R12/86

Auto Crane Company

P.O. BOX 580697 • TULSA, OKLAHOMA 74158-0697
4707 N. MINGO ROAD • TULSA, OKLAHOMA 74117
918-836-0463 • TELEX 158108 RAMSEY TUL

OWNER'S MANUAL

2403 SERIES

SERIAL NO. _____

2403 SERIES – OWNER'S MANUAL

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Warranty Registration

Facsimile Transmittal

To: Warranty Dept. Fax: 918-834-5979

From: _____ Date: _____

Re: Product Registration Pages: _____

Distributor: _____

Address: _____

City/State/Zip: _____

If branch office, give main office name and location: _____

_____

Date Delivered: _____

Model No.: _____ Serial No.: _____

Enduser: _____

City/State: _____

Type of Business: _____

Final Destination: _____

System Pressure: _____ Battery: _____

By: _____ Date: _____

* ONE REGISTRATION FORM PER UNIT (CRANE OR BODY).
* Delivery Report should be mailed or faxed within 15 days after installation.

Mail to: Warranty Deptartment
Auto Crane Company
P.O. Box 581510
Tulsa, OK 74158-0697

WARNINGS

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

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

* **WARNING! NEVER OPERATE THE CRANE NEAR ELECTRICAL POWER LINES!** **Death** or serious injury will result from boom, line, or load contacting electric lines. Do not use crane within 10 feet (3.05m) of electric power lines carrying up to 50,000 volts. One foot additional clearance is required for every additional 30,000 volts or less. **SEE DANGER DECAL (P/N 040529)** in this Owner's Manual.

* **WARNING! NEVER.....**
  * **EXCEED** load chart capacities (centerline of rotation to hoist hook).
  * Un-reel last 5 wraps of cable from drum!
  * Wrap cable around load!
  * Attempt to lift or drag a load from the side! The boom can fail far below its rated capacity.
  * Weld, modify, or use unauthorized components on any Auto Crane unit! This will void any warranty or liability. Also failure of the crane may result.
  * Place a chain link on the tip of the hook and try to lift a load!
  * Use a sling bar or anything larger than the hook throat that could prevent the hook latch from closing, thus negating the safety feature!
  * Hold on any pendant Select Switch that will cause unsafe operating conditions!

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

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

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

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

READ THIS PAGE!

AUTO CRANE COMPANY

INTRODUCTION – 2403 SERIES

Auto Crane products have been engineered to provide safe, trouble-free, dependable service for many years when these products are properly used and maintained.

To assist you in obtaining the best service from your crane and to avoid untimely failure of the unit and/or the vehicle on which it is mounted, the following operating and service instructions are herein published, and 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 2403 series for your protection. The material and electrical systems were designed to minimize weight and lengthen durability. The hydraulic components are designed for a 4:1 safety factor. Holding valves are installed on the power versions to prevent the load from dropping if a hose should fail. All hoses are S.A.E. 100-R7 class with a bursting pressure of 11,000 psi. A 100u filter is installed in the hydraulic system to remove dirt and grit that may cause premature failure. The reservoir is protected with a 40u filter in the filler cap.

For your convenience the overall dimensions of the 2403 series are included on the General Dimension Drawing. Rotation and turning radius are also listed. See page 76.

Remember that the crane adds weight to the vehicle and may change the driving and riding characteristics of the vehicle on which it is mounted unless this weight is properly provided for with appropriate overload springs. The payload of the vehicle is also reduced by the amount that the crane weighs, and as the vehicle is loaded, care should be exercised not to overload the vehicle. Exercising care in distributing the payload on the vehicle will greatly improve the driving and riding characteristics of the vehicle. A minimum chassis of 7800 lbs. G.V.W.R. with two rear jacklegs (or outriggers) is recommended. Crane side jackleg should extend 45" from centerline of truck chassis.

The 2403 series cranes are attached directly to your 12 volt truck electrical system. The power cable and retaining clips are included with the crane. A typical power cable mounting and hookup is shown on page 8. The 2403 series is another highly efficient Auto Crane product. The use of our "B" actuator maximizes your work capability for the least amperage draw from your truck battery. The performance of your new crane depends on the truck electrical system. The use of the low maintenance battery is not recommended for use on any Auto Crane product. The recommended alternator and battery that will give the longest life with the most useful duty cycle is a 50 amp. alternator with a 450 cold cranking rated battery. These specifications should be considered minimum.

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 material or workmanship is involved, immediate corrective action is taken. It is therefore, understandable that Auto Crane Company cannot assume responsibility or liability when our products have obviously been abused, mis-used, overloaded or otherwise damaged by inexperienced persons trying to operate the equipment without even reading the manual. The Auto Crane is designed and built to be safe and efficient. Auto Crane will not assume responsibility or liability for any unit which has been modified, changed, or which has unauthorized or unapproved components installed.

Auto Crane maintains a strong distributor network and a knowledgeable Customer Service Department. In most cases an equipment problem can be solved through a telephone 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 necessary. 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 Service Policy on the last page of this manual will apply.

Auto Crane Company's extensive Research and Development Program assures our customers of the best equipment on the market, and our Engineering Staff, as well as 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 are stocked with authorized replacement parts and a service department that can solve almost any needed repair.

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

The material herein does not imply to cover all maintenance, instructions, operations, or variations pertinent to every possible situation. If additional information is required, please refer to the Auto Crane Company at the following telephone number: 918 — 836-0463. The information contained in this manual was in effect at the time of printing. Auto Crane Company reserves the right to update this material at any time without prior notice or obligation.

- IMPORTANT -

SAFETY TIPS AND PRECAUTIONS

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 (jacklegs) from vehicle to the ground during crane operation. Insure that they are firmly positioned on solid footings.

6. All load ratings are based on crane capacity, NOT unit stability.

7. ALWAYS comply with load chart capacities (centerline of rotation to hoist hook).

8. NEVER OPERATE THE CRANE NEAR ELECTRICAL POWER LINES. Auto Crane Company recommends that a crane never be moved any closer to a power line (including telephone lines) than 20 feet at any point.

9. Keep objects and personnel clear of crane path during operation.

10. Keep hoist cable pulled tight at all times.

11. NEVER un-reel last wrap of cable from drum.

12. NEVER wrap cable around load.

13. REMEMBER – in lifting a heavy load, the weight can create enough tipping moment to overturn the vehicle.

14. NEVER attempt to lift or drag a load from the side – the boom can fail far below its rated capacity.

15. Oil gears as required.

16. A friction brake holds the load when power is off. The brake may need to be adjusted periodically. Never adjust the brake tighter than required to hold the load. For Economiser and Econoton II Series, no brake adjustment is required.

17. 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.

18. An important item which an operator should consider and use properly is the hoist hook. It should be checked on a 30-day basis for distortion or cracks.

19. NEVER place a chain link on the tip of the hook and try to lift a load with the hoist.

20. NEVER use a sling bar or anything larger than the hook throat which could prevent the hook from closing with the block, thus negating the safety feature.

21. In using a safety hook, 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.

22. NEVER hold any pendant Select switch on that will negate safe operating conditions.

23. ALWAYS store outriggers (jacklegs) before road travel.

OPERATION OF UNIT

1. Make sure this manual has been thoroughly read by all crane operating personnel.

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. Engage emergency brake and turn ignition off with transmission left in gear or in park (for automatic transmissions). This is for Auto Crane units requiring only battery operation. For larger Auto Crane units requiring battery and hydraulic operation, engage emergency brake and place gear select in neutral; press clutch and pull PTO knob in gear; release clutch and set throttle control to proper RPM. (See hydraulic section.) WARNING: DO NOT SET THROTTLE ABOVE REQUIRED SPEED – POSSIBLE DAMAGE MAY RESULT.

6. Always use outriggers (jacklegs) from the truck to the ground. Be sure these are firm and adequately positioned.

7. Then remove pendant control from cab (on smaller) units) and plug into receptacle on crane. Crane is now ready for operation. On Auto Crane's larger units, remove pendant control from guard and unwrap cable from boom. Crane is now ready for operation.

8. Always boom up before rotating so that 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 in proper location (in cab or on crane).

13. Return outriggers (jacklegs) 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. Press clutch and disengage PTO. Release throttle control and emergency brake.

16. Report any unusual occurence during crane operation that may indicate required maintenance or repair.

COLD WEATHER OPERATION

All standard products (all models of cranes and winches) as manufactured by the Auto Crane Company will operate satisfactorily from 0°F. to 120°F. By making the following minor modifications, all Auto Crane models of winches and cranes will be given the capability of operating from 0°F. down to -65°F.:

1. Drain gear oil from actuators by removing drain plug. Replace plug and use one to one-and-one-half pints of kerosene per actuator. Then add extreme pressure gear lube (E.P. 80-90) with maximum capacity of gear oil and kerosene not to exceed two quarts.

2. Replace standard urethane protective boots on pendant control switches with special low-temperature Tech-Nut flex boots.

3. The minimum bend radius of the standard Auto Crane pendant control cable may be increased from three inches to nine inches.

4. Spray all electrical equipment with special corrosion-resistant coating (eliminates rust or corrosion due to melting and freezing action of condensation).

The only inconvenience for the operator created by the above procedure is that the pendant control cable must be coiled into larger loops for storage purposes. Care must be exercised to avoid sharp bending of this pendant control cable during extreme cold operating conditions.

When Auto Crane winches and cranes are subjected to extreme cold (-65°F.) for long periods (two to six months or more), it is recommended that the following procedure be placed in action:

1. Completely drain the existing oil from the actuators and flush with kerosene.

2. Fill each actuator with Mobilube SHC-629 (approximately two quarts required per actuator) to the proper level (oil level plug must be removed to check level).

NOTE: Many customers have utilized heater-blanket type wrapping for these gear boxes.

WIRE LINE LUBRICATION

Lubrication of the wire line serves two important purposes: (1) helps to prevent corrosion; (2) lubricates the cable strands to reduce wear due to flexing and abrasion caused by contact with the sheaves, rollers and cable on the drum.

PREPARATION:

Remove rust and foreign matter with a wire brush and wipe clean. Be sure cable is dry.

APPLICATION:

Two methods are illustrated in figures 1 and 2. A light weight motor oil may be used, as in figrue 1; or a heavier lubricant such as grease gun lubricant, as in figure 2.

Illustrated in figure 1 is one easy and effective method of applying lubrication. Dip the brush into the lubricant and apply. In some cases a rag or piece of sheepskin is dipped in tlhe lubricant and used to swab the lubricant on to the rope.

Another simple method is shown in figure 2. Leather gloves are preferred to canvas because of greater protection and less penetration of the grease.

Fig. 1

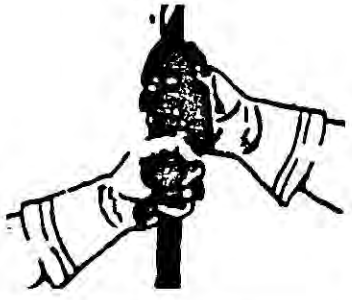


Fig. 2

"LIFE OF WIRE LINE"

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. Lubricate line. (See above)
   d. Avoid kinks in cable.
   e. Avoid abrasive action and contact with sharp corners.
4. Frequency of use.

Auto Crane units, up to 2400 pound ratings, use 3/16 inch diameter galvanized preformed 7 x 19 aircraft cable which, when new, has a minimum strength of 4,200 pounds. It is recommended when 1200 pound loads are exceeded to use a two-part line with a traveling block. It can be seen that there is a safety factor of 3.5 to 1 when the cable is new.

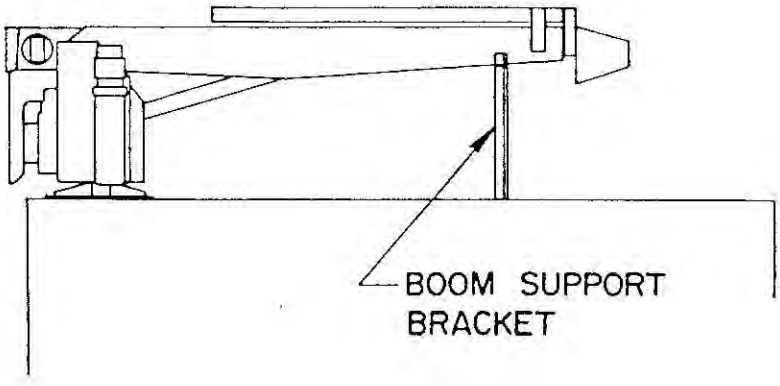
Keeping the above factor of safety in mind and knowing the kind of loads that will be handled, the user can determine by inspection of the cable as to when it should be replaced.

Items to look for while inspecting the cables are:

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

WARNING:

AS WITH ALL AUTO CRANE POWER ROTATION UNITS, 2403 SERIES DOES REQUIRE A BOOM SUPPORT.



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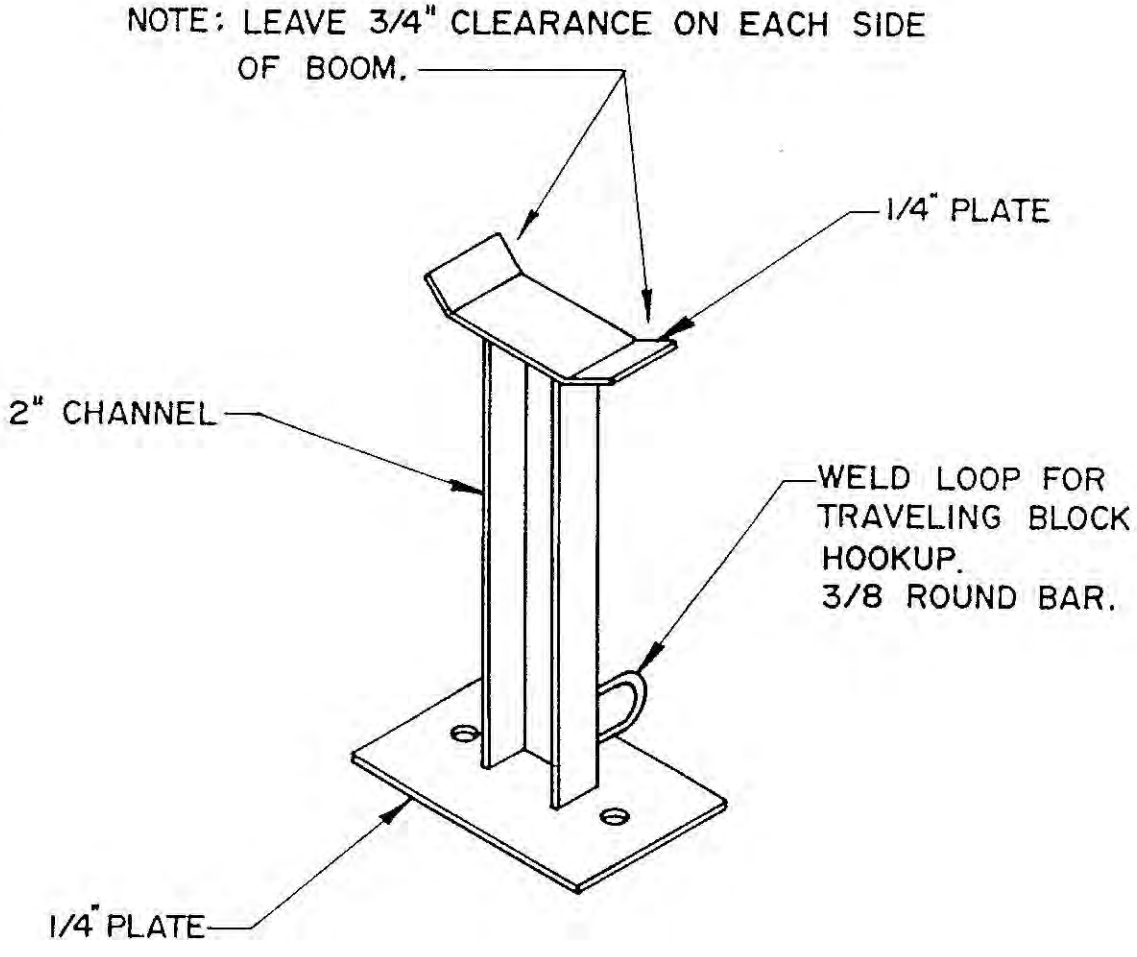
AUTO CRANE'S SUGGESTED BOOM SUPPORT.



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MAINTENANCE OF BATTERIES

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

Many things affect the proper charge to a battery, such as regulator settings, the proper tightness of belts on the alternator or generator, and good, clean connections of all cables and wires at the battery, regulator, starting motor, alternator or generator, and – most important – the ground connections.

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

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

From the above, it is apparent that a half-charged battery (about 1.200 specific gravity) cannot stand for any length of time at −20°F or it will freeze.

The main reason for keeping the battery as fully charged as possible without overcharging, of course, is to assure that power is available even though the vehicle has been standing for some time.

The battery should be properly filled with water at all times. If the electrolyte level is allowed to fall below the top of the plates, the results become threefold: 1) the exposed portion of the plate will become sulfated; 2) the portion of the plate exposed is not usable; and 3) that portion of the acid remaining becomes more concentrated and may cause more rapid deterioration of the remaining parts of the battery.

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

Periodic Maintenance is Needed.

A definite program of periodic maintenance of all batteries should be conducted on a regular basis. Periodic maintenance includes checking belts for tightness on the charging equipment, checking battery electrolyte levels, checking cables for good connections, and cleaning where corrosion is apparent. When corrosion is cleaned off, the cable terminals and battery terminals should be coated with a light coating of petroleum jelly before they are replaced. When terminals are cleaned the top of the battery should be cleaned with a mild solution of soda water.

If the condition of the battery is in question, it should be removed from the vehicle, taken to the shop, and allowed to reach room temperature. It should then be recharged until specific gravity readings are unchanged over three readings taken at one-half hour intervals. If the specific gravity readings are fairly uniform, the battery should be checked with a high rate tester in accordance with instructions on the tester. A load test is the best test one can make on a battery.

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

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

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

1. Fill the battery with electrolyte of the proper specific gravity.

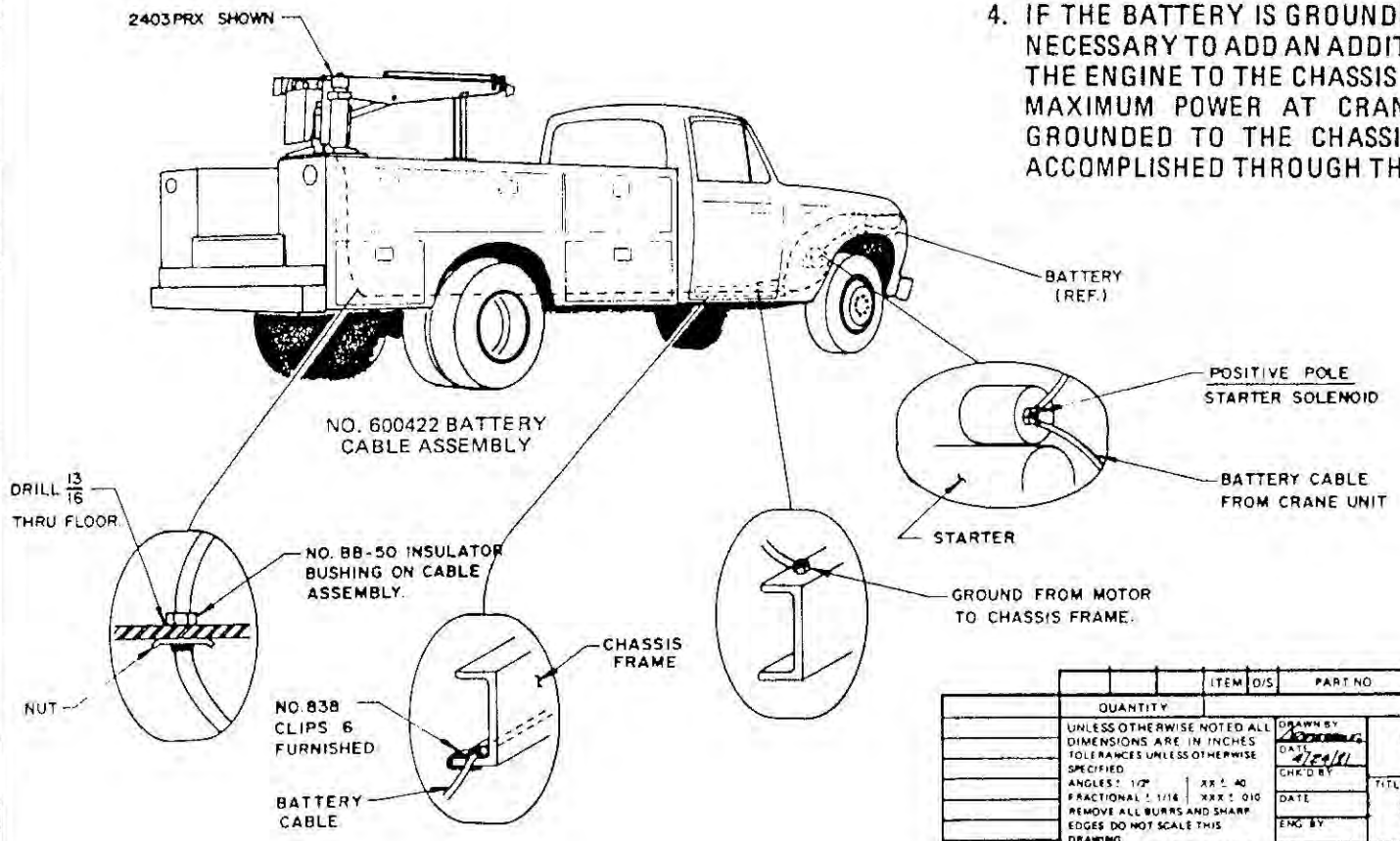
2. Place the battery on charge in accordance with instructions given by the manufacturer.

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

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

FIXTURE NO.	FINISH NO.

1. DRILL 13/16 DIAMETER HOLE IN FLOOR. INSTALL CABLE, AND BUSHING WHICH IS FURNISHED ON CABLE, AS SHOWN. WRAP ELECTRICAL TAPE AROUND CABLE SO IT WILL FIT BUSHING SNUG.
2. RUN CABLE INSIDE CHASSIS FRAME TO STARTER SOLENOID BATTERY CONNECTION. LOCATE CABLE SO THAT IT WILL BE PROTECTED, AVOID SHARP EDGES. INSTALL THE NO. 838 FRAME CLIPS TO HOLD CABLE SECURELY IN PLACE. IF SURPLUS CABLE EXISTS THE CABLE CAN BE CUT OFF, AND EXTRA TERMINAL FURNISHED WITH CABLE INSTALLED.
3. REMOVE NUT ON SOLENOID BATTERY TERMINAL POST, INSTALL CRANE POWER CABLE, REPLACE NUT AND TIGHTEN.
4. IF THE BATTERY IS GROUNDED TO THE ENGINE IT MAY BE NECESSARY TO ADD AN ADDITIONAL GROUND CABLE FROM THE ENGINE TO THE CHASSIS FRAME IN ORDER TO OBTAIN MAXIMUM POWER AT CRANE. THE CRANE SHOULD BE GROUNDED TO THE CHASSIS FRAME. THIS IS USUALLY ACCOMPLISHED THROUGH THE MOUNTING BRACKET.



08/84

ITEM	O/S	PART NO	DESCRIPTION	QUANTITY
			LIST OF MATERIAL	

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .40
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

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DRAWN BY
DATE 4/24/81
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: INSTALLATION - BATTERY CABLE

SCALE	SIZE	DRAWING NO.	REVISION
	C	AW-6018	2403

WEIGHT | SHEET ___ OF ___

1. DRILL 13/16 DIAMETER HOLE IN FLOOR. INSTALL CABLE, AND BUSHING WHICH IS FURNISHED ON CABLE, AS SHOWN. WRAP ELECTRICAL TAPE AROUND CABLE SO IT WILL FIT BUSHING SNUG.
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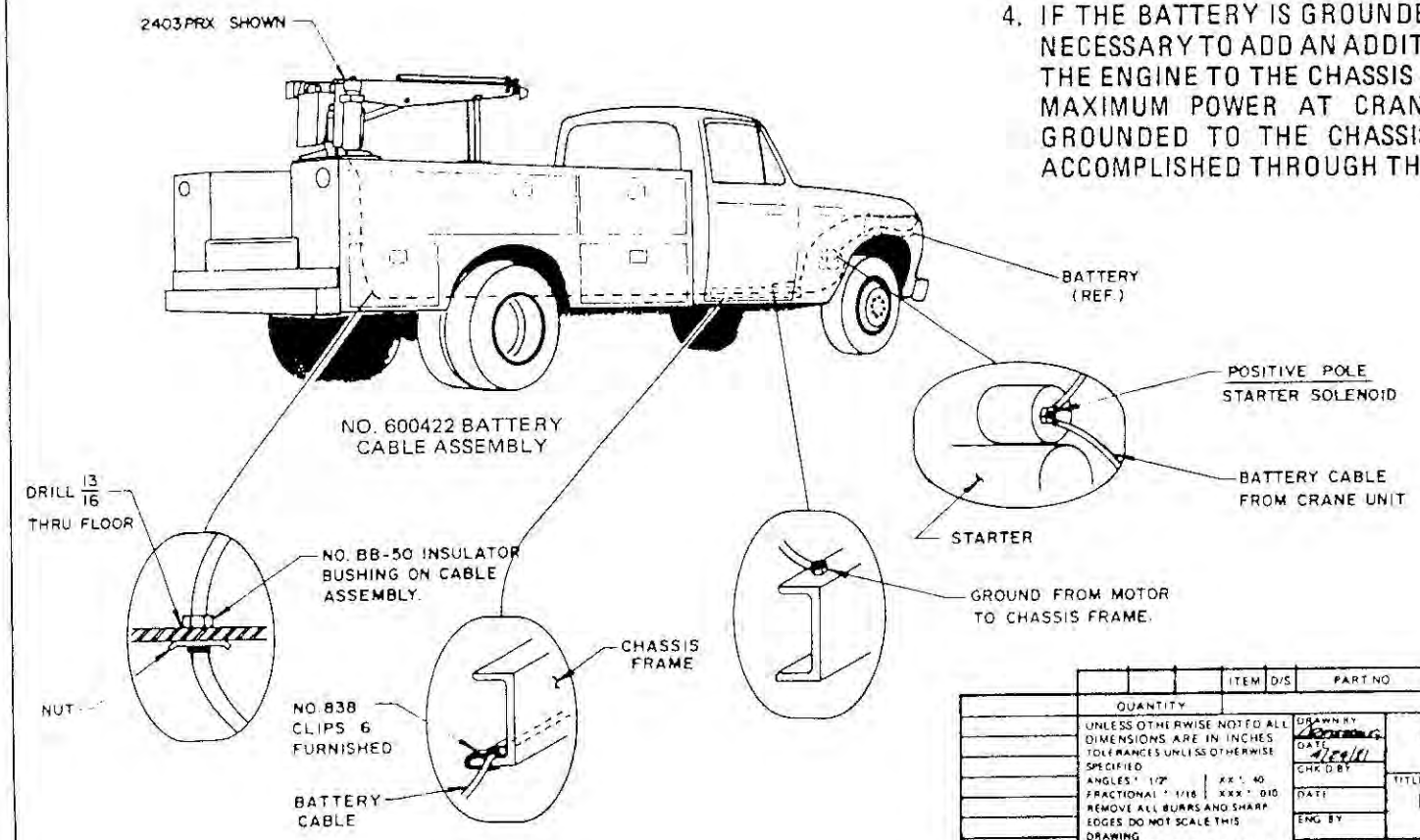

08/84

ITEM	D/S	PART NO	DESCRIPTION	QUANTITY

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: ANGLES ± 1/2° | XX ± .40 | FRACTIONAL ± 1/16 | XXX ± .010. REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING. TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973

DRAWN BY [illegible] DATE 12-6-84 | CHK'D BY | DATE | ENG. BY | DATE

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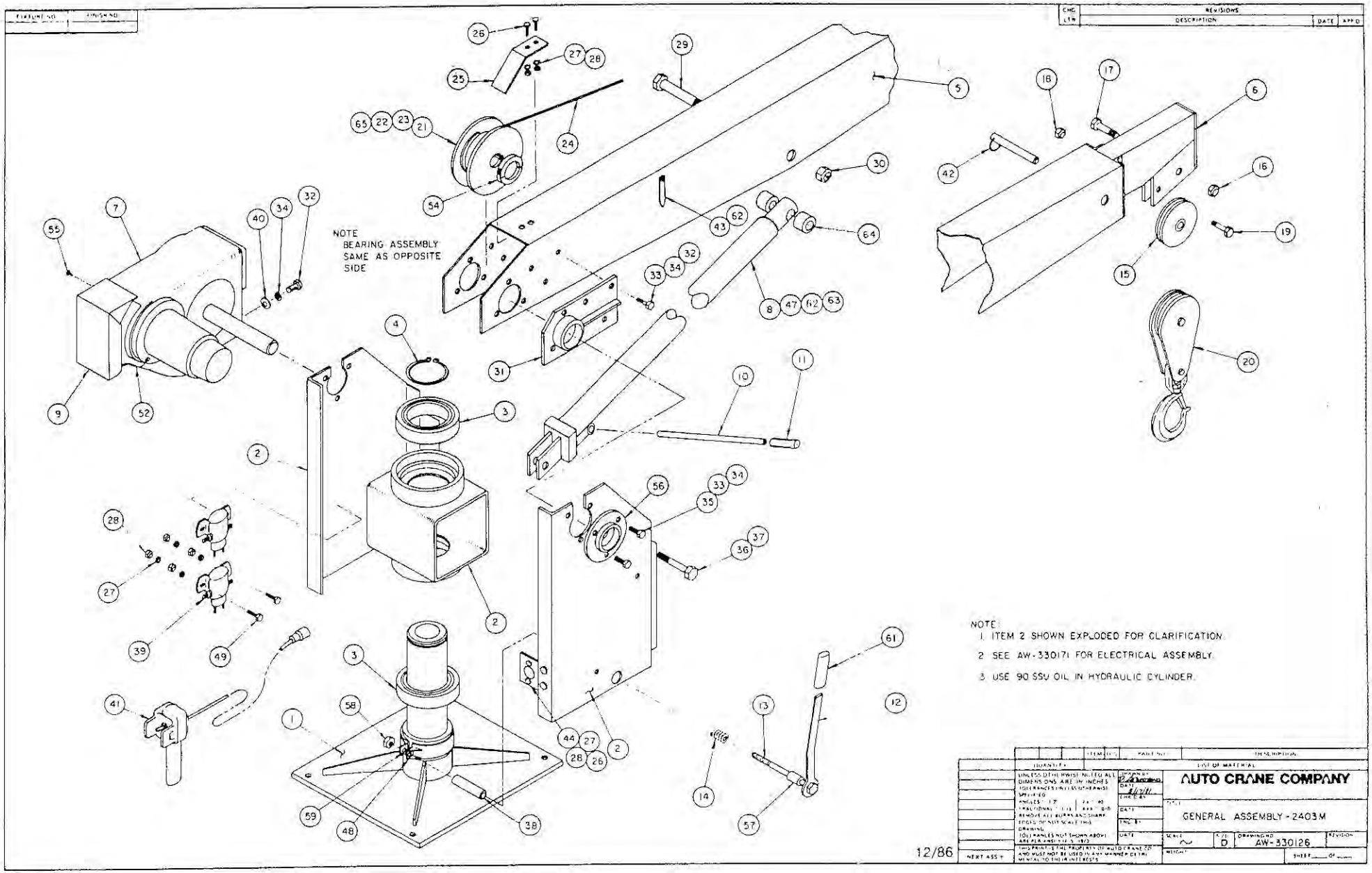
NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: INSTALLATION - BATTERY CABLE

SCALE	SIZE	DRAWING NO	REVISION
	C	AW-6018	2403

WEIGHT | SHEET 1 OF 1


NOTE
BEARING ASSEMBLY
SAME AS OPPOSITE
SIDE
NOTE:
1. ITEM 2 SHOWN EXPLODED FOR CLARIFICATION.
2. SEE AW-330171 FOR ELECTRICAL ASSEMBLY.
3. USE 90 SSU OIL IN HYDRAULIC CYLINDER.
AUTO CRANE COMPANY
GENERAL ASSEMBLY - 2403M
D
AW-330126
12/86

GENERAL ASSEMBLY – 2403M – AW-330126

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330139	QUILL/BASE
2	1	330135	SIDE PLATES/HOUSING
3	2	330192	BEARING, BALL SEALED
4	1	330182	SNAP RING
5	1	330133	BOOM
6	1	330137	BOOM, EXT.
7	1	330131	ACTUATOR ASS'Y
8	1	330579	CYLINDER, HYD.
9	1	306700	GUARD, BRAKE
10	1	800203-006	HANDLE, PUMP
11	1	202800	GRIP, HAND
12	1	330136	HANDLE, BRAKE
13	1	013503	SCREW, 5/8NC X 7G5
14	1	330488	SPRING, COMPRESSION
15	1	200909	SHEAVE ASS'Y (REF. BEARING ONLY – #200100)
16	1	018100	NUT, HLF-LK 5/8 NF
17	1	013506	SCREW, 5/8 NFX 2-1/4 G5
18	1	017700	NUT, HLF-LK 1/2 NF
19	1	011607	SCREW, 1/2 NFX 2G5
20	1	100300	BLOCK, TRAVELING
21	1	400300	DRUM, HOIST
22	1	800320-003	KEY, 1/4 X 1/4 X 1-15/16
23	1	002902	SCREW, SOC. SET 1/4 NCX 1/2 G5
24	1	201252	CABLE, HOIST
25	1	330156	GUARD, CABLE
26	4	005500	SCREW, 1/4 NCX 3/4 CP
27	8	015900	NUT, 1/4 NCCP
28	8	020200	WASHER, SPLK 1/4CP
29	1	330185	SCREW, 1NFX5-1/2 G5
30	1	019106	NUT, HLF-LK 1" NF
31	1	330471	BOOM PIVOT (330471-001 FOR OPPOSITE SIDE)
32	14	330370	SCREW, 3/8 NCX 7/8 G5ZP
33	18	330372	NUT, 3/8 NCCP G5
34	20	021100	WASHER, SPLK 3/8 CP
35	6	330371	SCREW, 3/8 NCX 1 G8ZP
36	1	014400	SCREW, 3/4 NFX 5" G5
37	1	018600	NUT, LK 3/4 NF G5CP
38	1	330490	SPACER
39	1	330171	RELAY PANEL ASSEMBLY
40	4	021200	WASHER, FLAT 3/8CP
41	1	330519	CONTROL, PENDANT
42	1	330181	PIN, POSITION
43	1	360038	INDICATOR, ANGLE
44	1	330183	BRACKET, MOUNTING RECEPTACLE
45	1	330363	BOOM, UPPER (OPTIONAL FOR 14' MANUAL EXT.)
46	1	227402	SHEAVE ASS'Y 5" (OPTIONAL FOR 14' MANUAL EXT.)
47	2 QT	(REF)	OIL, HYD.
48	1	330491	BRAKE BAND ASSEMBLY
49	4	005604	SCREW, HX.HD. 1/4 NCX1
50	1	330186	DECAL KIT
51	1	330187	SHIPPING KIT
52	1	660000	BRAKE LEAD
53	1	330302	BOOM, CENTER (OPTIONAL FOR 14' MANUAL EXT.)
54	2	330468	COLLAR, SPLIT-LOCK
55	3	004800	SCREW, #10 X 3/8 S.T.

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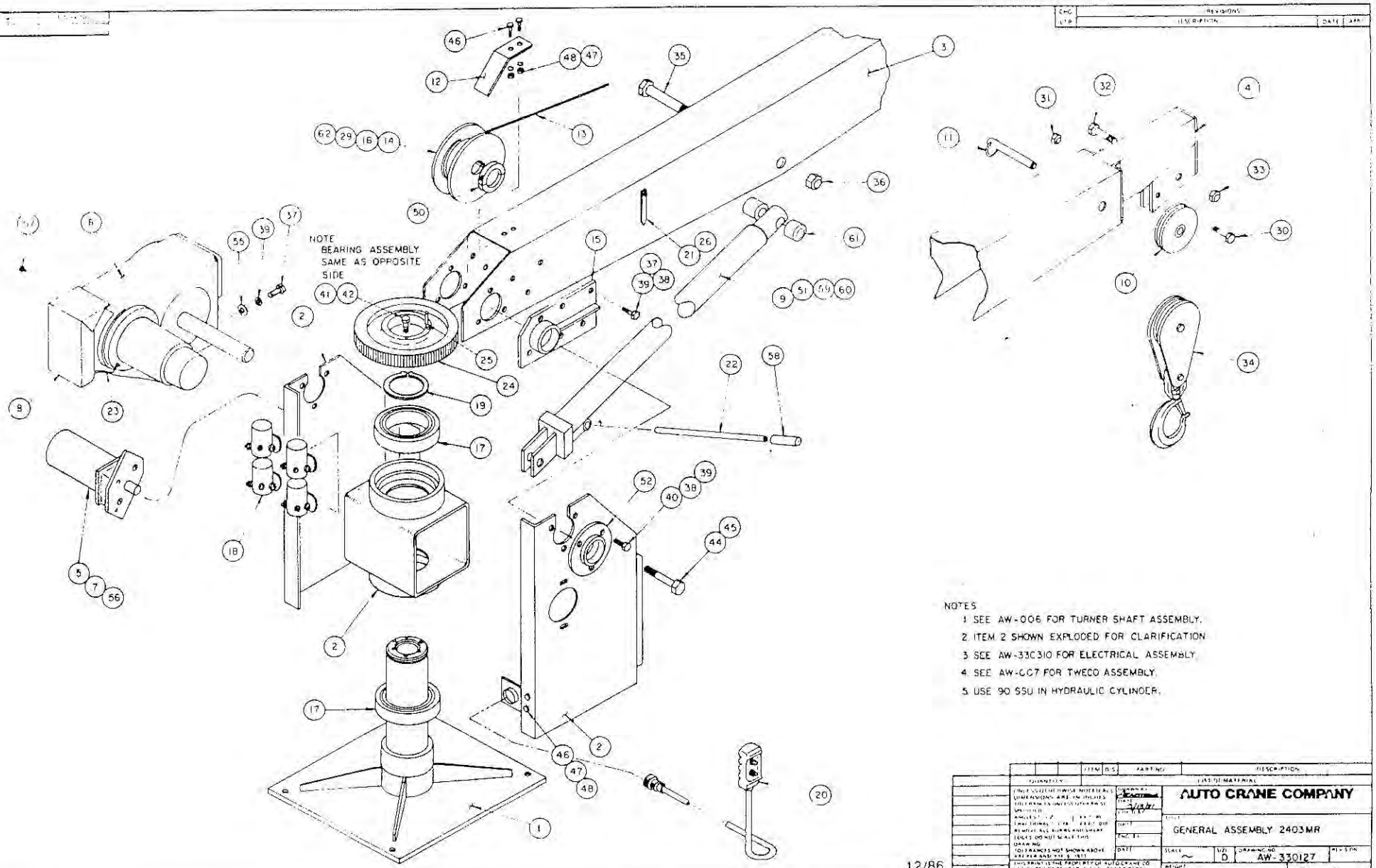
GENERAL ASSEMBLY – 2403M – AW-330126

ITEM	QTY.	PART NO.	DESCRIPTION
56	2	330470	FLANGE, BEARING
57	1	330489	SPACER
58	1	018301	NUT, HEX. 5/8 NC
59	1	330184	SPRING, COMPRESSION
60	1	016300	NUT, HX-LK. 1/4NC
61	1	330303	GRIP, HAND
62	1	330623	SEAL KIT (HYD. CYLINDER)
63	1	330646	REPAIR KIT (HYD. CYLINDER)
64	2	800167-001	SPACER
65	1	330643	FILLER, DRUM, 3/16

NOTE: BEARING P/N 400500 IS USED IN BOOM PIVOT (330471 & 330471-001) AND FLANGE BEARING (330470).



NOTES

1. SEE AW-006 FOR TURNER SHAFT ASSEMBLY.
2. ITEM 2 SHOWN EXPLODED FOR CLARIFICATION
3. SEE AW-330310 FOR ELECTRICAL ASSEMBLY.
4. SEE AW-007 FOR TWECO ASSEMBLY.
5. USE 90 SSU IN HYDRAULIC CYLINDER.

REVISIONS			
CHG LTR	DESCRIPTION	DATE	APP.

ITEM	QTY	PART NO.	DESCRIPTION

LIST OF MATERIAL

AUTO CRANE COMPANY

GENERAL ASSEMBLY 2403MR

SIZE D | DRAWING NO. AW-330127 | REV. SYM.

SHEET ___ OF ___

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GENERAL ASSEMBLY – 2403MR – AW-330127

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330210	QUILL/BASE
2	1	330383	SIDE PLATES/HOUSING
3	1	330133	BOOM, LOWER
4	1	330137	BOOM, UPPER
5	1	330313	GEAR MOTOR, 12V.
6	1	330131	ACTUATOR ASSEMBLY
7	1	330504	MOUNT, MOTOR
8	1	306700	BRAKE GUARD
9	1	330579	CYLINDER, HYDRAULIC
10	1	200909	SHEAVE ASSEMBLY (REF. BEARING ONLY – =200100)
11	1	330181	POSITION PIN
12	1	330156	GUARD, CABLE
13	1	201252	CABLE, HOIST
14	1	400300	DRUM, HOIST
15	1	330471	BOOM, PIVOT (330471-001 FOR OPPOSITE SIDE)
16	1	800320-003	KEY, 1/4 X 1/4 X 1-15/16
17	2	300192	BEARING, BALL - SEALED
18	1	330310	RELAY PANEL ASSEMBLY
19	1	330182	SNAP RING
20	1	330311	PENDANT CONTROL
21	1	360038	INDICATOR ANGLE
22	1	800203-006	HANDLE, PUMP
23	1	660000	BRAKE LEAD
24	1	330422	GEAR, WORM
25	3	330451	DOWEL PIN 5/16 Ø X 2
26	1	016300	NUT, HX-LK 1/4 NC
27	1	330279	SHIPPING KIT
28	1	330186	DECAL KIT
29	2	002902	SCREW, SOC. SET 1/4 NCX 1/2
30	1	011607	SCREW, 1/2 NFX 2 G5
31	1	017700	NUT, HX HLF-LK 1/2 NF
32	1	013506	SCREW, 5/8 NFX 2-1/4 G5
33	1	018100	NUT, 5/8 NF
34	1	100300	BLOCK, TRAVELING
35	1	330185	SCREW, 1" NFX 5-1/2 G5
36	1	019106	NUT 1" NF
37	14	330370	SCREW, 3/8 NCX 7/8 G8ZP
38	18	330372	NUT, 3/8 NC CPG5
39	20	021100	WASHER, SPLK 3/8 CP
40	4	330371	SCREW, 3/8 NCX 1" G8ZP
41	3	007805	SCREW, 5/16 NCX 1-1/2 G5
42	3	020600	WASHER, SPLK 5/16 CP
43	2	330394	SCREW, 3/8 NCX 1-1/2 G5ZP
44	1	014400	SCREW, 3/4 NFX 5" G5
45	1	018600	NUT, 3/4 NF G5CP
46	5	005500	SCREW, 1/4 NCX 3/4 CP
47	13	015900	NUT, 1/4 NCCP
48	15	020200	WASHER, SPLK 1/4 CP
49	1	330302	BOOM, CENTER (OPTIONAL FOR 14' MANUAL EXT.)
50	2	330468	COLLAR, SPLIT-LOCK
51	2 QT.	(REF)	OIL, HYD.
52	2	330470	FLANGE, BEARING
53	1	330363	BOOM, UPPER (OPTIONAL FOR 14' MANUAL EXT.)
54	1	227401	SHEAVE ASS'Y 5" (OPTIONAL FOR 14' MANUAL EXT.)
55	2	021200	WASHER, FLT. 3/8

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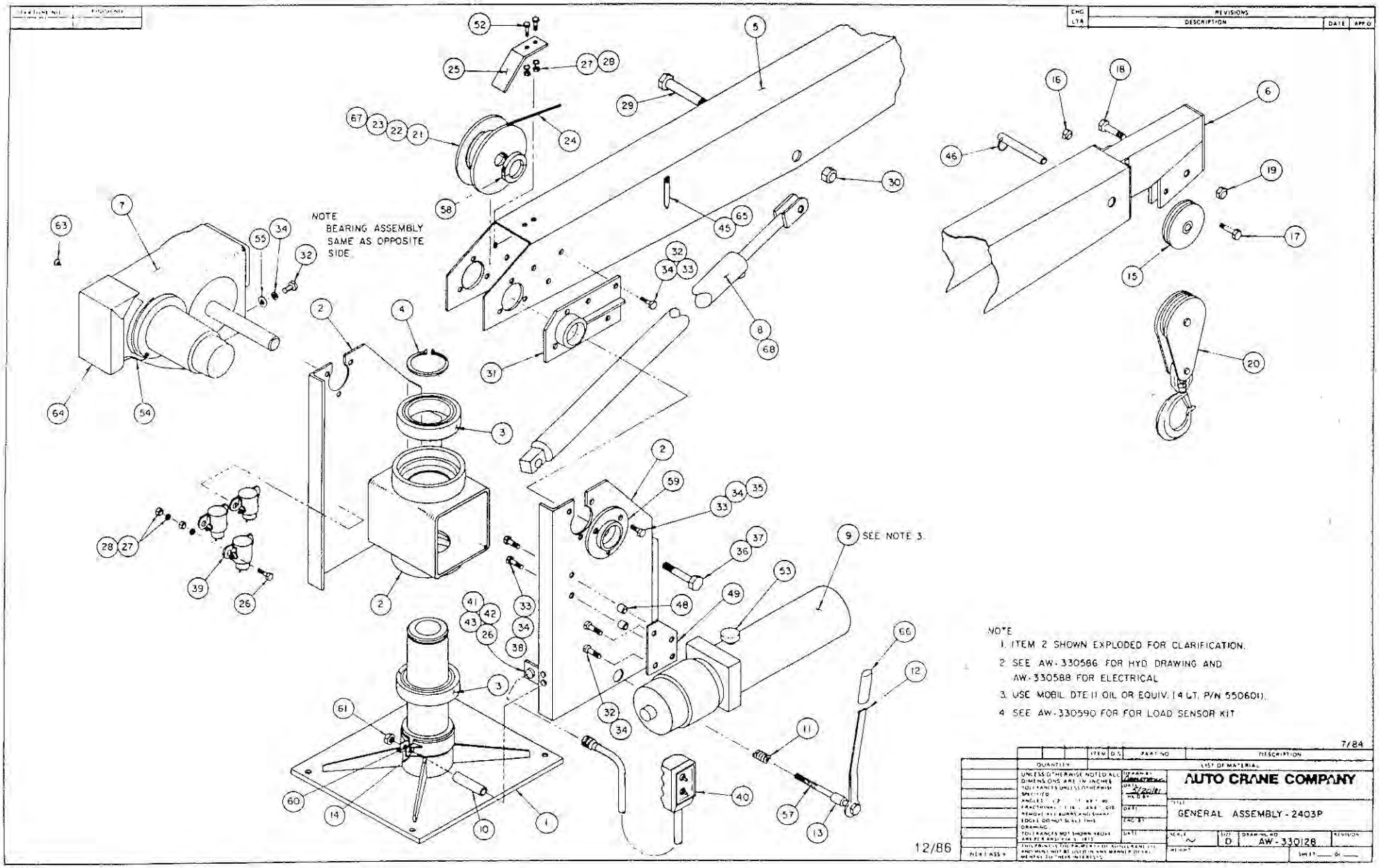
GENERAL ASSEMBLY – 2403MR – AW-330127

ITEM	QTY.	PART NO.	DESCRIPTION
56	1	330243-002	KEY
57	3	004800	SCREW #10 X 3/8 S.T.
58	1	202800	GRIP, HAND
59	1	330623	SEAL KIT (HYD. CYLINDER)
60	1	330646	REPAIR KIT (HYD. CYLINDER)
61	2	800167-001	SPACER
62	1	330643	DRUM, FILLER, 3/16

NOTE: BEARING P/N 400500 IS USED IN BOOM PIVOT (330471 & 330471-001) AND FLANGE BEARING (330470).



NOTE

1. ITEM 2 SHOWN EXPLODED FOR CLARIFICATION.
2. SEE AW-330586 FOR HYD DRAWING AND AW-330588 FOR ELECTRICAL
3. USE MOBIL DTE 11 OIL OR EQUIV. (4 GT. P/N 550601).
4. SEE AW-330590 FOR FOR LOAD SENSOR KIT

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D

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ITEM NO.	PART NO	DESCRIPTION	QUANTITY

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: ANGLES ±2° — .X ±.1 — .XX ±.03 — FRACTIONAL ±1/16 — REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING. TOLERANCES NOT SHOWN REQUIRE 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.

DRAWN: Armstrong 4/24/84
APP'D: Wyatt 4/24/84
DATE
ENG. RELEASE
DATE

NEXT ASSY

AUTO CRANE COMPANY

TITLE: GENERAL ASSEMBLY - 2403P

SCALE: ~ | SIZE: D | DRAWING NO: AW-330128 | REVISION

WEIGHT | SHEET ___ OF ___

12/86

GENERAL ASSEMBLY – 2403P – AW-330128

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330139	QUILL/BASE
2	1	330135	SIDE PLATES/HOUSING
3	2	330192	BEARING, BALL SEALED
4	1	330182	SNAP RING
5	1	330133	BOOM, LOWER
6	1	330137	BOOM, UPPER
7	1	330131	ACTUATOR ASSEMBLY
8	1	330580	HYD. CYLINDER
9	1	330581	PUMP, HYD. 3 QT.
10	1	330490	SPACER
11	1	330488	SPRING, COMPRESSION
12	1	330136	BRAKE, WRENCH
13	1	330489	SPACER
14	1	330491	BRAKE BAND ASS'Y
15	1	200909	SHEAVE ASSEMBLY (REF. BEARING ONLY – #200100)
16	1	017700	NUT, HLF-LK 1/2 NF
17	1	011607	SCREW, 1/2 NFX 2G5
18	1	013506	SCREW, 5/8 NFX 2-1/4 G5
19	1	018100	NUT, HLF-LK 5/8 NF
20	1	100300	BLOCK, TRAVELING
21	1	400300	DRUM, HOIST
22	1	800320-003	KEY, 1/4 X 1/4 X 1-15/16
23	1	002902	SCREW, 1/4 NCX 1/2 G5
24	1	201252	CABLE, HOIST
25	1	330156	GUARD, CABLE
26	6	005601	SCREW, 1/4 NCX 1CP
27	10	015900	NUT, 1/4 NCCP
28	10	020200	WASHER, SPLK 1/4CP
29	1	330185	SCREW, 1NFX 5-1/2 G5
30	1	019106	NUT, HLF-LK 1" NF
31	1	330471	BOOM, PIVOT (330471-001 FOR OPPOSITE SIDE)
32	15	330370	SCREW, 3/8 NCX 7/8 G8ZP
33	19	330372	NUT, 3/8 NCCPG5
34	23	021100	WASHER, SPLK 3/8 CP
35	6	330371	SCREW, 3/8 NCX 1" G8ZP
36	1	014400	SCREW, 3/4 NFX 5" G5
37	1	018600	NUT, LK 3/4 NF G5 CP
38	2	009109	SCREW, 3/8 NCX 1-1/2 G5
39	1	330588	RELAY PANEL ASSEMBLY
40	1	330311	PENDANT, CONTROL
41	1	330183	BRACKET, RECEPTACLE
42	2	019600	LOCKWASHER #6
43	2	015400	NUT, HEX #6-32
44	2	000404	SCREW, RD.HD. #6-32 X 5/8
45	1	360038	INDICATOR, ANGLE
46	1	330181	POSITION PIN
47	1	227401	SHEAVE ASS'Y 5" (OPTIONAL FOR 14' MANUAL EXT.)
48	2	800202-002	SPACER, PUMP BRACKET
49	1	330319	BRACKET, PUMP
50	1	330186	DECAL KIT
51	1	330187	SHIPPING KIT
52	2	005500	SCREW, 1/4 NCX 3/4
53	1	200545	BREATHER CAP
54	1	660000	BRAKE LEAD
55	2	021200	WASHER FLT, 3/8

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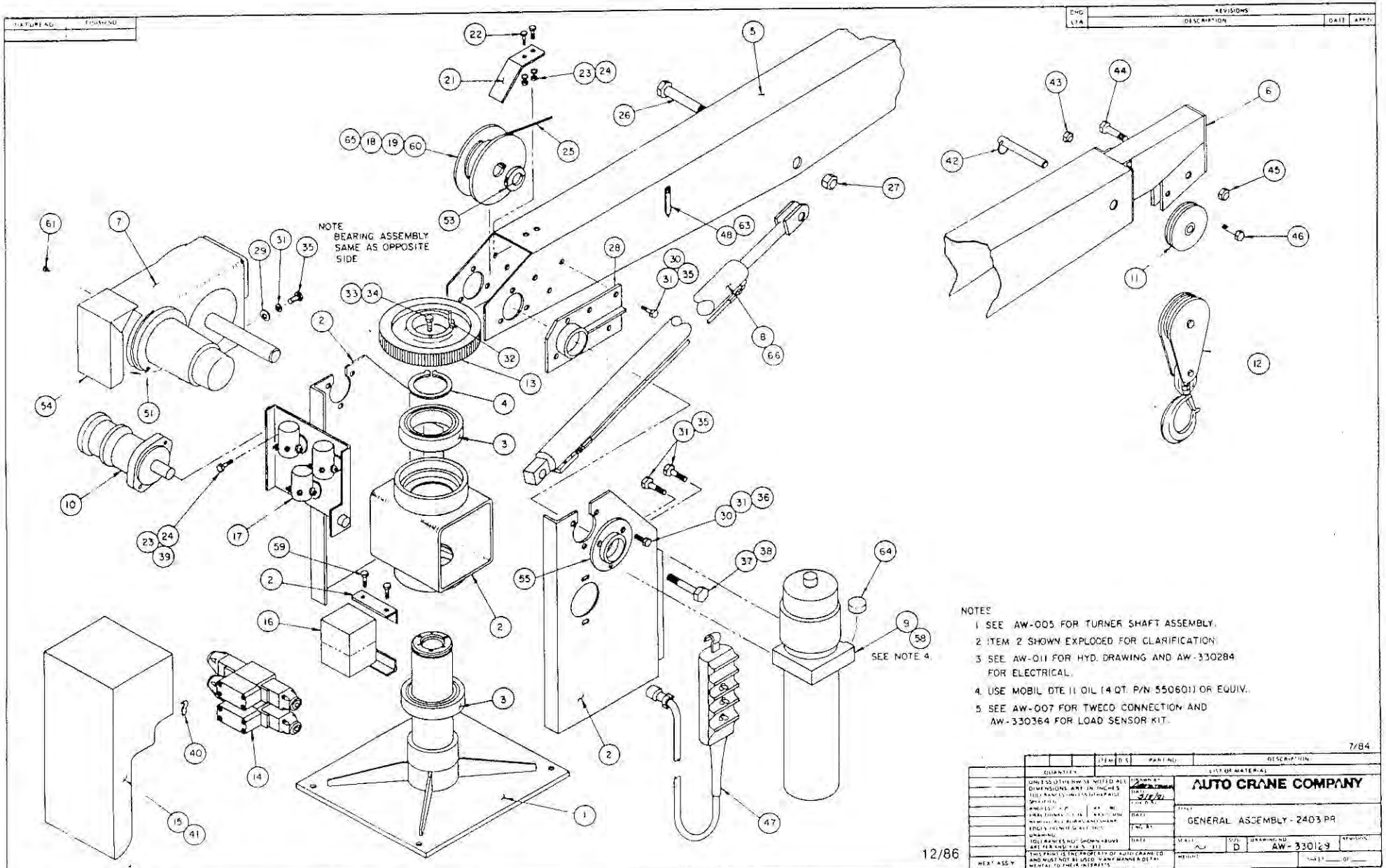
GENERAL ASSEMBLY – 2403P – AW-330128

ITEM	QTY.	PART NO.	DESCRIPTION
56	1	330363	BOOM, CENTER (OPTIONAL FOR 14' MANUAL EXT.)
57	1	013503	SCREW 5/8 NC X 7
58	2	330468	COLLAR, SPLIT-LOCK
59	2	330470	FLANGE, BEARING
60	1	330184	SPRING, COMPRESSION
61	1	018301	NUT, HEX. 5/8 NC
62	1	330233	BOOM, UPPER (OPTIONAL FOR 14' MANUAL EXT.)
63	3	004800	SCREW, #10 X 3/8 S.T.
64	1	306700	GUARD, BRAKE
65	1	016300	NUT, HX.LK. 1/4 NC
66	1	330303	GRIP, HAND
67	1	330643	DRUM, FILLER, 3/16
68	1	330452	SEAL KIT

NOTE: BEARING P/N 400500 IS USED IN BOOM PIVOT (330471 & 330471-001) AND FLANGE BEARING (330470).



NOTES

1. SEE AW-005 FOR TURNER SHAFT ASSEMBLY.
2. ITEM 2 SHOWN EXPLODED FOR CLARIFICATION.
3. SEE AW-011 FOR HYD. DRAWING AND AW-330284 FOR ELECTRICAL.
4. USE MOBIL DTE 11 OIL (4 QT. P/N 550601) OR EQUIV.
5. SEE AW-007 FOR TWECO CONNECTION AND AW-330364 FOR LOAD SENSOR KIT.

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AUTO CRANE COMPANY

GENERAL ASSEMBLY - 2403 PR

SIZE D DRAWING NO. AW-330129

GENERAL ASSEMBLY – 2403PR – AW-330129

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330210	QUILL/BASE
2	1	330283	SIDE PLATES/HOUSING
3	2	330192	BEARING, BALL SEALED
4	1	330182	SNAP RING
5	1	330133	BOOM, LOWER
6	1	330137	BOOM, UPPER
7	1	330131	ACTUATOR ASSEMBLY
8	1	330250	HYD. CYLINDER
9	1	202712	PUMP, HYD. 3 QT.
10	1	330200	HYD. MOTOR
11	1	200909	SHEAVE ASSEMBLY (REF. BEARING ONLY – #200100)
12	1	100300	BLOCK, TRAVELING
13	1	330422	GEAR, WORM
14	2	300204	DIRECTIONAL VALVE ASS'Y
15	1	330254	GUARD, RELAY
16	1	330306	MANIFOLD - SERIES
17	1	330284	RELAY PANEL ASSEMBLY
18	1	400300	DRUM HOIST
19	1	800320-003	KEY, 1/4 X 1/4 X 1-15/16
20	1	002900	SCREW, 1/4 NCX 3/8 G5
21	1	330156	GUARD, CABLE
22	3	005500	SCREW, 1/4 NCX 3/4 G5
23	9	020200	WASHER, SPLK 1/4 CP
24	11	015900	NUT, 1/4-20 CP
25	1	201252	CABLE, HOIST
26	1	330185	SCREW, 1" NFX 5G5
27	1	019106	NUT, HLF-LK 1" NF
28	1	330471	BOOM, PIVOT (330471-001 FOR OPPOSITE SIDE)
29	2	021200	WASHER, FLAT
30	19	330372	NUT, 3/8 NCCP G5
31	22	021100	WASHER, SPLK 3/8 CP
32	3	330451	DOWEL PIN 5/16" Ø X 2" LG
33	3	007805	SCREW, 5/16 NCX 1-1/2 G5
34	3	020600	WASHER, SPLK 5/16 CP
35	17	330370	SCREW, 3/8 NCX 7/8 ZPG8
36	6	330371	SCREW, 3/8 NCX 1 G5
37	1	014400	SCREW, 3/4 NFX 5 G5
38	1	018600	NUT, HXLK 3/4 NF CPG5
39	4	005604	SCREW, 1/4-20 X 1 CPNC
40	1	000115	CLAMP, CABLE
41	5	330038	SCREW, SELF-DRILLING
42	1	330181	POSITION PIN ASS'Y
43	1	017700	NUT, HLF-LK 1/2 NF CP
44	1	013506	SCREW, 5/8 NFX 2-1/4 G5
45	1	018100	NUT, HLF-LK 5/8 NF
46	1	011607	SCREW, 1/2 NFX 2" G5
47	1	642601	PENDANT CONTROL
48	1	360038	INDICATOR, ANGLE
49	1	330186	DECAL KIT
50	1	330279	SHIPPING KIT
51	1	660000	BRAKE LEAD
52	1	330302	BOOM, CENTER (OPTIONAL FOR 14' MANUAL EXT.)
53	2	330468	COLLAR, SPLIT-LOCK
54	1	306700	GUARD, BRAKE
55	2	330470	FLANGE BEARING

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GENERAL ASSEMBLY – 2403PR – AW-330129

ITEM	QTY.	PART NO.	DESCRIPTION
56	1	330363	BOOM, UPPER (OPTIONAL FOR 14' MANUAL EXT.)
57	1	227401	SHEAVE ASS'Y 5" (OPTIONAL FOR 14' MANUAL EXT.)
58	1	200547	ELL, ST. 3/8 N.P.T.
59	4	002614	SCREW, 5/16 NC X 5/8 ST CP
60	1	002902	SCREW, SOC. SET 1/4 NCX 1/2 G8
61	3	004800	SCREW, #10-X 3/8 S.T.
62	1	330364	LOAD SENSOR KIT (OPT.)
63	1	016300	NUT, HX.LK. 1/4 NC
64	1	200545	CAP, BREATHER
65	1	330643	DRUM, FILLER, 3/16
66	1	330452	SEAL KIT

NOTE: BEARING P/N 400500 IS USED IN BOOM PIVOT (330471 & 330471-001) AND FLANGE BEARING (330470).

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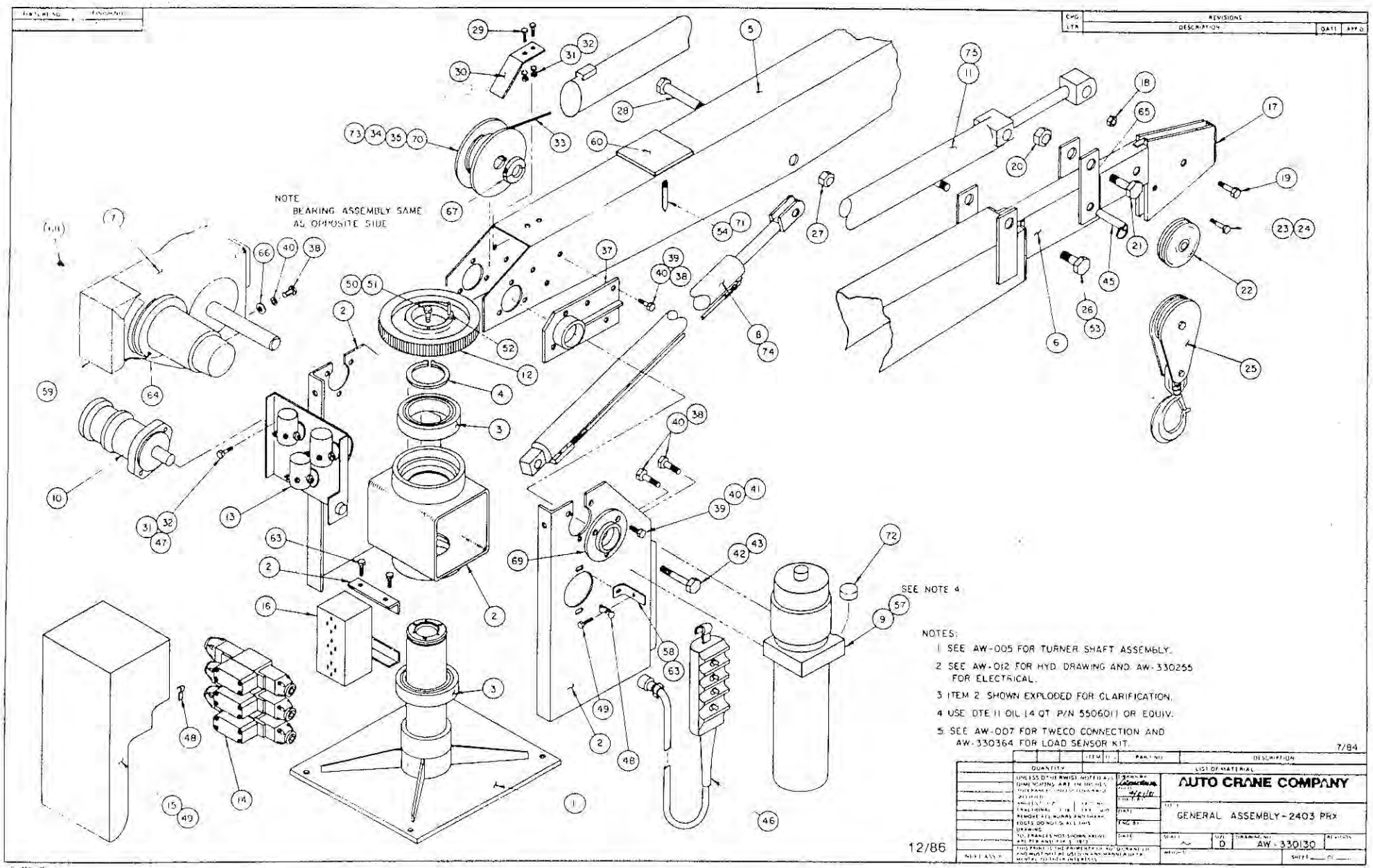

NOTES:

1. SEE AW-005 FOR TURNER SHAFT ASSEMBLY.
2. SEE AW-012 FOR HYD. DRAWING AND AW-330255 FOR ELECTRICAL.
3. ITEM 2 SHOWN EXPLODED FOR CLARIFICATION.
4. USE DTE 11 OIL 14 QT. P/N 550601I OR EQUIV.
5. SEE AW-007 FOR TWECO CONNECTION AND AW-330364 FOR LOAD SENSOR KIT.

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REVISIONS			
CHG LTR	DESCRIPTION	DATE	APP'D

ITEM NO.	PART NO.	DESCRIPTION
QUANTITY		LIST OF MATERIAL

AUTO CRANE COMPANY

GENERAL ASSEMBLY - 2403 PRx

SIZE D | DRAWING NO. AW-330130 | REVISION

SHEET ___ OF ___

GENERAL ASSEMBLY – 2403PRX – AW-330130

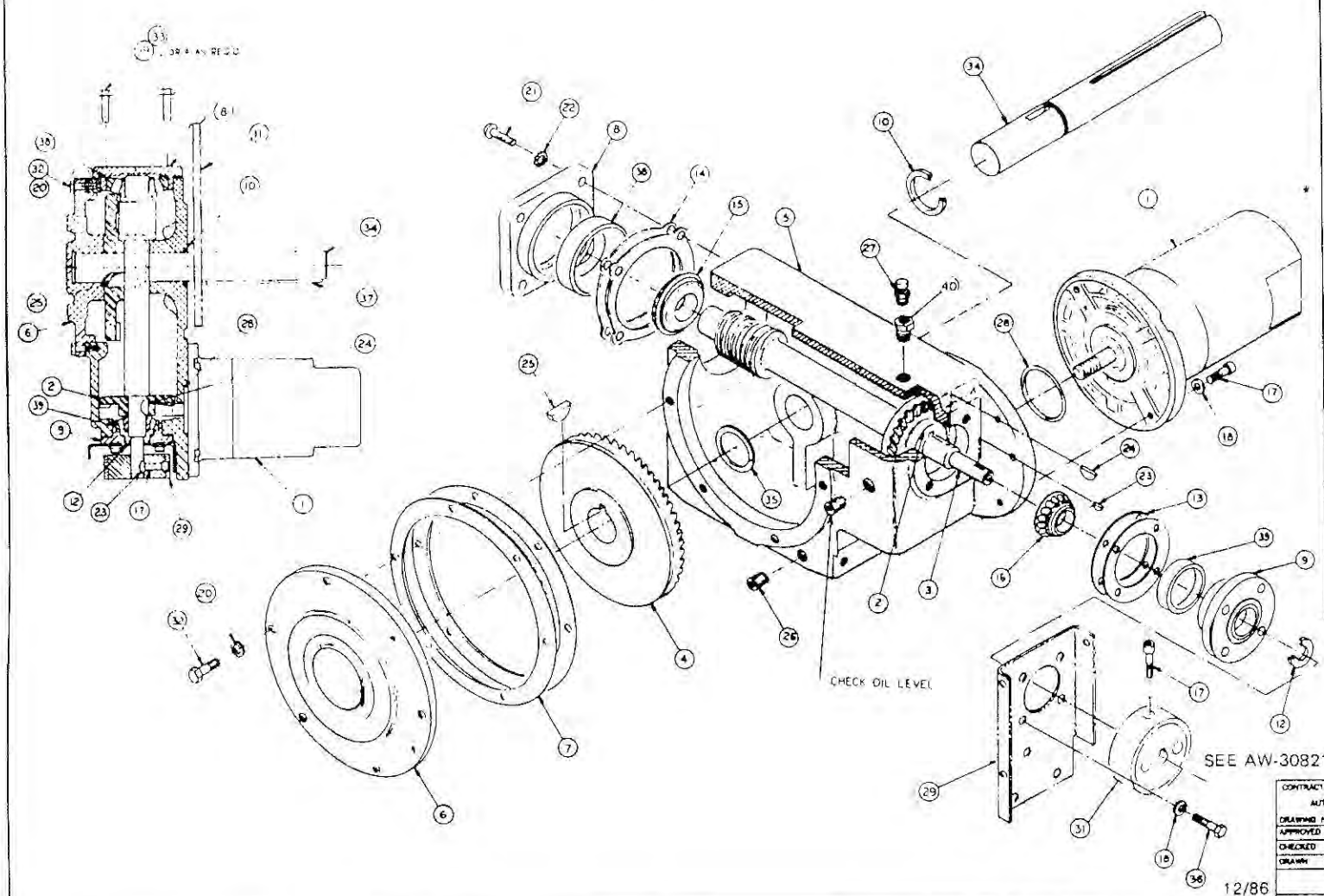
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330210	QUILL/BASE
2	1	330231	SIDE PLATES/HOUSING
3	2	330192	BEARING, BALL SEALED
4	1	330182	SNAP RING
5	1	330232	BOOM, LOWER
6	1	330206	BOOM, CENTER
7	1	330131	ACTUATOR ASSEMBLY
8	1	330250	HYD. CYLINDER
9	1	202712	PUMP, HYD. 3 QT.
10	1	330200	HYD. MOTOR
11	1	202711	HYD. CYLINDER
12	1	330422	GEAR, WORM
13	1	330255	RELAY PANEL ASS'Y
14	3	300204	DIRECTIONAL VALVE ASS'Y
15	1	330254	GUARD, RELAY
16	1	202710	MANIFOLD - SERIES
17	1	330233	BOOM, UPPER
18	1	018100	NUT, HLF-LK 5/8 NFCP
19	1	012200	SCREW, 5/8 NFX 1-3/4 G5
20	1	019105	NUT, 1-8 NC
21	1	330057	SCREW, 1" X 4 G5
22	1	227401	SHEAVE ASS'Y 5" (REF. BEARING ONLY – #200100)
23	1	011606	SCREW, 1/2 NF X 1-3/4 G5
24	1	017700	NUT, HLF-LK 1/2 NF CP
25	1	100300	BLOCK, TRAVELING
26	2	015017	SCREW, 1 X 1-1/2 G5
27	1	019106	NUT, HLF-LK 1" NF
28	1	330185	SCREW, 1" NF X 5-1/2 G5
29	3	005500	SCREW, 1/4 NC X 3/4 G5
30	1	330156	GUARD, CABLE
31	11	020200	WASHER, SPLK 1/4 CP
32	11	015900	NUT, 1/4-20 CP
33	1	201252	CABLE, HOIST
34	1	400300	DRUM, HOIST
35	1	800320-003	KEY, 1/4 X 1/4 X 1-15/16
36	3	002900	SCREW, SOC. SET 1/4 NC X 3/8 G8
37	1	330471	BOOM, PIVOT (330471-001 FOR OPPOSITE SIDE)
38	17	330370	SCREW, 3/8 NC X 7/8 G8ZP
39	19	330372	NUT, 3/8 NCCP G5
40	23	021100	WASHER, SPLK 3/8 CP
41	6	330371	SCREW, 3/8 NC X 1 G8CP
42	1	014400	SCREW, 3/4 NF X 5" G5
43	1	018600	NUT, HXLK 3/4 NF CP G5
44	1	330364	LOAD SENSOR KIT (OPT.)
45	1	201101	POSITION PIN ASS'Y
46	1	330089	PENDANT CONTROL
47	4	005604	SCREW, 1/4-20 X 1 CP
48	3	000115	CLAMP, CABLE
49	5	330038	SCREW, SELF-DRILLING
50	3	007805	SCREW, 5/16 NC X 1-1/2 G5
51	4	020600	WASHER, SPLK 5/16 CP
52	3	330451	DOWEL PIN 5/16 Ø X 2" LG.
53	2	022502	WASHER, FLAT
54	1	360038	INDICATOR, ANGLE
55	1	330280	DECAL KIT

GENERAL ASSEMBLY – 2403PRX – AW-330130

ITEM	QTY.	PART NO.	DESCRIPTION
56	1	330279	SHIPPING KIT
57	1	200547	ELL, ST. 3/8 NPT
58	1	330317	BRACKET, HYD. LINE
59	1	306700	GUARD, BRAKE
60	1	801102	PAD, CYLINDER
61	1	330270	POWER CABLE ASS'Y
62	1	330226	BRACKET, TWECO - LOWER
63	5	002614	SCREW, 5/16 NC X 5/8 ST CP
64	1	660000	BRAKE LEAD
65	1	330207	TAB, LOCKING
66	2	021200	WASHER, FLAT 3/8
67	2	330468	COLLAR, SPLIT-LOCK
68	3	004800	SCREW, #10 X 3/8 S.T.
69	2	330470	FLANGE BEARING
70	1	002902	SCREW, SOC. SET 1/4 NC X 1/2 LG.
71	1	016300	NUT, HX-LK 1/4 NC
72	1	200545	CAP, BREATHER
73	1	330643	DRUM, FILLER 3/16
74	1	330452	SEAL KIT (CYL. BOOM)
75	1	330602	SEAL KIT (CYL. EXT.)

NOTE: BEARING P/N 400500 IS USED IN BOOM PIVOT (330471 & 330471-001) AND FLANGE BEARING (330470).

NOTES:
* 1.) SCREW 005611 MAY BE NEEDED, DEPENDING ON MOTOR USED.

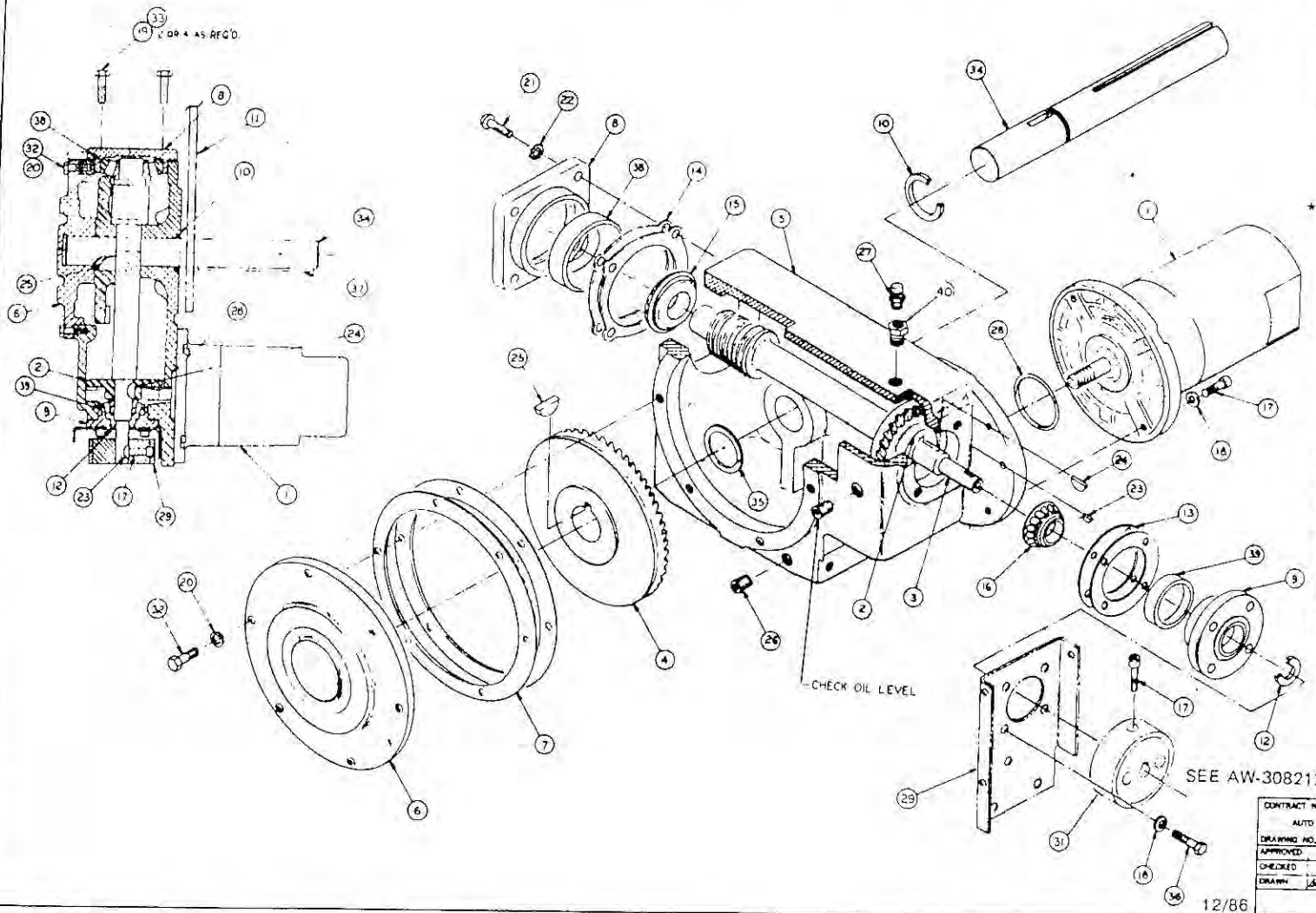


ITEM	QTY	PART NO.	DESCRIPTION
1	1	300105	MOTOR, 12 VDC
2	1	300205	PRIMARY GEAR
3	1	300306	SHAFT
4	1	300405	SECONDARY GEAR
5	1	300503	GEAR CASE
6	1	300601	COVER
7	1	300706	GASKET SET
8	1	003800	BEARING CARRIER
9	1	300903	BEARING CARRIER
10	1	301706	SEAL-OUTPUT SHAFT
11		(REF)	HOUSING
12	1	301806	SEAL-SECONDARY SHAFT
13	1	301906	SHIM SET
14	.	302008	SHIM SET
15	1	302101	BEARING CONE
16	1	302201	BEARING CONE
17	5	005610	1/4-20x3/4 SOC.HD.CAPSCREW
18	8	020200	1/4 LOCKWASHER
19	2	008601	3/8-16x7/8 HEX.HD.CAPSCREW
20	6	020601	5/16 LOCKWASHER
21	4	008701	3/8-16x1 HEX. SCREW
22	4	021402	3/8 LOCKWASHER SHAKEPROOF
23	1	040406	#404 WOODRUFF KEY
24	1	060600	#606 WOODRUFF KEY(3/16x3/4)
25	1	060601	#E WOODRUFF KEY(3/8x1-1/4)
26	3	000209	1/4 PIPE PLUG-SOC.HD.
27	1	302406	VENT FITTING
28	1	302500	SEAL
29	1	307201	CHANNEL
30	2 QT.	(REF)	MOBIL OIL #46 SAE 90
31	1	307701	BRAKE HUB ASSEMBLY
32	6	007811	5/16-18x1" GR5 CAPSCREW
33	2	021100	3/8 LOCKWASHER
34	1	330141	SHAFT, OUTPUT
35	1	400600	RETAINING RING (RST-125)
36	4	005903	1/4-20x7/8 GR5 CAPSCREW
37	1	800320-003	1/4x1/4x1-15/16 KEYSTOCK(REF)
38	1	302102	BEARING CUP
39	1	302202	BEARING CUP
40	1	000210	BUSHING, PIPE

12/86

CONTRACT NO.	AUTO CRANE COMPANY
AUTO CRANE CO	
DRAWING NO. — DATE	ACTUATOR ASSEMBLY MODEL "B"
APPROVED	
CHECKED	
DRAWN 6-81	
	SIZE D / CODE IDENT. NO. 2403 / DRAWING NO. AW-330131

NOTES:
* 1.) SCREW 005611 MAY BE NEEDED, DEPENDING ON MOTOR USED.



ITEM	QTY	PART NO	DESCRIPTION
1	1	300105	MOTOR, 12 VDC
2	1	300205	PRIMARY GEAR
3	1	315000	SHAFT
4	1	J15100	SECONDARY GEAR
5	1	300503	GEAR CASE
6	1	300601	COVER
7	1	300706	GASKET SET
8	1	003800	BEARING CARRIER
9	1	300903	BEARING CARRIER
10	1	301706	SEAL-OUTPUT SHAFT
11		(REF)	HOUSING
12	1	301806	SEAL-SECONDARY SHAFT
13	1	301906	SHIM SET
14	1	302008	SHIM SET
15	1	302101	BEARING CONE
16	1	302201	BEARING CONE
17	5	005610	1/4-20x3/4 SOC.HD.CAPSCREW
18	8	020200	1/4 LOCKWASHER
19	2	008601	3/8-16x7/8 HEX.HD.CAPSCREW
20	6	020601	5/16 LOCKWASHER
21	4	008701	3/8-16x1 HEX. SCREW
22	4	021402	3/8 LOCKWASHER SHAKEPROOF
23	1	040406	#404 WOODRUFF KEY
24	1	060600	#606 WOODRUFF KEY(3/16x3/4)
25	1	060601	#E WOODRUFF KEY(3/8x1-1/4)
26	3	000209	1/4 PIPE PLUG-SOC.HD.
27	1	302406	VENT FITTING
28	1	302500	SEAL
29	1	307201	CHANNEL
30	2 QT.	(REF)	MOBIL OIL #46 SAE 90
31	1	307701	BRAKE HUB ASSEMBLY
32	6	007811	5/16-18x1" GR5 CAPSCREW
33	2	021100	3/8 LOCKWASHER
34	1	330141	SHAFT, OUTPUT
35	1	400600	RETAINING RING (RST-125)
36	4	005903	1/4-20x7/8 GR5 CAPSCREW
37	1	800320-003	1/4x1/4x1-15/16 KEYSTOCK(REF)
38	1	302102	BEARING CUP
39	1	302202	BEARING CUP
40	1	000210	BUSHING, PIPE

12/86

CONTRACT NO.
AUTO CRANE CO
DRAWING NO. DATE
APPROVED
CHECKED
DRAWN 6-87

AUTO CRANE COMPANY
ACTUATOR ASSEMBLY
MODEL "B"
LARGE DRUM ACTUATOR

SIZE D | 2403 | AW-330399

MAINTENANCE OF HOIST ACTUATOR
(AW-330131 AND AW-330399)

The "B" actuator or gear box is the heart of all Auto Crane products in which it is utilized. The operator should read and study the pages in this manual applying to the actuator, motor and brake. The oil level in each actuator should be checked periodically (bi-weekly) and the recommended 90 weight gear oil added to maintain the level required. Check to insure that the vent fittings are not plugged and are functioning properly. Plugged vents can cause pressure "build up" in the cases and may cause seal leakage. Read the "cold weather" instructions in this manual and thin the 90 weight oil with kerosene as recommended. Check the motor brushes once every 30 days. Check the brake at least once every two weeks.

1. OIL REMOVAL
   The next operation will be to drain the oil from the gear case. This can be accomplished by removing one of the plugs (Item 26) located on the bottom side of the case.

2. MOTOR REMOVAL
   Remove 4 socket head capscrews (Item 17) using the 3/16" long handle Allen wrench furnished with the unit for this purpose. The motor can now be lifted away from the gear case. The "O" ring (Item 28) serves as an oil seal between the motorpilot and the gear case. Be sure that this "O" ring is in the recess of the gear case before reinstalling the motor.

3. COVER AND GEAR REMOVAL
   Remove six capscrews (Item 32); remove cover (6) and shim set (7). **CAUTION: Do not damage or destroy shim set.** Drive the drum shaft (34) to the left, using block of wood (Avoid damage to the shaft). The gear (4) will come out of the large opening as the shaft is driven out. Remove gear from shaft. Woodruff key (25) and retaining ring (35) will remain with shaft.

4. PRIMARY GEAR AND SECONDARY PINION SHAFT REMOVAL
   Remove brake kit (See brake kit instructions). Remove screw (17) from brake hub. Pull brake hub, remove key (23). Remove 4 capscrews (Item 36) which hold brake channel and bearing carrier (9) to case. Remove Item (9). **CAUTION: The shim sets (13 and 14) consist of the correct thickness for bearing and primary gear adjustment on each individual gear case.** Remove seal (12). Remove four buttonhead capscrews (Item 21) using a 7/32" Allen wrench. Remove cover (8) and shim set (14). Bearing cups (38 and 39) can be removed by using a pry bar.

   The pinion shaft and primary gear can now be removed from the gear case by extending the pinion end through the opening to the left until the primary gear end can be moved outwardly through the large side opening. Bearing (16) can best be removed by pulling primary gear (2) and bearing together - use puller or press. Bearing (15) can be removed with puller or press.

5. REASSEMBLY
   The foregoing procedure constitutes removal and disassembly of the Actuator. To reassemble, perform the operations in reverse order.

6. GEAR ADJUSTMENT
   The gear adjustment should be checked if new bearings (15 and 16) or new gears (2, 3 or 4) are installed. Proceed as follows:

   Install motor (1) with bearings (15 and 16) and primary gear (2) installed on shaft (3). Insert shaft in gear case. With bearing cups installed in bearing carriers (8 and 9), install bearing carriers without shims, using capscrews (21 and 36). Adjust the shaft until gear (2) fits snugly against pinion shaft on the motor.

   Using plastic color coded shim set (13) as a feeler guage, add or remove shims until a drag occurs when inserted between carrier (9) and gear case (5). Remove carrier (9) and add two paper shims, one each on front and back sides of the plastic shim set. This usually gives the proper clearance between primary gear and motor pinion. Check backlash between the gear and motor pinion which should be not less than .002" or more than .007". This can be approximated by placing the hand through the large opening in the gear case and determining that the gear has a very small amount of backlash.

   Next remove motor and install carrier (8) with plastic shim set and two paper shims. Add or remove plastic shims until bearings fit snugly in cups with the shaft free to turn. Reinstall motor and again check the backlash.

   Install cover (6) and gear (4) against secondary pinion (3); determine thickness of shim set required in the manner described above. Check the backlash for the full 360° rotation.

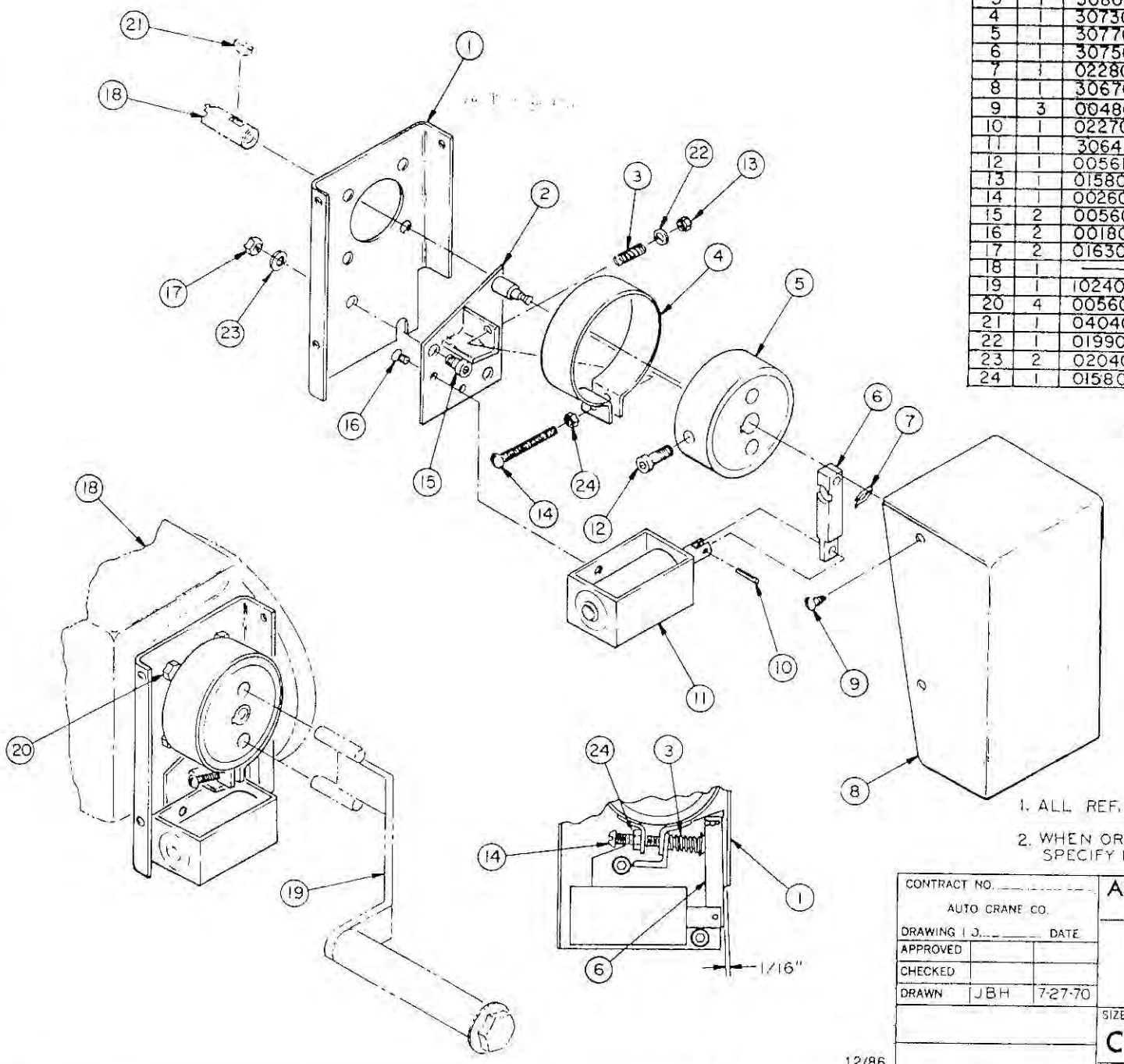
   If new gears or bearings are to be installed, new shim sets are recommended. Each shim set consists of:

   1 – .005 Blue
   1 – .0075 Clear
   2 – .020 Yellow
   2 – .005 Vellumoid Brown

7. LUBRICATION
   An extreme pressure (EP-80-90) lubricant is used in the gear case. The output shaft bearings are factory lubricated and sealed and need no further lubrication.

WHEN ORDERING PARTS – BE SURE TO SPECIFY MODEL AND SERIAL NUMBER.

9/86



ITEM	QTY	PART NO.	DESCRIPTION
1	1	307201	CHANNEL (REF)
2	1	330402	BRACKET
3	1	308000	COMPRESSION SPRING
4	1	307300	BRAKE BAND
5	1	307701	BRAKE HUB ASSEMBLY (REF)
6	1	307500	LEVER
7	1	022800	CARBURETOR CLIP, 1/8"
8	1	306700	GUARD, ACTUATOR BRAKE (REF)
9	3	004800	SCREW, #10 X 3/8 S.T. PN. HD. (REF)
10	1	022700	SELOK PIN 3/32 X 1/2
11	1	306412	SOLENOID
12	1	005610	SCREW, 1/4-20 X 3/4 (REF)
13	1	015800	NUT, #10-32 SELF-LOCKING
14	1	002603	SCREW, #10-32 X 2 RD. HD.
15	2	005609	SCREW, 1/4-20 X 5/8 (REF)
16	2	001800	SCREW, #10-32 X 1/4 FLAT HD.
17	2	016300	NUT, 1/4-20 SELF-LOCKING (REF)
18	1	———	ACTUATOR ASSEMBLY (REF)
19	1	102400	HAND CRANK (REF.)
20	4	005606	SCREW, 1/4-20 X 7/8 HEX. HD (REF.)
21	1	040406	WOODRUFF KEY #404 (REF.)
22	1	019900	#10 FLAT WASHER CP (REF)
23	2	020400	WASHER, 1/4 FLAT (REF)
24	1	015803	#10-32 CNTR. LOCK NUT CP

1/16"

1. ALL REF. ITEMS MUST BE ORDERED SEPARATE.

2. WHEN ORDERING PARTS BE SURE TO SPECIFY MODEL AND SERIAL NUMBER.

CONTRACT NO.		AUTO CRANE COMPANY
AUTO CRANE CO.		
DRAWING I J...	DATE	
APPROVED		BRAKE ASSEMBLY 12V.
CHECKED		
DRAWN	JBH 7-27-70	

SIZE	CODE IDENT. NO.	DRAWING NO.
C		AW-308212

SCALE	NONE	WEIGHT	SHE

12/86

MAINTENANCE OF 12 VOLT BRAKE KIT

1. FUNCTION
A brake is incorporated on each actuator. The brake was designed to perform two functions. One of the functions is load holding after the pendant switch is neutralized. The other function is to prevent excessive coasting after either pendant switch release or the boom travel limit switch is triggered.

2. TROUBLESHOOTING:

Problem	Cause	Repair
A. Brake fails to hold load or stop hub effectively	Damaged or out of adjustment	Replace damaged parts. If necessary, adjust per instructions.
B. Brake hub turns on shaft	Woodruff key sheared in actuator shaft	Replace key
C. No electrical current to brake	Broken wires or damaged terminals	Replace wiring to brake.
D. Solenoid inoperative	Dirty contact points solenoid	Remove brake wires from solenoid terminals, clean and reattach.
	Solenoid burned out	Replace with new solenoid.

3. ADJUSTMENT:
A view of proper adjustment of the brake is shown on illustration and inside brake guard, Item (8). The sequence is repeated here in the event the instructions in the cover are not available.

A. Remove brake guard (item 8) by removing three #10 pan HD screws.
B. Inspect brake assembly to insure that no foreign objects will impair a proper setting of the brake.
C. Hold the self-locking nut (Item 24) with a proper wrench. With a screwdriver, turn the adjusting screw (Item 14) until a clearance of 1/16" is obtained between brake lever (Item 6) and brake channel (Item 1).
D. Observe brake operation by operating the proper toggle on pendant. Make sure the brake releases the instant it is pushed. If not, increase brake lever clearance slightly until this occurs.
E. Replace brake guard.

4. DISASSEMBLY:
Disassembly of the brake can be accomplished without removing actuator from unit. However, if disassembly is to include brake channel (Item 1) and brake hub (Item 5), the oil should be drained from actuator.

A. Removal of Brake Assembly:
1. Remove brake guard (Item 8) by removing three #10 pan HD screws (Item 9).
2. Remove the two brake wires to solenoid (Item 11).
3. Release brake assembly from brake system by removing Two 1/4-20 Allen head capscrews (Item 15).
4. Located on backside of brake assembly bracket (Item 2) are two #10 flat HD screws (Item 16) which must be removed to replace brake solenoid (Item 11).
5. Remove small carburetor clip from brake lever anchor pin, compress brake band spring (Item 3) and lift off brake lever (Item 6).
6. Hold acorn nut (Item 13) and turn adjusting screw (Item 14) until separation. Then slide off washer (Item 22) and spring (Item 3).
7. To remove solenoid plunger from brake lever (Item 6) drive out pin (Item 10).

B. The remaining two items are attached to the actuator assembly and care should be taken during their removal to avoid damage to actuator.
1. Remove 1/4-20 Allen HD bolt (12). The brake hub (Item 5) is a press fit on actuator shaft; therefore, a small gear puller will be required for removal. Check Woodruff key (Item 21) for damage.
2. The brake channel (Item 1) is held in place by four 1/4-20 Hex HD capscrews that also hold bearing carrier for actuator shaft to actuator housing.

5. REASSEMBLY:
Assemble in reverse sequence to above.

A. When brake hub has been removed, the proper relocation during assembly is approximately 1/32" past being flush with end of shaft.
B. Do not fail to place a small amount of grease on the anchor pin and in the counter bore of the brake lever.
C. Adjust brake per instructions and install brake guard (Item 8).

6. EMERGENCY MANUAL OPERATION:
In case of power failure, remove three #10x3/8 screws (Item 9) holding the brake cover (Item 8). Insert hand crank (Item 19) into the two holes in the brake hub. Release the brake by manually actuating brake solenoid with thumb or finger while turning crank. This will permit positioning the crane in stowed position until power can be restored.

BRAKE REPAIR
Brake Hub Assembly (Item 5) is subject to normal wear. As a result, the brake pad surface will become glazed and smooth over a period of time, depending upon usage of the crane and cause ineffective braking and increased coasting after the pendant switch is released.

The easiest way to repair the brake pad is as follows:
1. Remove brake guard (Item 8) by removing three #10 pan head screws (Item 9).
2. Remove band and solenoid assembly by removing two 1/4-20 soc. head capscrews (Item 15).
3. Hold the solenoid and press the lever (Item 6) keeping the lever pressed to release the brake band (Item 4). Carefully pull the whole assembly away from the hub.
4. Brake Hub Assembly (Item 5) will now be visible for inspection. If the surface of pad is found to be glazed, hold a Vixon file or Emery cloth against the pad (braking surface) and run the particular motor by engaging pendant switch.
5. After the entire surface of the pad has been uniformly roughened, assemble in reverse sequence to above.

MAIN BOOM AND ACTUATOR REMOVAL:

1. Remove 4" Sheave.
2. Pull hook end of cable through boom sections toward drum.
3. Remove extendable boom sections (extended cylinder if so equipped) and nut from boom to cylinder bolt. Leave this bolt in place.
4. Remove the twelve (12) bolts in the pivot flange (330471 and 330471-001). See Assembly Drawing.
5. Loosen lock-collars (330468) on actuator shaft.
6. Remove the bolt holding the cylinder to the boom.
7. Remove flange bearing (330470) on actuator side.
8. Remove nuts from pivot flanges (330471 & 330470-001) and the two (2) actuator mounting bolts (opposite brake end of actuator). Also remove wire from actuator motor.
9. With crane or hoist, lift the boom up and pull out the actuator.

Reverse procedure for installation.

BOOM OR ACTUATOR BEARING REPLACEMENT:

1. Remove Actuator.
2. Slide flange bearings and drum from shaft.

Reverse procedure for installation. (See main boom and actuator removal)

QUILL BEARING REPLACEMENT:

1. Remove brake shoe, bolt and brake handle if so equipped (See AW-330126).
2. Remove turner shaft assembly (if so equipped).
3. Remove the three (3) bolts holding the turner gear in place and lift up to clear positioning dowel pins (if so equipped).
4. Remove snap ring.
5. With crane or hoist, lift quill housing and boom straight up.
6. Drive bearings from quill housing. (The quill housing is manufactured with none or a very slight press fit to bearings.

Reverse procedure for installation.

REPAIR OR ADJUSTMENT TURNER SHAFT ASSEMBLY

The turner on the 2403 Series is a 40:1 worm gear reduction. The bronze gear and hardened steel worm with two tapered roller bearings were selected for durability. The side plates are slotted to allow backlash adjustment.

Backlash Adjustment Procedure:

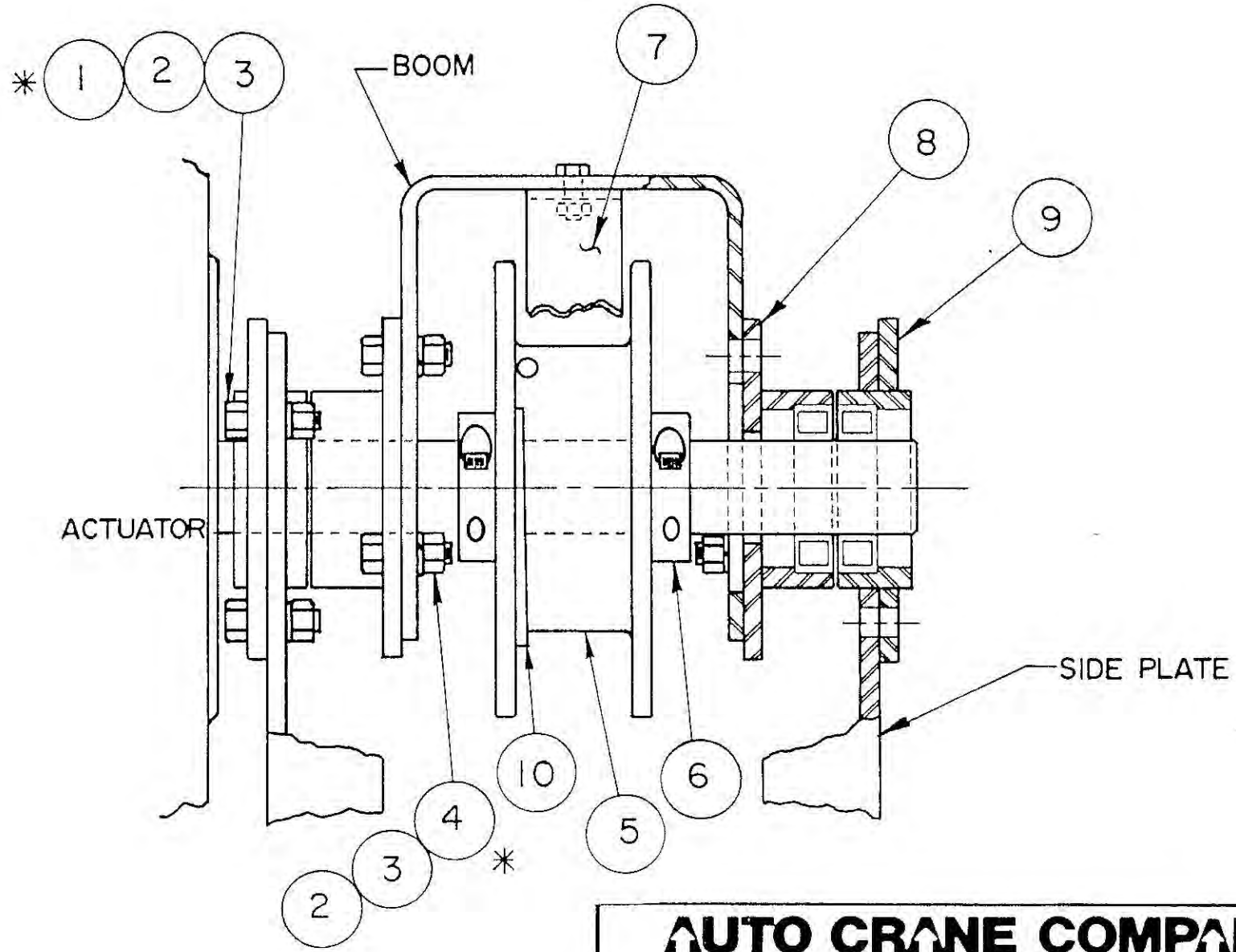
1. Slightly loosen the two bolts on the bearing flange plate and hydraulic motor (See AW-005, Item 4 and AW-006, Electric, Item 1).
2. Tap on the edge of each flange plate until backlash is no more than .002".
3. Tighten the bolts on each flange plate.
4. Rotate crane, stopping every 15° and recheck backlash.

Bearing Replacement:

See AW-005.

1. Remove locknut Item 12.
2. Remove the two bolts (9) holding housing (8).
3. Pull Item 8 off of shaft with spacers, seals and bearings (11, 6, 7).
4. Replace bearings.
5. Reverse procedure for installation.

Turner Assembly for 2403MR (AW-006) is assembled in the same manner.



* NOTE:
TORQUE AT 45 FT/LBS.

AUTO CRANE COMPANY

TITLE			
BOOM MOUNTING DETAIL (REAR VIEW)			
SCALE ~	SIZE A	DRAWING NO. AW-013	REVISION

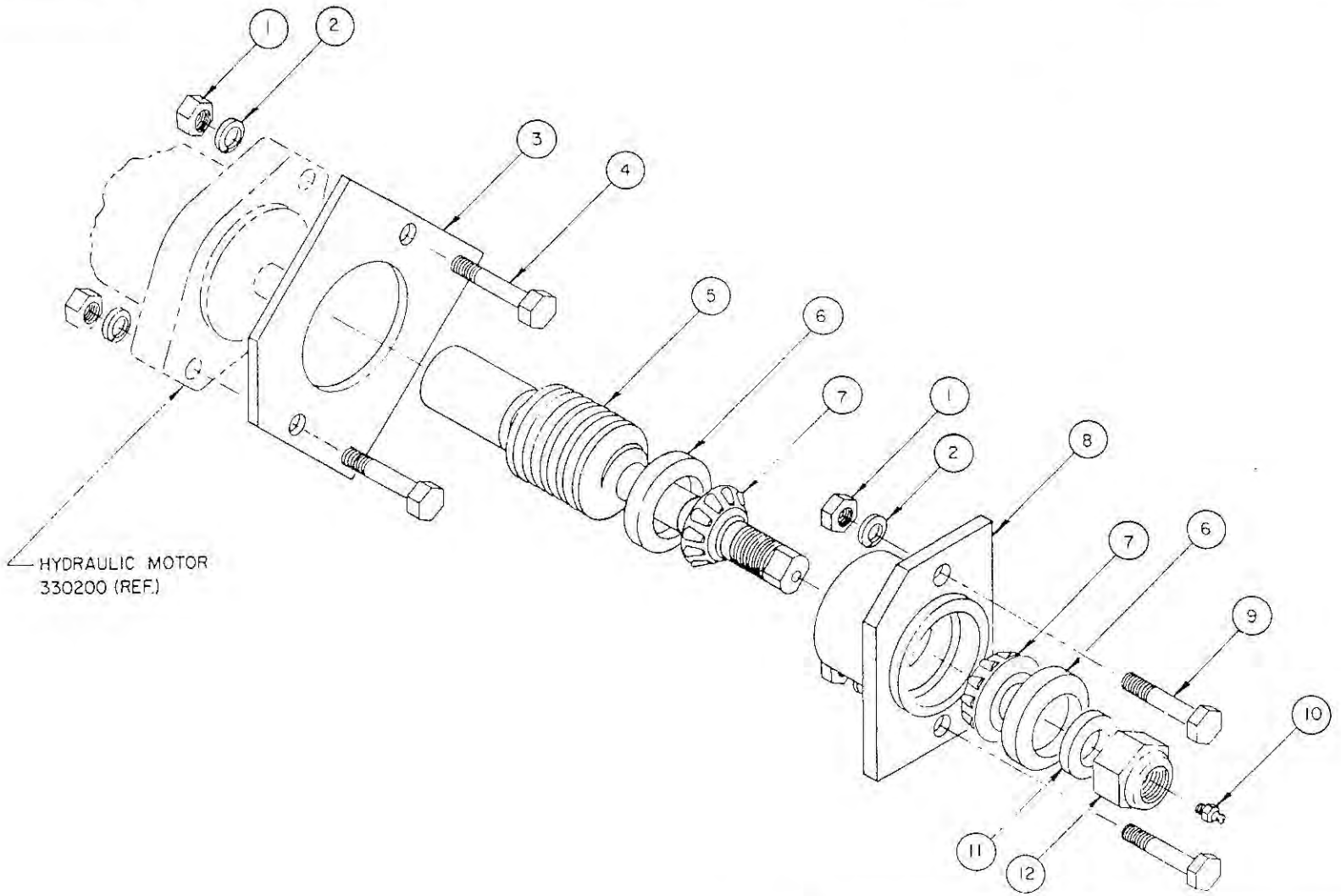
12/86

BOOM MOUNTING DETAIL – AW-013

ITEM	QTY.	PART NO.	DESCRIPTION
1	6	330371	SCREW, 3/8 NCX1 G8ZP
2	18	021100	WASHER, SPLK 3/8 CP
3	18	330372	NUT, 3/8 NC CP G5
4	12	330370	SCREW, 3/8 NCX 7/8 G8ZP
5	1	400300	DRUM, HOIST
6	2	330468	COLLAR, LOCKING
7	1	330156	GUARD, CABLE
8	1	330471	BOOM, PIVOT (330471-001 FOR OPPOSITE SIDE)
9	2	330470	FLANGE, BEARING
10	1	330643	DRUM, FILLER 3/16

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QTY	PART NO	DESCRIPTION
			LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGULAR ± 1°
FRACTIONAL ± 1/16 | XX ± .03 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN: Lawrence
DATE: 3-9-82
CHK'D BY
DATE
ENG. BY
DATE

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTEREST.

NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: TURNER ASSEMBLY (HYD.)

SCALE	SIZE	DRAWING NO	REVISION
~	C	AW-005	

WEIGHT

SHEET 1 OF 1

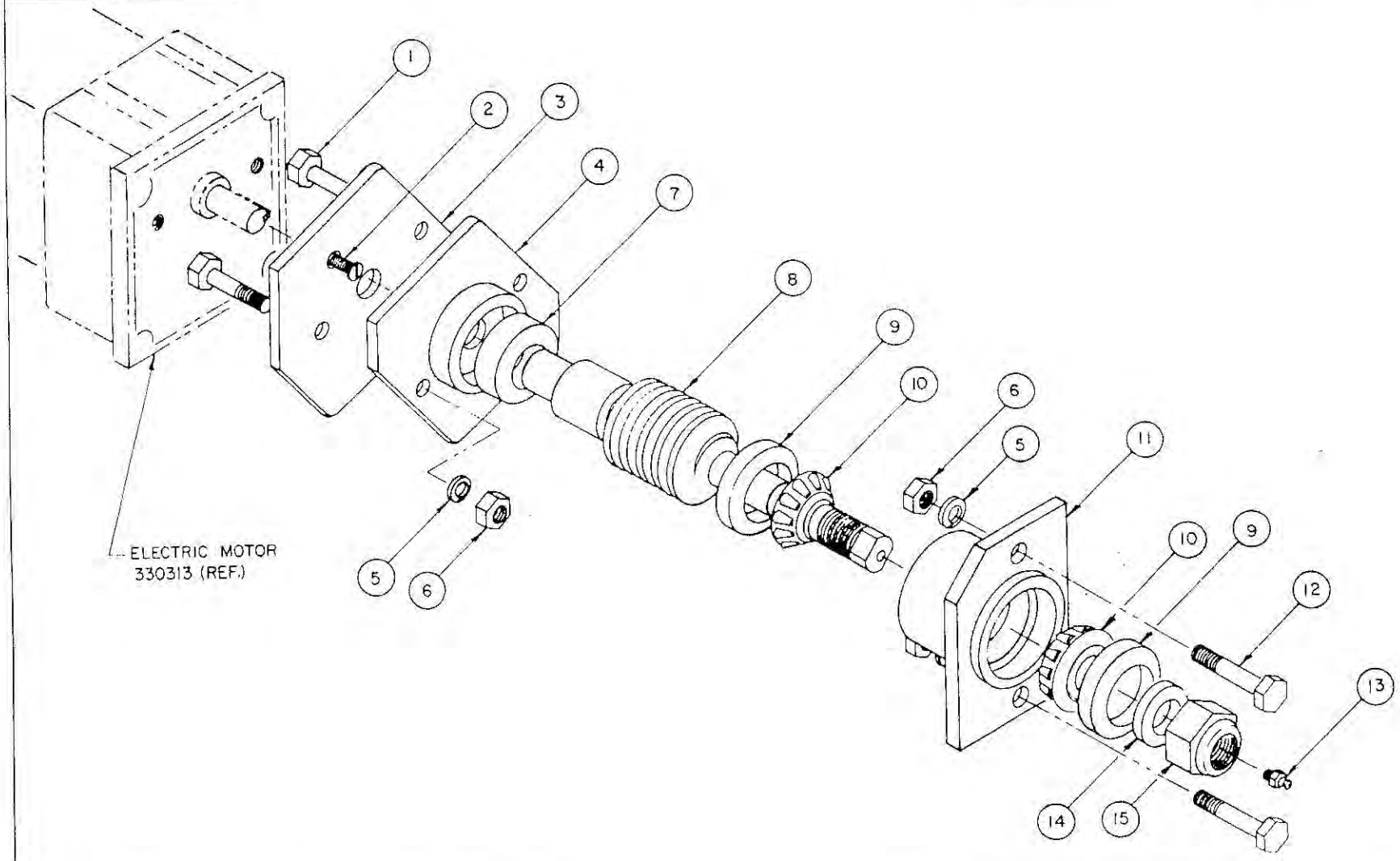
08/84

TURNER ASSEMBLY (HYD.) – AW-005

ITEM	QTY.	PART NO.	DESCRIPTION
1	4	017701	NUT, HEX. 1/2 NC
2	4	021500	WASHER, SPLK 1/2
3	1	330484	SPACER
4	2	011603	SCREW, 1/2 NC X 1-3/4 G5
5	1	330420	SHAFT ASSEMBLY
6	2	330486	SEAL, OIL
7	2	330485	BEARING
8	1	330472	HOUSING
9	2	010201	SCREW, 1/2 NC X 1-1/2 G5
10	1	239300	ZERK, GREASE
11	1	330483	SPACER
12	1	019000	NUT, HEX. 7/8-14NF CPG5

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



NOTE
ITEM 7 (BEARING - 330500) COMES AS AN ASSEMBLY WITH ITEM 4 (MOUNT, TURN MOTOR 330498).

ITEM	QTY	PART NO	DESCRIPTION
			LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1°
FRACTIONAL ± 1/16 | .XX ± .01 | .XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973

DRAWN BY Jamstrand DATE 9-9-82
CHK'D BY DATE
ENG BY DATE

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NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: TURNER ASSEMBLY (ELECTRIC)

SCALE ~ | SIZE C | DRAWING NO AW-006 | REVISION

WEIGHT | SHEET 1 OF 1

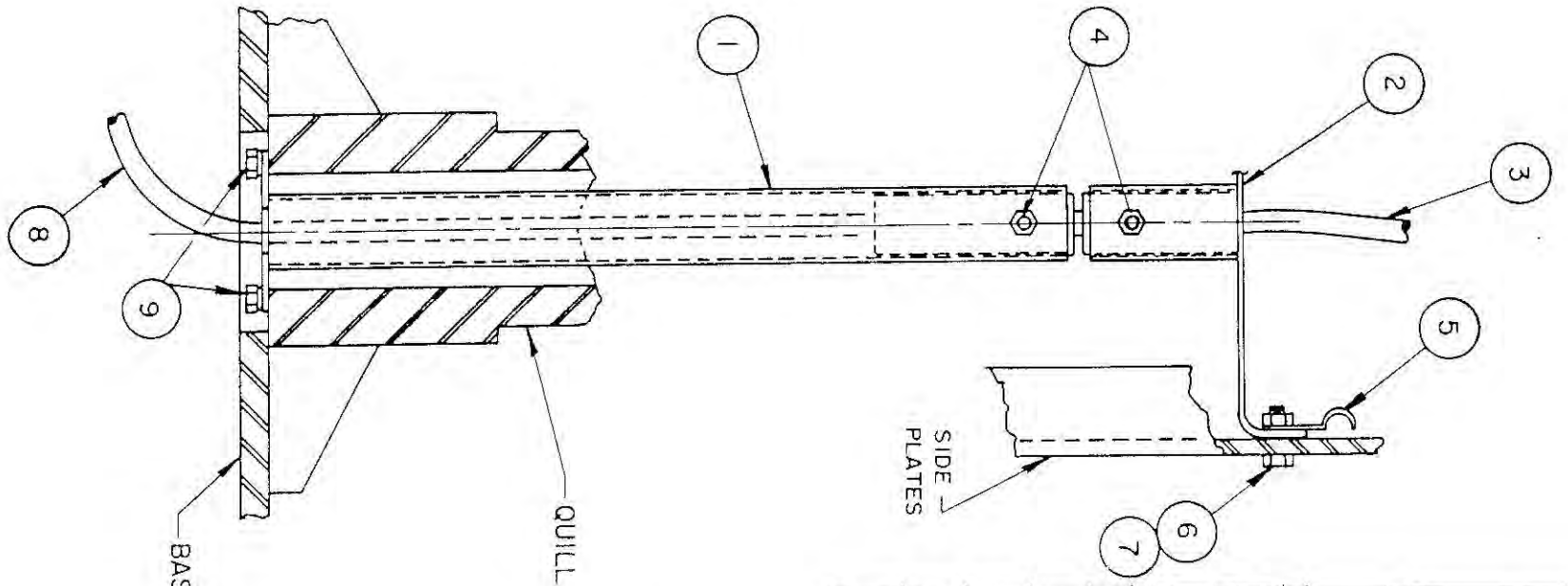
08/84

TURNER ASSEMBLY (ELECT.) – AW-006

ITEM	QTY.	PART NO.	DESCRIPTION
1	2	010201	SCREW, 1/2 NC X 1-1/2 G5
2	3	330389	SCREW, FLT HD. 1/4 NC X 1/2
3	1	330504	MOUNT, MOTOR
4	1	330498	MOUNT, TURN MOTOR
5	4	021500	WASHER, SPLK 1/2 CP
6	4	017701	NUT, HEX. 1/2 NCCP
7	1	330500	BEARING
8	1	330421	SHAFT ASSEMBLY
9	2	330486	SEAL, OIL
10	2	330485	BEARING, CONE
11	1	330472	HOUSING, BEARING
12	2	011603	SCREW, HEX 1/2 NC X 1-3/4 G5
13	1	239300	ZERK, GREASE
14	1	330483	SPACER
15	1	019000	NUT, HEX 7/8-14 NF CP G5

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



NOTE:
THIS TWECO ASS'Y IS USED ON THE 2403MR, 2403PR, & 2403PRX MODELS.

ITEM	D/S	PART NO.	DESCRIPTION	QUANTITY
			LIST OF MATERIAL	

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
ANGLES ± 1/2° | .XX ± .40
FRACTIONAL ± 1/16 | .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

DRAWN BY: [illegible]
DATE: 6/5/81
CHK'D BY:
DATE:
ENG. BY:
DATE:

AUTO CRANE COMPANY

TITLE: TWECO ASSEMBLY - 2403

SCALE	SIZE	DRAWING NO.	REVISION
~	B	AW-007	

WEIGHT:

SHEET 1 OF 2

08/84

NEXT ASS'Y

TWECO ASSEMBLY – AW-007

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330226	BRACKET, TWECO-LOWER
2	1	330212	BRACKET, TWECO-UPPER
3	1	330258	CONNECTOR, TWECO MALE
4	2	002900	SCREW, ¼NC X 3/8 G8
5	1	000115	CLAMP, CABLE
6	1	005500	SCREW, ¼NC X ¾ G5
7	1	015900	NUT, ¼-20 CP
8	1	600422	POWER CABLE ASS'Y
9	2	005401	SCREW, HX 1/4-20 X 5/8

08/84

2403 SERIES ELECTRICAL TROUBLESHOOTING

PROBLEM	CAUSE
CRANE WILL NOT HOIST UP. CRANE WILL NOT HOIST DOWN.	Bad relay, crane not grounded properly, power cable not connected to 12V power source. Bad switch in pendant, broken wire in pendant connector on pendant not plugged together properly, wire on relay not in proper place, lead wires to motor not connected properly, or battery failure.

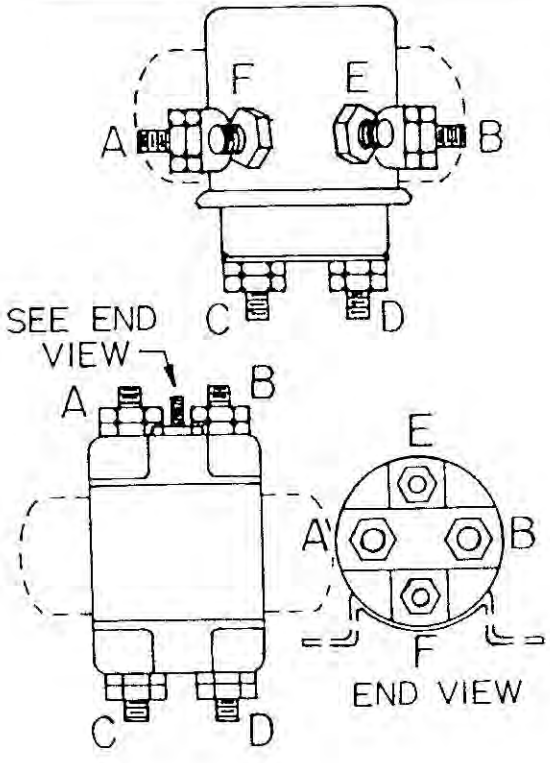
SOLUTION

problems can be solved by replacing bad relay, grounding the crane properly to the truck chassis, connecting the power cable properly to 12V+ power source, switch in pendant can be replaced, cord in remote control can be replaced, check connector on cord to make sure of contact of all the prongs on it are plugged together correctly, make sure wires on relays are according to the wiring print supplied with each new crane in the owner book and also wires going to motor are connected properly.

PROBLEM	CAUSE
CRANE RUNS UP OR DOWN ANY TIME POWER SOURCE IS CONNECTED.	Relay stuck in run position which will let crane run up or down any time 12V power source is connected. Wires shorted together in remote control. Lead or cable can also cause this problem. Wires jumped across relay in wrong place can cause crane to run all the time.

SOLUTION

Problem can be solved by checking the relays and replacing the bad one or removing jumper wires from the relays or replacing the remote control cord or switch.

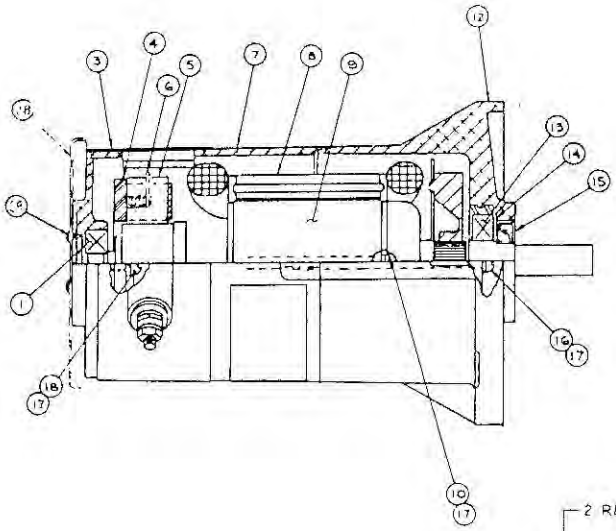


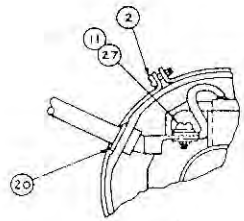
HOW TO CHECK RELAY:

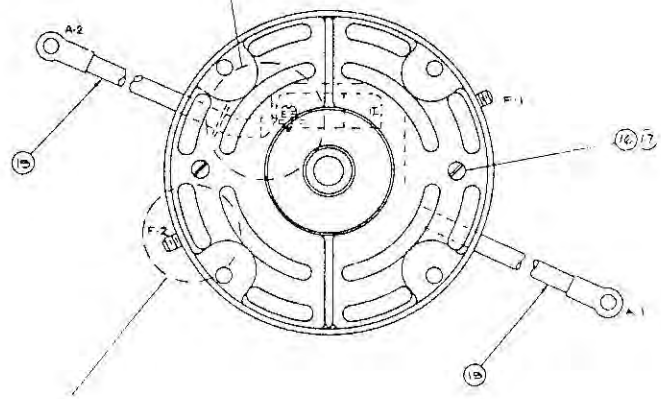
To check a relay on this or any Auto Crane product is the same. The difference being in physical appearance. Shown at left are two types of relays Auto Crane uses. Our relays are normally closed across the bottom posts (C & D). When activated, they will open across (C & D) and close across (A & B). To activate these relays, use 12V positive and 12V negative wires and place them on posts (F & E). You may place 12V+ on post F or E as long as you place 12V on the remaining post (F & E) using an ohm meter or test light. Check across posts (A & B). You should get an ohm reading or your test light should be on when you have the relay activated. With the relay still activated, check across posts (C & D). You should have no ohm reading or test light at this point with relay activated. (At this point, disconnect 12V+ and 12V- from posts (F & E). This should let relay return to its normal position. Using your ohm meter or test light again, check the relay across posts (A & B). If relay is working correctly, you should have no reading at all. Then check across posts (C & D). You should have an ohm reading or test light should be on. If you get the above results, relay is okay. If you get any variation in the above explanation on the relay you are checking, check the relay again. If it still shows a difference, the relay is bad and should be replaced.

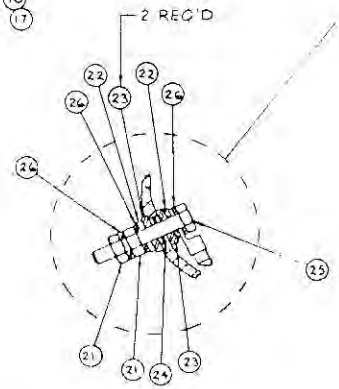
NOTE: The above explanation is with relays completely disconnected from all wires on motor circuits and ground wires. These circuits can give you false readings sometimes.

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APP'D









AMETL

QUANTITY	ITEM	PART NO	DESCRIPTION
		LIST OF MATERIAL	

TOLERANCES UNLESS OTHERWISE SHOWN	
ANGLES	± 1/2°
FRACTIONAL	± 1/32
2 PLACE DECIMAL	± .010
3 PLACE DECIMAL	± .005
NORMAL(TY (2)	.002/IN
PARALLELISM (=)	.002/IN
5.004	REMOVE ALL BURRS AND
6.004	SHARP EDGES
2.403	DO NOT SCALE THIS
NEXT ASS'Y. USED ON	DRAWING
APPLICATION	WEIGHT

DRAWN BY	DATE
CHK'D BY	DATE
ENG'G BY	DATE
CONTRACT NO	
MATERIAL	

AUTO CRANE COMPANY

TITLE
MOTOR ELECTRICAL
(PARTS CALL-OUT)

SIZE	CODE IDENT	DRAWING NO
D		AW-300105
SCALE		REV A SHEET 1 OF 2

7/64

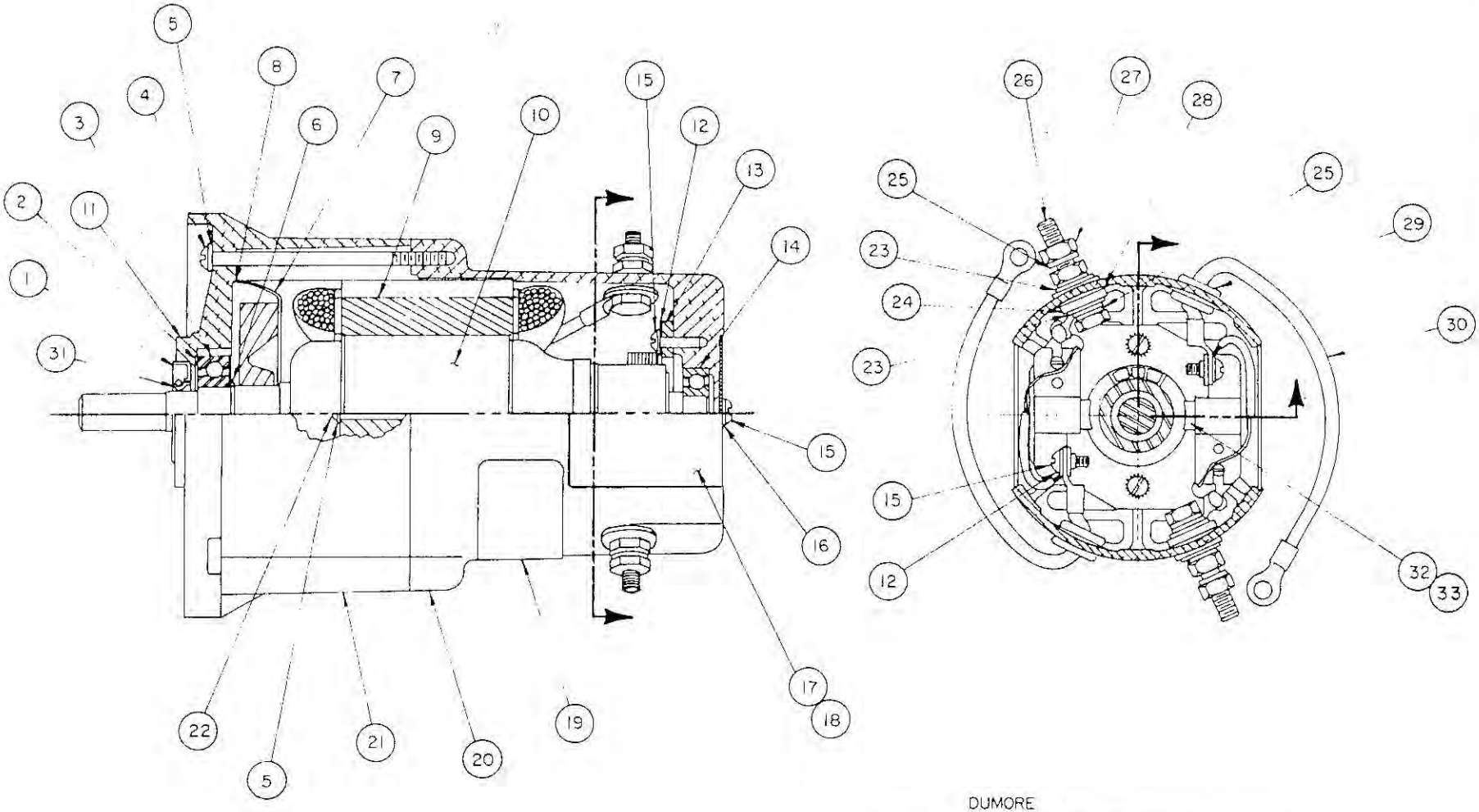
MOTOR, ELECTRIC AW-300105

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	300110	BEARING, REAR ARMATURE
2	1	300161	SCREW
3	1	300162	BAND
4	1	300163	BRUSH CARD ASSY.
5	2	300164	BRUSH
6	2	300165	SPRING, BRUSH
7	1	300166	BRACKET, COMMUTATOR
8	1	300167	FIELD
9	1	(REF.)	ARMATURE
10	2	300169	SCREW
11	2	300187	LOCKWASHER
12	1	300171	BRACKET, SHAFT END
13	1	300111	BEARING
14	1	300173	LOAD SPRING
15	1	300174	SEAL, OIL
16	2	300175	SCREW
17	6	300176	LOCKWASHER
18	2	300177	SCREW
19	2	300178	LEAD AND TERMINAL
20	2	300179	BUSHING
21	4	300180	NUT
22	4	300181	WASHER, FLAT
23	6	300182	FIBER WASHER
24	2	300183	FIBER WASHER
25	2	300184	SCREW
26	6	300185	LOCKWASHER
27	2	300186	SCREW
28	1	300189	SHIELD - END
29	4	300190	SCREW

WHEN ORDERING MOTOR PARTS, PLEASE SPECIFY MODEL.

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



DUMORE

ITEM NO.	PART NO.	DESCRIPTION
QUANTITY		

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES ARE AS FOLLOWS UNLESS OTHERWISE SPECIFIED
ANGLES ± .5° .XX ± .02
FRACTIONAL ± 1/64 .XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 (M)

DRAWN: LARRY STRONG
DATE: 12/4/01
CHKD:
DATE:
ENGR:
DATE:

NEXT ASSY

SUBJECT TO THE PROPRIETARY RIGHTS NOTICE AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS

AUTO CRANE COMPANY

MOTOR , ELECTRIC

SIZE C | DRAWING NO. AW-300105 | REV

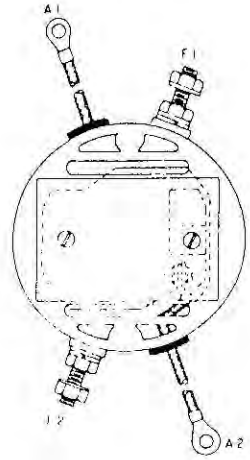
SHEET 1 OF 2

9/86

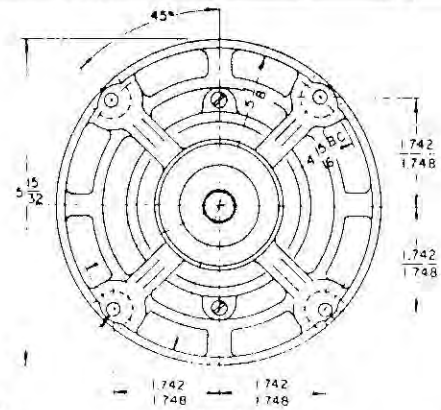
MOTOR, ELECTRIC AW-300105

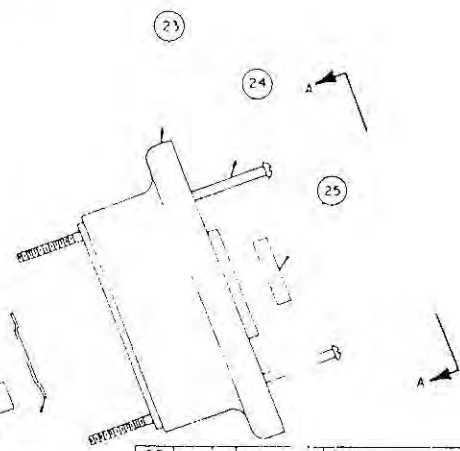
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	300174	SEAL
2	1	300251	SPRING, FLAT
3	1	300252	BALL BEARING
4	2	300253	SCREW, #10 x 3-1/8
5	4	300254	LOCKWASHER
6	1	300255	RETAINING RING
7	1	300256	BAFFLE
8		(REF)	LOCTITE 404
9	1	300257	FIELD ASSEMBLY
10	1	(REF)	ARMATURE ASSEMBLY
11		(REF)	SYLASTIC
12	4	300260	LOCKWASHER, EXT. TOOTH
13	1	300261	BRUSH CARD ASSY.
14	1	300262	BALL BEARING
15	6	300263	SCREW, #8 x 3/8
16	2	300264	LOCKWASHER
17	1	300265	GUARD, BRUSH
18	1	300266	INSULATOR, GUARD
19	1	(REF)	NAMEPLATE
20	1	300267	HOUSING, BRUSH END
21	1	300268	HOUSING, PLAIN END
22	2	300269	SCREW, #10 x 2-3/4
23	4	300270	WASHER, STEEL
24	4	300271	WASHER, PHENOLIC
25	6	300272	LOCKWASHER
26	2	300273	SCREW, 1/4 - 20
27	4	300274	NUT, 1/4 - 20
28	4	300275	WASHER, FIBER
29	2	300276	BUSHING
30	2	300277	LEAD ASSEMBLY
31		(REF)	GREASE
32	2	309100	BRUSH MOTOR
33	2	300116	SPRING, MOTOR

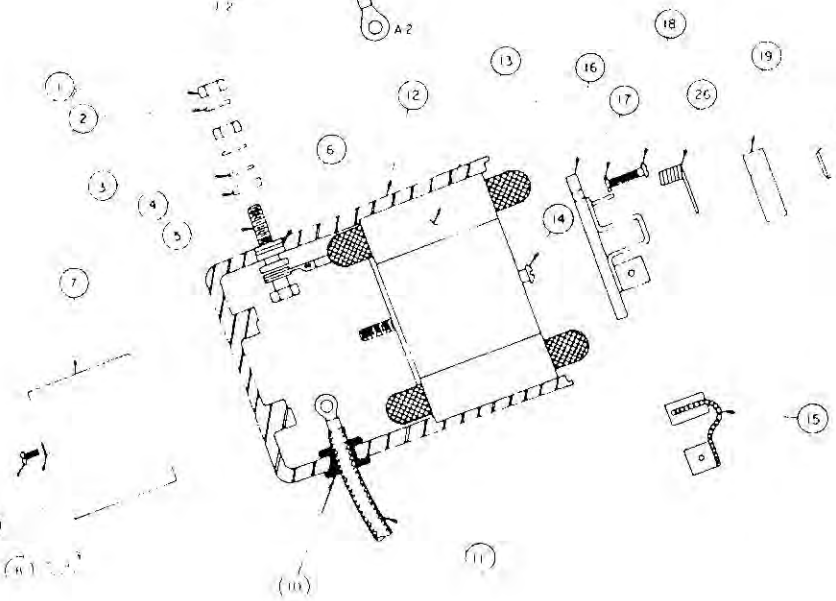
WHEN ORDERING MOTOR PARTS, PLEASE SPECIFY MODEL.



A1 IS CONNECTED TO GROUND.
FOR CW ROTATION CONNECT A2 TO F2 AND F1 TO POWER POLE
FOR CCW ROTATION CONNECT A2 TO F1 AND F2 TO POWER POLE







ITEM	QTY	PART NO	DESCRIPTION
28			SHIM
27	1	102202	DECAL, MOTOR
26	2	300116	SPRING, MOTOR
25	1	300174	SEAL, MOTOR
24	2	200572	SCREW, MOTOR
23	1	300108	HEAD, MOTOR
22	1	300124	SPRING, MOTOR
21	1	300111	BEARING
20	1	(REF)	ARMATURE -12V
19	1	300110	BEARING
18	2	300145	SCREW
17	2	300144	WASHER, LOCK
16	1	300118	BRACKET, MOTOR
15	2	309100	BRUSH, MOTOR
14	2	005502	SCREW
13	1	300121	STATOR-12V
12	1	300130	HOUSING, MOTOR
11	2	300128	LEAD, MOTOR
10	2	300148	GROMMET, INSULATOR
9	2	300143	SCREW
8	2	300142	WASHER, LOCK
7	1	300129	COVER, END-MOTOR
6	6	300122	INSULATOR, MOTOR
5	2	300141	SCREW, HEX-HD
4	4	300123	INSULATOR, MOTOR
3	4	300140	WASHER, FLAT
2	6	300139	WASHER, LOCK
1	4	300138	NUT

HOWARD

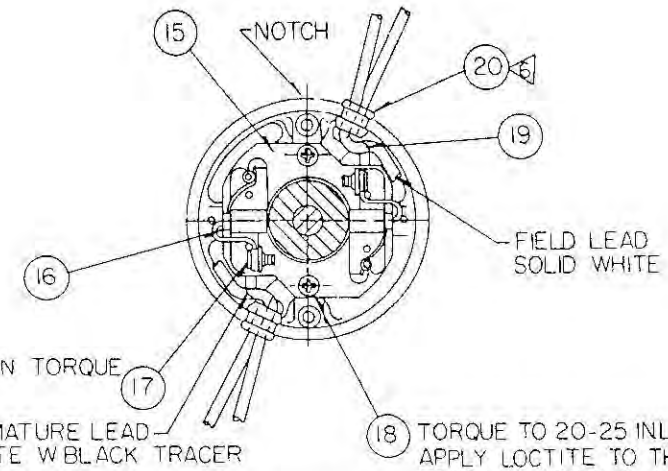
AUTO CRANE COMPANY

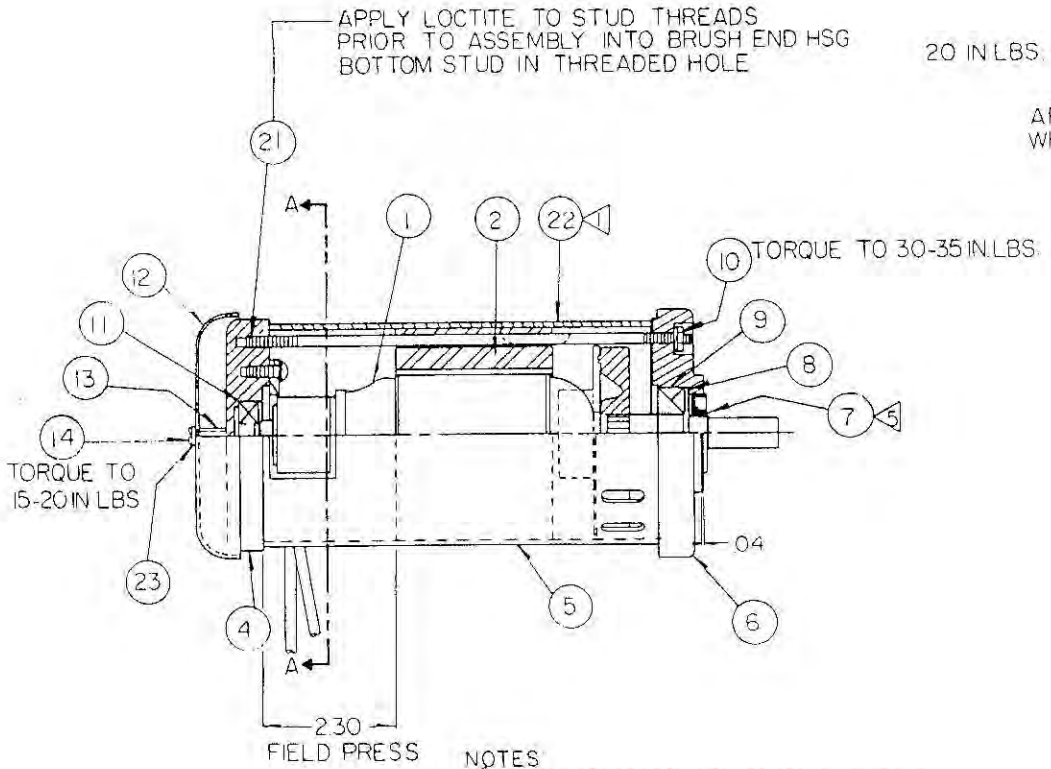
MOTOR

AW-300105

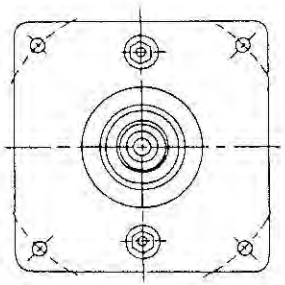
10/85

LTR	DESCRIPTION	DATE	APP'D





SECTION A-A



NOTES

1. NAMEPLATE READ WITH BRUSH END DOWN.
2. SEAL ASSEMBLED AFTER FINAL TEST.
3. ITEMS 7
4. RUN IN FOR 20 MIN - ONE DIRECTION.
5. APPLY LITHIUM GREASE NO 2, TO SEAL BEFORE ASSY.
6. APPLY LOCTITE TO LEAD WIRE AT BUSHING IN 2 PLACES.
7. OVER-ALL LENGTH OF MOTOR (BODY) IS 8 1/2".

ITEM	D/S	PART NO	DESCRIPTION
QUANTITY			LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .01
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY: GENSMAN
DATE: 12-5-86
CHK'D BY
DATE
ENG BY
DATE

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS

NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: MOTOR 750 "S" MSX DUMORE

SCALE	SIZE	DRAWING NO	REVISION
—	C	AW 300105-001	—

WEIGHT

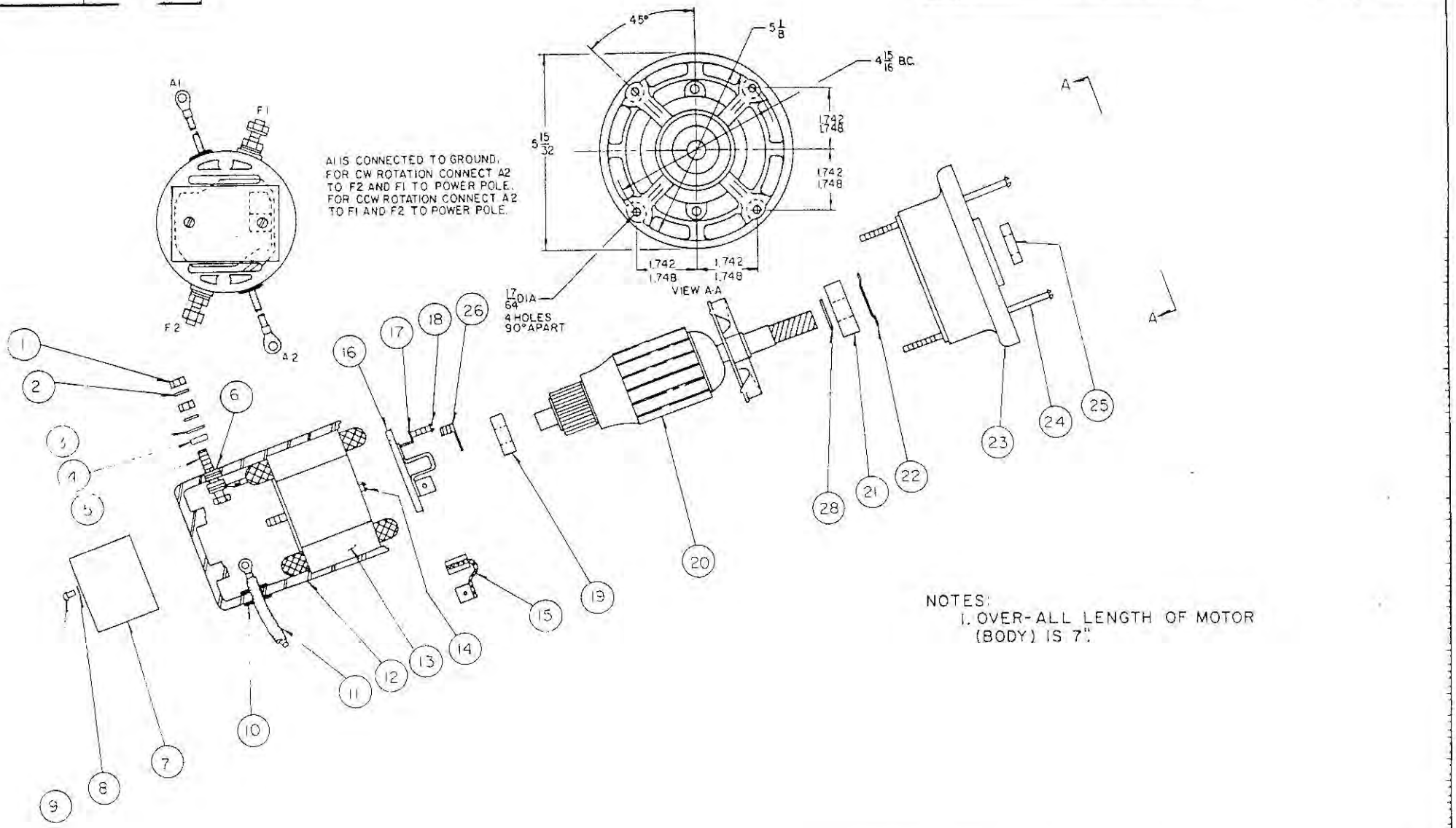
SHEET 1 OF 1

MOTOR 750 "S" MSX DUMORE AW-300105-001

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	300551	ARMATURE ASS'Y
2	1	300552	FIELD ASS'Y
3			
4	1	300554	HOUSING, BRUSH END
5	1	300555	CYL./BAFFLE ASS'Y
6	1	300556	HOUSING PLAIN END
7	1	300557	SEAL
8	1	300558	SPRING, LOADING
9	1	300559	BALL BEARING
10	2	300560	NUT, KEPS 10-32
11	1	300561	BALL BEARING
12	1	300562	COVER
13	2	300563	SPACER
14	2	300564	SCREW 8-32
15	1	300565	BRUSH CARD ASS'Y
16	2	300566	CARBON BRUSH ASS'Y
17	2	300567	SCREW, SEMS 8-32
18	2	300568	SCREW, SEMS 10-32
19	2	300569	LEAD ASSEMBLY
20	2	300570	RUBBER GROMMET
21	2	300571	STUD 10-32 x 7.5
22	1	300572	NAMEPLATE
23	2	300573	LOCKWASHER INT.

FIXTURE NO	F	0

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



NOTES:
1. OVER-ALL LENGTH OF MOTOR (BODY) IS 7".

ITEM	O/S	PART NO	DESCRIPTION	QUANTITY

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .40
FRACTIONAL ± 1/16 | 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 ASS'Y

DRAWN BY GENSMAN
DATE 10-29-86
CHK'D BY
DATE
ENG BY
DATE

AUTO CRANE COMPANY

TITLE
MOTOR MSI (6027)

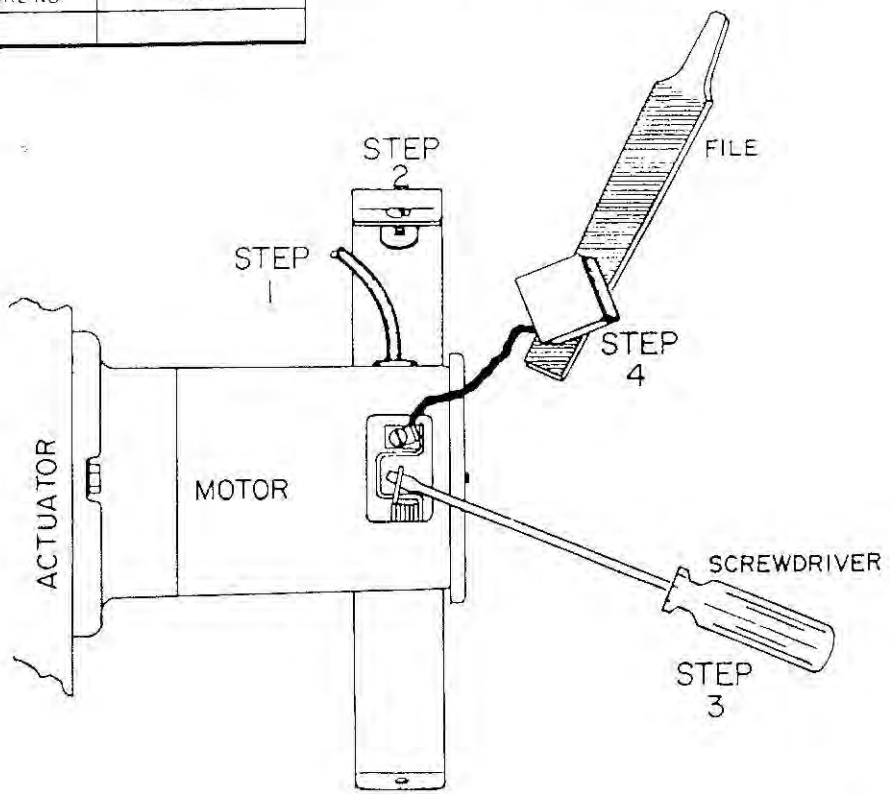
SCALE —
SIZE C
AW 300105-002
REVISION —
WEIGHT
SHEET 1 OF 1

MOTOR MSI (6027) AW-300105-002

ITEM	QTY.	PART NO.	DESCRIPTION
1	4	300451	NUT
2	6	300452	WASHER, LOCK
3	4	300453	WASHER, FLAT
4	4	300454	INSULATOR, MOTOR
5	2	300455	SCREW, HEX-HD
6	6	300456	INSULATOR, MOTOR
7	1	300457	COVER, END-MOTOR
8	2	300458	WASHER, LOCK
9	2	300459	SCREW
10	2	300460	GROMMET, INSULATOR
11	2	300461	LEAD, MOTOR
12	1	300462	HOUSING, MOTOR
13	1	300463	STATOR-12V
14	2	300464	SCREW
15	2	300465	BRUSH, MOTOR
16	1	300466	BRACKET, MOTOR
17	2	300467	WASHER, LOCK
18	2	300468	SCREW
19	1	300469	BEARING
20	1	300470	ARMATURE-12V
21	1	300471	BEARING
22	1	300472	SPRING, MOTOR
23	1	300473	HEAD, MOTOR
24	2	300474	SCREW, MOTOR
25	1	300475	SEAL, MOTOR
26	2	300476	SPRING, MOTOR
27	1	300477	DECAL, MOTOR
28	1	300478	SHIM

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



NOTE:

IF MOTOR LOSES POWER IT MAY BE BECAUSE THE BRUSHES HAVE BECOME TIGHT IN THE BRUSH HOLDER. TO CORRECT THIS CONDITION, FOLLOW THE INSTRUCTIONS BELOW:

REF: MOTOR AW-300105, PAGE 39.

STEP	INSTRUCTIONS
1	DISCONNECT MOTOR LEADS.
2	REMOVE BAND (P/N 300162) BY LOOSENING SCREW (P/N 300161).
3.	RAISE BRUSH SPRING (P/N 300165) WITH SCREWDRIVER AND REMOVE BRUSHES (P/N 300164).
4.	DRESS FACE OF BRUSHES LIGHTLY WITH FILE.

ASSEMBLE IN REVERSE SEQUENCE AND TEST.

LAMB

ITEM	D/S	PART NO.	DESCRIPTION	QUANTITY
			LIST OF MATERIAL	

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .40
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973

DRAWN BY Armstrong
DATE 7-24-84
CHK'D BY
DATE
ENG. BY
DATE

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.

AUTO CRANE COMPANY

TITLE: MAINTENANCE INSTRUCTIONS MOTOR BRUSHES

SCALE	SIZE	DRAWING NO.	REVISION
~	B	AW-008	

WEIGHT

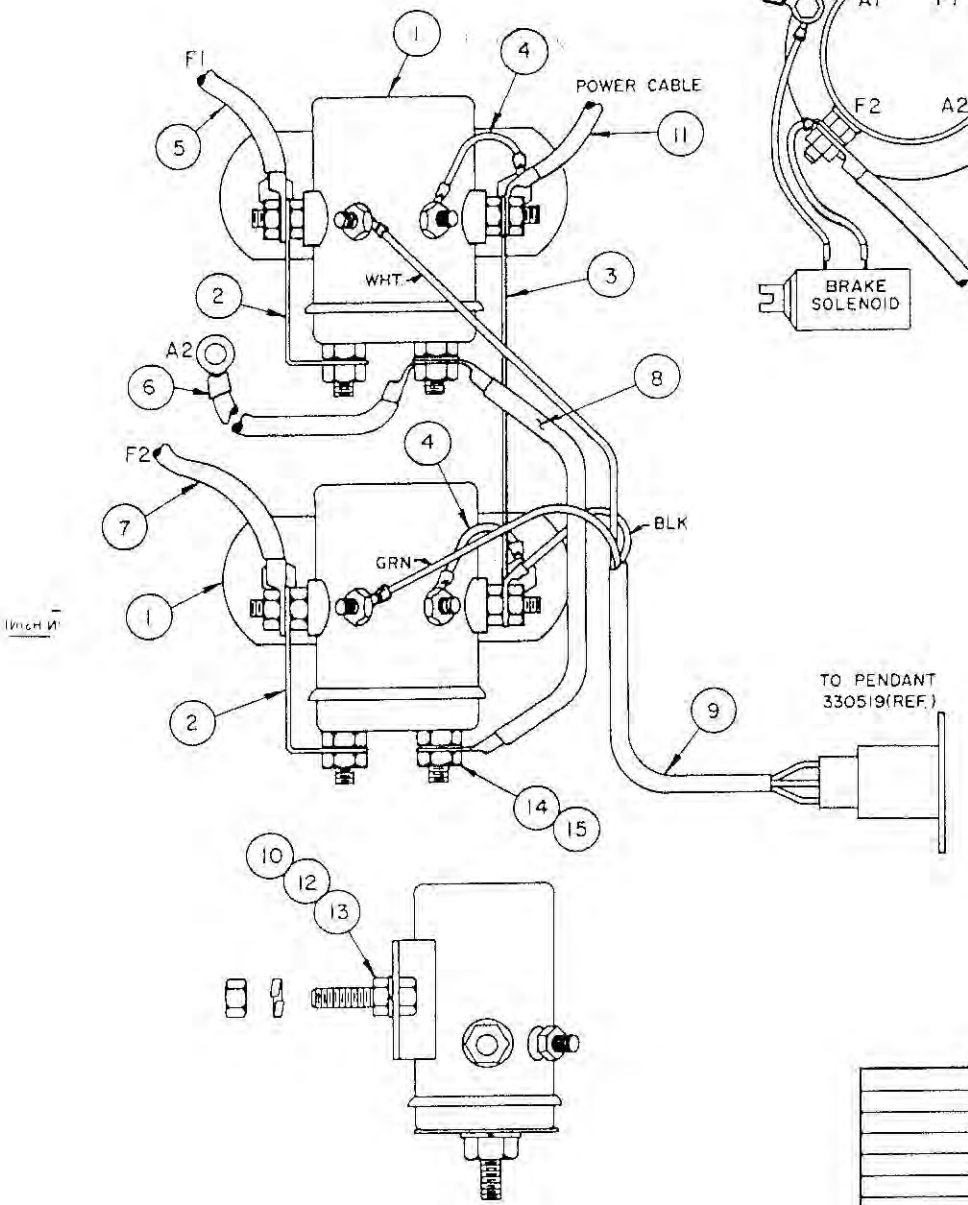
SHEET 1 OF 1

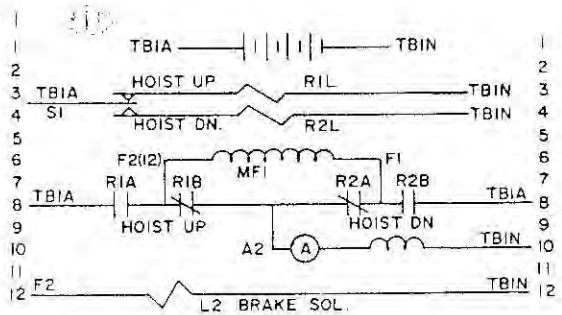
1/85

NEXT ASS'Y

FIXTURE NO	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





WIRING SCHEMATIC

ITEM	QTY	D/S	PART NO	DESCRIPTION
15	8		016800	NUT, HX.-HLF. 5/16 NFCP
14	8		020700	WASHER, INTLK 5/16 CP
13	4		005604	SCREW, 1/4-20 X 1"
12	4		015900	NUT-HEX. 1/4-20
11	1		602002	CONDUCTOR
10	4		020200	WASHER, SPLIT-LOCK 1/4
9	1		330193	RECEPTICLE ASSEMBLY
8	1		600304	CONDUCTOR
7	1		622316	CONDUCTOR
6	1		622306	CONDUCTOR
5	1		622318	CONDUCTOR
4	2		659904	CONDUCTOR
3	1		658400	CONDUCTOR
2	2		658300	CONDUCTOR
1	2		200182	RELAY

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .40
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY: D.A. Gerstenberg
DATE: 3/20/81
CHK'D BY:
DATE:
ENG BY:
DATE:

NEXT ASS'Y

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS

AUTO CRANE COMPANY

TITLE: RELAY PANEL ASSEMBLY 2403M

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-330171	

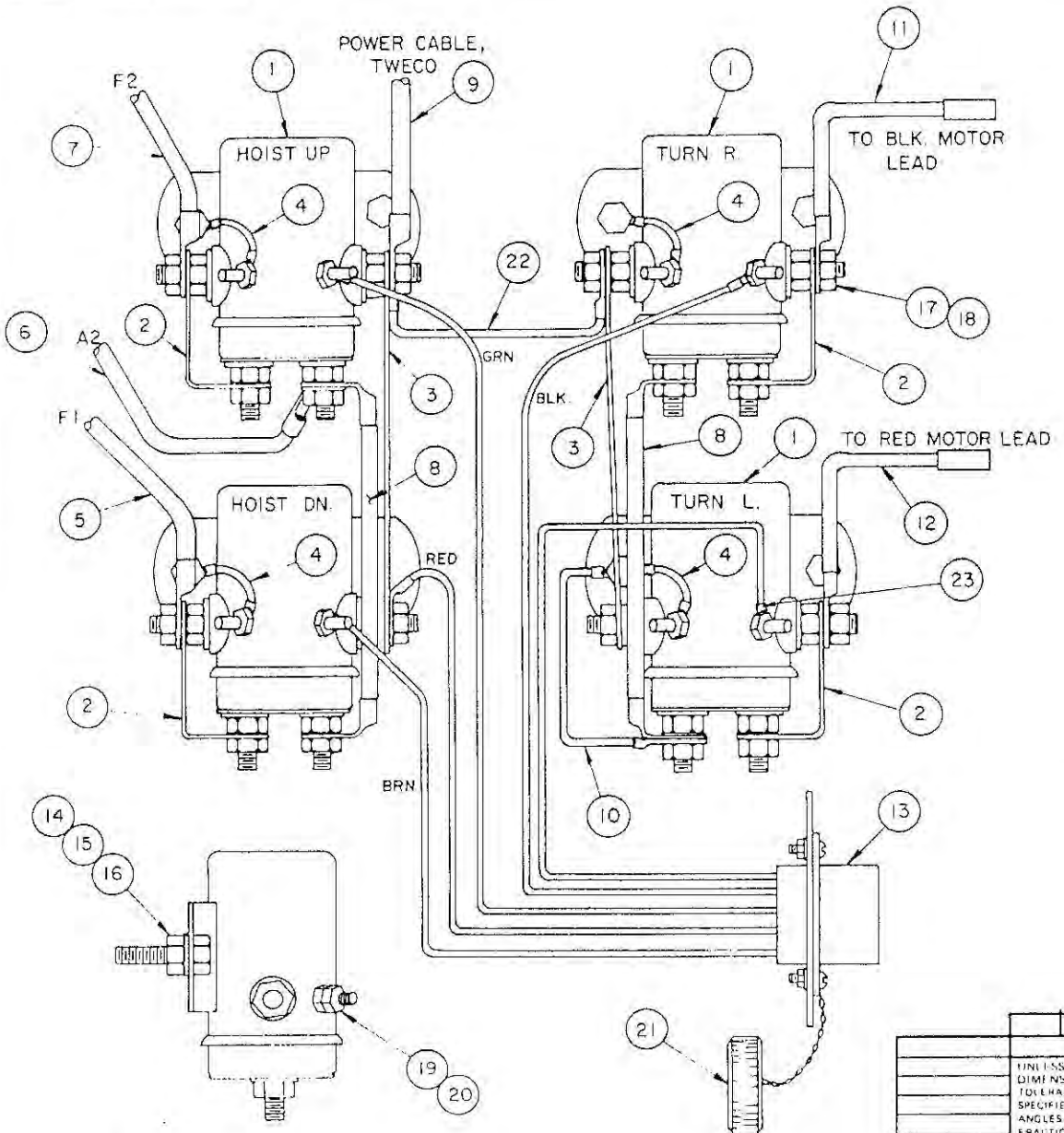
WEIGHT

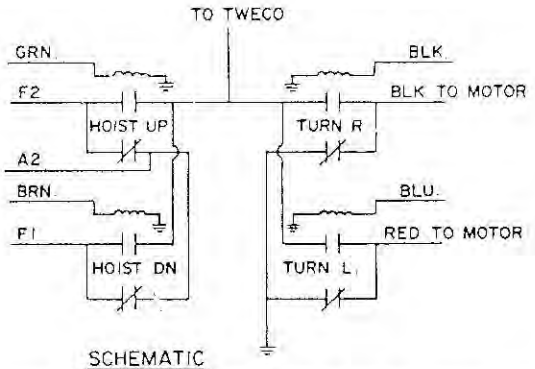
SHEET 1

50

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





SCHEMATIC

ITEM	QTY	D/S	PART NO	DESCRIPTION
23	1		000300	TERM. WIRE RB-14-10
22	1		330415	CONDUCTOR, 12 GA. BLK.
21	1		300413	CAP, RECEPTACLE
20	8		020001	WASHER, #10 INT. LOCK
19	8		015600	NUT, HEX. #10-32
18	16		020700	WASHER, INT. LOCK
17	16		016800	NUT, HEX. HLF. 5/16 N.F.
16	8		005604	SCREW, HEX. HD 1/4-20 X 1
15	8		015900	NUT, HEX. 1/4-20
14	8		020200	WASHER, SPLK. 1/4
13	1		330385	RECEPTACLE ASSEMBLY
12	1		330387	CONDUCTOR
11	1		330388	CONDUCTOR
10	1		330386	CONDUCTOR
9	1		330258	TWECO ASSEMBLY
8	2		600304	CONDUCTOR
7	1		622316	CONDUCTOR
6	1		622306	CONDUCTOR
5	1		622322	CONDUCTOR
4	4		659904	CONDUCTOR
3	2		658400	CONDUCTOR
2	4		658300	CONDUCTOR
1	4		200182	RELAY

LIST OF MATERIAL

1/85

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1.2° | XX ± .40
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY: Livingstone
DATE: 10.1.81
CHK'D BY
DATE
ENG BY
DATE

AUTO CRANE COMPANY

TITLE: RELAY ASSEMBLY - 2403MR

SCALE | SIZE: C | DWG NO: AW-330310 | REVISION

WEIGHT | SHEET 1 OF 1

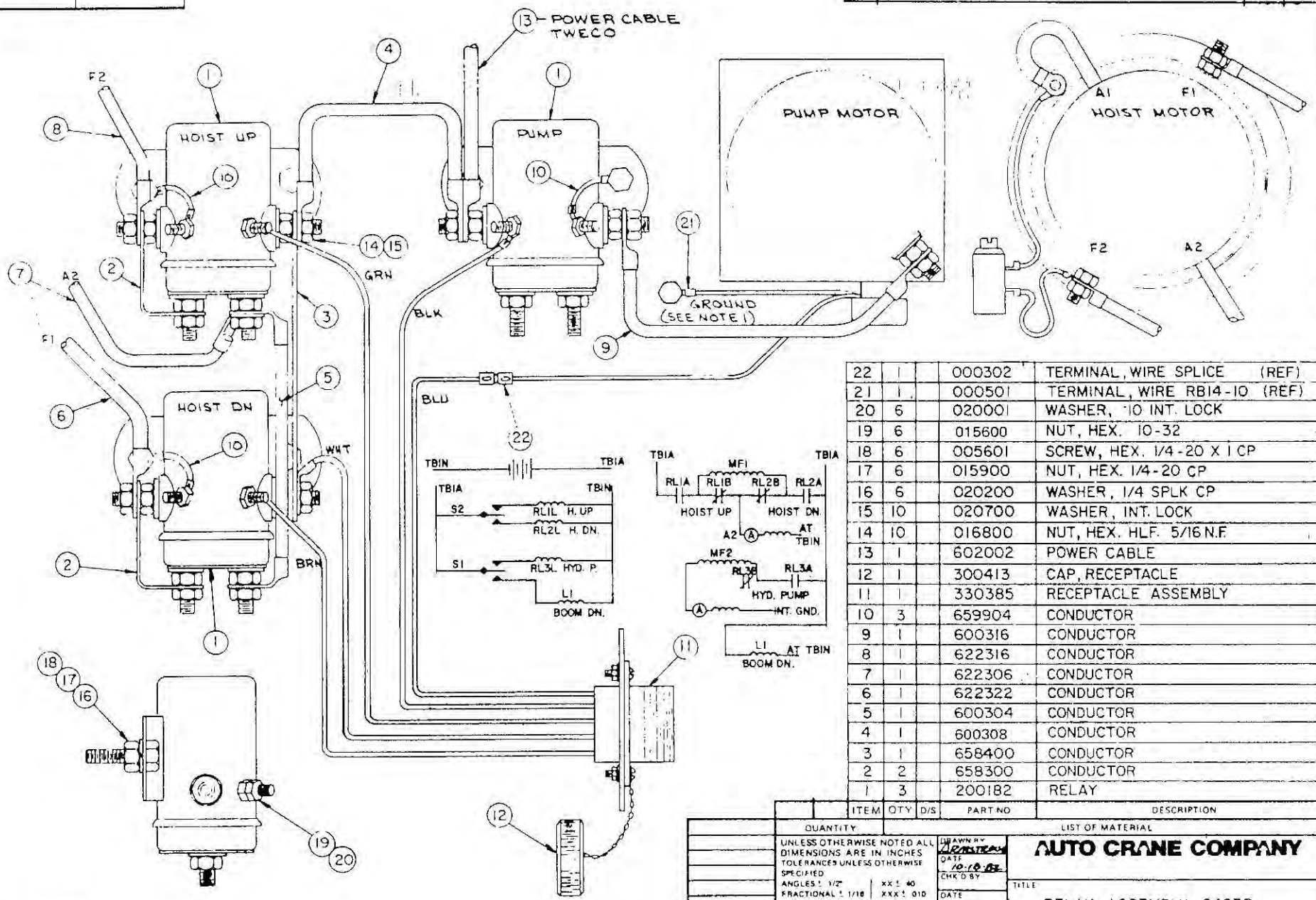
NEXT ASSY

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS

330588

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QTY	D/S	PART NO	DESCRIPTION
22	1		000302	TERMINAL, WIRE SPLICE (REF)
21	1		000501	TERMINAL, WIRE RB14-10 (REF)
20	6		020001	WASHER, #10 INT. LOCK
19	6		015600	NUT, HEX. 10-32
18	6		005601	SCREW, HEX. 1/4-20 X 1 CP
17	6		015900	NUT, HEX. 1/4-20 CP
16	6		020200	WASHER, 1/4 SPLK CP
15	10		020700	WASHER, INT. LOCK
14	10		016800	NUT, HEX. HLF. 5/16 N.F.
13	1		602002	POWER CABLE
12	1		300413	CAP, RECEPTACLE
11	1		330385	RECEPTACLE ASSEMBLY
10	3		659904	CONDUCTOR
9	1		600316	CONDUCTOR
8	1		622316	CONDUCTOR
7	1		622306	CONDUCTOR
6	1		622322	CONDUCTOR
5	1		600304	CONDUCTOR
4	1		600308	CONDUCTOR
3	1		658400	CONDUCTOR
2	2		658300	CONDUCTOR
1	3		200182	RELAY

QUANTITY — LIST OF MATERIAL

NOTE:
1. GROUND LOCATION IS TOP BOLT RECEPTACLE MOUNTING BRACKET.
2. [illegible] L REF. ITEMS MUST BE ORDERED SEPARATELY.

1/8F

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .40
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY [illegible] DATE 10-10-85
CHK'D BY
ENG BY
DATE

350128
NEXT ASS'Y

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS

AUTO CRANE COMPANY

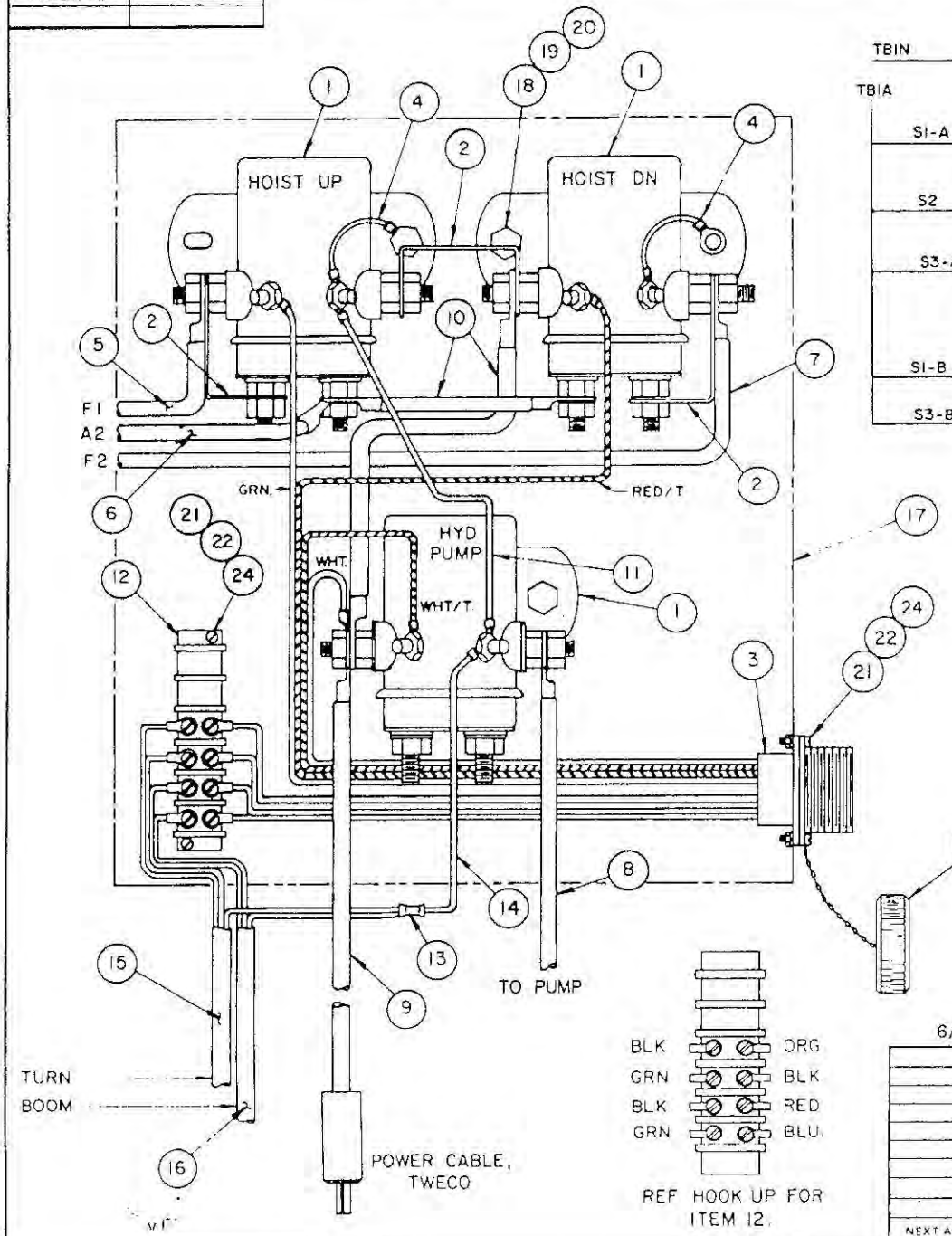
TITLE: RELAY ASSEMBLY 2403P

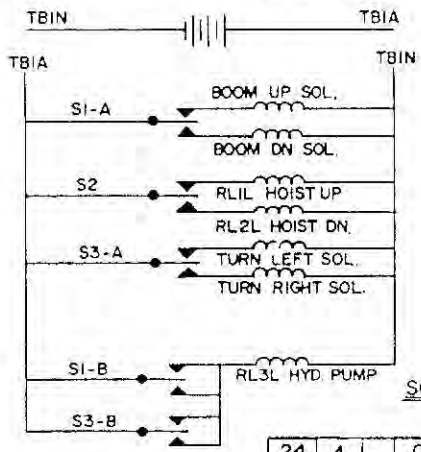
SCALE	SIZE	DRAWING NO	REVISION
NONE	C	AW-330588	-

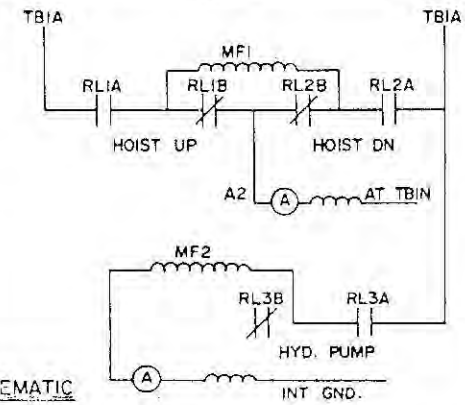
WEIGHT | SHEET 1

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D







SCHEMATIC

ITEM	QTY	D S	PART NO	DESCRIPTION
24	4		000404	SCREW, #6-32 X 5/8
23	1		300413	CAP, RECEPTACLE
22	4		019600	WASHER, SPLK #6
21	4		015400	NUT, HEX. #6-32
20	4		005901	SCREW, 1/4-20 X 1/2 G5
19	4		020200	WASHER, SPLK 1/4
18	4		015900	NUT, 1/4-20
17	1		330249	BRACKET, RELAY PANEL
16	1		330259	CONDUCTOR ASS'Y - BOOM EXT.
15	1		330260	CONDUCTOR ASS'Y - TURN
14	1		330309	CONDUCTOR
13	1		001102	SPLICE, TERMINAL WIRE
12	1		635203	BOARD, TERMINAL
11	1		660429	CONDUCTOR
10	2		600304	CONDUCTOR
9	1		330258	TWECO, CONNECTOR ASS'Y
8	1		330257	CONDUCTOR
7	1		622331	CONDUCTOR
6	1		622312	CONDUCTOR
5	1		622326	CONDUCTOR
4	2		659904	CONDUCTOR
3	1		330285	RECEPTACLE ASS'Y
2	3		658300	CONDUCTOR
1	3		200182	RELAY

6/85

QUANTITY — USE OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: ANGULAR ± ; FRACTIONAL ± ; DECIMAL ± .XXX ± .XXX. REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING. TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973.

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DRAWN Armstrong 3/9/81

NEXT ASSY

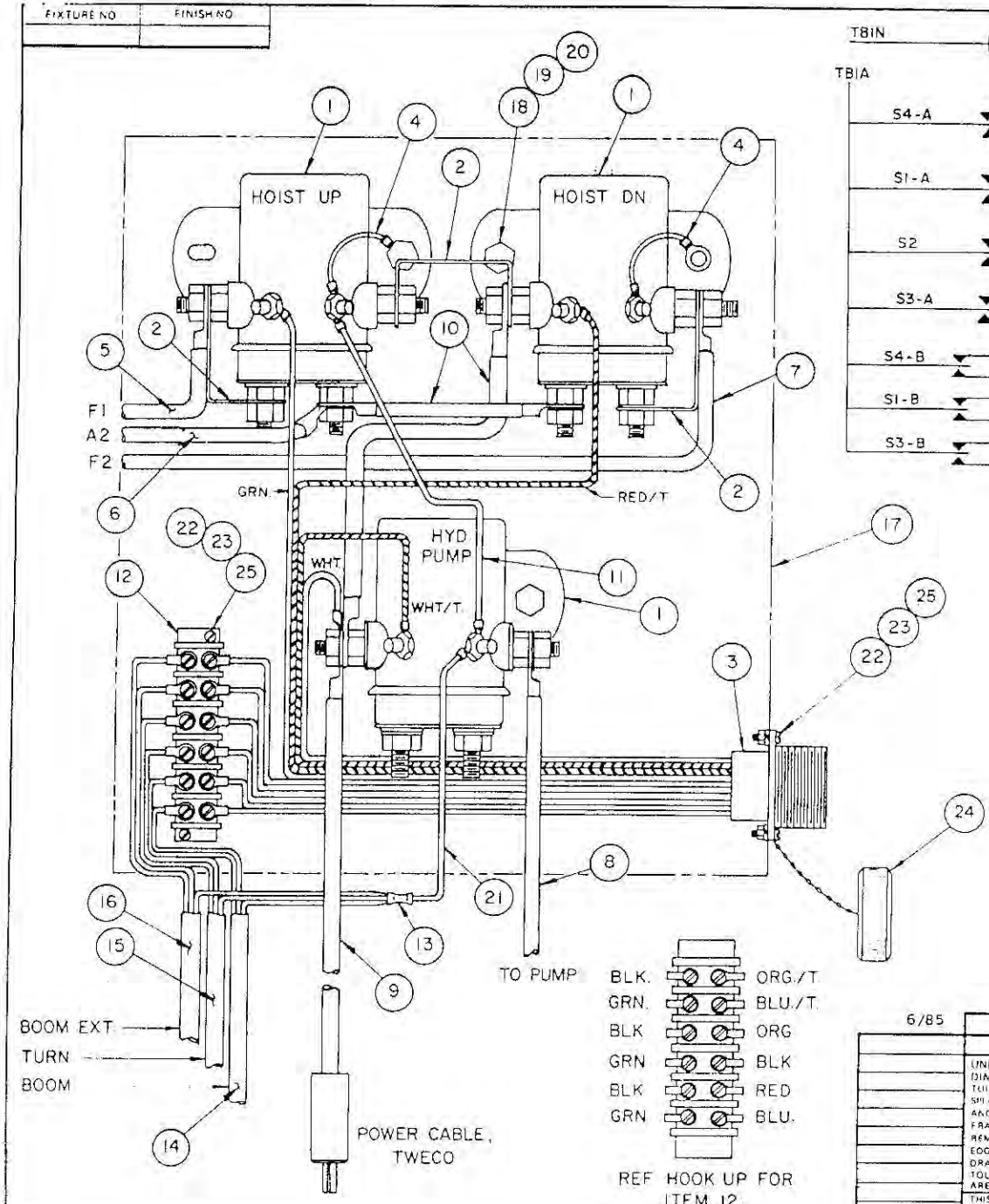
AUTO CRANE COMPANY

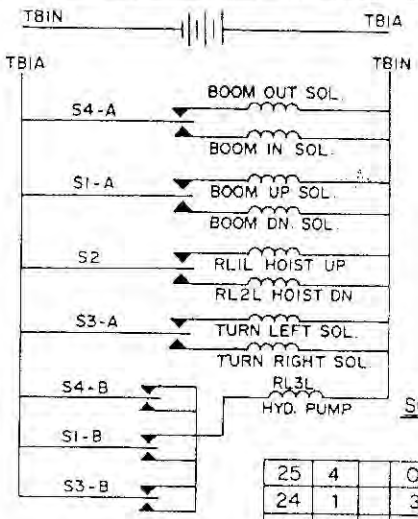
RELAY ASSEMBLY - 2403PR

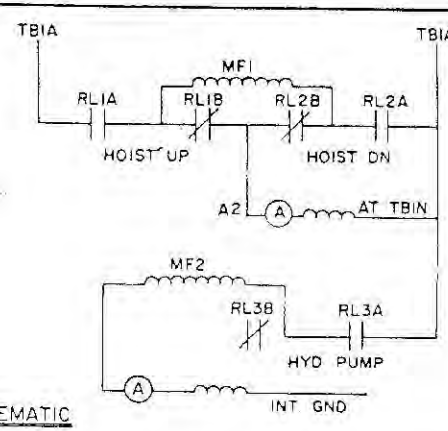
SIZE C — DRAWING NO. AW-330284

SHEET 1 OF 1

FIXTURE NO	FINISH NO







SCHEMATIC

ITEM	QTY	D/S	PART NO	DESCRIPTION
25	4		000404	SCREW, #6-32 X 5/8
24	1		300413	CAP, RECEPTACLE
23	4		019600	WASHER, SPLK #6
22	4		015400	NUT, HEX. #6-32
21	1		330309	CONDUCTOR
20	4		005901	SCREW, 1/4-20 X 1/2 G5
19	4		020200	WASHER, SPLK 1/4
18	4		015900	NUT, 1/4-20
17	1		330249	BRACKET, RELAY PANEL
16	1		330259	CONDUCTOR ASS'Y - BOOM EXT
15	1		330260	CONDUCTOR ASS'Y - TURN
14	1		330261	CONDUCTOR ASS'Y - BOOM
13	1		001102	SPLICE, TERMINAL WIRE
12	1		635203	BOARD, TERMINAL
11	1		660429	CONDUCTOR
10	2		600304	CONDUCTOR
9	1		330258	TWECO, CONNECTOR ASS'Y
8	1		330257	CONDUCTOR
7	1		622331	CONDUCTOR
6	1		622312	CONDUCTOR
5	1		622326	CONDUCTOR
4	2		659904	CONDUCTOR
3	1		330256	RECEPTICAL ASS'Y
2	3		658300	CONDUCTOR
1	3		200182	RELAY

LIST OF MATERIAL

6/85

QUANTITY

NEXT ASS'Y

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES SINGLE DIGIT UNLESS OTHERWISE SPECIFIED. ANGLES ± 1.2 | XX ± .40 | FRACTIONAL ± 1/16 | XXX ± .010. REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING. TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY: [illegible] DATE: 2/9/81 CHK'D BY: DATE: ENG. BY: DATE:

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AUTO CRANE COMPANY

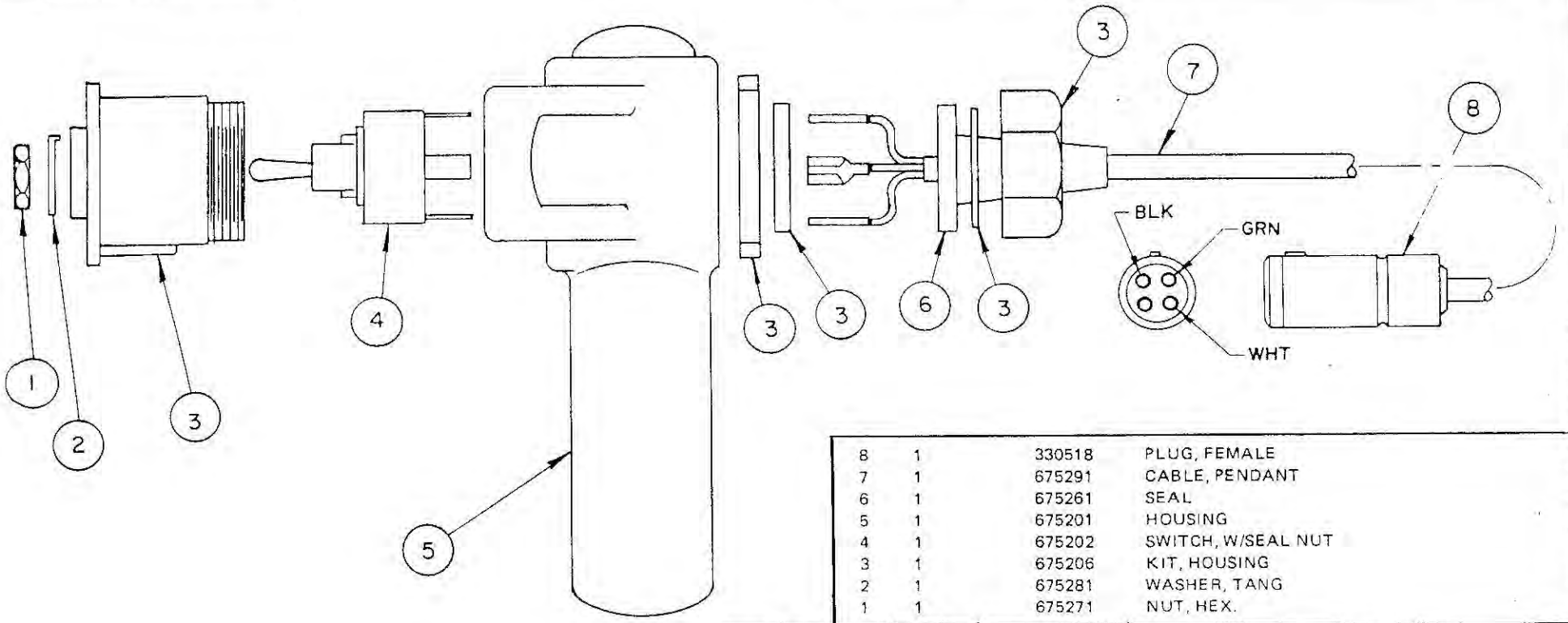
TITLE: RELAY ASSEMBLY - 2403 PRX

SCALE: ~ | SIZE: C | DRAWING NO: AW-330255 | REVISION

WEIGHT | SHEET 1 OF 1

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QTY	D/S	PART NO.	DESCRIPTION
8	1		330518	PLUG, FEMALE
7	1		675291	CABLE, PENDANT
6	1		675261	SEAL
5	1		675201	HOUSING
4	1		675202	SWITCH, W/SEAL NUT
3	1		675206	KIT, HOUSING
2	1		675281	WASHER, TANG
1	1		675271	NUT, HEX.

LIST OF MATERIAL

NOTES:
1. IF NEW PENDANT WITHOUT PLUG IS REQUIRED, USE P/N 675200 WHEN ORDERING.
2. ITEM 3 MUST BE ORDERED AS AN ASSEMBLY.

1/85

NEXT ASS'Y

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
ANGLES ± 1/2° | .XX ± .
FRACTIONAL ± 1/16 | 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

DRAWN BY: Armstrong
DATE: 9-12-89
CHK'D BY:
DATE:
ENG. BY:
DATE:

AUTO CRANE COMPANY

TITLE: PENDANT, HOIST CONTROL

SCALE: ~ | SIZE: B | DRAWING NO: AW-330519 | REVISION:

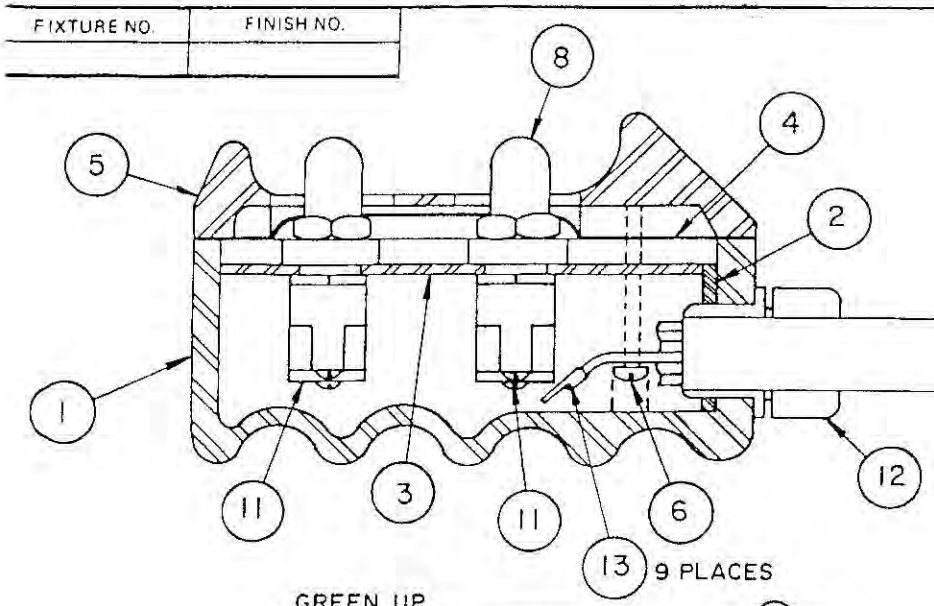
WEIGHT:

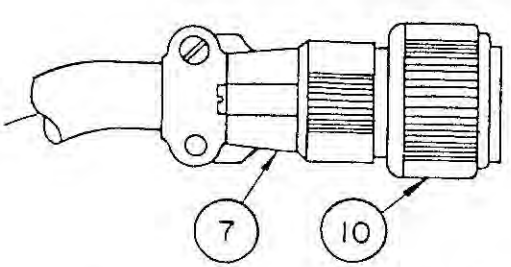
SHEET 1 OF 1

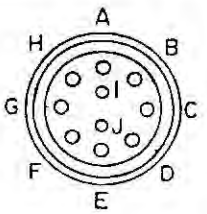
RIDGWAY'S 1000+

FIXTURE NO.	FINISH NO.

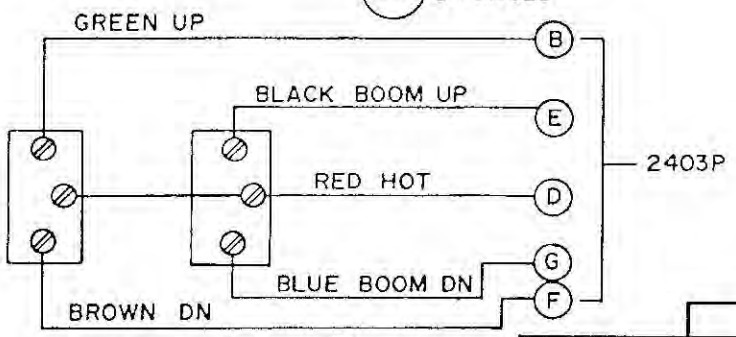
CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D

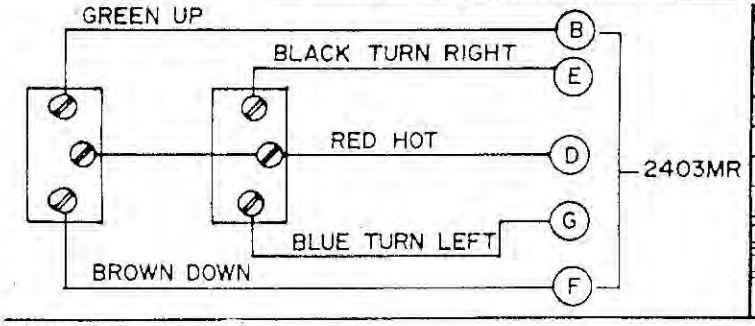






NOTE:
THIS PENDANT IS USED ON THE 2403P AND THE 2403MR MODELS. WHEN ORDERING AN ASSEMBLY, PLEASE SPECIFY DECALS ACCORDINGLY.





ITEM	QTY	D/S	PART NO.	DESCRIPTION
13	7		000101	TERMINALS, STAKON
12	1		642907	CONNECTOR, CORD
11	2		622000	SWITCH, TOGGLE
10	1		300411	PLUG, CONNECTOR
9	15'		800629	CABLE, CONDUCTOR
8	2		640302	BOOT
7	1		300412	CLAMP, CABLE
6	4		001205	SCREW
5	1		642905	COVER
4	1		642909	DIAPHRAGM
3	1		642903	BASE, SUPPORT
2	1		016400	LOCKNUT
1	1		642901	BOX, PENDANT

LIST OF MATERIAL

4/85

NEXT ASS'Y

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED.
ANGLES ± 1/2° | .XX ± .40
FRACTIONAL ± 1/16 | .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.

DRAWN BY Armstrong
DATE 4/2/87
CHK'D BY
DATE
ENG. BY
DATE

AUTO CRANE COMPANY

TITLE
PENDANT ASSEMBLY - 2403MR
2403 P

SCALE	SIZE	DRAWING NO.	REVISION
~	B	AW-330311	

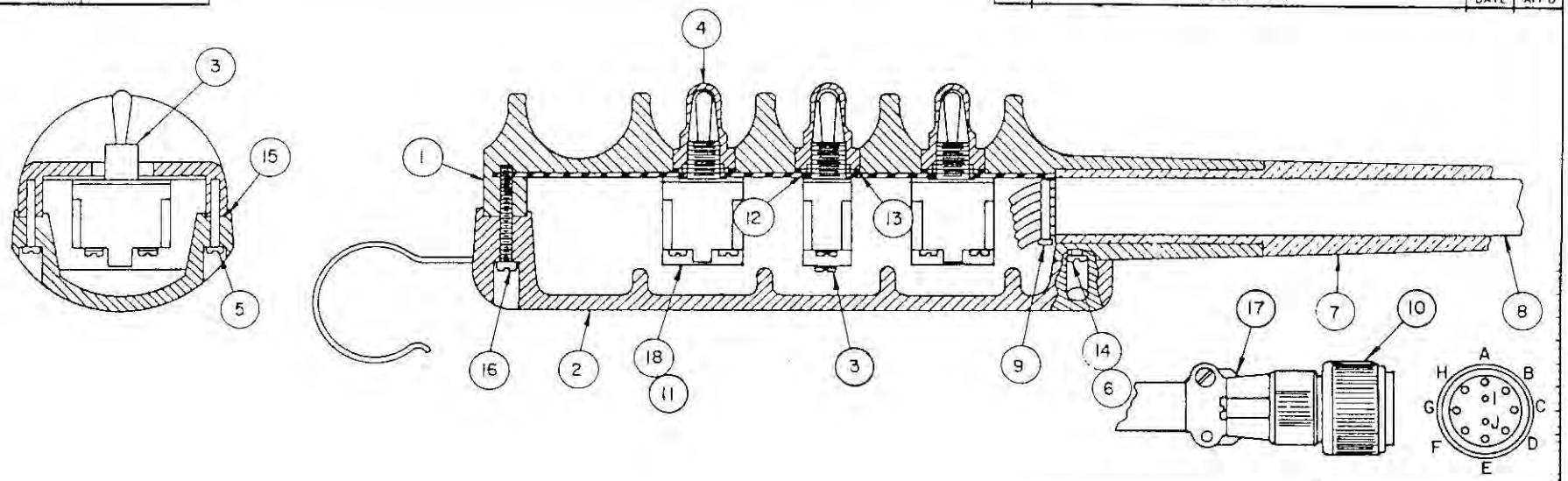
WEIGHT

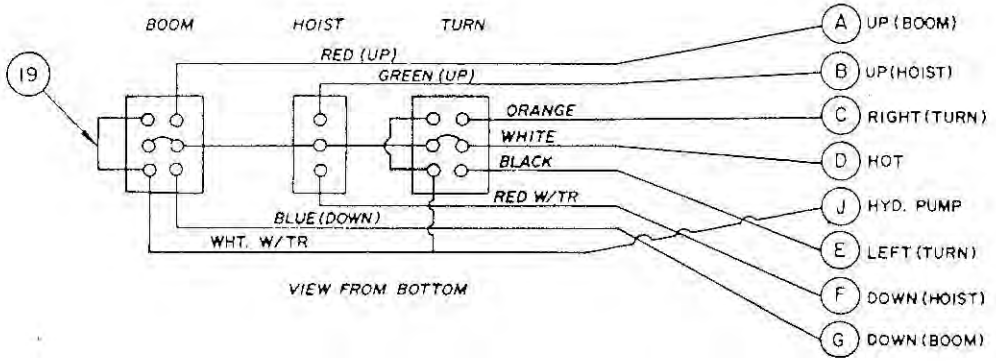
SHEET 1 OF 1

RIDGWAYS 1000H

FIXTURE NO.	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





ITEM	QTY	PART NO	DESCRIPTION
19	2	636600	BAR, JUMPER
18	2	634200	TOGGLE SWITCH
17	1	300412	CLAMP, CABLE
16	1	004700	SCREW, SLT. PAN HD. S.T. 8 X 1 1/2
15	21"	800580	3/4" WIDTH OKONITE RUBBER TAPE
14	4	019700	WASHER, SPLIT LOCK 8 PLATED
13	3	642100	O-RING
12	3	675271	NUT
11	15	000101	TERMINALS T&B
10	1	300411	PLUG, ELECTRICAL
9	2	634401	TY-RAP CABLE TIE
8	15'	800630	CONDUCTOR CABLE
7	1	633801	CABLE ADAPTER
6	2	005101	SCREW, S.T.-SLT. PAN HD 8 X 1 1/4
5	10	005001	SCREW, S.T.-SLT. PAN HD. 8 X 3/4
4	3	640302	BOOT-TOGGLE SWITCH
3	1	622000	TOGGLE SWITCH
2	1	631700	BOTTOM COVER
1	1	631602	PENDANT HOUSING

QUANTITY — LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .40
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973

DRAWN BY: SMK
DATE: 11/4/80
CHK'D BY
DATE
ENG. BY
DATE

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS

NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: PENDANT ASSEMBLY

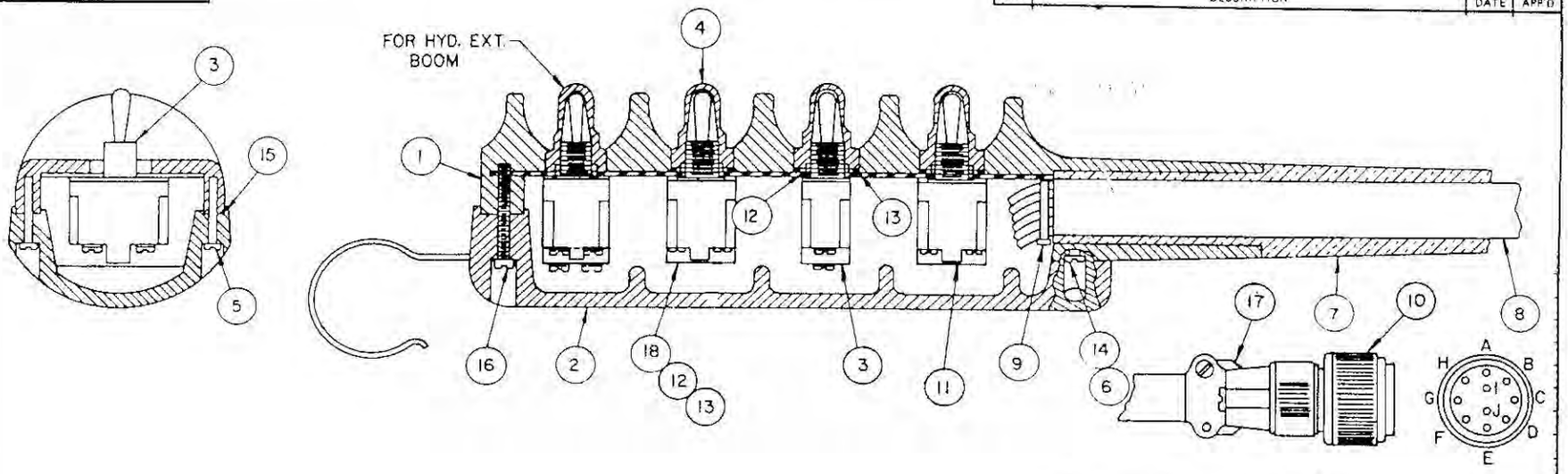
SCALE: ~ | SIZE: C | DRAWING NO: AW-642601 | REVISION

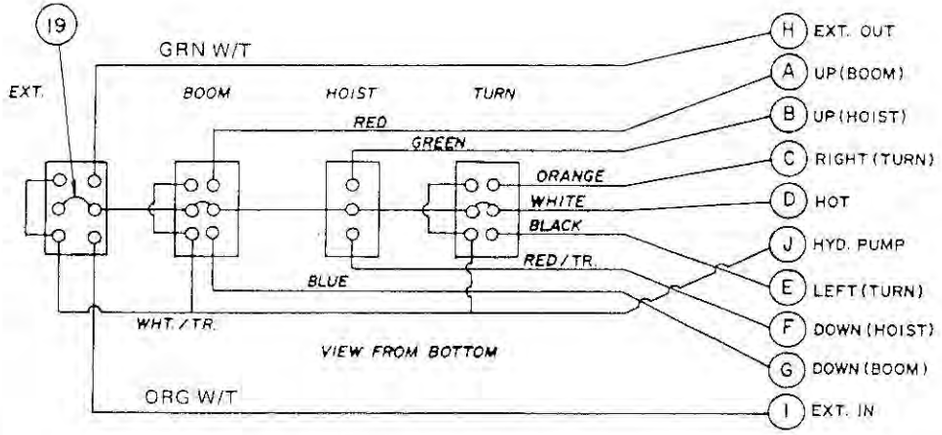
WEIGHT | SHEET 1 OF 1

1/85

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





ITEM	QTY	PART NO	DESCRIPTION
19	3	636600	BAR, JUMPER
18	3	634200	TOGGLE SWITCH
17	1	300412	CLAMP, CABLE
16	1	004700	SCREW, SLT. PAN HD. S.T. 8X11/2
15	21"	800580	3/4" WIDTH OKONITE RUBBER TAPE
14	4	019700	WASHER, SPLIT LOCK 8 PLATED
13	4	642100	O-RING
12	4	675271	NUT
11	24	000101	TERMINALS T&B
10	1	300411	PLUG, ELECTRICAL
9	2	634401	TY-RAP CABLE TIE
8	15'	800632	CONDUCTOR CABLE
7	1	633801	CABLE ADAPTER
6	2	005101	SCREW, S.T.-SLT. PAN HD 8X11/4
5	10	005001	SCREW, S.T.-SLT. PAN HD. 8X3/4
4	4	640302	BOOT-TOGGLE SWITCH
3	1	622000	TOGGLE SWITCH
2	1	631700	BOTTOM COVER
1	1	631601	PENDANT HOUSING

QUANTITY — LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: ANGLES ± 1/2° | XX ± .01 | FRACTIONAL ± 1/16 | XXX ± .010. REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING. TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973.

DRAWN BY SLK | DATE 5/13/81 | CHK'D BY | DATE | ENG. BY | DATE

NEXT ASS'Y

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.

AUTO CRANE COMPANY

TITLE: PENDANT ASSEMBLY 2403PRX

SCALE ~ | SIZE C | DRAWING NO. AW-330089 | REVISION

WEIGHT | SHEET 1 OF 1

1/85

TROUBLE SHOOTING THE VOLTAGE CONVERTER

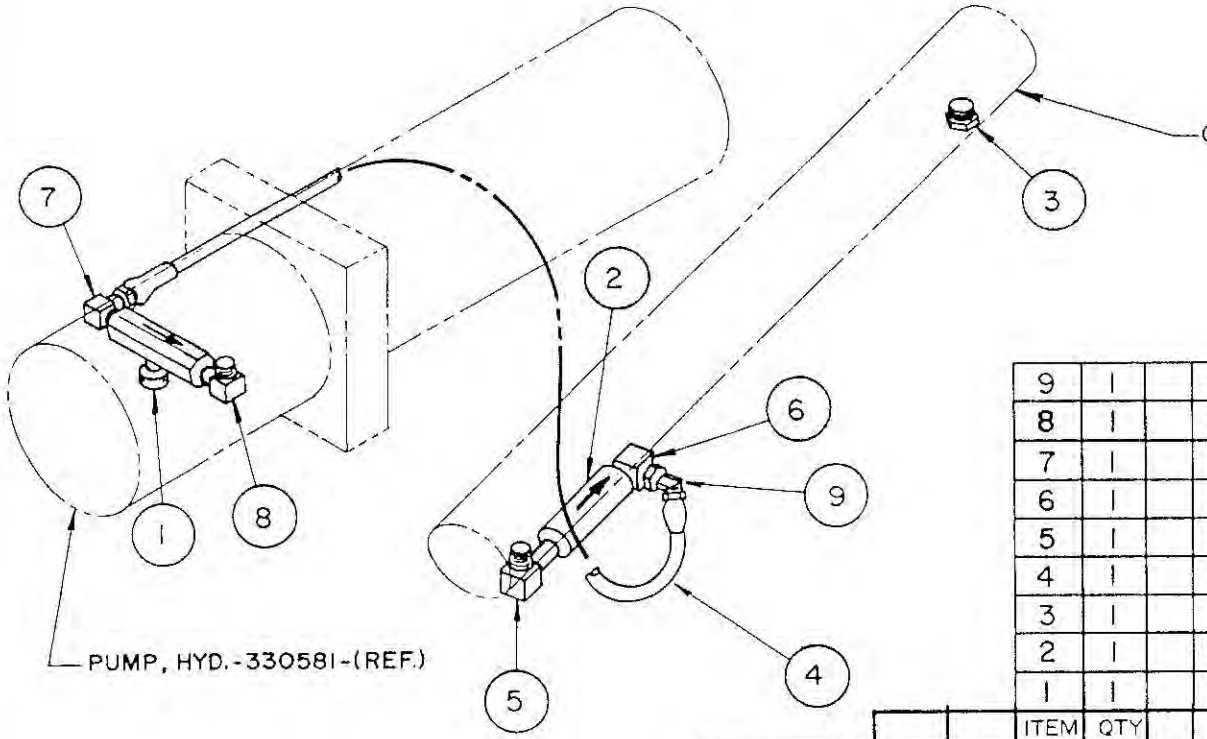
PROBLEM	PROCEDURE
No Output Voltage	Turn unit on with the lever on the fuse box. Check fuses in the fuse box. Check power to the fuse box; it should be 110 volts. Check inside the converter to see if the transformer output leads are connected. Check all the diodes to see if they are burned open.
Low Voltage Output	Check input voltage. The 110 volt unit requires a minimum of 110 volts. Check the transformer output to ground. It should be 12-18 volts AC.
High Output Voltage	Check input line voltage. The 110 volt unit takes a maximum of 120 volts.
AC Voltage on Converter Output	There is a bad diode in the bridge. Remove diodes and check for polarity and current blocking.

VOLTAGE CHECK – 110/12 CONVERTER

1. Connect 110V leads to generator or other 110V source.
2. Check voltage from top of fuses to buss bar in bottom of box. Voltage should be 110V ± 5%. If voltage is above 116V or below 106V check voltage at source.
   NOTE: Fuses are connected in parallel; checking from the top of either fuse to buss bar will give the same voltage.
3. If voltage in Step (2) is correct, close fuse box and turn on rectifier.
4. Check rectifier output. Voltage on D.C. output leads should read 12 to 18 VDC unloaded.
5. Turn rectifier off.
6. Connect DC leads to crane.
7. Turn rectifier on.
8. Connect voltmeter positive lead to hoist motor stud F2 (Stud that brake lead connects to) and negative lead to crane case ground. With 1000 lbs. at 6 feet load on crane, hoist (with 2 line block). Start hoist in up condition. Voltmeter should read 11 to 14 VDC.

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QTY		PART NO.	DESCRIPTION
9	1		330647	ELL, 45° SWIVEL - 6 JIC
8	1		330587	ELL, 3/8 NPTM - 1/4 NPTM
7	1		330583	ELL, 1/4 NPTM - 9/16-18 JIC SWIVEL
6	1		330596	ELL, 3/8 NPTM - 9/16-18 JIC
5	1		300743	ELL, 3/8 NPTM
4	1		202738	HOSE ASSEMBLY
3	1		330584	BREATHER FILTER
2	1		301103	VELOCITY FUSE
1	1		330582	FLOW REGULATOR

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED.
ANGLES ± 1/2° | .XX ± .40
FRACTIONAL ± 1/16 | .XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY: Armstrong
DATE: 10-18-82
CHK'D BY:
DATE:
ENG BY:
DATE:

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AUTO CRANE COMPANY

TITLE: HYDRAULIC ASSEMBLY - 2403P

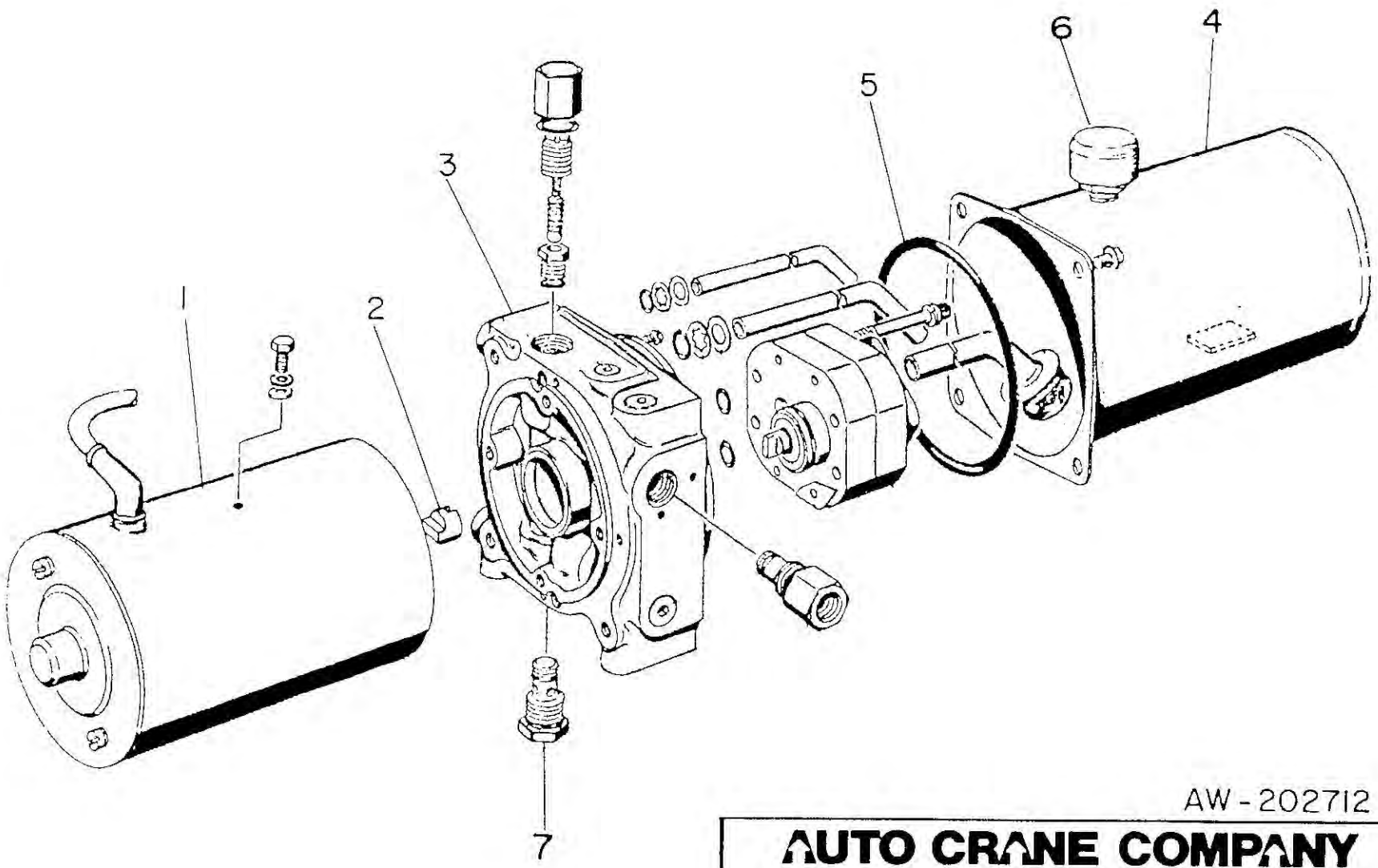
SCALE: ~ | SIZE: B | DRAWING NO.: AW-330586 | REVISION:

WEIGHT:

SHEET 1 OF 1

9/86

NEXT ASS'Y



AW - 202712

AUTO CRANE COMPANY

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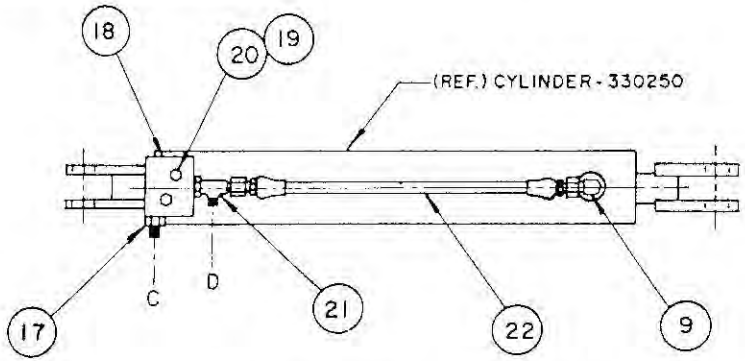
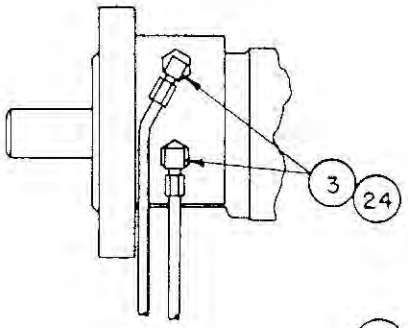
FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



BOOM-UP CYLINDER
(BOTTOM VIEW)



VIEW E-E

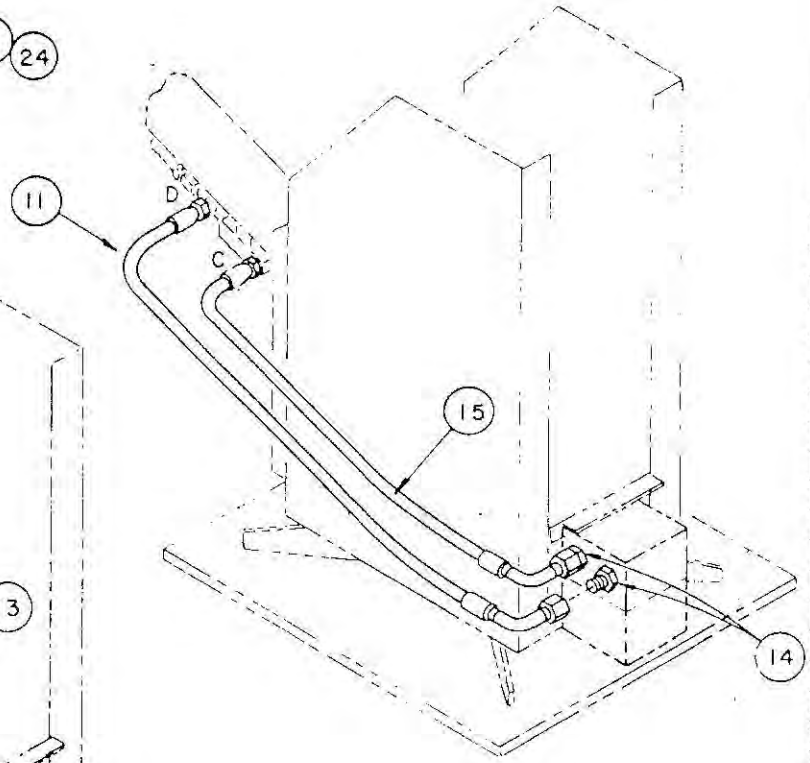


FIGURE 3

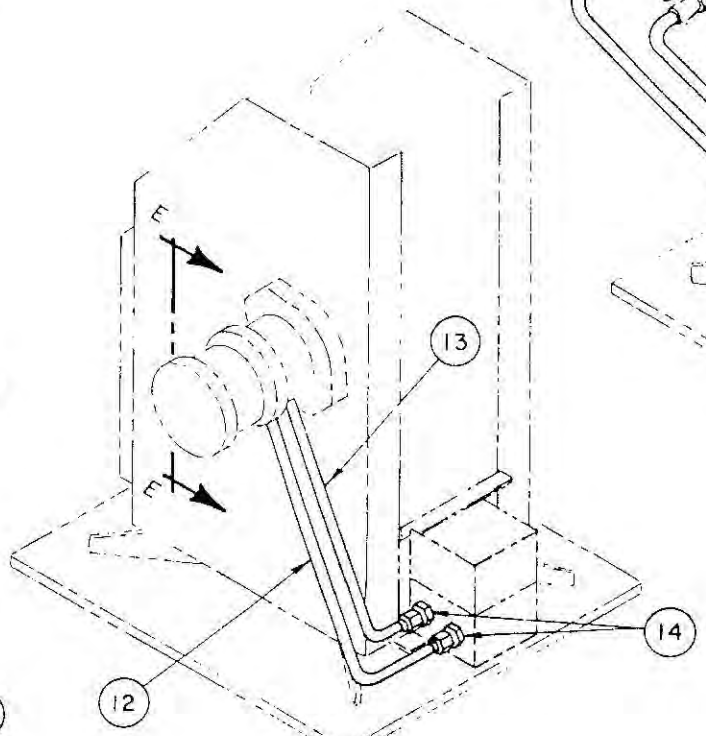


FIGURE 2

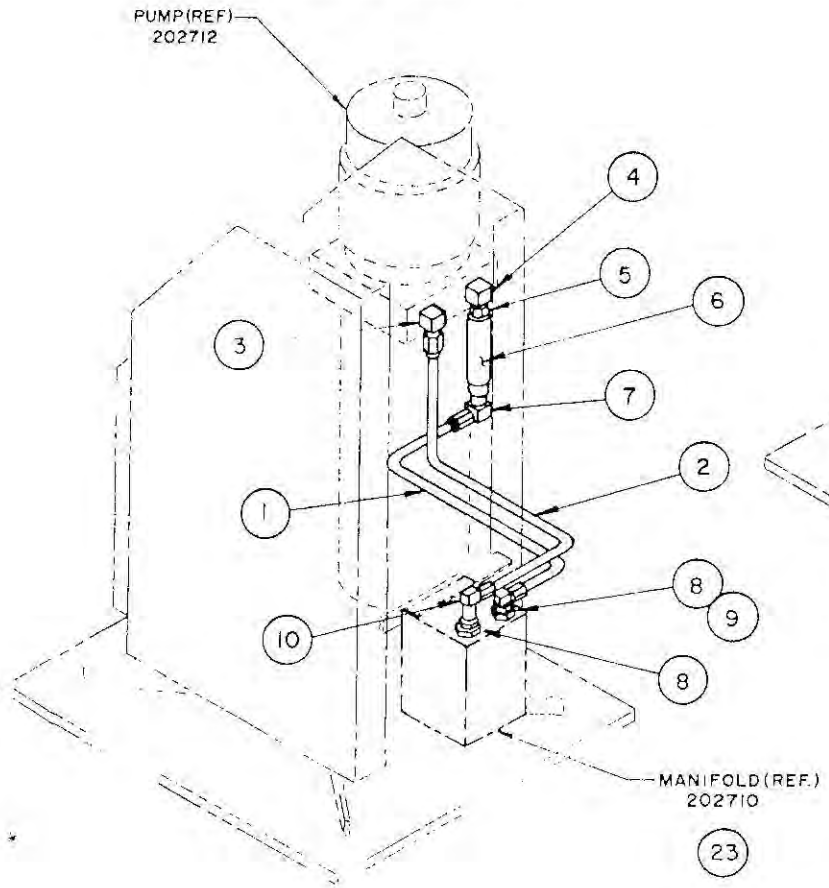


FIGURE 1

ITEM	D/S	PART NO	DESCRIPTION
QUANTITY			LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | .XX ± .40
FRACTIONAL ± 1/16 | .XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY R.D
DATE 9-10-80
CHK'D BY
DATE
ENG BY
DATE

AUTO CRANE COMPANY

TITLE: HYDRAULICS - 2403 PR

SCALE | SIZE C | DRAWING NO AW-01 | REVISION

NEXT ASS'Y

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WEIGHT

__ OF __

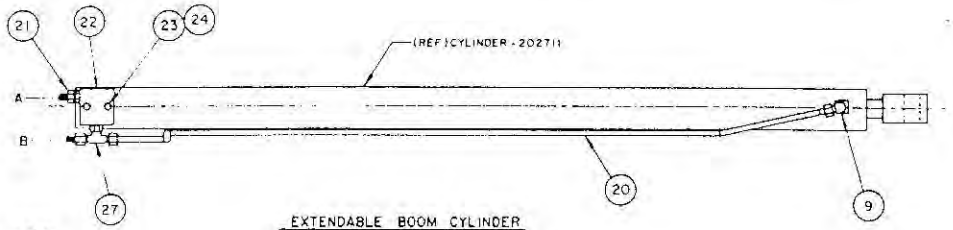
HYDRAULICS - 2403PR – AW-011

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330263	HYD. TUBE ASSEMBLY
2	1	330264	HYD. TUBE ASSEMBLY
3	4	200892	ELL - 90° 3/8NPT / 9/16-18JIC
4	1	300743	ELL - 90° 3/8NPT/ 3/8NPT
5	1	330282	REDUCER, 3/8NPTF/ 1/4NPTM
6	1	202743	STRAINER
7	1	330273	ELL - 90° 1/4NPTM/ 9/16-37°
8	2	330058	REDUCER 7/8-14 / 9/16-18
9	1	241175	ELL - 90° 9/16 O-RING/ 9/16-37° JIC
10	1	330645	ELL 90 EX. LG. O.R.B. 9/16-18 NPT / 9/16-18 JIC
11	1	330533	HYD. HOSE ASSEMBLY
12	1	330531	HYD. HOSE ASSEMBLY
13	1	330530	HYD. HOSE ASSEMBLY
14	4	202756	ADAPTER 3/4 O-RING / 9/16-37° JIC
15	1	330532	HYD. HOSE ASSEMBLY
16	1	(REF)	HYD. OIL - 4 QT.
17	1	200876	ADAPTER O-RING/ 37° JIC
18	1	330412	VALVE, COUNTERBALANCE
19	2	020200	WASHER, SPLK 1/4CP
20	2	005810	SCREW, 1/4NC X 1-3/4 G5
21	1	200877	TEE, O-RING RUN/ 37° JIC
22	1	330392	HOSE ASSEMBLY
23	2	330072	PLUG, O-RING 7/8-14
24	2	330391	BUSHING, REDUCER 1/2 X 3/8 NPT

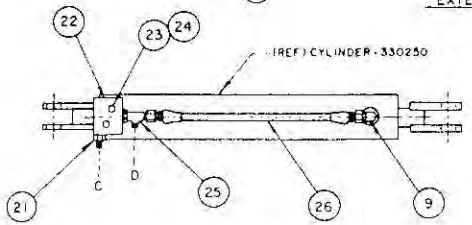
12/86

FIXTURE NO	FINISH NO

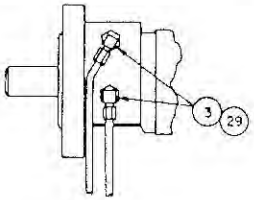
CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



EXTENDABLE BOOM CYLINDER
(TOP VIEW)



BOOM-UP CYLINDER
(BOTTOM VIEW)



VIEW E-E

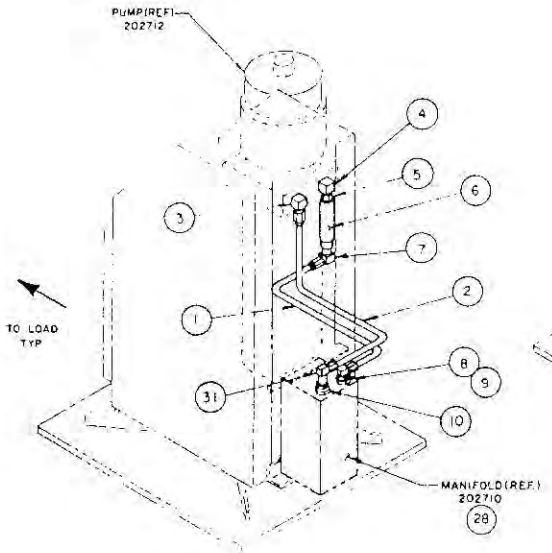


FIGURE 1

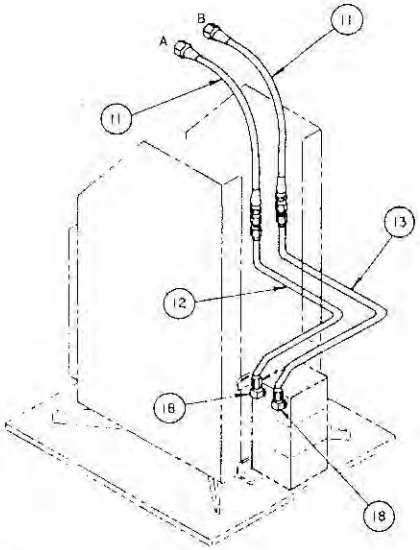


FIGURE 2

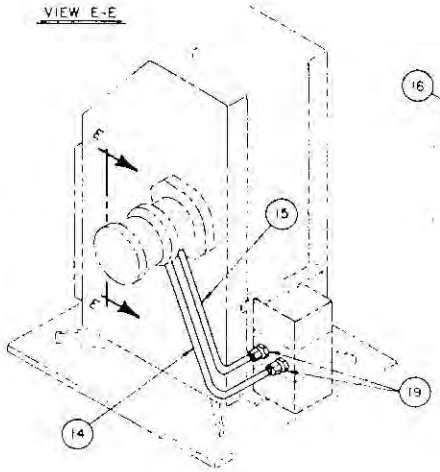


FIGURE 3

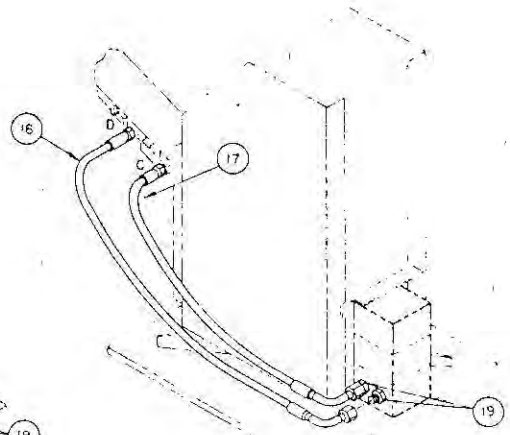


FIGURE 4

ITEM	PART NO	DESCRIPTION
QUANTITY		

LIST OF MATERIAL

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN INCHES TO TRACTOLITE SPECIFICATIONS

ANGLES ± ; FRACTIONAL ± ; REMOVE ALL BURRS AND SHARP EDGES (DO NOT BREAK THEM)

DRAWING TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

THIS PRINT IS THE PROPERTY OF AUTOCRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THE INTERESTS

DRAWN
DATE 5/1/86
CHK'D
DATE
ENG'G
DATE

NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: HYDRAULICS - 2403 PRX

SIZE D | DRAWING NO. AW-012 | REVISION

WEIGHT | SHEET

9/86

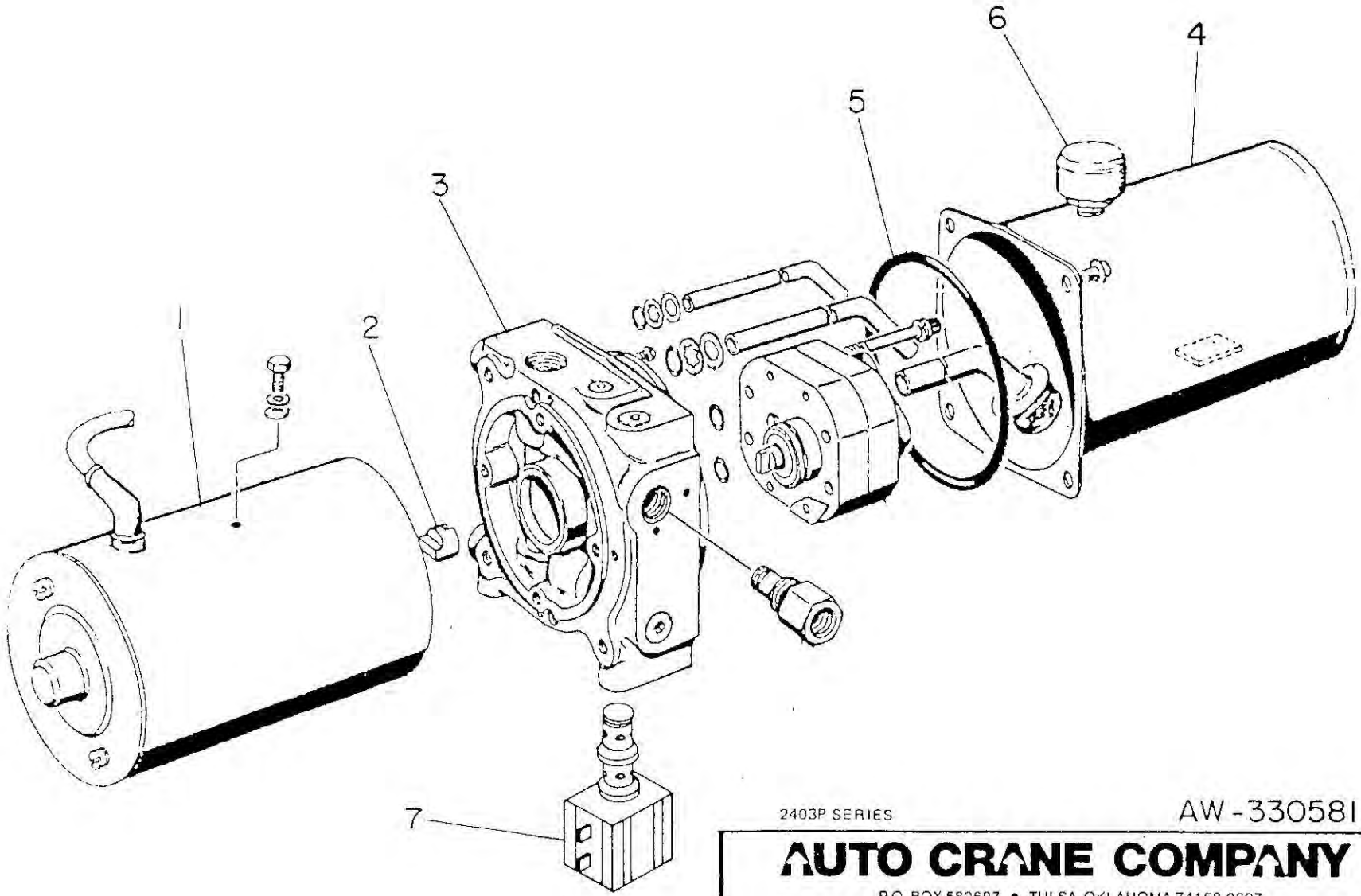
HYDRAULICS – 2403PRX – AW-012

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330263	HYD. TUBE ASS'Y
2	1	330264	HYD. TUBE ASS'Y
3	4	200892	ELL - 90° 3/8NPT/ 9/16-18JIC
4	1	300743	ELL - 90° 3/8NPT/ 3/8NPT
5	1	330282	REDUCER, 3/8 NPTF/ 1/4NPTM
6	1	202743	STRAINER
7	1	330273	ELL - 90° 1/4 NPTM/ 9/16-37°
8	1	330058	REDUCER, 7/8-14/ 9/16-18
9	2	241175	ELL - 90° 9/16 O-RING/ 9/16-37°JIC
10	2	330274	REDUCER - 7/8 O-RING/ 3/4 O-RING
11	2	202738	HYD. HOSE ASSEMBLY
12	1	330265	HYD. TUBE ASS'Y
13	1	330267	HYD. TUBE ASS'Y
14	1	330531	HYD. HOSE ASS'Y
15	1	330530	HYD. HOSE ASS'Y
16	1	330533	HYD. HOSE ASS'Y
17	1	330532	HYD. HOSE ASS'Y
18	2	330272	ELL - 90° 3/4 O-RING/ 9/16-37°
19	4	202756	ADAPTER 3/4 O-RING/ 9/16-37°JIC
20	1	330275	HYD. TUBE ASS'Y
21	2	200876	ADAPTER O-RING/ 37°JIC
22	2	330412	VALVE, COUNTERBALANCE
23	4	020200	WASHER, SPLK 1/4CP
24	4	005810	SCREW, 1/4NC X 1-3/4 G5
25	1	200877	TEE O-RING RUN/ 37°JIC
26	1	330392	HYD. HOSE ASSEMBLY
27	1	241168	TEE, JIC RUN/ O-RING
28	2	330072	PLUG, O-RING 7/8-14
29	2	330391	BUSHING, REDUCER 1/2 x 3/8 NPT
30	1	(REF)	HYD. OIL - 4 QT.
31	1	330645	ELL 90 EX.LG. ORB, 9/16-18 NPT / 9/16-18 JIC

9/86

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330407	MOTOR, PUMP 12V.
2	1	330409	COUPLING
3	1	330406	PUMP KIT
4	1	330405	TANK, HYDRAULIC (3 QUART)
5	1	330408	"O"-RING
6	1	200545	CAP, BREATHER
7	1	200538	VALVE ASSEMBLY, HYD. PUMP, CHECK

12/86



2403P SERIES

AW-330581

AUTO CRANE COMPANY

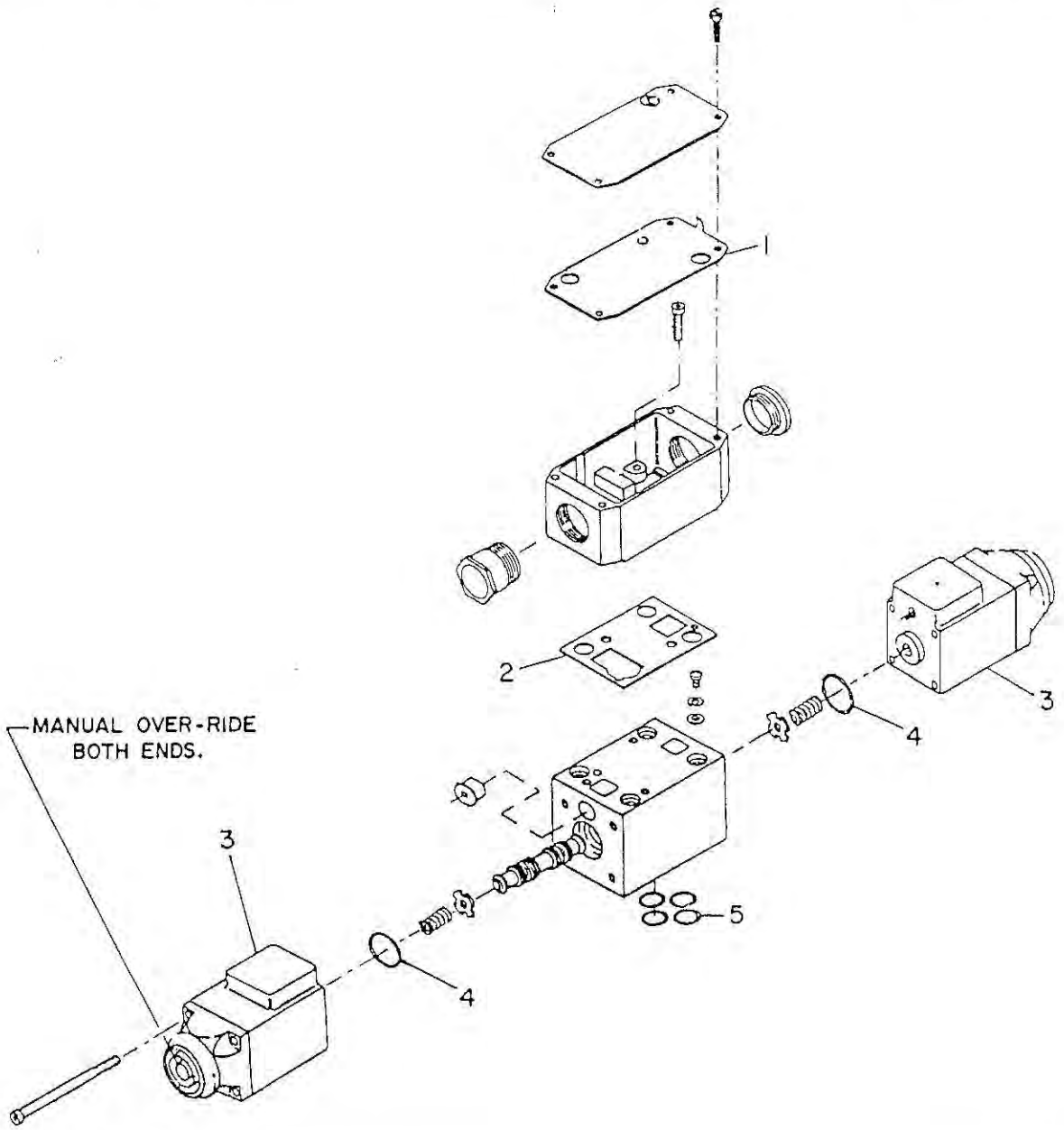
P.O. BOX 580697 • TULSA, OKLAHOMA 74158-0697
4707 N. MINGO ROAD • 918-836-0463

9/86

HYDRAULIC PUMP – AW-330581 – 2403P

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330407	MOTOR, PUMP 12V.
2	1	330409	COUPLING
3	1	330406	PUMP KIT
4	1	330405	TANK, HYDRAULIC (3 QUART)
5	1	330408	"O"-RING
6	1	200545	CAP, BREATHER
7	1	330616	SOLENOID, 12 V.

NOTE: ITEM 7 CONSISTS OF COIL, P/N 330617 AND SPOOL ASSEMBLY, P/N 330618.



DIRECTIONAL VALVE ASSEMBLY

ITEM	QTY	PART NO.	DESCRIPTION
1	1	310300	GASKET
2	1	310301	GASKET
3	2	310302	SOLENOID, D.C.
4	2	310303	O-RING
5	4	310304	O-RING

1/85

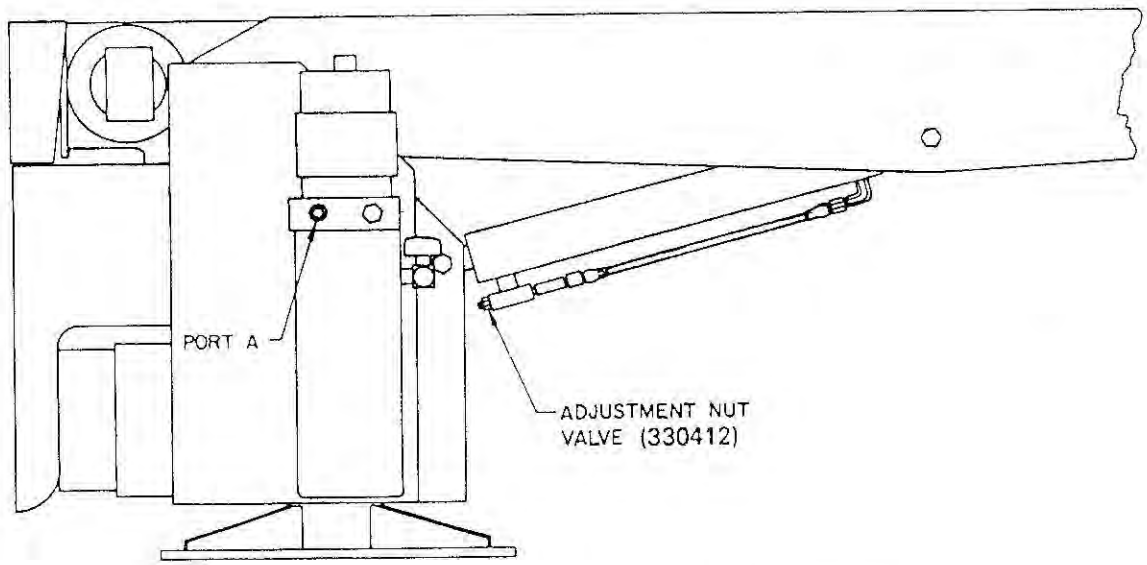
AUTO CRANE COMPANY

AW-3002

74

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	D/S	PART NO	DESCRIPTION	QUANTITY
			LIST OF MATERIAL	

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .02
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY
DATE 10/6/81
CHK'D BY
DATE
ENG BY
DATE

NEXT ASS'Y

THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS

AUTO CRANE COMPANY

TITLE: ADJUSTMENT - COUNTERBALANCE VALVE

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-009	

WEIGHT | SHEET 1 OF 1

1/85

2403 SERIES HYDRAULICS TROUBLESHOOTING

The hydraulic system of the 2403 power version is electrically operated and requires a minimum of 12V for satisfactory performance. The hydraulic pump is single rotation with a pressure relief setting of 2500 P.S.I. The system is designed to engage the pump only when a hydraulic function is selected.

PROBLEM	SOLUTION
PUMP WILL NOT RUN	Check voltage to pump; if voltage is above 12 volts and the pump is well grounded, replace pump. If voltage is below 12V, check battery and power leads. If no voltage to pump, remove relay panel cover and check relay. (See Electrical Troubleshooting)
PUMP RUNS BUT FUNCTION WILL NOT WORK	A manual override is on each end of the directional valves on the 2403. If the pump is operating, and pushing the manual override in does not operate the selected function, check pump pressure. If the function does operate, remove directional valve cover (330254) and check for loose wire, low voltage or bad ground. If the above items check out all right, replace directional valve. If the problem is traced to no voltage at the directional valve, 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.
HYDRAULIC "CHATTER"	When a hydraulic function is engaged and causes the crane to "chatter," check for loose wire, low voltage at directional valve, or low pump pressure.

COUNTERBALANCE VALVE SETTING

CAUTION:
IF COUNTERBALANCE VALVE IS REPLACED, IT MUST HAVE CORRECT PRESSURE SETTING BEFORE CRANE IS IN SAFE WORKING CONDITION.

TO SET VALVE:

To set counterbalance valve (330412 – Ref. page 74), remove plug (5/16" Allen wrench) from port "A" of hydraulic pump (202712). Replace with pressure gauge of 2500 psi minimum.

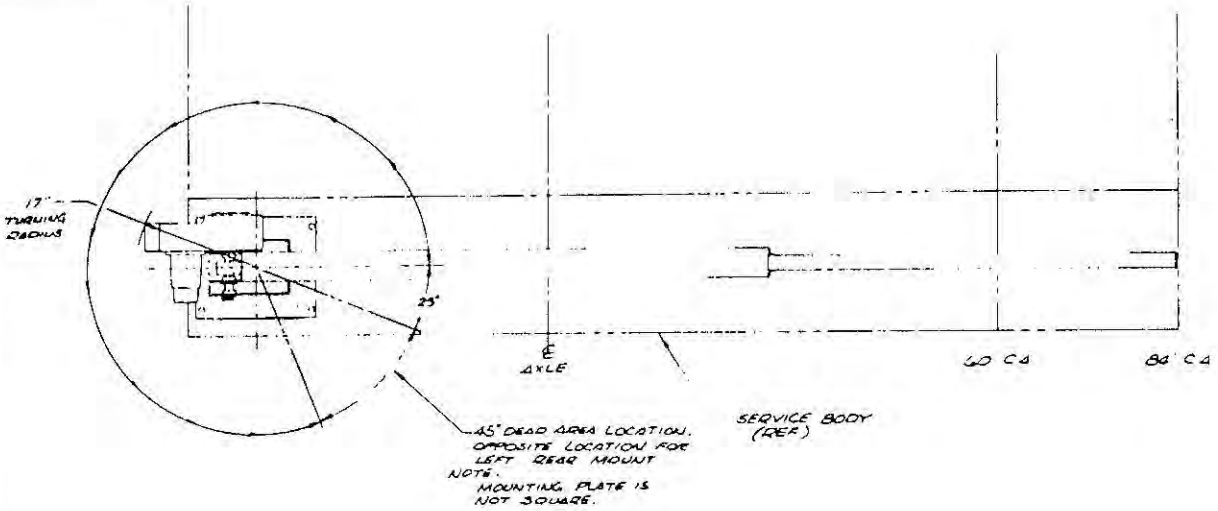
IMPORTANT: No load must be on crane; booms must not be extended.

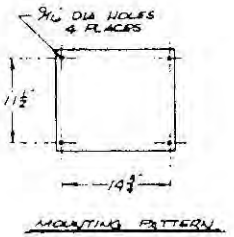
After installed, boom up until boom up cylinder is fully extended. Next, boom down at approximately 2 second intervals while reading pressure gauge. Loosen nut at rear of valve and adjust 3/16" Allen screw and tighten nut. Proceed again until pressure reading is a constant 1000 psi. If valve is not set and boom is down, boom up and try again.

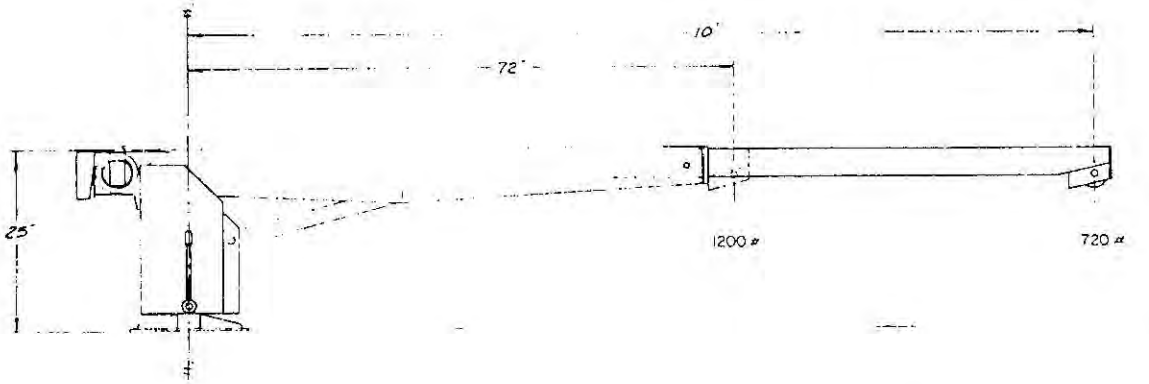
NOTE: 2403PRX extendable boom cylinder (202711) requires no adjustment to counterbalance valve if replaced.

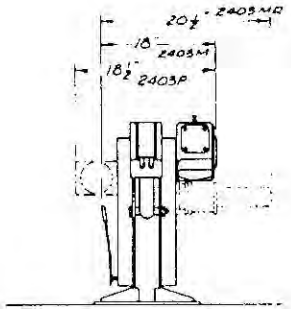
FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APPD





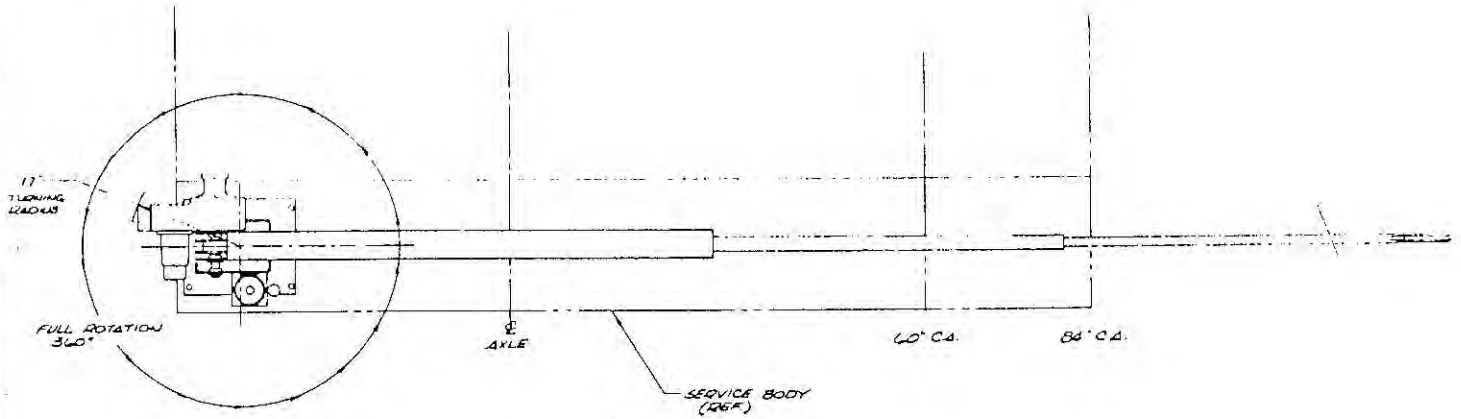




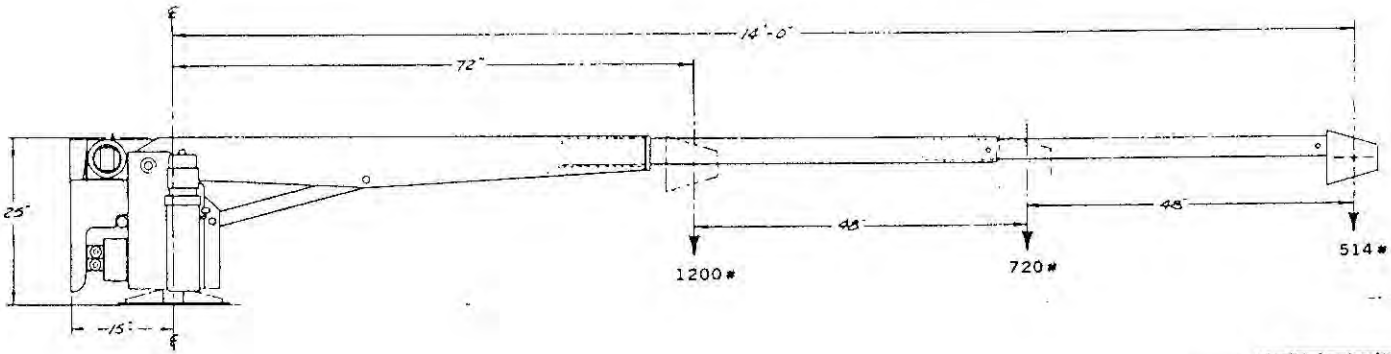
1/85

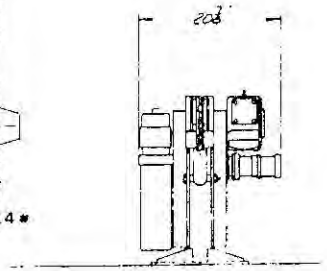
NOTE
2403M HAS TORSTICLE DIMENSIONS EXCEPT ARM WIDTH WHICH IS 18"W
2403MR HAS TORSTICLE DIMENSIONS EXCEPT ARM WIDTH WHICH IS 20½"

			AUTO CRANE COMPANY
			GENERAL DIMENSIONS 2403M, 2403MR & 2403P
			~ D AW-001



MOUNTING PATTERN





NOTE:
OPTIONAL 16 BOOM SHOWN.

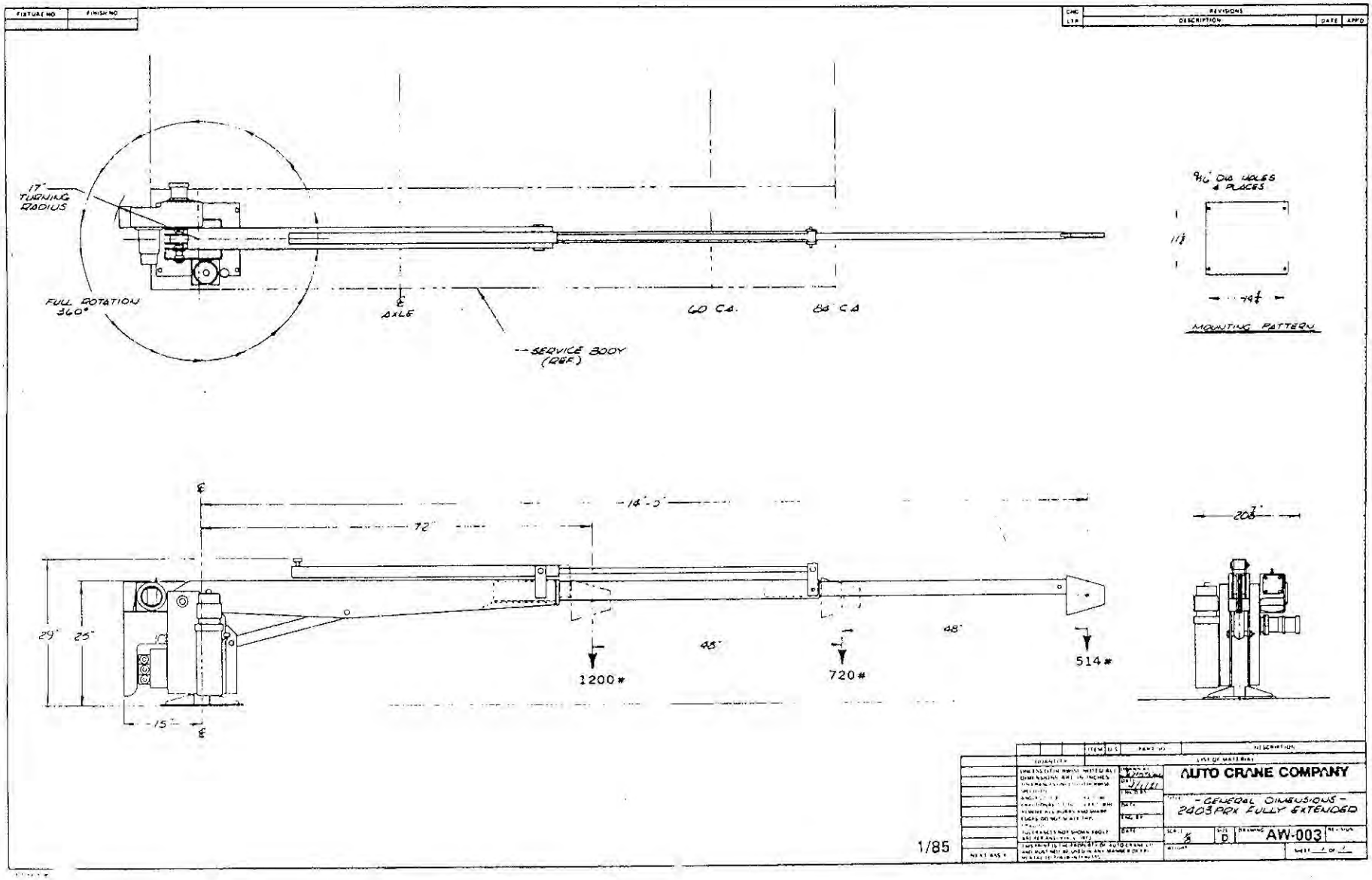
AUTO CRANE COMPANY

- GENERAL DIMENSIONS -
2403PR FULLY EXTENDED

AW-002

1/85

77



FIXTURE NO	FINISH NO	CHG LTR	REVISIONS DESCRIPTION DATE APPD

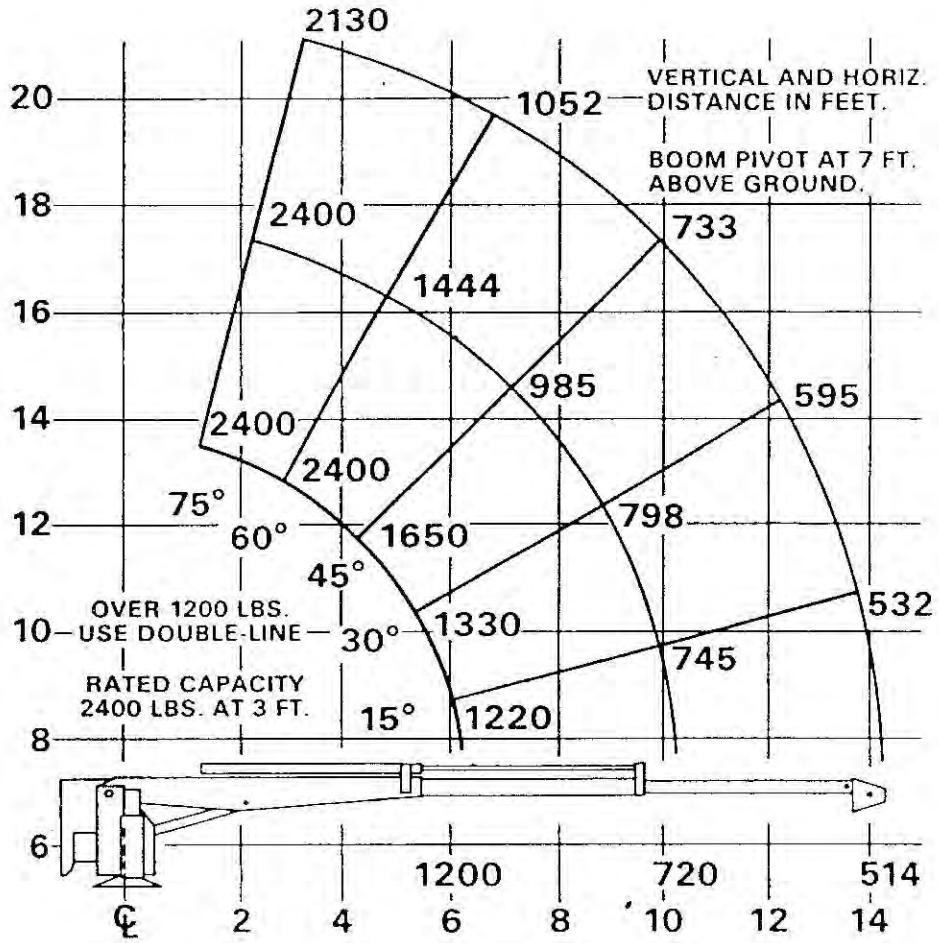
AUTO CRANE COMPANY

- GENERAL DIMENSIONS -
2403PDX FULLY EXTENDED

DRAWING AW-003

SIZE D

1/85



AUTO CRANE COMPANY

TITLE

LOAD CHART - 2403 SERIES

SCALE	SIZE	DRAWING NO.	REVISION
~	A	AW-330278	

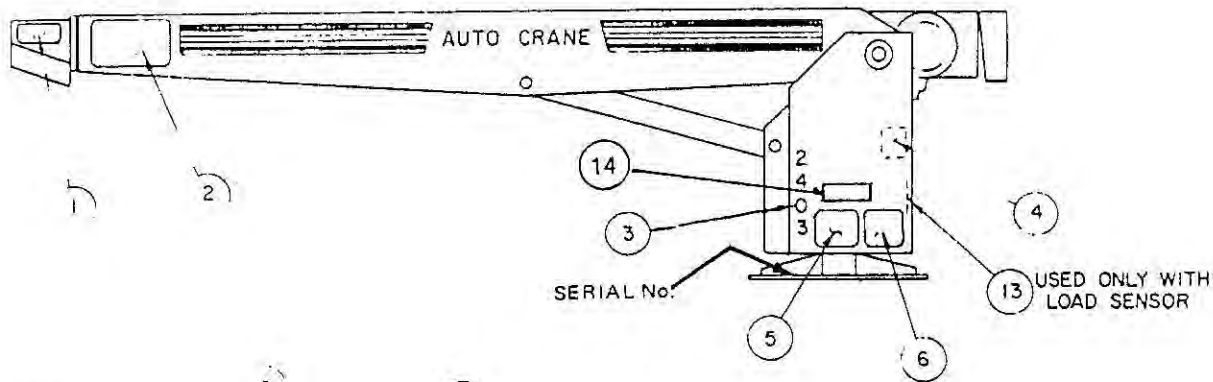
WEIGHT

SHEET 1 OF 1

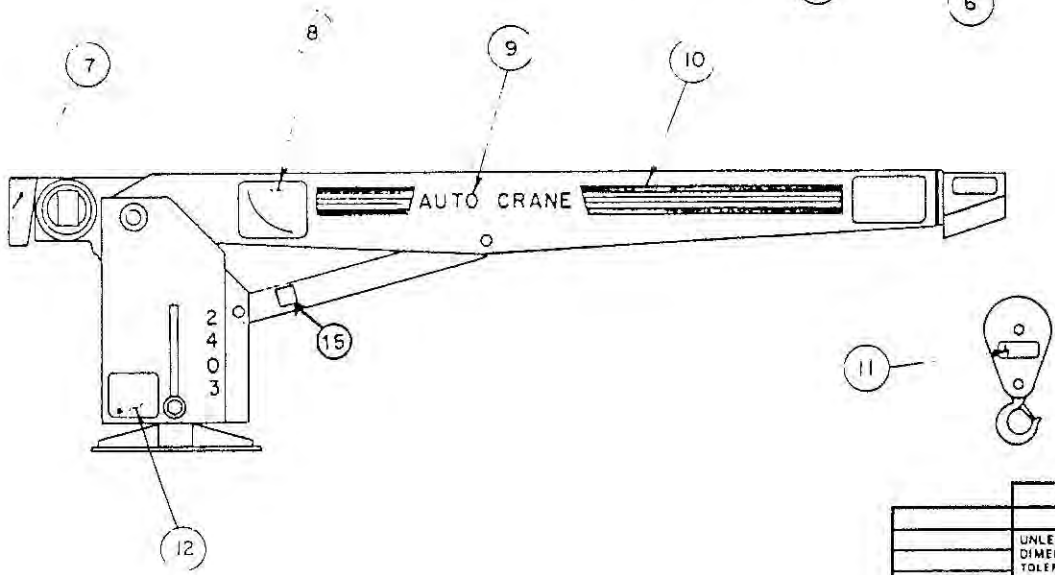
1/85

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



NOTE:
ITEM 15 FOR 2403M &
2403MR MODELS ONLY



ITEM	QTY	D/S	PART NO.	DESCRIPTION
15	1		330624	DECAL,LOWER BOOM
14	1		330622	DECAL, SERIAL NO.
13	1		040631	DECAL, L/S
12	1		330278	DECAL, LOAD CHART
11	2		040630	DECAL, DANGER STAY CLEAR...
10	10'		040620	DECAL, STRIPING
9	2		040624	DECAL, A/C
8	1		360036	DECAL, ANGLE IND. ...
7	1		040506	DECAL, BRAKE
6	1		040580	DECAL, DANGER MUST ...
5	1		040579	DECAL, WORK RULES ....
4	1		040552	DECAL, RELAY
3	2		330281	DECAL, 2403
2	2		040529	DECAL, DANGER ELECT. ...
1	2		040517	DECAL, STAY CLEAR ...

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | XX ± .02
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

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DRAWN BY: Armstrong
DATE: 7-25-84
CHK'D BY
DATE
ENG. BY
DATE

AUTO CRANE COMPANY

TITLE: DECAL DRAWING
2403M, 2403MR, 2403P, 2403PR

SCALE ~ | SIZE C | DRAWING NO. AW-330186 | REVISION

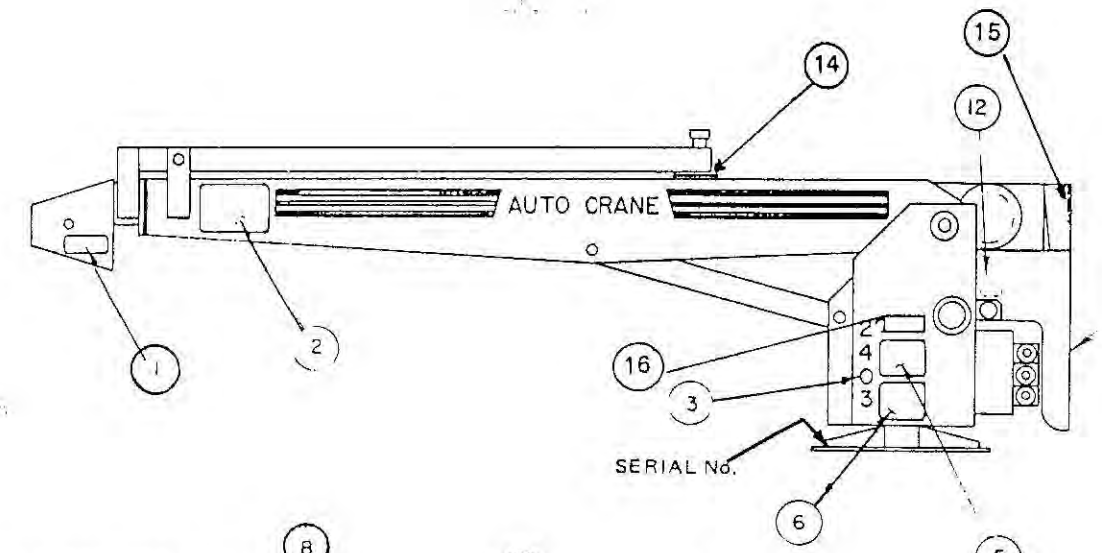
WEIGHT | SHEET 1 OF 1

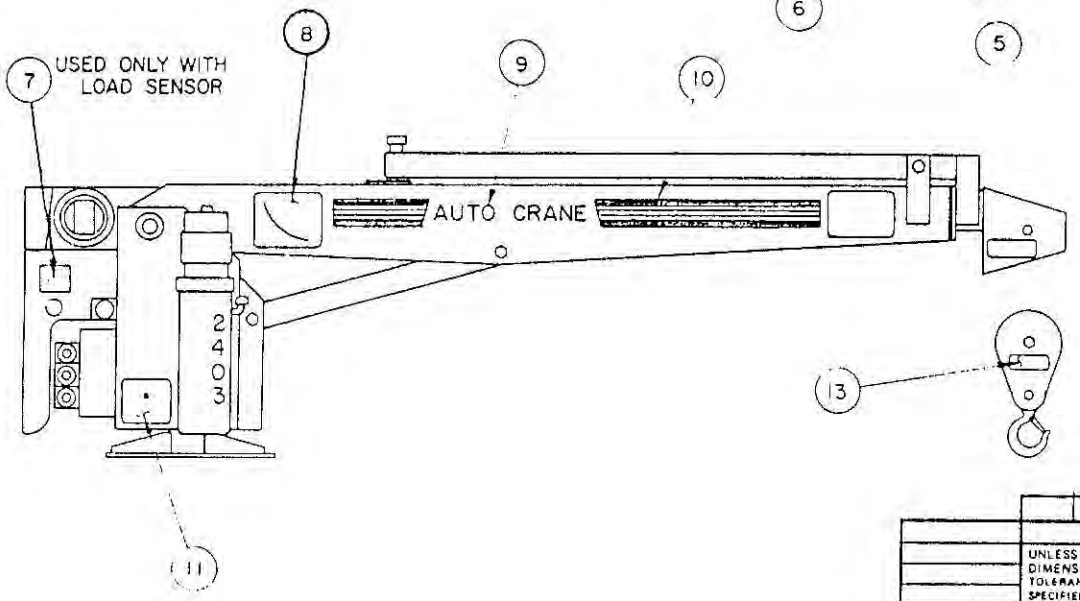
NEXT ASS'Y

1/85

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





16	1	330622	DECAL, SERIAL NO.
15	1	040506	DECAL, BRAKE
14	1	330134	RUBBER PAD, ADHESIVE
13	2	040630	DECAL, DANGER STAY CLEAR ...
12	1	040552	DECAL, RELAY
11	1	330278	DECAL, LOAD CHART
10	10'	040620	DECAL, STRIPING
9	2	040624	DECAL, A/C
8	1	360036	DECAL, ANGLE IND. ...
7	1	040631	DECAL, L/S
6	1	040580	DECAL, DANGER MUST ...
5	1	040579	DECAL, WORK RULES ....
4	1	040622	DECAL, A/C LOGO
3	2	330281	DECAL, 2403
2	2	040529	DECAL, DANGER ELECT ....
1	2	040517	DECAL, STAY CLEAR ...

ITEM	QTY	D/S	PART NO.	DESCRIPTION

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | .XX ± .40
FRACTIONAL ± 1/16 | .XXX ± .010
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DRAWN BY: [illegible] DATE: 7-29-04
CHK'D BY
DATE
ENG. BY
DATE
NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: DECAL DRAWING - 2403PRX

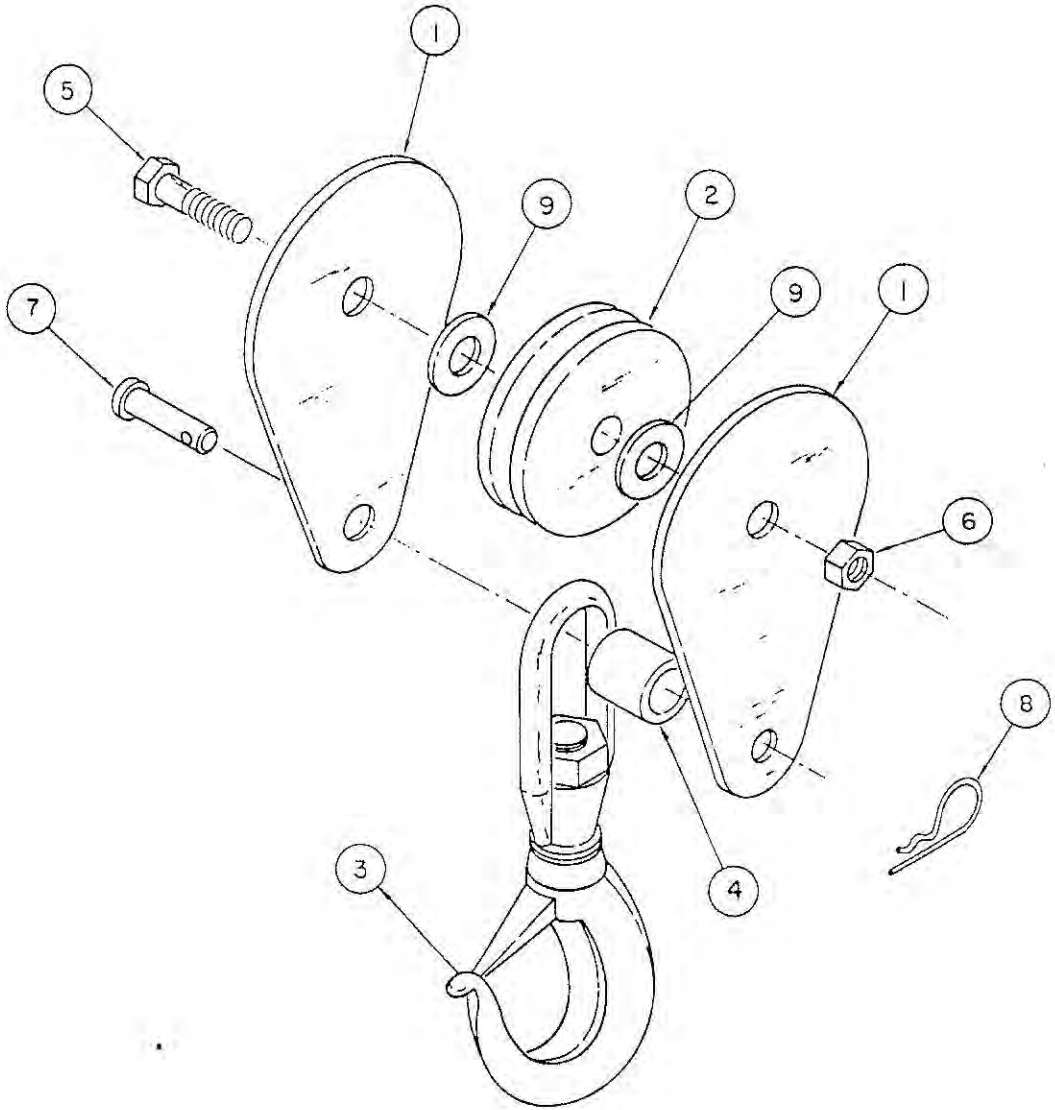
SCALE ~ | SIZE C | DRAWING NO. AW-330280 | REVISION

WEIGHT | SHEET 1 /

1/85

FIXTURE NO.	F

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



NOTE :
REF. - BEARING P/N 200100 USED IN SHEAVE ASSEMBLY, (200209) ITEM 2.

ITEM	Q'TY	PART NO.	DESCRIPTION
9	2	330100	WASHER, FLAT ADJUSTING
8	1	360124	HITCH PIN
7	1	330634	PIN, TRAVELING BLOCK
6	1	018100	NUT, HX. HLF. LK. 5/8"-18
5	1	013507	SCREW, HX. 5/8"-18X2" GR 5
4	1	800203-004	PIPE, BLACK 1/2"
3	1	100309	SWIVEL HOOK ASS'Y W/LATCH
2	1	200909	SHEAVE ASSEMBLY
1	2	100303	PLATE, SIDE SHEAVE

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED:
ANGLES ± 1°2' | XX ± .40
FRACTIONAL ± 1/16 | .XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES DO NOT SCALE THIS DRAWING
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

DRAWN BY R.P. DATE 9-18-86
CHK'D BY
DATE
ENG. BY
DATE

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NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: TRAVELING BLOCK ASSEMBLY

SCALE | SIZE C | DRAWING NO. AW-100300 | REVISION

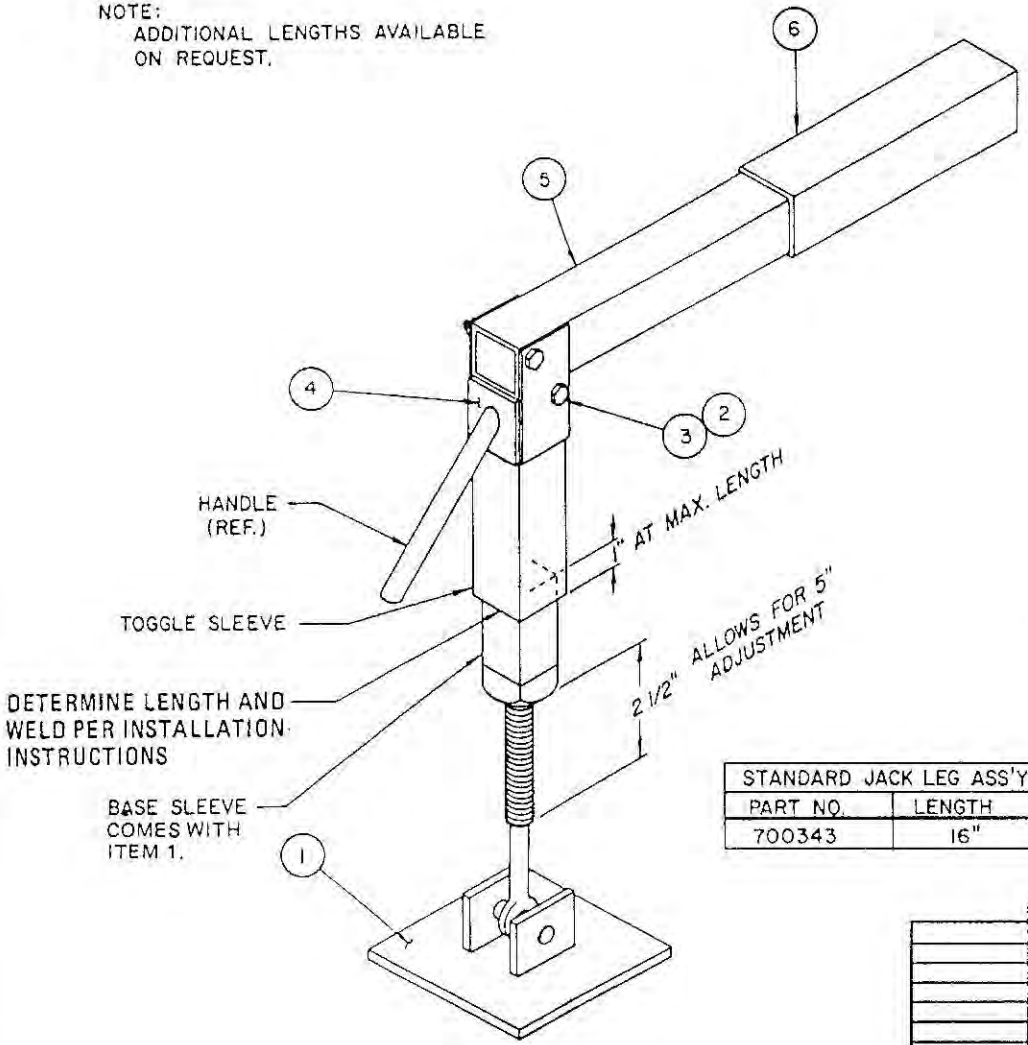
WEIGHT | SHEET 1 OF 1

12/86

FIXTURE NO.	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D

NOTE:
ADDITIONAL LENGTHS AVAILABLE ON REQUEST.



STANDARD JACK LEG ASS'Y	
PART NO.	LENGTH
700343	16"

INSTALLATION INSTRUCTIONS (JACK LEG)

MAKE SURE TRUCK IS PARKED ON LEVEL SURFACE. WELD POCKET (Item 6) TO TRUCK BODY AT REAR JUST INSIDE BUMPER, OR DESIRABLE LOCATION. END OF POCKET SHOULD BE FLUSH WITH OUTSIDE OF THE TRUCK BODY. BE SURE THE POCKET IS WELDED SECURELY. NEXT, SLIDE HORIZONTAL MEMBER (Item 5) INTO POCKET. SLIDE BASE ASSEMBLY (Item 1) INTO TOGGLE SLEEVE. MAKE SURE LEG ASSEMBLY IS VERTICAL & FULLY INSERTED IN POCKET. NOW BASE SCREW SHOULD BE ADJUSTED SO THAT 2½" OF THREAD IS EXPOSED. MARK BASE SLEEVE WHERE TOGGLE SLEEVE ENDS. PULL JACK LEG OUT OF THE POCKET & WELD (Ref. -3/16") ALL AROUND AT MARK.

JACK LEG IS READY FOR USE. UPON USE, MAKE SURE JACK LEG HAS ADEQUATE TENSION (SELF-DETERMINING), BEFORE SELF-LOCKING IN PLACE. ADJUSTMENT OF SCREW MAY BE NEEDED DEPENDING ON GROUND SURFACE.

ITEM	QUANTITY	D/S	PART NO	DESCRIPTION
6	1		200372	TUBE, POCKET
5	1		200063	MEMBER, HORIZONTAL
4	1		200074	TOGGLE
3	2		009101	CAPSCREW, HEX. HD. 3/8" X 2-3/4"
2	2		017400	LOCKNUT, HEX. 3/8"
1	1		200717	BASE ASSEMBLY

LIST OF MATERIAL

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ANGLES ± 1/2° | XX ± .40
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 1973

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DRAWN BY
DATE 1/15/85
CHKD BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY

TITLE: JACK LEG ASSEMBLY

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-700343	

WEIGHT

SHEET 1 OF 1

1/85

P.O. BOX 580697 * TULSA, OK 74158-0697
4707 N. MINGO * (918) 836-0463

LIMITED WARRANTY

1 YEAR PARTS AND LABOR

Auto Crane will warranty to the consumer for a period of (1) year parts and labor from the date of purchase. Each new Auto Crane unit they sell will be free under normal use and service from defects in material and workmanship. Date of purchase will be honored as either date of purchase by distributor, date of sale of product as substantiated by Distributor Delivery Report, or a Bill of Sale. Which must be submitted with warranty claim.

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

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

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

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

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

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

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