUR GEAR HOUSING
12	1	338273	GEAR HOUSING
13	1	340002	HUB - BRAKE
14	1	342023	KEY - SQ. END
15	1	342027	KEY - RD. END
16	1	342033	KEY - SQ. END
17	1	352022	PLATE - RETAINER
18	1	356901	SHAFT - SPUR
19	1	357145	SHAFT - OUTPUT
20	1	368022	WORM - R.H. 46:1
21	2	400003	BALL
22	3	402001	BEARING - NEEDLE
23	2	402002	BEARING - BALL
24	1	412044	BUSHING - COVER
25	1	412045	BUSHING - HOUSING
26	6	414021	SCW HH 1/4-20 X 1 GR 5 NYLOK HVY PATCH
27	22	414038	SCW HH 1/4-20 X 3/4 GR 5
28	1	414224	SCW HH 3/8-16 X 1-1/2 GR 5 FULL THD
29	4	414821	SCW BTN HD SOC 1/4-20 X 7/8
30	4	414845	SCW 1/4-20 X 1 SOC HD LOC-WEL
31	1	416029	SETSCREW
32	1	418036	NUT JAM 3/8-16
33	3	418040	NUT 3/8-24
34	2	418154	WASHER 1/4 FLAT ALUM.
35	3	418177	LOCKWASHER
36	1	432011	ELBOW 90 DEGREE

### **NOTES**

### ACTUATOR ASSEMBLY 6006EH SERIES (P/N: 297025)

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
37	2	442184	GASKET
38	1	442185	GASKET
39	1	442189	GASKET
40	1	442205	GASKET
41	1	450001	KEY - WOODRUFF
42	4	450016	KEY - BARTH
43	2	456008	RELIEF FITTING
44	1	458005	MOTOR - 24V
45	1	462015	O-RING
46	2	468002	REDUCER
47	2	468011	PIPE PLUG SQ HD
48	2	468017	PIPE PLUG SOC HD
49	1	468018	PIPE PLUG SOC HD
50	2	470001	PIN
51	1	474001	PLATE - THRUST
52	1	486009	OIL SEAL
53	1	486017	OIL SEAL
54	1	486023	OIL SEAL
55	1	486069	THREAD SEAL
56	4	486070	THREAD SEAL
57	1	490003	SNAP RING
58	1	494007	SPRING
59	3	518002	THRUST WASHER
60	1	518015	THRUST WASHER
61	1	518018	FIBER WASHER
62	1	518040	WASHER - THRUST

#### BOOM ASSEMBLY 6006EH (P/N:366630000)



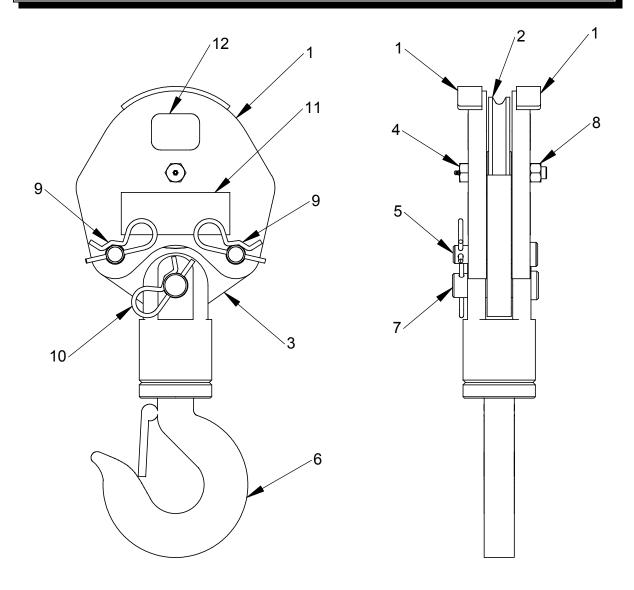
CYL SEAL KIT P/N: 366331001 C'BAL P/N: 360153001

### BOOM ASSEMBLY 6006EH (P/N:366630000)

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	366631000	LOWER BOOM WELDMENT
2	1	366632000	MID BOOM WELDMENT
3	1	366633000	UPPER BOOM WELDMENT
4	1	366331	CYLINDER EXTENSION
5	1	366669000	WEAR PAD, BOTTOM MID
6	8		WASHER SPLK 3/8
7	20		SCW HEX HD 3/8-16 UNC X 3/4 GR 5
8	2	460082000	PLATE, WEAR PAD RETAINER
9	2	460081000	WEAR PAD, CABLE
10	4		SCW, CTRSNK SOC HD 5/16-24 X 3/4
11	7	360767000	PAD BOOM 1.5 O.D.
12	1	366647000	WEAR PAD, TOP UPPER
13	1	366648000	WEAR PAD, BOTTOM UPPER
14	6	366666000	WEAR PAD, SIDE
15	1	366667000	WEAR PAD, TOP MID
16	1	366333	BEARING, SPHERICAL 1.25 ID
17	2	366394	BEARING, PIVOT
18	1	366400	PIN 1.25 DIA X 8.063
19	2	480029	RING RETAINING
20	2	366184	RETAINER EXTENSION CYLINDER
21	2	200876	FITTING 6 SAE/6 JIC STRAIGHT
22	1	366493	PIN 1 DIA X 5.03 LG
23	2	738734000	RING RETAINING 5100-100
24	1	366198	SHEAVE ASSY 3/8
25	2		WASHER FL 3/4
26	1		CAPSCREW, .75-16 NF X 5 GR5
27	1		NUT, NYLON LOCK .75-16 NF
28	1	366678000	SPRING, EXTENSION
29	1	360718000	BAIL WELDMENT
30	1	646900	SWITCH, LIMIT ANTI-TWO BLOCK
31	1	360759000	CORD REEL ASSY
32	1		SCW 5/16 NC 3 1/2 LG GR5
33	1		NUT HEX-LOCK 5/16 NC
34	1	360125	PIN, BLOCK
35	1	360124	PIN HITCH
36	4	366696000	COVER, WEAR PADS
37	1	366694000	CORD GRIP .187525 1/2 HUB
38	2	366706000	SPACER, EXTENSION CYLINDER

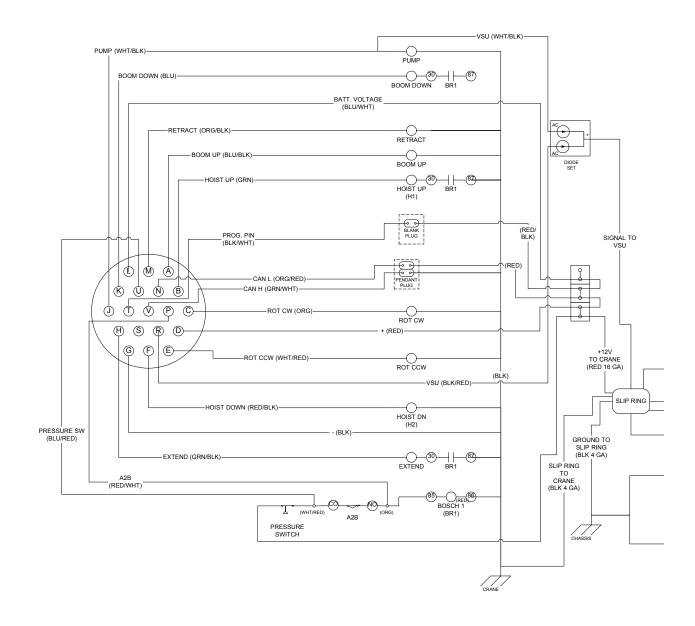
### **NOTES**

# TRAVELING BLOCK ASSEMBLY 6006EH (P/N:366063000)



ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	480362	SHORT BLOCK SIDE PL WDMT
2	1	480130	SHEAVE ASSY
3	1	480364	TACKLE LOWER
4	1	480372	BOLT, SHEAVE W/ ZERK FITTING
5	2	480367	PIN BLOCK
6	1	480371	HOOK SWIVEL 3 METRIC TON
7	1	480368	PIN SWIVEL HOOK
8	1		NUT, HEX-LOCK 1/2-20 NF
9	2	366813	PIN HITCH
10	1	360124	PIN HITCH
11	2	040518	DECAL STAY CLEAR OF LOAD
12	2	366036100	DECAL, TRAVELING BLOCK 6006H (SHORT)

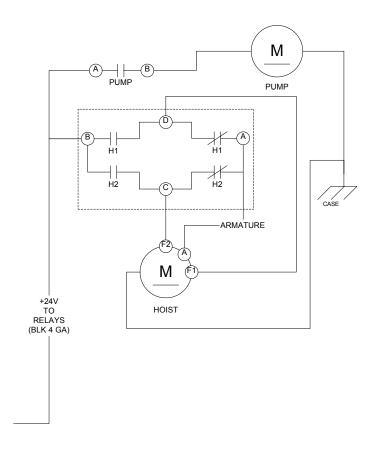
## ELECTRICAL SCHEMATIC 6006EH SERIES

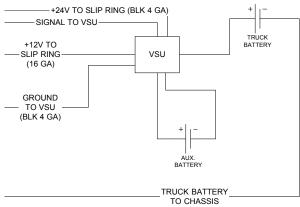


#### RIGHT SIDE OF SCHEMATIC CONTINUED ON NEXT PAGE

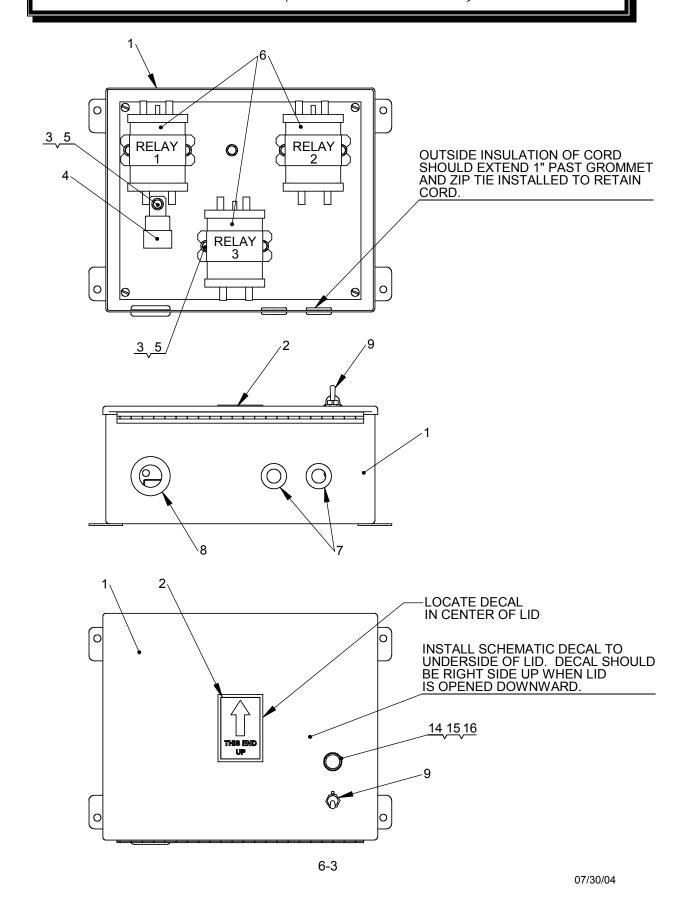
## ELECTRICAL SCHEMATIC 6006EH SERIES

#### LEFT SIDE OF SCHEMATIC ON PREVIOUS PAGE

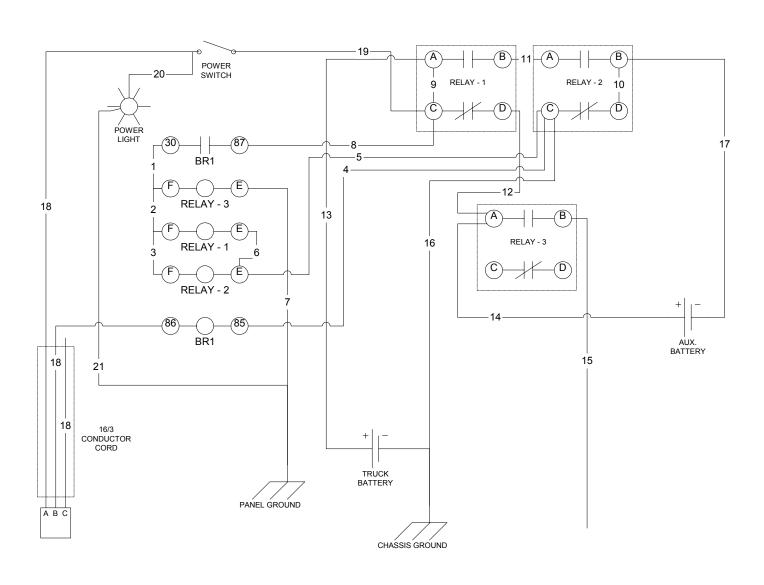


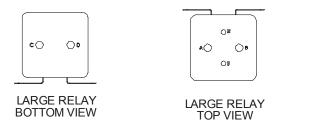


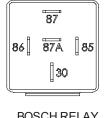
## VOLTAGE SWITCHING UNIT 6006EH (P/N: 366692000)



## VOLTAGE SWITCHING UNIT 6006EH (P/N: 366692000)







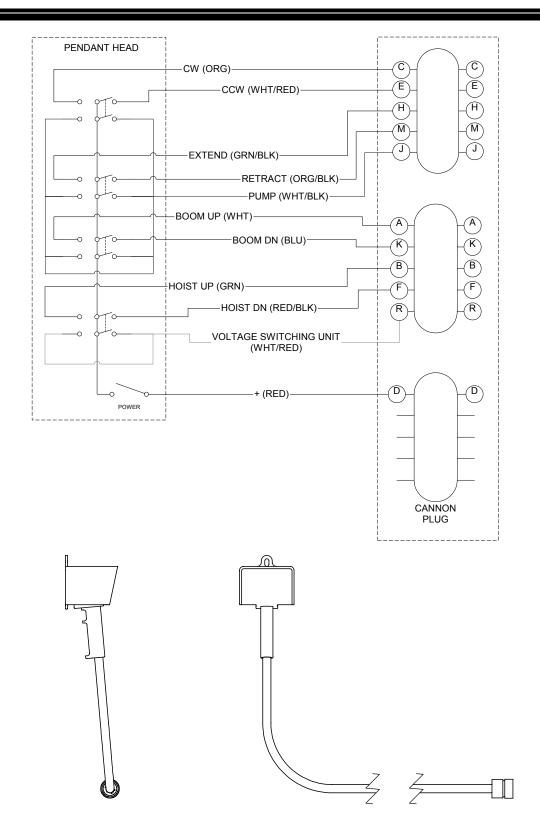
BOSCH RELAY BOTTOM VIEW

### **NOTES**

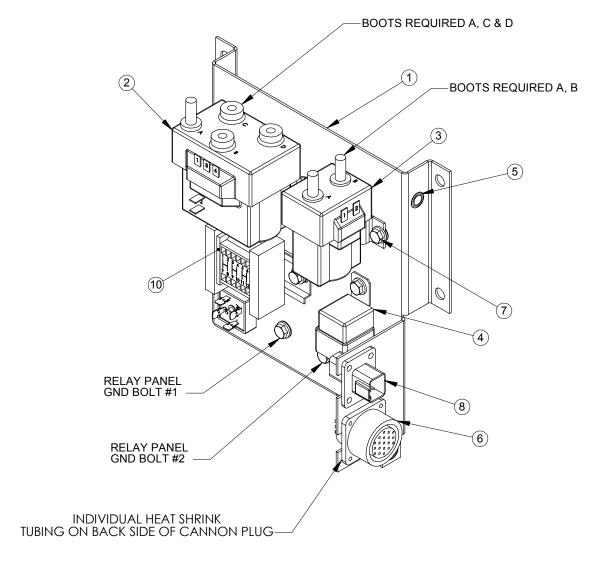
# VOLTAGE SWITCHING UNIT 6006EH (P/N: 366692000)

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	366693000	ENCLOSURE, VOLTAGE SWITCHING UNIT
2	1	367242001	DECAL, THIS END UP
3	8	736272	NUTSERT .25UNC X .027165 GRIP
4	1	320355	RELAY, BOSCH
5	8		SCW WHIZ-LK 1/4NCX 1/2
6	3	404167	SOLENOID, SEALED
7	2	750169000	GROMMET, RUBBER
8	1	750282	GROMMENT 1 3/8 OD
9	1	750090	TOGGLE SWITCH (ON-ON)
10	1	360763001	HOUSING DEUTSCH 3-PIN
11	1	360763002	WEDGE, DEUTSCH 3-PIN
12	3	366367003	CONTACT, DEUTSCH SOCKET
13	1	366705000	DECAL, VSU SCHEMATIC
14	1	750171	LAMP SOCKET, INDICATOR
15	1	750173	BULB, 12V TYPE T-2
16	1	366707000	LENS, GREEN FLUTED

## PENDANT 8 FUNCTION W/ ON/OFF SWITCH 6006EH (P/N: 366709000)

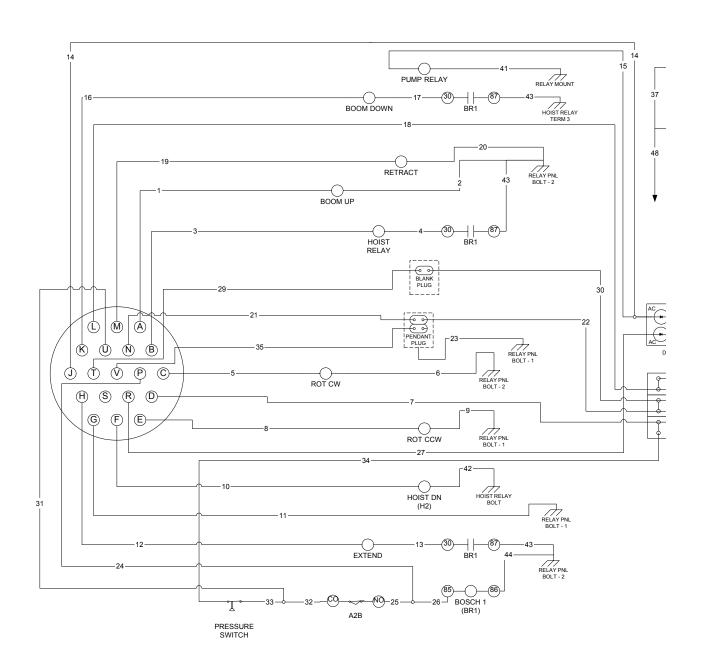


#### RELAY PANEL ASSEMBLY 6006EH SERIES



ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	366683000	BACK PLANE, RELAY PANEL
2	1	320589	RELAY, HOIST
3	1	320584	RELAY, POWER UNIT
4	1	320355	RELAY, BOSCH
5	13	736272	NUTSERT .25UNC X .027165 GRIP
6	1	366095	PLUG, 19 PIN
7	9	360493000	SCW WHIZ-LK 1/4NCX 1/2
8	1	360768001	DEUTSCH DT04-4P
9	1	751138	RECTIFIER, BRIDGE 25 AMP
10	1	366708000	TERMINAL BLOCK ASSEMBLY

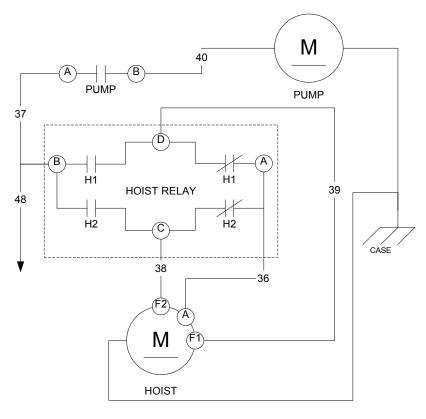
#### RELAY PANEL ASSEMBLY 6006EH SERIES

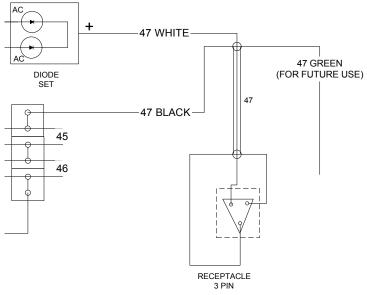


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#### RELAY PANEL ASSEMBLY 6006EH SERIES

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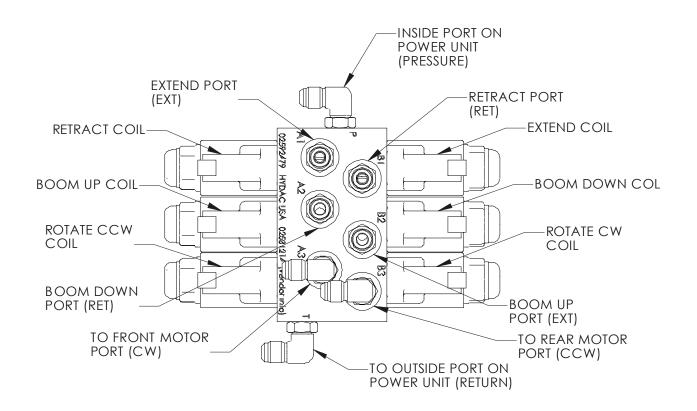


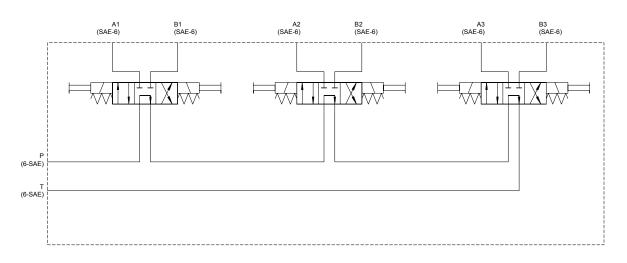


(PLUG IS TO BE SHIPPED LOOSE AND INSTALLED IN ASSEMBLY)

### **NOTES**

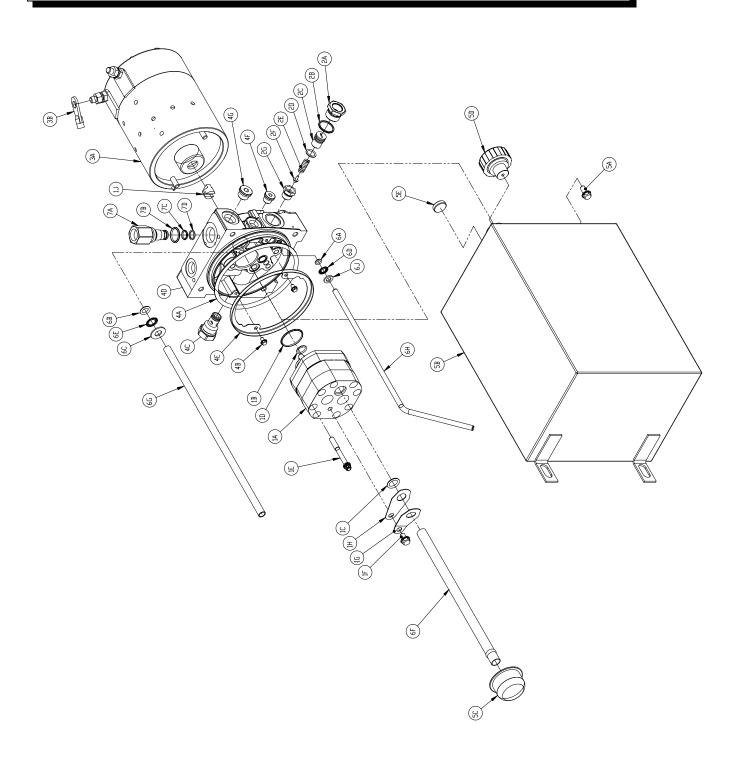
#### HYDRAULIC CONTROL VALVE 6006EH SERIES





QTY	DESCRIPTION	A/C P/N	HYDAC P/N
3	SPOOL VALVE, 4WK06G-12X-0-0-N	320826001	
6	SOLENOID COIL, 12DN-50-1836	320826002	03091665

# HYDRAULIC POWER UNIT 6006EH SERIES (P/N:366650000)



# HYDRAULIC POWER UNIT 6006EH SERIES (P/N:366650000)

#### NOTE: SOME PARTS AVAILABLE ONLY IN THEIR RESPECTIVE KITS.

П	TEM	PART NO	DESCRIPTION	QTY.
	1	360808001	PUMP AND PARTS	-
-	1A		PUMP ASSEMBLY	1
F	1B		O-RING	1
F	1C		O-RING	1
F	1D		O-RING	1
	1E		SCREW	4
F	1F		SCREW	1
F	1G		LOCKING SPRING	1
F	1H		RETAINER	1
	1J		COUPLING	1
<u></u> ;	2	366650001	RELIEF VALVE KIT	-
<del>'                                    </del>	2A	000000001	CAP	1
-	2B		GASKET	1
-	2C		ADJ SCREW	1
⊢	2D		O-RING	1
 	2E		SPRING	1
⊢	2F		PLUNGER	1
H	2G		SEAT ASSEMBLY	1
	3	366650002	MOTOR KIT	-
<u> </u>	3A	300030002	MOTOR 24V DC	1
-	3B		GROUND STRAP	1
	<u> </u>		ADAPTER KIT	'
	4A		SEAL	1
-	4A 4B		SCREW	2
-	4C		CHECK VALVE ASSEMBLY	1
⊢	4D		ADAPTER	1
⊢	4D 4E		RETAINER	1
-	4F		PLUG	1
⊢	4G		PLUG	1
	5	366650003	RESERVOIR KIT	-
<u> </u>	5A	300030003	SCREW	4
-	5B		RESERVOIR	1
⊢	5C		STRAINER	1
-	5D	200545000	BREATHER	1
-	5E	200343000	MAGNET	1
	3L 3		TUBE KIT	-
<u> </u>	6A		O-RING	1
⊢	6B		O-RING	1
-	6C		WASHER	1
⊢	6D		RETAINING RING	1
⊢	6E		RETAINING RING	1
-	6F		TUBE	1
⊢	6G		TUBE	1
⊢	6H		TUBE	1
-	6J		SPACER	1
<del></del>	7	330336003	RETURN PORT ASSEMBLY	<u> </u>
<u>_</u>	7A	320336002		1
	7A 7B		RETURN PORT BODY	1
-	7C O-RING		O-RING	1
			BACK-UP RING	
L	7D		DAUN-UF KING	1

### **NOTES**



P.O. Box 580697 \* Tulsa, OK 74158-0697 4707 N. Mingo Rd. \* Phone (918) 836-0463

## LIMITED WARRANTY 2 YEAR PARTS AND LABOR

Auto Crane will warranty to the consumer for a period of (2) years parts and labor from the date of purchase. Each new Auto Crane unit they sell will be free under normal use and service from defects in material and workmanship. Date of purchase will be honored as the date indicated on the Bill of Sale, which must accompany the Warranty Registration and be on file with Auto Crane. Absent a valid Warranty Registration and appropriate documentation, the original date of manufacture, as indicated by the serial number on the product, will be used to determine the effective date of the 2 year warranty.

The obligation of Auto Crane under this warranty is limited to the replacement or repair of parts that appear to the manufacturer after review and/or inspection to be defective and paid flat rate labor for replacing defective parts. This warranty does not obligate Auto Crane to bear the travel time charges in connection with the replacement or repair of defective parts. Responsibility for customer's claims arising from misapplication, abuse, misuse or alteration of equipment or parts lies with the distributor or user and no warranty obligation is assumed in these circumstances by Auto Crane.

Auto Crane will in no event be liable for any consequential damages or contingent liabilities arising out of the failure of any Auto Crane Product or parts to operate properly.

Auto Crane makes no warranty in respect to component accessories, it being subject to the warranties of their respective manufacturers.

If field service, at the request of the distributor, is rendered and fault is found not to be with Auto Crane's product, the distributor shall pay the time and expense of the field representative.

Claims for service labor or other expenses that have incurred by the buyer without approval or authorization or Auto Crane will not be accepted.

When applying for warranty, claims may be handled by contacting your nearest authorized Auto Crane Distributor. All claims are to be filed in writing on an Auto Crane Warranty Claim Form.

AUTO CRANE COMPANY IS UNDER NO OLIGATION TO EXTEND THIS WARRANTY TO ANY CUSTOMER FOR WHICH AN AUTO CRANE DELIVERY REPORT FORM HAS NOT BEEN COMPLETED AND ON FILE WITH AUTO CRANE COMPANY

