

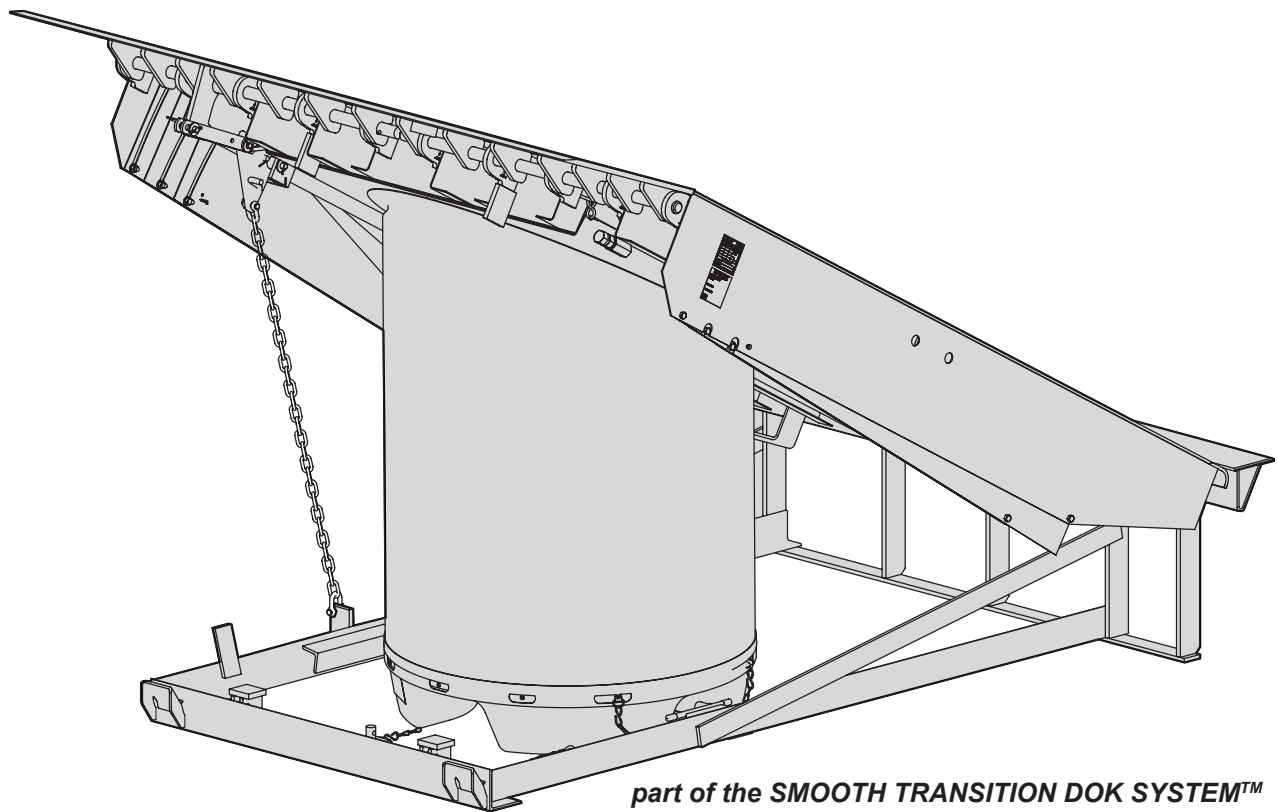
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# AL-900

## Dock Leveler

### Owner's Manual

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**This Manual Covers Dock Levelers Built After Serial Numbers:**  
07DD400623M and up



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### PRODUCT SPECIFIC WARRANTY

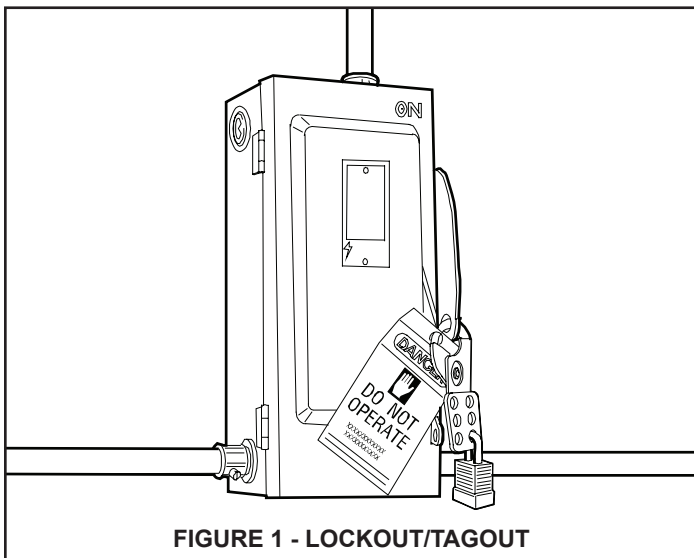
RITE-HITE Company, LLC and its affiliates (collectively "RITE-HITE") warrants to the owner ("Owner") that the AL-900 Dock Leveler sold to the Owner will be free of defects in design, materials and workmanship (ordinary wear and tear excepted) for a period of 1 year parts and labor from date of shipment. With an additional 5 years parts warranty on the Air Tower, Blower Motor and Hose parts in accordance with Rite-Hite's Standard Warranty Policy.

### NOTICE TO USER

Your local Rite-Hite® representative provides a Planned Maintenance Program (P.M.P.) which can be fitted to your specific operation. Call your local representative or Rite-Hite® at 414-355-2600.

The Rite-Hite products in this manual are covered by one or more of the following U.S. patents: 5882167, 6065172, 6070283, 6085375, 6092970, 6106212, 6116839, 6190109, 6276016, 6311352, 6318947, 6322310, 6360394, 6368043, 6431819, 6488464, 6524053, 6726432, 6773221, 6832403, 6880301, 7032267, 7062814, 7213285, 7216391, 7363670, 7380305, 7503089, 7533431, 7546655, 7584517, 7681271, 7823239, 7841823, 7877831, 7914042, 8006811, 8065770, 8141189, 8191194, 8286757, 8287223, 8303235, 8307956, 8443474, 8464384, 8464846, 8465245, 8497761, 8499897, 8544130, 8547234, 8590087, 8590673, 8616826, 8657551, 8662535, 8678736, 8690087, 8905198, 9010501, 9096170, 9096397, 9126775, 9139384, 9145273, 9150367, 9174811, 9227799, 9230419 and pending U.S and foreign patent applications. RITE-HITE®, THINMAN™, SAFE-T-LIP®, HYDRACHEK®, WHEEL-LOK™, DOK-LOK®, DUAL-DOK®, SAFE-T-STRUT™, DOK-COMMANDER®, JUMBO™, HYDRA-RITE™, SAFE-T-GATE®, RITE-VU™ LIGHT COMMUNICATION SYSTEM and SMOOTH TRANSITION DOK SYSTEM™, are trademarks of Rite-Hite®.

## SAFETY WARNINGS



### **WARNING**

When working with electrical or electronic controls, make sure that the power source has been locked out and tagged according to OSHA regulations and approved local electrical codes.

## LOCKOUT/TAGOUT PROCEDURES

The Occupational Safety and Health Administration requires that, in addition to posting safety warnings and barricading the work area, the power supply has been locked in the OFF position or disconnected. It is mandatory that an approved lockout device is utilized. An example of a lockout device is illustrated. The proper lockout procedure requires that the person responsible for the repairs is the only person who has the ability to remove the lockout device.

In addition to the lockout device, it is also a requirement to tag the power control in a manner that will clearly note that repairs are under way and state who is responsible for the lockout condition. Tagout devices have to be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or become unreadable.

RITE-HITE® Corporation does not recommend any particular lockout device, but recommends the utilization of an OSHA approved device (refer to OSHA regulation 1910.147). RITE-HITE® Corporation also recommends the review and implementation of an entire safety program for the Control of Hazardous Energy (Lockout/Tagout). These regulations are available through OSHA publication 3120.

### **DANGER**

This is the highest level statement. Failure to follow the listed instructions will most likely result in severe injury or death.

### **CAUTION**

The statements used with this level of warning deal with a safe operating procedure. If the procedure is ignored, the possibility of personal injury may exist.

### **WARNING**

This is a statement of serious hazard. Failure to follow the listed instructions could place the individual at risk of serious injury or death.

### **IMPORTANT**

**IMPORTANT** is used to draw attention to a procedure that needs to be followed to prevent machine or property damage.

## OTHER IMPORTANT OPERATIONAL SAFETY WARNINGS

### **DANGER**

**NEVER** be under the dock leveler platform or lip without:

- Installing the Safe-T-Strut™ or other supporting device.
- If lip needs to be extended, follow procedures shown under Safety Devices on the following page.
- Turning OFF power to the control box.
- Locking out and tagging out the main power source, as shown under Safety Warnings on preceding page.

### **WARNING**

**ALWAYS** barricade the dock leveler at ground level and dock level from any form of traffic when maintenance is required.

### **CAUTION**

Inspect the dock leveler monthly to ensure that there are no broken or worn parts which could cause injury to personnel or damage to the equipment.

### **WARNING**

- Before starting installation or maintenance, check and follow the safety procedures of the facility where the dock leveler is being installed.
- **NEVER** enter a truck/trailer until its brakes are set, air has been dumped from air ride suspension (if applicable), and you have visually inspected to be sure truck/trailer is securely held in place by a vehicle restraint or wheel chock per OSHA regulations.
- **NEVER** operate the leveler with you, anyone, or anything on, or in front of the leveler, or without a truck/trailer parked in position, or from on the truck/trailer bed.
- **DO NOT** operate with anyone under platform or in front of the lip.
- When leveler is not in use, **ALWAYS** store it so that it is supported by the lip supports and that it is level with the surrounding dock floor.
- If a malfunction does occur, always call your authorized Rite-Hite service representative immediately.

## OTHER IMPORTANT OPERATIONAL SAFETY WARNINGS

### **DANGER**

**NEVER** be under the dock leveler platform or lip without:

- Installing the Maintenance Support. See below right. This can be done with the assistance of another person by:
  - Raise leveler until platform reaches its highest position and lip extends. Continue to maintain this position.
  - Then have assistant insert the Maintenance Support over the base located on the leveler's front frame.
  - Release the pushbutton on powered levelers allowing the support to rest inside the lip cup on the underside of the lip.
- Lockout/Tagout power supply.
  - Turn off the power to the control box.
  - Lockout/tagout the main power source, as shown under Safety Warnings on the inside front cover of this manual.
  - Always barricade the leveler at dock level and drive level to prevent any unauthorized use of the leveler.

**Remove the Maintenance Support.**

- For Maintenance Support removal, have an assistant raise the leveler to its highest position with lip fully extended. Lift the support off base. Return the Maintenance Support to the proper storage position.
- If you are unable to install the Maintenance Support properly, contact your authorized Rite-Hite Service Representative or Rite-Hite Customer Service at 1-414-355-2600.

### **CAUTION**

- Post warnings and barricades at dock level and at drive level to indicate that work is being done around and under the leveler platform.
- Lockout/Tagout power to the leveler and post warnings when work is being performed on the leveler.

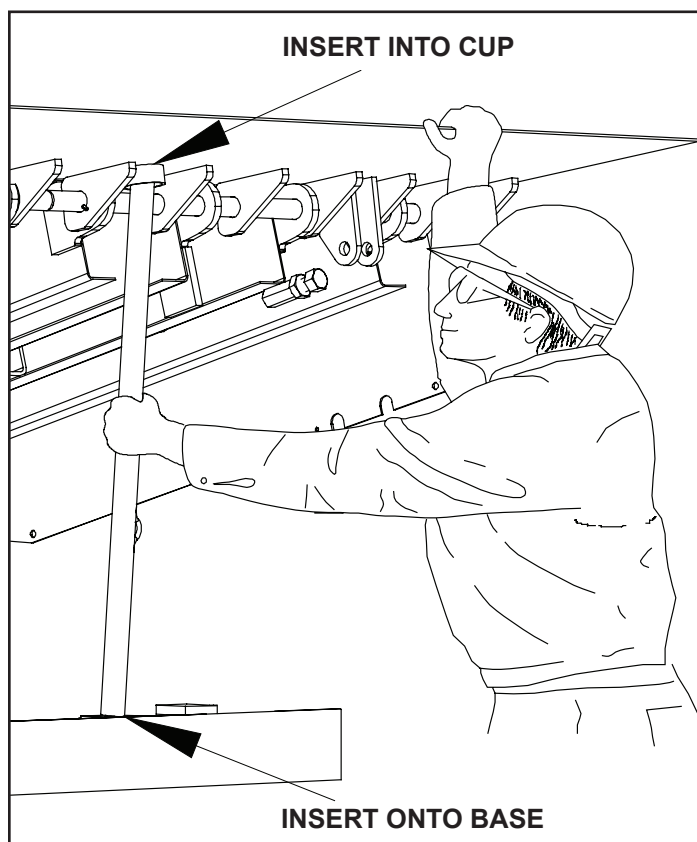


FIGURE 2 - INSTALL MAINTENANCE SUPPORT

## OWNER RESPONSIBILITY

1. The owner should recognize the inherent danger of the interface between dock and transport vehicle. The owner should, therefore, train and instruct operators in the safe use of dock equipment in accordance with the information provided below. The manufacturer shall publish, provide to the initial purchaser, and make the following information readily available to owners:
  - Installation instructions
  - Recommended initial and periodic inspections procedures
  - Maintenance procedures
  - Operating instructions
  - Descriptions or specifications for replaceable or repairable parts
  - Tables identifying the grade (slope) for all variations of length or configuration of the dock equipment, and
  - Information identifying the maximum uncontrolled drop encountered upon sudden removal of support while within the working range of the equipment.

It shall be the responsibility of the owner to verify that the material listed in this section has been received and that it is made available for the instruction and training of personnel entrusted with the use or maintenance of the dock equipment.
2. When a transport vehicle is parked at a loading dock, it is important that the vehicle is relatively perpendicular to the dock face and in close contact with at least one of the dock bumpers.
3. Nameplates, cautions, instructions, and posted warnings shall not be obscured from the view of operating or maintenance personnel for whom such warnings are intended.
4. Manufacturer's recommended periodic maintenance and inspection procedures in effect at date of shipment shall be followed, and written records of the performance of these procedures should be kept.
5. As with any piece of machinery, dock equipment requires routine maintenance, lubrication, and adjustments. Your local Rite-Hite representative offers owners the option of a Planned Maintenance Program (P.M.P.). As part of this service, your local Rite-Hite representative will do all routine maintenance, lubrication, and adjustments.
6. Dock equipment that is structurally damaged shall be removed from service, inspected by a manufacturer's authorized representative, and repaired as needed before being placed back in service.
7. The manufacturer shall make available replacement nameplates, caution/instruction labels, and operating/maintenance manuals upon request of the owner. The owner shall see that all nameplates, caution/instruction markings or labels are in place and legible, and that the appropriate operating/maintenance manuals are provided to users.
8. Modifications or alterations of dock equipment shall be made only with written permission of the original manufacturer. These changes shall also satisfy all safety recommendations of the original equipment manufacturer for the particular application of the dock equipment.
9. In order to be entitled to the benefits of the standard product warranty, the dock equipment must have been properly installed, maintained and operated within its rated capacities and/or specific design parameters, and not otherwise abused.
10. It is recommended that trailers equipped with air ride suspensions should remove the air from the suspension to minimize trailer bed drop, prior to loading or unloading.
11. When industrial trucks are driven on and off transport vehicles during the loading and unloading operation, the brakes on the transport vehicle shall be applied and wheel chocks or a positive restraining device shall be engaged.
12. It is recommended that an adequate stabilizing device or devices be employed at the front of the trailer in all cases where a trailer is being loaded or unloaded with the trailer resting on its support legs (landing gear) rather than a tractor fifth wheel or a converter dolly.
13. In selecting dock equipment, it is important to consider not only present requirements but also future plans or adverse environments.

## OPERATING PROCEDURES

### NORMAL OPERATION

1. Activate the leveler by pushing and holding the RAISE button until leveler is fully raised and lip is fully extended. See figure 3.

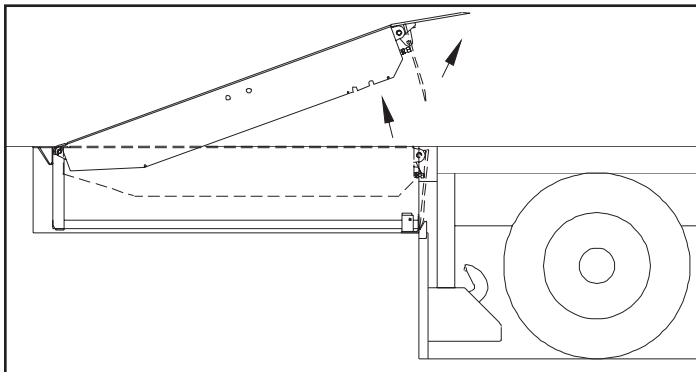


FIGURE 3 - POWERED DOCK LEVELER

2. When lip is fully extended, release RAISE button. The leveler will automatically lower onto the truck/trailer bed. See figure 4.

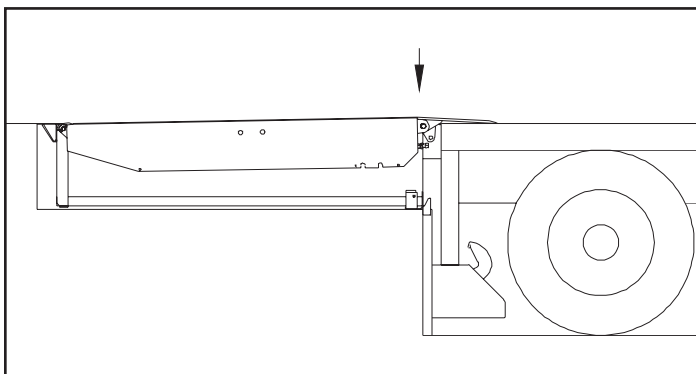


FIGURE 4 - NORMAL OPERATION

3. See Storing Leveler.

### NOTES:

- a. **Levelers without Automatic Return to Dock (ARTD)** If the truck/trailer departs, the leveler will move to its lowest position and the lip will fall to the pendant position inside the dock bumpers. See *Storing Leveler*.
- b. **Levelers with Automatic Return to Dock (ARTD)** If the lip is on the truck/trailer and the truck departs, the leveler will move to its lowest position and the lip will begin to lower. As the lip drops toward the pendant position, the ARTD system automatically returns the leveler to the stored position without operator assistance.

### BELOW DOCK LOADING OPERATION

1. Activate the leveler by pushing and holding the RAISE button until leveler is fully raised and lip is fully extended. See figure 3.
2. When lip is fully extended, release RAISE button. If equipped with safety legs, pull and hold the Safety Leg Chain as the leveler lowers automatically onto the truck/trailer bed. See figure 5.

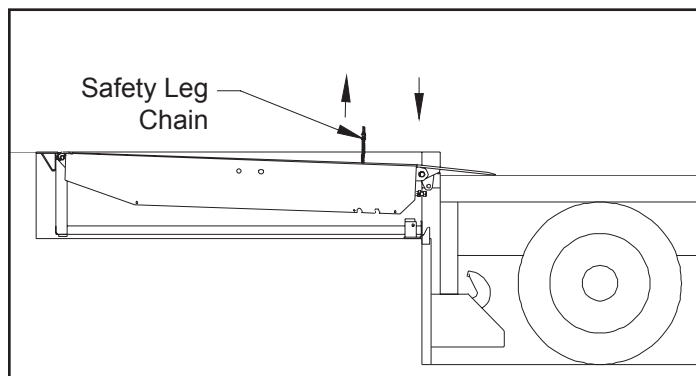


FIGURE 5 - BELOW DOCK OPERATION  
(SAFETY LEG EQUIPPED SHOWN)

3. When loading/unloading is complete, continue with normal operation or return the leveler to stored position. See *Storing Leveler*.



## OPERATING PROCEDURES CONT.

### DOCK LEVEL (OR LOWER) END LOADING OPERATION

1. Activate the leveler by pushing and holding the RAISE button until leveler lip clears the lip supports. See figure 6.

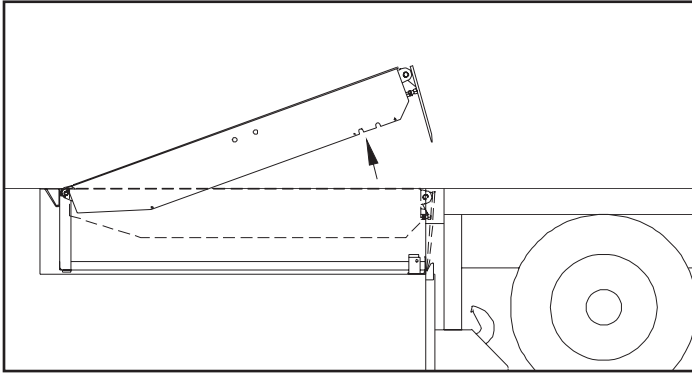


FIGURE 6 - END LOAD OPERATION - LIP POSITION

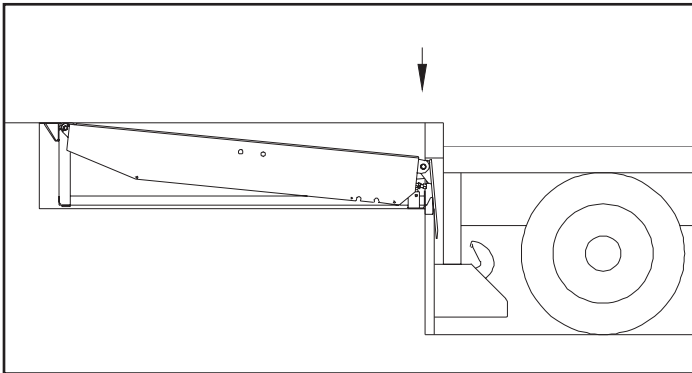


FIGURE 7 - END LOAD OPERATION

2. Release RAISE button and as platform is lowering pull and hold the Safety Leg Chain, if equipped. The leveler will lower to the below dock position with the lip positioned between the face of the loading dock and the truck/trailer bed. See figure 7 & 8.

**NOTE:** End loads at dock level and above can be handled with the leveler in its stored position.

3. When loading/unloading is complete, continue with normal operation or return the leveler to stored position. See *Storing Leveler*.

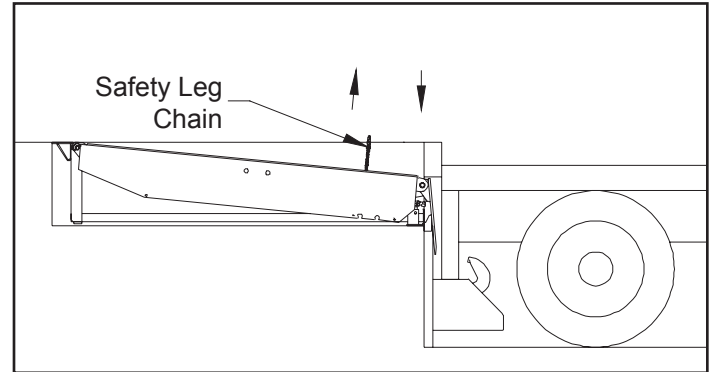


FIGURE 8 - END LOAD OPERATION  
(EQUIPPED WITH SAFETY LEGS)

### STORING LEVELER

1. To store the leveler, push and hold the RAISE button until leveler is about 6 inches above dock level and lip is fully pendant.
2. Release RAISE button. Leveler will lower to dock level with lip resting in the lip supports. See figure 9.

**NOTE:** On Powered levelers with Automatic Return to Dock (ARTD). If the lip is on the truck/trailer and the truck departs, the leveler will move to its lowest position and the lip will begin to lower. As the lip drops toward the pendant position, the ARTD system automatically returns the leveler to the stored position without operator assistance.

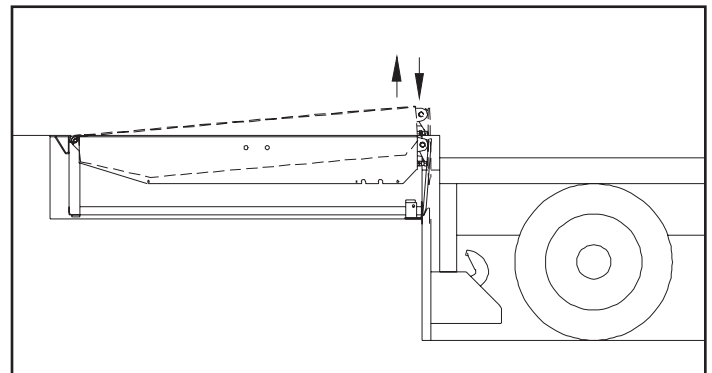


FIGURE 9 - LEVELER STORED

## MAINTENANCE

### **WARNING**

**ALWAYS** read and obey these instructions to prevent personal injury.

- **Post safety warnings and barricade work area, at dock level and at ground level, to prevent unauthorized use of the dock position before maintenance has been completed.**
- **Make sure to install the maintenance support strut before proceeding with any repair work.**

### **SUGGESTED LEVELER MAINTENANCE**

**NOTE:** Follow maintenance procedures below as outlined. Include the specific steps for your leveler model.

**NOTE:** Your local Rite-Hite representative provides a Planned Maintenance Program (P.M.P.) which can be fitted to your specific operation. Call your local representative.

### **DAILY**

1. Remove debris on and around leveler. Be sure the hinge section of the lip and the platform is clean.
2. Check unit for proper operation.

### **90 Days**

1. Perform all Daily Maintenance.
2. Clean pit.
3. Inspect lip out mechanism (pins, lip crank, links, chains and shackles). Replace if worn.
4. Lubricate the leveler with the proper lubricants. See figure 10.

**NOTE:** Items that use Anti-Seize lubricant only require lubrication every 360 Days.

5. Inspect all weather seals (if installed) and replace if worn or damaged.
6. Inspect dock bumpers. Four inches (4") of bumper protection is required. Worn, torn, loose or missing bumpers must be replaced.
7. Check conditions of concrete, angles and welds. Repair or replace if necessary.
8. Inspect structure, hinge pins, clevis pins and cotter pins for abnormal wear.

9. Inspect all conduit boxes, control boxes and electrical connections for damage. Repair or replace if worn or damaged.

**NOTE:** If control box has evidence of condensation.

- a. Inspect conduit. Conduit should be routed to enter through the bottom or side of the enclosure. A drip leg may be needed if the conduit is filling with water.
  - b. Inspect the seal on the cover of the enclosure. The seal should be securely adhered to the cover with no signs of peeling or bubbling. Repair or replace if worn or damaged.
  - c. For non-metallic enclosures, breather vent part number 122130 may be installed. The vent is NEMA 4X and will not change the environmental rating of the control box.
10. With the leveler supported by the maintenance strut, inspect the air tower for damage. Replace if worn or damaged.
  11. Check Air Tower Tub placement in leveler frame is correct. Pit floor must be clear of obstructions where plastic tub is located. Make certain tub hold down chain is snug – no slack. See figure 11.

### **360 Days**

1. Perform Daily and 90-Day Maintenance.
2. Check and tighten control box mounting hardware.

MAINTENANCE CONT.

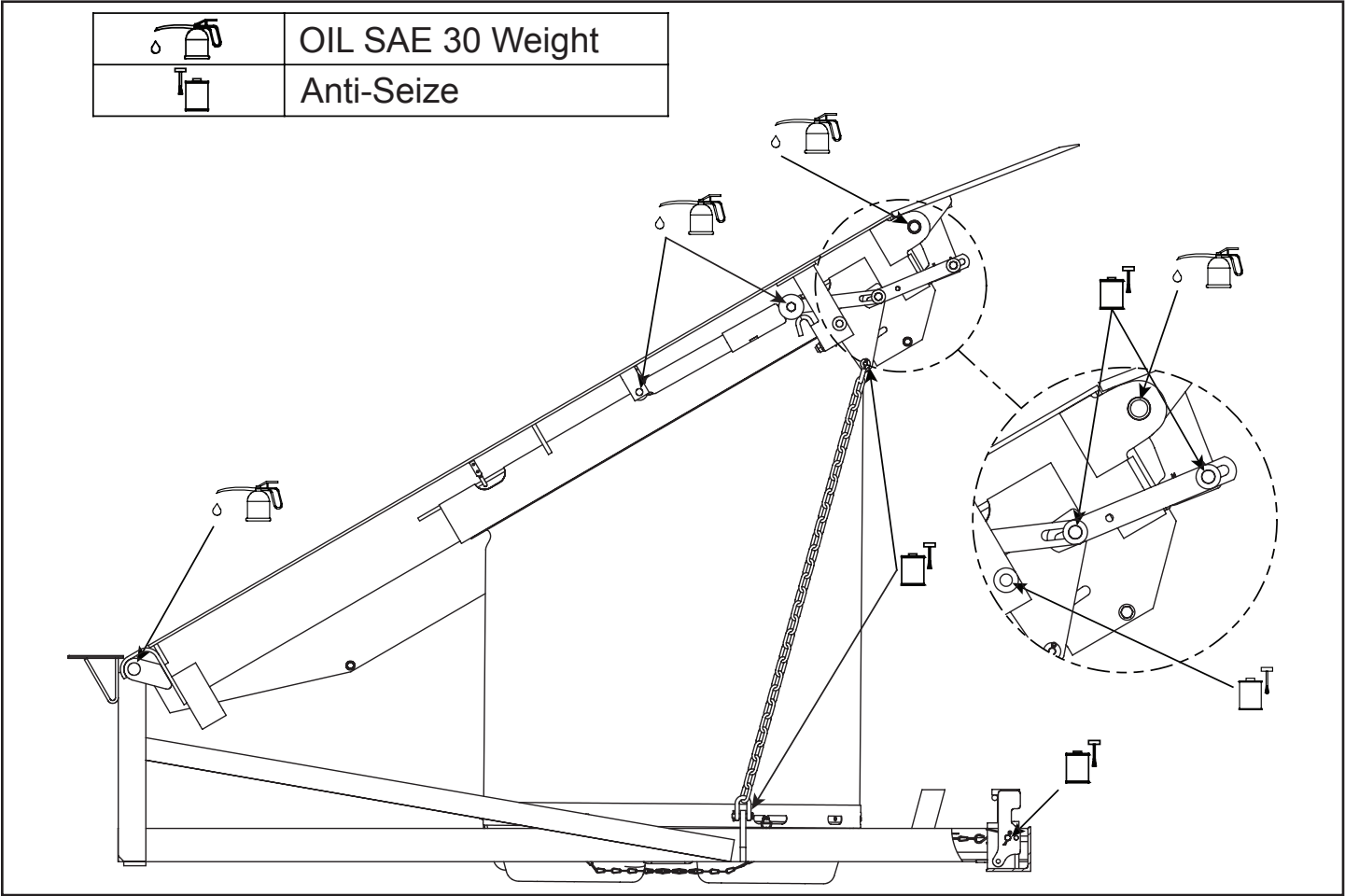


FIGURE 10 - LEVELER LUBRICATION

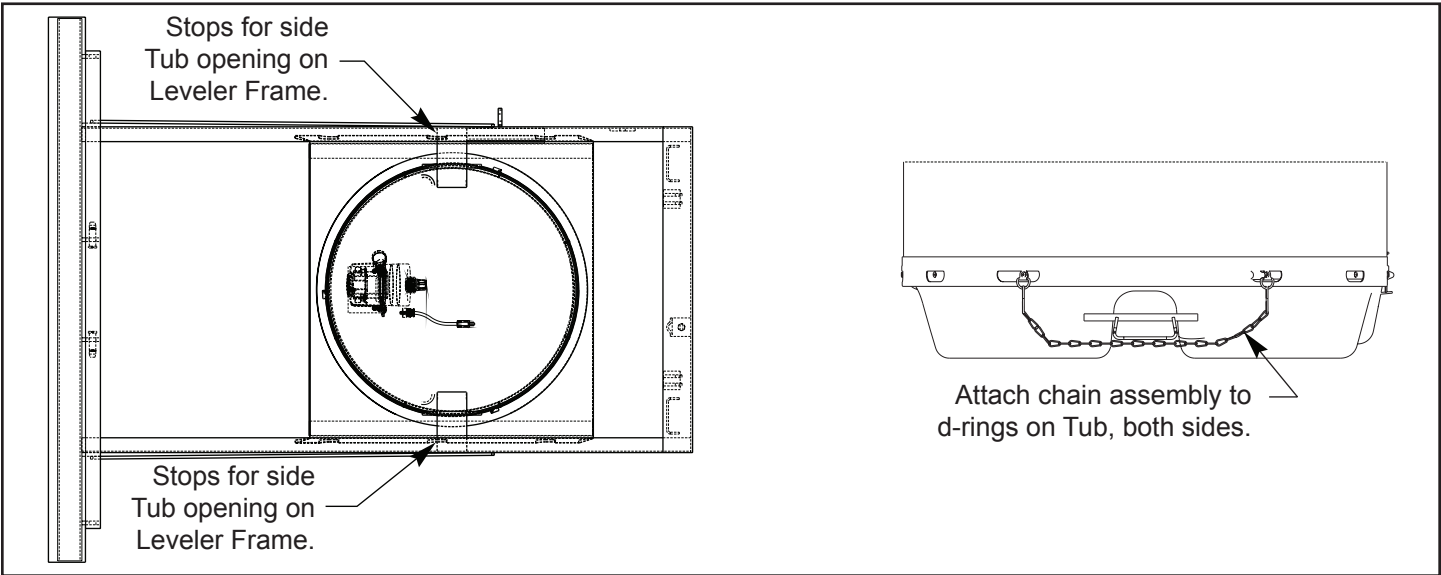


FIGURE 11 - TUB PLACEMENT

# LEVELER ADJUSTMENTS

## LIP LATCH BOLT ADJUSTMENT

The lip latch bolt is factory adjusted. Over time however, if the lip does NOT latch when the leveler is fully raised and remain latched as the platform lowers, the lip latch bolt may need to be readjusted. Use the following procedure to readjust the lip latch bolt:

1. Loosen the jam nuts on the lip latch bolt. See figure 12.
2. Turn the bolt clockwise one full turn at a time. See figure 12.
3. Tighten the jam nuts on the lip latch bolt.
4. Follow normal operating procedures to verify that the lip latch has been adjusted correctly and holds the lip out as the platform lowers. Test unit three times to make sure it latches all three times, if not readjust.

**NOTE:** DO NOT over adjust the lip latch bolt. When properly adjusted the lip should just latch in. If you have over adjusted the lip may not release, or it will bend the delatch rod over time. Re-adjust bolt until lip no longer latches and then make one full turn of the bolt until lip just latches.

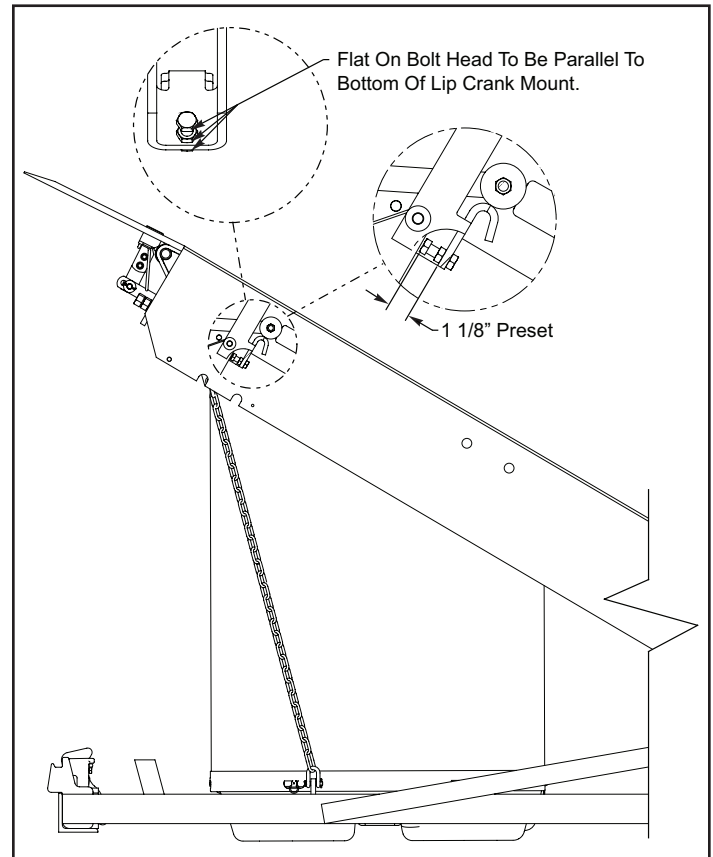


FIGURE 12 - LIP LATCH BOLT ADJUSTMENT

## LIP STOP BOLT ADJUSTMENT

The lip stop bolt adjusts the position of the lip when the leveler is stored to allow the lip to be centered on lip supports when stored.

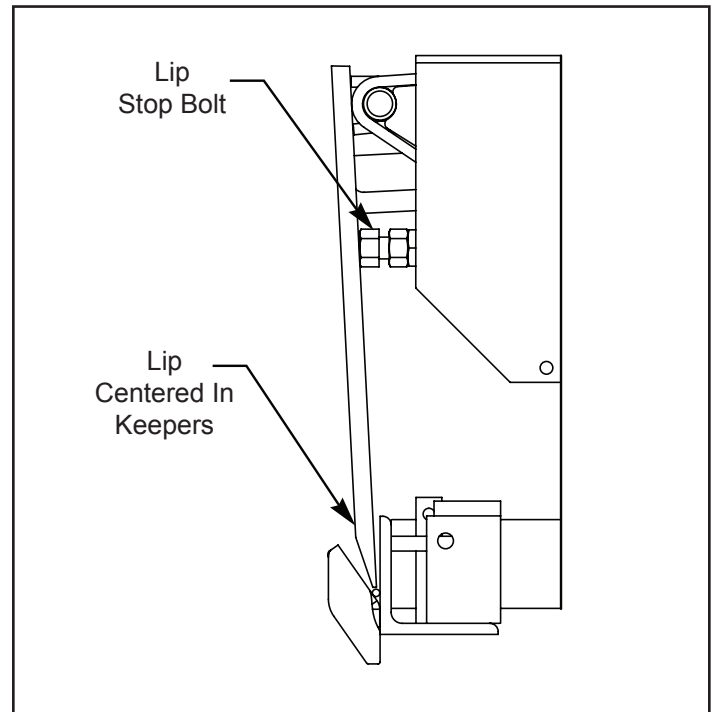


FIGURE 13 - LIP STOP BOLT

## LEVELER TROUBLESHOOTING

Problem	Probable Cause	Solution
1. Platform does not raise.	a. No power. b. The blower motor and/or control box has been mis-wired. c. The pushbutton and/or contact block does not function properly. d. Overload tripped. e. The blower motor has failed. f. Check air tower assembly for damage.	a. Check the main power supply. Check fuses in the control box and disconnect. b. Check wiring. c. Replace pushbutton operator and/or contact block. d. Push RESET on overload relay, if applicable. e. Replace air tower assembly. f. Repair or replace as necessary.
2. Lip will not extend.	a. Debris in lip hinge or lubrication needed. b. Lip out mechanism or below dock actuator is damaged.	a. Remove dirt, debris and corrosion from lip hinge and/or lubricate. b. Repair or replace damaged components.
3. Lip remains fully or partially extended.	a. Debris in lip hinge. b. Lip out mechanism or below dock actuator is damaged. c. Lip impacted or bent.	a. Remove debris from lip hinge. b. Repair or replace damaged components. c. Lubricate per maintenance procedures or replace lip.
4. Platform does not lower.	a. Debris under platform.	a. Remove debris.
5. Platform raises slowly.	a. Air tower system damaged. b. Weight on platform.	a. Repair or replace damaged components. b. Remove weight on platform.
6. Lip does not latch.	a. Lip latch adjustment out of adjustment.	a. Readjust lip latch bolt. See figure 12.

# LED STATUS CHARTS

PIT DOCK LEVELER RITE-HITE PRODUCTS CORP.  STANDALONE CONTROLS		LEVELER CONTROL BOARD							LEVELER AUX BOARD		
		INPUTS					OUTPUTS		OUTPUTS		
		FIELD				PUSH BUTTONS	12VDC		RELAY		12VDC
		ARTD INPUT	COMBINED POWER UNIT INPUT [CMBD PU]	GREEN LIGHT TO OPERATE LEVELER INPUT [GLT ITL] [SEE DIP SWITCH #2]	OVERHEAD DOOR OPEN INTERLOCK INPUT [OHD ITL] [SEE DIP SWITCH #3]	RAISE PUSH BUTTON	MOTOR CONTACTOR OUTPUT [LVLR CONTR]	12VDC POWER SUPPLY OK	LEVELER SOLENOID #1 - LIP OUT (K1) [STANDARD]	LEVELER SOLENOID #1 - LIP OUT (K1) [E-STOP EQUIPPED]	AUX BOARD POWER SUPPLY OK
TERMINAL BLOCK NO.		J9.2	J11.2	J11.1	J9.1	J16.4	J10.3	J10.1-2	J2.3	J2.3	-
LEVELER CONTROL BOARD LEDs		LD5	LD3	LD2	LD4	LD14	LD6	LD1	-	-	-
LEVELER AUX BOARD LEDs		-	-	-	-	-	-	-	LD1	LD1	LD4
02.01.00	REST STATE	F	F	?	?	-	F	T	F	T	T
02.01.01	RAISE SEQUENCE	F	F	ITL	ITL	M	T	T	F	T	T
02.01.02	AUTOMATIC RETURN TO DOCK	T	F	ITL	ITL	-	T	T	F	T	T
02.01.03	COMBINED POWER UNIT SEQ	F	T	?	?	-	T	T	F	T	T
02.05.00	RUN FAULT STATE	?	?	?	?	?	F	T	?	?	T
NO.	STATE / SEQUENCE NO.										

PIT DOCK LEVELER RITE-HITE PRODUCTS CORP.  DOK-COMMANDER CONTROLS		MICRO CONTROL BOARD					POWER BOARD	LEVELER AUX BOARD		
		INPUTS			OUTPUTS			OUTPUTS		
		FIELD			PUSH BUTTONS	12VDC	12VDC	RELAY		12VDC
		ARTD INPUT	OVERHEAD DOOR OPEN INTERLOCK INPUT [OHD ITL]	LEVELER STORED INTERLOCK TO UNLOCK* [UNLK ITL]	RAISE PUSH BUTTON	MOTOR CONTACTOR OUTPUT [LVLR CONTR]	12VDC POWER SUPPLY OK	LEVELER SOLENOID #1 - LIP OUT (K1) [STANDARD]	LEVELER SOLENOID #1 - LIP OUT (K1) [E=STOP EQUIPPED]	AUX BOARD POWER SUPPLY OK
TERMINAL BLOCK NO.		J14.4	J14.2	J14.3	MEMBRANE	J15.1	J2.1-6	J7.3	J7.3	-
MICRO CONTROL BOARD LEDs		LD32	LD29	LD30	LD52	LD42	LD7	-	-	-
LEVELER AUX BOARD LEDs		-	-	-	-	-	-	LD10	LD10	LD4
02.01.00	REST STATE	F	?	?	-	F	T	F	T	T
02.01.01	RAISE SEQUENCE	F	ITL	?	M	T	T	F	T	T
02.01.02	AUTOMATIC RETURN TO DOCK	T	ITL	?	-	T	T	F	T	T
02.01.03	COMBINED POWER UNIT SEQ	F	?	?	-	T	T	F	T	T
02.05.00	RUN FAULT STATE	?	?	?	?	F	T	?	?	T
NO.	STATE / SEQUENCE NO.									

## KEY

? - VARIES DEPENDING ON OPERATION	M - LIGHTS WHEN BUTTON PRESSED
F - OFF	P - PULSING / FLASHING [SET TO STEADY USING DIP SWITCHES]
ITL - INTERLOCK INPUT ON	T - STEADY ON

## RUN FAULT STATE

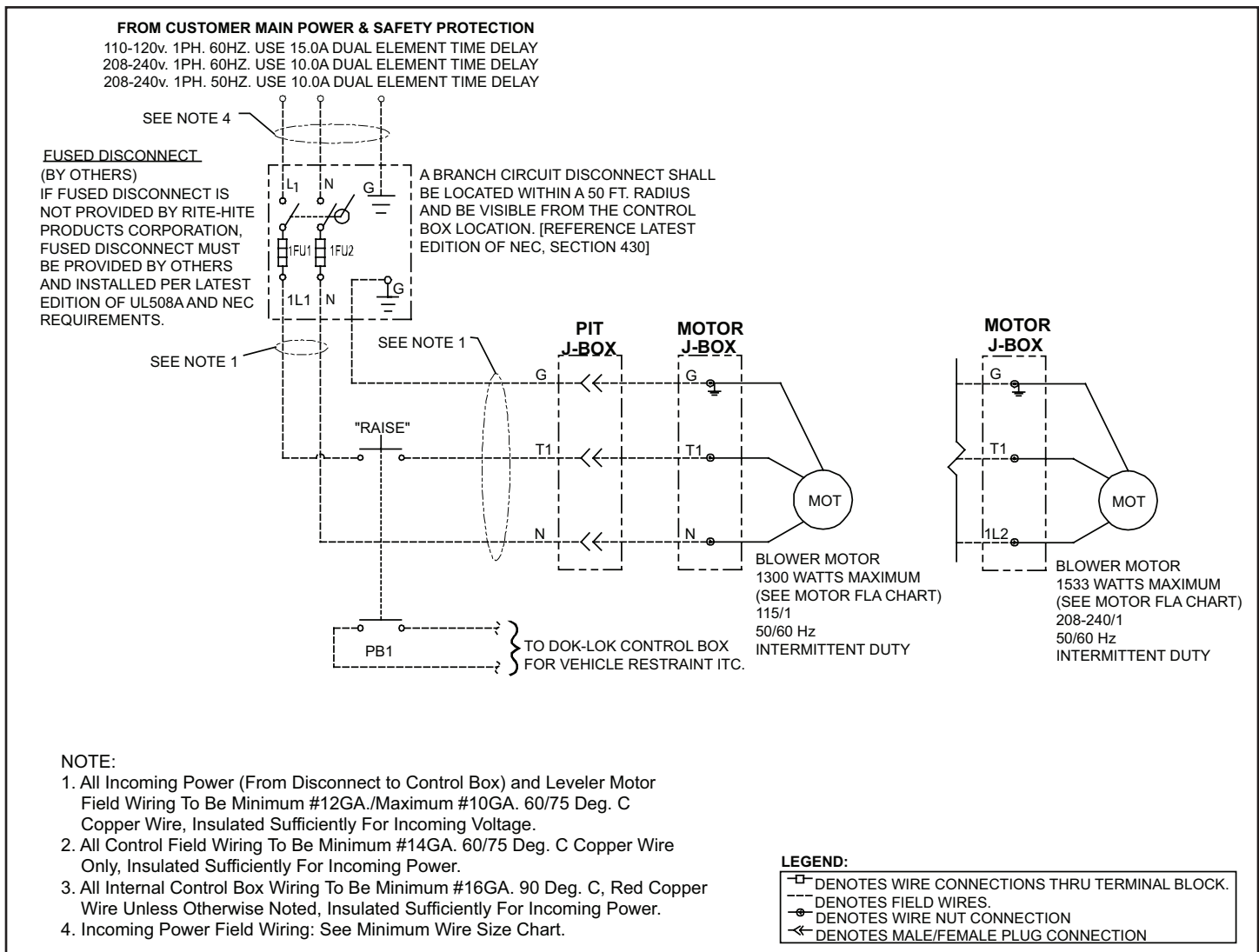
If Leveler Motor is operated continuously for 60 seconds, system will enter RUN FAULT STATE.  
After a 60 second rest period, system will automatically enter the REST STATE and resume normal operation.

## ELECTRICAL WIRING CHARTS

<u>AL9</u>	Motor FLA Ratings & Connection Detail	Minimum Wire Size (AWG) Chart for Various Line Lengths and Line Loads			
		Line Length (ft)			
		0-50	51-100	101-150	151-200
110-120/1/60/1300W	13.3	12	8	6	6
208-240/1/60/1533W	6.7	14	14	12	10

AL-800/900	
MOTOR SIZE	1533W
110-120/1/60	13.3
208-240/1/50/60	6.7

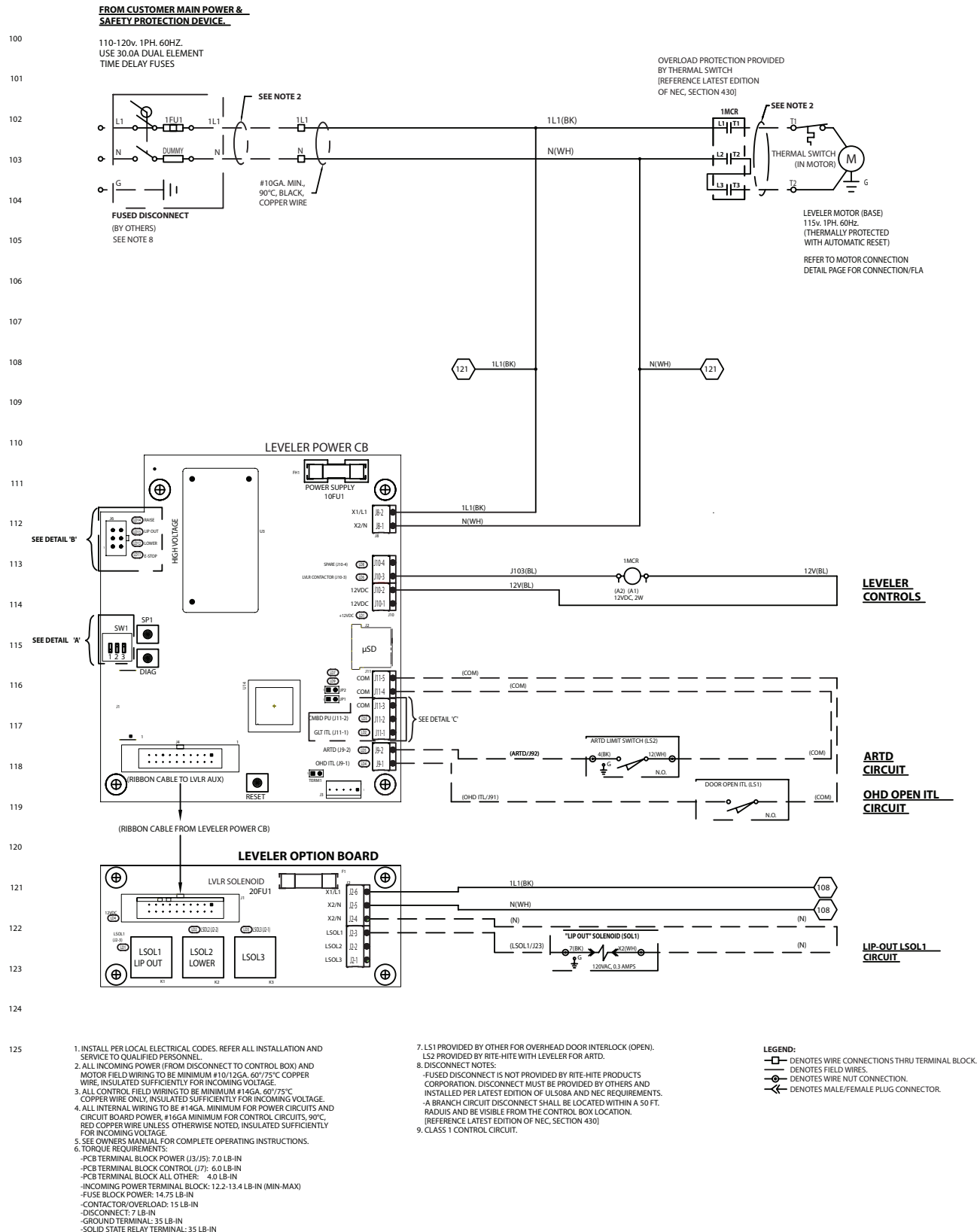
# ELECTRICAL SCHEMATICS



**FIGURE 14 - TYPE 1 CONTROL BOX - 120V./208-240V. 50/60HZ. SINGLE PHASE SCHEMATIC**

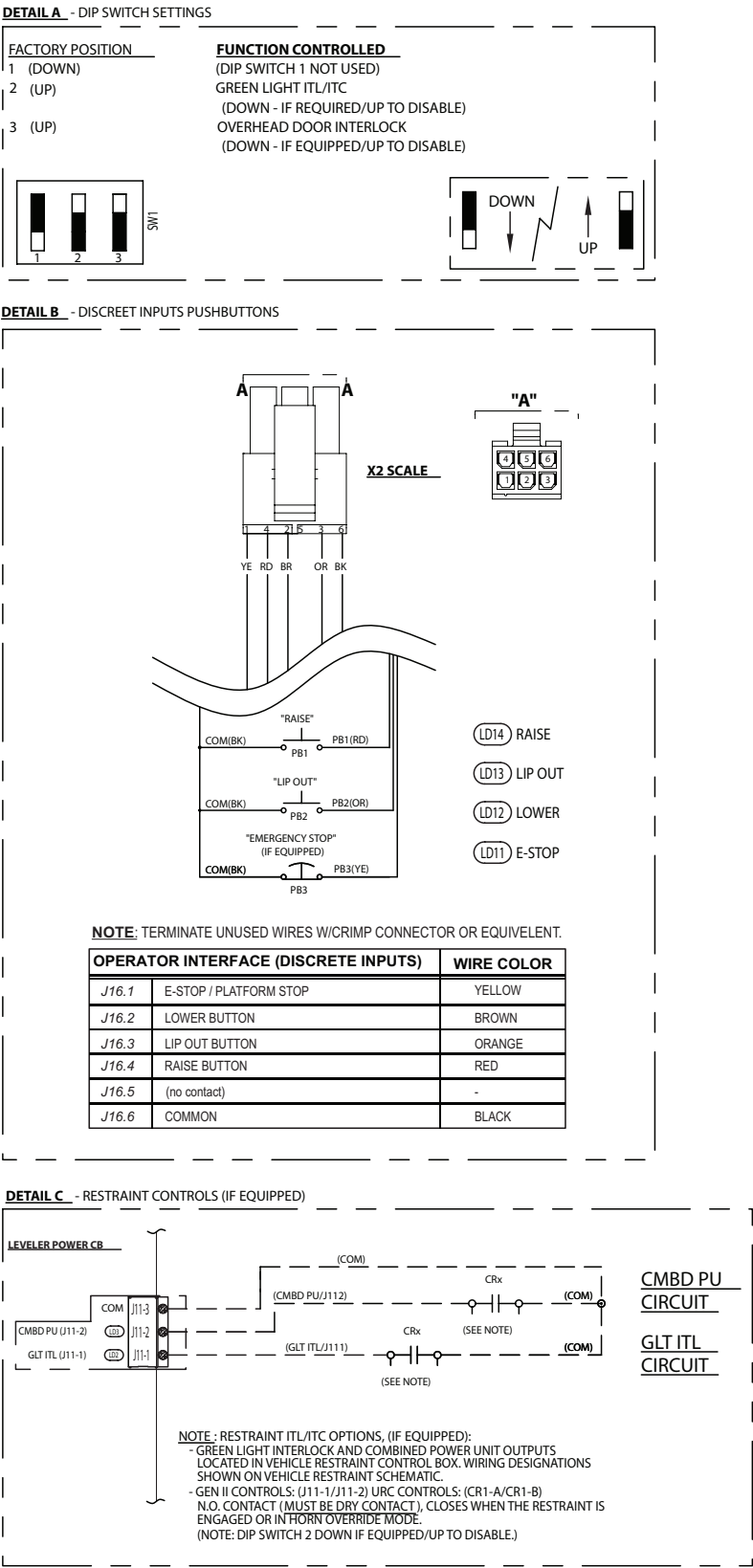


## ELECTRICAL SCHEMATICS CONT.



**FIGURE 15A - 115V. 60 HZ. SINGLE PHASE SCHEMATIC - PAGE 1**

ELECTRICAL SCHEMATICS CONT.



## ELECTRICAL SCHEMATICS CONT.

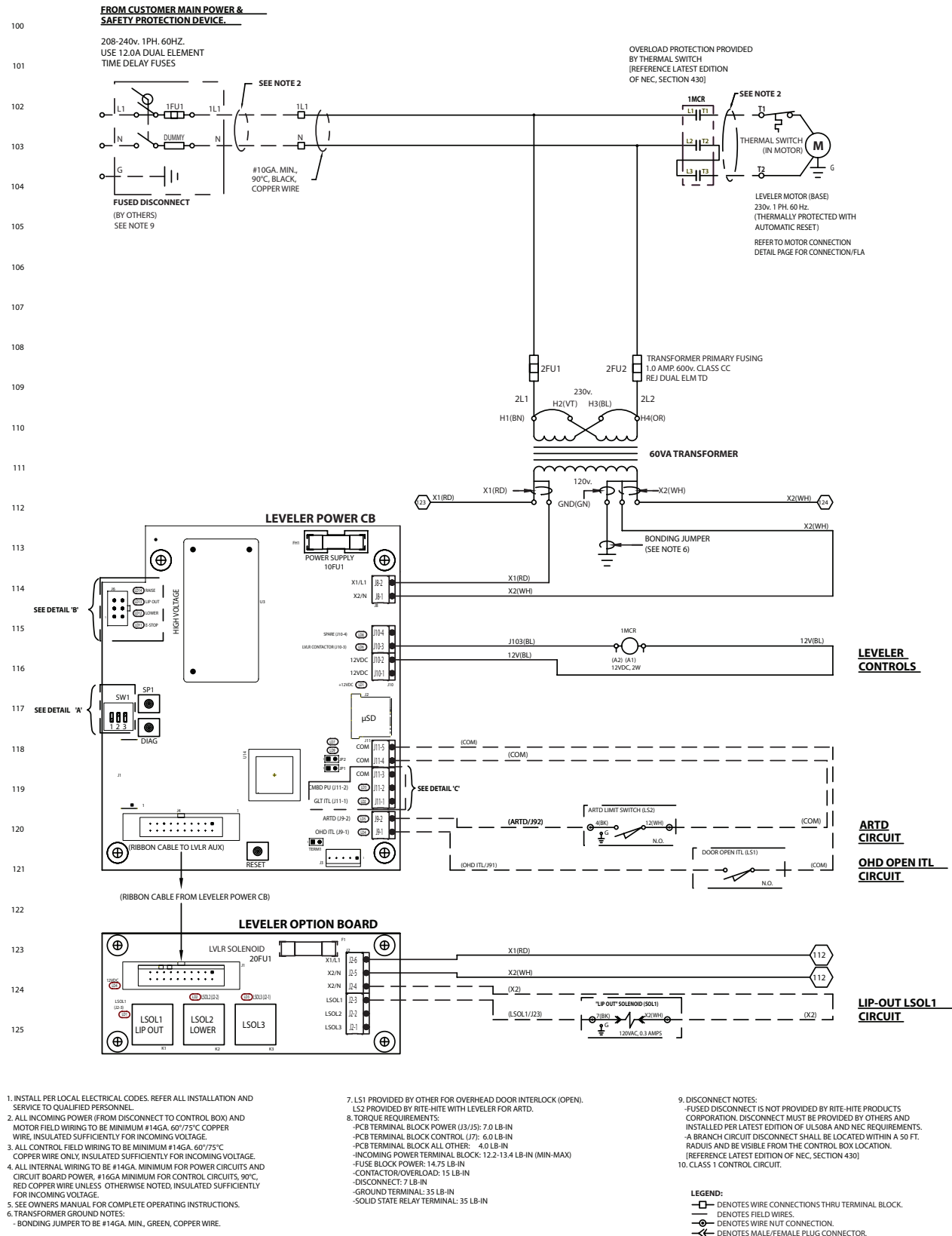


FIGURE 16A - 230V. 60HZ. SINGLE PHASE SCHEMATIC - PAGE 1

ELECTRICAL SCHEMATICS CONT.

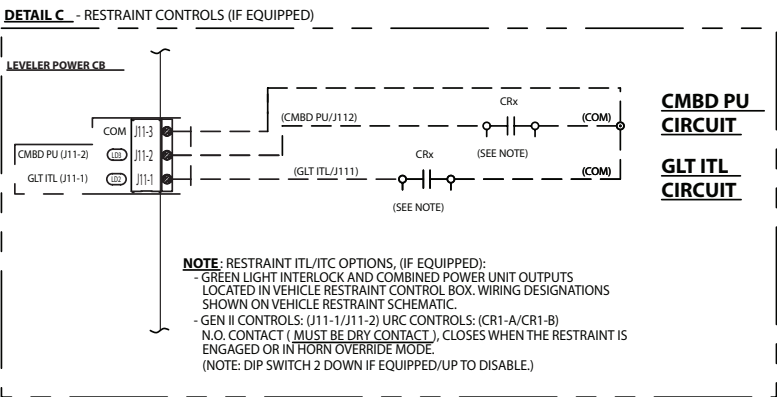
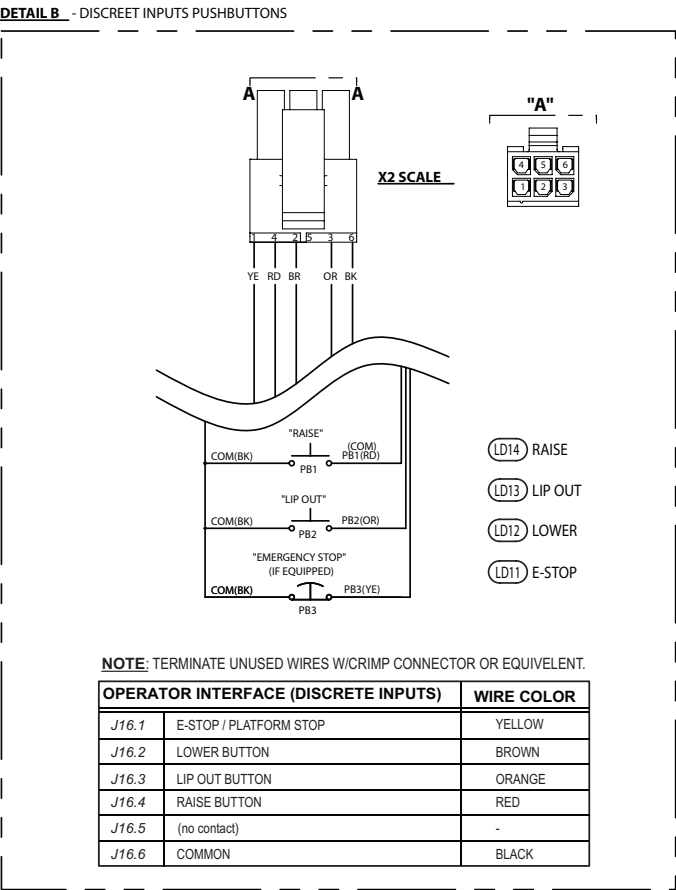
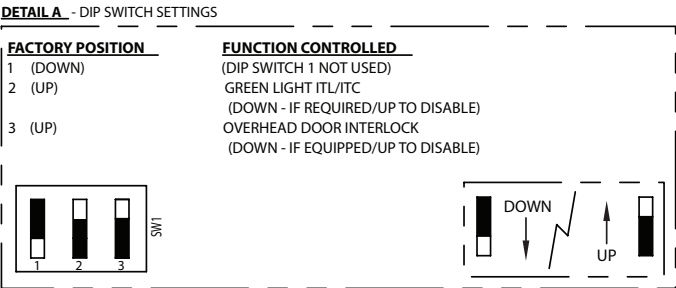
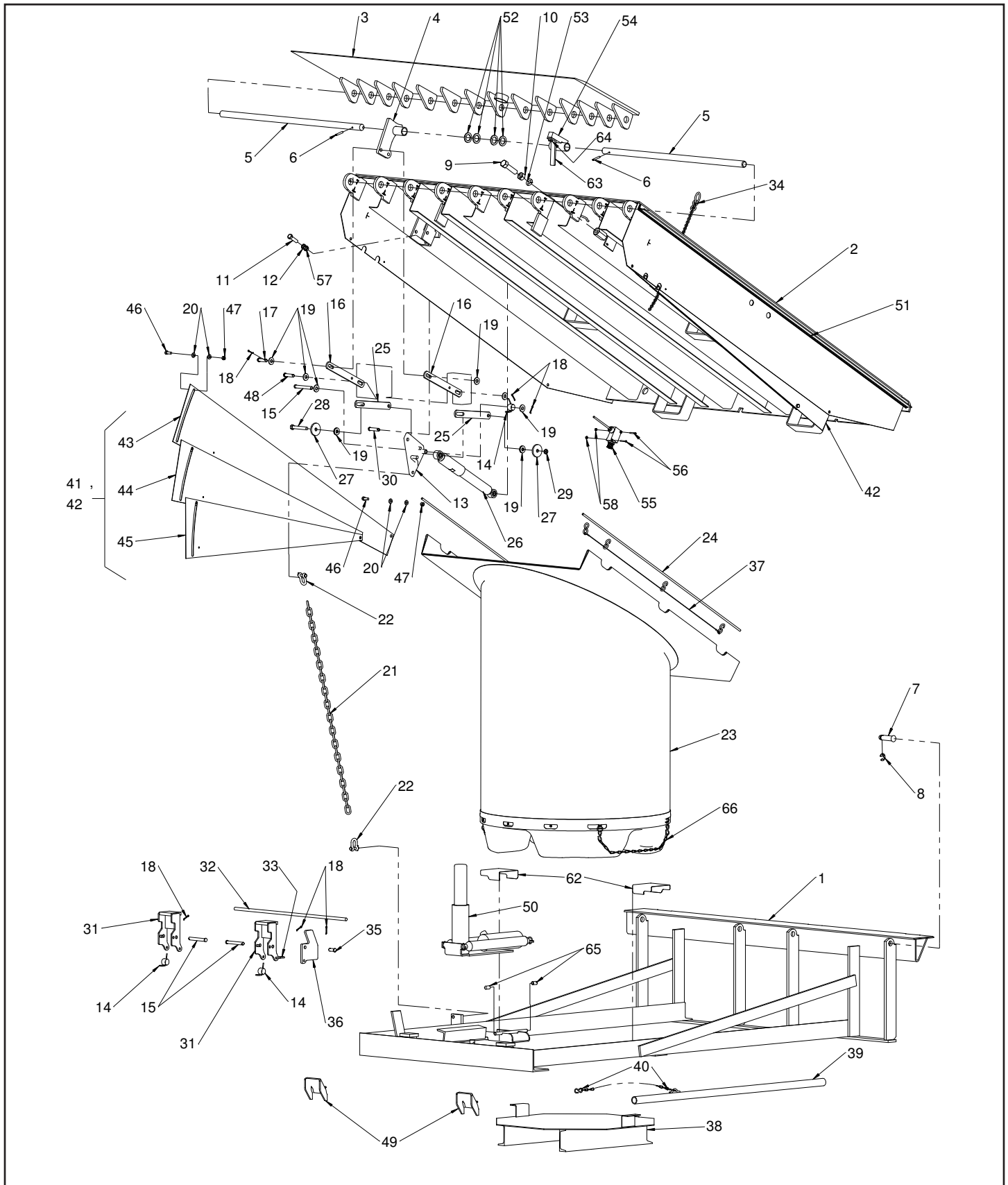


FIGURE 16B - 230V. 60HZ. SINGLE PHASE SCHEMATIC - PAGE 2

# NOTES

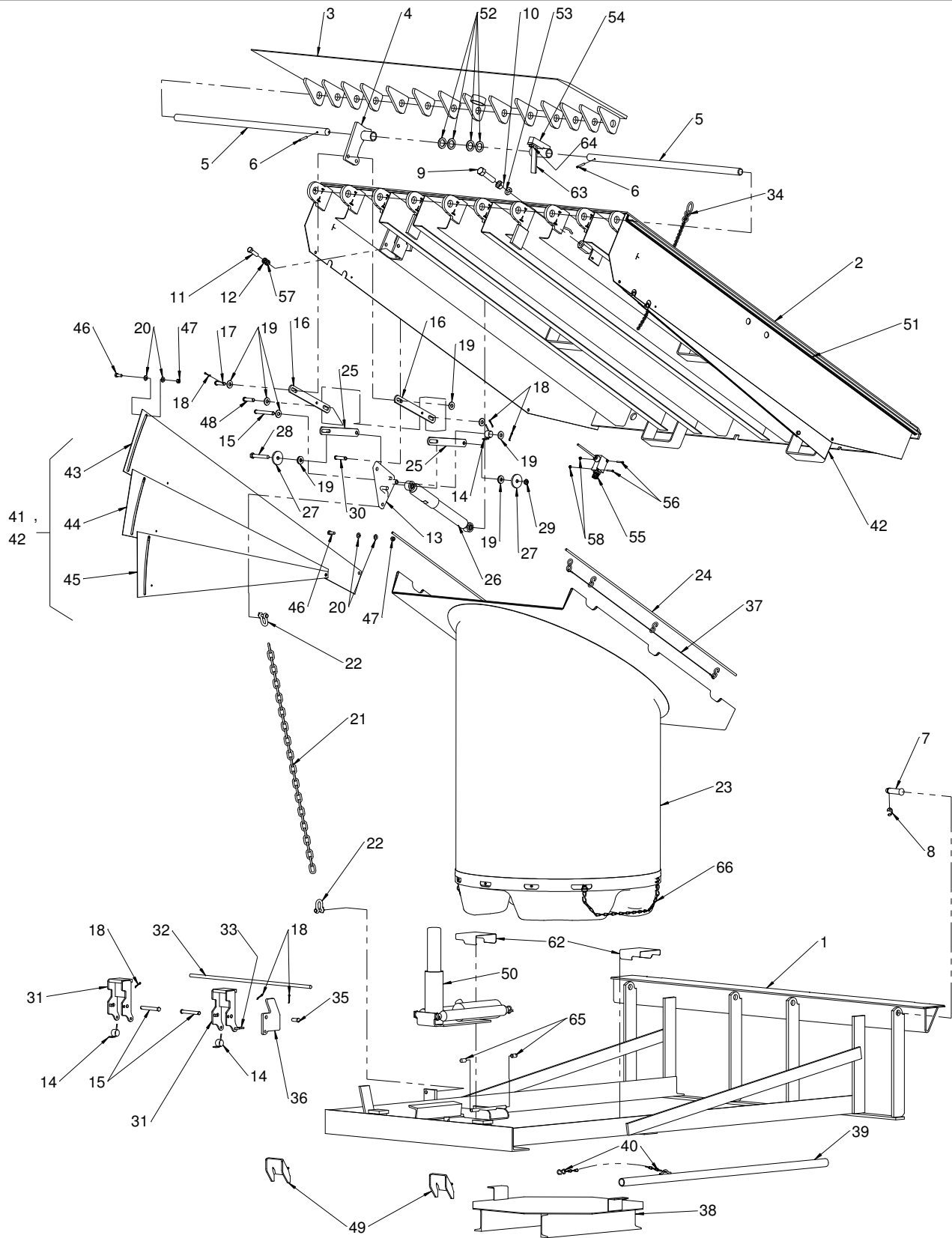
## REPLACEMENT PARTS



## REPLACEMENT PARTS LIST

Item	Qty.	Description	Leveler Length		
			6' Long	8' Long	10' Long
1	1	Frame Weldment	673.xxx	673.xxx	673.xxx
2	1	Platform Weldment	436.xxx	436.xxx	436.xxx
3	1	Lip Weldment	421.xxx	421.xxx	421.xxx
4	1	Lip Out Lug/Lever	142586	142586	142586
5	2	Lip Hinge Pin 6' Wide	562.112	562.112	562.112
	2	Lip Hinge Pin 6.5' Wide	562.113	562.113	562.113
	2	Lip Hinge Pin 7' Wide	562.111	562.111	562.111
	2	Lip Hinge Pin 6' Wide (Stainless Steel)	490.105	490.105	490.105
	2	Lip Hinge Pin 6.5' Wide (Stainless Steel)	490.106	490.106	490.106
	2	Lip Hinge Pin 7' Wide (Stainless Steel)	490.107	490.107	490.107
6	2	Tension Pin, .25Dia. X 1.75L	123960	123960	123960
7	4	Clevis Pin, Headed, .875 x 3.25L Groove ZP	129307	129307	129307
		Clevis Pin, Headed, .875 x 3.25L Gr (Stainless Steel)	129309	129309	129309
8	4	Ring, Ext. Retaining, .875OD	129308	129308	129308
9	1	Bolt, Hex .75-10UNC x 3L ZP	51186	51186	51186
10	1	Nut Hex .75-10UNC ZP	51517	51517	51517
11	1	Bolt Hex .5-13UNC x 1.75L G5 ZP	58016	58016	58016
12	2	Nut Jam .5-13UNC	51505	51505	51505
13	1	Lip Crank	129070	129070	129070
14	3	Torsion Spring 180 Deg. 1.131 OD MWG	120461	120461	120461
15	3	Clevis Pin .5 x 4L HD ZP	117066	117066	117066
16	2	Lip Link	116690	116690	116690
17	1	Clevis Pin, Headed .5 Dia. 1.75L 1Hole ZP	52464	52464	52464
18	7	Cotter Pin .125 Dia. X 1L ZP	51901	51901	51901
19	10	Flat Washer .500 Flat MED ZP	51709	51709	51709
20	8	Flat Washer .375 Flat MED ZP	51700	51700	51700
21	1	Chain 7mm Gr30 LD RTG 1300Lb. ZP	512.105	512.108	512.106
22	2	Chain Shackle, 3/8	51137	51137	51137
23	1	Air Tower Assembly 120V/1Ph 3 Stage	130386	130387	130387
	1	Air Tower Assembly 208-230V/1Ph 3 Stage	130388	130389	130389
24	2	Round .312 Dia. X 46.5L	117070	117070	117070
25	2	Bar .25 x 1.25 x 9L Hole	116943	116943	116943
26	1	Hydrachek Bore (1Dia)	51147	51147	51147
27	2	Washer .547ID 2.25OD .25Thk ZP	121580	121580	121580
28	2	Bolt .500-13UNC 3.5L Hex ZP	111359	111359	111359
29	1	Nut .500-13UNC Nylock Jam ZP	112965	112965	112965
30	1	Clevis Pin .5 x 2.25L Hole ZP	52418	52418	52418
31	2	Safety Leg 3.06 x 7L	142583	142583	142583
32	1	Round .5Dia. 28.25L HR M1020 (Non STO Units Only)	493.100	493.100	493.100
33	1	S-Hook .219 Wire (Welded Lip With STO Only)	51102	51102	51102
34	1	Chain Assembly Lanyard Twist #1/0 ZP	510.100	510.100	510.100
35	1	Clevis Pin .5 Dia 1.25L Hole ZP (Welded Lip Only)	112686	112686	112686
36	1	Cam MBDC .375 x 4 x 5.88 M1020 (Welded Lip Only)	116655	116655	116655
37	1	Lanyard Assembly Air Tower	121042	121042	121042
38	1	4" Deep Pit Conversion Platform (DPC Only)	665.xxx	665.xxx	665.xxx

## REPLACEMENT PARTS CONT.

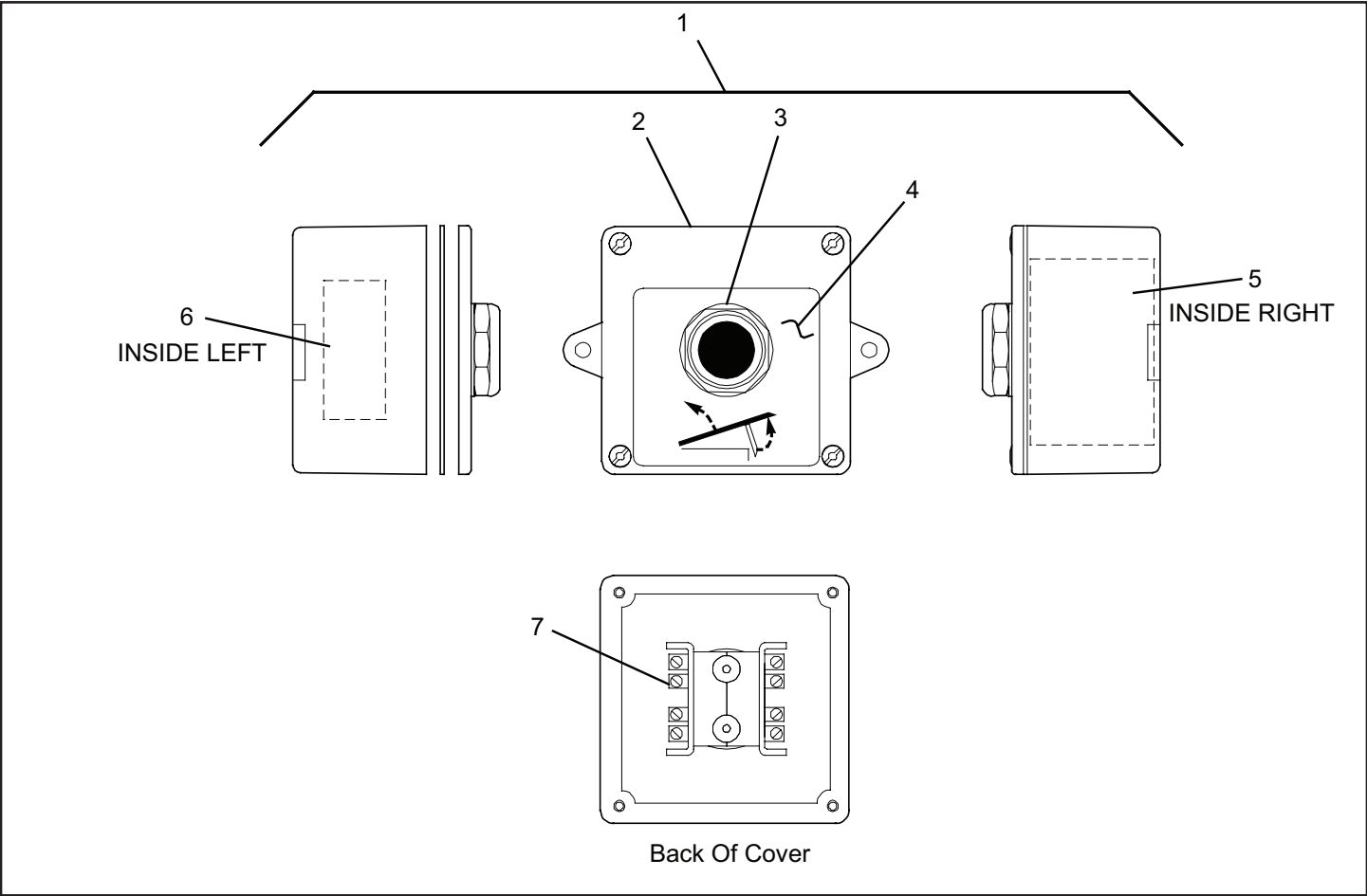




## REPLACEMENT PARTS LIST CONT.

Item	Qty.	Description	Leveler Length		
			6' Long	8' Long	10' Long
39	1	Maintenance Support	413.105	413.105	413.102
40	1	Chain Assembly	117395	117395	117395
41	1	Full Range LH (2 Fan) (Not Shown)	417.102	-	-
	1	Full Range LH (3 Fan)	-	419.101	419.102
42	1	Full Range RH (2 Fan) (Not Shown)	418.102	-	-
	1	Full Range RH (3 Fan) (Not Shown)	-	420.100	420.101
43	1	Toeguard Fan 14Ga. X 11 4Hole 1Slot LH	411.100	411.101	563.100
	1	Toeguard Fan 14Ga. X 11 4Hole 1Slot RH (Not Shown)	411.100	411.101	564.100
44	1	Toeguard Fan 14Ga. X 11 3Hole 1Slot LH	416.100	416.101	565.109
	1	Toeguard Fan 14Ga. X 11 3Hole 1Slot RH (Not Shown)	416.100	416.101	566.109
45	1	Toeguard Fan 14Ga. X 11 2Hole 1Slot LH (3 Fan Only)	-	415.107	567.106
	1	Toeguard Fan 14Ga. X 11 2Hole 1Slot RH (3 Fan Only)	-	415.107	568.106
46	4	Bolt Hex .375-16 x 1L G5 ZP	51600	51600	51600
47	4	Nylock Nut .38-16 UNC ZP	51501	51501	51501
48	1	Pin Clevis .5 x 2L Hole HD ZP	52409	52409	52409
49	2	Lip Keeper Weldment Formed	129201	129201	129201
50	1	Cylinder Assembly - Stump Out	117130	117130	117130
51	2	Weatherseal Insert - PT2-1	513.105	513.104	513.106
	2	Weatherseal Insert - NB1-1	514.105	514.104	514.106
52	4	Washer Flat 1.125ID 1.75OD .1406Thk ZP	139809	139809	139809
53	1	Washer .75 Split Lock Heavy ZP	51814	51814	51814
54	1	ARTD Trigger SPL (ARTD Only)	150584	150584	150584
55	1	Limit Switch Assembly (ARTD Only)	121685	121685	121685
56	2	Screw 8-32 x 1.25L ZP (ARTD Only)	115444	115444	115444
57	1	Washer .5 LK	51831	51831	51831
58	2	Nut Keps #8-32 ZP (ARTD Only)	118327	118327	118327
59	1	Operation Sign (Not Shown)	128111	128111	128111
60	1	Decal Sheet Manufacturing (Not Shown)	128116	128116	128116
61	1	Decal Sheet Field (Not Shown)	128121	128121	128121
62	2	Cover - Tub Locator	140627	140627	140627
63	1	Trigger, ARTD (ARTD Only)	129154	129154	129154
64	2	Trigger Bolt (ARTD Only)	118182	118182	118182
65	4	Vinyl Cap	129203	129203	129203
66	2	Tub Chain	134668	134668	134668

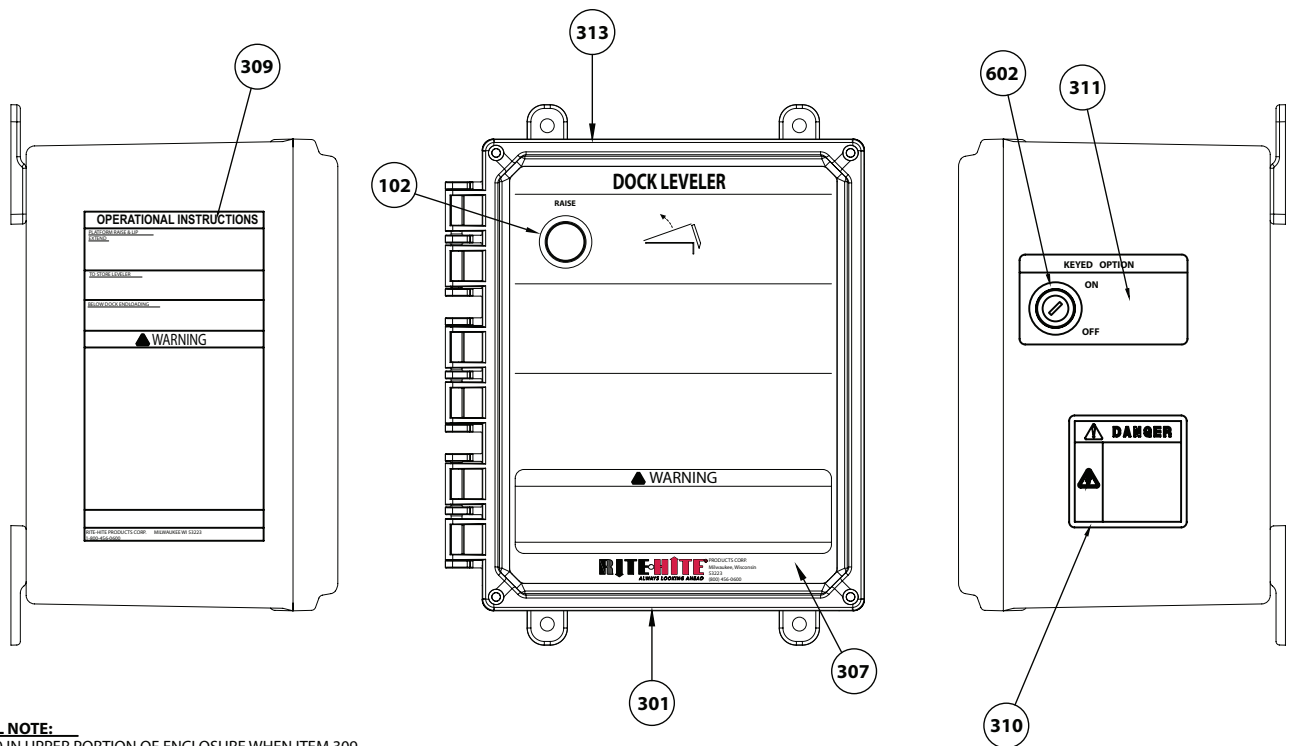
TYPE 1 CONTROL BOX PARTS



Item	Qty	Description	Part Number
1	1	Control Box Complete	228.xxx
2	1	Control Box Enclosure, 4 x 4 x 2 N4XF	117342
3	1	Push Button Operator (30.5MM) Black, NO, N12/N4 (AB: 800T-A2D1M)	117352
	1	Push Button Operator (30.5MM) Black, NO, N4X (AB: 800H-AR2D1M)	117315
4	1	Control Box Cover Decal, Raise 3 x 3 Hole (30.5MM Oprtr)	117414
5	1	Decal V/PH/FLA	230.xxx
6	1	Decal UL/ULC - Consult RITE-HITE	-
7	1	Contact Block, NO 30.5MM 600V 10A	57077

# NOTES

## TYPE 2 CONTROL BOX PARTS

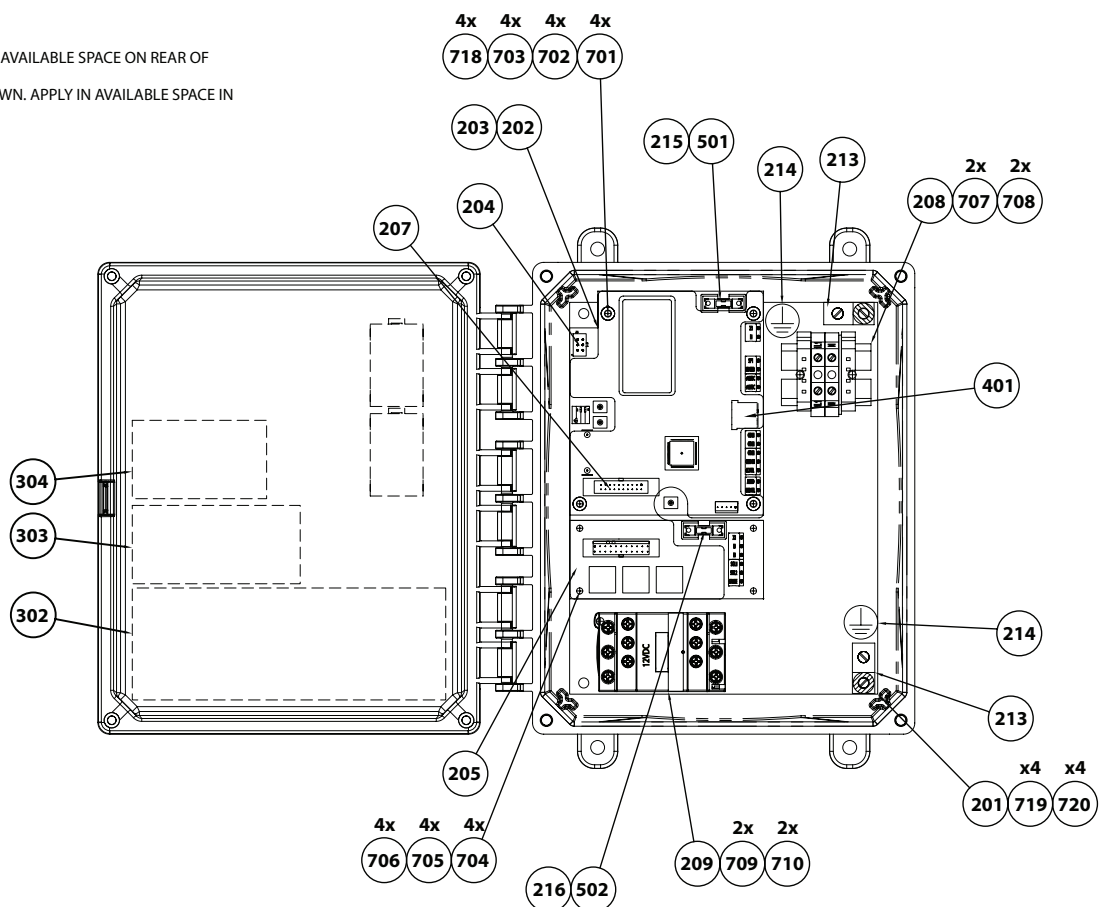


### EXTERIOR DECAL NOTE:

1. PLACE ITEM 310 IN UPPER PORTION OF ENCLOSURE WHEN ITEM 309 IS NOT PRESENT.

### INTERIOR DECAL NOTE:

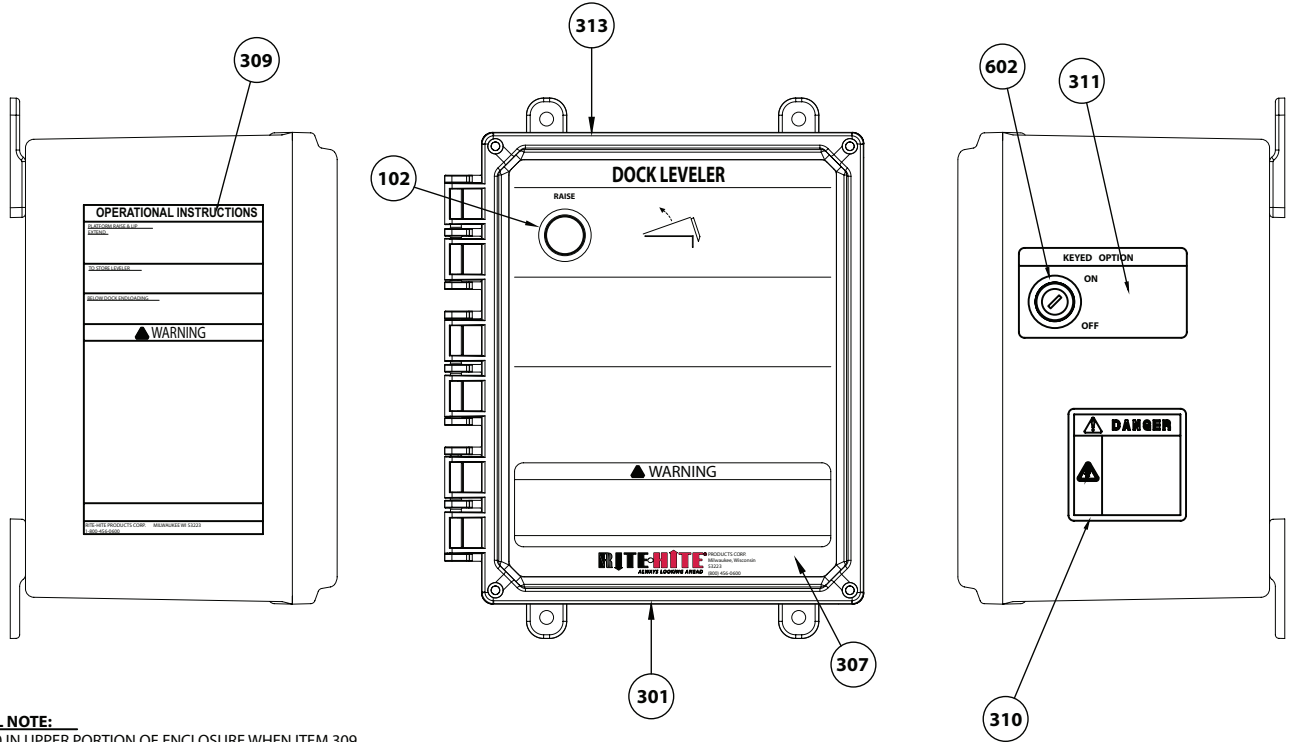
1. ITEM 302, 303, AND 304 PLACE IN AVAILABLE SPACE ON REAR OF ENCLOSURE COVER.
2. ITEM 305, AND 306 ARE NOT SHOWN. APPLY IN AVAILABLE SPACE IN ENCLOSURE COVER OR TUB.



## TYPE 2 CONTROL BOX REPLACEMENT PARTS LIST

Item	Qty	Description	Part Number
1	1	Control box assembly, Complete (Consult Rite-Hite for specific part number)	873.xxx
102	1	Push button, black	146827
103	1	Push button, red	146829
201	1	Pre-drilled control box sub panel	144763
202	1	Standard Leveler Control Board, Blank	144555-883D100
		Standard Leveler Control Board, Including Fuse	144574-883D100
		Leveler control board with Program Options, Blank (Consult Rite-Hite for specific part number)	144555-xxx
		Leveler control board with Program Options, Including Fuse (Consult Rite-Hite for specific part number)	144574-xxx
203	1	Leveler circuit board cover	146552
204	1	Control wiring harness	144862-06
205	1	Options Board, Leveler, Blank	143135
		Options Board, Leveler, Including Fuse	143137
207	1	Ribbon Cable for leveler micro control board to leveler options board	144866
208	1	Terminal block assembly, 115V 1PH	144559
		Terminal block assembly, 230V 1PH	146662
209	1	Motor Contactor, 1PH, Base	144540
210	1	Motor Overload Relay	145118
213	2	Ground lug	55902
214	2	Ground lug decal	105454
215	1	Fuse cover, 5mm x 20mm	144544
216	1	Fuse cover, 5mm x 20mm	144544
301	1	Standard Enclosure with decals, English	875.103
		Standard Enclosure with decals, IFC, English	875.100
		Enclosure with decals other than above (Consult Rite-Hite for specific part number)	875.xxx
	1	Enclosure mounting feet, includes 4 feet (Not needed if ordering new enclosure)	147845
302	1	Electrical schematic decal (Consult Rite-Hite for specific part number)	880.xxx
303	1	Fuse replacement decal	144850
304	1	Full load amperage and voltage/phase decal (Consult Rite-Hite for specific part number)	882.xxx
305	1	Program configuration decal (Consult Rite-Hite for specific part number)	884.xxx
307	1	Cover decal, stand alone pit leveler	144361
		Cover decal, stand alone pit leveler, IFC	144357
308	1	Emergency stop overlay decal, English	144836
309	1	Operation/danger/warning decal for pit leveler	144844
		Operation/danger/warning decal for pit leveler, IFC	144846
310	1	Lockout/tagout/multiple disconnect warning decal	114331
311	1	Control power ON/OFF decal	144838
312	1	Circuit board UL rating decal	144860
313	1	Do Not Drill decal	147552
501	1	0.5A fuse, 5mm x 20mm	145216
502	1	0.5A fuse, 5mm x 20mm	145216
601	1	Mushroom stop button (Emergency stop - if equipped)	125163

## TYPE 2 CONTROL BOX PARTS - CONTINUED

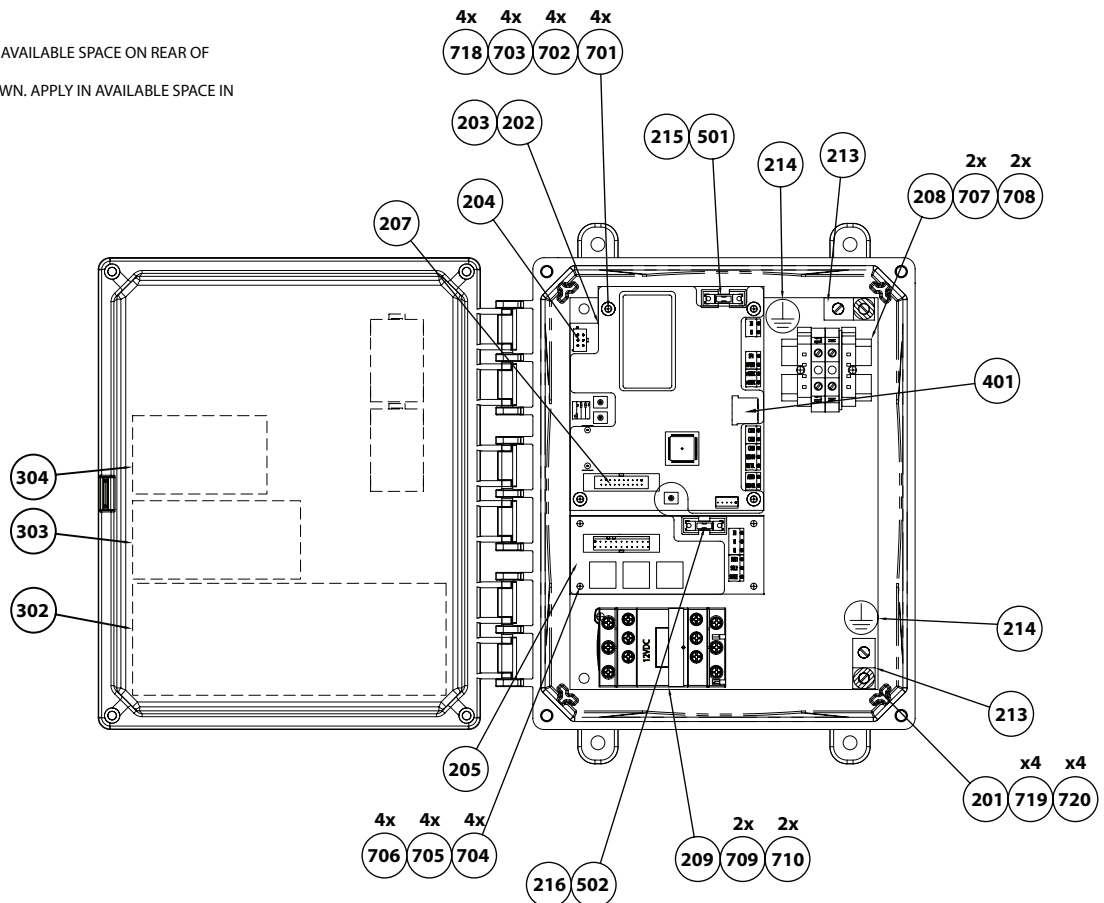


### EXTERIOR DECAL NOTE:

1. PLACE ITEM 310 IN UPPER PORTION OF ENCLOSURE WHEN ITEM 309 IS NOT PRESENT.

### INTERIOR DECAL NOTE:

1. ITEM 302, 303, AND 304 PLACE IN AVAILABLE SPACE ON REAR OF ENCLOSURE COVER.
2. ITEM 305, AND 306 ARE NOT SHOWN. APPLY IN AVAILABLE SPACE IN ENCLOSURE COVER OR TUB.



**TYPE 2 CONTROL BOX REPLACEMENT PARTS LIST - CONTINUED**

<b>Item</b>	<b>Qty</b>	<b>Description</b>	<b>Part Number</b>
602	1	Selector switch, keyed (If equipped)	149175
701	4	Standoff, Male/Female, #6-32, 2.5" length	133365
702	4	Screw, round head, #6-32, 0.25" length	133366
703	4	Lock washer, #6	51826
704	4	Standoff, Male/Female, #6-32, 2.5" length	133365
705	4	Screw, round head, #6-32, 0.25" length	133366
706	4	Lock washer, #6	51826
707	2	Screw, round head, #8-32, 0.5" length	51645
708	2	Lock washer, star, #8	51839
709	2	Screw, round head, #8-32, 0.5" length	51645
710	2	Lock washer, star, #8	51839
718	4	Standoff, Male/Female, #6-32, 0.875" length	115871
719	4	Screw, round head, #10-32, 0.5" length	51629
720	4	Lock washer, star, #10	51762

# WARRANTY

## Genisys Dock Leveler by Rite-Hite Standard Warranty Policy

Rite-Hite warrants to and for the sole benefit of the original purchaser that Genisys by Rite-Hite (hereinafter "Genisys") Dock Levelers shall be free from defects in material and workmanship subject to the following:

### Length of Time:

All products are warranted for a one year period commencing on the earlier date of approved installation or the (30th) day after the date of shipment. This warranty covers the repair or replacement of the defective product or component at Rite-Hite's sole election and expense, including reasonable labor, reasonable travel and freight.

### Component Scope:

The structural components protected by this warranty include the rear frame, deck, lip, front and rear hinge area and working range toe guards on all Genisys Dock Levelers.

- On HL Series dock levelers, all cylinders, pumps, hoses, fittings, electrical motors and control panels are covered.
- On ML Series mechanical levelers, springs, chains, lip extension mechanism, main counterbalance and ramp control are covered.
- On AL Series dock levelers, air tower, blower motor, hoses, lip extension mechanism, chains and control panels are covered. 5 year warranty on the air tower, blower motor, and hoses.

Repair part freight costs will be borne by Rite-Hite via standard shipping terms. Charges for overnight or special freight requirements will be billed to the end user, General Contractor or Genisys Representative and must be approved at time of shipment.

Warranty claims will not be accepted if the parts and/or assemblies have not been installed on Genisys products or the installation has not been carried out in accordance with Genisys installation instructions.

If a part is replaced during the standard warranty period, it will be covered for the remainder of the warranty period for the dock leveler.

The above warranties are in lieu of any other warranties, either expressed or implied, including but not limited to any warranty of merchantability or implied warranty of fitness for a particular application.

In no event shall Rite-Hite or any of its subsidiaries be responsible for or liable to anyone, including third parties, for special, indirect, punitive, incidental or consequential damages, even if Rite-Hite Representative has been advised of the possibility of such damages. Such excluded damages include, but are not limited to, loss of goodwill, loss of profits, loss of use, interruption of business, or other similar indirect financial loss.

This limited warranty shall be void and of no effect:

- if product is altered or modified from its original condition as installed or as delivered at or from the factory
- to the extent that the product defect is the direct result of improper installation, operation beyond capacity, or other than in accordance with Genisys instructions, careless or negligent use, or failure to maintain the product as recommended by the Genisys owner's manual.
- if Rite-Hite or the Genisys Representative is not notified of the defect and such notification failure creates additional component or product stress which compounds the cost for defect correction.
- if the product is not adjusted and lubricated on the intervals and to the extent required in the Genisys Owner's Manual.
- if the product is moved and reinstalled from its original installation point without advising Rite-Hite or a Rite-Hite Representative.



*By Rite-Hite*

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