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OWNERS MANUAL

8005H

REVISION 1/98

PART NO. 999939

SERIAL NO. _____

AUTO CRANE COMPANY

PO BOX 580697, TULSA, OK 74158-0697

4707 N. MINGO ROAD, TULSA, OK 74117

PHONE (918)-836-0463

SALES FAX (918) 438-6688 SERVICE FAX (918) 834-5979

www.autocrane.com

WARNINGS - READ THIS PAGE!

8005H

- ♦ **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 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.
- ♦ **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 of electric power lines carrying up to 50,000 volts. One foot additional clearance is required for every additional 30,000 volts or less.
- ♦ **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 your crane is equipped with this type of device.

8005H SERIES - OWNER'S MANUAL
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INTRODUCTION

8005H 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 8005H series cranes for your protection. The choice of materials and the design of the electrical system minimizes weight and lengthens durability. The hydraulic components meet or exceed a 3.5:1 safety factor. Holding valves prevent the load from dropping if a hose should fail. A 10u filter in the return line of the hydraulic system removes dirt and grit that may cause erratic operation. The reservoir has a 15u air filter in the filler cap. The pump has a 40 mesh strainer in the suction line.

For your convenience the overall dimensions of the 8005H series crane are on the General Dimension Drawing. Maximum turning radius at both the hoist motor and the rotation motor are also 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. A minimum G.V.W. of 20,500 lbs. is recommended for mounting the 8005H series cranes.

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

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, mis-used, 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) 438-2760. 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 ---

OPERATING PRACTICES & 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.
5. **ALWAYS** use outriggers from vehicle to the ground during crane operation. Make sure they are firmly positioned on solid footings.
6. 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.
9. **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. Oil gears as required.
12. Periodic adjustment of hoist worm brake may be required (see automatic safety brake drawing in this manual).
13. Hydraulic hoses need to be inspected frequently for signs of deterioration, and be replaced as required.
14. 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.
15. **ALWAYS** store outriggers before road travel.
16. **WARNING! NEVER OPERATE THE CRANE NEAR ELECTRICAL POWER LINES!** Auto Crane Company recommends that a crane never be moved closer than 10 feet (3.05m) from power lines at any point.
17. **WARNING! NEVER** un-reel last 5 wraps of cable from drum!
18. **WARNING! NEVER** wrap cable around load!
19. **WARNING! NEVER** attempt to lift or drag a load from the side! The boom can fail far below its rated capacity.
20. **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.
21. **WARNING! NEVER** place a chain link on the tip of the hook and try to lift a load!
22. **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!
23. **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.
24. **WARNING! NEVER** hold any pendant Select Switch on that will cause unsafe operating conditions!
25. **WARNING! NEVER EXCEED** load chart capacities (centerline of rotation to hoist hook).

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.
6. 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 pendant control from cab or storage area. On smaller units, plug pendant into receptacle on crane. On larger units, remove pendant control from guard and unwrap cable from boom. Do not operate crane until cable is unwound completely. On all cranes, 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.
9. When extending the boom, always maintain clearance between the boom crown and the traveling block or hoist hook.
10. 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 pendant control on proper location (in cab or on crane).
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.
18. Spray all electrical equipment with special corrosion resistant coating. This eliminates rust or corrosion due to melting and freezing action of condensation.

OPERATION OF OUTRIGGERS

For hydraulic outriggers:

1. Shift crane/outrigger control valve to "outrigger" position.
2. While operating the outrigger control valves (located on the outrigger cylinders) simultaneously operate the boom-up control switch. This will allow the hydraulic system to build pressure.
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 be 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.

I. 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 un-stowing 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

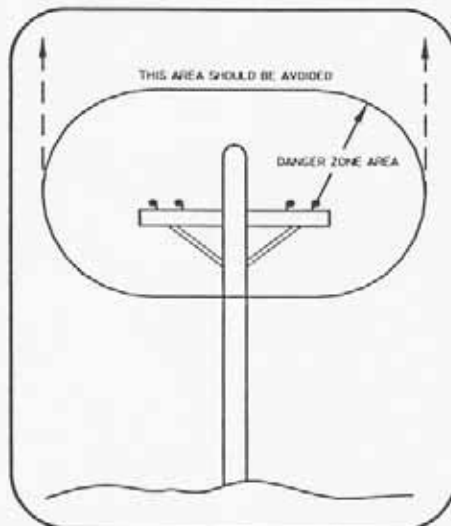


FIG. 1

or load enters into the danger zone shown in figure 1.

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. (3 m). For higher voltages, see Table 1.
- 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 and energized line.
- B. Exceptions to this procedure, if approved by the owner of the electrical lines, may be granted by the administrative authority if alternate procedure provides equivalent protection and is set forth in writing.
- C. Durable signs shall be installed at the operator's station and of the outside of the crane, warning that electrocution or serious bodily injury may occur unless a minimum clearance of 10 ft. (3 m) is maintained between the crane or the load being handled and energized power lines. Greater clearances are required because of higher voltage as stated in above. These signs shall be revised but not removed when local jurisdiction requires greater clearances.

TABLE 1

normal voltage, kV (phase to phase)		minimum required clearance	
		ft	(m)
<u>when operating near high voltage power lines</u>			
over	to 50	10	(3.05)
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)
<u>while in transit with no load and boom lowered</u>			
over	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, TESTING AND MAINTENANCE

GENERAL

INSPECTION CLASSIFICATION

- 1 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.
- 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 and damage;

FREQUENT INSPECTION

- 3 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;
 - D. 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 amage, cracks, and wear. Refer to ANSI/ASME B30.10;
- 4 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. blistering, or abnormal deformation to the outer covering of the hydraulic or pneumatic hose;

- C. leakage at threaded or clamped joints that cannot be eliminated by normal tightening or recommended procedures;
- D. evidence of 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.

CRANES NOT IN REGULAR USE

- 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-regular-frequent 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.

MAINTENANCE

PREVENTIVE MAINTENANCE

- 22 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;
 - E. relieve hydraulic oil pressure from all hydraulic circuits before loosening or removing hydraulic components.
- 23 Warning or "OUT OF ORDER" signs shall be placed on the crane controls.
- 24 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

- 25 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.
- 26 Adjustments shall be maintained to assure correct functioning of components, The following are examples:
- A. functional operating mechanism;
 - B. safety devices;
 - C. control systems;

- 27 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.

- 28 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

29 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;
 - 1. 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;
 - 4. 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.

30 Periodic inspection

A. the inspection frequency shall be determined by a qualified person and shall be based on such factors as:

1. 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 its 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:

1. 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

31 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.

32 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 1 1/8 in. (29 mm), 3/32 in. (2.4 mm) for diameters 1 1/4 in. (32 mm) to and including 1 1/2 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.

33 Rope not in regular use: all rope which has been idle for a period of a month or more due to shut-down 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.

34 Inspection records

- A. frequent inspection- no records required
- B. 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

35 Rope should be stored to prevent damage or deterioration.

36 Unreeling or uncoiling of rope shall be done as recommended by the rope manufacturer and with care to avoid kinking or inducing twist.

37 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.

38 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.

39 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.

NOTES

MOUNTING and INSTALLATION 8005H

1. CHECK TO MAKE SURE THE FOLLOWING ITEMS ARE WITH YOUR CRANE:

ITEM	PART NO.	DESCRIPTION
1.	360603000	SWIVEL BLOCK
2.	480157000	VENTED RELIEF VALVE
3.	480022000	PUMP ASSEMBLY (OPTIONAL)
4.	999939000	OWNERS MANUAL
5.	015104000	BOLT – 7/8 NF x 5", GRD 8, (4 REQ'D)

2. PRESSURE AND RETURN HOSES ARE NOT FURNISHED WITH THIS CRANE. THE HOSES MUST BE PROVIDED BY THE INSTALLER AND THE LENGTHS DETERMINED AT INSTALLATION.

REQUIREMENTS FOR INSTALLATION USING 8 GALLON RESERVOIR W/INTEGRAL RELIEF VALVE AND AUTO CRANE PROVIDED PUMP

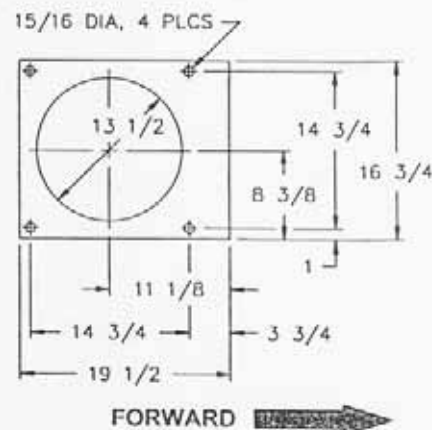
(REF. DWG AW-017 & AW-480150)

- RETURN LINE FROM CRANE TO RESERVOIR (IN COMPARTMENT): -8 SAE 100R2 (OR EQUIVALENT). HOSE LENGTH IS DETERMINED BY INSTALLER. RETURN LINES LONGER THAN 6 FEET SHOULD BE SIZE -12. HOSE END FITTINGS ARE -8 JIC FEMALE SWIVEL (CRANE END) AND -10 JIC FEMALE SWIVEL (RESERVOIR END).
- PRESSURE LINE FROM VENTED RELIEF VALVE TO CRANE: -8 SAE 100R2 (OR EQUIVALENT). HOSE LENGTH IS DETERMINED BY INSTALLER. HOSE END FITTINGS ARE BOTH -8 JIC FEMALE SWIVEL. NOTE: CRANE MUST USE RELIEF VALVE P/N 480157, WHICH IS PROVIDED.
- SUCTION HOSE FROM PUMP TO RESERVOIR: -16 HYDRAULIC SUCTION HOSE WITH TOW (2) -16 HOSE CLAMPS ON EACH END.
- PRESSURE LINE FROM PUMP TO VENTED RELIEF VALVE (LOCATED ON RESERVOIR) : -12 SAE 100R2 (OR EQUIVALENT). HOSE LENGTH IS DETERMINED BY INSTALLER. HOSE END FITTINGS ARE BOTH -10 JIC FEMALE SWIVEL.

NOTE:

REFER TO OWNERS MANUAL FOR ADDITIONAL INSTALLATION INFORMATION, AND OTHER RESERVOIR AND PUMP COMBINATIONS.

- CRANE MUST BE PROVIDED WITH A FLOW OF 8 GALLONS PER MINUTE. EXCESS FLOW WILL CAUSE ERRATIC OPERATION, AND TOO LITTLE FLOW WILL CAUSE POOR CRANE OPERATION.
- MAKE SURE MOUNTING SURFACE IS PROPERLY REINFORCED TO WITHSTAND 50,000 FT-LB CAPACITY LOADING OF CRANE AND THAT OUTRIGGERS ARE USED TO PROVIDE TOTAL STABILITY FOR THE TRUCK.
- MAKE SURE THE MOUNTING BOLTS ARE 7/8x5, GRADE 8. TORQUE BOLTS TO 440 FT-LBS (DRY).
- WHEN CRANE IS NOT IN OPERATION, A BOOM SUPPORT SHOULD ALWAYS BE USED. TRAVELING BLOCK SHOULD BE CONNECTED TO HOOK LOOP.
- ALWAYS USE CABLE LOOPS ON SIDE OF BOOM AND PENDANT GUARD ON SIDE OF PEDESTAL TO STORE PENDANT ASSEMBLY, IF THIS TYPE OF STORAGE APPLIES.
- THE VEHICLE MUST BE EQUIPPED WITH AN ENGINE SPEED CONTROL AND TACHOMETER.
- CHECK FOR PROPER PRESSURE AND RETURN LINE HOOK-UP TO CRANE: PRESSURE PORT IS ON RIGHT SIDE AS VIEWED FROM THE REAR OF THE CRANE.



MOUNTING and INSTALLATION 8005H

(CONTINUED)

10. ELECTRICAL HOOK-UP: RUN THE FOLLOWING WIRES THROUGH HOLE IN BASE ASSEMBLY OF CRANE AND SEAL WITH SILICONE RUBBER TO PREVENT WIRE CHAFING AND LEAKS.

- A. CONNECT WIRE FROM DIRECTIONAL VALVE SOLENOID (P/N 480137) TO WHITE WIRE W/TRACER AT PENDANT CABLE END (REF. AW-480093).
- B. CONNECT POWER CONDUCTOR FROM STARTER SOLENOID TO BLACK WIRE AT BASE OF CRANE, PASSING THROUGH THE MAIN POWER RELAY. USE THE IN-LINE FUSE PROVIDED.

WARNING! FAILURE TO CORRECTLY PLUMB AND WIRE CRANE CAN CAUSE INADVERTENT OPERATION AND DAMAGE TO CRANE AND/OR PERSONNEL!

11. ONCE CRANE AND PLUMBING ARE INSTALLED ON THE TRUCK, FILL THE RESERVOIR TO TOP OF SIGHT GLASS (MOBIL DTE 13 or EQUAL). BEFORE OPERATING CRANE CONNECT TOGETHER THE PRESSURE AND RETURN HOSES GOING TO BASE OF CRANE USING -8 JIC UNION AND ENGAGE PTO WITH ENGINE RUNNING. ALLOW OIL TO CIRCULATE FOR 15 TO 20 MINUTES. THIS WILL FLUSH CONTAMINANTS FROM THE SYSTEM BACK TO THE RETURN LINE FILTER. OPERATE ALL CYLINDERS TO FULL EXTENSION AND RETRACTION A MINIMUM OF SIX TIMES, TO

CAUTION - FAILURE TO USE CLEAN HYDRAULIC HOSES AND COMPONENTS MAY CONTAMINATE THE CRANE AND HYDRAULIC SYSTEM AND VOID WARRANTY.

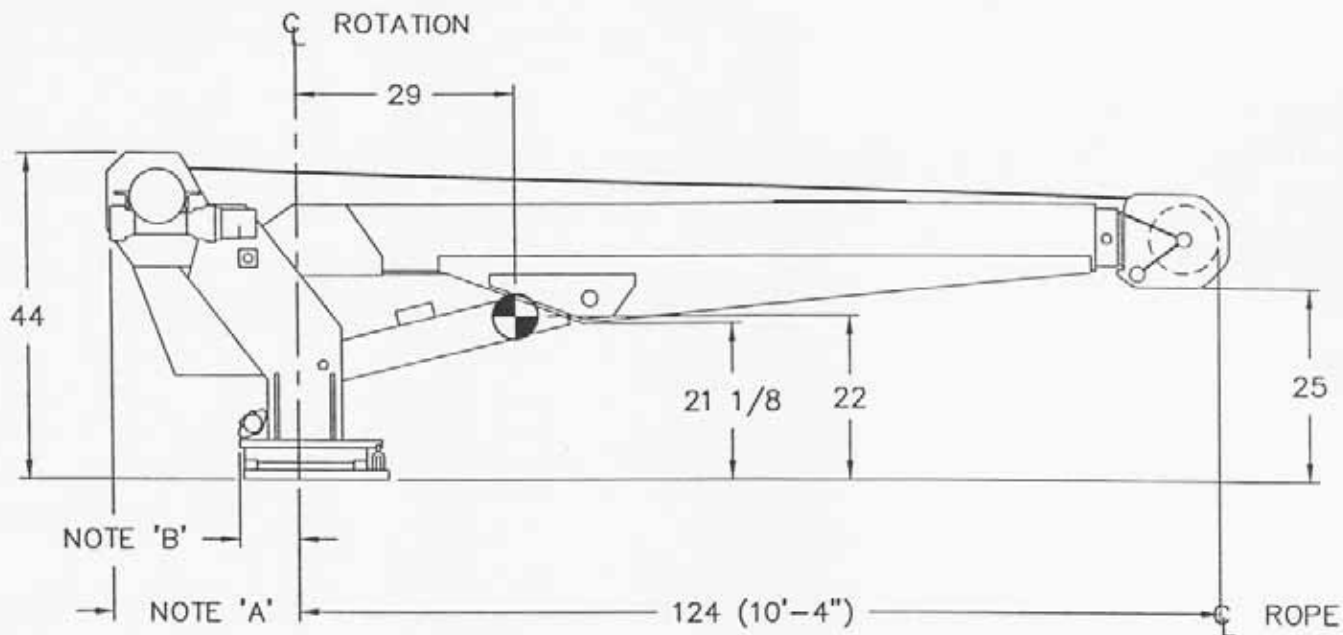
BLEED AIR FROM SYSTEM. RETURN ALL CYLINDERS TO THE STORED POSITION AND DISENGAGE PTO. REFILL RESERVOIR TO TOP SIGHT GLASS. TO ENSURE 8 GALLONS PER MINUTE (GPM), INSTALL AN IN-LINE FLOW METER BETWEEN THE CRANE AND THE RESERVOIR IN THE RETURN HOSE, OR CONFIRM PUMP SPEED IS CORRECT. THE PROPER SPEED FOR AUTO CRANE GEAR PUMP P/N 480022 IS 1000 RPM, FOR P/N 360030 IT IS 1265 RPM.

12. PROPER PRESSURE SETTING CAN BE ACHIEVED BY, WITH THE PTO DISENGAGED, REMOVING THE PIPE PLUG ON THE VENTED RELIEF VALVE OR PROPORTIONAL VALVE AND INSTALLING A 2500 PSI PRESSURE GAUGE. EXTEND THE BOOM "IN" ALL THE WAY AND CONTINUE HOLDING THE SWITCH ON. FOR PROPORTIONAL SYSTEMS, THE TRIGGER SHOULD BE PULLED COMPLETELY BACK (ON). READ THE PRESSURE GAUGE AND ADJUST RELIEF VALVE TO READ 2000 PSI. RECHECK PRESSURE SETTING TO VERIFY ADJUSTMENT.
13. LOAD TEST THE CRANE TO ENSURE PROPER FUNCTIONING AND TRUCK STABILITY.
14. MAKE CERTAIN THE OWNER'S MANUAL IS DELIVERED TO THE CUSTOMER.
15. 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 THE 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).

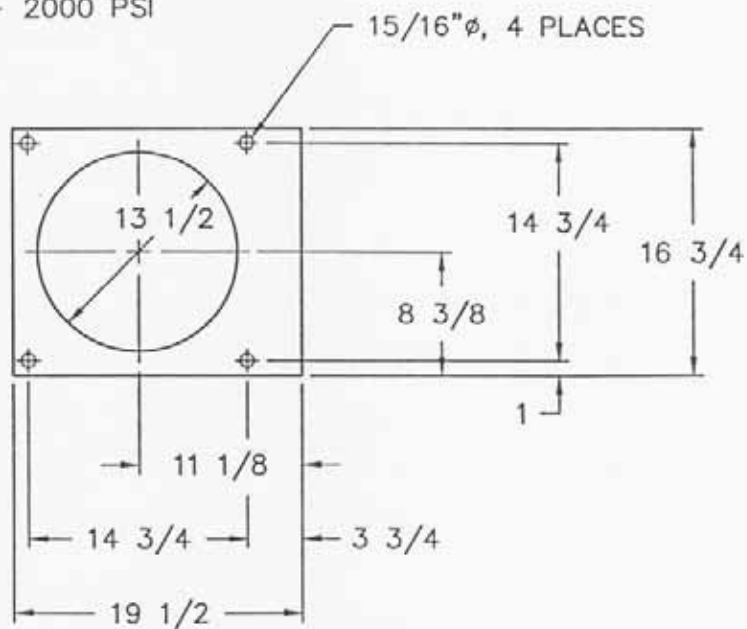


NOTES:

- A. MAX. TURNING RADIUS AT HOIST 26 5/8
- B. MAX. TURNING RADIUS AT SWING DRIVE 13 1/2

SPECIFICATIONS:

WEIGHT - 1500 LBS
 OPERATING PRESSURE - 2000 PSI
 OIL FLOW - 8 GPM



AW-085
GENERAL DIMENSIONS, 8005H

FIXTURE NO.	FINISH NO.	CHG LTR	REVISIONS	DESCRIPTION	DATE	APP'D

SECTION A-A

HOLE REQ'D FOR POWER CONDUCTOR

ADAPTER, ST. 1/2 NPT. - 3/4 - 16 JIC (360054) TYP. 2 PLC'S

- 3 3/4" - REF.

BOTTOM VIEW

-PRESSURE REDUCER 1/2 - 14 NPT. / 3/4 - 18 NPTF. (750413) SWIVEL JOINT-8 (750412)

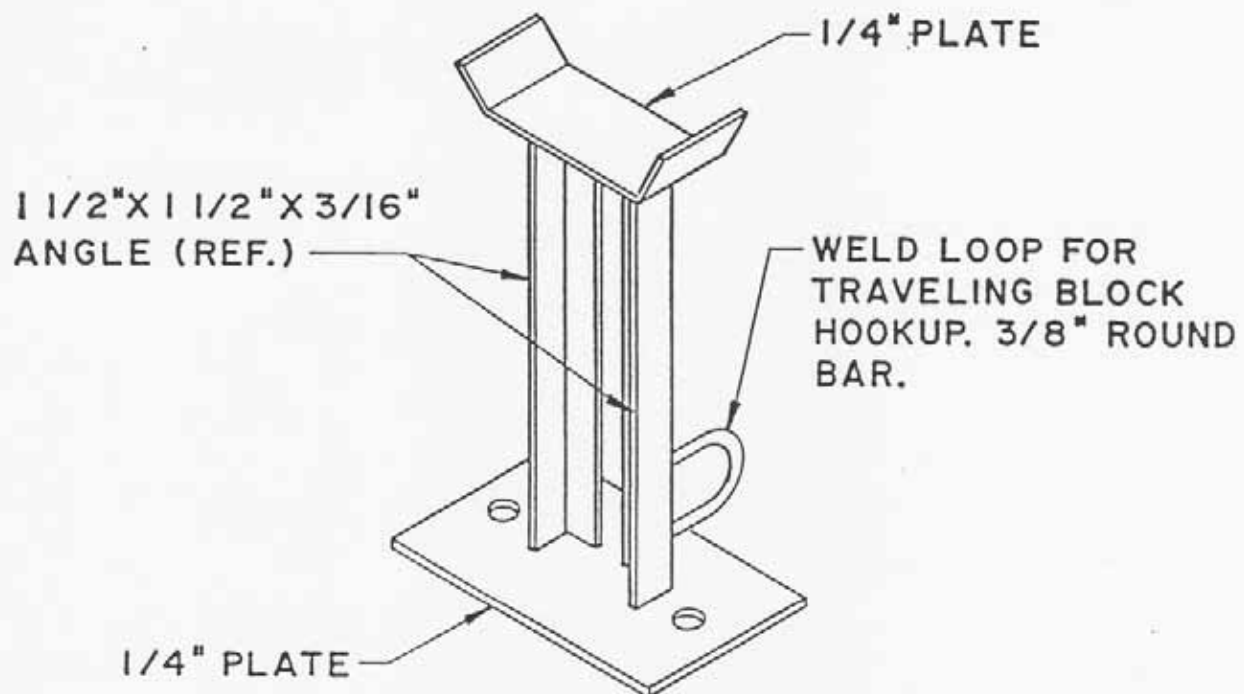
TOWARD CAB

REDUCER 1/2 - 14 NPT. / 3/4 - 18 NPTF. (750413) SWIVEL JOINT-8 (750412)

ITEM	QTY	D/S	PART NO.	DESCRIPTION		
LIST OF MATERIAL						
AUTO CRANE COMPANY						
<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> DRAWN BY: <i>R. J. [Signature]</i> DATE: 6-7-83 CHECKED BY: [Signature] DATE: [Blank] ENG. BY: [Blank] DATE: [Blank] </td> <td style="width: 50%;"> TITLE: BASE ASSEMBLY - 8005H SCALE: [Blank] SIZE: B DRAWING NO: AW-019 REVISION: [Blank] SHEET: 1 OF 1 </td> </tr> </table>					DRAWN BY: <i>R. J. [Signature]</i> DATE: 6-7-83 CHECKED BY: [Signature] DATE: [Blank] ENG. BY: [Blank] DATE: [Blank]	TITLE: BASE ASSEMBLY - 8005H SCALE: [Blank] SIZE: B DRAWING NO: AW-019 REVISION: [Blank] SHEET: 1 OF 1
DRAWN BY: <i>R. J. [Signature]</i> DATE: 6-7-83 CHECKED BY: [Signature] DATE: [Blank] ENG. BY: [Blank] DATE: [Blank]	TITLE: BASE ASSEMBLY - 8005H SCALE: [Blank] SIZE: B DRAWING NO: AW-019 REVISION: [Blank] SHEET: 1 OF 1					
UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: ANGLES ± 1/2° FRACTIONAL ± 1/16 .XX ± .040 .XXX ± .010 REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING. TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973 THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.						
NEXT ASSY				12/86		

AUTO CRANE'S SUGGESTED BOOM SUPPORT

LEAVE 3/4" CLEARANCE ON EACH SIDE OF BOOM



BOOM SUPPORT IS REQUIRED.

AUTO CRANE COMPANY

P.O. BOX 580697 TULSA OKLAHOMA 74158-0697
4707 N. MINGO ROAD 918-836-0463



INSTALLATION AND SETUP PROCEDURE DIGITAL PULSE WIDTH AMPLIFIER

Page 1 of 2
Revised
5/94

INSTALLATION:

1. Install amplifier at a convenient location near the proportional crane terminal strip (ref.: Owner's Manual, PROPORTIONAL CRANE WIRING DIAGRAMS) using two screws and lock nuts provided.
2. At the 12 station terminal block, disconnect all power to the system.
3. Connect the din connector plug to the proportional valve, making sure the gasket seals properly. Secure the plug to the proportional valve coil with screw. Attach wires per applicable wiring diagram.

ATTACH WIRES IN THIS ORDER: *(numbers are on 22 station terminal strip)*

1. Attach the **BLACK** wire to terminal "N" (#13)
2. Attach the **RED** wire to terminal "T" (#10)
3. Attach the **WHITE** wire to terminal "M" (#12)
4. Attach the **GREEN** wire to the **BROWN** wire from the proportional din connector plug using the bullet connector supplied

CAUTION: FAILURE TO DO SO MAY CAUSE PREMATURE AMPLIFIER FAILURE AND VOID WARRANTY.

- Observe all connections for proper installation before connecting power to the terminal block. Proceed to the set-up procedure.

SETUP:

1. Remove four screws on front plate of amplifier and remove front plate.
2. With power on, pull pendant trigger to full on position. Adjust potentiometer adjustment screw located next to the red light (see Figure 1) until light just turns off, then turn trim pot back until the light just comes on. The light should stay on during full trigger movement. Clockwise rotation of the trim pot will turn light off. Counter-clockwise rotation will turn the light on. This "tunes" the amplifier to the trigger potentiometer.
3. After warming the hydraulic system oil, determine which function should be used to set the low position switch (ROTATE USES THE LEAST AMOUNT OF PRESSURE). Activate that function with trigger released, and turn the lower range setting dial (REF. FIG 1: MARKED WITH "L" ON CIRCUIT BOARD) until the desired speed is reached. The "Zero" and the "F" on the dial are opposite ends of the switch. To adjust the low set point, **turn CLOCKWISE DIRECTION for INCREASED FLOW, COUNTER CLOCKWISE DIRECTION for DECREASED FLOW.** This adjusts the "Threshold Speed" for the trigger in the released position.



INSTALLATION AND SETUP PROCEDURE DIGITAL PULSE WIDTH AMPLIFIER

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Cont.

4. Operate the boom up function with trigger pulled back to the maximum position. Turn the high range setting dial (REF. FIG 1, MARKED WITH "H" ON CIRCUIT BOARD) until there is a noticeable decrease in speed, then back up one or two notches as desired. "Zero" is the maximum speed setting and "F" is the most reduced speed setting. To set the high range dial, **turn CLOCKWISE DIRECTION for DECREASED FLOW, COUNTER CLOCKWISE DIRECTION FOR INCREASED FLOW.** This operation adjusts the trigger "Dead Band" at the fully pulled position.
5. Replace cover and install screws. Make sure the amplifier wiring is secured and does not interfere with rotating hoses and electrical wiring.

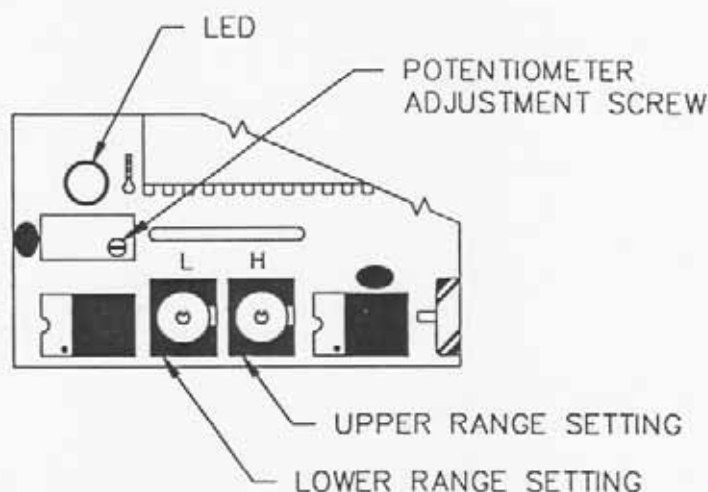


FIGURE 1

NOTES

OVERLOAD SYSTEM / ANTI-2-BLOCK

TROUBLE SHOOTING GUIDE

IF THE THREE FUNCTIONS, BOOM DOWN, HOIST UP AND EXTEND OUT, QUIT WORKING

the problem probably lies in either the Overload System or the Anti-2-block system or both. If these three functions are NOT WORKING and most other functions are, an investigation should be made as follows: (reference: Figure 1)

1 ANTI-2-BLOCK

A. Unplug the anti-2-block system from the overload system and connect A and B to bypass the anti-2-block system.

1. If the three functions work, check continuity of anti-2-block system using continuity tester at disconnected Weatherpack connectors, and investigate switch at end of boom, cable and cable reel.
2. If the three functions do not work, continue on with section #2.

2 LOAD SENSOR (Pressure Switch)

A. With crane unloaded, unplug weatherpack connector on load sensor wire.

1. If the three functions work, re-check the Pressure Switch by taking a ohm reading on the two wires coming from the Switch. The switch has normally open contacts, so the reading should be the maximum. If less than maximum ohm reading is indicated (usually a dead short), replace the Switch.
2. If the three functions do not work, continue with section #3.

3 RELAY BOX

A. Carefully open the black plastic box lid covering the overload system timer and relay.

Carefully remove the yellow wire terminal from tab #1.

1. If the three functions begin to work, connect the wire connector (yellow wire) to a ground to double check the operation of the relay switch. With the wire grounded the three functions should not work. With the wire ungrounded the system should work.
2. If the three functions do not work, replace the Relay and re-attach yellow wire to terminal #1.
3. If the three functions work with the new relay when it is installed but not when it is reconnected to the Time Delay Relay, re-attach yellow wire to terminal #1 and continue on with section #4.

4 TIME DELAY RELAY

A. With the black plastic box still open, remove the wires connected to terminals #6 and #7. Remove any dirt, corrosion and moisture from around terminals.

1. If the relay resets after this and the load sensor has been previously checked, spray area around terminals with protective coating before replacing box lid.
2. If the three functions still do not work, continue on with Item #B.

B. With the black plastic box still open, remove the wires connected to terminals #6 and #7.

OVERLOAD SYSTEM / ANTI-2-BLOCK TROUBLE SHOOTING GUIDE

1. Short between the terminals #6 and #7 with a screwdriver blade. The relay should "click" after approximately 2 seconds. When the blade is removed, the relay should reset in approximately 2 seconds.
- i. Operating correctly as above would mean the Solid State Timer is operating properly.
- ii. If the SS Timer does not operate as above replace the SS Timer.

5 BE SURE TO RE-CONNECT ALL WIRES BEFORE FINAL TESTING!

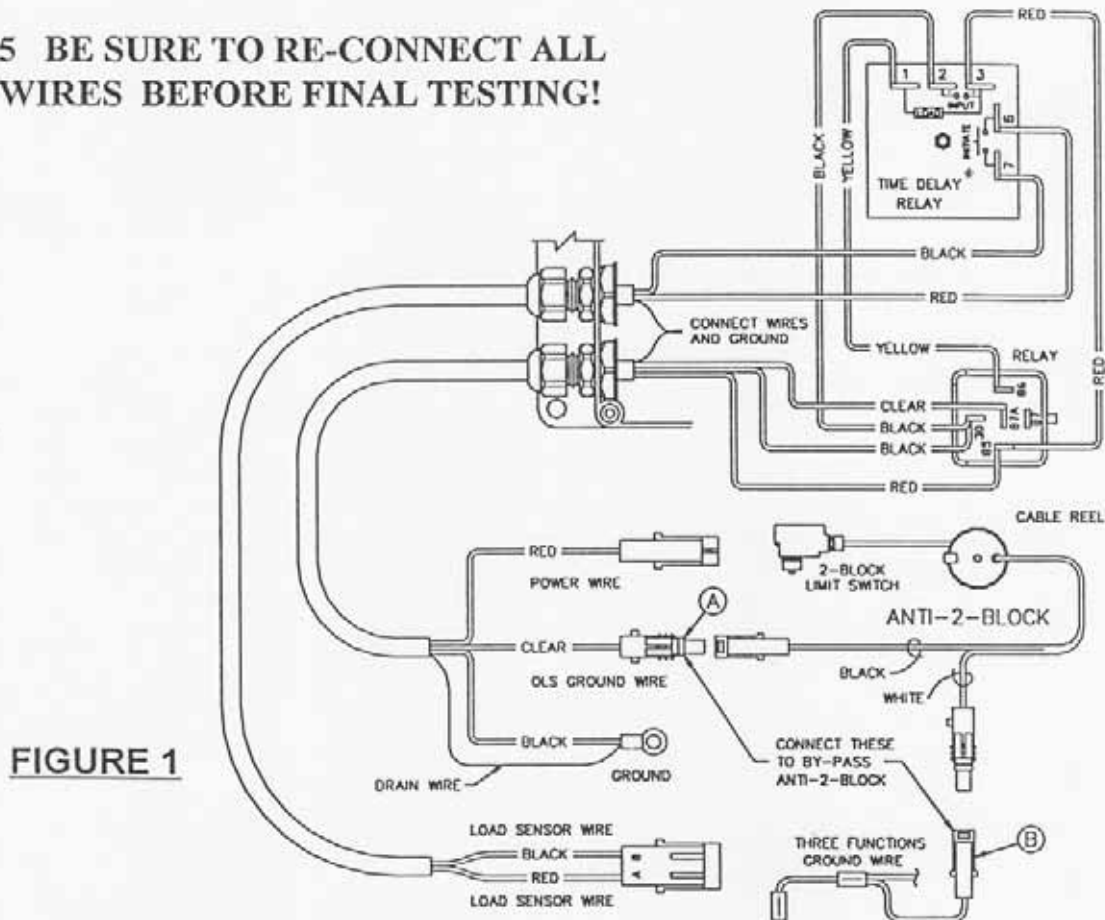


FIGURE 1

OPERATING PRINCIPAL: The three functions have their ground wires passing through the normally closed contacts on the relay. The ground of the relay coil is connected to the #1 terminal on the Solid State Relay. By connecting terminal #6 and terminal #7 the timing is initiated and the SS Timer "times out" (1 3/4 seconds) and connects terminal #1 to terminal #2. Terminal #2 is grounded, which grounds the relay coil and opens the normally closed contacts. This breaks the ground side of the circuit for the three valve functions. The SS Timer takes 1 3/4 seconds to reset after the initiation circuit is opened.

AW-366986
RELAY BOX ASSEMBLY

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	366985	ENCLOSURE, PLASTIC
2	2	366968	CONNECTOR, CORD
3	5'	366967	CORD, 3-WIRE 18 AWG WITH DRAIN
4	5'	366966	CORD, 2-WIRE 22 AWG WITH DRAIN
5	1	320351	RELAY, SOLID STATE TIMING
6	1	320355	RELAY, DROP OUT
7	1	005901	SCREW, HX HD 1/4-20NC X 1/2 LG.
8	1	020200	WASHER, SP LK 1/4
9	1	015900	NUT, HX 1/4-20NC
10	1	000602	SCREW, ROUND HD #6-32NC X 1 LG.
11	2	015400	NUT, HX #6-32NC
12	7	000405	TERMINAL FLAG
13	1	366978	CONDUCTOR ASSEMBLY (YELLOW)
14	4"	800566	WIRE, RED 18 AWG 600V
15	4"	800568	WIRE, BLACK 18 AWG 600V
16	1	366248	CONN. ASSY WEATHER PACK 1-WAY MALE 18-20
17	1	366249	CONN. ASSY WEATHER PACK 1-WAY FEMALE 18-20
18	1	366250	CONN. ASSY WEATHER PACK 2-WAY MALE 18-20
19	1	000601	TERMINAL, RING 10-3/8
20	3	750737	TIE, CABLE

OPTIMETER TROUBLE SHOOTING GUIDE

STIFF BOOM CRANES

FOLLOW THE TROUBLE SHOOTING SEQUENCE

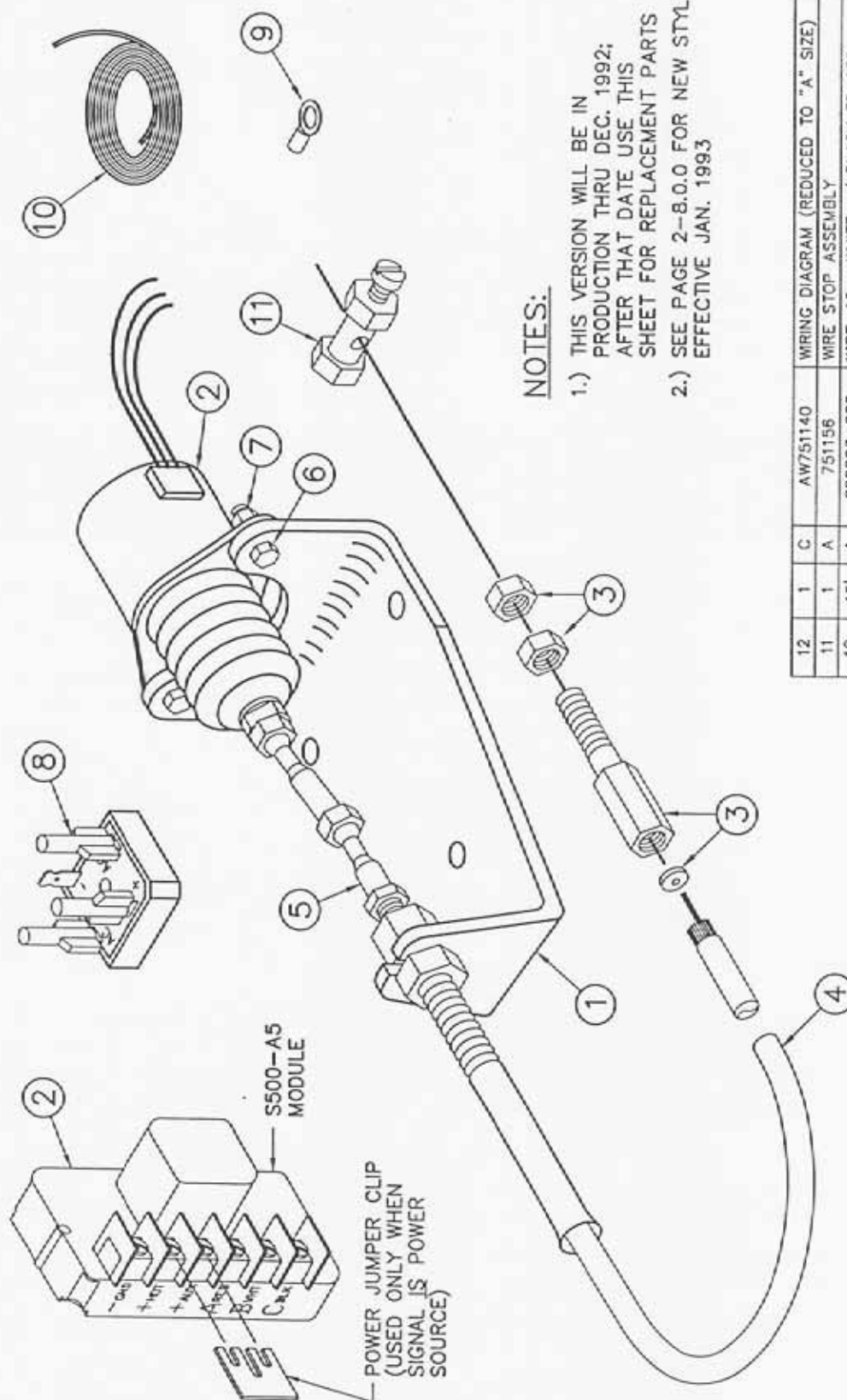
- 1 Obtain the proper wiring diagram and check wiring.
- 2 With truck running, check terminal "l" voltage.
 - A. If 12 - 13.75 volts, proceed.
 - B. If not, check for blown fuse or broken wires.
- 3 Install pendant, turn system power on (eight (8) switch pendants only), and check terminal "t" for truck voltage.
 - A. If truck voltage, proceed.
 - B. If no voltage or low voltage (less than truck voltage), make sure the power switch on the eight (8) switch pendant is in the "on" position. (Does not apply to four (4) switch pendant.)
 - C. Then, check for loose connection in the pendant or a broken wire in the pendant cable.
- 4 Disconnect bullet connector on line connecting green wire from amplifier to brown wire from proportional valve din connector. Then ground brown wire to a chassis ground. This will send maximum current thru proportional valve and should close it completely.

OR
- 5 Depress the manual operator pin on top of the valve with an allen wrench till valve closes completely.
- 6 Check for proper crane operation.
 - A. If crane operates properly, proceed.
 - B. If not, check coil resistance from pin to pin (should be 5.0 ohms) and from pin to ground ring on coil (should be infinite resistance). If resistance is much different than above, replace coil, then proceed.
 - C. Re-connect brown and green wire.
- 7 Check terminal "m" for 0.5 volts w/trigger released
 - A. Solid truck voltage at terminal "m" means a loss of ground. Search the ground wire for bad connections or breaks and repair.
 - B. If more than 0.7 volts or less than 0.2 volts w/trigger released, readjust trigger on pot shaft. (Note: care must be taken when handling the pot assembly to keep from breaking the wires at their attachment points.)
 - C. If voltage is correct w/trigger released, smoothly activate trigger looking for a smooth, gradual increase of voltage to near 5.0 volts at maximum pulled position (3.5 to 7 volts is OK).
 - D. If voltage is erratic and jumps up to truck voltage and back down during the trigger movement, replace potentiometer assembly.

OPTIMETER TROUBLE SHOOTING GUIDE

STIFF BOOM CRANES

- 8 Pull trigger and check for red light inside amplifier then perform the following adjustments with the trigger pulled to the maximum position:
 - A. Light off
 - Turn small trim pot screw ccw (left) till light just gets bright, then stop. (if 10 turns do not turn light on, look for more than 9 volts at term "m")
 - B. Light on
 - Turn small trim pot screw cw (right) till light just turns off, then turn ccw (left) till light just gets bright, then stop. (If 10 turns do not turn light off, look for less than 1 volt at term "m")
 - 9 Release trigger.
 - 10 Set two adjustment switches (hi & lo) to number "4". (One side of the switch knob has an indicator)
 - 11 The *LO* switch takes the "dead space" out of the beginning trigger activation, and will continue to raise the low signal to give half flow with the trigger at full released position. The higher the number or letter (0 thru f), the higher the flow to the crane with the trigger in the fully released position.
 - 12 The *HI* switch takes the "dead space" out of the full trigger position, and will continue to lower the high signal to half the flow at the maximum trigger pulled position. The higher the number or letter (0 thru f), the lower the flow to the crane with the trigger in the fully pulled position.
 - 13 A good starting position would be to have both switches on the number "4".
- NOTE:** Both switches on "F" will limit flow to a median value and not allow any change.



NOTES:

- 1.) THIS VERSION WILL BE IN PRODUCTION THRU DEC. 1992; AFTER THAT DATE USE THIS SHEET FOR REPLACEMENT PARTS
- 2.) SEE PAGE 2-8.0.0 FOR NEW STYLE EFFECTIVE JAN. 1993

ITEM	QTY	D/S	PART NO.	DESCRIPTION
12	1	C	AW751140	WIRING DIAGRAM (REDUCED TO "A" SIZE)
11	1	A	751156	WIRE STOP ASSEMBLY
10	15	A	800603-009	WIRE, 16ga WHITE w/ BLACK TRACER
9	8	A	000101	TERMINAL WIRE #6
8	1	A	751143-001	ISOLATOR MODULE ASSY
7	2	A	016300	NUT, HX-LOCK 1/4-20NC
6	2	A	005500	SCREW, HX HD 1/4-20NC x 3/4 LG
5	2	A	751137	BALL JOINT, STRAIGHT
4	1	A	751148	THROTTLE CABLE
3	1	A	751149	BULKHEAD FITTING
2	1	B	751141	12 VDC SOLENOID w/ CONTROL MODULE
1	1	C	751146	BRACKET, THROTTLE SOLENOID

**AW-180
THROTTLE SOLENOID ASSY**

THROTTLE CONTROL SOLENOID INSTALLATION

LOCATION

Follow these simple rules to properly locate your throttle control kit:

- 1 Mount the solenoid off the engine but within 46 inches of the throttle lever, to avoid engine vibration and high temperature components (more than 257 °F [125 °C]).
 - 2 Mount control module out of the engine compartment if possible. If not possible, mount the module as far away from high temperature components as possible. Maximum temperature range is 185 °F (85 °C).
 - 3 Route the flexible cable away from high temperature (220° F [105° C]) components such as exhaust manifolds.
 - 4 Avoid sharp bends in flexible cable. Bends should form a smooth arc (360° maximum) with a radius of 5 inches minimum.
- 1 Mount the solenoid and control module according to the recommendations in the "LOCATION" instructions.
 - 2 Electrically connect the solenoid to the control module and power source according to the wiring diagram.
 - 3 Mount the cable bracket and fasten the cable sheath to the bracket using the collar nut so the sheath does not turn during idle adjustment.

SET HIGH ENGINE IDLE SPEED NOTE:

Do not leave the aluminum adjustment nut tight against the solenoid body since this does not allow the cable to float.

- 1 Make sure the jam nut is loose and turn the aluminum adjustment nut clockwise until the high engine idle speed is reached.
- 2 Tighten the jam nut.
- 3 Check the throttle speed controller operation by rechecking the "normal" engine idle speed with the solenoid de-activated and the high engine idle speed with the solenoid activated.

CONTROLLING THE SOLENOID THROTTLE KIT

The throttle kit can be controlled remotely by applying a low current 12 VDC signal to the module "AUX" terminal.

Examples of activating signals are an air compressor pressure switch or a crane "dump valve" coil.

MOUNTING PROCEDURES

Use the following procedure to mount your throttle controller:

SYSTEM OPERATION

The control module allows the solenoid to operate as a continuous duty device. When the module is wired as recommended, applying 12 VDC to the "AUX" terminal applies voltage to the hold-in and pull-in coil of the solenoid. After 0.5 to 0.75 seconds, power is automatically removed from the pull-in coil. Power will remain at the hold-in coil

THROTTLE CONTROL SOLENOID INSTALLATION

until the 12 VDC signal is removed from the "AUX" terminal.

WARNING !! To avoid control module damage, always disconnect the module when you jump-start the vehicle with voltages that exceed 32 VDC.

TROUBLESHOOTING HINTS

If solenoid will not engage, check the following:

- 1 Check the stranded pull cable for damage (e.g., melted or crimped sheath)
- 2 Check the stranded pull cable for binding.
- 3 Check system voltage at the "+HOT" and "+AUX" terminals.
- 4 Check module terminals for proper voltage and operation. If the module does not meet the specifications shown below, replace it.

GND	Chassis Ground
+HOT	12 VDC at all times
+AUX	12 VDC required to activate solenoid
A RED	12 VDC when signal is present at "AUX" terminal
B WHT	12 VDC for 0.5 to 0.75 seconds after signal at "AUX" terminal is present
C BLK	Common for solenoid

CONTROL MODULE VOLTAGE MEASUREMENTS

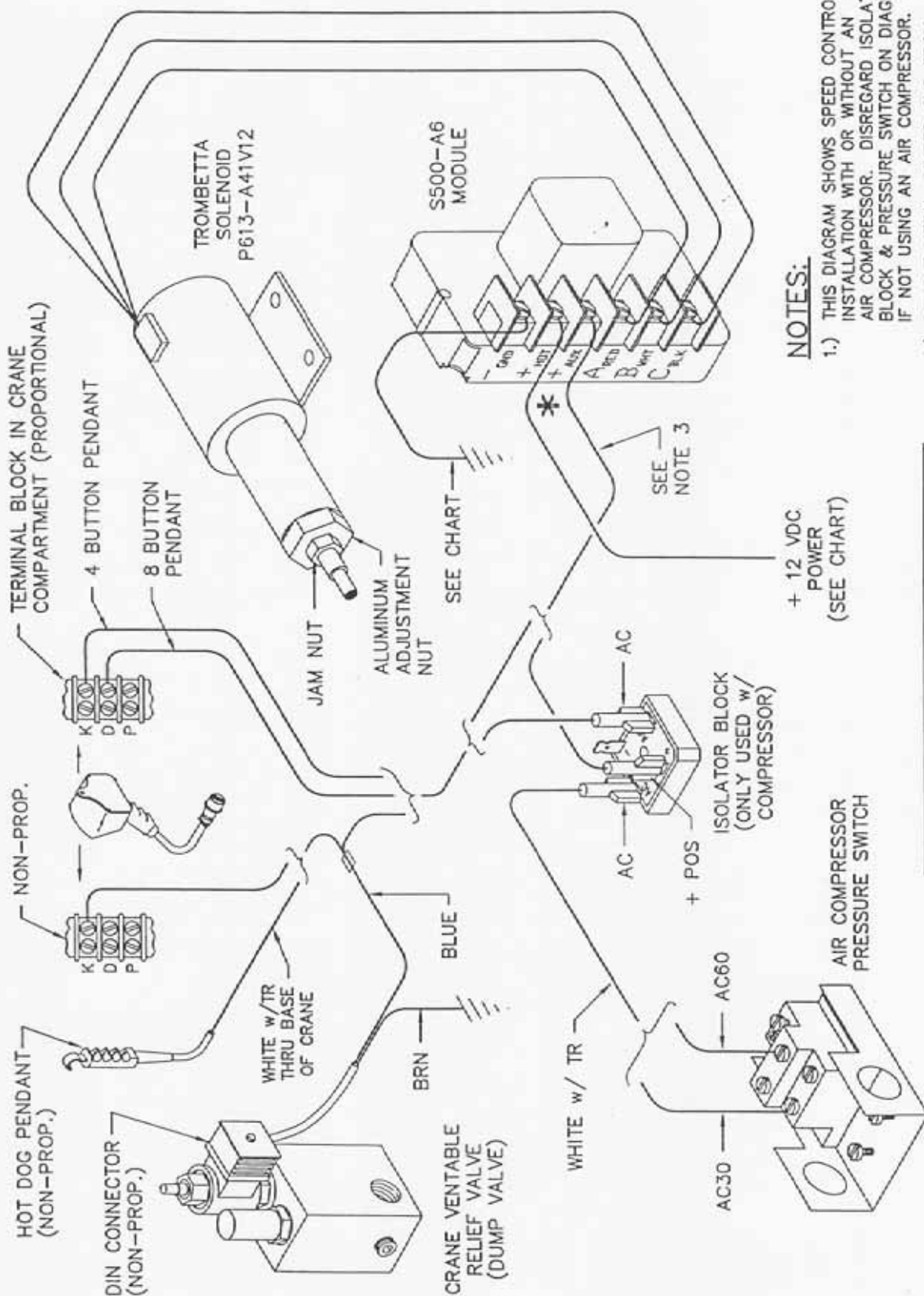
- 5 Check solenoid resistance (remove wires from module). If resistance is not within specifications listed below, replace the

A. White to Black wire - 0.17 ohms

B. Red to Black wire - 13 ohms

solenoid.

- 6 Make sure you have used the recommended wire length and gage (refer to the chart on AW751140)
- 7 Be sure cable is not bent beyond guidelines.
- 8 Check for proper adjustments.
- 9 Contact Auto Crane Company if you are unable to resolve the problem.



NOTES:

- 1.) THIS DIAGRAM SHOWS SPEED CONTROL INSTALLATION WITH OR WITHOUT AN AIR COMPRESSOR. DISREGARD ISOLATOR BLOCK & PRESSURE SWITCH ON DIAGRAM IF NOT USING AN AIR COMPRESSOR.
- 2.) REMOVE METAL JUMPER CLIP FROM CONTROL MODULE IF SO EQUIPPED (S500-A5)
- 3.) THE WIRE SIZE AND LENGTH TO "AUX" TERMINAL OF THE CONTROL MODULE IS NOT CRITICAL BECAUSE OF LOW CURRENT; 16-18 GAGE WIRE MAY BE USED.

*

MAXIMUM TOTAL WIRE LENGTH (ft)

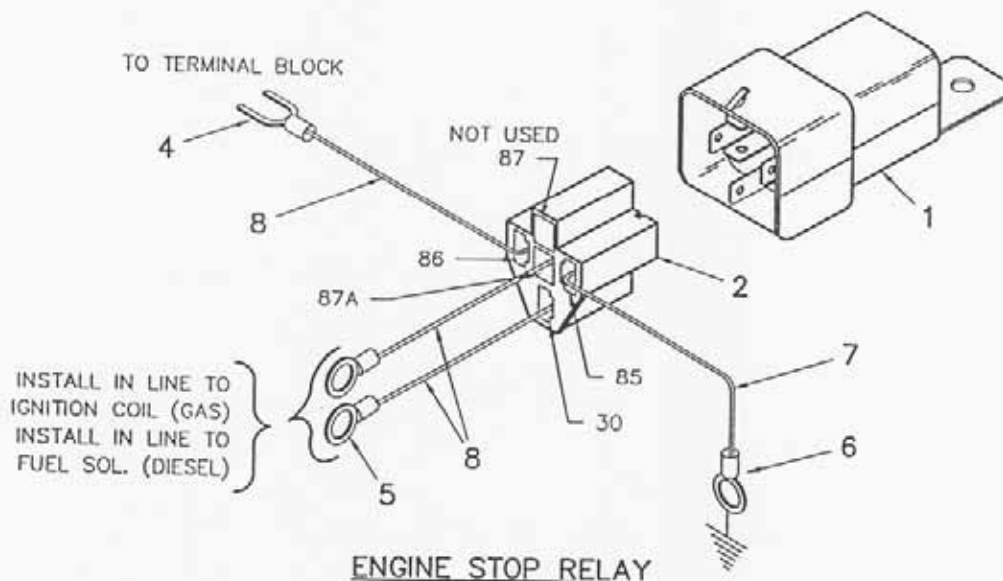
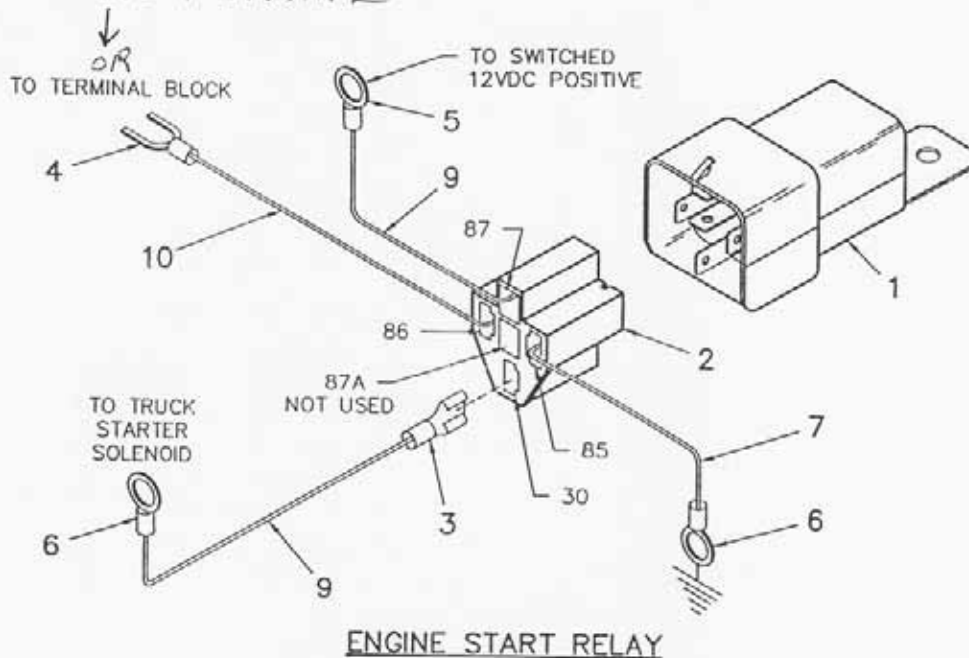
Total of "-GND" and "+HOT" wire length plus "B WHI" and "C BLK" wire length.

	12 Ga	10 Ga	8 Ga	6 Ga
12VDC	10 ft	16 ft	25 ft	40 ft

AW-751140 SPEED CONTROL KIT

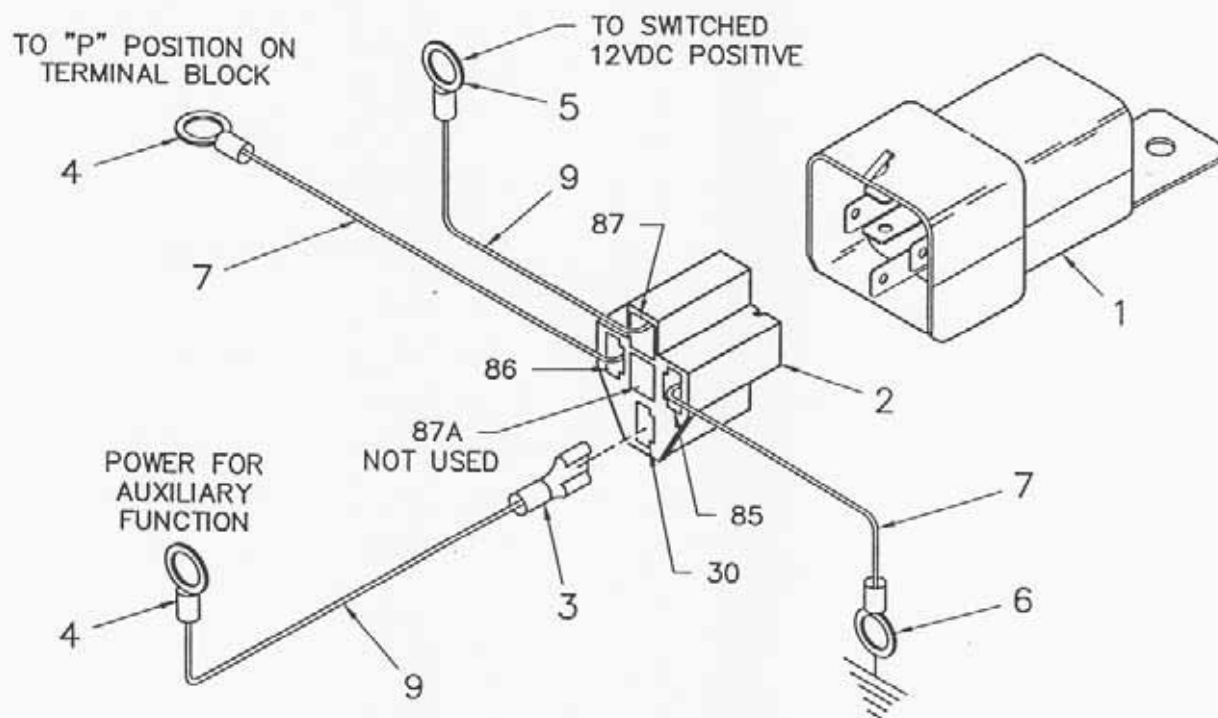
NOTES

TO 12 VOLT SIGNAL



ITEM	QTY	P/N	DESCRIPTION	ITEM	QTY	P/N	DESCRIPTION
1	2	320355	RELAY, 12V	6	3	000501	TERMINAL, RING 5/16
2	2	320363	PLUG, RELAY	7	6'	800595	WIRE, 16GA, GREEN
3	10	320357	CONN., FEM SPD LOCK	8	49'	800590	WIRE, 16GA, BLACK
4	2	480495	TERMINAL, FLG'D SPADE	9	17'	800593	WIRE, 16GA, RED
5	3	000402	TERMINAL, RING 1/4	10	35'	800594	WIRE, 16GA, BLUE

AW-480533
RELAY KIT
ENGINE START/STOP



ITEM	QTY	P/N	DESCRIPTION
1	1	320355	RELAY, 12V
2	1	320363	PLUG, RELAY
3	5	320357	CONN., FEM SPD LOCK
4	2	000101	TERMINAL, RING #6
5	1	000402	TERMINAL, RING 1/4

ITEM	QTY	P/N	DESCRIPTION
6	1	000501	TERMINAL, RING 5/16
7	38'	800595	WIRE, 16GA, GREEN
8	10'	800593	WIRE, 16GA, RED
9	25'	800592	WIRE, 16GA, WHITE

AW-480534
RELAY KIT
AUXILIARY

LIFE OF WIRELINE

So many variable factors can cause the deterioration of wire line cable that it is not possible to determine a definite life expectancy. Some of these factors are:

1. Load being handled
2. Corrosive conditions
3. Maintenance of the unit
 - A. Keep the sheaves turning freely
 - B. Maintain tension on cable to insure proper spooling
 - C. Avoid kinks in cable
 - D. Avoid abrasive action and contact with sharp corners
4. Frequency of use

Auto Crane units, with 8000 pound ratings, use 3/8 inch diameter galvanized pre-formed 7 x 19 aircraft cable. This cable has a working strength, when new, of 14,400 pounds. It is recommended when 4000 pound loads are exceeded to use a two part line with a traveling block. This will ensure a 3.6 to 1 safety factor when the cable is new.

Keeping the above factor of safety in mind and knowing the kind of loads that will be handled, the user can determine by inspection of the cable as to when it should be replaced.

Items to look for while inspecting the cables are:

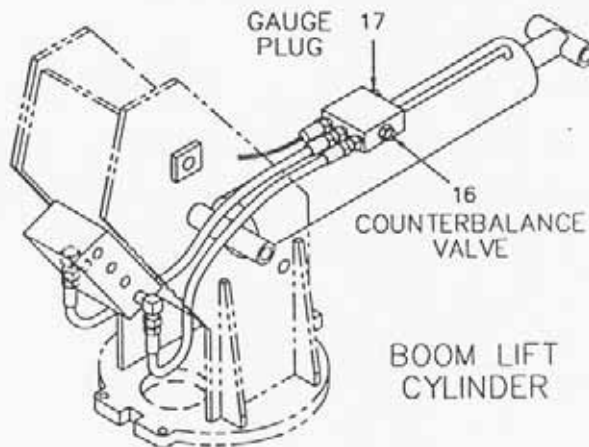
1. Broken strands
2. Kinks and flattened sections
3. Corrosion and abrasion

NOTES

HYDRAULICS -8005H

Counterbalance Valve Adjustment *Notice:*

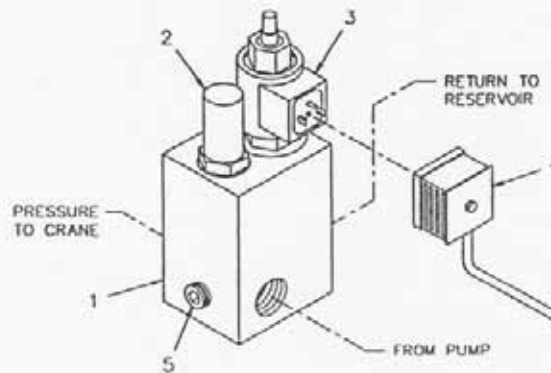
- With PTO disengaged and boom properly supported, remove O-ring plug (item 17) shown on Boom-Up illustration. Install a pressure gauge (0-2500 psi) into the port.
- Engage PTO and insure pump flow is 8 to 9 GPM and main relief is set to 2000 psi. With no load on boom, boom up to an angle of 70 degrees. Boom down and note pressure. If pressure reading is not approximately 1000 PSI, the counterbalance valve requires adjustment.
- To increase the CB valve setting, loosen nut and turn Allen head screw counter clockwise. (Reference item 16, located on the side of the CB valve block towards the right side of the boom.)
- To reduce the CB valve setting, loosen nut and turn Allen head screw clockwise.
- Tighten nut on adjustment screw and repeat procedure if needed to obtain the proper pressure setting.
- Disengage PTO, remove the pressure gauge and install -6 plug. Crane is now ready for operation.
- In an EMERGENCY situation when it becomes necessary to lower the boom without flow present, the CB valve adjustment can be turned in until the boom begins to descend. Make sure the boom will lower onto a proper support. Loosen the lock nut and carefully turn adjustment screw clockwise! Count the number of turns. *Turn slowly until the boom just begins to lower, and remove hand/arm/fingers from crane while boom is lowering.*
- Turning adjustment screw too far will cause valve to come apart on the inside. This condition is not repairable.
- After boom is lowered, turn adjustment screw counter clockwise the approximate number of turns made during lowering procedure. After the problem is corrected, re-adjust the counterbalance valve using the procedure in this manual.



HYDRAULICS -8005H

Vented Relief Valve Setting

- The crane must receive 8 to 9 Gallons Per Minute (GPM) and 2000 psi. To assure proper flow, install an in-line flow meter between the crane and the reservoir in the return hose, or confirm correct pump speed (or engine speed w/ PTO ratio multiplied). Proper pressure setting for units without proportional control can be achieved by, with PTO disengaged, removing the plug, item 5, and installing a 2500 psi gauge. Test the pressure by fully retracting the cylinder and holding Boom-In function while reading

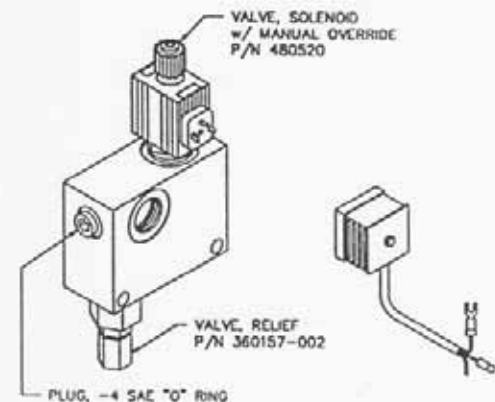


NON-PROPORTIONAL "DUMP VALVE"
the gauge.

- The boom can now be retracted fully and the switch held in retract position until full pressure is reached and the pressure gauge is checked. If the gauge is not 2000 PSI, adjust the vented relief valve (P/N 480135). Verify this setting by operating the retract switch a few times and checking the pressure setting.
- Disengage PTO. Remove gauge and re-install the pipe plug. Crane is now ready for use.

Proportional Relief Valve Setting

- The crane must receive 8 to 9 Gallons Per Minute (GPM) and 2000 PSI. to assure proper flow, install an in-line flow meter between the crane and the reservoir in the return hose, or confirm correct pump speed (or engine speed w/PTO rotation multiplier).
- Proper pressure setting for the proportional control relief valve can be achieved by, with PTO disengaged, removing the -4 SAE plug, and installing a 2500 PSI gauge.



HYDRAULIC MANIFOLD ASSEMBLY
PROPORTIONAL

Test the pressure by pulling the trigger all the way back towards the handle and operating the boom down switch while reading the gauge. Double check the setting by operating the manual override located on the top of the proportional valve (using an Allen wrench or something similar to press the steel button) and simultaneously operate the boom retract function. If the reading is higher, check the proportional system troubleshooting section of this manual to find out why the valve was not fully closing.

- If it is the same, with PTO disengaged, remove the gauge and re-install the plug. The crane is now ready for use.

HYDRAULIC TROUBLESHOOTING - 8005H

CAUTION: Never check for hydraulic leaks by feeling around hoses, fittings, or any other components. High pressure oil can be injected through the skin causing severe injury, or death.

The hydraulic system of the 8005H power version is electrically operated and requires a minimum of 12V for satisfactory performance. The hydraulic pump is bi-rotational with a pressure relief setting of 2000 psi (Ref.). Standard pump speed is 1000 RPM (Ref. Pump P/N 480018). This pump is for direct flange mounting only. It is not to be shaft driven unless an outboard bearing is installed, Auto Crane Kit P/N 480006 (Ref. page 6-5.0.0).

PROBLEM

SOLUTION

FLOW PRESENT BUT FUNCTION WILL NOT WORK

Remove valve cover (P/N 480160, Item 7, Page 4-1.0.0) to gain access to the manual override on the end of the valve cartridge (Ref. AW-480184). If the pump is operating, operate the relief valve manual override or the proportional valve override and push and twist (CCW) the directional control valve manual override to unlock, then pull to operate the function. If the function does operate, check for loose wire, low voltage or bad ground. If the problem is traced to no voltage at the valve cartridge, remove pendant and with the switch engaged, check for an open circuit with an ohmmeter. If the circuit is open, check for broken wiring or bad switch. If the function does not operate, see the "NO FLOW" paragraph in this section.

HYDRAULIC "CHATTER"

When a hydraulic function is engaged and causes the crane to "chatter", check for loose wire, low voltage at valve cartridge, low pump pressure, or air in the system.

NO FLOW OR LIMITED FLOW TO CRANE

Check for adequate oil supply in reservoir. Check operation of bypass system by pressing manual override on solenoid valve operator on vented relief valve or proportional valve while operating crane. If crane functions, check for 12V at vented relief valve solenoid when operating a function, or follow proportional trouble shooting procedure for the proportional valve. If low flow condition continues to exist when the manual override is operated, remove relief valve cartridge and check for dirt. Other possible causes for a low flow condition are:

1. Engine speed is too slow.
2. A blocked pressure hose from pump. This condition can be identified by excessive lugging of engine and rapid overheating of oil.
3. Collapsed or blocked suction hose to pump. This condition is usually identified by pump cavitation noise.
4. Bad pumps: a bad pump will usually have some flow but the flow will drop off rapidly as pressure increases. This condition will cause overheating of the system. A drop of four (4) or more GPM from Zero (0) PSI to Two Thousand (2000) PSI is cause for pump investigation

HYDRAULIC TROUBLESHOOTING - 8005H

NO PRESSURE OR TOO LOW PRESSURE

Check to maintain adequate oil in reservoir (approx. 8 gal.), using the sight gauge. Make sure pressure gauge is functioning correctly. Possible relief valve stuck open. Check for excessive leakage and correct. Check to ensure that pressure limit switch is correctly set.

TOO HIGH FLOW

Make sure pump size is correct and pump speed is not too fast (Consult manufacturer's data sheet). Check or replace flow control. Check components for flow displacements. High flow may cause erratic valve operation.

TOO HIGH PRESSURE

Make sure pressure relief valve is correctly set.

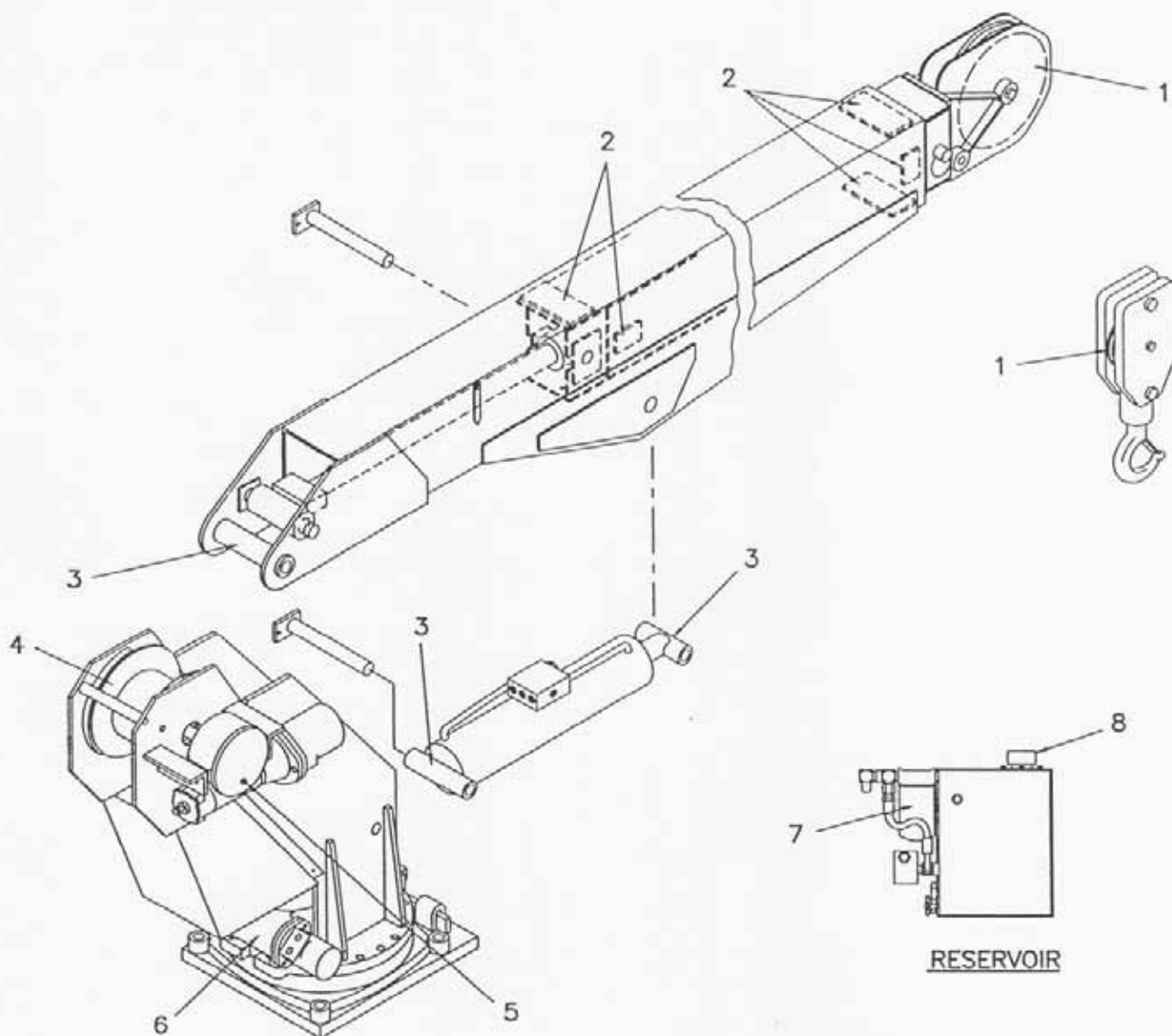
CAUTION

The Auto Crane 8005H series cranes are manufactured with a standard overload protection system to prevent structural damage to the crane. When the crane load rating is exceeded, main boom down, extend out, and hoist up will not function. These operations cannot be used again until the load on the crane is reduced. Also, the main boom elevation will be limited in its operation as the crane becomes overloaded. Attempting to raise the main boom with a load greatly exceeding the crane rating will open the main relief valve resulting in no boom movement. This problem can be resolved by moving the load closer to the crane pedestal, or reducing the load.

LUBRICATION & MAINTENANCE SCHEDULE 8005H CRANE

SERVICE PERFORMED	DAILY	WEEKLY	3 MONTHS	6 MONTHS	1 YEAR	NOTES
LOAD HOOK	X					INSPECT HOOK & LATCH FOR DEFORMATION, CRACKS, & CORROSION
CABLE DRUM	X					MAKE SURE CABLE IS WOUND EVENLY ON DRUM
HOIST CABLE	X					CHECK FOR FLATTENING, KINKS, & BROKEN STRANDS, SEE MANUAL
HYDRAULIC HOSES	X					VISUAL INSPECTION
HYDRAULIC FLUID	X					CHECK FLUID LEVEL
MOUNTING BOLTS		X				CHECK-TORQUE TO 440 FT-LBS (DRY) AS REQUIRED
ROTATION RING GEAR		X				LUBE WITH MOBILTAC LL, OR LUBRIPLATE P/N 15263, OR EQUIV.
SHEAVE BEARINGS		X				SEALED BEARING, REPLACE IF ROUGH OR LOOSE
ALL OTHER BOLTS		X				CHECK-TIGHTEN AS REQUIRED
BOOM PIVOTS		X				GREASE WITH MOBILPLEX EP-2 OR EQUIV @ ZERKS
BOOM CYLINDER		X				CHECK AROUND CYLINDER ROD FOR EXCESS FLUID LEAKAGE
BOOM CYLINDER PINS		X				GREASE WITH MOBILPLEX EP-2 OR EQUIV @ ZERKS
EXTENSION DETENT PIN		X				LUBE DETENT SPRING & BALL W/ WD-40
RETURN LINE FILTER			X			REPLACE ELEMENT
HI-PRES. FILTER			X			CLEAN AFTER FIRST WEEK, THEN EVERY 3 MONTHS (OPT EQUIP)
ROTATION BEARING			X			GREASE WITH MOBILPLEX EP-2 OR EQUIV @ ZERKS
ROTATION BRNG BOLTS			X			CHECK-TORQUE TO 150 FT- LBS AS REQUIRED
ROTATION GEAR BOX			X			CHECK-TORQUE TO 85 FT-LBS AS REQUIRED
ROTATION GEAR BOX				X		EP GEAR LUBE SAE 140
HOIST GEARBOX				X		WORM GEAR-EP GEAR LUBE SAE 80-90
HYDRAULIC FLUID					X	DRAIN, FLUSH, & REFILL WITH MOBIL DTE 13, OR EQUIV.
BOOM SLIDE PADS						PADS GREASED WHEN REPLACED
FOR ADDITIONAL INFORMATION SEE:						1) OWNER'S MANUAL 2) OSHA SECTION 1910.180 3) ANSI B30.5-1989

NOTES



1. SHEAVE ROLLER BEARINGS:
SEALED TYPE, NO LUBE REQUIRED.

2. BOOM PADS:
IF REPLACED, GREASE UPON INSTALLATION WITH
CHASSIS LUBRICANT.

3. PIVOT POINT GREASE ZERKS:
LUBE ONCE A WEEK WITH MOBILPLEX EP-2
OR EQUIVALENT.

4. HOIST ROLLER BEARINGS:
SEALED TYPE, NO LUBE REQUIRED.

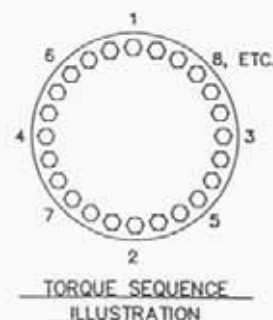
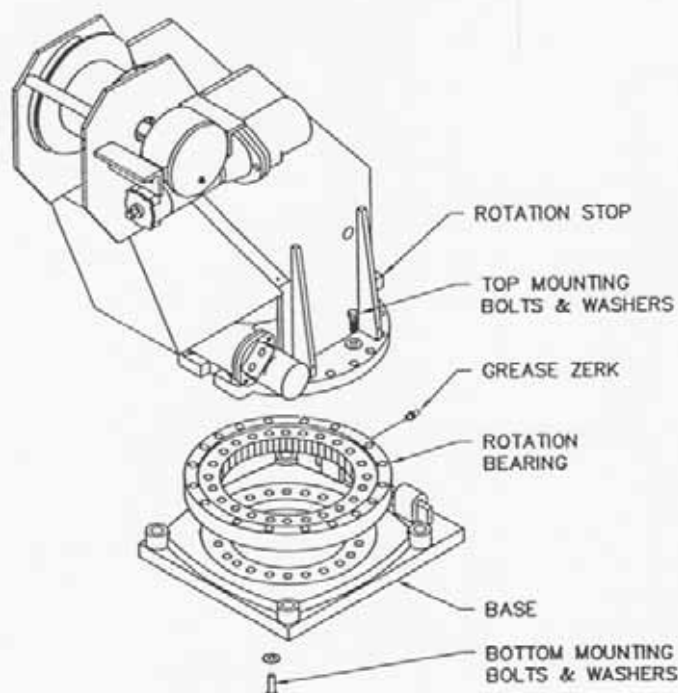
5. HOIST ACTUATOR:
MAINTAIN GEAR BOX LUBRICANT AT FILL PLUG.
USE ONE PINT OF EP GEAR LUBE SAE 80-90.
REPLACE EVERY SIX MONTHS.

6. ROTATION ACTUATOR:
MAINTAIN OIL LEVEL OF 1 1/2 PINTS OF
EP GEAR LUBE, SAE 140.
REPLACE EVERY SIX MONTHS.

7. RESERVOIR FILTER:
10 MICRON SPIN ON FILTER REQUIRED. REPLACE
EVERY THREE MONTHS. SEE RESERVOIR ASSEMBLY
FOR PART NUMBER.

8. HYDRAULIC FLUID:
USE DTE-13 OR EQUIVALENT. KEEP LEVEL AT
SIGHT GAUGE. RESERVOIR SHOULD BE FLUSHED
AND NEW FLUID ADDED ONCE A YEAR, OR IF
A HYDRAULIC FAILURE OCCURS.

AW-015 LUBRICATION MAINTENANCE



LUBRICATION OF ROTATION BEARING

RACE

1. LUBRICATE BEARING RACE AT THE GREASE ZERK LOCATED ON THE OUTSIDE OF THE ROTATION BEARING DIRECTLY UNDER THE ROTATION STOP OF THE PEDESTAL.
2. LISTED IN THE CHART BELOW ARE SEVERAL LUBRICANTS WHICH ARE ACCEPTABLE FOR BOTH RUST INHIBITING AND EXTREME PRESSURE CHARACTERISTICS.
 - A. LUBRICATE THE BEARING DAILY IF THE CRANE IS USED ON A DAILY BASIS.
 - B. LUBRICATE THE BEARING EVERY 30 DAYS IF THE CRANE IS USED INTERMITTENTLY.
 - C. ROTATE THE BEARING THROUGH TWO OR MORE ROTATIONS DURING LUBRICATION PROCESS.

GEAR

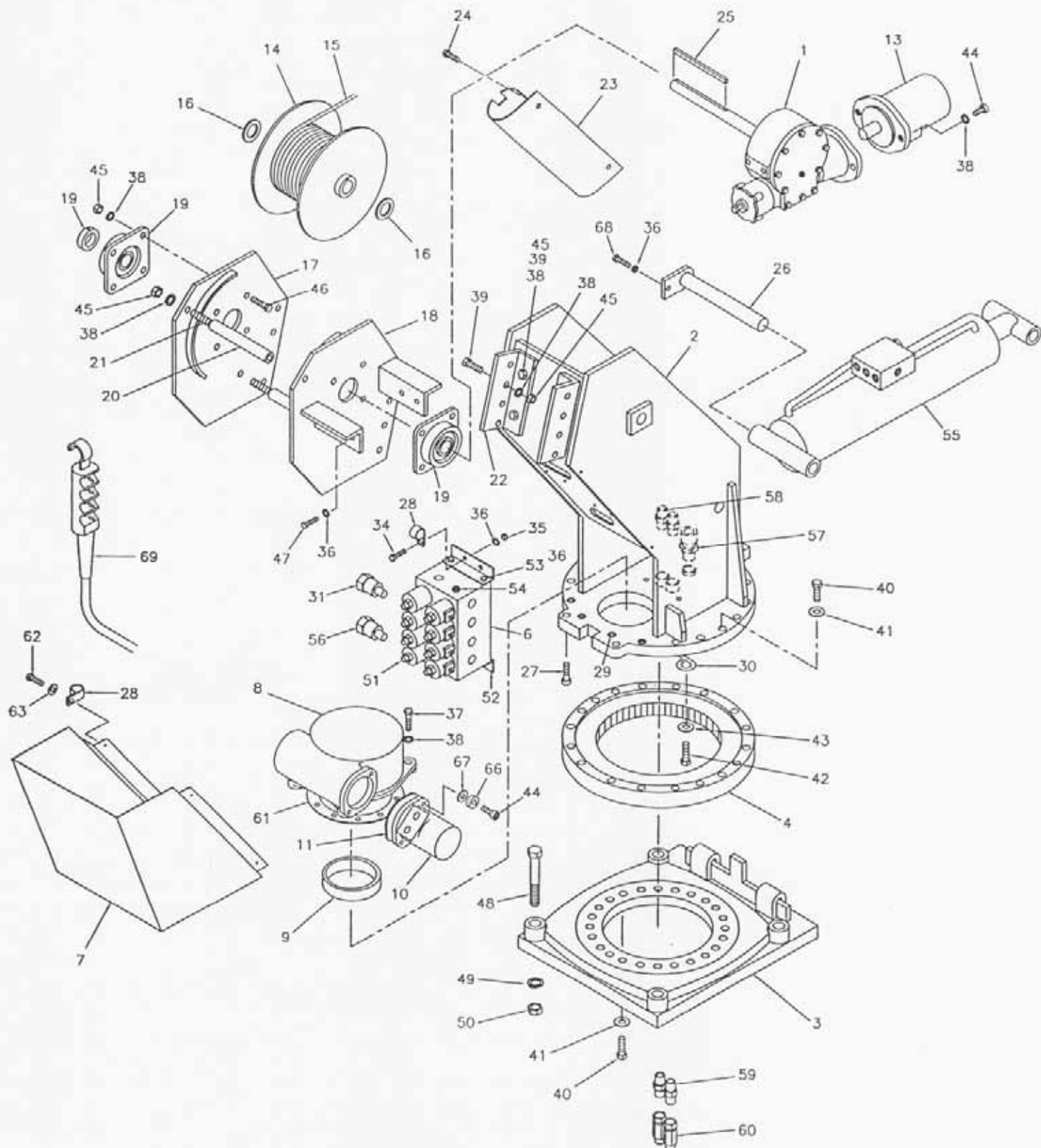
1. THE CHART BELOW LISTS SEVERAL LUBRICANTS FOR THE GEAR. IT IS RECOMMENDED THAT THE TEETH BE LUBRICATED WITH A SMALL AMOUNT OF GREASE EVERY 8 HOURS IF THE CRANE IS USED DAILY. THE GREASE IS PURGED FROM THE TEETH BY THE VERY NATURE OF BEING EXPOSED TO THE ELEMENTS. THEREFORE CLOSE ATTENTION TO THE GEAR LUBRICANT WILL PROVIDE A LONGER TOOTH LIFE. GREASE THE GEAR TEETH AT THE PINION LOCATION.

	MOBIL	TEXACO	SUNOCO	PURE	SOHIO
RACE	MOBILPLEX EP #2	MARFAC MP #2	PRESTIGE 742EP	POCO HT EP #2	SOHITRAN EP #1
GEAR	MOBILCOTE-S	CRATER COMPOUND	407 COMPOUND B	POCO GEARSHIELD	SOHITAC #1

INSTALLATION OF ROTATION BEARING

1. MAKE SURE MOUNTING SURFACES ARE FLAT AND CLEAR OF DEBRIS.
 2. INSTALL BEARING SUCH THAT THE GREASE ZERK ON THE BEARING IS LOCATED DIRECTLY UNDER THE ROTATION STOP OF THE PEDESTAL.
 3. INSTALL TOP AND BOTTOM BOLTS AND FLAT WASHERS. ALL BOLTS MUST BE GRADE 8 AND USED WITH HARDENED FLAT WASHERS. REFER TO PEDESTAL ASSEMBLY FOR PART NUMBERS.
 4. SNUG ALL BOLTS, THEN TIGHTEN ACCORDING TO THE TORQUE SEQUENCE ILLUSTRATION UNTIL ALL BOLTS ARE TORQUED TO 150 FT.-LBS (NON-PLATED) OR 110 FT.-LBS (PLATED).
- NOTE: BOLTS SHOULD BE CHECKED PERIODICALLY AND RETIGHTENED TO PROPER TORQUE.
5. GREASE THE ROTATION BEARING ACCORDING TO LUBRICATION INSTRUCTIONS AT LEFT.
 6. SET BACKLASH OF THE ROTATION ACTUATOR AND THE ROTATION BEARING AT THE HIGH POINT OF THE ROTATION BEARING GEAR TEETH. IDENTIFIED BY A YELLOW PAINT MARK ON THE TEETH.

AW-172 ROTATION BEARING MAINTENANCE



AW-480000
PEDESTAL ASSEMBLY, 8005H
NONREMOVABLE PENDANT

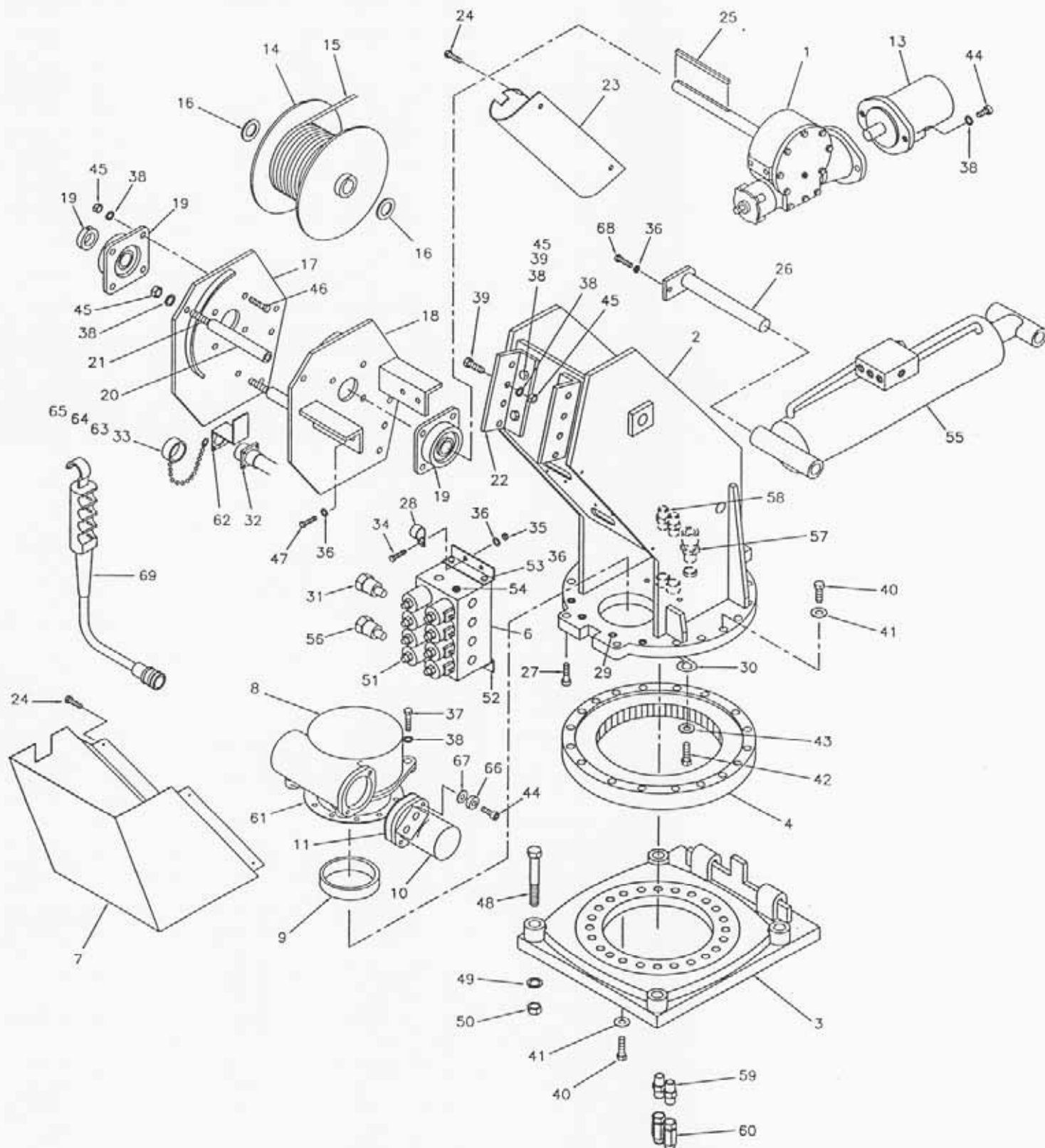
8005H PEDESTAL ASSEMBLY AW-480000

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480075	ACTUATOR, HOIST
2	1	480050	PEDESTAL WELDMENT ASSEMBLY
3	1	480040	BASE PLATE ASSEMBLY
4	1	480023-002	BEARING, ROTATION
5	-	-	-
6	1	480313	MANIFOLD, BLOCK
7	1	480160	COVER, VALVE
8	1	480028	GEAR BOX, ROTATION
9	1	360162	RING, ECCENTRIC
10	1	480027	MOTOR, HYDRAULIC (ROTATION)
11	1	480019	GASKET, MOTOR
12	-	-	-
13	1	480076	MOTOR, HYDRAULIC (HOIST)
14	1	480066	DRUM, HOIST
15	1	480031	CABLE ASSEMBLY (3/8")
16	2	480073	SPACER, WINCH SHAFT
17	1	480064	SIDE PLATE - LEFT
18	1	480062	SIDE PLATE - RIGHT
19	2	480077	BEARING, 4-BOLT
20	2	480069	SPACER, TUBE
21	2	480070	ROD, SPACER
22	2	480072	BRACKET, MOUNTING
23	1	634000	GUARD, PENDANT
24	5	002615	SCREW, HEX HD. 1/4-20NC x 3/8 LG. SELF TAPPING
25	1	480094	KEY, SQ. 3/8
26	1	366191	PIN, PEDESTAL/CYLINDER
27	2	009118	SCREW, SOC. HD. 1/2-13NC x 2" LG. GR.5
28	2	480024	MOUNT, PENDANT RETAINER
29	4	006205	SCREW, SOC. HD. 5/8-11NC x 1 1/4 LG. GR.5
30	1	360207	RETAINER, ECCENTRIC RING
31	1	480183	CARTRIDGE, FLOW REGULATOR (480183-001, SEAL KIT)
32	1	480597	RECEPTACLE ASSEMBLY
33	1	480547	CAP, PENDANT RECEPTACLE
34	4	008701	SCREW, HEX HD. 3/8-16NC x 1" LG.
35	4	017100	NUT, HEX 3/8-16NC
36	9	021100	WASHER, SP. LK. 3/8
37	2	011608	SCREW, HEX HD. 1/2-13NC x 2" LG. GR.5
38	30	021500	WASHER, SP. LK. 1/2
39	12	010201	SCREW, HEX HD. 1/2-13NC x 1 1/2 LG. GR.5
40	38	012198	SCREW, HEX HD. 5/8-11NC x 1 3/4 LG. GR.8
41	38	023902	WASHER, FL. 5/8 HARDENED
42	1	007402	SCREW, HEX HD. 5/16-18NC x 5/8 LG. GR.5
43	5	020600	WASHER, SP. LK. 5/16
44	4	012197	SCREW, SOC. HD. 1/2-13NC x 1 1/2 LG. GR.5
45	24	017701	NUT, HEX 1/2-13NC
46	8	011605	SCREW, HEX HD. 1/2-13NC x 1 3/4 LG. GR.5
47	4	008601	SCREW, HEX HD. 3/8-16NC x 7/8 LG. GR.5
48	4	015104	SCREW, HEX HD. 7/8-14NF x 5" LG. GR.8

8005H PEDESTAL ASSEMBLY AW-480000

ITEM	QTY.	PART NO.	DESCRIPTION
49	4	022200	WASHER, SP. LK. 7/8
50	4	018900	NUT, HEX 7/8-14NF
51	8	480184	VALVE, CARTRIDGE
52	2	REF.	BRACKET, MANIFOLD
53	4	REF.	SCREW, HEX HD. 3/8-16NC x 3/4 LG.
54	1	000109	PLUG, PIPE 3/8
55	1	480377	CYLINDER, BOOM (COMPLETE)
	1	480377-001	CASE ASSEMBLY
	1	480377-002	SHAFT ASSEMBLY
	1	480377-003	HEAD GLAND
	1	480377-004	PISTON
	1	480376	SEAL KIT
56	1	480314	CARTRIDGE, CHECK VALVE
57	1	370433	CONNECTOR, CORD
58	2	360054	ADAPTER
59	2	750413	REDUCER
60	2	750412	SWIVEL JOINT
61	1	480011	SEAL, ROTATION ACTUATOR
62	1	002608	SCREW, HEX HD. 1/4-20NC x 3/4 LG. SELF TAPPING
63	1	020901	WASHER, FLAT 5/16
64	-	-	-
65	-	-	-
66	2	021502	WASHER, SP. LK. 1/2 (HI-COLLAR)
67	2	021601	WASHER, FLAT 1/2
68	1	366158	SCREW, HEX HD. 3/8-16NC x 3/4 LG. GR.8
69	1	480093	PENDANT ASSEMBLY

NOTES



AW-480000-100
PEDESTAL ASSEMBLY, 8005H
REMOVABLE PENDANT

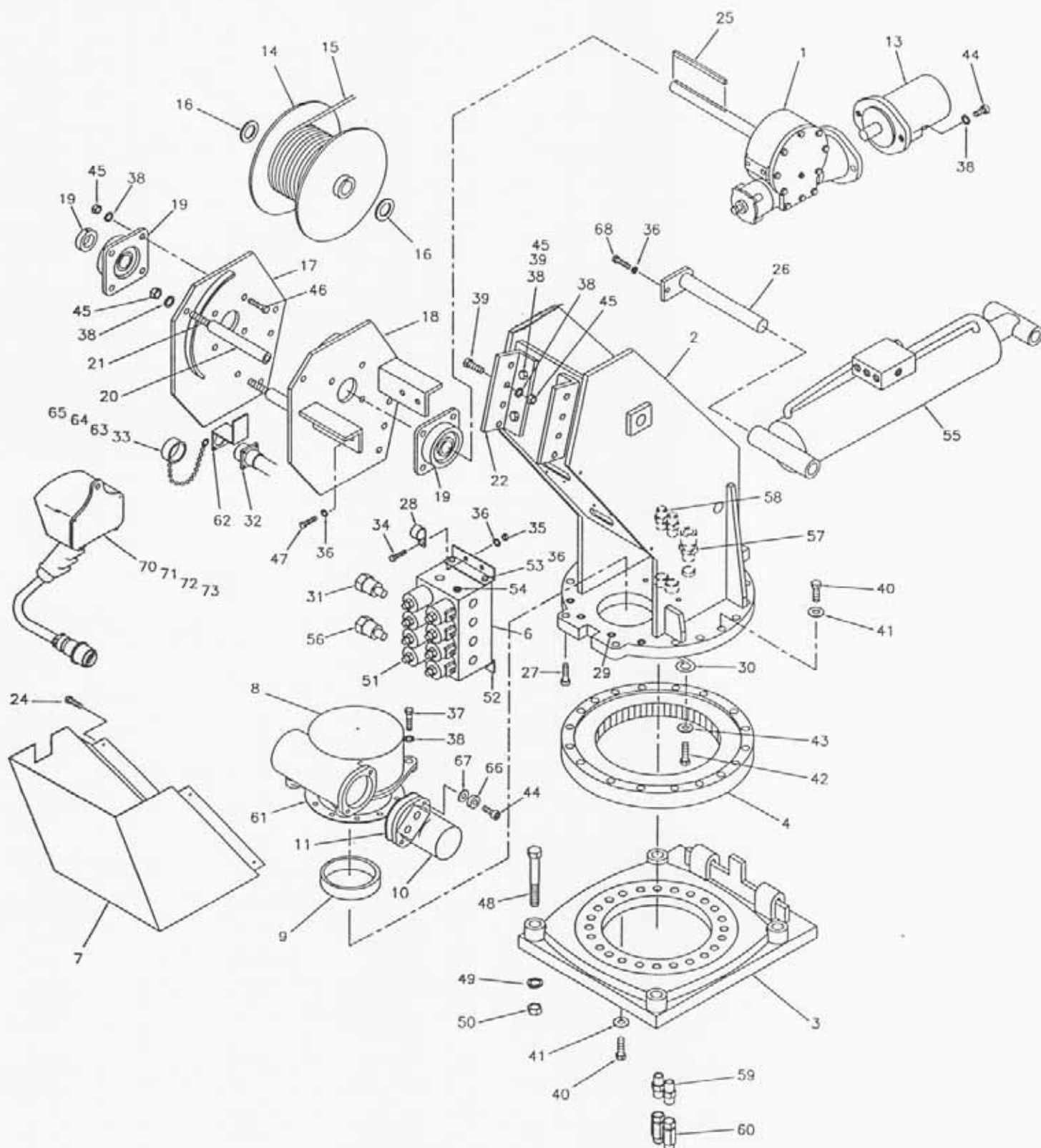
8005H PEDESTAL ASSEMBLY AW-480000-100

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480075	ACTUATOR, HOIST
2	1	480050	PEDESTAL WELDMENT ASSEMBLY
3	1	480040	BASE PLATE ASSEMBLY
4	1	480023-002	BEARING, ROTATION
5	-	-	-
6	1	480313	MANIFOLD, BLOCK
7	1	480161	COVER, VALVE (w/ NOTCH)
8	1	480028	GEAR BOX, ROTATION
9	1	360162	RING, ECCENTRIC
10	1	480027	MOTOR, HYDRAULIC (ROTATION)
11	1	480019	GASKET, MOTOR
12	-	-	-
13	1	480076	MOTOR, HYDRAULIC (HOIST)
14	1	480066	DRUM, HOIST
15	1	480031	CABLE ASSEMBLY (3/8")
16	2	480073	SPACER, WINCH SHAFT
17	1	480064	SIDE PLATE - LEFT
18	1	480062	SIDE PLATE - RIGHT
19	2	480077	BEARING, 4-BOLT
20	2	480069	SPACER, TUBE
21	2	480070	ROD, SPACER
22	2	480072	BRACKET, MOUNTING
23	1	634000	GUARD, PENDANT
24	6	002615	SCREW, HEX HD. 1/4-20NC x 3/8 LG. SELF TAPPING
25	1	480094	KEY, SQ. 3/8
26	1	366191	PIN, PEDESTAL/CYLINDER
27	2	009118	SCREW, SOC. HD. 1/2-13NC x 2" LG. GR.5
28	1	480024	MOUNT, PENDANT RETAINER
29	4	006205	SCREW, SOC. HD. 5/8-11NC x 1 1/4 LG. GR.5
30	1	360207	RETAINER, ECCENTRIC RING
31	1	480183	CARTRIDGE, FLOW REGULATOR (480183-001, SEAL KIT)
32	1	480597	RECEPTACLE ASSEMBLY
33	1	480547	CAP, PENDANT RECEPTACLE
34	4	008701	SCREW, HEX HD. 3/8-16NC x 1" LG.
35	4	017100	NUT, HEX 3/8-16NC
36	9	021100	WASHER, SP. LK. 3/8
37	2	011608	SCREW, HEX HD. 1/2-13NC x 2" LG. GR.5
38	30	021500	WASHER, SP. LK. 1/2
39	12	010201	SCREW, HEX HD. 1/2-13NC x 1 1/2 LG. GR.5
40	38	012198	SCREW, HEX HD. 5/8-11NC x 1 3/4 LG. GR.8
41	38	023902	WASHER, FL. 5/8 HARDENED
42	1	007402	SCREW, HEX HD. 5/16-18NC x 5/8 LG. GR.5
43	5	020600	WASHER, SP. LK. 5/16
44	4	012197	SCREW, SOC. HD. 1/2-13NC x 1 1/2 LG. GR.5
45	24	017701	NUT, HEX 1/2-13NC
46	8	011605	SCREW, HEX HD. 1/2-13NC x 1 3/4 LG. GR.5
47	4	008601	SCREW, HEX HD. 3/8-16NC x 7/8 LG. GR.5
48	4	015104	SCREW, HEX HD. 7/8-14NF x 5" LG. GR.8

8005H PEDESTAL ASSEMBLY AW-480000-100

ITEM	QTY.	PART NO.	DESCRIPTION
49	4	022200	WASHER, SP. LK. 7/8
50	4	018900	NUT, HEX 7/8-14NF
51	8	480184	VALVE, CARTRIDGE
52	2	REF.	BRACKET, MANIFOLD
53	4	REF.	SCREW, HEX HD. 3/8-16NC x 3/4 LG.
54	1	000109	PLUG, PIPE 3/8
55	1	480377	CYLINDER, BOOM (COMPLETE)
	1	480377-001	CASE ASSEMBLY
	1	480377-002	SHAFT ASSEMBLY
	1	480377-003	HEAD GLAND
	1	480377-004	PISTON
	1	480376	SEAL KIT
56	1	480314	CARTRIDGE, CHECK VALVE
57	1	370433	CONNECTOR, CORD
58	2	360054	ADAPTER
59	2	750413	REDUCER
60	2	750412	SWIVEL JOINT
61	1	480011	SEAL, ROTATION ACTUATOR
62	1	480801	BRACKET
63	2	000404	SCREW, #6-32NC x 5/8 LG.
64	2	019600	WASHER, SP. LK. #6
65	2	015400	NUT, HEX #6-32NC
66	2	021502	WASHER, SP. LK. 1/2 (HI-COLLAR)
67	2	021601	WASHER, FLAT 1/2
68	1	366158	SCREW, HEX HD. 3/8-16NC x 3/4 LG. GR.8
69	1	480540	PENDANT, REMOVABLE

NOTES



AW-480570
PEDESTAL ASSEMBLY, 8005H
PROPORTIONAL PENDANT

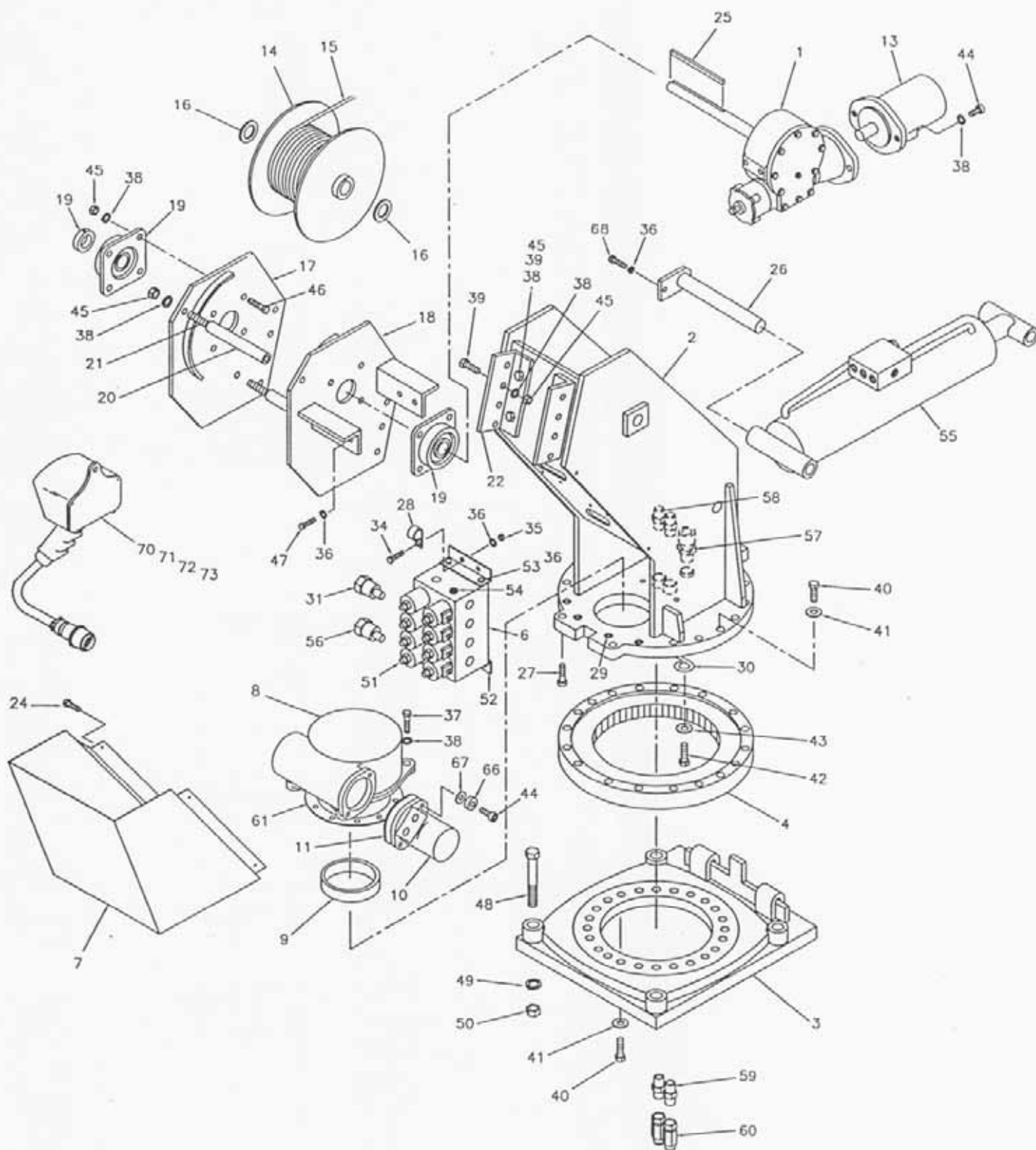
8005H PEDESTAL ASSEMBLY AW-480570

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480075	ACTUATOR, HOIST
2	1	480050	PEDESTAL WELDMENT ASSEMBLY
3	1	480040	BASE PLATE ASSEMBLY
4	1	480023-002	BEARING, ROTATION
5	-	-	-
6	1	480313	MANIFOLD, BLOCK
7	1	480161	COVER, VALVE (w/ NOTCH)
8	1	480028	GEAR BOX, ROTATION
9	1	360162	RING, ECCENTRIC
10	1	480027	MOTOR, HYDRAULIC (ROTATION)
11	1	480019	GASKET, MOTOR
12	-	-	-
13	1	480076	MOTOR, HYDRAULIC (HOIST)
14	1	480066	DRUM, HOIST
15	1	480031	CABLE ASSEMBLY (3/8")
16	2	480073	SPACER, WINCH SHAFT
17	1	480064	SIDE PLATE - LEFT
18	1	480062	SIDE PLATE - RIGHT
19	2	480077	BEARING, 4-BOLT
20	2	480069	SPACER, TUBE
21	2	480070	ROD, SPACER
22	2	480072	BRACKET, MOUNTING
23	-	-	-
24	4	002615	SCREW, HEX HD. 1/4-20NC x 3/8 LG. SELF TAPPING
25	1	480094	KEY, SQ. 3/8
26	1	366191	PIN, PEDESTAL/CYLINDER
27	2	009118	SCREW, SOC. HD. 1/2-13NC x 2" LG. GR.5
28	1	480024	MOUNT, PENDANT RETAINER
29	4	006205	SCREW, SOC. HD. 5/8-11NC x 1 1/4 LG. GR.5
30	1	360207	RETAINER, ECCENTRIC RING
31	1	480183	CARTRIDGE, FLOW REGULATOR (480183-001, SEAL KIT)
32	1	480597	RECEPTACLE ASSEMBLY
33	1	480547	CAP, PENDANT RECEPTACLE
34	4	008701	SCREW, HEX HD. 3/8-16NC x 1" LG.
35	4	017100	NUT, HEX 3/8-16NC
36	9	021100	WASHER, SP. LK. 3/8
37	2	011608	SCREW, HEX HD. 1/2-13NC x 2" LG. GR.5
38	30	021500	WASHER, SP. LK. 1/2
39	12	010201	SCREW, HEX HD. 1/2-13NC x 1 1/2 LG. GR.5
40	38	012198	SCREW, HEX HD. 5/8-11NC x 1 3/4 LG. GR.8
41	38	023902	WASHER, FL. 5/8 HARDENED
42	1	007402	SCREW, HEX HD. 5/16-18NC x 5/8 LG. GR.5
43	5	020600	WASHER, SP. LK. 5/16
44	4	012197	SCREW, SOC. HD. 1/2-13NC x 1 1/2 LG. GR.5
45	24	017701	NUT, HEX 1/2-13NC
46	8	011605	SCREW, HEX HD. 1/2-13NC x 1 3/4 LG. GR.5
47	4	008601	SCREW, HEX HD. 3/8-16NC x 7/8 LG. GR.5
48	4	015104	SCREW, HEX HD. 7/8-14NF x 5" LG. GR.8

8005H PEDESTAL ASSEMBLY AW-480570

ITEM	QTY.	PART NO.	DESCRIPTION
49	4	022200	WASHER, SP. LK. 7/8
50	4	018900	NUT, HEX 7/8-14NF
51	8	480184	VALVE, CARTRIDGE
52	2	REF.	BRACKET, MANIFOLD
53	4	REF.	SCREW, HEX HD. 3/8-16NC x 3/4 LG.
54	1	000109	PLUG, PIPE 3/8
55	1	480377	CYLINDER, BOOM (COMPLETE)
	1	480377-001	CASE ASSEMBLY
	1	480377-002	SHAFT ASSEMBLY
	1	480377-003	HEAD GLAND
	1	480377-004	PISTON
	1	480376	SEAL KIT
56	1	480314	CARTRIDGE, CHECK VALVE
57	1	370433	CONNECTOR, CORD
58	2	360054	ADAPTER
59	2	750413	REDUCER
60	2	750412	SWIVEL JOINT
61	1	480011	SEAL, ROTATION ACTUATOR
62	1	480546	BRACKET
63	2	000404	SCREW, #6-32NC x 5/8 LG.
64	2	019600	WASHER, SP. LK. #6
65	2	015400	NUT, HEX #6-32NC
66	2	021502	WASHER, SP. LK. 1/2 (HI-COLLAR)
67	2	021601	WASHER, FLAT 1/2
68	1	366158	SCREW, HEX HD. 3/8-16 x 3/4 LG. GR.8
69	-	-	-
70	1	480590	PENDANT, FOUR FUNCTION
71	1	480591	PENDANT, FOUR FUNCTION PROPORTIONAL
72	1	480592	PENDANT, EIGHT FUNCTION
73	1	480593	PENDANT, EIGHT FUNCTION PROPORTIONAL

NOTES



AW-480570-110
 PEDESTAL ASSEMBLY, 8005H
 IN COMPARTMENT (IC) PENDANT

8005H PEDESTAL ASSEMBLY (IC) AW-480570-110

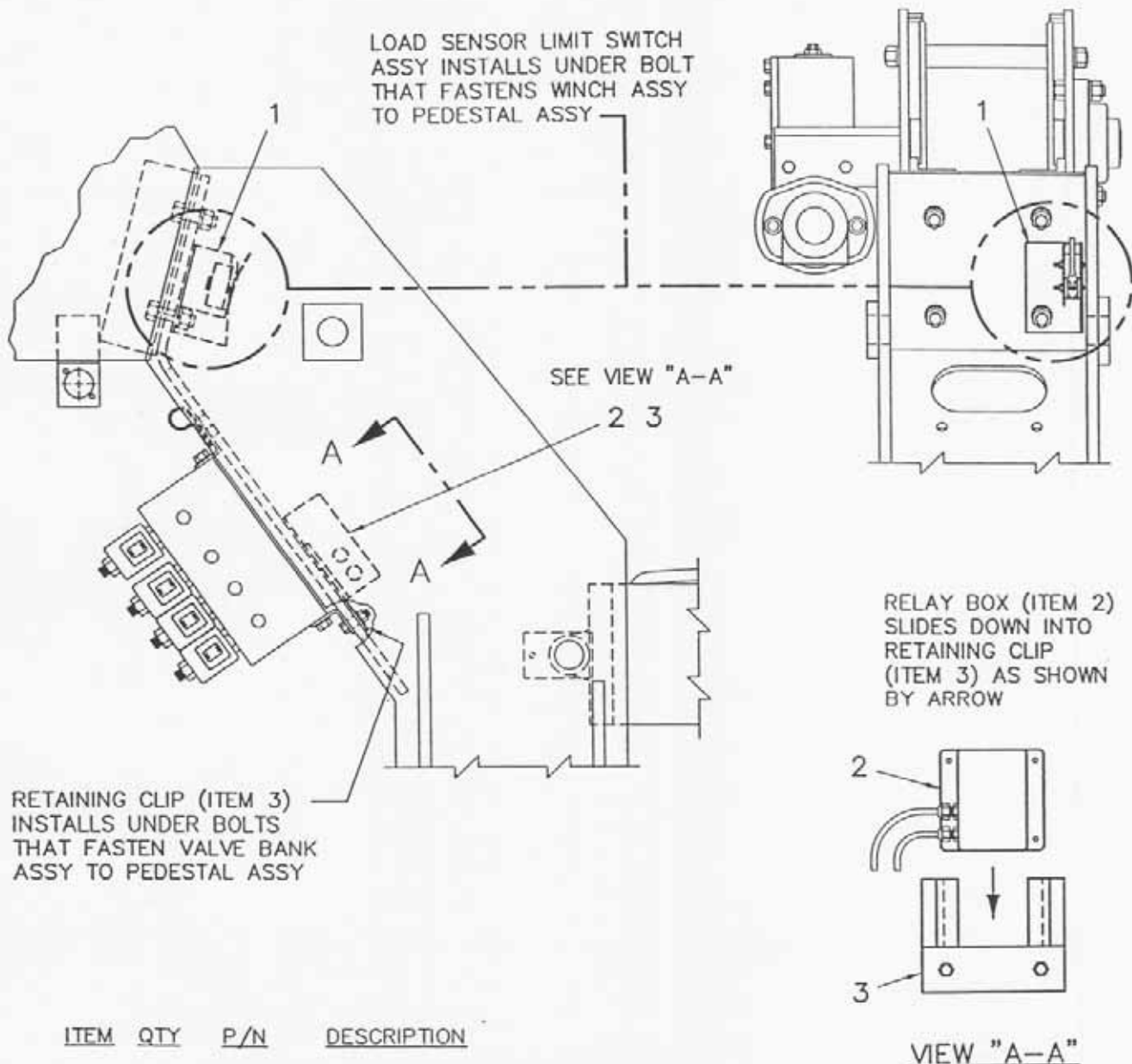
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480075	ACTUATOR, HOIST
2	1	480050	PEDESTAL WELDMENT ASSEMBLY
3	1	480040	BASE PLATE ASSEMBLY
4	1	480023-002	BEARING, ROTATION
5	-	-	-
6	1	480313	MANIFOLD, BLOCK
7	1	480160	COVER, VALVE
8	1	480028	GEAR BOX, ROTATION
9	1	360162	RING, ECCENTRIC
10	1	480027	MOTOR, HYDRAULIC (ROTATION)
11	1	480019	GASKET, MOTOR
12	-	-	-
13	1	480076	MOTOR, HYDRAULIC (HOIST)
14	1	480066	DRUM, HOIST
15	1	480031	CABLE ASSEMBLY (3/8")
16	2	480073	SPACER, WINCH SHAFT
17	1	480064	SIDE PLATE - LEFT
18	1	480062	SIDE PLATE - RIGHT
19	2	480077	BEARING, 4-BOLT
20	2	480069	SPACER, TUBE
21	2	480070	ROD, SPACER
22	2	480072	BRACKET, MOUNTING
23	-	-	-
24	4	002615	SCREW, HEX HD. 1/4-20NC x 3/8 LG. SELF TAPPING
25	1	480094	KEY, SQ. 3/8
26	1	366191	PIN, PEDESTAL/CYLINDER
27	2	009118	SCREW, SOC. HD. 1/2-13NC x 2" LG. GR.5
28	1	480024	MOUNT, PENDANT RETAINER
29	4	006205	SCREW, SOC. HD. 5/8-11NC x 1 1/4 LG. GR.5
30	1	360207	RETAINER, ECCENTRIC RING
31	1	480183	CARTRIDGE, FLOW REGULATOR (480183-001, SEAL KIT)
32	-	-	-
33	-	-	-
34	4	008701	SCREW, HEX HD. 3/8-16NC x 1" LG.
35	4	017100	NUT, HEX 3/8-16NC
36	9	021100	WASHER, SP. LK. 3/8
37	2	011608	SCREW, HEX HD. 1/2-13NC x 2" LG. GR.5
38	30	021500	WASHER, SP. LK. 1/2
39	12	010201	SCREW, HEX HD. 1/2-13NC x 1 1/2 LG. GR.5
40	38	012198	SCREW, HEX HD. 5/8-11NC x 1 3/4 LG. GR.8
41	38	023902	WASHER, FL. 5/8 HARDENED
42	1	007402	SCREW, HEX HD. 5/16-18NC x 5/8 LG. GR.5
43	5	020600	WASHER, SP. LK. 5/16
44	4	012197	SCREW, SOC. HD. 1/2-13NC x 1 1/2 LG. GR.5
45	24	017701	NUT, HEX 1/2-13NC
46	8	011605	SCREW, HEX HD. 1/2-13NC x 1 3/4 LG. GR.5
47	4	008601	SCREW, HEX HD. 3/8-16NC x 7/8 LG. GR.5
48	4	015104	SCREW, HEX HD. 7/8-14NF x 5" LG. GR.8

8005H PEDESTAL ASSEMBLY (IC) AW-480570-110

ITEM	QTY.	PART NO.	DESCRIPTION
49	4	022200	WASHER, SP. LK. 7/8
50	4	018900	NUT, HEX 7/8-14NF
51	8	480184	VALVE, CARTRIDGE
52	2	REF.	BRACKET, MANIFOLD
53	4	REF.	SCREW, HEX HD. 3/8-16NC x 3/4 LG.
54	1	000109	PLUG, PIPE 3/8
55	1	480377	CYLINDER, BOOM (COMPLETE)
	1	480377-001	CASE ASSEMBLY
	1	480377-002	SHAFT ASSEMBLY
	1	480377-003	HEAD GLAND
	1	480377-004	PISTON
	1	480376	SEAL KIT
56	1	480314	CARTRIDGE, CHECK VALVE
57	1	370433	CONNECTOR, CORD
58	2	360054	ADAPTER
59	2	750413	REDUCER
60	2	750412	SWIVEL JOINT
61	1	480011	SEAL, ROTATION ACTUATOR
62	-	-	-
63	-	-	-
64	-	-	-
65	-	-	-
66	2	021502	WASHER, SP. LK. 1/2 (HI-COLLAR)
67	2	021601	WASHER, FLAT 1/2
68	1	366158	SCREW, HEX HD. 3/8-16NC x 3/4 LG. GR.8
69	-	-	-
70	1	480590	PENDANT, FOUR FUNCTION
71	1	480591	PENDANT, FOUR FUNCTION PROPORTIONAL
72	1	480592	PENDANT, EIGHT FUNCTION
73	1	480593	PENDANT, EIGHT FUNCTION PROPORTIONAL

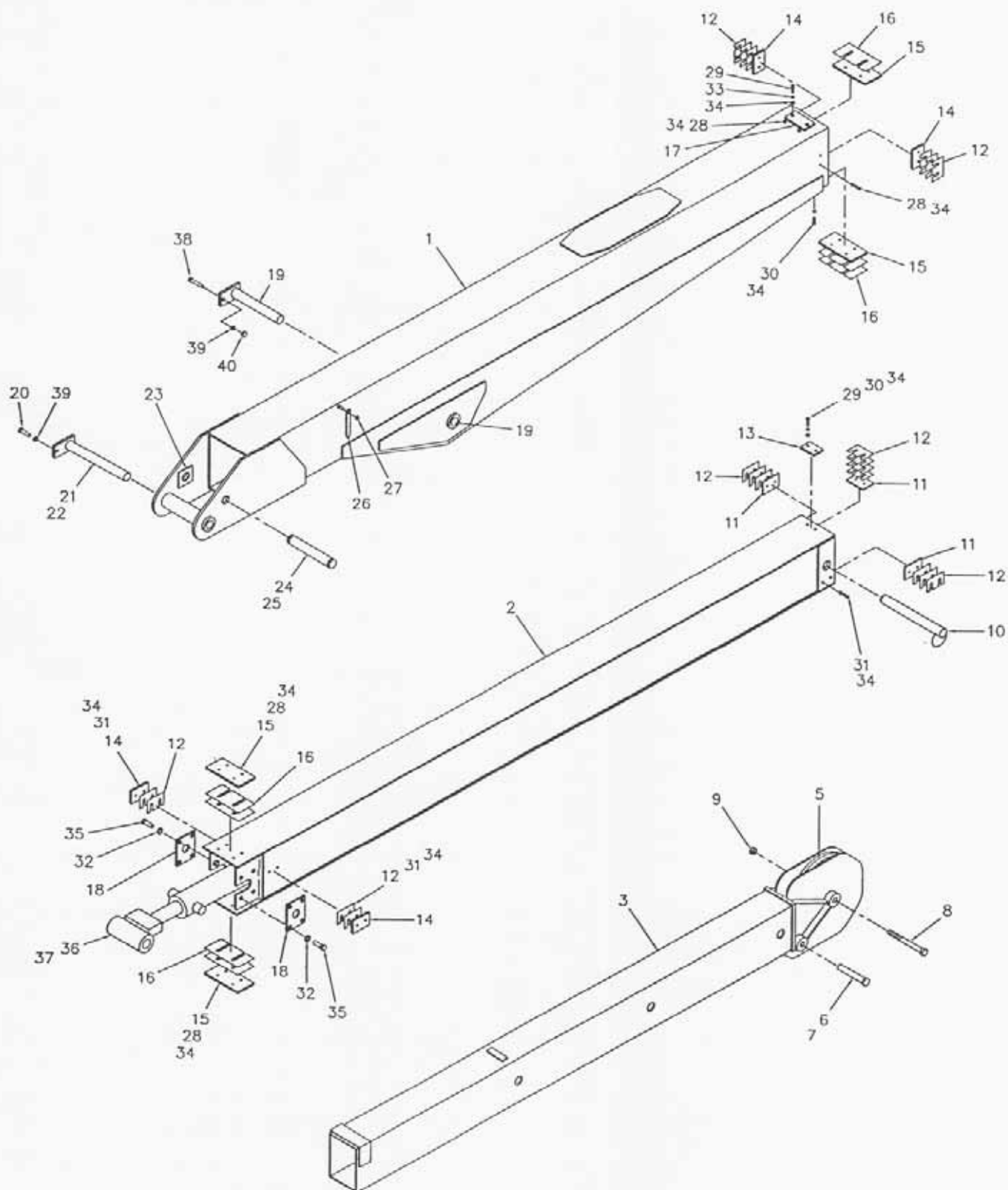
NOTE:

SEE CRANE WIRING DIAGRAM FOR ELECTRICAL CONNECTIONS



ITEM	QTY	P/N	DESCRIPTION
1	1	480380	LOAD SENSOR LIMIT SWITCH ASSY
2	1	366986	RELAY BOX ASSY
3	1	366987	RETAINING CLIP, RELAY BOX ASSY

AW-177
RELAY BOX & LOAD SENSOR
LIMIT SWITCH ASSEMBLY, 8005H



AW-480585
BOOM ASSEMBLY, 8005H

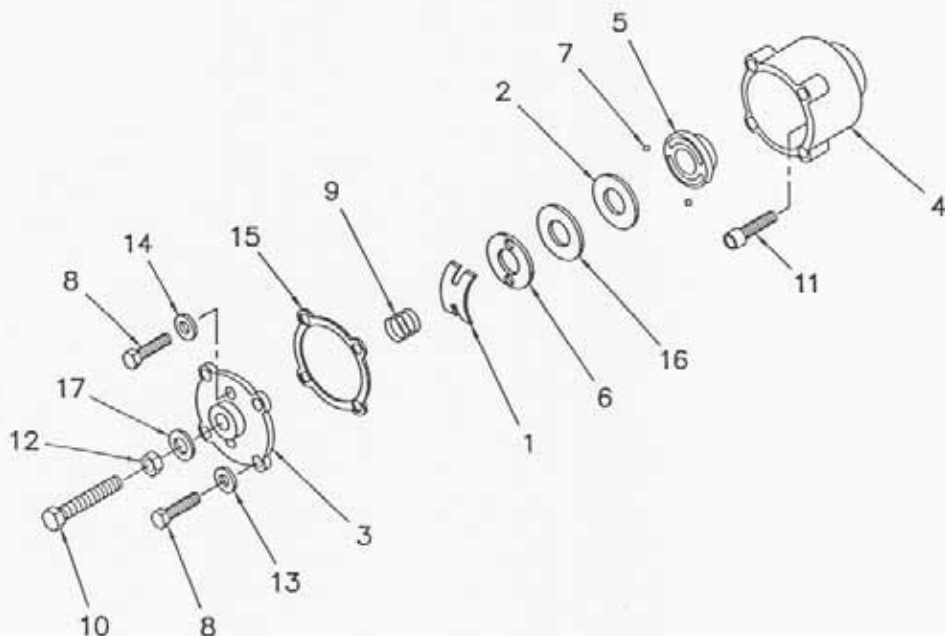
8005H BOOM ASSEMBLY AW-480585

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480582	BOOM, LOWER (SEE NOTE 1)
2	1	480100	BOOM, POWER
3	1	480310	BOOM, MANUAL
4	—	—	—
5	1	366198	SHEAVE ASSEMBLY (BEARING ONLY - 366197)
6	1	360124	PIN, HITCH
7	1	360125	PIN, LOCK
8	1	014304	SCREW, HEX HD. 3/4-16NF x 6" LG. GR.5
9	1	018600	NUT, HEX LK. 3/4-16NF
10	1	480030	PIN, MANUAL BOOM
11	3	480120	PAD (STEEL)
12	22	480037	SHIM, SMALL (.032 THICK)
13	1	480118	PAD, LOWER BOOM
14	4	480036	PAD, BOOM (NYLATRON)
15	4	480032	PAD, BOOM (NYLATRON)
16	6	480033	SHIM, LARGE (.032 THICK)
17	1	366201	PAD, BOOM
18	2	480105	RETAINER, EXTENSION CYLINDER
19	1	366179	PIN, BOOM / CYLINDER
20	1	366158	SCREW, HEX HD. 3/8-16NC x 3/4" LG. GR.8
21	1	366192	PIN, PEDESTAL / BOOM
22	1	239000	GREASE ZERK
23	2	480121	SPACER
24	1	480129	PIN, EXTENSION CYLINDER
25	2	480029	RING, RETAINING
26	2	360038	ANGLE INDICATOR
27	2	016300	NUT, HEX LK. 1/4-20NC
28	14	005102	SCREW, HEX HD. 1/4-28NF x 5/8" LG.
29	4	005601	SCREW, HEX HD. 1/4-20NC x 1" LG.
30	4	005501	SCREW, HEX HD. 1/4-28NF x 3/4" LG.
31	8	005406	SCREW, HEX HD. 1/4-28NF x 1/2" LG.
32	8	010201	SCREW, HEX HD. 1/2-13NC x 1 1/2" LG. GR.5
33	4	020300	WASHER, FLAT 1/4
34	30	020200	WASHER, SP. LK. 1/4
35	8	021500	WASHER, SP. LK. 1/2
36	1	480015	CYLINDER, EXTENSION (COMPLETE)
	—	480015-001	CASE ASSEMBLY
	—	480015-002	SHAFT ASSEMBLY
	—	480015-003	HEAD GLAND
	—	480015-004	PISTON
37	1	480012	SEAL KIT
38	1	366159	SCREW, HEX HD. 3/8-16NC x 1 1/2" LG. GR.8
39	2	021100	WASHER, SP. LK. 3/8
40	1	017301	NUT, HEX LK. 3/8-16NC

NOTES:

1.) BOOM 480080 HAS HOOKS FOR PENDANT CABLE.
BOOM 480582 IS EXACTLY THE SAME LESS THE HOOKS
AND IS USED FOR PROPORTIONAL UNITS.

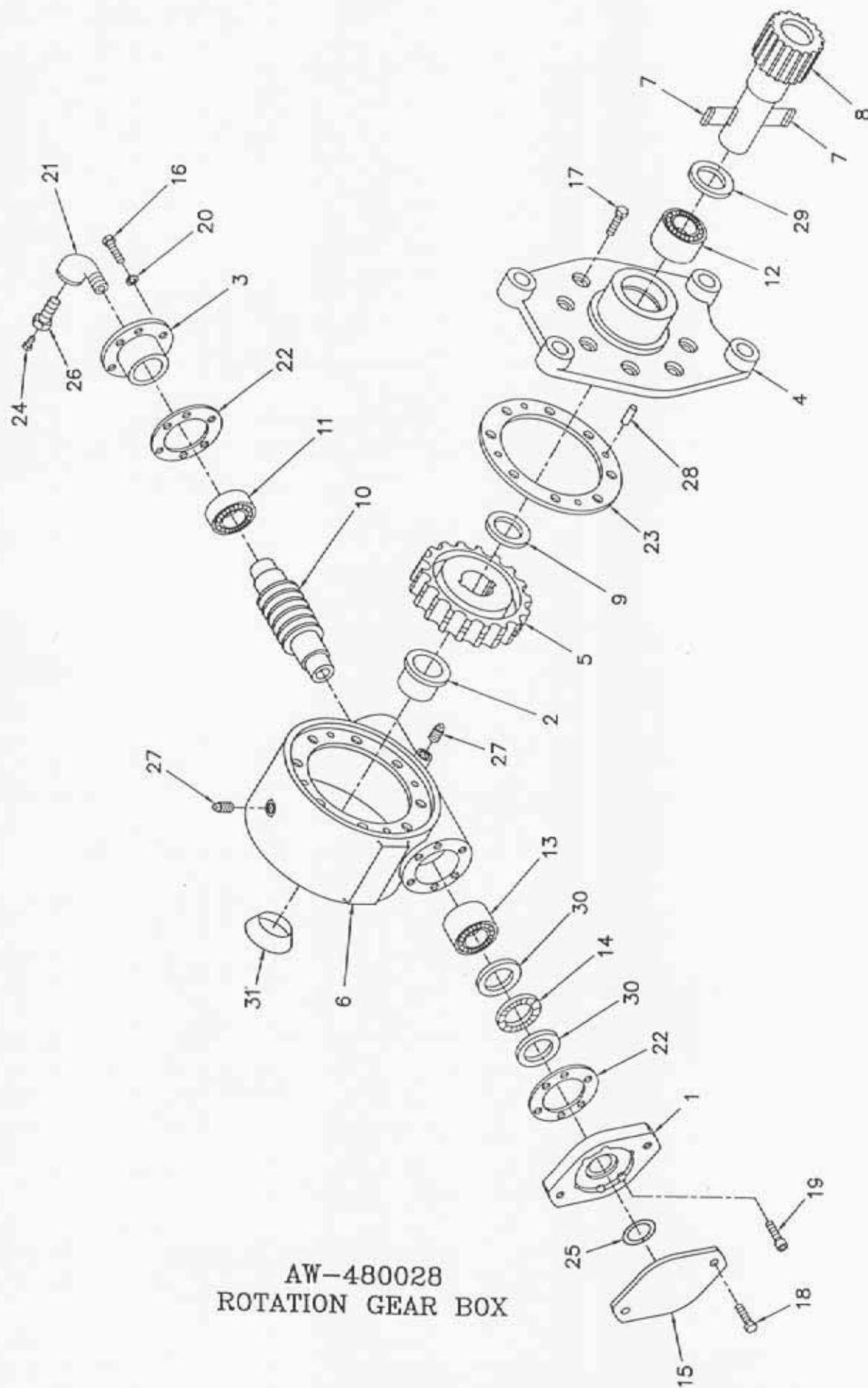
1. Winch has right hand worm and gear, and spools under the drum, use number one slots for brake balls.
2. Install brake hub on winch worm with key.
3. Assemble balls in cam using hard grease to hold balls in place.
4. Install cam and balls, fitting balls in number one slots on hub.
5. Install brake disc.
6. Install retainer.
7. Install flat spring in brake housing cover (arch down).
8. Install brake housing cover, fitting pins in the slots of spring and holes in retainer.
9. Test brake by shifting winch to UP then DOWN to see if brake is working in proper rotation. If not, remove brake and locate brake balls in opposite set of slots.
10. Adjust to suit by tightening or loosening screw on outside of cover. When proper adjustment is obtained, secure screw with jam nut.



AW-368
AUTOMATIC SAFETY BRAKE ASSEMBLY (OIL COOLED)
HOIST

AW-368
AUTOMATIC SAFETY BRAKE ASSEMBLY

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	360367	SPRING, FLAT
2	1	360331	CAM PLATE
3	1	360450	COVER
4	1	360336	HOUSING, BRAKE
5	1	360339	HUB
6	1	360342	RETAINER PLATE
7	2	360345	BALL
8	6	360453	CAPSCREW, 1/4-20NC x 1" LG. GR.5
9	1	360368	SPRING
10	1	360456	CAPSCREW, 3/8-16NC x 1 1/2 LG. GR.5
11	6	360463	CAPSCREW, 1/4-20NC x 7/8 LG. SOC. HD.
12	1	360353	NUT, HEX JAM 3/8-16NC
13	4	360465	THREAD SEAL
14	2	360455	WASHER, FLAT 1/4 ALUM.
15	1	360359	GASKET
16	1	360364	THRUST PLATE
17	1	360371	THREAD SEAL

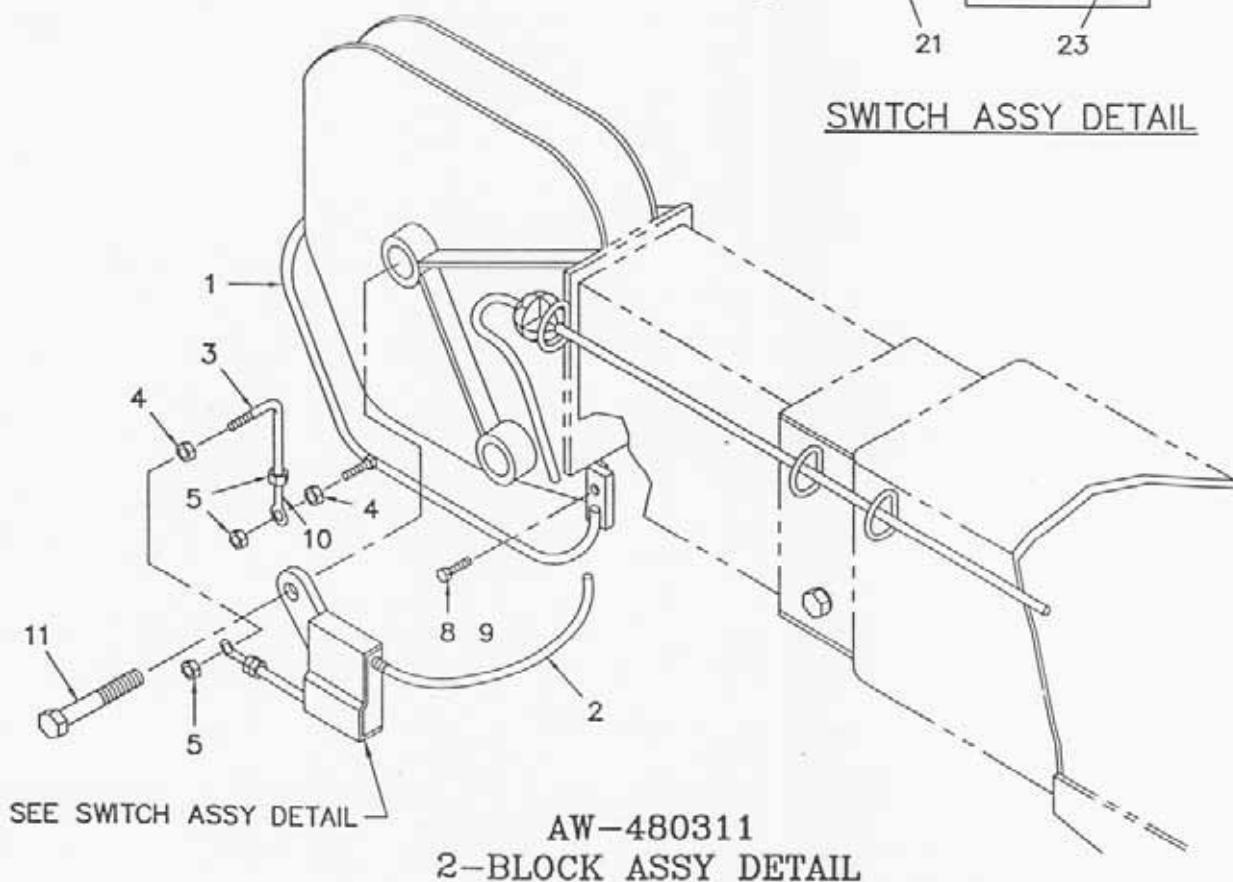
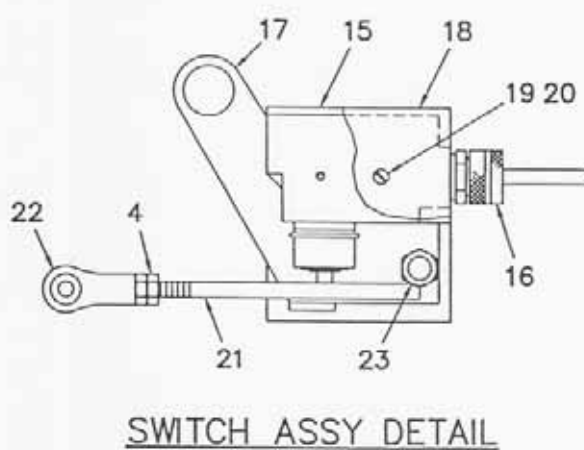
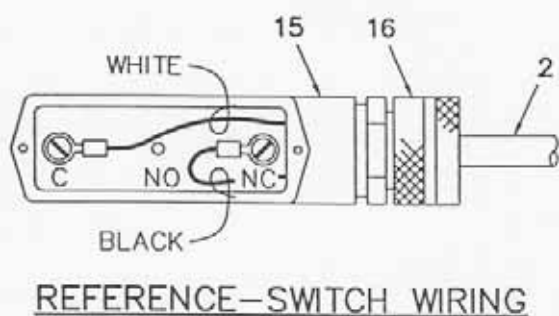
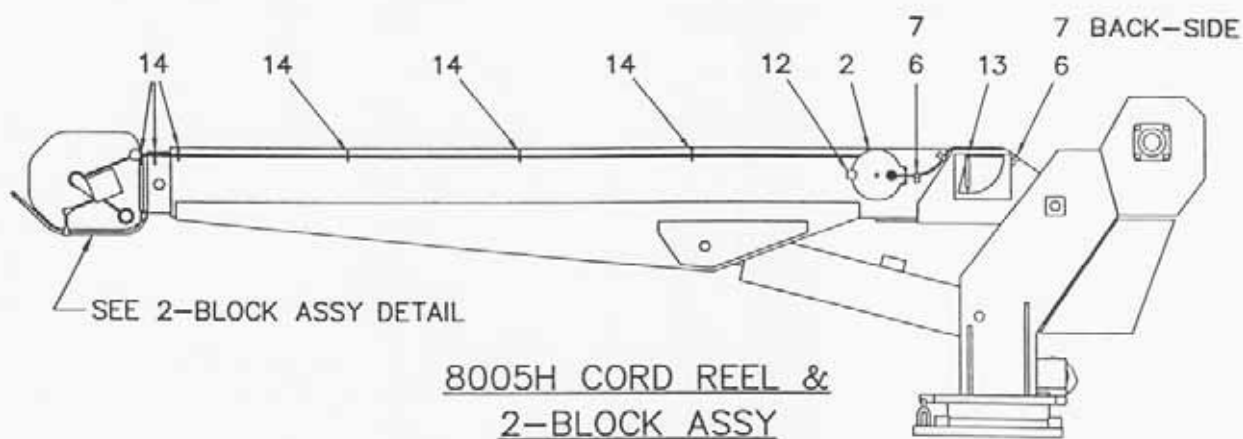


AW-480028
ROTATION GEAR BOX

AW-480028
ROTATION GEAR BOX

AW-480028
ROTATION GEAR BOX

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480240	ADAPTER
2	1	480241	BUSHING
3	1	480242	CAP, BEARING
4	1	480243	COVER
5	1	480244	GEAR, R.H.
6	1	480237	HOUSING, GEAR
7	2	480246	KEY
8	1	480247	SHAFT, OUTPUT
9	1	480248	WASHER, THRUST
10	1	480249	WORM, R.H.
11	1	480251	BEARING, BALL
12	1	480252	BEARING, NEEDLE
13	1	480253	BEARING, NEEDLE
14	1	480254	BEARING, THRUST
15	1	480255	COVER
16	6	007400	CAPSCREW, 5/16-18NC X 1" LG. HX. HD.
17	8	480238	CAPSCREW, 5/16-18NC X 1 1/4 LG. HX. NYLOC HVY PATCH
18	2	011508	CAPSCREW, 1/2-13NC X 3/4 LG. HX. HD.
19	6	480256	CAPSCREW, 5/16-18NC X 1" LG. SOC. HD. LOC.-WEL
20	6	480258	LOCKWASHER, 5/16 MED. SECT. C.P.
21	1	480259	ELBOW, 90°
22	2	480260	GASKET
23	1	480250	GASKET
24	1	480262	FITTING, RELIEF
25	1	480239	O-RING
26	1	480263	REDUCER
27	2	480264	PLUG, PIPE
28	4	480265	PIN, DOWEL
29	1	480266	SEAL, OIL
30	2	480268	WASHER, THRUST
31	1	480269	PLUG, EXPANSION



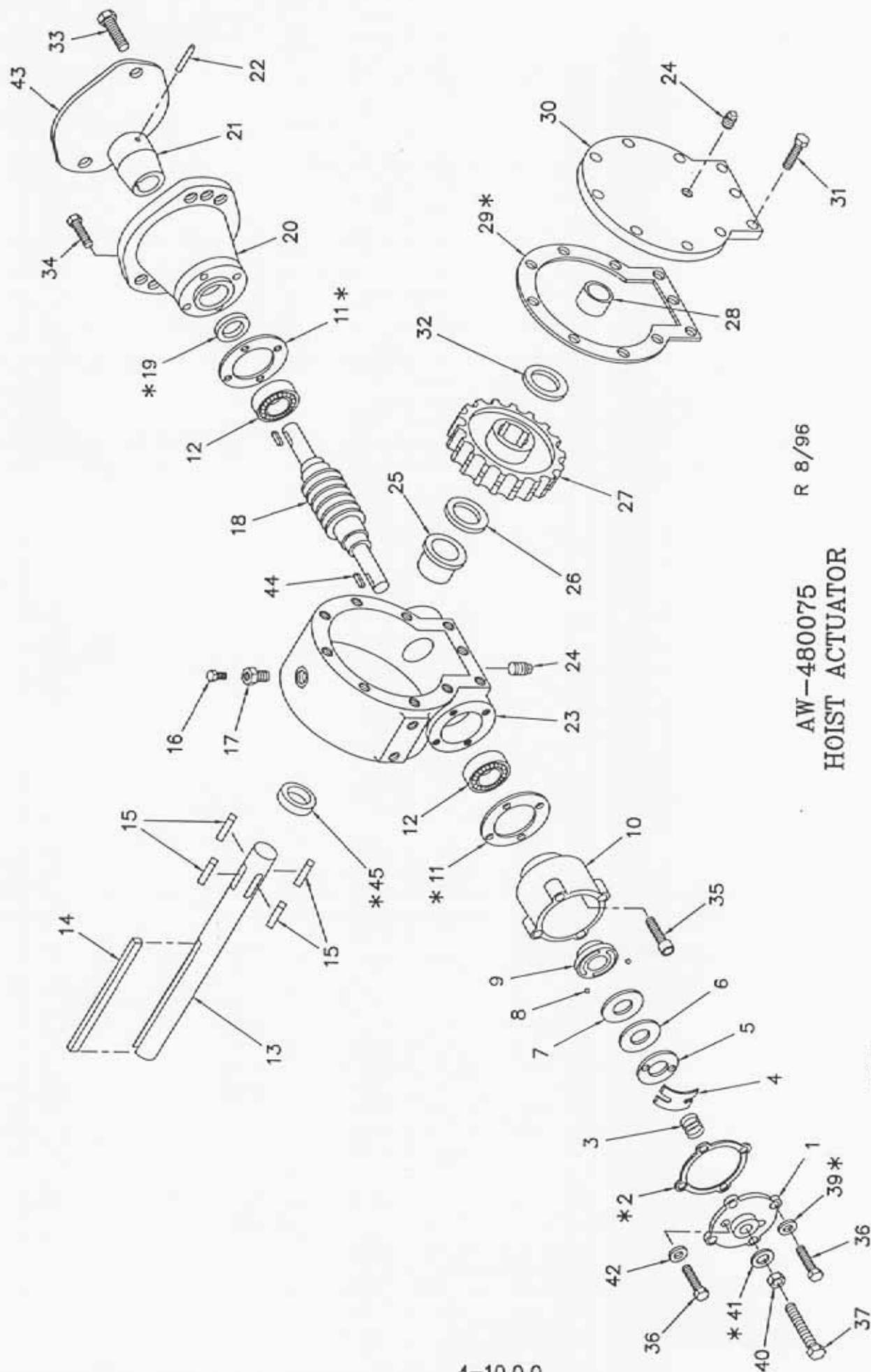
2-BLOCK ASSEMBLY AW-480311

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	366116-001	BAIL, 2-BLOCK CROWN BRACKET
2	1	366973-001	CORD REEL ASSY
3	1	366196	2-BLOCK ARM
4	4	016100	NUT, HEX HD. 1/4-28 NF
5	3	016200	NUT, HEX LOCK 1/4-28 NF
6	3	002608	SCREW, HEX HD. SELF TAPPING 1/4-20 NC x 3/4 LG.
7	3	000115	CLIP, #15
8	1	007803	SCREW, HEX HD. 5/16-18 NC x 3 1/2 LG.
9	1	016801	NUT, HEX LOCK 5/16-18 NC
10	1	363006	BEARING, ROD END
11	1	REF.	SCREW, HEX HD. 3/4-16 NF x 6" LG.
12	1	320551	BRACKET, REEL MOUNT
13	2	005901	SCREW, 1/4-20 NC x 1/2 LG.
14	6	366108	D-RING
15	1	646900	SWITCH
16	1	642908	CORD CONNECTOR
17	1	363013-001	MOUNTING PLATE ASSY
18	1	363004	COVER, SWITCH
19	2	002602	SCREW, RD. HD. #6-32 NC x 1 1/4 LG.
20	2	019600	WASHER, SP. LK. #6
21	1	363005	LINKAGE, WELDMENT ROD
22	1	363006	BEARING, ROD END
23	1	017301	NUT, HEX LOCK 3/8-16 NC

AW-480075
HOIST ACTUATOR

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	360450	COVER, WORM BRAKE
* 2	1	360359	GASKET
3	1	360368	SPRING
4	1	360367	SPRING, FLAT
5	1	360342	PLATE, RETAINER
6	1	360364	PLATE, THRUST
7	1	360331	CAM, PLATE
8	2	360345	BALL, BRAKE
9	1	360339	HUB-BRAKE
10	1	360336	HOUSING-BRAKE
* 11	2	360358	GASKET
12	2	360346	BEARING
13	1	480078	SHAFT-OUTPUT
14	1	480094	KEY, 3/8 SQ.
15	4	360464	KEY, BARTH
16	1	360360	FITTING-RELIEF
17	1	360361	REDUCER
18	1	360344	WORM-R.H.
* 19	1	360365	OIL SEAL
20	1	360330	ADAPTER
21	1	360332	COUPLING
22	1	360363	SPIROL PIN
23	1	360461	HOUSING-GEAR (EFFECTIVE ON SERIAL NO. 636238)
24	2	360362	PIPE PLUG
25	1	360348	BUSHING
26	1	360369	THRUST WASHER
27	1	360460	GEAR-R.H. (EFFECTIVE ON SERIAL NO. 601090)
28	1	360462	BUSHING
* 29	1	360459	GASKET
30	1	360458	COVER
31	10	360350	CAPSCREW, 1/4-20NC x 3/4 LG. HX HD GR5
32	1	360466	THRUST WASHER
33	2	010202	CAPSCREW, 1/2-13NC x 1" LG. HX HD
34	4	360352	CAPSCREW, 1/4-20NC x 1 3/4 LG. SOC HD LOC-WEL
35	4	360463	CAPSCREW, 1/4-20NC x 7/8 SOC HD
36	6	360453	CAPSCREW, 1/4-20NC x 1" HX HD ALL THRD GR5 NYLOC H.P.
37	1	360456	CAPSCREW, 3/8-16NC x 1 1/2 LG HX HD ALL THRD GR5
38	-	-	-
* 39	4	360465	THREAD SEAL
40	1	360353	NUT, 3/8-16NC HX JAM
* 41	1	360371	THREAD SEAL
42	2	360455	WASHER, FLAT 1/4 ALUM.
43	1	360349	COVER-HYD. ADAPTER
44	2	360341	KEY
* 45	1	360366	OIL SEAL
46	1	480306	SEAL AND GASKET KIT

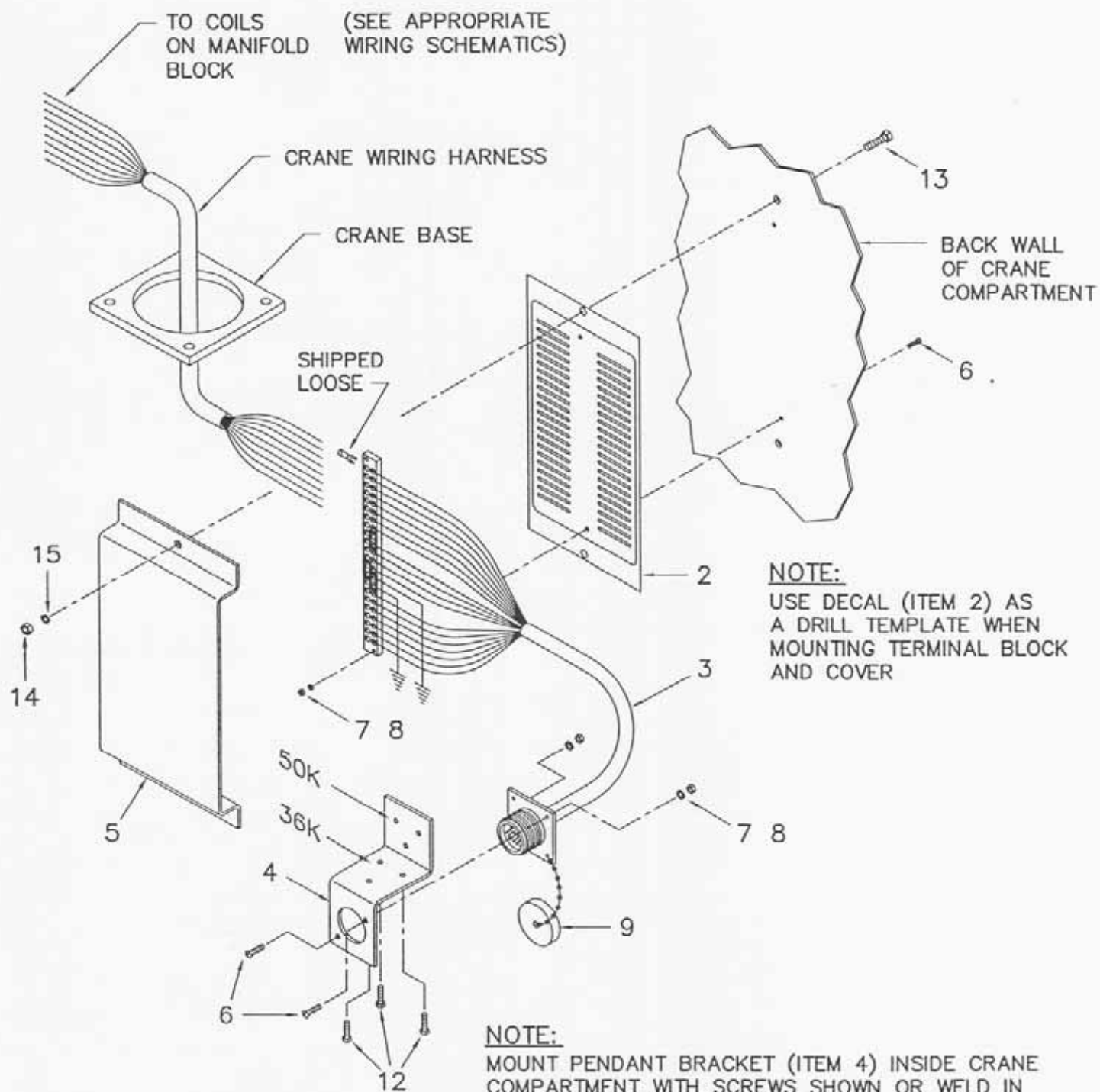
ITEMS MARKED WITH AN ASTERICK (*) ARE INCLUDED IN SEAL & GASKET KIT
P/N 480306 (ITEM 46)



R 8/96

AW-480075 HOIST ACTUATOR

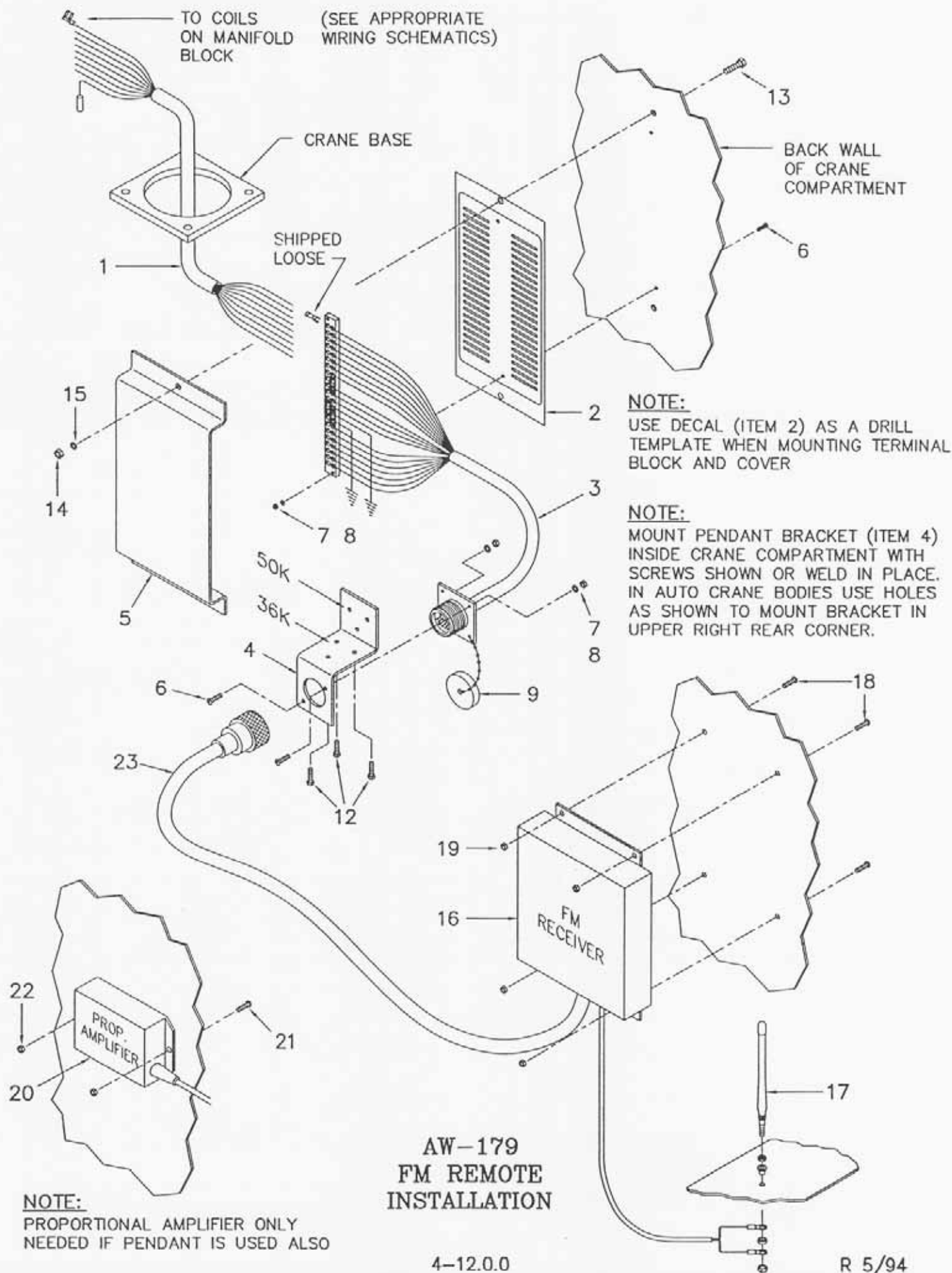
NOTE:
ITEMS MARKED WITH AN ASTERICK (*) ARE INCLUDED
IN SEAL & GASKET KIT P/N 480306



AW-178
INSTALLATION DRAWING
IN-COMPARTMENT (IC) PENDANT

AW-178
IN-COMPARTMENT INSTALLATION

ITEM	QTY.	PART NO.	DESCRIPTION
1	.	.	.
2	1	480490	DECAL, 22 STATION TERMINAL BLOCK
3	1	480491	HARNESS, 22 STATION/19 PIN SOCKET
4	1	480626	BRACKET, PENDANT
5	1	480493	COVER, 22 STATION TERMINAL BLOCK
6	4	000404	SCREW, ROUND HD. #6-32NC x 5/8 LG.
7	4	015400	NUT, HEX #6-32NC
8	4	019600	WASHER, SP. LK. #6
9	1	480547	CAP, RECEPTACLE (19 PIN)
10	6	750738	WIRE TIE STICK ON RETAINER
11	6	634401	WIRE TIE (7" LG.)
12	3	330038	SCREW, HEX HD. #10-24NC x 3/4 LG. SELF TAPPING
13	2	005500	SCREW, HEX HD. 1/4-20NC x 3/4 LG. G5
14	2	015900	NUT, HEX 1/4-20NC
15	2	020200	WASHER, SP. LK. 1/4

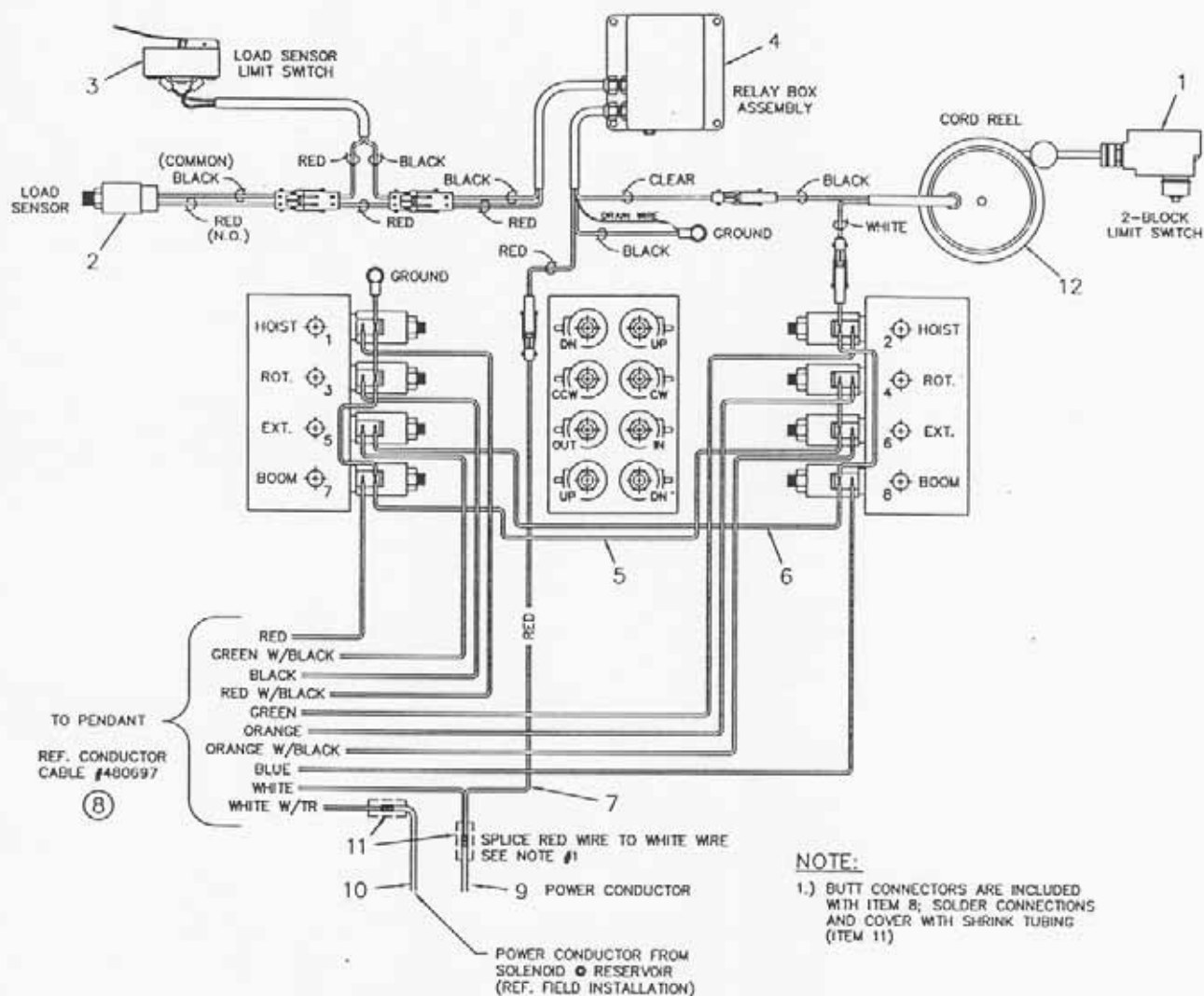


FM REMOTE INSTALLATION AW-179

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480492	HARNESS, CRANE PIGTAIL
2	1	480490	DECAL, 22 STATION TERMINAL BLOCK
3	1	480491	HARNESS, 22 STATION/19 PIN SOCKET
4	1	480626	BRACKET, PENDANT
5	1	480493	COVER, 22 STATION TERMINAL BLOCK
6	4	000404	SCREW, ROUND HD. #6-32NC x 5/8 LG.
7	4	015400	NUT, HEX #6-32NC
8	4	019600	WASHER, SP. LK. #6
9	1	480547	CAP, RECEPTACLE (19 PIN)
10	6	750738	WIRE TIE STICK ON RETAINER
11	6	634401	WIRE TIE (7" LG.)
12	3	330038	SCREW, HEX HD. #10-24NC x 3/4 LG. SELF TAPPING
13	2	005500	SCREW, HEX HD. 1/4-20NC x 3/4 LG. G5
14	2	015900	NUT, HEX 1/4-20NC
15	2	020200	WASHER, SP. LK. 1/4
16	1	480629	FM REMOTE TRANSMITTER/RECEIVER ASSEMBLY
17	1	(SEE NOTE)	ANTENNA (STD.)
18	4	002607	SCREW, ROUND HD. #10-24NC x 3/4 LG.
19	4	015801	NUT, HEX LOCK #10-24NC
20	1	480537	AMPLIFIER, PROPORTIONAL
21	2	002200	SCREW, ROUND HD. #10-32NF x 3/4 LG.
22	2	015800	NUT, HEX LOCK #10-32NF
23	1	480625	CONTROL CABLE

NOTE:

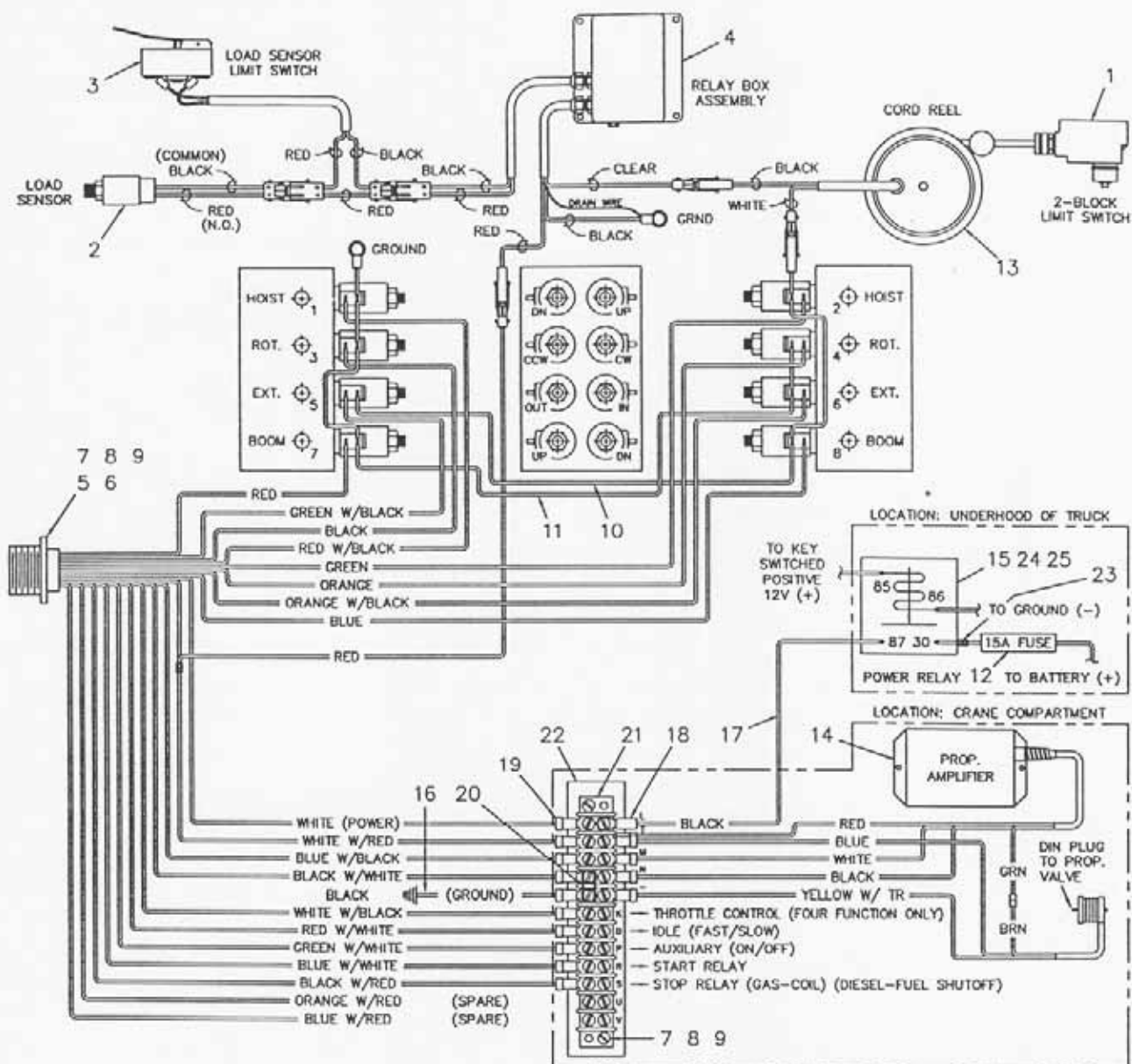
STANDARD ANTENNA COMES WITH TRANSMITTER/RECEIVER ASSEMBLY;
 - ANTENNA w/ MAGNETIC BASE (P/N 480608) CAN BE ORDERED AS
 AN EXTRA COST OPTION



ITEM	QTY	PART NO.	DESCRIPTION
1	1	646900	SWITCH
2	1	480379	LOAD SENSOR ASSY
3	1	480380	LOAD SENSOR LIMIT SWITCH ASSY
4	1	366986	RELAY BOX ASSY
5	1	480099	CONDUCTOR ASSY (POWER EXT.)
6	1	480384	CONDUCTOR ASSY

ITEM	QTY	PART NO.	DESCRIPTION
7	1	480385	CONDUCTOR ASSY
8	1	480697	CONDUCTOR CABLE (REF.)
9	1	340638	CONDUCTOR, POWER
10	1	366030	CONDUCTOR
11	2	366995	1/4" SHRINK TBG x 3" LG
12	1	366973-001	CORD REEL ASSY

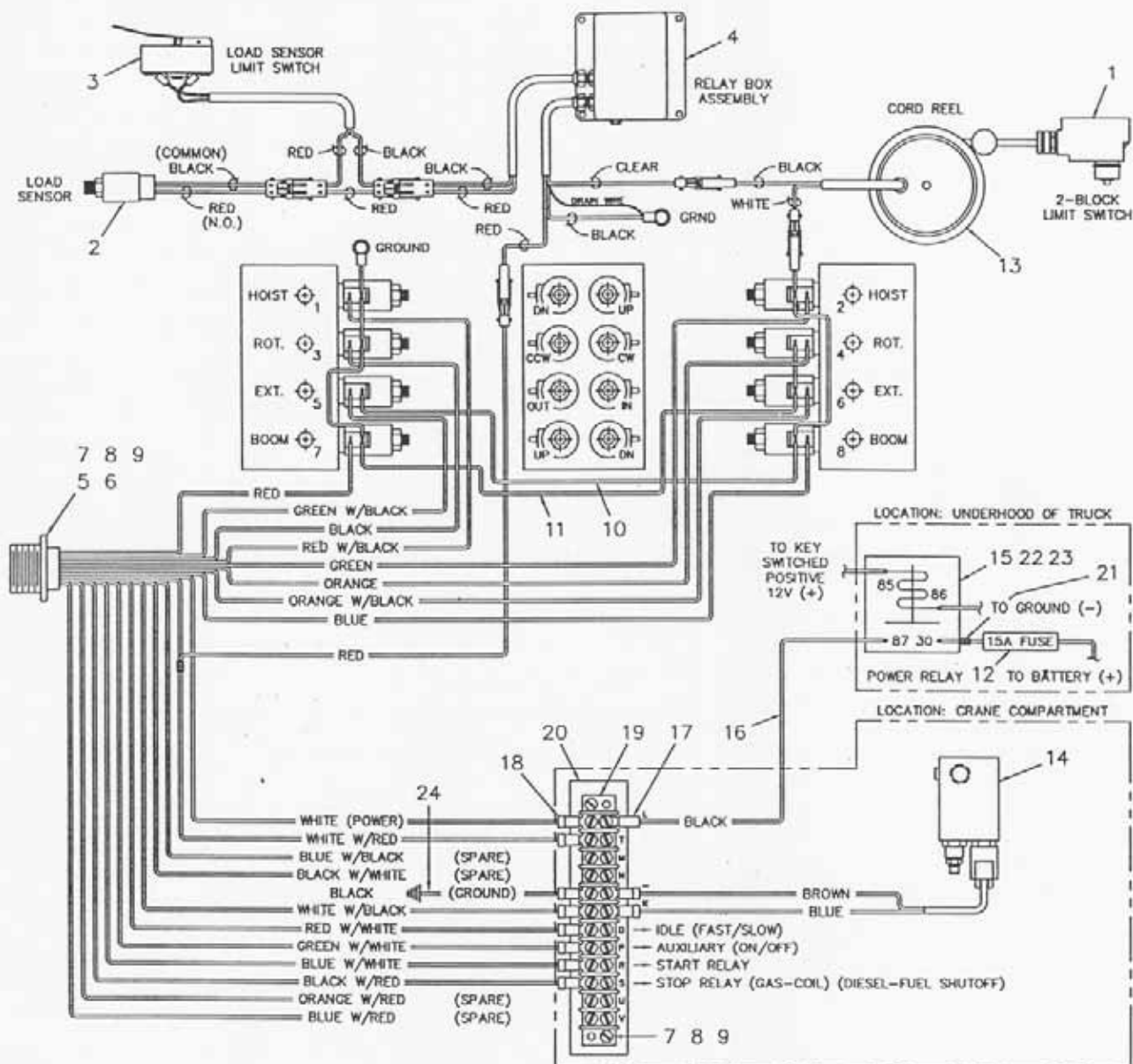
AW-480095 8005H ELECTRICAL ASSEMBLY



ITEM	QTY	PART NO.	DESCRIPTION
1	1	646900	SWITCH
2	1	480379	LOAD SENSOR ASSY
3	1	480380	LOAD SENSOR LIMIT SWITCH ASSY
4	1	366986	RELAY BOX ASSY
5	1	480597	RECEPTACLE ASSY
6	1	480547	CAP, PENDANT RECEPTACLE
7	4	000404	SCREW, RD HD #6-32 x 5/8" LG.
8	4	019600	WASHER, SP LK #6
9	4	015400	NUT, HX #6-32
10	1	480384	CONDUCTOR ASSY
11	1	480099	CONDUCTOR ASSY (POWER EXT.)
12	1	480689	FUSE (HOLDER P/N IS 480688)
13	1	366973-001	CORD REEL ASSY

ITEM	QTY	PART NO.	DESCRIPTION
14	1	480522	AMPLIFIER ASSY, PROPORTIONAL
15	1	320355	POWER RELAY
16	1	480549	CONDUCTOR, 16 Ga BLACK
17	1	340638	CONDUCTOR, POWER
18	1	001002	TERMINAL, RING
19	15	480495	TERMINAL, FLG'D SPADE (16-14 WIRE)
20	1	636600	JUMPER
21	1	635200	TERMINAL BLOCK
22	1	360610	DECAL, TERMINAL I.D.
23	2	001102	TERMINAL, WR 2RC-10
24	1	320363	PLUG, RELAY
25	5	320357	CONNECTOR, SPD LOCKING, NON-INS

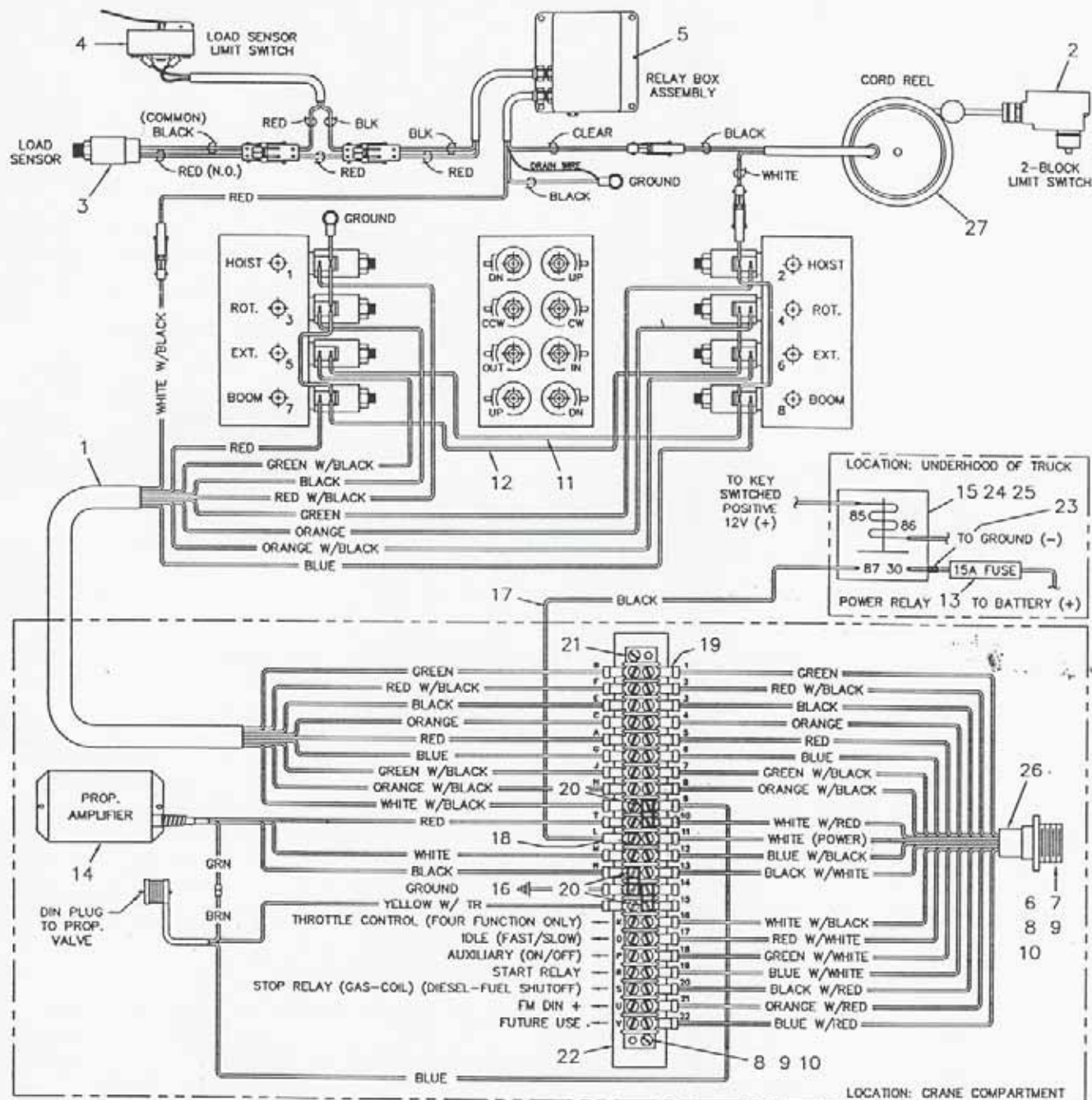
AW-117
CRANE WIRING, 8005H
w/ 4 & 8 FUNCTION PENDANTS, PROPORTIONAL (-200,-400)



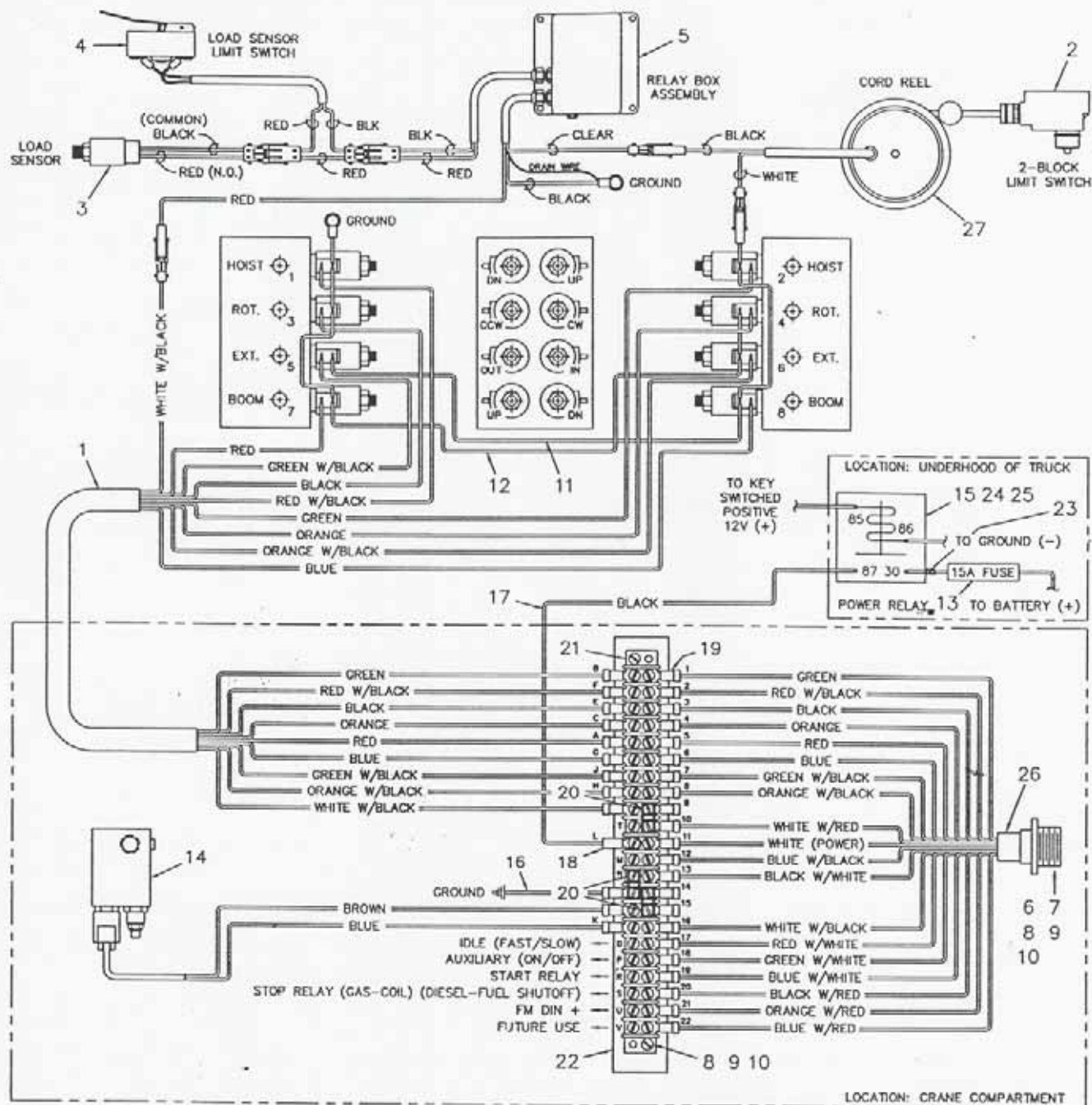
ITEM	QTY	PART NO.	DESCRIPTION
1	1	646900	SWITCH
2	1	480379	LOAD SENSOR ASSY
3	1	480380	LOAD SENSOR LIMIT SWITCH ASSY
4	1	366986	RELAY BOX ASSY
5	1	480597	RECEPTACLE ASSY
6	1	480547	CAP, PENDANT RECEPTACLE
7	4	000404	SCREW, RD HD #6-32 x 5/8" I.G.
8	4	019600	WASHER, SP LK #6
9	4	015400	NUT, HX #6-32
10	1	480384	CONDUCTOR ASSY
11	1	480099	CONDUCTOR ASSY (POWER EXT.)
12	1	480689	FUSE (HOLDER P/N IS 480688)

ITEM	QTY	PART NO.	DESCRIPTION
13	1	366973-001	CORD REEL ASSY
14	1	480157	RELIEF VALVE ASSY w/ SOLENOID
15	1	320355	POWER RELAY
16	1	340638	CONDUCTOR, POWER
17	1	001002	TERMINAL, RING
18	10	480495	TERMINAL, FLG'D SPADE (16-14 WIRE)
19	1	635200	TERMINAL BLOCK
20	1	360610	DECAL, TERMINAL I.D.
21	1	001102	TERMINAL, WR 2RC-10
22	1	320363	PLUG, RELAY
23	5	320357	CONNECTOR, SPD LOCKING, NON-INS
24	1	480549	CONDUCTOR, 16 Ga BLACK

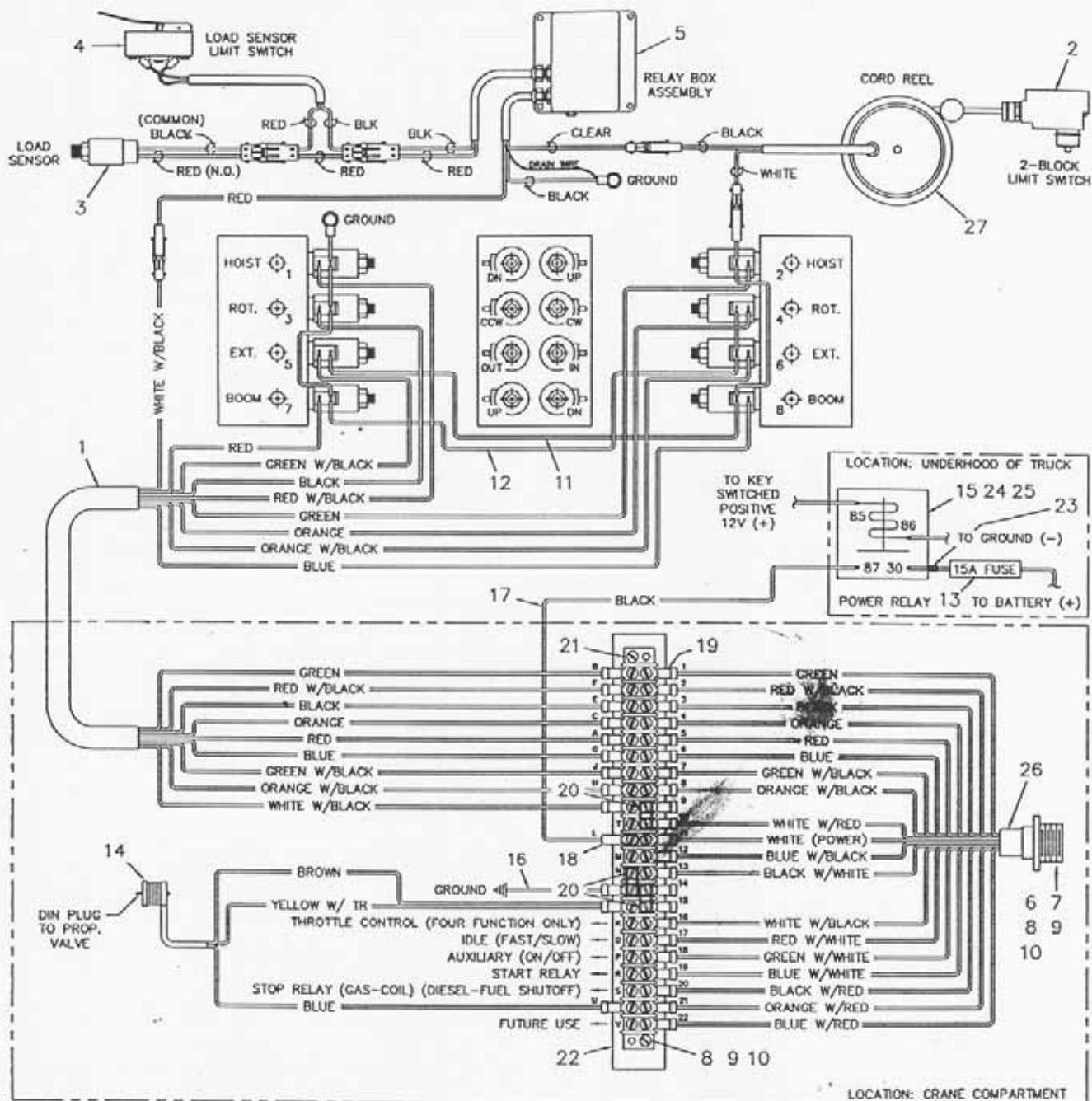
AW-120
CRANE WIRING, 8005H
w/ 4 & 8 FUNCTION PENDANTS, LESS PROPORTIONAL (-100,-300)



AW-144
CRANE WIRING, 8005H
w/ 4 & 8 FUNCTION PENDANTS, PROP. IC (-210,-410,-411,-412)



AW-147
CRANE WIRING, 8005H
w/ 4 & 8 FUNCTION PENDANTS, LESS PROP. IC (-110,-310)

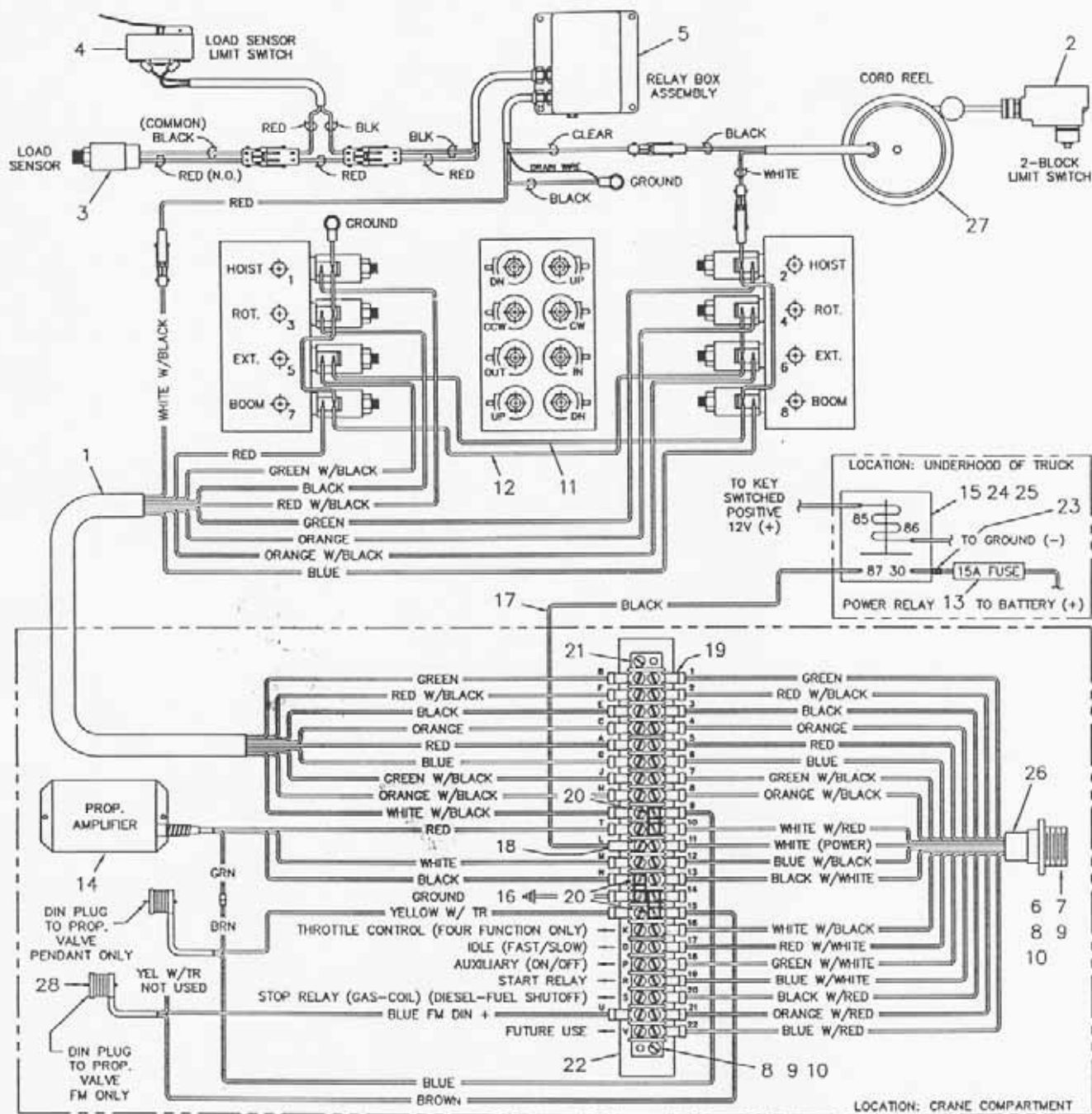


ITEM	QTY	PART NO.	DESCRIPTION
1	1	480386	HARNESS, CRANE PIGTAIL
2	1	646900	SWITCH
3	1	480379	LOAD SENSOR ASSY
4	1	480380	LOAD SENSOR LIMIT SWITCH ASSY
5	1	366986	RELAY BOX ASSY
6	1	480626	BRACKET, PENDANT RECEPTACLE
7	1	480547	CAP, PENDANT RECEPTACLE
8	4	000404	SCREW, RD HD #6-32 x 5/8" LG.
9	4	019600	WASHER, SP LK #6
10	4	015400	NUT, HX #6-32
11	1	480384	CONDUCTOR ASSY
12	1	480099	CONDUCTOR ASSY (POWER EXT.)
13	1	480689	FUSE (HOLDER P/N IS 480688)
14	1	480612	DIN PLUG ASSY

ITEM	QTY	PART NO.	DESCRIPTION
15	1	320355	POWER RELAY
16	1	480549	CONDUCTOR, 16 Ga BLACK
17	1	340638	CONDUCTOR, POWER
18	1	001002	TERMINAL, RING
19	34	480495	TERMINAL, FLG'D SPADE (16-14 WIRE)
20	3	636600	JUMPER
21	1	480494	TERMINAL BLOCK, 22 STA
22	1	480490	DECAL, 22 STA TERMINAL BLOCK
23	1	001102	TERMINAL, WR 2RC-10
24	1	320363	PLUG, RELAY
25	5	320357	CONNECTOR, SPD LOCKING, NON-INS
26	1	480491	HARNESS ASSY
27	1	366973-001	CORD REEL ASSY

AW-150
CRANE WIRING, 8005H
w/ FM REMOTE, PROPORTIONAL (-500,-520)

* NOTE: ITEM 26 INCLUDES
ITEMS 19, 20 & 21



ITEM	QTY	PART NO.	DESCRIPTION
1	1	480386	HARNESS, CRANE PIGTAIL
2	1	646900	SWITCH
3	1	480379	LOAD SENSOR ASSY
4	1	480380	LOAD SENSOR LIMIT SWITCH ASSY
5	1	366986	RELAY BOX ASSY
6	1	480626	BRACKET, PENDANT RECEPTACLE
7	1	480547	CAP, PENDANT RECEPTACLE
8	4	000404	SCREW, RD HD #6-32 x 5/8" LG.
9	4	019600	WASHER, SP LK #6
10	4	015400	NUT, HX #6-32
11	1	480384	CONDUCTOR ASSY
12	1	480099	CONDUCTOR ASSY (POWER EXT.)
13	1	480689	FUSE (HOLDER P/N IS 480688)
14	1	480522	AMPLIFIER ASSY, PROP.

ITEM	QTY	PART NO.	DESCRIPTION
15	1	320355	POWER RELAY
16	1	480549	CONDUCTOR, 16 Ga BLACK
17	1	340638	CONDUCTOR, POWER
18	1	001002	TERMINAL, RING
19	37	480495	TERMINAL, FLG'D SPADE (16-14 WIRE)
20	3	636600	JUMPER
21	1	480494	TERMINAL BLOCK, 22 STA
22	1	480490	DECAL, 22 STA TERMINAL BLOCK
23	1	001102	TERMINAL, WR 2RC-10
24	1	320363	PLUG, RELAY
25	5	320357	CONNECTOR, SPD LOCKING, NON-INS
* 26	1	480491	HARNESS ASSY
27	1	366973-001	CORD REEL ASSY
28	1	480613	DIN CONNECTOR w/ CORD

AW-176

CRANE WIRING, 8005H

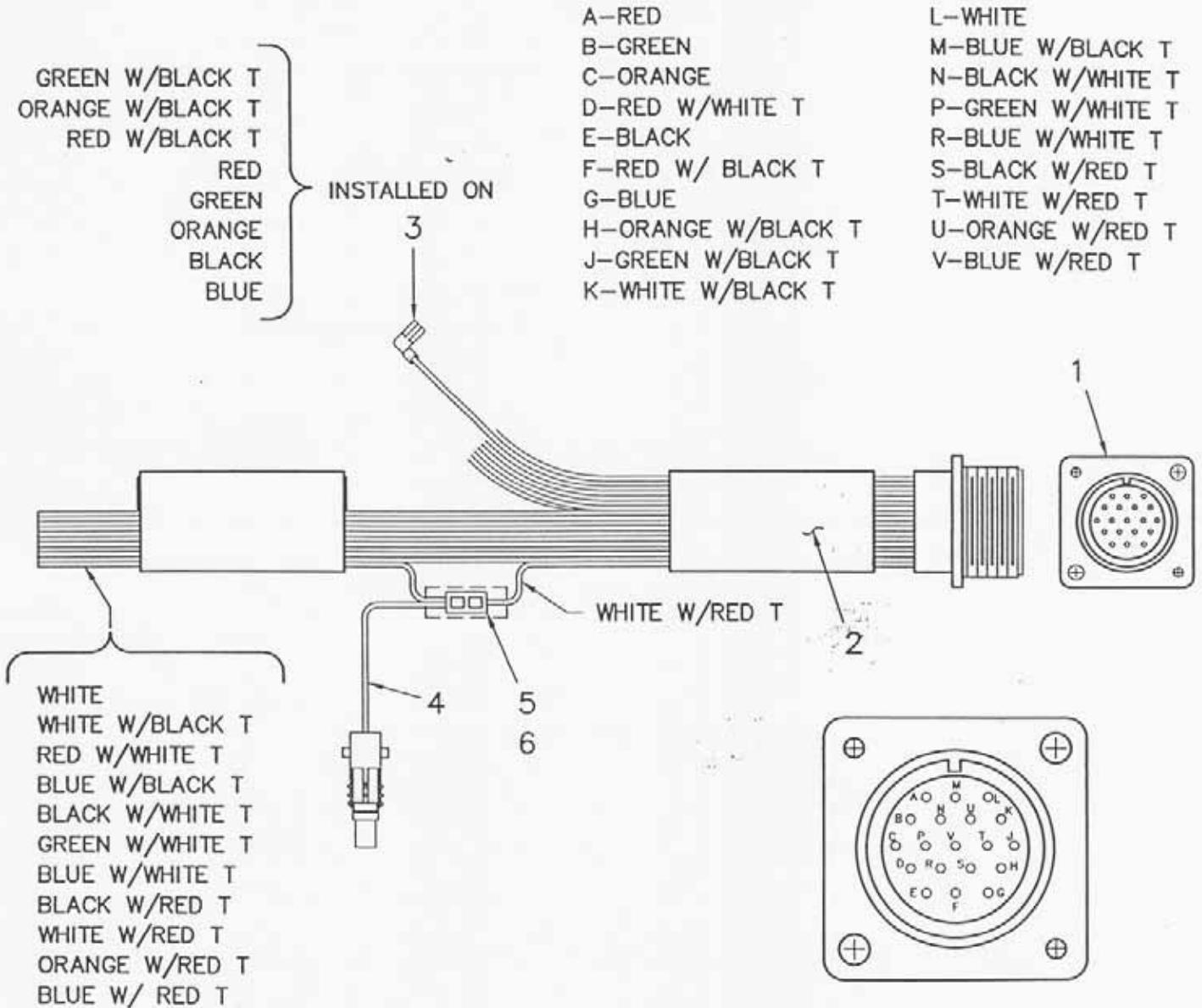
w/ 8 FUNCTION IC PROP. PENDANT & 12 FUNCTION FM REMOTE (-510,-530)

5-8.0.0

R 6/97

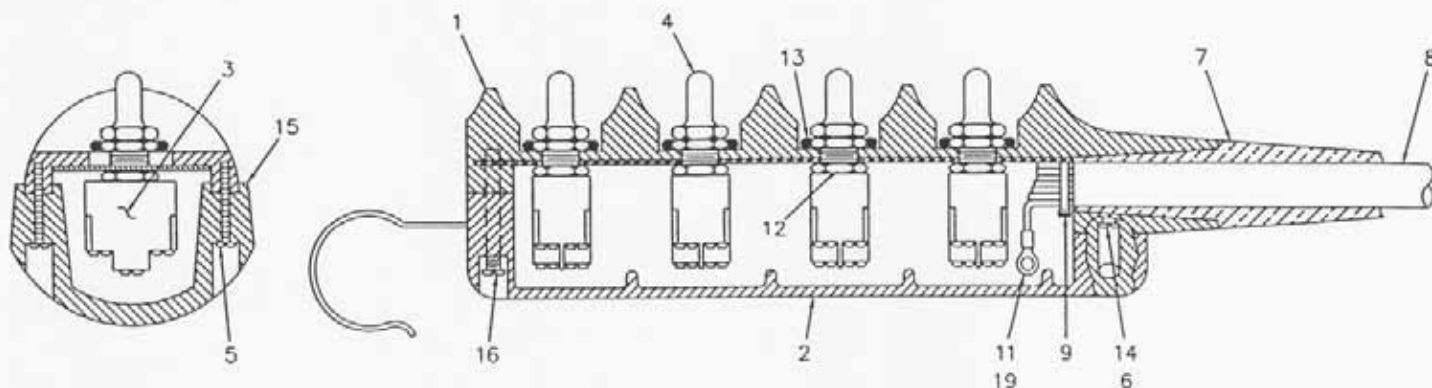
* NOTE: ITEM 26 INCLUDES
ITEMS 19, 20 & 21

WIRING GUIDE



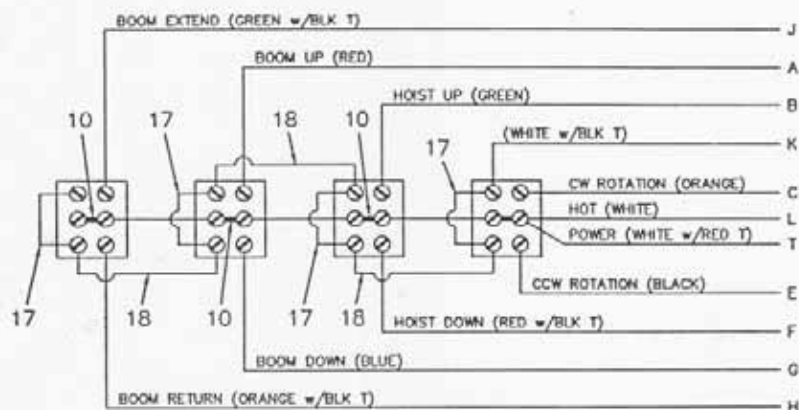
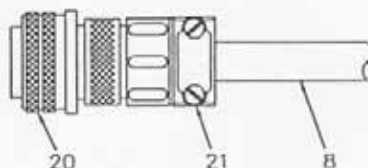
<u>ITEM</u>	<u>QTY</u>	<u>P/N</u>	<u>DESCRIPTION</u>
1	1	480542	RECEPTACLE (19 PIN)
2	1	480594-002	CONDUCTOR 16 Ga/19 CON. x 8'-0" LG.
3	8	000405	TERMINAL, FLAG
4	1	480385	CONDUCTOR ASSEMBLY, WEATHER PACK
5	1	001105	TERMINAL, BUTT CONNECTOR NON-INS
6	3"	366995	1/4" SHRINK TUBING

AW-480597
PENDANT RECEPTACLE ASSEMBLY



WIRING GUIDE

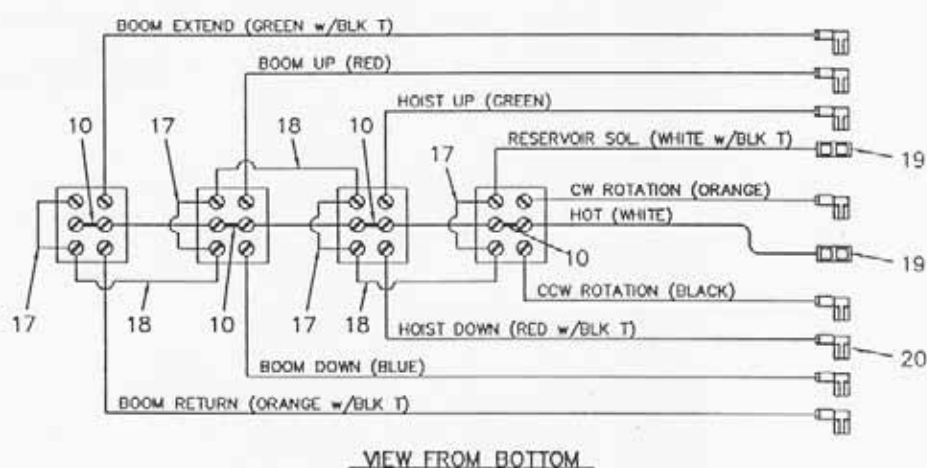
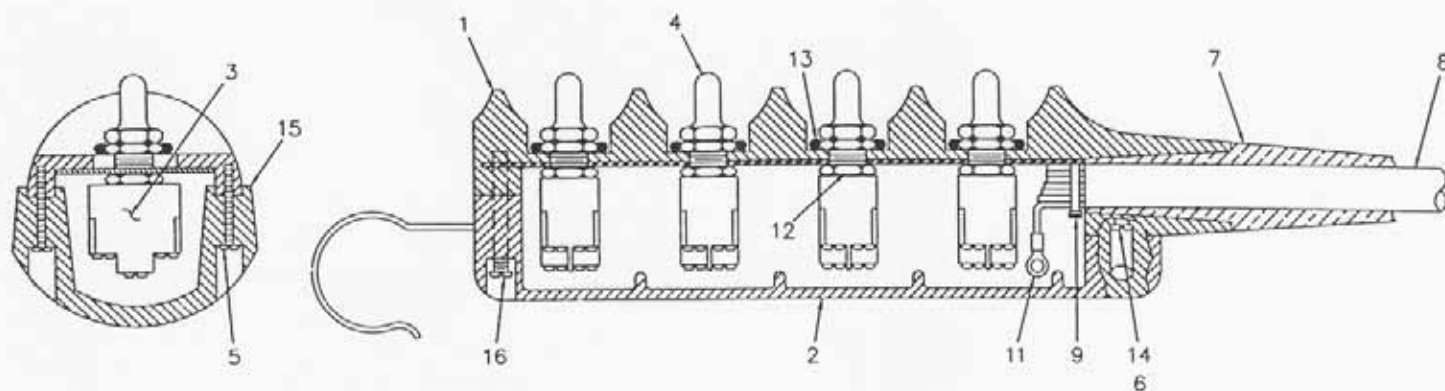
A-RED
 B-GREEN
 C-ORANGE
 D-RED W/WHITE T
 E-BLACK
 F-RED W/BLACK T
 G-BLUE
 H-ORANGE W/BLACK T
 J-GREEN W/BLACK T
 K-WHITE W/BLACK T
 L-WHITE
 M-BLUE W/BLACK T
 N-BLACK W/WHITE T
 P-GREEN W/WHITE T
 R-BLUE W/WHITE T
 S-BLACK W/RED T
 T-WHITE W/RED T
 U-ORANGE W/RED T
 V-BLUE W/RED T



VIEW FROM BOTTOM

ITEM	QTY	P/N	DESCRIPTION	ITEM	QTY	P/N	DESCRIPTION
1	1	631601	PENDANT HOUSING	11	2	000101	TERMINAL, RING #6/14-16 Ga.
2	1	631700	COVER, BOTTOM	12	4	675271	NUT, HEX
3	4	634200	SWTCH, TOGGLE	13	4	642100	"O"-RING
4	4	640302	BOOT, TOGGLE SWITCH	14	4	019700	WASHER, SP. LK. #8
5	10	005001	SCREW, PAN HD. #8 x 3/4	15	21"	800580	3/4" OKONITE RUBBER TAPE
6	2	005101	SCREW, PAN HD. #8 x 1 1/4	16	1	004700	SCREW, PAN HD. #8 x 1 1/2
7	1	633801	ADAPTER, CABLE	17	4	622346	CONDUCTOR ASSY 2 1/8" LG.
8	1	480594-001	CONDUCTOR CABLE (19 COND.)	18	3	622347	CONDUCTOR ASSY 3 1/8" LG.
9	2	634401	CABLE TIE	19	1	002012	TERMINAL, RING #6/18-22 Ga.
10	4	636600	JUMPER	20	1	480514	PLUG, CONNECTOR
				21	1	480515	CLAMP, CABLE

AW-480540
 PENDANT ASSEMBLY, 4 FUNCTION
 REMOVABLE w/ 19 PIN CONNECTOR



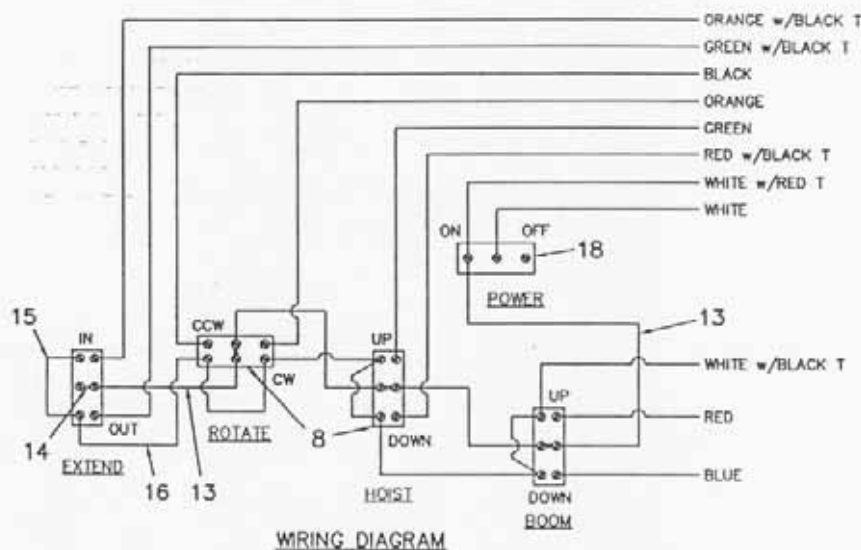
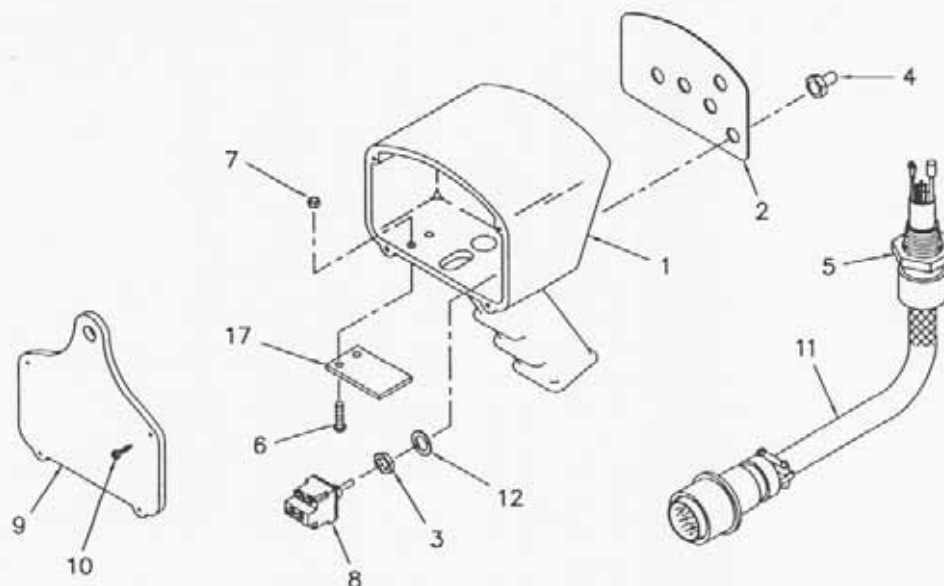
ITEM	QTY	P/N	DESCRIPTION
1	1	631601	PENDANT HOUSING
2	1	631700	COVER, BOTTOM
3	4	634200	SWITCH, TOGGLE
4	4	640302	BOOT, TOGGLE SWITCH
5	10	005001	SCREW, PAN HD. #8 x 3/4
6	2	005101	SCREW, PAN HD. #8 x 1 1/4
7	1	633801	ADAPTER, CABLE
8	1	800632-004	CONDUCTOR CABLE (27')
9	2	634401	CABLE TIE
10	4	636600	JUMPER

ITEM	QTY	P/N	DESCRIPTION
11	10	000101	TERMINAL, RING
12	4	675271	NUT, HEX
13	4	642100	"O"-RING
14	4	019700	WASHER, SP. LK. #8
15	21	800580	3/4" OKONITE RUBBER TAPE
16	1	004700	SCREW, PAN HD. #8 x 1 1/2
17	4	622346	CONDUCTOR ASSY 2 1/8" LG.
18	3	622347	CONDUCTOR ASSY 3 1/8" LG.
19	2	001102	SPLICE, BUTT (REF.)
20	8	000405	TERMINAL, FLAG (REF.)

NOTE:

ITEMS 19 & 20 ARE INCLUDED WITH ITEM 8

**AW-480093
PENDANT ASSEMBLY
4 FUNCTION, NONREMOVABLE**



ITEM QTY. PART NO. DESCRIPTION

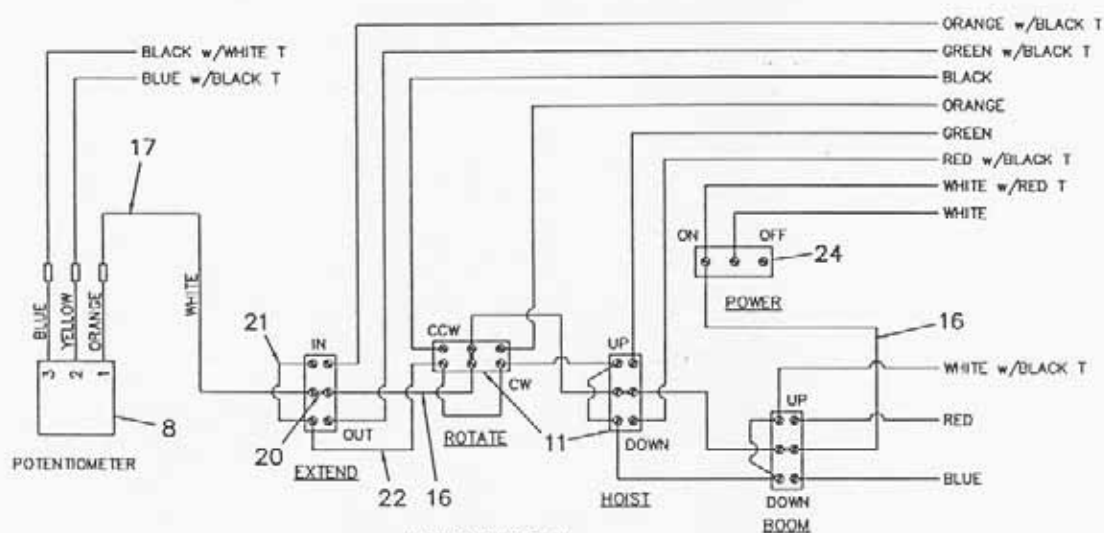
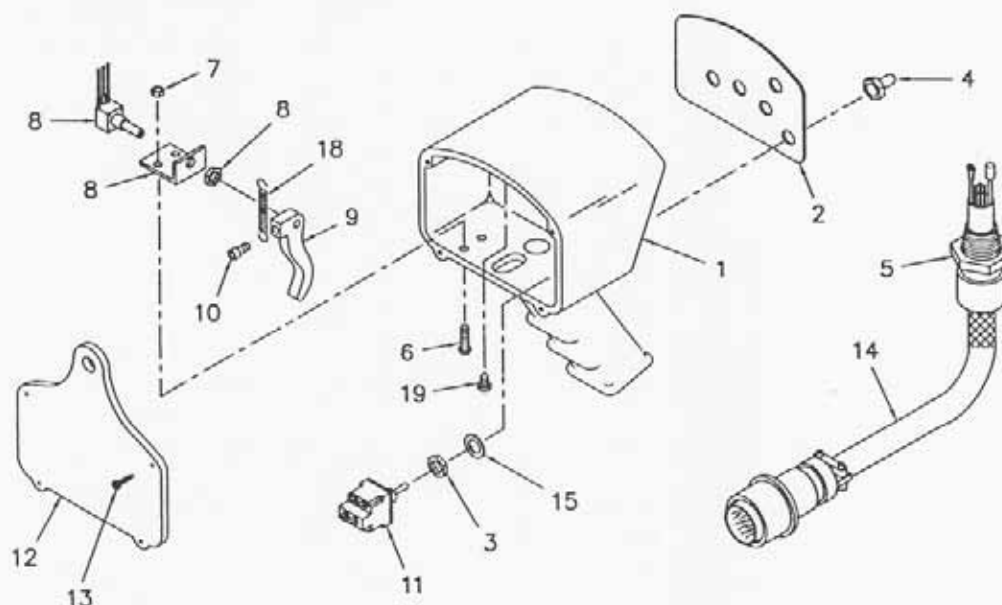
1	1	480501	PENDANT HOUSING
2	1	480513	DECAL, COVER PLATE
3	5	REF.*	NUT
4	5	640300	BOOT, TOGGLE SWITCH
5	1	480567	CORD GRIP, HUBBELL CONNECTOR
6	2	002607	SCREW, #10-24NC x 3/4
7	2	015801	NUT, HX. LK. #10-24NC
8	4	634200	SWITCH, TOGGLE DPDT
9	1	480504	BACK PLATE
10	4	480516	SCREW, S.T. RD. HD. #6 x 3/4

ITEM QTY. PART NO. DESCRIPTION

11	1	480595	CABLE ASSEMBLY
12	5	REF.*	WASHER, LOCK
13	4	660302	CONDUCTOR ASSEMBLY
14	4	636600	JUMPER
15	4	622346	CONDUCTOR ASSEMBLY 2 1/8"
16	3	622347	CONDUCTOR ASSEMBLY 3 1/8"
17	1	480598	COVER, TRIGGER OPENING
18	1	750090	SWITCH, TOGGLE ON/OFF
19	2	750737	TIE, CABLE

* COMES WITH ITEM 8

AW-480590 **PENDANT ASSEMBLY** **FOUR (4) FUNCTION, STANDARD**

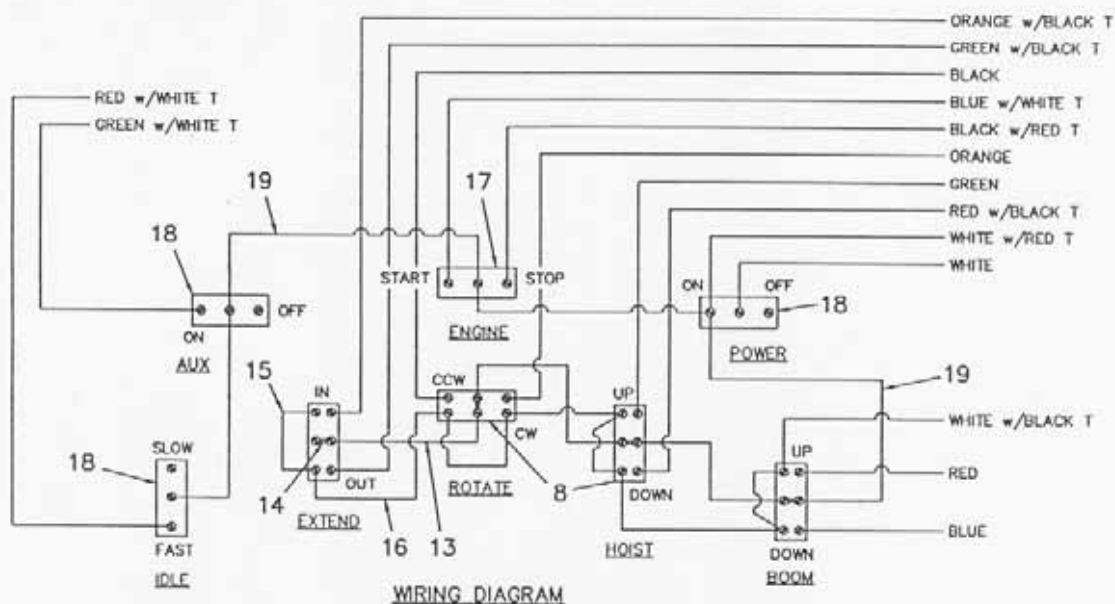
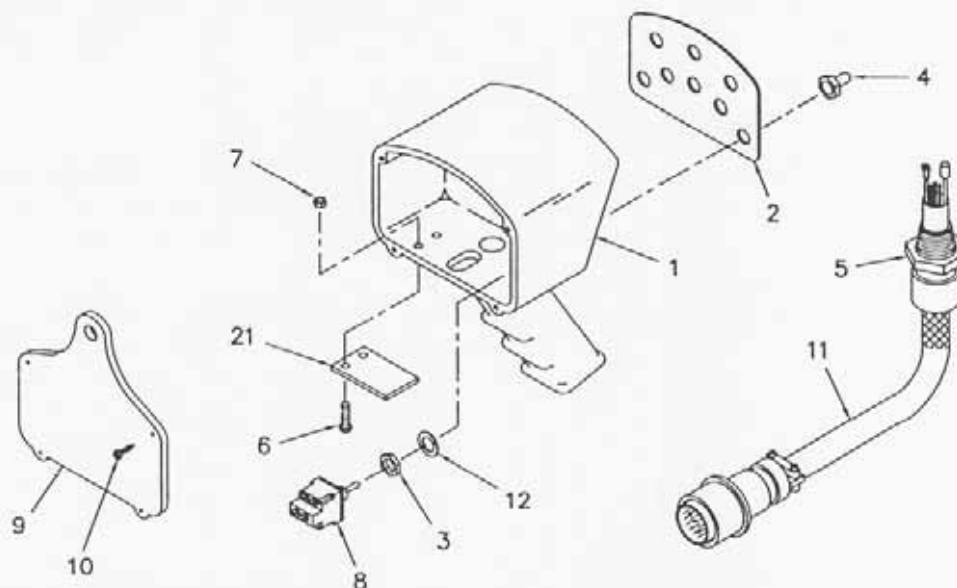


WIRING DIAGRAM

ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480501	PENDANT HOUSING	13	4	480516	SCREW, S.T. RD. HD. #6 x 3/4
2	1	480513	DECAL, COVER PLATE	14	1	480596	CABLE ASSEMBLY
3	4	REF.*	NUT	15	4	REF.*	WASHER, LOCK
4	4	640300	BOOT, TOGGLE SWITCH	16	4	660302	CONDUCTOR ASSEMBLY
5	1	480567	CORD GRIP, HUBBELL CONNECTOR	17	1	480524	CONDUCTOR ASSEMBLY
6	2	002607	SCREW, #10-24NC x 3/4	18	1	480523	SPRING, TRIGGER RETURN
7	2	015801	NUT, HX. LK. #10-24NC	19	1	005003	SCREW, PAN HD. S.T. #6 x 3/8
8	1	480507	POTENTIOMETER ASSEMBLY	20	4	636600	JUMPER
9	1	480506	TRIGGER	21	4	622346	CONDUCTOR ASSEMBLY 2 1/8"
10	1	480517	SCREW, SOC. HD. #10-32NF x 5/8	22	3	622347	CONDUCTOR ASSEMBLY 3 1/8"
11	4	634200	SWITCH, TOGGLE DPDT	23	2	750737	TIE, CABLE
12	1	480504	BACK PLATE	24	1	750090	SWITCH, TOGGLE ON/OFF

* COMES WITH ITEM 11

AW-480591 PROPORTIONAL PENDANT ASSEMBLY FOUR (4) FUNCTION



ITEM QTY. PART NO. DESCRIPTION

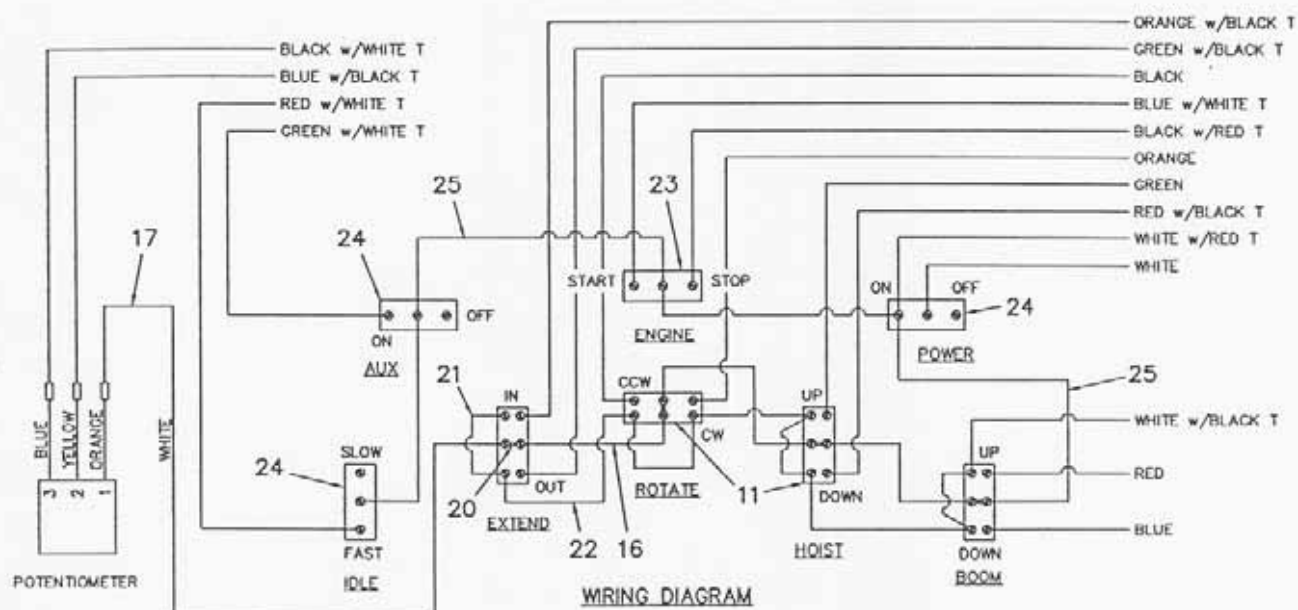
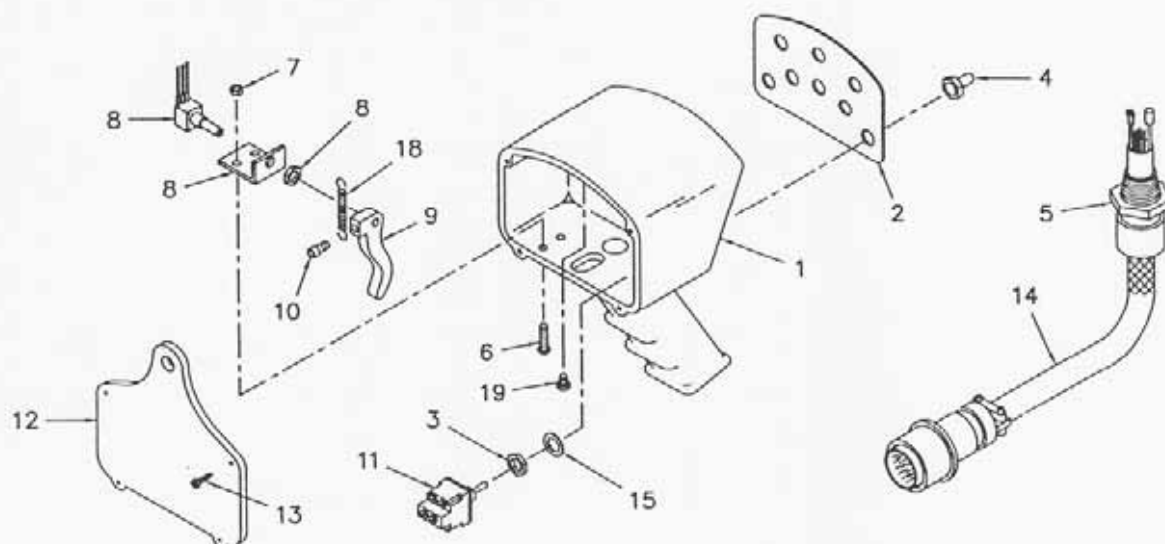
1	1	480501	PENDANT HOUSING
2	1	480518	DECAL, COVER PLATE
3	8	REF.*	NUT
4	8	640300	BOOT, TOGGLE SWITCH
5	1	480567	CORD GRIP, HUBBELL CONNECTOR
6	2	002607	SCREW, #10-24NC x 3/4
7	2	015801	NUT, HX. LK. #10-24NC
8	4	634200	SWITCH, TOGGLE DPDT
9	1	480504	BACK PLATE
10	4	480516	SCREW, S.T. RD. HD. #6 x 3/4
11	1	480588	CABLE ASSEMBLY

ITEM QTY. PART NO. DESCRIPTION

12	8	REF.*	WASHER, LOCK
13	3	660302	CONDUCTOR ASSEMBLY
14	4	636600	JUMPER
15	4	622346	CONDUCTOR ASSEMBLY 2 1/8"
16	3	622347	CONDUCTOR ASSEMBLY 3 1/8"
17	1	622000	SWITCH, TOGGLE SPDT
18	3	750090	SWITCH, TOGGLE ON/OFF
19	1	480526	CONDUCTOR ASSEMBLY
20	2	750737	TIE, CABLE
21	1	480598	COVER, TRIGGER OPENING

* COMES WITH ITEM 8

AW-480592 PENDANT ASSEMBLY EIGHT (8) FUNCTION, STANDARD



ITEM QTY. PART NO. DESCRIPTION

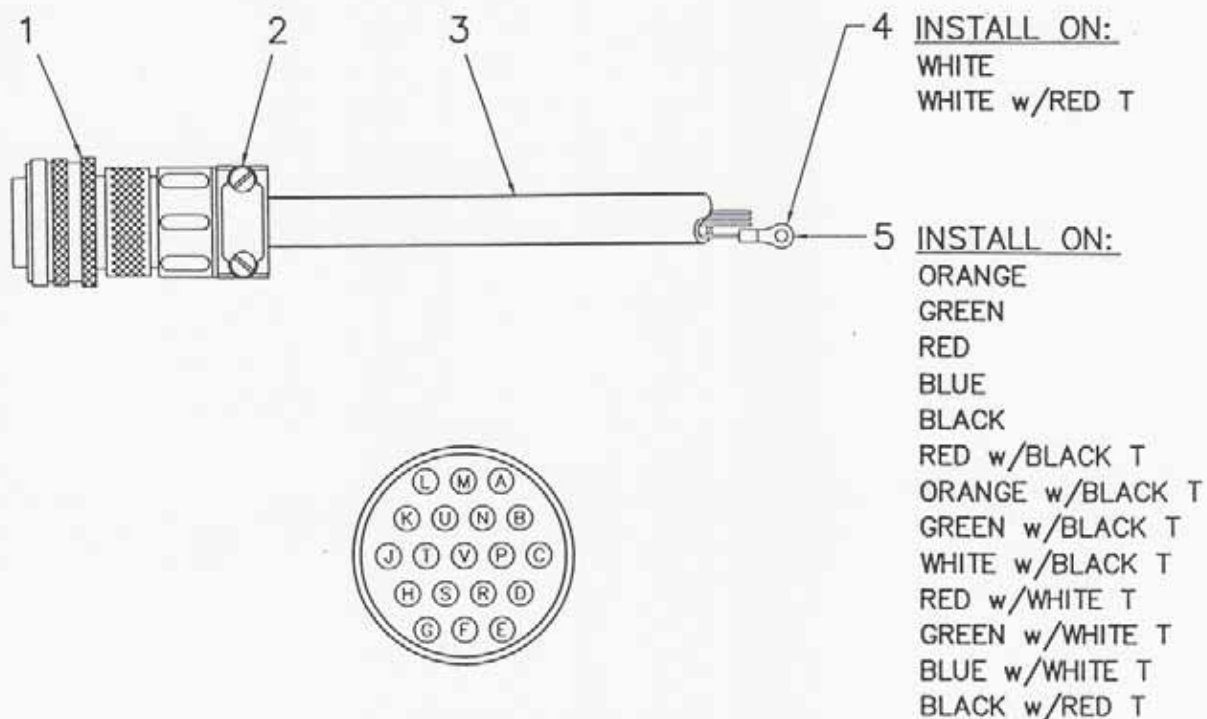
1	1	480501	PENDANT HOUSING
2	1	480518	DECAL, COVER PLATE
3	8	REF.*	NUT
4	8	640300	BOOT, TOGGLE SWITCH
5	1	480567	CORD GRIP, HUBBELL CONNECTOR
6	2	002607	SCREW, #10-24NC x 3/4
7	2	015801	NUT, HX. LK. #10-24NC
8	1	480507	POTENTIOMETER ASSEMBLY
9	1	480506	TRIGGER
10	1	480517	SCREW, SOC. HD. #10-32NF x 5/8
11	4	634200	SWITCH, TOGGLE DPDT
12	1	480504	BACK PLATE
13	4	480516	SCREW, S.T. RD. HD. #6 x 3/4

ITEM QTY. PART NO. DESCRIPTION

14	1	480589	CABLE ASSEMBLY
15	8	REF.*	WASHER, LOCK
16	3	660302	CONDUCTOR ASSEMBLY
17	1	480524	CONDUCTOR ASSEMBLY
18	1	480523	SPRING, TRIGGER RETURN
19	1	005003	SCREW, PAN HD. S.T. #6 x 3/8
20	4	636600	JUMPER
21	4	622346	CONDUCTOR ASSEMBLY 2 1/8"
22	3	622347	CONDUCTOR ASSEMBLY 3 1/8"
23	1	622000	SWITCH, TOGGLE SPDT
24	3	750090	SWITCH, TOGGLE ON/OFF
25	1	480526	CONDUCTOR ASSEMBLY
26	2	750737	TIE, CABLE

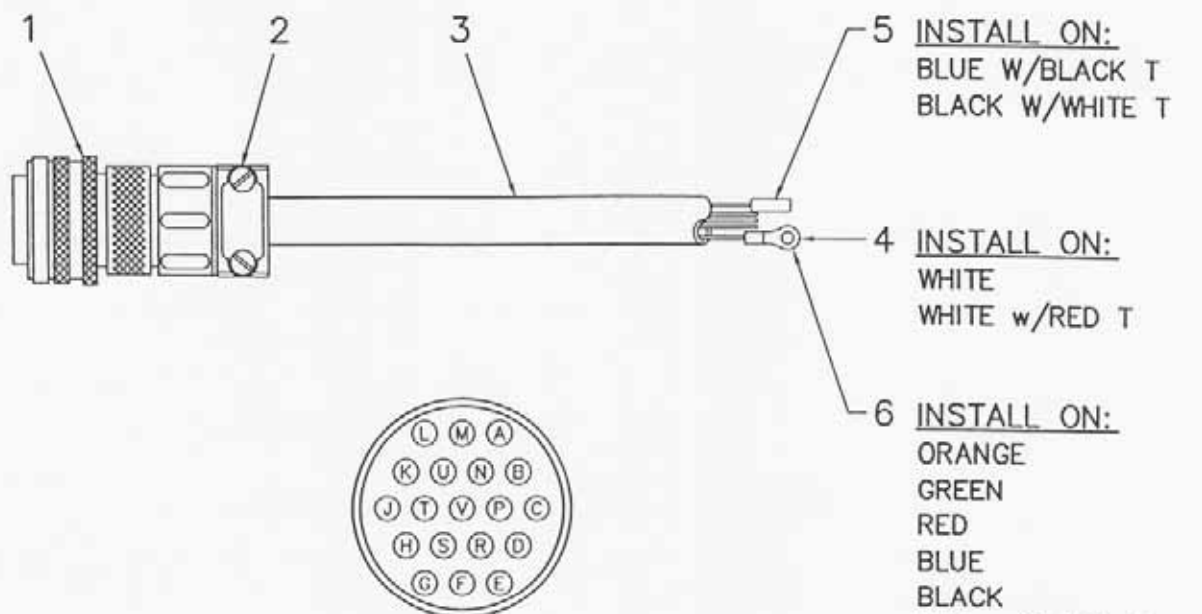
* COMES WITH ITEM 11

AW-480593 PROPORTIONAL PENDANT ASSEMBLY EIGHT (8) FUNCTION



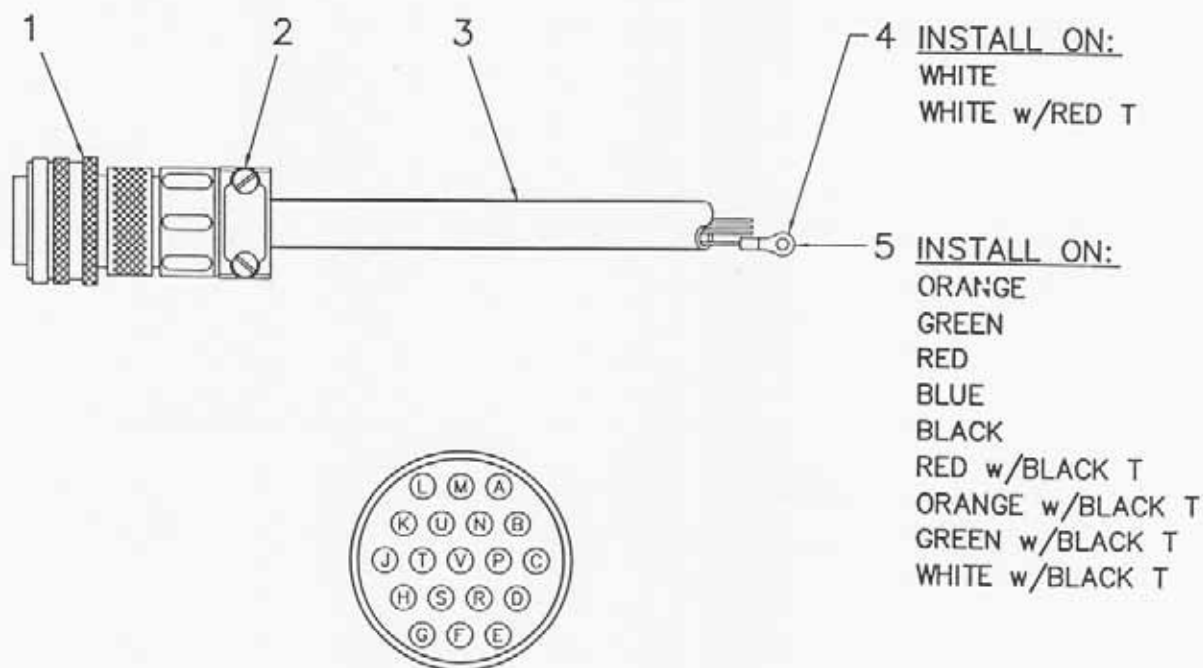
ITEM	QTY	P/N	DESCRIPTION
1	1	480514	PLUG, CONNECTOR
2	1	480515	CLAMP, CABLE
3	30'	480594-001	CABLE, CONDUCTOR (19 COND.)
4	2	000101	TERMINAL, RING #6 / 14-16 Ga
5	13	002012	TERMINAL, RING #6 / 18-22 Ga

AW-480588
PENDANT CABLE ASSEMBLY



ITEM	QTY	P/N	DESCRIPTION
1	1	480514	PLUG, CONNECTOR
2	1	480515	CLAMP, CABLE
3	30'	480594-001	CABLE, CONDUCTOR (19 COND.)
4	2	000101	TERMINAL, RING #6 / 14-16 Ga
5	2	480510	BULLET CONNECTOR, FEMALE
6	13	002012	TERMINAL, RING #6 / 18-22 Ga

AW-480589
PENDANT CABLE ASSEMBLY

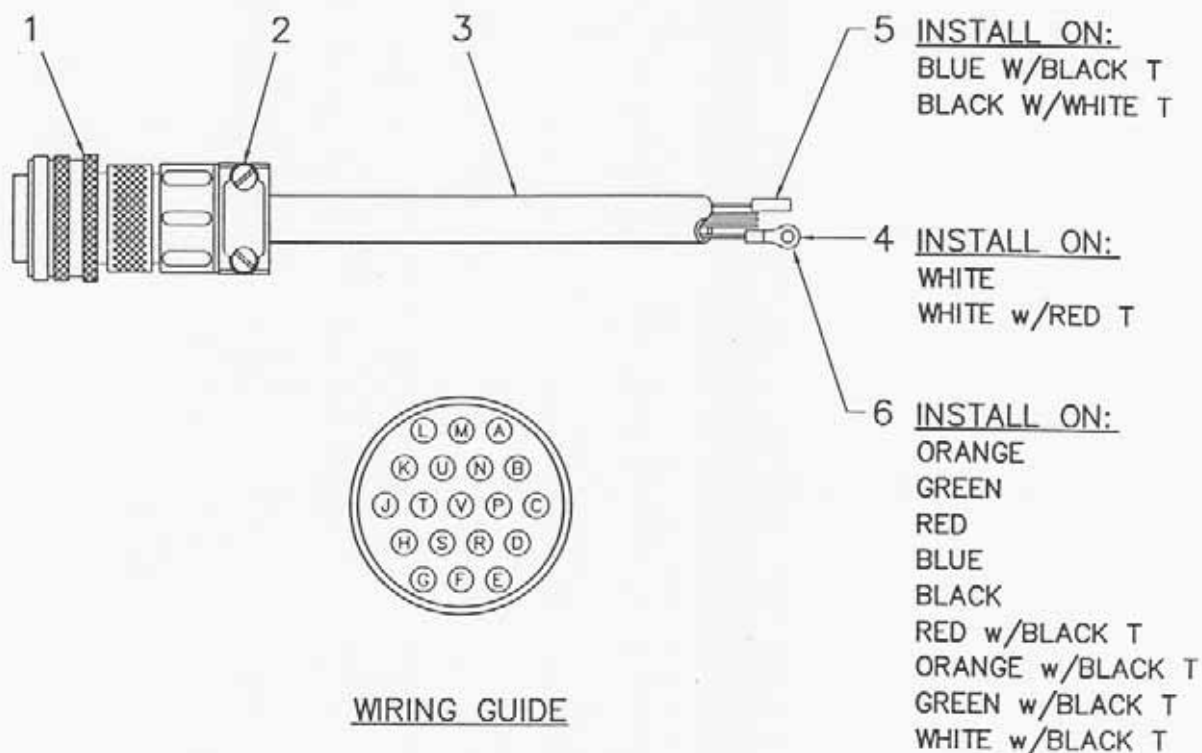


WIRING GUIDE

A-RED	L-WHITE
B-GREEN	M-BLUE W/BLACK T
C-ORANGE	N-BLACK W/WHITE T
D-RED W/WHITE T	P-GREEN W/WHITE T
E-BLACK	R-BLUE W/WHITE T
F-RED W/BLACK T	S-BLACK W/RED T
G-BLUE	T-WHITE W/RED T
H-ORANGE W/BLACK T	U-ORANGE W/RED T
J-GREEN W/BLACK T	V-BLUE W/RED T
K-WHITE W/BLACK T	

<u>ITEM</u>	<u>QTY</u>	<u>P/N</u>	<u>DESCRIPTION</u>
1	1	480514	PLUG, CONNECTOR
2	1	480515	CLAMP, CABLE
3	30'	480594-001	CABLE, CONDUCTOR (19 COND.)
4	2	000101	TERMINAL, RING #6 / 14-16 Ga
5	9	002012	TERMINAL, RING #6 / 18-22 Ga

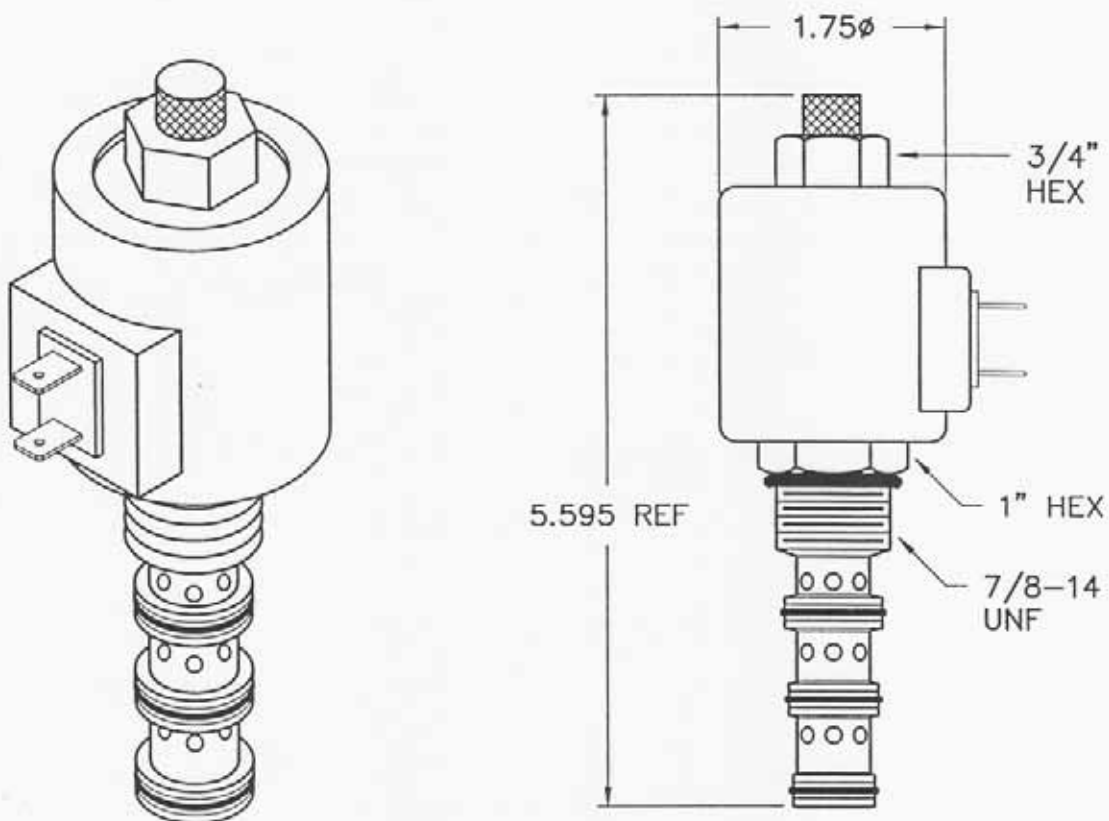
AW-480595 PENDANT CABLE ASSEMBLY



A-RED	L-WHITE
B-GREEN	M-BLUE W/BLACK T
C-ORANGE	N-BLACK W/WHITE T
D-RED W/WHITE T	P-GREEN W/WHITE T
E-BLACK	R-BLUE W/WHITE T
F-RED W/BLACK T	S-BLACK W/RED T
G-BLUE	T-WHITE W/RED T
H-ORANGE W/BLACK T	U-ORANGE W/RED T
J-GREEN W/BLACK T	V-BLUE W/RED T
K-WHITE W/BLACK T	

ITEM	QTY	P/N	DESCRIPTION
1	1	480514	PLUG, CONNECTOR
2	1	480515	CLAMP, CABLE
3	30'	480594-001	CABLE, CONDUCTOR (19 COND.)
4	2	000101	TERMINAL, RING #6 / 14-16 Ga
5	2	480510	BULLET CONNECTOR, FEMALE
6	9	002012	TERMINAL, RING #6 / 18-22 Ga

AW-480596
PENDANT CABLE ASSEMBLY

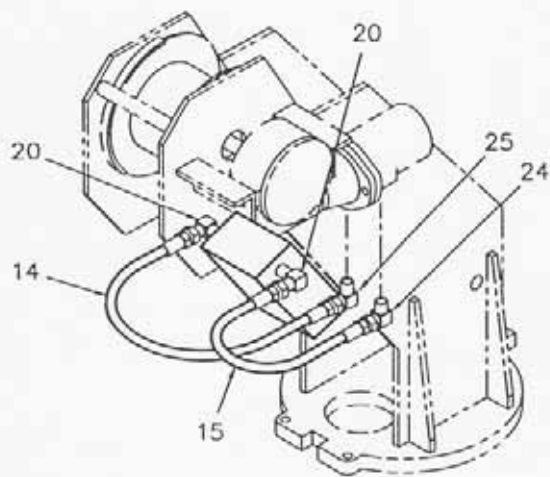


NOTES:

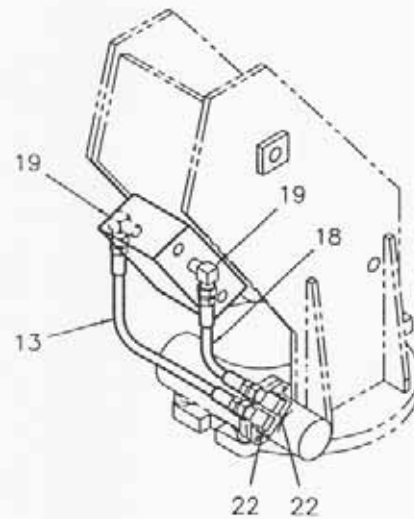
- 1.) FOR SEAL KIT, ORDER PART NO. 480184-002
- 2.) FOR REPLACEMENT COIL, ORDER PART NO. 480184-003

AW-480184
CARTRIDGE VALVE

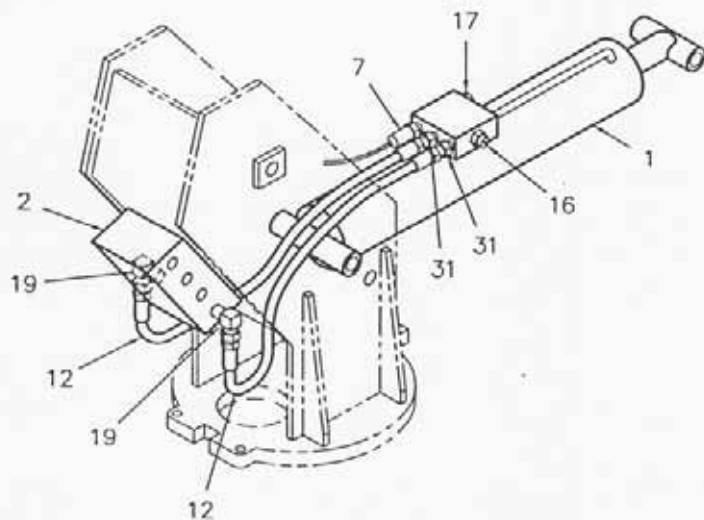
NOTES



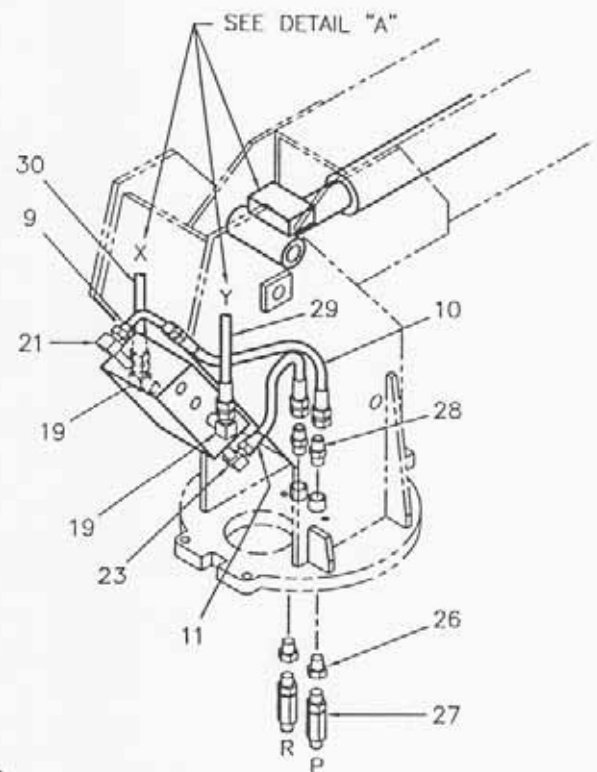
HOIST
(TOP SPOOL)



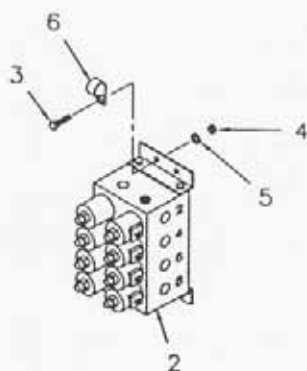
ROTATION
(2nd SPOOL FROM TOP)



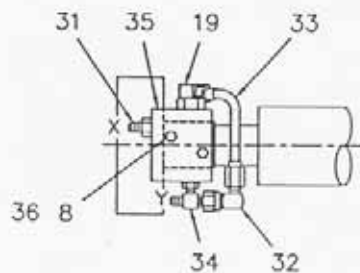
BOOM-UP
(BOTTOM SPOOL)



PRESSURE / RETURN
EXTENSION
(3rd SPOOL FROM TOP)



VALVE BANK

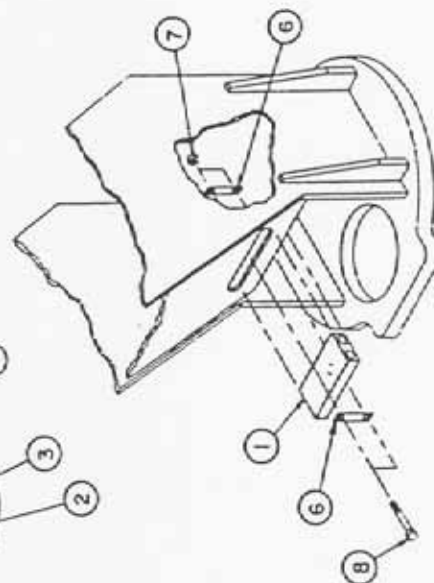
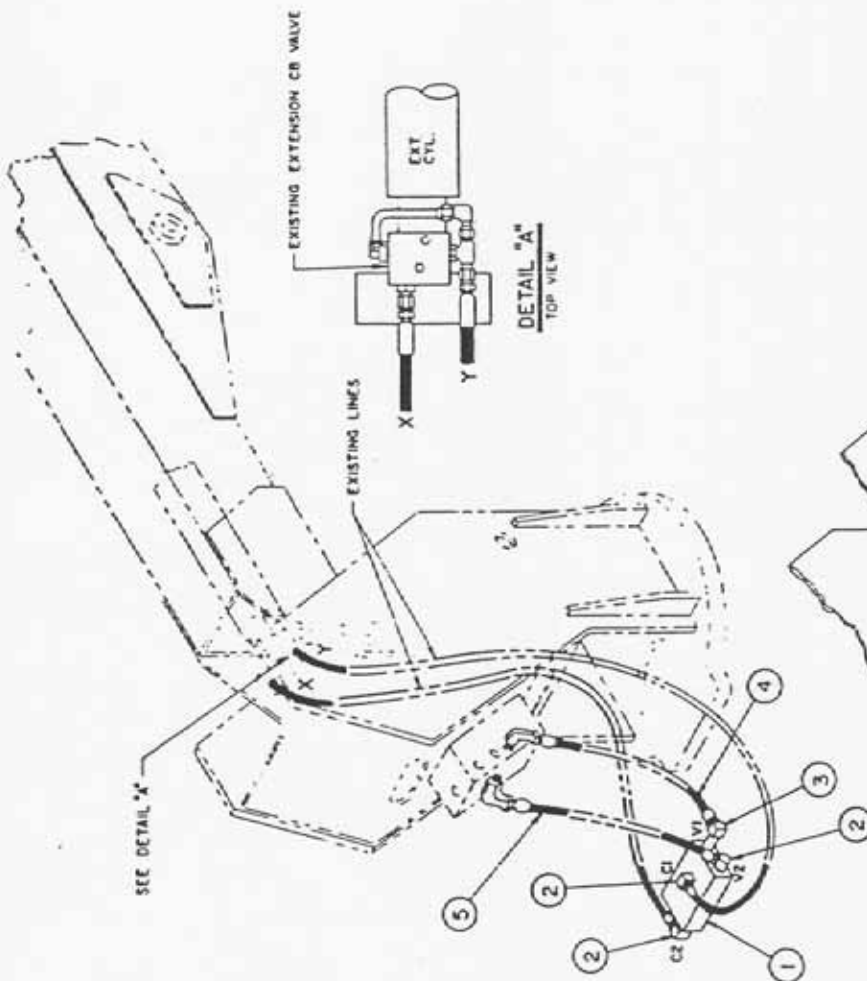


DETAIL "A"

AW-480573
HYDRAULIC ASSEMBLY, 8005H

8005H HYDRAULIC ASSEMBLY AW-480573

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480377	CYLINDER, BOOM
2	1	480181	VALVE BANK ASSEMBLY
3	4	008701	SCREW, HEX HD. 3/8-16NC x 1" LG.
4	4	017100	NUT, HEX 3/8-16NC
5	4	021100	WASHER, SP. LK. 3/8
6	1	480024	MOUNT, PENDANT RETAINER
7	1	480379	LOAD SENSOR ASSEMBLY
8	2	020200	WASHER, SP. LK. 1/4
9	1	480211	TUBE ASSEMBLY
10	1	480200	HOSE ASSEMBLY (PRESSURE)
11	1	480201	HOSE ASSEMBLY (RETURN)
12	2	480208	HOSE ASSEMBLY (BOOM UP 31 1/2")
13	1	480205	HOSE ASSEMBLY (ROTATION 19 1/4")
14	1	480203	HOSE ASSEMBLY (HOIST 24 3/4")
15	1	480202	HOSE ASSEMBLY (HOIST 21 1/2")
16	1	480188	COUNTERBALANCE VALVE CARTRIDGE
17	1	REF.	PLUG, -6 O-RING
18	1	480204	HOSE ASSEMBLY (ROTATION 17 1/2")
19	7	200892	ELL, 90° -6 NPT / -6 JIC
20	2	360044	ELL, 90° -6 NPT / -8 JIC STD.
21	1	480190	ELL, 90° -6 NPT / -8 JIC X-LONG
22	2	202759	ELL, 90° -8 NPT / -6 JIC
23	1	480213	ELL, 90° -6 NPT / -8 JIC LONG
24	1	360043	ELL, 90° -8 NPT / -8 JIC
25	1	360045	ELL, 90° -8 NPT / -8 JIC MED. LONG
26	2	750413	REDUCER
27	2	750412	SWIVEL JOINT
28	2	360054	ADAPTER
29	1	480207	HOSE ASSEMBLY (EXT. CYL. 45 1/2")
30	1	480206	HOSE ASSEMBLY (EXT. CYL. 44")
31	3	200876	ADAPTER, -6 O-RING / -6 JIC
32	1	480194	ELL, 90° -6 JIC SWIVEL / -6 JIC
33	1	480212	TUBE ASSEMBLY
34	1	241168	TEE, -6 O-RING / -6 JIC RUN
35	1	330412	VALVE, COUNTERBALANCE
36	2	005810	SCREW, HEX HD. 1/4-20NC x 1 3/4" LG. GR.5



INSTALLATION & LOCATION
OF COUNTERBALANCE VALVE

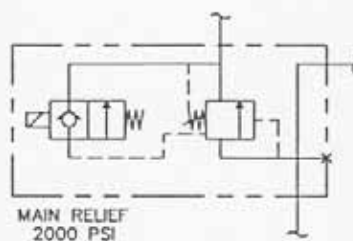
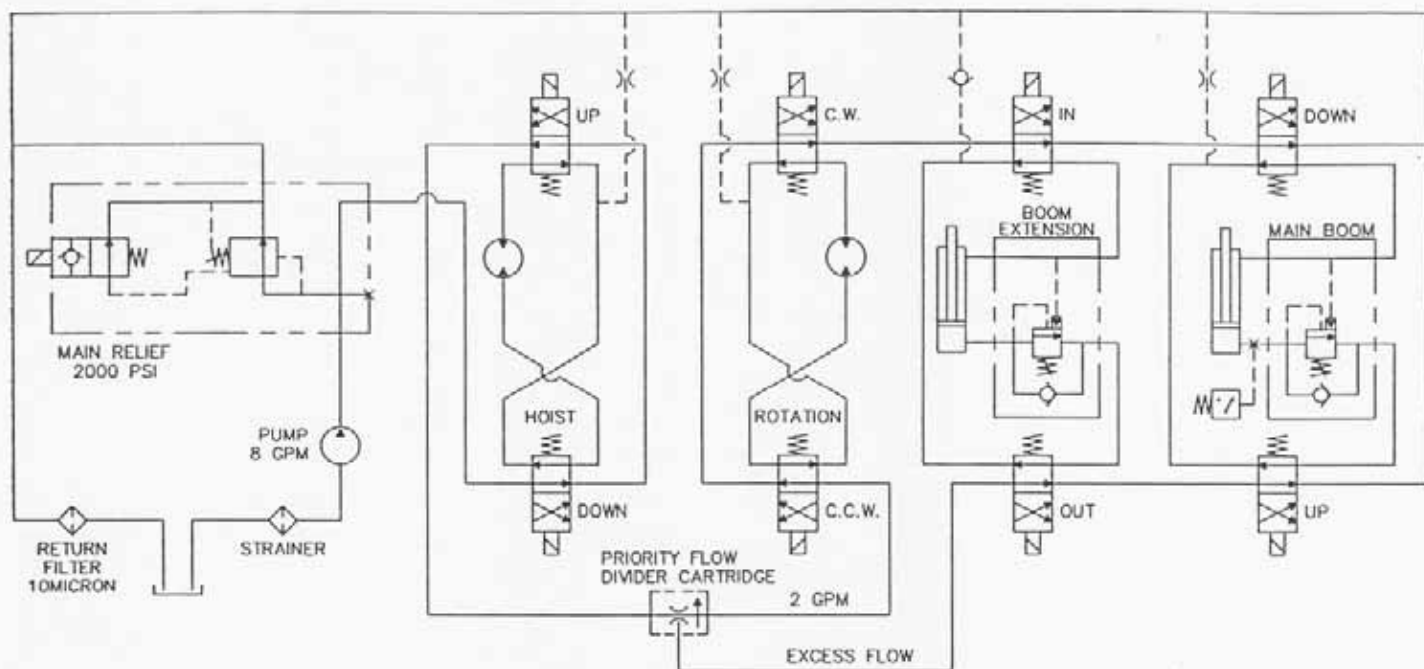
NOTES:

1. FOR USE WHEN MANIFOLD RETURN LINE BACK PRESSURE EXCEEDS 100 PSI (TO ELIMINATE POSSIBLE BOOM OUT CREEP)
2. COUNTERBALANCE CARTRIDGE, SUN CBCA-LAN SET TO 4000 PSI WITH 3:1 PILOT RATIO
3. AFTER INSTALLATION, BOOM EXTEND PRESSURE WILL BE HIGHER

ITEM	QTY	DTS	PART NO	DESCRIPTION
8	2	A	007803	SCR. HX. HD 5/16-NC x 3 1/2 LG.
7	2	A	016801	NUT HEX-LOCK 5/16-NC
6	2	B	480218	CLAMP, COUNTERBALANCE VALVE
5	1	A	480204	HOSE ASS'Y
4	1	A	480204	HOSE ASS'Y
3	1	A	360046	90° ELL. LONG -6 NPT/-6 JIC
2	3	A	200892	90° ELL. -6 NPT/-6 JIC
1	1	A	480187	COUNTERBALANCE VALVE

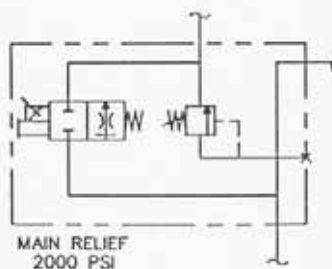
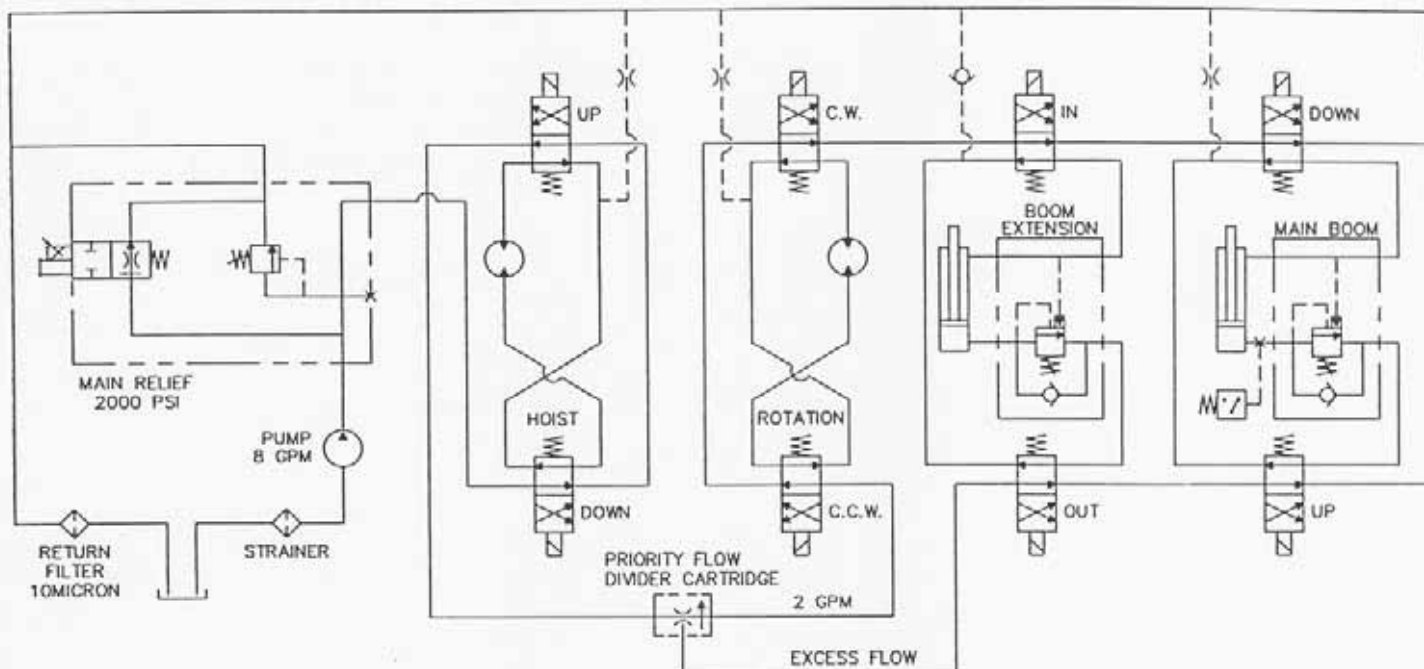
UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN BY DATE CHECKED BY DATE ENG. BY DATE		LIST OF MATERIAL	
ANGLES 1/4" UP SEE 1/4" FRACTIONAL 1/8" SEE 1/8" REMOVE ALL BURRS AND BUMP EDGES DO NOT SCALE THIS DRAWING TO MATCH PHOTOGRAPH TO DIMENSIONS NOTED ABOVE AND PER AND THE 1973		THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS		TITLE	
NEXT ASSY		SCALE		AW-480219	
REV		C		AW-480219	
REVISION		1		OF 1	
COUNTERBALANCE KIT, "EXT. IN" FOR 8005H		AW-480219		1	
P.O. BOX 10041 • TULSA, OKLA. 74114-0041		1201 NORTH WING ROAD • BIRMINGHAM		1	
AUTO CRANE COMPANY		1201 NORTH WING ROAD • BIRMINGHAM		1	

NOTES



RELIEF VALVE SHOWN
WITH SOLENOID ENERGIZED

**AW-480653
HYDRAULIC SCHEMATIC, 8005H**



RELIEF VALVE SHOWN
WITH SOLENOID ENERGIZED

AW-125 HYDRAULIC SCHEMATIC, 8005H PROPORTIONAL

FIXTURE NO.		FINISH NO.		CHG LTR		REVISIONS		DESCRIPTION		DATE		APP'D	
4.187" .438" DIA. THRU. 2 HOLES 6.06" 5.28" 3/4-14 NPT. 2 PLACES													

NOTE: PUMP SPEED-1000 R.P.M. (STANDARD)

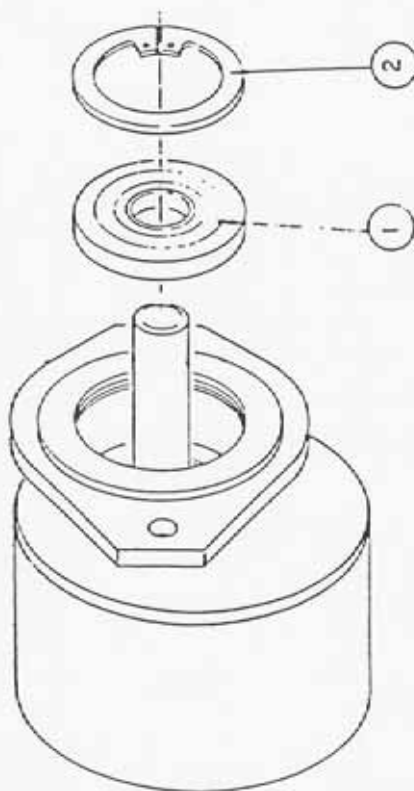
ADAPTER: SAE "A" 2 BOLT FLANGE (DIRECT MOUNT ONLY)
SHAFT: STRAIGHT SHAFT WITH KEY 3/4" DIA. 2-3/4" LONG 3/16"
SQ. KEY 1-5/8" LONG.

NOTES:

- TO ORDER HYD. PUMP ASSEMBLY
USE PART NO. 480022, WHICH CON-
SISTS OF HYD. PUMP (480018), 3/4
14 NPT / 15/16-12 JIC SUCTION ADAP-
TER (360055), AND 3/4-14 NPT / 1 1/16-12 JIC
PRESSURE ADAPTER (750399).
- FOR SEAL KIT USE PART NO. 480018-001.
- FOR SERVICE KIT USE PART NO. 480018-002.

ITEM		QTY	D/S	PART NO.	DESCRIPTION																		
LIST OF MATERIAL																							
AUTO CRANE COMPANY																							
<table border="0" style="width: 100%;"> <tr> <td style="width: 33%;">DRAWN BY <i>B. DAY</i></td> <td style="width: 33%;">TITLE PUMP, HYDRAULIC - DIRECT MOUNT</td> <td style="width: 33%;">REVISION</td> </tr> <tr> <td>DATE 2-17-82</td> <td>SCALE B</td> <td>DRAWING NO. AW-480018</td> </tr> <tr> <td>CHK'D BY</td> <td>SIZE</td> <td>WEIGHT</td> </tr> <tr> <td>DATE</td> <td>SCALE</td> <td>WEIGHT</td> </tr> <tr> <td>ENG. BY</td> <td>SCALE</td> <td>WEIGHT</td> </tr> <tr> <td>DATE</td> <td>SCALE</td> <td>WEIGHT</td> </tr> </table>						DRAWN BY <i>B. DAY</i>	TITLE PUMP, HYDRAULIC - DIRECT MOUNT	REVISION	DATE 2-17-82	SCALE B	DRAWING NO. AW-480018	CHK'D BY	SIZE	WEIGHT	DATE	SCALE	WEIGHT	ENG. BY	SCALE	WEIGHT	DATE	SCALE	WEIGHT
DRAWN BY <i>B. DAY</i>	TITLE PUMP, HYDRAULIC - DIRECT MOUNT	REVISION																					
DATE 2-17-82	SCALE B	DRAWING NO. AW-480018																					
CHK'D BY	SIZE	WEIGHT																					
DATE	SCALE	WEIGHT																					
ENG. BY	SCALE	WEIGHT																					
DATE	SCALE	WEIGHT																					
UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: <table border="0" style="width: 100%;"> <tr> <td>ANGLES ± 1/2°</td> <td>XX ± .040</td> </tr> <tr> <td>FRACTIONAL ± 1/16</td> <td>XXX ± .010</td> </tr> </table> REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING. TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973 THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRI- MENTAL TO THEIR INTERESTS.						ANGLES ± 1/2°	XX ± .040	FRACTIONAL ± 1/16	XXX ± .010														
ANGLES ± 1/2°	XX ± .040																						
FRACTIONAL ± 1/16	XXX ± .010																						
NEXT ASSY																							

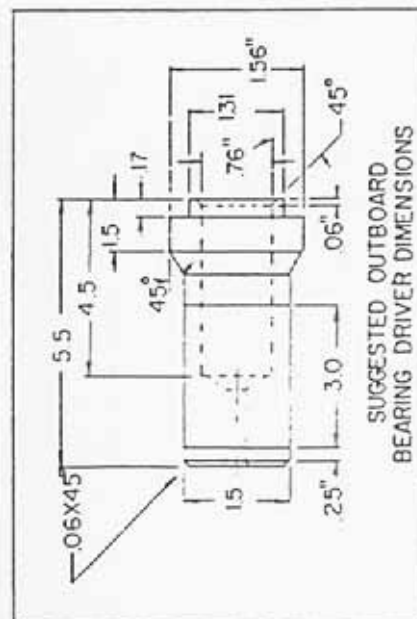
3/89



NOTE:

1. MAXIMUM NORMAL U-JOINT SHAFT OPERATING ANGLE - 10°.
2. MAXIMUM R.P.M. - 1500.
3. PUMP SHAFT AND P.T.O. SHAFT SHALL BE PARALLEL.
4. SLIDE BEARING OVER SHAFT.
5. WITH EVEN PRESSURE, SEAT BEARING.
6. INSTALL SNAP RING.

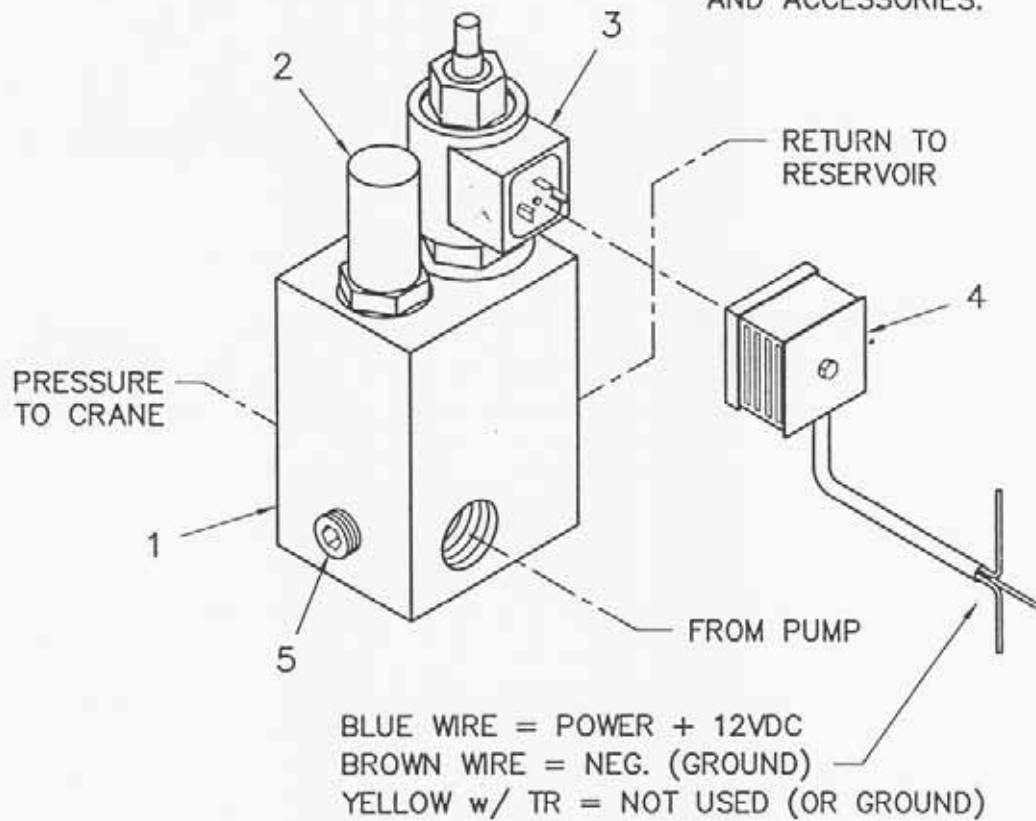
OUTBOARD BEARING KIT IS REQUIRED FOR DRIVE SHAFT MOUNTING!



QUANTITY		ITEM D/S		PART NO.		DESCRIPTION	
1	2	A	480008			SNAP RING	
1	1	A	480007			OUTBOARD BEARING	
LIST OF MATERIAL							
UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED:							
ANGLES: 1/2°							
FRACTIONAL: 1/16 .001 .015 .031 .062 .125 .250 .500 .750 1.000 1.500 2.000 3.000 4.000 5.000 6.000 7.000 8.000 9.000 10.000 12.000 15.000 18.000 20.000 25.000 30.000 36.000 45.000 60.000 72.000 90.000 108.000 126.000 144.000 162.000 180.000 216.000 270.000 324.000 360.000							
REMOVE ALL BURRS AND SHARP EDGES DO NOT SCALE THIS DRAWING							
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5, M19							
THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER OTHER THAN THAT FOR WHICH IT WAS PREPARED.							
NEXT ASSY							
TITLE							
DRAWN BY							
CHECKED BY							
SCALE							
WEIGHT							
SHEET 1 OF 1							
REVISED							
AW-480006							
OUTBOARD BEARING KIT, PUMP							
AUTO CRANE COMPANY							
P.O. BOX 3508 • TULSA, OKLAHOMA 74114							
8700 BROOKEN ARROW EXPRESSWAY • 918 237-4175							

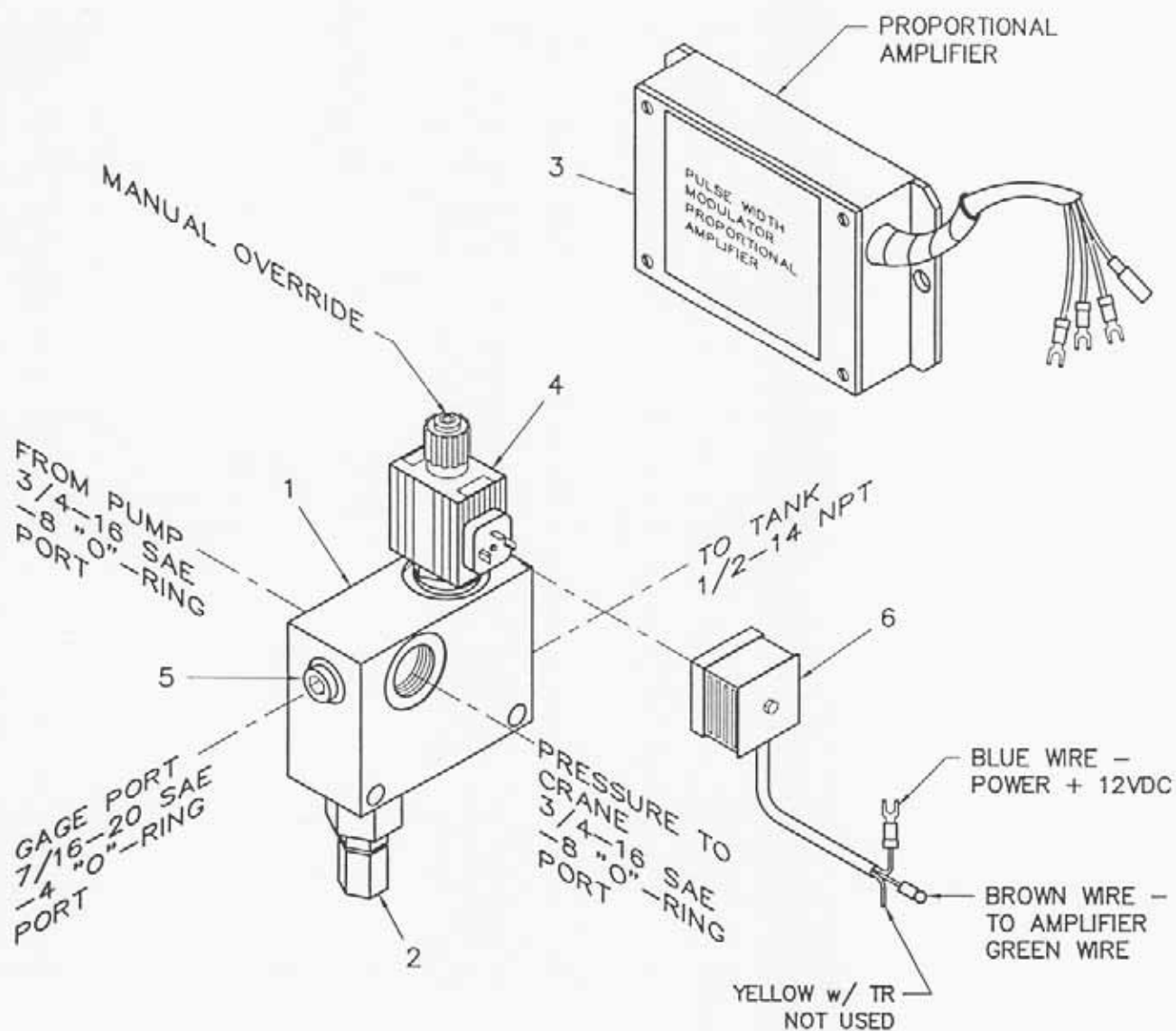
NOTE:

RELIEF VALVE MUST BE
LOCATED BETWEEN PUMP
AND ANY OTHER VALVES
AND ACCESSORIES.



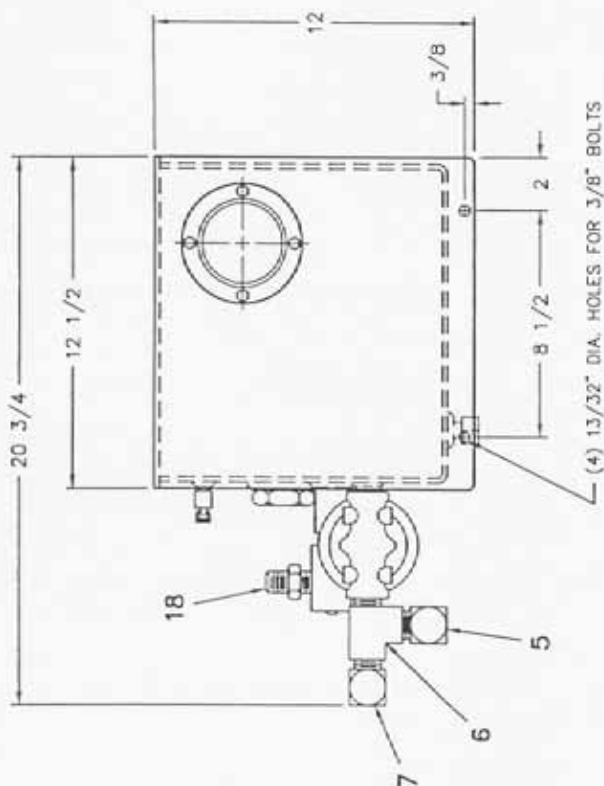
<u>ITEM</u>	<u>QTY</u>	<u>P/N</u>	<u>DESCRIPTION</u>
1	1	480135	VALVE, VENTED RELIEF 2000 PSI
2		480135-001	REPLACEMENT CARTRIDGE
3	1	480137	VALVE, DIRECTIONAL SOLENOID
4	1	480613	DIN CONNECTOR
5	1	000209	PLUG, PIPE - SOC. 1/4"

AW-480157
VENTED RELIEF VALVE
ASSEMBLY w/ SOLENOID (2000 PSI)

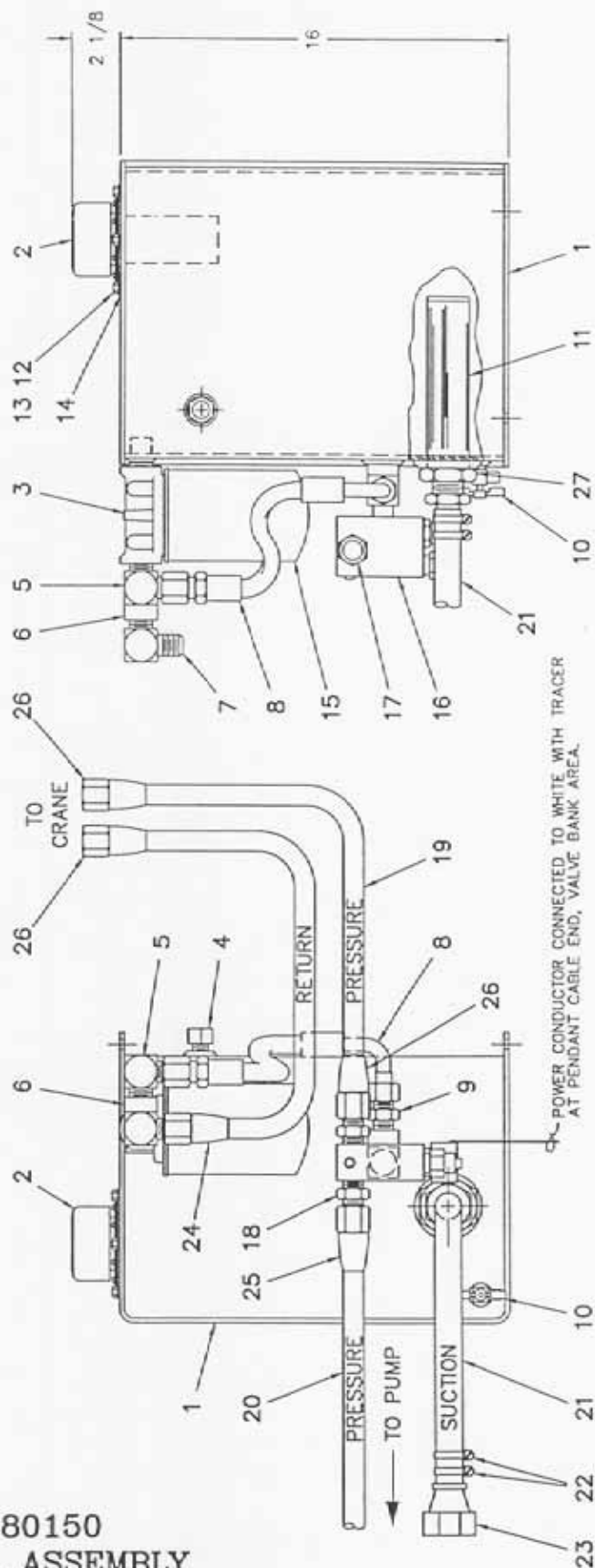


ITEM	QTY	P/N	DESCRIPTION
1	1	480521	MANIFOLD, BLOCK
2	1	360157-002	VALVE, RELIEF
3	1	480522	AMPLIFIER, PROP. (IN SHIP KIT)
4	1	480520	VALVE, SOLENOID
5	1	000211	PLUG, -4 SAE "O"-RING
6	1	480529	DIN CONNECTOR ASSEMBLY

AW-480525
HYDRAULIC MANIFOLD ASSEMBLY
PROPORTIONAL



AW-480150
RESERVOIR ASSEMBLY
8 GALLON

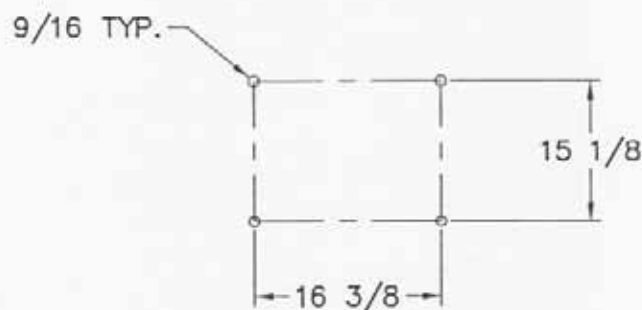
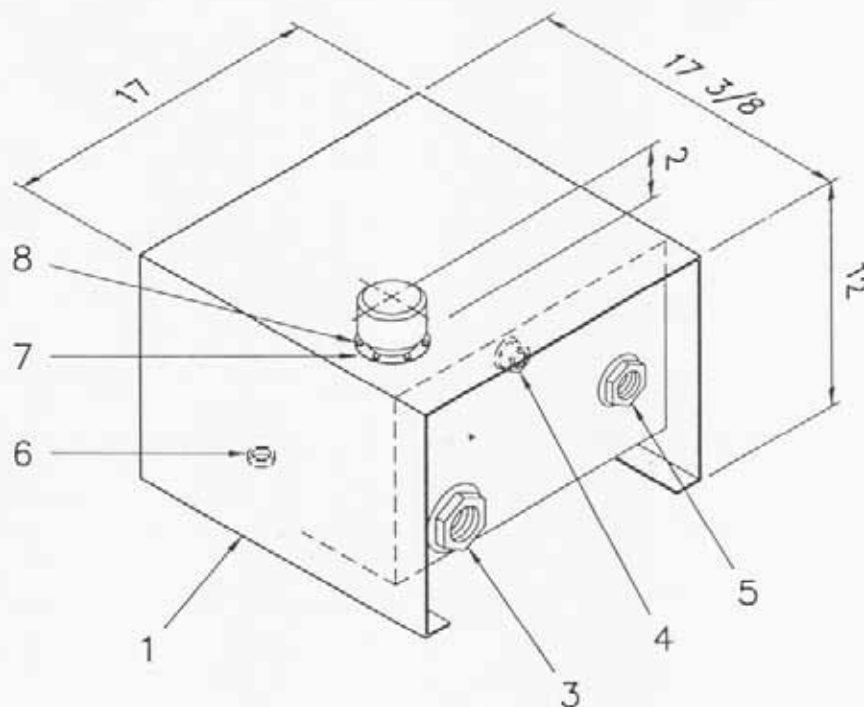


AW-480150
RESERVOIR ASSEMBLY, 8 GALLON

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480151	RESERVOIR, WELDMENT
2	1	360151	FILLER ASSEMBLY
3	1	360156	FILTER ASSEMBLY
4	1	360150	SIGHT PLUG
5	1	551222	ELL
6	1	360262	TEE
7	1	360263	ELL
8	1	360284	HOSE ASSEMBLY
9	1	360054	ADAPTER, STRAIGHT
10	1	750715	DRAIN
11	1	360282	STRAINER, SUCTION LINE
12	4	005500	SCREW, HEX HD 1/4-20NC x 3/4
13	4	020200	WASHER, SP LK 1/4
14	1	360249	COVER, CLEAN OUT
15	1	360277	FILTER, SPIN ON (FOR REPLACEMENT)
16	1	REF.	VENTED RELIEF VALVE ASSEMBLY
17	1	REF.	ADAPTER, STRAIGHT (360054)
18	1	REF.	ADAPTER, STRAIGHT (551215)
19	1	REF.	HOSE, -8 (551228-001)
20	1	REF.	HOSE, -12 (360274-001)
21	1	REF.	HOSE, -16 (360275-001)
22	4	REF.	HOSE CLAMP, -16 (360268)
23	1	REF.	HOSE ADAPTER (360273)
24	1	REF.	FITTING, REUSABLE -10/-8 (551227)
25	2	REF.	FITTING, REUSABLE -10/-12 (360269)
26	3	REF.	FITTING, REUSABLE -8/-8 (360266)
27	1	REF.	ADAPTER, STRAIGHT (360270)

NOTES:

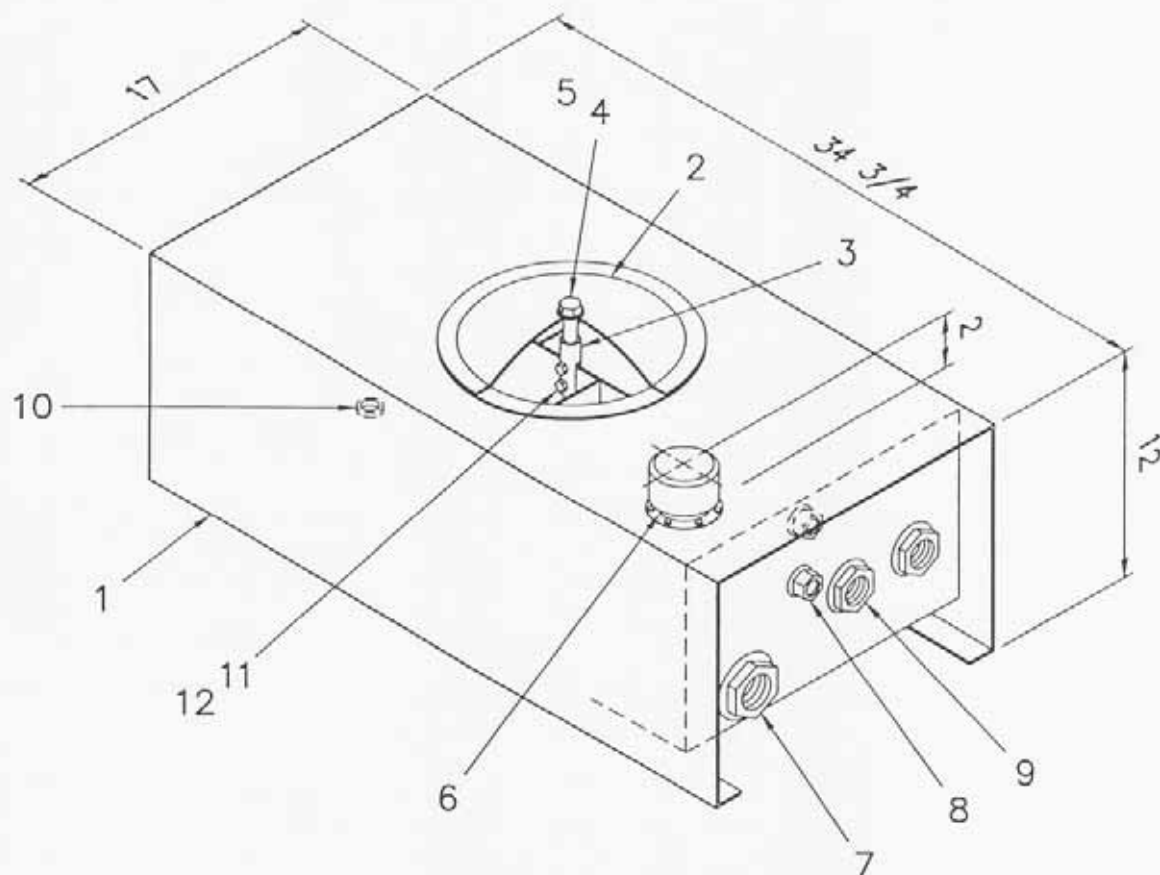
- 1.) THE REFERENCED ITEMS CAN BE PURCHASED AS
A KIT WITH P/N 480159



MOUNTING PATTERN

<u>ITEM</u>	<u>QTY</u>	<u>P/N</u>	<u>DESCRIPTION</u>	<u>ITEM</u>	<u>QTY</u>	<u>P/N</u>	<u>DESCRIPTION</u>
1	1	750501	RESERVOIR WELDMENT	6	1	750477	PLUG, PIPE -8
2	1	360151	FILLER ASSEMBLY	7	1	360249	COVER, CLEAN OUT
3	1	360282	STRAINER, SUCTION	8	4	005500	SCW, HX HD 1/4NC x 3/4
4	1	360150	SIGHT GLASS	9	4	020200	WASHER, SP LK 1/4
5	1	750708	STRAINER, DIFFUSER				

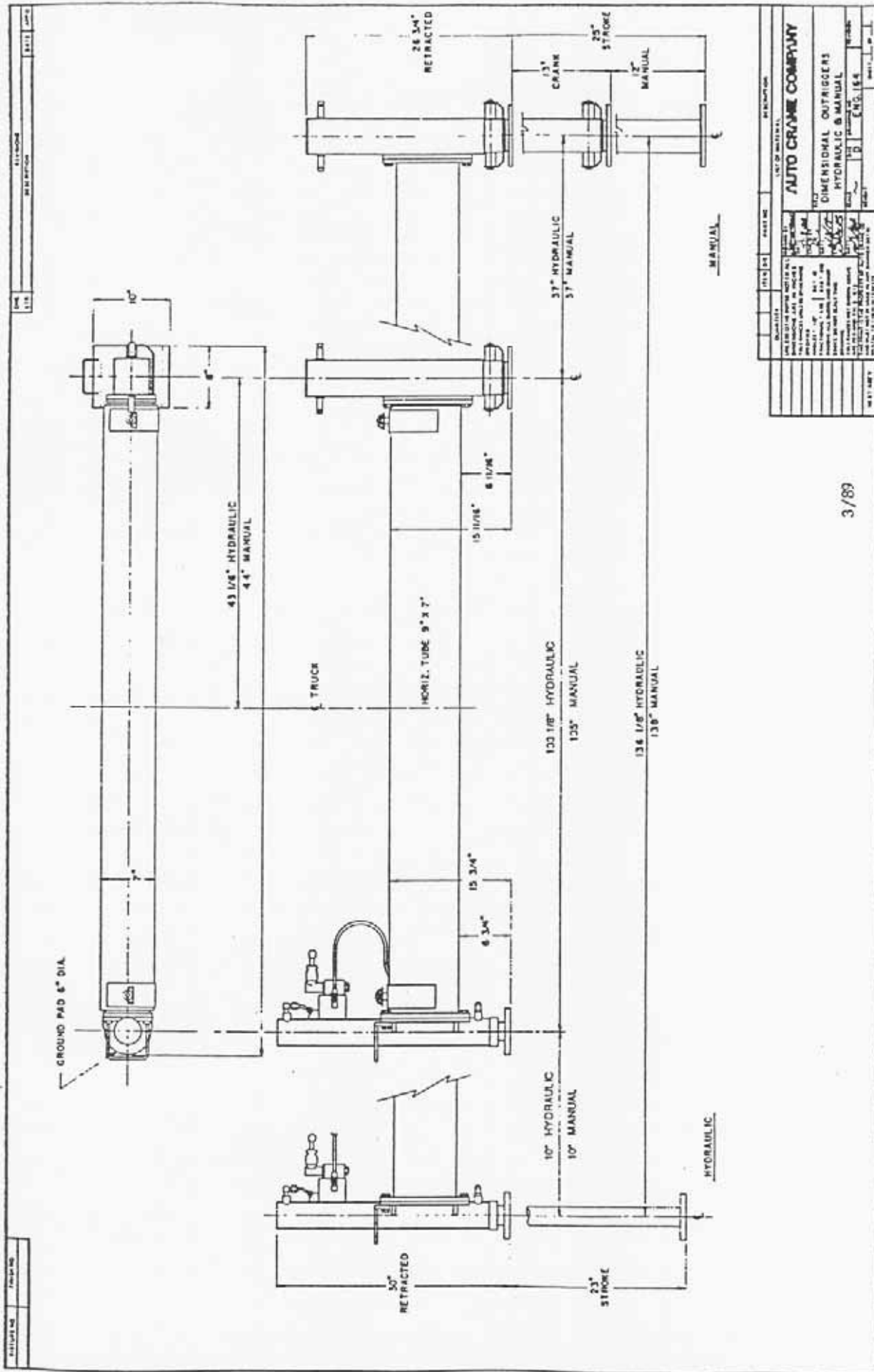
AW-750500
9 GALLON RESERVOIR



ITEM	QTY	P/N	DESCRIPTION	ITEM	QTY	P/N	DESCRIPTION
1	1	750691	RESERVOIR WELDMENT	7	1	750707	STRAINER, SUCTION
2	1	750712	COVER	8	2	360150	SIGHT PLUG
3	1	750709	ADAPTER, BAFFLE	9	2	750708	STRAINER, DIFFUSER
4	1	750716	WASHER, CRUSH	10	1	750477	PLUG, PIPE -8
5	1	750711	BOLT, END COVER	11	2	009108	SCW, HX HD 3/8NC x 1 1/4
6	1	360151	FILLER ASSEMBLY	12	2	017400	NUT, HX LK 3/8NC

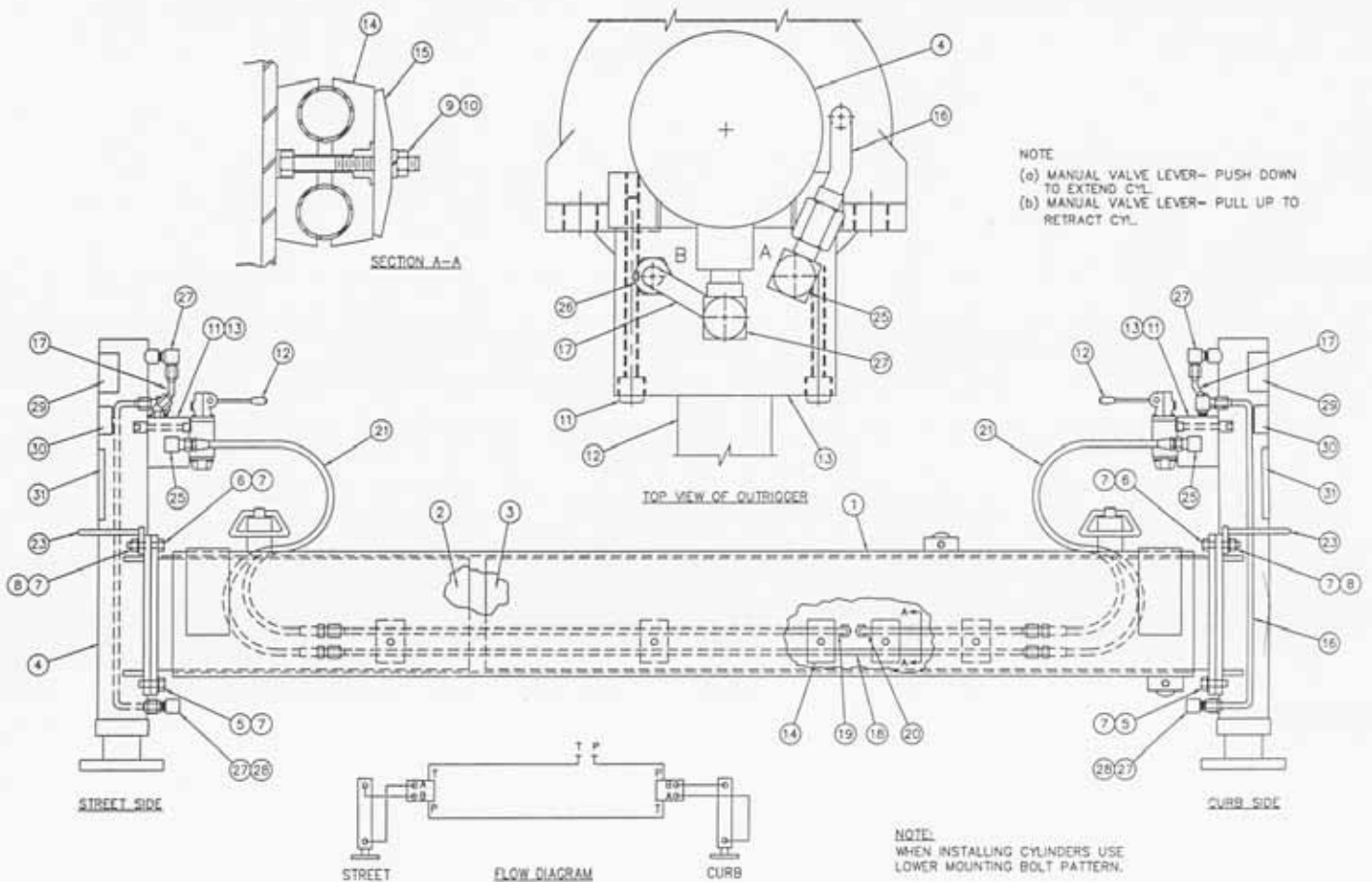
**AW-750690
18 GALLON RESERVOIR**

NOTES



7-2.0.0

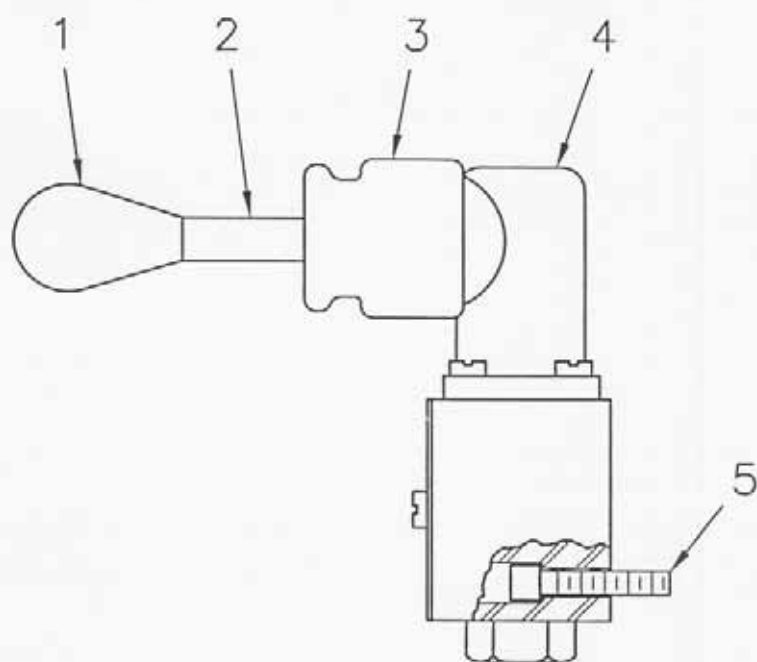
R 6/97



AW-480300
HYDRAULIC OUTRIGGER ASSEMBLY

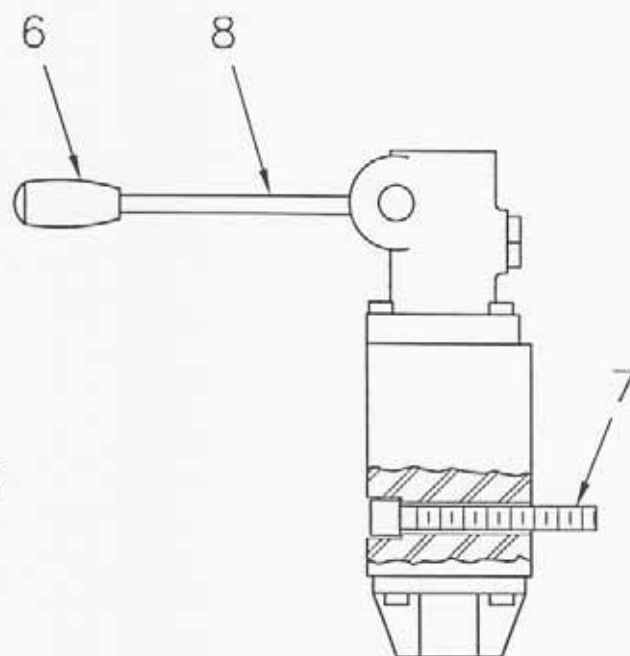
AW-480300
HYDRAULIC OUTRIGGER ASSEMBLY

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	750899	MAIN CROSS TUBE
2	1	750893	SLIDE, STREET SIDE
3	1	750894	SLIDE, CURB SIDE
4	2	750892	CYLINDER, VERTICAL
5	4	012202	SCREW, HX HD 5/8NC X 1 1/4"LG
6	4	012502	SCREW, HX HD 5/8NC X 2 1/4"LG.
7	12	023800	WASHER, SP. LK. 5/8"
8	4	018301	NUT, HX. 5/8" NC.
9	5	016500	NUT, HX. 5/16" NC
10	5	020600	WASHER, SP. LK. 5/16"
11	4	003906	SCREW, SC HD 5/16NC X 3 1/4"LG
12	2	480230	VALVE, MANUAL, OUTRIGGER (VERT.)
13	2	480231	MANIFOLD, OUTRIGGER
14	5	480232	CLAMP HALVES
15	5	480233	PLATE, TWIN COVER
16	2	480220	TUBE ASS'Y (LEG)
17	2	480221	TUBE ASS'Y (LEG)
18	1	480222	TUBE ASS'Y
19	1	480223	TUBE ASS'Y
20	1	480224	TUBE ASS'Y
21	2	480225	HOSE ASS'Y, O.R. (CURB SIDE)
22	2	480226	HOSE ASS'Y, O.R. (STREET SIDE)
23	2	480227	HANDLE ASS'Y
24	1	480235	KIT, OUTRIGGER INSTALLATION
25	6	241175	ELL, 90° -6 ORB / -6 JIC
26	2	480195	ELL, 45° -6 ORB / -6 JIC
27	4	200892	ELL, 90° 3/8 NPT / -6 JIC
28	2	360048	ELL, 90° 3/8 NPT / 3/8 NPTF
29	2	759016	DECAL, DANGER
30	2	759017	DECAL, CAUTION
31	2	040581	DECAL, DANGER



CONTINENTAL

SEAL KIT (CONTINENTAL)
480230-009



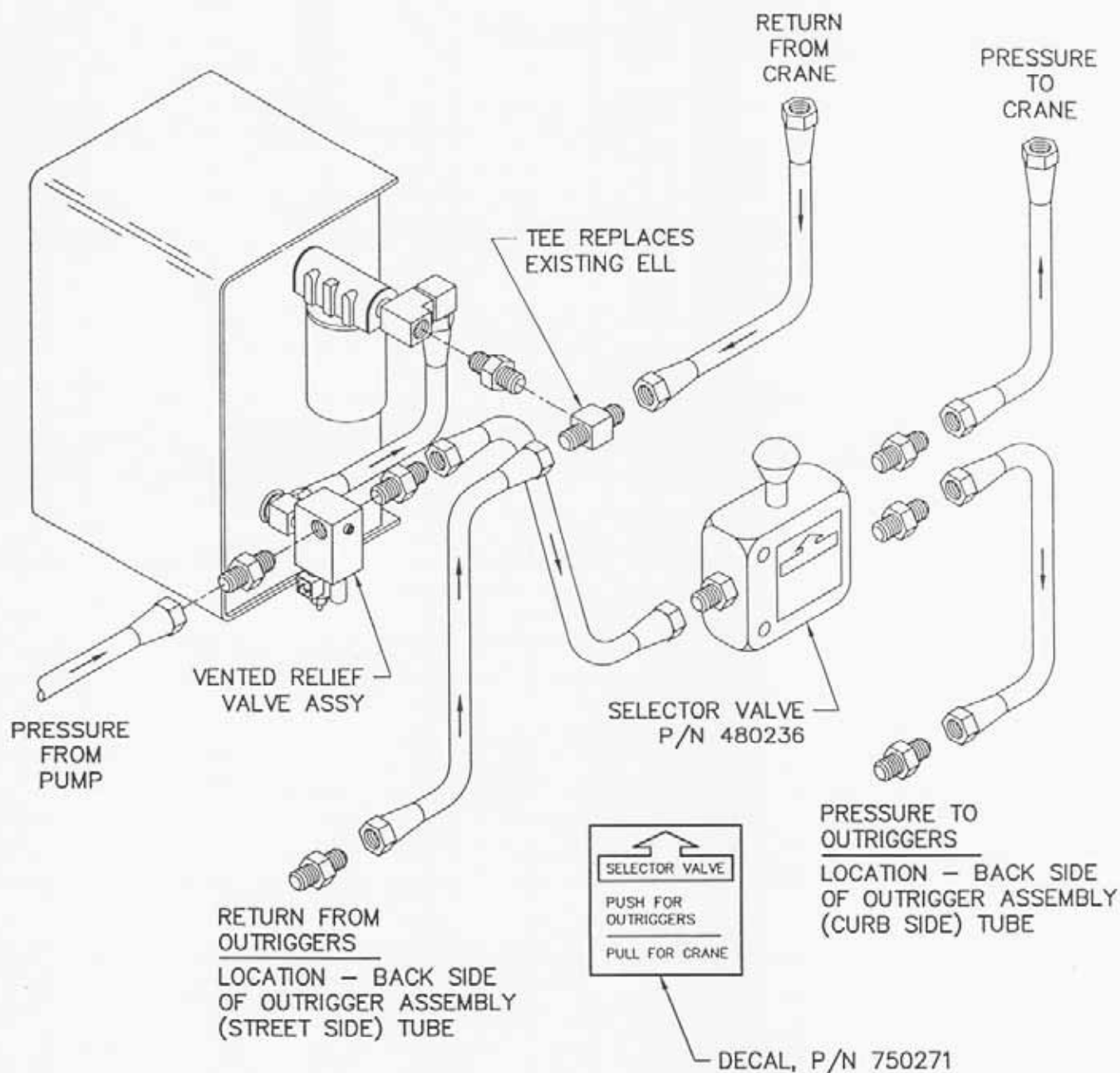
REXROTH

SEAL KITS (REXROTH)
480230-010, BUNA (LOW TEMP)
480230-011, VITA (HIGH TEMP.)

AW-073
OUTRIGGER VALVE
PART NUMBER 480230

AW-073
OUTRIGGER VALVE

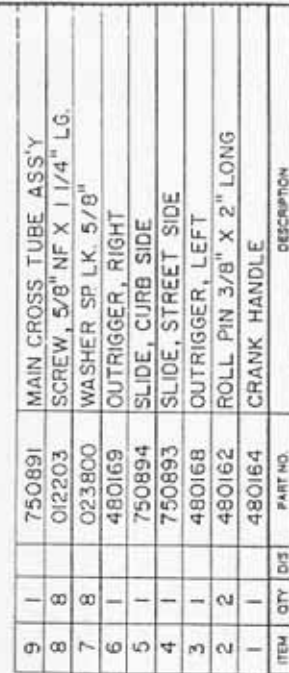
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480230-001	KNOB
2	1	480230-002	LEVER ASSEMBLY
3	1	480230-003	BOOT
4	1	480230-004	HOUSING ASSEMBLY
5	1	480230-005	BOLT KIT (4 SOC HD SCWS #10-24 x 7/8)
6	1	480230-006	KNOB
7	1	480230-007	BOLT KIT (4 SOC HD SCWS #10-24 x 2" LG.)
8	1	480230-008	LEVER ASSEMBLY



CAUTION:

A RELIEF VALVE MUST BE LOCATED IN THE OUTRIGGER PRESSURE LINE OR DAMAGE MAY OCCUR TO HYDRAULIC COMPONENTS. PLACEMENT OF THE RELIEF VALVE UPSTREAM OF THE SELECTOR VALVE IS PREFERRED.

AW-480235
OUTRIGGER INSTALLATION KIT



UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: ANGLES $\pm 1/2^\circ$ JOE $\pm .040$ FRACTIONAL $\pm .015$ XXX $\pm .010$ REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING. TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973.	DRAWN BY K.P. DATE 4-10-88 CHECK BY 4-10-88 DATE ENG. BY DATE 	TITLE OUTRIGGER ASSEMBLY MANUAL	SCALE SIZE C DRAWING NO. AW-480301 REVISION 	SHEET OF
THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. IT IS NOT TO BE LOANED, COPIED, OR REPRODUCED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.	NEXT ASSY	LIST OF MATERIAL	AUTO CRANE COMPANY P.O. BOX 880487 • TULSA, OKLAHOMA 74188-0487 4107 NORTH WINDO ROAD • BIE BIE OK42	

CHG LTR	DESCRIPTION	DATE	APPD
REVISIONS			

NOTES

NOTE: (VERTICAL CYLINDERS)

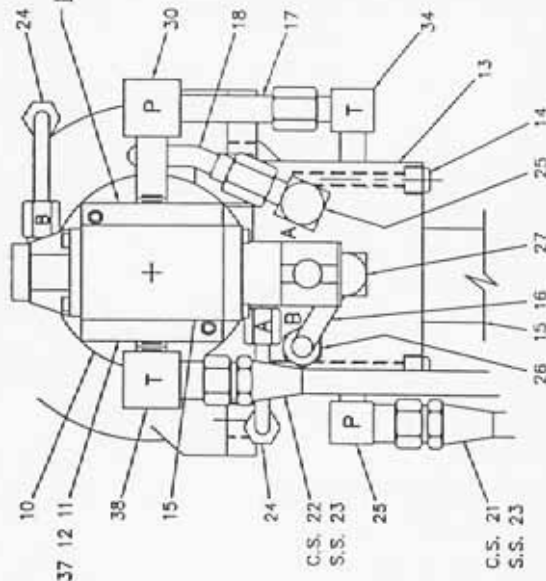
- (a) MANUAL VALVE LEVER-- PUSH DOWN TO EXTEND CYL.
- (b) MANUAL VALVE LEVER-- PULL UP TO RETRACT CYL.

(HORIZONTAL CYLINDERS)

- (a) MANUAL VALVE LEVER-- PULL AWAY FROM BODY TO EXTEND CYL.
- (b) MANUAL VALVE LEVER-- PUSH TOWARD BODY TO RETRACT CYL.

NOTE:

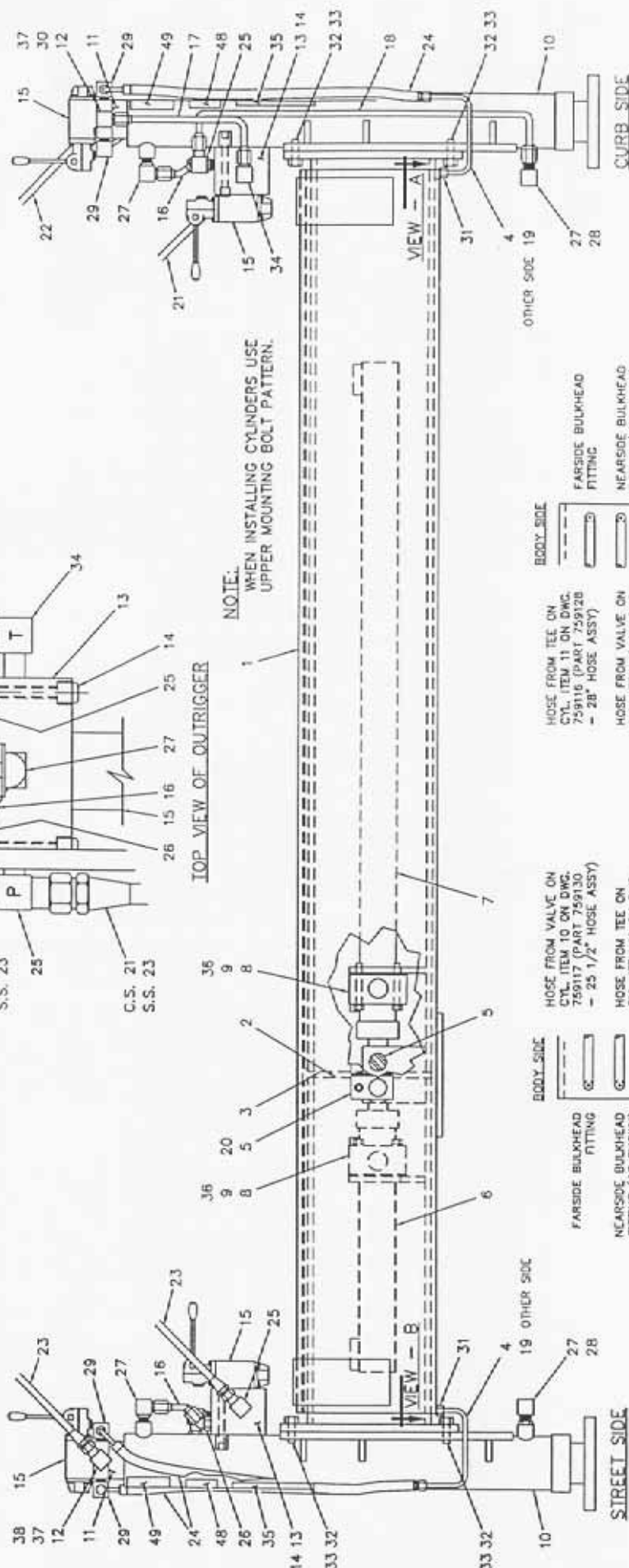
BASE OF ITEM #11 TO BE WELDED TO TOP OF ITEM #10 w/ 3/16" FILLET - w/ MTC. HOLES IN THE ORIENTATION SHOWN



TOP VIEW OF OUTRIGGER

NOTE:

WHEN INSTALLING CYLINDERS USE UPPER MOUNTING BOLT PATTERN.



VIEW - A	
BODY SIDE	FAR SIDE
HOSE FROM VALVE ON CYL. ITEM 10 ON DWG. 759116 (PART 759120) - 25 1/2" HOSE ASSY	HOSE FROM TEE ON CYL. ITEM 11 ON DWG. 759116 (PART 759120) - 28" HOSE ASSY
HOSE FROM TEE ON CYL. ITEM 11 ON DWG. 759117 (PART 759130) - 18" HOSE ASSY	HOSE FROM VALVE ON CYL. ITEM 10 ON DWG. 759117 (PART 759129) - 31 1/2" HOSE ASSY
FAR SIDE BULKHEAD FITTING	NEAR SIDE BULKHEAD FITTING (AS SHOWN)

VIEW - A

VIEW - B	
BODY SIDE	FAR SIDE
HOSE FROM VALVE ON CYL. ITEM 10 ON DWG. 759117 (PART 759130) - 18" HOSE ASSY	HOSE FROM TEE ON CYL. ITEM 11 ON DWG. 759117 (PART 759129) - 31 1/2" HOSE ASSY
FAR SIDE BULKHEAD FITTING	NEAR SIDE BULKHEAD FITTING (AS SHOWN)

VIEW - B

GENERAL NOTES:

1. ALL OPEN PORTS TO BE CAPPED OR PLUGGED.
2. VERTICAL AND HORIZONTAL CYLINDERS TO BE PRESSURE CHECKED @ 2350 P.S.I.
3. SHOULD INSTALL HORIZ. SLIDES (759102 & 759103) AND ALL HYDRAULICS BEFORE INSTALLING VERTICAL HYD. (CYL.) LEGS.

AW-759100 HYDRAULIC OUTRIGGER ASSEMBLY (HYD. IN/OUT - UP/DOWN)

HYDRAULIC OUTRIGGER ASSEMBLY AW-759100

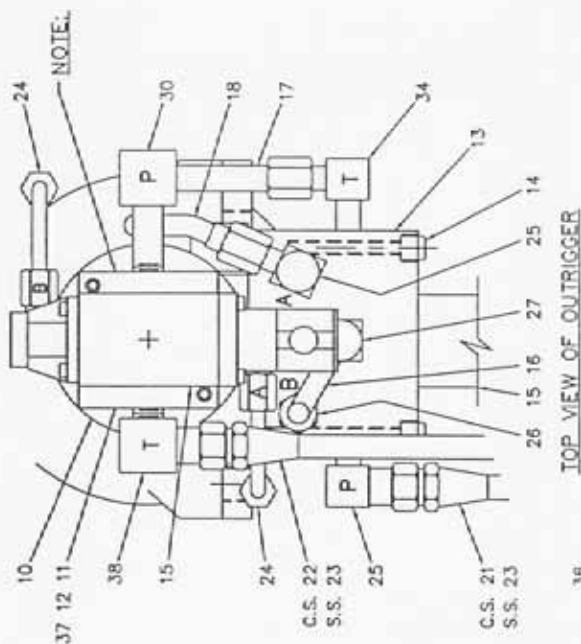
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	759101	MAIN CROSS TUBE
2	1	759103	SLIDE (STREET SIDE)
3	1	759102	SLIDE (CURB SIDE)
4	2	759140	TUBE ASSEMBLY (LEG)
5	2	759112	ANCHOR PIN
6	1	759117	CYLINDER ASSEMBLY, HORIZONTAL (STREET SIDE)
7	1	759116	CYLINDER ASSEMBLY, HORIZONTAL (CURB SIDE)
8	4	759111	TRUNNION BLOCK
9	8	759132	SCREW, HEX HD. 3/8-16NC x 2 3/4 LG.
10	2	750892	CYLINDER, VERTICAL
11	2	759115	SPACER, MANIFOLD
12	2	759133	MANIFOLD BLOCK
13	2	480231	MANIFOLD, OUTRIGGER
14	4	003906	SCREW, SOC. HD. 5/16-18NC x 3 1/4 LG.
15	4	480230	VALVE, MANUAL OUTRIGGER
16	2	480221	TUBE ASSEMBLY (LEG)
17	2	759125	TUBE ASSEMBLY (LEG)
18	2	480220	TUBE ASSEMBLY (LEG)
19	2	759124	TUBE ASSEMBLY (LEG)
20	2	002608	SCREW, HEX HD. 1/4-20NC x 3/4 LG. SELF-TAPPING
21	1	750453	HOSE ASSEMBLY, OUTRIGGER PRESSURE (CURB SIDE)
22	1	759126	HOSE ASSEMBLY, OUTRIGGER TANK (CURB SIDE)
23	2	750452	HOSE ASSEMBLY, OUTRIGGER (STREET SIDE)
24	4	759127	HOSE ASSEMBLY
25	4	241175	ELL, 90° -6 ORB/-6 JIC
26	2	480195	ELL, 45° -6 ORB/-6 JIC
27	4	200892	ELL, 90° -6 NPT/-6 JIC
28	2	360048	ELL, 90° -6 NPT/-6 NPTF
29	4	330176	ELL, 90° -4 NPT/-4 JIC
30	2	759134	ELL, 90° LONG -4 NPT/-4 JIC
31	4	759135	ADAPTER, BULKHEAD -4 JIC/-4 JIC
32	8	012202	SCREW, HEX HD. 5/8-11NC x 1 1/4 LG.
33	8	023800	WASHER, SP. LK. 5/8
34	2	759137	ELL, 90° -6 ORB/-4 JIC
35	2	040581	DECAL, DANGER, STAND CLEAR
36	8	021100	WASHER, SP. LK. 3/8
37	4	005903	SCREW, SOC. HD. 1/4-20NC x 7/8 LG.
38	2	330273	ELL, 90° -4 NPT/-6 JIC
39	1	750456	TUBE ASSEMBLY
40	1	750454	TUBE ASSEMBLY
41	1	750455	TUBE ASSEMBLY
42	5	480232	CLAMP HALVES
43	5	480233	PLATE TWIN COVER
44	5	020600	WASHER, SP. LK. 5/16
45	5	016500	NUT, HEX 5/16-18NC
46	5	007805	SCREW, HEX HD. 5/16-18NC x 1 1/2 LG.
47	2	750451	HOSE ASSEMBLY
48	2	759017	DECAL, CAUTION
49	2	759016	DECAL, DANGER

NOTE: (VERTICAL CYLINDERS)

- (a) MANUAL VALVE LEVER- PUSH DOWN TO EXTEND CYL.
 - (b) MANUAL VALVE LEVER- PULL UP TO RETRACT CYL.
- (HORIZONTAL CYLINDERS)**
- (a) MANUAL VALVE LEVER- PULL AWAY FROM BODY TO EXTEND CYL.
 - (b) MANUAL VALVE LEVER- PUSH TOWARD BODY TO RETRACT CYL.

NOTE:

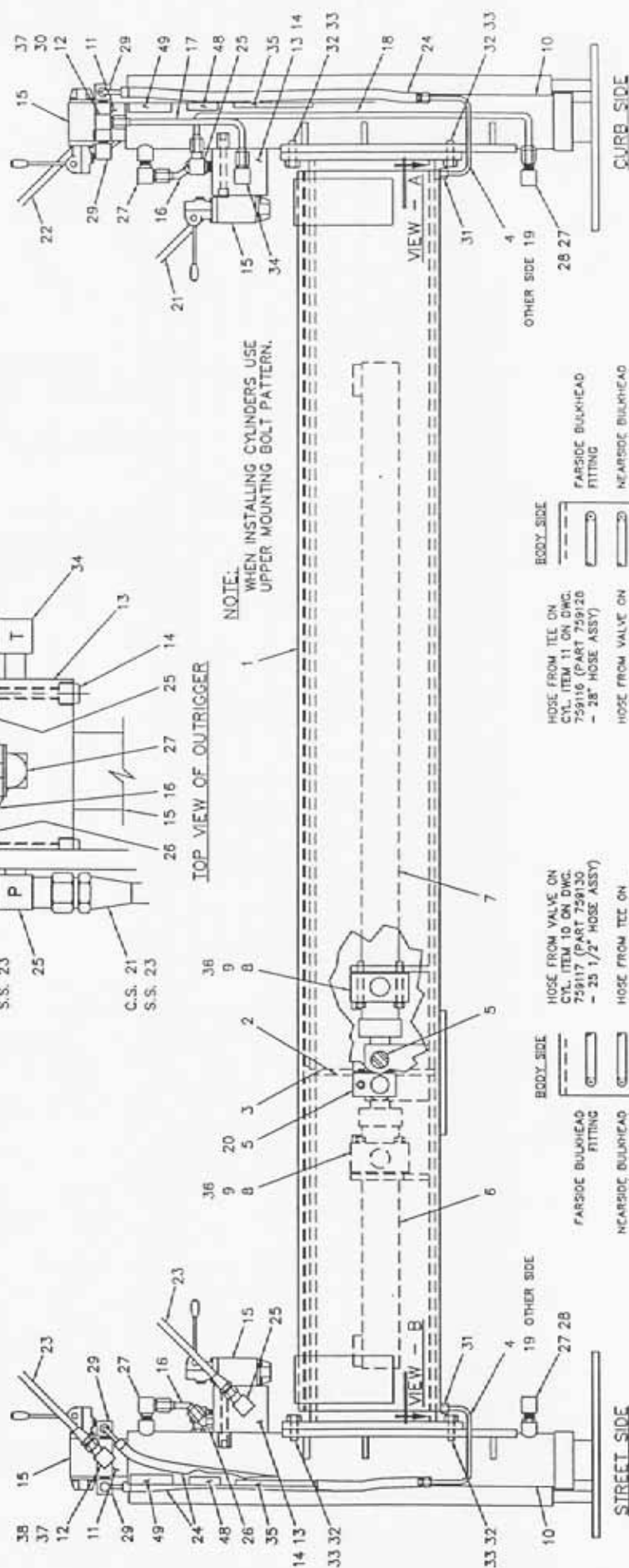
BASE OF ITEM #11 TO BE WELDED TO TOP OF ITEM #10 w/ 3/16" FILLET - w/ MTG. HOLES IN THE ORIENTATION SHOWN



NOTE:

WHEN INSTALLING CYLINDERS USE UPPER MOUNTING BOLT PATTERN.

TOP VIEW OF OUTRIGGER

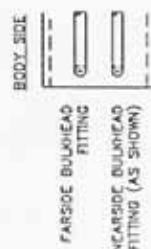


HOSE FROM TEL ON CYL. ITEM 11 ON DWG. 759116 (PART 759120 - 28" HOSE ASSY)

HOSE FROM VALVE ON CYL. ITEM 10 ON DWG. 759118 (PART 759129 - 31 1/2" HOSE ASSY)

HOSE FROM VALVE ON CYL. ITEM 10 ON DWG. 759117 (PART 759130 - 25 1/2" HOSE ASSY)

HOSE FROM TEL ON CYL. ITEM 11 ON DWG. 759117 (PART 759131 - 18" HOSE ASSY)



VIEW - A

VIEW - B

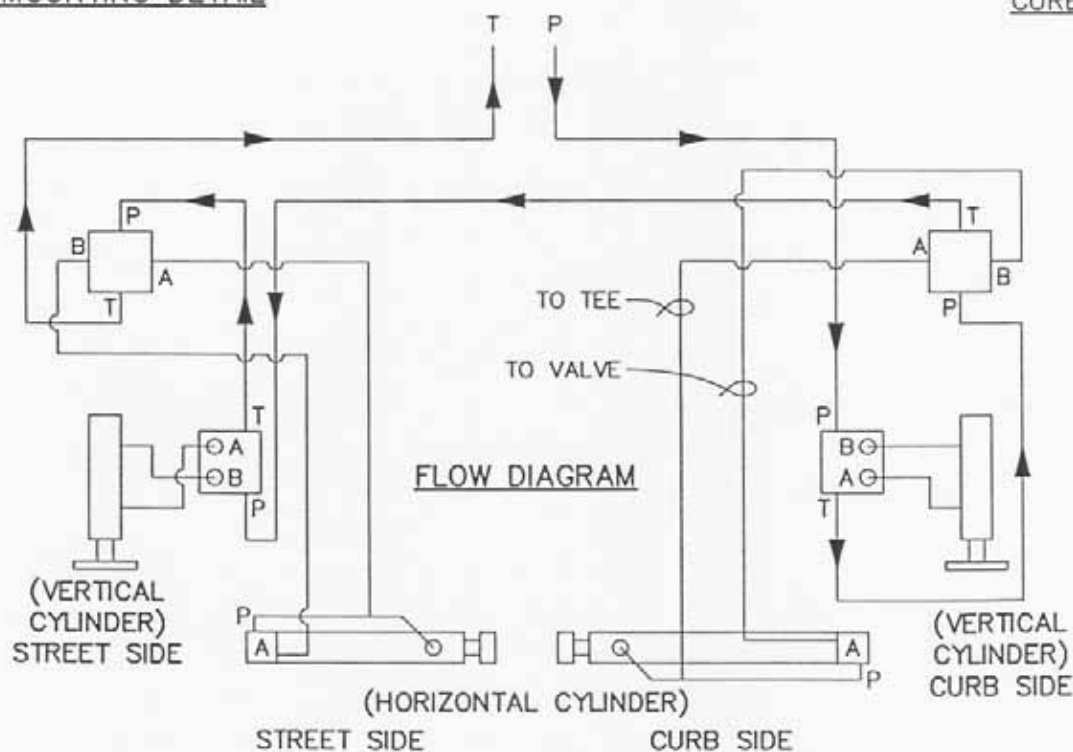
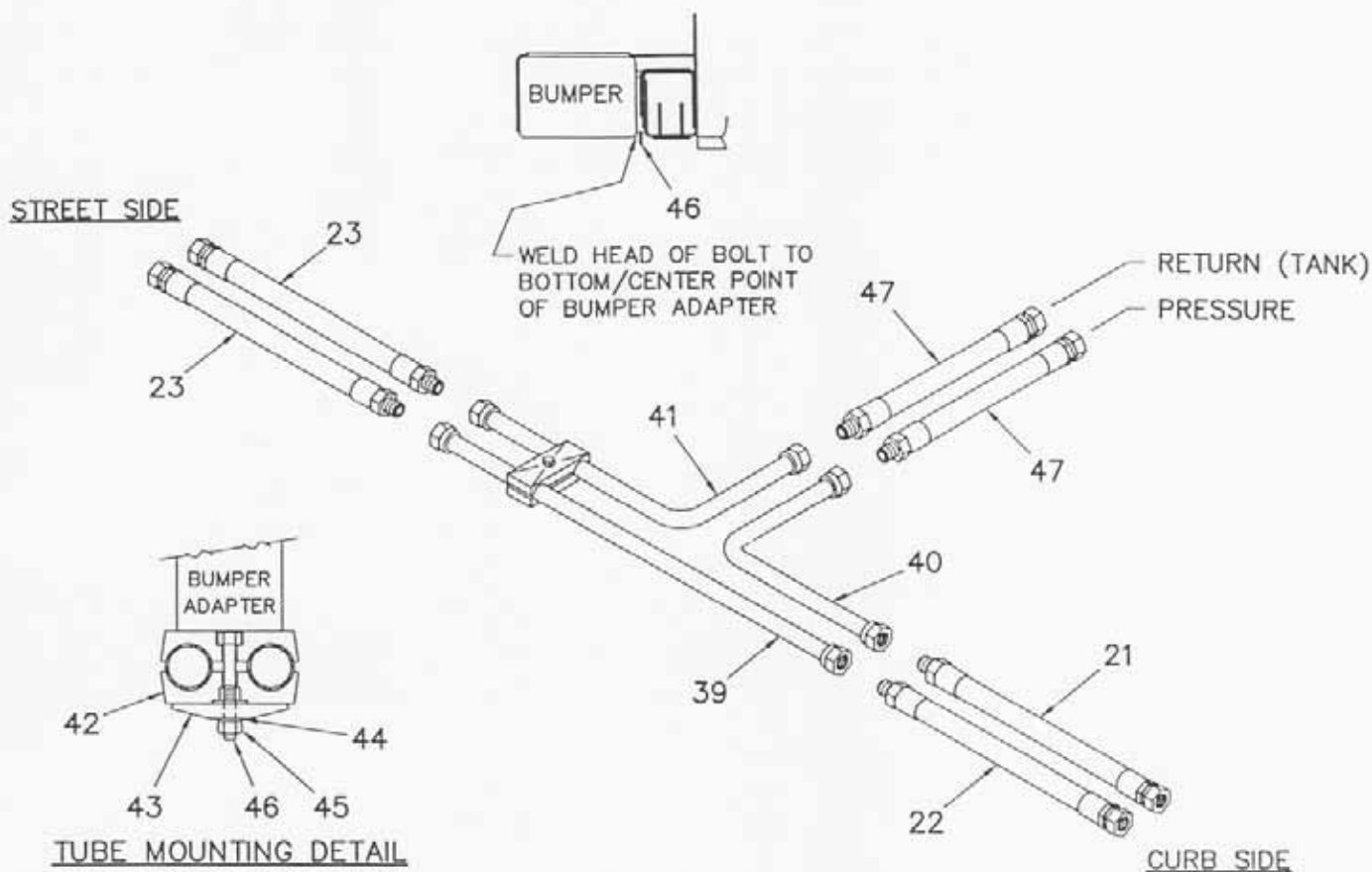
GENERAL NOTES:

1. ALL OPEN PORTS TO BE CAPPED OR PLUGGED.
2. VERTICAL AND HORIZONTAL CYLINDERS TO BE PRESSURE CHECKED @ 2350 P.S.I.
3. SHOULD INSTALL HORIZ. SLIDES (759102 & 759103) AND ALL HYDRAULICS BEFORE INSTALLING VERTICAL HYD. (CYL.) LEGS.

**AW-759160
HYDRAULIC OUTRIGGER ASSEMBLY
(HYD. IN/OUT - UP/DOWN)**

HYDRAULIC OUTRIGGER ASSEMBLY AW-759160

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	759101	MAIN CROSS TUBE
2	1	759103	SLIDE (STREET SIDE)
3	1	759102	SLIDE (CURB SIDE)
4	2	759140	TUBE ASSEMBLY (LEG)
5	2	759112	ANCHOR PIN
6	1	759117	CYLINDER ASSEMBLY, HORIZONTAL (STREET SIDE)
7	1	759116	CYLINDER ASSEMBLY, HORIZONTAL (CURB SIDE)
8	4	759111	TRUNNION BLOCK
9	8	759132	SCREW, HEX HD. 3/8-16NC x 2 3/4 LG.
10	2	759161	CYLINDER, VERTICAL
11	2	759115	SPACER, MANIFOLD
12	2	759133	MANIFOLD BLOCK
13	2	480231	MANIFOLD, OUTRIGGER
14	4	003906	SCREW, SOC. HD. 5/16-18NC x 3 1/4 LG.
15	4	480230	VALVE, MANUAL OUTRIGGER
16	2	480221	TUBE ASSEMBLY (LEG)
17	2	759125	TUBE ASSEMBLY (LEG)
18	2	480220	TUBE ASSEMBLY (LEG)
19	2	759124	TUBE ASSEMBLY (LEG)
20	2	002608	SCREW, HEX HD. 1/4-20NC x 3/4 LG. SELF-TAPPING
21	1	750453	HOSE ASSEMBLY, OUTRIGGER PRESSURE (CURB SIDE)
22	1	759126	HOSE ASSEMBLY, OUTRIGGER TANK (CURB SIDE)
23	2	750452	HOSE ASSEMBLY, OUTRIGGER (STREET SIDE)
24	4	759127	HOSE ASSEMBLY
25	4	241175	ELL, 90° -6 ORB/-6 JIC
26	2	480195	ELL, 45° -6 ORB/-6 JIC
27	4	200892	ELL, 90° -6 NPT/-6 JIC
28	2	360048	ELL, 90° -6 NPT/-6 NPTF
29	4	330176	ELL, 90° -4 NPT/-4 JIC
30	2	759134	ELL, 90° LONG -4 NPT/-4 JIC
31	4	759135	ADAPTER, BULKHEAD -4 JIC/-4 JIC
32	8	012202	SCREW, HEX HD. 5/8-11NC x 1 1/4 LG.
33	8	023800	WASHER, SP. LK. 5/8
34	2	759137	ELL, 90° -6 ORB/-4 JIC
35	2	040581	DECAL, DANGER, STAND CLEAR
36	8	021100	WASHER, SP. LK. 3/8
37	4	005903	SCREW, SOC. HD. 1/4-20NC x 7/8 LG.
38	2	330273	ELL, 90° -4 NPT/-6 JIC
39	1	750456	TUBE ASSEMBLY
40	1	750454	TUBE ASSEMBLY
41	1	750455	TUBE ASSEMBLY
42	5	480232	CLAMP HALVES
43	5	480233	PLATE TWIN COVER
44	5	020600	WASHER, SP. LK. 5/16
45	5	016500	NUT, HEX 5/16-18NC
46	5	007805	SCREW, HEX HD. 5/16-18NC x 1 1/2 LG.
47	2	750451	HOSE ASSEMBLY
48	2	759017	DECAL, CAUTION
49	2	759016	DECAL, DANGER



**AW-759100 & 759160
HYDRAULIC OUTRIGGER ASSEMBLY
(HYD. IN/OUT - UP/DOWN)**



AUTO CRANE COMPANY

Tulsa, Oklahoma

Safety Decal Section 8005H

Revision 6/97

ITEM	DESCRIPTION	QTY	FIG
1	CAUTION, WORK RULES	1	SD-1
2	DANGER, OPERATOR TRAINING	1	SD-2
3	WARNING, TAMPERING WITH OVERLOAD	1	SD-3
4	DANGER, ELECTROCUTION HAZARD	2	SD-4
5	DANGER, STAY CLEAR OF BOOM	2	SD-5
6	DANGER, STAY CLEAR OF LOAD	2	SD-6
7	WARNING, LOAD SENSOR TAMPERING	1	SD-7
8	DANGER, SCISSORS POINT	2	SD-8
9	CAUTION, HYD REQUIREMENTS	1	SD-9

AUTO CRANE COMPANY

P.O. Box 580697, Tulsa, OK 74158-0697

4707 North Mingo Road, Tulsa, OK 74117

Phone (918) 836-0463

Sales Fax (918) 438-6688 Service Fax (918) 834-5979

Safety Decal Section

8005H

Revised 6/97

PART NO.: 040579
 DECAL: OPERATION 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: Left side plate

FIG. SD-1



PART NO.: 040580
 DECAL: OPERATOR TRAINING
 FUNCTION: To inform the operator of the need to receive proper training before using the crane.
 USED ON: All cranes
 QUANTITY: 1
 PLACEMENT: Left side plate

FIG. SD-2



PART NO.: 040632
 DECAL: TAMPERING WITH OVERLOAD DEVICE
 FUNCTION: To inform the operator that tampering with the overload device may cause a unit failure or possible personnel injury.
 USED ON: All cranes equipped with a load sensor.
 QUANTITY: 1
 PLACEMENT: Right side of valve cover

FIG. SD-3



Safety Decal Section

8005H

Revised 6/97

PART NO.: 040529

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



FIG. SD-4

PART NO.: 040517

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



FIG. SD-5

PART NO.: 040518

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 crown plate

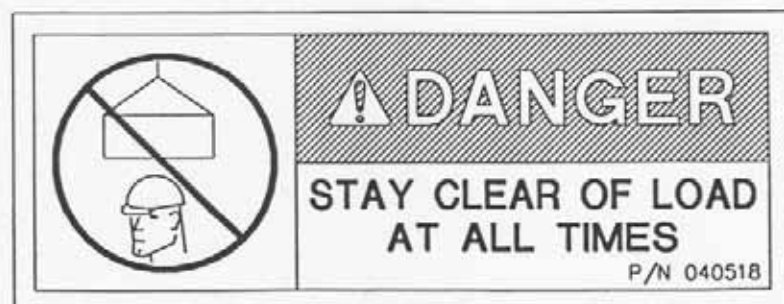


FIG. SD-6

Safety Decal Section

8005H

Revised 6/97

PART NO.: 040587
 DECAL: LOAD SENSOR, DON'T TAMPER
 FUNCTION: To inform the operator that the load sensor is pre-set and that tampering with the sensor may cause potentially hazardous situation.
 USED ON: All cranes equipped with a load sensor.
 QUANTITY: 1
 PLACEMENT: On the lift cylinder near the load sensor



FIG. SD-7

PART NO.: 040519	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

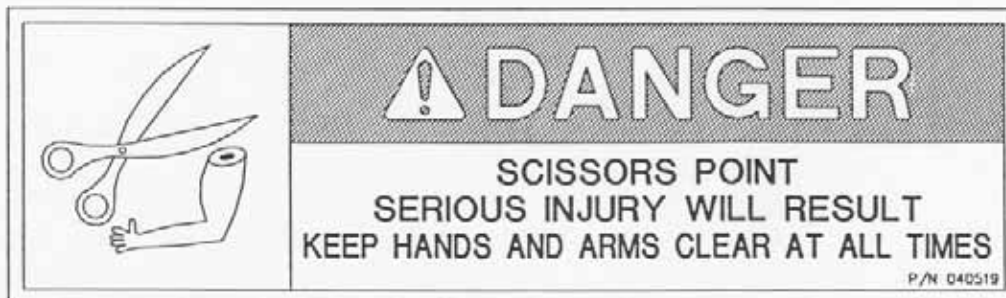


FIG. SD-8

PART NO.: 040587
 DECAL: HYDRAULIC REQUIREMENTS
 FUNCTION: To inform the operator of the hydraulic requirements for proper crane operation
 USED ON: 8005h
 QUANTITY: 1
 PLACEMENT: On the hydraulic reservoir.

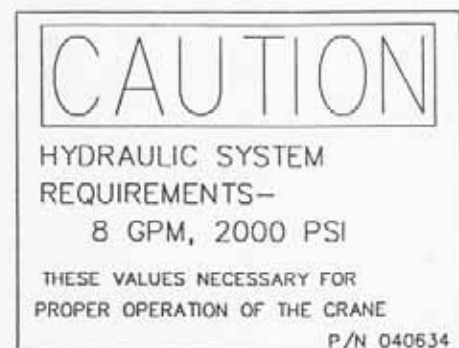
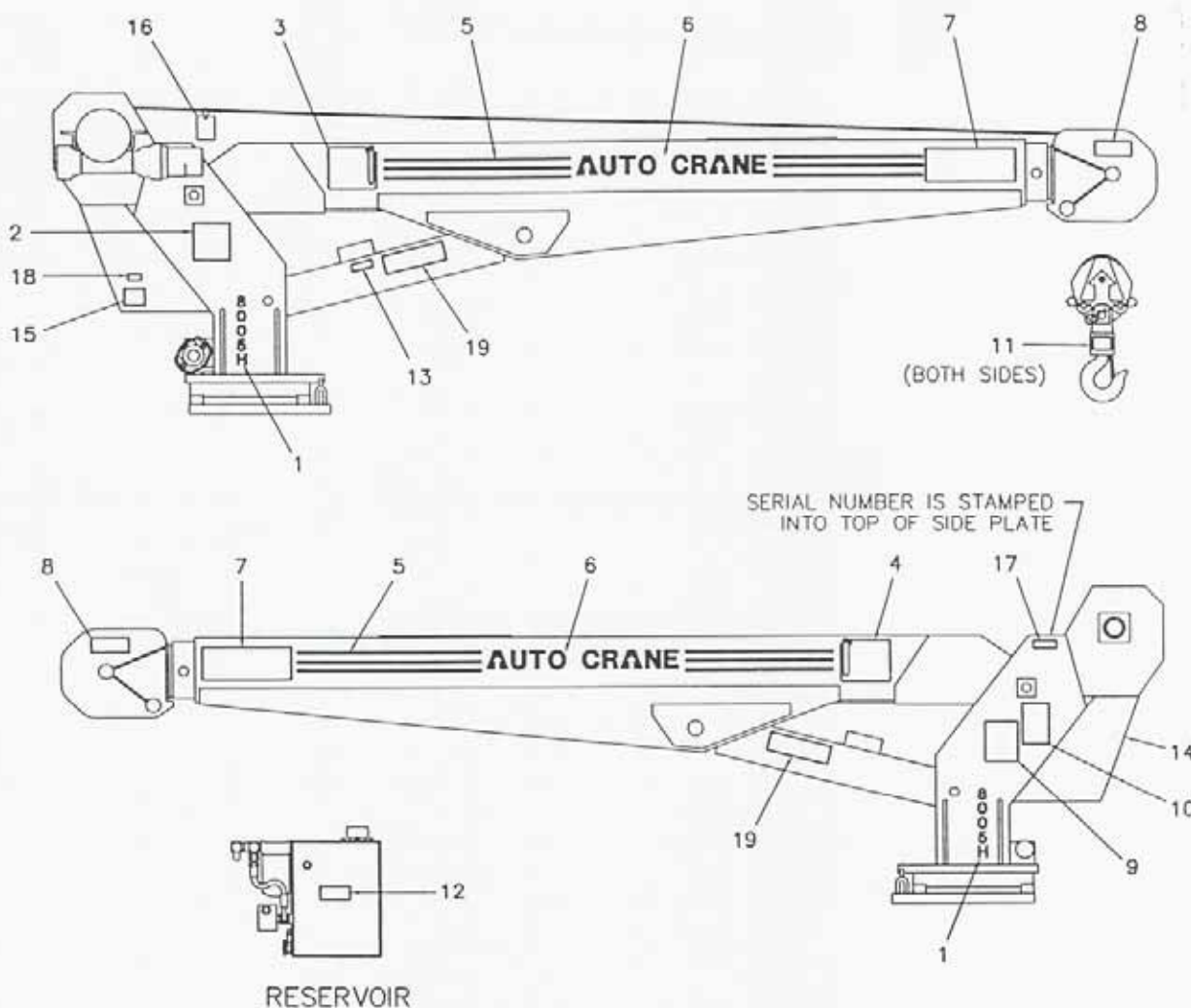
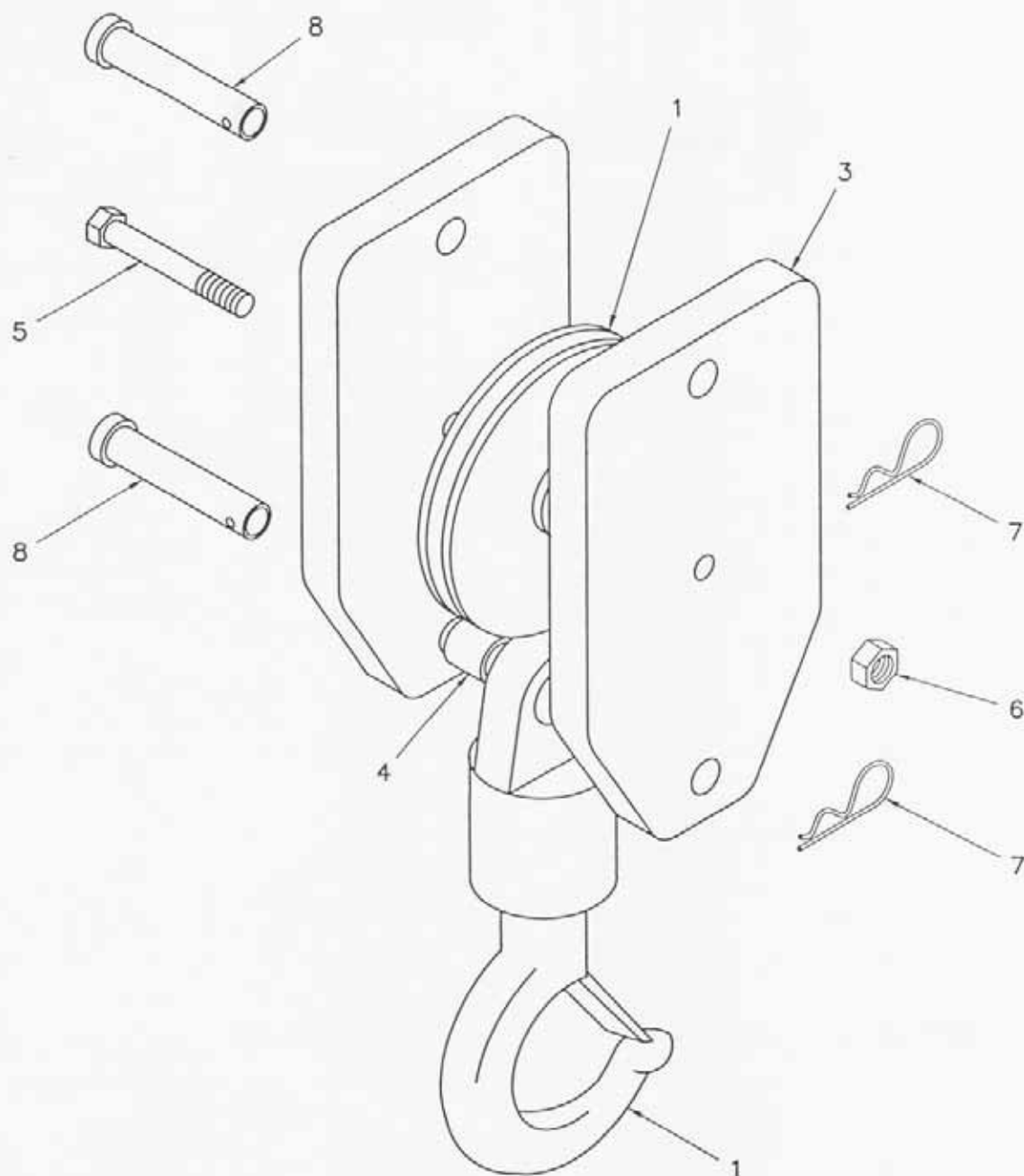


FIG. SD-9



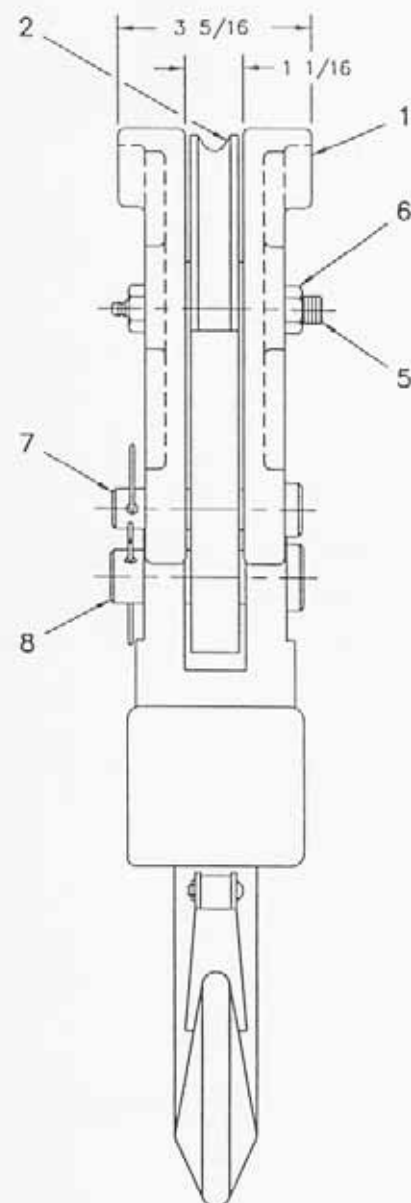
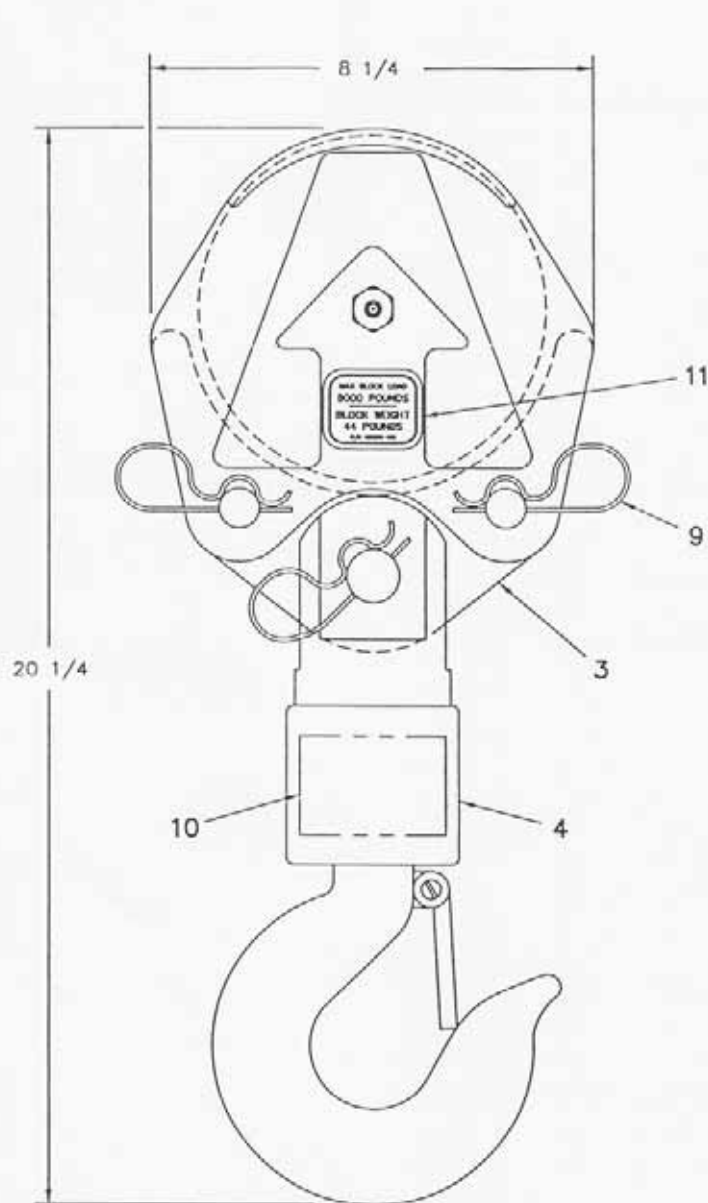
ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	2	480034	DECAL, 8005H	11	2	040518	DECAL, STAY CLEAR OF LOAD
2	1	480010	LOAD CHART	12	1	040634	CAUTION, 8 GPM
3	1	480038	DECAL, ANGLE INDICATOR, RIGHT	13	1	040587	DECAL, LOAD SENSOR
4	1	480039	DECAL, ANGLE INDICATOR, LEFT	14	1	360034	DECAL, LOGO
5	8'	040620	STRIPING	15	1	040632	WARNING, CYLINDER IN OPP.
6	2	040624	DECAL, AUTO CRANE	16	1	999944	INSTALLATION CHECKLIST
7	2	040529	DECAL, DANGER ELECTRIC	17	1	330622	DECAL, SERIAL NUMBER
8	2	040517	DECAL, STAY CLEAR OF BOOM	18	1	330633	DECAL, OPTI-FLOW
9	1	040580	DECAL, MUST NOT...	19	2	040519	DECAL, DANGER, SCISSOR POINT...
10	1	040579	DECAL, WORK RULES				

AW-480021
DECAL LAYOUT, 8005H



ITEM	QTY	P/N	DESCRIPTION	ITEM	QTY	P/N	DESCRIPTION
1	1	480130	SHEAVE ASSEMBLY	5	1	006801	SCW, HX HD 1/2-20 x 4 LG.
2	1	480026	HOOK, SWIVEL	6	1	017800	NUT, HEX LOCK 1/2-20NF
3	2	360601	BLOCK SIDE PLATE	7	2	360124	PIN, HITCH
4	1	240237	SPACER, BUSHING 1" O.D.	8	2	360605	PIN, BLOCK

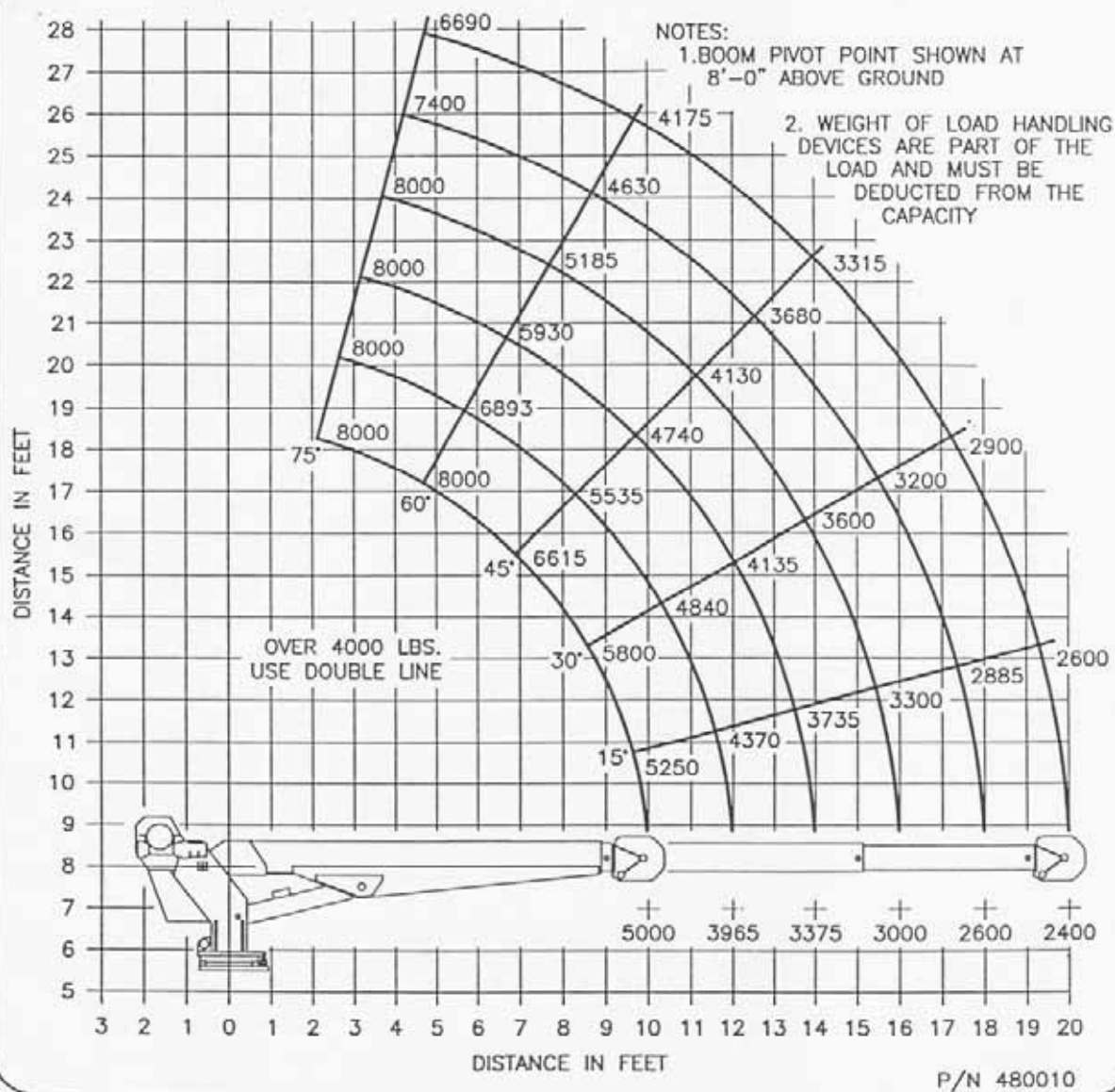
AW-360603
TRAVELING BLOCK ASSEMBLY



ITEM	QTY	P/N	DESCRIPTION
1	2	480362	SIDE PLATE (MACH.)
2	1	480130	SHEAVE ASSEMBLY
3	1	480364	TACKLE, LOWER
4	1	480366	HOOK, SWIVEL - 6 TON
5	1	480372	BOLT, SHEAVE w/ ZERK

ITEM	QTY	P/N	DESCRIPTION
6	1	017800	NUT, HX LK 1/2-20NF
7	2	480367	PIN, BLOCK
8	1	480368	PIN, SWIVEL HOOK
9	3	360124	PIN, HITCH (HAIR PIN)
10	1	040518	DECAL, DANGER
11	2	480360-100	DECAL, MAX. LOAD

AW-480360
TRAVELING BLOCK ASSEMBLY
8005H (SHORT)



AW-480010
LOAD CHART, 8005H



AUTO CRANE COMPANY

P.O. BOX 581510 • TULSA, OKLAHOMA 74158

Limited Warranty

Auto Crane will warranty to consumer for a period of twelve months from date of purchase that each new Auto Crane product it sells will be free under normal use and service, from defects in material and workmanship. Date of purchase will be honored as either date of purchase by distributor or his date of sale of the product as substantiated by Distributor Delivery Report.

Obligation of Auto Crane under this warranty is limited to replacement or repair of parts that appear to manufacturer after review and / or inspection to be defective. This warranty does not obligate Auto Crane to bear the cost of labor or transportation 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 the 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, same being subject to the warranties of their respective manufacturers.

If field service, at the request of buyer, is rendered and fault is found not to be with Auto Crane's product, the buyer shall pay the time and expense of the field representative. Claims for service labor or other expenses that have been incurred by the buyer without approval or authorization of Auto Crane will not be accepted.

AUTO CRANE COMPANY IS UNDER NO OBLIGATION TO EXTEND THIS WARRANTY TO ANY CUSTOMER FOR WHICH AN AUTO CRANE WARRANTY REGISTRATION CARD HAS NOT BEEN COMPLETED AND MAILED TO AUTO CRANE COMPANY WITHIN FIFTEEN (15) DAYS AFTER DATE OF PURCHASE.

