

This manual covers units: built after serial numbers: 4487000001 and up



9in Carriage



12in Carriage

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NOTICE TO USER

Thank you for purchasing a SHR-5000™ Dok-Lok®.

SHR-5000 Dok-Lok vehicle restraint is an electromechanical restraint device that, when properly installed and operated, retains a secure connection between truck and dock. Signal lights, warning horn and signs provide instructions to truck driver and Dok-Lok vehicle restraint operator that a safe condition exists. The Dok-Lok vehicle restraint is operated by pressing push buttons on an interior control panel.

Read and understand contents of this manual prior to installation or operation of this equipment.

Rite-Hite reserves the right to substitute and/or modify parts and drawings (electrical & architectural). If separate prints are included with unit, they supersede manual.

Contact Rite-Hite Customer Support for installation help not covered in this manual: (U.S.) 800-456-0600.

A Planned Maintenance Program (P.M.P.), customized to your specific operation is available and recommended. For a P.M.P., contact your local Rite-Hite representative or Rite-Hite technical support at (U.S.) 414-355-2600.

FCC Compliance

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

NOTE: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesirable operation.

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 may be covered by additional 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™ Hazard Recognition and Communication System, and Smooth Transition Dok System™, are trademarks of Rite-Hite®.

NOTICE TO USER

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.

NOTICE TO USER

Definition and Function

The SHR-5000 Dok-Lok vehicle restraint is an electromechanical, self-aligning restraint device used to secure trucks and semi-trailers with an intact Rear Impact Guard (R.I.G.) to the face of a loading dock. This is achieved by securing the R.I.G. with a electrically powered steel hook. This prevents forward movement of the truck/trailer that may create an unsafe void between the face of the dock and the rear end of the truck/trailer as a forklift travels from the loading dock onto the trailer; or to create an obstruction noticeable to the truck driver, should the driver accidentally try to pull the truck/trailer away while it is being serviced.

The proper activation of the barrier and the locking mechanism is monitored by:

- Visual Control
 - 1 set of flashing green or red lights located at the inside of the building for the forklift operator, and 1 set located outside of the building for the truck driver. In addition to the lights, there are 3 instruction signs.
- Audio Control
 - A horn will sound at the inside of the building, warning the forklift operator if there is not R.I.G. present, or if the engagement is improper. In this case, the trailer must be secured by other means (wheel chokes, etc.) prior to servicing trailer.

Prerequisite for proper barrier engagement is that the trailer is parked firmly against a 4in [102mm] (trade standard) thick dock bumper. The activation/deactivation is solely controlled from inside of the building by pressing the Lock (raise) button or the Unlock (lower) button.

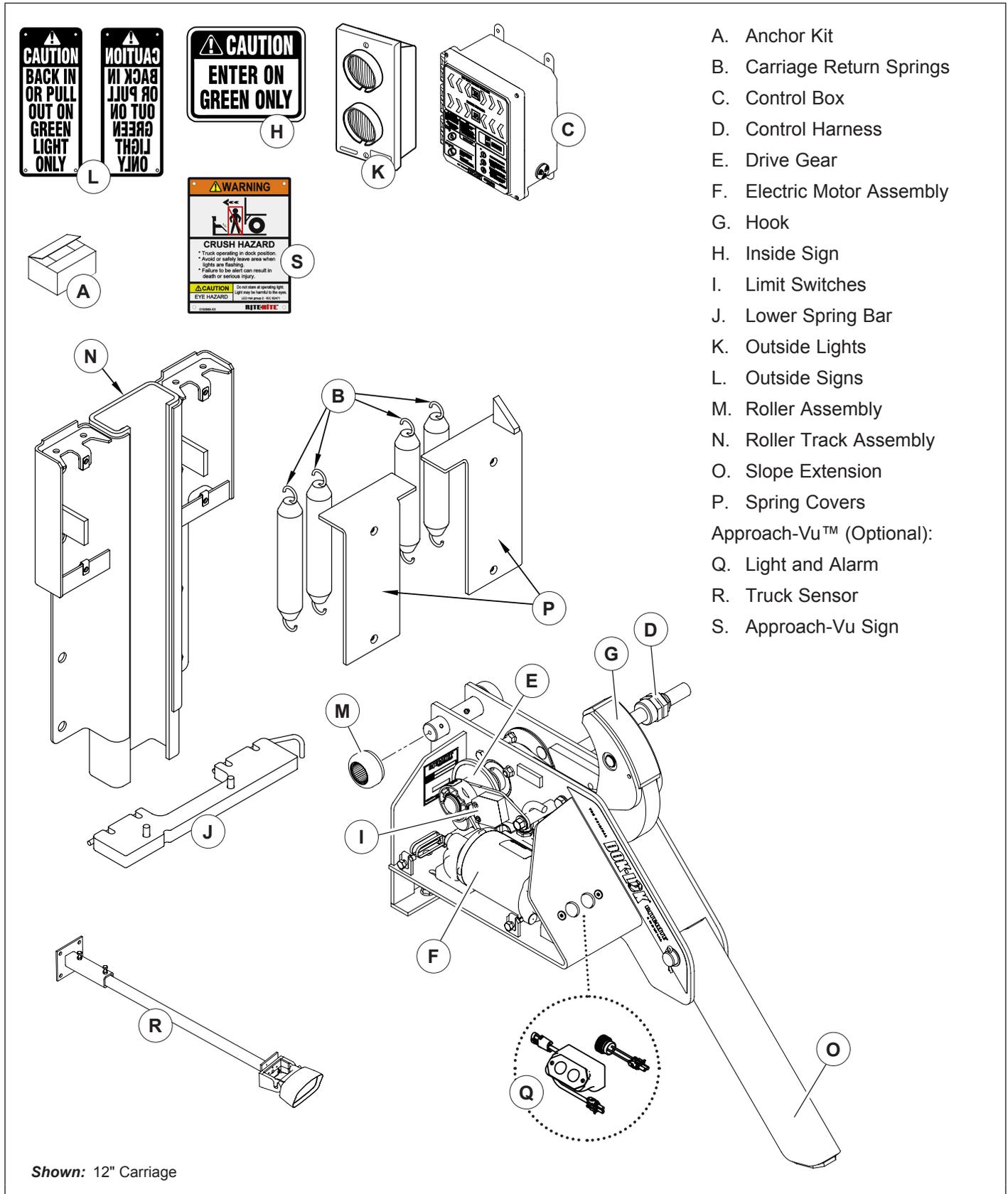
The normal mode of the hook is in the lower STORED position, showing a flashing red light (trailer not secured) at the inside of the building and a flashing green light (trailer free to move to or away from the loading dock) at the outside of the building.

Once the trailer is parked, the dock attendant will depress the Lock button. This will raise the hook to engage the R.I.G. As soon as the R.I.G. is properly locked, there will be a simultaneous light change - the inside will change from red to green flashing (trailer secured and supported) and the outside will change from green to red flashing (**DO NOT** move trailer). After the service is complete, the dock attendant will have to depress the Unlock button which then will return the hook to its lower STORED position.

A proper hook engagement is achieved when the hook raises unobstructed to fully trap the horizontal cross member of the R.I.G. Assembly. An improper hook engagement is if the horizontal cross member of the R.I.G. is missing, obstructed or it is bent or located too far from rear of trailer that it will prevent the free passage of the hook. At this point, the trailer must be secured by other means (example: wheel chocks) in order to become serviceable.

NOTICE TO USER

Features



- A. Anchor Kit
- B. Carriage Return Springs
- C. Control Box
- D. Control Harness
- E. Drive Gear
- F. Electric Motor Assembly
- G. Hook
- H. Inside Sign
- I. Limit Switches
- J. Lower Spring Bar
- K. Outside Lights
- L. Outside Signs
- M. Roller Assembly
- N. Roller Track Assembly
- O. Slope Extension
- P. Spring Covers
- Approach-Vu™ (Optional):
- Q. Light and Alarm
- R. Truck Sensor
- S. Approach-Vu Sign

Shown: 12" Carriage

Figure 1

SAFETY

Safety Identifications

DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates a situation which can cause damage to the equipment, personal property and/or the environment, or cause the equipment to operate improperly.

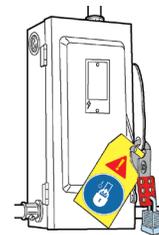
NOTE: A note is used to inform you of important installation, operation, or maintenance information.

Lockout Procedure

Barricade work area and post safety warnings.

Power supply/control must:

- Be disconnected or locked in OFF position using a lockout device approved by local codes.
 - Have signage that:
 - Clearly states repairs are being made.
 - Identifies person responsible for lockout condition.
- NOTE:** Only this person should be able to remove warnings and lockout device.
- Withstands environmental conditions (weather, wet, and damp, etc.) and remains readable.



General

DANGER

A qualified electrician should install wiring in accordance with local electrical codes.

Use lockout procedures to prevent death or severe personal injury.

OPERATION

WARNING

Before loading or unloading a vehicle at your loading dock while using a Dok-Lok vehicle restraint, always visually confirm barrier blocks R.I.G. assembly. Secure trailer by other means, if a condition occurs that cannot be fixed by backing trailer firmly against dock bumpers.

Area around R.I.G. assembly must be free of plates or other obstructions.

Always operate Dok-Lok vehicle restraint from top of dock.

Dok-Lok vehicle restraints should be operated by authorized personnel who have read and understand Owner's Manual.

Contact your local Rite-Hite representative or Rite-Hite (U.S.) 800-456-0600 with any questions.

Failure to follow these procedures could allow unexpected trailer / loading dock separation, resulting in death or serious injury.

WARNING

Power moving components. Serious injury could occur.

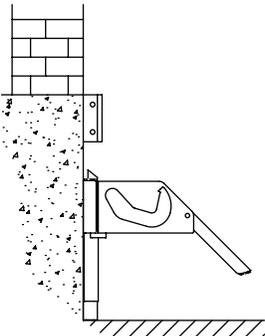
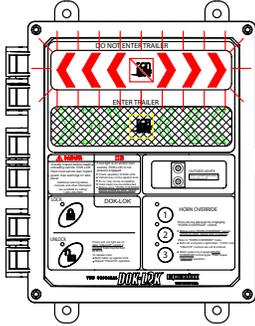
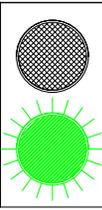
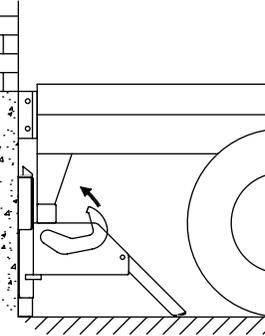
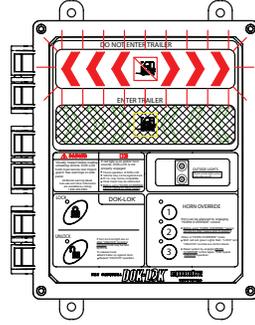
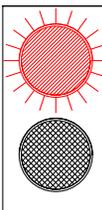


Slip hazard: Do not use equipment as a step.

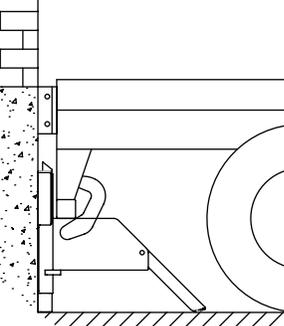
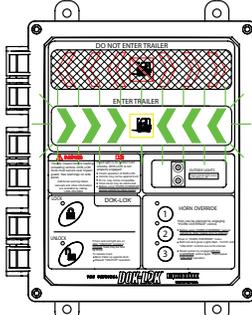
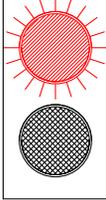
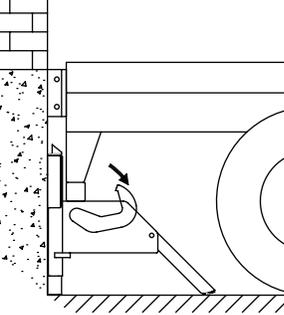
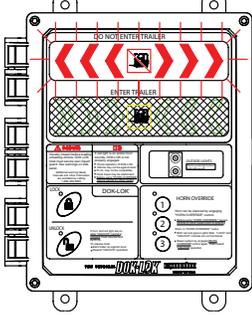
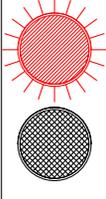


Pinch hazard: Keep all extremities away.

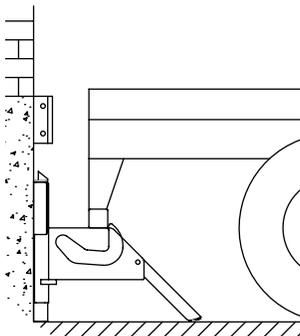
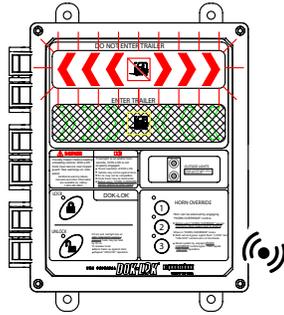
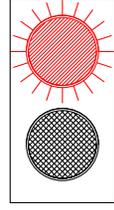
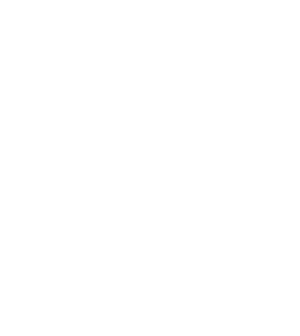
OPERATION

RESTRAINT		DEFAULT STATUS	
STATE	POSITION	CONTROL BOX: INSIDE LIGHTS, SOUND	OUTSIDE LIGHTS
<p>Restraint UNLOCKED/ STORED position. Hook is in STORED position.</p>		 <p>Red (flashing) Loading or unloading is not permitted, since R.I.G. is not locked.</p>	 <p>Green (flashing) A vehicle may pull into or out of loading bay.</p>
<p>Restraint LOCKING (LOCK button pressed)</p> <ul style="list-style-type: none"> Trailer has backed into loading dock and is parked firmly against dock bumpers. Hook rotates from STORED position to entrap R.I.G. <p>If horn sounds, go to FAULT State from LOCKING State if not, go to Restraint LOCKED.</p> <div style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <p>! CAUTION</p> <p>If trailer can not be restrained due to a lift gate or other obstruction that could become damaged, go to HORN OVERRIDE State.</p> </div>		 <p>Red (steady) Alerts operator that an unsafe condition exists while hook and support cylinders are in transit.</p>	 <p>Red (flashing) Alerts truck driver not to move.</p>

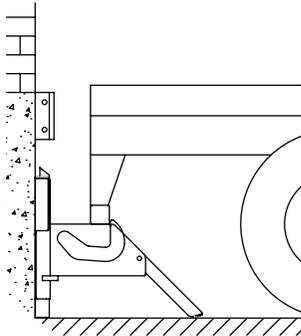
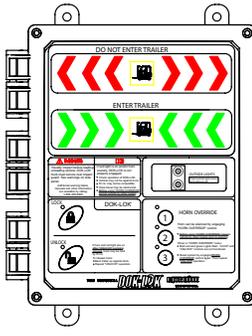
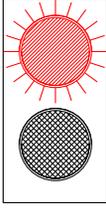
OPERATION

RESTRAINT		DEFAULT STATUS	
STATE	POSITION	CONTROL BOX: INSIDE LIGHTS, SOUND	OUTSIDE LIGHTS
<p>Restraint LOCKED</p> <p>When R.I.G. is entrapped by hook, a LOCKED condition exists.</p> <p>If during loading/unloading inside light turns red and horn sounds, press LOCK button to secure R.I.G.</p> <div style="border: 1px solid black; background-color: #f4a460; padding: 5px; text-align: center;">  WARNING </div> <p>Visually confirm Dok-Lok barrier obstructs R.I.G. of trailer being serviced, before operating dock leveler.</p>		 <p>Green (flashing) Alerts operator a safe condition exists.</p>	 <p>Red (flashing) Alerts truck driver not to move.</p>
<p>Restraint UNLOCKING (UNLOCK button pressed)</p> <p>Hook travels from LOCKED position to STORED position.</p> <p>If horn sounds go to FAULT State from UNLOCKING State.</p>		 <p>Red (steady) Alerts operator that an unsafe condition exists while hook and support cylinders are in transit.</p>	 <p>Red (flashing) Alerts truck driver not to move.</p>

OPERATION

RESTRAINT		DEFAULT STATUS	
STATE	POSITION	CONTROL BOX / INSIDE LIGHTS	OUTSIDE LIGHTS
<p>FAULT State from LOCKING State</p> <p>Hook cannot entrap R.I.G.</p> <ul style="list-style-type: none"> – R.I.G. could be located too far from rear of trailer, bent, obstructed or missing. <p>Unit will store itself.</p> <p>If trailer is parked firmly against dock bumpers go to HORN OVERRIDE state. If not, press UNLOCK to clear fault, have trailer back up and repeat Restraint LOCKING.</p>		 <p>Red (flashing) Horn (pulsing)</p> <p>Alerts operator that trailer is not locked.</p>	 <p>Red (flashing) Alerts truck driver not to move.</p>
<p>FAULT State from UNLOCKING State</p> <p>Hook cannot rotate to STORED position.</p> <ul style="list-style-type: none"> – Hook could be caught on R.I.G. or another part of trailer. <p>Verify trailer is parked firmly against dock bumpers. If not, press LOCK to entrap R.I.G., have trailer back up and repeat Restraint UNLOCKING.</p>		<p>Red (flashing) Horn (pulsing)</p> <p>Alerts operator that trailer is not locked.</p>	<p>Red (flashing) Alerts truck driver not to move.</p>

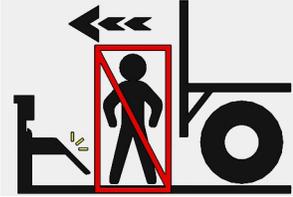
OPERATION

RESTRAINT		DEFAULT STATUS	
STATE	POSITION	CONTROL BOX / INSIDE LIGHTS	OUTSIDE LIGHTS
<p>HORN OVERRIDE State (HORN OVERRIDE code entered after securing trailer by alternate means)</p> <p>An alternate means of securing truck must be used if hook can not capture R.I.G. (i.e. wheel chocks).</p> <p>To return to STORED:</p> <ol style="list-style-type: none"> 1. Enter HORN OVERRIDE code NOTE: Factory preset = 1223 2. Press UNLOCK button. <p>NOTE: Unit will continue to store itself (≈ 20 seconds) after horn has been silenced from FAULT state.</p> <div style="border: 1px solid black; background-color: red; color: white; padding: 5px; text-align: center; margin: 10px 0;">  DANGER </div> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Before operating HORN OVERRIDE, secure trailer by other means.</p> </div> <div style="border: 1px solid black; background-color: yellow; color: black; padding: 5px; text-align: center; margin: 10px 0;">  CAUTION </div> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Support cylinders will not be engaged in HORN OVERRIDE state. Expect vertical motion of trailer.</p> </div>		 <p>Red (flashing) Green (flashing)</p> <p>Alerts operator trailer is secured by other means.</p>	 <p>Red (flashing) Alerts truck driver not to move.</p>

OPERATION

Approach-Vu™ (OPTIONAL)


WARNING



CRUSH HAZARD

- Truck operating in dock position.
- Avoid or safely leave area when lights are flashing.
- Failure to be alert can result in death or serious injury.


CAUTION

Do not stare at operating light. Light may be harmful to the eyes.

Truck Detection Zone

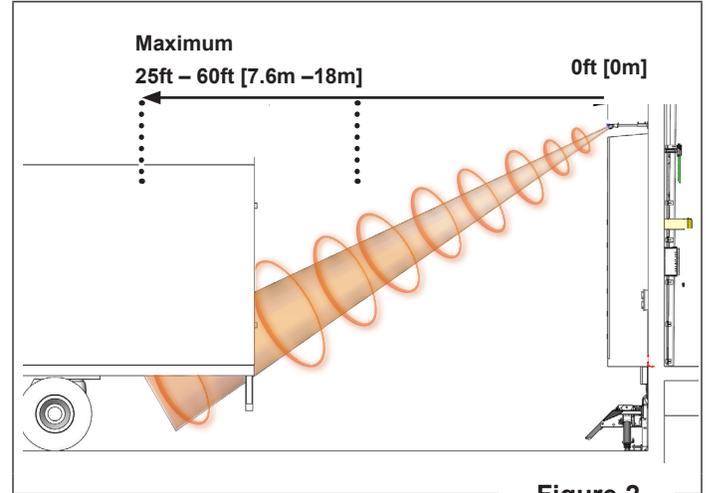


Figure 2

Hazard Notification on Restraint

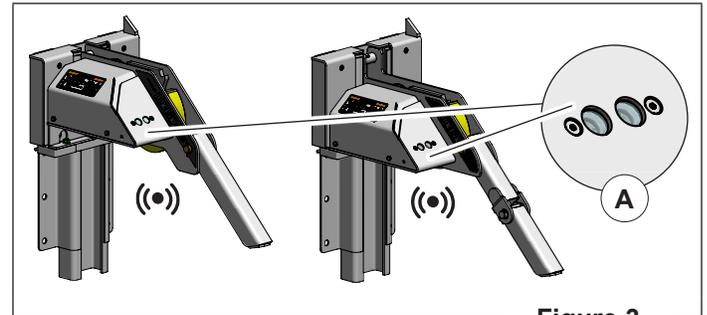


Figure 3

When a truck is detected:

- Lights will flash (A).
- Alarm located in restraint will sound.

Truck Sensor LEDs

STATE	LEDS
Start-Up	Red/Green (Flashing)
Ready	Green (Steady)
Detects Truck	Red (Flashing)
False Detection	Green or Red/Green (Flashing)

Figure 4

MAINTENANCE

! DANGER

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

Post safety warnings and barricade work area, at dock level and approach level, to prevent unauthorized use of dock position.

! WARNING

A safe work place requires all lights and horn to be working properly. **DO NOT** use Dok-Lok vehicle restraint if parts are broken or missing.

! CAUTION

When lifting unit use a proper lifting device (crane, jack). Lifting by hand may cause back injury.

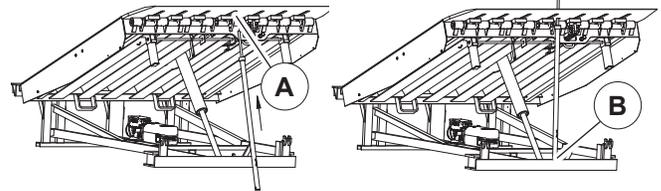
NOTICE

Contact Rite-Hite if loading docks are exposed to harsh environments (extreme climates, corrosive chemicals, high usage, etc.). More frequent maintenance may be required.

A Planned Maintenance Program (P.M.P.), customized to your specific operation is available and recommended. For a P.M.P., contact your local Rite-Hite representative.

NOTE: If a leveler is installed at the Dok-Lok vehicle restraint location, it may be necessary to raise the leveler before performing maintenance.

! DANGER



When working under dock leveler platform or lip:

1. **Install Safe-T-Strut™ with the assistance of another person.**
 - Raise leveler until platform reaches its highest position and lip extends. Maintain this position.
 - (A) Have assistant insert the smaller end of the Safe-T-Strut™ through hole in the middle of leveler lip and place strut's wider open end over the base located on leveler's front frame (B).
 - Align the holes on the base and Safe-T-Strut™ so leveler may be secured with retaining pin and safety clip.
 - Release the pushbutton on powered levelers allowing the Safe-T-Strut™ to rest on the underside of lip.

NOTE: If you are unable to install the maintenance support, contact your Rite-Hite Service Representative or Rite-Hite Customer Service at 1-414-355-2600.

2. **Lockout and tag power supply.**
 - Turn off power to control box.
 - Lock out and tag the main power source
 - Barricade leveler at dock and approach levels to prevent unauthorized use.

Safe-T-Strut™ removal:

- Have an assistant raise leveler to its highest position with lip fully extended.
- Release safety clip and remove retaining pin.
- Lift the support off base.
- Return Safe-T-Strut™ to its storage position.

MAINTENANCE

Planned Maintenance

#	P.M. IN DAYS			INSPECT AND PERFORM:
	1	180	360	
1	✓	✓	✓	Remove debris around Dok-Lok vehicle restraint
2	✓	✓	✓	Verify horns, inside and outside lights are working.
3	✓	✓	✓	Replace damaged or missing light bulbs and lenses.
4	✓	✓	✓	Repair, remount, or replace outside and inside signs as required.
5	✓	✓	✓	Inspect dock bumpers. 4in [102mm] of protection is required. Worn, torn, loose or missing bumpers must be replaced.
6	–	✓	✓	See "Figure 5" . Grease rollers (G) at fittings (top and bottom axle). Grease hook and support cylinders at fittings. Use Mobilith SHC220 No. 2 grease (or equivalent temperature range lithium based grease). 1st 180 days: 7–8 pumps 180 Day intervals (after the first 180): 2–3 pumps Note: Items that use SAE 30 weight oil lubricant only require lubrication every 360 Days.
7	–	✓	✓	Check that all concrete anchor bolts are torqued to 60 ft-lbs.
8	–	✓	✓	Verify clutch torque at the hook shaft is greater than 500 in-lbf.
9	–	✓	✓	Inspect outside junction and light box. They should be securely mounted. If loose or damaged, inspect all wires and wire connections.
10	–	✓	✓	Inspect flexible electrical harness from Dok-Lok vehicle restraint to junction box. Look for kinks, crushed areas, etc.
11	–	✓	✓	Verify hook is centered between stop plates.
12	–	✓	✓	Inspect all conduit boxes, control boxes and electrical connections for damage. Repair or replace if worn or damaged. 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.
13	–	✓	✓	Perform operational test after all maintenance repairs and adjustments are complete.
14	–	–	✓	Check and tighten control box mounting hardware
15	–	–	✓	Drive Chain: Check lubrication and tightness. See "Drive Chain" on page 15
				Lubrication may be required more frequently, based on usage and environmental conditions.

MAINTENANCE

Drive Chain

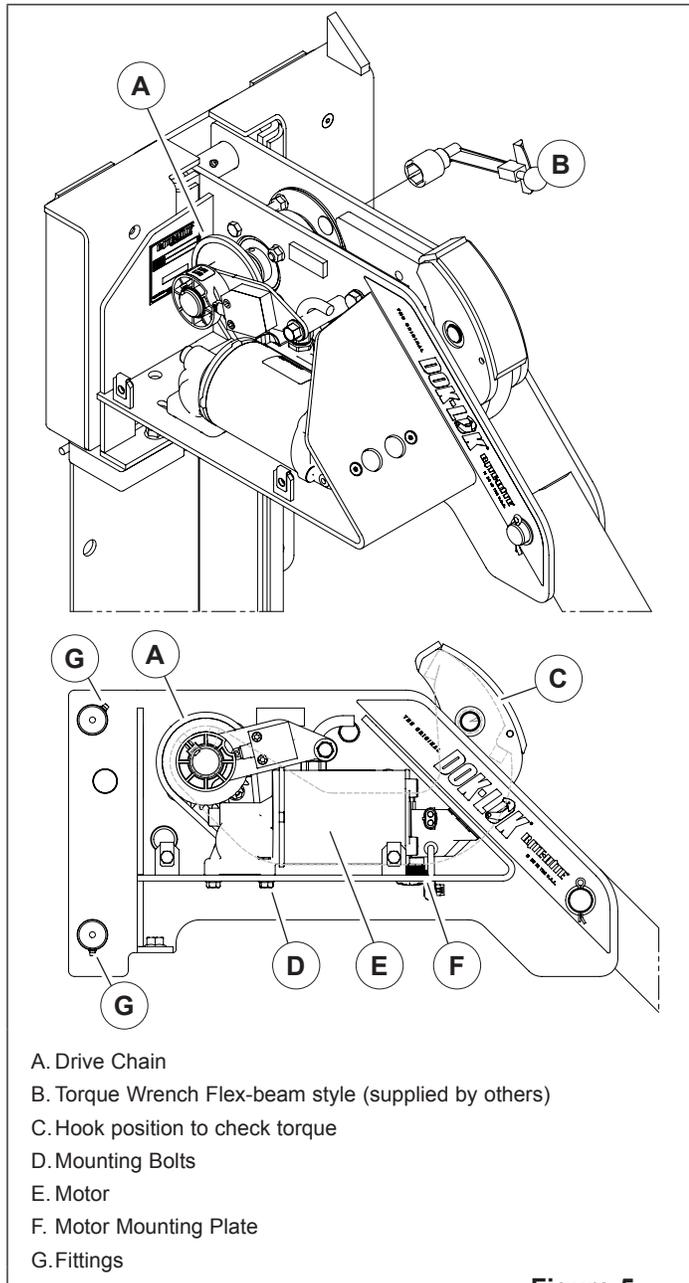


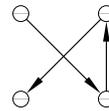
Figure 5

Inspect the drive chain (A) for dirt and chain tightness:

1. Open the motor enclosure.
2. Clean the chain with solvent.
3. Spray the chain with chain spray type lubricant (Zep 2000 or equivalent).
4. Verify clutch torque at the hook shaft is greater than 500 in-lbf. (B). Hook position should be at (C).
5. The drive chain should have 1/8in to 1/4in slack. To tighten chain:

- a. Open motor enclosure and loosen the 4 motor mounting bolts (D).
- b. Pry the motor assembly forward, in the slotted holes, until the chain is tight (with proper alignment between sprockets).
- c. Hold in this position and tighten each bolt to 105 in-lbs in increments of 10 in-lbs.

Tighten in this pattern:



- d. Test for proper chain alignment.
6. Close motor enclosure.

MAINTENANCE

Troubleshooting *Continued*

Component Testing – Limit Switch

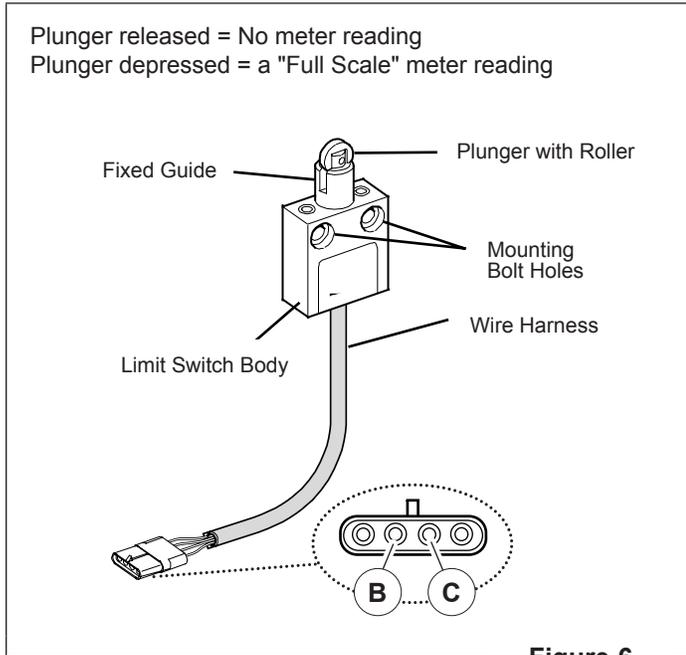


Figure 6

1. Set multimeter to “RX1” scale for “Continuity Test”.
2. Attach multimeter leads to pins (B) and (C) wires of switch connector:

Green (ground) wire of limit switch does not have to be tested. A continuity test lamp may be used instead of a multimeter.

Limit Switch and Hook Positions

POSITION			INSIDE LIGHT	OUTSIDE LIGHT	CONTROL BOX HORN
HOOK	LS1	LS2			
1. Stored	Closed / Depressed	Open / Released	Red	Green	Off
2. No Hook (Lower)	Closed / Depressed	Closed / Depressed	Red	Red	On
3. Hooked (90°)	Open / Released	Closed / Depressed	Green	Red	Off
4. No Hook (Upper)	Closed / Depressed	Closed / Depressed	Red	Red	On

Component Testing – Vehicle Restraint Motor

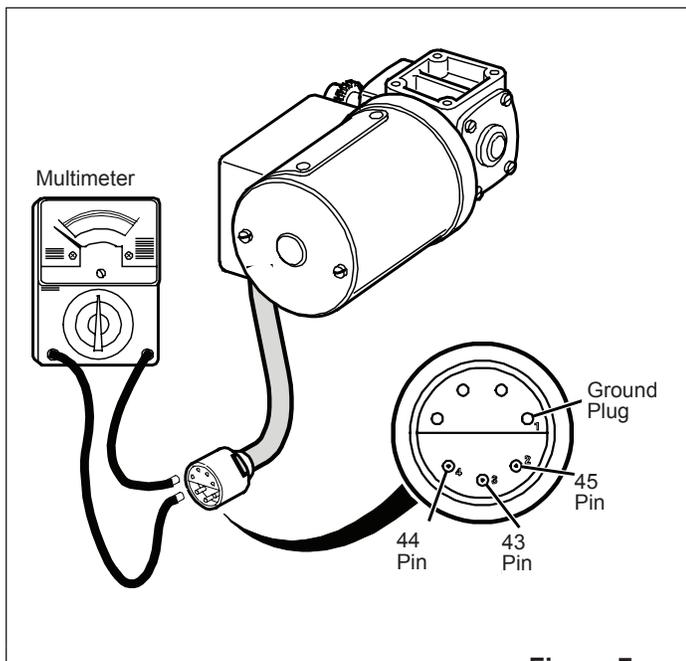


Figure 7

Bad O/L:

Little or infinite ohm reading (no needle movement) between pins 43 and 44, 43 and 45. Set multimeter to ohms.

Standard readings:

Between pins 44 and 45 = 11 ohms

Between pins 44 or 45 and 43 = 5.5 ohms.

Open Winding:

Infinite ohms (no needle movement) between pins 44 and 45. Check between pins 44 and 43 or 45 and 43 to determine which winding is open.

Mechanical Binding:

Motor hums. Motor leads show continuity between all windings. Shaft does not move. Reads 6.5 amps at pin 43 on both rotations.

MAINTENANCE

Troubleshooting *Continued*

LED Status Chart

		MICRO CONTROL BOARD																	POWER BOARD						
		INPUTS							OUTPUTS																
		FIELD			PUSH BUTTONS				12VDC										RELAY			115/230VAC			
		Dok-Lok Limit Switch 1 [SW1]	Dok-Lok Limit Switch 2 [SW2]	Unlock Interlock [UNLK ITL]	Lock	Unlock	Horn Silence (1/2/3)	Inside Red Light [SR]	Inside Green Light [SG]	Corner-Vu Red Light [CVU RD]	Corner-Vu Green Light [CVU GRN]	Leveler-Vu Red Light [LVU RD]	Leveler-Vu Green Light [LVU GRN]	Outside Red Light [OSR]	Outside Green Light [OSG]	Dok-Lok Horn [HORN]	Restraint Overload LED [YELLOW]	K1 - Green Light Interlock	K2 - Security System Interface [IF EQUIPPED]	Motor Output #1 [M1/LOCK]	Motor Output #2 [M2/UNLOCK]	12VDC Power Supply OK			
TERMINAL BLOCK NO.		J13.1	J13.2	J14.3	Membrane		J7.16	J7.17	J12.1	J12.2	J12.3	J12.4	J11.2	J11.1	J7.19	N/A	J9.3	J10.3	J5.4	J5.3	J2.1-6				
POWER BOARD LEDES		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	LD2	LD1	LD7				
MICRO CONTROL BOARD LEDES		LD20	LD23	LD30	LD52		LD17	LD19	LD11	LD13	LD18	LD12	LD49	LD48	LD15	LD50	LD9	LD10	LD1	LD3	-				
NO.	State/Sequence No.	01.01.00	Locked State	F	T	?	-	-	-	F	P	F	P	F	P	P	F	F	F	T	T	F	F	T	
		01.01.01	Locking Sequence	T	T	?	M	-	-	T	F	P	F	P	F	P	F	F	F	F	T	T	F	F	T
		01.02.00	Unlocked State	T	F	?	-	-	-	P	F	P	F	P	F	F	P	F	F	F	T	F	F	F	T
		01.02.01	Unlocking Sequence	T	T	ITL	-	M	-	T	F	P	F	P	F	P	F	F	F	F	T	*	T	T	T
		01.04.00	Fault State	T	T	?	-	-	-	P	F	P	F	P	F	P	F	P	F	F	F	F	F	F	T
		01.04.01	Fault Silenced State	T	T	?	-	-	M	A		A		A		P	F	F	F	T	T	F	F	F	T
		01.05.00	L/S Fault State Lock	F	F	?	-	-	-	D	F	D	F	D	F	P	F	D	F	F	F	F	F	F	T
		01.11.00	Overload Fault State	?	?	?	-	-	-	P	F	P	F	P	F	P	F	K	T	F	F	F	F	F	T
RESET PROCEDURE:																									
Motor Overload Fault State (Amber LED LD50 is illuminated and the Dok-Lok horn is slowly chirping.)																									
1. Press and hold Horn Silence Button (3-Button System)/Horn Silence #2 Button (5-Button System) until Horn Chirps (≈ 5 Seconds). Or 2. Press and Release Restraint O/L Button on Micro Controller Board.																									
When the motor overload has been reset, the Yellow LD50 LED will turn off and normal operation resumes. If Dok-Lok motor does not run after resetting the overload, check Motor Fuse 10FU1.																									

MAINTENANCE

Troubleshooting *Continued*

Setting Horn Override Code

To create a new or replace a forgotten code:

1. Press and hold DIAGNOSTIC button until horn chirps (\approx 5 seconds).

or

Without opening the control box cover, press and hold the #1 and #3 buttons on the cover until the horn chirps.

2. Enter the factory preset HORN OVERRIDE code: 1223. (horn will chirp)
3. Enter the new HORN OVERRIDE code. It can be 1 to 4 numbers in length.
4. Press the LOCK button. New HORN OVERRIDE code is enabled.

MAINTENANCE

Troubleshooting *Continued*

Diagnostics Mode

Diagnostic mode may be entered while restraint is in any state. To enter diagnostic mode:

1. Press and hold DIAGNOSTIC button until horn chirps (~ 5 seconds).
2. Press LOCK button.
3. Press UNLOCK button.
4. Horn chirps and outside light is flashing RED. Controls are in first step of diagnostic mode.

NOTE: Outside red light will remain flashing at all times except Step 10 (Diagnostic Sequence).

5. Start at Step 1 (Diagnostic Sequence).

If no buttons are pressed within a 5 minute period, controls will automatically exit to power up. To exit diagnostic mode at any time, press DIAGNOSTIC button.

Diagnostic Sequence

Press LOCK to advance, UNLOCK to reverse. C = Horn Chirp F = Off P = Pulsing / Flashing T = Steady On			OUTPUTS*																				
			BASE MICRO CONTROLLER BOARD															POWER BOARD					
			12VDC															RELAY			115/230VAC		
			Inside red light [ISR]	Inside red light [ISR]	Corner-Vu red light [CVU RD]	Corner-Vu green light [CVU GRN]	Leveler-Vu red light [LVU RD]	Leveler-Vu green light [L-VU GRN]	Pedestrian-Vu light [PVU LT]	Approach-Vu light [AVU LT]	Outside red light [OSR]	Outside green light [OSG]	Dok-lok horn [HORN]	MWL actuator [MWLACTR]	Outside alarm [MWL ALM]	Unidox ITC [UD ITC OUT]	Green light interlock [GLT ITL]	Green light interlock [GLT ITL]	K2 - security system interface or combined power unit [if equipped]	Motor ouputut #1 [M1/LOCK]	Motor ouputut #2 [M2/UNLOCK]	12VDC power supply ok	
TERMINAL BLOCK NO.	J7.16	J7.17	J12.1	J12.2	J12.3	J12.4	J12.6	J12.5	J11.2	J11.1	J7.19	J15.2	J15.3	J15.4	J15.5	J9.3	J10.3	J5.4	J5.3	J2.1-6			
POWER BOARD LEDES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	LD2	LD1	LD7			
MICRO CONTROL BOARD LEDES	LD17	LD19	LD11	LD13	LD18	LD12	LD16	LD14	LD49	LD48	LD15	LD37	LD40	LD20	LD39	LD9	LD10	LD1	LD3	-			
STEP	1	Diagnosics entered	F	F	F	F	F	F	F	P	F	C	F	F	F	F	F	F	F	T			
	2	Check	Inside red	T	F	F	F	F	F	F	P	F	F	F	F	F	F	F	F	F	T		
			Inside green	F	T	F	F	F	F	F	F	P	F	F	F	F	F	F	F	F	F	T	
	3	Corner-Vu red	F	F	T	F	F	F	F	F	P	F	F	F	F	F	F	F	F	F	T		
	4	Corner-Vu green	F	F	F	T	F	F	F	F	P	F	F	F	F	F	F	F	F	F	T		
	5	Leveler-Vu red	F	F	F	F	T	F	F	F	P	F	F	F	F	F	F	F	F	F	T		
	6	Leveler-Vu green	F	F	F	F	F	T	F	F	P	F	F	F	F	F	F	F	F	F	T		
	7	Pedestrian-Vu light	F	F	F	F	F	F	T	F	P	F	F	F	F	F	F	F	F	F	T		
	8	Approach-Vu light	F	F	F	F	F	F	F	T	P	F	F	F	F	F	F	F	F	F	T		
	9	Outside red light	F	F	F	F	F	F	F	F	T	F	F	F	F	F	F	F	F	F	T		
	10	Outside green light	F	F	F	F	F	F	F	F	P	T	F	F	F	F	F	F	F	F	T		
	11	Dok-Lok horn	F	F	F	F	F	F	F	F	P	F	T	F	T	F	F	F	F	F	T		
	12	MWL actuator, Unidox outputs	F	F	F	F	F	F	F	F	P	F	F	T	F	T	F	F	F	F	T		
	13	Green light interlock outputs	F	F	F	F	F	F	F	F	P	F	F	F	F	F	T	T	F	F	T		
	14	K2 relay	F	F	F	F	F	F	F	F	P	F	F	F	F	F	F	T	F	F	T		
	15	Horn chirps = end of sequence	F	F	F	F	F	F	F	F	P	F	C	F	F	F	F	F	F	F	T		
*IF OUTPUT DOESN'T MATCH:																							
2-3, 12	Check	Control harness connection at chevron and micro controller boards															Power supply LED and power supply fuse on power circuit board						
3-11		Light bulb, wiring and terminal block connections																					
13-15		Terminal block connections																					

MAINTENANCE

Troubleshooting *Continued*

Diagnostics Mode *Continued*

Steps 17-21 (Diagnostic Sequence) are used to test mechanical Inputs and Outputs of lock (motor, limit switches, etc.).

- When controls enter Steps 17-21, horn will chirp to alert operator to check hook position.
- If hook does not move to correct position, horn will double pulse and inside red light will be on.

Diagnostic Sequence (If Equipped)

		MICRO CONTROL BOARD											POWER BOARD			
		INPUTS					OUTPUTS									
		FIELD		12VDC			115/230VAC									
Press LOCK to advance, UNLOCK to reverse.		Dok-Lok limit switch 1 [SW1]	Dok-Lok limit switch 2 [SW2]	Inside red light [ISR]	Inside red light [ISR]	Cornel-Vu red light [CVU RD]	Cornel-Vu green light [CVU GRN]	Leveler-Vu red light [LVU RD]	Leveler-Vu green light [L-VU GRN]	Outside red light [OSR]	Outside green light [OSG]	Dok-lok horn [HORN]	Motor ouptut #1 [M1/LOCK]	Motor ouptut #2 [M2/UNLOCK]	12VDC power supply ok	
TERMINAL BLOCK NO.		J13.1	J13.2	J7.16	J7.17	J12.1	J12.2	J12.3	J12.4	J11.2	J11.1	J7.19	J5.4	J5.3	J2.1-6	
POWER BOARD LEDs		-	-	-	-	-	-	-	-	-	-	-	LD2	LD1	LD7	
MICRO CONTROL BOARD LEDs		LD20	LD23	LD17	LD19	LD11	LD13	LD18	LD12	LD49	LD48	LD15	LD1	LD3	-	
STEP	17	Horn chirps = entrance into motor sequence	?	?	T	F	T	F	T	F	P	F	C	F	F	T
	18a	Hook stores if not already stored	T	F	T	F	T	F	T	F	P	F	C	F	T	T
	18b	Hook runs to lower FAULT position	T	T	T	F	T	F	T	F	P	F	C	T	F	T
	19	Hook runs to locked position	F	T	T	F	T	F	T	F	P	F	C	T	F	T
	20	Hook runs to upper FAULT position	T	T	T	F	T	F	T	F	P	F	C	T	F	T
	21	Hook stores and system exits diagnostics	T	F	T	F	T	F	T	F	P	F	C	F	T	T
	FAULT	Diagnose general FAULT state	?	?	T	F	T	F	T	F	P	F	D	F	F	T
IF OUTPUT DOESN'T MATCH:																
FAULT	Check	Power supply LED & power supply fuse on power circuit board														
		Motor and verify wiring														
		Terminal block connections														
		SW1 and SW2 and verify wiring														
		Motor fuse on power circuit board														
		Voltage on M1 and M2 terminals to neutral														

ELECTRICAL

Control Harness

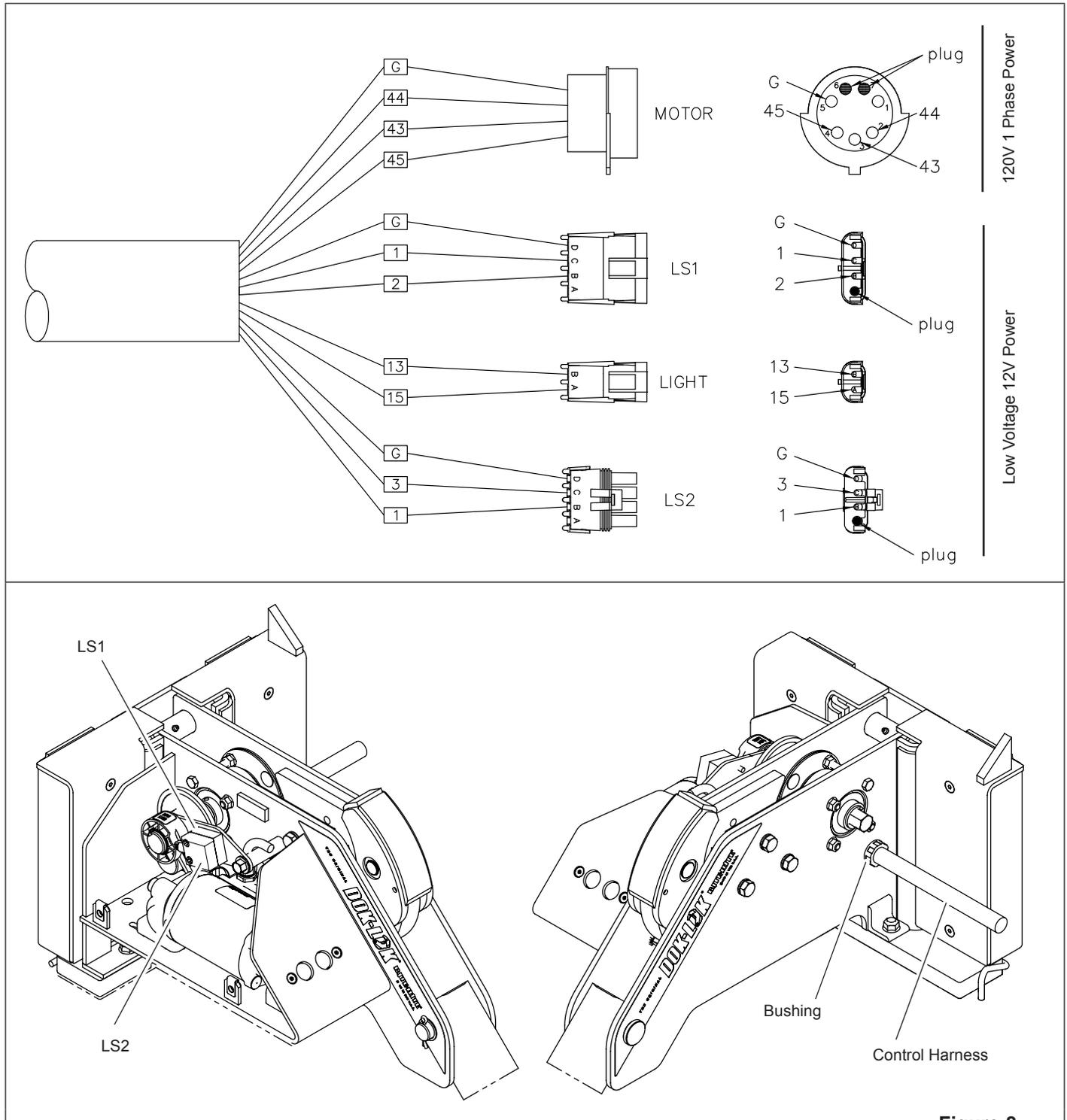


Figure 8

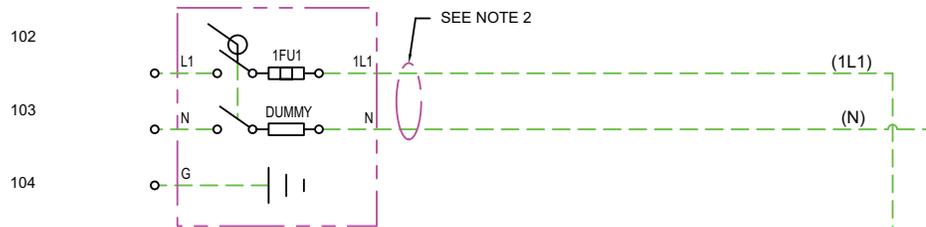
ELECTRICAL

Power-Board

100 FROM CUSTOMER MAIN POWER & SAFETY
PROTECTION DEVICE.

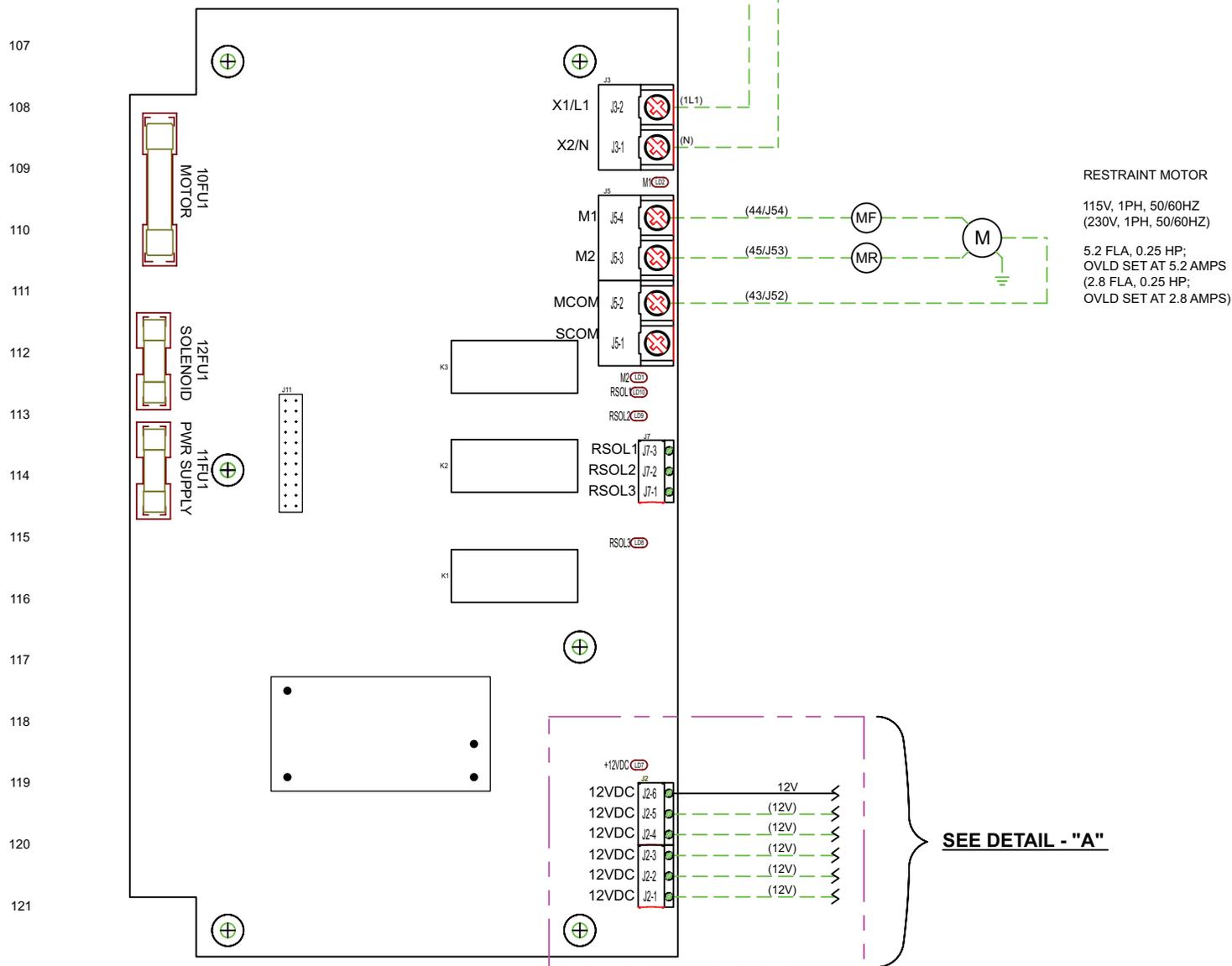
110-120v. 1PH. 60HZ./208-240v. 1PH. 50HZ.

101 USE 10.0A/5.0A DUAL ELEMENT TIME DELAY FUSE



105 FUSED DISCONNECT
(BY OTHERS)
SEE NOTE 7

POWER CIRCUIT BOARD

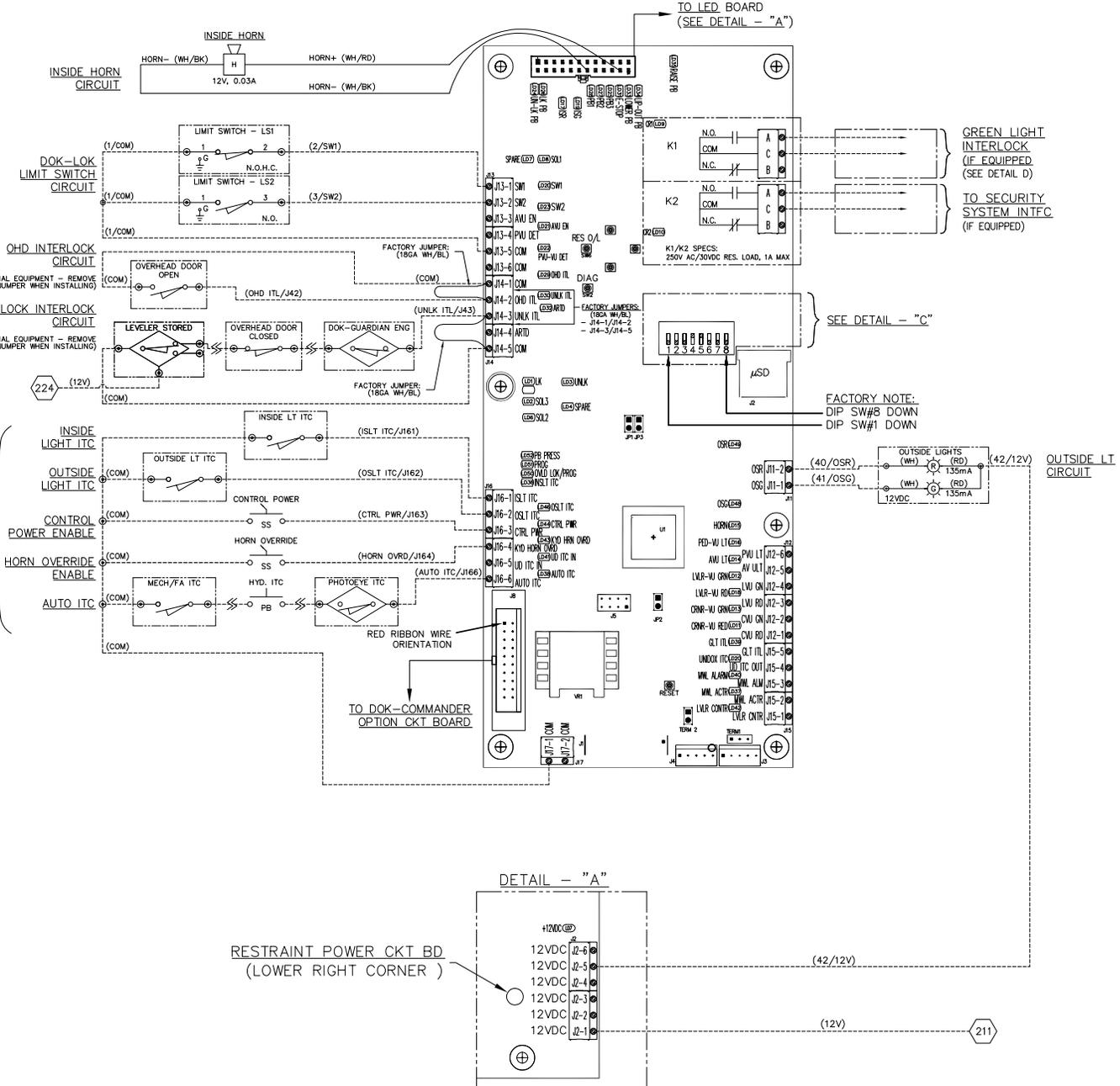


ELECTRICAL

Restraint Micro Board

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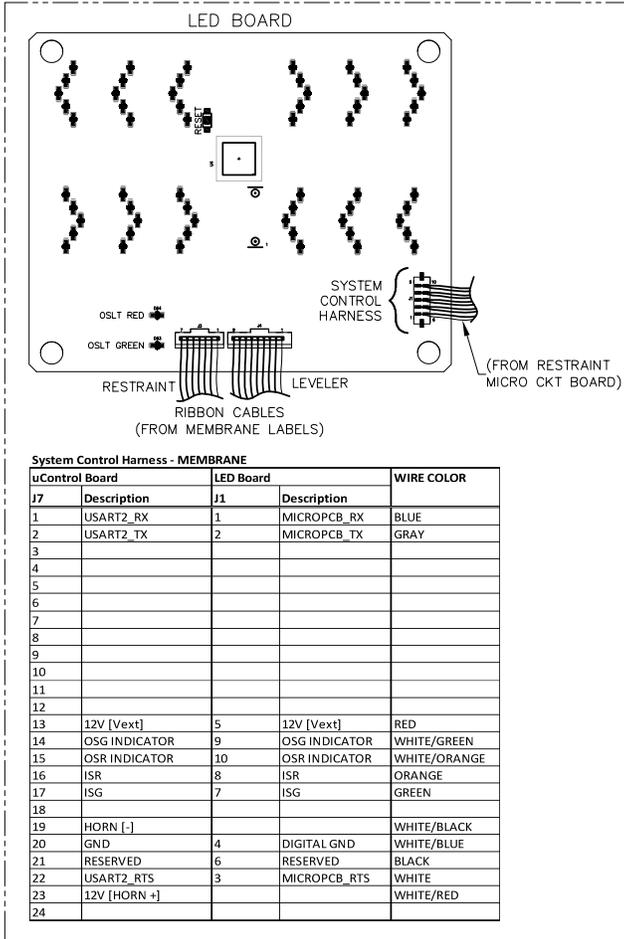
RESTRAINT MICRO CKT BOARD



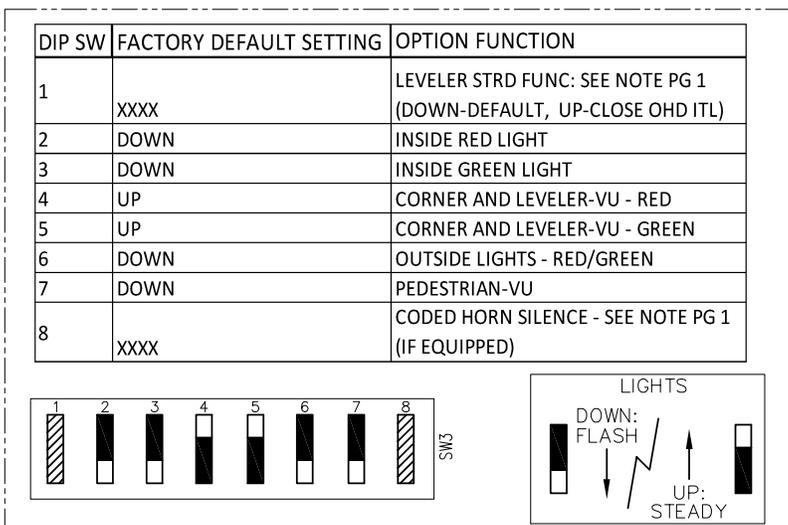
ELECTRICAL

Restraint Micro Board *continued*

DETAIL – "B" – BACK OF COVER



DETAIL – "C" – RESTRAINT MICRO CB DIP SWITCH SETTINGS



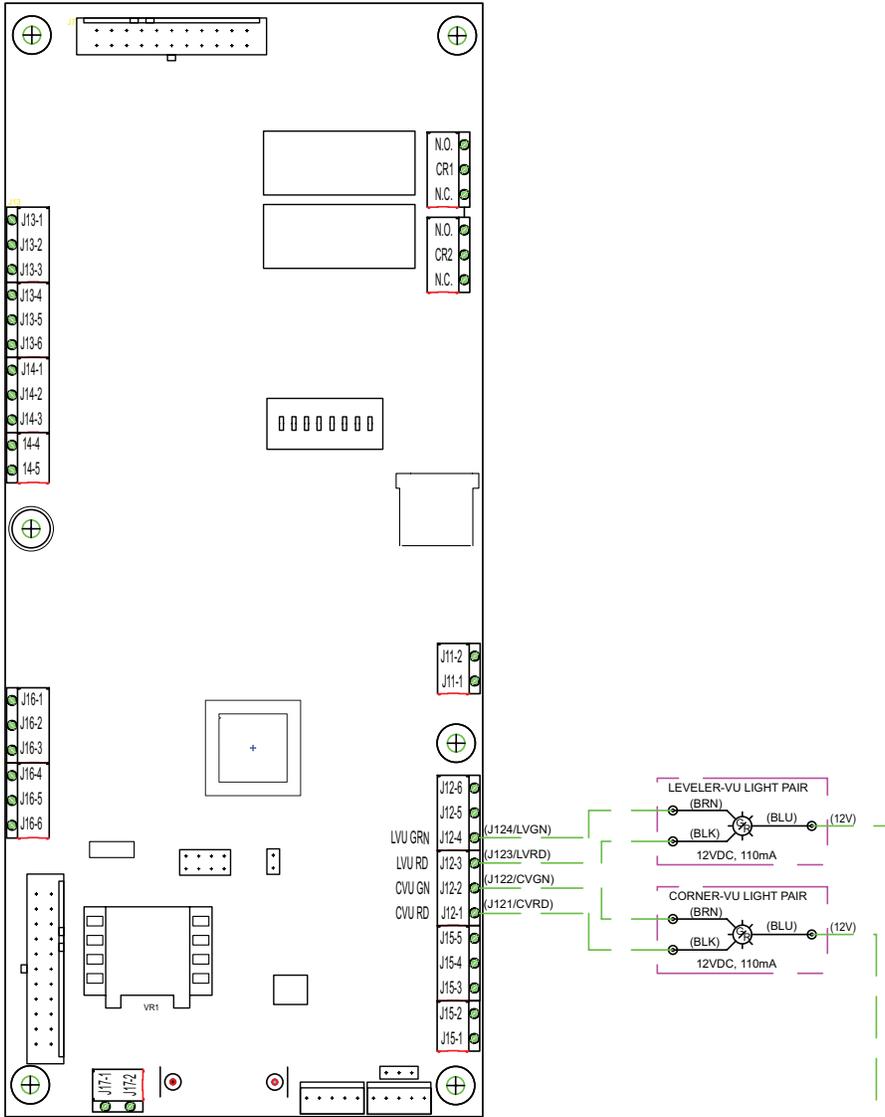
- INSTALL PER LOCAL ELECTRICAL CODES. REFER ALL INSTALLATION AND SERVICE TO QUALIFIED PERSONNEL.
- ALL INCOMING POWER (FROM DISCONNECT TO CONTROL BOX) AND LEVELER MOTOR FIELD WIRING TO BE MINIMUM #10GA, 60°/75°C COPPER WIRE, INSULATED SUFFICIENTLY FOR INCOMING VOLTAGE.
- ALL OTHER CONTROL FIELD WIRING TO BE MINIMUM #14GA, 60°/75°C COPPER WIRE ONLY, INSULATED SUFFICIENTLY FOR INCOMING VOLTAGE.
- ALL INTERNAL WIRING TO BE #14GA, MINIMUM FOR POWER CIRCUITS AND CIRCUIT BOARD POWER, #16GA MINIMUM FOR CONTROL CIRCUITS, 90°C, RED COPPER WIRE UNLESS OTHERWISE NOTED, INSULATED SUFFICIENTLY FOR INCOMING VOLTAGE.
- TORQUE REQUIREMENTS:
 - PCB TERMINAL BLOCK POWER (J3/J5): 7.0 LB-IN
 - PCB TERMINAL BLOCK CONTROL (J7): 6.0 LB-IN
 - PCB TERMINAL BLOCK ALL OTHER: 4.0 LB-IN
 - INCOMING POWER TERMINAL BLOCK: 12.2-13.4 LB-IN (MIN-MAX)
 - FUSE BLOCK POWER: 14.75 LB-IN
 - CONTACTOR/OVERLOAD: 15 LB-IN
 - DISCONNECT: 7 LB-IN
 - GROUND TERMINAL: 35 LB-IN
 - SOLID STATE RELAY TERMINAL: 35 LB-IN
- SEE OWNERS MANUAL FOR COMPLETE OPERATING INSTRUCTIONS.
- DISCONNECT NOTES:
 - DISCONNECT IS NOT PROVIDED BY RITE-HITE PRODUCTS CORPORATION. DISCONNECT MUST BE PROVIDED BY OTHERS AND INSTALLED PER LATEST EDITION OF UL508A AND NEC REQUIREMENTS.
 - A BRANCH CIRCUIT DISCONNECT SHALL BE LOCATED WITHIN A 50 FT. RADIUS AND BE VISIBLE FROM THE CONTROL BOX LOCATION. [REFERENCE LATEST EDITION OF NEC, SECTION 430]
- CLASS 1 CONTROL CIRCUIT.

- LEGEND:
- DENOTES WIRE CONNECTIONS THRU TERMINAL BLOCK.
 - DENOTES FIELD WIRES.
 - DENOTES WIRE NUT CONNECTION.
 - ⚡ DENOTES MALE/FEMALE PLUG CONNECTOR.

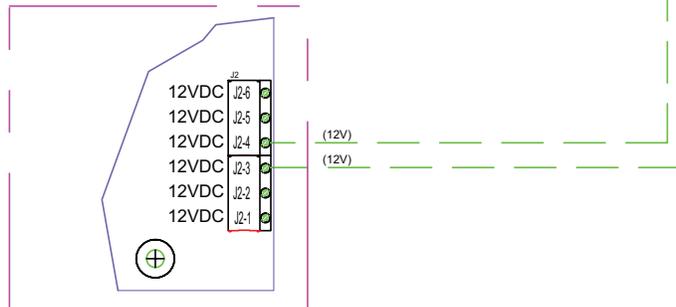
ELECTRICAL

Wiring: Corner-Vu / Leveler-Vu

MICRO CONTROL CIRCUIT BOARD



RESTRAINT POWER CB



ELECTRICAL

Wiring: Pedestrian-Vu

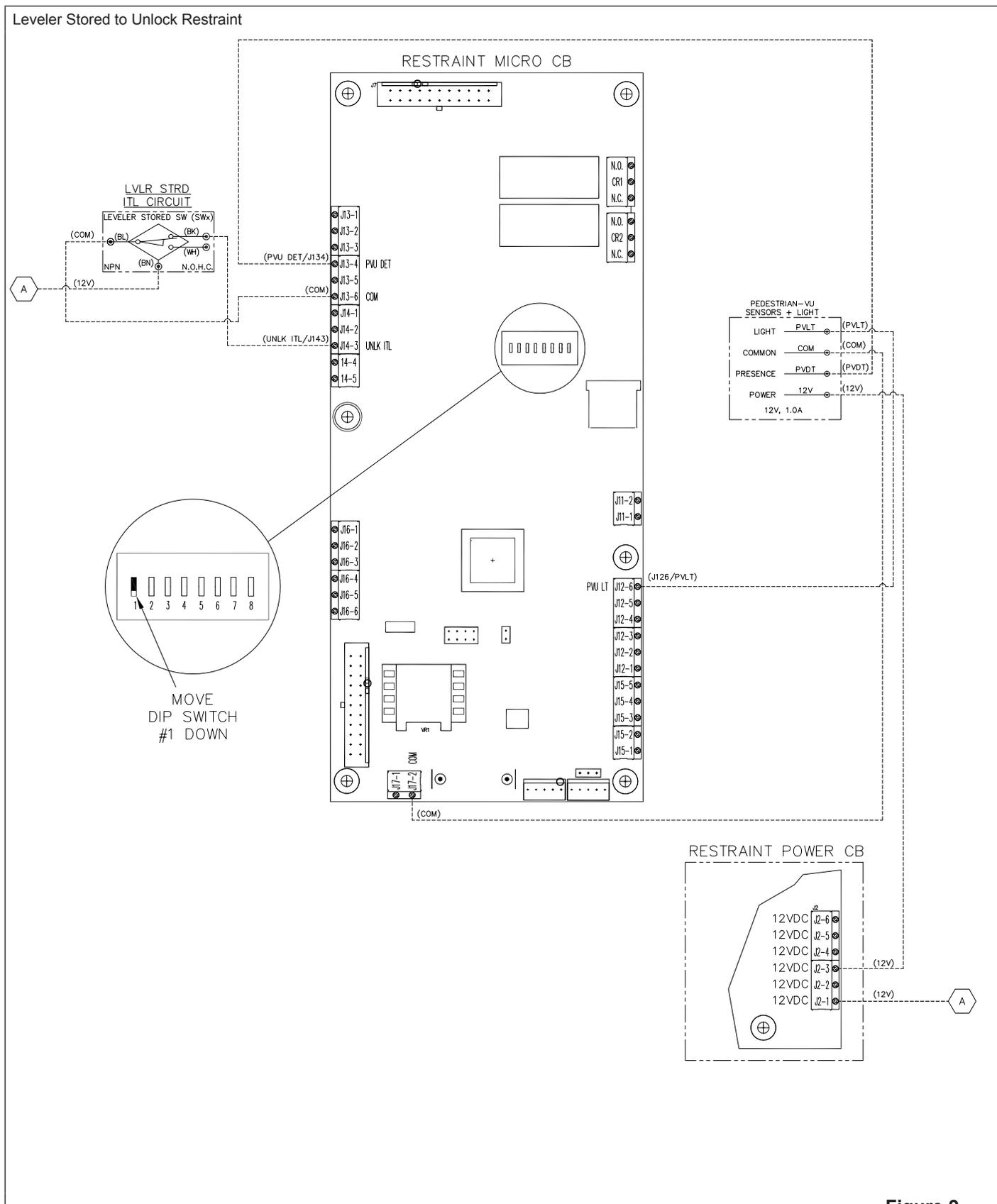
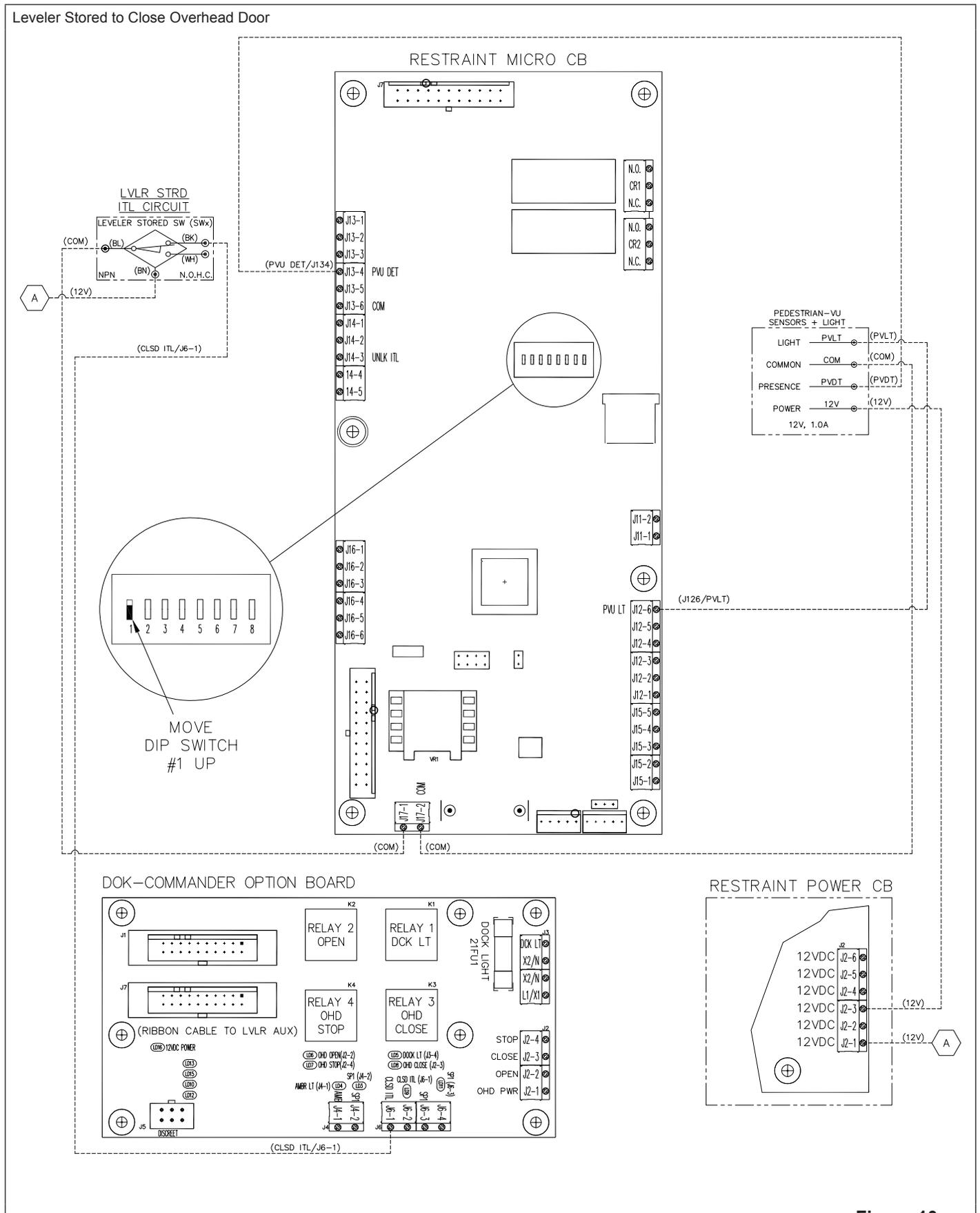


Figure 9

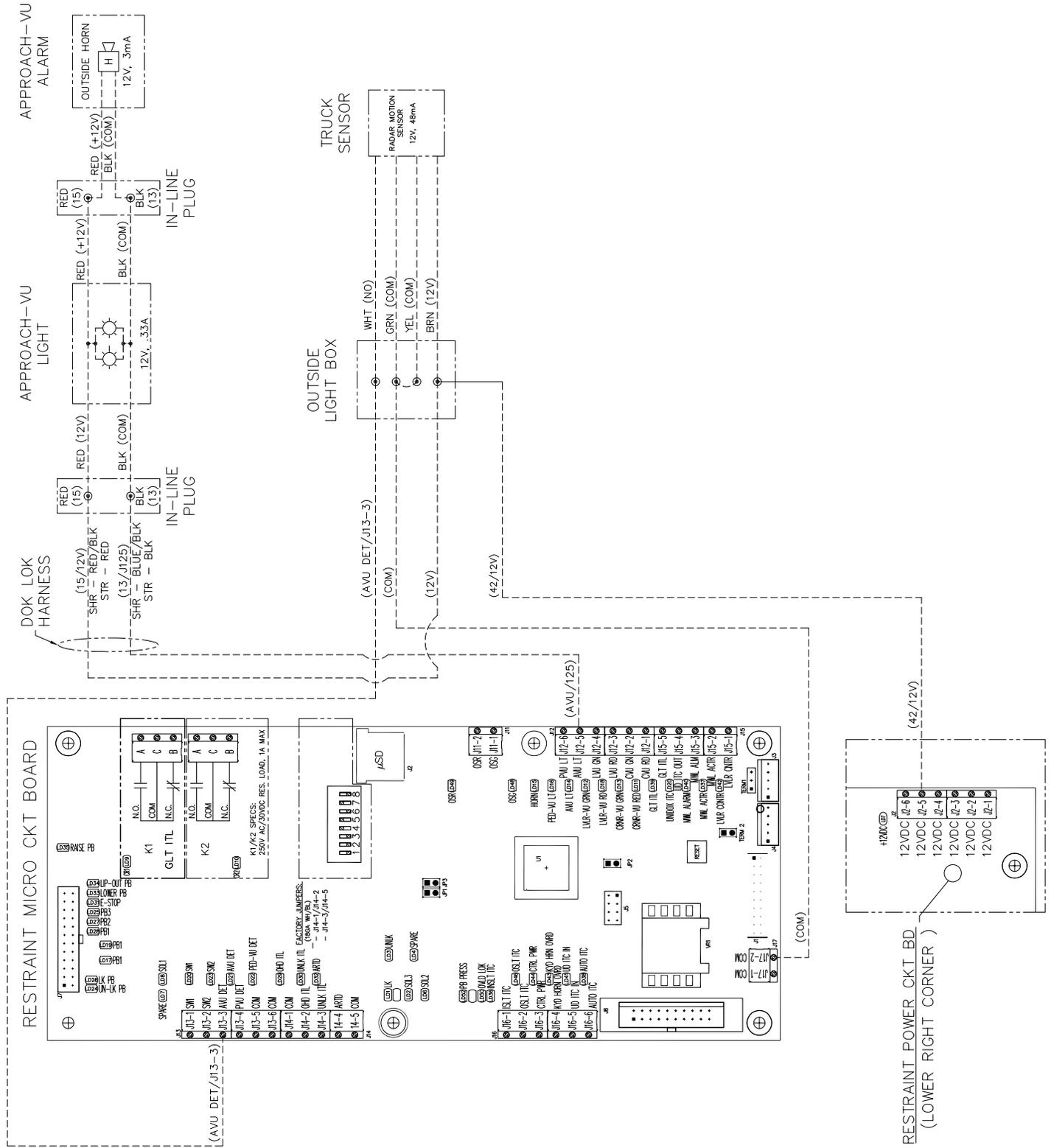
ELECTRICAL

Wiring: Pedestrian-Vu *Continued*



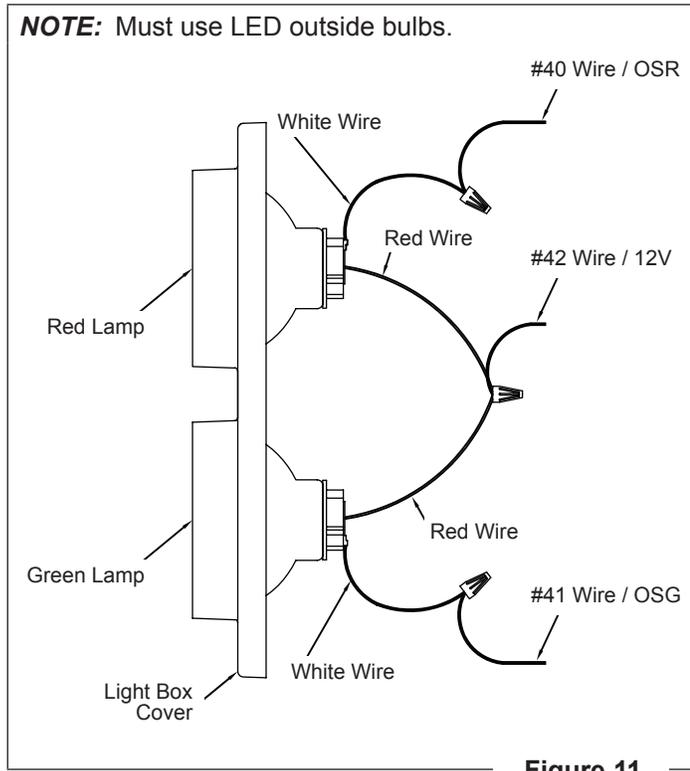
ELECTRICAL

Wiring: Approach-Vu™



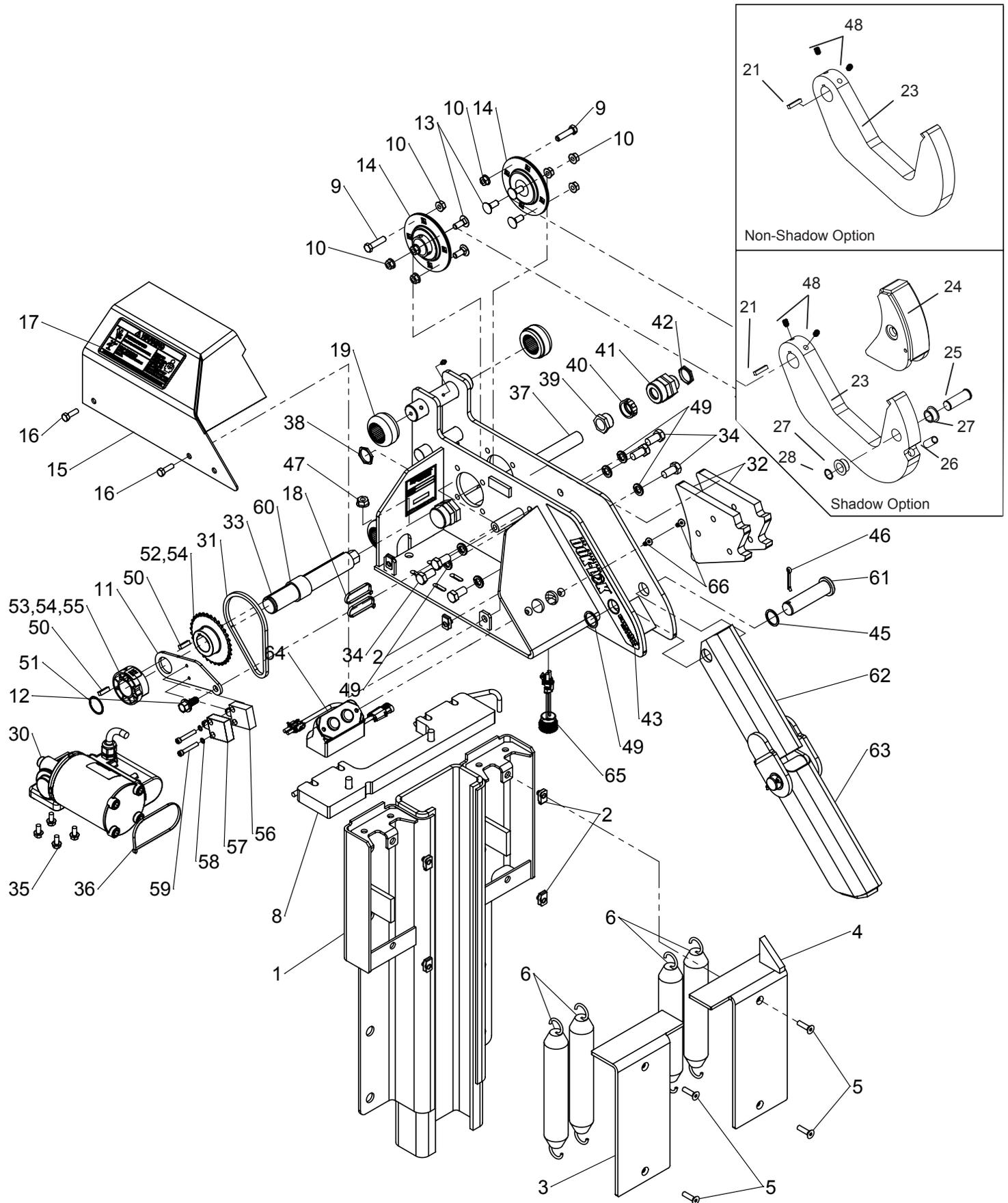
ELECTRICAL

Wiring: Outside Light Box



PARTS

Carriage and Track 9in



PARTS

Carriage and Track 9in *Continued*

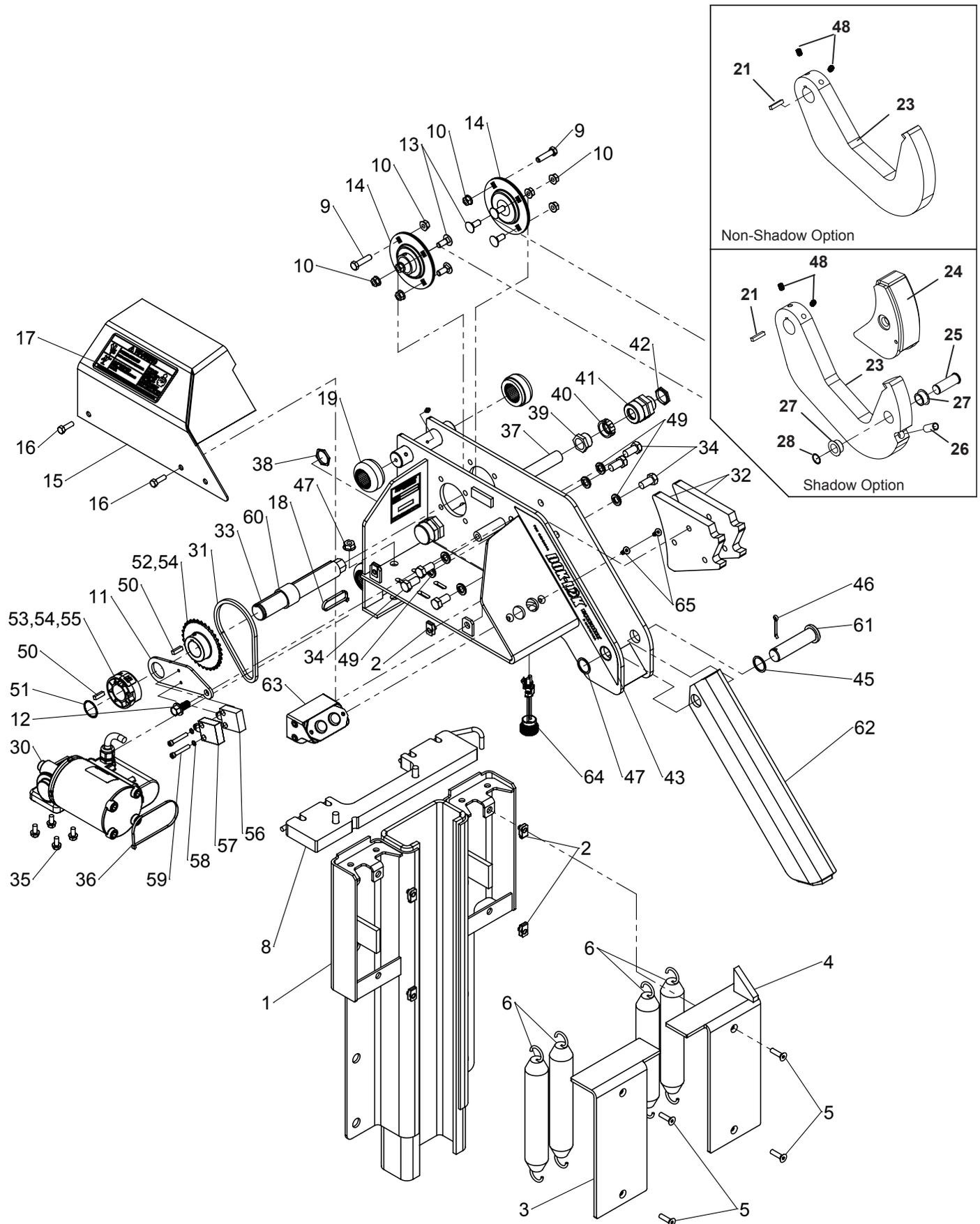
#	QTY	DESCRIPTION	PART #	
			SHADOW	NON-SHADOW
1	1	Roller Track	139912	139912
2	6	Cage Nut	56540	56540
3	1	Spring Cover, Left (facing dock)	139919	139919
4	1	Spring Cover, Right (facing dock)	139918	139918
5	4	Mounting Screw (5/16 - 18 x 1"L) flat head socket	18210	18210
6	4	Extension Spring	146443	146443
7	15	Concrete Anchor, 5/8" dia. X 4"L (Powers #6942 or equivalent)	53150	53150
8	1	Spring Bar	139915	139915
9	2	Bolt, hook stop	68207	68207
10	8	Nut, serrated flange (3/8" - 16)	51564	51564
11	1	Switch Mount	140343	140343
12	1	Serrated Flange Bolt 7/16"-14 x 1" Long	140346	140346
13	6	Carriage Bolt, 3/8" - 16 x 1" Long	58022	58022
14	2	Bearing	6085	6085
15	1	Motor Cover	140044	140044
16	2	Bolt, 5/16" - 18 x 1" Long Hex	51627	51627
17	1	Decal, "Warning"	141990	141990
18	2	Wire Tie, .18 x 6.75" Long	55592	55592
19	4	Carriage Roller	15782	15782
20	2	Zerk Fitting	51169	51169
21	1	Hook Key (1/4" x 1/4" x 1-1/4" Long)	54818	54818
22	1	Barrier Assembly (includes items 25 - 29)	136784	N/A
23	1	Hook	136794	139761
24	1	Barrier Support	136785	N/A
25	1	Clevis Pin, 3/4" Dia x 2-1/8" Long, Stainless Steel	136797	N/A
26	1	Spring	137215	N/A
27	2	Flanged Bushing	136796	N/A
28	1	Retaining Ring Spiral	137218	N/A
29	1	Carriage	150714	150714
30	1	Motor	138158	138158
31	1	Chain	140063	140063
32	2	Hook Stop Plate	136775	136775
33	1	Hook Shaft	54987	54987
34	6	Hex Bolt 1/2"-13 x 1" Long	125347	125347
35	4	Bolt, 5/16"-18 x 5/8" Long	58069	58069
36	1	Wire Tie, 13 1/2" Long	55892	55892
37	1	Control Harness (item 38 is locknut for harness)	150709-01	150709-01
38	1	Lock Nut	55791	55791
39	1	Conduit Nipple	18204	18204
40	1	Conduit Bushing	57978	57978
41	1	Harness Cord Grip	66082	66082

#	QTY	DESCRIPTION	PART #	
			SHADOW	NON-SHADOW
42	1	Harness Lock Nut w/Gasket	55877	55877
43	1	Carriage Decal, Left (facing dock)	140207	140207
44	1	Carriage Decal, Right (facing dock)	140208	140208
45	1	Machinery Bushing, .06" Thk x 1.015" I.D.	51745	51745
46	2	Cotter Pin, .16"Dia x 1.5" Long	105865	105865
47	2	Nut, Serrated Flange (7/16"-14)	51549	51549
48	2	Set Screw, 3/8"-16 Knurled	139428	139428
49	6	1/2" Lockwasher	51831	51831
50	2	Key 1/4" x 1/4" x 7/8" Long	54864	54864
51	1	Retaining Ring, Spiral	56526	56526
52	1	Sprocket #35-32 Tooth	140340	140340
53	1	Cam	140344	140376
54	2	Set Screw, 5/16"-18 Knurled	56525	56525
55	1	Decal, Cam	18213	18213
56	1	LS1 Limit Switch	18211	18211
57	1	LS2 Limit Switch	18212	18212
58	2	Hi-Collar Lockwasher 1/4"	51802	51802
59	2	Socket Head Screw 1/4"-20 x 1 1/2" Long	51636	51636
60	1	Sprocket Spacer	147472	147472
61	1	Slope Extension Clevis Pin, 1"Dia x 3-1/2" Long	105495	105495
62	1	Slope Extension, Upper	140051	140051
63	1	Slope Extension, Lower	140052	140052
Approach-Vu				
64	1	Light Assembly Yellow/White	150665	150665
	1	Hole Plug, 2 Hole Black (W/O Approach-Vu)	150676	150676
	1	Hole Plug, 2 Hole Silver (W/O Approach-Vu)	150677	150677
*	1	Kit Replacement Approach-Vu Lens	152353	152353
65	1	Alarm Assembly	150687	150687
	1	Hole Plug (W/O Approach-Vu)	150678	150678
66	2	Screw 1/4-20 Flat Head Stainless	150717	150717

*Not Shown

PARTS

Carriage and Track 12in



PARTS**Carriage and Track 12in** *Continued*

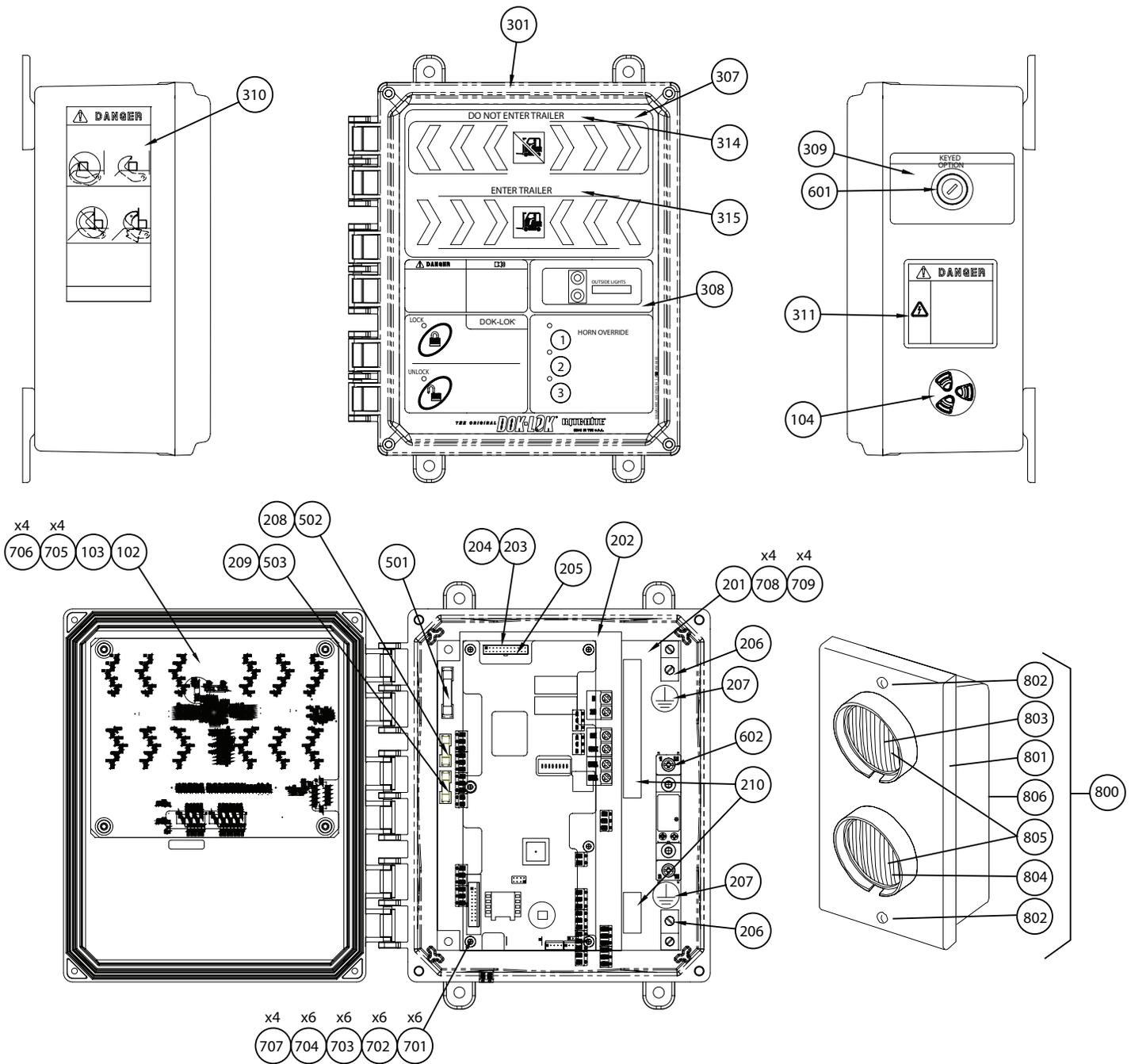
#	QTY	DESCRIPTION	PART #	
			SHADOW	NON-SHADOW
1	1	Roller Track	139912	139912
2	6	Cage Nut	56540	56540
3	1	Spring Cover, Left (facing dock)	139919	139919
4	1	Spring Cover, Right (facing dock)	139918	139918
5	4	Mounting Screw (5/16 - 18 x 1"L) flat head socket	18210	18210
6	4	Extension Spring	146443	146443
7	15	Concrete Anchor, 5/8" dia. X 4"L (Powers #6942 or equivalent)	53150	53150
8	1	Spring Bar	139915	139915
9	2	Bolt, hook stop	68207	68207
10	8	Nut, serrated flange (3/8" - 16)	51564	51564
11	1	Switch Mount	140343	140343
12	1	Serrated Flange Bolt 7/16"-14 x 1" Long	140346	140346
13	6	Carriage Bolt, 3/8" - 16 x 1" Long	58022	58022
14	2	Bearing	6085	6085
15	1	Motor Cover	140044	140044
16	2	Bolt, 5/16" - 18 x 1" Long Hex	51627	51627
17	1	Decal, "Warning"	141990	141990
18	2	Wire Tie, .18 x 6.75" Long	55592	55592
19	4	Carriage Roller	15782	15782
20	2	Zerk Fitting	51169	51169
21	1	Hook Key (1/4" x 1/4" x 1-1/4" Long)	54818	N/A
22	1	Barrier Assembly (includes items 25 - 28)	136784	N/A
23	1	Hook	136794	139760
24	1	Barrier Support	136785	N/A
25	1	Clevis Pin, 3/4" Dia x 2-1/8" Long, Stainless Steel	136797	N/A
26	1	Spring	137215	N/A
27	2	Flanged Bushing	136796	N/A
28	1	Retaining Ring Spiral	137218	N/A
29	1	Carriage	150720	150720
30	1	Motor	138158	138158
31	1	Chain	140063	140063
32	2	Hook Stop Plate	136775	136775
33	1	Hook Shaft	54987	54987
34	6	Hex Bolt 1/2"-13 x 1" Long	125347	125347
35	4	Bolt, 5/16"-18 x 5/8" Long	58069	58069
36	1	Wire Tie, 13 1/2" Long	55892	55892
37	1	Control Harness (item 38 is locknut for harness)	150709-01	150709-01
38	1	Lock Nut	55791	55791
39	1	Conduit Nipple	18204	18204
40	1	Conduit Bushing	57978	57978

#	QTY	DESCRIPTION	PART #	
			SHADOW	NON-SHADOW
41	1	Harness Cord Grip	66082	66082
42	1	Harness Lock Nut w/Gasket	55877	55877
43	1	Carriage Decal, Left (facing dock)	138250	138250
44	1	Carriage Decal, Right (facing dock)	138249	138249
45	1	Machinery Bushing, .06" Thk x 1.015" I.D.	51745	51745
46	2	Cotter Pin, .16" Dia x 1.5" Long	105865	105865
47	2	Nut, Serrated Flange (7/16"-14)	51549	51549
48	2	Set Screw, 3/8"-16 Knurled	139428	139428
49	6	1/2" Lockwasher	51831	51831
50	2	Key 1/4" x 1/4" x 7/8" Long	54864	54864
51	1	Retaining Ring, Spiral	56526	56526
52	1	Sprocket #35-32 Tooth	140340	140340
53	1	Cam	140344	140376
54	2	Set Screw, 5/16-18 Knurled	56525	56525
55	1	Decal, Cam	18213	18213
56	1	LS1 Limit Switch	18211	18211
57	1	LS2 Limit Switch	18212	18212
58	2	Hi-Collar Lockwasher	51802	51802
59	2	Socket Head Screw 1/4-20 x 1 1/2" Long	51636	51636
60	1	Sprocket Spacer	147472	147472
61	1	Slope Extension Clevis Pin, 1" Dia x 3-1/2" Long	105495	105495
62	1	Slope Extension	140053	140053
Approach-Vu				
63	1	Light Assembly Yellow/White	150665	150665
	1	Hole Plug, 2 Hole Black (W/O Approach-Vu)	150676	150676
	1	Hole Plug, 2 Hole Silver (W/O Approach-Vu)	150677	150677
*	1	Kit Replacement Approach-Vu Lens	152353	152353
64	1	Alarm Assembly	150687	150687
	1	Hole Plug (W/O Approach-Vu)	150678	150678
65	2	Screw 1/4-20 Flat Head Stainless	150717	150717

*Not Shown

PARTS

Electrical



PARTS**Electrical** *Continued*

#	QTY	DESCRIPTION	PART #
1	1	Control box assembly, Complete	863.xxx**
102	1	LED chevron/outside light monitor circuit board	141579
103	1	LED chevron/outside light monitor circuit board cover	144835
104	1	Horn, 12VDC, N4X	141573
201	1	Pre-drilled control box sub panel	144757
202	1	Power circuit board, Blank	141580
	1	Power circuit board, Including Fuses (115 Volt Power)	142126-04
	1	Power circuit board, Including Fuses (230 Volt Power)	142126-05
203	1	Standard Micro Control Board, Less Advanced Controls	141578-861D100
	1	Standard Micro Control Board, Including Advanced Controls	141578-861D102
	1	Micro Control Board with Program Options	141578-xxx**
204	1	Micro circuit board cover	144802
205	1	Control wiring harness	144864-01
206	2	Ground lug	55902
207	2	Ground lug decal	105454
208	1	Fuse cover, 5mm x 20mm	144544
209	1	Fuse cover, 5mm x 20mm	144544
210	1	Panel decals	146324
301	1	Standard Enclosure with decals, English, Less Advanced Controls	865.1
	1	Standard Enclosure with decals, English, Including Advanced Controls	865.102
	1	Enclosure with decals other than above	865.xxx**
302*	1	Electrical schematic decal	870.xxx**
303*	1	Fuse replacement decal	144849
304*	1	Full load amperage and voltage/phase decal	872.xxx**
305*	1	Program configuration decal	862.xxx**
307	1	Cover decal with membrane push buttons	141499
308	1	Dok-Lok inlay decal, 5 button coded horn override (Advanced Control Package)	141502
	1	Dok-Lok inlay decal, 3button horn override (Less Advanced Control Package)	144803
309	1	Horn override enable decal (If equipped)	144831
	1	Control power ON/OFF decal (If equipped)	144829
	1	Unlock enable decal (If equipped)	144830
310	1	Danger/warning decal	144774
311	1	Lockout/tagout/multiple disconnect warning decal	114331
313*	1	Circuit board UL rating decal	144859
501	1	6A fuse, 0.25" x 1.25" Motor Fuse (115V control box)	65263
502	1	1A fuse, 5mm x 20mm Solenoid Fuse (115V control box)	142092
503	1	1.5A fuse, 5mm x 20mm Power Supply Fuse	150984

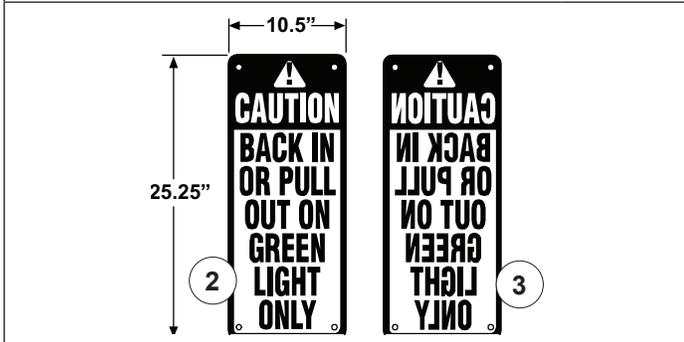
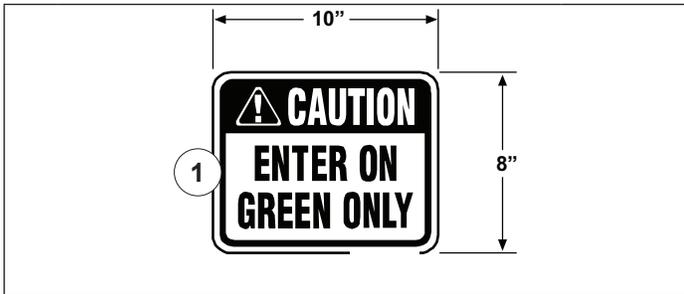
#	QTY	DESCRIPTION	PART #
601	1	Selector switch, keyed (If equipped)	125194
602	1	Solid state relay, 12VDC, 75A, with hardware (If equipped)	144877
701	6	Standoff, Male/Female, #6-32, 0.75" length	142100
702	6	Standoff, Male/Female, #6-32, 1.625" length	142101
703	6	Screw, round head, #6-32, 0.25" length	133366
704	6	Lock washer, #6	51826
705	4	Rubber grommet	142102
706	4	Screw, black trim washer, #8-32, 0.5" length	146031
707	4	Standoff, Male/Female, #6-32, 0.875" length	115871
708	4	Screw, Round Head, #10-32, 0.5" length	51629
709	4	Lock Washer, #10	51762
800	1	LED Outside Light Assembly, Complete	115798
801	1	LED Outside Light Assembly, Doesn't Include Base	128458
802	2	Screw, round head #6-32, 0.75" length	18364
803	1	LED Outside Light Bulb, Red	128448
804	1	LED Outside Light Bulb, Green	128449
805	2	LED Light Socket	116894
806	1	Outside Light Enclosure Base	18277

*Not Shown

**Consult Rite-Hite for part number.

PARTS

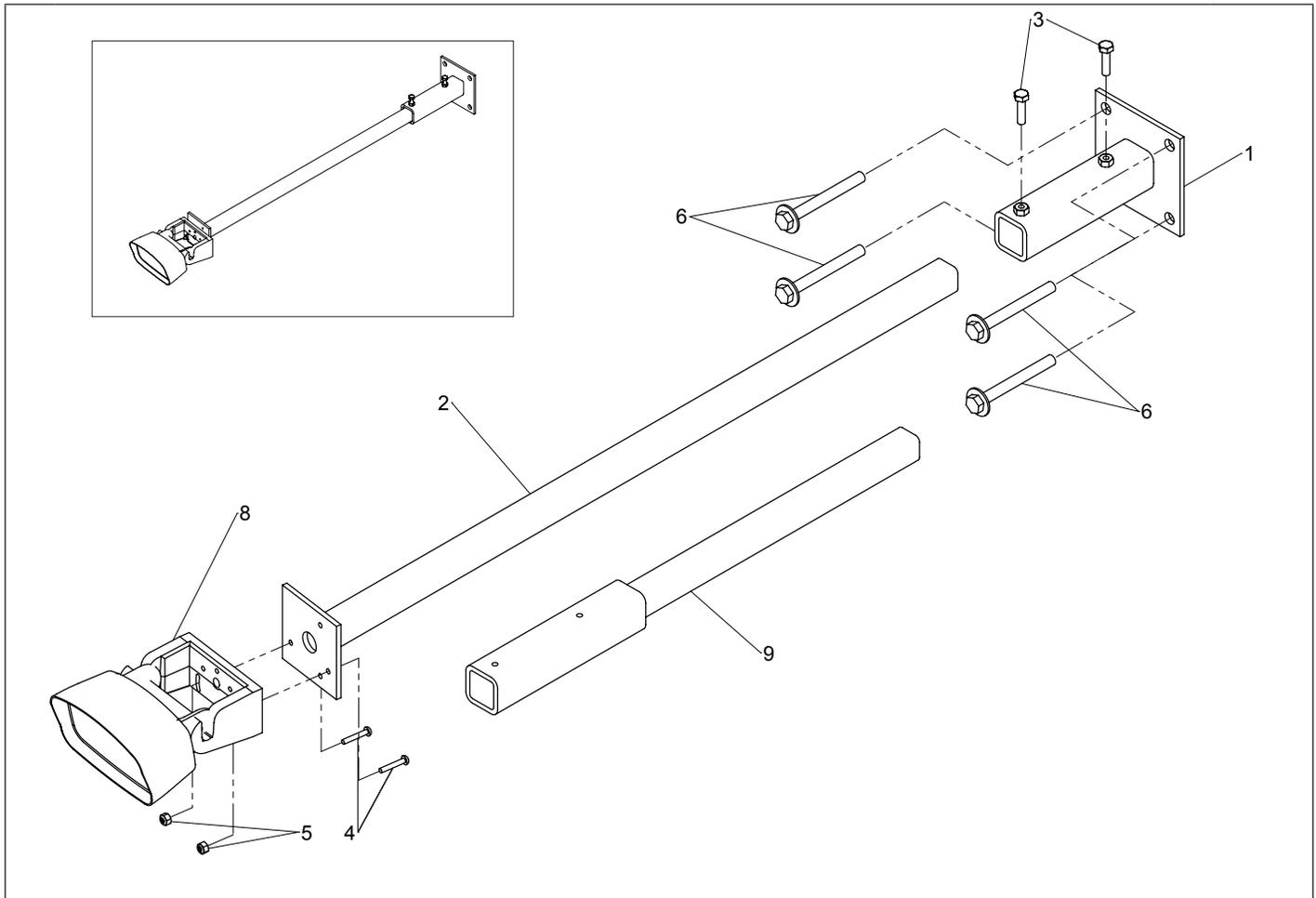
Signs



#	QTY	DESCRIPTION	PART #
1	1	Interior Warning Sign	56095
2	1	Narrow Sign (normal letters)	56112
3	1	Narrow Sign (mirror letters)	56113
4	1	Approach-Vu Sign	150669

PARTS

Approach-Vu™ Truck Sensor



#	QTY	DESCRIPTION	PART #
1	1	Mounting Weldment - Base	150695
2	1	Mounting Weldment - Extension	150691
3	2	Bolt .25-20 x 1"	136880
4	2	Screw #8-32X1.00 Phillips Head, ZP	51689
5	2	Nut #8-32 Nylock, ZP	141611
6	4	Anchor Concrete .375 dia X 3.5L Hex Head, ZP	105046
7*	1	Installation Instructions, Truck Sensor	150697
8	1	Truck Sensor	150688
9	1	Extension Weldment (for shelters over 36" deep)	151306

*Not Shown

Rite-Hite Company, LLC and its affiliates (collectively "Rite-Hite") warrant that the Product sold to the Owner will be free of defects in design, materials and workmanship (ordinary wear and tear excepted) for the periods set forth below ("Limited Warranty").

Five (5) year parts and Two (2) years labor warranty with purchase of Advanced Controls Package.

Five (5) year parts and Five (5) years labor warranty with purchase of Advanced Controls Package and a signed P.M.P. (Preventative Maintenance Program) with an Authorized Rite-Hite representative.

Two (2) year parts and One (1) year labor warranty with Base Controls Package.

REMEDIES

Parts: RITE-HITE's obligations under this Limited Warranty are limited to repairing or replacing, at Rite-Hite's option, any part which is determined by Rite-Hite to be defective during the applicable warranty period. Such repair or replacement shall be Rite-Hite's sole obligation and the Owner's exclusive remedy under this Limited Warranty.

Labor: Rite-Hite will provide warranty service without charge for labor per the specified warranty period. Thereafter, a charge will apply to any repair or replacement under this Limited Warranty.

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RITE-HITE WORLD HEADQUARTERS

8900 N. Arbon Drive
P.O. Box 245020
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☎ 414-355-2600
U.S. Only: 1-800-456-0600

RITE-HITE CHINA

First Floor, Building #3,
558 Tongxie Road,
Changning District
Shanghai 200335, China

☎ +86-21-6237-6333

RITE-HITE LATIN AMERICA

Alameda Lorena, 800 - Conj. 401/402
- Jardim Paulista
São Paulo/SP, CEP 01424- Brazil

☎ 011-55-11-3527-9590

RITE-HITE GMBH

Carl-Zeiss-Strasse 3
34471 Volkmarsen, Germany

☎ +49-5693 98700