# **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 SALES FAX 918-438-6688 / SERVICE FAX 918-834-5979

# OWNERS MANUAL 5005EH

# 5005EH - OWNER'S MANUAL

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## **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).

## -IMPORTANT-

#### SAFETY TIPS AND PRECAUTIONS

- Make certain the vehicle meets minimum chassis requirements. (These requirements do not guarantee unit stability.)
- Make certain the crane is installed per factory specifications. Contact your local Distributor or the Auto Crane factory if any questions arise.
- Keep the vehicle in as level a position as possible while loading or unloading.
- ALWAYS set the vehicle emergency brake before beginning crane operations
- ALWAYS use outriggers from vehicle to the ground during crane operation. Insure that they are firmly positioned on solid footings.
- All load ratings are based on crane capacity, NOT unit stability.
- ALWAYS comply with load chart capacities (centerline of rotation to hoist hook).
- 8. NEVER OPERATE THE CRANE NEAR ELECTRICAL POWER LINES. Auto Crane Company recommends that a crane never be moved any closer to a power line (including telephone lines) than 20 feet at any point.
- Keep objects and personnel clear of crane path during operation.
- 10. Keep hoist cable pulled tight at all times.
  - WARNING NEVER un-reel last wrap of cable from drum.
- 12. WARNING NEVER wrap cable around load.

- 13. REMEMBER in lifting a heavy load, the weight can create enough tipping moment to overturn the vehicle.
- 14. WARNING NEVER attempt to lift or drag a load from the side- the boom can fail far below its rated capacity.
- 15. Oil gears as required.
- Periodic adjustment of hoist worm brake may be required (see automatic safety brake drawing, page 4-4.0.0).
- WARNING NEVER weld, modify, or use unauthorized components on any Auto Crane unit. This will void any warranty or liability. Also failure of the crane may result.
- 18. An important item which an operator should consider and use properly is the hoist hook. It should be checked on a 30-day basis for distortion or cracks.
- 19. WARNING NEVER place a chain link on the tip of the hook and try to lift a load with the hoist.
- WARNING NEVER use a sling bar or anything larger than the hook throat which could prevent the hook from closing with the block, thus negating the safety feature.
- 21. WARNING In using a safety hook, ALWAYS insure that the hook throat is closed before lifting a load. Proper attention and common sense applied to the use of the hoist hook and various slings will prevent possible damage to material being hoisted and may prevent injury to personnel.
- 22. WARNING NEVER hold any pendant Select switch on that will negate safe operating conditions.
- 23. ALWAYS store outriggers before road travel.

### NOTE:

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

#### OPERATION OF UNIT

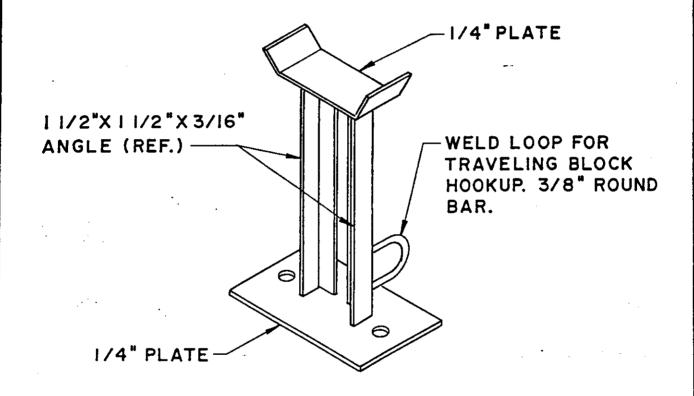
- Make sure this manual has been thoroughly read by all crane operating personnel.
- A routine inspection of the crane should be mandatory before each operating day. Any defects should be corrected immediately.
- At a job site the vehicle should be positioned so that the crane can adequately reach the load within the rated capacity (centerline of rotation to hoist hook).
- Keep the vehicle as level as possible during operation.
- 5. Engage emergency brake, block wheels, and turn ignition off with transmission left in gear or in park (for automatic transmissions). This is for Auto Crane units requiring only battery operation. For larger Auto Crane units requiring battery and hydraulic operation, engage emergency brake and place gear select in neutral; press clutch and pull PTO knob in gear; release clutch and set throttle control to proper engine speed.
  WARNING: DO NOT EXCEED ENGINE SPEED NECESSARY TO MEET PUMP RPM REQUIREMENT (see hydraulic section) POSSIBLE DAMAGE MAY RESULT.
- Always use outriggers from the truck to the ground. Be sure these are firm and adequately positioned.
- Then remove pendant control from cab (on smaller units) and plug into receptacle on crane. Crane is now ready for operation. On Auto Crane's larger units,

- remove pendant control from guard and unwrap cable from boom. Crane is now ready for operation. DO NOT OPERATE CRANE WITH CABLE WRAPPED AROUND BOOM LOOPS.
- 8. Always boom up before rotating so that the boom will clear the required boom support.
- When extending the boom always maintain clearance between the boom crown and the traveling block or hoist hook.
- Always observe safe and practical operation to avoid possible accidents. Refer to Safety Tips and Precautions.
- After completing lifting operations, return the boom to stowed position on the boom support. Avoid excess pressure on the boom support.
- Store pendant control on proper location (in cab or on crane).
- Return outriggers to stowed position. Make sure they are pinned in place or jacklegs are returned to compartment.
- 14. Check work area for any tools or equipment not stored.
- 15. Press clutch and disengage PTO. Release throttle control and emergency brake.
- Report any unusual occurance during crane operation that may indicate required maintenance or repair.

#### OPERATION OF HYDRAULIC OUTRIGGERS

- Prior to operating outriggers, detach crane hook from dead man.
- Shift crane outrigger selector valve to "outrigger" position.
- While operating the outrigger control valves (located on the outrigger cylinders), simultaneously operate the boom-up control switch. This will allow hydraulic system to build pressure.
- After outriggers are positioned, return crane-outrigger selector valve to "crane" position. Crane is now ready to operate.

# AUTO CRANE'S SUGGESTED BOOM SUPPORT LEAVE 3/4" CLEARANCE ON EACH SIDE OF BOOM



**BOOM SUPPORT IS REQUIRED.** 

## **AUTO CRANE COMPANY**

P.O. BOX 380697 TULSA OKLAHOMA 74158-0697 4707 N. MINGO ROAD 918-836-0463

#### WIRE LINE LUBRICATION

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

#### PREPARATION:

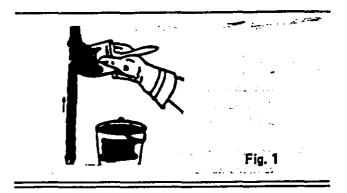
Remove rust and foreign matter with a wire brush and wipe clean. Be sure cable is dry.

#### APPLICATION:

Two methods are illustrated in figures 1 and 2. A light weight motor oil may be used, as in 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.



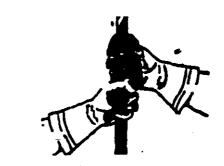


Fig. 2

#### "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:

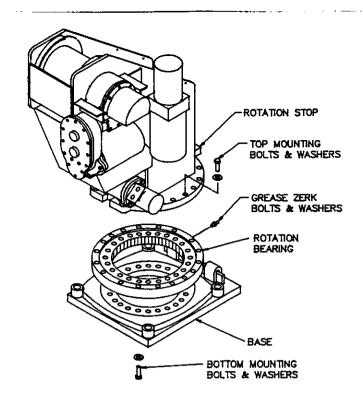
- 1. Load being handled.
- 2. Corrosive conditions.
- 3. Maintenance of the unit.
  - a. Keep the sheaves turning freely.
  - b. Maintain tension of cable to insure proper spooling.
  - c. Lubricate line (See above).
  - d. Avoid kinks in cable.
  - e. Avoid abrasive action and contact with sharp corners.
- 4. Frequency of use.

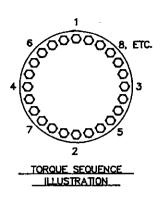
Auto Crane units, up to 5000 pound ratings, use 5/16 inch diameter galvanized preformed 7 x 19 aircraft cable which, when new, has a minimum strength of 9,800 pounds. It is recommended when 2500 pound loads are exceeded to use a two-part line with a traveling block. It can be seen that there is a safety factor of 3.9 to 1 when the cable is new.

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

Items to look for while inspecting the cables are:

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





#### LUBRICATION OF ROTATION BEARING

#### RACE

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

#### **GEAR**

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

#### INSTALLATION OF ROTATION BEARING

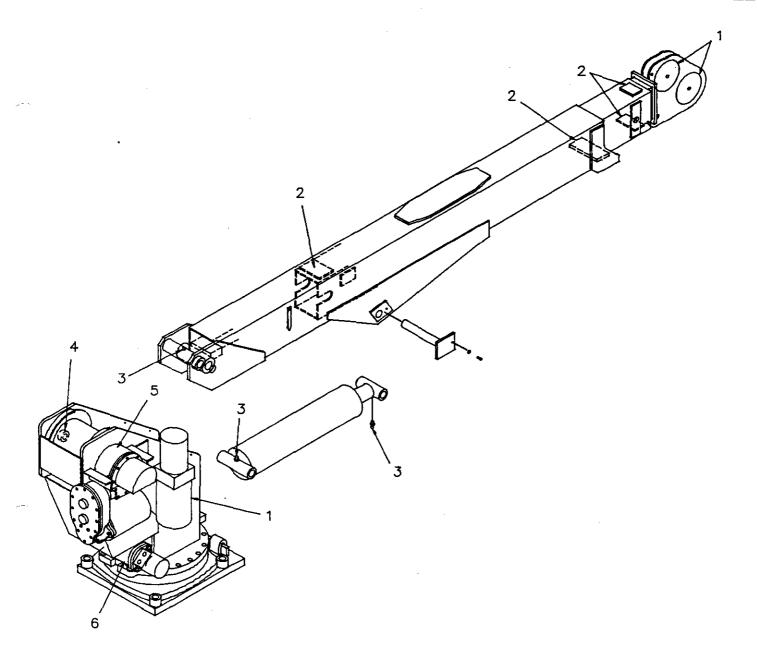
- MAKE SURE MOUNTING SURFACES ARE FLAT AND CLEAR OF DEBRIS.
- INSTALL BEARING SUCH THAT THE GREASE ZERK ON THE BEARING IS LOCATED DIRECTLY UNDER THE ROTATION STOP OF THE PEDESTAL.
- INSTALL TOP AND BOTTOM BOLTS AND FLAT WASHERS. ALL BOLTS MUST BE GRADE 8 AND USED WITH HARDENED FLAT WASHERS. REFER TO PEDESTAL ASSEMBLY FOR PART NUMBERS.
- 4. SNUG ALL BOLTS , THEN TIGHTEN ACCORDING TO THE TORQUE SEQUENCE ILLUSTRATION UNTIL ALL BOLTS ARE TORQUED TO 150 FT.—LBS (NON—PLATED) OR 110 FT.—LBS (PLATED).

NOTE: BOLTS SHOULD BE CHECKED PERIODICALLY AND RETIGHTENED TO PROPER TORQUE.

- GREASE THE ROTATION BEARING ACCORDING TO LUBRICATION INSTRUCTIONS AT LEFT.
- 6. SET BACKLASH OF THE ROTATION ACTUATOR AND THE ROTATION BEARING AT THE HIGH POINT OF THE ROTATION BEARING GEAR TEETH. IDENTIFIED BY A YELLOW PAINT MARK ON THE TEETH.

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

AW-346 BEARING ROTATION MAINTENANCE

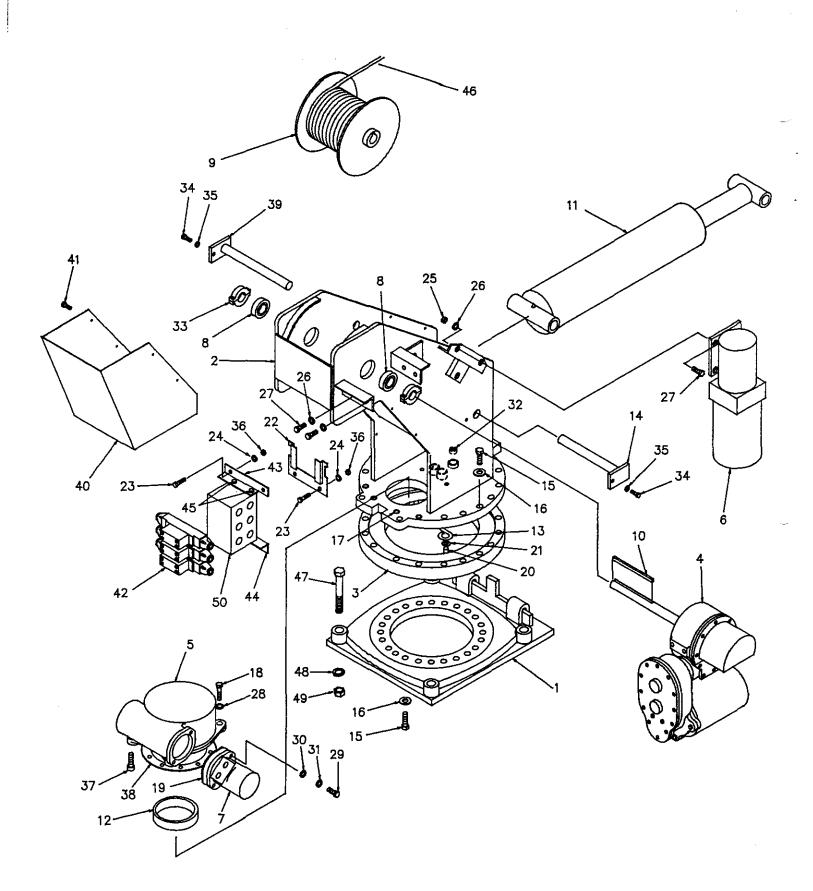


- 1. SHEAVE ROLLER BEARINGS: SEALED TYPE, NO LUBE REQUIRED.
- 2. BOOM PADS: IF REPLACED, GREASE UPON INSTALLATION WITH CHASSIS LUBRICANT.
- 3. PIVOT POINT GREASE ZERKS: LUBE ONCE A WEEK WITH MOBILPLEX EP-2 OR EQUIVALENT.
- 4. HOIST ROLLER BEARINGS: SEALED TYPE, NO LUBE REQUIRED.

- 5. HOIST ACTUATOR:
  MAINTAIN GEAR BOX LUBRICANT AT FILL PLUG.
  USE ONE PINT OF EP GEAR LUBE SAE 80-90.
  REPLACE EVERY SIX MONTHS.
- 6. ROTATION ACTUATOR:
  MAINTAIN OIL LEVEL OF 1 1/2 PINTS OF
  EP GEAR LUBE, SAE 140.
  REPLACE EVERY SIX MONTHS.
- 7. HYDRAULIC FLUID:
  USE DTE-13 OR EQUIVALENT.
  RESERVOIR SHOULD BE FLUSHED
  AND NEW FLUID ADDED ONCE A YEAR, OR IF
  A HYDRAULIC FAILURE OCCURS.

# AW-347 LUBRICATION MAINTENANCE

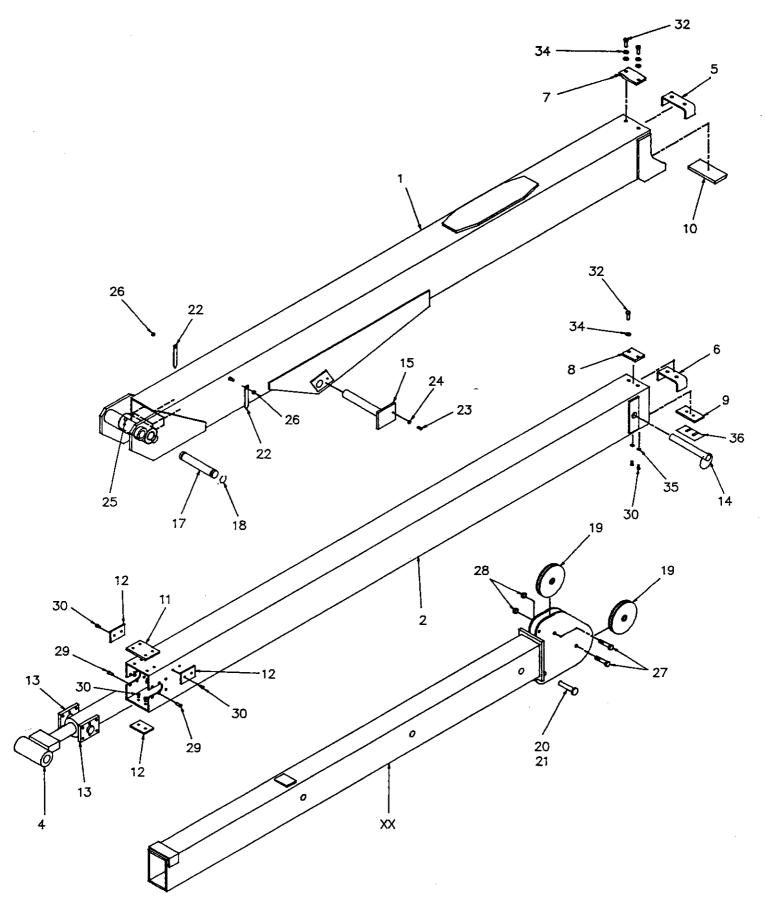
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AW-332 5005EH PEDESTAL ASSEMBLY

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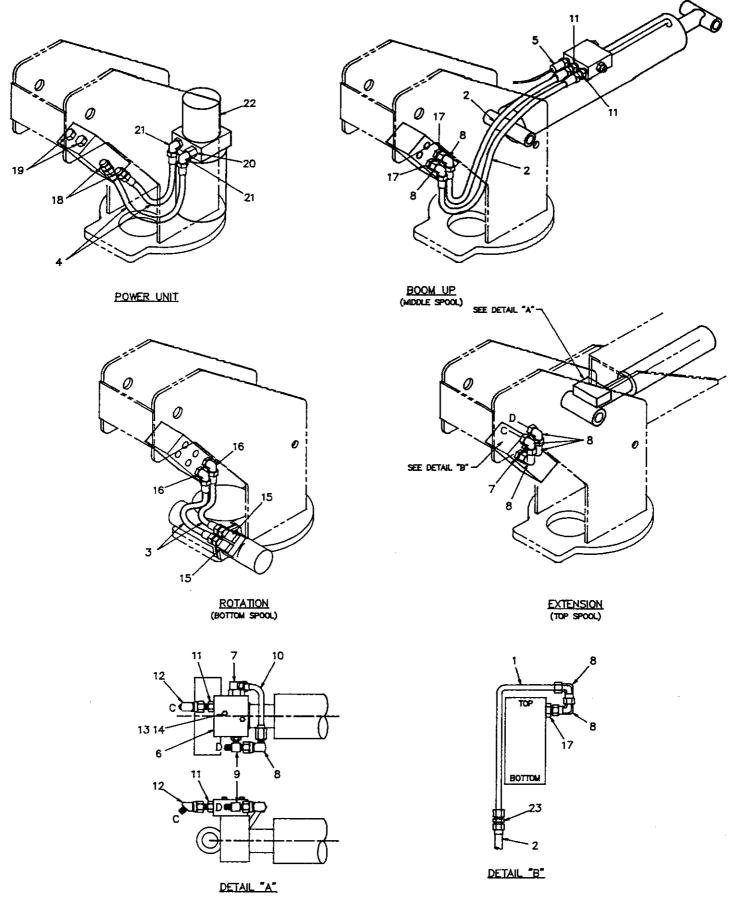
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ITEM	QTY.	PART NO.	DESCRIPTION
1	1	360536	BASE PLATE ASSEMBLY
2 3	1	360825	PEDESTAL WELDMENT
3	1	480023002	ROTATION BEARING
4	1	360807	WNCH, 24V
5	1	480028	ROTATION GEAR BOX
6	1	360808	POWER UNIT, (HYD. PUMP &RESERVOIR)
7	1	480027	MOTOR, HYD. (ROTATION)
8	2	400500	BEARING
9	1	360543	DRUM, HOIST
10	1	360557	
11	1	360805	CYLINDER, BOOM UP
12	1	360162	RING, ECCENTRIC
13	1	360207	RETAINER, ECCENTRIC RING
14	1	360624	PIN, PEDESTAL/CYLINDER
15	38	012198	SCREW, HX. HD. 5/8NC X 1 3/4 G8
16	38	023902	WASHER, FLAT 5/8 HARDENED
17	4	006205	SCREW, HX. HD. 5/8NC X 1 1/4 G8
18	2	011608	SCREW, HX. HD. 1/2NC X 2 G5
19	1	480019	GASKET, MOTOR
20	1	007402	SCREW, HX. HD. 5/16NC X 5/8 G5
21	1	020600	WASHER, SP LK 5/16
22	1	360812	RETAINER, RELAY BOX
23	6	007811	SCREW, HX HD 5/16NC X 1
24	- 6	020600	WASHER, SP LK 5/16
25	3	017100	NUT, HX 3/8NC
26	3	021100	WASHER, SP LK 3/8
27	3	008601	SCREW, HX. HD. 3/8NC X 7/8 G5
28	2	021500	WASHER, SP LK 1/2
29	2	012197	SCREW, SOC. HD. 1/2NC X 1 1/2 G5
30	2	021502	WASHER, SP LK 1/2 (HI-COLLAR)
31	2	021601	WASHER, FLAT 1/2 SAE (SPECIAL)
32	1	370433	CABLE CONNECTOR
33	2	330468	COLLAR, SPLIT-LOCK
34	2	005500	SCREW, HX HD 1/4NC X 3/4
35	2	020200	WASHER, SP LK 1/4
36	. 6	016500	NUT, HX 5/16NC
37	2	009118	SCREW, SOC. HD. 1/2NC X 2 G5
38	1	480011	SEAL, ROTATION BOX
39	1	366192	PIN, LOWER BOOM PIVOT
40	1	360544	COVER
41	6	002608	SCREW, HX HD 1/4NC X 3/4 S.T.
42	3	300204	DIRECTIONAL VALVE ASSEMBLY
43	1	320392	BRACKET, MANIFOLD (TOP)
44	1	320393	BRACKET, MANIFOLD (BOTTOM)
45	2	002614	SCREW, HX HD 5/16NC X 5/8 S.T.
46	1	360155	WIRE ROPE ASSEMBLY, 5/16
47	4	015104	SCREW, HX HD 7/8NF X 5 G5
48	4	022200	LOCKWASHER, 7/8
49	4	018900	NUT, HX 7/8NF
50	1	202710	MANIFOLD



AW-333 5005EH BOOM ASSEMBLY

## AW-333 5005EH BOOM ASSEMBLY

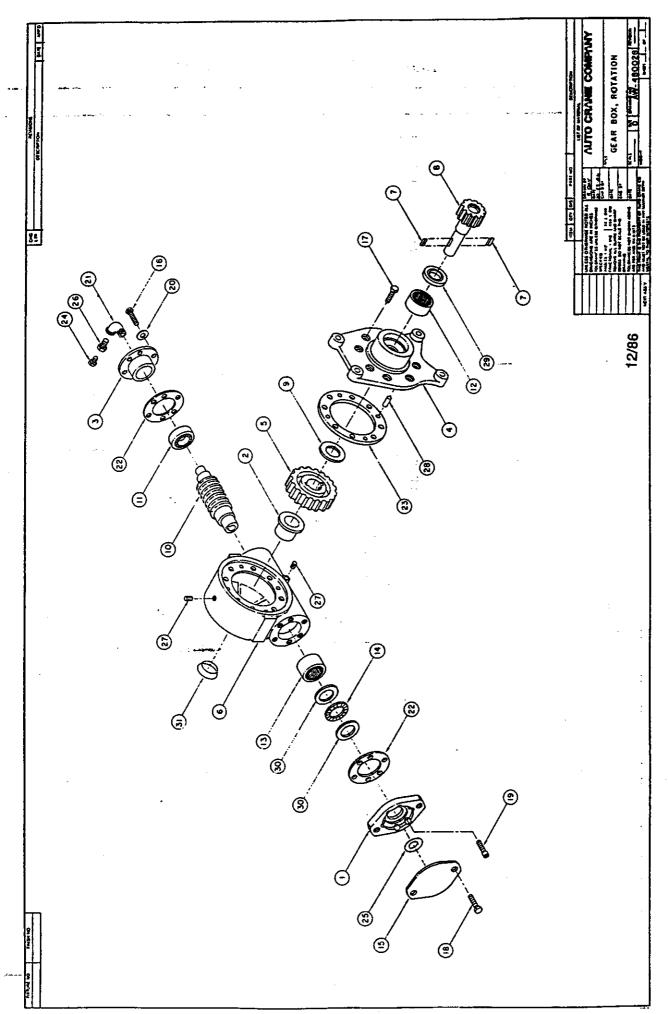
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	360815	BOOM, LOWER
2	1	366080	BOMM, CENTER
3	1	360820	BOOM, MANUAL
4	1	366162	CYL. BOOM EXTENSION
5	1	366183	
6	1	366112	DTOP, UPPER BOOM
7	1	366201	PAD, BOTTOM TOP
8	1	366202	PAD, BOOM TOP
9	1	366199	PAD, BOOM
10	1	366187	· · · · · · · · · · · · · · · · · · ·
11	1	366185	PAD, BOOM TOP (CENTER BOOM)
12	3	366186	PAD, BOOM (CENTER BOOM)
13	2	366184	RETAINER, EXT. CYL.
14	1	366190	PIN, ASSEMBLY WITH LANYARD
15	1	360819	PIN, BOOM CYL.
16	<u>'</u>	-	- 100 John 112
17	1	366193	PIN, EXTENSION CYL.
18	2	480029	
19	2	240236	
20	1	360814	PIN, CROWN
21	1		
l .		360124	PIN, HITCH
22	2 1	360038	ANGLE INDICATOR
23	1	005500 020200	SCREW, HX HD 1/4NC X 3/4
24			WASHER, SP LK 1/4
25	1	239000	GREASE ZERK
26	2	016300	NUT, HX LK 1/4NC
27	2	011511	SCREW, HX HD 1/2NF X 2 1/4 G5
28	2	017700	NUT, HX LK 1/2NF
29	12	008400	SCREW, HX HD 3/8NC X 3/4
30	8	007808	SCREW, HX HD 5/16NC 1/2
31	4	005406	SCREW, HX HD 1/4NF X 1/2
32	4	008800	SCREW, HX HD 3/8NF X 1
33	4	021100	WASHER, SP LK 3/8 SAE
34	6	021200	WASHER, FLAT 3/8
35	2	020600	WASHER, SP LK 5/16
36	A/R	480037	SHIM
37	_	-	_
38	-		_
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AW-334 5005EH HYDRAULIC ASSEMBLY

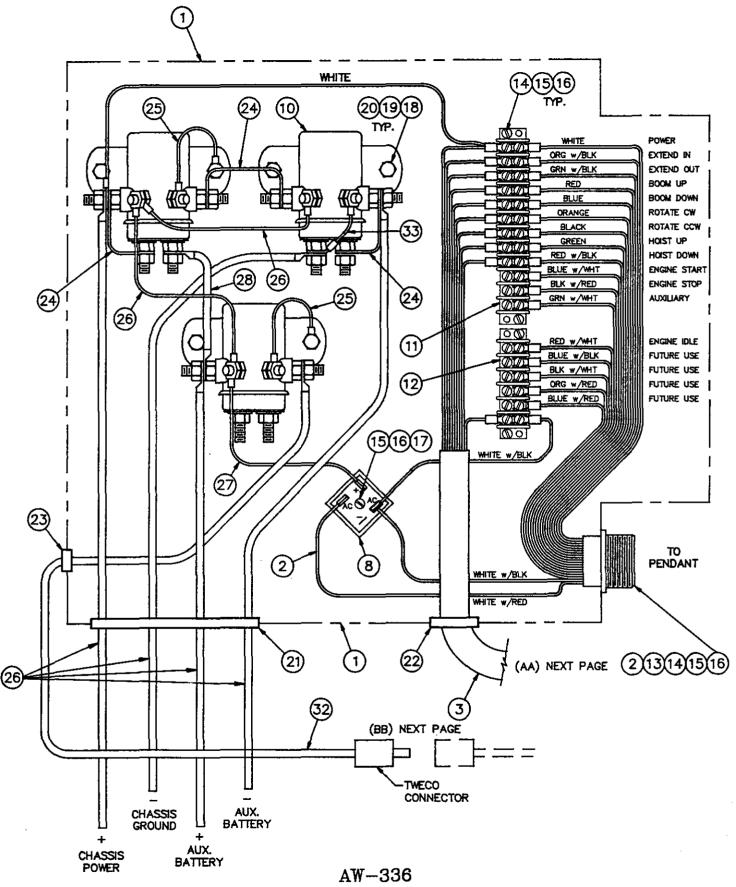
## AW-334, 5005EH HYDRAULIC ASSEMBLY

iTEM	QTY.	PART NO.	DESCRIPTION
1	2	320489	TUBE ASSEMBLY
2	4	480208	HOSE ASSEMBLY
3	2	480209	HOSE ASSEMBLY
4	2	360573	HOSE ASSEMBLY
5	1	320543	
6	1		VALVE. COUNTERBALANCE
7	1	200892	ELL, 90° -6 NPT/-6 JIC
8	7	480194	ELL, 90° -6 JIC SWIVEL/-6 JIC
9	1	2 <del>4</del> 1168	TEE, -6 ORB/-6 JIC RUN
10	1	480212	TUBE ASSEMBLY
11	3	200876	
12	1	330647	ELL, 45° -6 JIC SWIVEL
13	2	005810	SCREW, HX HD 1/4NC X 1 3/4 LG.
14	2	020200	WASHER, SP LK 1/4
15	2	202759	ELL, 90° -8 NPT/-6 JIC
16	2	330272	ELL, 90° -8 ORB/-6 JIC
17	4	202756	ADAPTER, -8 ORB/-6 JIC
18	2	202755	· ·
19	2	330076	PLUG, HX HD -10 ORB
20		320336-002	
21	2	241175	ELL, 90° -6 ORB/-6 JIC
22	1	360808	·
23	2	241170	UNION, —6 JIC
24	_	_	_
25			_
26		_	_
27	_	-	-
28	_	-	-
29	_	· <del>-</del>	-
30	_	_	<del>-</del>
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## GEAR BOX, ROTATION AW-480028

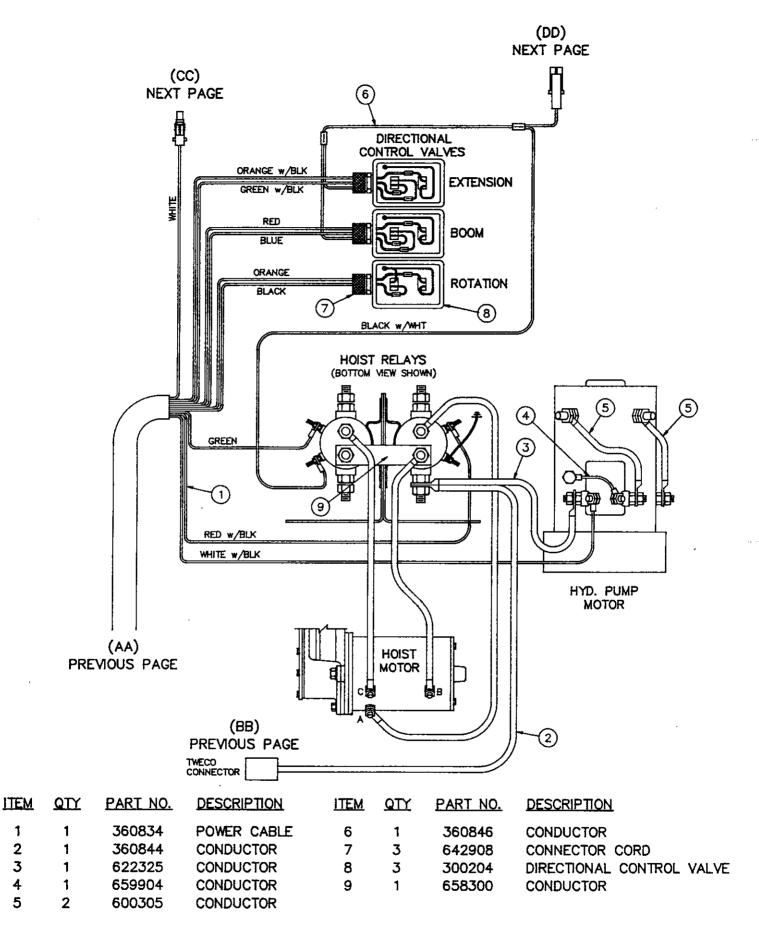
ITEM	QTY.	PART NO.	DESCRIPTION ·	
1	1	480240	ADAPTER	, -•
	1	480241	BUSHING	-
2 3	i	480242	CAP. BEARING	
1 4	•	480243	COVER	
1 5	i	480244	GEAR - R.H.	
ĕ	i	480237	HOUSING-GEAR	
4 5 6 7	2	480246	KEY	
8	1	480247	SHAFT-OUTPUT	
9	1	480248	WASHER-THRUST	
10	1	480249	WORM, R.H.	
11	1	480251	BEARING-BALL	
12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



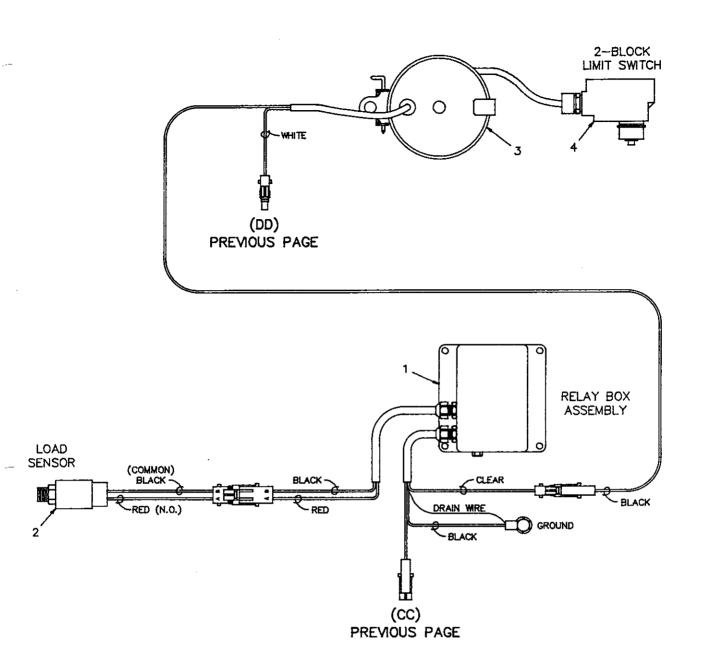
VOLTAGE SWITCHING UNIT

## AW-336, VOLTAGE SWITCHING UNIT

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	360832	ENCLOSURE ASSEMBLY
2	1	360833	RECEPTACLE ASSEMBLY
3	1	360834	POWER CABLE
4	3	200182	RELAY
5	1	751138	RECTIFIER BRIDGE, 25AMP
6	1	750282	
7	1	371024	· · · · · · · · ·
8	1	750169	
9	1	635200	
10	1	635203	
11	3	658300	CONDUCTOR
12	1	360841	CONDUCTOR
13	2	659904	CONDUCTOR
14	2	660406	
15	1	360845	
16	1	360842	
17	1	360844	CONDUCTOR
18	7	015400	NUT, HX #6-32NC
19	7	019600	WASHER, SP LK #6
20	1	000602	SCREW, #6-32NC X 1
21	6	000404	SCREW, #6-32NC X 5/8
22	6	005901	SCREW, HX HD 1/4-20NC X 1/2
23	6	015900	NUT, HX 1/4-20NC
24	6	020200	WASHER, SP LK 1/4
25	1	480547	CAP, RECEPTACLE
26	4	360853	CABLE ASSEMBLY
27	_	-	_
28	_	_	-
29		. <del>-</del>	-
30	-	_	-
31	_	<del></del>	<del>-</del>
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33	-	_	<del>-</del>
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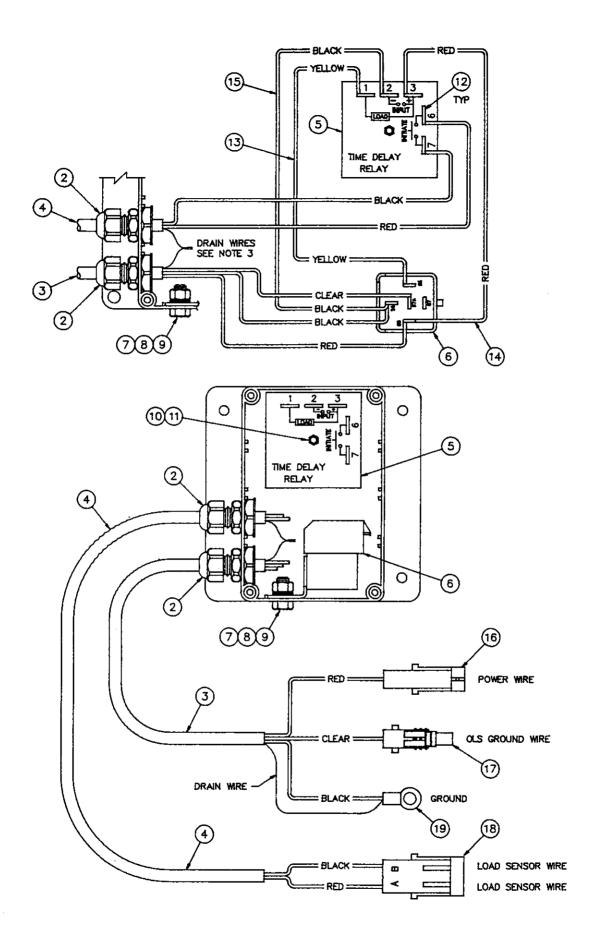


AW-337 5005EH HOIST RELAY ASSEMBLY



<u>ITEM</u>	QTY	PART NO.	DESCRIPTION
1	1	366986	RELAY BOX ASSEMBLY
2	1	_	LOAD SENSOR ASSEMBLY
3	1		CORD REEL ASSEMBLY
4	1	_	2-BLOCK ASSEMBLY

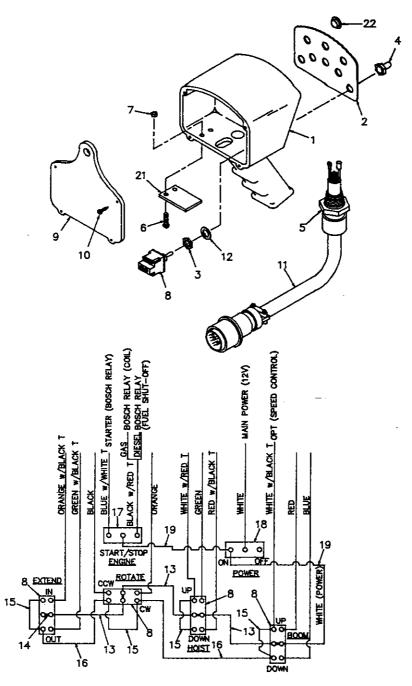
AW-338 5005EH LOAD SENSOR/2-BLOCK ASSEMBLY



AW-366986 5005EH RELAY BOX ASSEMBLY

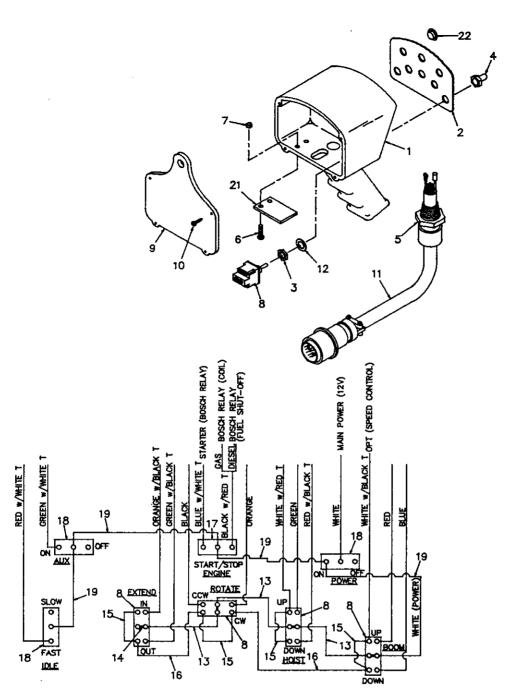
## AW-366986, RELAY BOX ASSEMBLY

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	366985	ENCLOSURE, PLASTIC
2	2	366968	CONNECTOR, CORD
3	5'	366967	CORD, 3-WRE 18 AWG WITH DRAIN
4	5'	366966	CORD, 2-WRE 22 AWG WITH DRAIN
5	1	320351	RELAY, SOLID STATE TIMING
6	1	320355	RELAY, DROP OUT
7	1	005901	SCREW, HX HD 1/4-20NC X 1/2 LG.
8	1	020200	WASHER, SP LK 1/4
9	1	015900	NUT, HX 1/4—20NC
10	1	000602	SCREW, ROUND HD #6-32NC X 1 LG.
11	2	015400	NUT, HX #6-32NC
12	7	010405	TERMINAL FLAG
13	1	366978	CONDUCTOR ASSEMBLY (YELLOW)
14	4"	800566	WIRE, RED 18 AWG 600V
15	4"	800568	WIRE, BLACK 18 AWG 600V
16	1	366248	CONN. ASSY WEATHER PACK 1—WAY MALE 18—20
17	1	366249	CONN. ASSY WEATHER PACK 1—WAY FEMALE 18—20
			CONN. ASSY WEATHER PACK 1-WAY FEMALE 18-20
18	1	366250	
19	1	000601	TERMAINAL, RING 10-3/8
20	3	750737	TIE, CABLE
21	-	_	_
22	_	<u>-</u>	-
23	_	_	-
24	_	_	-
25	-		<del>-</del>
26	-	_	
27 28		<del></del>	
1	<u>-</u>	<del></del>	
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48	_	_	
40		<del>-</del> .	



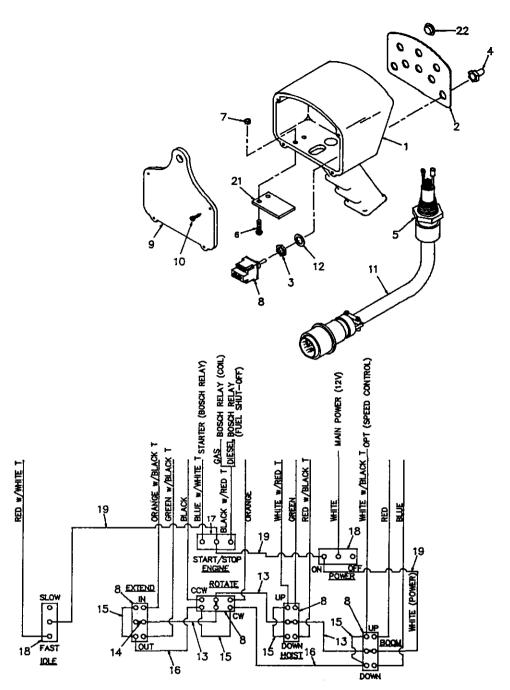
ITEM	OTY.	PART NO.	DESCRIPTION	<u>ITEM</u>	QIY.	PART NO.	DESCRIPTION
1	1	480501	HOUSING, PENDANT	12	6	_	WASHER, LOCK
2	1	480501	DECAL, COVER	13	3	660302	CONDUCTOR ASSEMBLY
3	6	REF.	NUT	14	4	636600	JUMPER
4	6	640300	BOOT, TOGGLE	15	4	622346	CONDUCTOR ASSEMBLY
5	1	370433	CONNECTOR	16	2	622347	CONDUCTOR ASSEMBLY
6	2	002607	SCREW, HX HD #10-24NC X 3/4	17	1	622000	SWITCH, TOGGLE SPDT
7	2	015801	NUT, HX LK #10-24NC	18	1	750090	SWITCH, TOGGLE ON/OFF
8	4	634200	SWITCH, TOGGLE DPDT	19	1	480526	CONDUCTOR ASSEMBLY
9	1	480504	BACK PLATE	20	2	750737	TIE, CABLE
10	4	480516	SCREW, #6 X 3/4 S.T.	21	1	480598	COVER, TRIGGER OPENING
11	1	480588	CABLE ASSEMBLY	22	2	360847	PLUG, PLASTIC

AW-341 5005EH STD. PENDANT (360840)



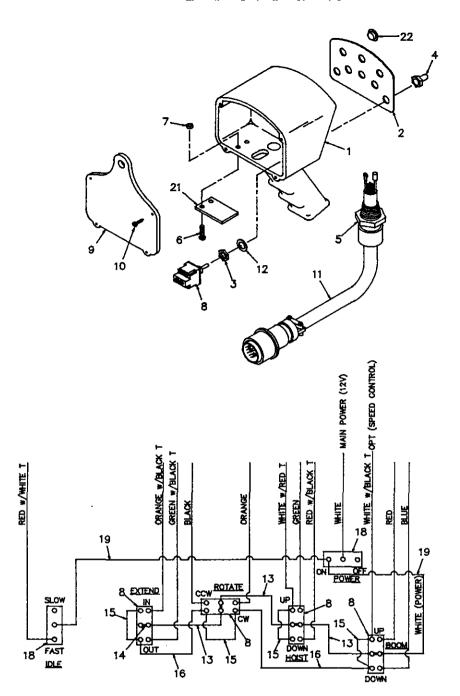
<u>ITEM</u>	QTY.	PART NO.	DESCRIPTION	ITEM	OTY.	PART NO.	DESCRIPTION
1	1	480501	HOUSING, PENDANT	12	6		WASHER, LOCK
2	1	480501	DECAL, COVER	13	3	660302	CONDUCTOR ASSEMBLY
3	6	REF.	NUT	14	4	636600	JUMPER
4	8	640300	BOOT, TOGGLE	15	4	622346	CONDUCTOR ASSEMBLY
5	1	370433	CONNECTOR	16	2	622347	CONDUCTOR ASSEMBLY
6	2	002607	SCREW, HX HD #10-24NC X 3/4	17	1	622000	SWITCH, TOGGLE SPDT
7	2	015801	NUT, HX LK #10-24NC	18	3	750090	SWITCH, TOGGLE ON/OFF
8	4	634200	SWITCH, TOGGLE DPDT	19	1	480526	CONDUCTOR ASSEMBLY
9	1	480504	BACK PLATE	20	2	750737	TIE, CABLE
10	4	480516	SCREW, #6 X 3/4 S.T.	21	1	480598	COVER, TRIGGER OPENING
11	1	480588	CABLE ASSEMBLY	22	-	360847	PLUG, PLASTIC

AW-342 5005EH PENDANT (360840-001)



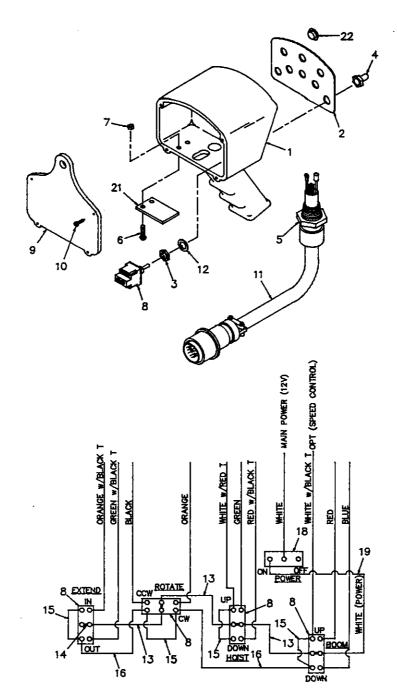
ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480501	HOUSING, PENDANT	12	6	_	WASHER, LOCK
2	1	480501	DECAL, COVER	13	3	660302	CONDUCTOR ASSEMBLY
3	6	REF.	NUT	14	4	636600	JUMPER
4	7	640300	BOOT, TOGGLE	15	4	622346	CONDUCTOR ASSEMBLY
5	1	370433	CONNECTOR	16	2	622347	CONDUCTOR ASSEMBLY
6	2	002607	SCREW, HX HD #10-24NC X 3/4	17	1	622000	SWITCH, TOGGLE SPDT
7	2	015801	NUT, HX LK #10-24NC	18	2	750090	SWITCH, TOGGLE ON/OFF
8	4	634200	SWITCH, TOGGLE DPDT	19	1	480526	CONDUCTOR ASSEMBLY
9	1	480504	BACK PLATE	20	2	750737	TIE, CABLE
10	4	480516	SCREW, #6 X 3/4 S.T.	21	1	480598	COVER, TRIGGER OPENING
11	1	480588	CABLE ASSEMBLY	22	1	360847	PLUG, PLASTIC

AW-343 5005EH PENDANT (360840-002)



ITEM	OTY.	PART NO.	DESCRIPTION	<u>ITEM</u>	QTY.	PART NO.	DESCRIPTION
1	1	480501	HOUSING, PENDANT	12	6	_	WASHER, LOCK
2	1	480501	DECAL, COVER	13	3	660302	CONDUCTOR ASSEMBLY
3	6	REF.	NUT	14	4	636600	JUMPER
4	6	640300	BOOT, TOGGLE	15	4	6 <b>22346</b>	CONDUCTOR ASSEMBLY
5	1	370433	CONNECTOR	16	2	622347	CONDUCTOR ASSEMBLY
6	2	002607	SCREW, HX HD #10-24NC X 3/4	17	_	622000	SWITCH, TOGGLE SPDT
7	2	015801	NUT, HX LK #10-24NC	18	2	750090	SWITCH, TOGGLE ON/OFF
8	4	634200	SWITCH, TOGGLE DPDT	19	1	480526	CONDUCTOR ASSEMBLY
9	1	480504	BACK PLATE	20	2	7507 <b>37</b>	TIE, CABLE
10	4	480516	SCREW, #6 X 3/4 S.T.	21	1	480598	COVER, TRIGGER OPENING
11	1	480588	CABLE ASSEMBLY	22	2	360847	PLUG, PLASTIC

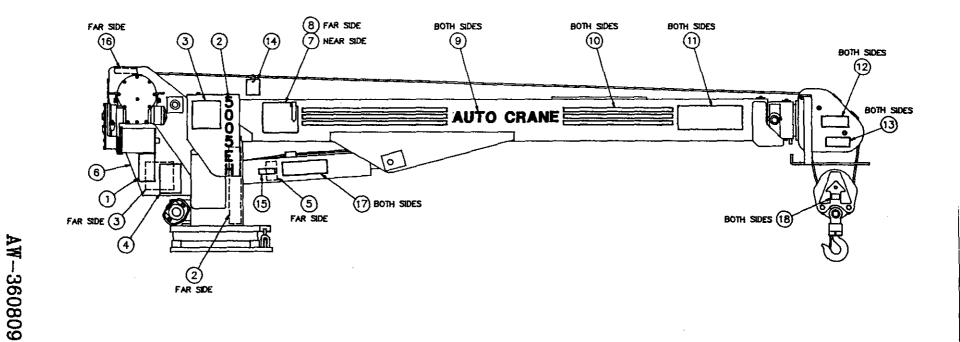
AW-344 5005EH PENDANT (360840-003)



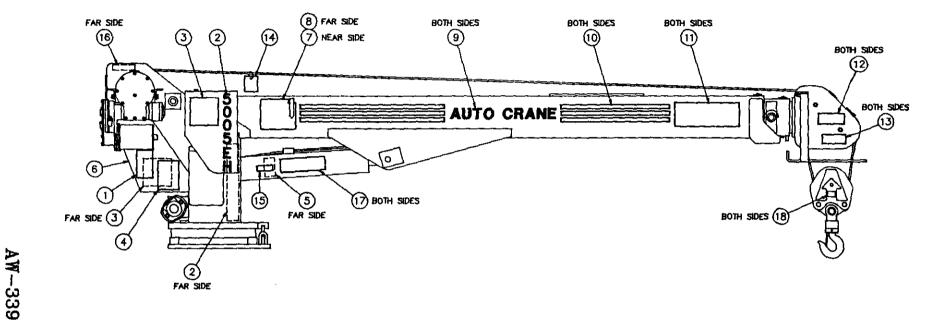
ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480501	HOUSING, PENDANT	12	6	_	WASHER, LOCK
2	1	480501	DECAL, COVER	13	3	660302	CONDUCTOR ASSEMBLY
3	6	REF.	NUT	14	4	636600	JUMPER
4	6	640300	BOOT, TOGGLE	15	4	622346	CONDUCTOR ASSEMBLY
5	1	370433	CONNECTOR	16	2	622347	CONDUCTOR ASSEMBLY
6	2	002607	SCREW, HX HD #10-24NC X 3/4	17		622000	SWITCH, TOGGLE SPDT
7	2	015801	NUT, HX LK #10-24NC	18	1	750090	SWITCH, TOGGLE ON/OFF
8	4	634200	SWITCH, TOGGLE DPDT	19	1	480526	CONDUCTOR ASSEMBLY
9	1	480504	BACK PLATE	20	2	750737	TIE, CABLE
10	4	480516	SCREW, #6 X 3/4 S.T.	21	1	480598	COVER, TRIGGER OPENING
11	1	480588	CABLE ASSEMBLY	22	3	360847	PLUG, PLASTIC

AW-345 5005EH PENDANT (360840-004)

26



ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART_NO.	DESCRIPTION
1	1	040579	DECAL, CAUTION-WORK RULES	10	13'	040620	STRIPING
2	2	360839	DECAL, 5005EH	11	2	404529	DECAL, DANGER-SHOCK
3	1	360838	DECAL, LOAD CHART	12	2	040517	DECAL, DANGER-STAY CLEAR
4	1	040580	DECAL, DANGER-OPERATE	13	2	404518	DECAL, DANGER-STAY CLEAR
5	1	040632	DECAL, DANGER - CYL. OPERATION	14	1	-	INSTALLATION CHECKLIST
6	1	360034	DECAL, LOGO	15	1	040587	DECAL, WARNING-LOAD SENSOR
7	1	360036	DECAL, ANGLE INDICATOR, RIGHT	16	1	330622	DECAL, SERIAL NO.
8	1	360037	DECAL, ANGLE INDICATOR, LEFT	17	2	040519	DECAL, DANGER-SCISSOR POINT
9	2	040624	DECAL, AUTO CRANE	18	2	360480-001	DECAL, BLOCK WEIGHT & MAX. LOAD



ITEM	QTY	PART NO.	DESCRIPTION	ITEM	QTY	PART NO.	DESCRIPTION
1	1	040579	DECAL, CAUTION-WORK RULES	10	13'	040620-001	STRIPING
2	2	360839-100	DECAL, 5005EH	11	2	404529	DECAL, DANGER-SHOCK
3	1	360838-001	DECAL, LOAD CHART	12	2	040517	DECAL, DANGER-STAY CLEAR
4	1	040580	DECAL, DANGER-OPERATE	13	2	404518	DECAL, DANGER-STAY CLEAR
5	1	040632	DECAL, DANGER - CYL. OPERATION	14	1	_	INSTALLATION CHECKLIST
6	1	360034-001	DECAL, LOGO	15	1	040587	DECAL, WARNING-LOAD SENSOR
7	1	360036-001	DECAL, ANGLE INDICATOR, RIGHT	16	1	330622-001	DECAL, SERIAL NO.
- 8	1	360037-001	DECAL, ANGLE INDICATOR, LEFT	17	2	040519	DECAL, DANGER-SCISSOR POINT
9	2	040624001	DECAL, AUTO CRANE	18	2	360480-001	DECAL, BLOCK WEIGHT & MAX. LOAD

#### 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:

Freezing Temperature
Degrees F.
-90°F
−62°F
−16°F
5°F
· 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.

 DRILL 13/16 DIAMETER HOLE IN COMPARTMENT FLOOR OR BACK WALL. INSTALL CABLE AND BUSHING (No.BB-50 FURNISHED ON CABLE) AS SHOWN. WRAP ELECTRICAL TAPE AROUND CABLE TO GIVE THE WIRE A SNUG FIT IN BUSHING. The THREE functions included in both the Overload System and the Anti-2-block system are BOOM DOWN, HOIST UP AND EXTEND OUT. If these three are NOT working and most other functions are, an investigation of the Overload System and the Anti-2-block System should be made.

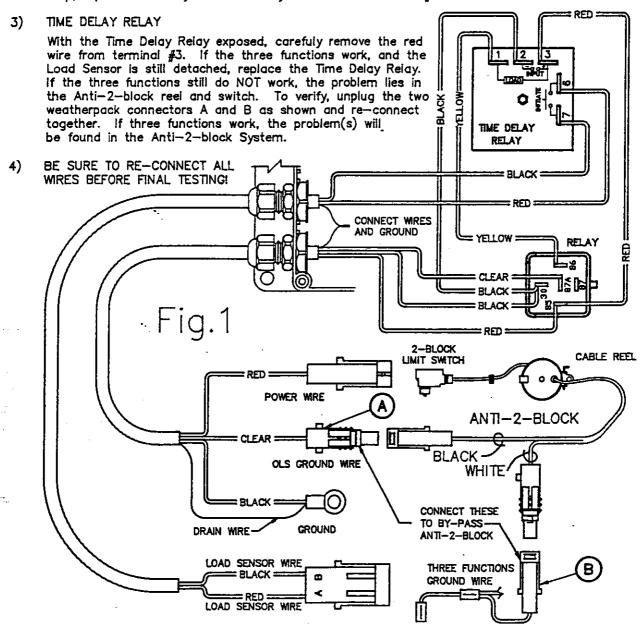
An easy check of the OLS can be made in this order:

#### 1) LOAD SENSOR (Pressure Switch)

Remove spade terminal from tab 6 or 7 on time delay relay (or unplug weather pack connector on load sensor wire). If the three functions begin to work, replace the Load Sensor. If they don't, clean the Time Delay Relay around the terminals #6 and #7 to remove dirt and moisture. If the three functions STILL do NOT work, proceed to number two.

#### 2) RELAY

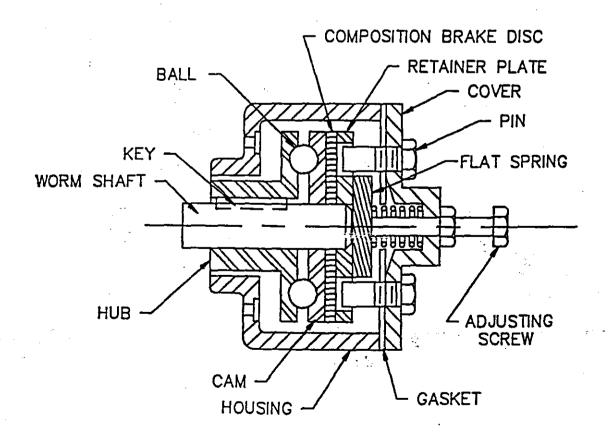
With the Time Delay Relay exposed, carefully remove the yellow wire terminal from tab #1. If the three functions work, the Time Delay Relay is probably at fault. If they do not work, check the ground connection shown in Fig.1. If this doesn't help, replace the Relay. Re—attach yellow wire to terminal #1.

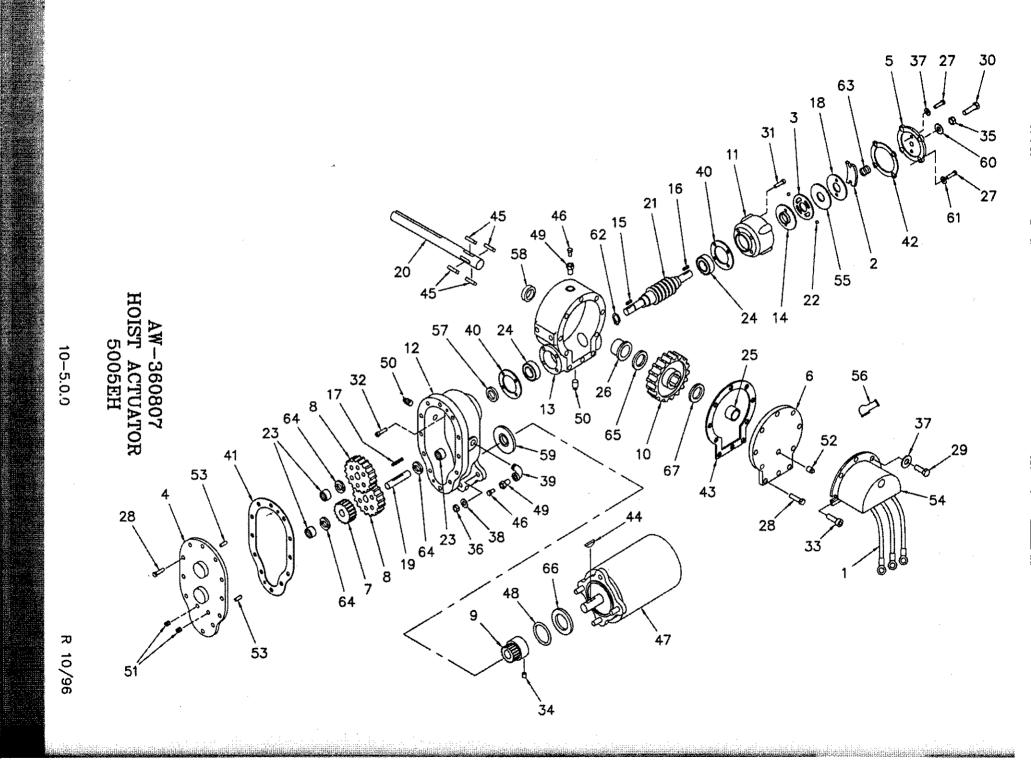


OVERLOAD SYSTEM, ANTI-2-BLOCK TROUBLE SHOOTING GUIDE

# AUTOMATIC SAFETY BRAKE ASSEMBLY (OIL COOLED) HOIST

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



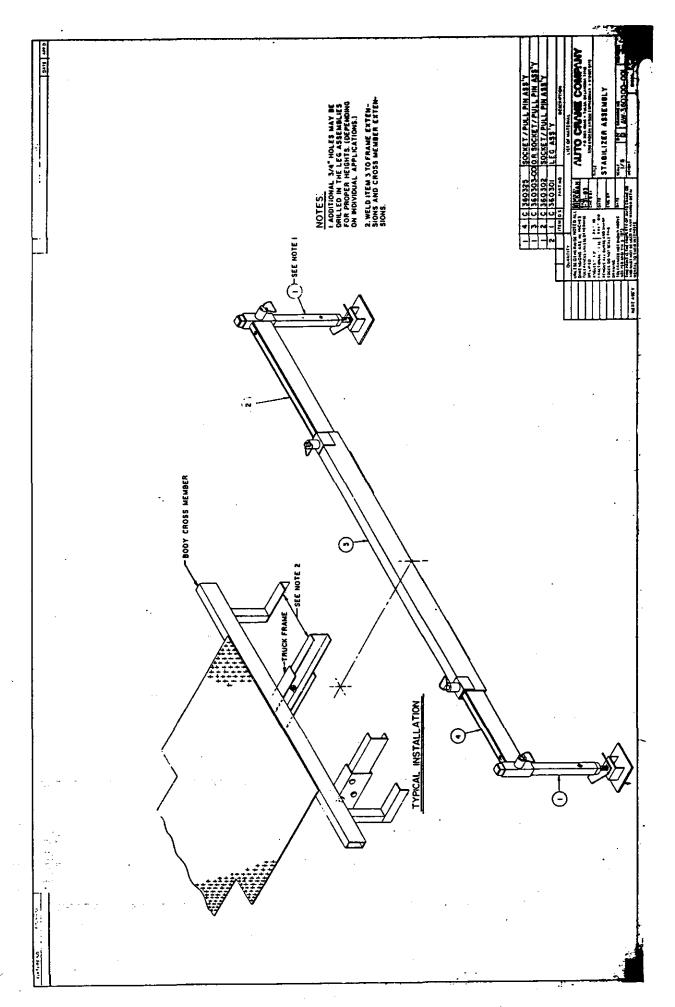


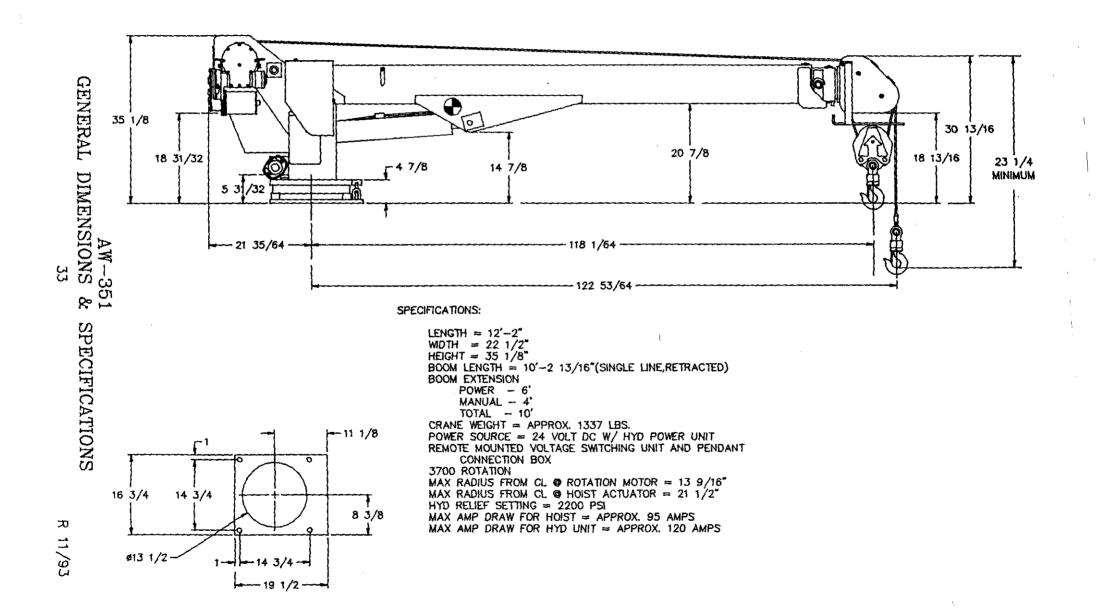
## AW-360807 5005EH HOIST ACTUATOR

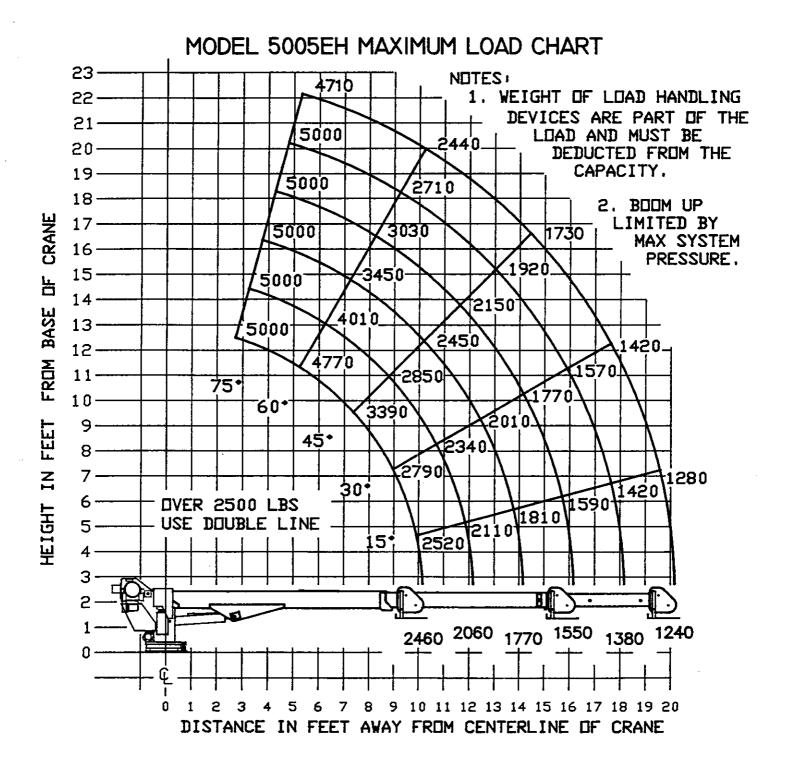
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	360467	SOLENOID ASSEMBLY - 12V
2	1	360367	SPRING, FLAT
3	1	360331	PLATE, CAM
4	1		COVER, SPUR GEAR HOUSING
5	1	360450	COVER, BRAKE
6	1	360458	COVER, WORM GEAR HOUSING
7	1	300043	GEAR, IDLER
8	2	300044	GEAR, SPUR
9	1	300046	GEAR, PINION
10	1	360460	GEAR, WORM R.H.
11	1	360336	HOUSING, BRAKE
12	1	300047	HOUSING, SPUR GEAR
13	1	360461	HOUSING, GEAR
14	1	360339	HUB, BRAKE
15	1	300049	KEY, SQ. END
16	1	360341	KEY, RD. END
17	1	300050	KEY, SQ. END
18	i		PLATE, RETAINER
19	1	300053	SHAFT, SPUR
20	1	360556	SHAFT, OUTPUT
21	1		WORM, R.H. 46:1
22	2	360345	BALL
23	3	300056	BEARING, NEEDLE
24	2	300057	BEARING, BALL
25	1	360462	
26	1	360348	BUSHING, HOUSING
27	6	360453	SCREW, 1/4-20NC x 1" LG. HX.HD. Z.P. GR.5 NYLOK HVY. PATCH
28	17	005500	SCREW, 1/4-20NC x 3/4 LG. HX.HD. GR.5
29	3	005604	SCREW, 1/4-20NC x 1" LG. HX.HD. Z.P. GR.5
30	1	360456	SCREW, 3/8-16NC x 1 1/2 LG. HX.HD. GR.5 ALL-THD
31	4	360463	SCREW, 1/4-20NC x 7/8 LG. HX.SOC. BUTTON HD.
32	4	320310	SCREW, 1/4-20NC x 1" LG. SOC.HD. LOC-WEL
33	2	005610	SCREW, 1/4-20NC x 3/4 LG. SOC. HD. Z.P.
34	1.	300061	SETSCREW
35	1	360353	NUT, JAM 3/8-16NC
36	3	071012	NUT, 3/8-24NF HEX REG. Z.P.
37	5	360455	WASHER, 1/4 FLAT ALUM.
38	3	021100	LOCKWASHER
39	- 1	320314	ELBOW, 90°
40	2	300062	GASKET
41	1	300063	GASKET
42	1	360359	GASKET
43	1	360459	GASKET
44	1	360065	KEY, WOODRUFF
45	4	360464	KEY, BARTH
46	2	300066	FITTING, RELIEF
47		360807-005	MOTOR, 24V 458005
48	*	300068	O-RING
l Yar			

#### AAAANII IIOIDI WALAULOI

ITEM	QTY.	PART NO.	DESCRIPTION
49	2	300069	REDUCER
50	2	360362	PLUG, PIPE SQ.HD.
51	2	320382	PLUG, PIPE SOC.HD.
52	1	300073	PLUG, PIPE SOC.HD.
53	2	300075	PIN
54	1	360468	COVER, SOLENOID 47207
55	1	360364	PLATE, THRUST
56	1	360469	BOOT, RUBBER
57	1	300076	SEAL, OIL
58	1	300077	SEAL, OIL
59	1	300078	SEAL, OIL
60	1	360371	SEAL, THREAD
61	4	360465	SEAL, THREAD
62	1	300079	SNAP RING
63	1	360368	SPRING
64	3	300080	WASHER, THRUST
65	1	300081	WASHER, THRUST
66	1	300082	WASHER, FIBER
67	1	360466	WASHER, THRUST







AW-340 5005EH LOAD CHART

