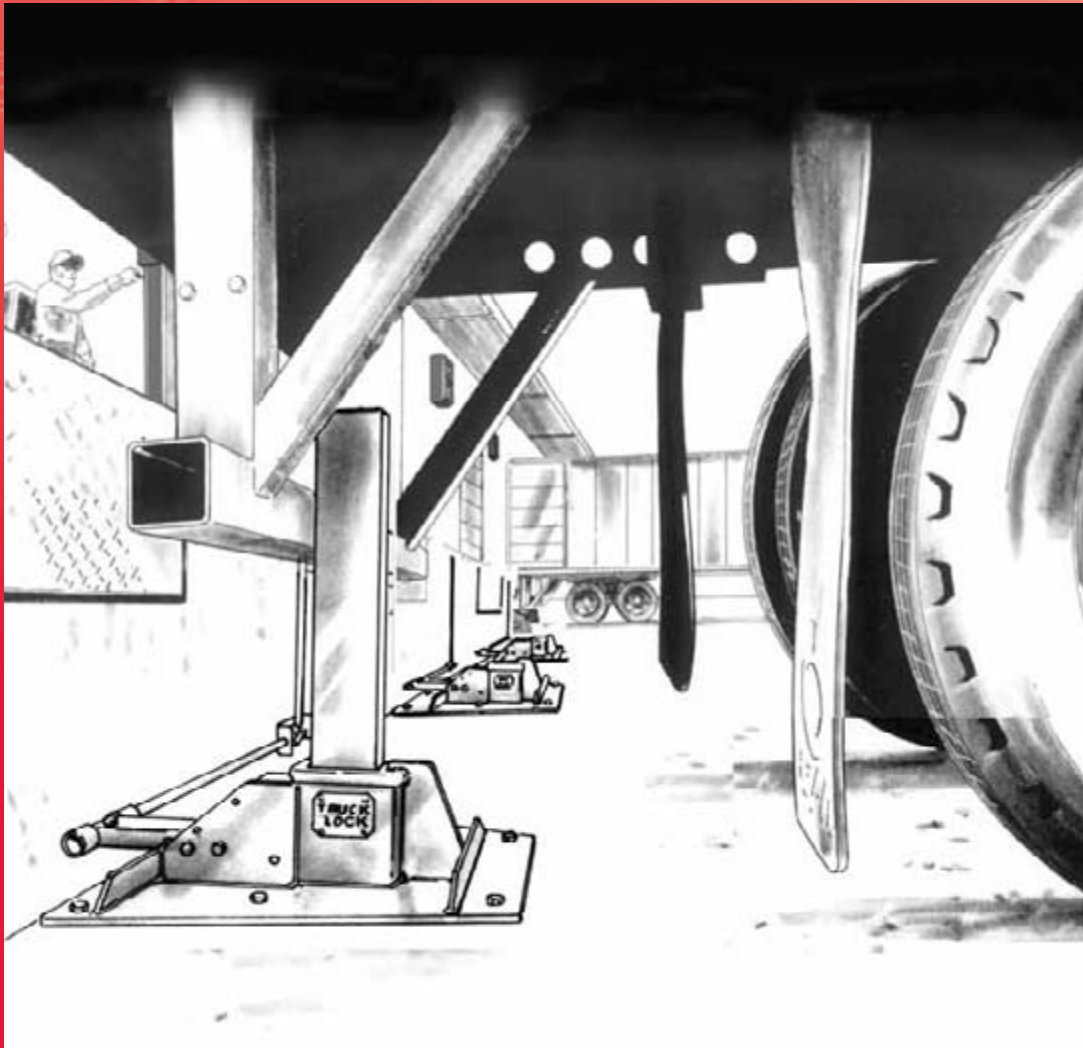


All Model 350FL Series NOVA Truck Lock™

**INSTALLATION
PARTS &
OWNER'S
MANUAL**



NOVA
TECHNOLOGY INT'L, LLC.

CATALOG NO. TL350FL-05

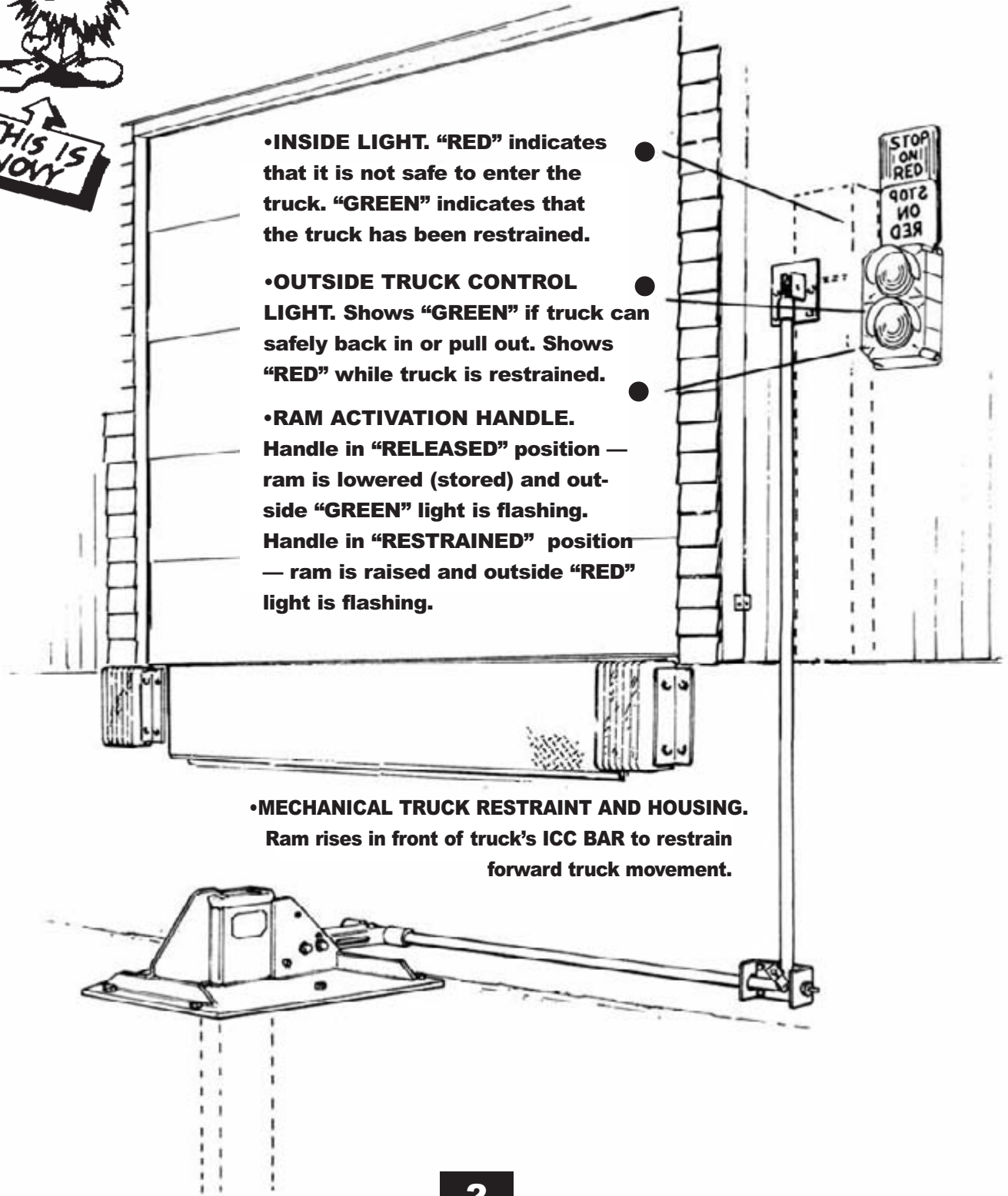
HELLO!
THIS IS
IMPORTANT!



THIS IS
NOVA

This view shows typical arrangements and functions of major components for the NOVA 350FL Truck Lock™ Series

- Review Distributors' survey sheet
- Verify that the Data Corresponds to your job site requirements



• **INSIDE LIGHT.** “RED” indicates that it is not safe to enter the truck. “GREEN” indicates that the truck has been restrained.

• **OUTSIDE TRUCK CONTROL LIGHT.** Shows “GREEN” if truck can safely back in or pull out. Shows “RED” while truck is restrained.

• **RAM ACTIVATION HANDLE.** Handle in “RELEASED” position — ram is lowered (stored) and outside “GREEN” light is flashing. Handle in “RESTRAINED” position — ram is raised and outside “RED” light is flashing.

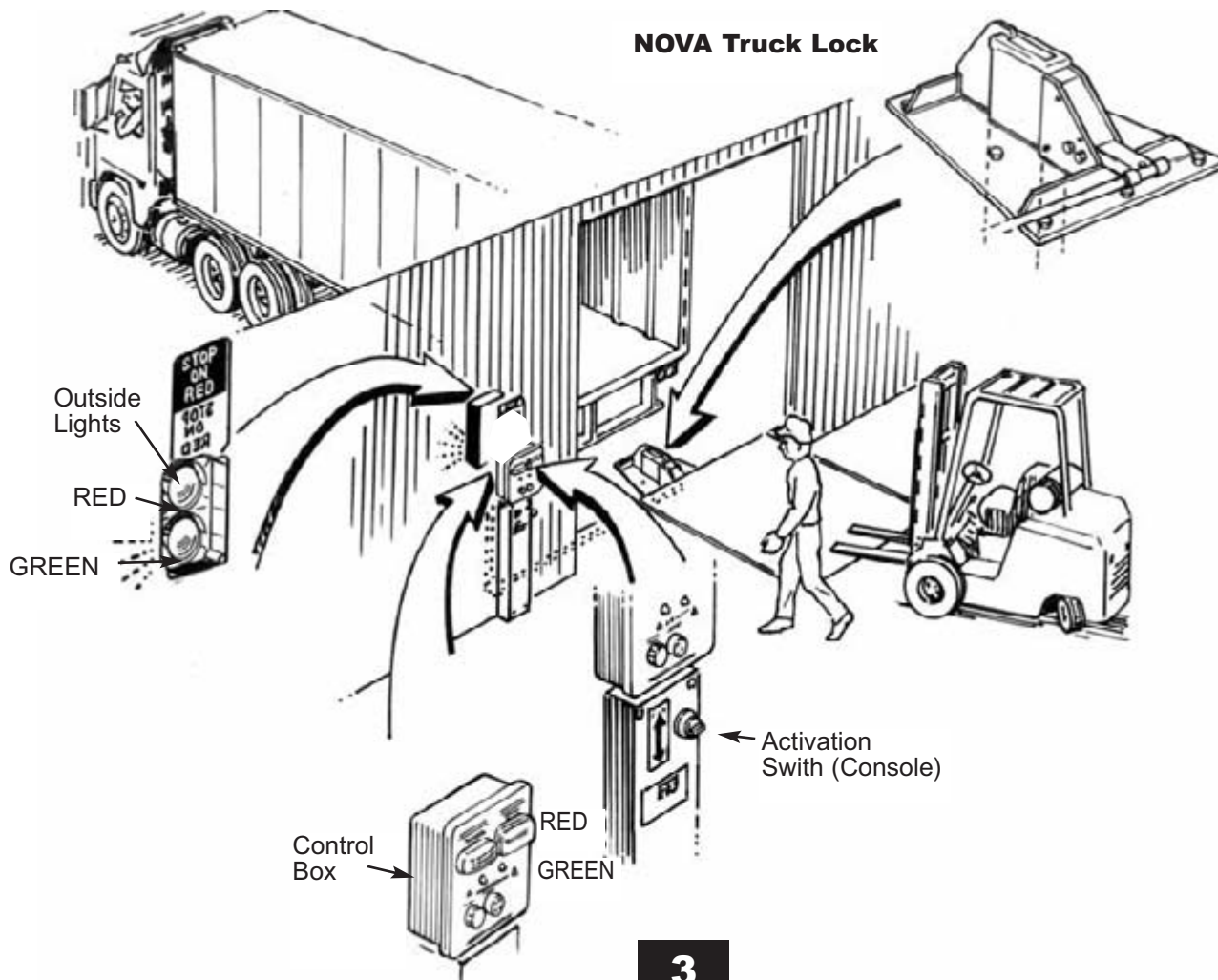
• **MECHANICAL TRUCK RESTRAINT AND HOUSING.** Ram rises in front of truck’s ICC BAR to restrain forward truck movement.

NOVA TRUCK LOCK™ RESTRAINT SEQUENCE

MODELS	ALL	ALL	ALL
CONDITIONS AT LOADING DOCK	RED/GREEN OUTSIDE LIGHTS	RED/GREEN INSIDE LIGHTS	ACTIVATION HANDLE/SWITCH
<ul style="list-style-type: none"> •TRUCK ARRIVES •RAM IS LOWERED 	FLASHING GREEN	FLASHING RED	RELEASED
<ul style="list-style-type: none"> •TRUCK IS IN & RESTRAINED LOADING/ UNLOADING •RAM IS RAISED 	FLASHING RED	CONSTANT GREEN *	RESTRAINED
<ul style="list-style-type: none"> •TRUCK IS IN & LOADING/ UNLOADING IS COMPLETED •RAM IS LOWERED 	FLASHING GREEN	FLASHING RED	RELEASED

*If ram's upper movement is restricted by a bent ICC bar or other obstruction, the outside "Red" light will flash indicating to the truck driver that it is not safe to pull out. Inside, the Audible Alarm will sound and both inside lights will flash alternately warning the dock attendant that an alternate method for restraining the vehicle is needed.

Pressing the Silence button will silence the alarm and the interior lights will continue to flash alternately. Once loading or unloading is complete, the dock attendant will depress and hold the silence button to reset the outside light. Once the truck has left the dock, it is necessary to completely cycle the restraint to reset all the lights.



INSTALLATION INSTRUCTIONS

Every installation should be a show piece and potential customer reference. Please follow these instructions and the info on the survey sheet.

STANDARD SUPPLIES (per unit) furnished by INSTALLER.

- (28) 1/4" Truss Head Concrete Fasteners
- 3/4" Thinwall Conduit — 20 ft. (Activation Cable Run)
- 1/2" Thinwall Conduit — 20 ft. (Truck Sensor Run)
- 1/2" Conduit Elbows (Two) (Truck Sensor Run)
- 1/2" Wall Clips (for conduit) (Truck Sensor Run)
- 2 quarts (8 cups) of Nova Juice-E



Nova Technology requires NOVA Juice-E to be used on all new truck restraints. Failure to follow instructions will result in a voided warranty.

WARNING

Concrete driveway has to be a Min. 6" thick at min. 4000 PSI and be crack free within a 20" radius from center of 10" hole. An expansion joint between drive and building wall is acceptable.

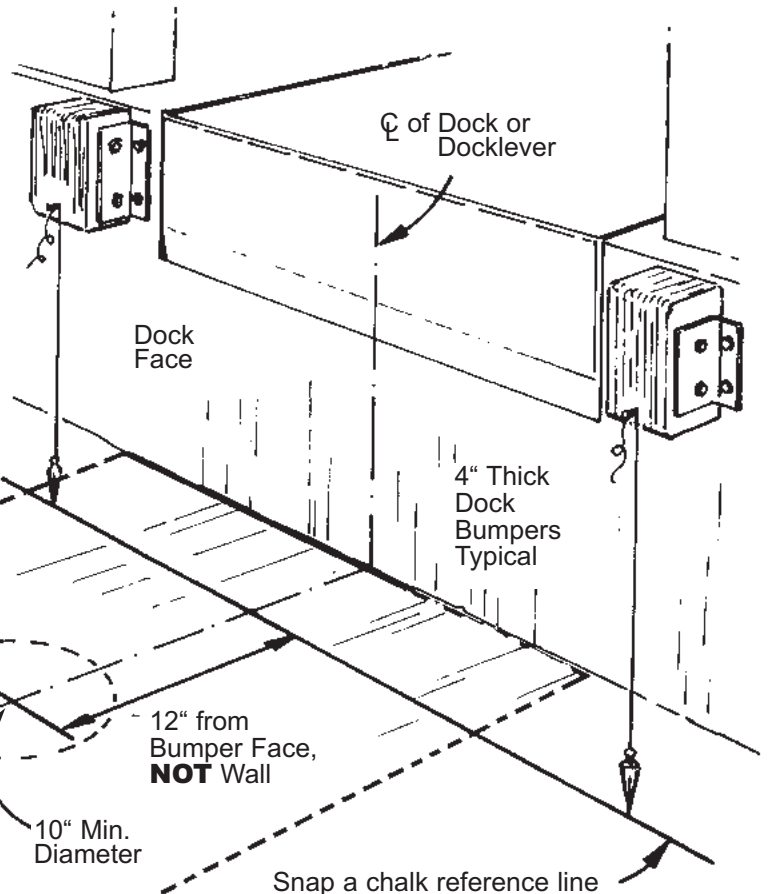
Step 1

- Determine exact location of restraint ram housing per diagram. Figure 1. Dimensions are from face of dock bumpers. If bumpers are not yet installed, add thickness of bumpers.

CAUTION

When unpacking the Nova Lock be careful not to lose parts that are within the specially made packing boxes.

Figure 1



12" TO CENTER OF HOLE, NO SMALLER THAN 10" (+) or (-) 1/2 inch.

20" Min. Diameter Radius CRACK-FREE ZONE

12" from Bumper Face, NOT Wall

10" Min. Diameter

Snap a chalk reference line

NOTE Drawing is NOT to scale.





CAUTION

IMPORTANT: Remember Dimension from Back Edge of Ram to Bumper Face should be 10".



WARNING

Use (7) 5/8x 5" orange tip wedge bolt. Wedge bolt is a heavy duty self tapping anchor. Meets AISI 1020/1040 carbon steel. Blue tip wedge bolts are not allowed. Ref. Power Fasteners, Inc. Wedge Bolt #7221. Nova P/N 7221.

Step 2

- Core drill (auger, posthole digger, etc.) a 10" diameter hole minimum of 30" deep.
- Locate Flange housing sheath and backfill with housing sheath cover in place. Make sure housing sheath bottom is 30" from top of concrete surface.
- Place housing in sheath and drill (2) 5/8" dia. holes for anchors. Drill holes through concrete. Blow holes clean with dry compressed air.
- To insert wedge bolt, drill a 5/8" hole through concrete in first location. Clean out hole with compressed air. Insert wedge bolt and tighten with impact wrench to a torque of no more than 75 ft-lbs. Drill second hole and clean out hole with compressed air, and insert bolt #2. Drill remaining 5 holes and clean out in the same manor.
- Insert remaining (5) self tapping anchors and tighten to 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" dia. x 5" long Powerbolt. (1) power bolt is included with each restraint. Consult factory for more information. 1-800-236-7325.

IMPORTANT

Be sure 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 be sure that there is adequate clearance for future installation of dock seals or shelters. See Figure 3.

Step 3

- Remove cover from control console by removing four 3/8"x1/2" bolts. See Figure 4.
- If metal building support is required as per survey sheet, follow those instructions for correct installation.

Figure 2

CUTAWAY SECTION FOR CONCRETE

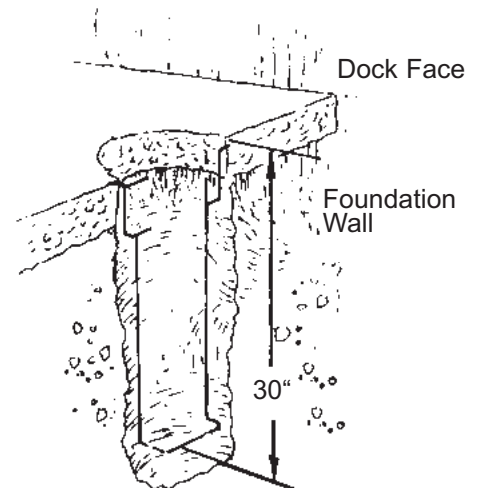


Figure 3

Unobstructed area inside the building for the console — should line up with an equal area on the outside.

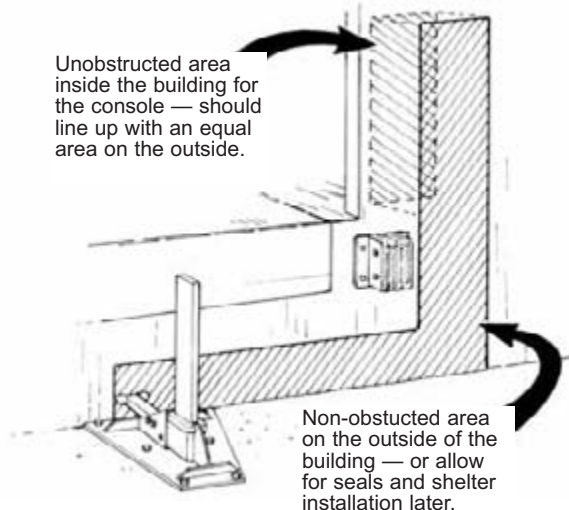
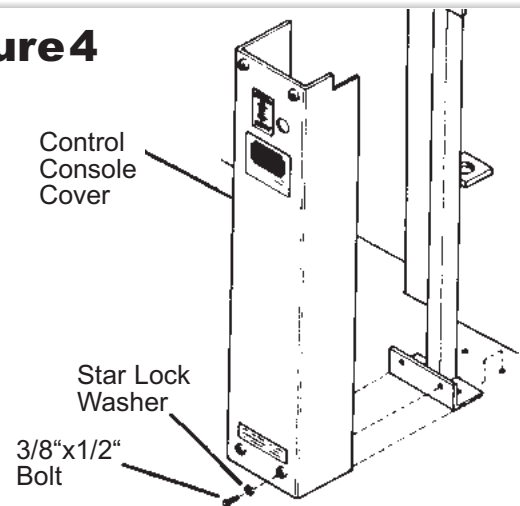


Figure 4



Step 4

•Temporarily place control console (with cover removed) against inside wall in desired location. 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 5.

IMPORTANT

GET THIS PART RIGHT TO AVOID CABLE RUBBING BETWEEN PULLEYS.

1. **CABLE MUST RUN ON PULLEYS.**
2. **CABLE MUST RUN LINE OF SIGHT BETWEEN PULLEYS.**
3. **CABLE MUST NOT RUB ON WALL MATERIAL.**

Step 5

•First, drill the 1" diameter cable exit hole through the wall from the inside at the location marked in Figure 5.

Replace bracket and check alignment of the 1" hole per Figure 5— then drill mounting holes.

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

Step 6

•Replace console pole and check alignment of the 1" hole per Figure 5. Then drill mounting holes. Mount control console on inside of building wall.

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

Step 7

•Mount upper outside pulley to exterior wall, being sure top of pulley aligns with center of 1" hole through wall. See Figure 6 and note regarding anchors above.

Figure 5

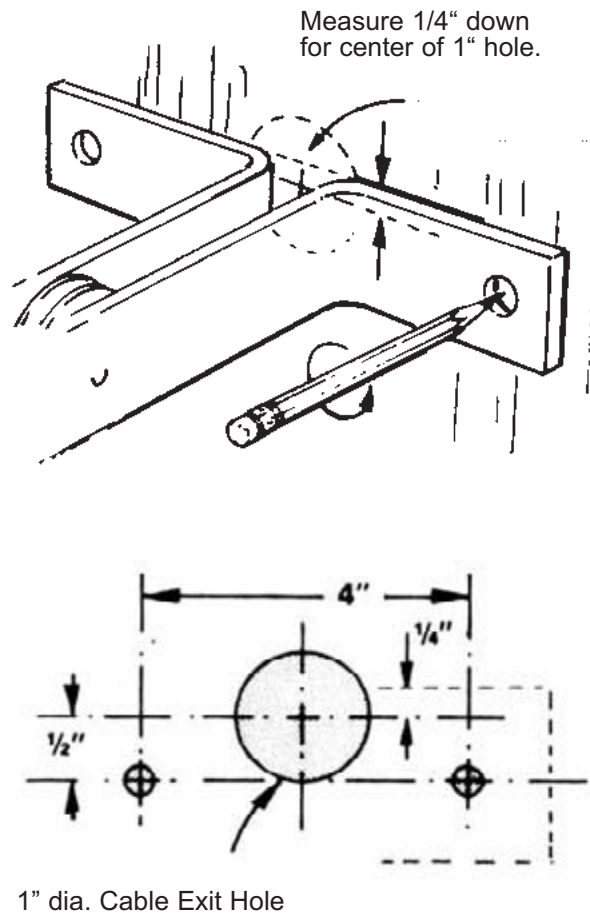
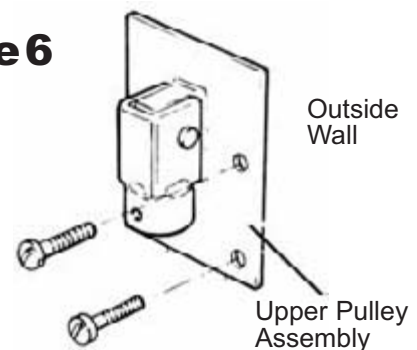


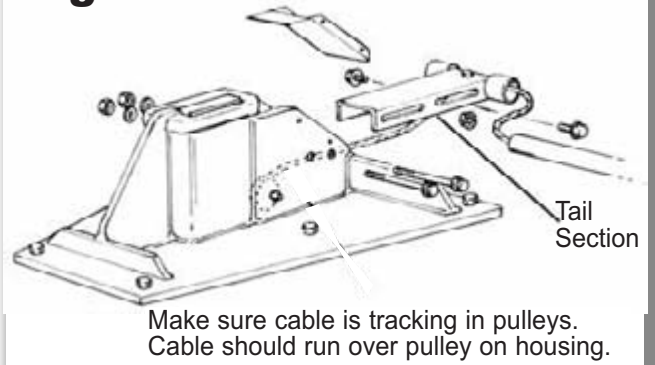
Figure 6



Step 8 Installation of Tail Section

- 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. Replace cover. See Fig. 7

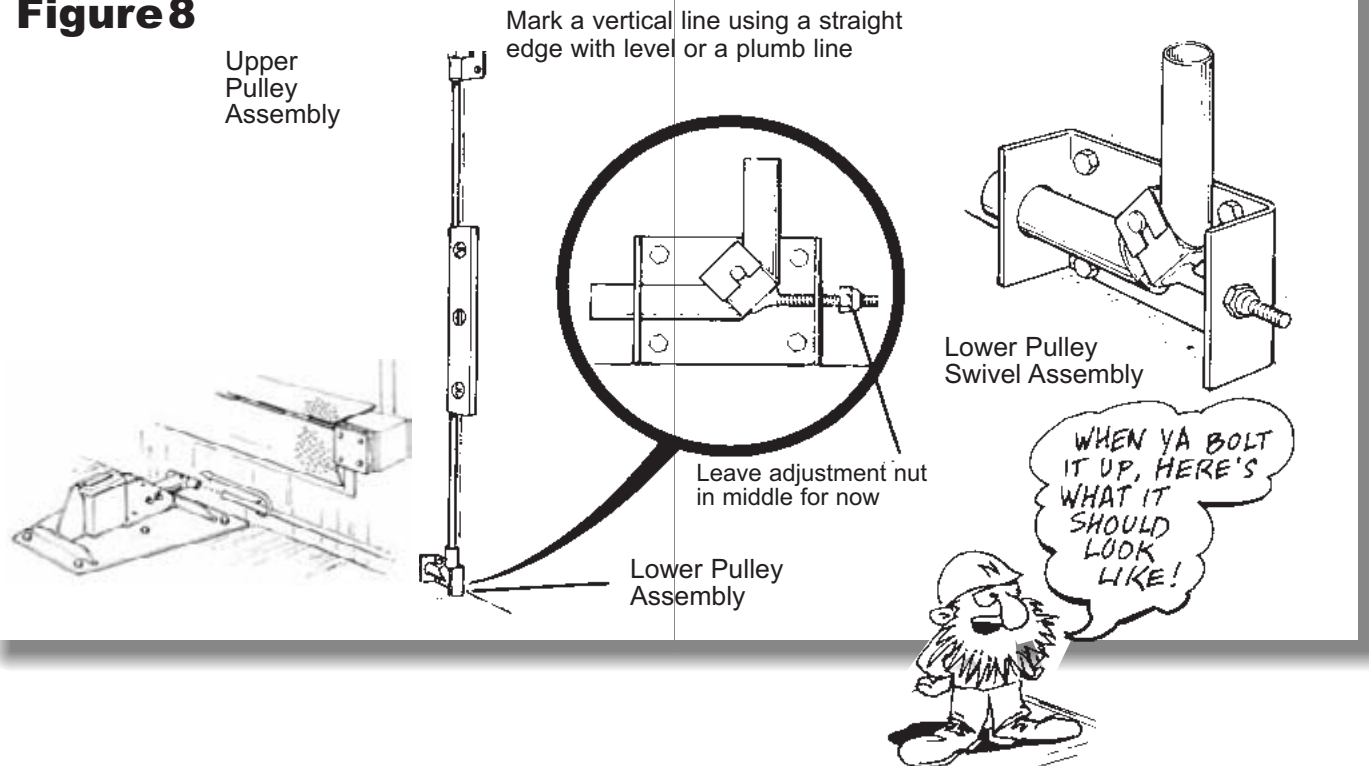
Figure 7



Step 9

- Mount lower pulley swivel 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 8.

Figure 8



IMPORTANT

Step 10

- Remove ram from housing and carefully pour in 2 quarts (8 cups) of Nova Juice-E. See figure 9.

Step 11

- 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 3/4" thin wall conduit to this length. See Figure 10.

Step 12

- Measure distance from conduit collar on lower pulley to conduit collar on ram housing assembly and add 2-3/4". Cut 3/4" 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 10.

Step 13

- Route ram cable around top of upper outside pulley, into building through hole in wall, and over the pulley between wall bracket on control console. See Figure 11.

Figure 9

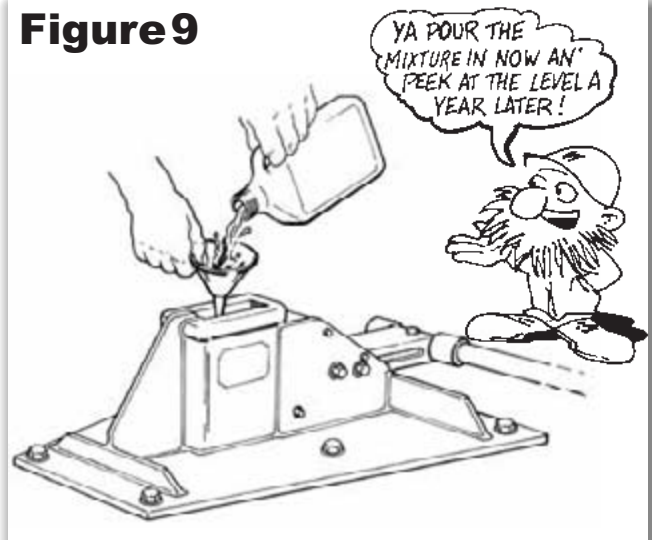


Figure 10

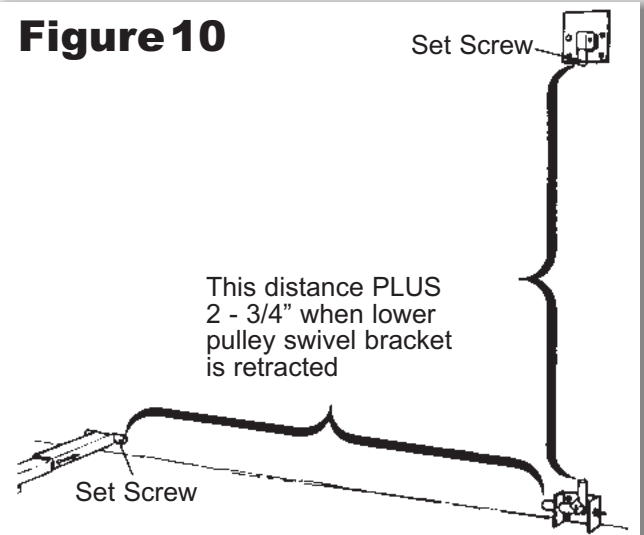
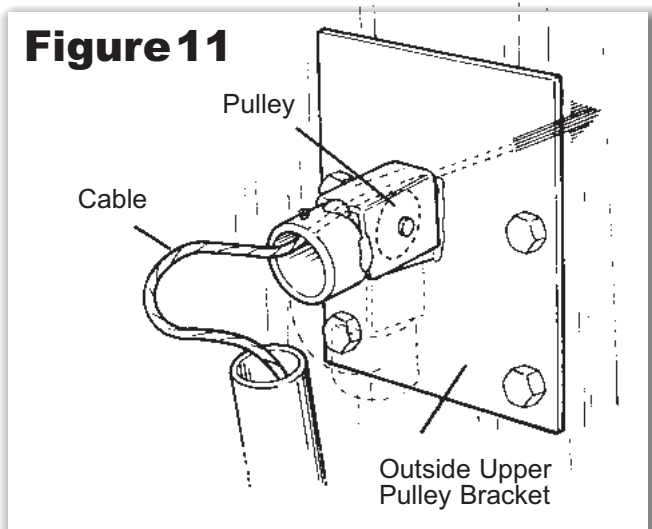


Figure 11



Step 15M

•**MANUAL RESTRAINTS.** Raise handle to full up position. Make sure upper limit switch lever is contacting Activation Handle Tube. Pull cable tight. Around extension spring, and cable clamp with threads towards slide pole. See Figure 12.

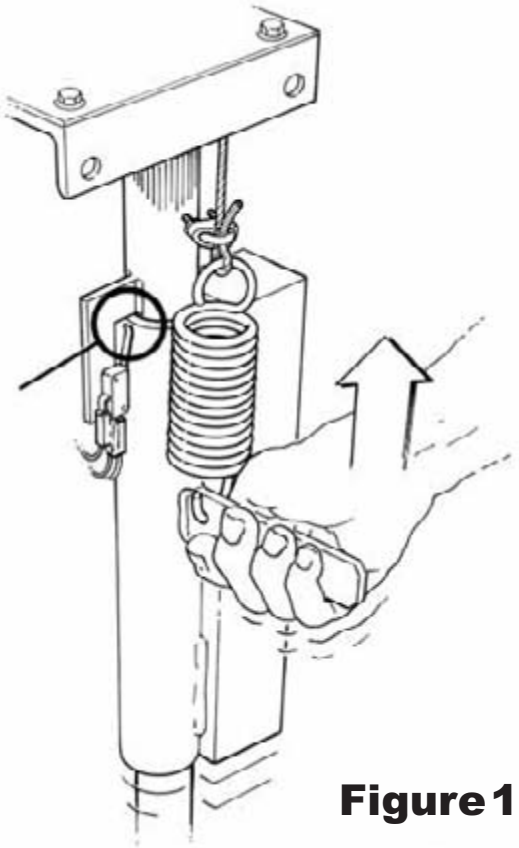
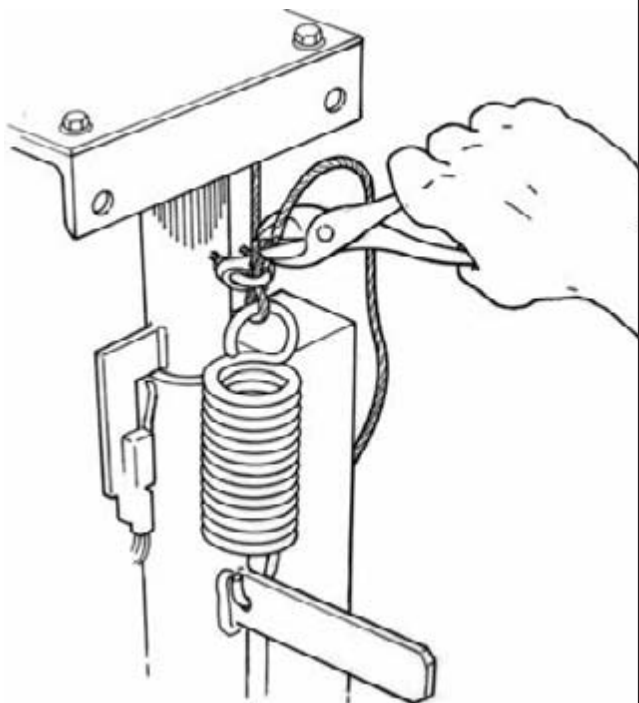


Figure 12



Step 15P

•Manually extend air cylinder. Run end of cable through pulley at top of cylinder rod, pull cable tight, and attach end to clevis pin at top on control console frame using cable clamp supplied. See Figure 13. Cut off excess cable.

IMPORTANT

Pull cable only tight enough to remove all slack from cable. Do not pull so tight that you raise the ram from its resting position in the housing.

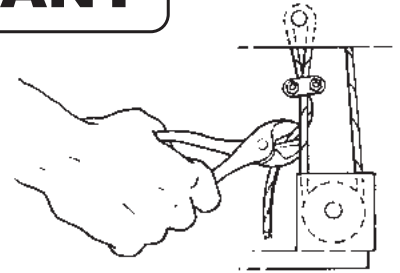
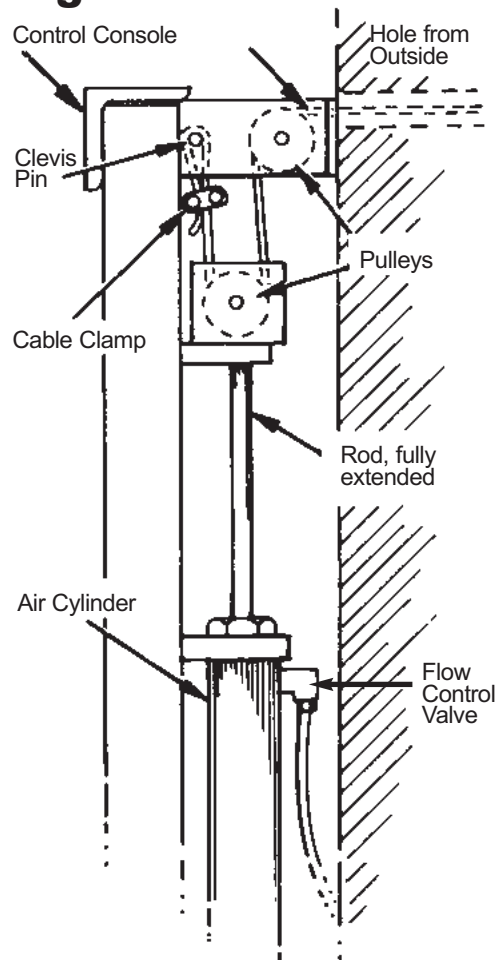
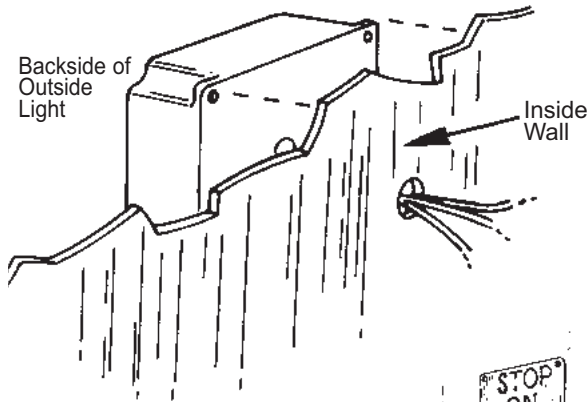


Figure 13



Step 16 For Model 351M and 351P

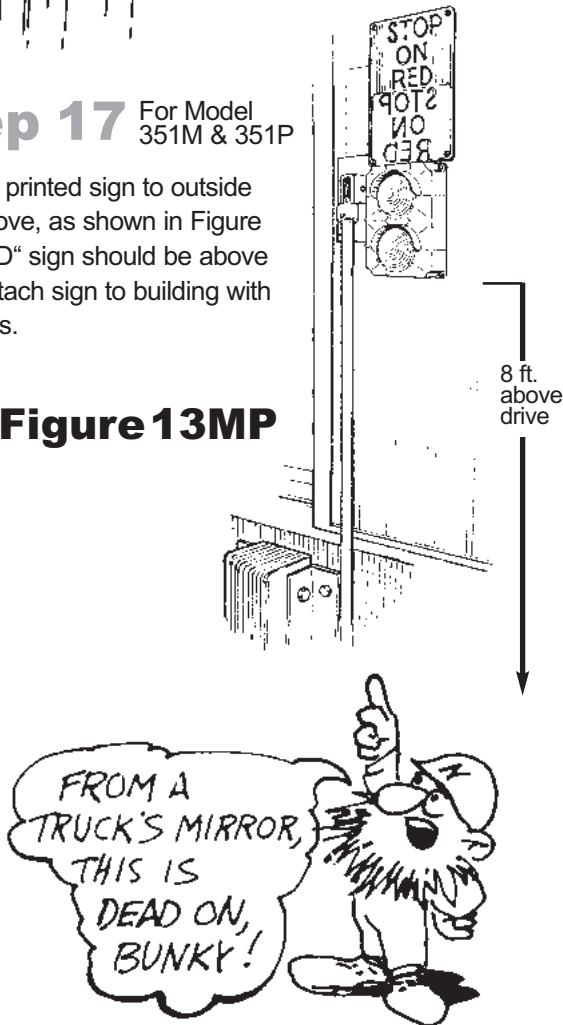
•Determine location of outside light on exterior of building. Light must be on truck driver side of dock door (right side when facing dock from outside) and 8' above surface of drive. Be sure location of light will not interfere with the future installation of dock shelters or seals. Drill hole through wall at approximate center of light. Feed wire from light through hole in wall and affix light to wall. See Figure 13MP.



Step 17 For Model 351M & 351P

•Fasten printed sign to outside wall, above, as shown in Figure 13. "RED" sign should be above light. Attach sign to building with fasteners.

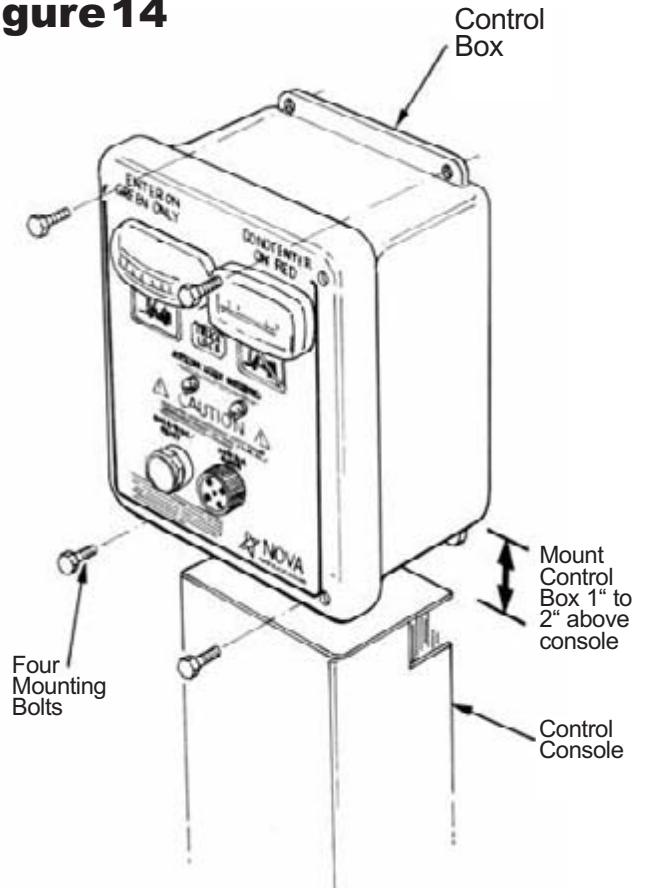
Figure 13MP



Step 18 For Model 351M and 351P

•Mount control box to wall 1" to 2" above console using fasteners supplied by installers.

Figure 14



⚠ CAUTION

All control and lighting circuits are low voltage. Installation of 115V grounded supply circuit must conform to local electrical codes and customer specifications.

⚠ CAUTION Be sure that installation is performed only by qualified personnel and that electrical hook-up is performed by a qualified electrician.

Step 19M For Model 351M Only

•Turn console cover around. 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 15.

Step 19P For Model 351P Only

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

Figure 14P

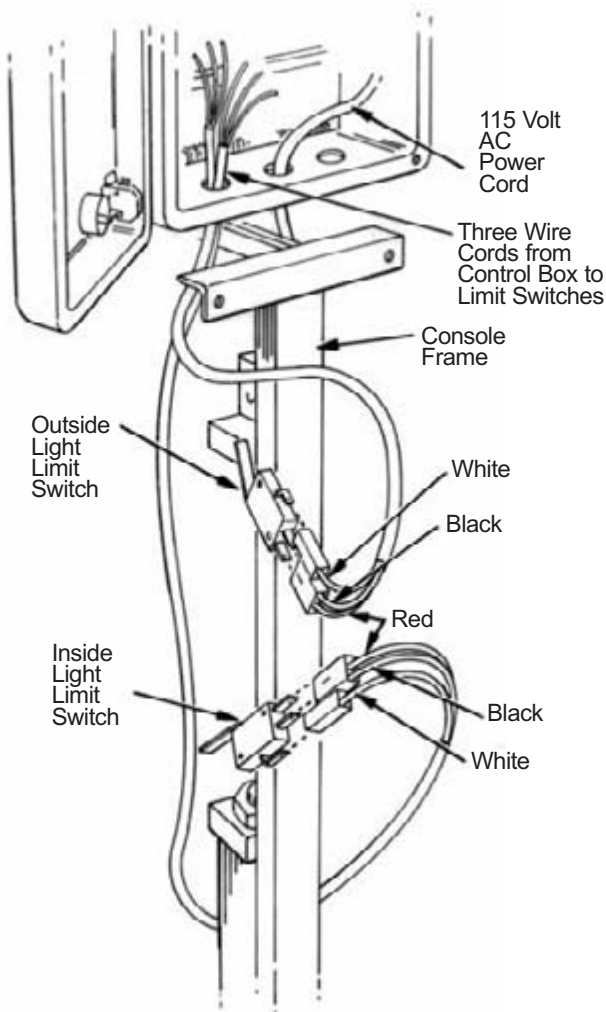
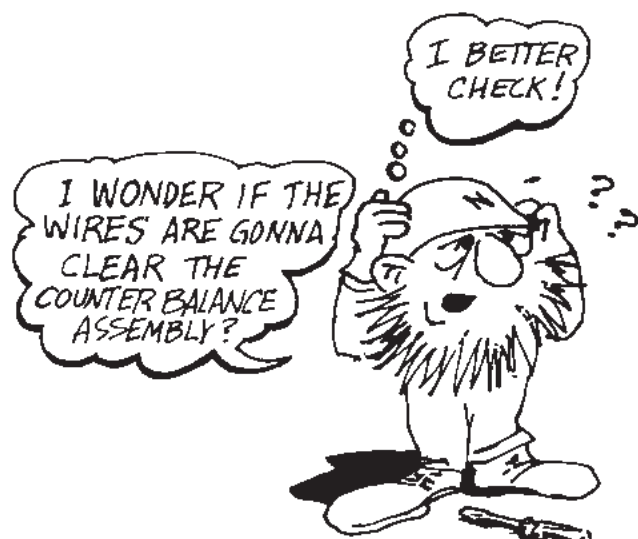
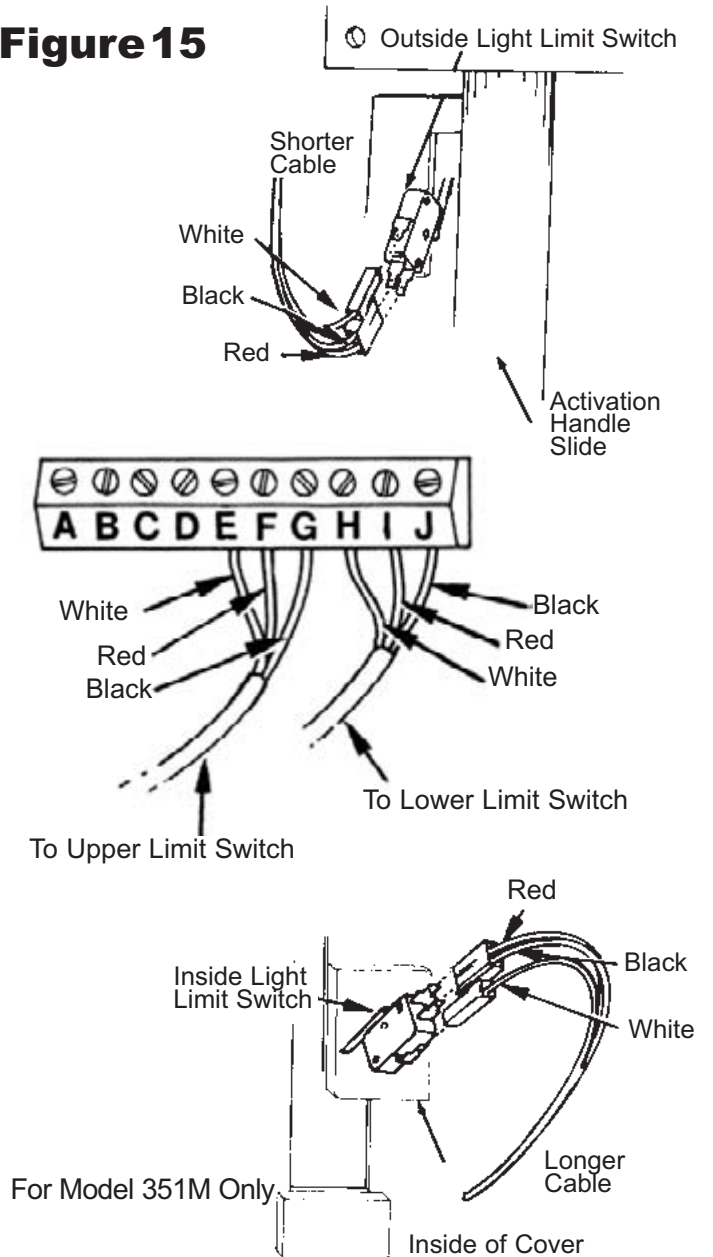


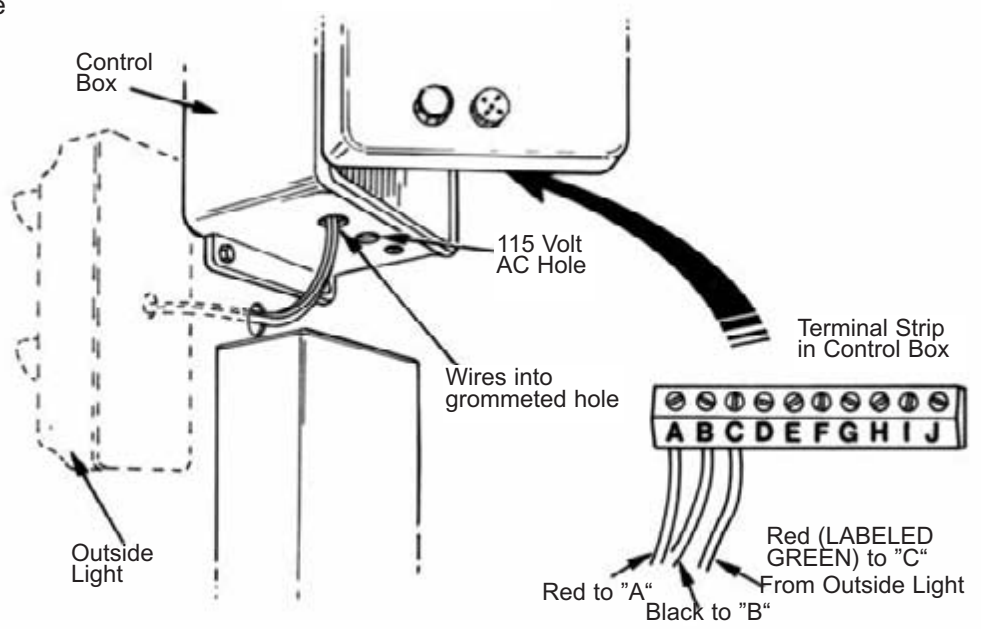
Figure 15



Step 20M For Model 351M & 351P

Figure 16

Route wire from outside light to inside control box through the grommets hole in the bottom of the box. Cut to length and connect to terminal strip as shown in Figure 16.



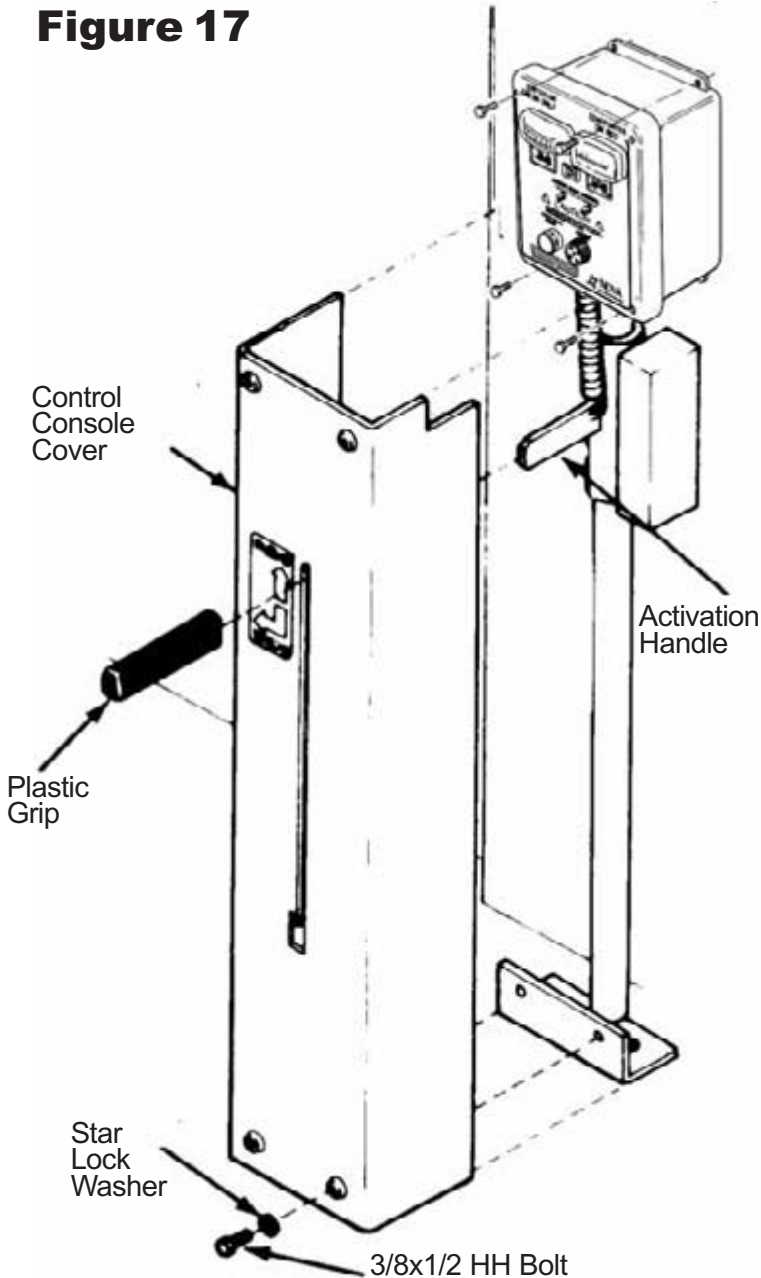
Step 21M

- Replace cover on control console and secure with four 3/8"x1/2" bolts and star lock washers. Slide plastic grip on to Activation Handle. See Figure 17.

IMPORTANT

Make sure that wires from control box will not get tangled in activation handle, or counterweight assembly once console cover is replaced

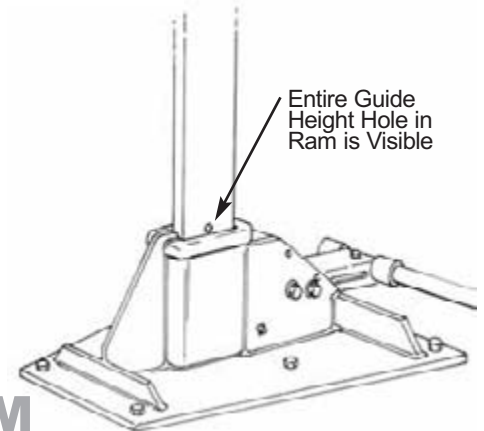
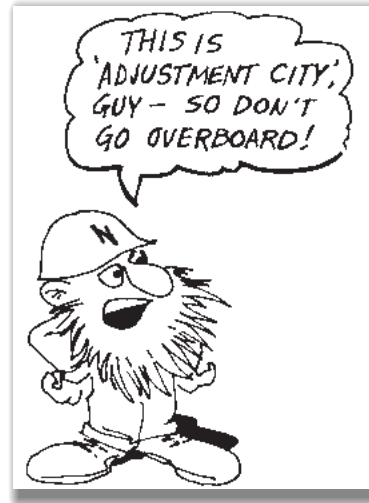
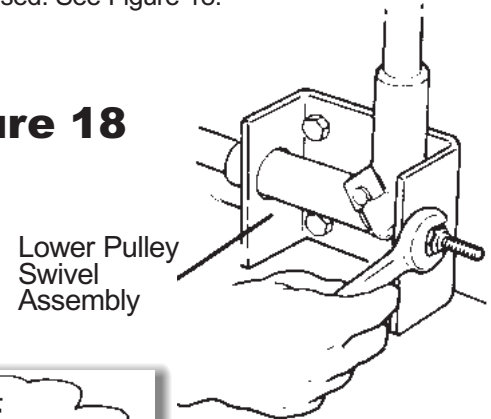
Figure 17



Step 22M

- Move Activation Handle down into "Restrain" position which will raise restraint ram outside. Adjust ram height by turning nut on lower pulley assembly. Tighten cable until entire hole in ram is visible above top of ram housing. Do not overtighten as ram will not completely lower when handle is raised. See Figure 18.

Figure 18



Step 23M

- Test entire sequence as outlined in Operating Instructions on Page 3.

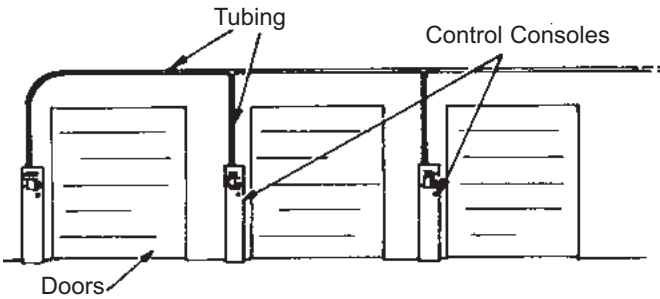
This completes the installation of a typical Manual System — turn to page 15 for important final checks

NOTE: Air may be supplied from plant system or by small compressor. Air must be minimum of 80 lbs./square inch and maximum of 130 lbs./square inch. Air must be dry and clean. Air usage is approximately .015 cubic feet per operation. Duration of normal power stroke is about 2 seconds.

Step 21P

•Run 1/4" polyethylene tubing capable of withstanding 150 psi above dock doors as in Figure 19. Plot the tees to align with the console(s).

Figure 19



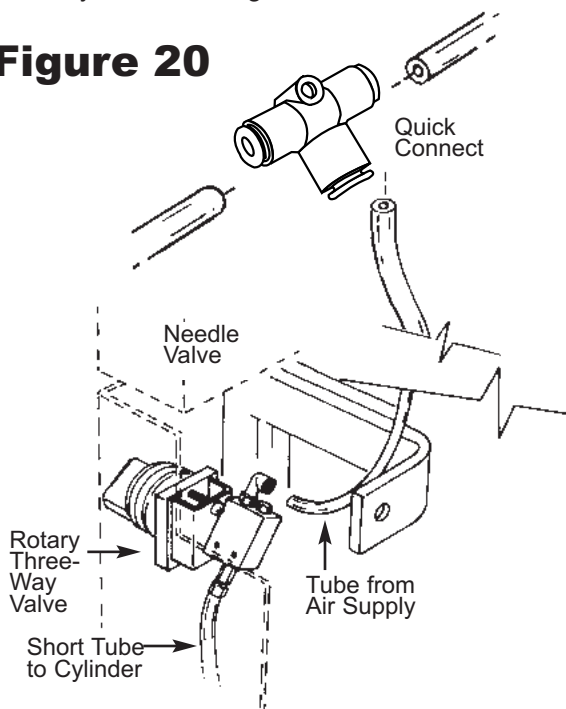
Step 22P

•Run polyethylene tubing from header tee to control valve. Cut polyethylene tubing to allow for cover removal.

Step 23P

•Connect short tube from control valve to flow control on air cylinder. See Figure 20.

Figure 20



Step 24P

•Turn air supply on.

CAUTION

Be sure to keep hands clear of air cylinder, pulley assembly and cable when retracting cylinder. Personal injury could result.

Step 25P

•Rotate selector valve knob to up "RESTRAIN" position.

NOTE: The unit is shipped with the needle valve 4 turns open.

Step 26P

•Rotate selector lever to down "RELEASE" and lower ram.

NOTE: Lowering speed is not adjustable and is controlled by internal orifice.

Step 27P

•Cycle unit again. Turn adjusting knob on flow control valve out to increase rise speed and in to decrease speed. Continue to cycle unit until desired speed is obtained.

NOTE: When properly adjusted, the ram should fully rise in 1 to 2 seconds.

There should be less than 1/2" of "hop" by the ram at the end of the rise stroke.

CAUTION

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

SINCE TRUCK LOCK DOESN'T USE MUCH AIR & FOR OVERALL EASE OF INSTALLATION, I RECOMMEND PLASTIC TUBING!



Step 28P

- Replace control console cover and secure with four 3/8"x 1/2" bolts and star lock washers.

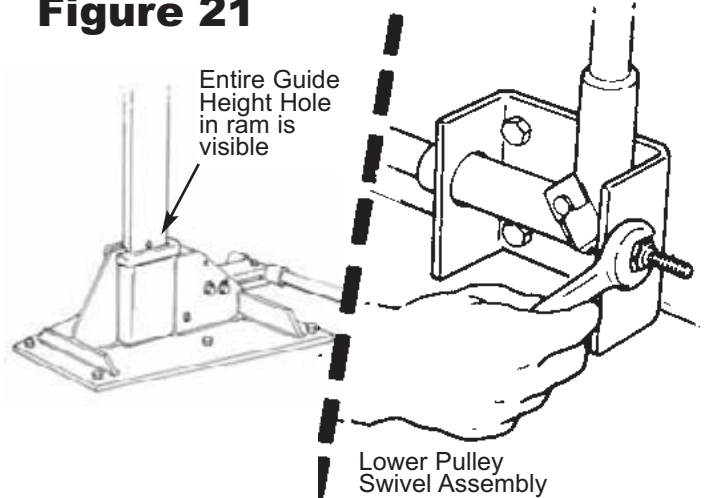
Step 29P

- Move control switch to "RESTRAINED" position. Adjust ram height by turning nut on lower pulley assembly. Tighten cable until entire guide height hole in ram is visible above top of ram housing. Cycle unit several times to check cable adjustment. See Figure 21.

! CAUTION

If Ram does not completely lower, cylinder damage could result and range of Truck Lock will be reduced.

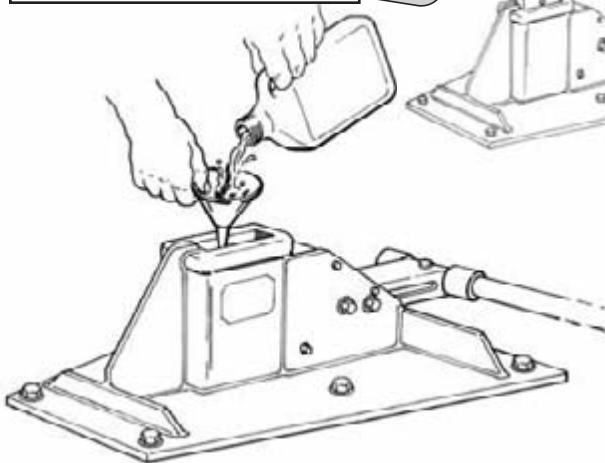
Figure 21



This completes the installation of a typical pneumatic system, see below for important final checks.

IMPORTANT CHECKS!

Nova Technology requires NOVA Juice-E to be used on all new truck restraints. Failure to follow instructions will result in a voided warranty.



Entire Guide Height Hole in ram is visible

Adjust cable length by turning nut on lower pulley assembly. Tighten cable until entire guide height hole in ram is visible above top of ram housing. Do not overtighten as ram will not completely lower when switch is released.



Steps 1S & 2S applies only to Sensor Switch Kit

Step 1S ^{351FP, 351FM} Sensor Switch Kit Only

•(For Model 351FP & 351FM only). Install 1/2" thinwall conduit to shield sensor switch wire running to control box as shown in Figure 23.

Step 2S Sensor Switch Kit Only

•Uncoil wire from sensor switch and feed through conduit to control box and through grommeted hole. Cut wire to length and connect to terminal strip as shown in Figure 22.

Figure 22

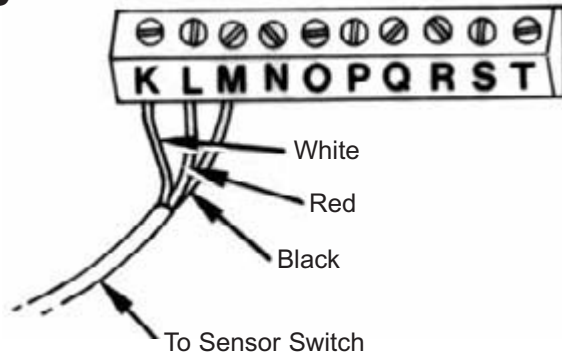
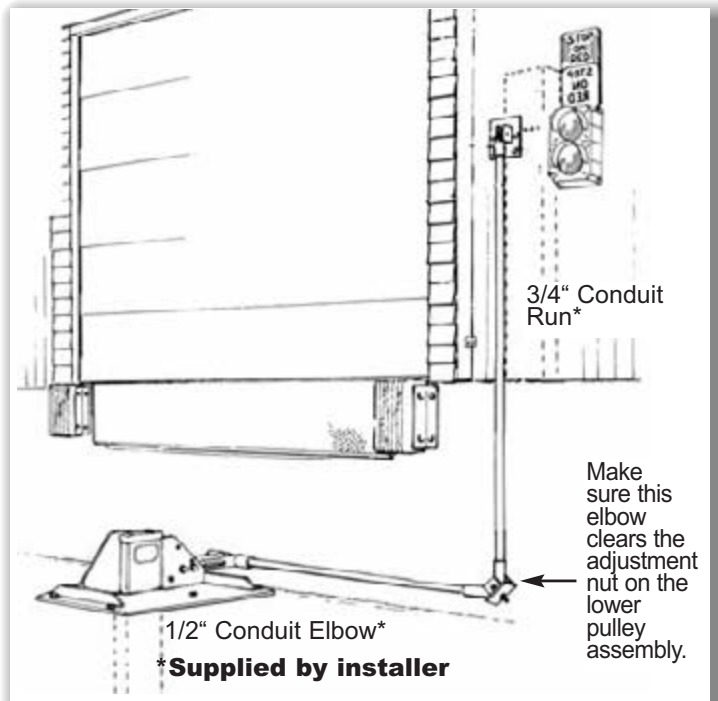


Figure 23



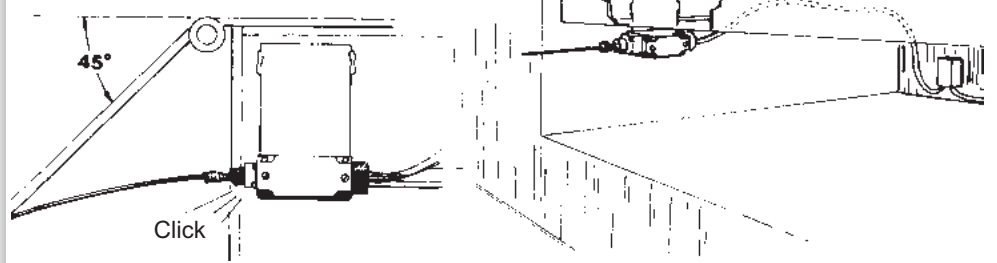
Steps 1 IC-3 IC applies only to Model 351FP w/Interconnect

Step 1 IC

•Mount the limit switch under the dock board as shown in Figure 24. (Limit switch may also be used in conjunction with the overhead door.)

Figure 24

Switch is mounted in such a manner so that when dock lip is at a 45° angle, switch should click and system is activated.



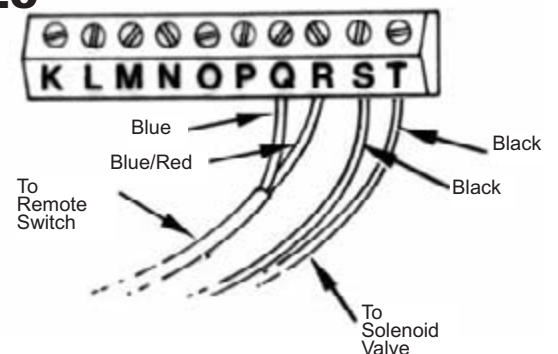
Step 2 IC

•Route wire from limit switch into control box through the grommeted hole. Cut the wire to length and connect to the terminal strip as shown in Figure 25. Black to "A", White to "B".

Step 3 IC

•Route wire from solenoid valve into control box through the grommeted hole. Cut the wire to length and connect to the terminal strip as shown in Figure 33. Black to "D", Black to "E". (Either black wire in either position will work.)

Figure 25



TOOLS LIST

SUGGESTED TOOLS AND SUPPLIES for installing and servicing Nova Truck Locks

Utility Knife
Tape Measure
Chalk or Marker for marking hole locations
120 Volt Power Source
Core Drill with water for coolant
10" Ø Core Bit
(2) 12" extensions for Core Bit
Post hole digger or auger to clean out hole
Rock Bar/Pry Bar and shovel
Torch to cut metal in the hole
Rotary Hammer Drill
5/8" x 12-16" long masonry bit (Flange Anchors)
1" x 12" long masonry bit (hole for cable)
1/2" x 6" long masonry bit (Outside Mount Angle)
Impact Wrench-torque capabilities of 75 ft-lbs with 3/4" and 15/16" impact sockets
Cement, water and mixer, wheelbarrow, pail (for Cast in place units)
Ram rod to agitate the concrete
Trowels to finish off the concrete
Hammer
1/2" Drill/Hammer drill
1/4" x 6" long masonry bit (Wall Brackets)
3/8" x 6" long masonry bit (Console Support, Console Feet and top, Control Box Mount, Outside Console Mount)
1/2" x 6" long masonry bit (Console Angle-Outside Mount Only)
Wrenches 3/8", 7/16", 1/2" 9/16", 3/4", 15/16",
Sockets- 3/8", 7/16", 1/2" 9/16", 3/4", 15/16",
Nut Driver-3/8"
Allen Wrenches 1/8", 5/32" ball end
Adjustable Crescent Wrench. Up to 1"
(2) 10' sticks of 3/4" thin wall Conduit
Level
Conduit/ Pipe cutter
File to clean burr after conduit is cut
6-8' stepladder
Funnel
Mini flat, Small, Medium and Large Screwdrivers Flat and Phillips
Side Cutter for cable
Duct Tape
Channel locks
Welder
Chrome Paint
Shim stock
(2) 10' sticks of 1/2" thin wall conduit (for Sensor Switch option)
5/16" transfer punch (for Sensor Switch option)
1/8" HSS twist drill bit (for Sensor Switch option)
3/8" square socket adaptor for drill (for Sensor Switch option)
3/8" socket with 3/8" drive (for Sensor Switch option)
Electrical Junction Box (for leveler interconnect option)

Concrete Anchors
(8) to (20) 1/4" or 5/16" x 2" long Nail Pin Anchors (Wall Brackets, Control Box)
(12) to (31) 3/8 x 3-1/2 or 4" long Stud style anchors (Console Support, Console Feet, Control Box Mount, Outside Console Mount, Open Dock Stanchion)
(5) 1/2" x4" long stud style anchors (outside mount option only)

Other Fasteners

1/4-20 x 1" Hex Head Bolts
1/4-20 Hex Nuts
1/4" washers and lock washers
3/16" washers
1/4 x1-1/4", 5/16 x 1-1/4", and 3/8 x 1-1/4" lag screws (for drywall or wood interior walls)
1/4-14 x 1 tek screws

FOR SERVICING RESTRAINTS

The following tools are suggested in addition to the above:
Shop-Vac with a conduit adaptor to replace fluids in housing
Grease with applicator
Step drill or cone drill 1-3/16" Ø for valve replacement
Multi-meter for checking control Box
Wire stripper
Wire
Duct Tape

SUGGESTED SUPPLIES TO CARRY ON TRUCK WHEN SERVICING:

Cables
Light bulbs (Outside, Inside, LED) and lenses
Pulleys 1", 1-3/4", 2"
Nova Juice-E
Rotary Valve
Cylinder Ass'y 10" and 12"
Limit Switches
Sensor Switch Ass'y
Wands for limit switches

GENERAL MAINTENANCE

WARNING

Be sure that main power to unit is locked out and tagged according to OSHA regulations and local codes prior to performing any maintenance or repair!

Daily

- Operate the TRUCK LOCK to assure it is in proper working condition. Replace damaged or missing light bulbs and lenses.

Every 180 Days

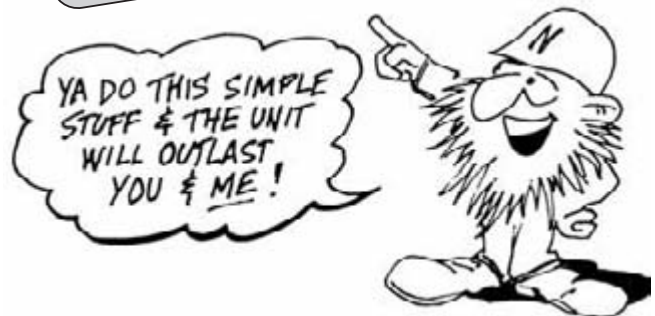
- Apply grease to slide pole or cylinder pole.
- Check and tighten concrete anchors to a torque of 70-75 ft-lbs.
- Inspect slab around restraint for any cracks or imperfections.

Annually

- **ALL MODELS.** For best performance, remove old, used fluids (siphon, drill pump, shop vac) and replace with new mixture. Replace all outside light bulbs.



Nova Technology requires NOVA Juice-E to be used on all new truck restraints. Failure to follow instructions will result in a voided warranty.



ELECTRICAL TROUBLESHOOTING

• **NOTE:** In case of electrical malfunction, refer to electrical trouble shooting guide as well as the wiring diagram.

WARNING

Be sure that the main power to the unit is locked out and tagged according to OSHA regulations and local codes prior to performing any electrical work. Electrical troubleshooting and repair should be performed only by a qualified electrician.

Light Functions and Related Components

LIGHT MALFUNCTION RELATED COMPONENTS

All	115V power to unit, fuse, transformer, upper and lower limit switch.
Outside Red	Bulb, upper limit switch.
Outside Green	Bulb, upper limit switch.
Both Outside Lights	Common lead to lights, upper limit switch.
Inside Red (Flashing)	Bulb, lower limit switch.
Inside Red (Constant)	Bulb, lower limit switch.

LIGHT MALFUNCTION RELATED COMPONENTS

Inside Green	Bulb, lower limit switch.
Blue (Flashing)	L.E.D., lower limit switch, sensor switch.
Blue (Constant)	L.E.D., lower limit switch, sensor switch.
All Inside Lights	Common lead to lights (cover), lower limit switch.
Inside Red L.E.D.	Outside red or outside
Inside Green L.E.D.	green bulb, L.E.D. bulb.

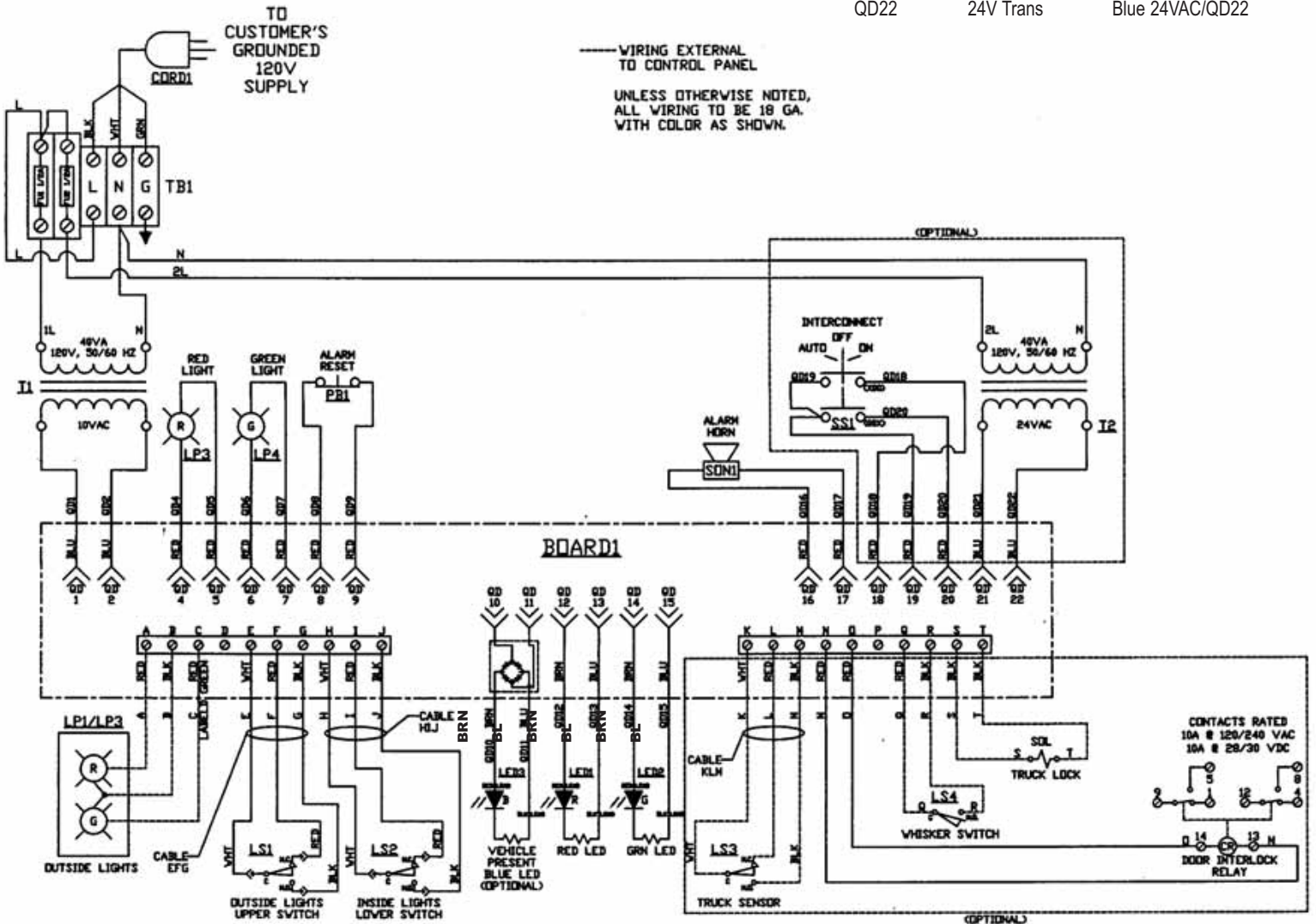
Electrical Component Check

COMPONENT	CHECK
Fuse	Visual and continuity.
Printed Circuit Board	Visual check L.E.D. on Board.

COMPONENT	CHECK
Transformer	Disconnect and check primary continuity and secondary continuity.
Limit Switches	Disconnect and check continuity. common/normally open, common/normally closed

Truck Lock™ 351 Series Electrical Schematic

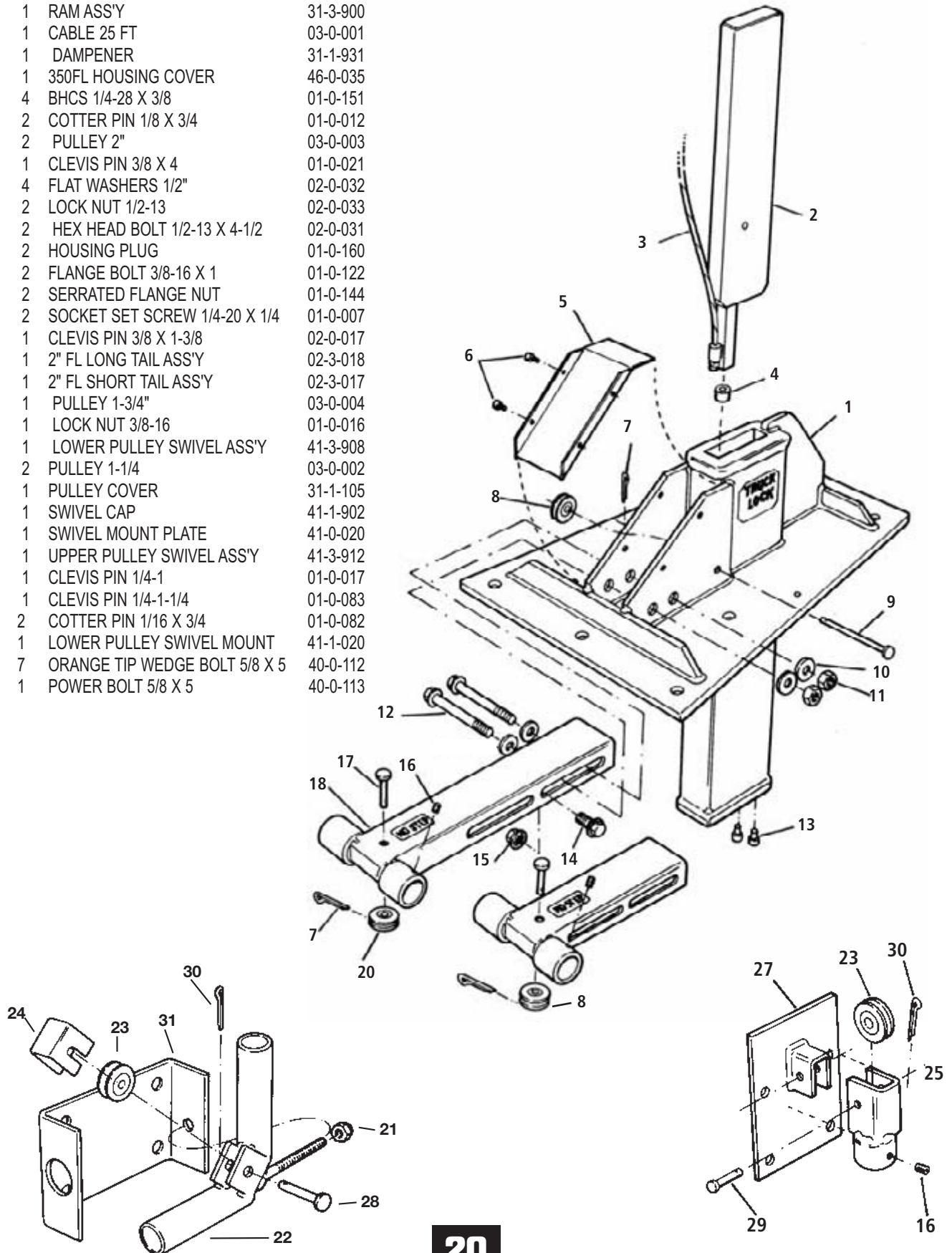
Term	Component	Wire Color	QD	Component	Wire Color / #
A	Outside Light	Red	QD1	10V Trans	Blue 10VAC/QD1
B	Outside Light	Black	QD2	10V Trans	Blue 10VAC/QD2
C	Outside Light	Red- Labeled Green	QD3		
D			QD4	Red Light	Red/QD4
E	Outside Limit Switch- Upper	White	QD5	Red Light	Red/QD5
F	Outside Limit Switch- Upper	Red	QD6	Green Light	Red/QD6
G	Outside Limit Switch- Upper	Black	QD7	Green Light	Red/QD7
H	Inside Limit Switch-Lower	White	QD8	Alarm Reset	Red/QD8
I	Inside Limit Switch-Lower	Red	QD9	Alarm Reset	Red/QD9
J	Inside Limit Switch-Lower	Black	QD10	Blue LED	Brn/QD10
K	Sensor Switch	White	QD11	Blue LED	Bl/Wh/QD11
L	Sensor Switch	Red	QD12	Red LED	Brn/QD12
M	Sensor Switch	Black	QD13	Red LED	Blue/QD13
N	Interlock Relay	Red	QD14	Green LED	Brn/QD14
O	Interlock Relay	Red	QD15	Green LED	Blue/QD15
P					
Q	Remote Switch	Red	QD16	Sounder	Red/QD16
R	Remote Switch	Black	QD17	Sounder	Red/QD17
S	Solenoid Valve	Black	QD18	Selector Switch	Red/QD18
T	Solenoid Valve	Black	QD19	Selector Switch	Red/QD19
			QD20	Selector Switch	Red/QD20
			QD21	24V Trans	Blue 24VAC/QD21
			QD22	24V Trans	Blue 24VAC/QD22



350FL Series Ram & Ram Housing Assembly

Models 350FM, 351FM, 351FP

ITEM	QTY	DES	P/N
1	1	350FL HOUSING ASS'Y	46-3-911
2	1	RAM ASS'Y	31-3-900
3	1	CABLE 25 FT	03-0-001
4	1	DAMPENER	31-1-931
5	1	350FL HOUSING COVER	46-0-035
6	4	BHCS 1/4-28 X 3/8	01-0-151
7	2	COTTER PIN 1/8 X 3/4	01-0-012
8	2	PULLEY 2"	03-0-003
9	1	CLEVIS PIN 3/8 X 4	01-0-021
10	4	FLAT WASHERS 1/2"	02-0-032
11	2	LOCK NUT 1/2-13	02-0-033
12	2	HEX HEAD BOLT 1/2-13 X 4-1/2	02-0-031
13	2	HOUSING PLUG	01-0-160
14	2	FLANGE BOLT 3/8-16 X 1	01-0-122
15	2	SERRATED FLANGE NUT	01-0-144
16	2	SOCKET SET SCREW 1/4-20 X 1/4	01-0-007
17	1	CLEVIS PIN 3/8 X 1-3/8	02-0-017
18	1	2" FL LONG TAIL ASS'Y	02-3-018
19	1	2" FL SHORT TAIL ASS'Y	02-3-017
20	1	PULLEY 1-3/4"	03-0-004
21	1	LOCK NUT 3/8-16	01-0-016
22	1	LOWER PULLEY SWIVEL ASS'Y	41-3-908
23	2	PULLEY 1-1/4"	03-0-002
24	1	PULLEY COVER	31-1-105
25	1	SWIVEL CAP	41-1-902
26	1	SWIVEL MOUNT PLATE	41-0-020
27	1	UPPER PULLEY SWIVEL ASS'Y	41-3-912
28	1	CLEVIS PIN 1/4-1	01-0-017
29	1	CLEVIS PIN 1/4-1-1/4	01-0-083
30	2	COTTER PIN 1/16 X 3/4	01-0-082
31	1	LOWER PULLEY SWIVEL MOUNT	41-1-020
7		ORANGE TIP WEDGE BOLT 5/8 X 5	40-0-112
1		POWER BOLT 5/8 X 5	40-0-113



CONTROL BOX ASSEMBLY

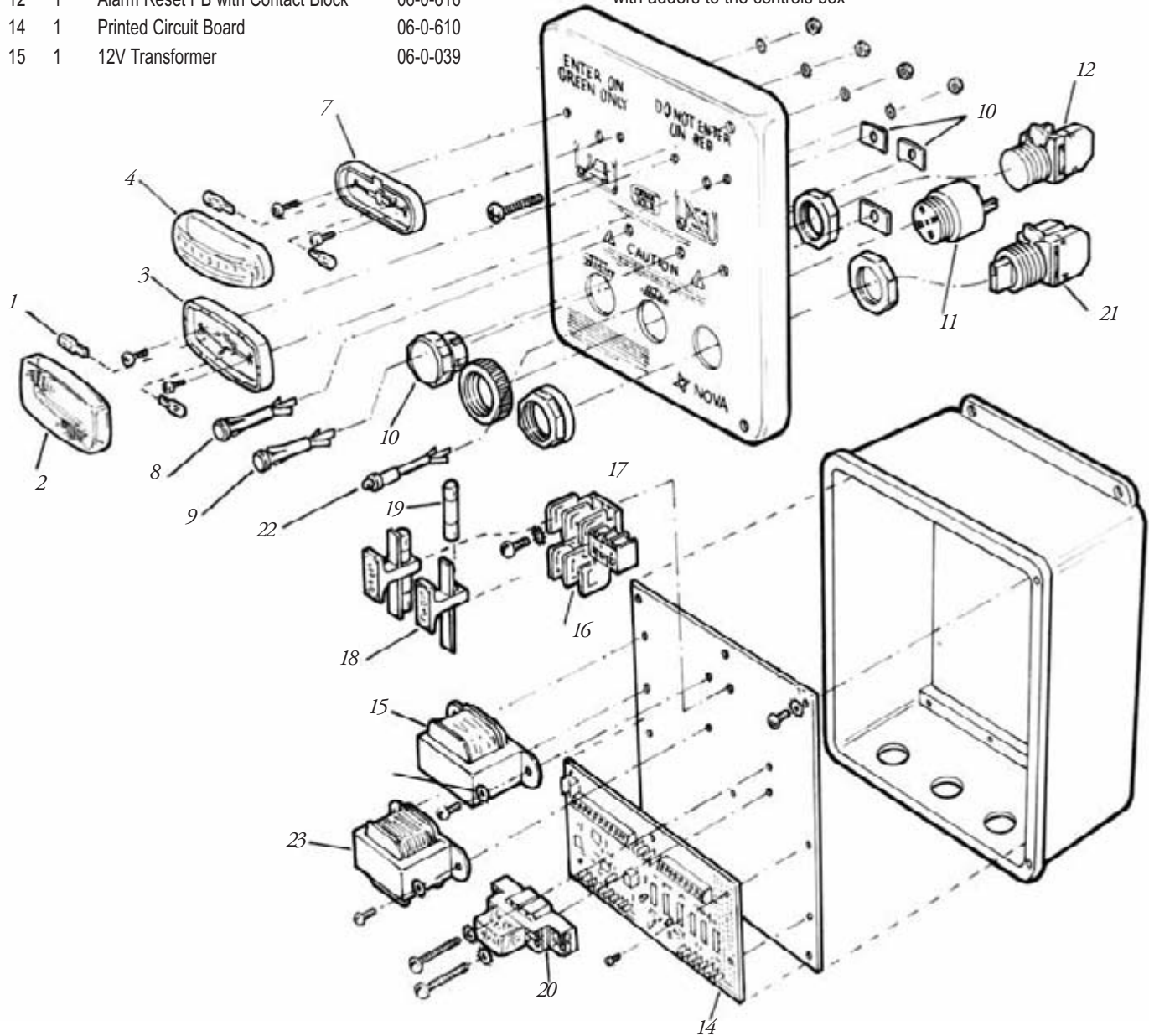
Models 351FM and 351FP

Control Box Assembly

ITEMREQ.	DESCRIPTION	PART NO.
1	4 Incandescent Bulb	06-0-048
2	1 Red Lens Only	06-0-602
3	1 Red Light Assembly	06-0-601
4	1 Green Lens Only	06-0-008
7	1 Green Light Assembly	06-0-006
8	1 LED Indicator, Red	06-0-611
9	1 LED Indicator, Green	06-0-612
10	2,1 LED holding Clip	06-0-613
11	1 Alarm horn with contact Block	06-0-615
12	1 Alarm Reset PB with Contact Block	06-0-616
14	1 Printed Circuit Board	06-0-610
15	1 12V Transformer	06-0-039

ITEMREQ.	DESCRIPTION	PART NO.
16	1 Terminal Block 3 Pole	06-0-605
17	1,1 Fuse Block	06-0-603
18	1,1 Fuse Puller	06-0-604
19	1,1 1/2 Amp Fuse	06-0-606
20	1 Relay 12VDC, 2PDT with Socket	06-0-608
21	1 3 Position Selector Switch	06-0-631
22	1 LED Indicator, Blue	06-0-651
22	1 LED Indicator, Blue	06-0-651
23	1 24V Transformer	06-0-040

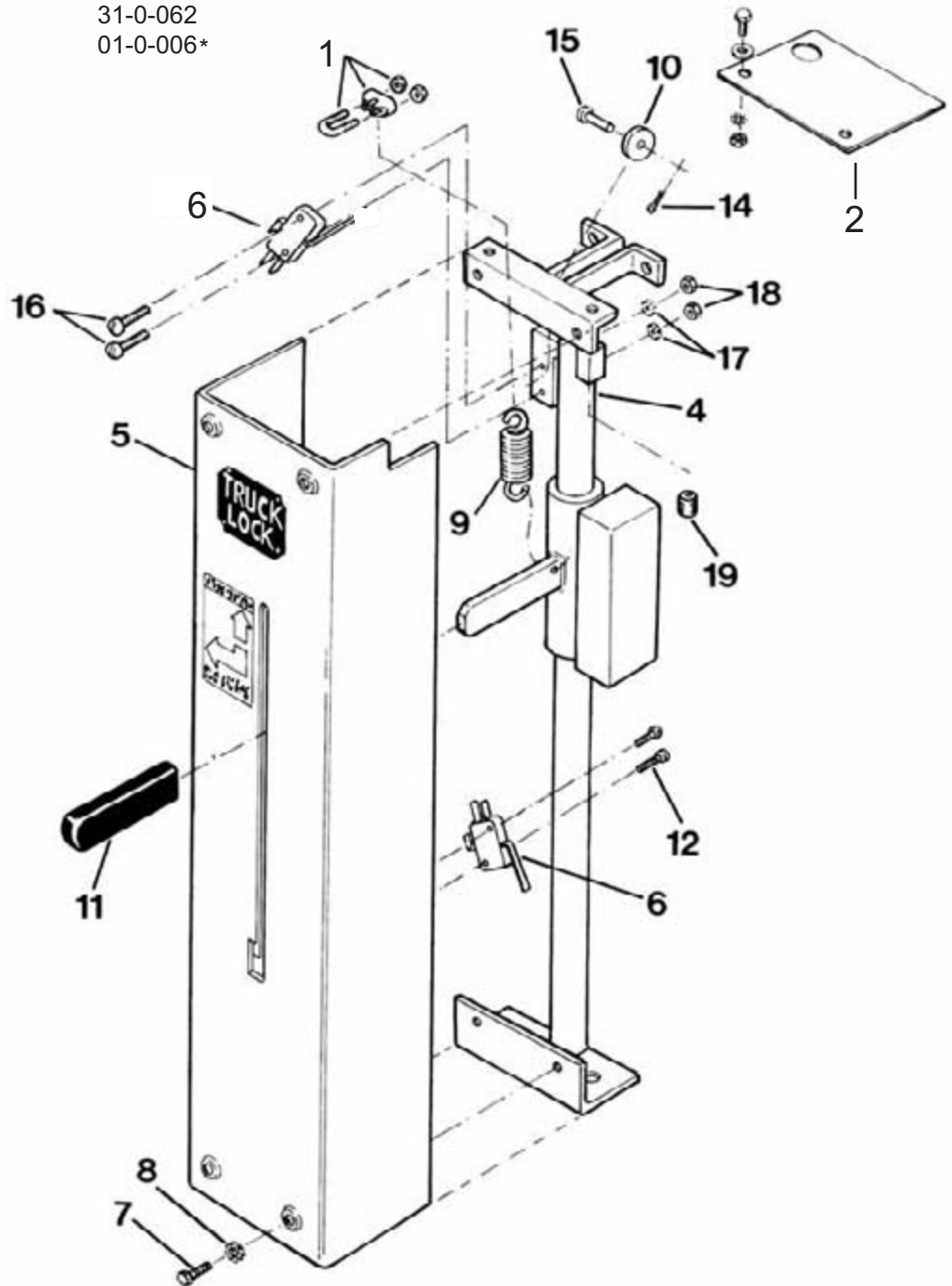
Items 20, 21, 22, & 23 are available with adders to the control box
 Items 10, 17, 18, 19 have the extra quantity listed
 with adders to the controls box



CONSOLE ASSEMBLY

350FM and 351FM Console Assembly

ITEM	QTY	DESCRIPTION	PART NUMBER	ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Cable Clamp	03-0-007	13	1	Cotter Pin 1/8 x 3/4	01-0-012
2	1	Remote Box Cover Plate	41-1-018	14	1	Clevis Pin 3/8 x 1-3/8	01-0-017
4	1	2" Slide Pole Ass'y	31-3-917	15	2	Round Head Screw #4-40x1	01-0-096*
5	1	Manual Cover Ass'y	31-3-908	16	2	Star Lock Washer #4	01-0-097*
6	2	Limit Switch	06-0-013*	17	2	Hex Nut #4-40	01-0-098*
7	4	Hex Head Bolt 3/8-16 x 1/2	01-0-001	18	1	Dampener	31-1-031
8	4	Star Lock Washer 3/8	01-0-002	*Are sold with 351M only			
9	1	Extension Spring	31-0-202	Items 4 and 5 are sold as assemblies only			
10	1	Pulley 2"	03-0-004				
11	1	Handel Cover	31-0-062				
12	2	Round Head Screw #4-40x1/2	01-0-006*				



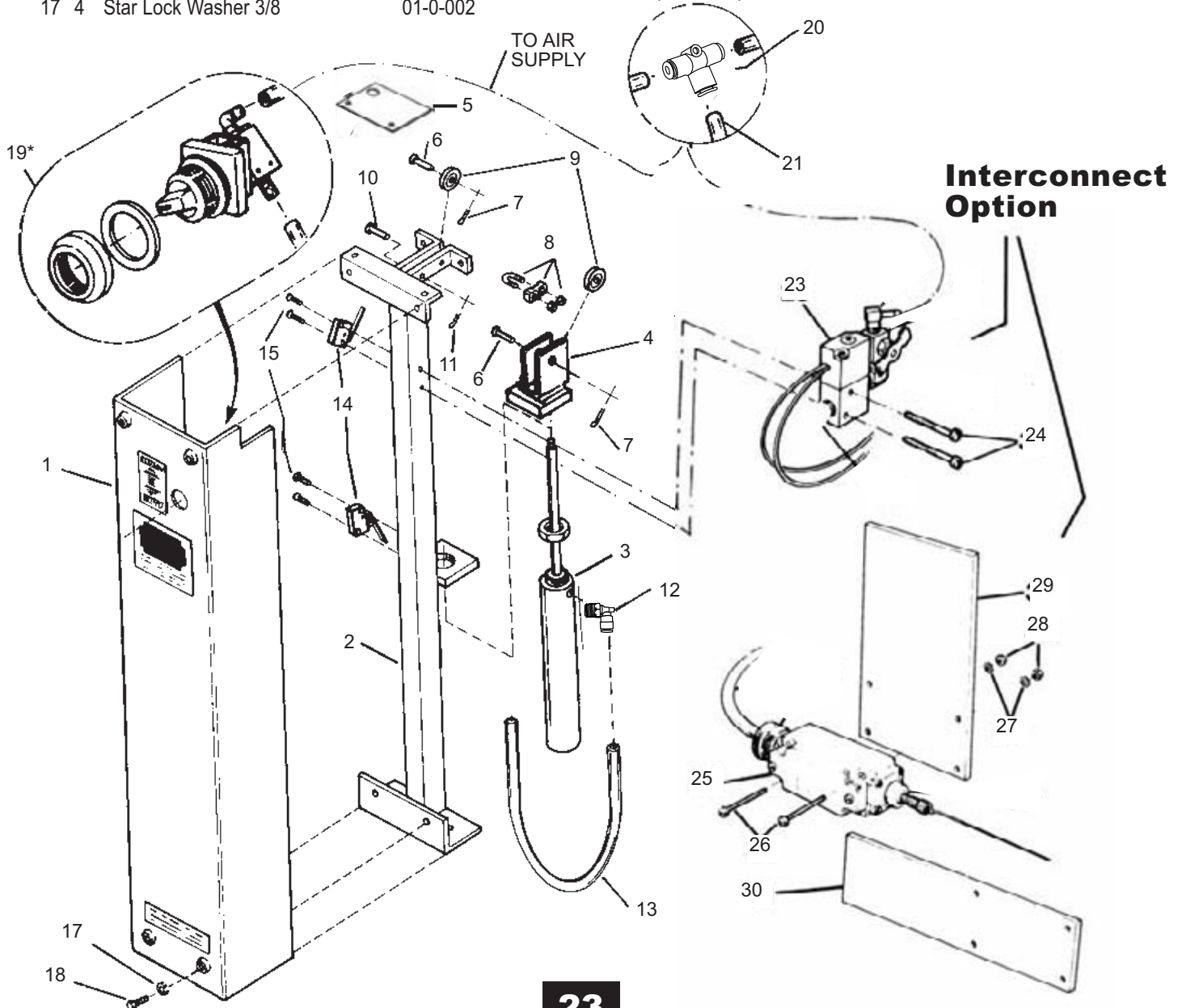
351FP CONSOLE ASSEMBLY

351P and Interconnect Option Console Assembly

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	P Console Cover Ass'y	31-3-310
2	1	2" Universal Cylinder Ass'y	02-3-036
3	1	10" Air Cylinder Ass'y	07-3-013
4	1	2" Rod End Ass'y	31-3-924
5	1	Remote Box Cover Plate	41-1-018
6	2	Clevis Pin 3/8 x 1-3/8	02-0-017
7	2	Cotter Pin 1/8 x3/4	01-0-012
8	1	Cable Clamp	03-0-007
9	1	Pulley 2"	03-0-004
10	1	Clevis Pin 1/4 x 1-1/4	01-0-083
11	1	Cotter Pin 1/16 x3/4	01-0-082
12	1	90 Deg Flow Control	07-0-135
13	1	26" Airline	07-0-007
14	2	Limit Switch	06-0-013
15	4	Round Head Screw #4-40x1/2	01-0-006
17	4	Star Lock Washer 3/8	01-0-002

ITEM	QTY	DESCRIPTION	PART NUMBER
18	4	Hex Head Bolt 3/8-16 x1/2	01-0-001
19	1	Rotary Valve Ass'y	07-3-130*
20	1	Union Tee	07-0-017
21	1	25 Ft Airline	07-0-008
23	1	Solenoid Valve Ass'y	07-3-045
24	2	Screw #6-32 x 1	01-0-010
25	1	Remote Limit Switch	06-0-047
26	2	RH Screw 10-24 x 1-1/2	01-0-133
27	2	Lock Washer #10	01-0-131
28	2	Hex Nut #10-24	01-0-132
29	1	Vertical Mount Plate Door	40-1-005
30	1	Horiz. Mount Plate Leveler	40-1-004

Items 1, 2, 3, 4, 19 are sold as assemblies only
 Items 23-30 are for interconnect options only
 Keyed Rotary Valve Also Available



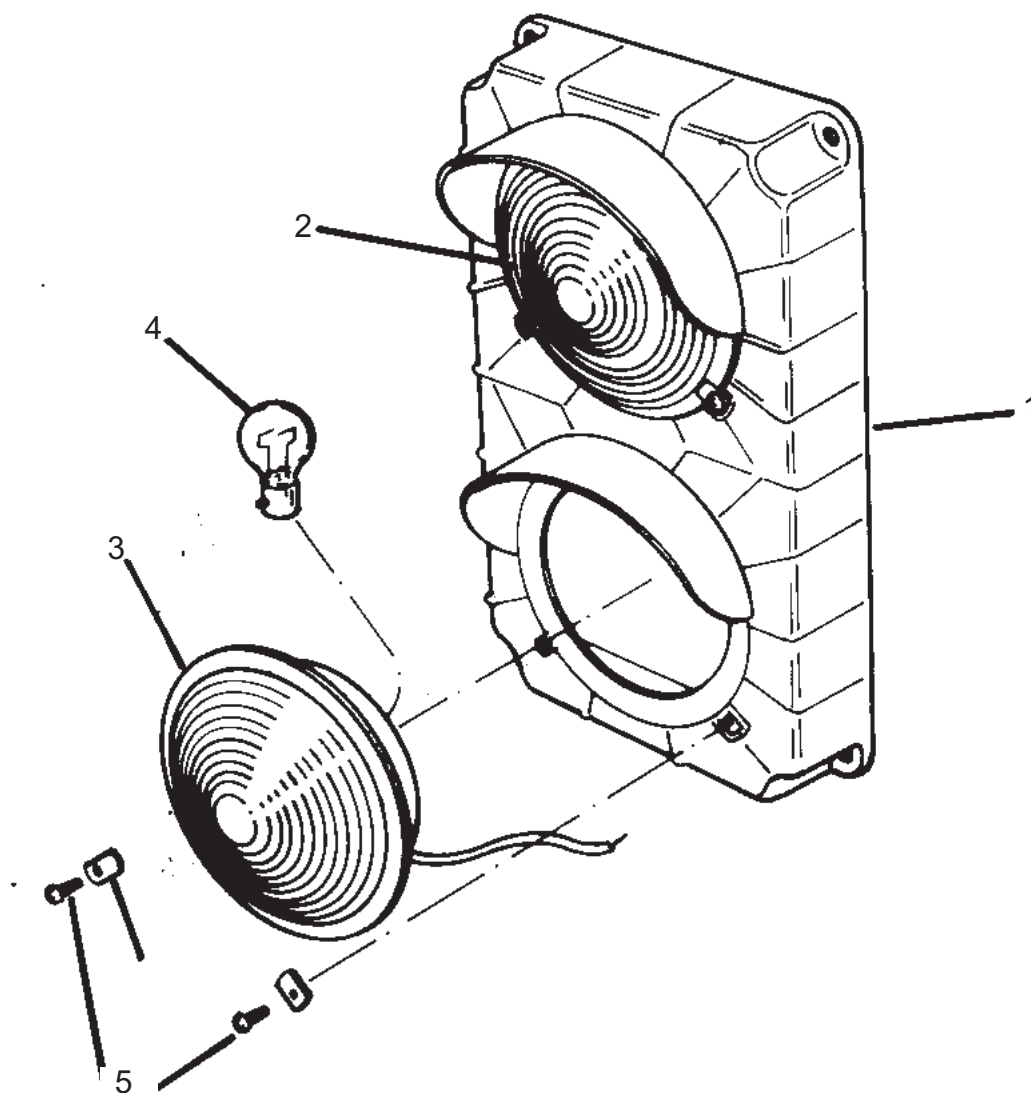
OUTSIDE LIGHT ASSEMBLY

All Models — except 350FM

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Stop & Go Signal Light	06-0-700
2	1	Red Lens with Housing	06-0-721
3	1	Green Lens with Housing	06-0-722
4	2	Outside Light Bulb (1156)	06-0-021
5	4	Screw and Clips	06-0-725

Outside Sign, Stop/Red

NT-0-106





NOVA 350FL SERIES TRUCK LOCK MANUAL

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