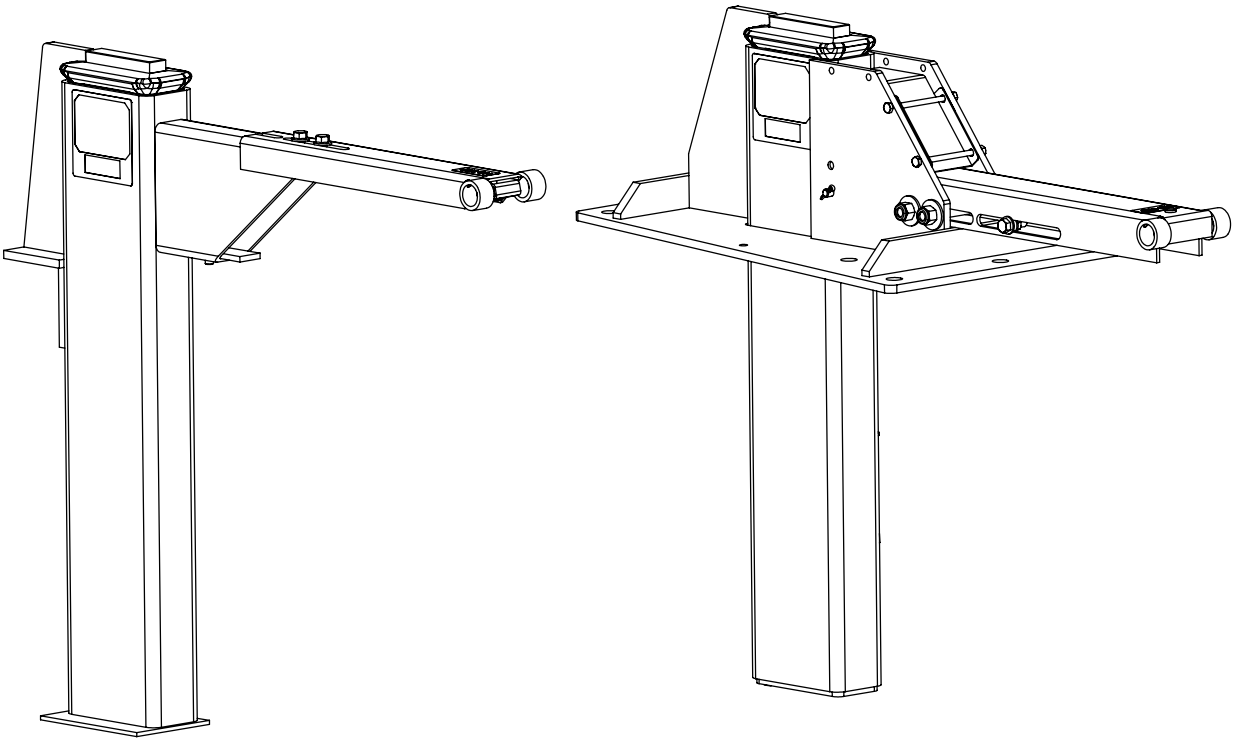
TRUCK LOCK

Standard Profile Series
Vehicle Restraint Manual



NOVA TECHNOLOGY™

Manual No. NT-0-350 - Rev. September 2018

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A step using the manual Truck Lock™ is noted with the letter “M” behind the step number.
Example: 5M.

A step using the pneumatic Truck Lock™ is noted with the letter “P” behind the step number.
Example: 4P.

PRECAUTIONS

Recognize Safety Information

Safety-Alert Symbol

The Safety- Alert Symbol is a graphic representation intended to convey a safety message without the use of words. When you see this symbol, be alert to the possibility of death or serious injury. Follow the instructions in the safety message panel.

⚠ DANGER

The use of the word DANGER signifies the presence of an extreme hazard or unsafe practice which will most likely result in death or serious injury.

⚠ WARNING

The use of the word WARNING signifies the presence of a serious hazard or unsafe practice which could result in death or serious injury.

⚠ CAUTION

The use of the word CAUTION signifies possible hazard or unsafe practice which could result in minor or moderate injury.

NOTICE

The use of the word NOTICE indicates information considered important, but not hazard-related, to prevent machine or property damage.

SAFETY INSTRUCTIONS

Indicates a type of safety sign, or separate panel on a safety sign, where safety-related instructions or procedures are described.

General Operational Safety Precautions

Read and understand the Owner's/User's Manual and become thoroughly familiar with the equipment and its controls before operating the transport vehicle restraint.

Never operate a transport vehicle restraint while a safety device or guard is removed or disconnected.

Never remove DANGER, WARNING, or CAUTION signs, Placards or Decals on the equipment unless replacing them.

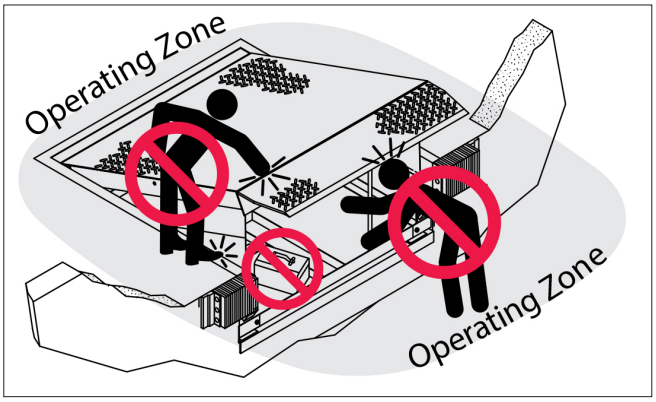


Figure 1

Do not start the equipment until all unauthorized personnel in the area have been warned and have moved outside the operating zone (see Figure 1).

Remove any tools or foreign objects from the operating zone before starting.

Keep the operating zone free of obstacles that could cause a person to trip or fall.

⚠ **WARNING:** This product can expose you to chemicals including lead, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

PRECAUTIONS

Operational Precautions

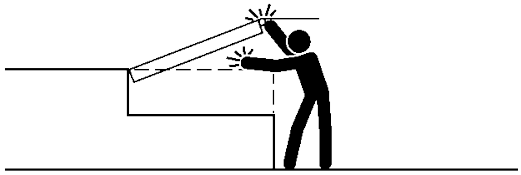
Learn the safe way to operate this equipment. Read and understand the manufacturer's instructions. If you have any questions, ask your supervisor.

If the NOVA Truck Lock™ vehicle restraint does not operate properly using the procedures in this manual, enter Horn Over-Ride mode by following the instructions printed on the control box. Contact NOVA or your local representative for service.

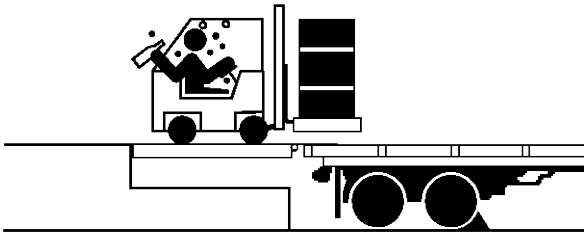
DANGER

Stay clear of dock leveling device and restraint when transport vehicle is entering or leaving area.

Do not move or use the dock leveling device and restraint if anyone is under in front or near it.

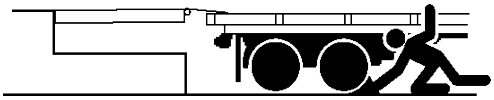


Keep hands and feet clear of pinch points. Avoid putting any part of your body near moving parts.



Do not operate any equipment while under the influence of alcohol or drugs.

WARNING



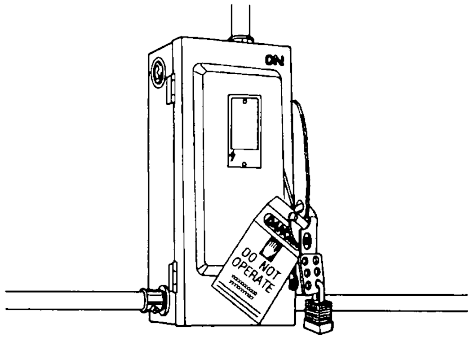
Chock/restrain all transport vehicles. Never remove the wheel chocks until loading or unloading is finished and transport vehicles driver has been given permission to drive away.

Do not use a broken or damaged restraint device. Make sure proper service and maintenance procedures have been performed before using.

PRECAUTIONS

Maintenance Precautions

⚠ DANGER



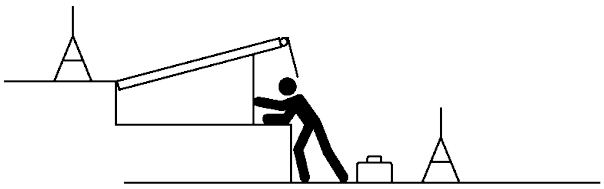
Electrical power must be OFF when servicing the equipment. For maximum protection, use an OSHA approved locking device to lock out all power sources. Only the person servicing the equipment should have the key to unlock the device.

VEHICLE RESTRAINT SAFETY DECAL'S

Every 90 days (quarterly) inspect all safety labels, placards and tags to ensure they are present, easily seen and legible. Refer to the Parts section of this publication to identify the location of the safety items listed below. Call NOVA Technical Service for replacements.

Page #	Item #	Description
69	24	Do Not Operate Decal
69	25	Warning Decal
71	21	Warning Decal
71	22	Do Not Operate Decal
71	23	Caution Decal
74, 75	8	No Step Decal
76, 77, 78	5	No Step Decal
81	2	Move On Green Sign

⚠ WARNING



Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the unit before maintenance is complete.

ALWAYS disconnect electrical power source and ground wire before welding on restraint.

DO NOT ground welding equipment to any electrical components of the restraint. Always ground to the restraint frame.

DO NOT grind or weld if hydraulic fluid or other flammable liquid is present on the surface to be ground or welded.

DO NOT grind or weld if uncontained hydraulic fluid or other flammable liquid is present. Stray sparks can ignite spills or leaks near the work area. Always clean up the oil leaks and spills before proceeding with grinding or welding.

Always keep a fire extinguisher of the proper type nearby when grinding or welding.

INSTALLATION INSTRUCTIONS

TYPICAL ARRANGEMENTS

When properly installed and operated, the NOVA Technology Truck Lock™ Standard Profile offers the user substantially improved dock safety and efficiency. Its design is the result of many years of experience with loading dock operation. It features an easy to read inside light system for the dock attendant, “STOP & GO” outside light system for the truck driver, and a restraining device to discourage premature or unexpected truck departure.

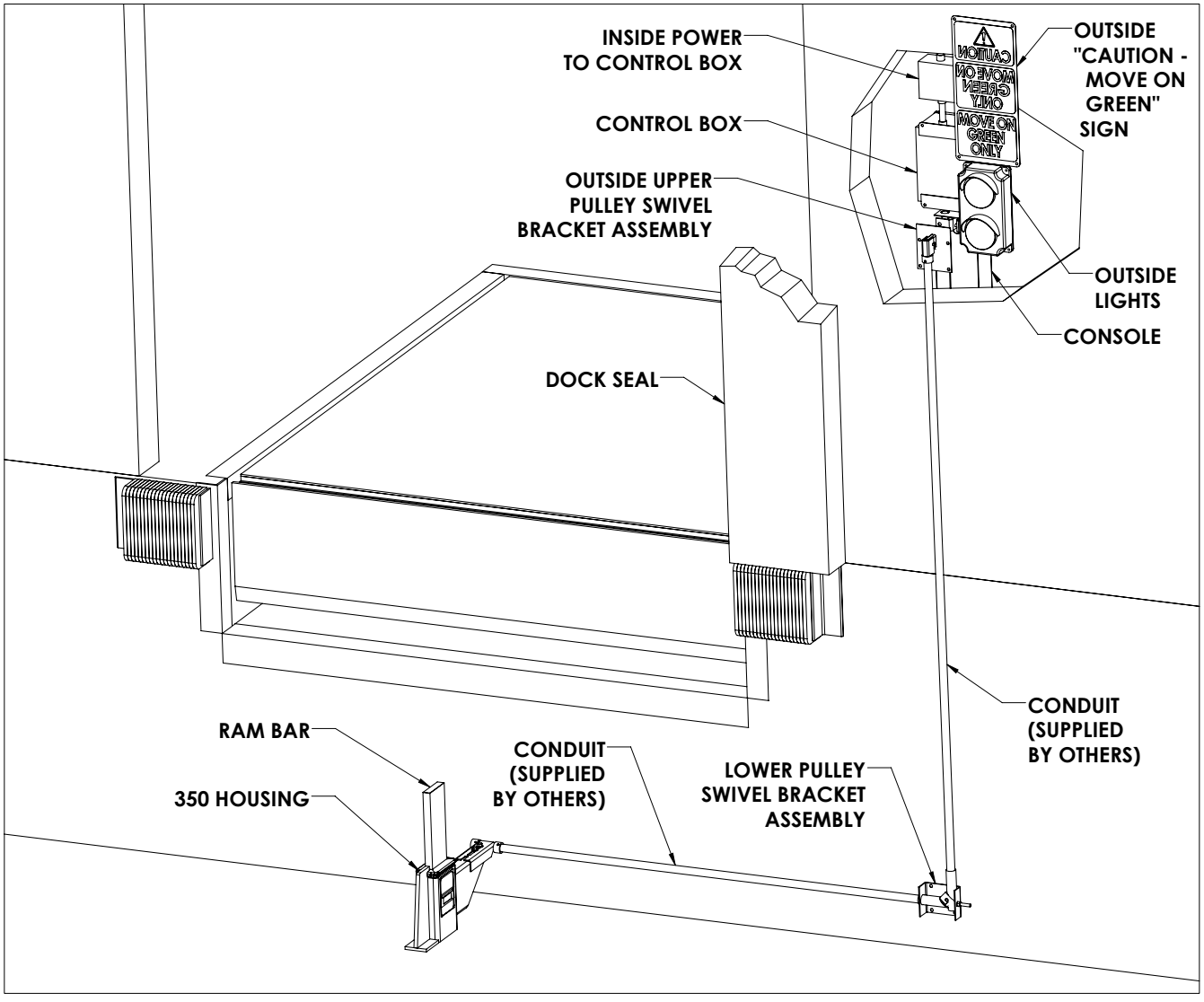


FIGURE A—TYPICAL ARRANGEMENT

Figure above shows typical arrangements and functions of major components for the NOVA Truck Lock™ Standard Profile.

INSTALLATION INSTRUCTIONS

CAST-IN INSTALLATION

DANGER

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

NOTICE

If sensor kit is purchased, install sensor switch housing prior to pouring concrete. See step 1 in Rear Impact Guard (RIG) Sensor Installation section.

Step 1 (Concrete): Determine exact location of restraint ram housing per Figure B. Dimensions are from face of dock bumpers. If bumpers are not yet installed, add thickness of bumpers when measuring from the dock face.

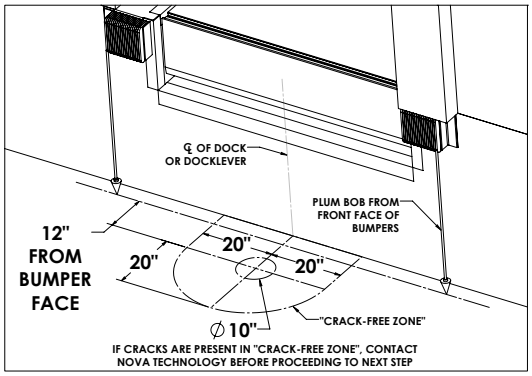


FIGURE B—RAM HOUSING LOCATION

NOTICE

To ensure successful installation, center of 10" diameter hole MUST BE 12" away from DOCK BUMPER FACE. For decline docks, if 5% decline is present, housing must be moved an additional 1" away from DOCK BUMPER FACE and 1" for every percent thereafter.

Step 2 (Concrete): Core drill (auger, posthole digger, etc.) a 10 inch diameter hole minimum of 30 inches deep. Excavate hole back to dock wall. The final shape of completed excavation depends on driveway surface. See Figure C.

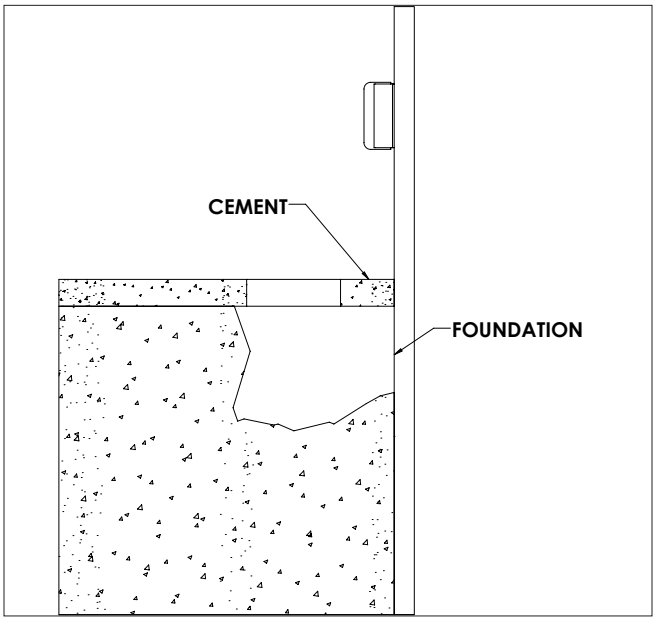


FIGURE C—COMPLETED EXCAVATION

Step 2 (Non-Concrete): For non-concrete driveway surface, an area as shown in Figure D must be cut out. This yields a much more substantial base since asphalt is subject to some movement climatically. See Figure D for placement of rebars when installing in non-concrete drive. Rebar must be bolted to concrete foundation using supplied fasteners. If foundation is not concrete, call Nova Technology. The housing may be welded to the middle two rebars to help hold and stabilize housing during concrete pour.

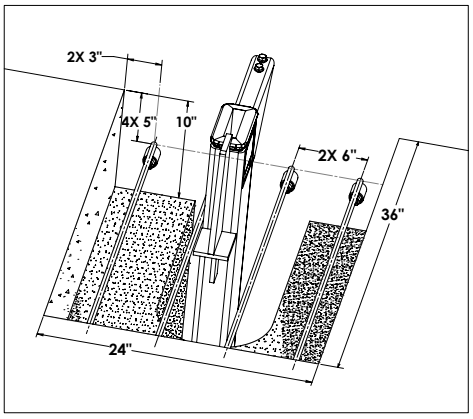


FIGURE D—REBAR PLACEMENT

INSTALLATION INSTRUCTIONS

NOTICE

Ram housing must be "plumb" left to right. The bottom of the front support must be flush with top of drive surface. It is very important to verify the distance from bumper face to back edge of ram is 10". See Figure E.

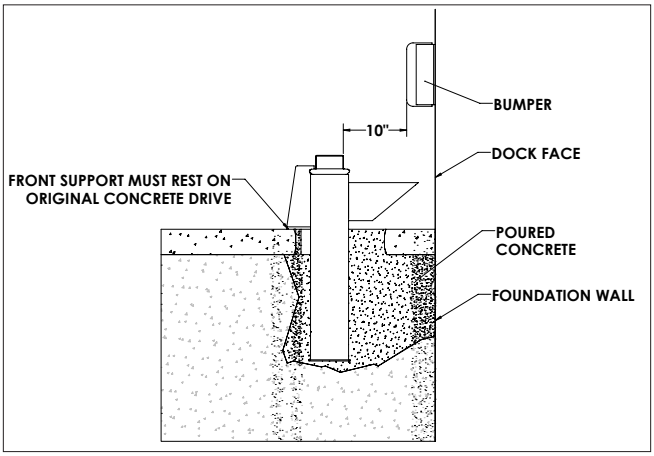


FIGURE E—RAM HOUSING FROM BUMPER

Step 3: Support housing in augured hole and secure with concrete. See Figure E.

NOTICE

Be sure to agitate concrete after pouring to prevent air pockets underneath housing.

FLANGE MOUNT INSTALLATION

DANGER

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

Step 1 (Concrete): Determine exact location of restraint ram housing per Figure F. Dimensions are from face of dock bumpers. If bumpers are not yet installed, add thickness of bumpers when measuring from the dock face.

NOTICE

To ensure successful installation, center of 10" diameter hole MUST BE 12" away from DOCK BUMPER FACE. For decline docks, if 5% decline is present, Housing must be moved an additional 1" away from DOCK BUMPER FACE and 1" for every percent thereafter.

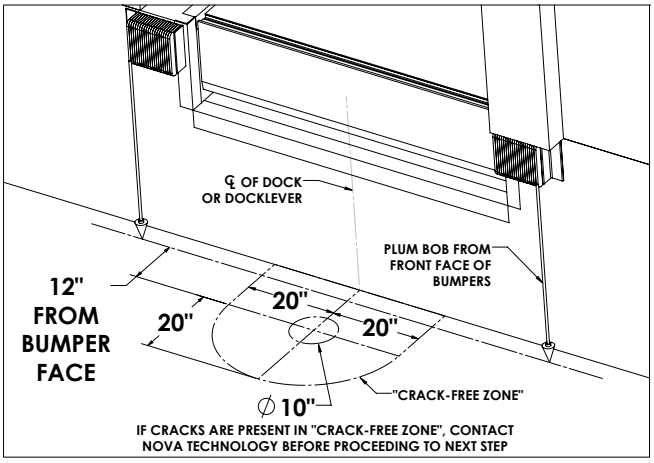


FIGURE F—RAM HOUSING LOCATION

Step 2: Core drill hole (auger, posthole digger, etc.) minimum of 24 inches deep. A 10" diameter hole must be used for flange mount to ensure correct edge spacing.

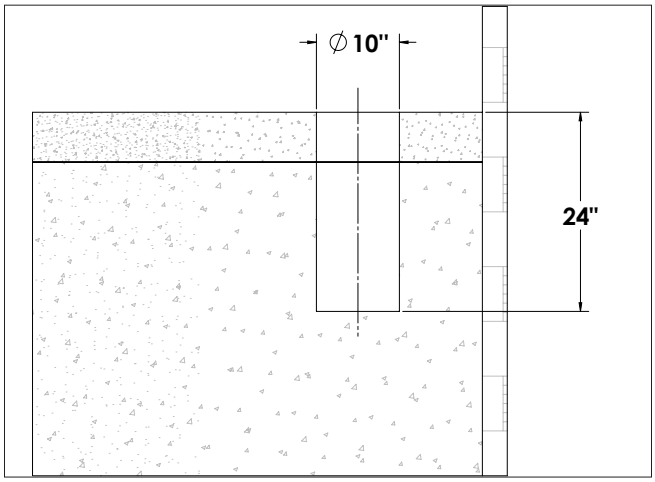


FIGURE G—FLANGE HOUSING HOLE DEPTH

Step 3: Locate Flange housing sheath so ram bar is 10" back from bumper face. Make sure housing sheath bottom is 24" from top of concrete surface. Backfill with housing sheath and cover in place. See Figure G.

INSTALLATION INSTRUCTIONS

NOTICE

Use (7) 5/8 x 5 inch orange tip wedge bolt (Supplied by NOVA). Wedge bolt is a heavy duty self-tapping anchor. Meets AISI 1020/1040 carbon steel. Blue tip wedge bolts are not allowed. Refer to Power Fasteners, Inc. Wedge Bolt #7221. Nova P/N 40-0-112.

Step 4: Place housing in sheath and insert orange tip wedge bolts. To insert wedge bolt, drill a 5/8 inch hole through concrete in first location. Clean out hole with compressed air. Drive wedge bolt into prepared holes until clamping the mounting plate to concrete. Do not exceed 75 ft-lbs of torque. DO NOT insert a wedge bolt in any holes in which reinforcing rod is encountered. If rebar is encountered, use a 5/8 inch diameter x 5 inch long Powerbolt. One Powerbolt is included with each restraint. If more than 1 bolt hits rebar consult factory at 800-236-7325.

CONSOLE INSTALLATION

NOTICE

Verify there are no obstructions on outside of building which would interfere with cable run between control console and ram housing. Position control console so that activation cable clears dock bumpers. Also, verify there is adequate clearance for future installation of dock seals or shelters. See Figure H.

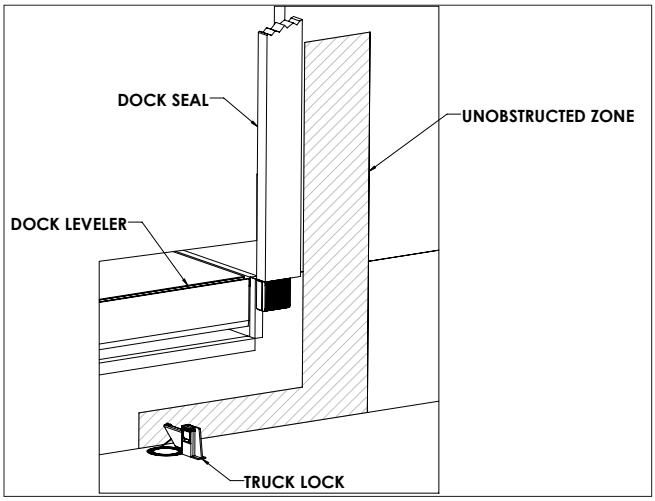


FIGURE H—CLEARANCE FOR SEALS AND SHELTERS

DANGER

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

Step 1: Remove cover from control console by removing four 3/8" x 1/2" bolts. If metal building support is required as per survey sheet, follow those instructions for correct installation.

Step 2: Temporarily place control console (with cover removed) against inside wall in desired location. Verify the console is parallel with the wall it is being mounted to. Mark the four mounting holes for the console (two on wall and two on floor) as well as the 1" diameter cable exit hole. See Figure I.

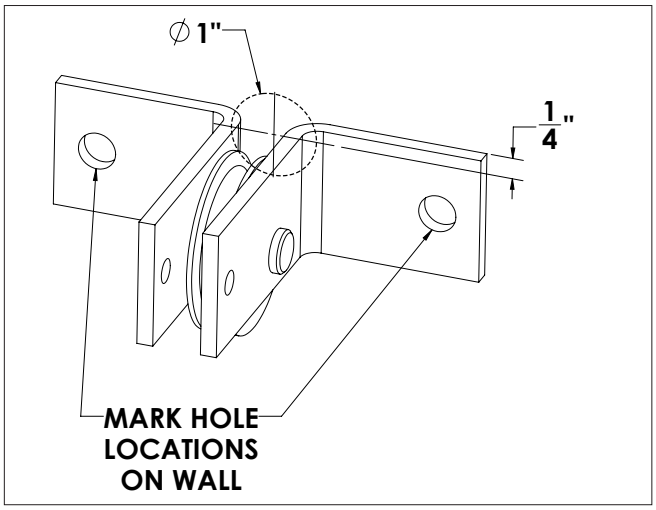


FIGURE I—PULLEY BRACKET HOLE LOCATIONS

INSTALLATION INSTRUCTIONS

NOTICE

Proper alignment of the Inside and Outside pulleys is required to prevent damage to the cable from abrasion with the outside wall. See Figure J.

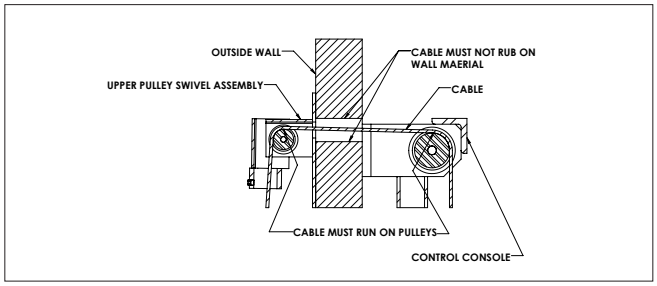


FIGURE J—INSIDE & OUTSIDE PULLEY TRACKING

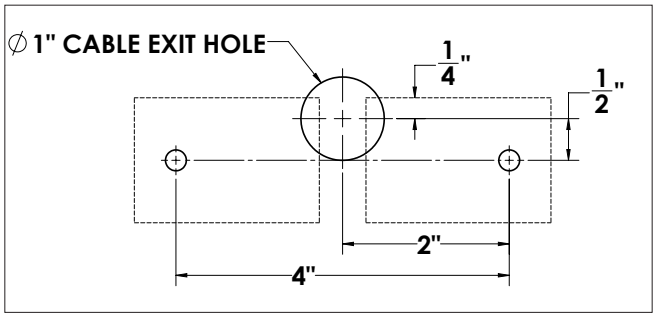


FIGURE K—CABLE EXIT HOLE LOCATION

Step 3: First, drill the 1” diameter cable exit hole through the wall from the inside at the location marked in Figure I. Replace bracket and check alignment of the 1” hole per Figure K, then drill mounting holes.

NOTICE

To prevent outside concrete wall from chipping, drill a 1/2” pilot hole first. If drilling into a block wall, loose insulation, etc., sleeve the hole with a section of 3/4” conduit.

Step 4: Replace console pole and confirm alignment. Then drill mounting holes and mount control console on inside of building wall.

NOTICE

Use truss head expansion bolts, toggle bolts or through bolts as appropriate. Bolts and fasteners supplied by installer.

Step 5: Align the top of the pulley with the center of the 1” hole in the wall and mount the upper swivel bracket assembly to the exterior wall. See Figure J & L.

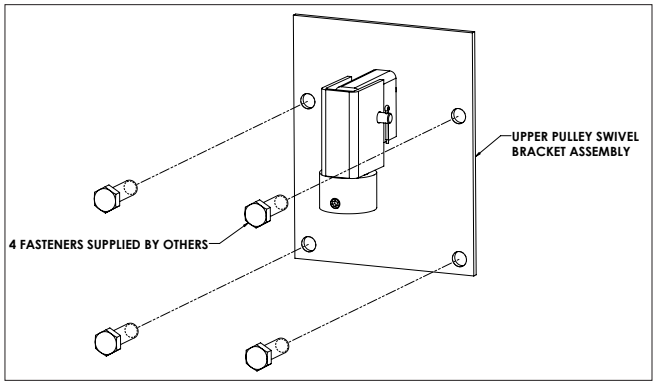


FIGURE L—FASTEN UPPER PULLEY SWIVEL BRACKET

FLANGE MOUNT ONLY Step 6: Insert 1/2-13x4-1/2” bolt through hole furthest from dock side and the tail section. Place tail section in place up to dock wall. Mark location and pivot up around the 1/2” bolt. Insert 3/8-16x1” flange head bolts and flange nuts in slot to stop travel of the tail section away from the dock. Pivot down and insert other 1/2-13x4-1/2” bolt through hole closer to the dock. Tighten both nylock nuts. See Figure M.

NOTICE

Recessed building wall or dock foundation wall may require a special bracket as per your survey sheet.

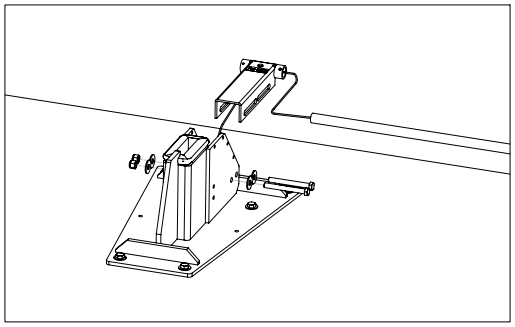


FIGURE M—SECURING TAIL SECTION TO HOUSING

CAST-IN ONLY Step 6: Bolt E.O.B. extension bracket to dock side of ram housing with supplied bolts. E.O.D. extension bracket should touch dock face when positioned properly.

INSTALLATION INSTRUCTIONS

NOTICE

Make sure cable is tracking in pulleys, cable should run over pulley on housing.

Step 7: Mount lower pulley assembly to foundation directly beneath upper pulley assembly. In northern climates, where driveway heaving (freezing) is possible, the lower pulley swivel bracket may be installed 2-3" above the drive. See Figure N.

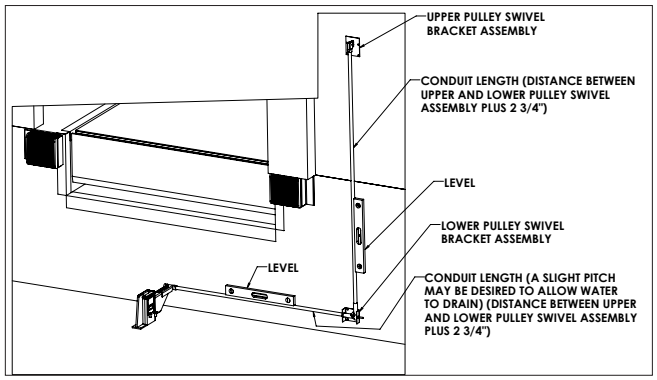


FIGURE N—LOWER PULLEY LOCATION

NOTICE

Leave adjustment nut on lower pulley swivel assembly in the middle during restraint assembly. See Figure O.

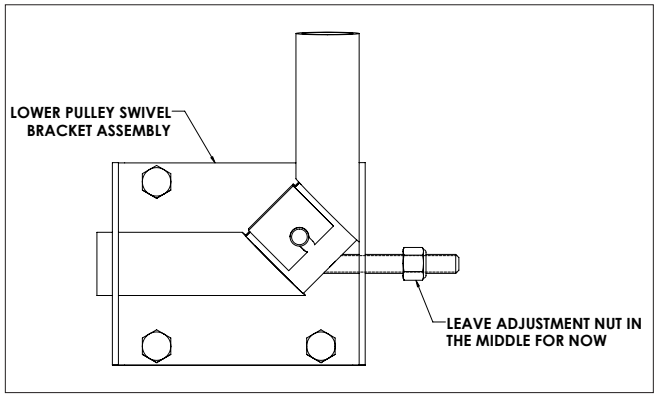


FIGURE O—ADJUSTMENT ON LOWER PULLEY

Step 8: Remove ram from housing and carefully pour in 2 quarts (8 cups) of Nova Juice-E. See Figure P.

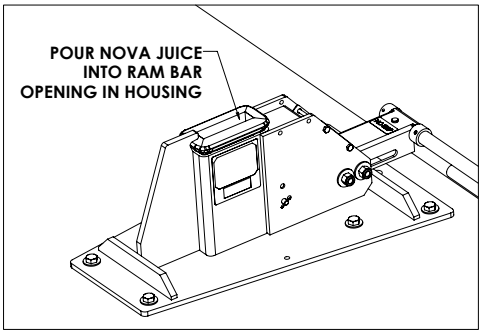


FIGURE P—LOCATION WHERE TO POUR NOVA JUICE

Step 9: Measure distance between conduit collar on upper pulley bracket and conduit collar on lower pulley swivel bracket and add 2-3/4". Cut a piece of ¾" thin wall conduit to this length. See Figure Q.

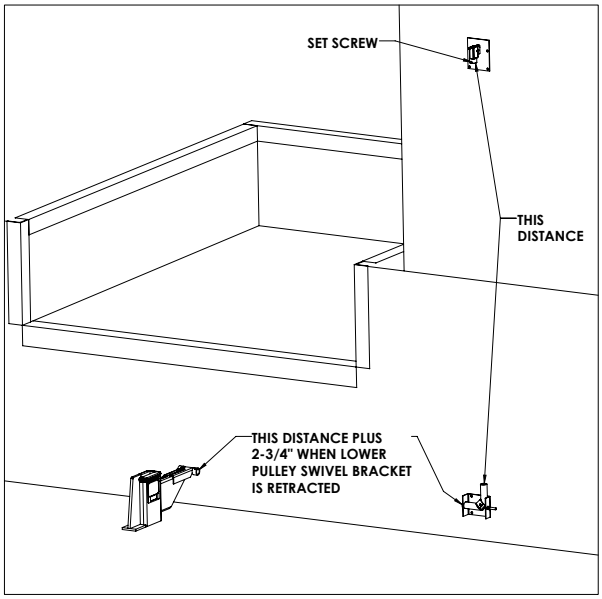


FIGURE Q—DISTANCE BETWEEN PULLEYS

INSTALLATION INSTRUCTIONS

Step 10: Measure distance from conduit collar on lower pulley to conduit collar on extension bracket and add 2-3/4". Cut ¾" thin wall conduit to length as above. Slide end into tube on lower pulley. Thread cable through lower and upper pulley assemblies. Allow free cable end to stick out of conduit at top pulley. Do not attempt to feed through building wall at this time. Slide end of conduit into conduit collar on ram housing and secure with set screw. See Figure Q.

Step 11: Route ram cable around top of upper outside pulley, into building through hole in wall, and over the pulley. See Figure R.

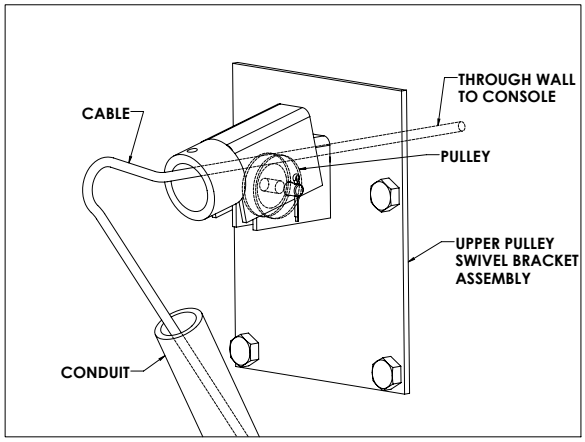


FIGURE R—CABLE ROUTED THROUGH PULLEY

Proceed to one of the following Console installation instructions:

Manual Console Installation: Page 14

Pneumatic Console Installation: Page 18

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INSTALLATION INSTRUCTIONS

MANUAL CONSOLE INSTALLATION (See Page 18 for pneumatic console installation)

Step 12M: Raise handle to full up position. Make sure upper limit switch lever is contacting Activation Handle Tube. Pull cable tight and attach to spring using cable clamp. Run excess cable down center of spring, exiting on right side of handle. Cut off cable flush with bottom of spring. See Figure S.

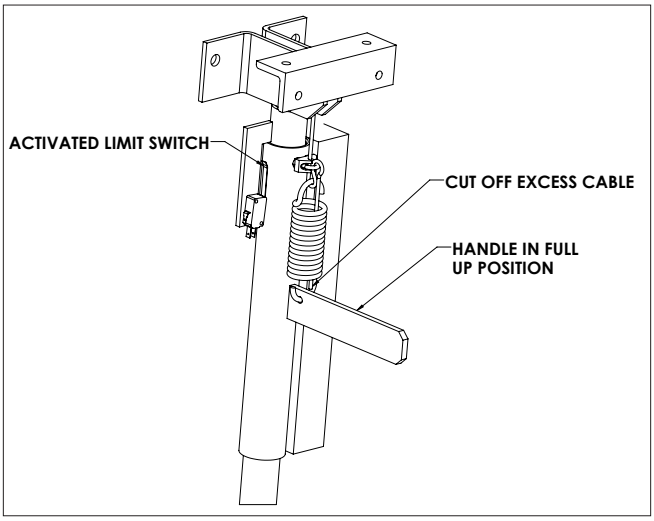

FIGURE S—SETTING UP MANUAL CONSOLE

Step 13M: Determine location of outside light on exterior of building. Light must be on truck driver side of dock door (Right side when facing dock from outside). Verify location of light will not interfere with the future installation of dock shelters or seals. Drill hole through wall at approximate center of light. Feed wire from light through hole in wall and affix light to wall.

CONTROL BOX

Step 14M: Mount control box to wall 2” to 3” above console using fasteners supplied by installers. See Figure T.

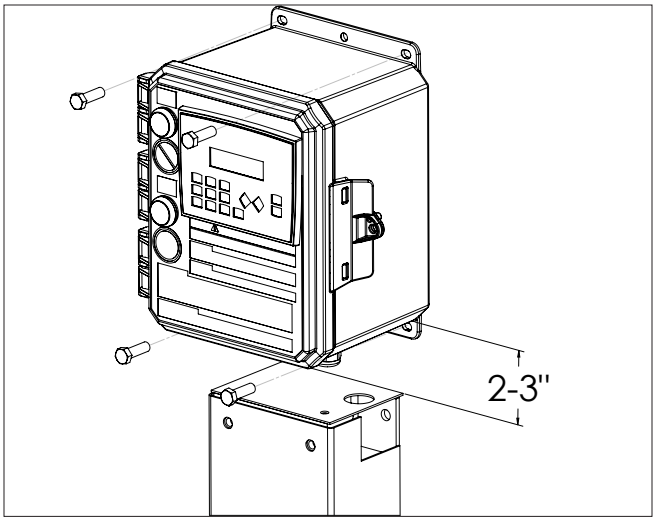

FIGURE T—MOUNTING CONTROL BOX

Step 15M: Route wires from outside light to inside control box through the grommeted hole in the bottom of the box. See Figure U. Cut to length and connect to terminal strip. See Figure V & W.

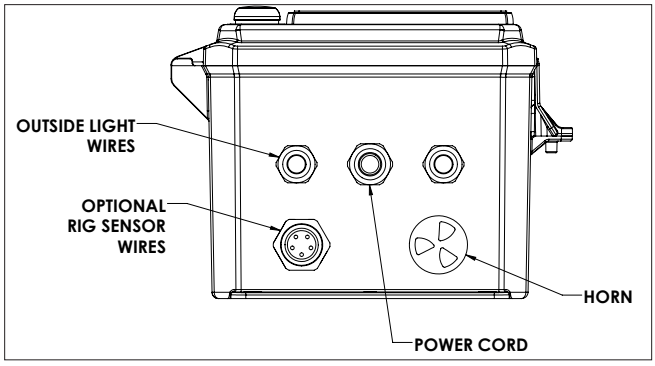

FIGURE U—ROUTE WIRES THROUGH GROMMETS

OUTSIDE LIGHT

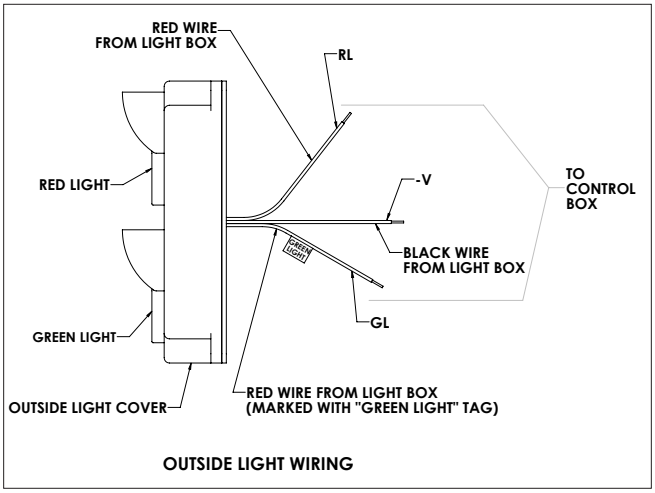

FIGURE V—OUTSIDE LIGHT WIRING

INSTALLATION INSTRUCTIONS

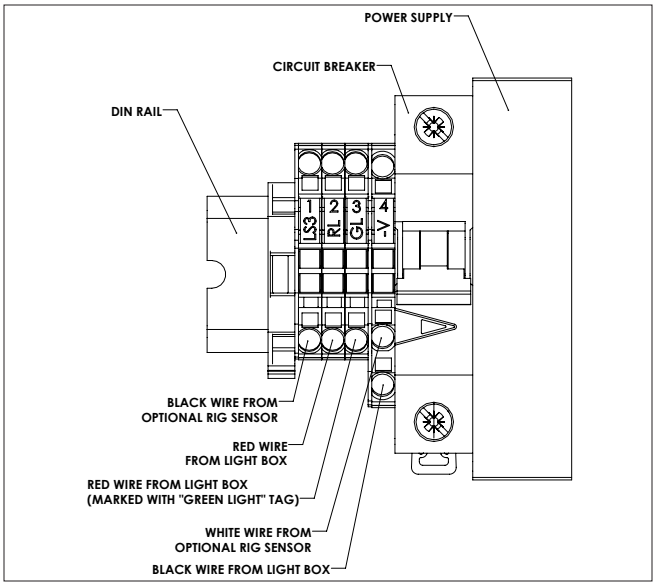

FIGURE W—WIRING CB-12 CONTROL BOX

Step 16M: Insert plug into wall receptacle or hard wire per local codes.

NOTICE

All components must be connected to a SAFETY EARTH GROUND that conforms to the 1999 National Electric Code section 250-50 section (a) or section (c) for a grounding electrode system.

NOTICE

Fifteen (15) NOVA Truck Lock™ control boxes can be connected to one (1) 15 amp branch circuit breaker per 1999 National Electric Code, assuming no other loads on circuit.

Step 17M: Connect the (2) three-wire electrical cables from the control box to the limit switches, one mounted on the cover and the other mounted on the top of the slide pole. See Figure X.

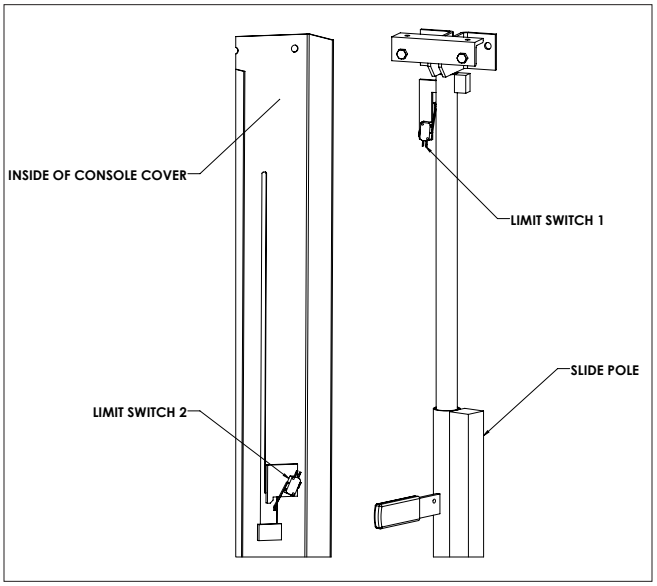

FIGURE X—CONNECTING LIMIT SWITCHES

Step 18M: Replace cover on control console and secure with (4) 3/8”x1/2” bolts and star lock washers. Slide plastic grip on to activation handle. See Figure Y.

NOTICE

Secure wires from the control box out of the way from getting tangled in activation handle, or counterweight assembly once console cover is replaced.

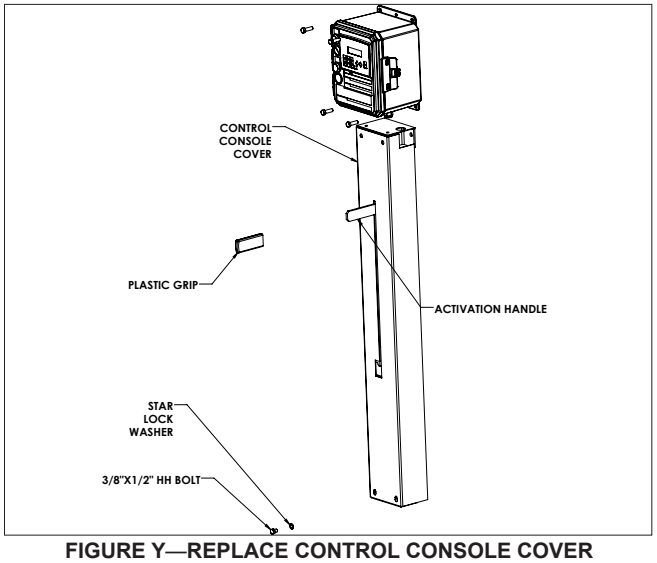

FIGURE Y—REPLACE CONTROL CONSOLE COVER

INSTALLATION INSTRUCTIONS

NOTICE

Concrete must be cured prior to performing Step 19M. If concrete has not cured, the cable tension of Step 19M will cause the Truck Lock to move out of position.

Step 19M: Move activation handle down into "RESTRAIN" position which will raise restraint ram outside. Adjust ram height by turning nut on lower pulley assembly. See Figure Z.

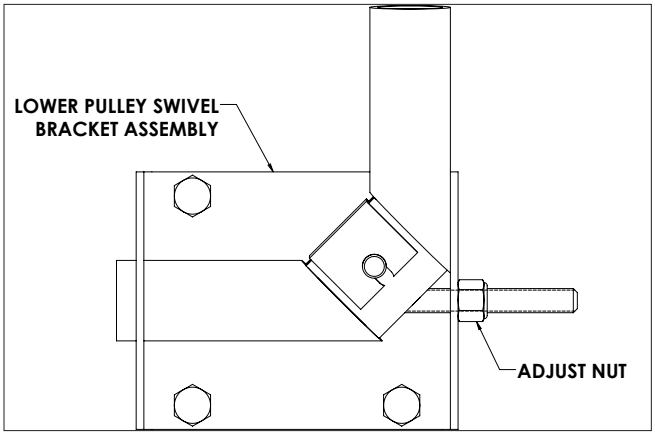

FIGURE Z—ADJUSTMENT ON LOWER PULLEY SWIVEL BRACKET

Step 20M: Tighten cable until entire guide height hole is showing. See Figure AA.

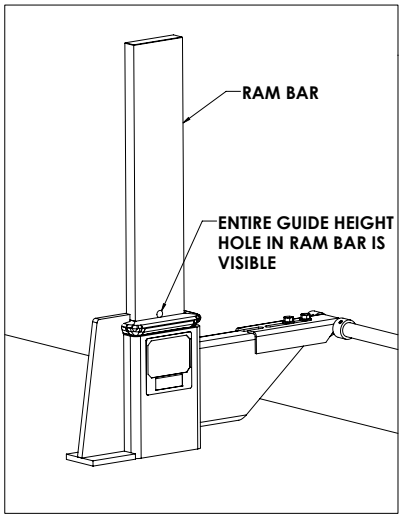

FIGURE AA—GUIDE HEIGHT HOLE SHOWN

NOTICE

Visually check to ensure ram bar is at correct height after adjustments are made.

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INSTALLATION INSTRUCTIONS

PNEUMATIC CONSOLE INSTALLATION (See Page 14 for manual console installation)

Step 12P: Manually extend air cylinder rod, pull cable tight, and attach end to clevis pin at top on control console frame using cable clamp supplied. Cut off excess cable. See Figure AB.

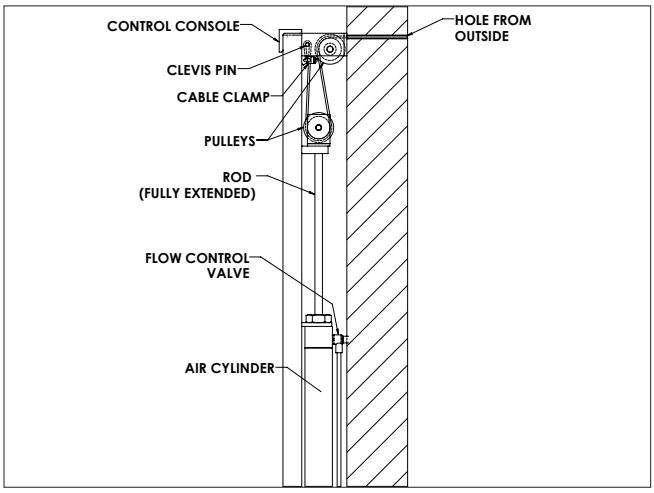

FIGURE AB—SETTING UP PNEUMATIC CONSOLE

CONTROL BOX

Step 13P: Mount control box to wall 2-3" above console. See Figure AC.

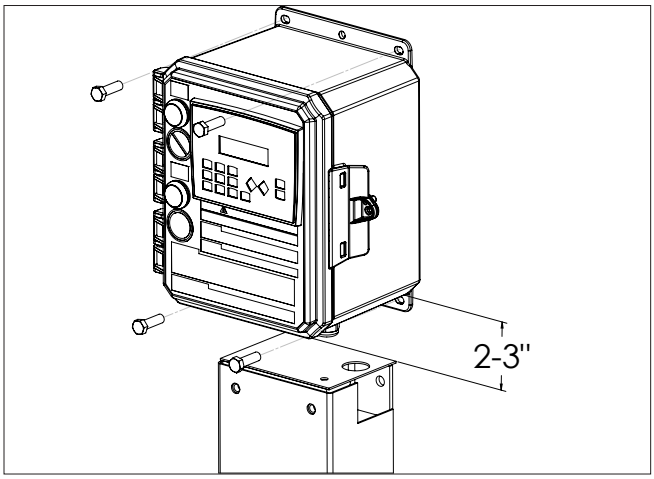

FIGURE AC—MOUNTING CONTROL BOX

Step 14P: Connect the (2) three-wire electrical cables from the control box to the limit switches located on the console frame. See Figure AD.

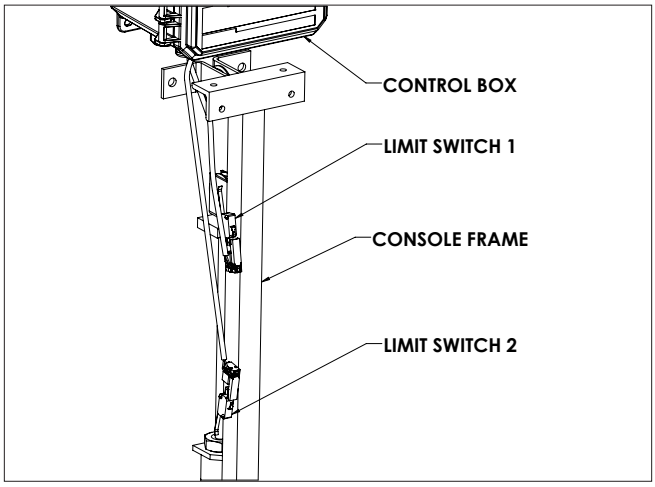

FIGURE AD—CONNECTING LIMIT SWITCHES

OUTSIDE LIGHT

Step 15P: Route wires from outside light and air solenoid to inside of control box through the grommeted holes in the bottom of the box. See Figure AE. Cut to length and connect to terminal strip. See Figure AF.

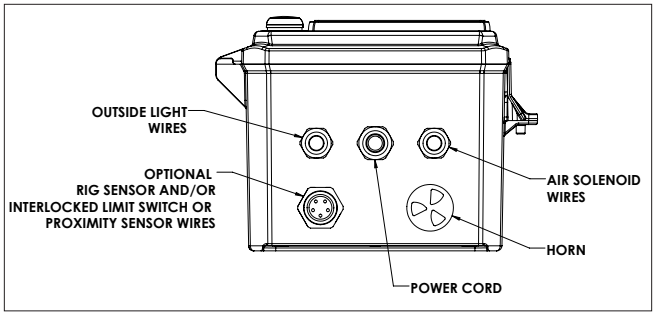

FIGURE AE—ROUTE WIRES THROUGH GROMMETS

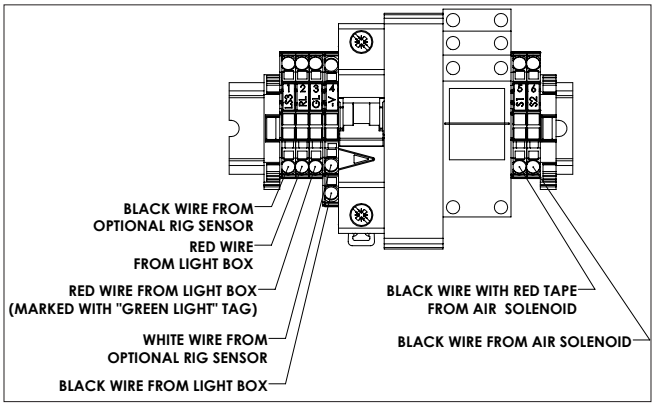

FIGURE AF—WIRING CB-10 CONTROL BOX

INSTALLATION INSTRUCTIONS

If the control box is not a CB-11-A or B or C, skip to step 16.

If the control box is a CB-11-C see next page.

If the control box is a CB-11-A or B perform steps below:

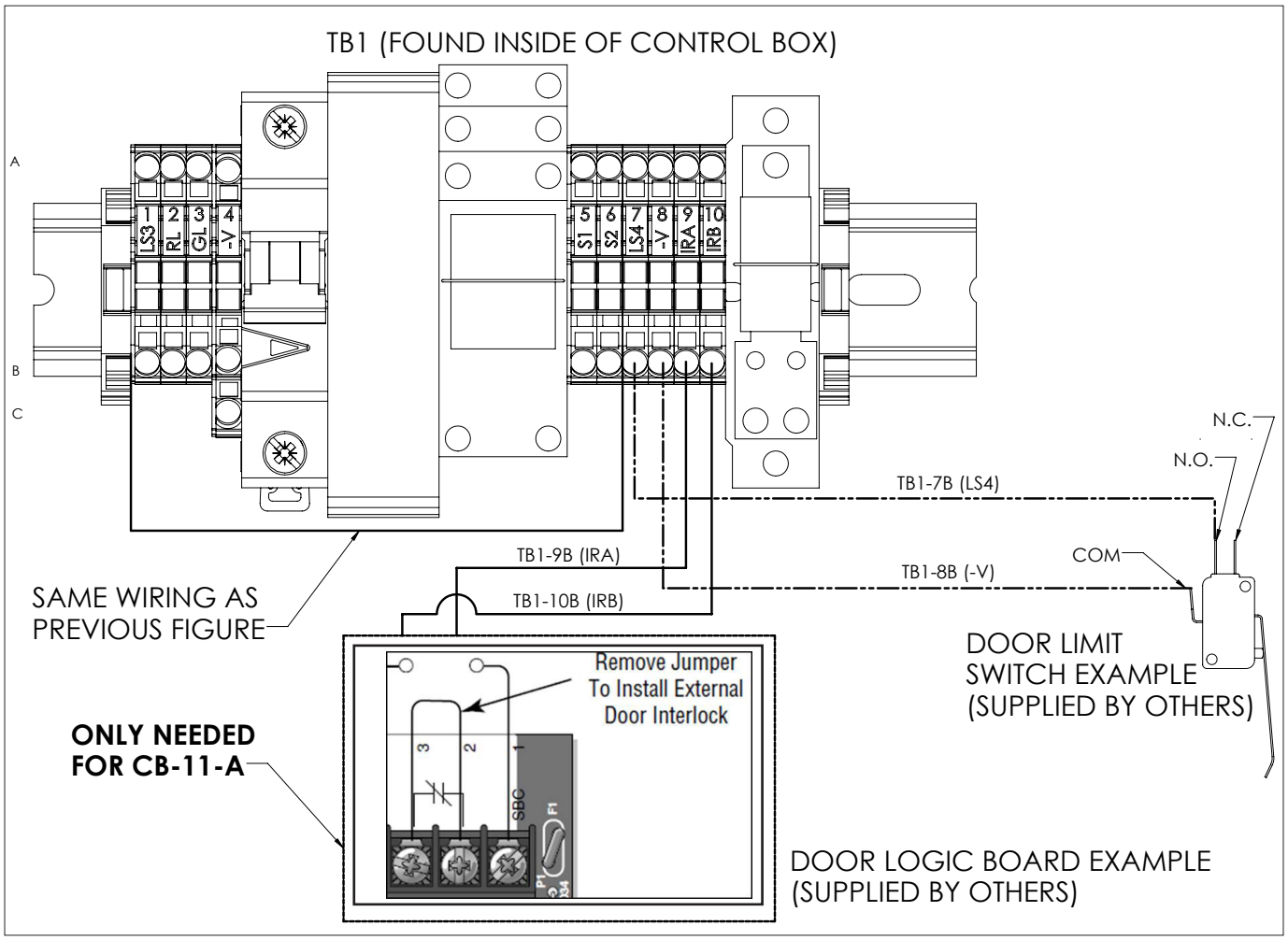

FIGURE AG—CONTROL BOX TB1 INTERLOCKED DOOR WIRING SCHEMATIC (CB-11-A & CB-11-B)

- Disclosure:
  - Door logic board example may vary. Reference door operator owner's manual before installation.
  - For example above, remove jumper from 2 and 3, and run wires from IRA to 2 and IRB to 3 on DOOR LOGIC BOARD EXAMPLE.
  - Door limit switch example may vary. Limit switch should be installed in door operator electrical box. Do not splice or cut existing limit switch wires. Reference door operator owner's manual before installing.

INSTALLATION INSTRUCTIONS

If the control box is not a CB-11-A or B or C, skip to step 16.

If the control box is a CB-11-C perform steps below:

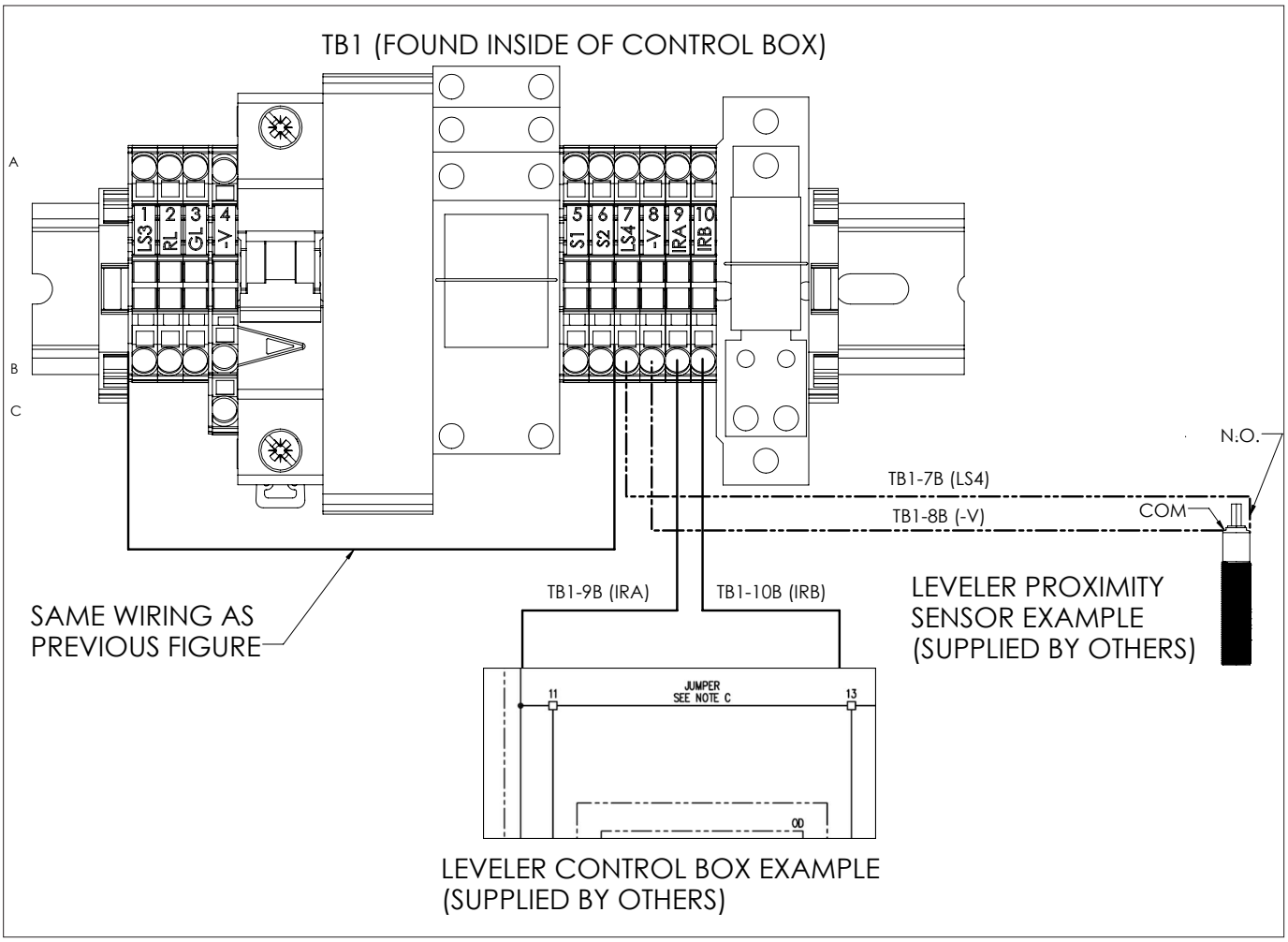

FIGURE AH—CONTROL BOX TB1 INTERLOCKED LEVELER WIRING SCHEMATIC (CB-11-C)

- Disclosure:
  - Leveler example may vary. Reference leveler owner's manual before installation.
  - For example above, remove jumper from 11 and 13, and run wires from IRA to 11 and IRB to 13 on LEVELER CONTROL BOX EXAMPLE.
  - Leveler proximity sensor example may vary. Promimity sensor should be installed with the sensor facing the lip of the leveler. Do not splice or cut existing limit switch wires. Reference leveler owner's manual before installing.

INSTALLATION INSTRUCTIONS

NOTICE

Purge line prior to hooking up system. Air may be supplied from plant system or by small compressor. Air must be a minimum of 80 PSI and a maximum of 130PSI. Air must be dry and clean. Air usage is approximately .020 cubic feet per operation.

Step 16P: Connect airline from air supply to solenoid and verify airline is connected from solenoid to air cylinder. See Figure AI.

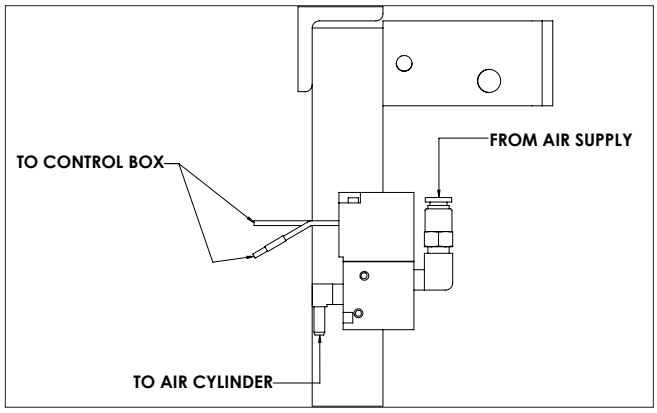

FIGURE AI—CONNECTING AIRLINE

Step 17P: Insert plug into wall receptacle and turn on control box.

Step 18P: Turn air supply on.

NOTICE

Concrete must be cured prior to performing Step 19P. If concrete has not cured the cable tension of Step 19P will cause the Truck Lock to move out of position.

⚠WARNING

Keep hands clear of air cylinder, pulley assembly and cable when retracting.

Step 19P: To adjust rising speed, turn knob on flow control valve attached to the air cylinder. Turning valve out results in faster speeds, turning valve in results in slower speeds. Lowering speed cannot be changed.

NOTICE

When properly adjusted, the ram should fully rise in 1 to 2 seconds. There should be less than ½" "hop" by the ram bar at the end of the rise stroke.

Step 20P: After each adjustment, cycle unit using restrain and release buttons until desired speed is obtained.

⚠CAUTION

Adjusting flow control valve so that the ram bar raises too fast can cause unnecessary stress on the unit and may present danger to personnel or equipment.

INSTALLATION INSTRUCTIONS

REAR IMPACT GUARD (RIG) SENSOR (OPTIONAL FEATURE)

DANGER

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

Step 1: Locate switch housing tube on restraint housing tube. The top of the switch housing tube should be flush with the top of the restraint housing tube and pushed towards the Ram tube. Mark and drill 1/8" pilot holes.

Step 2: Attach switch housing tube using 1/4-14x1" self drilling screws.

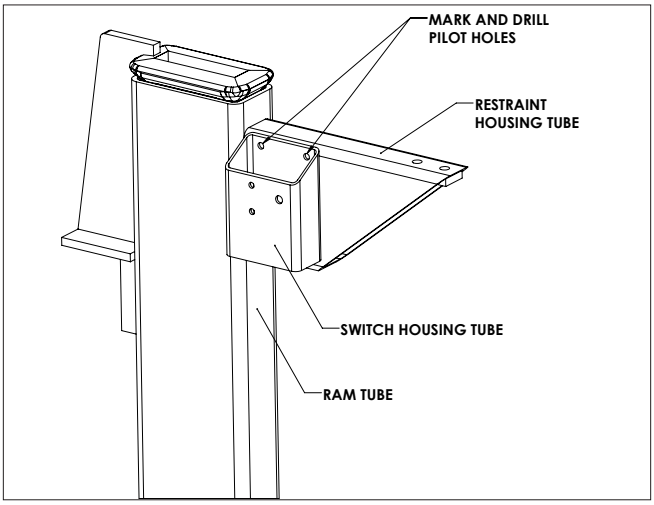

FIGURE AJ—ATTACH SWITCH HOUSING

Step 3: Insert activation wand in the wand holder on the switch assembly, tighten set screw to secure activation wand in place. See Figure AK.

Step 4: Let switch wires hang through the bottom of switch housing, fasten button head cap screw to lower tapped hole on switch assembly. See Figure AK.

Step 5: Place activation wand in slot on housing cover and slide cover down to switch housing. Place button head cap screw through hole in housing cover and switch housing, then fasten to upper tapped hole on switch assembly. See Figure AK.

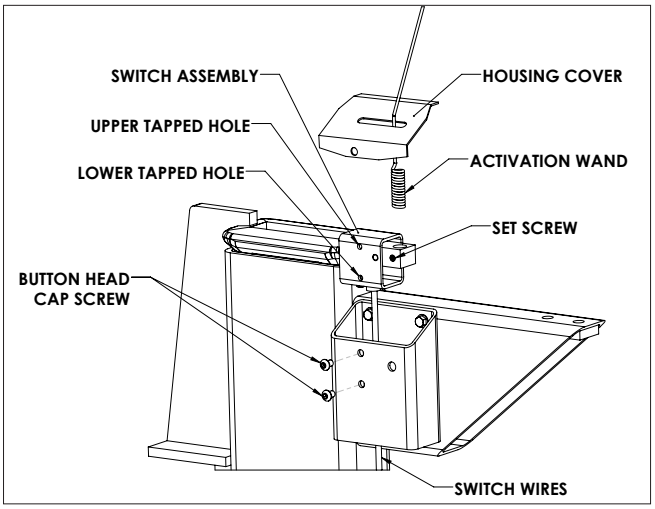

FIGURE AK—RIG SENSOR ASSEMBLY

Step 6: Install ½" thin wall conduit to shield sensor switch wire running to control box as shown. See Figure AL.

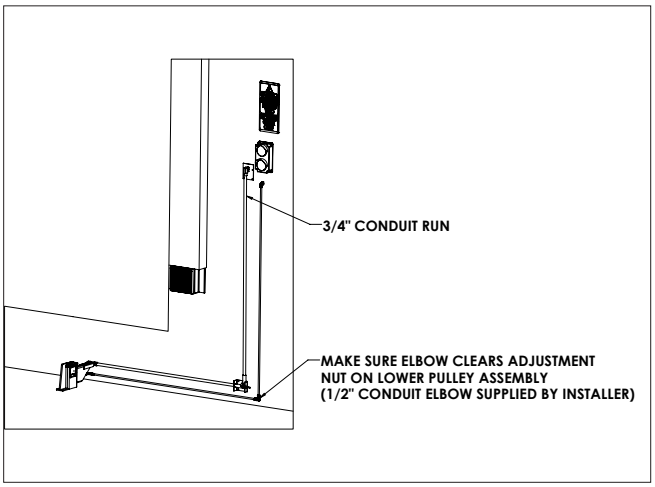

FIGURE AL—SHIELD SENSOR WIRE FROM SWITCH TO CONTROL BOX

Step 7: Route wires from RIG sensor to inside of control box through the grommeted hole in the bottom of the box. See Figure AE on Page 18. Cut to length and connect to terminal strip. See Figure AF on Page 18.

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INSTALLATION INSTRUCTIONS

TEST OPERATION

This test operation is specifically for the installation instructions to verify the NOVA Truck Lock™ is working properly. If the NOVA Truck Lock™ does not work properly, contact NOVA Technology.

1. Power-Up
   a. Unlatch plastic clip on the right side of the control box holding the cover on.
   b. Open the cover of the control box.
   c. Turn on the circuit breaker by flipping switch upward.

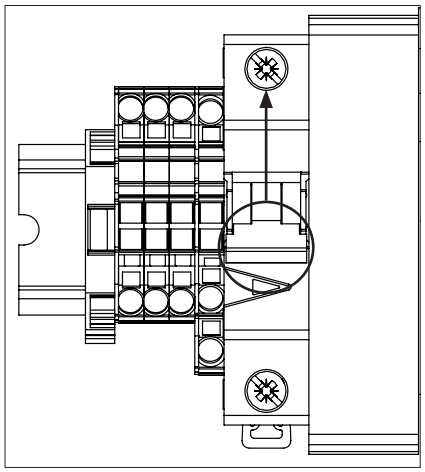


FIGURE AM—CIRCUIT BREAKER

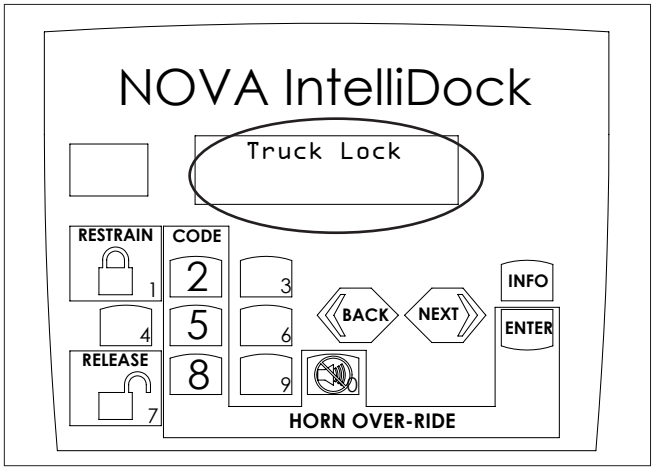


FIGURE AN—VERIFY PLC SCREEN

   d. Close the control box door.
   e. Re-latch the plastic clip to secure the door.
   f. Remove protective film from PLC display.
   g. Verify PLC screen shows “Truck Lock” as shown in figure AN.
   h. Verify the red light on the control box is flashing.
   i. Verify the outside green light is flashing.

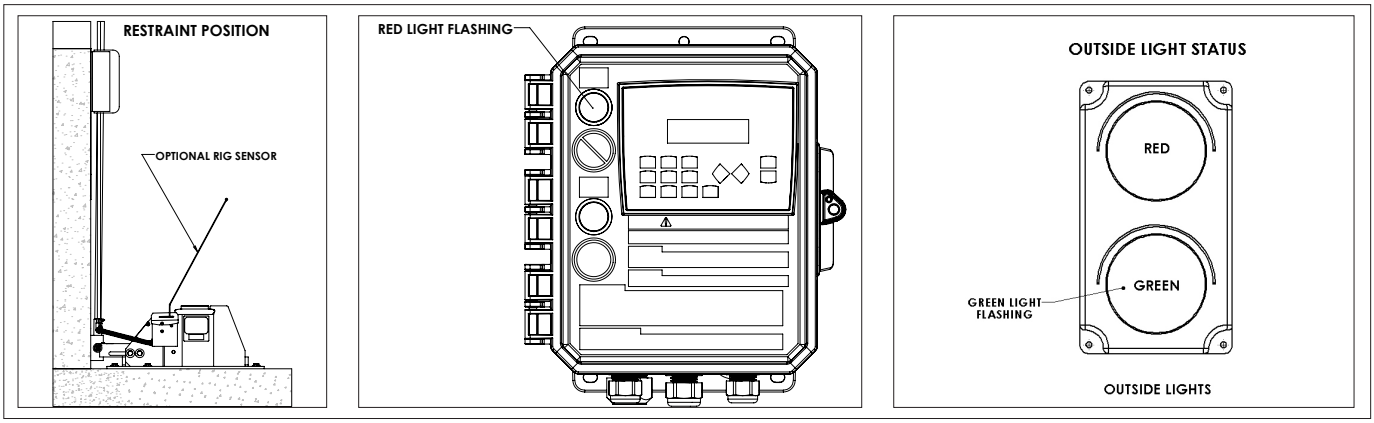


FIGURE AO—UNLOCKED POSITION / NO VEHICLE PRESENT

Note: Flange model restraint is shown for representation in Test Operation. Actual restraint may differ.

INSTALLATION INSTRUCTIONS

See table below before proceeding to the next step:

Product	Pages
Manual Truck Lock™ With No Optional RIG Sensor	26 - 27
Manual Truck Lock™ With Optional RIG Sensor	28 - 29
Pneumatic Truck Lock™ With No Optional RIG Sensor	30 - 32
Pneumatic Truck Lock™ With Optional RIG Sensor	33 - 35

A step using the manual Truck Lock™ is noted with the letter M" behind the step number.
Example: 5M.

A step using the pneumatic Truck Lock™ is noted with the letter "P" behind the step number.
Example: 4P.

If unsure which product is installed, use graphics below to verify which test operation to follow.

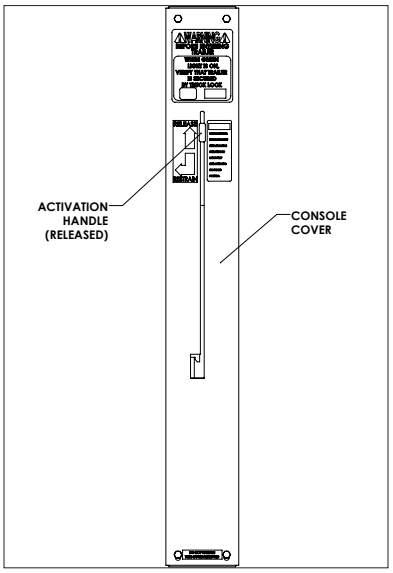


FIGURE AP—MANUAL TRUCK LOCK™

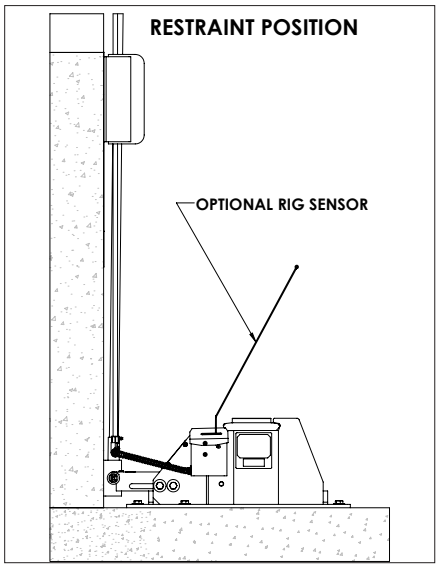


FIGURE AQ—OPTIONAL RIG SENSOR

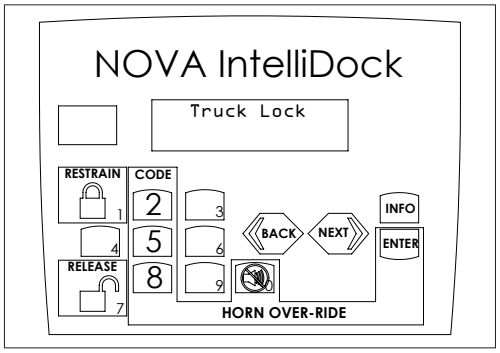


FIGURE AR—PNEUMATIC TRUCK LOCK™

INSTALLATION INSTRUCTIONS

2M. Test RESTRAIN Function (No Optional RIG Sensor)

a. Move activation handle to RESTRAIN position.

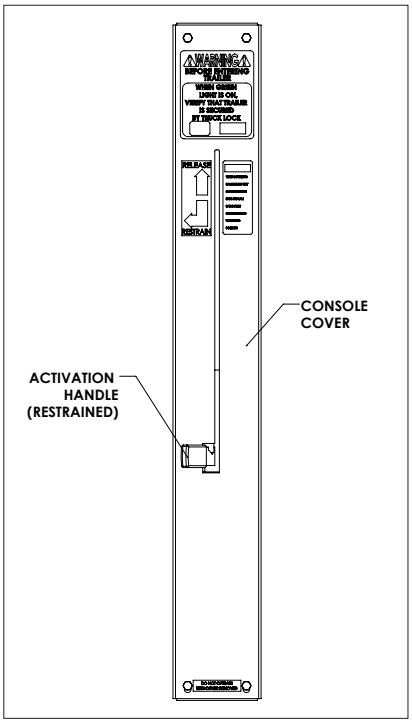


FIGURE AS—ACTIVATION HANDLE IN RESTRAIN POSITION

b. Alarm will sound for 3 seconds once activation handle has moved from RELEASE position.
c. After activation handle is in RESTRAIN position, verify the vertical barrier has risen.
d. Verify the green light on the control box is flashing.
e. Verify the outside red light is flashing.

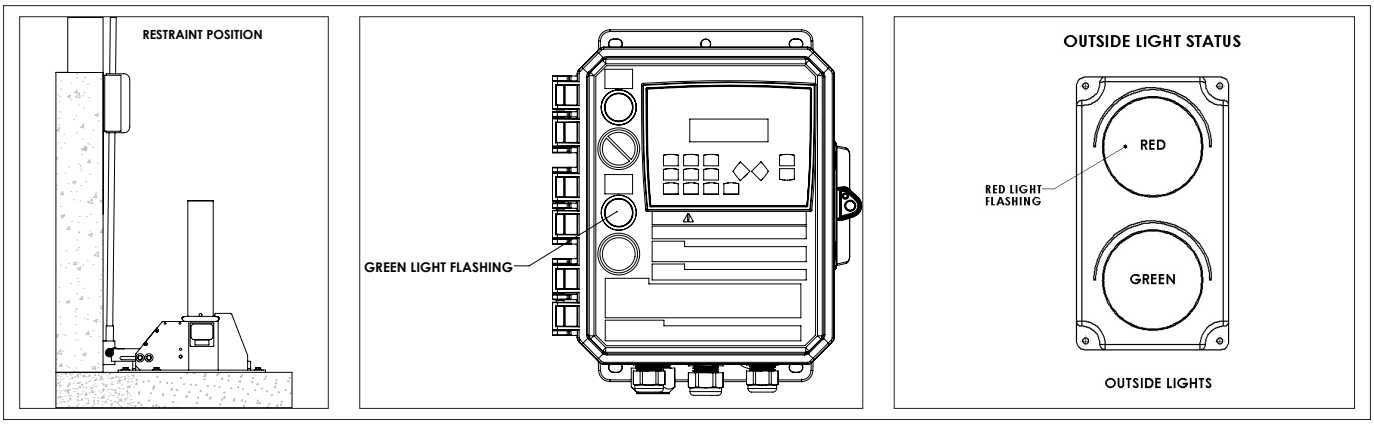


FIGURE AT—RESTRAINT LOCKED

INSTALLATION INSTRUCTIONS

3M. Test RELEASE Function (No Optional RIG Sensor)

a. Verify the green light on the control box is flashing.
b. Move activation handle to the RELEASE position.

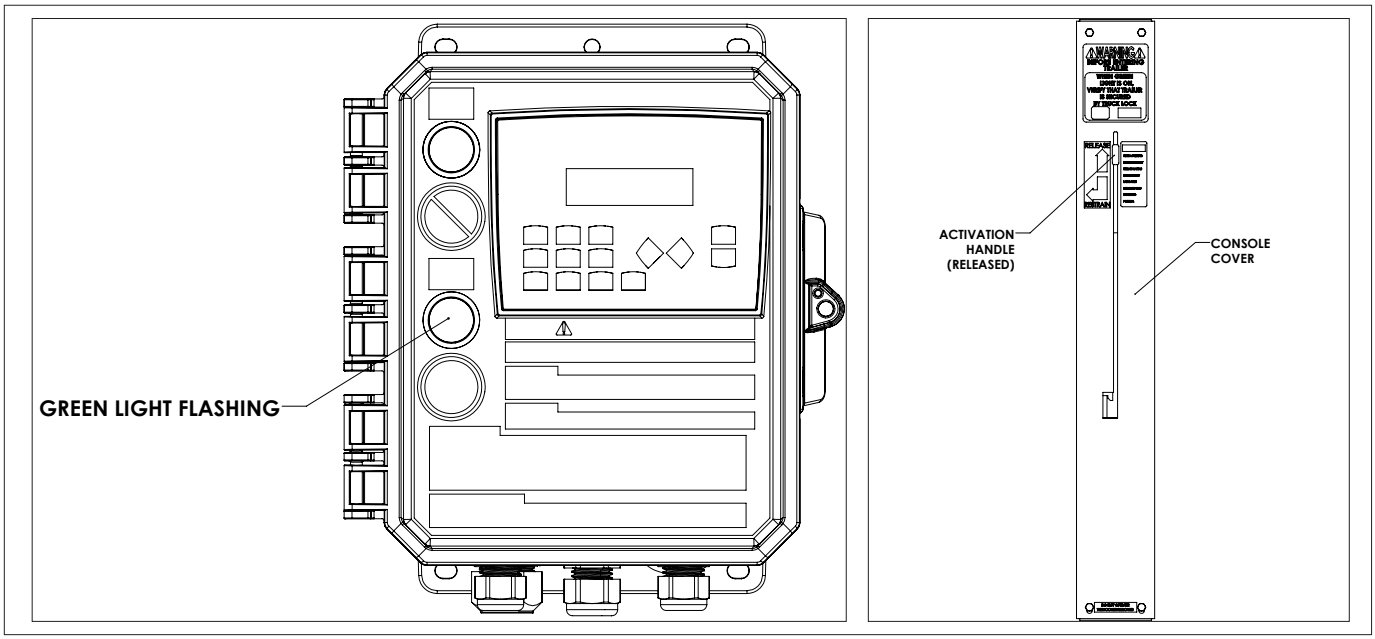


FIGURE AU—CONTROL BOX LIGHT INDICATION AND ACTIVATION HANDLE IN RELEASE POSITION

c. Alarm will sound for 3 seconds once activation handle has moved from RESTRAIN position.
d. After activation handle is in RELEASE position, verify the vertical barrier has lowered.
e. Verify the red light on the control box is flashing.
f. Verify the outside green light is flashing.

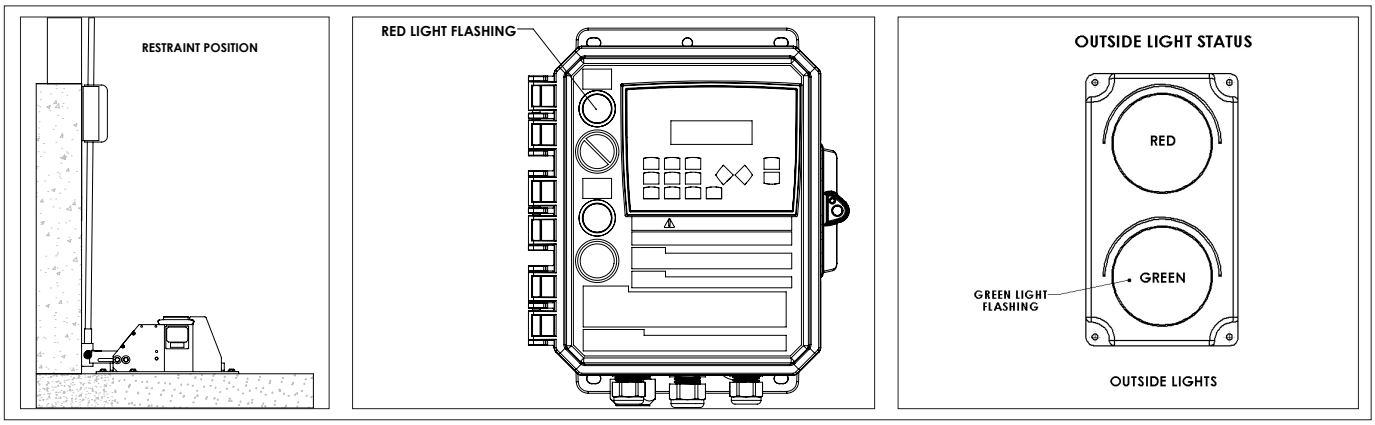


FIGURE AV—RESTRAINT UNLOCKED

INSTALLATION INSTRUCTIONS

2M. Test RESTRAIN Function (With Optional RIG Sensor)

a. There should be no object holding back the RIG sensor.

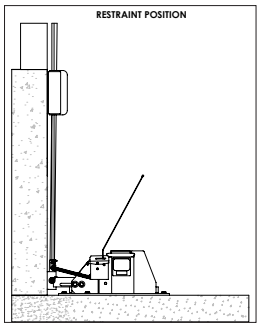


FIGURE AW—RIG SENSOR IN FORWARD POSITION

b. Move activation handle to the RESTRAIN position.

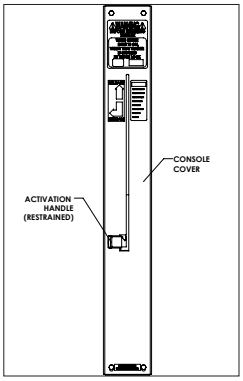


FIGURE AX—ACTIVATION HANDLE IN RESTRAIN POSITION

c. Alarm will sound for 3 seconds once activation handle has moved from RELEASE position.
d. After activation handle is in RESTRAIN position, verify the vertical barrier has risen.
e. Verify the red light on the control box is flashing.
f. Verify the alarm is sounding at 1 second intervals.

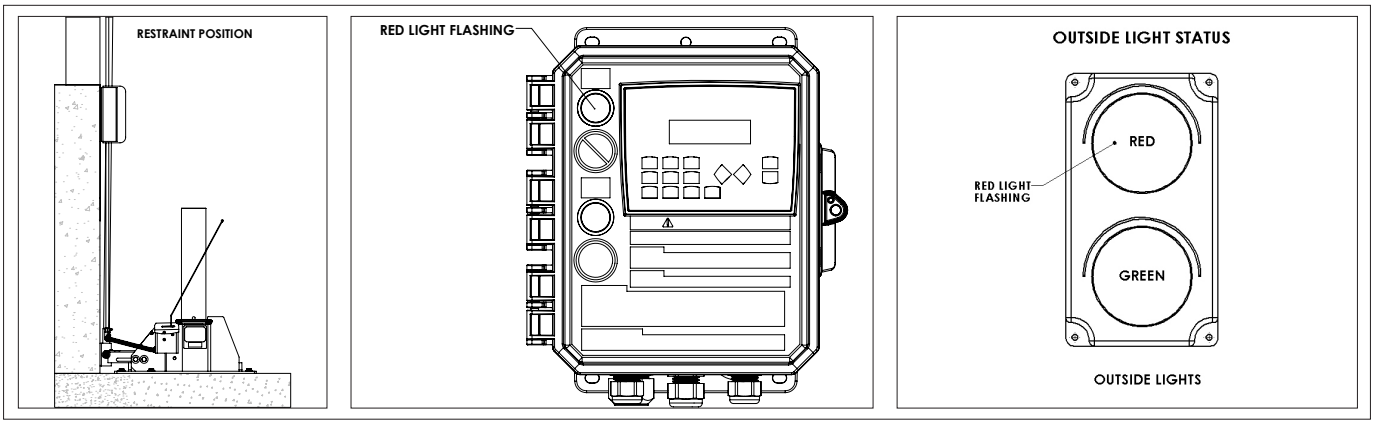


FIGURE AY—RESTRAINT LOCKED, ALARM SOUNDING

g. Verify the outside red light is flashing.
h. Temporarily depress RIG sensor until the end of this test.

INSTALLATION INSTRUCTIONS

3M. Test RELEASE Function (With Optional RIG Sensor)

a. Verify the green light on the control box is flashing.
b. Move activation handle to the RELEASE position.

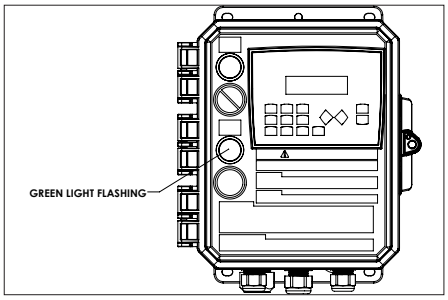


FIGURE AZ—CONTROL BOX LIGHT INDICATION

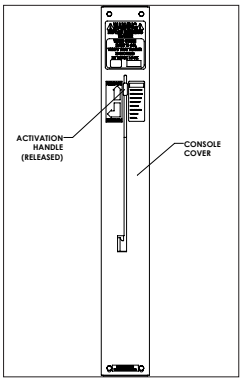


FIGURE BA—ACTIVATION HANDLE IN RELEASE POSITION

c. Alarm will sound for 3 seconds once activation handle has moved from RESTRAIN position.
d. After activation handle is in RELEASE position, verify the vertical barrier has lowered.
e. Verify the red light on the control box is constant.
f. Verify the outside green light is flashing.

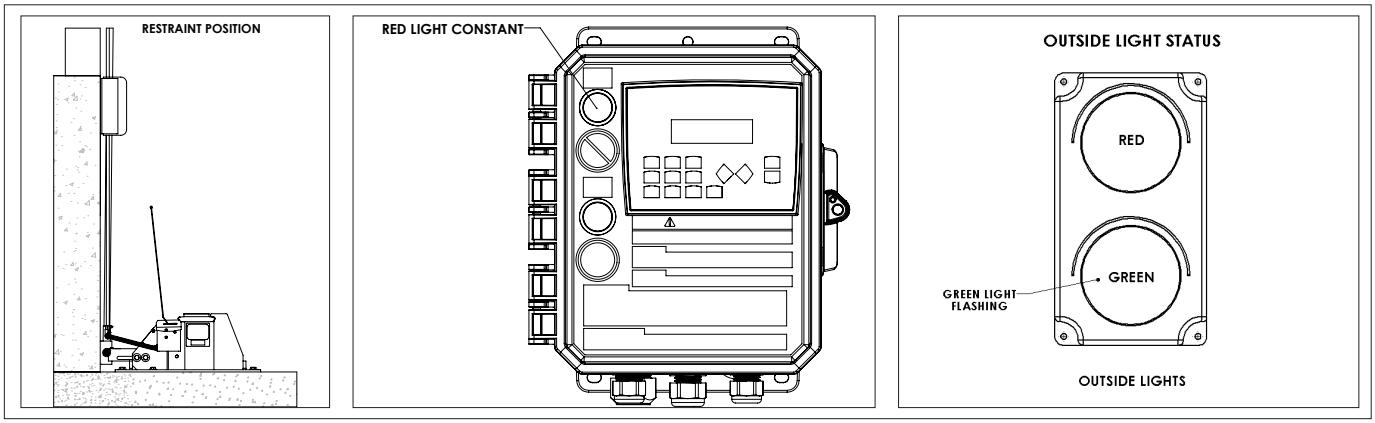


FIGURE BB—RESTRAINT UNLOCKED, RIG SENSOR DEPRESSED

g. Release RIG sensor.
h. Verify the red light on the control box is flashing.

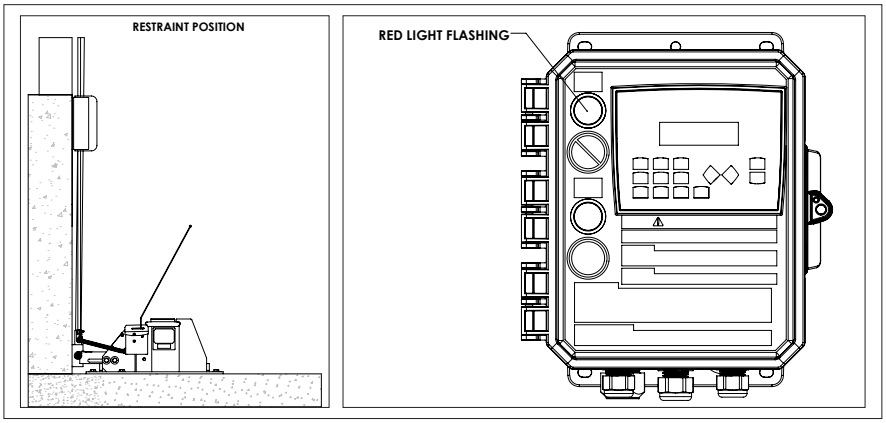


FIGURE BC—RESTRAINT UNLOCKED

INSTALLATION INSTRUCTIONS

2P. Test RESTRAIN Function (No Optional RIG Sensor)

- If the control box is not a CB-11-A or B or C, skip step “a” below:
- If the control box is a CB-11-A or B or C perform step “a” below:

Verify Part Number located on door inside control box

a. Interlocked equipment must be in position listed below:
   Part Number: CB-11-A Door must be closed
   OR
   Part Number: CB-11-B Door could be opened or closed
   OR
   Part Number: CB-11-C Leveler must be stored

b. Depress “RESTRAIN” (#1 button).

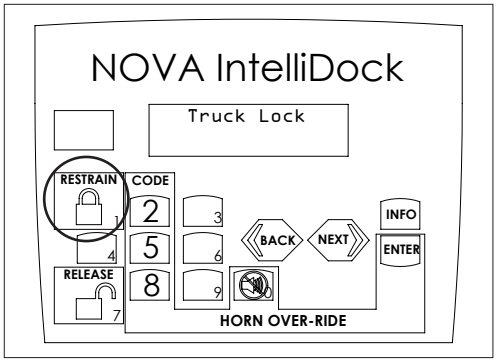


FIGURE BD—RESTRAIN OPERATION

c. Verify the vertical barrier has risen.
d. Verify the green light on the control box is flashing.
e. Verify the outside red light is flashing.

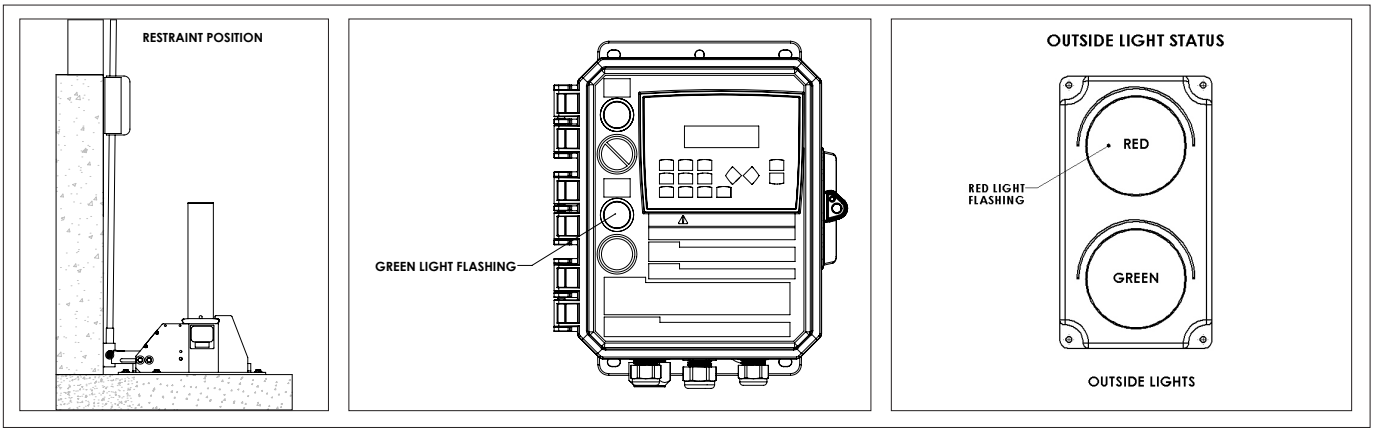


FIGURE BE—RESTRAINT LOCKED

INSTALLATION INSTRUCTIONS

If the control box is not a CB-11-A or B or C, skip to step -
"5P. Test RELEASE Function (No Optional RIG Sensor)"

If the control box is a CB-11-A or B or C perform steps below:

3P. Test interlocked equipment (No Optional RIG Sensor)

Verify Part Number located on door inside control box

Part Number: CB-11-A Open door
OR
Part Number: CB-11-B Open or close door depending on door position
OR
Part Number: CB-11-C Raise leveler until leveler comes off of limit switch

4P. Return interlocked equipment to closed or stored position (No Optional RIG Sensor)

Verify Part Number located on door inside control box

Part Number: CB-11-A Close door
OR
Part Number: CB-11-B Close door
OR
Part Number: CB-11-C Store leveler

INSTALLATION INSTRUCTIONS

5P. Test RELEASE Function (No Optional RIG Sensor)

a. Verify the green light on the control box is flashing.
b. Depress “RELEASE” (#7 button).

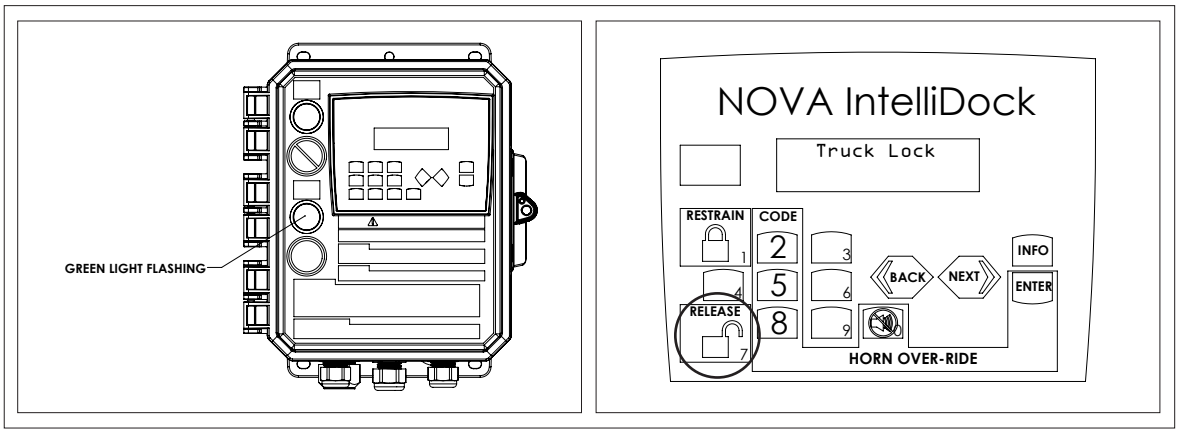


FIGURE BF—CONTROL BOX LIGHT INDICATION AND RELEASE OPERATION

c. Verify the vertical barrier has lowered.
d. Verify the red light on the control box is flashing.
e. Verify the outside green light is flashing.

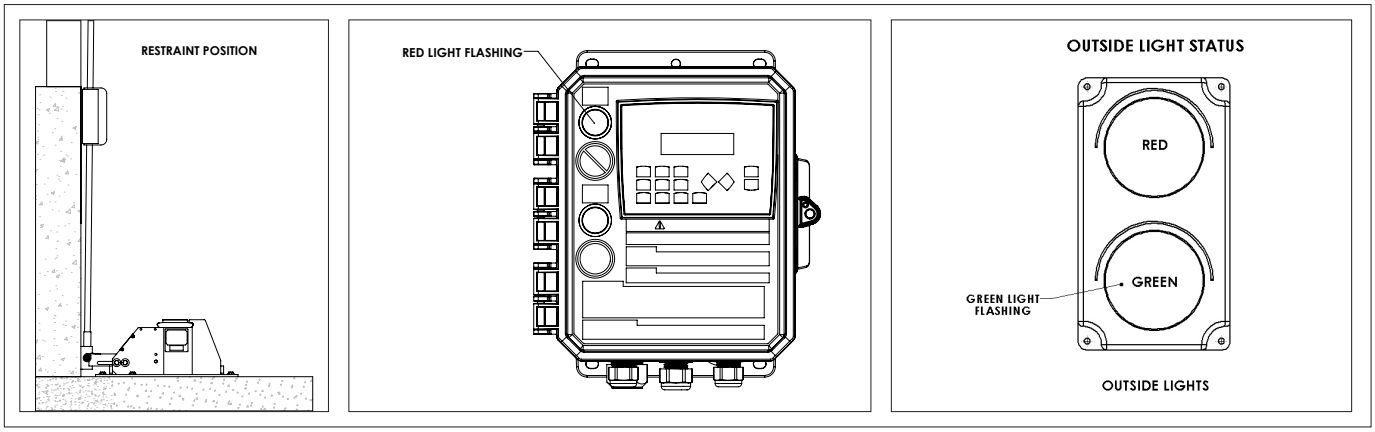


FIGURE BG—RESTRAINT UNLOCKED

INSTALLATION INSTRUCTIONS

2P. Test RESTRAIN Function (With Optional RIG Sensor)

- If the control box is not a CB-11-A or B or C, skip step “a” below:
- If the control box is a CB-11-A or B or C perform step “a” below:

Verify Part Number located on door inside control box

a. Interlocked equipment must be in position listed below:
   Part Number: CB-11-A Door must be closed
   OR
   Part Number: CB-11-B Door could be opened or closed
   OR
   Part Number: CB-11-C Leveler must be stored

b. There should be no object holding back RIG sensor.

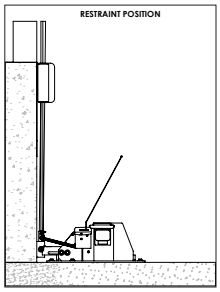


FIGURE BH—RIG SENSOR IN FORWARD POSITION

c. Depress “RESTRAIN” (#1 button).
d. Verify the vertical barrier has risen.
e. Verify the red light on the control box is flashing.
f. Verify the alarm is sounding at 1 second intervals.

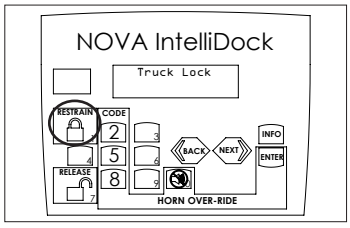


FIGURE BI—RESTRAIN OPERATION

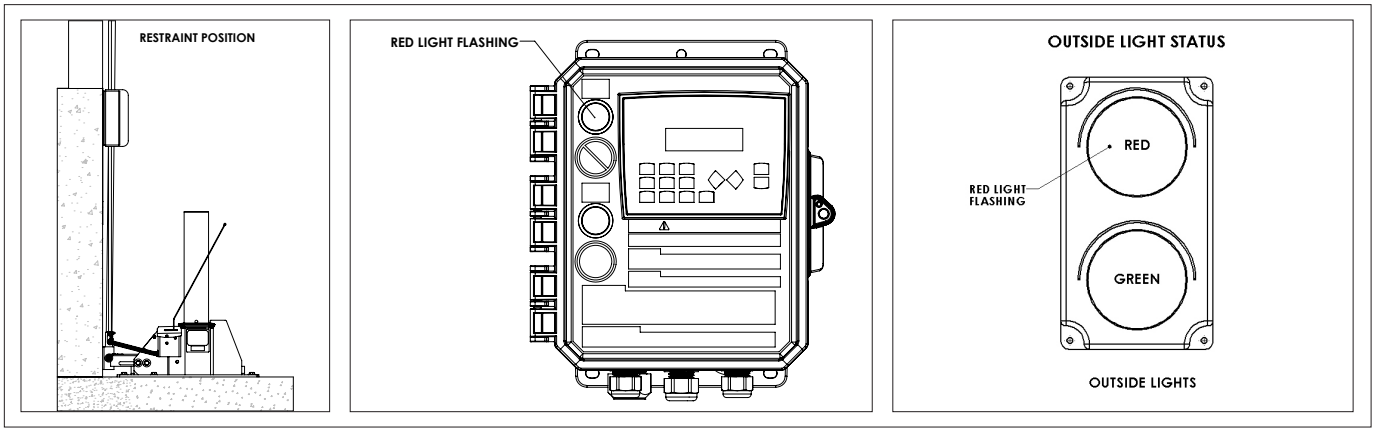


FIGURE BJ—RESTRAINT LOCKED, ALARM SOUNDING

g. Verify the outside red light is flashing.
h. Temporarily depress RIG sensor until the end of this test.

INSTALLATION INSTRUCTIONS

If the control box is not a CB-11-A or B or C, skip to step -
"5P. Test RELEASE Function (No Optional RIG Sensor)"

If the control box is a CB-11-A or B or C perform steps below:

3P. Test interlocked equipment (With Optional RIG Sensor)

Verify Part Number located on door inside control box

Part Number: CB-11-A Open door
OR
Part Number: CB-11-B Open or close door depending on door position
OR
Part Number: CB-11-C Raise leveler until leveler comes off of limit switch

4P. Return interlocked equipment to closed or stored position (With Optional RIG Sensor)

Verify Part Number located on door inside control box

Part Number: CB-11-A Close door
OR
Part Number: CB-11-B Close door
OR
Part Number: CB-11-C Store leveler

INSTALLATION INSTRUCTIONS

5P. Test RELEASE Function (With Optional RIG Sensor)

a. Verify the green light on the control box is flashing.
b. Depress “RELEASE” (#7 button).

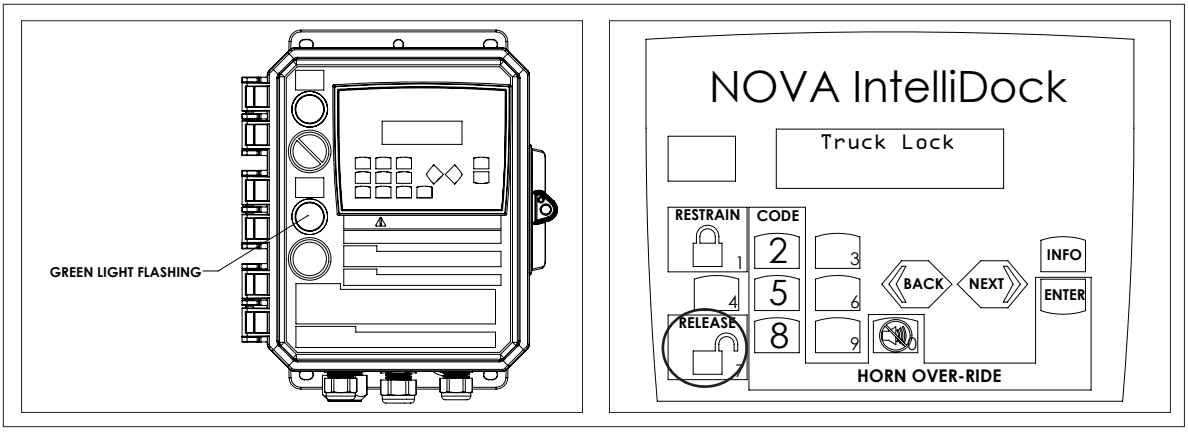


FIGURE BK—CONTROL BOX LIGHT INDICATION AND RELEASE OPERATION

c. Verify the vertical barrier has lowered.
d. Verify the red light on the control box is constant.
e. Verify the outside green light is flashing.

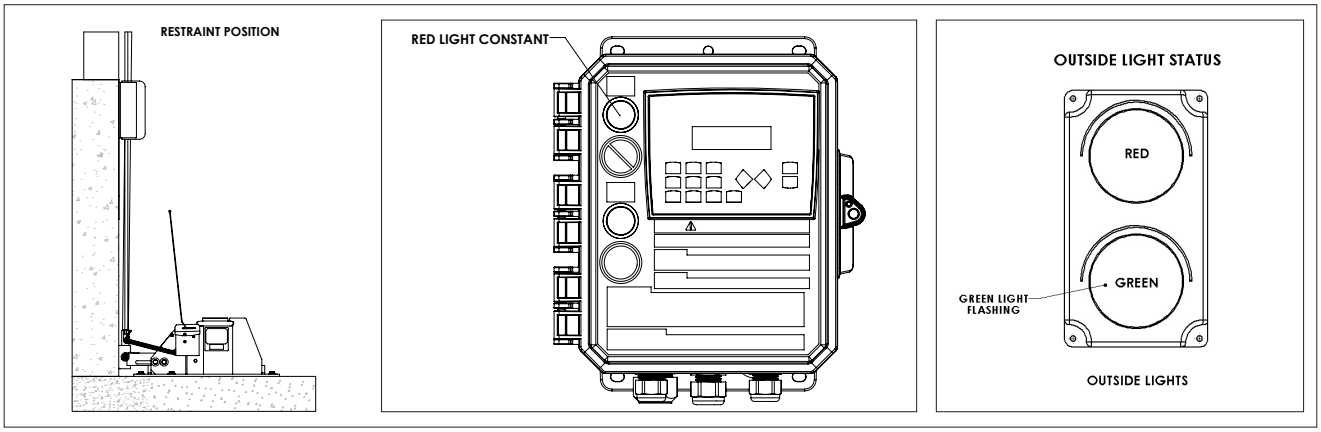


FIGURE BL—RESTRAINT UNLOCKED, RIG SENSOR DEPRESSED

f. Release RIG sensor.
g. Verify the red light on the control box is flashing

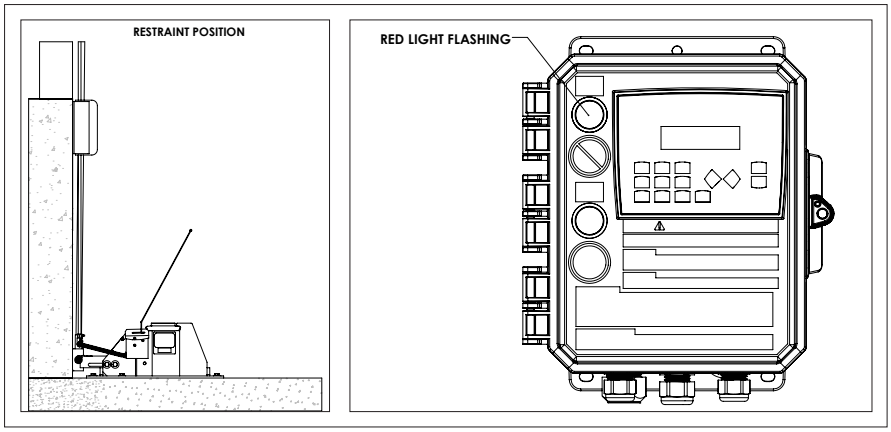


FIGURE BM—RESTRAINT UNLOCKED

OWNER'S/USER'S RESPONSIBILITIES

1. The manufacturer shall provide to the initial purchaser and make the following information readily available to the owners/users and their agents, all necessary information regarding Safety Information, Operation, Installation and Safety Precautions, Recommended Initial and Periodic Inspections Procedures, Planned Maintenance Schedule, Product Specifications, Troubleshooting Guide, Service Parts Listing, Warranty Information, and Manufacturers Contact Information.

2. The owner/user should recognize the inherent dangers of the interface between the loading dock and the transport vehicle. The owner/user should, therefore, train and instruct all operators in the safe operation and use of the restraining device in accordance with manufacturer's recommendations and industry standards. Effective operator training should also focus on the owner's/user's company policies, operating conditions and the manufacturer's specific instructions provided with the restraining device. Maintaining, updating and retraining all operators on safe working habits and operation of the equipment, regardless of previous experience, should be done on a regular basis and should include an understanding and familiarity with all functions of the equipment. Owner's/user's shall actively maintain, update and retrain all operators on safe working habits and operations of the equipment.

3. When selecting a restraining device, it is important to consider not only present requirements but also future plans and any possible adverse conditions, environmental factors or usage. The owners/users shall provide application information to the manufacturer to receive recommendations on appropriate equipment specifications.

4. The owner/user must see all nameplates, placards, decals, instructions and posted warnings are in place and legible and shall not be obscured from the view of the operator or maintenance personnel for whom such warnings are intended for. Contact manufacturer for any replacements.

5. Modifications or alterations of restraining devices shall be made only with prior written approval from the original manufacturer. These changes shall be in conformance with all applicable provisions of the MH30.3 standard and shall also satisfy all safety recommendations of the original equipment manufacturer of the particular application.

6. An operator training program should consist of, but not necessarily be limited to, the following:
   a. Select the operator carefully. Consider the physical qualifications, job attitude and aptitude.
   b. Assure that the operator reads and fully understands the complete manufacturer's owners/users manual.
   c. Emphasize the impact of proper operation upon the operator, other personnel, material being handled, and equipment. Cite all rules and why they are formulated.
   d. Describe the basic fundamentals of the restraining device and components design as related to safety, e.g., mechanical limitation, stability, functionality, etc.
   e. Introduce the equipment. Show the control locations and demonstrate functions. Explain how they work when used properly and maintained as well problems when they are used improperly.
   f. Assure that the operator understands nameplate data, placards and all precautionary information appearing on the restraining device.
   g. Supervise operator practice of equipment.
   h. Develop and administer written and practical performance tests. Evaluate progress during and at completion of the course.
   i. Administer periodic refresher courses. These may be condensed versions of the primary course and include on-the-job operator evaluation.

7. It is recommended that the transport vehicle is positioned as close as practical to the dock leveling device and in contact with both bumpers. When an industrial vehicle is driven on or off a transport vehicle during the loading and unloading operation, the transport vehicle parking brakes shall be applied and wheel chocks or restraining device that provides equal or better protection of wheel chocks shall be engaged. Also, whenever possible, air-ride suspension systems should have the air exhausted prior to performing said loading and unloading operations.

OWNER'S/USER'S RESPONSIBILITIES

8. When goods are transferred between the loading dock and a trailer resting on its support legs/landing gear instead of a tractor fifth wheel or converter dolly, it is recommended that an adequate stabilizing device or devices shall be utilized at the front of the trailer.

9. In order to be entitled to the benefits of the standard product warranty, the dock safety equipment must have been properly installed, maintained and operated in accordance with all manufacturer's recommendations and/or specified design parameters and not otherwise have been subject to abuse, misue, misapplication, acts of nature, overloading, unauthorized repair or modification, application in a corrosive environment or lack of maintenance. Periodic lubrication, adjustment and inspection in accordance with all manufacturers' recommendations are the sole responsibility of the owner/user.

10. Manufacturer's recommended maintenance and inspection of all restraining devices shall be performed in conformance with the following practices: A planned Maintenance schedule program must be followed, only trained and authorized personnel shall be permitted to maintain, repair, adjust and inspect restraining devices, and only the use of original equipment manufacturer parts, manuals, maintenance instructions, labels, decals and placards of their equivalent. Written documentation of maintenance, replacement parts or damage should be kept. In the event of damage, notification to the manufacturer is required.

11. Restraining devices that are structurally damaged shall be removed from service, inspected by a manufacturer's authorized representative, and repaired or replaced as needed or recommended by the manufacturer before being placed back in service.

OPERATING PROCEDURES

MANUAL (NO RIG SENSOR)

1M. No Transport Vehicle Present (No RIG Sensor)

⚠WARNING

Before loading or unloading a vehicle at your loading dock while using a NOVA Truck Lock™ vehicle restraint, always visually inspect to be sure that the restraint is engaged with the Rear Impact Guard (RIG). If the restraint is still not engaged after backing the trailer firmly against the dock bumpers, secure the trailer by other means.

Be sure that the area around the RIG assembly is clear of obstructions.

Always operate the NOVA Truck Lock™ vehicle restraint from the top of the dock.

Inspect all restraint lights daily to make certain they work properly.

Perform maintenance on restraints in accordance with Maintenance on Page 58 of this manual.

NOVA Truck Lock™ vehicle restraints should be operated only by authorized personnel who have read and understand the Owner's Manual.

If you have questions, Call your local representative or NOVA at (800) 236-7325.

⚠WARNING

Verify the text "Truck Lock™" is present in the display of the PLC as illustrated in Figure BN.

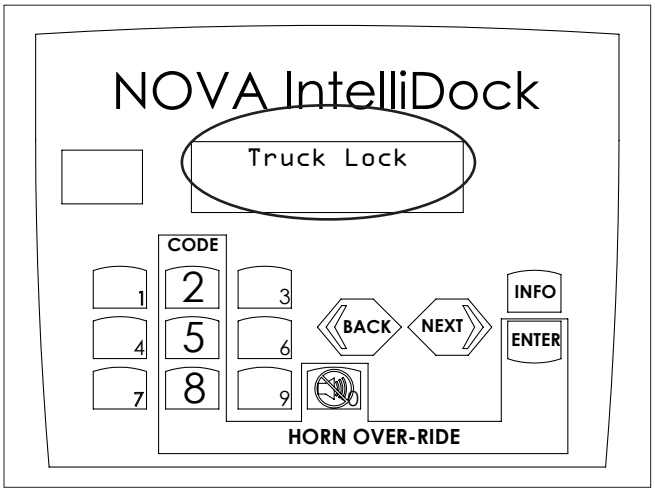


FIGURE BN—VERIFY PLC DISPLAY

a. Ram bar is in UNLOCKED position.
b. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
c. The outside green light is flashing, alerting transport vehicle driver it is safe to back in. Refer to Figure BO.

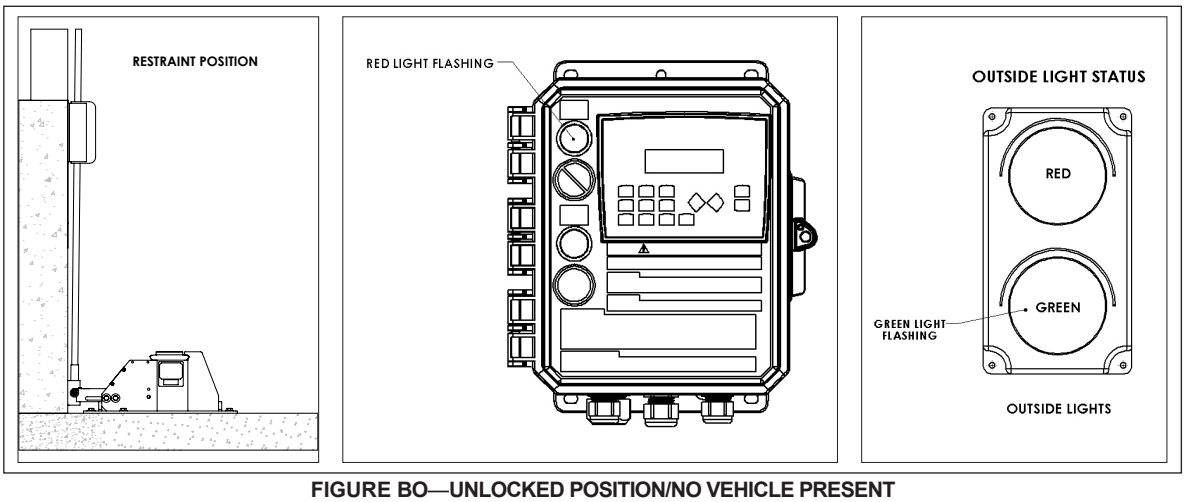


FIGURE BO—UNLOCKED POSITION/NO VEHICLE PRESENT

OPERATING PROCEDURES

2M. LOCKING Restraint (No RIG Sensor)

a. Transport vehicle has backed into loading dock and is parked firmly against dock bumpers.
b. Move activation handle to RESTRAIN position.

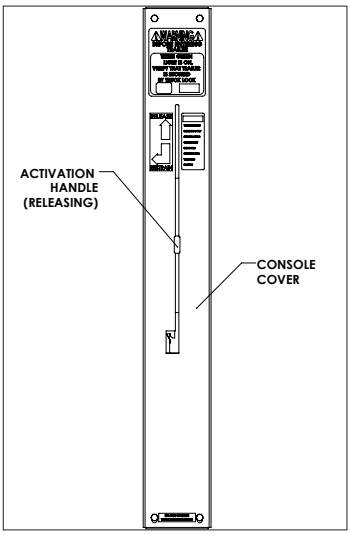


FIGURE BP—ACTIVATION HANDLE IN RESTRAINING TRANSITION

⚠ CAUTION

If trailer can not be restrained due to a lift gate or other obstruction that could become damaged, proceed to horn over-ride state.

c. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
d. The outside red light is flashing, alerting transport vehicle driver not to move.
e. If unable to move activation handle into restrain position proceed to horn override.

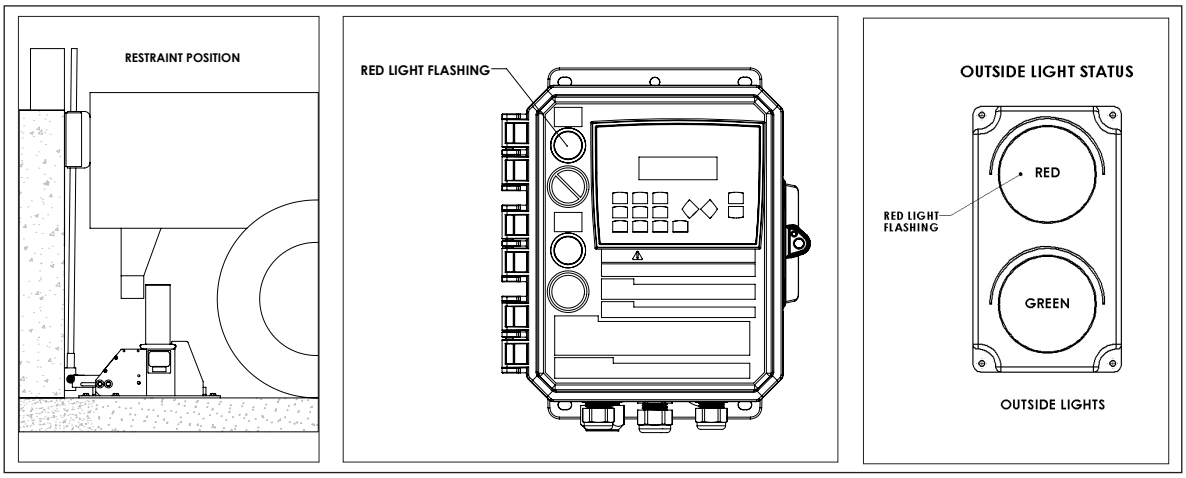


FIGURE BQ—LOCKING RESTRAINT

OPERATING PROCEDURES

3M. LOCKED Restraint (No RIG Sensor)

a. Activation handle is in RESTRAIN position.
b. RIG is securely captured by the ram bar.

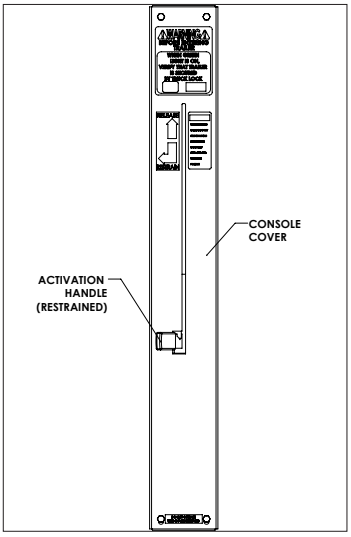


FIGURE BR—ACTIVATION HANDLE IN RESTRAINED POSITION

⚠WARNING

Visually inspect to ensure that the Truck Lock™ vehicle restraint ram bar securely blocks the RIG of the trailer before operating the dock leveler.

c. The green light on the control box is flashing, alerting the fork lift operator a safe condition exists.
d. The outside red light is flashing, alerting transport vehicle driver not to move.

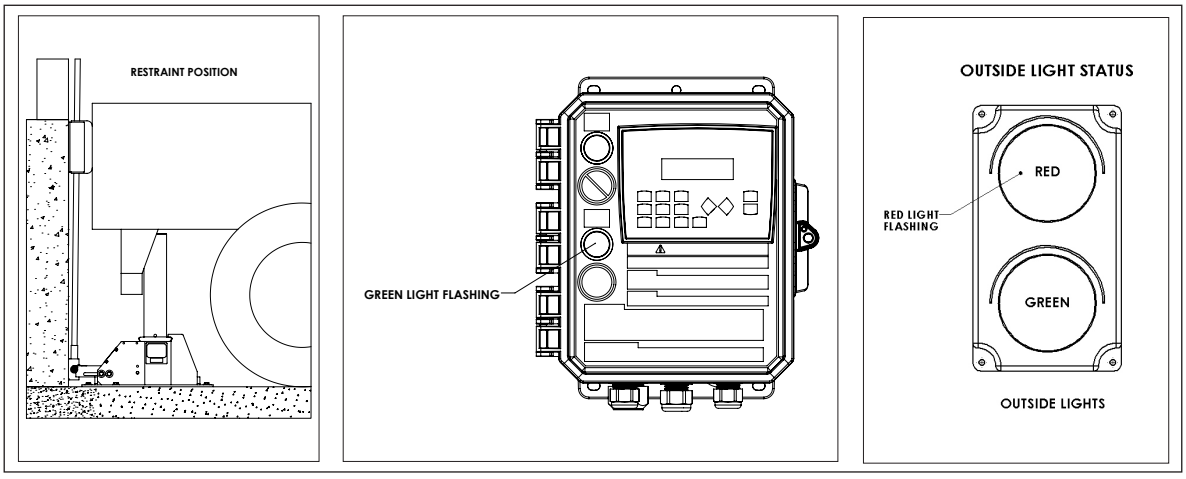


FIGURE BS—LOCKED RESTRAINT

OPERATING PROCEDURES

4M. UNLOCKING Restraint (No RIG Sensor)

a. Move activation handle to RELEASE position.
b. Ram bar will transition from LOCKED position to the UNLOCKED position.

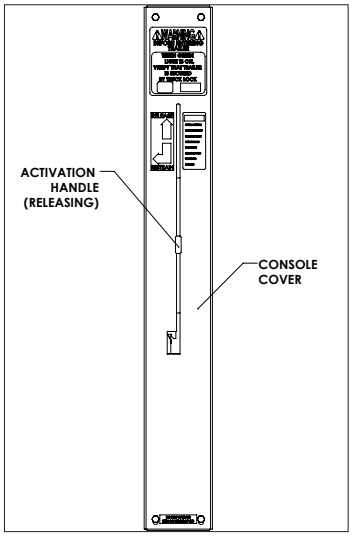


FIGURE BT—ACTIVATION HANDLE IN RELEASING TRANSITION

c. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
d. The outside red light is flashing, alerting transport vehicle driver not to move.
e. When the process is complete, the Ram Bar is in the UNLOCKED position shown in Figure BO, Page 38.

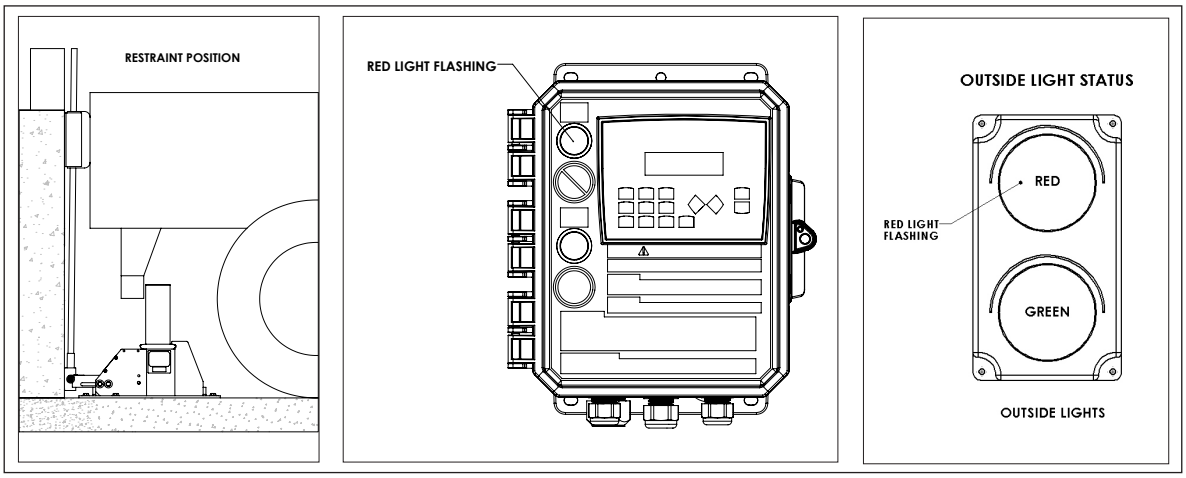


FIGURE BU—UNLOCKING RESTRAINT

OPERATING PROCEDURES

FAULT from LOCKING State (Manual)

Ram bar cannot block the RIG. This could be due to a RIG that is located too far toward the rear axle, bent, obstructed or missing. Activation handle is unable to move into RESTRAIN position. Inside light is flashing red and horn is pulsing, alerting the forklift operator that the trailer is not locked. Outside light is flashing red alerting the truck driver not to move. See Figure BV.

If the trailer is parked firmly against the dock bumpers proceed to horn over-ride. If not, return activation handle to RELEASE position to clear the fault, have trailer back up and repeat Restraint LOCKING procedure.

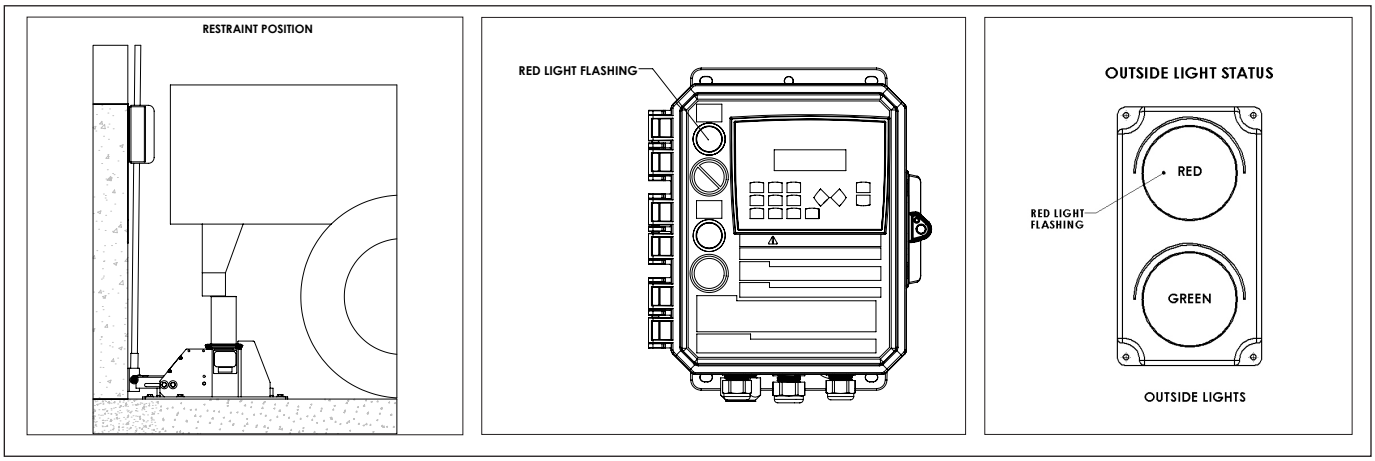


FIGURE BV—FAULT STATE

HORN OVER-RIDE (Manual)

If alarm sounds and red light is on after attempting to RESTRAIN the RIG, the trailer may not be serviceable. Ensure Dock Leveler is in the stored position. Secure trailer by alternate means. Depress the “HORN OVER-RIDE” button (0) on the key pad, enter default over-ride code 5528 then press the “ENTER” button. Inside red and green lights are flashing; outside light is flashing red only. Position Dock Leveler to service trailer and proceed with caution.

⚠ DANGER

Before activating “HORN OVER-RIDE”, ensure that dock leveler is in stored position and secure trailer by other means.

HORN OVER-RIDE RESET

Ensure Dock Leveler is in the stored position. Unsecure the trailer. Depress the “HORN OVER-RIDE” button (0) on the key pad, enter default over-ride code 5528 then press the “ENTER” button.

5528 = Default over-ride code. The default over-ride code can be changed.

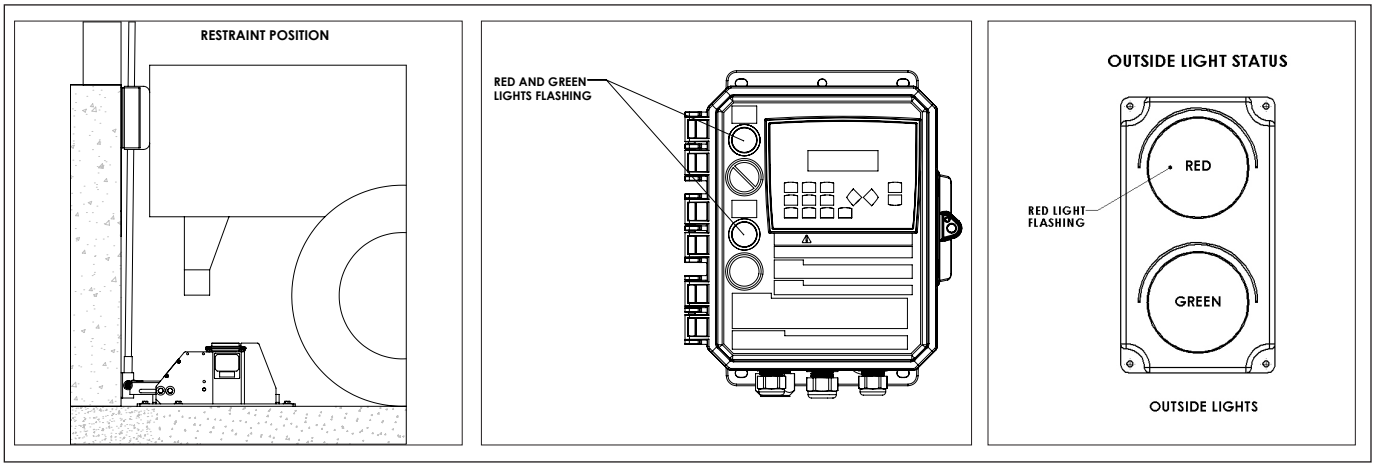


FIGURE BW—HORN OVER-RISE STATE

OPERATING PROCEDURES

MANUAL (WITH RIG SENSOR)

1M. No Transport Vehicle Present (With RIG Sensor)

⚠WARNING

Before loading or unloading a vehicle at your loading dock while using a NOVA Truck Lock™ vehicle restraint, always visually inspect to be sure that the restraint is engaged with the Rear Impact Guard (RIG). If the restraint is still not engaged after backing the trailer firmly against the dock bumpers, secure the trailer by other means.

Be sure that the area around the RIG assembly is clear of obstructions.

Always operate the NOVA Truck Lock™ vehicle restraint from the top of the dock.

Inspect all restraint lights daily to make certain they work properly.

Perform maintenance on restraints in accordance with Maintenance on Page 58 of this manual.

NOVA Truck Lock™ vehicle restraints should be operated only by authorized personnel who have read and understand the Owner's Manual.

If you have questions, Call your local representative or NOVA at (800) 236-7325.

⚠WARNING

Verify the text "Truck Lock™" is present in the display of the PLC as illustrated in Figure BX.

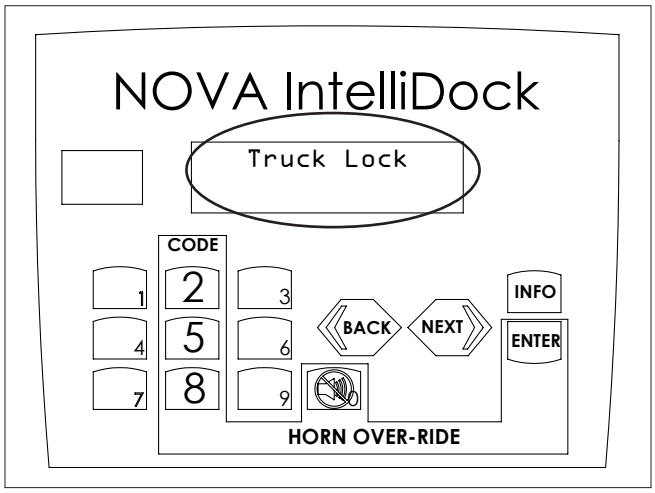


FIGURE BX—VERIFY PLC SCREEN

a. Ram bar is in UNLOCKED position.
b. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
c. The outside green light is flashing, alerting transport vehicle driver it is safe to back in.

Refer to Figure BY.

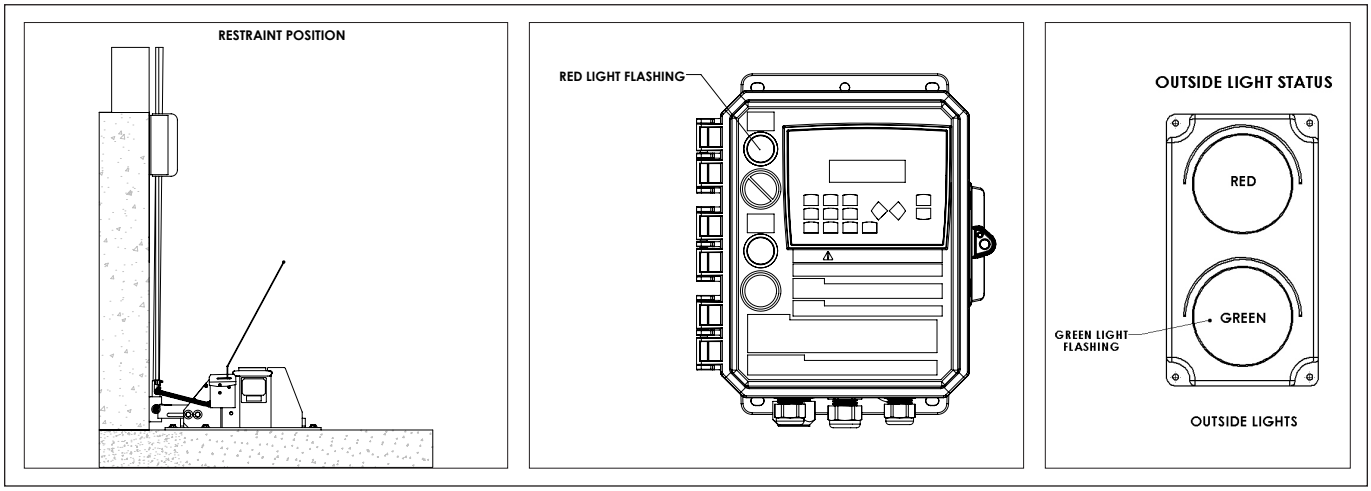


FIGURE BY—UNLOCKED POSITION/NO VEHICLE PRESENT

OPERATING PROCEDURES

2M. Transport Vehicle Present (With RIG Sensor)

a. Transport vehicle has backed into loading dock and is parked firmly against dock bumpers, verify RIG sensor is fully depressed.

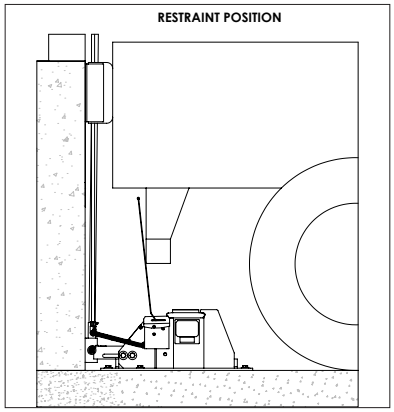


FIGURE BZ—RIG SENSOR DEPRESSED

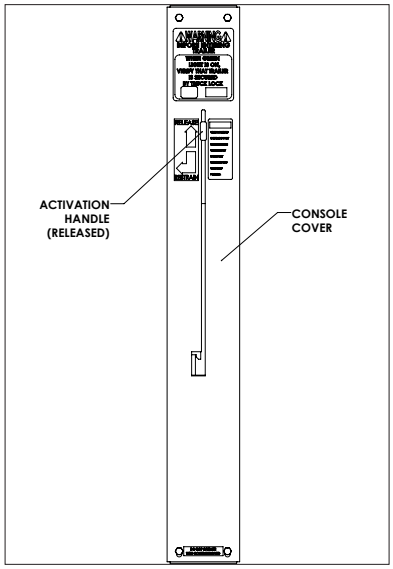


FIGURE CA—ACTIVATION HANDLE IN RELEASE POSITION

b. Activation handle is in the RELEASE position.
c. Ram bar is in UNLOCKED position.
d. The red light on control box is constant, alerting the fork lift operator a transport vehicle is present.
e. The outside green light is flashing, alerting transport vehicle driver it is safe to back in.

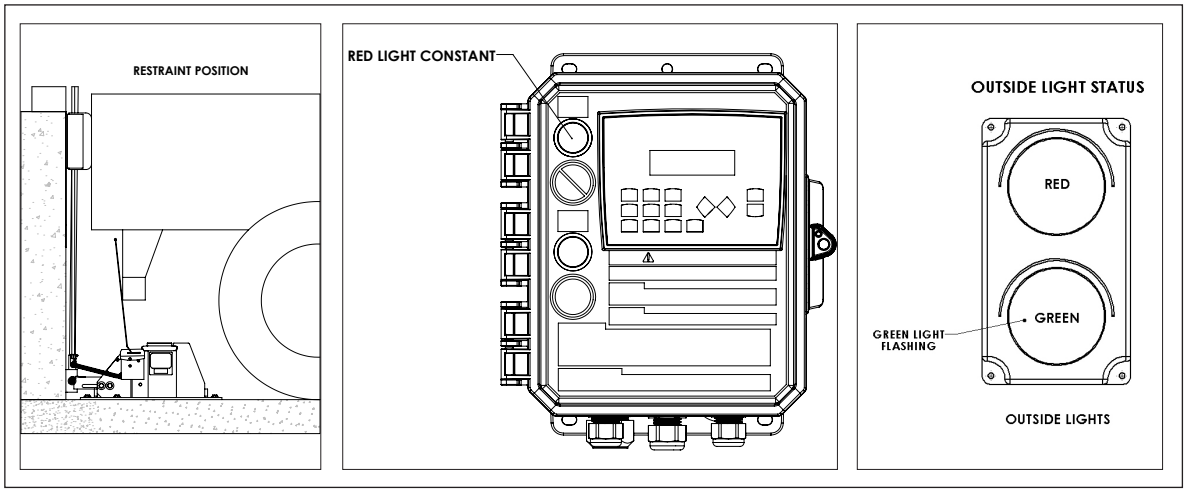


FIGURE CB—RIG SENSOR DEPRESSED

OPERATING PROCEDURES

3M. LOCKING Restraint (with optional RIG Sensor)

a. Move activation handle to RESTRAIN position.

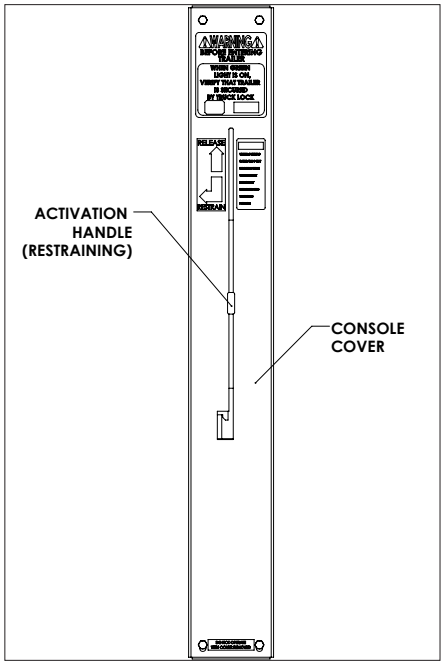


FIGURE CC—ACTIVATION HANDLE IN RESTRAINING TRANSITION

⚠ CAUTION

If trailer can not be restrained due to a lift gate or other obstruction that could become damaged, proceed to horn over-ride state.

b. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
c. The outside red light is flashing, alerting transport vehicle driver not to move.
d. If unable to move activation handle to RESTRAIN position, proceed to horn override.

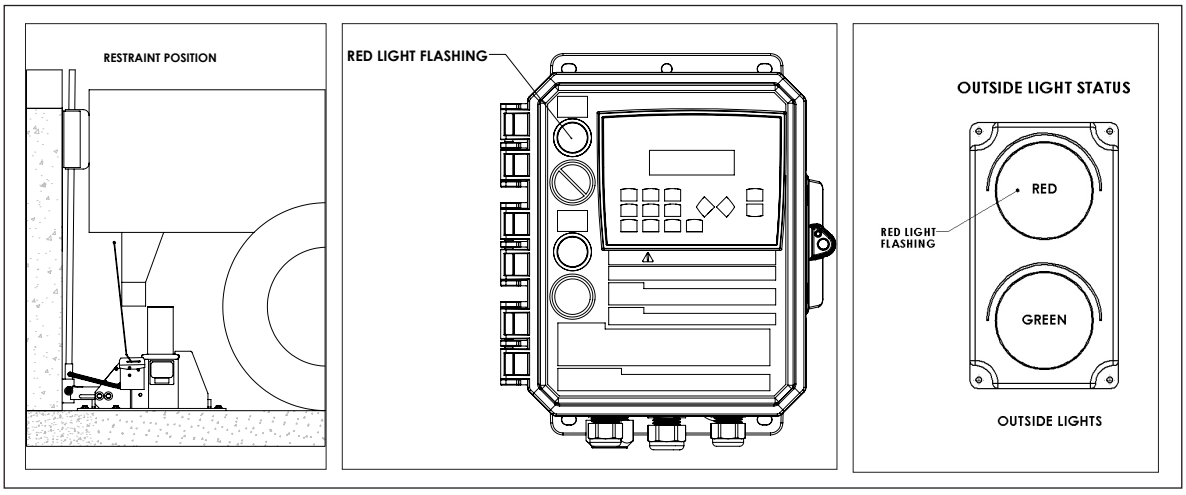


FIGURE CD—LOCKING RESTRAINT

OPERATING PROCEDURES

4M. LOCKED Restraint (With RIG Sensor)

a. Move activation handle to RESTRAIN position.
b. RIG is securely captured by the Ram bar.

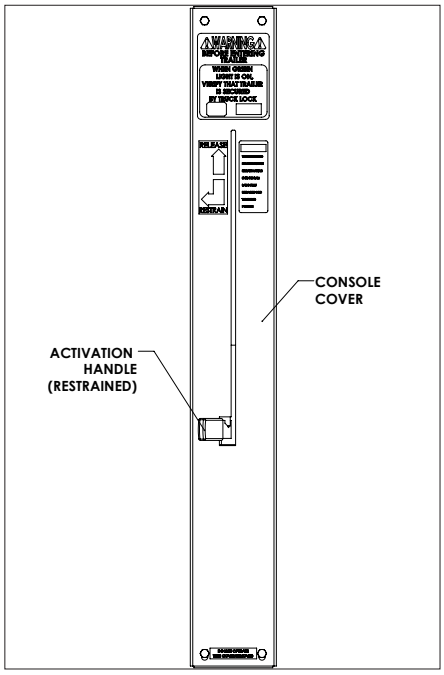


FIGURE CE—ACTIVATION HANDLE IN RELEASE POSITION

⚠WARNING

Visually inspect to ensure that the Truck Lock™ vehicle restraint ram bar securely blocks the RIG of the trailer before operating the dock leveler.

c. The green light on the control box is flashing, alerting the fork lift operator a safe condition exists.
d. The outside red light is flashing, alerting transport vehicle driver not to move.

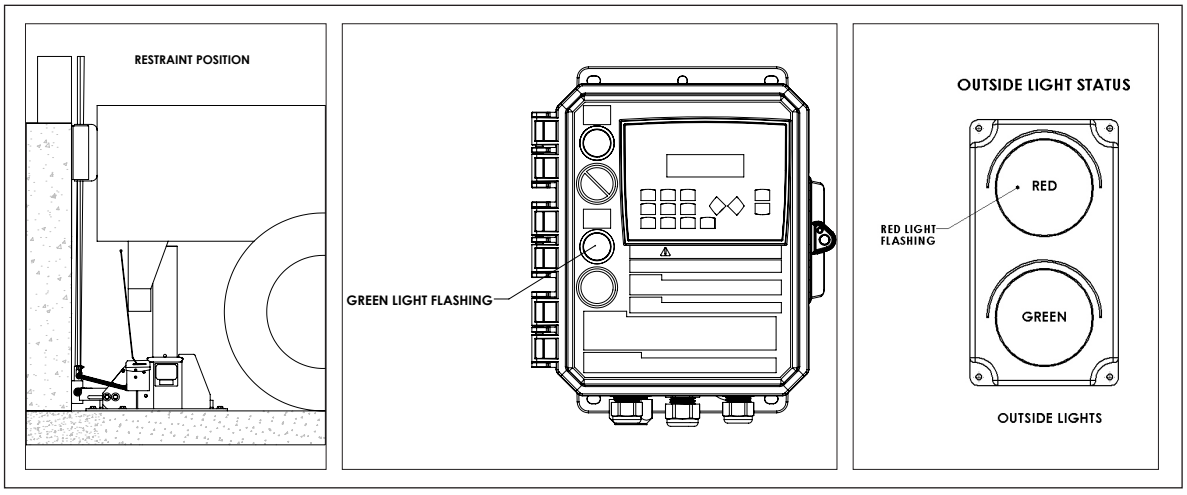


FIGURE CF—LOCKED RESTRAINT

OPERATING PROCEDURES

5M. UNLOCKING Restraint (With RIG Sensor)

a. Move activation handle to RELEASE position.
b. Ram bar will transition from the LOCKED position to the UNLOCKED position.

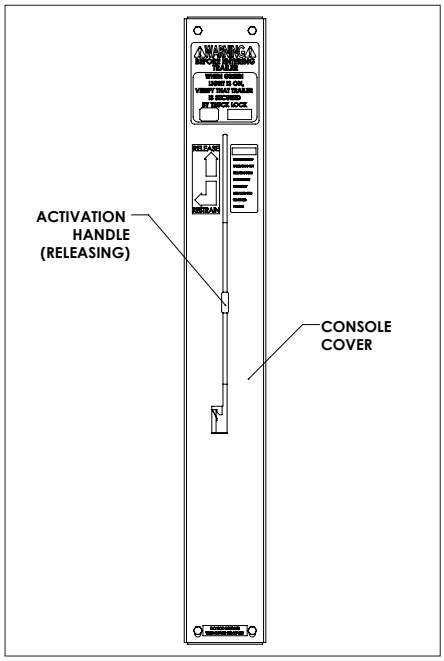


FIGURE CG—ACTIVATION HANDLE IN RELEASING TRANSITION

c. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
d. The outside red light is flashing, alerting transport vehicle driver not to move.
e. When the process is complete, the Ram Bar is in the UNLOCKED position shown in Figure BY, Page 43.

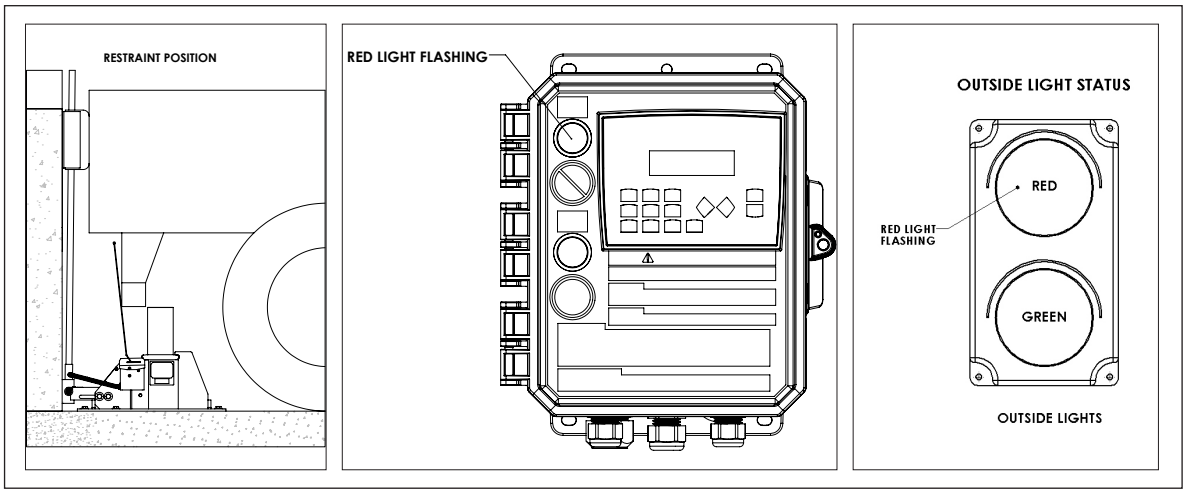


FIGURE CH—UNLOCKING RESTRAINT

OPERATING PROCEDURES

FAULT from LOCKING State (Manual)

Ram bar cannot block the RIG. This could be due to a RIG that is located too far toward the rear axle, bent, obstructed or missing. Activation handle is unable to move into RESTRAIN position. Inside light is flashing red and horn is pulsing, alerting the forklift operator that the trailer is not locked. Outside light is flashing red alerting the truck driver not to move. See Figure CI.

If the trailer is parked firmly against the dock bumpers proceed to horn over-ride. If not, return activation handle to RELEASE position to clear the fault, have trailer back up and repeat Restraint LOCKING procedure.

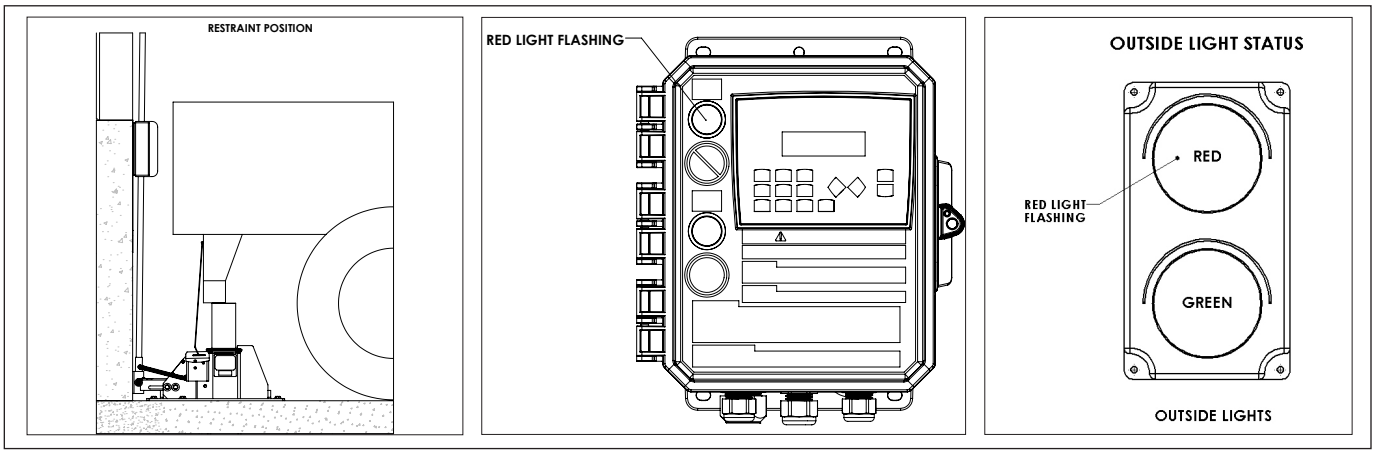


FIGURE CI—FAULT STATE

HORN OVER-RIDE (Manual)

If alarm sounds and red light is on after attempting to RESTRAIN the RIG, the trailer may not be serviceable. Ensure Dock Leveler is in the stored position. Secure trailer by alternate means. Depress the “HORN OVER-RIDE” button (0) on the key pad, enter default over-ride code 5528 then press the “ENTER” button. Inside red and green lights are flashing; outside light is flashing red only. Position Dock Leveler to service trailer and proceed with caution.

⚠ DANGER

Before activating “HORN OVER-RIDE”, ensure that dock leveler is in stored position and secure trailer by other means.

HORN OVER-RIDE RESET

Ensure Dock Leveler is in the stored position. Unsecure the trailer. Depress the “HORN OVER-RIDE” button (0) on the key pad, enter default over-ride code 5528 then press the “ENTER” button.

5528 = Default over-ride code. The default over-ride code can be changed.

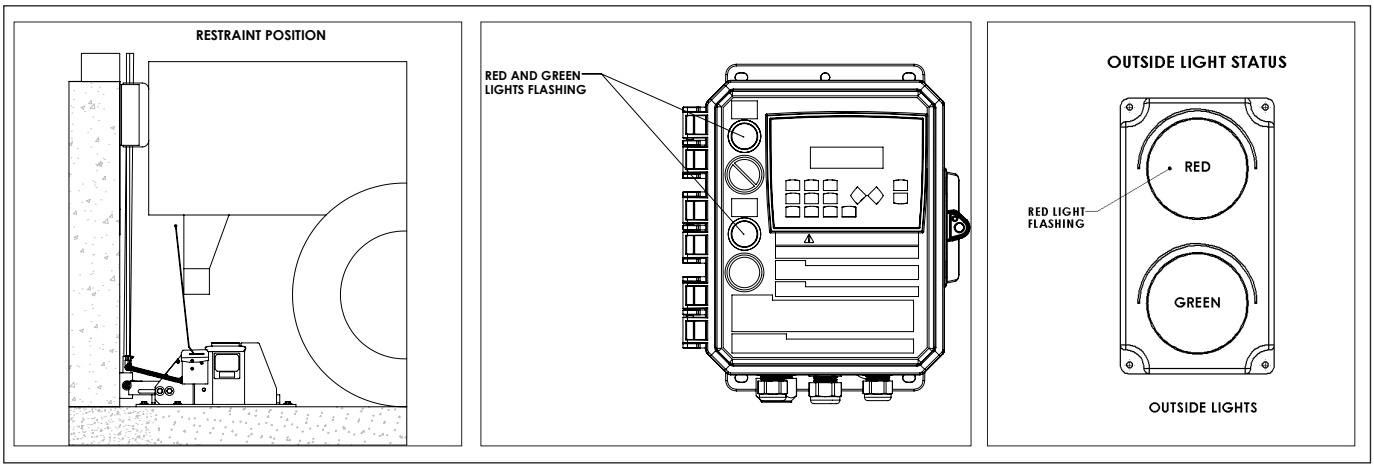


FIGURE CJ—HORN OVER-RIDE STATE

OPERATING PROCEDURES

PNEUMATIC (NO RIG SENSOR)

1P. Transport Vehicle Present or Not Present (No RIG Sensor)

⚠WARNING

Before loading or unloading a vehicle at your loading dock while using a NOVA Truck Lock™ vehicle restraint, always visually inspect to be sure that the restraint is engaged with the Rear Impact Guard (RIG). If the restraint is still not engaged after backing the trailer firmly against the dock bumpers, secure the trailer by other means.

Be sure that the area around the RIG assembly is clear of obstructions.

Always operate the NOVA Truck Lock™ vehicle restraint from the top of the dock.

Inspect all restraint lights daily to make certain they work properly.

Perform maintenance on restraints in accordance with Maintenance on Page 58 of this manual.

NOVA Truck Lock™ vehicle restraints should be operated only by authorized personnel who have read and understand the Owner's Manual.

If you have questions, Call your local representative or NOVA at (800) 236-7325.

⚠WARNING

Verify the text "Truck Lock™" is present in the display of the PLC as illustrated in Figure CK.

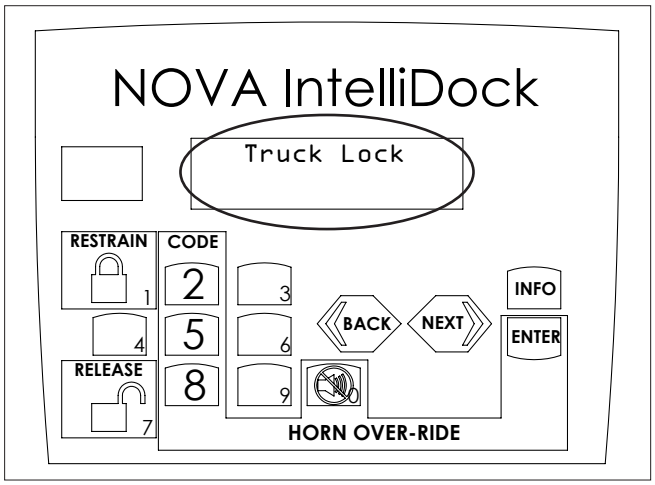


FIGURE CK—RESTRAIN OPERATION

a. Ram bar is in UNLOCKED position.
b. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
c. The outside green light is flashing, alerting transport vehicle driver it is safe to back in.

Refer to Figure CL.

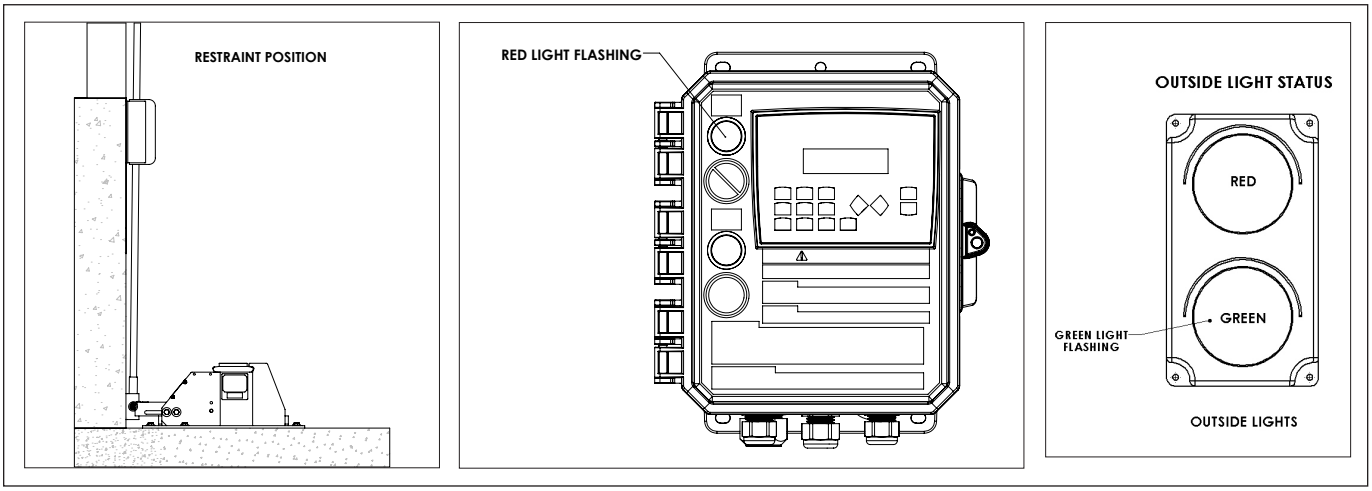


FIGURE CL—UNLOCKED POSITION/NO VEHICLE PRESENT

OPERATING PROCEDURES

2P. LOCKING Restraint (No RIG Sensor)

- If the control box is not interlocked, skip step “a” below:
- If the control box is interlocked, perform step “a” below:

a. Interlocked equipment must be in position listed below:

PLC Display:	Interlock Door A	Door must be closed
OR		
PLC Display:	Interlock Door B	Door could be opened or closed
OR		
PLC Display:	InterlockLeveler	Leveler must be stored

b. Transport vehicle has backed into loading dock and is parked firmly against dock bumpers.

⚠ CAUTION

If trailer can not be restrained due to a lift gate or other obstruction that could become damaged, proceed to horn over-ride state.

c. Depress “RESTRAIN” (#1 button).

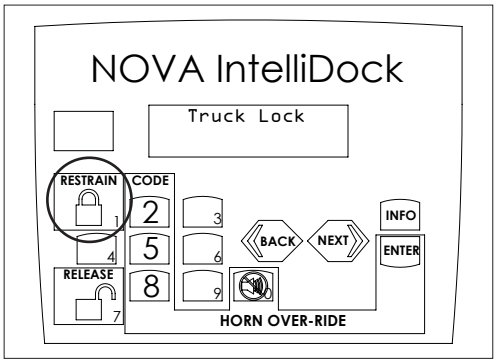


FIGURE CM—RESTRAIN OPERATION

d. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
e. The outside red light is flashing, alerting transport vehicle drive not to move.
f. The alarm will sound while the Ram bar transitions from UNLOCKED position to LOCKED position to securely capture the RIG.
g. If alarm continues to sound after the Ram bar is finished transitioning, proceed to FAULT, otherwise proceed to LOCKED.

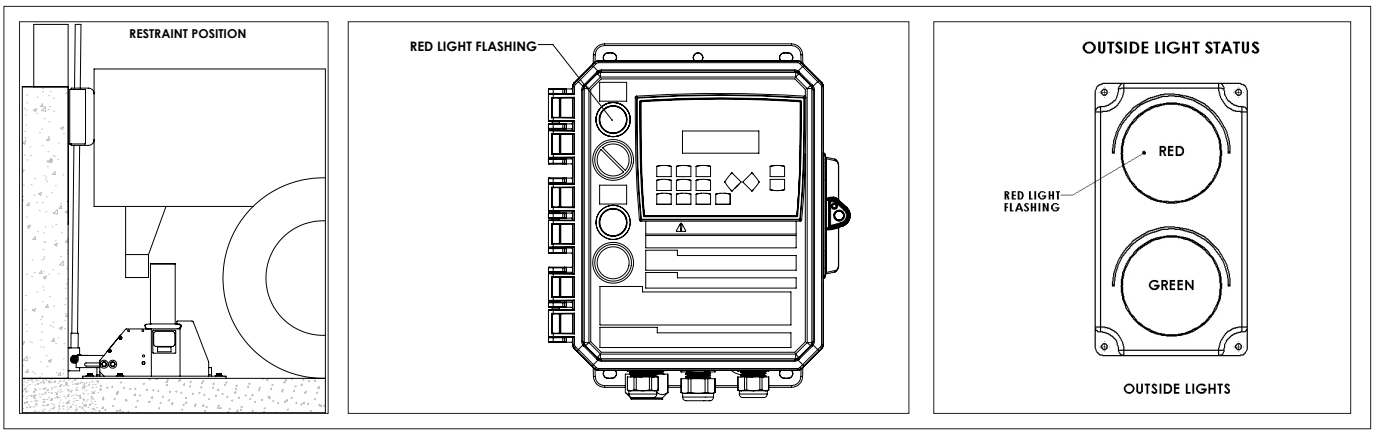


FIGURE CN—LOCKING RESTRAINT, ALARM SOUNDING

OPERATING PROCEDURES

⚠WARNING

Visually inspect to ensure that the Truck Lock™ vehicle restraint ram bar securely blocks the RIG of the trailer before operating the dock leveler.

3P. LOCKED Restraint (No RIG Sensor)

a. RIG is securely captured by the Ram bar, a LOCKED condition exists.
b. The green light on the control box is flashing, alerting the fork lift operator a safe condition exists.
c. The outside red light is flashing, alerting transport vehicle driver not to move.

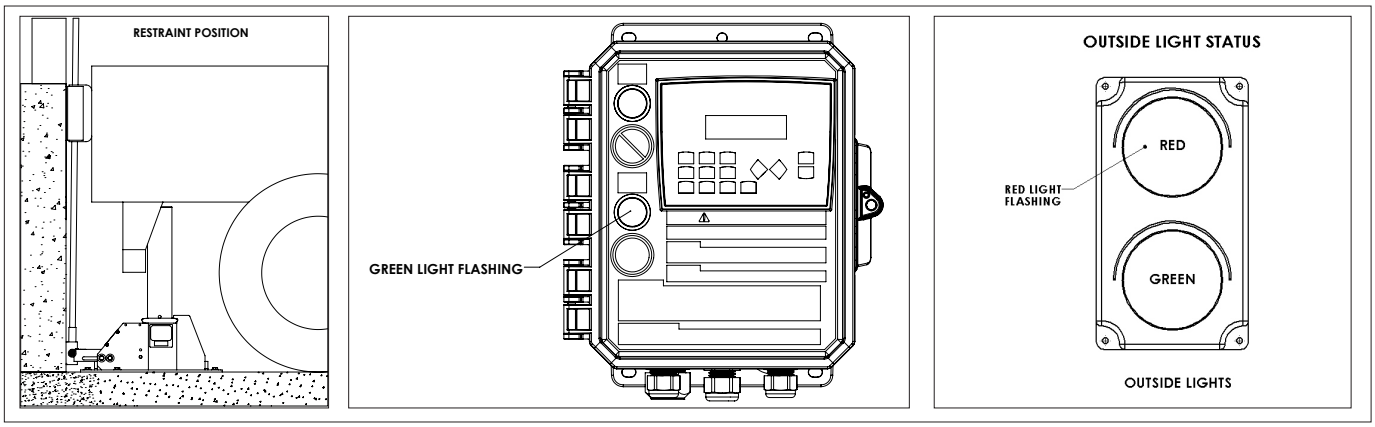


FIGURE CO —LOCKED RESTRAIN

4P. UNLOCKING Restraint (No Optional RIG Sensor)

- If the control box is not interlocked, skip step “a” below:
- If the control box is interlocked, perform step “a” below:

a. Interlocked equipment must be in position listed below:

PLC Display:	Interlock Door A	Door must be closed
OR		
PLC Display:	Interlock Door B	Door could be opened or closed
OR		
PLC Display:	InterlockLeveler	Leveler must be stored

b. Depress “RELEASE” (#7 button).
c. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
d. The outside red light is flashing, alerting transport vehicle driver not to move.
e. When the process is complete, the Ram Bar is in the UNLOCKED position shown in Figure CL, Page 49.

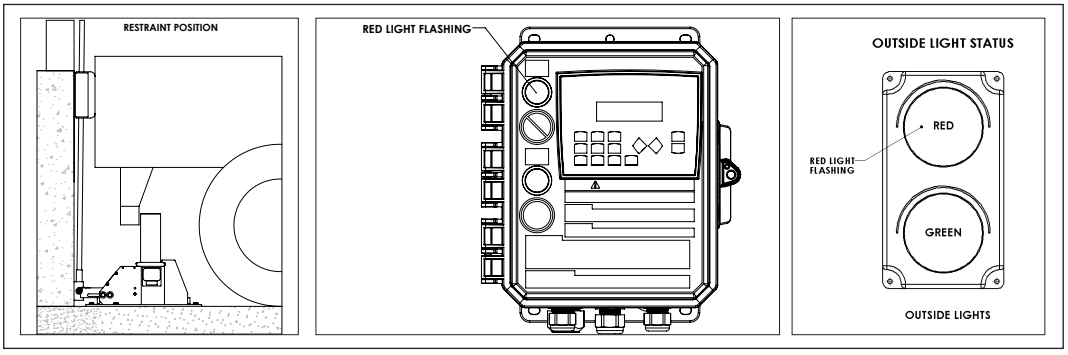


FIGURE CP—UNLOCKING RESTRAINT

OPERATING PROCEDURES

FAULT from LOCKING State (Pneumatic)

Ram bar cannot block the RIG. This could be due to a RIG that is located too far toward the rear axle, bent, obstructed or missing. Inside light is flashing red and horn is pulsing, alerting the forklift operator that the trailer is not locked. Outside light is flashing red alerting th truck driver not to move. See Figure CQ.

If the trailer is parked firmly against the dock bumpers proceed to horn over-ride. If not, press “RELEASE” to clear the fault, have trailer back up and repeat Restraint LOCKING procedure.

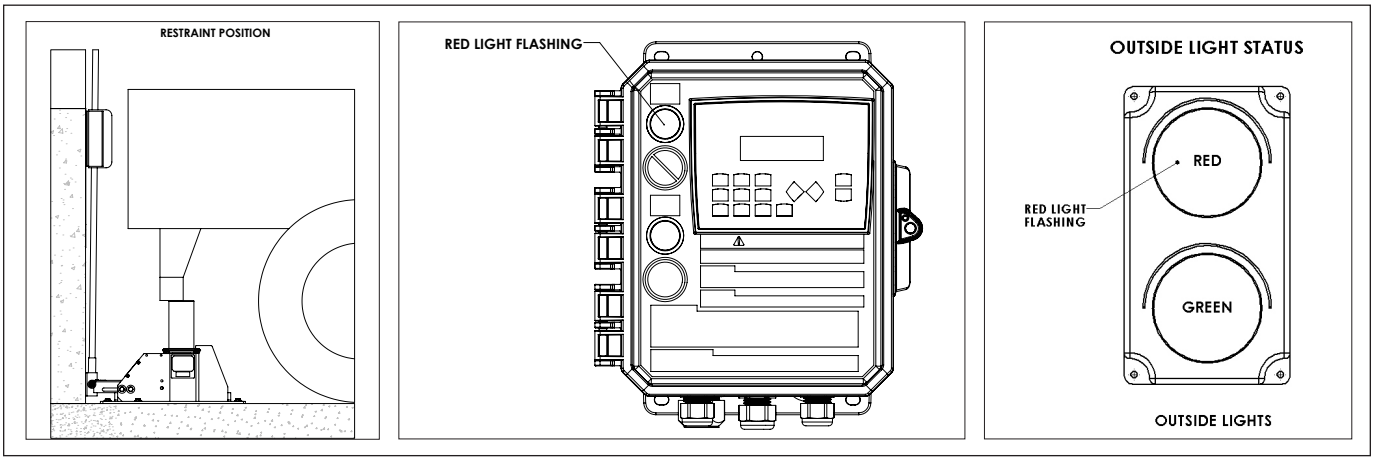


FIGURE CQ—FAULT STATE

HORN OVER-RIDE (Pneumatic)

If alarm sounds and red light is on after attempting to RESTRAIN the RIG, the trailer may not be serviceable. Ensure Dock Leveler is in the stored position. Secure trailer by alternate means. Depress the “HORN OVER-RIDE” button (0) on the key pad, enter default over-ride code 5528 then press the “ENTER” button. Inside red and green lights are flashing; outside light is flashing red only. Position Dock Leveler to service trailer and proceed with caution.

⚠ DANGER

Before activating “HORN OVER-RIDE”, ensure that dock leveler is in stored position and secure trailer by other means.

HORN OVER-RIDE RESET

Ensure Dock Leveler is in the stored position. Unsecure the trailer. Depress the “HORN OVER-RIDE” button (0) on the key pad, enter default over-ride code 5528 then press the “ENTER” button. Press the “RELEASE” button on the key pad.

5528 = Default over-ride code. The default over-ride code can be changed.

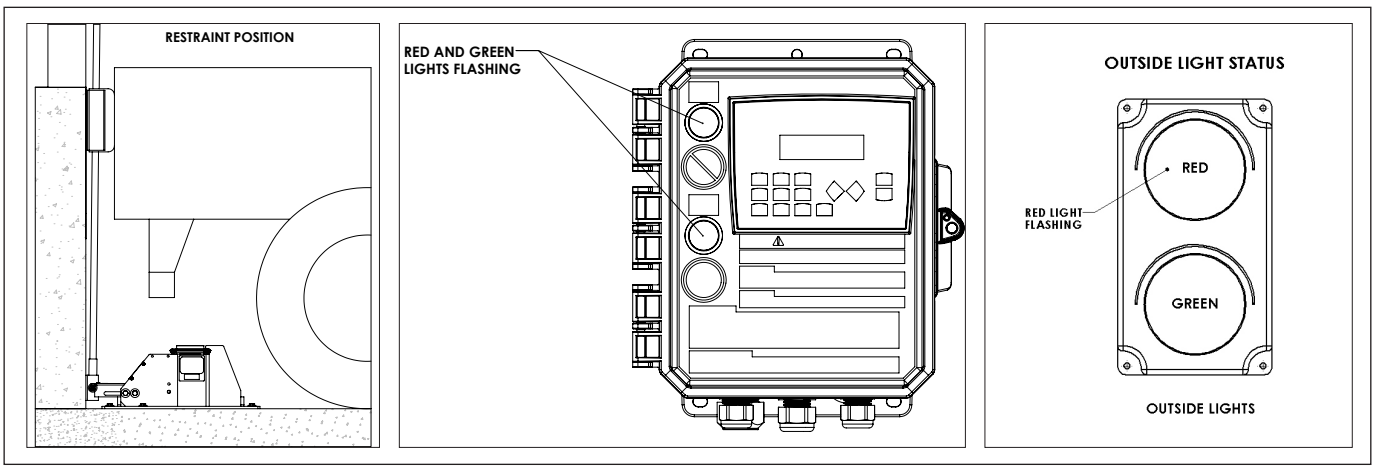


FIGURE CR—HORN OVER-RIDE STATE

OPERATING PROCEDURES

PNEUMATIC (WITH RIG SENSOR)

1P. Transport Vehicle Present or Not Present (With RIG Sensor)

⚠WARNING

Before loading or unloading a vehicle at your loading dock while using a NOVA Truck Lock™ vehicle restraint, always visually inspect to be sure that the restraint is engaged with the Rear Impact Guard (RIG). If the restraint is still not engaged after backing the trailer firmly against the dock bumpers, secure the trailer by other means.

Be sure that the area around the RIG assembly is clear of obstructions.

Always operate the NOVA Truck Lock™ vehicle restraint from the top of the dock.

Inspect all restraint lights daily to make certain they work properly.

Perform maintenance on restraints in accordance with Maintenance on Page 58 of this manual.

NOVA Truck Lock™ vehicle restraints should be operated only by authorized personnel who have read and understand the Owner's Manual.

If you have questions, Call your local representative or NOVA at (800) 236-7325.

⚠WARNING

Verify the text "Truck Lock™" is present in the display of the PLC as illustrated in Figure CS.

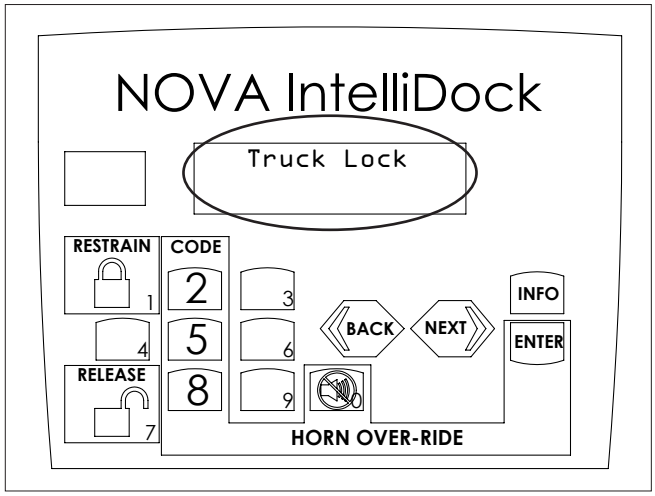


FIGURE CS—RESTRAIN OPERATION

a. Ram bar is in UNLOCKED position.
b. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
c. The outside green light is flashing, alerting transport vehicle driver it is safe to back in.

Refer to Figure CT.

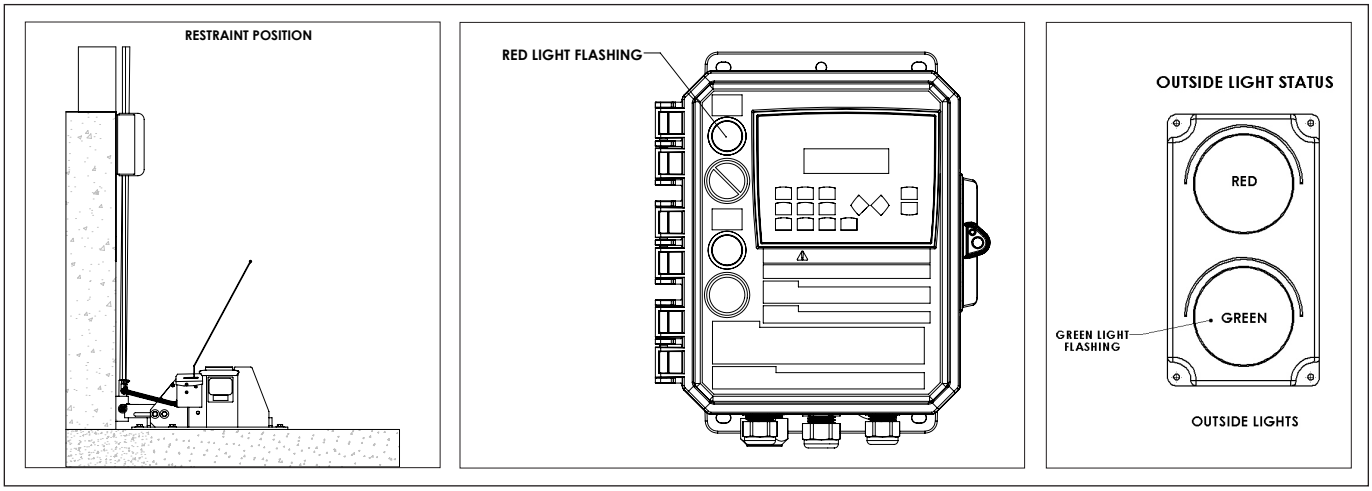


FIGURE CT—UNLOCKED POSITION/NO VEHICLE PRESENT

OPERATING PROCEDURES

1P. Transport Vehicle Present (With RIG Sensor)

a. Transport vehicle has backed into loading dock and is parked firmly against dock bumpers, verify RIG sensor is fully depressed.

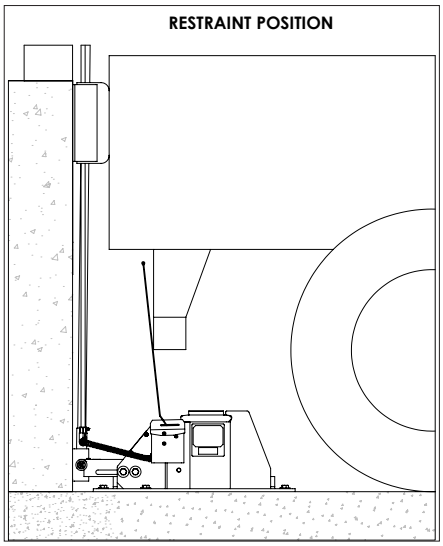


FIGURE CU—RIG SENSOR DEPRESSED

b. Ram bar is in UNLOCKED position.
c. The red light on the control box is constant, alerting the fork lift operator a transport vehicle is present.
d. The outside green light is flashing, alerting transport vehicle driver it is safe to back in.

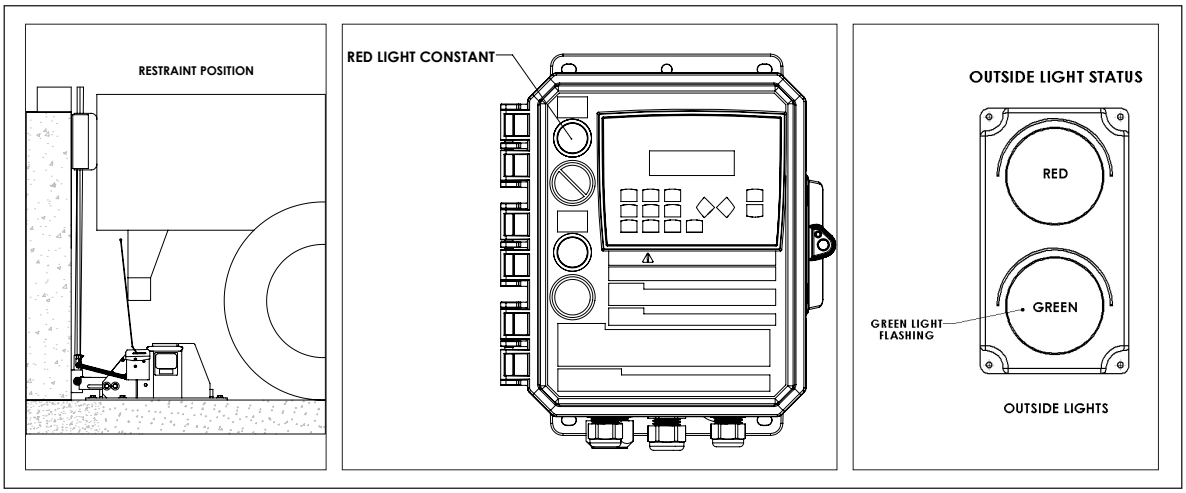


FIGURE CV—RIG SENSOR DEPRESSED

OPERATING PROCEDURES

2P. LOCKING Restraint (With RIG Sensor)

- If the control box is not interlocked, skip step “a” below:
- If the control box is interlocked, perform step “a” below:

a. Interlocked equipment must be in position listed below:
PLC Display: Interlock Door A Door must be closed
OR
PLC Display: Interlock Door B Door could be opened or closed
OR
PLC Display: InterlockLeveler Leveler must be store

⚠CAUTION

If trailer can not be restrained due to a lift gate or other obstruction that could become damaged, proceed to horn over-ride state.

b. Depress “RESTRAIN” (#1 button).

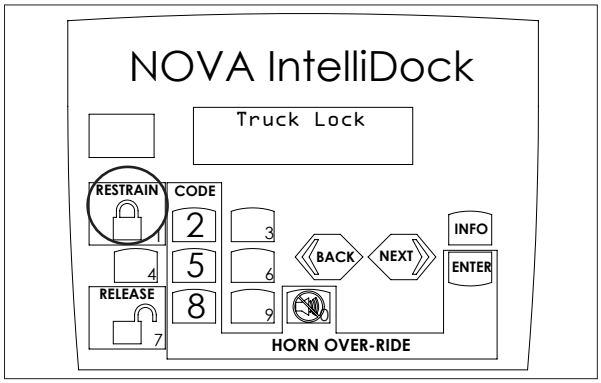


FIGURE CW—RESTRAIN OPERATION

c. The red light on the control box is flashing, alerting fork truck driver an unsafe condition exists.
d. The outside red light is flashing, alerting transport vehicle driver not to move.
e. The alarm will sound while the Ram bar transitions from UNLOCKED position to LOCKED position to securely capture the RIG.
f. If alarm continues to sound after the Ram bar is finished transitioning, proceed to FAULT, otherwise proceed to LOCKED.

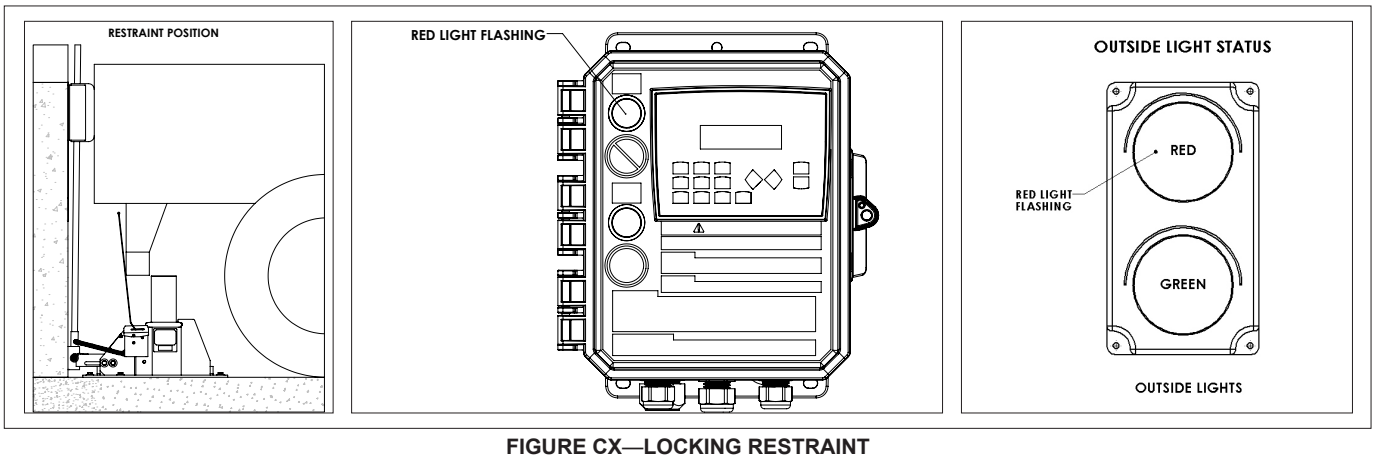


FIGURE CX—LOCKING RESTRAINT

OPERATING PROCEDURES

⚠WARNING

Visually inspect to ensure that the Truck Lock™ vehicle restraint ram bar securely blocks the RIG of the trailer before operating the dock leveler.

3P. LOCKED Restraint (With RIG Sensor)

a. RIG is securely captured by the Ram bar, a LOCKED condition exists.
b. The green light on the control box is flashing, alerting the fork lift operator a safe condition exists.
c. The outside red light is flashing, alerting transport vehicle driver not to move.

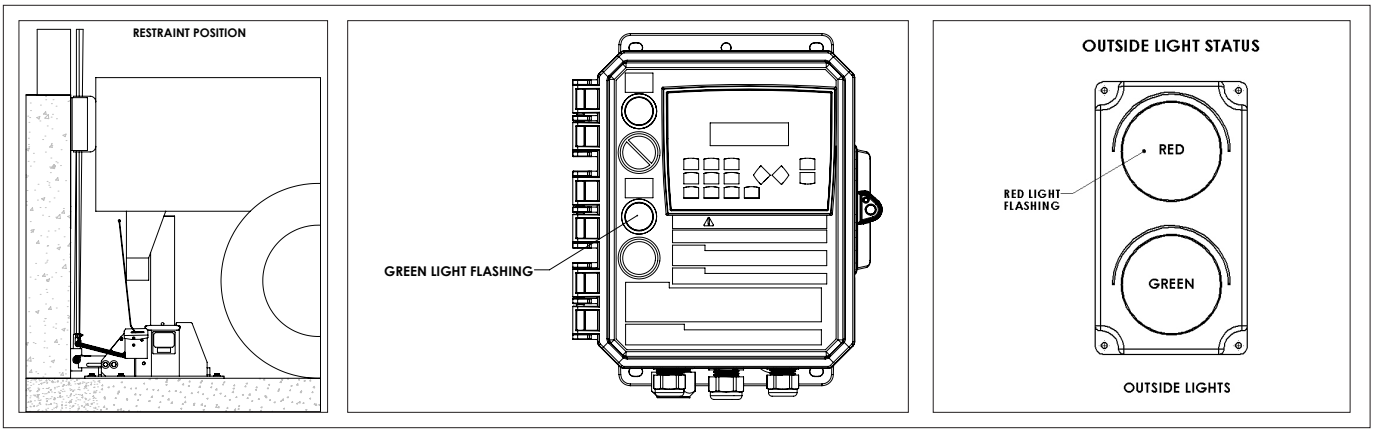


FIGURE CY—LOCKING RESTRAINT, ALARM SOUNDING

4P. UNLOCKING Restraint (With Optional RIG Sensor)

- If the control box is not interlocked, skip step “a” below:
- If the control box is interlocked, perform step “a” below:

a. Interlocked equipment must be in position listed below:

PLC Display:	Interlock Door A	Door must be closed
OR		
PLC Display:	Interlock Door B	Door could be opened or closed
OR		
PLC Display:	InterlockLeveler	Leveler must be stored

b. Depress “RELEASE” (#7 button).
c. The red light on the control box is constant, alerting the fork lift operator a transport vehicle is present.
d. The outside red light is flashing, alerting transport vehicle driver not to move.
e. When the process is complete, the Ram bar is in the UNLOCKED position shown in Figure CT, Page 53.

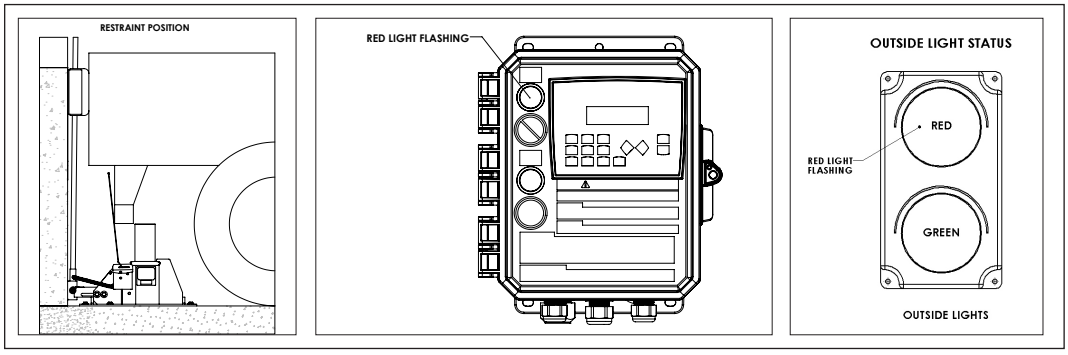


FIGURE CZ—UNLOCKING RESTRAINT

OPERATING PROCEDURES

FAULT from LOCKING State (Pneumatic)

Ram bar cannot block the RIG. This could be due to a RIG that is located too far toward the rear axle, bent, obstructed or missing. Inside light is flashing red and horn is pulsing, alerting the forklift operator that the trailer is not locked. Outside light is flashing red alerting the truck driver not to move. See Figure DA.

If the trailer is parked firmly against the dock bumpers proceed to horn over-ride. If not, press “RELEASE” to clear the fault, have trailer back up and repeat Restraint LOCKING procedure.

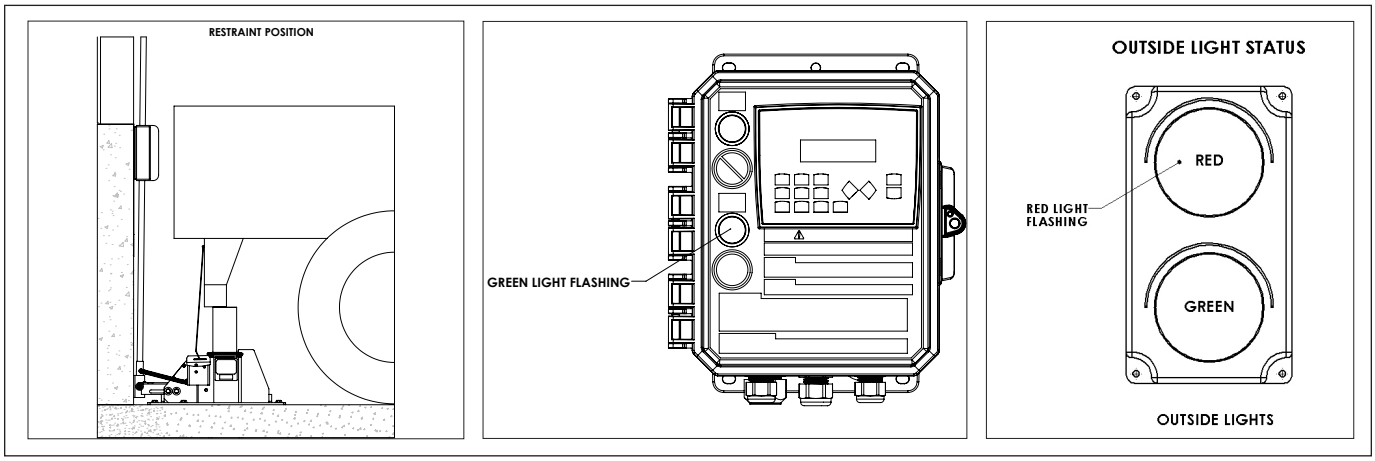


FIGURE DA—FAULT STATE

HORN OVER-RIDE (Pneumatic)

If alarm sounds and red light is on after attempting to RESTRAIN the RIG, the trailer may not be serviceable. Ensure Dock Leveler is in the stored position. Secure trailer by alternate means. Depress the “HORN OVER-RIDE” button (0) on the key pad, enter default over-ride code 5528 then press the “ENTER” button. Inside red and green lights are flashing; outside light is flashing red only. Position Dock Leveler to service trailer and proceed with caution.

⚠ DANGER

Before activating “HORN OVER-RIDE”, ensure that dock leveler is in stored position and secure trailer by other means.

HORN OVER-RIDE RESET

Ensure Dock Leveler is in the stored position. Unsecure the trailer. Depress the “HORN OVER-RIDE” button (0) on the key pad, enter default over-ride code 5528 then press the “ENTER” button. Press the “RELEASE” button on the key pad.

5528 = Default over-ride code. The default over-ride code can be changed.

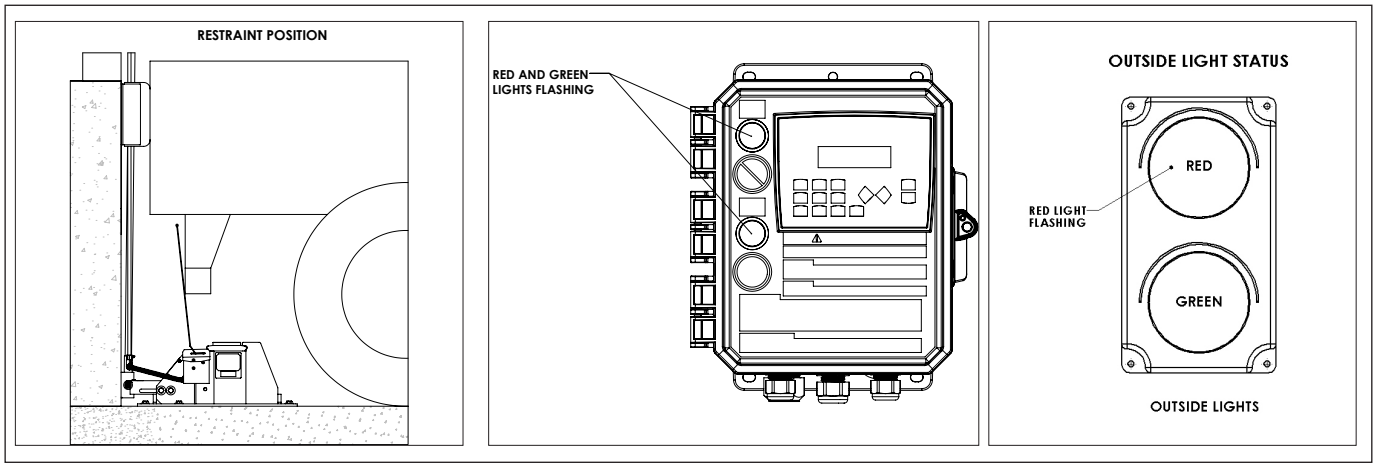


FIGURE DB—HORN OVER-RIDE STATE

ROUTINE MAINTENANCE

⚠ DANGER

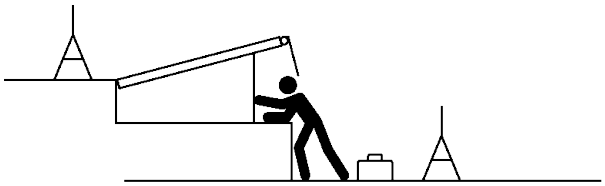
When working with electrical or electronic controls, make sure that the power source has been locked out and tagged according to OSHA regulations and approved local electrical codes.

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

⚠ WARNING

Safe operation of the NOVA Truck Lock™ truck restraint requires all lights and the horn to be working properly. DO NOT use NOVA Truck Lock™ vehicle restraint if parts are broken or missing.

⚠ WARNING



Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the unit before maintenance is complete.

NOTICE

Maintenance may be required more frequently at loading docks exposed to harsh environments (extreme climates, corrosive chemicals, frequency of usage, etc.). If these conditions exist, consult NOVA for accelerated maintenance requirements.

DAILY

- Remove debris around NOVA Truck Lock™ Vehicle restraint.
- Verify that restraint operates smoothly and inside, outside lights and horn are working.
- Replace damaged or missing LED light modules and lenses.
- Repair, remount, or replace outside and inside signs and labels as required.
- Inspect dock bumpers. Missing bumpers must be replaced.
- Verify Nova Juice-E is cranberry color before freezing temperatures. If Nova Juice-E is clear, Truck Lock™ is not protected from freezing temperatures. Nova Juice-E must be siphoned out of ram housing and replaced with new Nova Juice-E.

180 DAYS

- Perform all Daily maintenance.
- Check that all concrete anchor bolts are torqued to 75 ft-lbs (For Flange Mount ONLY).
- Perform operational test after all maintenance repairs and adjustments are complete.

360 DAYS

- Perform all Daily and 180 Day maintenance.
- For best performance, remove old, used fluids (siphon, drill pump, shop vac) and replace with new mixture).
- Check Nova Juice-E fluid level (half gallon).

NOTE:

In addition, it is recommended and good safety practice to use an additional means to support the dock platform and lip anytime when physically working in front of or under the dock leveler. This additional means may include, but not limited to a boom truck, fork truck, stabilizing bar or equivalent.

TROUBLESHOOTING

MANUAL & PNEUMATIC

MANUAL

PROBLEM	PROBABLE CAUSE	RESOLUTION
Cannot fully raise ram bar in 3 seconds.	• Pulleys are off center. • Cable is not centered on pulleys. • Conduit is dented and is pinching the cable. • Slide pole is not greased. • Coating on cable is damaged.	• Realign pulleys. • Place cable onto center of pulleys. • Remove dent if possible, if not replace conduit. • Grease slide pole. • Replace cable.
Cannot fully lower ram bar in 3 seconds.		

PNEUMATIC

PROBLEM	PROBABLE CAUSE	RESOLUTION
Hit “RESTRAIN” button, but ram bar did not raise.	• Pulleys are off center. • Cable is not centered on pulleys. • Incorrect air pressure.	• Realign pulleys. • Place cable onto center of pulleys. • Correct air pressure (100 PSI - Low Profile, 80 PSI - Standard Profile).
Hit “RELEASE” button, but ram bar did not lower.	• Conduit is dented and is pinching the cable. • Cylinder pole is not greased. • Cylinder rod not tracking vertically. • Coating on cable is damaged.	• Remove dent if possible, if not replace conduit. • Grease cylinder pole. • Straighten cylinder rod end assembly. • Replace cable.

TROUBLESHOOTING

LIMIT SWITCH TEST PROCEDURE

1. Entering Maintenance Mode on the Control Box

   Key Point: This step can be done on any display or operation except when in Horn Over-Ride.
   a. Depress the “HORN OVER-RIDE” button (#0 button).
   b. The red light, on the control box, will start flashing if the green light was flashing or remain a constant red. This is normal to notify the end user that they are about to enter a new mode.
   c. Enter the Maintenance code, 28252, and then press “ENTER”.
      i. If the wrong code was entered, the “Wrong PW: Reenter Or wait” display will appear. On this display, repeat steps 1a through 1c to enter maintenance mode.
      ii. Or if no further input is completed within 30 seconds, the “Wrong PW: Reenter Or wait” display will clear and the screen will return to the previous display.

2. See table below for what display inputs are found on:

Display Information	Control Box Display Number		
	CB-10	CB-11	CB-12
12345678 Inputs	10	11	7

Display Information — 12345678 Inputs

This display shows all inputs going to the control box. The number zero (0) means the input is off. The number one (1) means the input is on. The list of all the inputs is listed below:

1. LS1
2. LS2
3. LS3 (OPTIONAL)
4. LS4 (CB-11 ONLY)
5. N/A
6. N/A
7. N/A
8. N/A

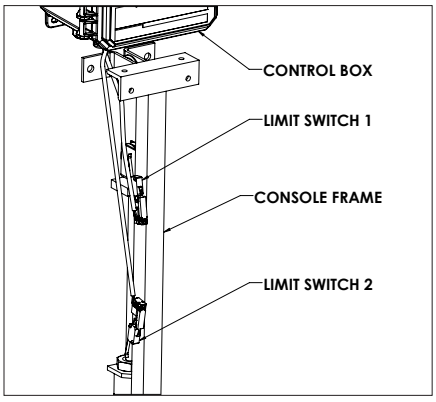


FIGURE DC—PNEUMATIC TRUCK LOCK™ LIMIT SWITCH LOCATIONS

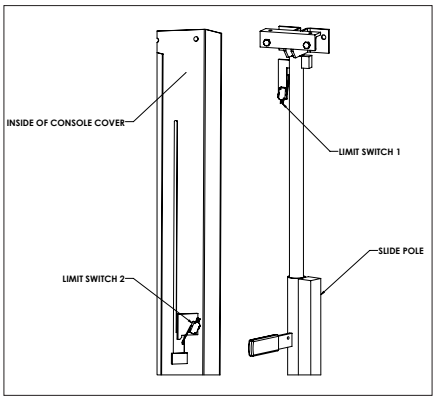


FIGURE DD—MANUAL TRUCK LOCK™ LIMIT SWITCH LOCATIONS

TROUBLESHOOTING

3. Ensure restraint is in the unlocked position.
4. Remove console cover from console.
5. Test Limit Switch 1.
   a. Verify (1) is shown below input 1.
   b. Remove connector from limit switch.
      i. Control box will alarm.
   c. Verify (0) is shown below input 1.
   d. Reconnect connector to limit switch.
      i. Control box will stop alarming.
   e. Verify (1) is shown below input 1.

If limit switch did not respond accordingly as stated above, replace limit switch. Part Number: 06-0-013.

6. Test Limit Switch 2.
   a. Verify (1) is shown below input 2.
   b. Depress limit switch 2.
      i. Control box will alarm.
   c. Verify (1) is shown below input 2.
   d. Release limit switch 2.
   e. Verify (0) is shown below input 2.

If limit switch did not respond accordingly as stated above, replace limit switch. Part Number: 06-0-013.

7. Reinstall console cover to console.
8. Exiting Maintenance Mode on the Control Box.

   Key Point: This procedure can be done on any maintenance display.
   a. Depress the “HORN OVER-RIDE” button (#0 button).
   b. The red light, on the control box, will start flashing if the green light was flashing or remain a constant red. This is normal to notify the end user that they are about to enter a new mode.
   c. Enter the Maintenance code, 28252, and then press “ENTER”.
      i. If the wrong code was entered, the “Wrong PW: Reenter Or wait” display will appear. On this display, repeat steps 3a through 3c to enter maintenance mode.
      ii. Or if no further input is completed within 30 seconds, the “Wrong PW: Reenter Or wait” display will clear, the screen will return to last display prior to entering maintenance mode.

TROUBLESHOOTING

MAINTENANCE MODE PROCEDURE

1. Entering Maintenance Mode on the Control Box

   Key Point: This step can be done on any display or operation except when in Horn Over-Ride.
   a. Depress the "HORN OVER-RIDE" button (#0 button).
   b. The red light, on the control box, will start flashing if the green light was flashing or remain a constant red. This is normal to notify the end user that they are about to enter a new mode.
   c. Enter the Maintenance code, 28252, and then press "ENTER".
      i. If the wrong code was entered, the "Wrong PW: Reenter Or wait" display will appear. On this display, repeat steps 1a through 1c to enter maintenance mode.
      ii. Or if no further input is completed within 30 seconds, the "Wrong PW: Reenter Or wait" display will clear and the screen will return to the previous display.

2. Navigating Through Maintenance Mode
   a. Use the "NEXT" and "BACK" buttons to navigate through Maintenance Mode.

Display Information	Control Box Display Orders			Page Number
	CB-10	CB-11	CB-12	
Faults	1	1	1	62
No LS1 No LS2 (Counter)	2	2	2	63
Both LS1 & LS2 On (Counter)	3	3	3	63
LS1 On LS2 Off (Counter)	4	4	-	63
LS1 Off LS2 On (Counter)	5	5	-	64
No RIG Present (Counter)	6	6	4	64
Door Not Closed/Ramp Not Stored (Counter)	-	7	-	64
Horn Over-Ride Count	7	8	5	64
Total Cycles	8	9	6	65
Cycles 2 Service	9	10	-	65
12345678 Inputs	10	11	7	65
1234678 Outputs	11	12	8	65
Enter New Override Password	12	13	9	65

Display Information — Faults

This display shows the most current fault status. There may be more than one fault occurring at a given time, but only the most recent one can be displayed. See chart above to locate more fault information. Also, check display "12345678" Inputs" for proper inputs.

Key Point: Counters listed on chart above can be reset by following the instructions listed below.

Once on the display with the counter that needs to be reset:

- Press and hold "ENTER" for five seconds.
- After five seconds, the counter display will begin to flash, release "ENTER".
- Next, press the "HORN OVER-RIDE" button (#0 button) to set counter back to zero.
  - This is the only acceptable entry to reset the counters.
- Once the counter is back to zero, press "ENTER" to successfully reset counter.

TROUBLESHOOTING

Display Information — No LS1 No LS2

This display shows the number of times Limit Switch 1 (LS1) and Limit Switch 2 (LS2) are off at the same time. LS1 and LS2 are found inside the console. See Figure DC or DD on Page 60.

This fault can occur if	Resolution
The ram bar is unable to lock or unlock fully.	Ensure no obstruction is blocking the ram bar from locking or unlocking fully. If obstruction cannot be moved, enter Horn Over-Ride mode by following the instructions printed on the control box.
LS1 malfunctioned when the ram bar is unlocked.	Ensure LS1 is secured and working properly. Inputs can be verified on Page 65.
LS2 malfunctioned when the ram bar is locked.	Ensure LS2 is secured and working properly. Inputs can be verified on Page 65.

If the slide pole or rod end assembly is positioned correctly (See Figure DC or DD, on Page 60) against the corresponding limit switch but cannot read the position of the ram bar, replace limit switch.
(Part Number: 06-0-013)

Display Information — Both LS1 & LS2 On

This display shows the number of times, LS1 and LS2 are on at the same time. LS1 and LS2 are fund inside the console. See Figure DC or DD, on Page 60.

This fault can occur if	Resolution
LS1 malfunctioned when the ram bar is locked.	Ensure LS1 is secured and working properly. Inputs can be verified on Page 65.
LS2 malfunctioned when the ram bar is unlocked.	Ensure LS2 is secured and working properly. Inputs can be verified on Page 65.

If the slide pole or rod end assembly is positioned correctly (See DC or DD on Page 60) against the corresponding limit switch but cannot read the position of the ram bar, replace limit switch.
(Part Number: 06-0-013)

Display Information — LS1 On LS2 Off

This display shows the number of times, LS1 has been on and LS2 has been off when the ram bar is up. LS1 and LS2 are found inside the console. See Figure DC or DD, on Page 60.

This fault can occur if	Resolution
The ram bar is unable to lock because cable is not centered on pulleys or is pinched.	Ensure cable is centered on pulleys and is not pinched anywhere.
LS1 malfunctioned when the ram bar is locked.	Ensure LS1 is secured and working properly. Inputs can be verified on Page 65.
LS2 malfunctioned when the ram bar is locked.	Ensure LS2 is secured and working properly. Inputs can be verified on Page 65.
LS1 and LS2 are reversed.	Verify LS1 and LS2 are positioned as shown in Figure DC or DD on Page 60.

If the slide pole or rod end assembly is positioned correctly (See Figure DC or DD, on Page 60) against the corresponding limit switch but cannot read the position of the ram bar, replace limit switch.
(Part Number: 06-0-013)

TROUBLESHOOTING

Display Information — LS1 Off LS2 On

This display shows the number of times LS1 has been off and LS2 has been on when the ram bar is down. LS1 and LS2 are found inside the console. See Figure DC or DD, on Page 60.

This fault can occur if	Resolution
The ram bar is unable to unlock because RIG is pinching ram bar from lowering.	Back up trailer slightly to relieve pressure from ram bar.
LS1 malfunctioned when the ram bar is unlocked.	Ensure LS1 is secured and working properly. Inputs can be verified on Page 65.
LS2 malfunctioned when the ram bar is unlocked.	Ensure LS2 is secured and working properly. Inputs can be verified on Page 65.
LS1 and LS2 are reversed.	Verify LS1 and LS2 are positioned as shown in Figure DC or DD on Page 60.

If the slide pole or rod end assembly is positioned correctly (See Figure DC or DD, on Page 60) against the corresponding limit switch but cannot read the position of the ram bar, replace limit switch.
(Part Number: 06-0-013)

Display Information — No RIG Present (RIG Sensor is Optional)

This display shows the number of times, Limit Switch 3 (LS3) or RIG sensor has been off while the ram bar is locked. LS3 is found attached to Ram Housing. See Figure DR on Page 80.

This fault can occur if	Resolution
RIG sensor wand is bent and cannot locate the RIG properly.	If applicable, bend RIG sensor wand back to proper orientation or order a replacement wand. (Part Number: 06-0-065).
The RIG sensor is not depressed when the ram bar is locked.	Realign trailer so RIG depresses RIG sensor. If RIG sensor cannot be depressed when the ram bar is locked, enter Horn Over-Ride mode by following the instructions printed on the control box.
LS3 malfunctioned when the ram bar is locked.	Ensure LS3 is secured and working properly. Inputs can be verified on Page 65.

If the RIG sensor wand is position correctly against a RIG and is activating LS3, and the LS3 is wire correctly but cannot read the position of the RIG, replace sensor switch assembly.
(Part Number: LS3: 06-3-925)

Display Information — Door not closed/Ramp not stored (This fault is only for the Interlock Door A OR Interlock Leveler)

This display shows the number of times the door or ramp comes off of Limit Switch 4 (LS4) when the ram bar is not locked and the control box is not in Horn Over-Ride.

This fault can occur if	Resolution
LS4 malfunctioned.	Ensure LS4 is secured and working properly. Inputs can be verified on Page 65.
Door or leveler moved off of LS4 by external means.	Enter maintenance mode to activate interlock equipment and move interlocked equipment back onto LS4.

Display Information — Horn Over-Ride Count

This display shows the number of times the Horn Over-Ride function has been activated. The Horn Over-Ride function should only be used when the ram bar cannot properly secure the RIG.

Key Point: The maintenance code can also be used to disable Horn Over-Ride in case the standard code for Horn Over-Ride has been over-written.

TROUBLESHOOTING

Display Information — Total Cycles

This display shows the number of complete cycles the product has gone through. One cycle is defined as the ram bar moving from the unlocked position to the locked position and back to the unlocked position.

Display Information — Cycles 2 Service

This display shows how many cycles the Truck Lock™ can go through before service is needed for the items on the list below:

CB-10			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	CB-1004	12 AMP RELAY	1

CB-11			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	CB-1004	12 AMP RELAY	1
2	CB-1005	20 AMP RELAY	1

Display Information — 12345678 Inputs

This display shows all inputs going to the control box. The number zero (0) means the input is off. The number one (1) means the input is on. All inputs are listed below:

1. LS1
2. LS2
3. LS3 (OPTIONAL)
4. LS4 (CB-11 ONLY)
5. N/A
6. N/A
7. N/A
8. N/A

Display Information — 12345678 Outputs

This display shows all outputs coming from the control box. The number zero (0) means the output is off. The number one (1) means the output is on. All outputs are listed below:

1. Control Box — Red Light
2. Control Box — Green Light
3. Outside — Red Light
4. Outside — Green Light
5. Solenoid 1 — Lock
6. Solenoid 2 — Unlock
7. Alarm Horn
8. Interlocked equipment active (CB-11 ONLY)

Display Information — Enter New Over-Ride Password:

This display is for changing the password to get into Horn Over-Ride. Once on this screen, press “ENTER” to change current password. Then enter new password. The new password can range from 1 to 9999. Once new password has been typed, press “ENTER” to successful change the password. Any leading zeros will be eliminated. Provide the new over-ride password to authorize dock attendant(s).

3. Exiting Maintenance Mode On The Control Box

Key Point: This procedure can be done on any maintenance display.

a. Depress the “HORN OVER-RIDE” button (#0 button).
b. The red light, on the control box, will start flashing if the green light was flashing or remain a constant red. This is normal to notify the end user that they are about to enter a new mode.
c. Enter the Maintenance code, 28252, and then press “ENTER”.

Key Point: The current horn over-ride code will also work for exiting Maintenance Mode.

i. If the wrong code was entered, the “Wrong PW: Reenter Or wait” display will appear. On this display, repeat steps 3a through 3c to enter maintenance mode.
ii. Or if no further input is completed within 30 seconds, the “Wrong PW: Reenter Or wait” display will clear and the screen will return to last display prior to entering maintenance mode.

PARTS

STANDARD PROFILE CAST-IN ASSEMBLY DRAWING

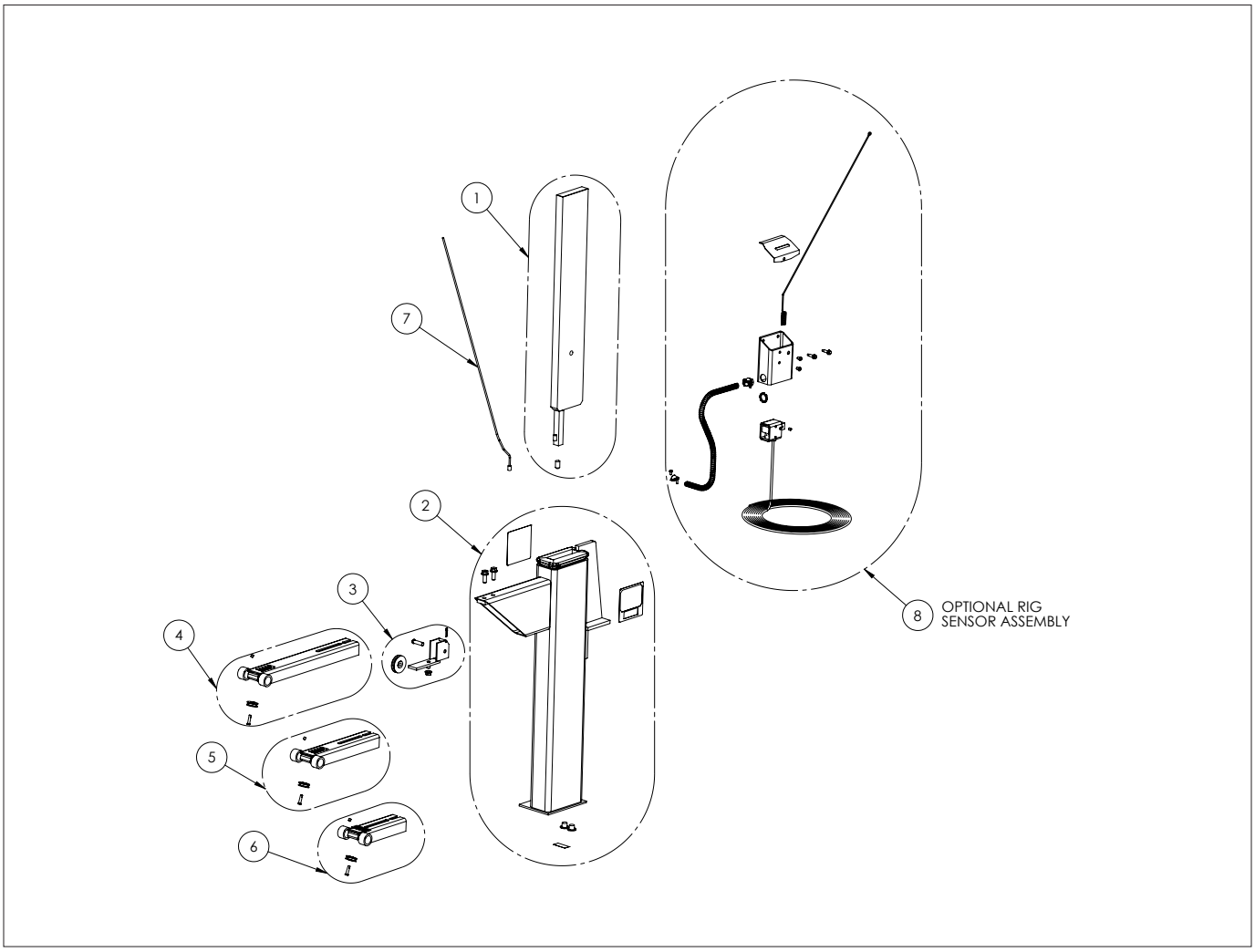


FIGURE DE—STANDARD PROFILE CAST-IN

STANDARD PROFILE CAST-IN PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	31-3-900	ASSEMBLY, RAM BAR	1
2	35-3-901	ASSEMBLY, 350 HOUSING	1
3	35-3-925	350 HOUSING PULLEY MOUNT ASSEMBLY	1
4	40-3-902	WELDMENT, LONG E.O.D. CHANNEL	1
5	40-3-906	WELDMENT, MEDIUM E.O.D. CHANNEL	1
6	40-3-901	WELDMENT, SHORT E.O.D. CHANNEL	1
7	03-0-001	25’ CABLE	1
8	15-3-101	SENSOR SWITCH KIT	1

PARTS

STANDARD PROFILE FLANGE MOUNT ASSEMBLY DRAWING

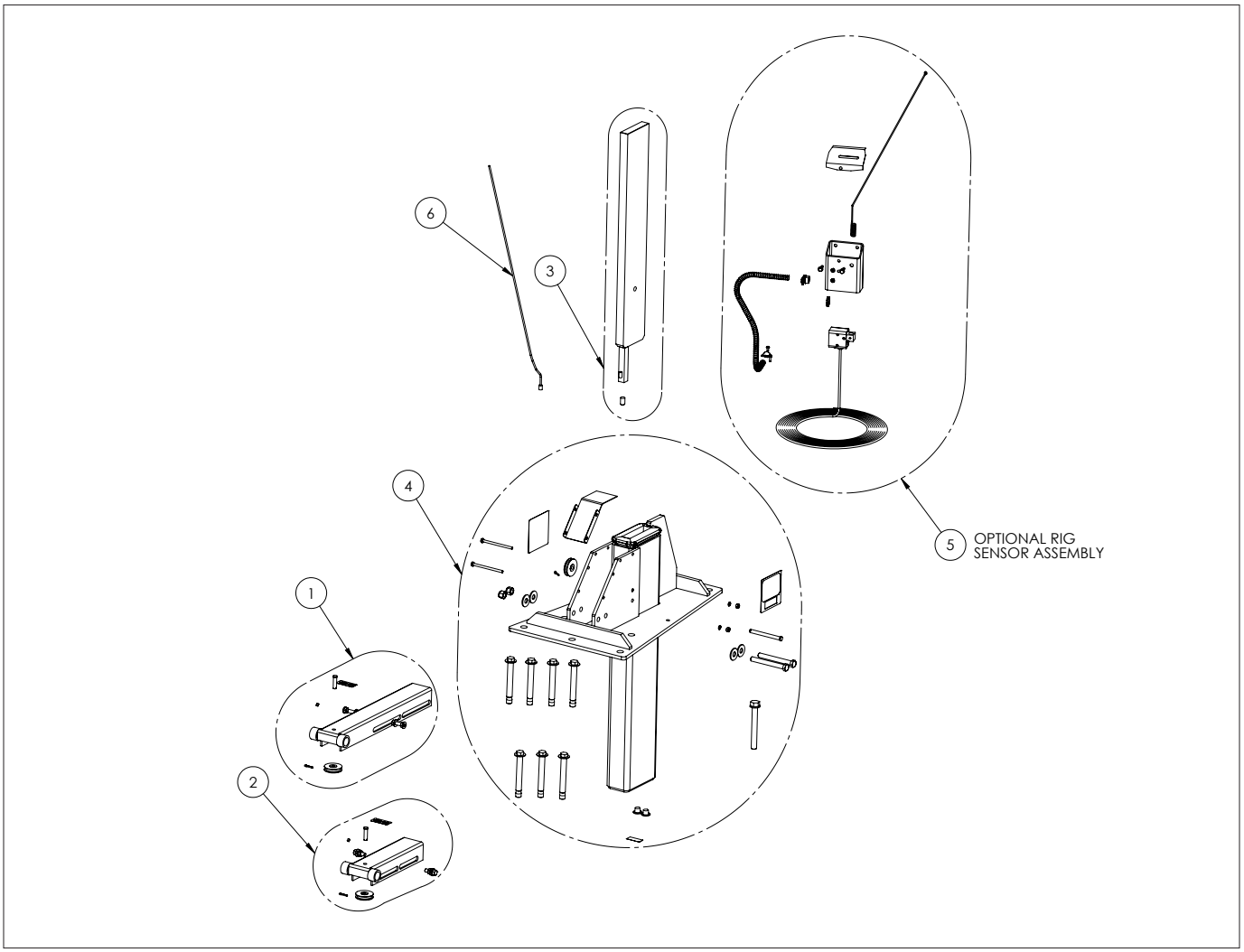


FIGURE DF—STANDARD PROFILE FLANGE MOUNT

STANDARD PROFILE FLANGE MOUNT PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46-3-016	ASSEMBLY, TAIL EXTENSION LONG	1
2	46-3-017	ASSEMBLY, TAIL EXTENSION SHORT	1
3	31-3-900	ASSEMBLY, RAM BAR	1
4	46-3-911	ASSEMBLY, RAM HOUSING	1
5	15-3-101	SENSOR SWITCH KIT	1
6	03-0-001	25’ CABLE	1

PARTS

PNEUMATIC CONSOLE DRAWING

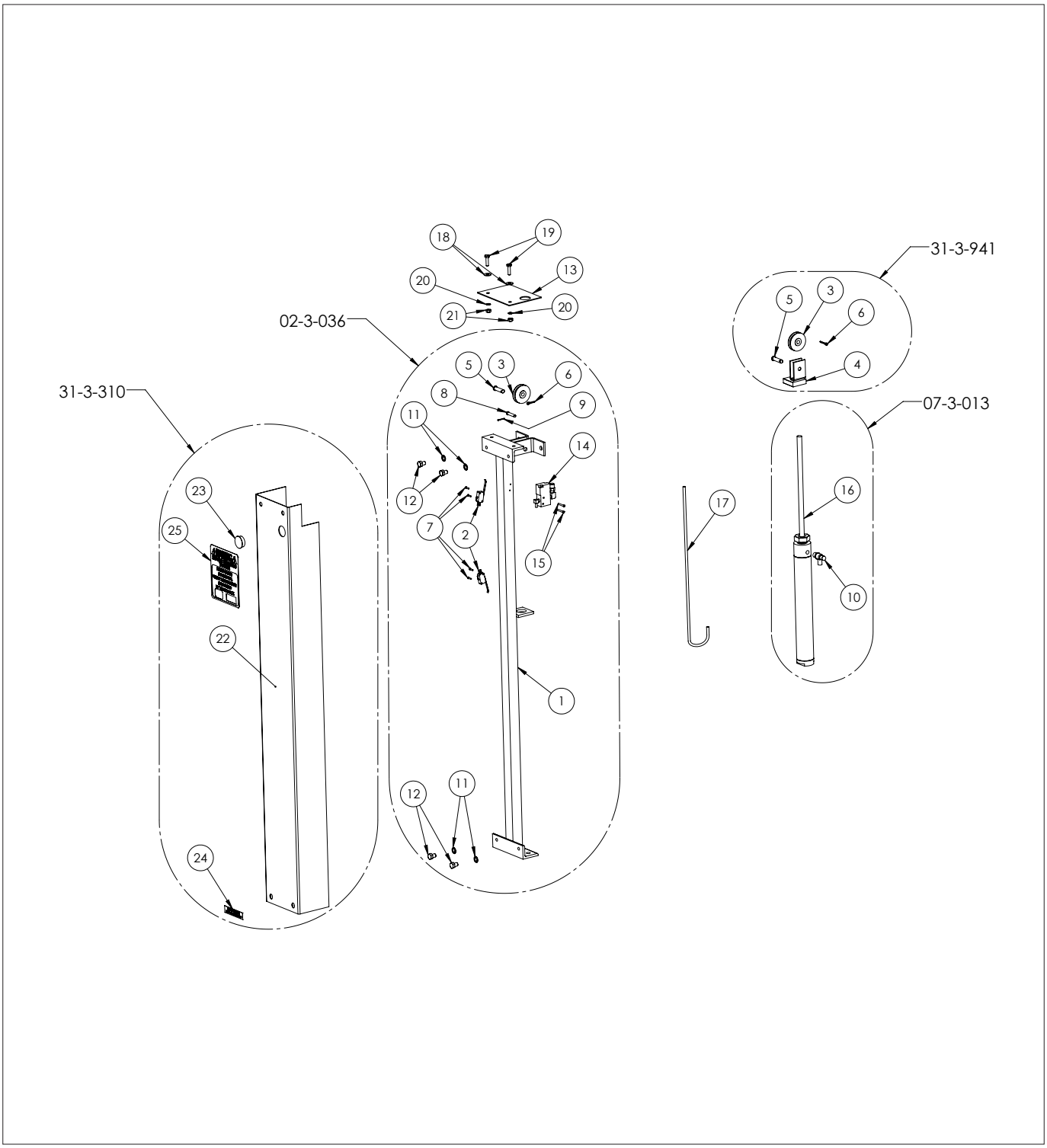


FIGURE DG—PNEUMATIC CONSOLE

PARTS

PNEUMATIC CONSOLE PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	02-1-036 REV B	WELDMENT, CONSOLE	1
2	06-0-013	SWITCH, LIMIT	2
3	03-0-004	PULLEY 2”	2
4	31-1-941P REV C	ASSEMBLY, 2” ROD END	1
5	02-0-017	Ø 3/8” X 1-3/8” LONG CLEVIS PIN	2
6	01-0-012	COTTER PIN, ZINC	2
7	01-0-006	SCREW, ROUND HEAD, #4-40 X 1/2”	4
8	01-0-083	Ø 1/4” X 1-1/4” LONG CLEVIS PIN	1
9	01-0-082	COTTER PIN, ZINC	1
10	07-0-135	FLOW CONTROL, 90	1
11	01-0-002	WASHER, STAR LOCK, Ø 3/8”	4
12	01-0-001	BOLT, HEX HEAD, 3/8-16 X 1/2”	4
13	41-1-018 REV D	PLATE, REMOTE BOX COVER	1
14	07-3-080	SWITCH, LATCHING	1
15	01-0-010	SCREW, #6-32 X 1”	2
16	07-3-013	CYLINDER, 10” AIR	1
17	07-0-007	AIRLINE, 26”	1
18	01-0-141	WASHER, FLAT, Ø 1/4”	2
19	01-0-140	BOLT, HEX HEAD, 1/4-20 X 1” LONG	2
20	01-0-143	WASHER, STAR LOCK	2
21	01-0-142	NUT, HEX, 1/4-20	2
22	31-1-310 REV B	COVER, CONSOLE	1
23	01-0-613	PLUG, CONSOLE	1
24	NT-0-103	DECAL, DO NOT OPERATE	1
25	NT-0-115	DECAL, WARNING	1

PARTS

MANUAL CONSOLE DRAWING

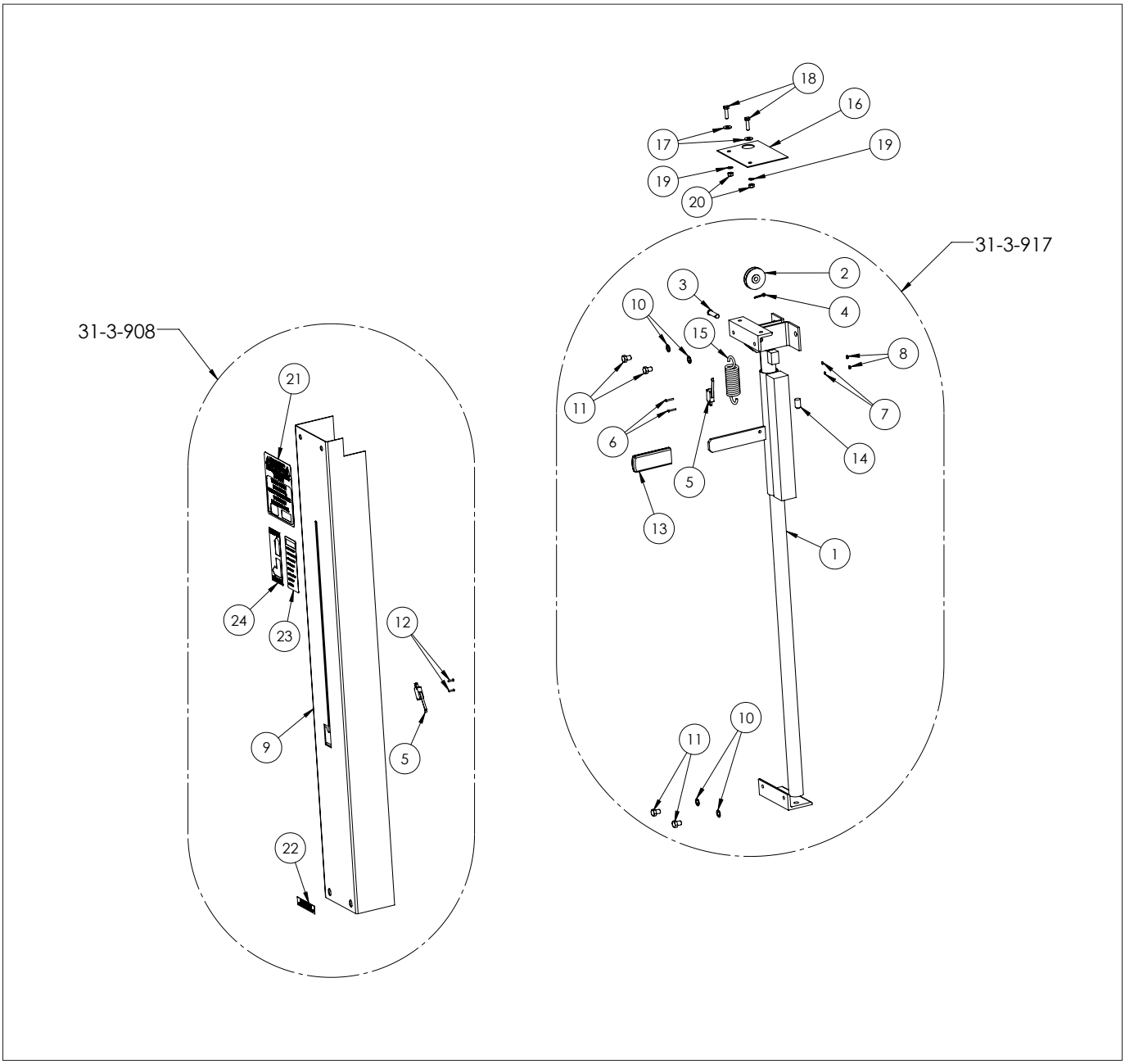


FIGURE DH—MANUAL CONSOLE

PARTS

MANUAL CONSOLE PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	31-1-917	WELDMENT, CONSOLE	1
2	03-0-044	PULLEY 2”	1
3	02-0-017	Ø 3/8” X 1-3/8” LONG CLEVIS PIN	1
4	01-0-012	COTTER PIN, ZINC	1
5	06-0-013	SWITCH, LIMIT	2
6	01-0-096	SCREW, ROUND HEAD, #4-40 X 3/4” LONG	2
7	01-0-097	WASHER, LOCK, #4	2
8	01-0-098	NUT, HEX, #4-40	2
9	31-1-908	COVER, CONSOLE	1
10	01-0-002	WASHER, STAR LOCK, Ø 3/8”	4
11	01-0-001	BOLT, HEX HEAD, 3/8-16 X 1/2”	4
12	01-0-006	SCREW, ROUND HEAD, #4-40 X 1/2”	2
13	31-0-062	COVER, HANDLE	1
14	31-1-031	RAM DAMPENER	1
15	31-0-202	SPRING, EXTENSION	1
16	41-1-018	PLATE, REMOTE BOX COVER	1
17	01-0-141	WASHER, FLAT, Ø 1/4”	2
18	01-0-140	BOLT, HEX HEAD, 1/4-20 X 1” LONG	2
19	01-0-143	WASHER, STAR LOCK	2
20	01-0-142	NUT, HEX, 1/4-20	2
21	NT-0-115	DECAL, WARNING	1
22	NT-0-103	DECAL, DO NOT OPERATE	1
23	NT-0-120	DECAL, CAUTION	1
24	NT-0-109	DECAL, RESTRAIN/RELEASE	1

PARTS

STANDARD PROFILE CAST-IN HOUSING DRAWING

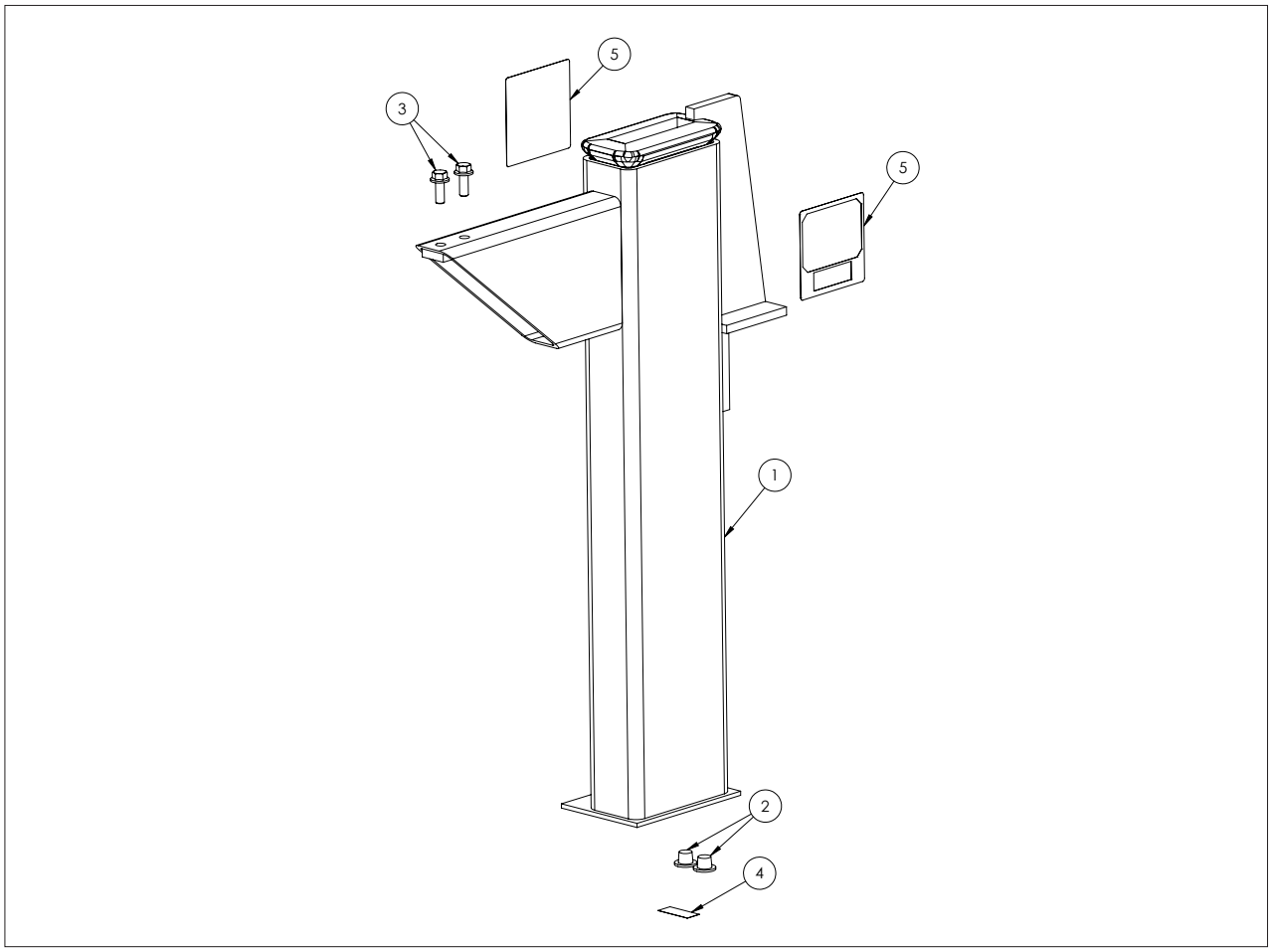


FIGURE DI—STANDARD PROFILE CAST-IN HOUSING

STANDARD PROFILE CAST-IN HOUSING PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	35-1-901	HOUSING, RAM ASSEMBLY	1
2	01-0-160	HOUSING PLUG	2
3	01-0-122	3/8”-16 X 1” LONG FLANGE BOLT	2
4	NT-0-118	DECAL, DO NOT REMOVE PLUG	1
5	NT-0-101	DECAL, TRUCK LOCK	2

PARTS

STANDARD PROFILE FLANGE MOUNT HOUSING DRAWING

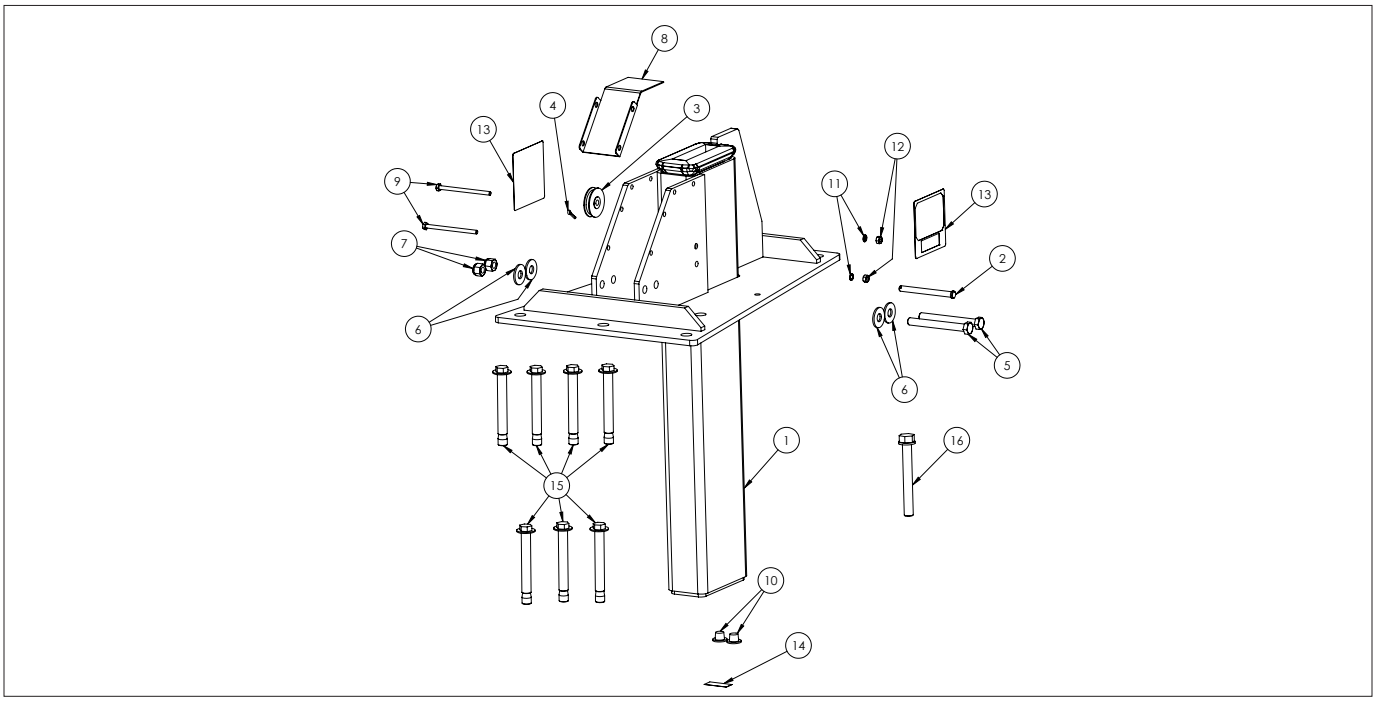


FIGURE DJ—STANDARD PROFILE FLANGE MOUNT HOUSING

STANDARD PROFILE FLANGE MOUNT HOUSING PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	46-1-911 REV H	350 FLANGE HOUSING WELDMENT	1
2	01-0-021	PIN, CLEVIS, Ø 3/8” X 4” LONG	1
3	03-0-004	PULLEY 2”	1
4	01-0-012	COTTER PIN, ZINC	1
5	02-0-031	SCREW, HEX HEAD, 1/2-13 X 4 1/2”	2
6	02-0-032	WASHER, FLAT Ø 1/2”	4
7	02-0-033	NUT, LOCK, 1/2”-13	2
8	46-0-035	COVER, HOUSING 350FL	1
9	01-0-145	SCREW, HEX HEAD, 1/4-20 X4” LONG	2
10	01-0-160	HOUSING PLUG	2
11	01-0-143	WASHER, STAR LOCK	2
12	01-0-142	NUT, HEX, 1/4-20	2
13	NT-0-101	DECAL, TRUCK LOCK	2
14	NT-0-118	DECAL, DO NOT REMOVE PLUG	1
15	40-0-112	BOLT, POWER	7
16	40-0-113	BOLT, WEDGE	1

PARTS

TAIL SECTION (LONG) DRAWING

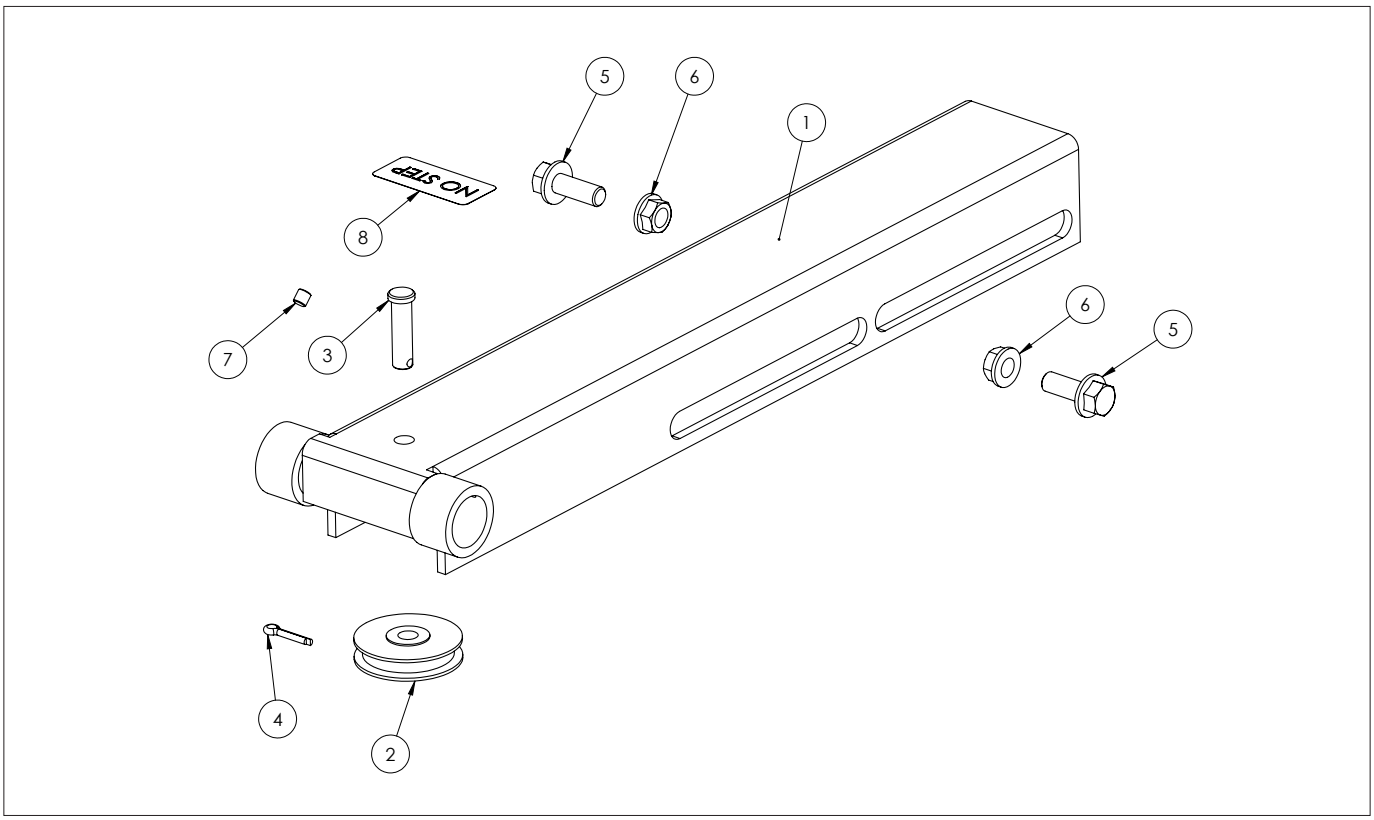


FIGURE DK—TAIL EXTENSION (LONG)

TAIL SECTION (LONG) PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	02-1-016	WELDMENT, 2” ANCHOR TAIL-LONG	1
2	03-0-004	PULLEY 2”	1
3	02-0-017	Ø 3/8” X 1-3/8” LONG CLEVIS PIN	1
4	01-0-012	COTTER PIN, ZINC	1
5	01-0-122	3/8”-16 X 1” LONG FLANGE BOLT	2
6	01-0-144	3/8”-16 FLANGE NUT	2
7	01-0-007	1/4”-20 X 1/4” SOCKET SET SCREW	1
8	NT-0-108	DECAL, NO STEP	1

PARTS

TAIL SECTION (SHORT) DRAWING

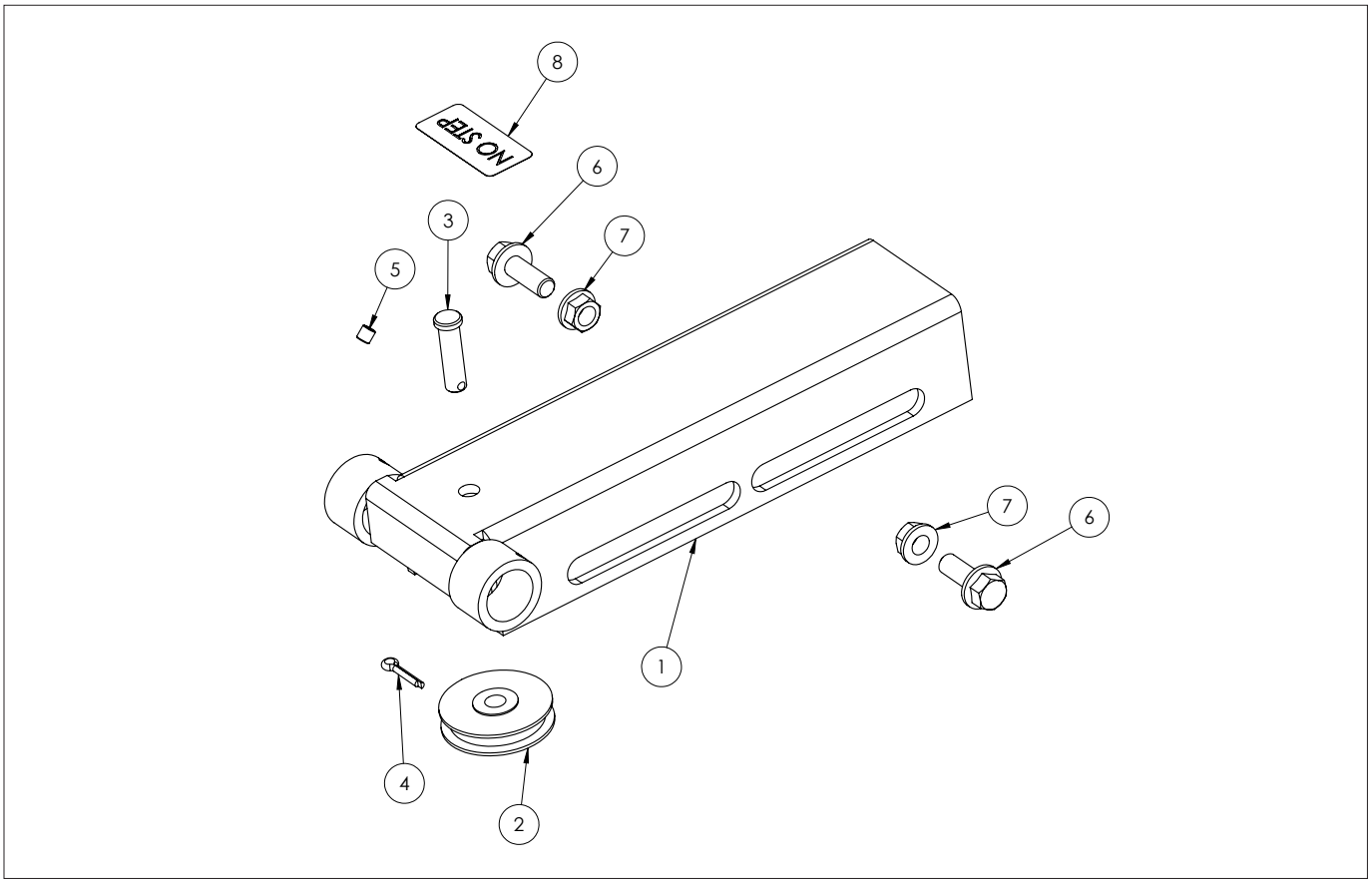


FIGURE DL—TAIL SECTION (SHORT)

TAIL SECTION (SHORT) PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	02-1-017P REV C	WELDMENT, 2” ANCHOR TAIL-SHORT	1
2	03-0-004	PULLEY 2”	1
3	02-0-017	Ø 3/8” X 1-3/8” LONG CLEVIS PIN	1
4	01-0-012	COTTER PIN, ZINC	1
5	01-0-007	1/4”-20 X 1/4” SOCKET SET SCREW	1
6	01-0-122	3/8”-16 X 1” LONG FLANGE BOLT	2
7	01-0-144	3/8”-16 FLANGE NUT	2
8	NT-0-108	DECAL, NO STEP	1

PARTS

SHORT E.O.D. CHANNEL WELDMENT

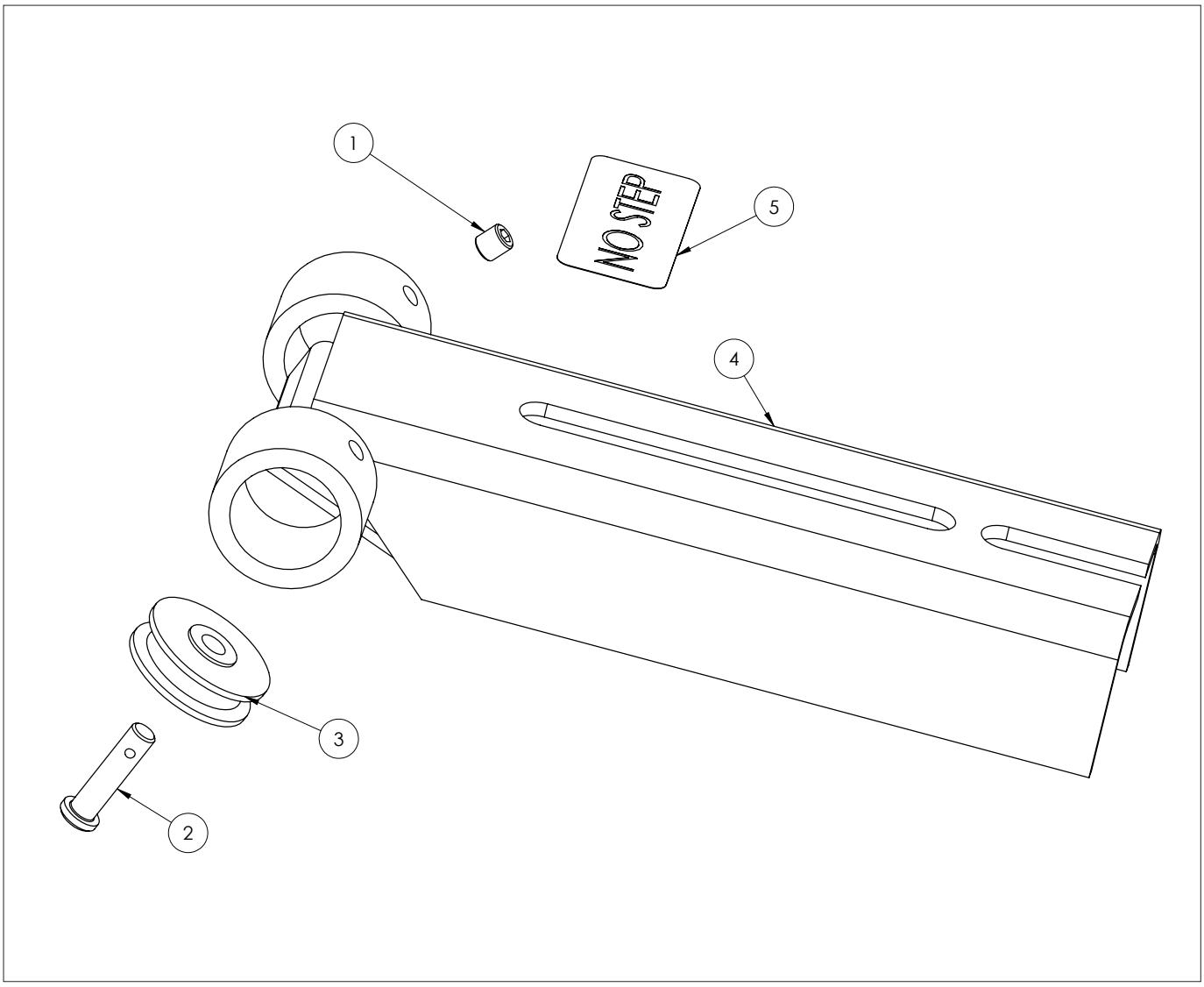


FIGURE DM—SHORT E.O.D. CHANNEL WELDMENT

SHORT E.O.D. CHANNEL WELDMENT PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	01-0-007	1/4”-20 X 1/4” SOCKET SET SCREW	1
2	01-0-018	Ø 1/4” X 1” LONG CLEVIS PIN W/DETENT	1
3	03-0-002	PULLEY 1 1/4”	1
4	40-1-901	SHORT E.O.D. CHANNEL WELDMENT	1
5	NT-0-108	DECAL, NO STEP	1

PARTS

LONG E.O.D. CHANNEL WELDMENT

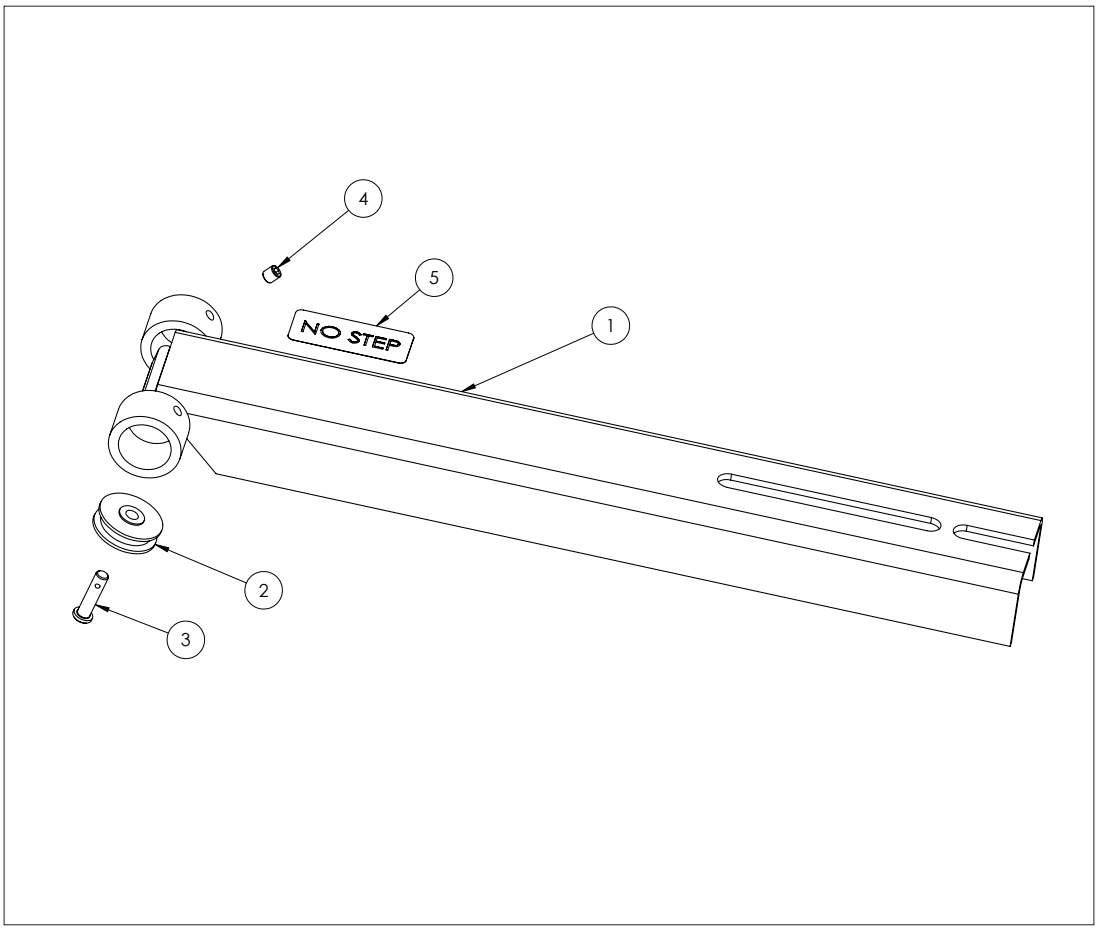


FIGURE DN—LONG E.O.D. CHANNEL WELDMENT

LONG E.O.D. CHANNEL WELDMENT PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	40-1-902	LONG E.O.D. CHANNEL WELDMENT	1
2	03-0-002	PULLEY 1 1/4”	1
3	01-0-018	Ø 1/4” X 1” LONG CLEVIS PIN W/DETENT	1
4	01-0-007	1/4”-20 X 1/4” SOCKET SET SCREW	1
5	NT-0-108	DECAL, NO STEP	1

PARTS

MEDIUM E.O.D. CHANNEL WELDMENT

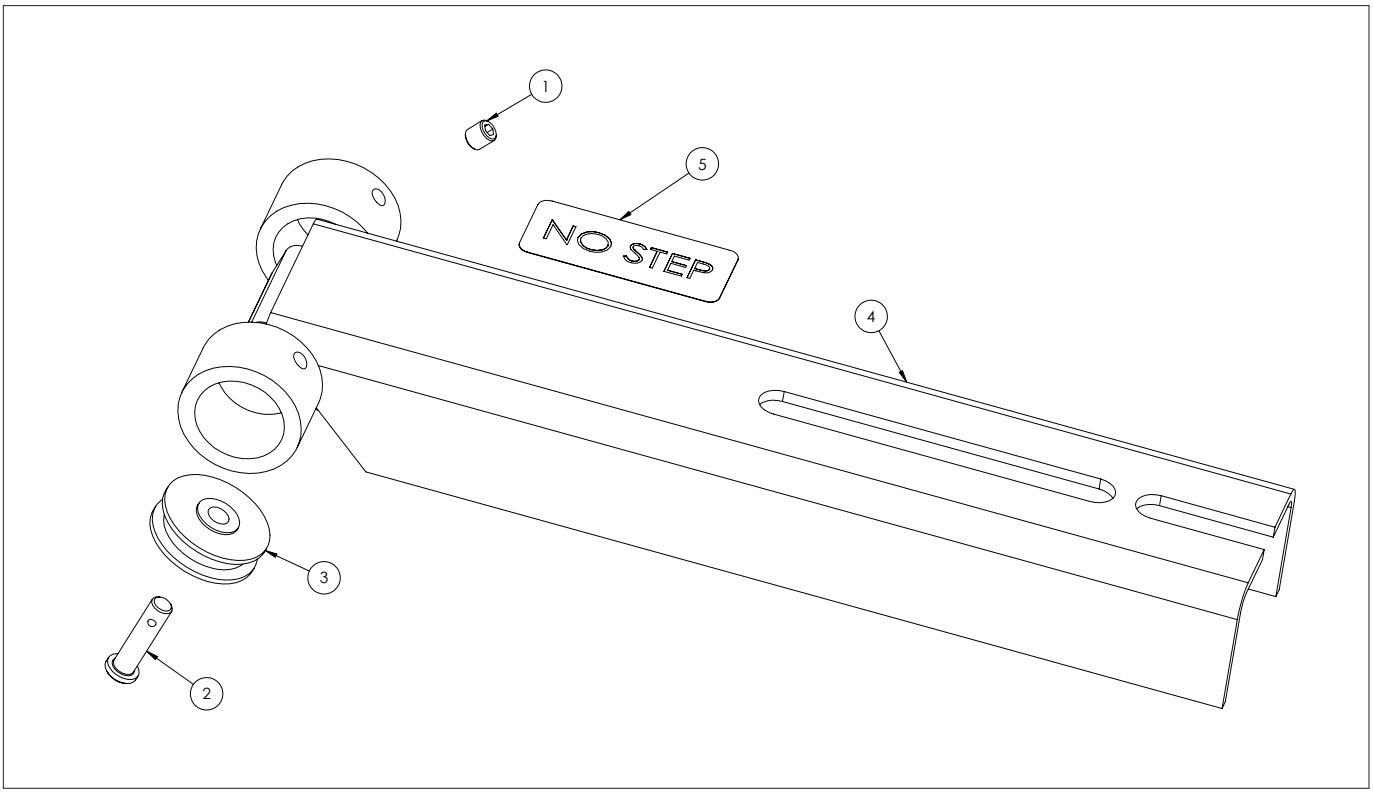


FIGURE DO—MEDIUM E.O.D. CHANNEL WELDMENT

MEDIUM E.O.D. CHANNEL WELDMENT PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	01-0-007	1/4”-20 X 1/4” SOCKET SET SCREW	1
2	01-0-018	Ø 1/4” X 1” LONG CLEVIS PIN W/DETENT	1
3	03-0-002	PULLEY 1 1/4”	1
4	40-1-906	MEDIUM E.O.D. CHANNEL WELDMENT	1
5	NT-0-108	DECAL, NO STEP	1

PARTS

RAM ASSEMBLY DRAWING

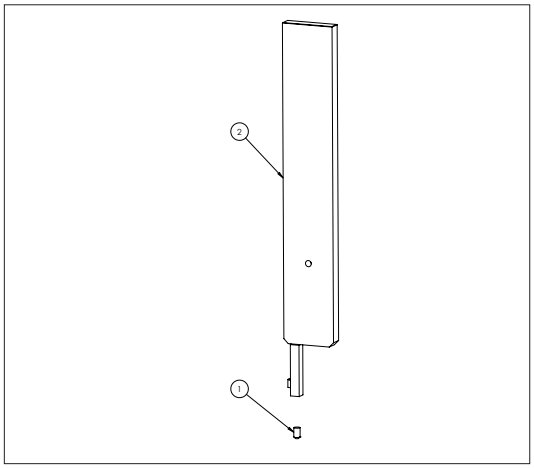


FIGURE DP—RAM ASSEMBLY

RAM ASSEMBLY PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	31-1-031	RAM DAMPENER	1
2	31-1-900	ASSEMBLY, RAM	1

STANDARD PROFILE CAST-IN HOUSING PULLEY MOUNT ASSEMBLY DARWING

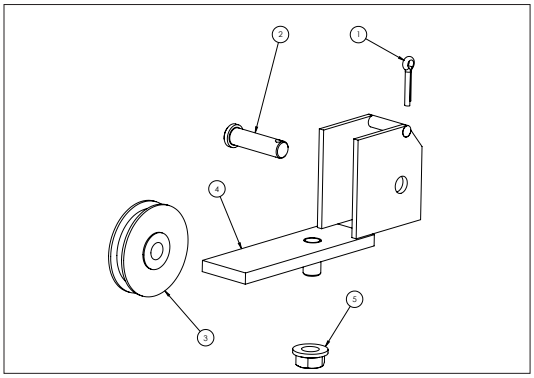


FIGURE DQ—HOUSING PULLEY MOUNT ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	01-0-012	COTTER PIN, ZINC	1
2	02-0-017	Ø 3/8” X 1-3/8” LONG CLEVIS PIN	1
3	03-0-004	PULLEY 2”	1
4	35-1-925P	350 HOUSING PULLEY WELDMENT	1
5	01-0-144	3/8”-16 FLANGE NUT	1

PARTS

RIG SENSOR KIT DRAWING

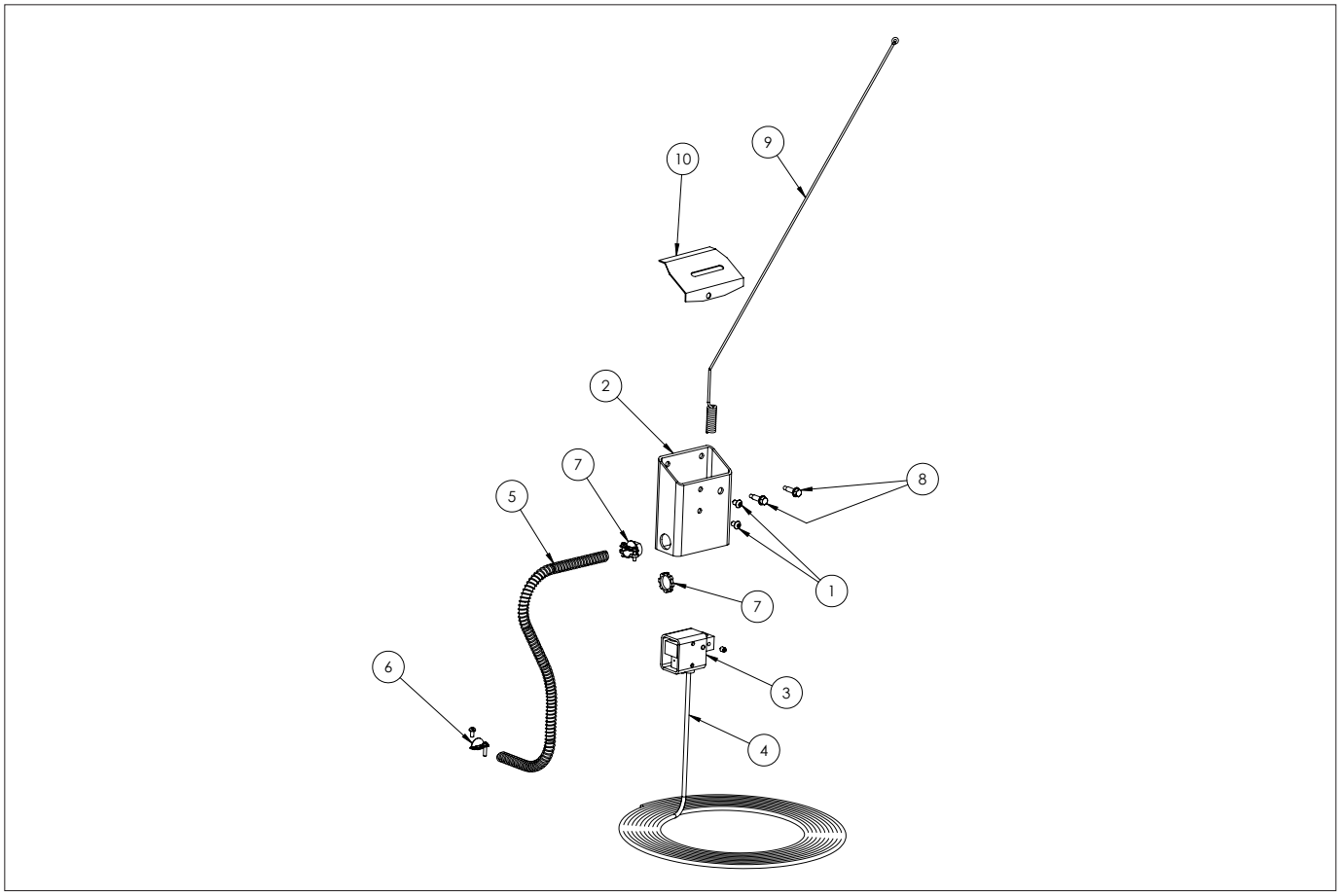


FIGURE DR—RIG SENSOR KIT

RIG SENSOR KIT PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	01-0-151	1/4”-28 X 3/8” LONG BUTTON HEAD SOCKET CAP SCREW	2
2	06-1-100P	SENSOR SWITCH HOUSING	1
3	06-3-925	SENSOR SWITCH ASSEMBLY	1
4	06-0-004	3 CONDUCTOR WIRE	1
5	06-0-024	FLEXIBLE CONDUIT	1
6	06-0-025	FLEXIBLE CORD CONNECTOR	1
7	06-0-026	FLEXIBLE CORD CONNECTOR	1
8	06-0-051	1/4”-14 X 1” LONG SELF TAPPING SCREW	2
9	06-0-065	SENSOR SPRING, WAND	1
10	06-0-110	SENSOR SWITCH HOUSING COVER	1

PARTS

MISCELLANEOUS PARTS

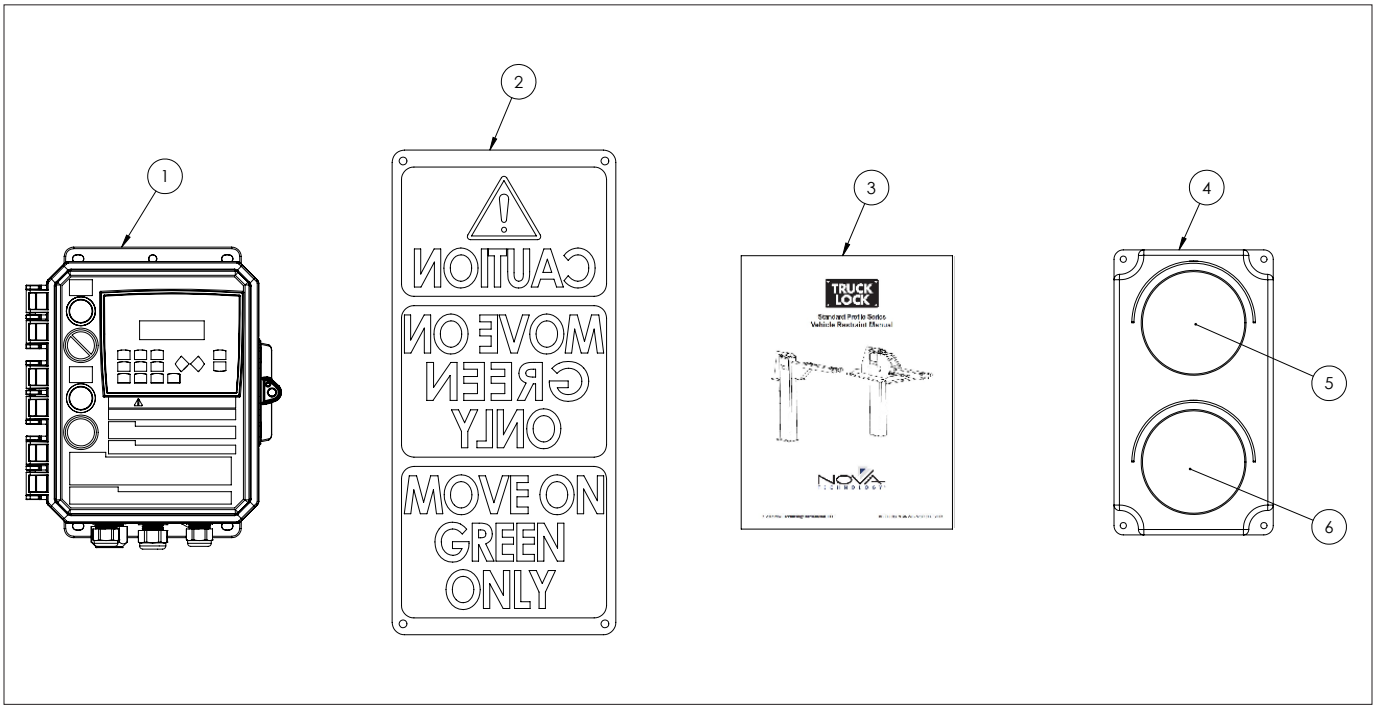


FIGURE DS—MISCELLANEOUS PARTS

MISCELLANEOUS PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CB-10 **OR** CB-11-A **OR** CB-11-B **OR** CB-11-C **OR** CB-12	CONTROL BOX	1
2	NT-0-130	SIGN, CAUTION - MOVE ON GREEN	1
3	NT-0-350	NOVA TRUCK LOCK STANDARD PROFILE MANUAL	1
4	MF4-183-000	OUTSIDE TRUCK LIGHT ASSEMBLY	1
5	MF4-183-001	OUTSIDE RED LED LIGHT MODULE	1
6	MF4-183-002	OUTSIDE GREEN LED LIGHT MODULE	1

PARTS

CB-10 CONTROL BOX PARTS (PNEUMATIC TRUCK LOCK™)

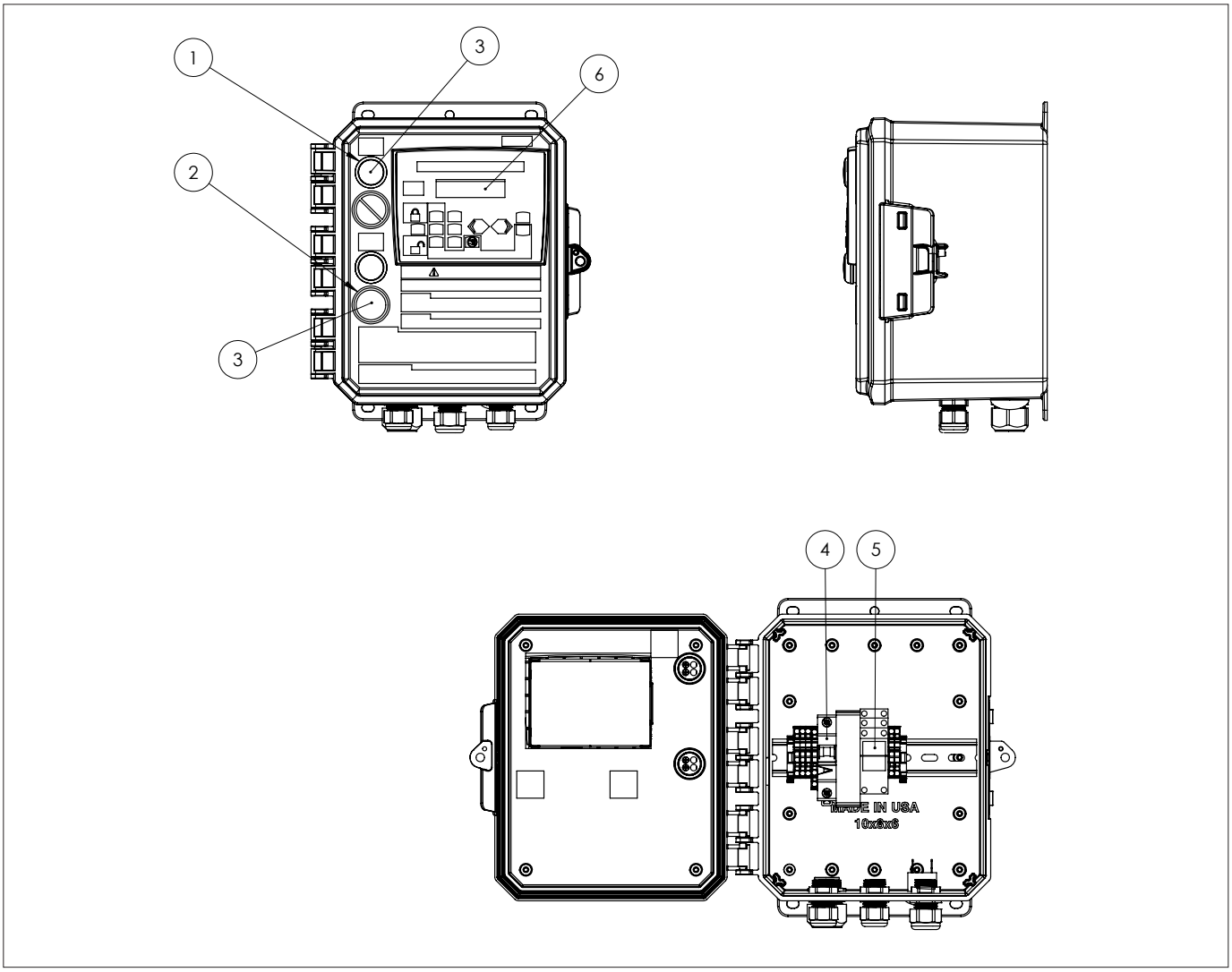


FIGURE DT—CB-10 CONTROL BOX PARTS

CB-10 CONTROL BOX REPLACEMENT PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CB-1000	LIGHT, 24VDC LED RED PILOT	1
2	CB-1001	LIGHT, 24VDC LED GREEN PILOT	1
3	CB-1002	COVER, WHITE LED	2
4	CB-1006	BREAKER, CIRCUIT	1
5	CB-1004	RELAY, 12 AMP	1
6	CB-PLC-01	PLC - STANDARD	1

PARTS

CB-11A OR -B OR -C CONTROL BOX PARTS (PNEUMATIC INTERLOCKED TRUCK LOCK™)

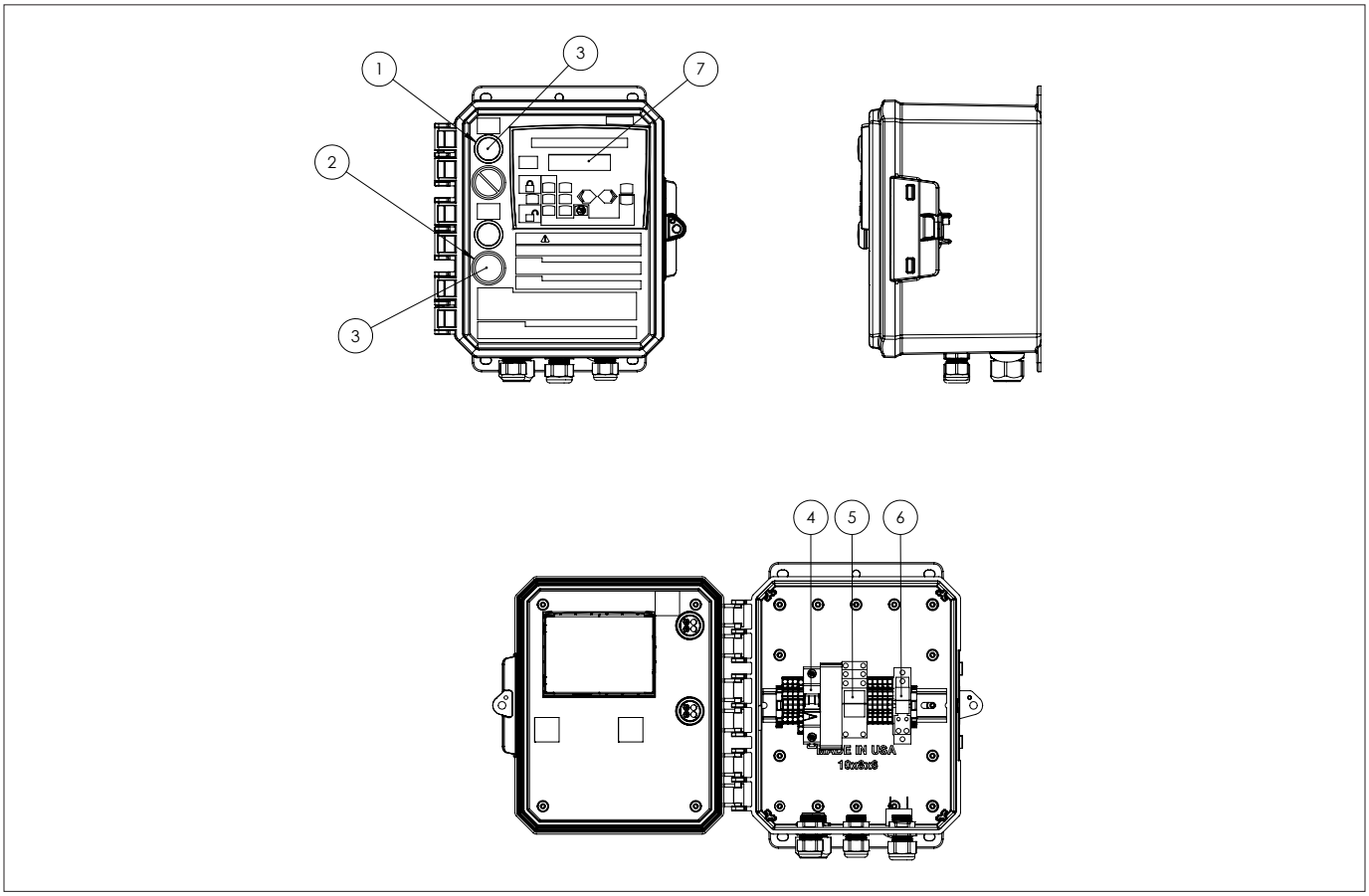


FIGURE DU—CB-11-A OR -B OR -C CONTROL BOX PARTS

CB-11-A OR -B OR -C CONTROL BOX REPLACEMENT PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CB-1000	LIGHT, 24VDC LED RED PILOT	1
2	CB-1001	LIGHT, 24VDC LED GREEN PILOT	1
3	CB-1002	COVER, WHITE LED	2
4	CB-1006	BREAKER, CIRCUIT	1
5	CB-1004	RELAY 12 AMP	1
6	CB-1005	RELAY, 20 AMP	1
7	CB-PLC-01	PLC-STANDARD	1

PARTS

CB-12 CONTROL BOX PARTS (MANUAL TRUCK LOCK™)

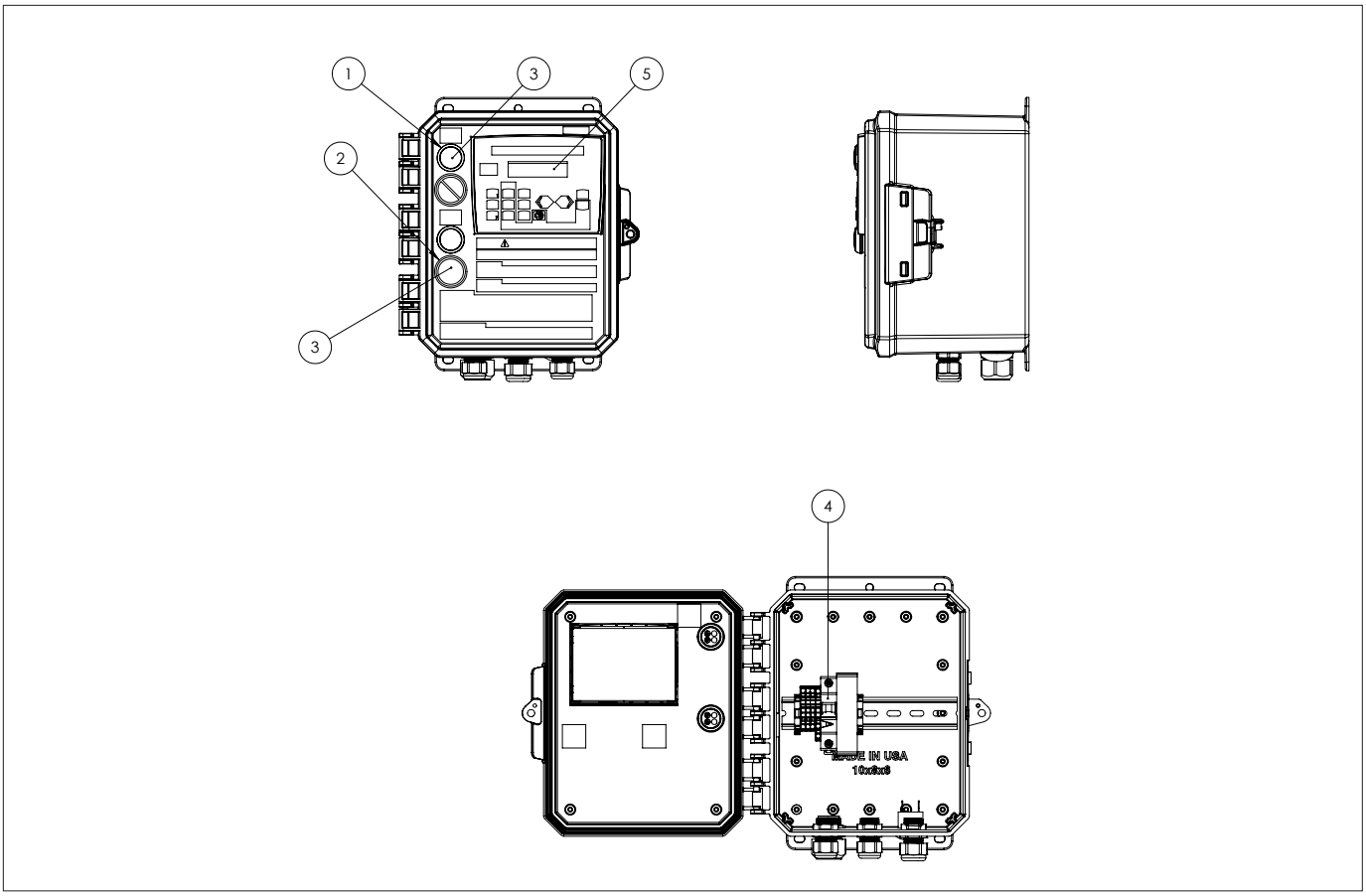


FIGURE DV—CB-12 CONTROL BOX PARTS

CB-12 CONTROL BOX PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CB-1000	RED PILOT LIGHT 24VDC LED	1
2	CB-1001	GREEN PILOT LIGHT 24VDC LED	1
3	CB-1002	WHITE LED COVER	2
4	CB-1006	BREAKER, CIRCUIT	1
5	CB-PLC-01	PLC-STANDARD	1

WARRANTY

NOVA TECHNOLOGY INTERNATIONAL, LLC warrants that its products will be free from defects in design, materials and workmanship for a period of one (1) year from the date of shipment. All claims for breach of this warranty must be made within 30 days after the defect is or can with reasonable care, be detected. In no event shall any claim be made more than 30 days after this warranty has expired. In order to be entitled to the benefits of this warranty, the product must have been properly installed, maintained and operated in accordance with all manufacturer's recommendations and/or specified design parameters and not otherwise have been subject to abuse, misuse, misapplication, acts of nature, overloading, unauthorized repair or modification, application in a corrosive environment or lack of maintenance. Periodic lubrication, adjustment and inspection in accordance with all manufacturers' recommendations are the sole responsibility of the Owner/User.

In the event of a defect, as determined by NOVA TECHNOLOGY INTERNATIONAL, LLC, covered by this warranty, NOVA TECHNOLOGY INTERNATIONAL, LLC shall remedy such defect by repairing or replacing any defective equipment or parts, bearing the cost for the parts, labor and transportation. This shall be exclusive remedy for all claims whether based on contract, negligence or strict liability.

PRODUCT SPECIFIC WARRANTY
TRUCK LOCK™ VEHICLE RESTRAINT

Warrany in addition to the Standard Product Warranty provided with all NOVA Products, NOVA TECHNOLOGY INTERNATIONAL, LLC guarantees materials, components and workmanship to be free of defects for the following extended periods:

- Extended Two-Year General Warranty—for a period of two (2) years from date of shipment, this warranty specifically applies to; the ram housing assembly, console assembly, pulleys and brackets and control box only.
- Extended Ten-Year Structural Warranty—for a period of ten (10) years from date of shipment, product will carry a prorated structural warranty. This warranty specifically applies to; the ram bar, ram housing, housing cover and console cover only.

NOT COVERED UNDER WARRANTY

- Routine maintenance, lubrication, adjustments, including initial field set-up.
- Repairs required as a result of failure to follow routine maintenance procedures specified in the owner's manual, abuse, accident, willful damage, neglect, improper installation, submersion, or shipping damage.

WARRANTY LIMITATIONS

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