R8/88

EFFECTIVE SERIAL NO. - 066 CG 988

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
FAX 918-438-6688

OWNER'S MANUAL

5004 SERIES

SERIAL NO. _____

WARNING:

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

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

5004 SERIES - OWNER'S MANUAL

- CONTENTS -

INTRODUCTION –5004 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 5004 series for your protection. The material and electrical systems were designed to minimize weight and lengthen durability.

For your convenience the overall dimensions of the 5004 series are included on the General Dimension Drawing. Rotation and turning radius are also listed.

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.

The 5004 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. The 5004 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 75 amp. alternator with a 500 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, Distributor's Flat Rate 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 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 - 438-2760. The information contained in the 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.

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 off ignition with transmission left in gear. (or in park for automatic transmissions). For extended use (more than a few minutes), leave engine running with manual transmission is neutral, or automatic transmissions in park. 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 small 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 occurrence during crane operation that may indicate required maintenance or repair.

COLD WEATHER OPERATION

All standard products (all models or 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 is 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).

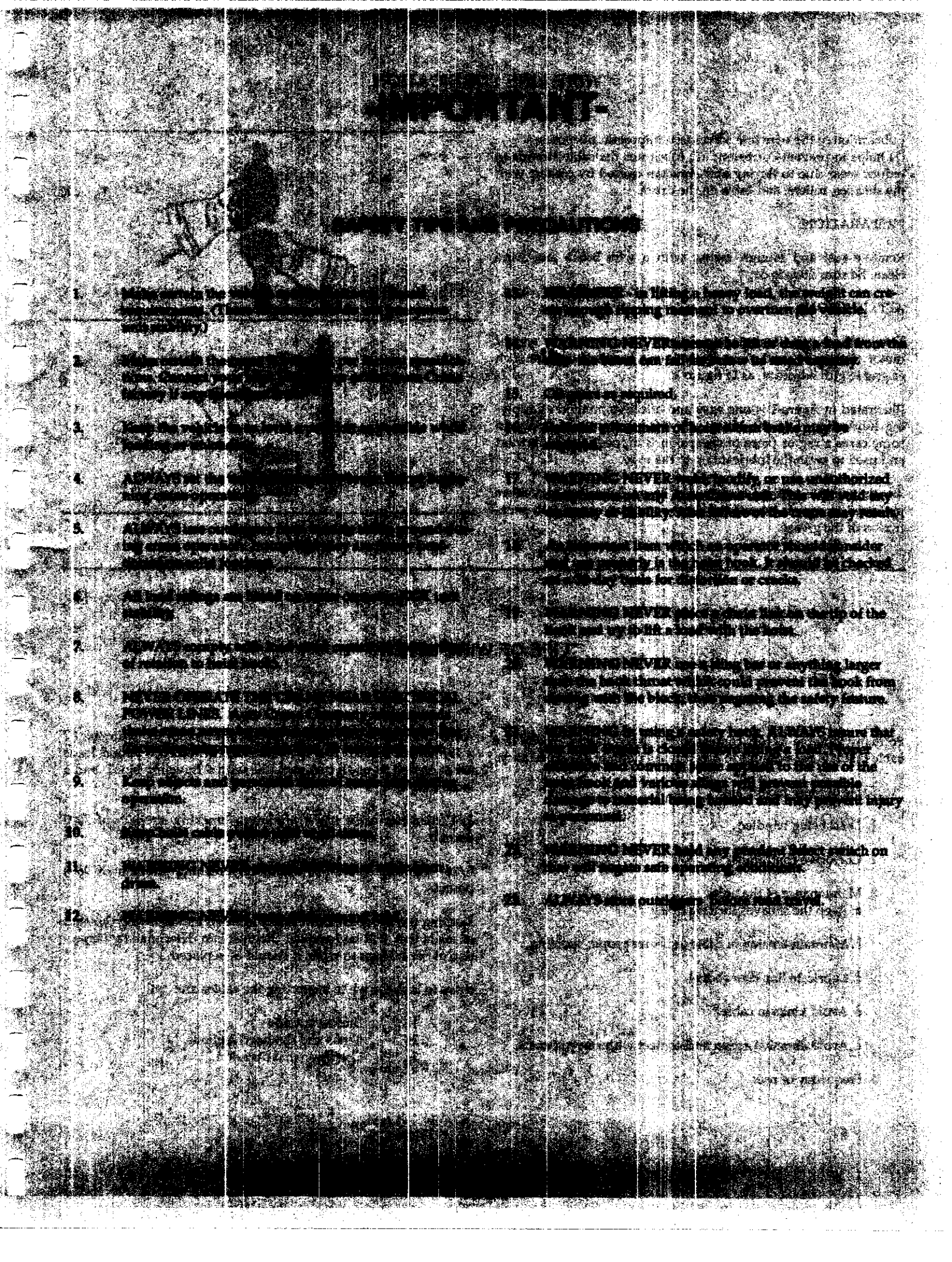
The only inconvenience for the operator created by the above procedure is that the pendant control cable must be coiled into larger loops for storage purposes. Care must be exercised to avoid sharp bending of this pendant control cable during extreme cold operating conditions.

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.



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 figure 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 the 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.

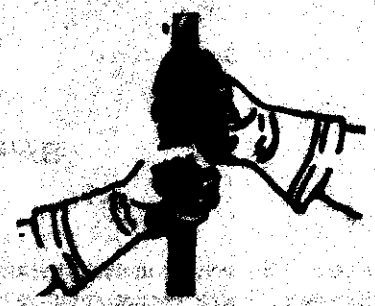


Fig. 1

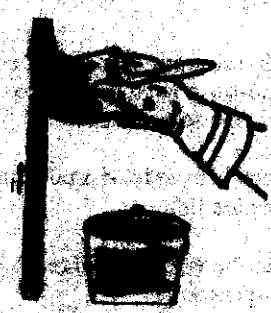


Fig. 2

"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 of 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 5003 and 6005 Series use 1/4" and 5/16" diameter (7 x 19) aircraft cable. It is recommended when 2000 pound loads are exceeded to use a two part line with a traveling block and a cross sheave.

1/4" diameter cable has a minimum breaking strength of 7000 pounds.

5/16" diameter cable has minimum breaking strength of 9800 pounds.

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.

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D

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.

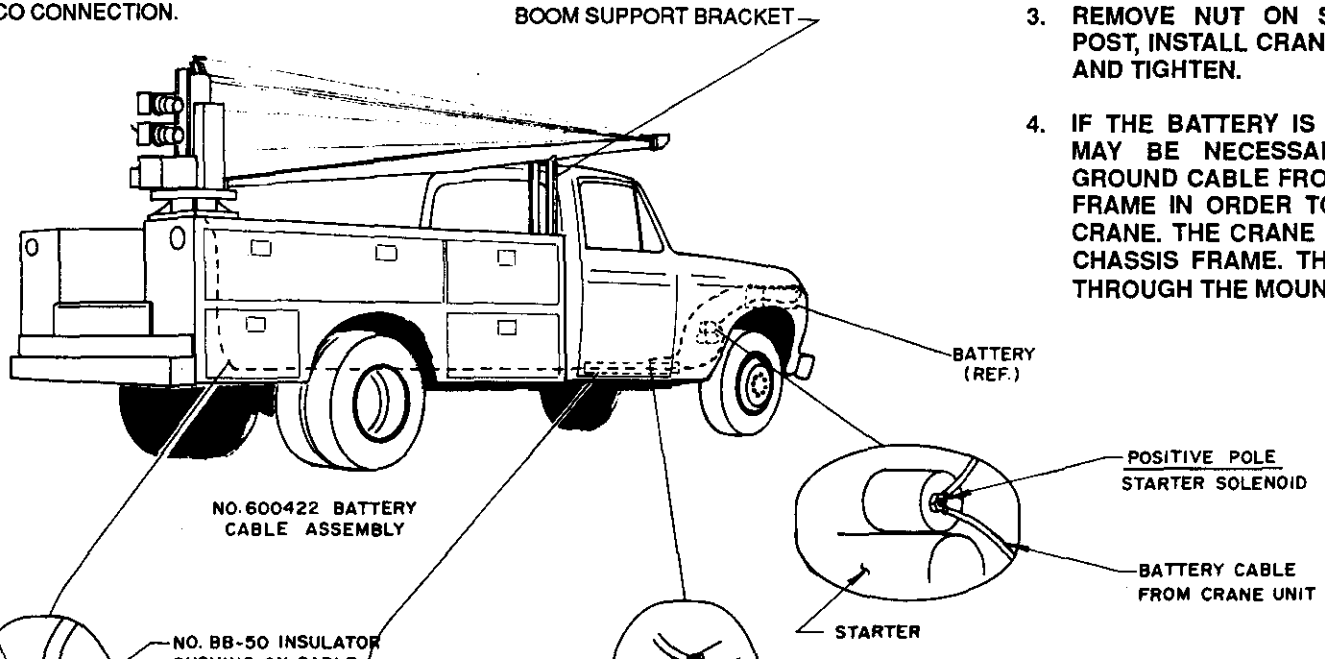
2. RUN CABLE INSIDE CHASSIS FRAME TO STARTER SOLENOID BATTERY CONNECTION. LOCATE CABLE SO THAT IT WILL BE PROTECTED, AVOID SHARP EDGES. INSTALL THE NO. 838 FRAME CLIPS TO HOLD CABLE SECURELY IN PLACE. IF SURPLUS CABLE EXISTS THE CABLE CAN BE CUT OFF, AND EXTRA TERMINAL FURNISHED WITH CABLE INSTALLED.

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.

CAUTION:
BOOM MUST BE PROPERLY SECURED IN PLACE ON A BOOM SUPPORT BRACKET, WHEN CRANE IS NOT IN USE. (TO PREVENT GEAR DAMAGE.)

NOTE:
SEE AW-306400 FOR TWECO CONNECTION.



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

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: INSTALLATION - BATTERY CABLE

SCALE	SIZE	DRAWING NO.	REVISION
	C	AW-6018	

WEIGHT | SHEET 1 OF 1

2-1.0.0

MAINTENANCE OF BATTERIES

Batteries furnished with Auto Crane units for 24-volt or 12-24-volt operation, are required by law to be shipped without electrolyte. Be sure the electrolyte has been added before operating the unit.

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. See Cable Instructions.

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°F
1.250	–62°F
1.200	–16°F
1.150	5°F
1.100	19°F

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 of 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 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.

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 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 fixtures excessively, yet they must not be so loose that breakage results from a too loose hold-down.

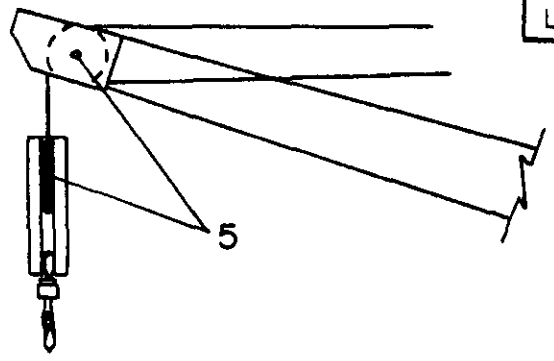
Low maintenance batteries (such as the Delco "Freedom Battery") should not be used on Auto Cranes or trucks equipped with Auto Cranes. These batteries are not designed for "deep" discharge.

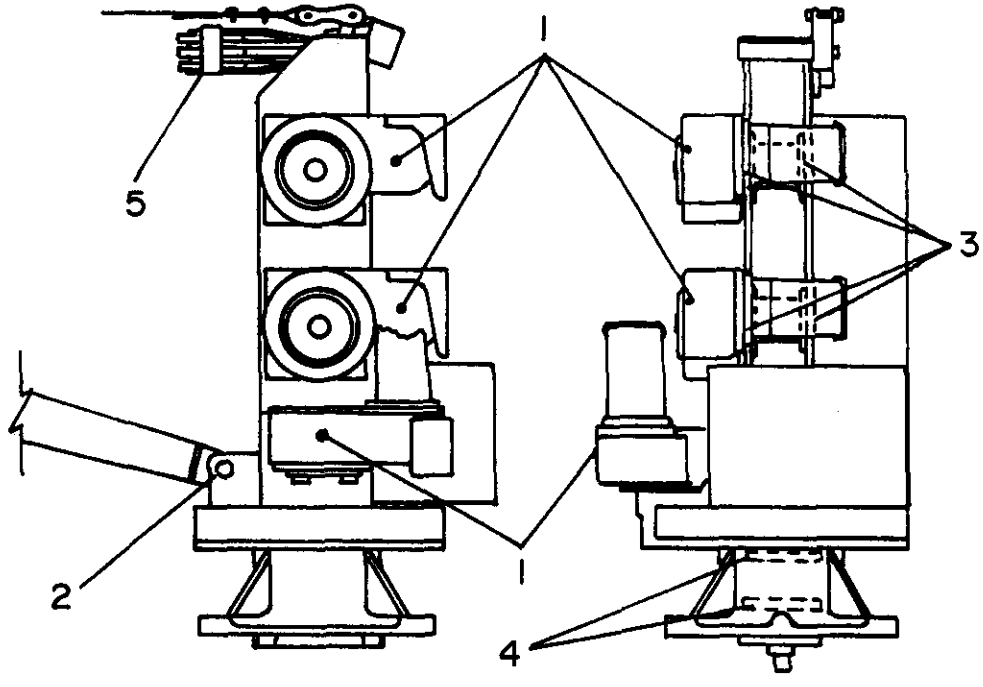
MINIMUM VOLTAGE AT CRANE BATTERY – 13.2V.
Check to make sure of ground between truck engine and frame. Manufacturers sometimes leave this off and ground only to cab of truck, which is mounted on rubber pads and does not conduct a good ground.

If bodies or beds are to be mounted on wooden strips (along top of frame), a ground strap must be routed from frame (truck) to the body (across the wooden strips). All of the above is important to assure good ground for the charging system of the unit, as well as proper installation of the Tweco bracket.

To keep your charging systems working correctly, do not jump start other equipment off of battery unit.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





1. ACTUATOR GEAR CASES: Maintain oil level at points indicated. Use extreme pressure gear lube (E.P. 80-90).
2. BOOM HINGE POINT: 3 strokes with grease gun every 15 days. Use chassis lubricant.
3. DRUM SHAFT BALL BEARINGS: Sealed for life. No lube required.
4. QUILL TAPER ROLLER BEARINGS: Packed at factory. No lube required unless disassembled. Use chassis lubricant.
5. SHEAVE ROLLER BEARINGS: Sealed type. No lube required.

QUANTITY	ITEM	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
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14 .5 - 1973

DRAWN BY: Lemstrews
DATE: 4/23/81
CHK'D BY:
DATE:
ENG. BY:
DATE:

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
LUBRICATION CHART 5004 - 6006

SCALE	SIZE	DRAWING NO.	REVISION
~	A	AW-1001	

WEIGHT

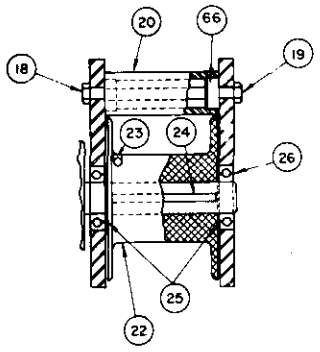
SHEET 1 OF 1

4-1.0.0

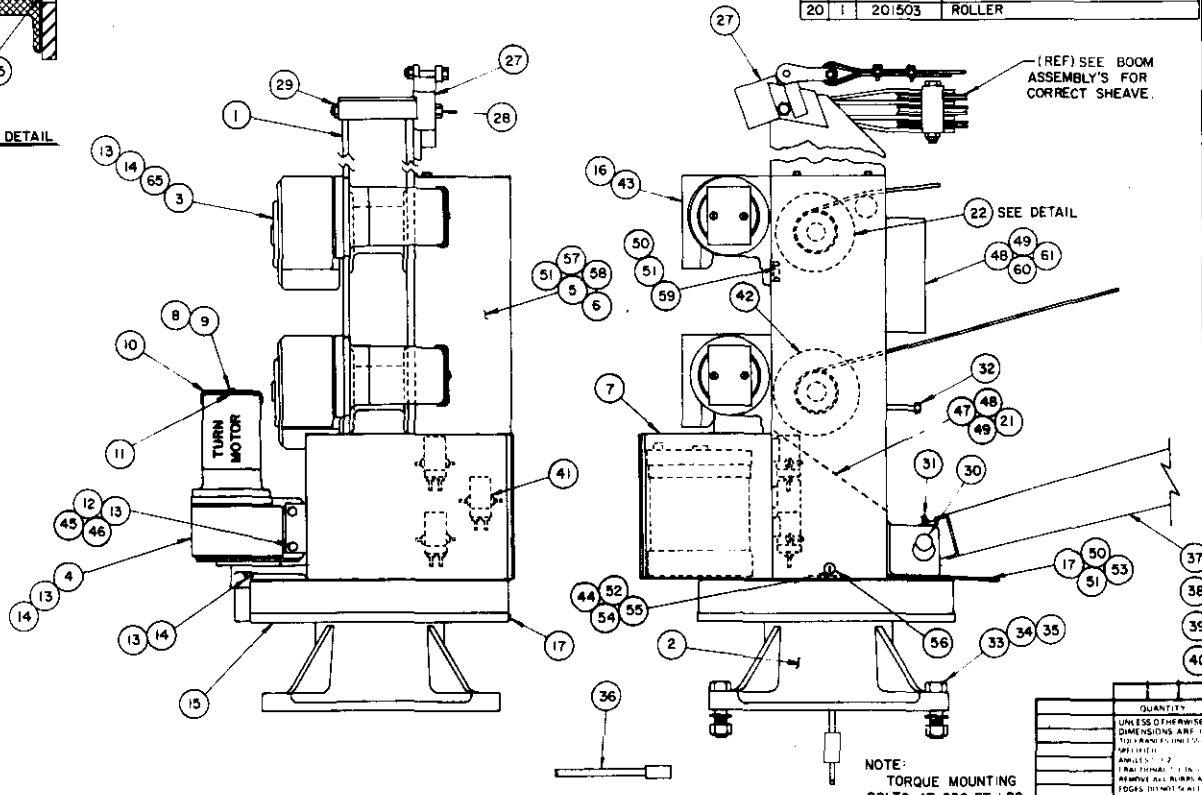
FIXTURE NO.	FINISH NO.

NO	QTY	PART NO.	DESCRIPTION
1	1	229002	PEDESTAL
2	1	306400	BASE ASSEMBLY
3	2	300002	ACTUATOR ASSEMBLY
4	1	315302	TURNER ASSEMBLY
5	1	305600	RELAY GUARD
6	1	676106	PANEL ASSEMBLY
7	1	305603	BATTERY COVER
8	6	001302	#8-32 X 1/2 RD. HD. MACH. SCREW
9	6	019700	#8 LOCKWASHER
10	3	306600	SHIELD
11	13	015900	1/4-20 NC NUT (AS SPACER)
12	8	008601	3/8-16NC X 7/8 CAPSCREW
13	8	021100	3/8 LOCKWASHER
14	8	008601	3/8-16NC X 7/8 SCREW G5
15	1	302203	GEAR GUARD - LOWER
16	9	004800	#10 SELF TAPPING SHEET METAL SCW
17	8	002605	SCREW, HX. HD S.T. 12 X 1/2
18	1	017400	3/8-24 THIN SELF-LOCKING NUT
19	1	009900	3/8-24NF X 5 1/2 CAPSCREW
20	1	201503	ROLLER

NO.	QTY	PART NO.	DESCRIPTION
21	1	305700	GUARD, QUILL
22	1	400900	BOOM DRUM
23	1	002900	1/4-20NC X 3/8 SCREW
24	2	101024	1/4 X 1/4 X 4 KEY STOCK
25	4	307100	SPIRO LOX RETAINING RING
26	4	400500	BEARING
27	1	241138	LOAD LIMIT SWITCH
28	1	013301	5/8-18 X 7 1/2 CAPSCREW GR 8
29	1	018100	5/8-18 HALF LOCK NUT
30	2	330009	HINGE PIN
31	2	239000	GREASE ZERK
32	1	659700	BOOM LIMIT SWITCH
33	4	015100	7/8NF X 4 CAPSCREW GR 5
34	4	018900	7/8 NF HEX NUT
35	4	022200	7/8 LOCKWASHER
36	1	600422	BATTERY CABLE INSTALLATION
37	1	233600	BOOM (9,12,14 FT.) OPTIONAL
38	1	233601	BOOM (17,20 FT.) OPTIONAL
39	1	241197	BOOM (10-16 FT. EXT.) OPTIONAL
40	1	240200	BOOM (14-20 FT. EXT.) OPTIONAL
41	1	301015	VOLTAGE SWITCHING UNIT
42	1	400900	HOIST DRUM
43	3	308201	BRAKE ASSEMBLY
44	2	020600	WASHER, SPLK. 5/16 CP
45	1	241188	BRACKET, TURNER
46	2	017301	NUT, HEX.-LK. 3/8 NC CP G5
47	2	005500	SCREW, HEX. HD. 1/4 X 3/4 NC G5
48	15	020200	WASHER, SPLK. 1/4 CP
49	13	015900	NUT, HEX. 1/4 NC CP G5
50	3	663300	MOUNT, CABLE TIE
51	5	663100	TIE, CABLE
52	1	301105	SWIVEL, BRACKET TWECO
53	1	480399	PENDANT ASSEMBLY
54	2	007808	SCREW, HEX. HD. 5/16 X 1/2 NF G5
55	1	002900	SCREW, SET-CUP 1/4 X 3/8 NC
56	1	640700	SWITCH, KEY-LOCK
57	3	005601	SCREW, HEX. HD. 1/4 X 1 NCCPG5
58	1	005700	SCREW, HEX. HD. 1/4 X 1 1/4 NCCPG5
59	12	015600	NUT, HEX #10 NF CP G3
60	1	634000	PENDANT BRACKET
61	5	005901	SCREW, 1/4 NC X 1/2 G5
62	1	040628	DECAL KIT
63	1	006600	SHIP LOOSE KIT
64	1	302600	BRACKET, SWIVEL
65	4	021200	WASHER, 3/8 FLAT
66	2	201600	BEARING (REF.)



BOOM DRUM DETAIL



NOTE:
TORQUE MOUNTING BOLTS AT 330 FT. LBS. UPON ASSEMBLY.

8/88

		ITEM	QTY	PART NO	DESCRIPTION
	QUANTITY				LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES ON FRACTIONAL ANGLES ±
REMOVE ALL BURRS AND SHARP EDGES (DO NOT BREAK THEM)
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 ITS INTERESTS

DRAWN 2-22-84
CHECKED
ENG. APP.
DATE

AUTO CRANE COMPANY

TITLE: GENERAL ASSEMBLY - 5004 12/24 V.

SCALE ~ SIZE D DRAWING NO. AW - 170000 REVISION

WEIGHT SHEET 1 OF 1

NEXT ASSY

FIXTURE NO	FINISH NO

NO	QTY	PART NO.	DESCRIPTION
1	1	330325	PEDESTAL
2	1	306400	BASE ASSEMBLY
3	2	300002	ACTUATOR ASSEMBLY
4	1	315302	TURNER ASSEMBLY
5	1	305600	RELAY GUARD
6	1	699012	PANEL ASSEMBLY
7	1	305800	GUARD, PANEL
8	6	001302	#8-32 X 1/2 RD HD. MACH. SCREW
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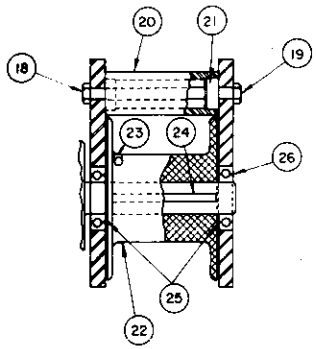
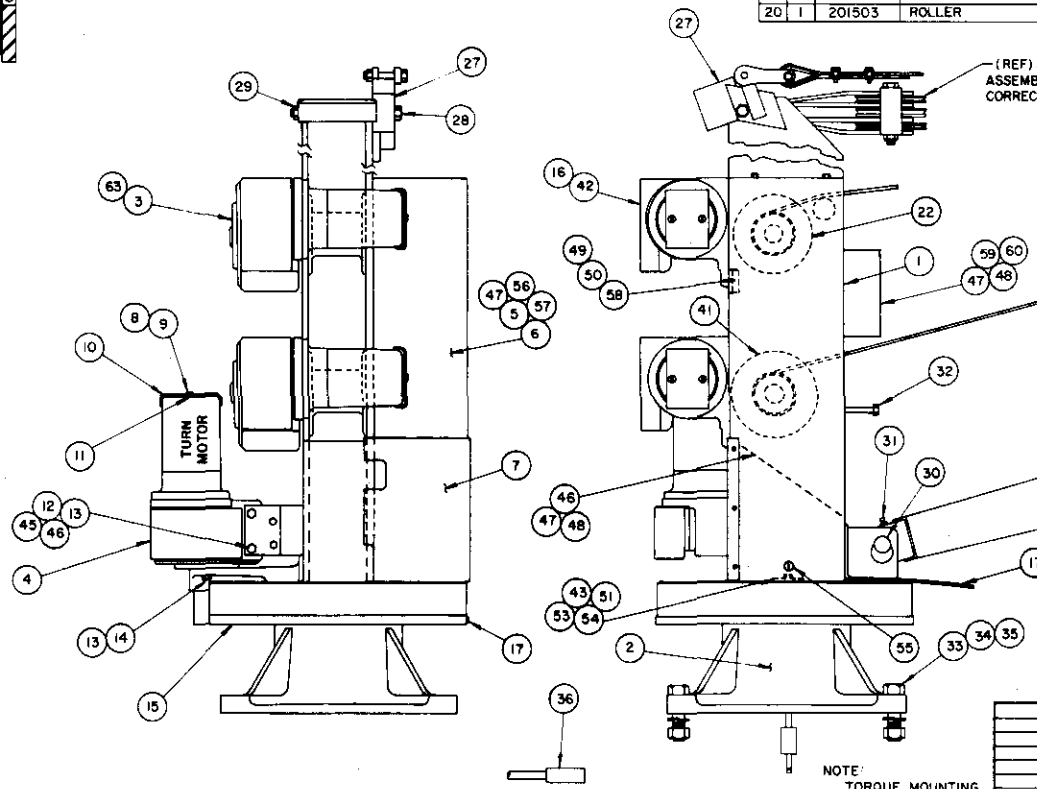
17	7	002605	SCREW, HX. HD. S.T. 12 X 1/2
18	1	017200	3/8-24 THIN SELF-LOCKING NUT
19	1	009900	3/8-24 NF X 5 1/2 CAPSCREW
20	1	201503	ROLLER

NO.	QTY	PART NO	DESCRIPTION
21	2	201600	BEARING
22	1	400900	BOOM DRUM
23	2	002900	1/4-20 NC X 3/8 SCREW
24	2	101024	1/4 X 1/4 X 4 KEY STOCK
25	4	307100	SPIRO LOX RETAINING RING
26	4	400500	BEARING
27	1	241138	LOAD LIMIT SWITCH
28	1	013301	5/8-18 X 7 1/2 CAPSCREW GR 8
29	1	018100	5/8-18 HALF LOCK NUT
30	2	330009	HINGE PIN
31	2	239000	GREASE ZERK
32	1	659700	BOOM LIMIT SWITCH
33	4	015100	7/8 NF X 4 CAPSCREW GR 5
34	4	018900	7/8 NF HEX NUT
35	4	022200	7/8 LOCKWASHER
36	1	600422	BATTERY CABLE INSTALLATION
37	1	233600	BOOM (9,12,14 FT.) OPTIONAL
38	1	233601	BOOM (17,20 FT.) OPTIONAL
39	1	241197	BOOM (10-16 FT. EXT.) OPTIONAL
40	1	240200	BOOM (14-20 FT. EXT.) OPTIONAL
41	1	400900	HOIST DRUM
42	3	308201	BRAKE ASSEMBLY
43	2	020600	WASHER, SPLK. 5/16 CP
44	1	241188	BRACKET, TURNER
45	2	017301	NUT, HEX. LK 3/8 NC CP G5
46	2	005500	SCREW, HEX. HD. 1/4 X 3/4 NC G5
47	15	020200	WASHER, SPLK. 1/4 CP
48	13	015900	NUT, HEX. 1/4 NC CP G5
49	3	663300	MOUNT, CABLE TIE
50	5	663100	TIE, CABLE
51	1	301105	SWIVEL, BRACKET TWECO
52	1	642420	PENDANT ASSEMBLY
53	2	007808	SCREW, HEX. HD. 5/16 X 1/2 NF G5
54	1	002900	SCREW, SET-CUP 1/4 X 3/8 NC
55	1	640700	SWITCH, KEY-LOCK
56	3	005601	SCREW, HEX. HD. 1/4 X 1 NC CP G5
57	1	005700	SCREW, HEX. HD. 1/4 X 1 1/4 NC CP G5
58	12	015600	NUT, HEX. #10 NF CP G3
59	1	634400	BRACKET, PENDANT
60	2	005901	SCREW, 1/4 NC X 1/2 G5
61	1	040628	DECAL KIT
62	1	006600	SHIP LOOSE KIT
63	4	021200	WASHER, 3/8 FLAT





NOTE:
TORQUE MOUNTING BOLTS AT 330 FT. LBS. UPON ASSEMBLY.

12/83

QUANTITY	ITEM	D.S	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
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ENG BY
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AUTO CRANE COMPANY
P.O. BOX 45648 • TULSA, OKLAHOMA 74145
8280 BROKEN ARROW EXPRESSWAY • 918/627-8475

TITLE
GENERAL ASSEMBLY -5004 220/110

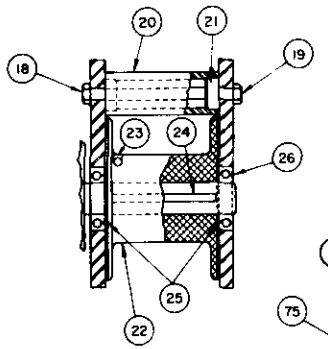
SCALE ~ | SIZE D | DRAWING NO. AW-170003 | REVISION
WEIGHT | SHEET 1 OF 1

FIXTURE NO.	FINISH NO.

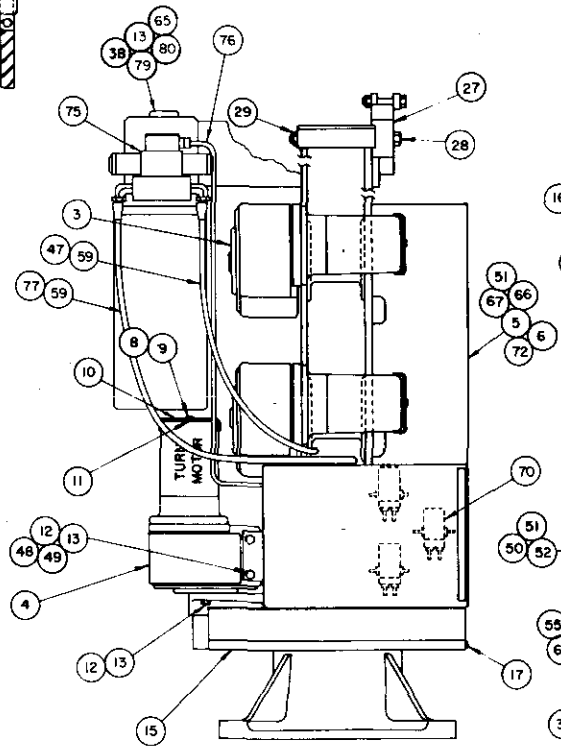
CONTINUED			
NO	QTY	PART NO.	DESCRIPTION
75	1	300204	SOLENOID VALVE
76	1	630908	CONDUCTOR ASSEMBLY
77	1	330612	HYD. HOSE ASSEMBLY
78	3	306700	GUARD, BRAKE
79	4	008400	SCREW, HEX. 3/8 NC X 3/4 CP
80	4	330372	NUT, HEX. 3/8 NCCP
81	1	233504	CROSS SHEAVE FRAME

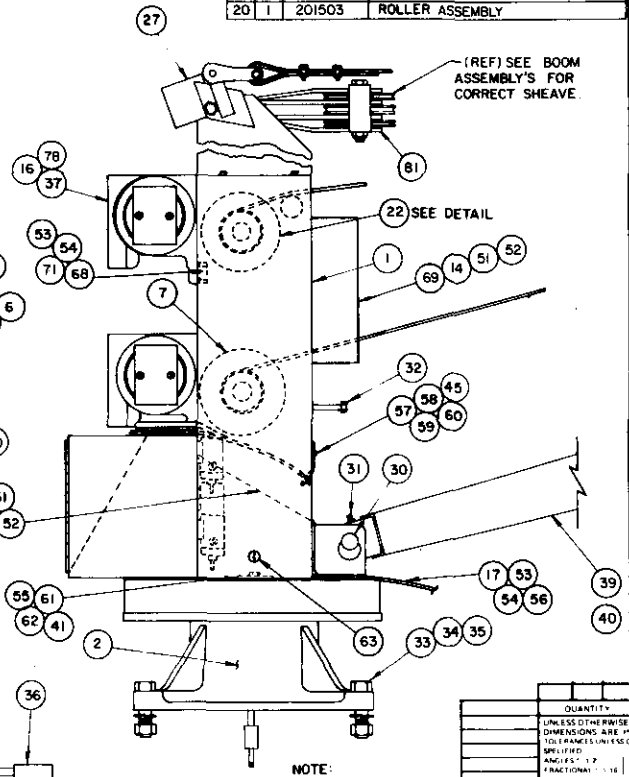
NO	QTY	PART NO.	DESCRIPTION
1	1	229003	PEDESTAL
2	1	306400	BASE ASSEMBLY
3	2	300002	ACTUATOR ASSEMBLY
4	1	315302	TURNER ASSEMBLY
5	1	676106	PANEL ASSEMBLY
6	1	305600	RELAY GUARD
7	1	400900	HOIST DRUM
8	6	001302	#8-32 X 1/2 RD. HD. MACH. SCREW
9	6	019700	#8 LOCKWASHER
10	3	306600	SHIELD
11	13	015900	1/4-20 NC NUT (AS SPACER)
12	6	008601	3/8-16 NC X 7/8 CAPSCREW
13	12	021100	3/8 LOCKWASHER
14	5	005901	SCREW, HEX. 1/4 X 1/2 NC G5
15	1	302203	GEAR GUARD - LOWER
16	9	004800	#10 SELF TAPPING SHEET METAL SCW
17	8	002605	SCREW, HX. HD. S.T. 12 X 1/2
18	1	017400	NUT, HEX. HLF-LK. 3/8 NC G5
19	1	009900	3/8-24NF X 5 1/2 CAPSCREW
20	1	201503	ROLLER ASSEMBLY

NO.	QTY	PART NO.	DESCRIPTION
21	2	201600	BEARING (REF. ONLY)
22	1	400900	BOOM DRUM
23	1	002900	1/4-20 NC X 3/8 SCREW
24	2	101024	1/4 X 1/4 X 4 KEY STOCK
25	4	307100	SPIRO LOX RETAINING RING
26	4	400500	BEARING
27	1	241138	LOAD LIMIT SWITCH
28	1	013301	5/8-18 X 7 1/2 CAPSCREW GR 8
29	1	018100	5/8-18 HALF LOCK NUT
30	2	330009	HINGE PIN
31	2	239000	GREASE ZERK
32	1	659700	BOOM LIMIT SWITCH
33	13	015100	7/8 NF X 4 CAPSCREW GR 5
34	4	018900	7/8 NF HEX NUT
35	4	022200	7/8 LOCKWASHER
36	1	600422	POWER CABLE
37	3	308201	BRAKE ASSEMBLY
38	1	330607	HYDRAULIC PUMP
39	1	REF.	BOOM (10-16 FT. EXT.) OPTIONAL
40	1	REF.	BOOM (14-20 FT. EXT) OPTIONAL
41	2	020600	WASHER, SPLK 5/16 CP
42	4	007200	SCREW, HEX. 5/16 NC CP
43	6	020901	WASHER, FLAT 5/16
44	6	016500	NUT, HEX. 5/16 NCCP
45	2	008701	SCREW, HEX 3/8 X 1 NC G5
46	1	200876	ADAPTER, O-RING
47	1	243152	HYDRAULIC HOSE
48	1	241188	BRACKET, TURNER
49	2	017301	NUT, HEX.-LK. 3/8 NC CP G5
50	2	005500	SCREW, HEX. HD. 1/4 X 3/4 NC G5
51	15	020200	WASHER, SPLK. 1/4 CP
52	13	015900	NUT, HEX. 1/4 NCCP G5
53	3	663300	MOUNT, CABLE TIE
54	5	663100	TIE, CABLE
55	1	302600	SWIVEL, BRACKET TWECO
56	1	480799	PENDANT ASSEMBLY
57	2	007807	SCREW, HEX. 1/2 X 3/4 NC G5
58	1	243190	PLATE, HOSE PROTECTOR
59	2	241175	ELL, 90° 9/16 O-RING JIC
60	2	241170	ADAPTER, BLK. HD. 9/16-18 JIC
61	2	007808	SCREW, HEX. HD. 5/16 X 1/2 NF G5
62	1	002900	SCREW, SET-CUP 1/4 X 3/8 NC
63	1	640700	SWITCH, KEY-LOCK
64	2	008900	SCREW, HEX. HD. 3/8 X 1 1/4 NC
65	4	021200	WASHER, FLAT 3/8 SAE
66	3	005601	SCREW, HEX. HD. 1/4 X 1 NCCP G5
67	1	005700	SCREW, HEX. HD. 1/4 X 1 1/4 NCCP G5
68	12	015600	NUT, HEX. #10 NF G3
69	1	634000	BRACKET, PENDANT
70	1	301015	VOLTAGE SWITCHING UNIT
71	2	002200	SCREW, 10 X 3/4 NF CP
72	4	005405	SCREW, HEX. 1/4 X 3/8 NC G5
73	1	040628	DECAL KIT
74	1	006600	SHIP LOOSE KIT



DRUM DETAIL





NOTE:
1. SEE INDIVIDUAL BOOM ASSEMBLIES FOR ITEMS 39 & 40.

NOTE:
TORQUE MOUNTING BOLTS AT 330 FT. LBS. UPON ASSEMBLY.

ITEM	QTY	PART NO	DESCRIPTION
			LIST OF MATERIAL

QUANTITY

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1°2 | XX ± .10
FRACTIONAL ± 1/16 | XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.
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NEXT ASSY

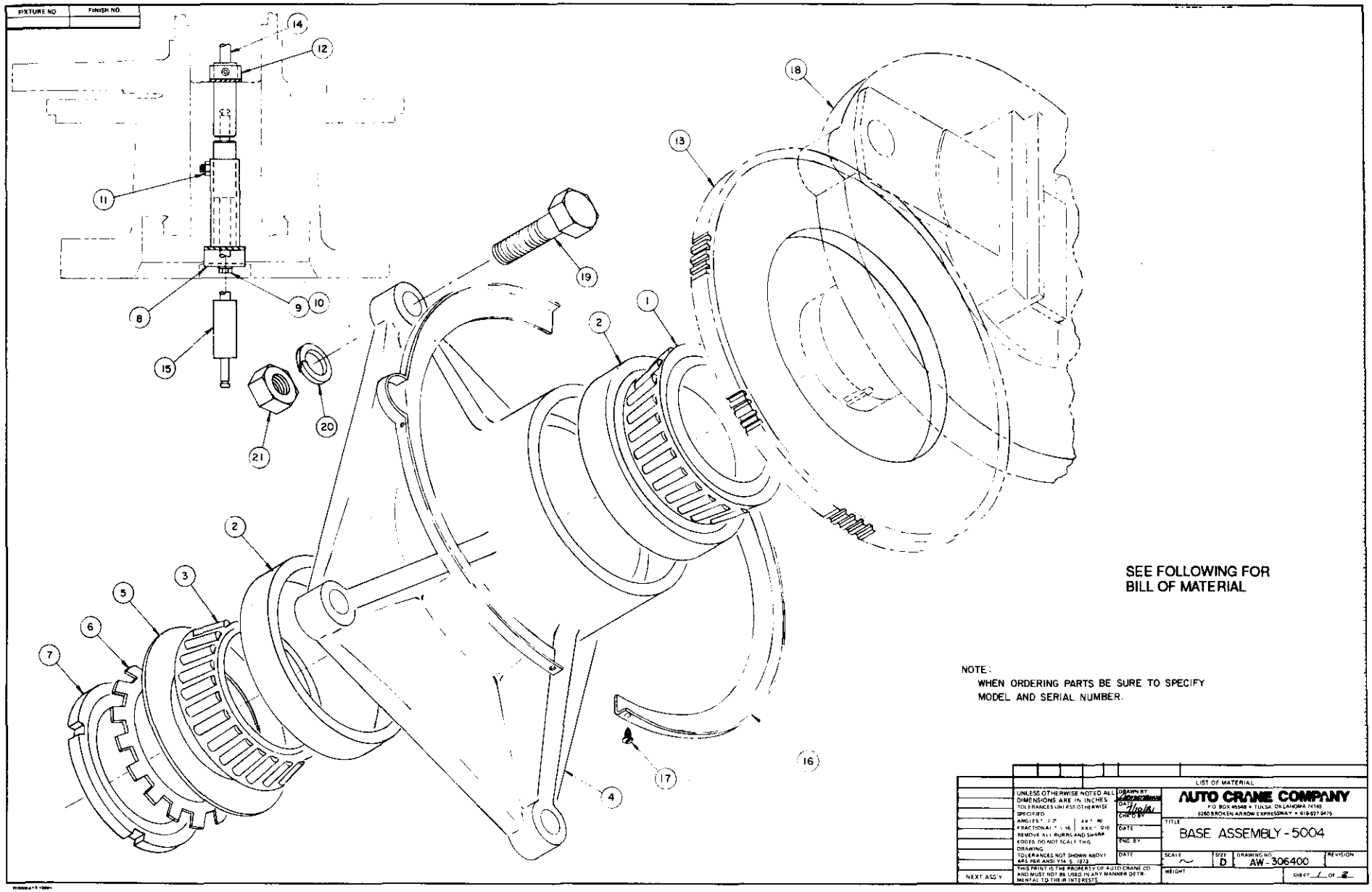
DRAWN BY
DATE 3/14/84
CHK'D BY
DATE
ENG BY
DATE

AUTO CRANE COMPANY
P.O. BOX 45846 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: GENERAL ASSEMBLY - 5004 - HYD.

SCALE ~ | SIZE D | DRAWING NO AW-170005 | REVISION

WEIGHT | SHEET 1 OF 1



SEE FOLLOWING FOR
BILL OF MATERIAL

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

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

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DATE
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DATE
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DATE
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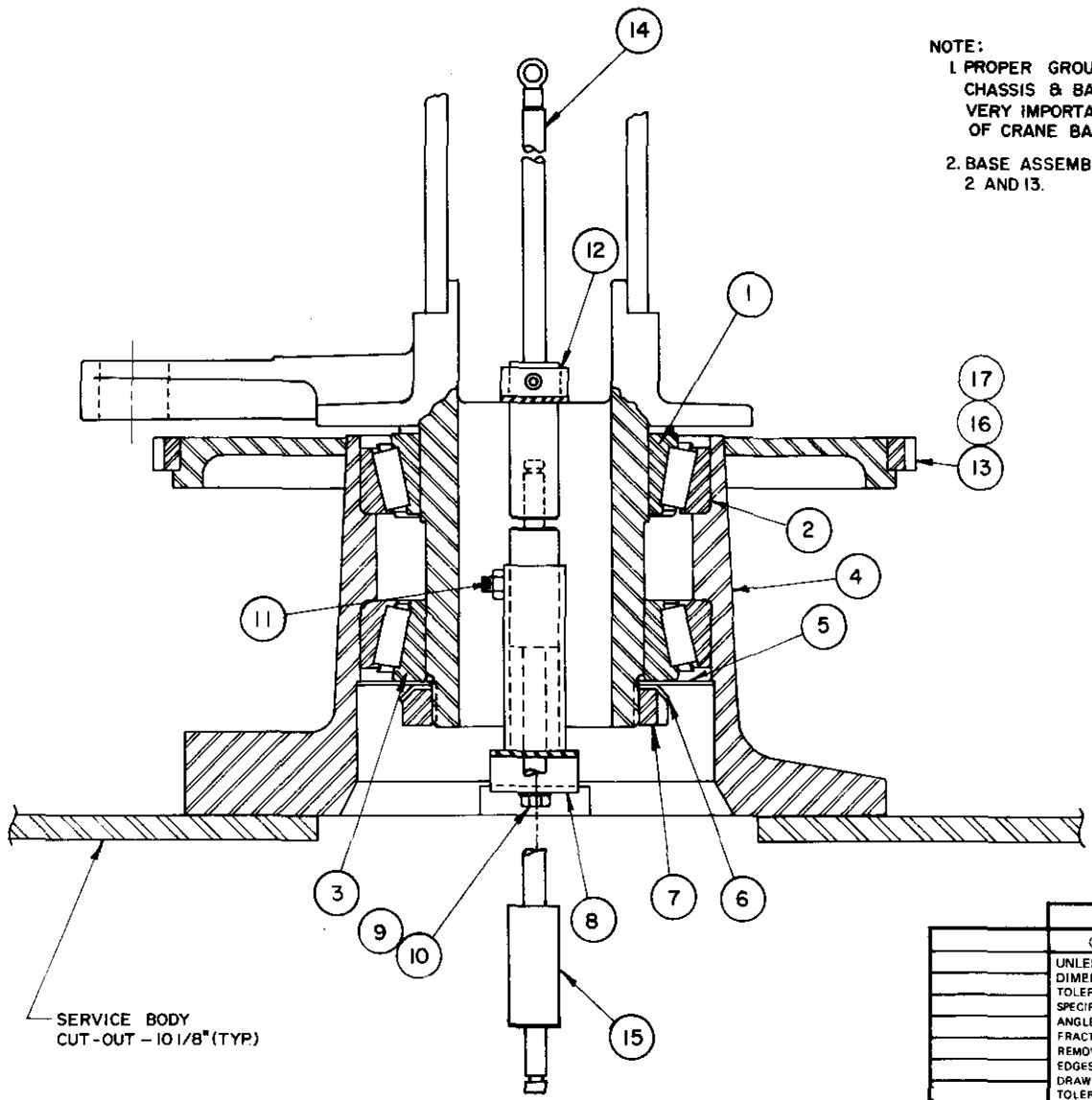
AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
8260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
BASE ASSEMBLY - 5004

SCALE ~ | SIZE D | DRAWING NO. AW-306400 | REVISION
WEIGHT | SHEET 1 OF 2

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



NOTE:
1. PROPER GROUND BETWEEN TRUCK CHASSIS & BASE OF CRANE IS VERY IMPORTANT FOR CHARGING OF CRANE BATTERY.
2. BASE ASSEMBLY COMES WITH ITEMS 2 AND 13.

ITEM	QUANTITY	D/S	PART NO.	DESCRIPTION
17	7		002605	SCREW 12 X 1/2" S.T. HX. HD.
16	1		302203	GEAR GUARD
15	1		602713	CONDUCTOR
14	1		603701	CONDUCTOR
13	1		301300	GEAR
12	1		301105	HOLDER
11	1		016600	NUT, 5/16 NF
10	4		020600	LOCKWASHER, 5/16
9	4		007808	SCREW, 5/16NF X 1/2
8	1		302600	HOLDER
7	1		307702	NUT
6	1		308202	LOCKWASHER
5	1		302402	SHIELD
4	1		306400	BASE (SEE NOTE 2)
3	1		238800	CONE, LOWER
2	2		238500	CUP
1	1		238700	CONE UPPER

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

NEXT ASS'Y

DRAWN BY
DATE 7-1-81
CHK'D BY
DATE
ENG. BY
DATE

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: BASE ASSEMBLY 5004 12/24

SCALE	SIZE	DRAWING NO	REVISION
~	C	AW-306400	

WEIGHT

SHEET 2 OF 2

5-5.0.0

MAINTENANCE OF BASE ASSEMBLY MODEL 5004 SERIES

The base supports the rotating pedestal and boom by means of two opposed heavy duty tapered roller bearings. The base provides the means for attaching the unit to a support or to a vehicle. The opening through the center of the quill accommodates the power swivel connector which permits 360 degree continuous rotation.

1. **PREPARATION FOR DISASSEMBLY:**
   To disassemble the base, some preparation must be made: disconnect the power at (15) from the power source, remove turn actuator, remove unit battery. Remove crane from its mounting by removing four hold-down bolts (19). Block up under the boom near the hinge point and tilt the unit over on the boom to a horizontal position. Remove lower gear guard (16) by removing seven self-tapping screws, Item (17).

2. **REMOVE SWIVEL ASSEMBLY:**
   Remove capscrews (9) and swivel bracket (8).

3. **REMOVE BEARING NUT:**
   One tongue of lock washer (6)) is bent into one of the key slots in the nut (7). Bend Tongue out of key slot using screwdriver or drive bar. Remove nut, using spanner wrench or drive bar.

   The base (4) is now held to the quill by the cone of bearing (3). Remove base from quill, using puller or drive bar. Cone bearing (3) will come off with base.

4. **GEAR REMOVAL:**
   If the base was removed in order to replace the gear ring (13) no further disassembly need be done. The gear has been heated and installed on the gear plate and then tack-welded in place. Remove tackwelds with a chisel or cutting torch. A grinder could also be used. The gear can be cut with a cutting torch, holding the torch at a tangent to the gear, or the gear may be driven off.

5. **GEAR INSTALLATION:**
   Check to be sure all burrs have been removed from the gear mounting surface of the gear plate. The installation procedure is as follows:

   Heat the ring with a torch or in an oven to around 500°F using heavy gloves, install the first ring down against shoulder on gear plate. Allow to cool.

   NOTE: It is important that the gear ring be evenly heated around the total circumference.

   Tack-weld the ring to the gear plate in at least four places.

6. **BEARING REMOVAL:**
   If the base is being disassembled in order to replace the pedestal assembly (Item 18), the bearing cone (Item 1) should be removed from the pedestal quill. This can be done by using a pry bar. If the bearings are to be replaced, the cone (1) should be removed as well as the bearing cups (Item 2). The cups can be removed by using a drive bar through the open ends of the base.

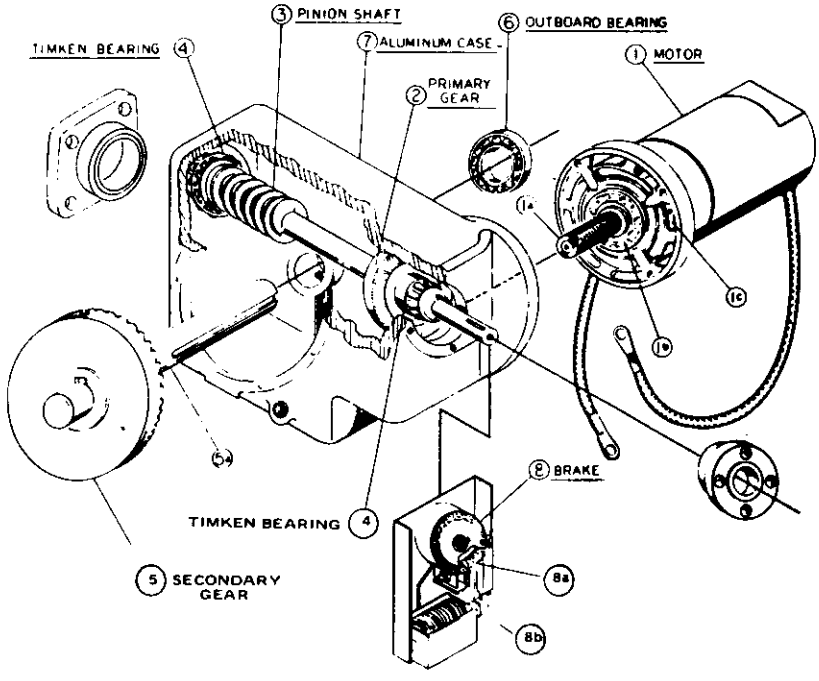
7. **BEARING INSTALLATION:**
   To install bearing cone (1) heat to around 200°F. Be sure that bearing cup is installed up against upper shoulder. Install bearing cups (2) in base. Be sure they are all of the way in, up against the shoulders in the base. Lubricate upper cone (2) with grease gun grease, filling spaces between rollers. Install base on pedestal quill. Lubricate and install lower cone (3). Install grease shield (5), lock washer (6) and nut (7).

   Tighten nut (7) until it requires considerable effort to rotate the base on the quill. Bend one of the tongues on lock washer (6) into one of the slots of the nut (7). Install swivel connection.

   The unit can now be raised and hold-down bolts (17) installed. Reinstall turn actuator.

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

"Model "B" Actuator



MODEL "B" ACTUATOR

Designed and Manufactured by AUTO CRANE for the most efficient operation.

OUTSTANDING FEATURES

1. The motor is the source of power. It is a universal type, reversible motor, available in up to 24-volt direct current. The direct current motor will develop 3/4 H.P. on 12-volt direct current at 5000 RPM (8000 RPM no load speed), or 1-1/2 H.P. on 24-volt direct current at 10,500 RPM (16,000 RPM no load speed).

   The primary gear pinion (1-a) is integral with the armature shaft. The armature shaft is mounted on two ball bearings (1-b). The motor is cooled by a fan (1-c) which is mounted on the armature shaft, providing forced air cooling through the motor housing.

2. The primary gear is mounted on the secondary pinion shaft.

3. The secondary pinion is integral with the shaft.

4. The secondary pinion shaft is mounted between two Timken tapered roller bearings.

5. The secondary gear is mounted on the output shaft (5-a) and completes the Helicon R gear train which provides the most efficient reduction. Ratios of 514 to 1, or 1028 to 1 overall reductions are available. (a 163 to 1 high speed reduction is also available using a secondary worm and gear.)

6. When mounted on the crane structure, outboard ball bearings (sealed for life) support the 1-1/4" diameter output shaft (5-a).

7. The gear train is mounted within an aluminum alloy case. The gears are totally enclosed and are oil bath lubricated. The motor (1) mounts directly to the gear case.

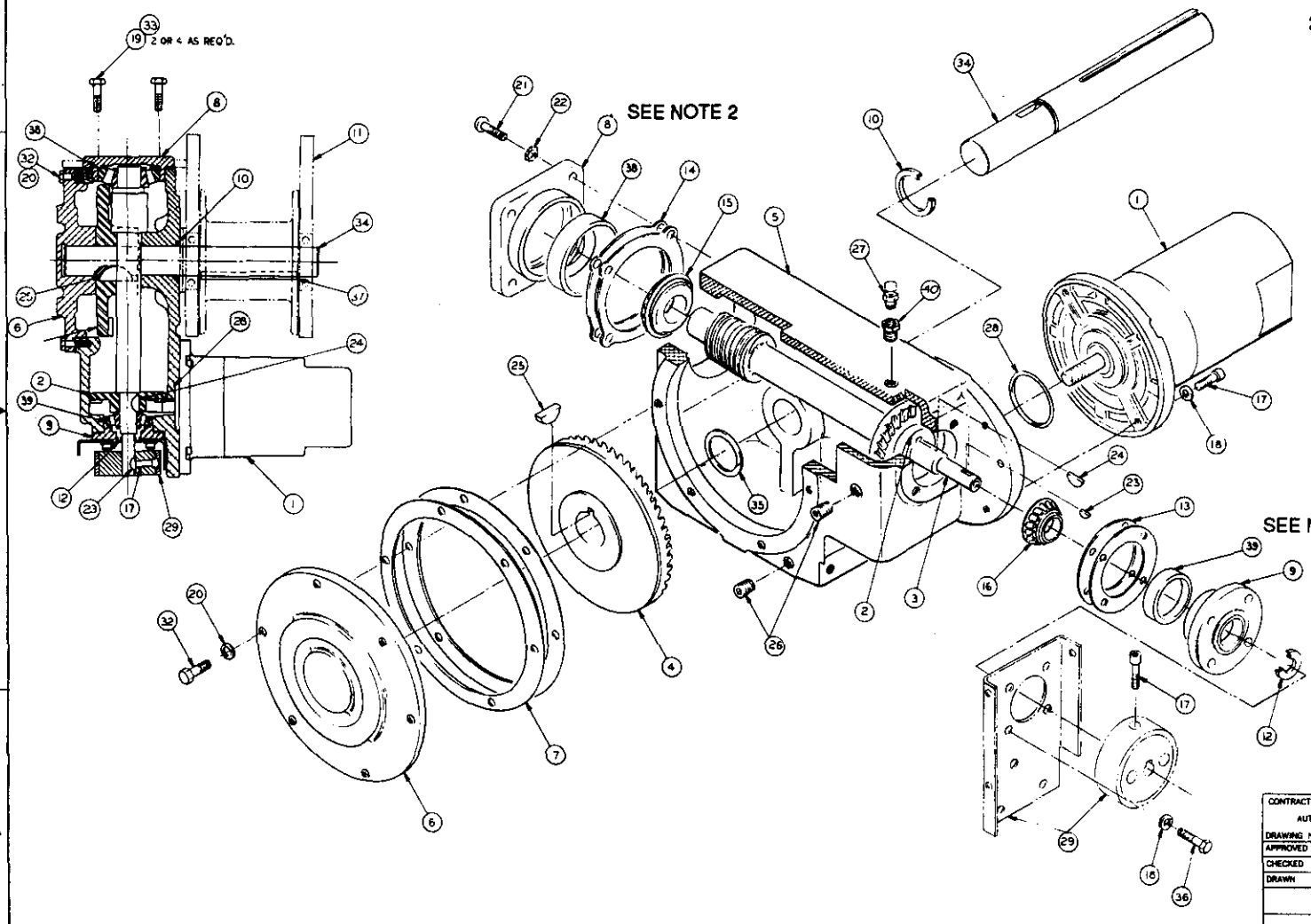
8. The secondary pinion shaft (3) extends through the gear housing and provides for attachment of the inertia and load holding brake (8). The springs (8-a) applies the brake band at all times except when the motor is energized. When the motor is energized, the solenoid (8-b) is also energized and will release the brake. Since the motor is reversible, the load is controlled during raising or lowering under power. When the motor and solenoid are de-energized, the brake will hold the load until the motor and solenoid are again energized.

9. Refer to Dwg. AW-008 for maintenance instructions for the motor brushes.

ITEM	QUAN.	PART NO.	DESCRIPTION

NOTE:
* SCREW 005611 MAY BE NEEDED DEPENDING ON MOTOR BEING USED.

NOTES
1. USE PART NO. 300904 FOR PRESSFIT OF ITEMS 9 AND 39.
2. USE PART NO. 300801 FOR PRESSFIT OF ITEMS 8 AND 38.



CONTRACT NO.	AUTO CRANE COMPANY
AUTO CRANE CO.	9250 BROKEN ARROW EXPWY., TULSA, OKLA. 74145
DRAWING NO. DATE	ACTUATOR ASSEMBLY MODEL "B" (B-3000)
APPROVED	
CHECKED	
DRAWN JBH 7-21-70	SIZE D — CODE IDENT. NO. — DRAWING NO. AW-300002
	SCALE — WEIGHT — SHEET OF

ACTUATOR ASSEMBLY MODEL "B"
AW-300002

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	300105	MOTOR 24 VDC
2	1	300205	PRIMARY GEAR
3	1	300106	SHAFT
4	1	300405	SECONDARY GEAR
5	1	300503	GEAR CASE
6	1	300601	COVER
7	1	300706	GASKET, SET
8	1	006004	BEARING, CARRIER
9	1	006003	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	CAPSCREW 1/4 - 20 X 3/4 SOC. HD.
18	8	020200	LOCKWASHER, 1/4
19	2	008601	CAPSCREW 3/8 - 16 X 7/8 HX. HD.
20	6	020601	5/16 LOCKWASHER
21	4	008701	3/8 - 16 X 1 SCREW
22	4	021402	LOCKWASHER 3/8 SHAKEPROOF
23	1	040406	#404 WOODRUFF KEY
24	1	060600	#606 WOODRUFF KEY (3/16 X 3/4)
25	1	060601	#E WOODRUFF KEY (3/8 X 1 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	2QT.	REF.	MOBIL OIL # 46 SAE 90
31	1	307701	BRAKE HUB ASSEMBLY
32	6	007811	5/16 - 18 X 1 GR.5 CAPSCREW
33	2	021100	3/8 LOCKWASHER
34	1	301006	SHAFT, OUTPUT
35	1	400600	RETAINING RING (RST-125)
36	4	005903	1/4 - 20 X 7/8 GR.5 CAPSCREW
37	1	800320-003	1/4 X 1/4 X 1 15/16 KEYSTOCK (REF.)
38	1	302102	BEARING CUP
39	1	302202	BEARING CUP
40	1	000210	BUSHING, PIPE

MAINTENANCE OF HOIST ACTUATOR AND BOOM ACTUATOR

This actuator is used with cable drums. It is used as the load hoist and boom hoist on the 5004 and 6006 Series units.

1. ACTUATOR REMOVAL
   The actuator is attached to the base or pedestal by 3/8" NC x 3/4" long bolts (Item 19). A typical hoist drum installation is shown in the cross-sectional view. After capscrews (1) have been removed and electrical wires disconnected from the motor, the actuator and output shaft can be moved to the left. The key (37) will remain in the drum. On pedestal mounted units as shown, spacer rings are located on the shaft between the drum and support bearings, also between the gear case and the bearing.

2. 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.

3. 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.

4. 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.

5. PRIMARY GEAR AND SECONDARY PINION SHAFT REMOVAL
   Remove brake kit (See brake kit instructions.) Remove screw (31) from brake hub. Pull brake hub, remove key (23). Remove 4 capscrews (Item 36) which hold brake channel and bearing carrier (8) to case. Remove Item (8). **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 (9) and shim set (14). Bearing cups (15 and 16) 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.

6. REASSEMBLY:
   The above procedure constitutes removal and disassembly of the Actuator. To reassemble, perform the operations in reverse order.

7. GEAR ADJUSTMENT
   The gear adjustment should bc checked if new bearings (15 and 16) or new gears (2,3 or4) 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 (14) as a feeler gauge, 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.

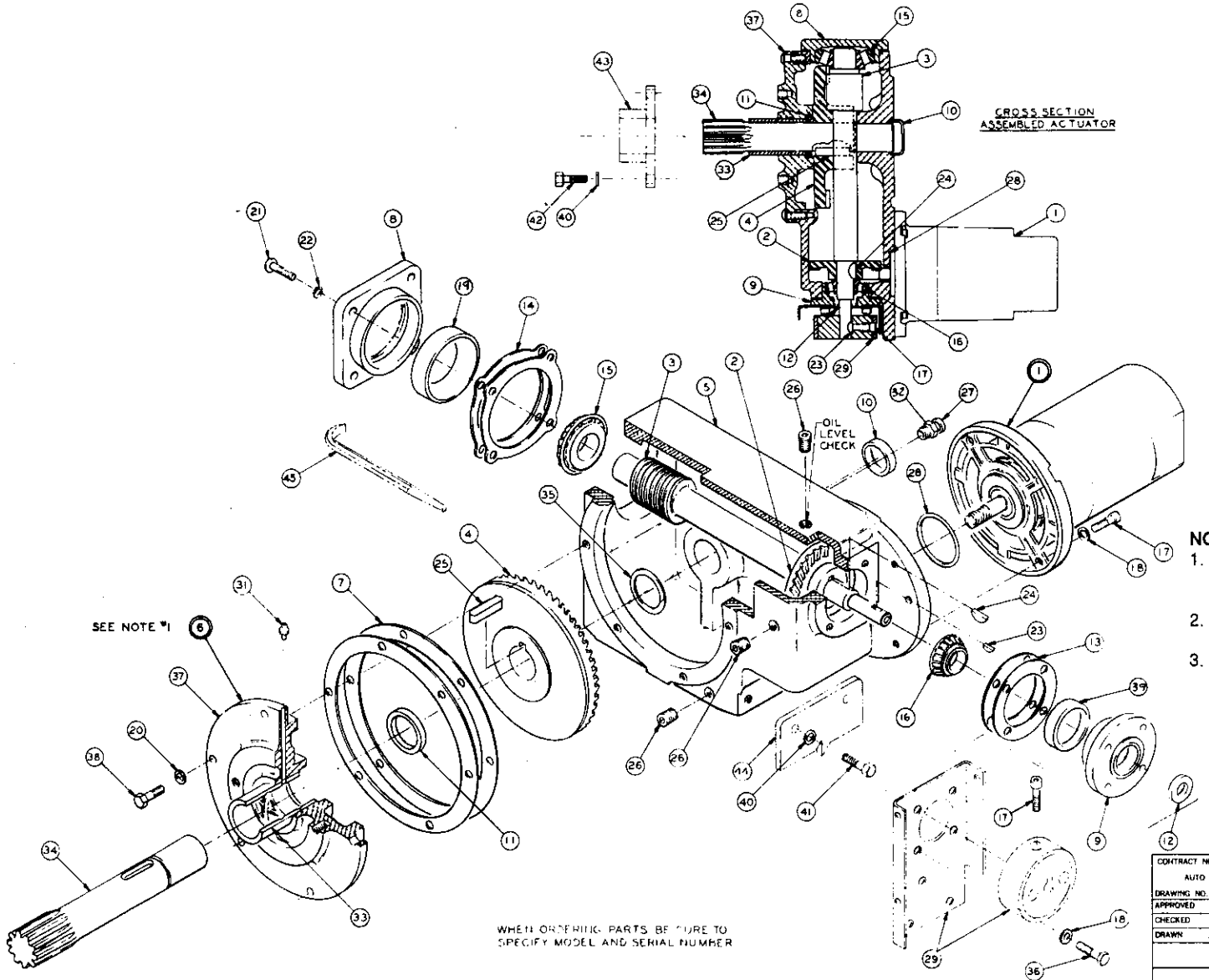
   If new gears or bearings are to be installed, new shim set are recommended. Each shim set consists of:

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

8. REINSTALL ACTUATOR ON PEDESTAL
   This can best be accomplished by removing the outboard bearing from the side plate (Removal of relay panel will be required). Install spacers on output shaft which will be between actuator case and side plate. Install shaft through left bearing just far enough to install spacer which will be between drum and bearing. Install the drum between the side plates and shove shaft through the drum. Key (37) and the drum spacer can be installed through the bearing opening. Reinstall outboard bearing.

9. 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



NOTES:

1. ITEM NO.6 CONSISTS ITEMS 11, 31, 33, 37 AND MAY BE PUR CHASED FACTORY ASSEMBLED.
2. USE PART NO. 300801 FOR PRESSFIT OF ITEMS 8 AND 19.
3. USE PART NO. 300904 FOR PRESSFIT OF ITEMS 9 AND 39.

CONTRACT NO. — AUTO CRANE CO	AUTO CRANE COMPANY 9260 BROKEN ARROW EXPWY., TULSA, OKLA. 74145
DRAWING NO. — DATE	TURNER ACTUATOR ASSY. (B-3153)
APPROVED	
CHECKED	
DRAWN JBH 6-23-70	SIZE D — CODE IDENT NO — DRAWING NO. AW-315302
	SCALE 1 SQ (1/2) — WEIGHT — SHEET 1 OF 1

TURNER ACTUATOR ASSEMBLY
AW-315302

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	300105	MOTOR
2	1	300205	PRIMARY GEAR
3	1	315000	SHAFT
4	1	315100	SECONDARY GEAR
5	1	300503	GEAR CASE
6	1	319200	COVER ASS'Y: SEE NOTE 1
7	1	300706	GASKET, SET
8	1	006004	BEARING, CARRIER
9	1	006003	BEARING, CARRIER
10	1	309800	SHAFT, END COVER
11	1	310800	SEAL, OUTPUT SHAFT
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 - 20 X 3/4 SOC. HD. CAPSCREW
18	8	020200	1/4 LOCKWASHER
19	1	302102	BEARING CUP
20	6	020601	5/16 LOCKWASHER
21	4	008404	3/8 - 16 X 1" BUTTON SOC. HD. SCREW
22	4	021402	3/8 LOCKWASHER, SHAKEPROOF
23	1	040406	#404 WOODRUFF KEY-HARD (1/8 X 1/2)
24	1	060600	#606 WOODRUFF KEY (3/16 X 3/4)
25	1	315325	KEY 3/8 X 3/8 X 1 1/2 RD. END.
26	3	000209	1/4 PIPE PLUG SOC. HD.
27	1	304406	VENT FITTING
28	1	302500	SEAL
29	1	308201	BRAKE KIT
30	2QT.	REF.	MOBIL OIL #46 SAE 90
31	1	239000	ALEMITE 1728-B ZERK
32	1	000210	BUSHING, PIPE 1/4 X 1/8
33	1	310700	SLEEVE BEARIN G
34	1	309600	PINION
35	1	400600	RETAINING RING
36	4	005606	1/4 X 7/8 NC GR.5 CAPSCREW
37	1	310600	ACTUATOR COVER
38	6	007811	5/16 X 1 NC GR.5 CAPSCREW
39	1	302202	BEARING CUP
40	4	021100	3/8 LOCKWASHER
41	2	008701	3/8 - 16 X 1 NC GR.5 CAPSCREW
42	2	008601	3/8 - 16 X 7/8 GR.5 CAPSCREW
43			QUILL (REF.)
44			ANCHOR BRACKET (REF.)
45			LINE UP BAR (REF.)

MAINTENANCE OF TURNER ACTUATOR

This actuator is used on units that provide power rotation of the boom. It is installed on the unit with the motor in a vertical position. The actuator is attached to the pedestal by support arm (43) which positions the pinion (34) in the proper relation to the turn gear mounted on the base of the unit. Two capscrews (Item 42) hold the actuator down on the support arm. Two capscrews (Item 41) attach the actuator to bracket (44) to prevent rotation of the gear case about pinion shaft (34).

ACTUATOR REMOVAL

To remove actuator from pedestal, remove capscrews (41) and (42), disconnect electric cables from motor and lift actuator vertically upward until the pinion (34) is out of the support arm (43).

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.

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 motor pilot and the gear case. Be sure that this "O" ring is in the recess of the gear case before reinstalling the motor.

The motor removal can be accomplished without removing the actuator from the unit as described in Paragraph (1).

GEAR COVER AND PINION REMOVAL

The output shaft (34), cover plate (37), secondary gear (4) and retaining ring (35) are put together as a sub-assembly, and must be assembled in this order before installing in gear case.

Observe location of zerk fitting (31). The cover must be reinstalled in the same relation to the gear case. Remove the two buttonhead capscrews using a 3/16 Allen wrench. Observe that these buttonhead capscrews are on opposite side from the zerk fitting, and are required to provide clearance between the cover and the support arm (43). Remove the remaining hex-head capscrews (38). Remove cover from gear case.

PINION REMOVAL

After removing cover from gear case, remove retaining ring (Item 35) from pinion shaft (34). Pull secondary gear (4) from shaft, using puller or press. REmove key (25) from shaft. Drive shaft through cover, use hammer handle or other soft object. Do not damage shaft. The seal (11) can now be removed.

REMOVAL OF BUSHING

The bushing (33) is installed in the cover in the following manner:

The bushing is pressed into cover, being sure that oil holes through bushing will line up with grease groove in cover.

7. PRIMARY GEAR AND SECONDARY PINION SHAFT REMOVAL

Remove brake kit. (See brake kit instructions.) 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 (15 and 16) can be removed by using a line-up bar.

The pinion shaft and primary gear can now be removed from the gear case 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.

8. REASSEMBLY

The foregoing constitutes disassembly of the turner actuator. To reassemble, perform the operatin in reverse order.

9. GEAR ADJUSTMENT

The gear adjustment should be check if new bearing (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 (14) as a feeler gauge, add or remove shims until a drag occurs when inserted between carrier (9) and gear case (5). Remove carrier (8) 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 (9) 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.

With turner pinion shaft assembly consisting of pinion (34), cover (37) and gear (4) installed against secondary pinion (3), determine thickness of shim set required in the manner described above. Check the backlash for the full 360 degree rotation.

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

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

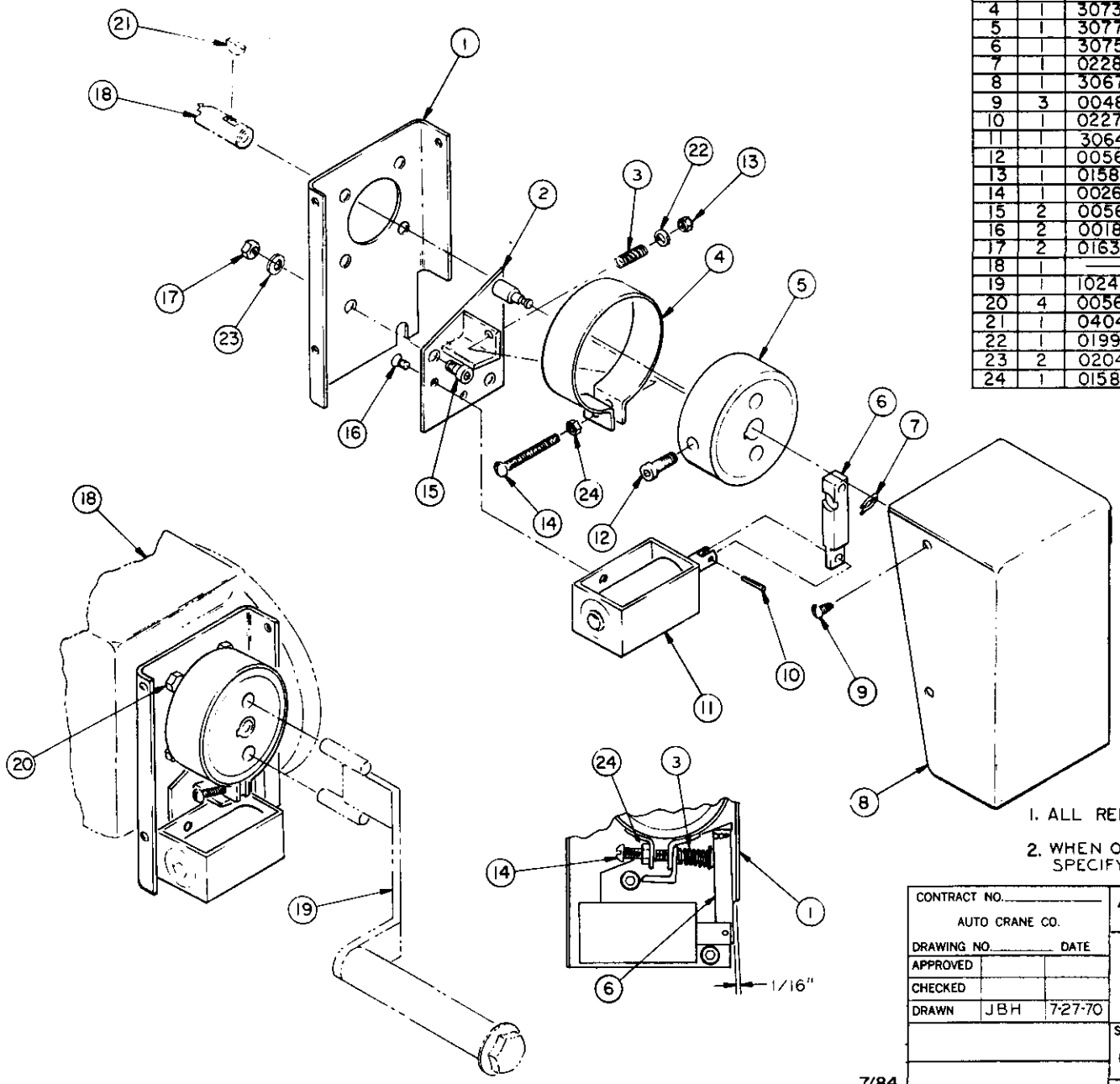
If a shim is added to the front carrier bearing, you must take the same amount out of the rear. This moves shaft forward toward the motor pinion shaft.

For Example: If you take twenty-thousandths (1 yellow shim) out of the rear, you must add twenty-thousandths to the front if the shaft needs to be moved forward. Reverse this procedure to move the shaft backwards, away from the motor pinion shaft.

10. LUBRICATION

An extreme pressure (EP-80-90) lubricant is used in the gear case (capacity 2 quarts). A chassis lubricant is recommended for the bushing. Check oil level and lubricate bushing every 40 hours of crane operation.

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



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. ALL REF. ITEMS MUST BE ORDERED SEPARATE.
2. WHEN ORDERING PARTS BE SURE TO SPECIFY MODEL AND SERIAL NUMBER.

7/84

CONTRACT NO. _____
AUTO CRANE CO.
DRAWING NO. _____ DATE

APPROVED		
CHECKED		
DRAWN	JBH	7-27-70

AUTO CRANE COMPANY

BRAKE ASSEMBLY 12 V.

SIZE	CODE IDENT. NO.	DRAWING NO.
C		AW-308201

SCALE NONE | WEIGHT | SHEET OF

MAINTENANCE OF 12/24 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. TROUBLE SHOOTING

	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 at 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 13) 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 18).
(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 4) 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 10).
(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 (15). 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 nò 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

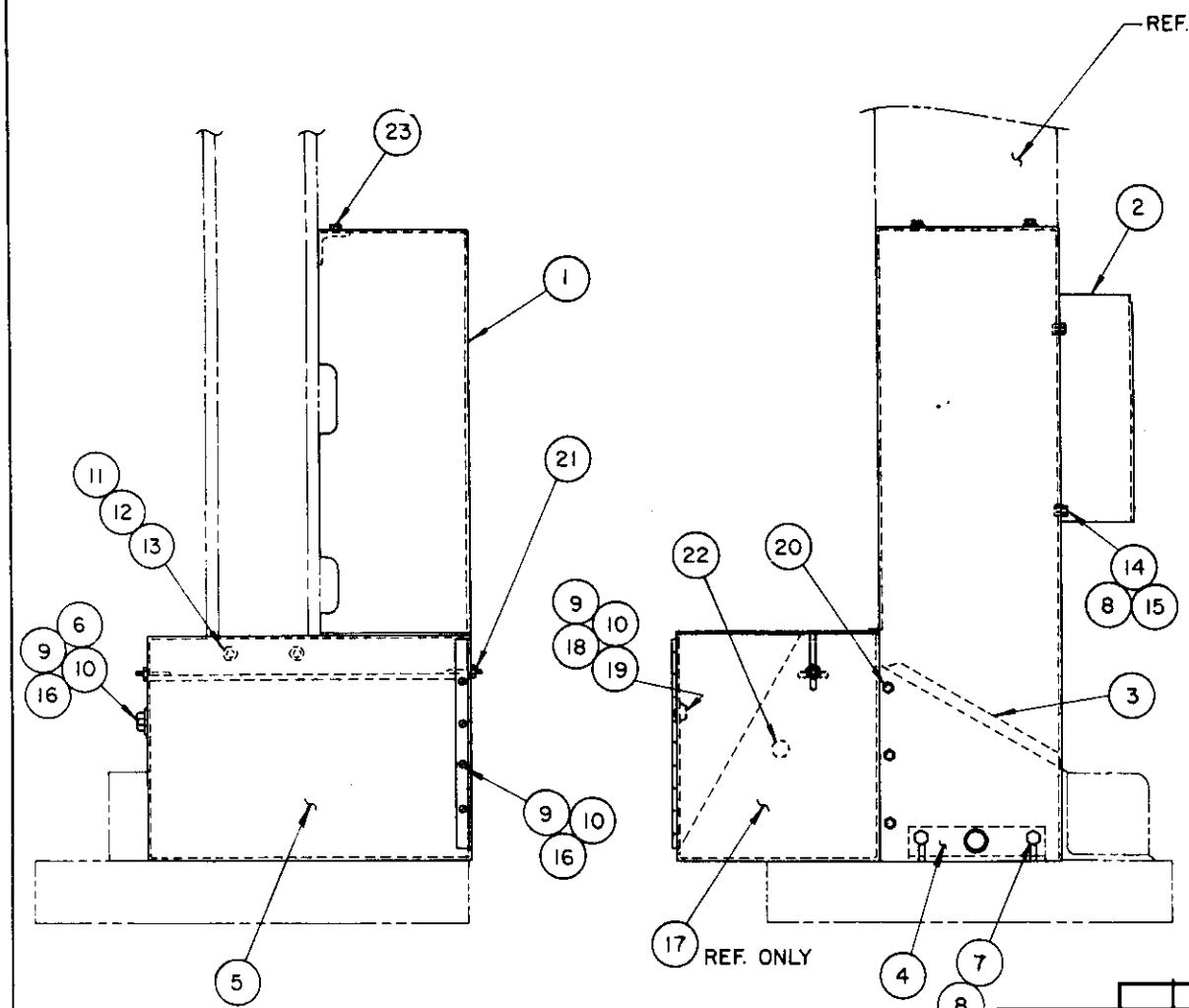
Brake Hub Assembly (Item 5) is subject to normal wear. As a result, the brake pad surface will become glazed and smooth over a period of time, depending upon usage of the crane and cause ineffective braking and increased coasting after the pendant switch is released.

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.

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QTY	D/S	PART NO.	DESCRIPTION
23	2		002615	SCREW 1/4-20 X 3/8 S.T.
22	1		002000	SCREW, #10 X 1/2 NF
21	1		305604	BATTERY HOLD
20	3		002605	SCREW, #12 X 1/2" HEX. HD.
19	2		019900	FLATWASHER #10
18	2		659500	BUMPER, RUBBER
17	1		305602	BATTERY BOX (REF: WITH HINGE)
16	9		019800	LOCKWASHER #10
15	2		015900	NUT, 1/4 NC CP G5
14	2		005901	CAPSCREW, HEX. 1/4 NC X 1/2 G5
13	2		021100	LOCKWASHER, 3/8
12	2		017102	NUT, 3/8 NF
11	2		008800	CAPSCREW, HEX 3/8 NF X 1
10	9		015600	NUT, #10-32
9	9		001900	MACHINE SCREW, #10-32 X 3/8
8	4		020200	LOCKWASHER, 1/4 SPLK
7	4		005500	CAPSCREW, HEX 1/4 NC X 3/4"
6	1		310400	LATCH
5	1		305603	BATTERY COVER
4	1		306201	ANGLE CLIP
3	1		305700	GUARD QUILL CENTER
2	1		634000	PENDANT BRACKET
1	1		305600	RELAY GUARD

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: JCH
DATE: 1/14/81
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: GUARD ASSEMBLY 24 V.

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-306000-1	

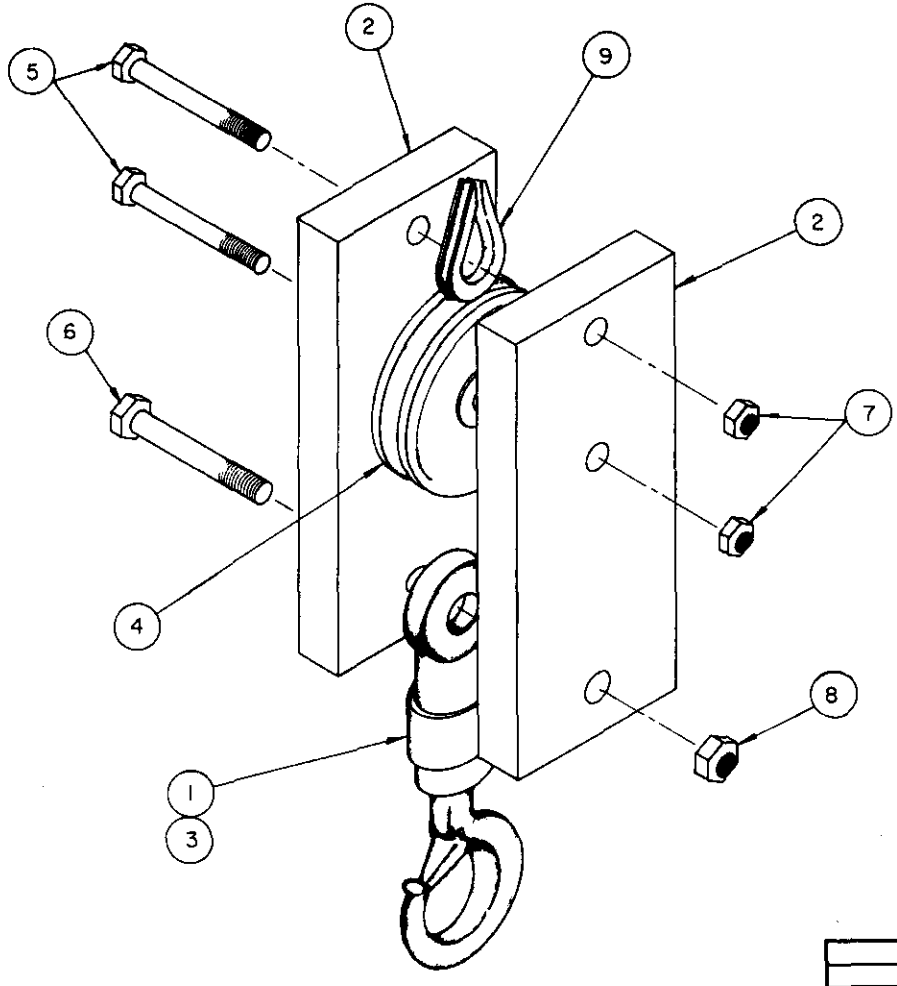
WEIGHT

SHEET 1 OF 1

5-15.0.0

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QUANTITY	D/S	PART NO.	DESCRIPTION
1	9		023600	THIMBLE - 5/16
1	8		018100	NUT, HEX. HALF LOCK 5/8 - 18
2	7		017700	NUT, HEX. HALF LOCK 1/2 - 20
1	6		013513	SCREW, H.H. 5/8-18 X 3 1/2" GR 5
2	5		011506	SCREW, H.H. 1/2-20 X 3 1/2" GR 5
1	4		200163	SHEAVE ASSEMBLY (BEARING, 240234)
1	3		330000	TUBING, RD. DOM. 1" O.D. X 1" LG.
2	2		200162	PLATE, TRAVELING BLOCK
1	1		200197	HOOK, SWIVEL

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

NEXT ASS'Y

DRAWN BY SDL
DATE 12/24/80
CHK'D BY
DATE
ENG. BY
DATE

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918 627-9475

TITLE
TRAVELING SWIVEL BLOCK ASSEMBLY (STANDARD)

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-200161	

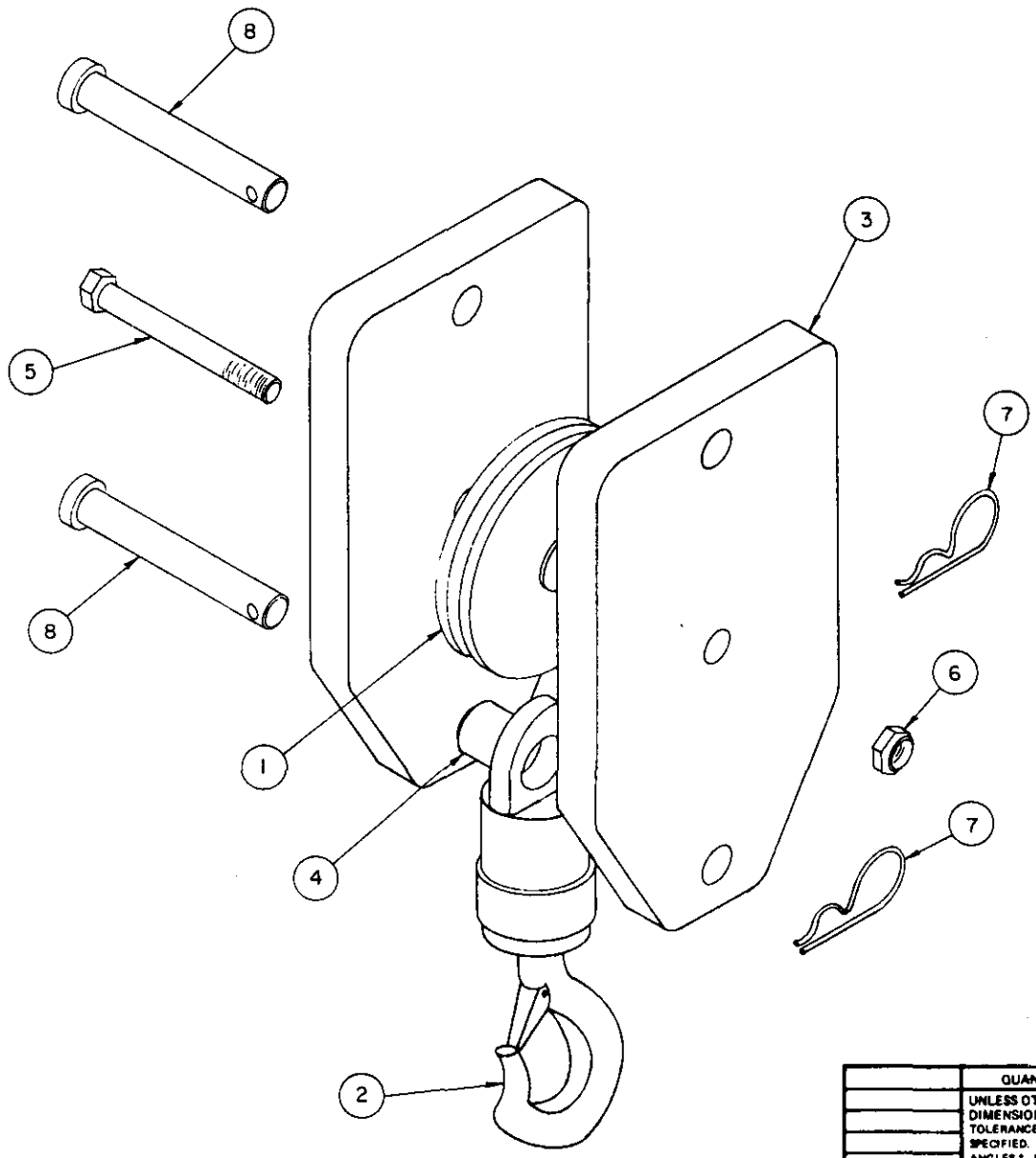
WEIGHT

SHEET 1 OF 1

5-16.0.0

FIXTURE NO	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QTY	D/S	PART NO.	DESCRIPTION
8	2		360605	PIN BLOCK
7	2		360124	HITCH PIN (HAIR PIN)
6	1		017800	NUT HX. LK. 1/2 - 20
5	1		006801	SCW. HX. HD. 1/2 - 20 X 4
4	1		240237	SPACER, BUSHING 1" O.D.
3	2		360601	BLOCK, SIDE PLATE
2	1		200197	HOOK SWIVEL
1	1		240236	SHEAVE ASSEMBLY(BEARING, 240234)

QUANTITY | LIST OF MATERIAL

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

DRAWN BY NRR | DATE 2-25-85 | CHK'D BY | DATE | ENG. BY | DATE

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-0475

TITLE: TRAVELING BLOCK ASSEMBLY

SCALE ~ | SIZE C | DRAWING NO. AW-360602 | REVISION

WEIGHT | SHEET ____ OF ____

5-17.0.0

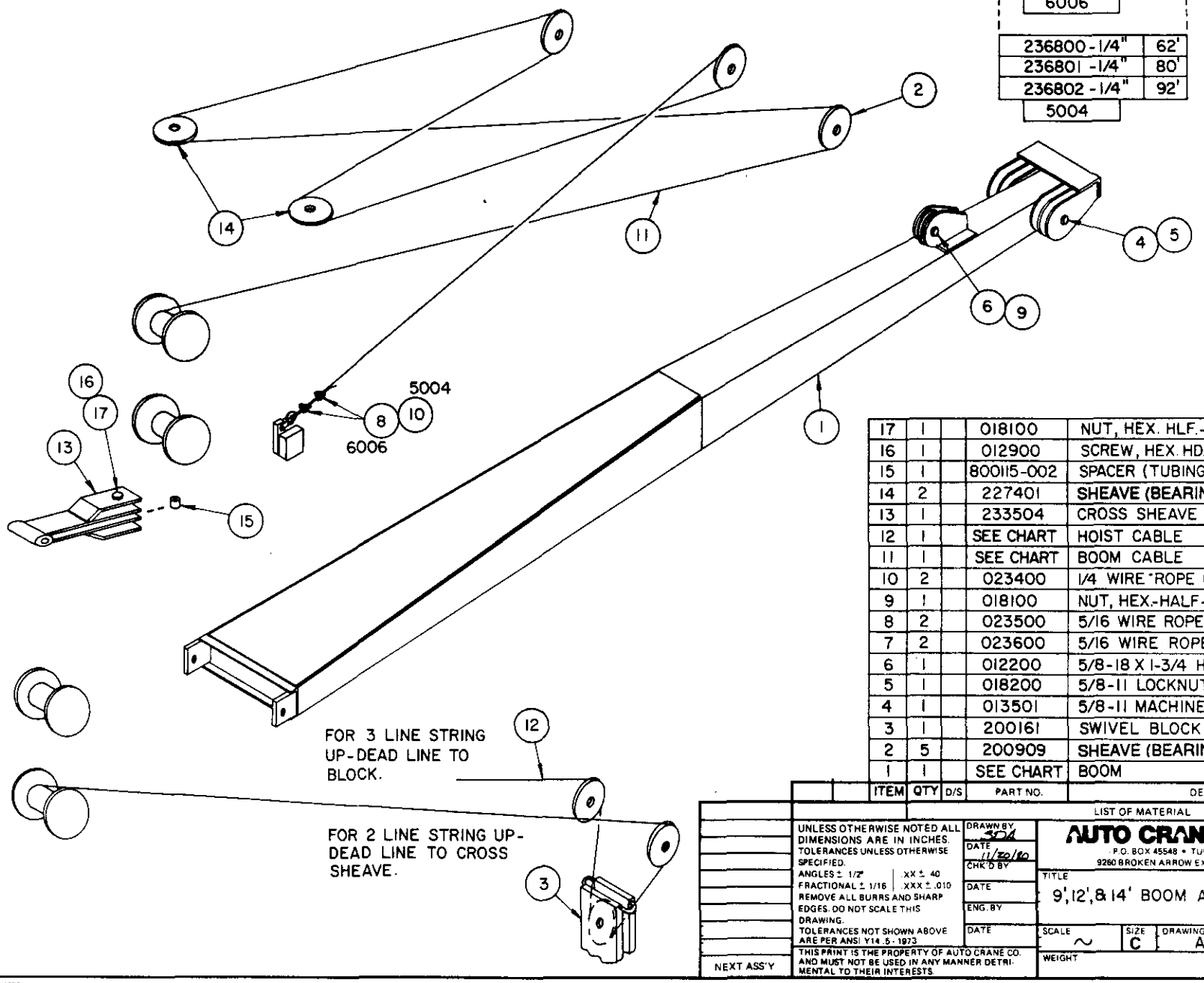
FIXTURE NO.	FINISH NO.

BOOM		BOOM CABLE		HOIST CABLE	
PART NO.	LG.	PART NO.	LG.	PART NO.	LG.
228009	9'	223002-5/16"	62'	236803 - 1/4"	75'
228012	12'	223006 - 5/16"	80'	236803 - 1/4"	75'
228014	14'	223003 - 5/16"	92'	236803 - 1/4"	75'

6006

236800 - 1/4"	62'
236801 - 1/4"	80'
236802 - 1/4"	92'

5004



ITEM	QTY	D/S	PART NO.	DESCRIPTION
17	1		018100	NUT, HEX. HLF.-LK. 5/8-18
16	1		012900	SCREW, HEX. HD. 5/8-18 X 3-1/2 GR-5
15	1		800115-002	SPACER (TUBING, RD.)
14	2		227401	SHEAVE (BEARING 200100)
13	1		233504	CROSS SHEAVE FRAME
12	1		SEE CHART	HOIST CABLE
11	1		SEE CHART	BOOM CABLE
10	2		023400	1/4 WIRE ROPE CLAMP
9	1		018100	NUT, HEX.-HALF-LOCK 5/8-18
8	2		023500	5/16 WIRE ROPE CLAMP
7	2		023600	5/16 WIRE ROPE THIMBLE
6	1		012200	5/8-18 X 1-3/4 HEX. HD. SCREW
5	1		018200	5/8-11 LOCKNUT
4	1		013501	5/8-11 MACHINE BOLT 9" LONG
3	1		200161	SWIVEL BLOCK
2	5		200909	SHEAVE (BEARING 200100)
1	1		SEE CHART	BOOM

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: JDH
DATE: 11/20/80
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918 627-9475

TITLE: 9', 12', & 14' BOOM ASSEMBLY

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-035	

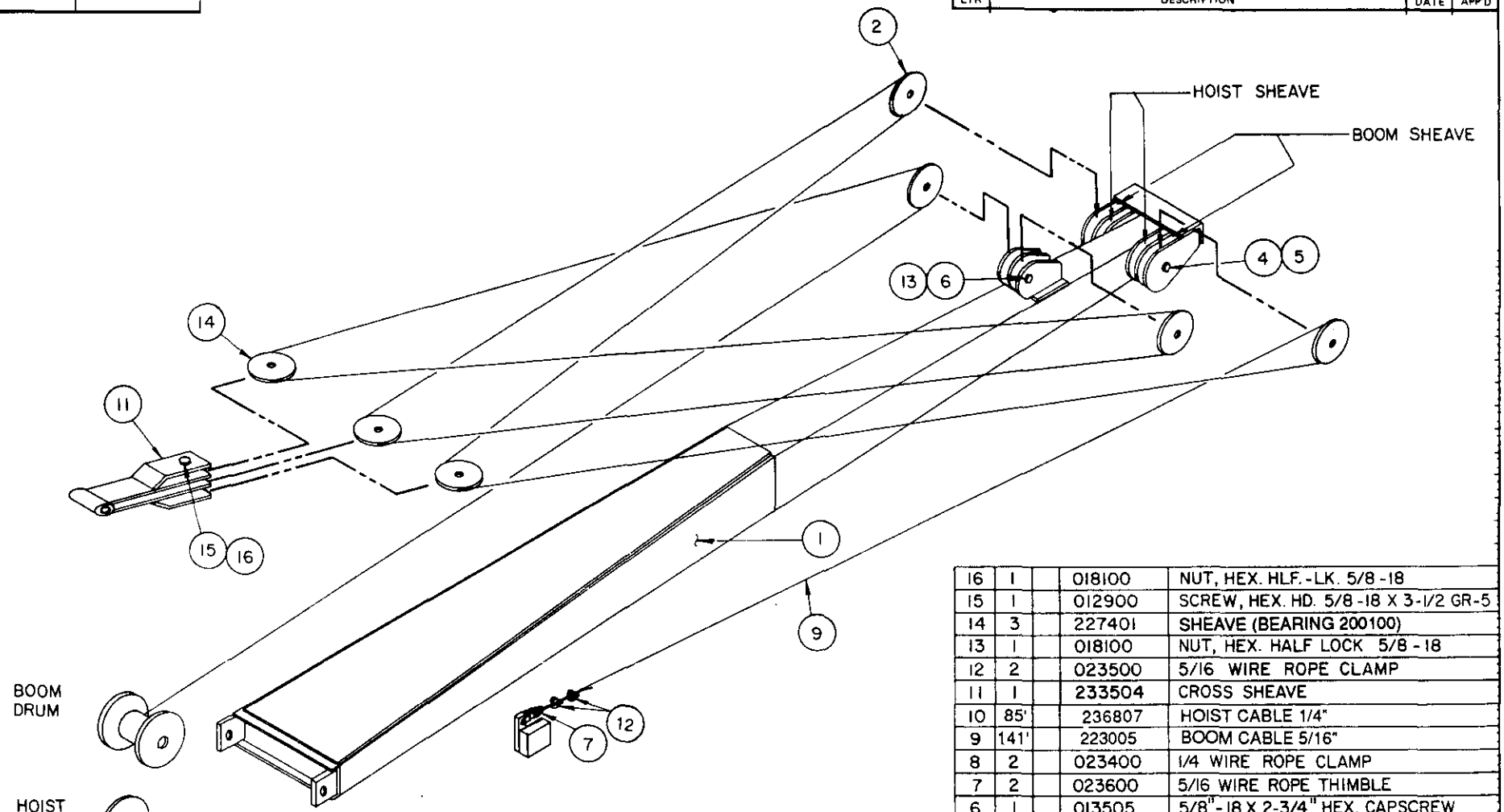
WEIGHT

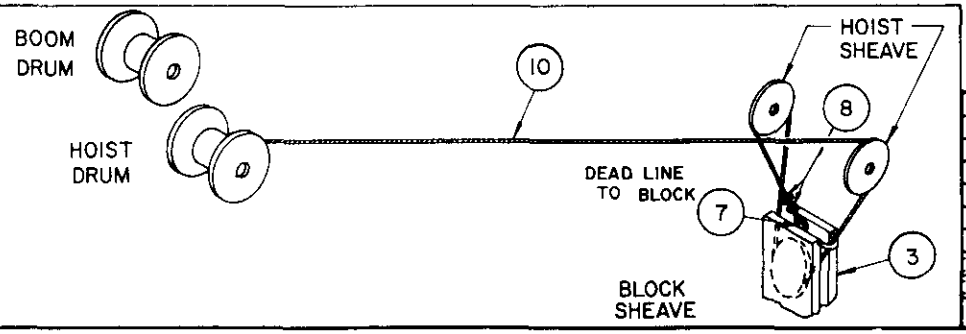
SHEET 1 OF 1

6-1.0.0

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





ITEM	QTY	D/S	PART NO.	DESCRIPTION
16	1		018100	NUT, HEX. HLF.-LK. 5/8-18
15	1		012900	SCREW, HEX. HD. 5/8-18 X 3-1/2 GR-5
14	3		227401	SHEAVE (BEARING 200100)
13	1		018100	NUT, HEX. HALF LOCK 5/8-18
12	2		023500	5/16 WIRE ROPE CLAMP
11	1		233504	CROSS SHEAVE
10	85'		236807	HOIST CABLE 1/4"
9	141'		223005	BOOM CABLE 5/16"
8	2		023400	1/4 WIRE ROPE CLAMP
7	2		023600	5/16 WIRE ROPE THIMBLE
6	1		013505	5/8"-18 X 2-3/4" HEX. CAPSCREW
5	1		018200	5/8"-11 LOCKNUT
4	1		013501	5/8"-11 MACHINE BOLT 9" LG.
3	1		200161	SWIVEL BLOCK
2	6		200909	SHEAVE (BEARING 200100)
1	1		228017	BOOM ASSEMBLY

LIST OF MATERIAL

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

DRAWN BY — DATE 11-18-86 — CHK'D BY — DATE — ENG. BY — DATE

AUTO CRANE COMPANY
P.O. BOX 46548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: 17' BOOM ASSEMBLY

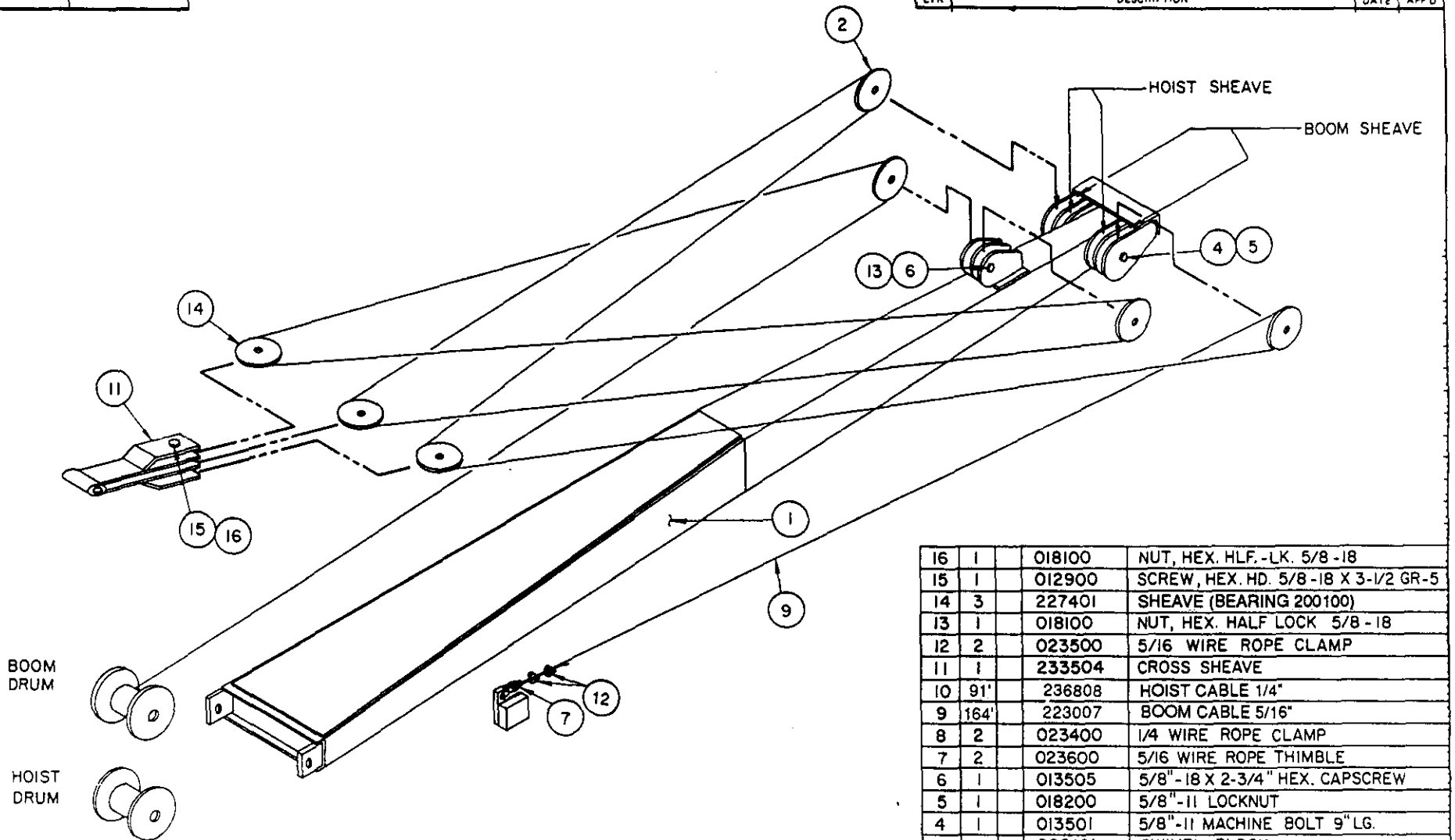
SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-031	

WEIGHT — SHEET 1 OF 1

6-2.0.0

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QTY	D/S	PART NO.	DESCRIPTION
16	1		018100	NUT, HEX. HLF.-LK. 5/8-18
15	1		012900	SCREW, HEX. HD. 5/8-18 X 3-1/2 GR-5
14	3		227401	SHEAVE (BEARING 200100)
13	1		018100	NUT, HEX. HALF LOCK 5/8-18
12	2		023500	5/16 WIRE ROPE CLAMP
11	1		233504	CROSS SHEAVE
10	91'		236808	HOIST CABLE 1/4"
9	164'		223007	BOOM CABLE 5/16"
8	2		023400	1/4 WIRE ROPE CLAMP
7	2		023600	5/16 WIRE ROPE THIMBLE
6	1		013505	5/8"-18 X 2-3/4" HEX. CAPSCREW
5	1		018200	5/8"-11 LOCKNUT
4	1		013501	5/8"-11 MACHINE BOLT 9" LG.
3	1		200161	SWIVEL BLOCK
2	6		200909	SHEAVE (BEARING 200100)
1	1		228020	BOOM ASSEMBLY

LIST OF MATERIAL

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

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DATE 11-19-92
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ENG. BY
DATE

AUTO CRANE COMPANY
P.O. BOX 45648 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
20' BOOM ASSEMBLY FOR

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW -032	

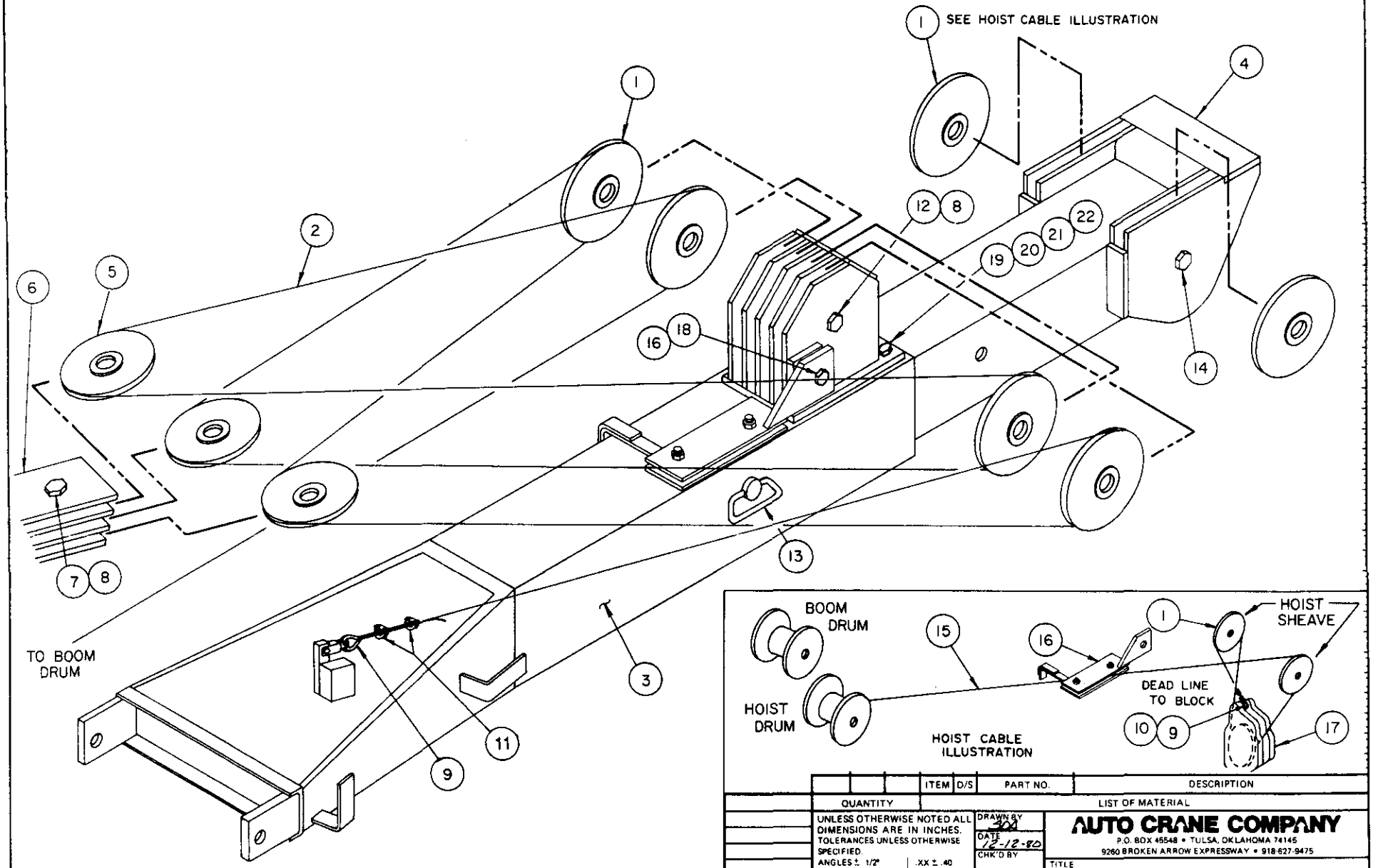
WEIGHT

SHEET 1 OF 1

6-3.0.0

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 ± .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 JDA
DATE 12-12-80
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
EXTENDABLE BOOM
10' – 16'

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-241197	

WEIGHT

SHEET 1 OF 2

6-4.0.0

EXTENDABLE BOOM AW-241197
10' – 16' BOOM

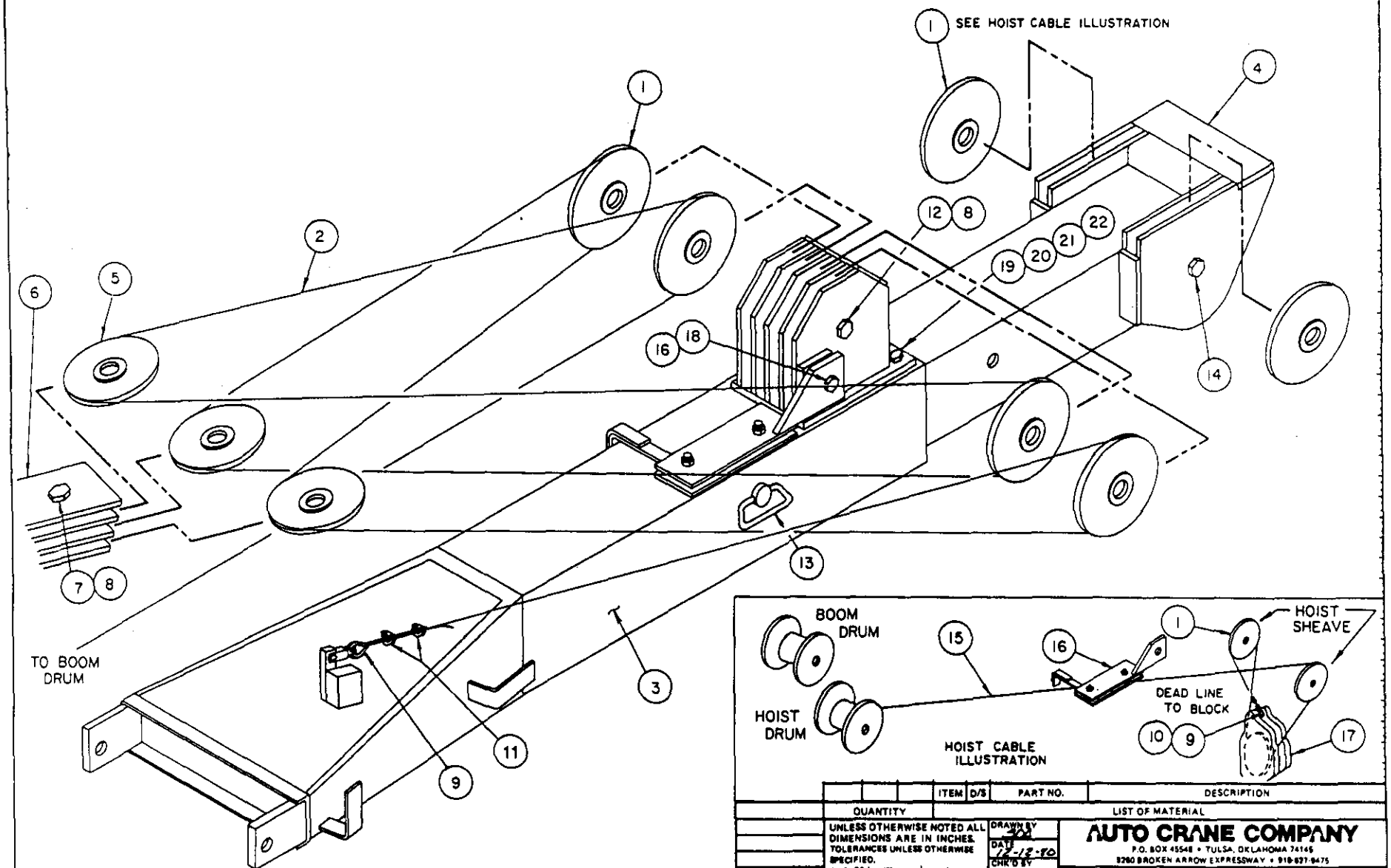
ITEM	QTY.	PART NO.	DESCRIPTION
1	6	240241	SHEAVE (BEARING 200100)
2	88'	800530	CABLE 5/16"
3	1	241196	LOWER BOOM
4	1	240201	BOOM, UPPER ASS'Y
5	3	227401	SHEAVE (BEARING 200100)
6	1	233504	CROSS SHEAVE
7	1	012900	SCREW 5/8 - 18 X 3 1/2 GR.5
8	2	018100	NUT HX. HLF. LK. 5/8 - 18
9	2	023600	5/16 WIRE ROPE THIMBLE
10	2	023400	1/4 WIRE ROPE CLAMP
11	2	023500	5/16 WIRE ROPE CLAMP
12	1	013504	SCREW HX. 5/8 - 18 X 5 GR.5
13	1	240246	PIN ASSEMBLY
14	2	012501	SCREW HX. 5/8 - 18 X 2 1/2 GR.5
15	88'	800529	CABLE 1/4"
16	1	240263	CABLE GUIDE ASSEMBLY
17	1	360602	SWIVEL BLOCK
18	1	012203	SCREW HX. 5/8 - 18 X 1 1/4 GR.5
19	1	240224	PAD LOCKING
20	2	007400	SCREW HX. 5/16 - 18 X 1" GR.5
21	2	020600	WASHER, SP. LK. 5/16
22	2	020901	WASHER, FLAT 5/16

NOTE:

1. 10' – 16' BOOM REQUIRES 360602 TRAVELING BLOCK
2. TO CONVERT A FIXED BOOM TO A 10' – 16' EXTENDABLE BOOM, USE CONVERSION KIT PART NUMBER 241197-001

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 ± .60
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 JDS
DATE 12-12-80
CHK'D BY
DATE
ENG. BY
DATE
NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
8280 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
EXTENDABLE BOOM
14' – 20'

SCALE ~ | SIZE C | DRAWING NO. AW-240200 | REVISION
WEIGHT | SHEET 1 OF 2

6-5.0.0

EXTENDABLE BOOM AW-240200
14' – 20' BOOM

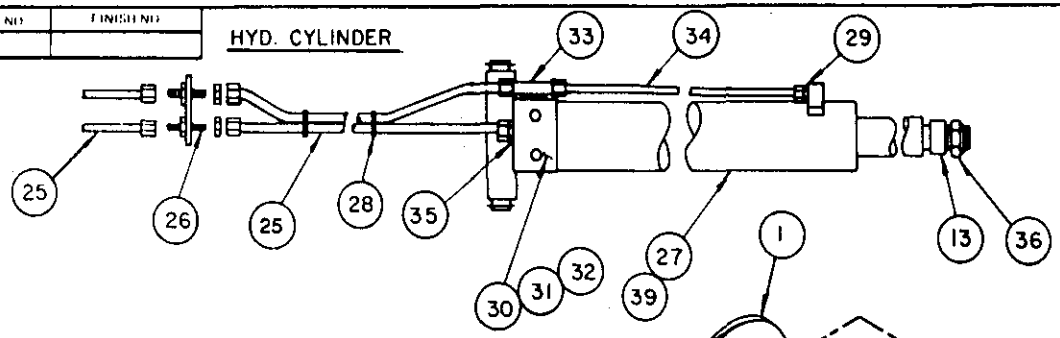
ITEM	QTY.	PART NO.	DESCRIPTION
1	6	240241	SHEAVE (BEARING 200100)
2	120'	800530	CABLE 5/16"
3	1	240202	LOWER BOOM
4	1	240201	BOOM, UPPER ASS'Y
5	3	227401	SHEAVE (BEARING 200100)
6	1	233504	CROSS SHEAVE
7	1	012900	SCREW 5/8 - 18 X 3 1/2 GR.5
8	2	018100	NUT HX. HLF. LK. 5/8 - 18
9	2	023600	5/16 WIRE ROPE THIMBLE
10	2	023400	1/4 WIRE ROPE CLAMP
11	2	023500	5/16 WIRE ROPE CLAMP
12	1	013504	SCREW HX. 5/8 - 18 X 5 GR.5
13	1	240246	PIN ASSEMBLY
14	2	012501	SCREW HX. 5/8 - 18 X 2 1/2 GR.5
15	92'	800529	CABLE 1/4"
16	1	240263	CABLE GUIDE ASSEMBLY
17	1	200161	SWIVEL BLOCK
18	1	012203	SCREW HX. 5/8 - 18 X 1 1/4 GR.5
19	1	240224	PAD LOCKING
20	2	007400	SCREW HX. 5/16 - 18 X 1" GR.5
21	2	020600	WASHER, SP. LK. 5/16
22	2	020901	WASHER, FLAT 5/16

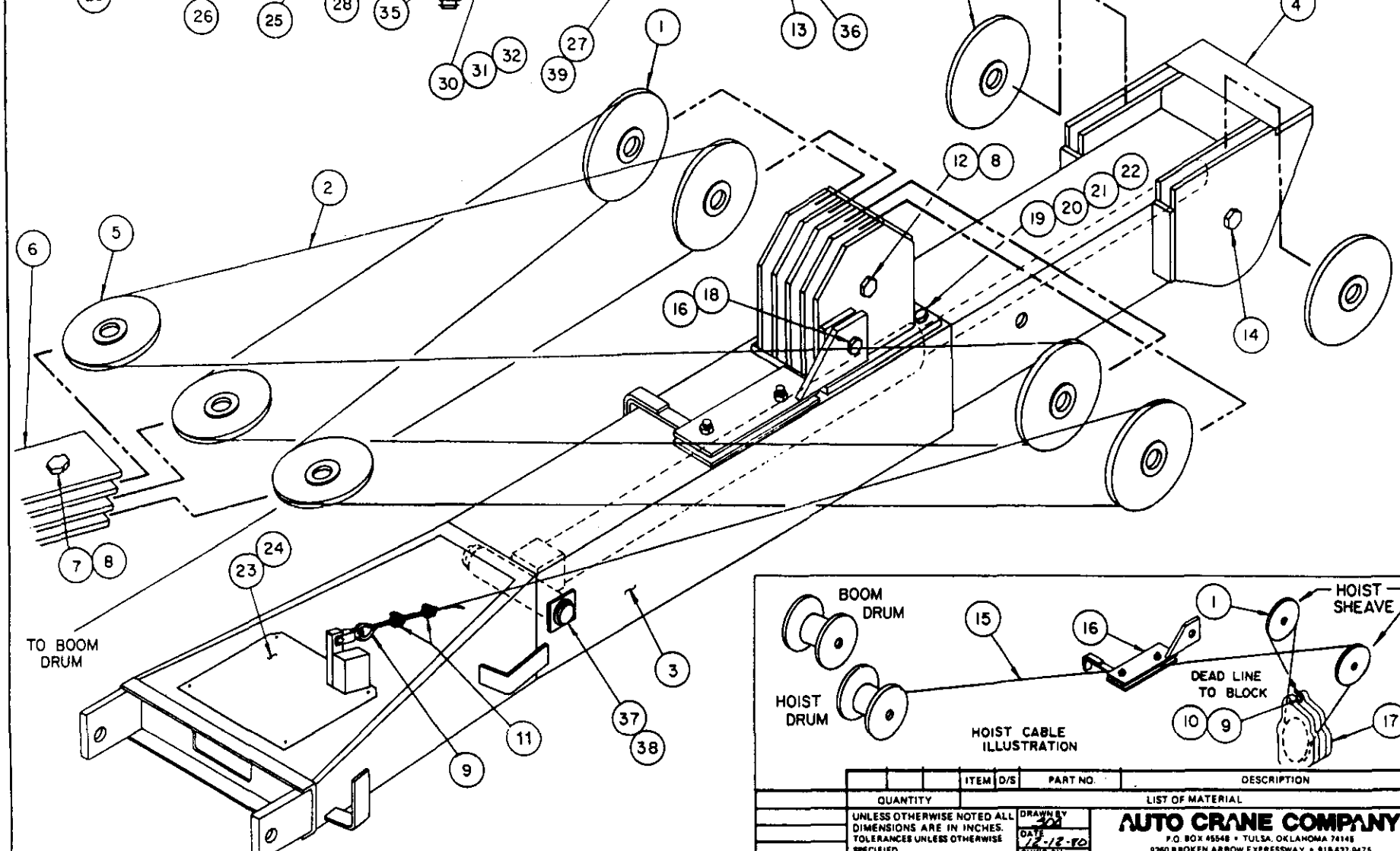
NOTES:

1. TO CONVERT A FIXED BOOM TO A 14' – 20' EXTENDABLE BOOM, USE CONVERSION KIT PART NUMBER 240200-001

FIXTURE NO	FINISH NO

HYD. CYLINDER





QUANTITY	ITEM	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
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973

DRAWN BY JCH
DATE 12-12-80
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918 627 9475

TITLE
EXTENDABLE BOOM - HYD.
10' – 16'

SCALE	SIZE	DRAWING NO	REVISION
~	C	AW-240258	

WEIGHT

SHEET 1 OF 2

6-6.0.0

EXTENDABLE BOOM - HYD. AW-240258
10' – 16' BOOM

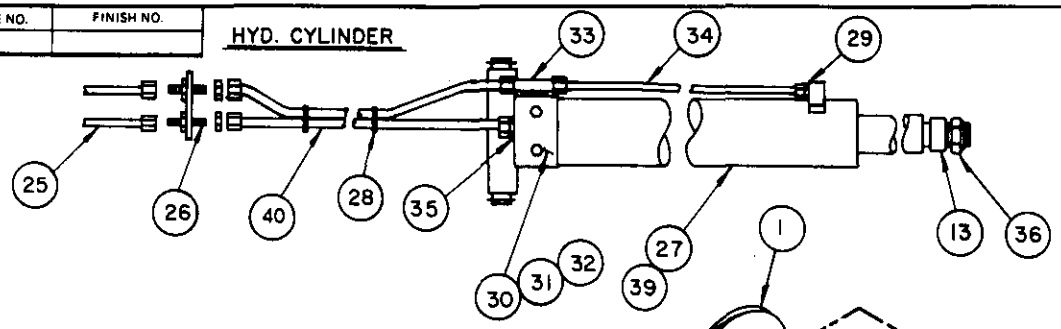
ITEM	QTY.	PART NO.	DESCRIPTION
1	6	240241	SHEAVE (BEARING 200100)
2	88'	800530	CABLE, BOOM 5/16"
3	1	240262	LOWER BOOM
4	1	330110	BOOM, UPPER
5	3	227401	SHEAVE (BEARING 200100)
6	1	233504	CROSS SHEAVE
7	1	012900	SCREW 5/18 - 18 X 3 1/2 GR.5
8	2	018100	NUT, HX HLF. LK. 5/8 - 18
9	2	023600	5/16 WIRE ROPE THIMBLE
10	2	023400	1/4 WIRE ROPE CLAMP
11	2	023500	5/16 WIRE ROPE CLAMP
12	1	013504	SCREW HX. 5/8 - 18 X 5 GR.5
13	1	800067-001	SPACER
14	2	012501	SCREW HX. 5/8 - 18 X 2 1/2 GR.5
15	88'	800529	CABLE HOIST 1/4"
16	1	200263	CABLE GUIDE ASSEMBLY
17	1	200161	SWIVEL BLOCK
18	1	012203	SCREW HX. 5/8 - 18 X 1 1/4 GR.5
19	1	240224	PAD, LOCKING
20	2	007400	SCREW HX. 5/16 - 18 X 1" GR.5
21	2	020600	WASHER, SP. LK. 5/16
22	2	020901	WASHER, FLAT 5/16
23	1	240242	COVER, ACCESS
24	4	002006	SCREW HX. SL. S.T. # 10 X 1/2
25	4	241173	HOSE ASS'Y HYD.
26	2	241170	ADAPTER, BULKHEAD 9/16 - 18 37°
27	1	241166	CYLINDER, HYD. WITH HARDWARE
28	4	634400	TIE CABLE
29	1	360042	ADAPTER 9/16 - 18 O-RING
30	2	020200	WASHER SP. LK. 1/4
31	2	005800	SCREW HX. HD. 1/4 - 20 X 1 1/2 GR.5
32	1	330412	HOLDING VALVE
33	1	241168	TEE, 9/16 37° RUN, 9/16 - 18 O-RING
34	1	330087	LINE ASS'Y HYD.
35	1	200876	ADAPTER 9/16 - 18 JIC/ 9/16 - 18 ORB
36	1	019106	NUT HX. LK. 1" N.F. CP
37	1	241214	PIN
38	1	241213	RETAINING RING
39	1	330601	SEAL KIT (FOR CYLINDER 241166)

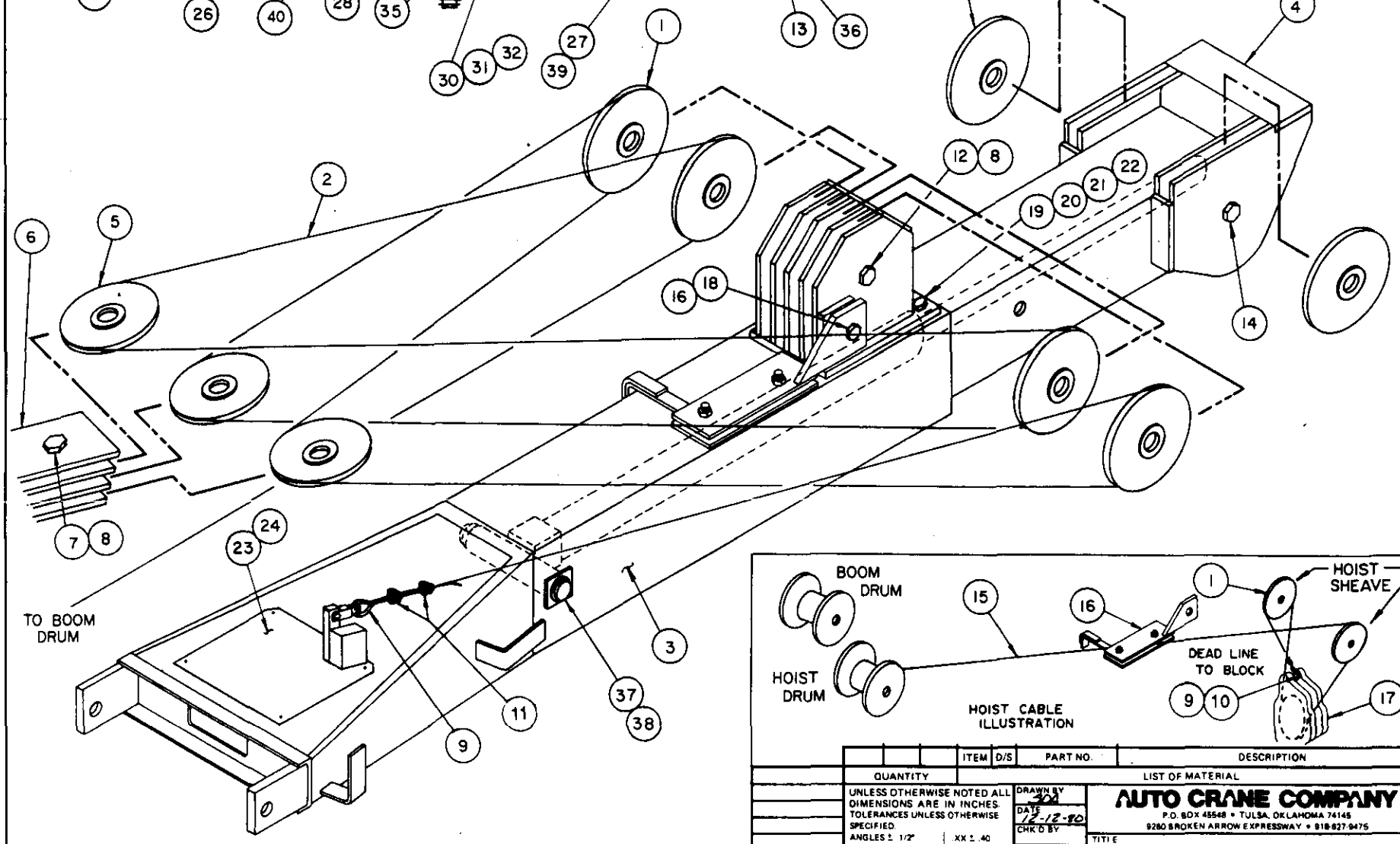
NOTE:

1. TO CONVERT A 10' – 16' MANUAL EXTENSION BOOM TO A 10' – 16' POWER EXTENSION, ORDER KIT NUMBER 240281 (FOR 12/24 VOLT UNITS), OR KIT 330536 (FOR 220/24 110/24 VOLT UNITS).

FIXTURE NO.	FINISH NO.

HYD. CYLINDER





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: JDA
DATE: 12-12-80
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DATE:
ENG. BY:
DATE:

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9280 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: EXTENDABLE BOOM - HYD. 14' – 20'

SCALE	SIZE	DRAWING NO	REVISION
~	C	AW-240257	

WEIGHT

SHEET 1 OF 2

6-7.0.0

EXTENDABLE BOOM - HYD. AW-240257
14' – 20' BOOM

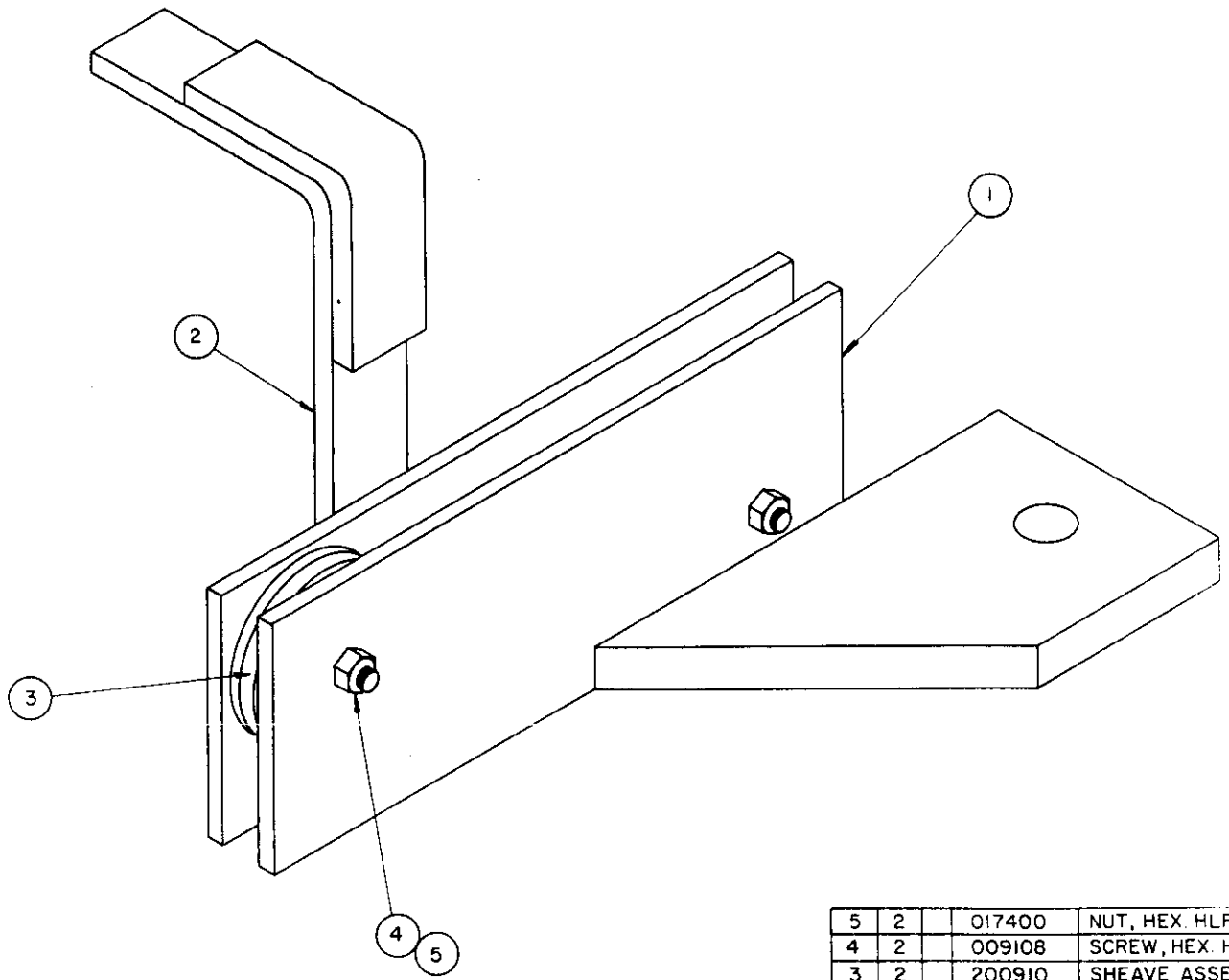
ITEM	QTY.	PART NO.	DESCRIPTION
1	6	240241	SHEAVE (BEARING 200100)
2	120'	800530	CABLE, BOOM 5/16"
3	1	240259	LOWER BOOM
4	1	330110	BOOM, UPPER
5	3	227401	SHEAVE (BEARING 200100)
6	1	233504	CROSS SHEAVE
7	1	012900	SCREW 5/18 - 18 X 3 1/2 GR.5
8	2	018100	NUT, HX HLF. LK. 5/8 - 18
9	2	023600	5/16 WIRE ROPE THIMBLE
10	2	023400	1/4 WIRE ROPE CLAMP
11	2	023500	5/16 WIRE ROPE CLAMP
12	1	013504	SCREW HX. 5/8 - 18 X 5 GR.5
13	1	800067-001	SPACER
14	2	012501	SCREW HX. 5/8 - 18 X 2 1/2 GR.5
15	92'	800529	CABLE HOIST 1/4"
16	1	200263	CABLE GUIDE ASSEMBLY
17	1	200161	SWIVEL BLOCK
18	1	012203	SCREW HX. 5/8 - 18 X 1 1/4 GR.5
19	1	240224	PAD, LOCKING
20	2	007400	SCREW HX. 5/16 - 18 X 1" GR.5
21	2	020600	WASHER, SP. LK. 5/16
22	2	020901	WASHER, FLAT 5/16
23	1	240242	COVER, ACCESS
24	4	002006	SCREW HX. SL. S.T. # 10 X 1/2
25	2	241173	HOSE ASS'Y HYD.
26	2	241170	ADAPTER, BULKHEAD 9/16 - 18, 37°
27	1	241166	CYLINDER, HYD. WITH HARDWARE
28	4	634400	TIE CABLE
29	1	360042	ADAPTER 9/16 - 18 O-RING
30	2	020200	WASHER SP. LK. 1/4
31	2	005800	SCREW HX. HD. 1/4 - 20 X 1 1/2 GR.5
32	1	330412	HOLDING VALVE
33	1	241168	TEE, 9/16 37° RUN, 9/16 - 18 O-RING
34	1	330087	LINE ASS'Y HYD.
35	1	200876	ADAPTER 9/16 - 18 JIC/ 9/16 - 18 ORB
36	1	019106	NUT HX. LK. 1" N.F. CP
37	1	241214	PIN
38	1	241213	RETAINING RING
39	1	330601	SEAL KIT (FOR CYLINDER 241166)
40	2	241172	HOSE HYD.

NOTES:

1. TO CONVERT A 14' – 20' MANUAL EXTENSION BOOM TO A 14' - 20' POWER EXTENSION BOOM ORDER KIT NUMBER 240280 (FOR 12/24 VOLT UNITS), OR KIT 330535 (FOR 220/24, 110/24 VOLT UNITS).

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	D/S	PART NO.	DESCRIPTION
5	2	017400	NUT, HEX. HLF. LK. 3/8 NF CP
4	2	009108	SCREW, HEX. HD 3/8 X 1 1/4 NF CPG5
3	2	200910	SHEAVE ASSEMBLY (BEARING, 201800)
2	1	240265	SHEAVE PLATE
1	1	240264	SHEAVE PLATE

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
DATE 2/12/81
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

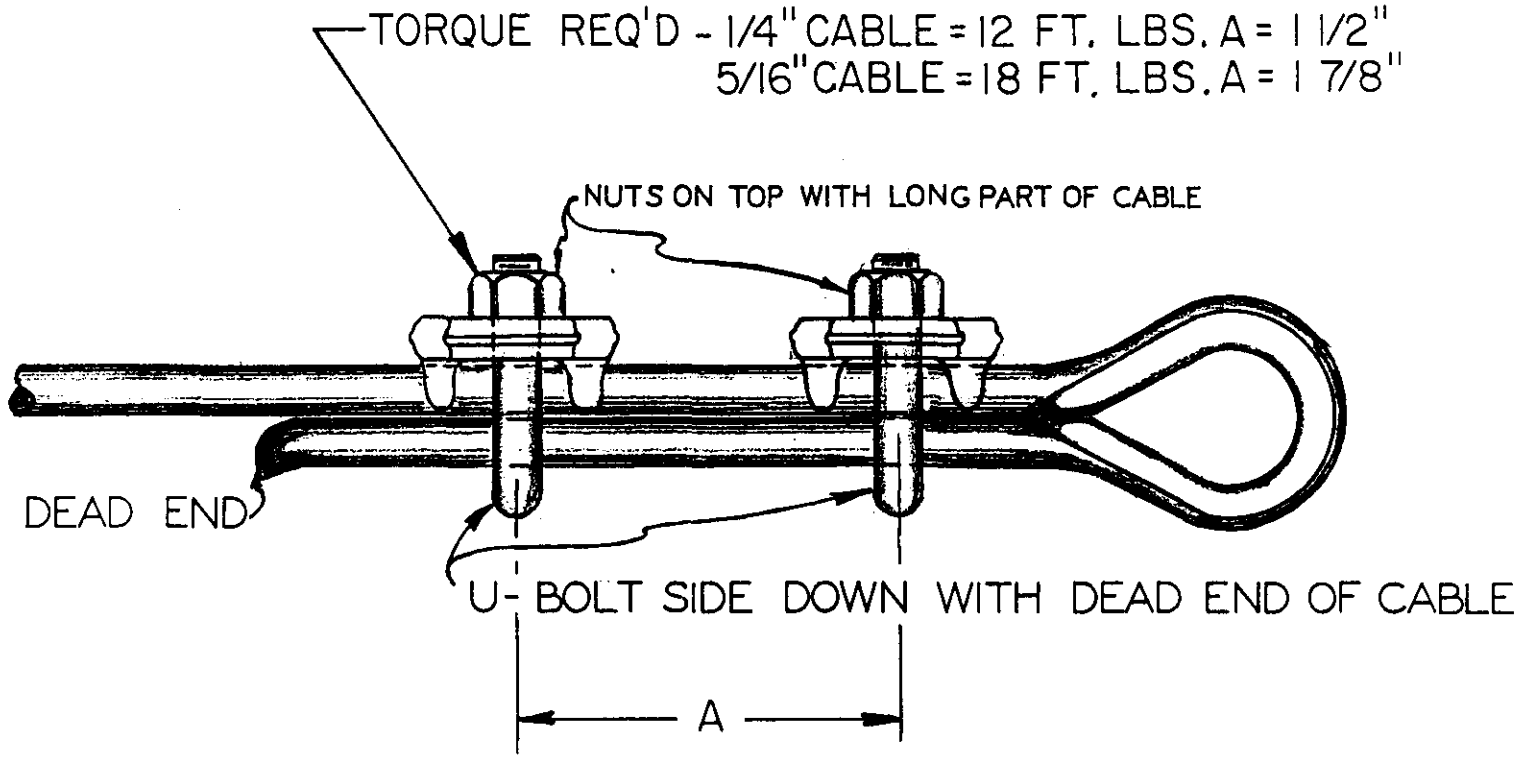
AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918 627 9475

TITLE
CABLE GUIDE ASSEMBLY

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-240263	3-81

WEIGHT — SHEET 1 OF 1

6-8.0.0



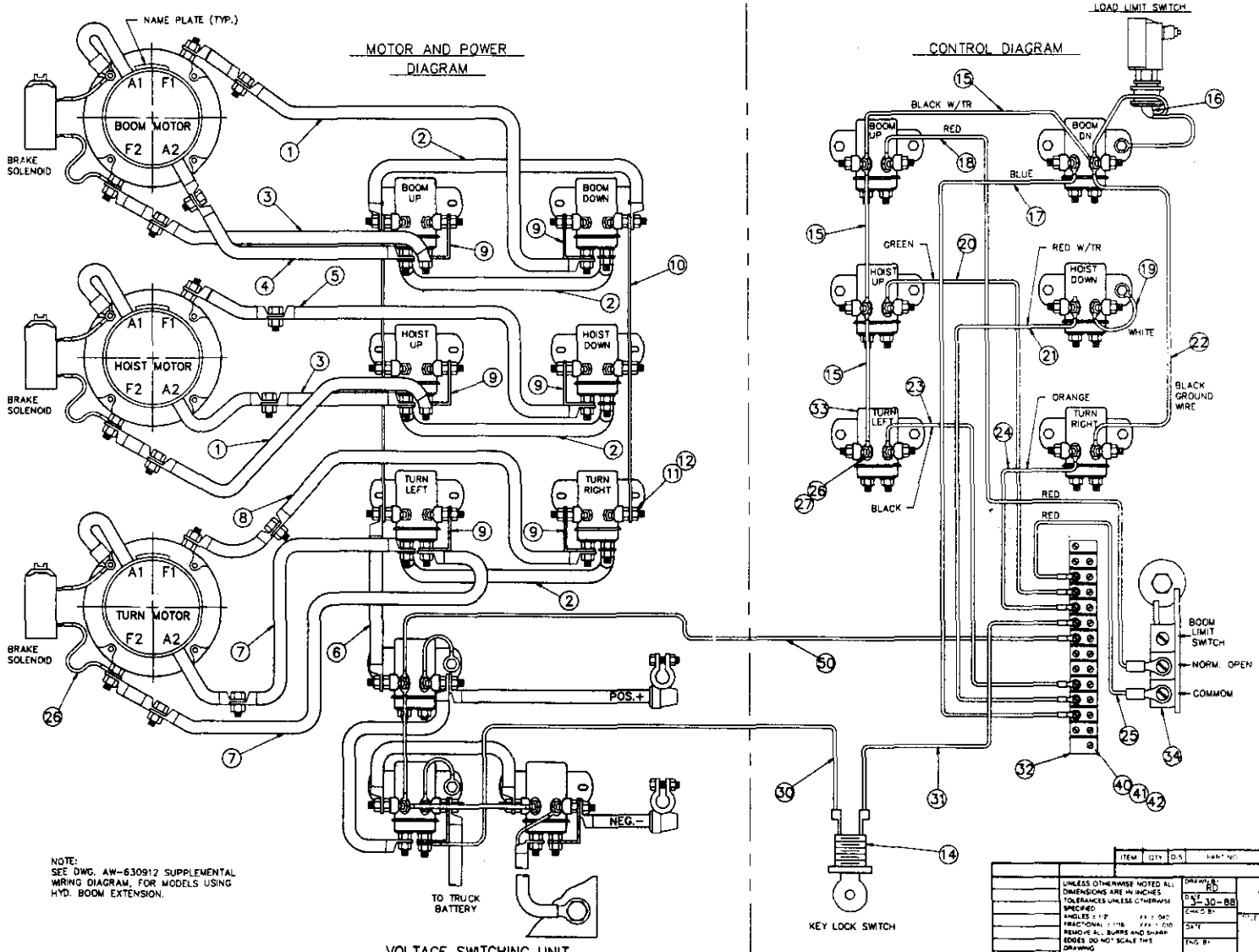
REVISIONS		
NO.	DATE	BY
1		
2		
3		
4		
5		

AUTO CRANE CO.
TULSA, OKLAHOMA

INSTALLATION OF CABLE CLAMP

DRAWN BY CATES	SCALE FULL	MATERIAL NOTED
CHK'D	DATE 3-8-72	DRAWING NO. M-124
TRACED	APP'D	

6-6-0



NOTE:
SEE DWG. AW-630912 SUPPLEMENTAL WIRING DIAGRAM, FOR MODELS USING HYD. BOOM EXTENSION.

12/24

8/88

AUTO CRANE COMPANY
P.O. BOX 580697 • TULSA, OKLAHOMA 74158-0697
4701 NORTH MINGO ROAD • 918 836-1463

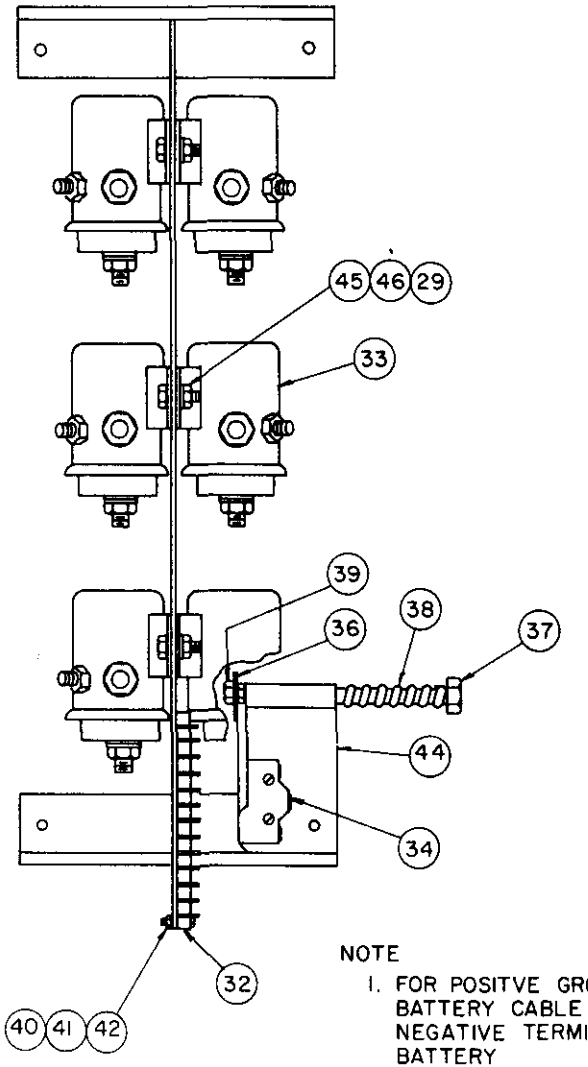
RELAY PANEL ASSEMBLY

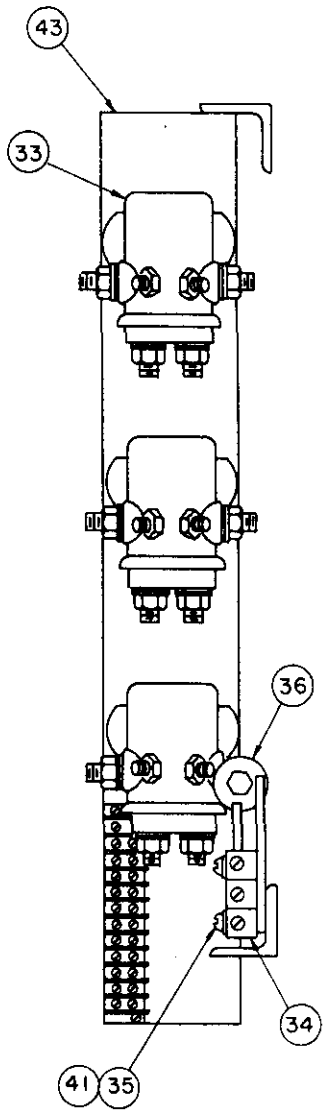
DRAWING NO. AW-676106 REVISION

SHEET 1 OF 2

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





NOTE

1. FOR POSITVE GROUND, RED BATTERY CABLE GOES TO NEGATIVE TERMINAL OF BATTERY

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 ± .040
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
CHK'D BY
DATE
ENG BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
RELAY PANEL ASSEMBLY

SCALE	SIZE	DRAWING NO	REVISION
	C	AW-676106	

WEIGHT

SHEET 2 OF 2

7-1.1.0

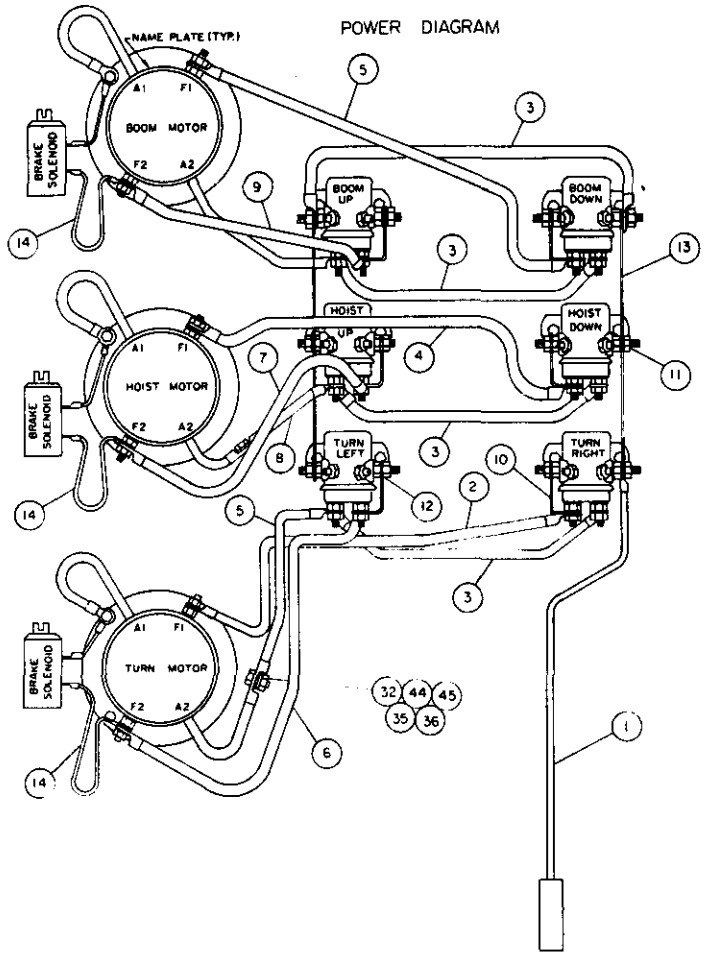
RELAY PANEL ASSEMBLY - AW-676106

ITEM	QTY.	PART NO.	DESCRIPTION
1	3	622316	CONDUCTOR
2	4	600304	CONDUCTOR
3	1	622310	CONDUCTOR
4	1	622306	CONDUCTOR
5	1	622321	CONDUCTOR
6	1	600316	CONDUCTOR
7	1	622326	CONDUCTOR
8	1	622331	CONDUCTOR
9	6	658300	BUS BAR
10	2	658500	BUS BAR
11	36	REF.	5/16 N.F. CAD PL. HLF. NUT
12	24	020700	5/16 LOCKWASHER INT. LK.
13	3	660000	BRAKE LEAD ASSEMBLY
14	1	640700	SWITCH, PENDANT LOCK
15	3	660406	CONDUCTOR (BLACK W/T)
16	1	REF.	CONDUCTOR
17	1	660223	CONDUCTOR (BLUE)
18	1	660226	CONDUCTOR (RED)
19	1	659904	CONDUCTOR (WHITE)
20	1	660229	CONDUCTOR (GREEN)
21	1	660218	CONDUCTOR (RED W/T)
22	1	660415	CONDUCTOR (BLACK)
23	1	660206	CONDUCTOR (BLACK)
24	1	660230	CONDUCTOR (ORANGE)
25	1	660310	CONDUCTOR (RED)
26	24	REF.	#10 - 32 HX. NUT, CAD. PL.
27	12	020001	#10 LOCKWASHER CAD. PL.
28			
29	6	020200	WASHER, SP. LK. 1/4
30	1	REF.	CONDUCTOR (RED)
31	1	660812	CONDUCTOR (WHITE)
32	1	635200	TERMINAL BOARD
33	6	200182	RELAY, 12 V.
34	1	654100	SWITCH
35	2	000404	SCREW RD. SLT. HD. # 6-32 X 5/8 LG.
36	1	020900	5/16 X 1 1/4 O.D. FENDER WASHER
37	1	007808	5/16 - 18 N.C. X 6" HX. HD. SCREW
38	1	301401	SPRING
39	2	016500	5/16 - 18 N.C. HX. NUT
40	2	000602	#6-32 N.C. X 1" RD. HD. MACH. SCREW
41	4	019600	#6 LOCKWASHER
42	2	015400	NUT HX. # 6-32
43	1	305401	PANEL BRACKET MEMBER
44	1	654000	BOOM, LIMIT BRACKET
45	6	005901	SCREW, HX. HD. 1/4 - 20 N.C. X 1/2" LG.
46	6	015900	NUT HX. 1/4 - 20 N.C.
47	4	663100	CABLE TIE (NOT SHOWN)
48	2	663200	CABLE TIE (NOT SHOWN)
49			
50	1	REF.	CONDUCTOR (BLACK W/T)

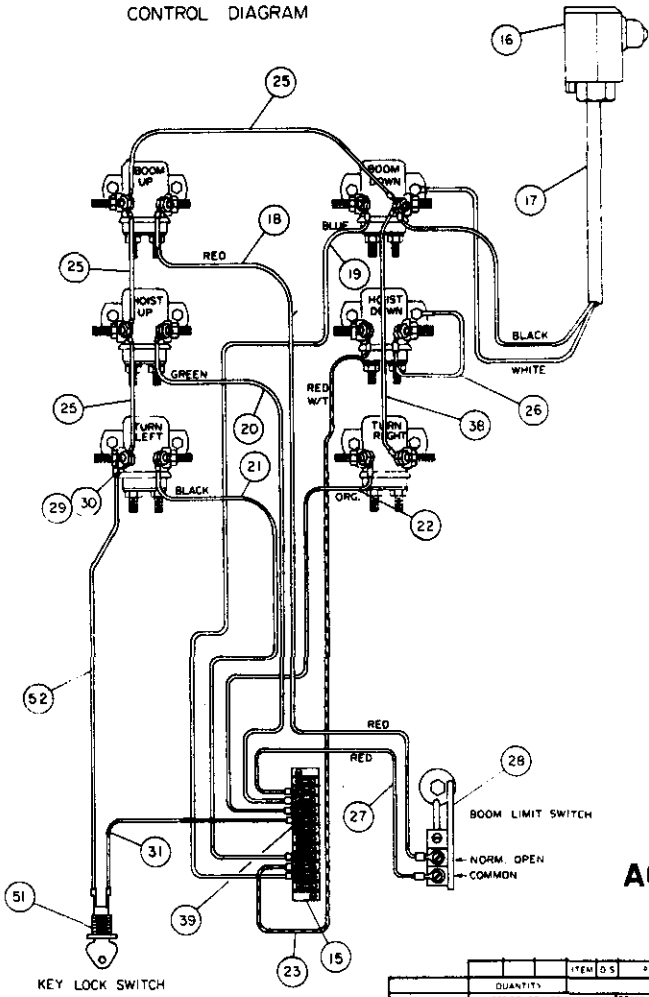
FIXTURE NO | FINISH NO

REVISIONS
CHG NO | DESCRIPTION | DATE | APPD

POWER DIAGRAM



CONTROL DIAGRAM



AC APPLICATIONS

8/88

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 ± .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 12-3-86
CHK'D BY
DATE
ENG. BY
DATE
NEXT ASSY

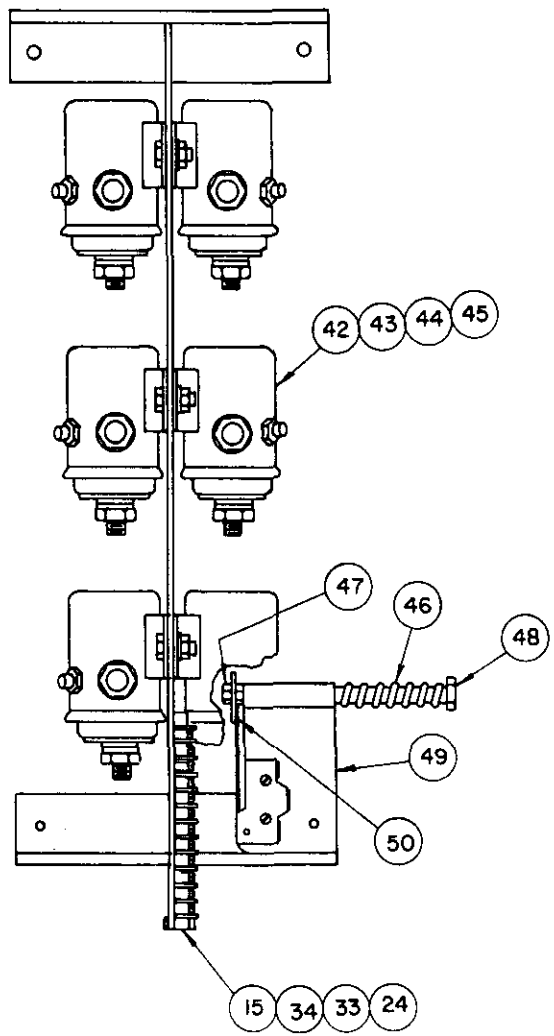
AUTO CRANE COMPANY
P.O. BOX 45846 • TULSA, OKLAHOMA 74145
3260 BROKEN ARROW EXPRESSWAY • 918/627-8415

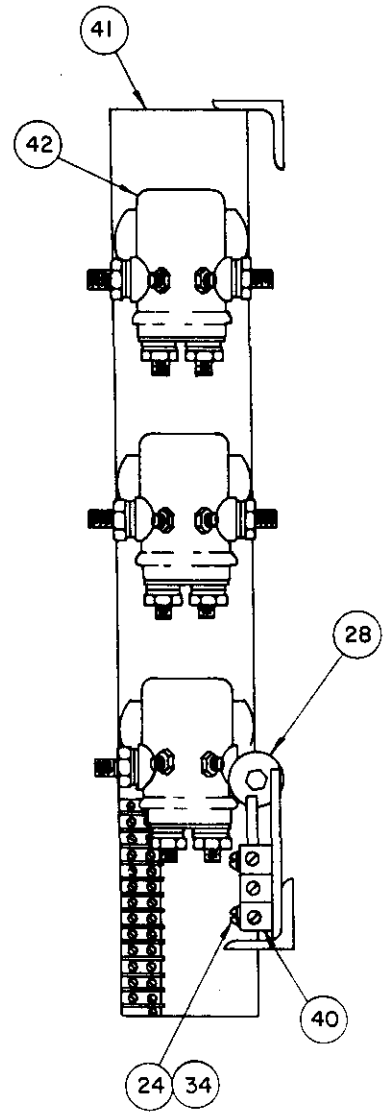
TITLE
WIRING DIAGRAM 220/24 VOLT
110/24 VOLT

SCALE | SIZE D | DRAWING NO AW-699012 | REVISION
WEIGHT | SHEET 1 OF 2

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 ± .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
DATE 10/25/90
CHK'D BY
DATE
ENG BY
DATE

NEXT ASSY

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918 627-9475

TITLE
RELAY PANEL ASSEMBLY

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-699012	

WEIGHT

SHEET 2 OF 2

7-2.1.0

RELAY ASSEMBLY - AW-699012

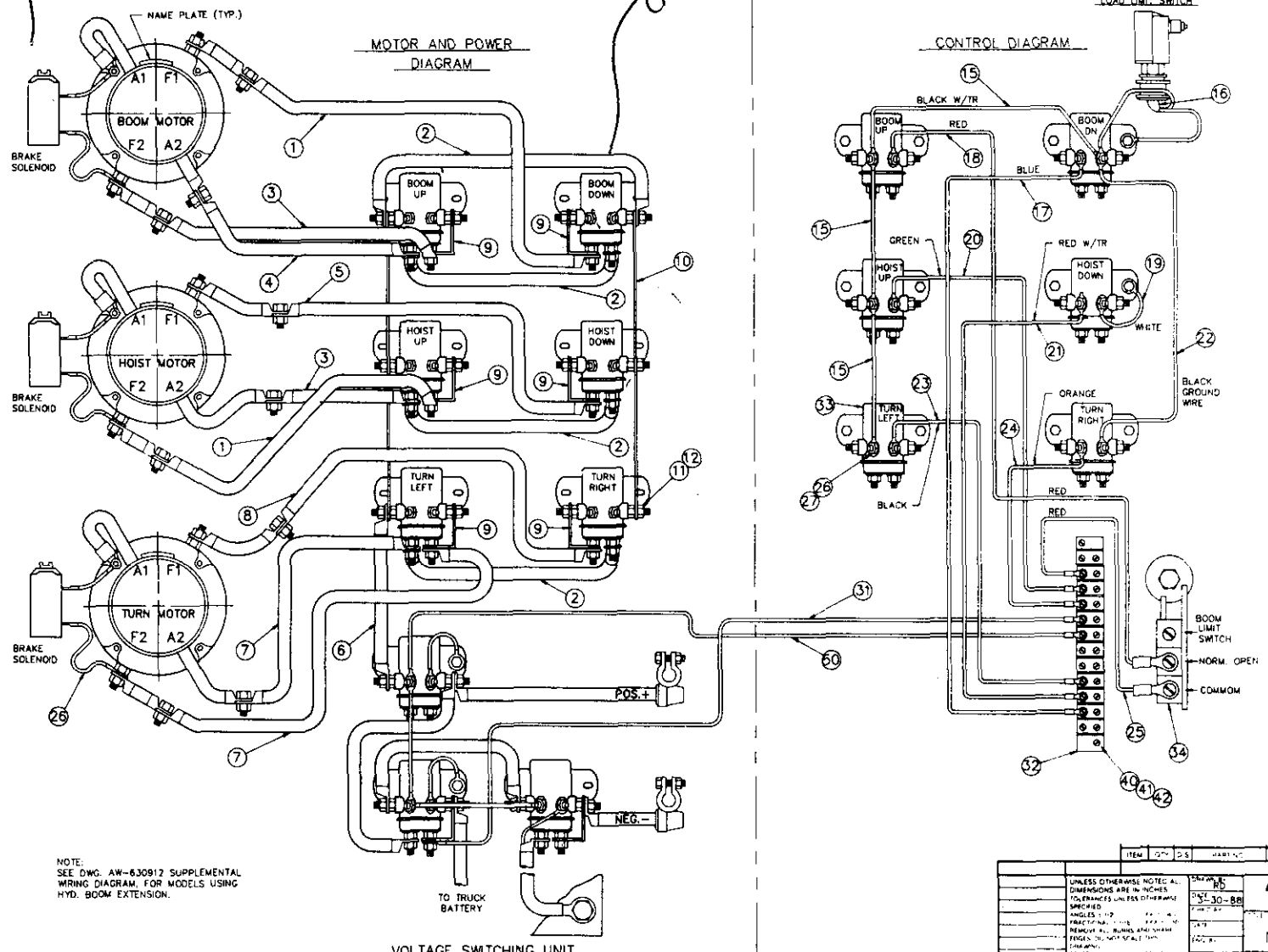
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	614230	CONDUCTOR
2	1	622331	CONDUCTOR
3	4	600304	CONDUCTOR
4	1	622321	CONDUCTOR
5	2	622318	CONDUCTOR
6	1	622326	CONDUCTOR
7	1	622316	CONDUCTOR
8	1	622304	CONDUCTOR
9	1	622310	CONDUCTOR
10	6	658300	CONDUCTOR
11	28	016800	5/16 N.F. CAD. PL. HALF NUT
12	28	020700	5/16 INTERNAL SHAKEPROOF LOCKWASHER
13	2	658500	RELAY CONDUCTOR
14	3	660000	BRAKE LEAD ASS'Y
15	1	635200	TERNIMAL BOARD
16	1	646900	SWITCH
17	1	655636	CONDUCTOR ASS'Y
18	1	660226	CONDUCTOR
19	1	660223	CONDUCTOR
20	1	660229	CONDUCTOR
21	1	660206	CONDUCTOR
22	1	660230	CONDUCTOR
23	1	660218	CONDUCTOR
24	4	019600	#6 SPLIT LOCKWASHER
25	3	660406	CONDUCTOR
26	1	659904	CONDUCTOR
27	1	660310	CONDUCTOR
28	1	659700	BOOM LIMIT SWITCH
29	16	015600	#10-32 CAD. PL. HX. NUT
30	16	020001	#10 CAD. PL. LOCKWASHER
31	1	660312	CONDUCTOR
32	2	005901	1/4 X 1/2 CAD. PL. CAPSCREW
33	2	015400	NUT HX. #6-32
34	4	000404	SCREW RD. SLOT HD. #6-32 X 5/8
35	4.5"	800589	ELECT. INSULATION PUTTY
36	90"	800580	BLK. VINYL ELECT. TAPE
37	17	634401	CABLE TIE (MEDIUM)
38	1	660417	CONDUCTOR (BLK W/T)
39	1	636600	JUMPER BAR
40	1	654100	SWITCH
41	1	305401	PANEL, BRACKET
42	6	650524	RELAY 24V
43	6	005401	SCREW, HX. HD. 1/4 - 20 X 5/8"
44	8	015900	NUT, HX. HD. 1/4 - 20 X 1/2"
45	8	020200	WASHER SPLIT LOCK 1/4
46	1	301401	SPRING
47	2	016500	5/16 - 18 N.C. HX. NUT
48	1	007808	5/16 - 18 N.C. X 6" HX. CAPSCREW
49	1	654000	BOOM LIMIT BRACKET
50	1	020900	5/16 FENDER WASHER 1 1/4 O.D.

RELAY ASSEMBLY - AW-699012 CONT'D

ITEM	QTY.	PART NO.	DESCRIPTION
51	1	640700	SWITCH, PENDANT LOCK
52	1	660240	CONDUCTOR

Solenoid
306413 12V
306401 24V

Solenoid 300182
(relay coil)



NOTE:
SEE DWG. AW-630912 SUPPLEMENTAL WIRING DIAGRAM, FOR MODELS USING HYD. BOOM EXTENSION.

VOLTAGE SWITCHING UNIT
(REF. AW-301015)

8/88

ITEM	QTY	DESCRIPTION

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED

DRAWN RD
DATE 3-30-88

AUTO CRANE COMPANY
P.O. BOX 580697, TULSA, OKLAHOMA 74158-0697
4707 NORTH MINGO ROAD 918 836-0411

RELAY PANEL ASSEMBLY FOR REMOVABLE PENDANT

SIZE D | DRAWING NO. AW-676105 | REVISION

SHEET 1 OF 2

NEXT ASSY

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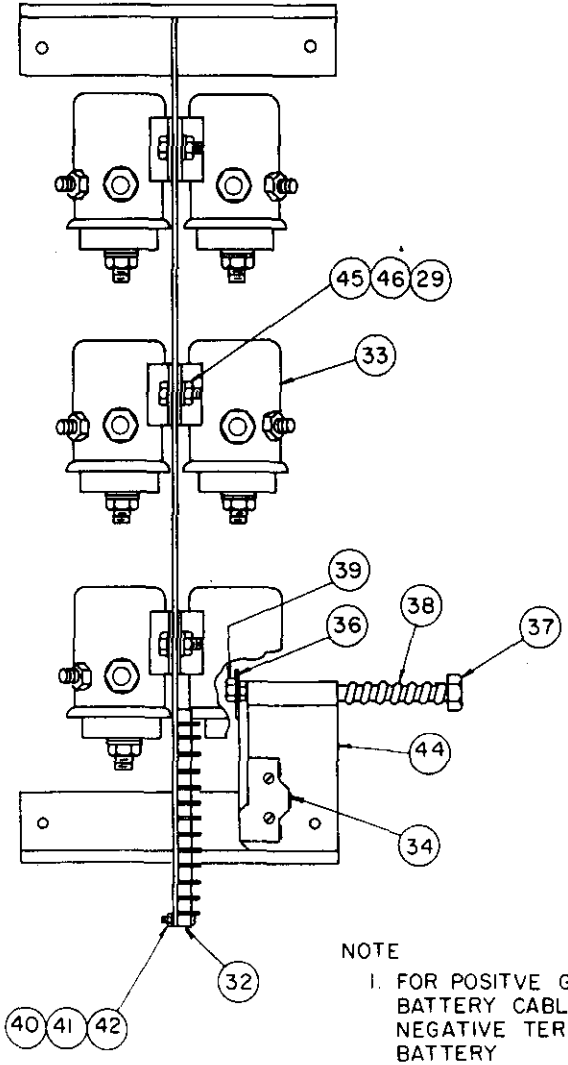
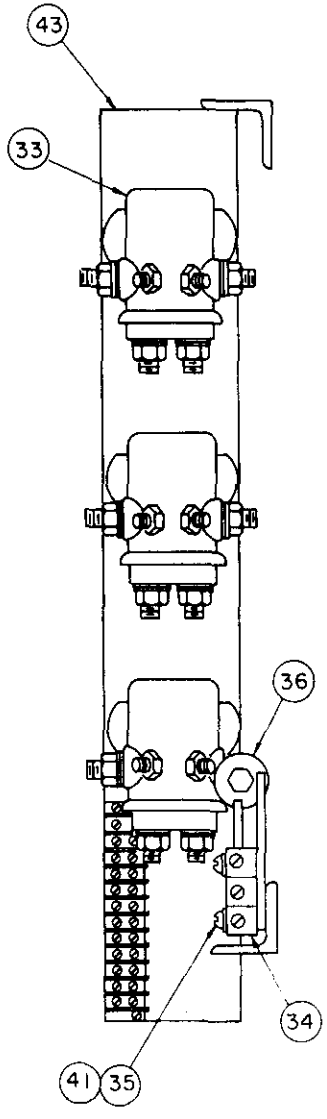
FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





NOTE

1. FOR POSITVE GROUND, RED BATTERY CABLE GOES TO NEGATIVE TERMINAL OF BATTERY

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 ± .040
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 | CHK'D BY | DATE | ENG BY | DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: RELAY PANEL ASSEMBLY

SCALE	SIZE	DRAWING NO	REVISION
	C	AW-676105	

WEIGHT

SHEET 2 OF 2

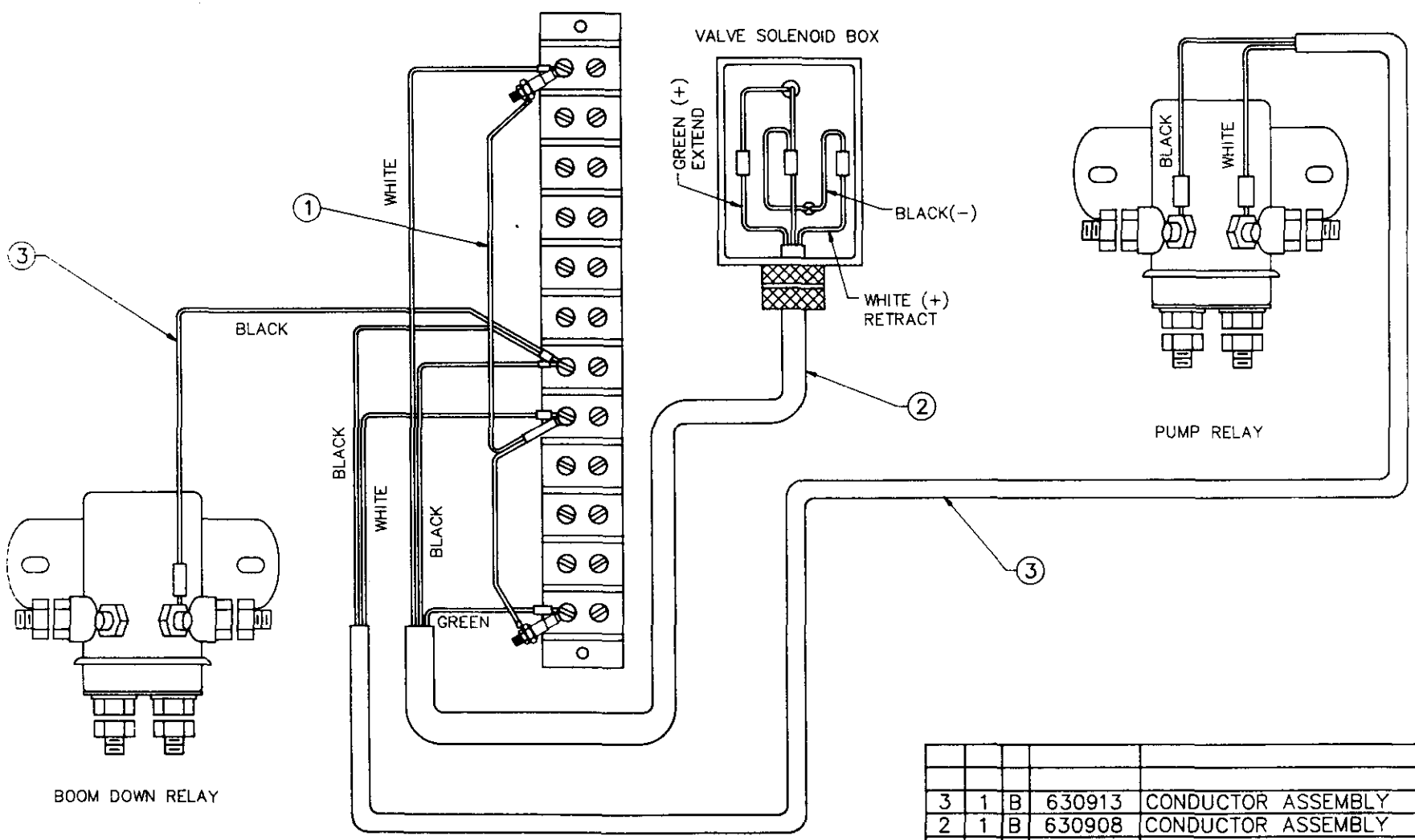
7-3.1.0

RELAY PANEL ASSEMBLY - AW-676105

ITEM	QTY.	PART NO.	DESCRIPTION
1	2	622316	CONDUCTOR
2	4	600304	CONDUCTOR
3	2	622310	CONDUCTOR
4	1	622306	CONDUCTOR
5	1	622321	CONDUCTOR
6	1	600316	CONDUCTOR
7	2	622326	CONDUCTOR
8	1	622331	CONDUCTOR
9	6	658300	BUS BAR
10	2	658500	BUS BAR
11	36	016800	5/16 N.F. CAD PL. HALF NUT
12	24	020700	5/16 LOCKWASHER INT. LK.
13	3	660000	BRAKE LEAD ASSEMBLY
14			
15	3	660406	CONDUCTOR (BLACK W/TR)
16	1	655636	CONDUCTOR
17	1	660223	CONDUCTOR (BLUE)
18	1	660226	CONDUCTOR (RED)
19	1	659904	CONDUCTOR (WHITE)
20	1	660229	CONDUCTOR (GREEN)
21	1	660218	CONDUCTOR (RED W/TR)
22	1	660415	CONDUCTOR (BLACK)
23	1	660206	CONDUCTOR (BLACK)
24	1	660230	CONDUCTOR (ORANGE)
25	1	660310	CONDUCTOR (RED)
26	24	015600	#10-32 HX. NUT CAD. PL. INT.
27	12	020001	#10 LOCKWASHER CAD. PL.
28			
29	6	020200	WASHER SP. LK. 1/4
30			
31	1	330664	CONDUCTOR (RED)
32	1	635200	TERMINAL BOARD
33	6	200182	RELAY 12 VOLT
34	1	654100	SWITCH
35	2	000404	SCREW RD. SLT. HD. #6-32 X 5/8" LG.
36	1	020900	5/16 X 1 1/4 O.D. FENDER WASHER
37	1	007808	5/16 - 18 N.C. X 6" HX. HD. SCREW
38	1	301401	SPRING
39	2	016500	5/16 N.C. HX. NUT
40	2	000602	#6-32 N.C. X 1" RD. HD. MACH. SCREW
41	4	019600	#6 LOCKWASHER
42	2	015400	#6-32 HX. NUT
43	1	305401	PANEL BRACKET MEMBER
44	1	654000	BOOM LIMIT BRACKET
45	6	005901	SCREW HEX. HD. 1/4 - 20 N.C. X 1/2"
46	6	015900	1/4 - 20 N.C. HX. NUT
47	4	663100	CABLE TIE (NOT SHOWN)
48	2	663200	CABLE TIE (NOT SHOWN)
49			
50	1	660406	CONDUCTOR (BLACK W/TR)

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



ITEM	QTY	D/S	PART NO.	DESCRIPTION
3	1	B	630913	CONDUCTOR ASSEMBLY
2	1	B	630908	CONDUCTOR ASSEMBLY
1	1	B	630907	CONDUCTOR ASSEMBLY

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES.
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° | .XX ± .040
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 RD
DATE 3-30-88
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
SUPPLEMENTAL WIRING DIAGRAM FOR HYD. BOOM EXTENSION

SCALE	SIZE	DRAWING NO.	REVISION
	C	AW-630912	

WEIGHT

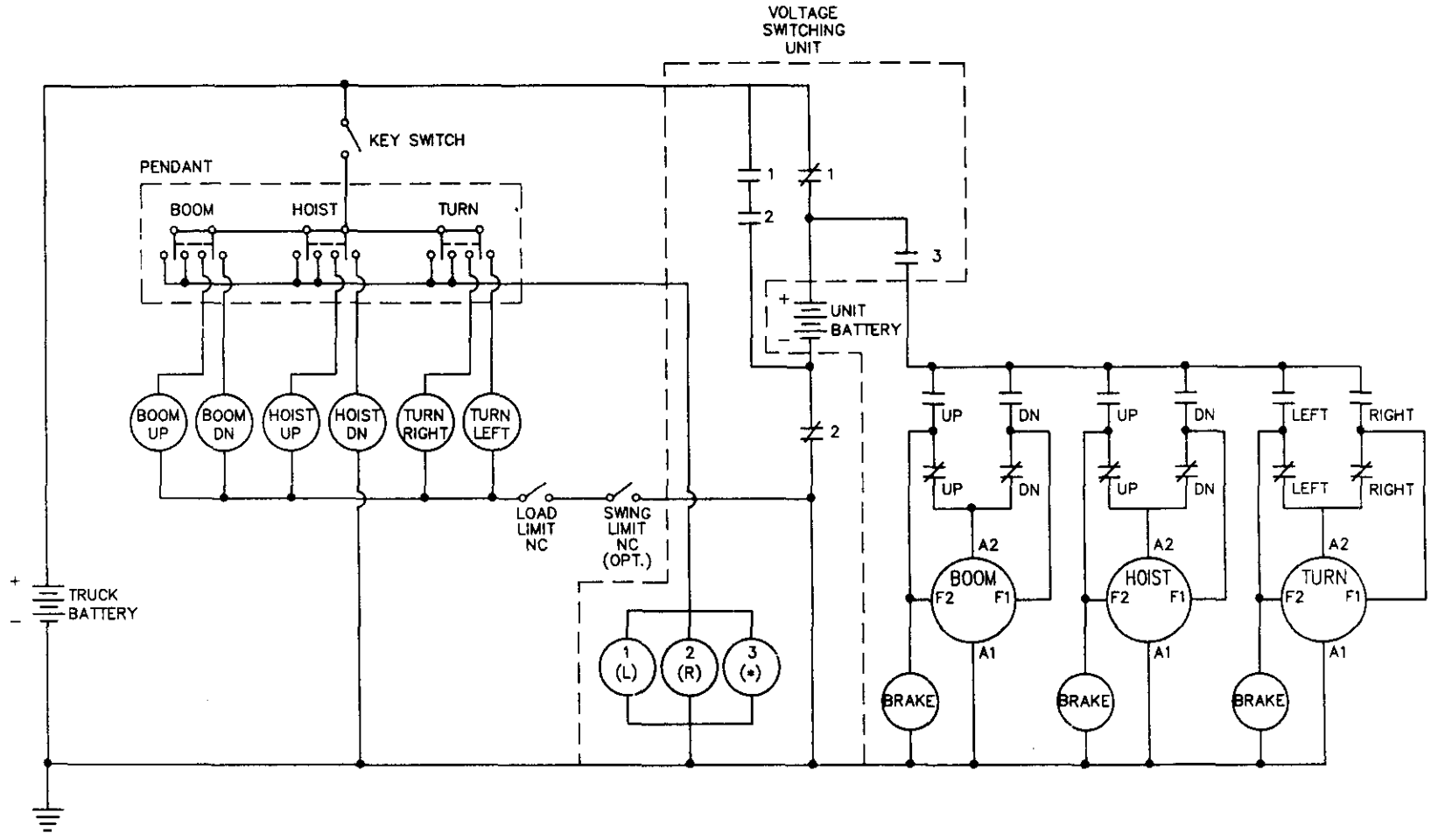
SHEET 1 OF 1

7-4.0.0

91233

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



7-5.0

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 ± .040
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

NEXT ASS'Y

DRAWN BY R.D.
DATE 2-17-88
CHK'D BY
DATE
ENG. BY
DATE

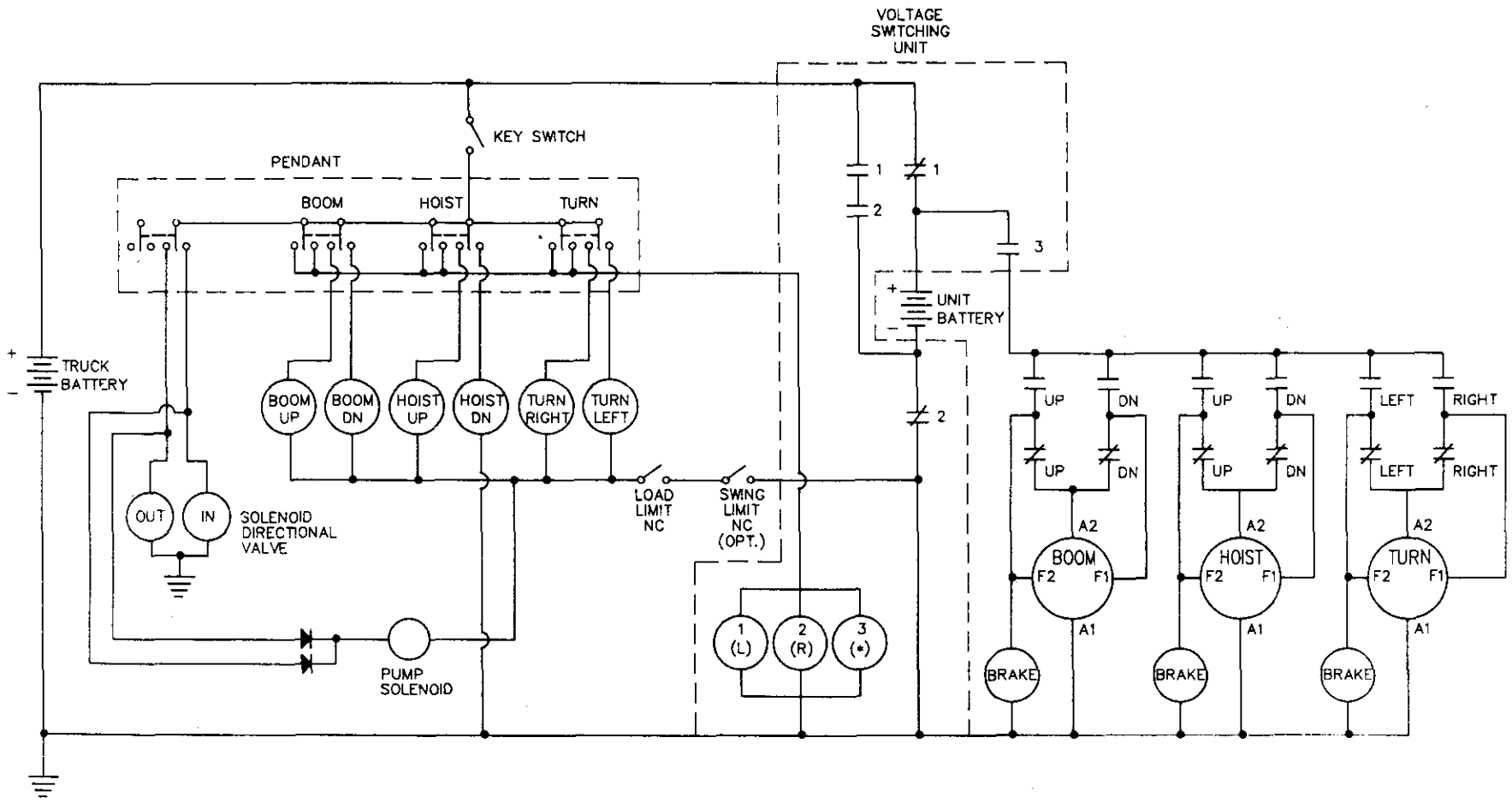
AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9280 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
ELECTRICAL SCHEMATIC
12\24 VOLT

SCALE - | SIZE C | DRAWING NO AW-026 | REVISION -
WEIGHT | SHEET 1 OF 1

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



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 ± .040
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

NEXT ASS'Y

DRAWN BY R.D.
DATE 2-15-88
CHK'D BY
DATE
ENG. BY
DATE

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
ELECTRICAL SCHEMATIC
12\24 VOLT POWER EXTENSION

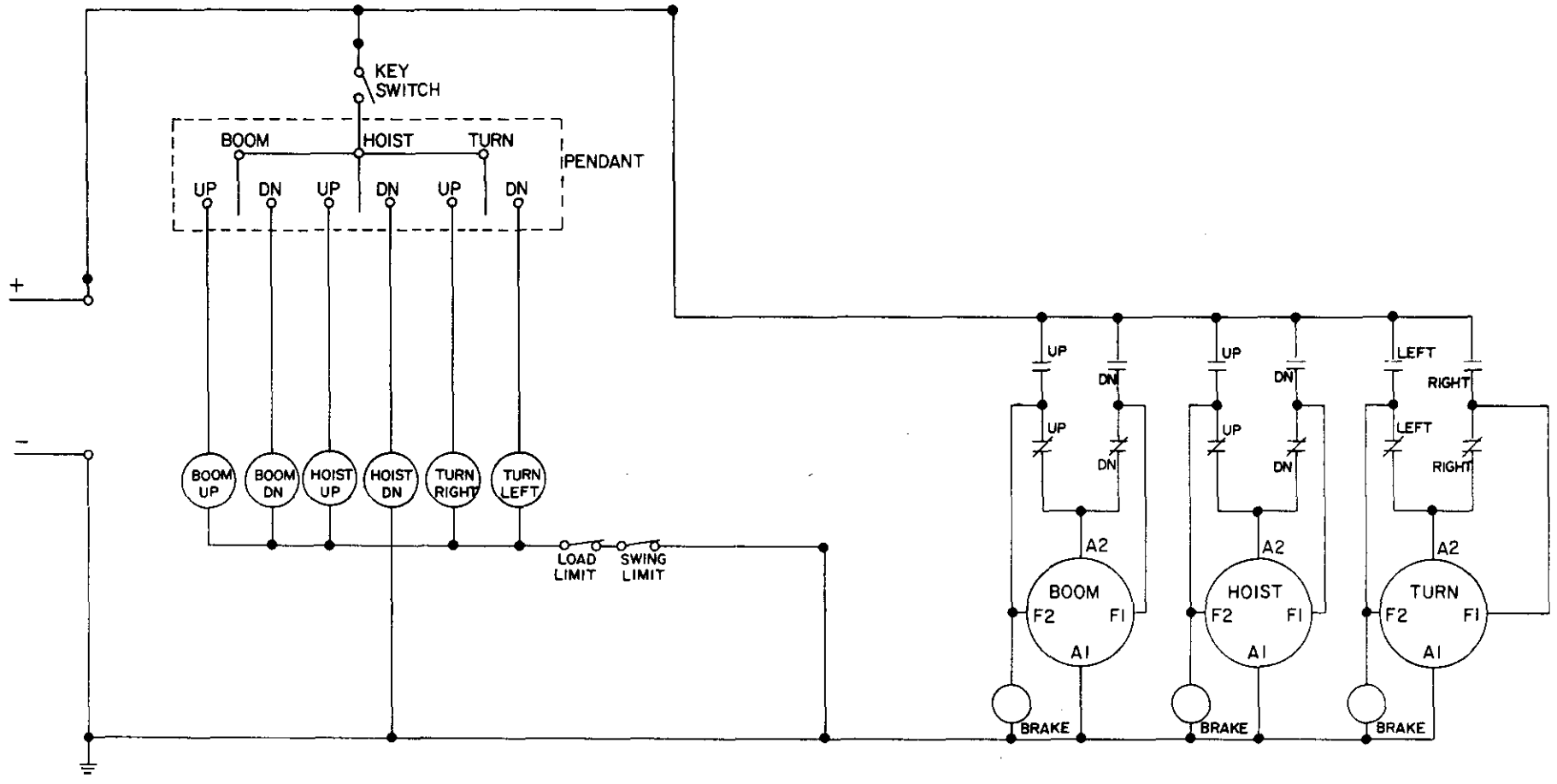
SCALE	SIZE	DRAWING NO.	REVISION
-	C	AW-064	-

WEIGHT

SHEET 1 OF 1

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



7-7.0.0

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

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NEXT ASS'Y

DRAWN BY JDA
DATE 11/9/81
CHK'D BY
DATE
ENG. BY
DATE

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
ELECTRICAL SCHEMATIC
24 VOLT

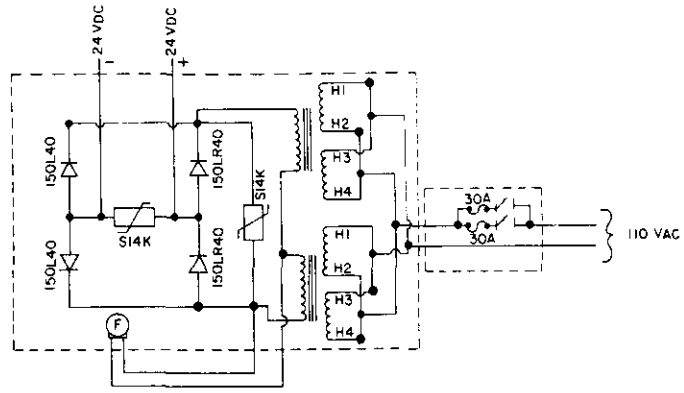
SCALE	SIZE	DRAWING NO	REVISION
~	C	AW-301013	

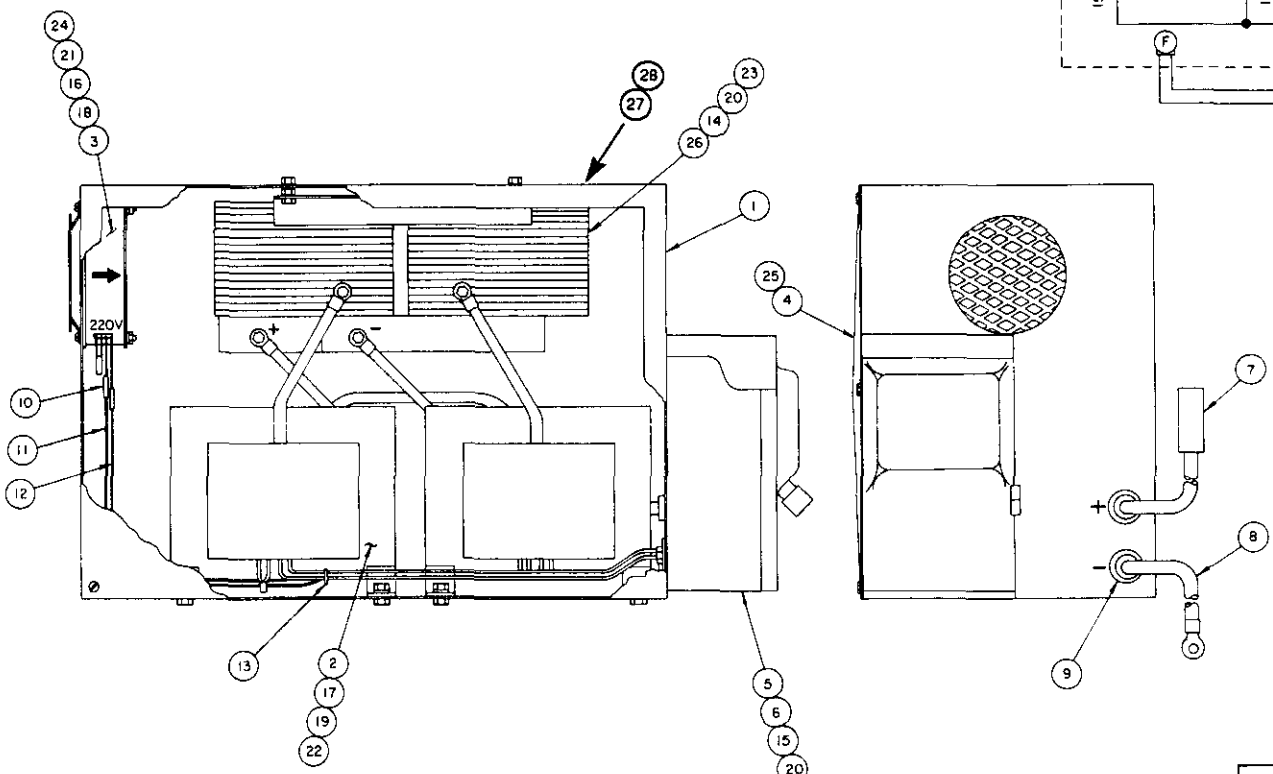
WEIGHT

SHEET 1 OF 1

FIXTURE NO. | FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





ITEM	QTY	PART NO.	DESCRIPTION
28	1	040606	DECAL 110 V.
27	1	330070-001	DECAL, VOLT. CONV.
26	1	699023	RECTIFIER - 24 VOLT
25	10	002006	SCREW, HX. SL. HD. #10 ST - A
24	4	015400	NUT, HEX #6 NCCP
23	11	015900	NUT, HEX 1/4 NCCP
22	8	016500	NUT, HEX. 5/16 NCCP
21	4	019600	WASHER, SPLK #6 CP
20	11	020200	WASHER, SPLK 1/4 CP
19	8	020600	WASHER, SPLK 5/16 CP
18	1	699022	GUARD, FINGER
17	8	007402	SCREW, HX HD. 5/16 NCG5 X 5/8
16	4	000606	SCREW, RD. HD. #6 NCCP X 2
15	3	005901	SCREW, HX HD. 1/4 NCCP G5 X 1/2
14	4	005500	SCREW, HX. HD. 1/4 NCCP G5 X 3/4
13	6	663200	TIE, CABLE
12	1	800591-003	WIRE, ELEC. 16 GA. BRN.
11	1	800590-010	WIRE, ELEC. 16 GA. BLK
10	2	000302	SPLICE, 2RB 14
9	3	619201	GROMMET, SNAP-IN
8	1	330006	CONDUCTOR
7	1	330007	POWER CABLE
6	2	699014	FUSE, CARTRIDGE - 30A
5	1	699013	BOX, FUSE
4	1	699020	COVER, VOLTAGE CONVERTER
3	1	330397	FAN, ELECTRIC
2	1	699018	TRANSFORMER SET
1	1	699019	HOUSING, VOLTAGE CONVERTER

LIST OF MATERIAL

R05/84

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES

AUTO CRANE COMPANY

P.O. BOX 45468 • TULSA, OKLAHOMA 74145
1710 BROKEN ARROW EXPRESSWAY • 918/627-0415

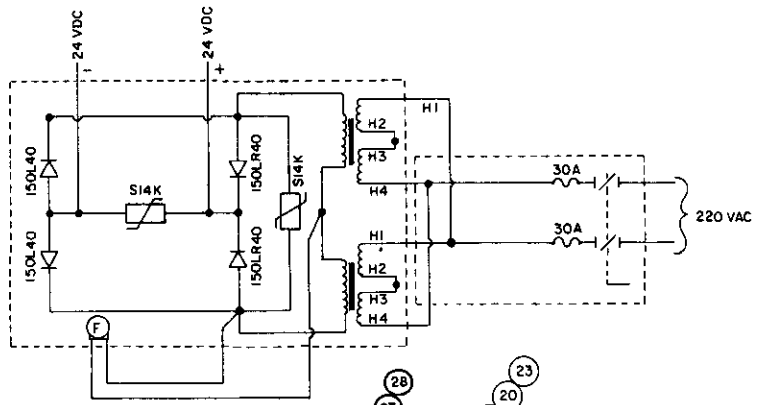
VOLTAGE CONVERTER ASSEMBLY

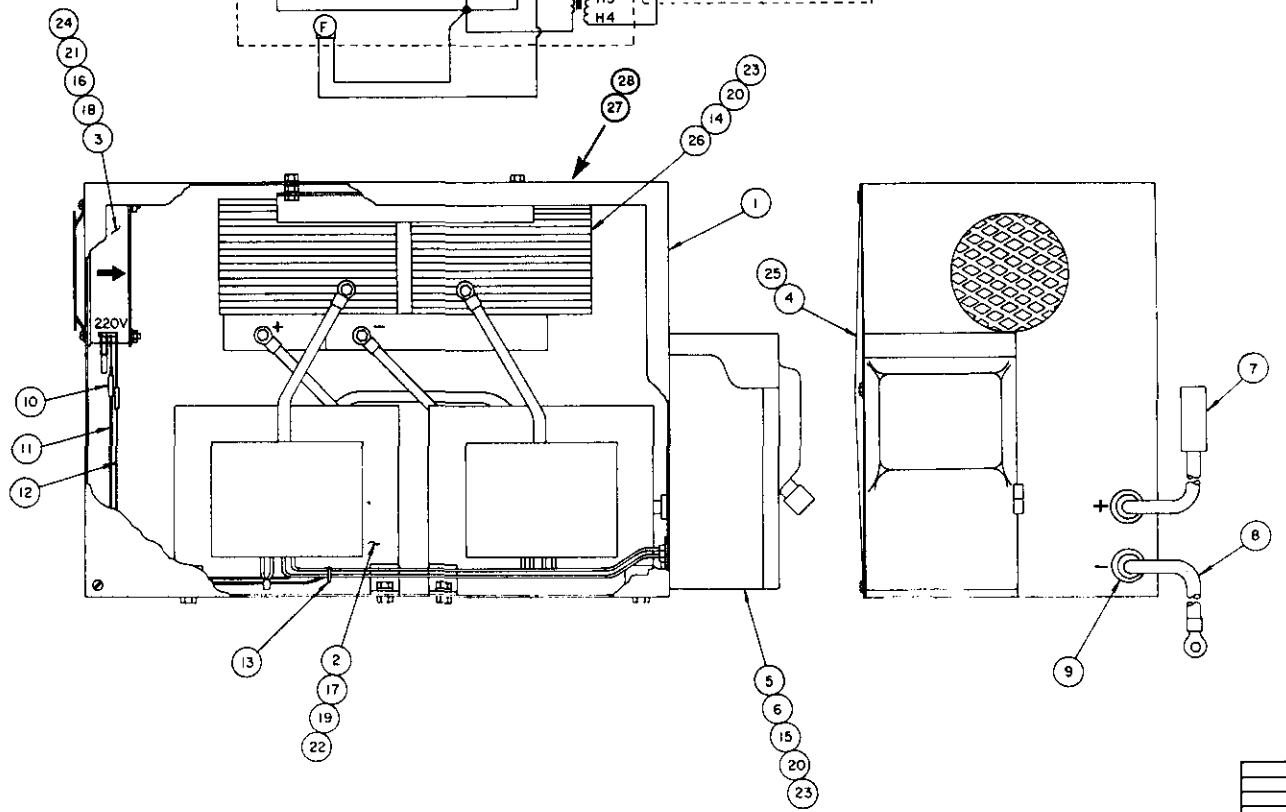
SIZE D | DRAWING NO. AW - 330070 | REVISION

SHEET 1 OF 1

FIXTURE NO | FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





ITEM	QTY	D.S.	PART NO	DESCRIPTION
28	1		699011-001	DECAL, VOLT. CONV.
27	1		040608	DECAL, DANGER 220 V.
26	1		699023	RECTIFIER - 24 VOLT
25	10		002006	SCREW, HX. SL. HD. #10 ST - A
24	4		015400	NUT, HEX #6 NCCP
23	11		015900	NUT, HEX. 1/4 NCCP
22	8		016500	NUT, HEX. 5/16 NCCP
21	4		019600	WASHER, SPLK #6 CP
20	11		020200	WASHER, SPLK 1/4 CP
19	8		020600	WASHER, SPLK 5/16 CP
18	1		699022	GUARD, FINGER
17	8		007402	SCREW, HX HD 5/16 NCG5 X 5/8
16	4		000606	SCREW, RD HD #6 NCCP X 2
15	3		005901	SCREW, HX HD 1/4 NCCP G5 X 1/2
14	4		005500	SCREW, HX HD 1/4 NCCP G5 X 3/4
13	6		663200	TIE, CABLE
12	1		800591-003	WIRE, ELEC 16 GA BRN
11	1		800590-010	WIRE, ELEC 16 GA BLK
10	2		000302	SPLICE, 2RB 14
9	3		619201	GROMMET, SNAP-IN
8	1		330006	CONDUCTOR
7	1		330007	POWER CABLE
6	2		699014	FUSE, CARTRIDGE - 30A
5	1		699013	BOX, FUSE
4	1		699020	COVER, VOLTAGE CONVERTER
3	1		330397	FAN, ELECTRIC
2	1		699018	TRANSFORMER SET
1	1		699019	HOUSING, VOLTAGE CONVERTER

LIST OF MATERIAL

R05/84

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED: ANG. ±1° | .X ± .1 | .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. THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.

DRAWN BY: JCM | DATE: 7-5-91 | CHK'D BY | DATE | ENG'R | DATE | NEXT ASSY

AUTO CRANE COMPANY
P.O. BOX 45568 • TULSA, OKLAHOMA 74145
5260 BROKEN ARROW EXPRESSWAY • 918/627-9475

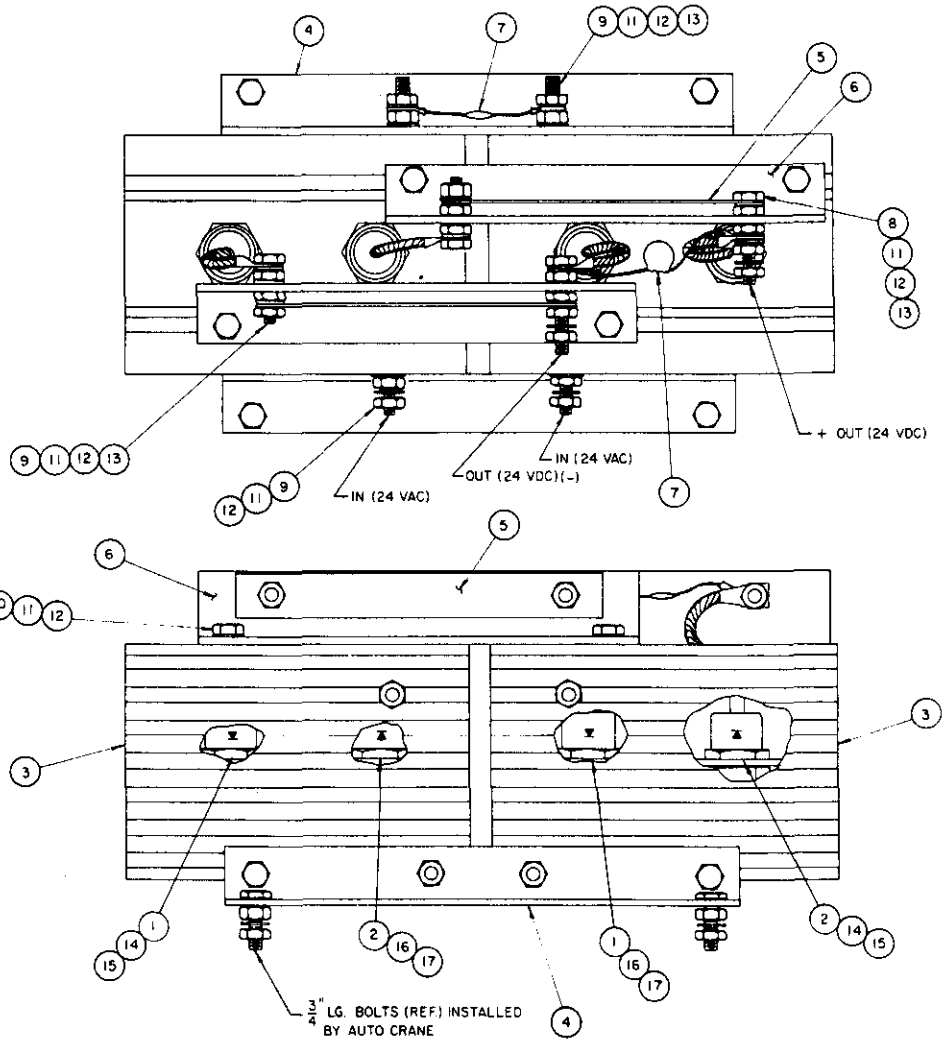
TITLE: VOLTAGE CONVERTER ASSEMBLY 220 VAC/24 VDC

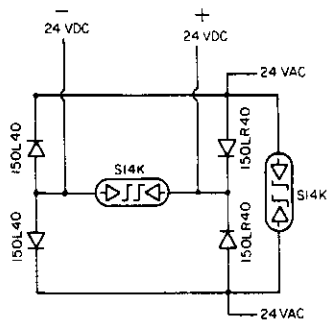
SCALE: ~ | SIZE: D | DRAWING NO: AW-699011 | REVISION

WEIGHT | SHEET 1 OF 1

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





ITEM	QTY	D.S	PART NO	DESCRIPTION
17	2		021400	WASHER, INTLK. 3/8
16	2		017200	NUT, 3/8-24 HX. HLF.
15	2		021501	WASHER, INTLK. 1/2
14	2		006012	NUT, 1/2-20 HX. HLF.
13	8		006011	WASHER, FLT. 1/4 BRASS
12	36		020201	WASHER, INTLK. 1/4
11	26		006010	NUT, 1/4-20 BRASS
10	4		006009	BOLT, 1/4-20 X 1/2" LG. BRASS
9	6		006008	BOLT, 1/4-20 X 1" LG. BRASS
8	2		006007	BOLT, 1/4-20 X 1 1/2" BRASS
7	2		699028	VARISTOR ASSEMBLY
6	2		699026	CONDUCTOR MOUNT, FIB.
5	2		699025	CONDUCTOR
4	2		699024	ANGLE, MOUNTING - FIB.
3	2		630950	HEAT SINK
2	2		336062	DIODE (150RL40)
1	2		336063	DIODE (150L40)

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 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 1972
THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS

DRAWN BY
DATE
CHK'D BY
DATE
ENG BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45848 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
RECTIFIER - 24 VOLT

SCALE ~ | SIZE D | DRAWING NO AW-699023 | REVISION
WEIGHT | SHEET 1 OF 1

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 (or 220 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. The 220 volt unit requires a minimum of 210 volts. Check to be sure you do not have a 220 volt unit in place of a 110 volt unit. Check the transformer output to ground. it should be 24-34 volts ac.
High Output Voltage	Check input line voltage. The 110 volt unit takes a maximum of 120 volts and the 220 volt unit takes a maximum of 240 volts. Check to be sure a 110 volt unit has not been substituted for a 220 volt unit.
AC Voltage on Converter Output	There is a bad diode in the bridge. Remove diodes and check for polarity and current blocking.

VOLTAGE CHECK

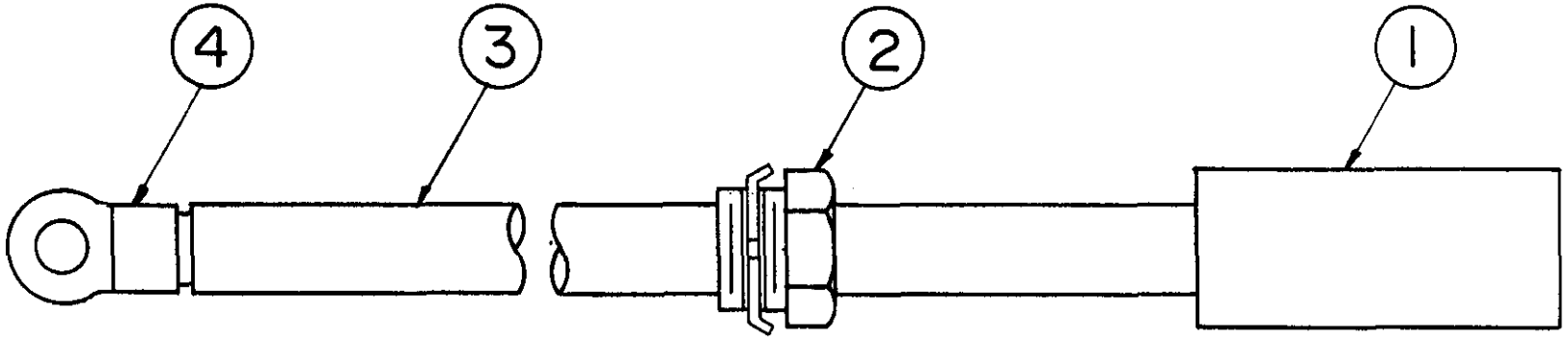
220/24 CONVERTER

1. Connect 220V leads to generator or other 220V source.
2. Check voltage across top of fuses in fuse box rectifier. Voltage should be 220VAC ± 5%. If voltage is above 230 or below 210 check voltage at source.
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 24 to 34 V.D.C. 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 2000 lb. load on crane, hoist (with3 line block). Start hoist in up condition. Voltmeter should read 22 to 28 VDC.

110/24 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 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 24 to 34 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 2000 lb. load on crane, hoist (with 3 line block). Start hoist in up condition. Voltmeter should read 22 to 28 VDC.

CHG LTR	REVISIONS		
	DESCRIPTION	DATE	APP'D



ITEM	QTY	D/S	PART NO.	DESCRIPTION
4	1		800821-003	CONDUCTOR -4 Ga.
3	1		002801	TERMINAL
2	1		005000	BUSHING W/NUT
1	1		669200	CONDUCTOR, SWIVEL-FEMALE

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES.
TOLERANCES UNLESS OTHERWISE SPECIFIED.
ANGLES ± 1/2° | .XX ± .040
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 L.Eubanks
DATE 3/7/88
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 580697 • TULSA, OKLAHOMA 74158-0697
4707 NORTH MINGO ROAD • 918-836-0463

TITLE
POWER CABLE

SCALE	SIZE	DRAWING NO.	REVISION
~	A	AW-330007	

WEIGHT

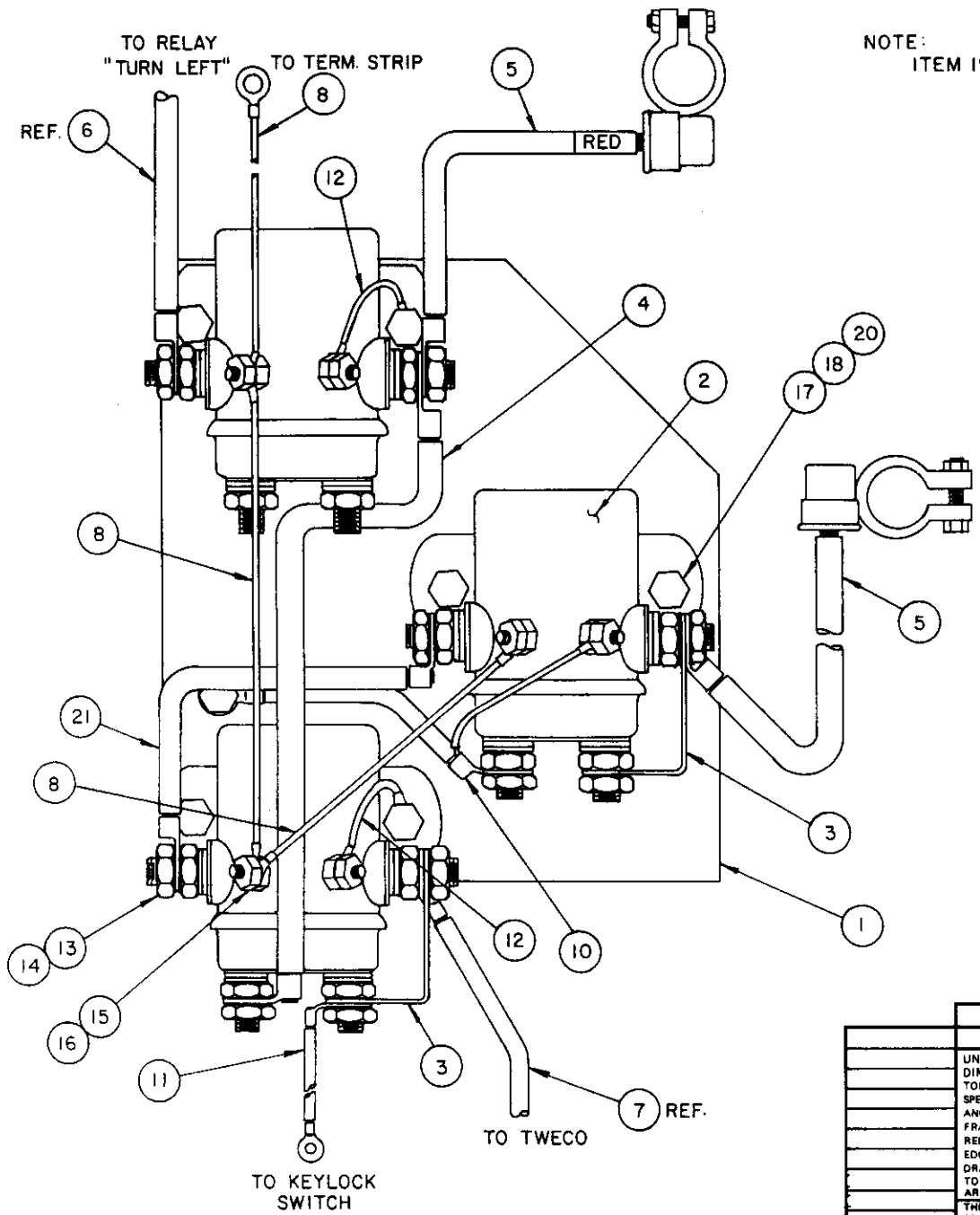
SHEET 1 OF 1

7-12.0.0

300588

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



NOTE:
ITEM 19 NOT SHOWN - MOUNTING BOLTS

ITEM	QTY	D/S	PART NO.	DESCRIPTION
21	1		600306	CONDUCTOR
20	7		020200	LOCKWASHER, 1/4
19	2		005604	BOLT, 1/4-20 X 1" LG.
18	8		015900	NUT, HEX 1/4-20
17	6		005901	SCREW, HEX. HD. 1/4-20 X 1/2"
16	6		020001	WASHER, INT. LOCK ' 10
15	6		015600	NUT, 10-32
14	10		020700	WASHER, INT. LOCK 5/16
13	10		016800	NUT, HEX-HALF 5/16-24
12	2		659903	CONDUCTOR, (BLK)
11	1		330664	CONDUCTOR (RED)
10	1		667001	CONDUCTOR ASSEMBLY
9	1		660408	CONDUCTOR (BLK W/ WHT. TRACER)
8	3		660406	CONDUCTOR (BLK W/WHT. TRACER)
7	1		603701	CONDUCTOR (BLK)
6	1		600316	CONDUCTOR (BLK)
5	2		603700	CONDUCTOR (BLK)
4	1		600308	CONDUCTOR (BLK)
3	2		658300	CONDUCTOR
2	3		200182	RELAY-12 V. SPDT (SEALED)
1	1		301011	MOUNTING PLATE, V.S.U.

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 SDA DATE 7/16/81
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

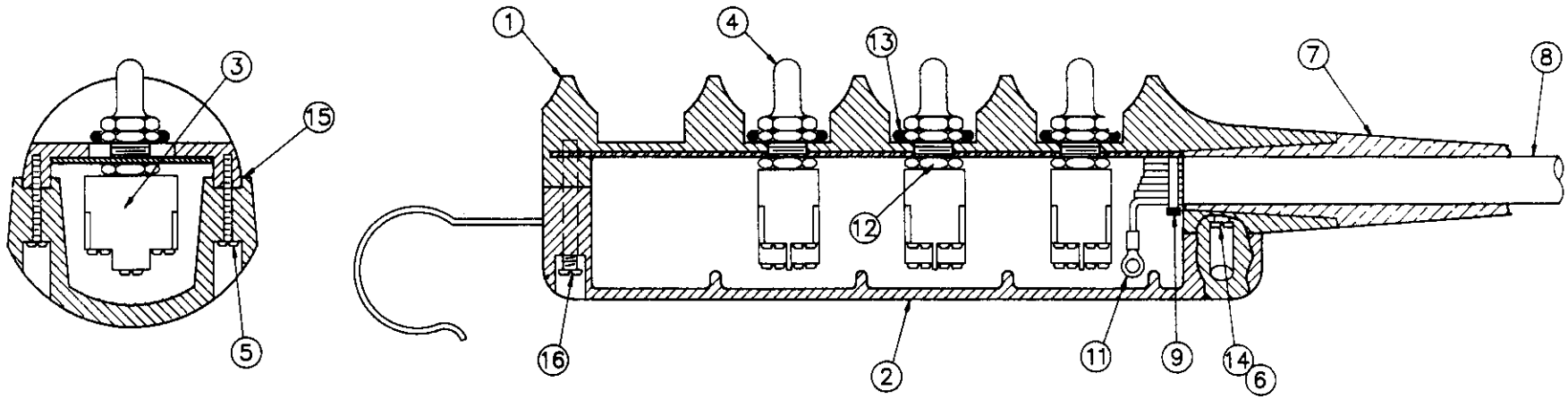
AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: VOLTAGE SWITCHING UNIT ASSEMBLY

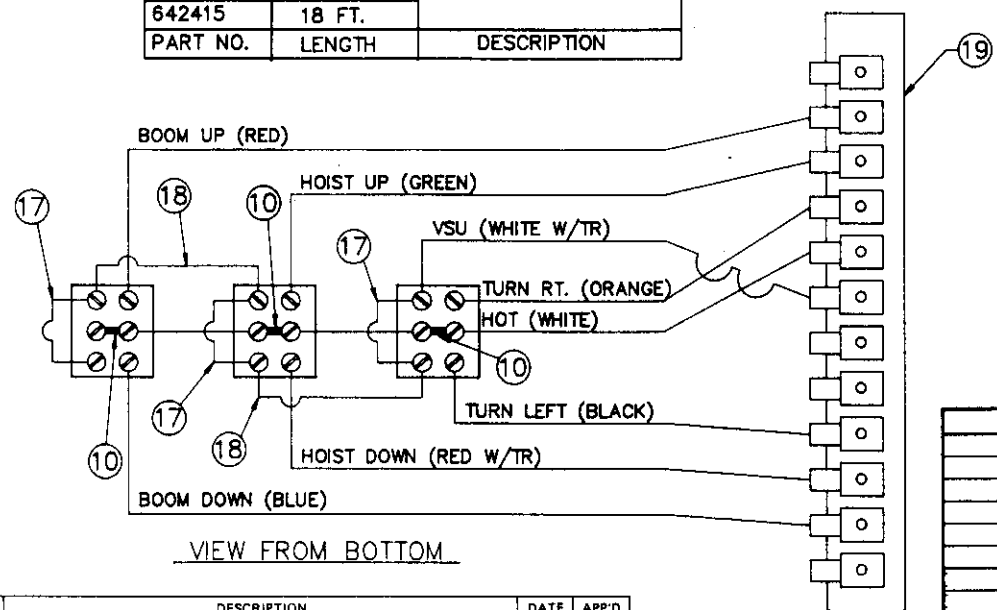
SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-301015	

WEIGHT — SHEET 1 OF 1

7-13.0.0



PART NO.	LENGTH	DESCRIPTION
642423	26 FT.	CONDUCTOR LENGTH OF PENDANT ASSEMBLIES
642450	53 FT.	
642440	43 FT.	
642437	40 FT.	
642430	33 FT.	
642426	29 FT.	
642420	23 FT.	
642415	18 FT.	



VIEW FROM BOTTOM

ITEM	QTY	D/S	PART NO	DESCRIPTION
19	1	·	635301	TERMINAL STRIP
18	2	·	622347	CONDUCTOR ASSY 3 1/8 LG.
17	3	·	622346	CONDUCTOR ASSY 2 1/8 LG
16	1	·	004700	SCREW ST. SLT. PAN HD 8 X 1 1/2
15	21"	·	800580	3/4" WIDE OKONITE RUBBER TAPE
14	3	·	019700	WASHER SPLIT LOCK 8 PLATED
13	3	·	642100	O-RING
12	3	·	675271	NUT
11	8	·	000101	TERMINALS T & B
10	3	·	636600	JUMPER
9	2	·	634401	TY-RAP CABLE TIE
8	1	·	800630	CONDUCTOR CABLE (23') STD.
7	1	·	633801	CABLE ADAPTER
6	2	·	005101	SCREW ST. SLT. PAN HD 8 x 1 1/4
5	10	·	005001	SCREW ST. SLT. PAN HD 8 x 3/4
4	3	·	640302	BOOT-TOGGLE SWITCH
3	3	·	634200	TOGGLE SWITCH
2	1	·	631700	BOTTOM COVER
1	1	·	631602	PENDANT HOUSING

LIST OF MATERIAL

CHG LTR	DESCRIPTION	DATE	APP'D
	REVISIONS		

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED.
ANGLES ± 1/2° | XX ± .040
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

NEXT ASS'Y

DRAWN BY RD
DATE 1-29-88
CHK'D BY
DATE
ENG. BY
DATE

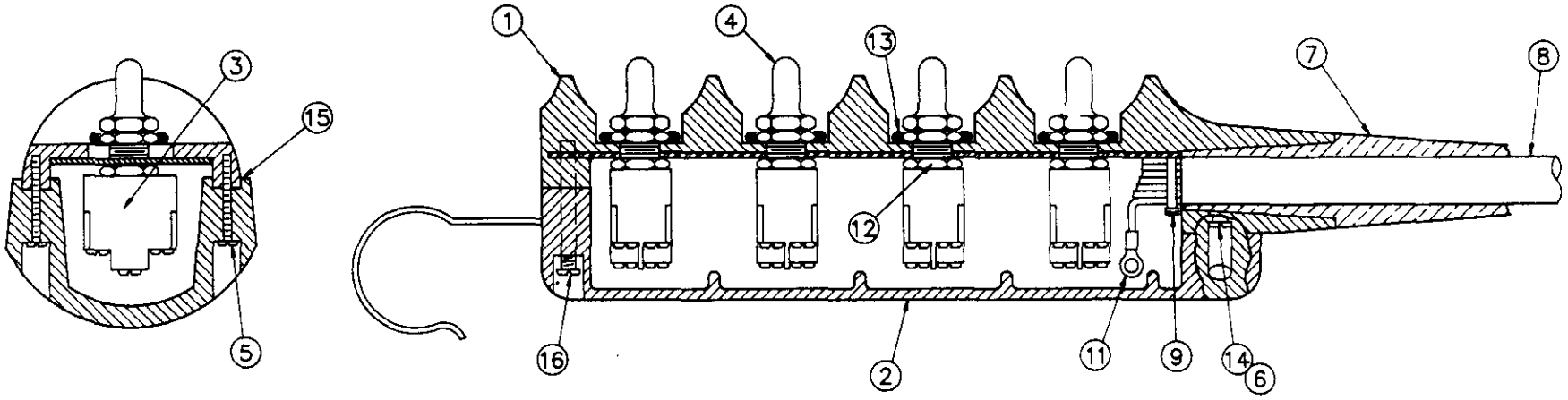
AUTO CRANE COMPANY
P.O. BOX 580697 • TULSA, OKLAHOMA 74158-0697
4707 NORTH MINGO ROAD • 918-838-0463

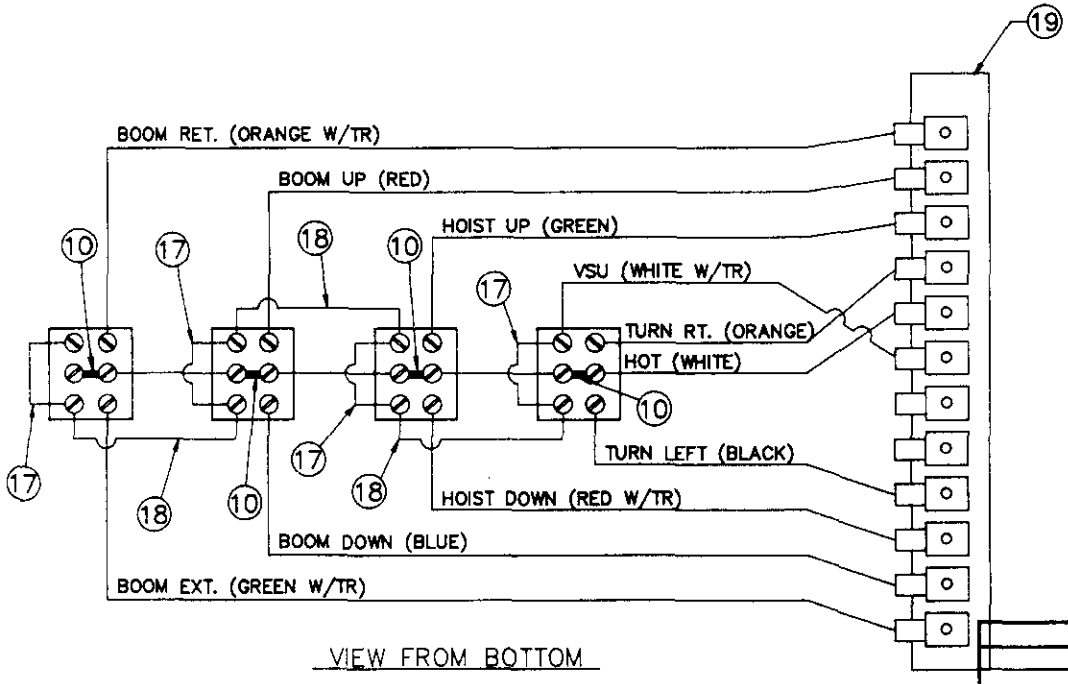
TITLE
PENDANT ASSEMBLY
(3 FUNCTION)

SCALE	SIZE	DRAWING NO	REVISION
	C	AW-480399	

WEIGHT

SHEET 1 OF 1





VIEW FROM BOTTOM

ITEM	QTY	D/S	PART NO	DESCRIPTION
19	1	·	635301	TERMINAL STRIP
18	3	·	622347	CONDUCTOR ASSY 3 1/8 LG.
17	4	·	622346	CONDUCTOR ASSY 2 1/8 LG
16	1	·	004700	SCREW ST. SLT. PAN HD 8 X 1 1/2
15	21"	·	800580	3/4" WIDE OKONITE RUBBER TAPE
14	3	·	019700	WASHER SPLIT LOCK 8 PLATED
13	4	·	642100	O-RING
12	4	·	675271	NUT
11	10	·	000101	TERMINALS T & B
10	4	·	636600	JUMPER
9	2	·	634401	TY-RAP CABLE TIE
8	1	·	800632-002	CONDUCTOR CABLE (26')
7	1	·	633801	CABLE ADAPTER
6	2	·	005101	SCREW ST. SLT. PAN HD 8 x 1 1/4
5	10	·	005001	SCREW ST. SLT. PAN HD 8 x 3/4
4	4	·	640302	BOOT-TOGGLE SWITCH
3	4	·	634200	TOGGLE SWITCH
2	1	·	631700	BOTTOM COVER
1	1	·	631601	PENDANT HOUSING

LIST OF MATERIAL

CHG LTR	DESCRIPTION	DATE	APP'D
	REVISIONS		

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES.
TOLERANCES UNLESS OTHERWISE SPECIFIED.
ANGLES ± 1/2° | XX ± .040
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

NEXT ASS'Y

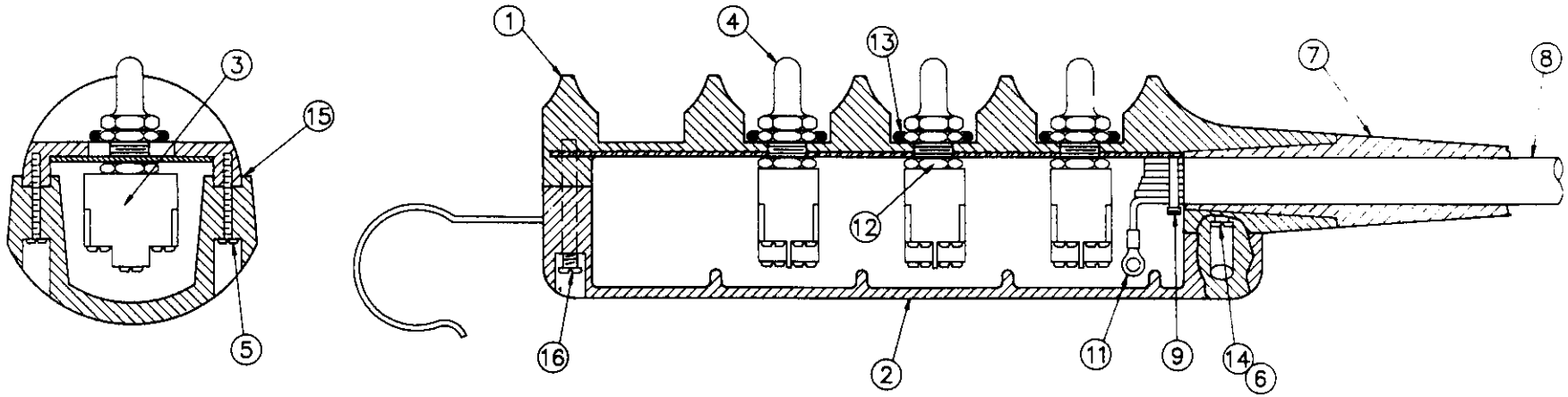
DRAWN BY RD
DATE 2-1-88
CHK'D BY
DATE
ENG. BY
DATE

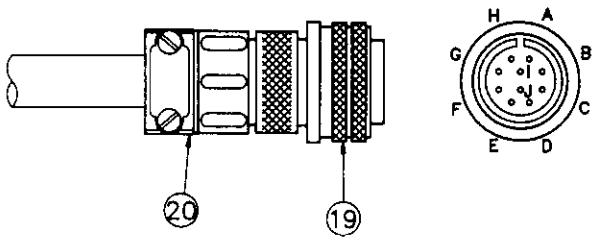
AUTO CRANE COMPANY
P.O. BOX 580697 • TULSA OKLAHOMA 74158-0697
4707 NORTH MINGO ROAD • 918-836-0463

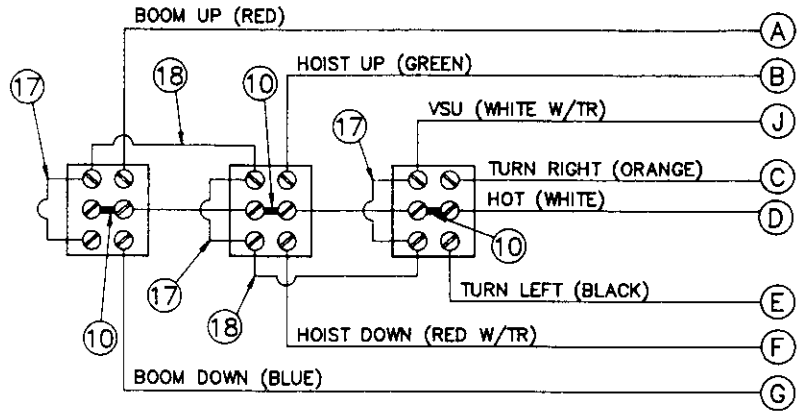
TITLE
PENDANT ASSEMBLY
(4 FUNCTION PENDANT)

SCALE · | SIZE C | DRAWING NO AW-480799 | REVISION ·

WEIGHT | SHEET 1 OF 1







VIEW FROM BOTTOM

ITEM	QTY	D/S	PART NO.	DESCRIPTION
20	1		300412	CLAMP,CABLE
19	1	·	300411	PLUG,ELECTRICAL
18	2	·	622347	CONDUCTOR ASSY 3 1/8 LG.
17	3	·	622346	CONDUCTOR ASSY 2 1/8 LG
16	1	·	004700	SCREW ST. SLT. PAN HD 8 X 1 1/2
15	21"	·	800580	3/4" WIDE OKONITE RUBBER TAPE
14	3	·	019700	WASHER SPLIT LOCK 8 PLATED
13	3	·	642100	O-RING
12	3	·	675271	NUT
11	8	·	000101	TERMINALS T & B
10	3	·	636600	JUMPER
9	2	·	634401	TY-RAP CABLE TIE
8	1	·	800630	CONDUCTOR CABLE (23') STD.
7	1	·	633801	CABLE ADAPTER
6	2	·	005101	SCREW ST. SLT. PAN HD 8 x 1 1/4
5	10	·	005001	SCREW ST. SLT. PAN HD 8 x 3/4
4	3	·	640302	BOOT-TOGGLE SWITCH
3	3	·	634200	TOGGLE SWITCH
2	1	·	631700	BOTTOM COVER
1	1	·	631602	PENDANT HOUSING

LIST OF MATERIAL

CHG LTR	DESCRIPTION	DATE	APP'D
	REVISIONS		

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES.
TOLERANCES UNLESS OTHERWISE SPECIFIED.
ANGLES ± 1/2° | XX ± .040
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 RD
DATE 2-2-88
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 580697 • TULSA, OKLAHOMA 74158-0697
4707 NORTH MINGO ROAD • 918-836-0463

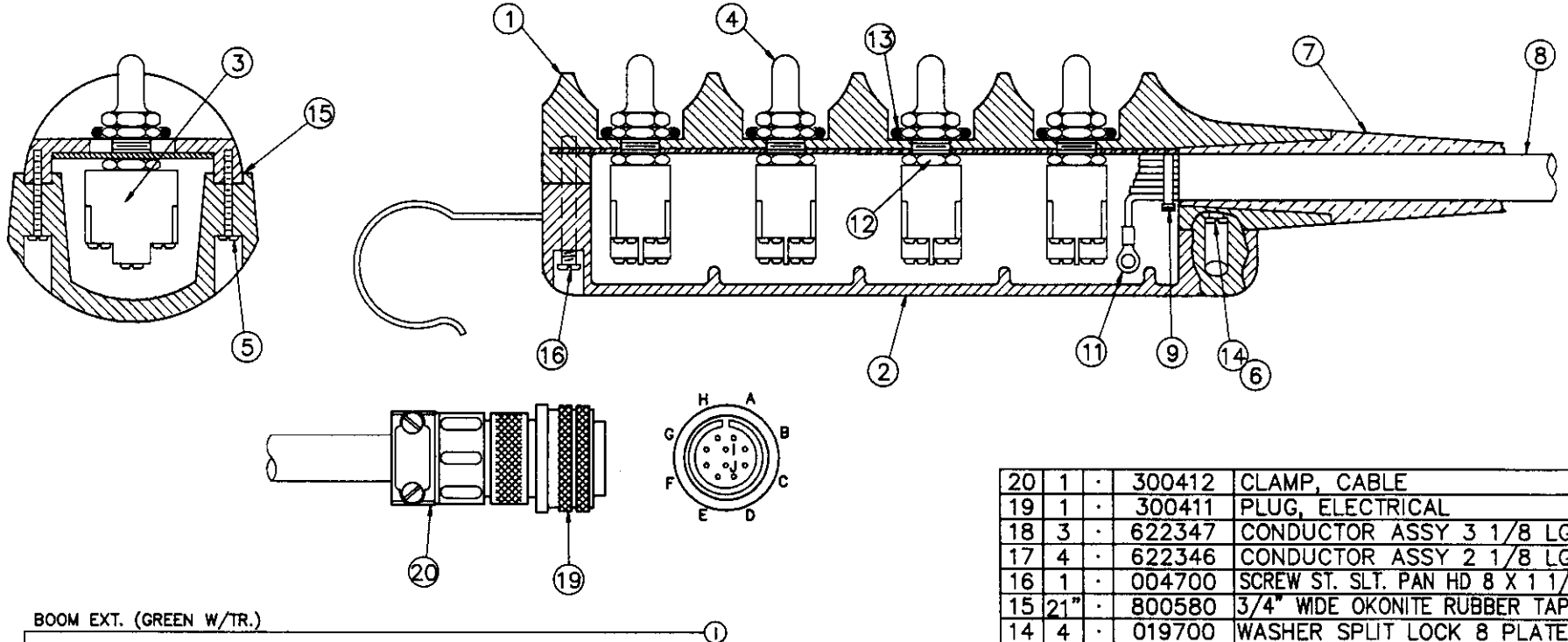
TITLE
PENDANT ASSEMBLY
(3 FUNCTION REMOVABLE)

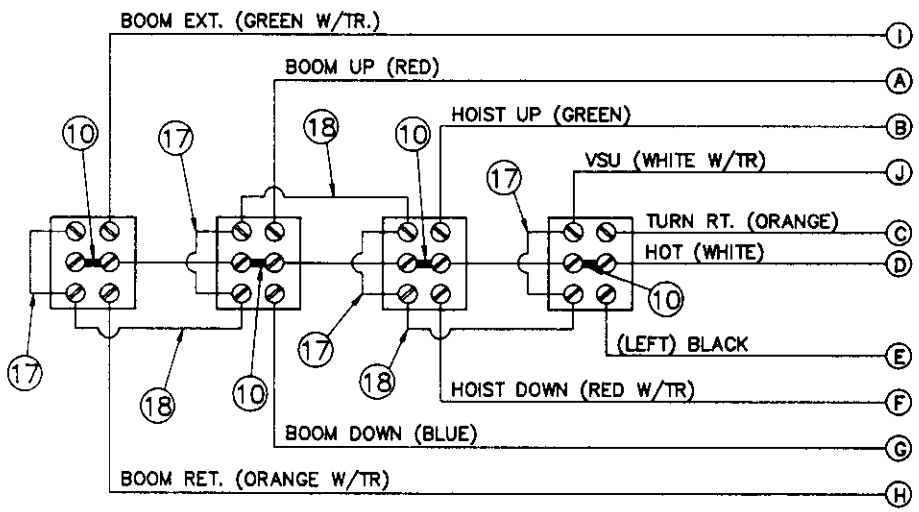
SCALE	SIZE	DRAWING NO.	REVISION
·	C	AW-480400	·

WEIGHT

SHEET 1 OF 1

7-16.0.0





VIEW FROM BOTTOM

ITEM	QTY	D/S	PART NO.	DESCRIPTION
20	1	·	300412	CLAMP, CABLE
19	1	·	300411	PLUG, ELECTRICAL
18	3	·	622347	CONDUCTOR ASSY 3 1/8 LG.
17	4	·	622346	CONDUCTOR ASSY 2 1/8 LG
16	1	·	004700	SCREW ST. SLT. PAN HD 8 X 1 1/2
15	21"	·	800580	3/4" WIDE OKONITE RUBBER TAPE
14	4	·	019700	WASHER SPLIT LOCK 8 PLATED
13	4	·	642100	O-RING
12	4	·	675271	NUT
11	10	·	000101	TERMINALS T & B
10	4	·	636600	JUMPER
9	2	·	634401	TY-RAP CABLE TIE
8	1	·	800632-004	CONDUCTOR CABLE (27')
7	1	·	633801	CABLE ADAPTER
6	2	·	005101	SCREW ST. SLT. PAN HD 8 x 1 1/4
5	10	·	005001	SCREW ST. SLT. PAN HD 8 x 3/4
4	4	·	640302	BOOT-TOGGLE SWITCH
3	4	·	634200	TOGGLE SWITCH
2	1	·	631700	BOTTOM COVER
1	1	·	631601	PENDANT HOUSING

LIST OF MATERIAL

CHG LTR	DESCRIPTION	DATE	APP'D
	REVISIONS		

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED.
ANGLES ± 1/2° | XX ± .040
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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NEXT ASS'Y

DRAWN BY RD
DATE 1-14-88
CHK'D BY
DATE
ENG. BY
DATE

AUTO CRANE COMPANY
P.O. BOX 580697 • TULSA, OKLAHOMA 74158-0697
4707 NORTH MINGO ROAD • 918-836-0463

TITLE
PENDANT ASSEMBLY
4 FUNCTION, REMOVABLE

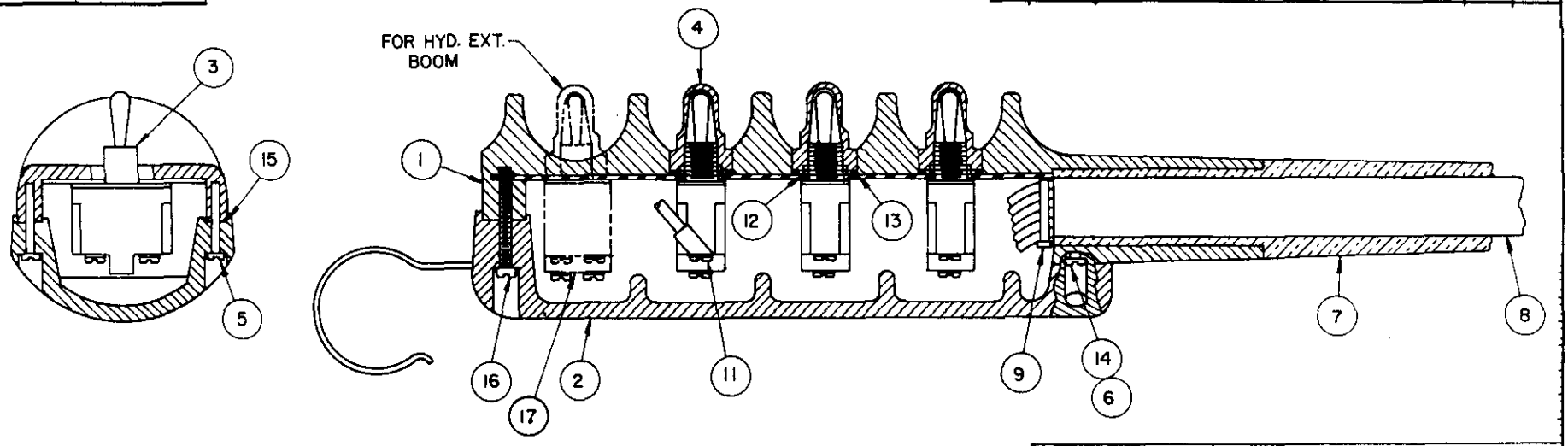
SCALE · | SIZE C | DRAWING NO. AW-480800 | REVISION ·

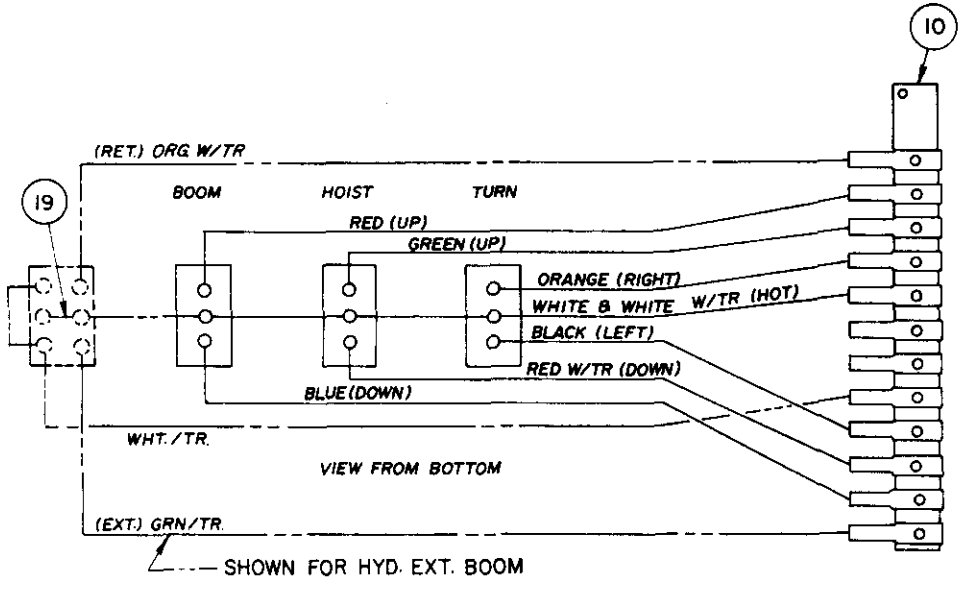
WEIGHT | SHEET 1 OF 1

7-17.0.0

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





ITEM	QTY	PART NO.	DESCRIPTION
19	1	636600	JUMPER BAR
18	5	660302	CONDUCTOR
17	1	634200	TOGGLE SWITCH
8	1	800632-002	CONDUCTOR CABLE (26')

ADDITIONAL ITEMS REQ'D FOR HYD. EXT. BOOM

QTY	ITEM	QTY	PART NO.	DESCRIPTION
1	16	1	004700	SCREW, SLT. PAN HD. S.T. 8 X 1 1/2
21"	15	21"	800580	3/4" WIDTH OKONITE RUBBER TAPE
4	14	4	019700	WASHER, SPLIT LOCK 8 PLATED
4	13	3	642100	O-RING
4	12	3	675271	NUT
19	11	11	000101	TERMINALS T&B
1	10	1	635301	TERMINAL STRIP (90°)
2	9	2	634401	TY-RAP CABLE TIE
	8	1	800630	CONDUCTOR CABLE (23') STD.
1	7	1	633801	CABLE ADAPTER
2	6	2	005101	SCREW, S.T.-SLT. PAN HD 8 X 1 1/4
10	5	10	005001	SCREW, S.T.-SLT. PAN HD. 8 X 3/4
4	4	3	640302	BOOT-TOGGLE SWITCH
3	3	3	622000	TOGGLE SWITCH
1	2	1	631700	BOTTOM COVER
1	1	1	631602	PENDANT HOUSING

QTY'S FOR HYD. EXT. BOOM. 243045

QUANTITY

LIST OF MATERIAL

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

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
PENDANT ASSEMBLY
220/24

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW- 243045 642420	

WEIGHT

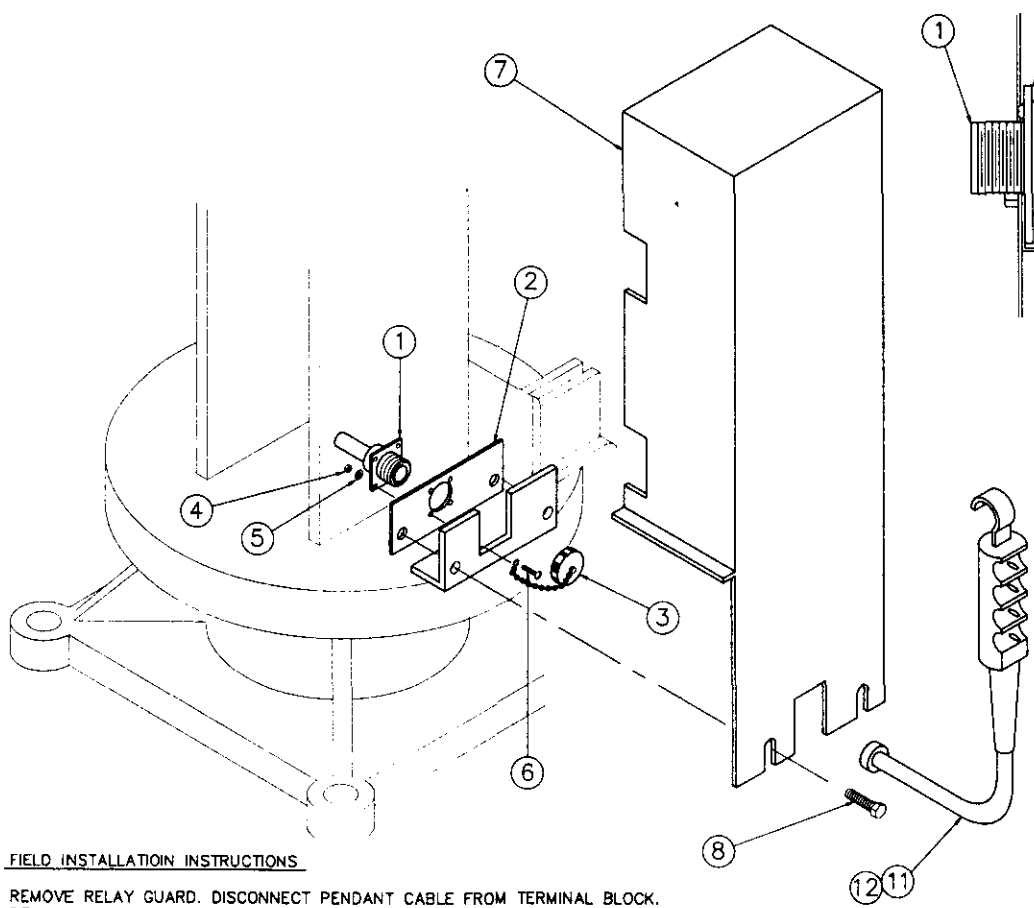
SHEET 1 OF 1

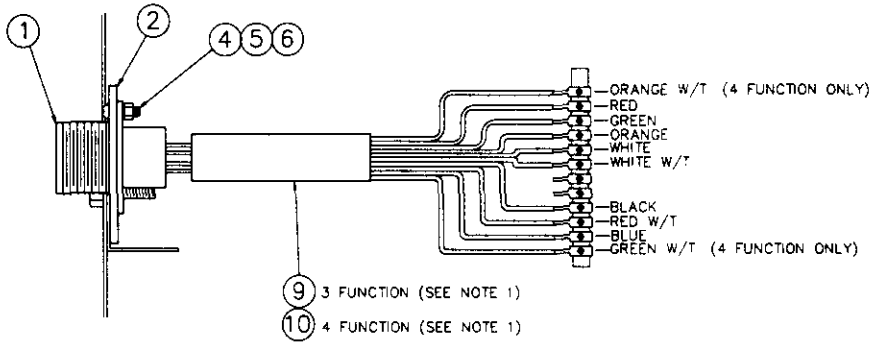
7-18.0.0

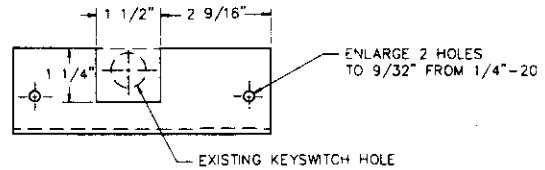
FIXTURE NO | FINISH NO

REVISIONS

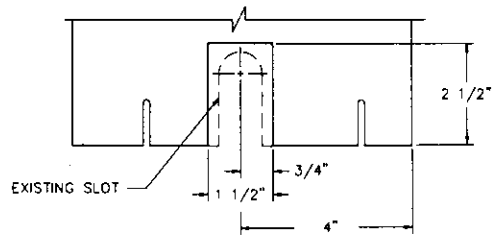
CHG LTR	DESCRIPTION	DATE	APP'D







DETAIL "A"
MODIFICATION TO GUARD BRACKET



DETAIL "B"
MODIFICATION TO RELAY GUARD

FIELD INSTALLATIOIN INSTRUCTIONS

1. REMOVE RELAY GUARD. DISCONNECT PENDANT CABLE FROM TERMINAL BLOCK.
2. REMOVE WIRES FROM KEYSWITCH AND SPLICE WIRES TOGETHER FROM KEYSWITCH.
3. CUT NOTCH AND ENLARGE 1/4"-20 TAPPED HOLES (SEE DETAIL "A").
4. ENLARGE KEYSWITCH SLOT IN RELAY GUARD (SEE DETAIL "B")
5. ATTACH TERMINAL STRIP OF PENDANT CONDUCTOR ASSEMBLY (ITEM 9 OR 10) TO TERMINAL BLOCK OF RELAY PANEL, (SEE AW-676105).
6. ATTACH CONDUCTOR AND MOUNTING PLATE TO GUARD BRACKET WITH (2) 1/4"-20 UNC X 3/4" SCREWS. LEAVE SCREWS LOOSE ENOUGH FOR THICKNESS OF RELAY GUARD TO FIT BETWEEN HEAD OF SCREWS AND GUARD BRACKET.
7. INSTALL RELAY GUARD AND TIGHTEN SCREWS.
8. ATTACH PENDANT.

NOTES:

1. FOR ADDITIONAL WIRING INFORMATION SEE AW-676105 AND AW-630912.
2. FOR 3 FUNCTION REMOVABLE PENDANT KIT, ORDER PART NUMBER 330665
3. FOR 4 FUNCTION, (POWER EXTENSION), REMOVABLE PENDANT KIT ORDER PART NUMBER 330669
4. ITEMS 9, AND 10, REMOVABLE PENDANT CONDUCTOR ASSEMBLIES, COME WITH ITEMS 1 THROUGH 6.

ITEM	QTY	DIS	PART NO	DESCRIPTION

LIST OF MATERIAL

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
ANGLES ± 1/2° XX ± .040
FRACTIONAL ± 1/16 XXX ± .010
REMOVE ALL BURRS AND SHARP EDGES DO NOT SCALE THIS DRAWING
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DRAWN: R.S. 3-16-88
CHK'D BY
DATE
ENG BY
DATE
NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 1800897 • TULSA, OKLAHOMA 74158-0897
4777 NORTH MINGO ROAD • 918-836-0462

TITLE: REMOVABLE PENDANT KITS

SCALE | SIZE D | DRAWING NO. AW-066 | REVISION

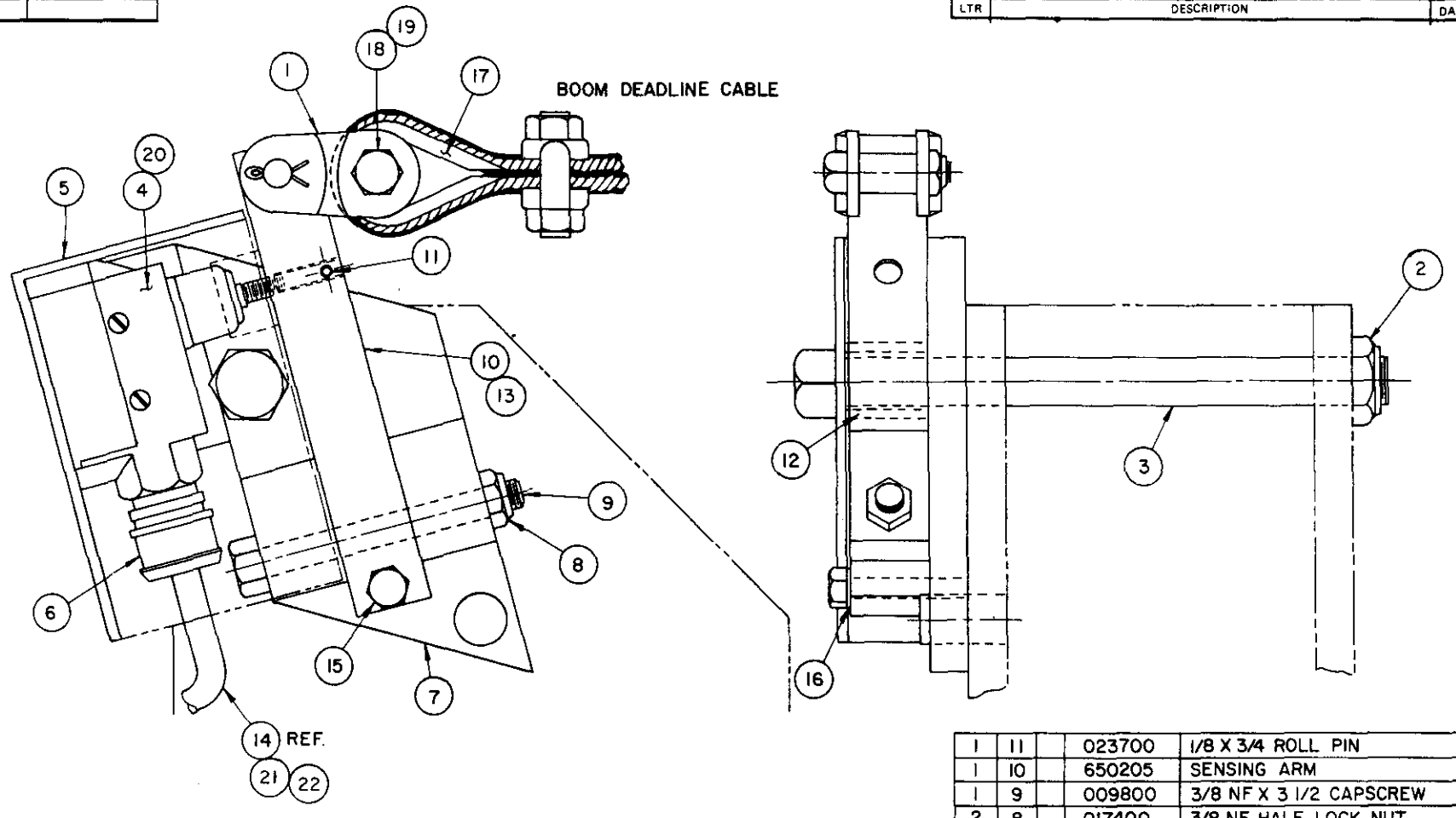
WEIGHT | SHEET 1 OF 1

REMOVABLE PENDANT KIT AW-066

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	300410	RECEPTACLE, REMALE, 10 PIN
2	1	330661	RECEPTACLE, MOUNT PLATE
3	1	300413	CAP RECEPTACLE
4	2	015400	NUT, HEX #6-32
5	2	019600	WASHER SP. LK. #6
6	2	000603	SCREW, RD. HD. #6-32 X 1/2"
7	1	330660	GUARD, RELAY PANEL
8	2	REF.	CAPSCREW HX. 1/4 X 3/4" LG.
9	1	330662	REMOVABLE PENDANT CONDUCTOR ASS'Y (3 FUNCTION)
10	1	330663	REMOVABLE PENDANT CONDUCTOR ASS'Y (4 FUNCTION)
11	1	480400	PENDANT ASS'Y (3 FUNCTION REMOVABLE)
12	1	480800	PENDANT ASS'Y (4 FUNCTION REMOVABLE)

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



1	22		000300	TERM., WIRE
1	21		000302	TERM., WIRE
2	20		000101	TERM., WIRE
1	19		009100	SCREW, HEX. HD. 3/8-24 X 1 1/2
1	18		017400	NUT, HEX.-HALF LOCK 3/8-24
1	17		023600	THIMBLE, 5/16-WIRE ROPE
1	16		020200	1/4 LOCKWASHER
1	15		005702	1/4-28 X 1 1/2 HEX. CAPSCREW
1	14		655636	CONDUCTOR (REF.)
1	13		002905	SENSING ARM SCREW
1	12		646700	SPACER
1	11		023700	1/8 X 3/4 ROLL PIN
1	10		650205	SENSING ARM
1	9		009800	3/8 NF X 3 1/2 CAPSCREW
2	8		017400	3/8 NF HALF-LOCK NUT
1	7		241105	BRACKET
1	6		642908	CLAMP
1	5		241147	GUARD
1	4		646900	SWITCH
1	3		013301	5/8 NF X 7 1/2 CAPSCREW (REF.)
1	2		018100	5/8 NF HALF-LOCK NUT (REF.)
1	1		100801	CLEVIS
		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.
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DRAWN BY: JCT
DATE: 11/7/80
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE: LOAD LIMIT SWITCH ASSEMBLY

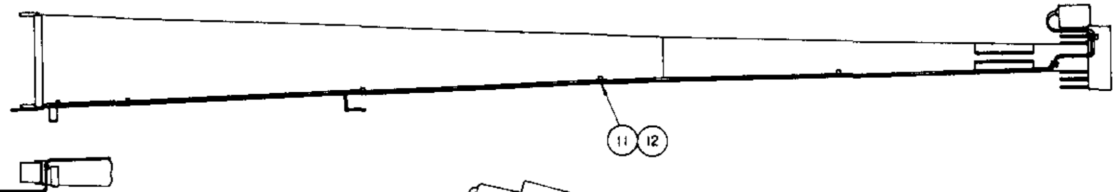
SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-241138	

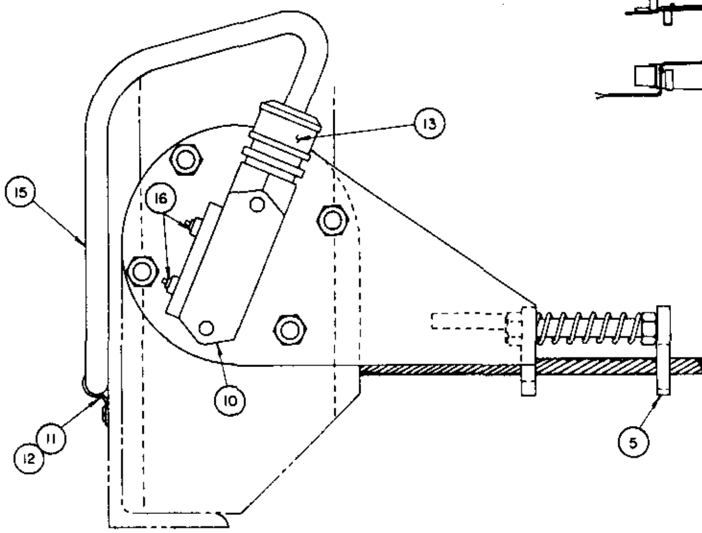
WEIGHT — SHEET 1 OF 1

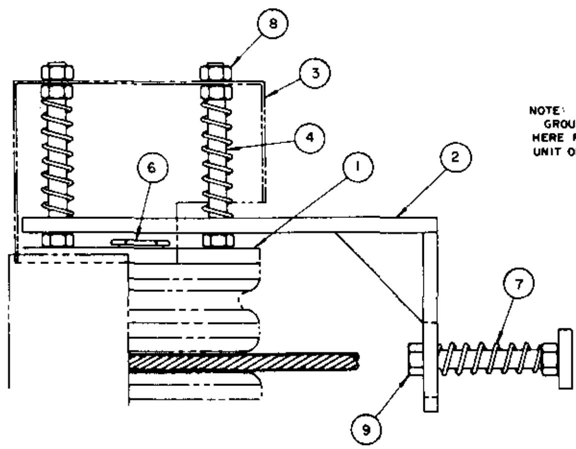
7-21.0.0

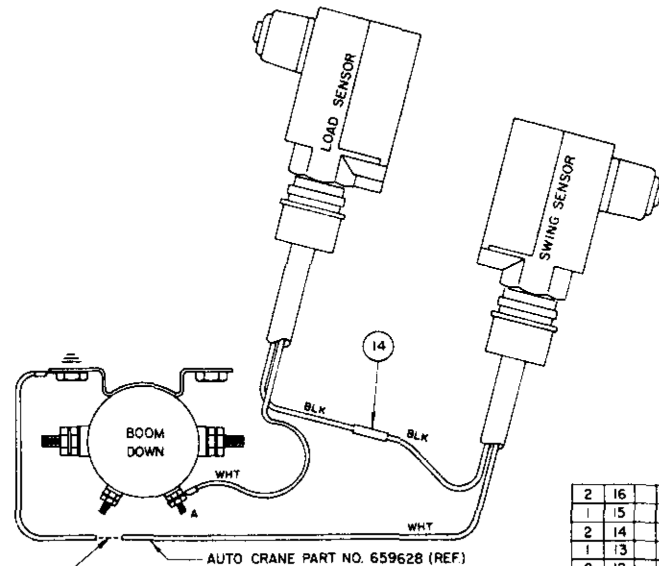
FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D









NOTE:
GROUND WIRE (659628) SPLICED HERE FOR 24V VOLTAGE SWITCHING UNIT ONLY.

WIRING PROCEDURE

STEP ONE

TO CONNECT LOAD LIMIT SWITCH, RUN WHITE LEAD TO TERMINAL-A ON BOOM DOWN RELAY AND ATTACH BLACK LEAD TO BLACK LEAD FROM SWING SENSOR.

STEP TWO

CONNECT WHITE LEAD FROM SWING SENSOR TO GROUND AS SHOWN.

QUANTITY	ITEM	O S	PART NO	DESCRIPTION
2	16		015410	NUT, HEX-LOCK 6-32
1	15		SEE CHART	CONDUCTOR ASSEMBLY
2	14		000302	TERMINAL, WIRE (SPLICE)
1	13		642908	CLAMP, CABLE
8	12		004800	SCREW, PAN-HD S.T. - 10 X 3/8
8	11		000115	CLIP, JIFFY
1	10		646900	SWITCH - W/HARDWARE
1	9		007900	SCREW, HEX-HD. 5/16-24 X 2 1/2"
13	8		016600	NUT, HEX 5/16-24
5	7		301400	SPRING
1	6		649900	SCREW - MODIFIED
1	5		649800	PLATE, BUMP
4	4		649700	STUD
1	3		649600	GUARD
1	2		649501	SWING ARM
1	1		649400	PLATE, ANCHOR

LIST OF MATERIAL

BOOM USAGE	PART NO.	DESCRIPTION
20 FT	650104	CONDUCTOR ASSEMBLY
17 FT	650103	
14 FT	650102	
12 FT	650101	
9 FT	650100	

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
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DRAWN BY
DATE 11/18/80
CHK'D BY
DATE
ENG BY
DATE

AUTO CRANE COMPANY
P.O. BOX 40840 • TULSA, OKLAHOMA 74146
5260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
SWING LIMIT SENSOR ASSEMBLY

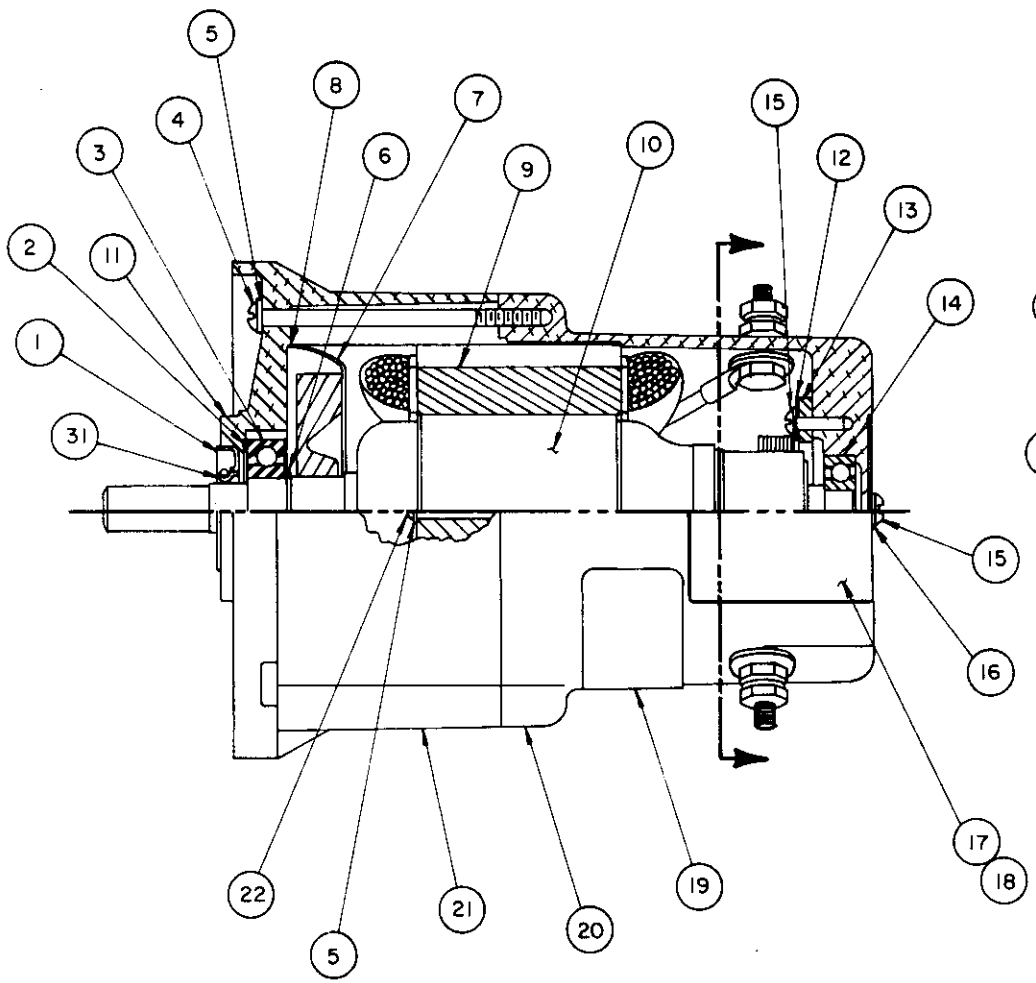
SCALE ~ | SIZE D | DRAWING NO AW-650000 | REVISION

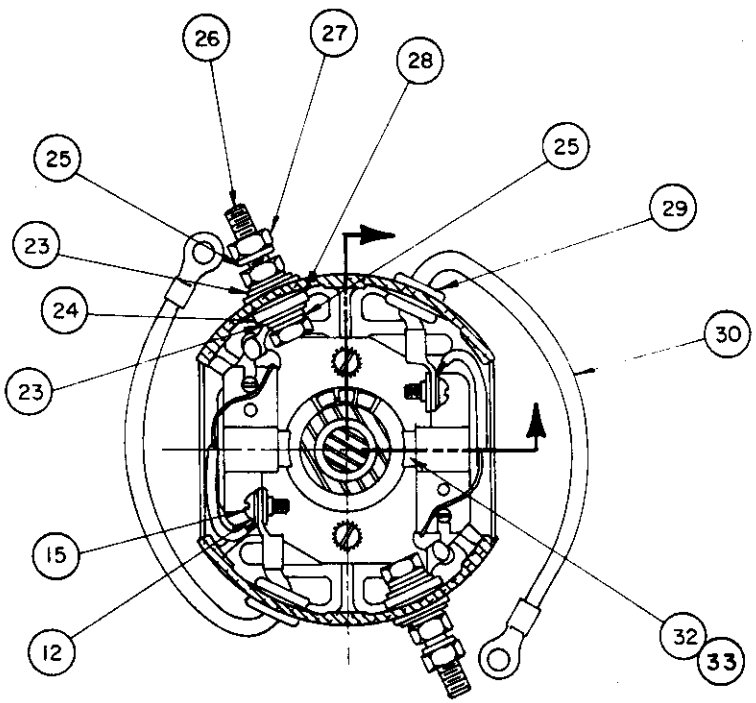
WEIGHT

SHEET 1 OF 1

FIXTURE NO	FINISH NO

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





7-22.0.0

DUMORE

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: 12/4/81
CHK'D BY:
DATE:
ENG BY:
DATE:

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NEXT ASS'Y

9/86

AUTO CRANE COMPANY

TITLE: MOTOR , ELECTRIC

SCALE	SIZE	DRAWING NO.	REVISION
~	C	AW-300105	

WEIGHT

SHEET 1 OF 2

MOTOR, ELECTRIC AW-300105

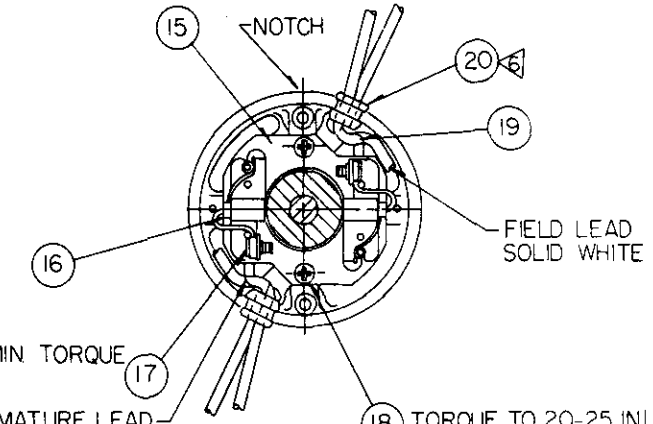
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	300174	SEAL
2	1	300251	SPRING, FLAT
3	1	300252	BALL BEARING
4	2	300253	SCREW, #10 X 3-1/8
5	4	300254	LOCKWASHER
6	1	300255	RETAINING RING
7	1	300256	BAFFLE
8		(REF)	LOCTITE 404
9	1	300257	FIELD ASSEMBLY
10	1	(REF)	ARMATURE ASSEMBLY
11		(REF)	SYLASTIC
12	4	300260	LOCKWASHER, EXT. TOOTH
13	1	300261	BRUSH CARD ASSY.
14	1	300262	BALL BEARING
15	6	300263	SCREW, #8 X 3/8
16	2	200264	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

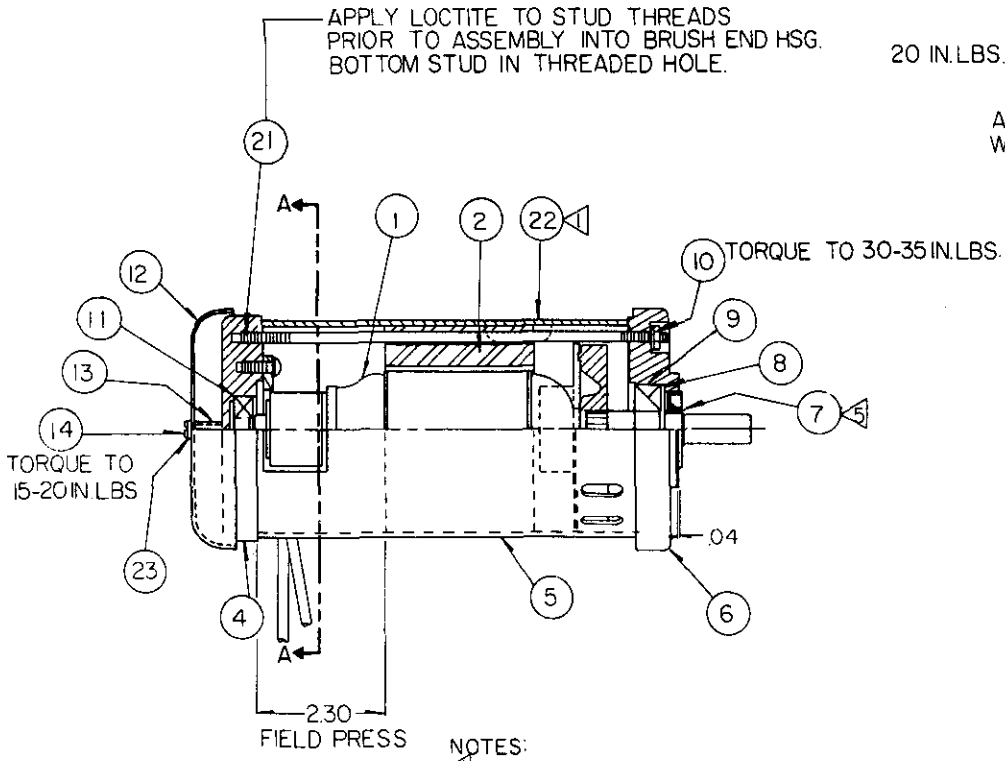
WHEN ORDERING MOTOR PARTS, PLEASE SPECIFY MODEL.

9/86

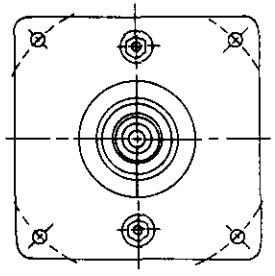
FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D





SECTION A-A



NOTES:

1. NAMEPLATE READ WITH BRUSH END DOWN.
2. SEAL ASSEMBLED AFTER FINAL TEST ITEMS 7
3.
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	

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ANGLES ± 1/2° | .XX ± .40
FRACTIONAL ± 1/16 | .XXX ± .010
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NEXT ASS'Y

DRAWN BY GENSMAN
DATE 11-5-86
CHK'D BY
DATE
ENG. BY
DATE

AUTO CRANE COMPANY

TITLE
MOTOR 750 "S" MSX DUMORE

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

WEIGHT | SHEET 1 OF 1

7-23.0.0

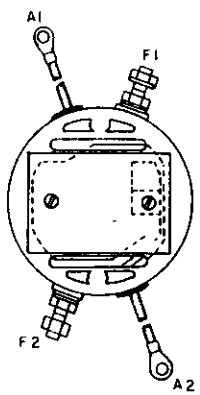
MOTOR 750 "S" MSX DUMORE AW-300105-001

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.

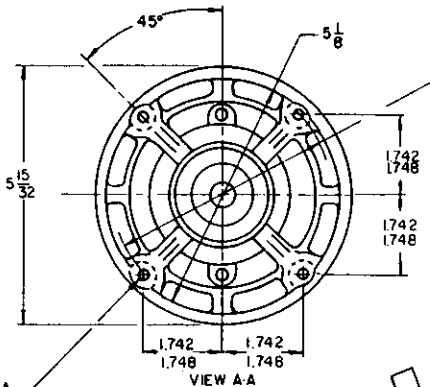
12/86

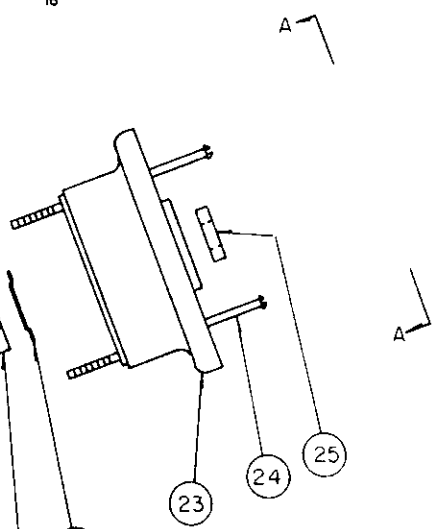
FIXTURE NO.	FINISH NO.

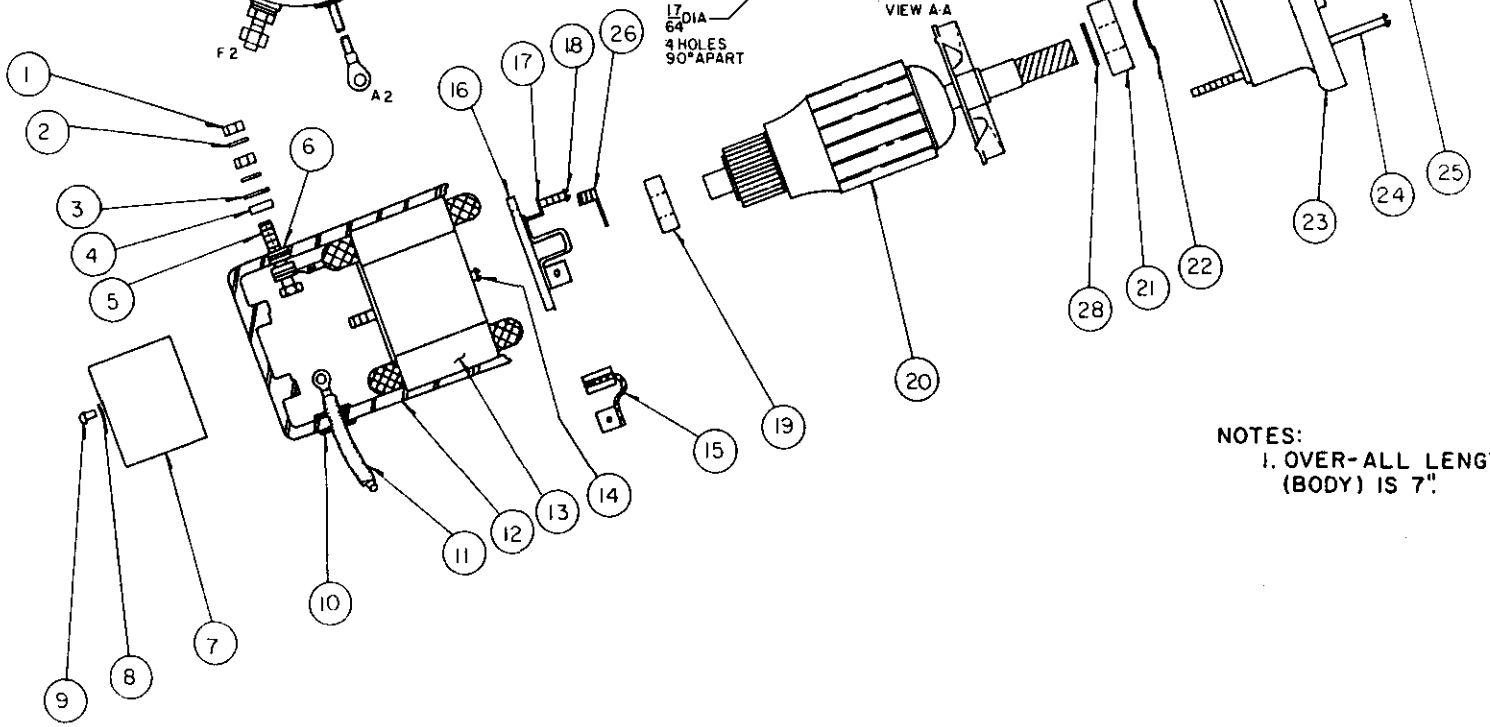
CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



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.







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

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 GENSMAN	AUTO CRANE COMPANY	
	DATE 10-29-86		
	CHK'D BY	TITLE MOTOR MSI (6027)	
	DATE		
	ENG. BY		
	DATE	SCALE — SIZE C AW300105-002	REVISION —
THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS		WEIGHT	SHEET 1 OF 1
NEXT ASS'Y			

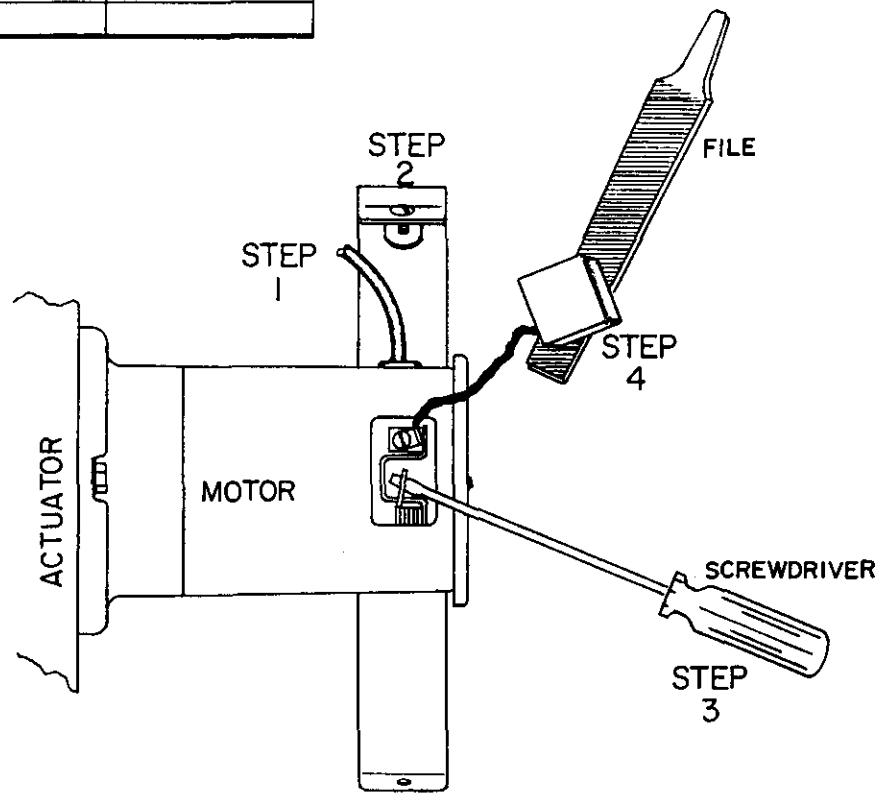
7-24.0.0

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

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.

7-25.0.0

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

AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
MAINTENANCE INSTRUCTIONS
MOTOR BRUSHES

SCALE	SIZE	DRAWING NO.	REVISION
~	B	AW-008	

WEIGHT

SHEET 1 OF 1

7/84

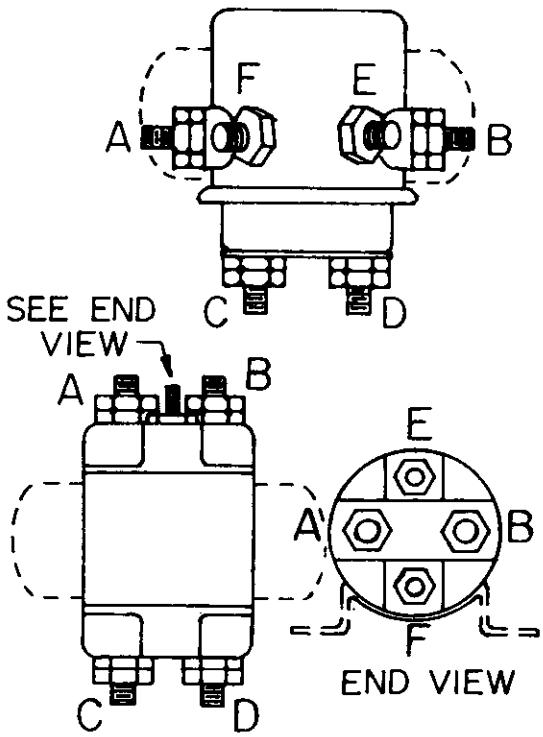
NEXT ASS'Y

TROUBLESHOOTER – 5004

PROBLEM	CAUSE
Charging	Incorrect hookup of V.S.U., bad ground to truck chassis, bad battery not staying charged, not running, truck regulator or alternator problem.
Crane will operate on hoist down only.	Lost ground to other relays. Load limit switch kicked out.
Crane operates two functions at same time such as hoist up, turn right, boom down, turn right, etc.	Broken wire in pendant, head shorting to other terminals, function relay has stuck in operate position.
Boom will not go up	Boom limit switch not adjusted properly or broken, boom up relay stuck, broken wire in pendant, boom up switch is bad.
Crane will not operate in any single motor function such as boom down, hoist down, hoist up, turn right, turn left	Excluding boom limit switch, same as above; also check leads and motor brushes. Ground lost to any relay or all relays.
Crane will not operate at all	Check to make sure battery is connected in crane, power cable is connected to truck battery, key lock switch is turned on and properly connected, make sure of ground between crane and truck frame. Make sure battery in truck is connected. Check V.S.U. connection. Check grounds or relays and check load limit switch.
Motor or motors will not run	Check leads on motor; check brushes; broken wires in pendant, broken toggle switch, stuck relays. Check or see if motor or motors are getting 24 volts; if not check V.S.U. Check to see if both batteries are connected. Burned up fields and armatures also cause this.
Relays not functioning properly or stuck	Check relays using ohm meter. Relay should be closed on bottom end, open top end, use 12 volts to operate relays. Positive on one small post and negative on the other. This is top end when energized continuity should disappear at bottom and appear at top. When disconnected continuity should reaappear at bottom. (Essex relay 200220)
Crane running slow – starts out good, then dies out	Battery in truck or crane or both is bad or low. Crane not grounded to truck chassis. Make sure motor and battery in truck are grounded to chassis relay in V.S.U. stuck or not grounded good. Connections on battery corroded not making good contact. Alternator or voltage regulator bad on truck; this causes battery not to fully charge.

8/88

PROBLEM	CAUSE
Pendant (or remote control) not operating crane properly	Broken toggle switches in control head; broken wires in control head or cable; control cable broken or not connected properly to terminal bar; wires from terminal bar to relays not connected or broken.
Bad ground circuit on relays hoist up, boom up, boom down, turn right, turn left	Loose connections on relays, load limit switch, diode, can cause crane not to operate properly; For example, when you try to operate more than one function at once, operation will work but the second will not. But each function will operate separately.

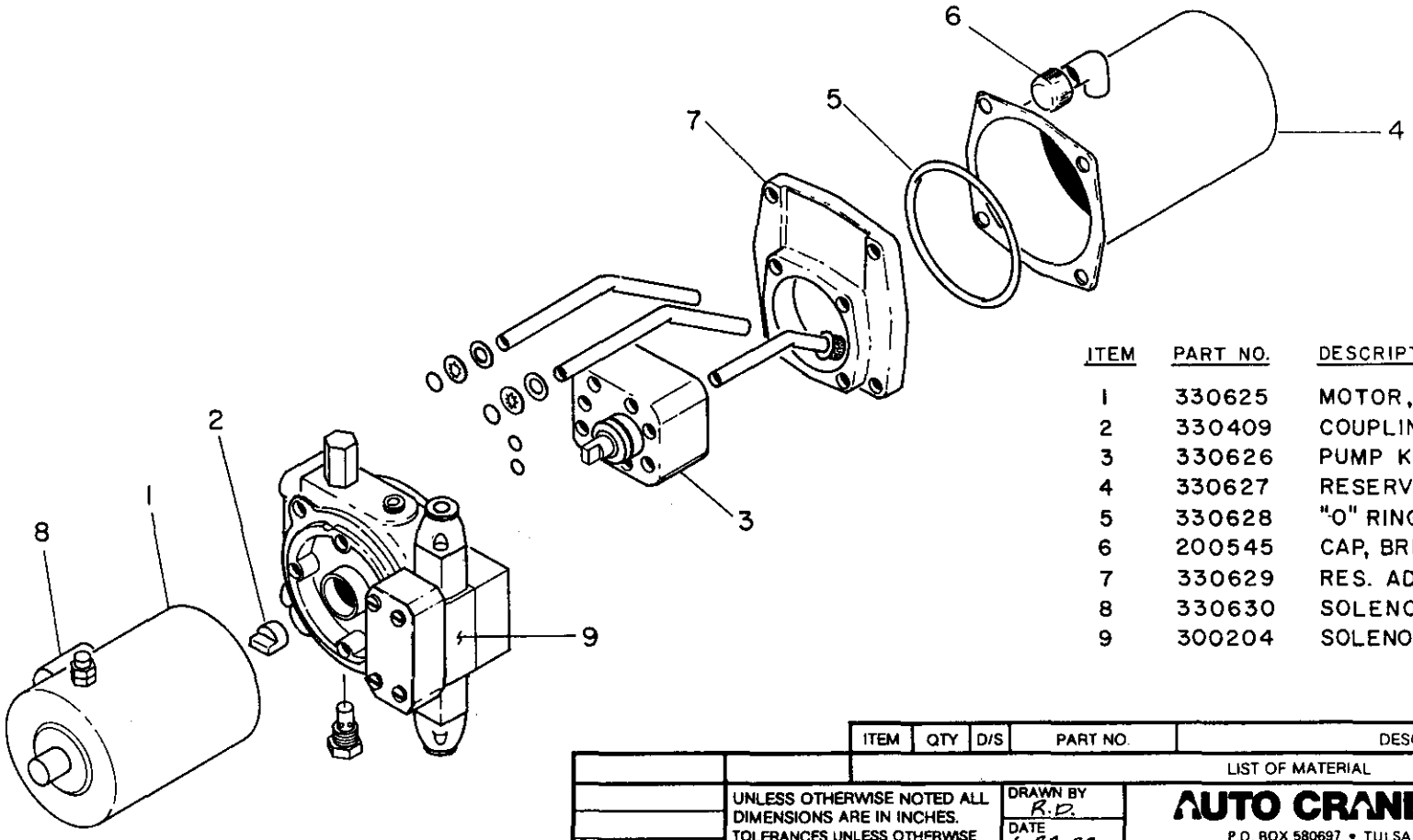


HOW TO CHECK RELAY:

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 a 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.

8-1.0.0



ITEM	PART NO.	DESCRIPTION
1	330625	MOTOR, PUMP
2	330409	COUPLING
3	330626	PUMP KIT
4	330627	RESERVOIR
5	330628	"O" RING
6	200545	CAP, BREATHER
7	330629	RES. ADAPTER
8	330630	SOLENOID
9	300204	SOLENOID VALVE

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 ± .040
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 R.D.
DATE 6-22-88
CHK'D BY
DATE
ENG. BY
DATE

NEXT ASS'Y

AUTO CRANE COMPANY
P.O. BOX 580697 • TULSA, OKLAHOMA 74158-0697
4707 NORTH MINGO ROAD • 918-836-0463

TITLE
HYDRAULIC PUMP

SCALE | SIZE B | DRAWING NO. AW-330607 | REVISION

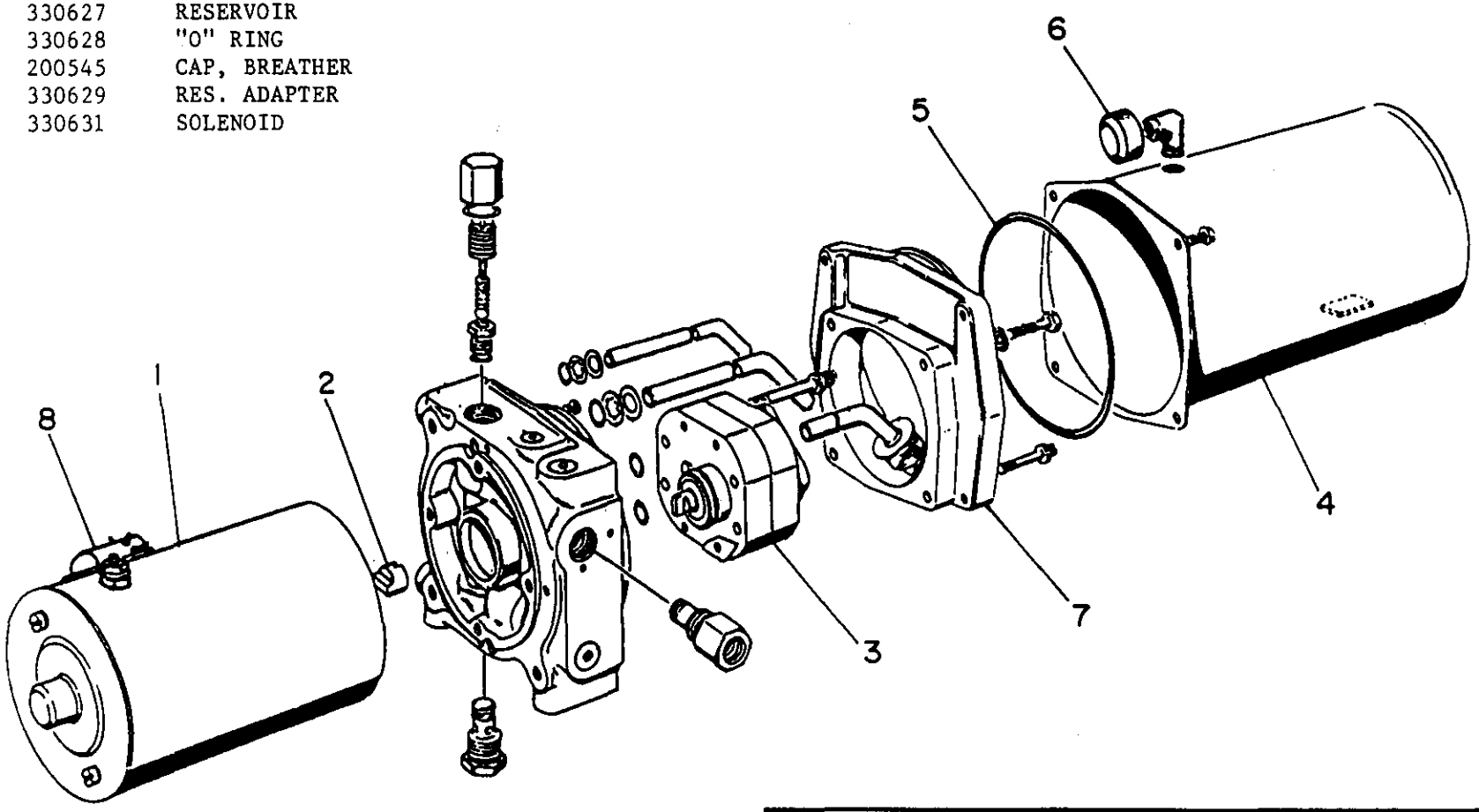
WEIGHT | SHEET _____ OF _____

CHG LTR	DESCRIPTION	DATE	APP'D

REVISIONS

81253

ITEM	PART NO.	DESCRIPTION
1	330625	MOTOR, PUMP
2	330409	COUPLING
3	330626	PUMP KIT
4	330627	RESERVOIR
5	330628	"O" RING
6	200545	CAP, BREATHER
7	330629	RES. ADAPTER
8	330631	SOLENOID



NOTE:
1. FOR RECTIFIED UNITS.

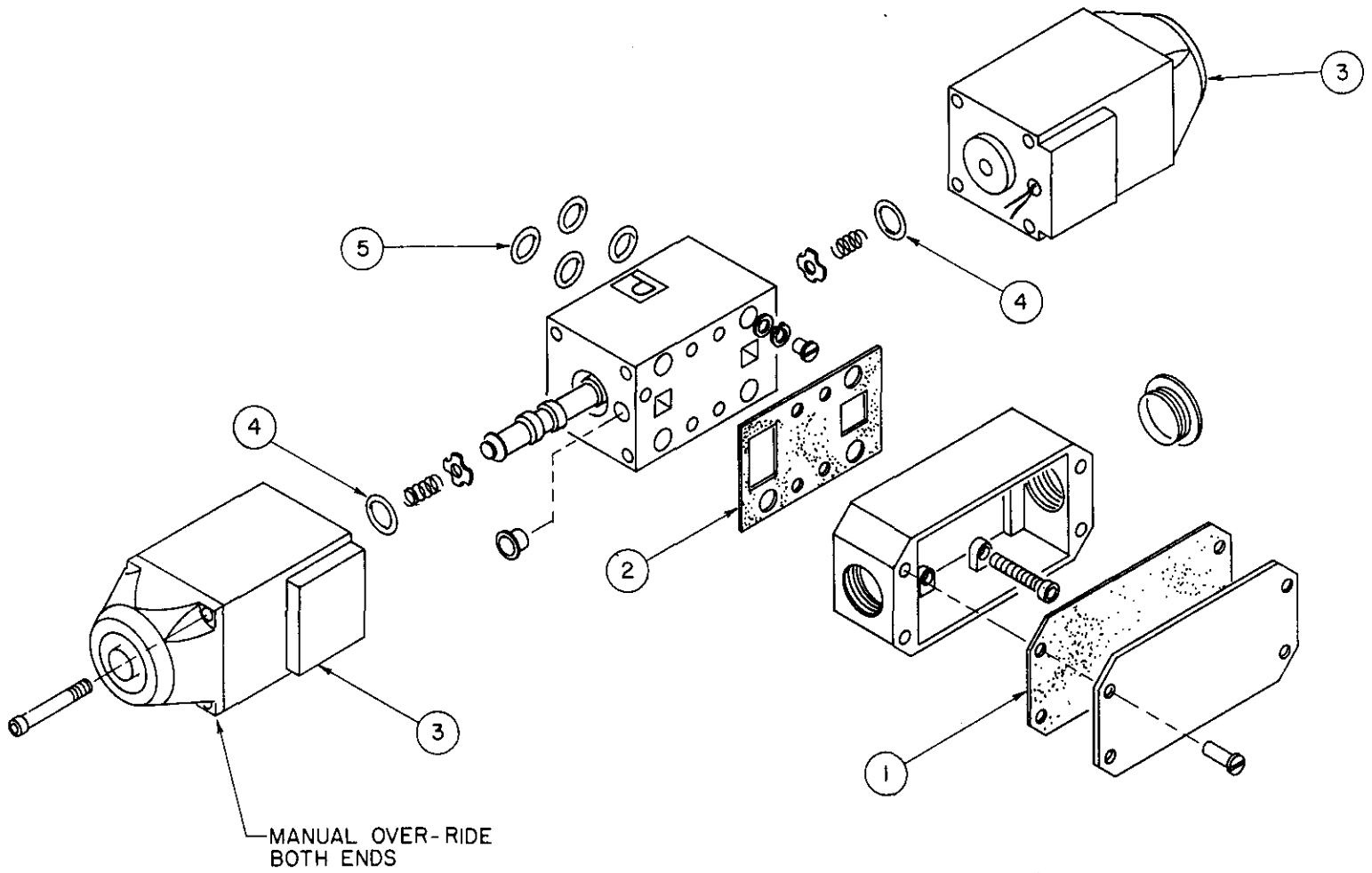
AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
HYDRAULIC PUMP

SCALE	SIZE	DRAWING NO.	REVISION
~	A	AW-330608	

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS DESCRIPTION	DATE	APP'D



8-3.0.0

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 ± .040
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 RG
DATE 4/16/87
CHK'D BY
DATE
ENG. BY
DATE

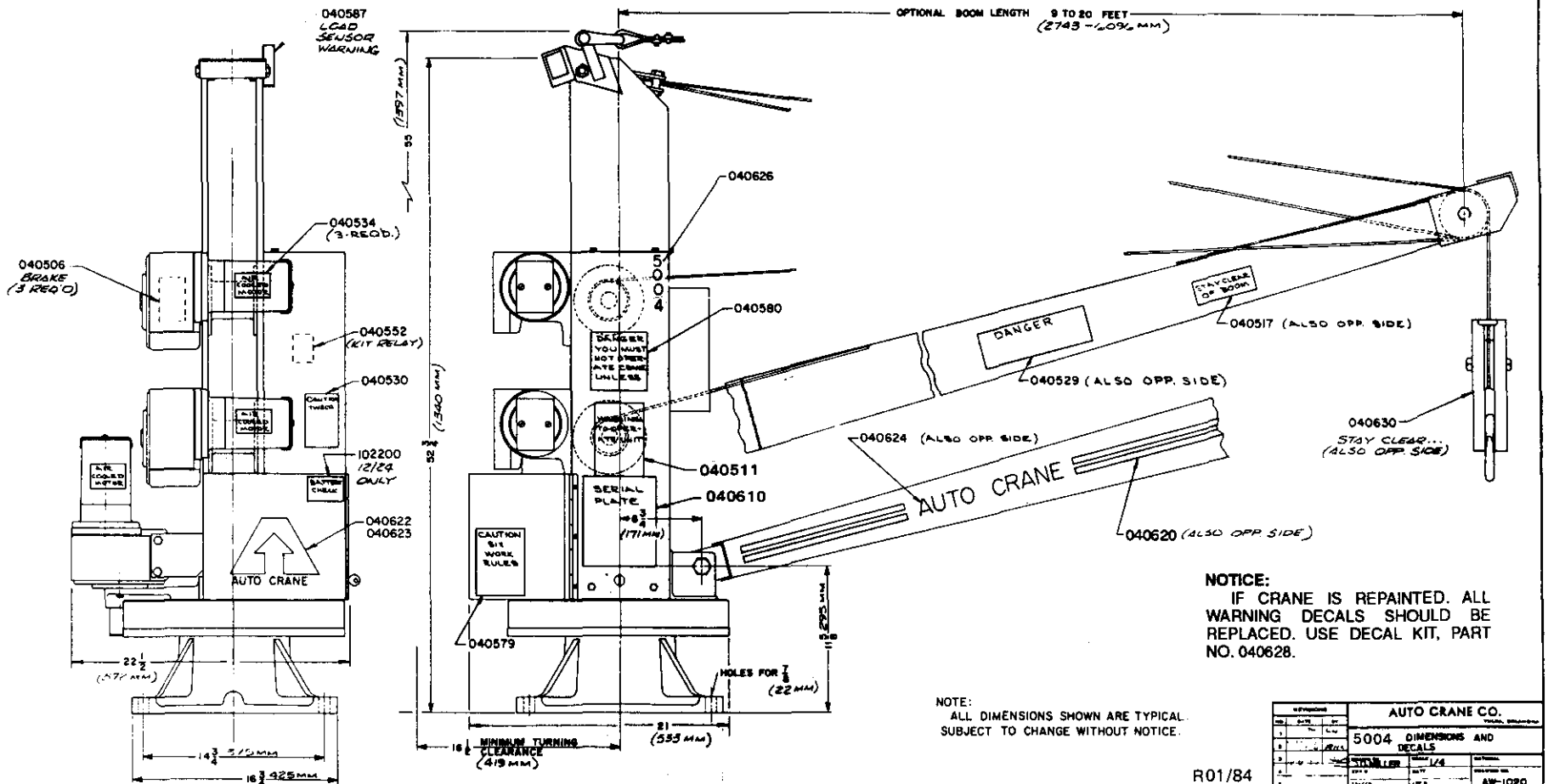
AUTO CRANE COMPANY
P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE
DIRECTIONAL VALVE ASSEMBLY

SCALE	SIZE	DRAWING NO	REVISION
	C	AW-300204	

WEIGHT

SHEET 1 OF 1

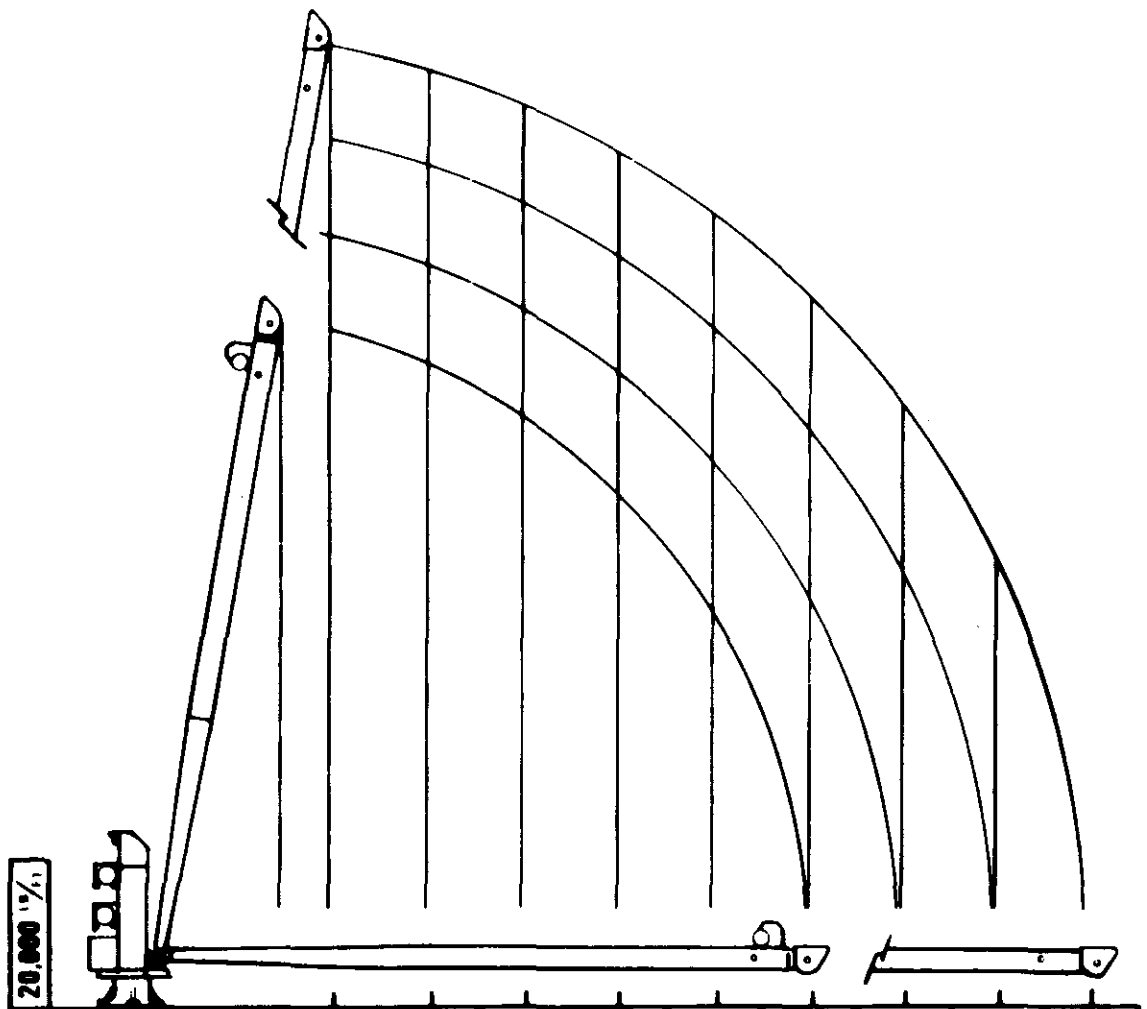


NOTICE:
IF CRANE IS REPAINTED. ALL WARNING DECALS SHOULD BE REPLACED. USE DECAL KIT, PART NO. 040628.

NOTE:
ALL DIMENSIONS SHOWN ARE TYPICAL. SUBJECT TO CHANGE WITHOUT NOTICE.

R01/84

AUTO CRANE CO.	
5004 DIMENSIONS AND DECALS	
SCALE 1/4	
AW-1020	



FT	0	4	6	8	10	12	14	16	18	20
LB		5000	3400	2500	2000	1600	1400	1200	1100	1000

P/N 040610

AUTO CRANE COMPANY

P.O. BOX 45548 • TULSA, OKLAHOMA 74145
9260 BROKEN ARROW EXPRESSWAY • 918-627-9475

TITLE

LOAD CHART - 5004 SERIES

SCALE	SIZE	DRAWING NO.	REVISION
~	A	AW - 040610	

WEIGHT

SHEET 1 OF 1

1/85

AUTO CRANE COMPANY
P. O. BOX 581510 • TULSA, OKLAHOMA 74158

Limited Warranty

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

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

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

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

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

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