

Auto Crane Company

9260 Broken Arrow Expressway
P. O. Box 45548 – Tulsa, Oklahoma 74145
PHONE (918) 627-9475

OWNER'S MANUAL

ECONO-TON

AUTO CRANE

OPERATION PROCEDURES SAFETY TIPS AND PRECAUTIONS

1. Keep hoist cable pulled tight at all times.
2. Never unreel last wrap of cable from drum.
3. Keep truck in as level a position as possible while loading or unloading.
4. During un-level loading or unloading, use brake as a drag.
5. Never wrap cable around load.
6. Use jack legs (stabilizers) from truck to the ground.
7. A manual hand crank is supplied in case of power failure and is located under the hoist cover.
8. Oil gears as required. (Once a year minimum.)
Remove the cover and apply light grade oil or Moly Coate G.
9. A friction brake holds the load when power is off. This brake may need to be adjusted periodically. Never adjust brake tighter than required to hold the load.
10. Adjustment nuts are located inside the hoist cover on the manual hand crank shaft.
11. Never assist the motor with the hand crank. The hand crank is for use ONLY if power fails.
12. When power is off the brake should hold the load without "creeping." If "creeping" occurs, tighten the two (2) nuts on the shaft protruding from the hoist housing ONLY until the load is stabilized. DO NOT tighten any more than required to hold the load.

When ordering replacement parts please provide the following information:

1. Model Number
2. Serial Number
3. Part Number and description

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

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

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

Specific Gravity (Corrected to 80°F)	Freezing Temperature Degrees F
1.280	-90°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 or the ground. Once such a path has been established, the self-discharge of the battery is considerably accelerated. This also accelerates corrosion of the battery cables at the terminals.

Periodic Maintenance is Needed.

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

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

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

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

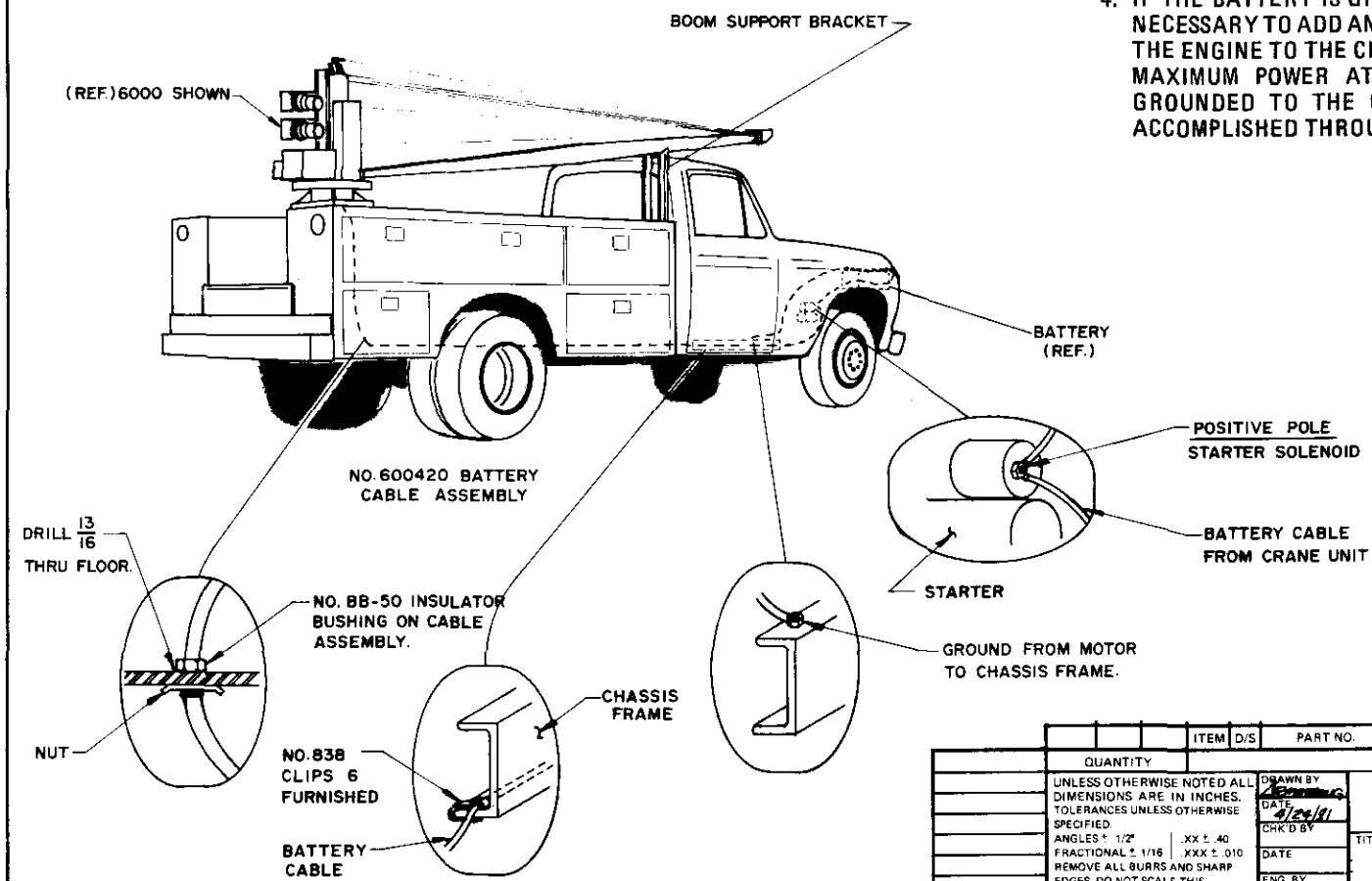
1. Fill the battery with electrolyte of the proper specific gravity.
2. Place the battery on charge in accordance with instructions given by the manufacturer.

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

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

FIXTURE NO.	FINISH NO.

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



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.

QUANTITY	ITEM D/S	PART NO.	DESCRIPTION
LIST OF MATERIAL			
UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED:		AUTO CRANE COMPANY P.O. BOX 45548 • TULSA, OKLAHOMA 74145 9280 BROKEN ARROW EXPRESSWAY • 918.627.9475	
ANGLES ± 1/2°	.XX ± .40		
FRACTIONAL ± 1/16	.XXX ± .010	TITLE	
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS		INSTALLATION-BATTERY CABLE	
DRAWING:		SCALE	SIZE
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5, 1973		C	C
THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.		DRAWING NO.	REVISION
		AW-6018	
NEXT ASS'Y	WEIGHT	SHEET 1 OF 1	

AUTO CRANE

WIRE LINE LUBRICATION

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

Preparation:

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

Application:

Two methods are illustrated in figures 2 and 3. A light weight motor oil may be used, as in figure 2; or a heavier lubricant such as grease gun lubricant, as in figure 3.

Illustrated in figure 2 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 3. Leather gloves are preferred to canvas because of greater protection and less penetration of the grease.

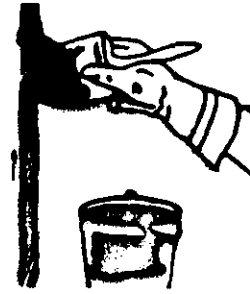


FIG. 2

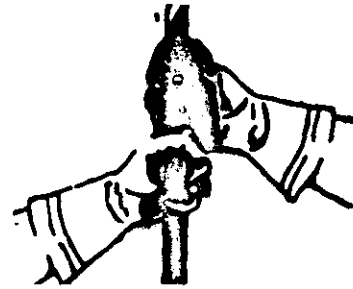


FIG. 3

"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. Loads being handled.
2. Corrosive conditions.
3. Maintenance of the unit.
 - A. Keep the sheaves turning freely.
 - B. Maintain tension on cable to insure proper spooling.
 - C. Lubricate line. (see reverse side)
 - D. Avoid kinks in cable.
 - E. Avoid abrasive action and contact with sharp corners.
4. Frequency of use.

Auto Crane units, up to 2,400 pound ratings, use 3/16 inch diameter galvanized preformed 7 x 19 aircraft cable which, when new, has a minimum strength of 4,200 pounds. It is recommended when loads are exceeded to use a two-part line with a traveling block. It can be seen that there is a safety factor of 3.5 to 1 when the cable is new.

Auto Crane units above 2,000 pound ratings use 1/4 inch diameter galvanized preformed 7 x 19 aircraft cable having a breaking strength of 7,000 pounds. It is recommended when 2,000 pound loads are exceeded to use a two-part line with the Model "SX" Traveling Block, and when 4,000 pound loads are exceeded that a three-part line be used with the Model "SX" Block and a cross sheave. It can be seen that a safety factor of 3.5 to 1 is provided when the cable is new.

Auto Crane units with a rating of 5,000 pounds use 5/16 inch diameter galvanized preformed (on boom) 7 x 19 aircraft cable having a minimum breaking strength of 9,800 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.

AUTO CRANE

ASSEMBLY AND INSTALLATION INSTRUCTIONS FOR ECONO-TON

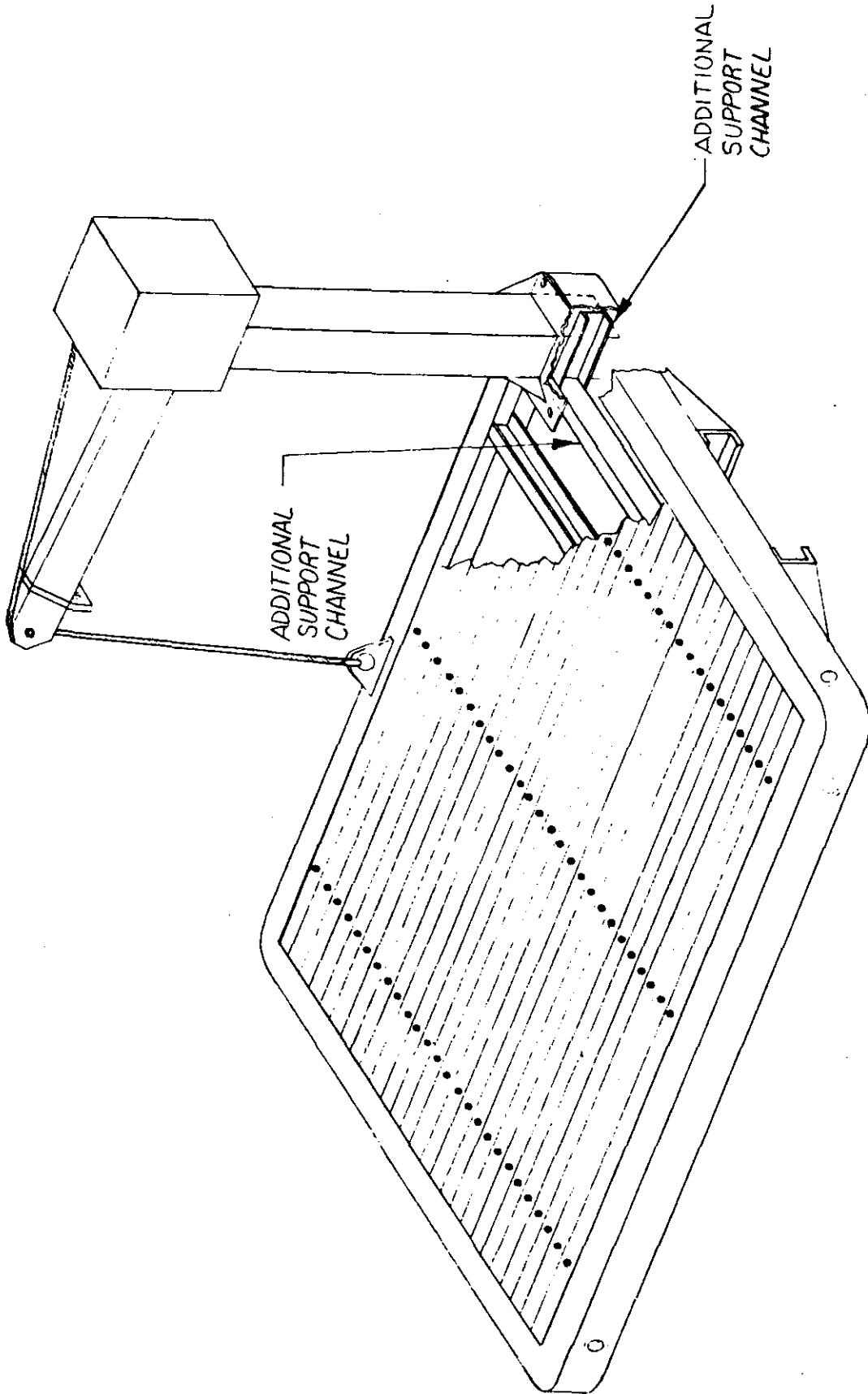
The Econo-ton cranes are shipped in two major assemblies. One assembly is the base and pedestal, and the other major assembly is the power package and boom. If the truck is available, and the crane is to be truck mounted, it is recommended that the pedestal assembly be installed before putting the two major assemblies together. The following is a suggested method for installation of cranes:

1. Remove the pedestal and base assembly from the packing crate and locate on the truck bed in the desired position checking for proper clearance. Mark the size and location of the small cut-out required to drop the pedestal leg through the floor. This leg, or extension, that goes through the floor permits maximum strength and rigid support and diverts the stresses into the truck frame.
2. Make the necessary cut-out in the floor. If the floor is made of wood, it may be desirable to install a 3/8" plate approximately six to eight inches larger than the base plate on top of the wooden deck. If the floor is heavy metal and ribbed no metal plate will be required under the crane base plate. Fillers should be installed to level the ribbed floor if required. If an additional plate is used, the holes should be cut through the plate to allow the pedestal leg or extension to pass through it. The pedestal assembly may now be placed in position and the base plate may be used as a template to drill the mounting holes through the truck bed and additional plates if used. Refer to Figure 4 for a typical installation. Insure that the pedestal is kept in a vertical and aligned position during the installation. Install a brace (structural channel or angle) along the nearest truck frame channel (brace to be approximately 18" long). Attach this brace to truck frame and to pedestal leg.
NOTE: Do not weld or flame-cut on truck frame.
3. Install a second brace to the pedestal leg which crosses both truck frames and bolting to the frame as shown in the drawing. This brace may be square tubing and should extend out to both sides of the truck and may be used as a pocket for an outrigger, stabilizer, or jack leg holder. Add other structural members as desired, including the back-up assembly which has been pre-drilled to match the crane mounting holes. Bolt the crane in place. The crane may be stiffened by installing a structural

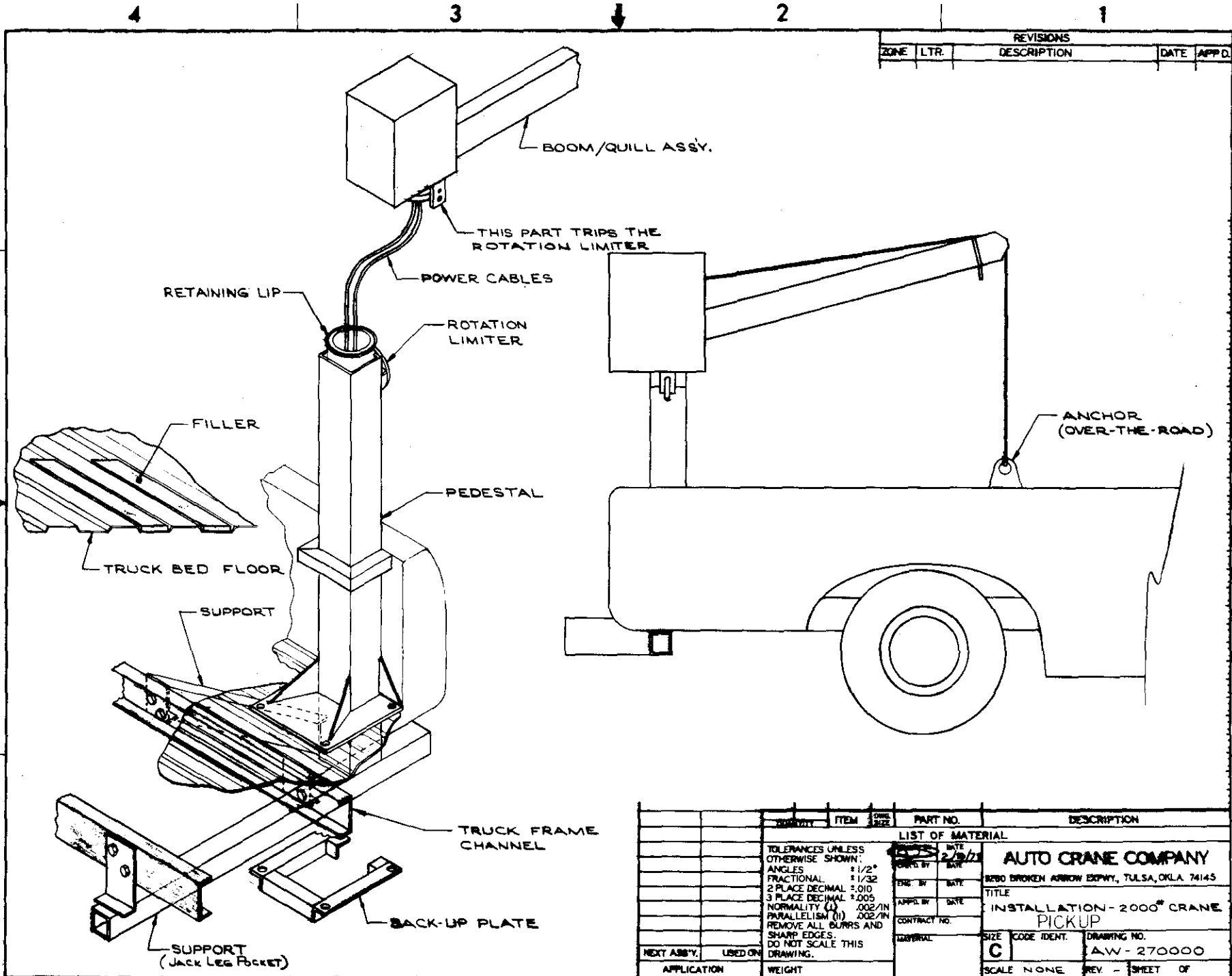
collar made of channel, angle or square tubing and fastening this collar around the pedestal and to the truck side.

4. With pedestal and base assembly properly installed, place the pre-assembled boom and power package assembly into the top of the pedestal, allowing the two power cables to drop through the cover of the pedestal which should protrude beneath the truck. When properly aligned the quill and bearings should drop easily into the correct position.
5. Install the brake shoe below the retainer lip on the pedestal, drive the roll pin into position and insert the brake handle. The roll pin assures proper positioning of the brake shoe if the handle is "backed off" too far.
6. Connect the short cable (ground) to the truck frame.
NOTE: Insure that the grounding frame surface is clean and free of paint and rust.
7. Route the long cable (power cable) under the truck and to the truck battery, connecting the cable to the existing cable clamp bolt. Tie the power cables with insulated straps to the truck frame and other members as required. Avoid the area of the exhaust system when routing the cable.
8. Provide a lug or other device to anchor the hoist cable to the truck for over-the-road positioning.
NOTE: Do not assume that the rotation brake will keep the boom from rotating. See suggestion on Figure 4.
9. Attach the removable pendant control cable and test the crane for power functions.
10. Insure that the rotation limiter on the side of the pedestal operates correctly. All three tabs must connect the tripping device on the upper assembly. This device permits the crane to make three revolutions clock wise, and three revolutions counter clock wise before the stop prevents further rotation. This device prevents the power cables from becoming twisted and possibly damaged or broken.
11. With jack legs or outriggers installed, pick up a load of 2,000 pounds and manually rotate this load approximately 180 degrees to insure that the crane is sufficiently supported and correctly installed. Further reinforcement of the truck bed may be added if required.

AUTO CRANE

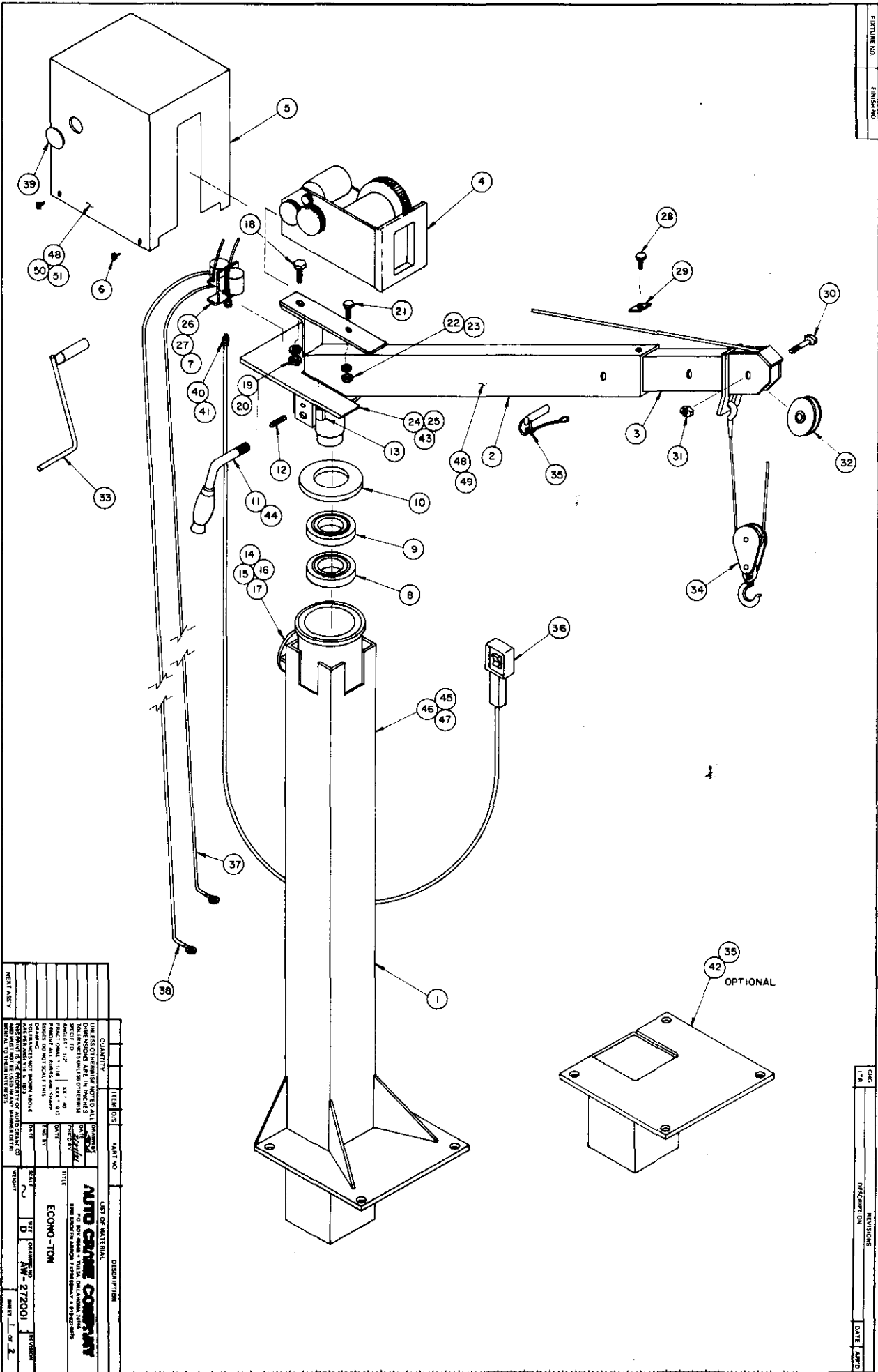


Typical Installation—Econo-Ten Crane



REVISIONS				
ZONE	LTR.	DESCRIPTION	DATE	APP'D.

QTY	ITEM	UNIT	PART NO.	DESCRIPTION
LIST OF MATERIAL				
TOLERANCES UNLESS OTHERWISE SHOWN: ANGLES ± 1/2° FRACTIONAL ± 1/32 2 PLACE DECIMAL ± .010 3 PLACE DECIMAL ± .005 NORMALITY (M) .002/IN PARALLELISM (H) .002/IN REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.				
DATE	BY	DATE	AUTO CRANE COMPANY 2700 BROKEN ARROW EXPWY., TULSA, OKLA. 74145 TITLE INSTALLATION - 2000th CRANE PICKUP	
DATE	BY	DATE	CONTRACT NO.	DRAWING NO. A.W - 270000
DATE	BY	DATE	MATERIAL	SCALE NONE
DATE	BY	DATE	APPLICATION	REV. - SHEET OF
DATE	BY	DATE	WEIGHT	



QUANTITY		ITEM NO.	PART NO.	DESCRIPTION
LIST OF MATERIAL				
THE DESCRIBED PARTS AND DIMENSIONS ARE IN INCHES SPECIFIED UNLESS OTHERWISE NOTED. ANGLES: 1/2" 30° 45° 60° 90° 120° 135° 150° 180° UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED. LIST MATERIALS NOT SHOWN ABOVE. LIST PARTS TO BE PROVIDED BY CUSTOMER. PARTS TO BE PROVIDED BY CUSTOMER TO BE SHOWN IN THE DRAWING WITH A NOTE TO THAT EFFECT. PARTS TO BE PROVIDED BY CUSTOMER TO BE SHOWN IN THE DRAWING WITH A NOTE TO THAT EFFECT.				
DATE	BY	CHKD.	REVISED	DESCRIPTION
10/1/71	WJL			
AUTO CRANE COMPANY 5800 WEST 10TH AVENUE, DENVER, COLORADO 80202				
TITLE: ECONO-TON ORDERING NO: AW-272001 REVISION: 1 OF 2				

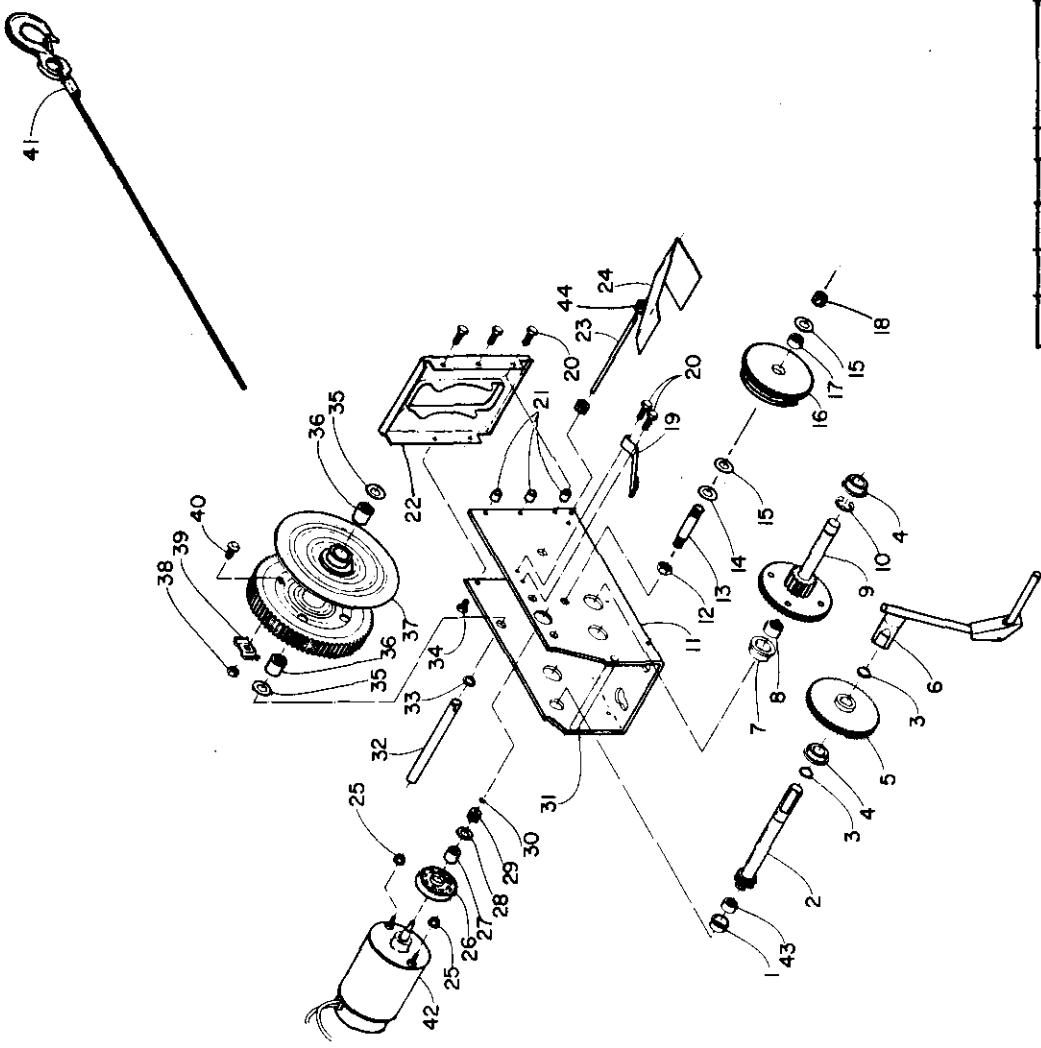
CHKD.	DATE	REVISIONS	DESCRIPTION

ECONO-TON PARTS LIST – 272001

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	272011	PEDESTAL
2	1	272007	BOOM/QUILL ASSEMBLY
3	1	272013	BOOM, INNER
4	1	272016	WINCH ASSEMBLY
5	1	272010	COVER
6	4	005003	SCREW, COVER
7	1	330105	RELAY ASSEMBLY
8	1	200303	BEARING
9	1	200308	BEARING
10	1	272039	COVER, BEARING
11	1	272052	HANDLE, BRAKE
12	1	022703	PIN, ROLL
13	1	272075	SHOE, BRAKE
14	1	017400	NUT, HEX, HLF-LK 3/8"-24
15	3	021200	WASHER, FLAT 3/8"
16	1	301400	SPRING, COMPRESSION
17	1	272041	REVOLUTION LIMITER
18	1	010201	SCREW, HEX. 1/2"-13 x 1 1/2"
19	1	021500	WASHER, FLAT 1/2"
20	1	017701	NUT, HEX. 1/2"-13
21	1	008900	SCREW, HEX. HD. 3/8"-16 x 1 1/4"
22	1	021100	WASHER, SPLT-LK 3/8"
23	1	017100	NUT, HEX. 3/8"
24	1	330111	GUARD, BASE
25	2	083804	CLAMP, CONDUIT
26	2	007401	SCREW, 5/16" x 1/2" LG.
27	2	016801	LOCKNUT 5/16"
28	1	272071	TAB, REMOVABLE
29	1	006207	SCREW, 1/4"-20 x 5/8"
30	1	012200	SCREW, HEX. HD. 5/8"-18 x 1 3/4"
31	1	018100	NUT, HLF-LK. 5/8"-18
32	1	200909	SHEAVE ASSEMBLY
33	1	272155	AUX. HANDLE ASSEMBLY
34	1	100300	TRAVELING BLOCK ASSEMBLY
35	1	201100	PIN, POSITION
36	1	330042	PENDANT, HOIST CONTROL
37	1	602000	CABLE, GROUND
38	1	602001	CABLE, POWER
39	1	023201	PLUG, COVER
40	1	645101	CONNECTOR, MALE
41	1	634401	CABLE, TIE
42	1	272050	SOCKET, MOUNTING (OPTIONAL)
43	1	330053	BUSHING, STRAIN RELIEF
44	1	272055	GRIP, HAND
45	1	040580	DECAL – DANGER MUST NOT OPER. .
46	1	040579	DECAL – CAUTION-SIX WORK RULES
47	1	040582	PLATE, SERIAL
48	11'	040620	DECAL – STRIPING
49	2	040621	DECAL – ECONO-TON
50	1	040623	DECAL – A/C
51	1	040626	DECAL – "A"

FIGURE NO.	FINISH NO.
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CHG LTR	REVISIONS	DATE	APPD
	DESCRIPTION		



QUANTITY	ITEM	D/S	PART NO.	DESCRIPTION
				LIST OF MATERIAL
				AUTO CRANE COMPANY
				P.O. BOX 4648 • TULSA, OKLAHOMA 74145
				9260 BROKEN ARROW EXPRESSWAY • 918 627 8475
				TITLE
				MOTOR ASSEMBLY (D.C.)
				SCALE
				~ C
				DRAWING NO.
				AW-272016
				REVISION
				SHEET 1 OF 2

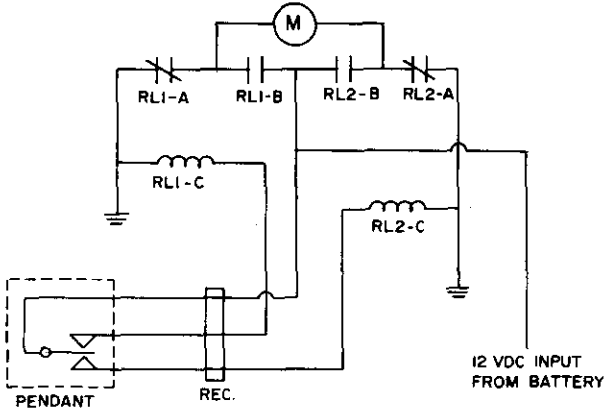
RIGHTWAY, 1958

MOTOR PARTS LIST – ECONO-TON AW-272016

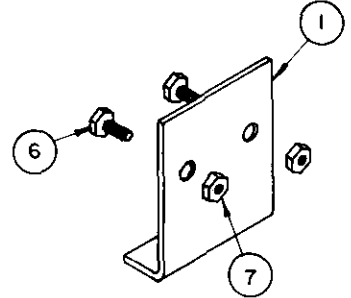
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	272183	BUSHING
2	1	272151	PRIMARY DRIVE SHAFT ASS'Y
3	2	272152	RETAINING RING
4	2	272153	BUSHING
5	1	272154	56 T GEAR
6	1	272155	AUX. HANDLE ASS'Y
7	1	272156	DRIVE SHAFT BEARING HOUSING
8	1	272157	BEARING
9	1	272158	INTERNAL DRIVE SHAFT ASS'Y
10	1	272159	"E" RING
11	1	272160	BASE
12	1	330011	NUT 7/16-20 LOCKNUT
13	1	330012	CLUTCH STUD
14	1	330014	WASHER
15	2	330013	BEARING RACE
16	1	330015	GEAR ASS'Y
17	1	330017	BEARING
18	1	330018	LOCKNUT
19	1	272161	BRAKE SPRING ASS'Y
20	3	272162	SCREW, 1/4"-20 x 1-1/16"
21	3	272163	SPACER
22	1	272164	FRONT PLATE
23	1	272165	LEVER WIND PIN
24	1	330019	LEVER WIND
25	2	330022	LOCKNUT #10-32
26	1	272168	BRAKE DRUM
27	1	272169	ROLLER CLUTCH
28	1	330060	WASHER
29	1	272170	12 T PINION GEAR
30	1	272171	"E"-RING
31	1	272172	BASE SPACER
32	1	272173	REEL SHAFT
33	1	272174	RETAINING RING
34	2	272175	SCREW 1/4"-20 x 1/2"
35	2	272176	WASHER
36	2	272177	BEARING
37	1	330020	REEL ASSEMBLY
38	1	272179	NUT 1/4"-20
39	1	272180	ROPE CLAMP
40	1	330021	CARRIAGE BOLT
41	1	330028	CABLE & HOOK 3/16" x 25"
42	1	272184	MOTOR ASSEMBLY
43	1	330016	BEARING
44	2	330029	PUSHNUT

FIXTURE NO.	FINISH NO.

CHG LTR	REVISIONS	DATE	APP'D
	DESCRIPTION		

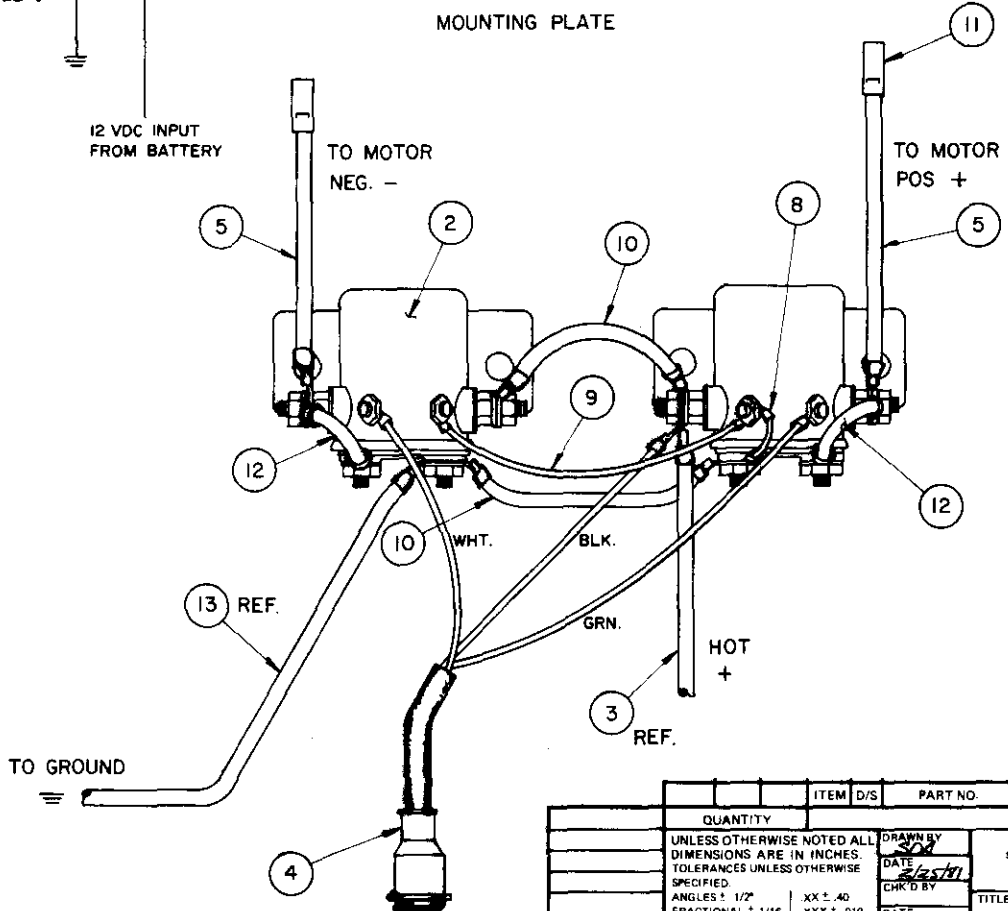


SCHEMATIC



NOTE:
RELAYS ARE MOUNTED
ON EACH SIDE OF PLATE.

MOUNTING PLATE



QUANTITY	ITEM D/S	PART NO.	DESCRIPTION
UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED:			
ANGLES ± 1/2°	XX ± .40	DRAWN BY <i>SD</i>	
FRACTIONAL ± 1/16	XXX ± .010	DATE	<i>2/28/71</i>
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.		CHK'D BY	
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5 - 1973		DATE	
THIS PRINT IS THE PROPERTY OF AUTO CRANE CO. AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.		ENG BY	
NEXT ASS'Y		DATE	
LIST OF MATERIAL			REVISION
AUTO CRANE COMPANY P.O. BOX 45548 • TULSA, OKLAHOMA 74145 9260 BROKEN ARROW EXPRESSWAY • 918-627-9475			
TITLE			SCALE
WIRING DIAGRAM—ECONO-TON (RELAY ASSEMBLY)			SIZE
DRAWING NO.			WEIGHT
AW-330105			
SHEET 1 OF 2			

RELAY ASSEMBLY PARTS LIST – ECONO-TON AW-330105

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	330106	MOUNTING PLATE
2	2	330033	RELAY 12 V.
3	1	602001	CABLE, POWER (REF.)
4	1	330034	RECEPTACLE ASS'Y
5	2	330040	CONDUCTOR
6	2	007401	SCREW, 5/16" x 1/2"
7	2	016801	LOCKNUT 5/16"
8	1	654905	CONDUCTOR
9	1	330035	CONDUCTOR
10	2	330037	CONDUCTOR
11	2	330054	SPLICE, BUTT (INS.)
12	2	330036	CONDUCTOR
13	1	602000	CABLE, GROUND (REF.)

TROUBLESHOOTER ECONO-TON

PROBLEM

CRANE WILL NOT HOIST UP.
CRANE WILL NOT HOIST DOWN.

CAUSE

Bad relay, crane not grounded properly, power cable not connected to 12V power source. Bad switch in pendant, broken wire in pendant connector on pendant not plugged together properly, wire on relay not in proper place, lead wires to motor not connected properly.

SOLUTION

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

PROBLEM

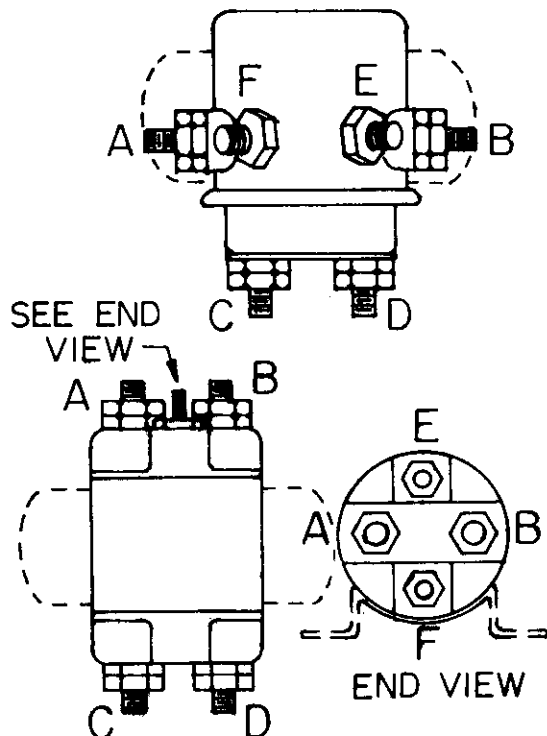
CRANE RUNS UP OR DOWN ANY TIME
POWER SOURCE IS CONNECTED.

CAUSE

Relay stuck in run position which will let crane run up or down any time 12V power source is connected. Wires shorted together in remote control. Lead or cable can also cause this problem. Wires jumped across relay in wrong place can cause crane to run all the time.

SOLUTION

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



HOW TO CHECK RELAY:

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

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

LUBRICATION OF THE ECONO-TON

Most bearings on the winch are factory sealed and cannot be greased. A drop or two of oil on winch gear once a month cannot hurt anything.

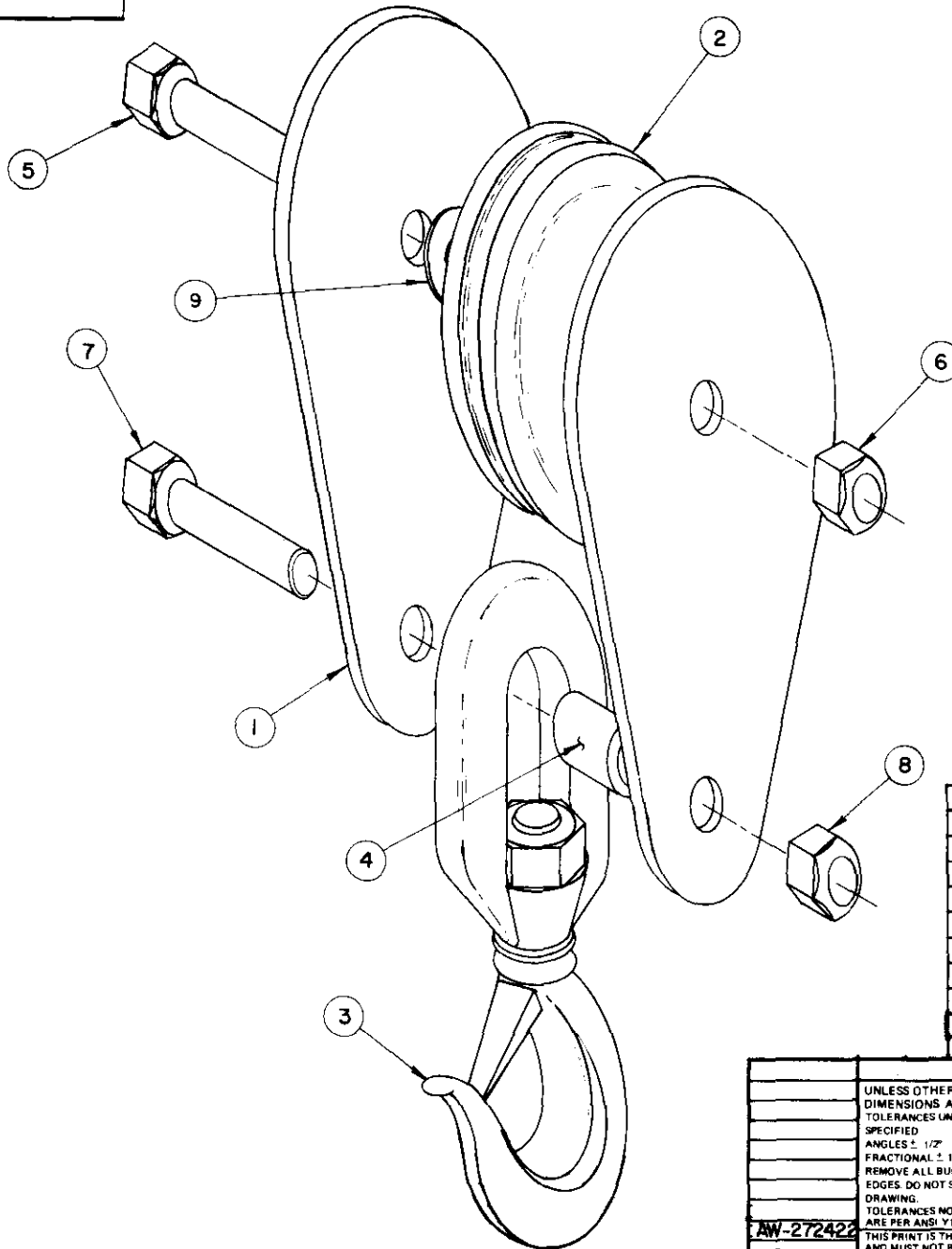
BRAKE ADJUSTMENT

The brake on this unit consists of a spring with a pad on the end of it which rubs the brake drum (part number 272168) on end of the shaft coming out of the motor. This drum works free one way. Then when you go down, it works to hold the speed and load. When you let off the remote control, it stops the load. There is no real adjustment on this brake. If you try to bend the spring too much, it will break. These winches come with the brake already installed.

CHANGE CABLE

To change cable, you must hoist down to end of old cable on drum. There is a small carriage bolt and clamp; loosen bolt in the clamp to remove cable. Replace with new cable underneath clamp. Tighten the bolt securely and respool the cable on to the drum; maintain a light tension on the cable so that it will spool properly.

FIXTURE NO.	FINISH NO.



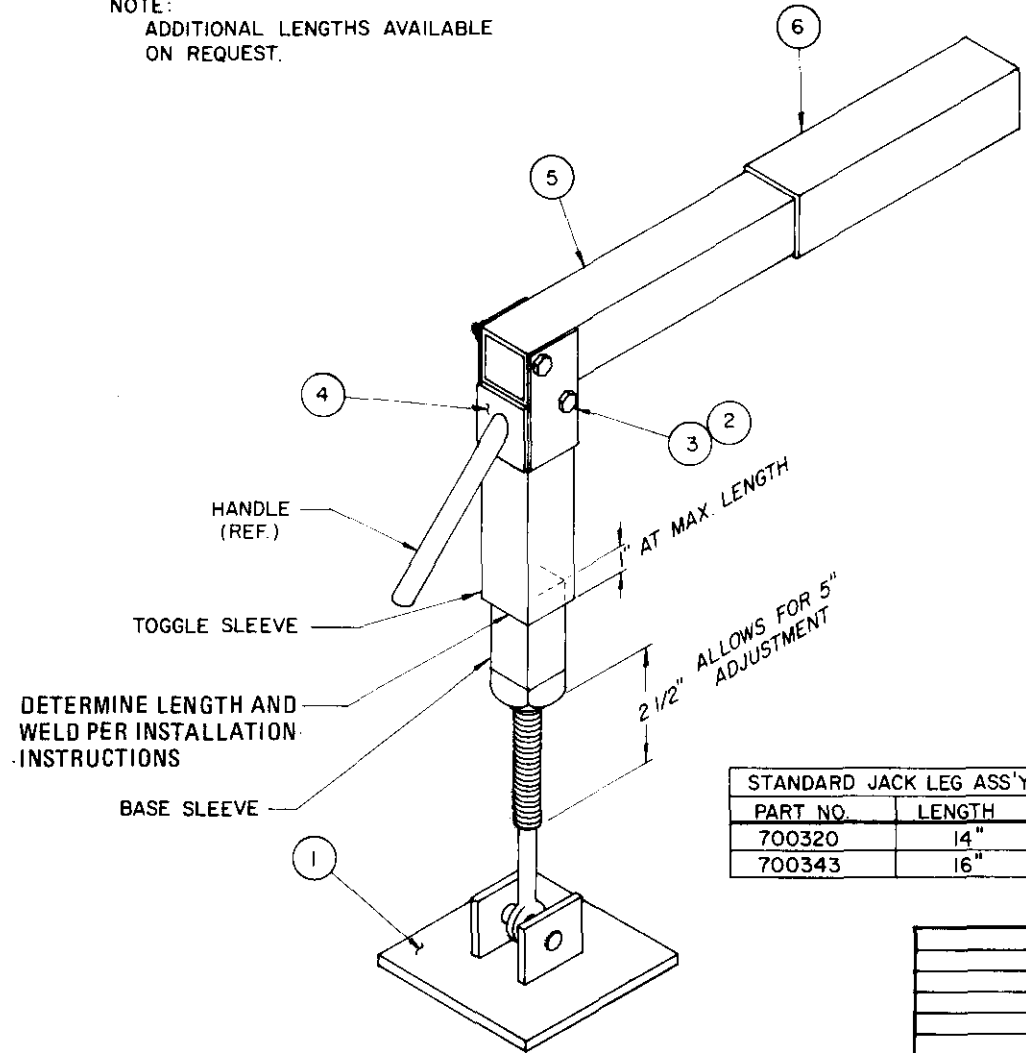
ITEM	QTY	D/S	PART NO.	DESCRIPTION
9	4		330100	WASHER, FLAT ADJUSTING
8	1		017700	NUT, HEX. HLF. LK. 1/2"-20
7	1		011607	SCREW, HEX. 1/2"-20 X 2"
6	1		018100	NUT, HEX. HLF. LK. 5/8"-18
5	1		013507	SCREW, HEX. 5/8"-18 X 2" GR 5
4	1		800203-004	PIPE, BLACK 1/2"
3	1		100309	SWIVEL HOOK ASSY W/LATCH
2	1		200909	SHEAVE ASSEMBLY
1	2		100303	PLATE, SIDE SHEAVE

UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN BY <i>AW</i>		LIST OF MATERIAL ECONO-MISER	
ANGLES ± 1/2° .XX ± .40		DATE 9-22-80		AUTO CRANE COMPANY	
FRACTIONAL ± 1/16 .XXX ± .010		CHK'D BY		P.O. BOX 45648 • TULSA, OKLAHOMA 74145	
REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE THIS DRAWING.		DATE		9280 BROKEN ARROW EXPRESSWAY • 919-627-9475	
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5-1973		ENG. BY		TITLE TRAVELING BLOCK ASSEMBLY	
THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS.		DATE		SCALE NONE	SIZE C
NEXT ASS'Y	AW-272422	DRAWING NO. AW-100300		REVISION	WEIGHT
				SHEET 1 OF 1	

FIXTURE NO.	FINISH NO.

CHG	REVISIONS	DATE	APP'D
LTR	DESCRIPTION		

NOTE:
ADDITIONAL LENGTHS AVAILABLE
ON REQUEST.



INSTALLATION INSTRUCTIONS (JACK LEG)

MAKE SURE TRUCK IS PARKED ON LEVEL SURFACE. WELD POCKET (Item 6) TO TRUCK BODY AT REAR JUST INSIDE BUMPER, OR DESIRABLE LOCATION. END OF POCKET SHOULD BE FLUSH WITH OUTSIDE OF THE TRUCK BODY. BE SURE THE POCKET IS WELDED SECURELY. NEXT, SLIDE HORIZONTAL MEMBER (Item 5) INTO POCKET. SLIDE BASE ASSEMBLY (Item 1) INTO TOGGLE SLEEVE. MAKE SURE LEG ASSEMBLY IS VERTICAL & FULLY INSERTED IN POCKET. NOW BASE SCREW SHOULD BE ADJUSTED SO THAT 2 1/2" OF THREAD IS EXPOSED. MARK BASE SLEEVE WHERE TOGGLE SLEEVE ENDS. PULL JACK LEG OUT OF THE POCKET & WELD (Ref. -3/16") ALL AROUND AT MARK.

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

DETERMINE LENGTH AND WELD PER INSTALLATION INSTRUCTIONS

STANDARD JACK LEG ASS'Y	
PART NO.	LENGTH
700320	14"
700343	16"

ITEM	D/S	PART NO.	DESCRIPTION
6	1	700047	TUBE, POCKET
5	1	200081	MEMBER, HORIZONTAL
4	1	200085	TOGGLE
3	2	006801	CAPSCREW, HEX. HD. 1/2" NF X 4"
2	2	017800	LOCKNUT, HEX. 1/2" NF X 4"
1	1	200041	BASE ASSEMBLY

QUANTITY	ITEM D/S	PART NO.	DESCRIPTION
UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN INCHES. TOLERANCES UNLESS OTHERWISE SPECIFIED			
DRAWN BY		LIST OF MATERIAL	
DATE		AUTO CRANE COMPANY P O BOX 45548 • TULSA, OKLAHOMA 74145 9260 BROKEN ARROW EXPRESSWAY • 918 627-9475	
CHK'D BY		TITLE	
DATE		JACK LEG ASSEMBLY	
ENG BY		SCALE	SIZE
DRAWING		~	C
TOLERANCES NOT SHOWN ABOVE ARE PER ANSI Y14.5, 1973		DRAWING NO.	REVISION
THIS PRINT IS THE PROPERTY OF AUTO CRANE CO AND MUST NOT BE USED IN ANY MANNER DETRIMENTAL TO THEIR INTERESTS		AW-LEG HD W/P	
NEXT ASS'Y	WEIGHT	SHEET 1 OF 1	