



KELLEY DOCK SYSTEMS

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TRUK STOP[®] TRAILER RESTRAINT STAR 1 W/TRUK ALERT[®]

Installation and Owner's Manual

This manual applies to all STAR 1 TRUK STOPS manufactured beginning February, 1999
with serial numbers 10,094,000 and up.

5528 R4 10/01

**WARNING**

Do not install, operate or service this product unless you have read and understand the Safety Practices, Warnings, and Installation and Operating Instructions contained in this manual. Failure to do so could result in death or serious injury.

WARRANTY

KELLEY DOCK SYSTEMS warrants that this TRUK STOP will be free from defects in material and workmanship under normal use for a period of one (1) year from the earlier of 1) 60 days after the date of initial shipment by KELLEY DOCK SYSTEMS, or 2) the date of installation of the TRUK STOP by the original purchaser, provided that the owner maintains and operates the TRUK STOP in accordance with this Owner's Manual.

In the event that this TRUK STOP proves defective in material or workmanship within the applicable warranty period, KELLEY DOCK SYSTEMS will, at its option:

1. Replace the TRUK STOP, or the defective portion, without charge to the owner; or
2. Alter or repair the TRUK STOP, on site or elsewhere, without charge to the owner.

This warranty IS EXCLUSIVE AND IT IS IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ABOVE AND THERE IS NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. KELLEY DOCK SYSTEMS sole warranty obligation with regard to this TRUK STOP shall be as set forth above.

This warranty does not cover any failure caused by improper installation, abuse, negligence, or failure to properly maintain and adjust the TRUK STOP. Parts requiring replacement due to damage resulting from vehicle impact, abuse, or improper operation are not covered by this warranty. KELLEY DOCK SYSTEMS disclaims any responsibility or liability for any loss or damage that results from the use of unauthorized replacement parts or modification of the TRUK STOP.



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SAFETY SIGNAL WORDS

You may find safety signal words such as DANGER, WARNING, or CAUTION throughout the owner's manual. Their use is explained below.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

! DANGER

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

! WARNING

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

! CAUTION

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

CAUTION

Caution used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.



SAFETY PRACTICES

SAFETY PRACTICES

WARNING

Read these safety practices before installing, operating or servicing the STAR TRUK STOP® with TRUK ALERT. Failure to follow these safety practices could result in death or serious.

READ AND FOLLOW THE OPERATING INSTRUCTIONS IN THIS MANUAL BEFORE OPERATING THE TRUK STOP with TRUK ALERT. If you do not understand the instructions, ask your supervisor to teach you how to use the TRUK STOP with TRUK ALERT or call Kelley Dock Systems at 414-352-1000.

Improper installation of TRUK STOP could result in death or serious injury to dock workers or other users of the TRUK STOP.

Be certain to follow the Installation Instructions in this manual.

INSTALLATION AND OPERATION

Use by untrained people can cause property damage, bodily injury and/or death. Your supervisor should teach you the safe and proper way to use the TRUK STOP with TRUK ALERT. Read and follow the complete OPERATION PROCEDURE on page 10 before use. DO NOT USE THE TRUK STOP with TRUK ALERT IF IT IS NOT WORKING RIGHT. Tell your supervisor it needs repair.

Be certain bystanders in the driveway stand clear when TRUK STOP is operated.

Do not install the TRUK STOP anchor bolts into aged or unsound concrete.

Do not load or unload any truck unless you make certain the TRUK STOP has securely hitched the truck's ICC bar and set brakes. If the TRUK STOP does not hitch the truck's ICC bar for any reason, BE CERTAIN TO CHOCK THE TRUCK WHEELS BEFORE LOADING OR UNLOADING.

Many trailers have air ride suspensions that may cause the trailer to move away from the dock during loading and unloading operations (commonly referred to as dock or trailer walk). The potential for dock walk caused by air ride suspensions may be reduced by exhausting or "dumping" the air from the air ride suspension system before servicing the trailer.

MAINTENANCE AND SERVICE

If the TRUK STOP does not operate properly using the procedures in this manual, BE CERTAIN TO CHOCK THE TRUCK WHEELS BEFORE LOADING OR UNLOADING. Call your local Kelley Dock Systems distributor for service.

Place barricades around pit on dock floor and drive while installing, maintaining or repairing trailer restraining device.

Do not stand in the driveway between the dock and a backing truck.

Do not use the TRUK STOP as a step.

Keep hands and feet clear of guide tracks and moving parts at all times.

Do not weld on ductile iron hook casting (item 2, page 14).

All electrical troubleshooting and repair must be done by a qualified technician and meet all applicable codes.

Before doing any electrical work (including changing bulbs), make certain the power is disconnected and properly tagged or locked off.

If you have any problems or questions, contact your local Kelley Dock Systems distributor for assistance or call Kelley Dock Systems at 414-352-1000.



INTRODUCTION

INTRODUCTION

The STAR 1 w/TRUK ALERT® is a combination of two separate and independent products. There is no electrical connection between the STAR 1 and the TRUK ALERT. The hook position of the STAR 1 does not control the inside or outside signal lights of the TRUK ALERT. IT IS THE RESPONSIBILITY OF THE DOCK WORKER TO TURN ON THE APPROPRIATE SIGNAL LIGHTS.

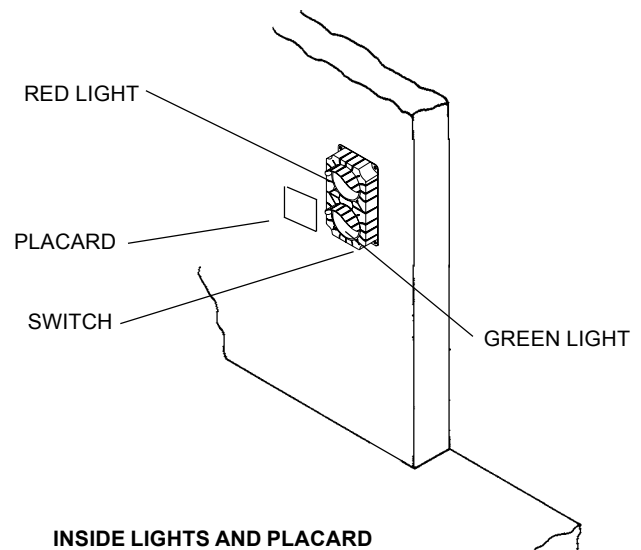
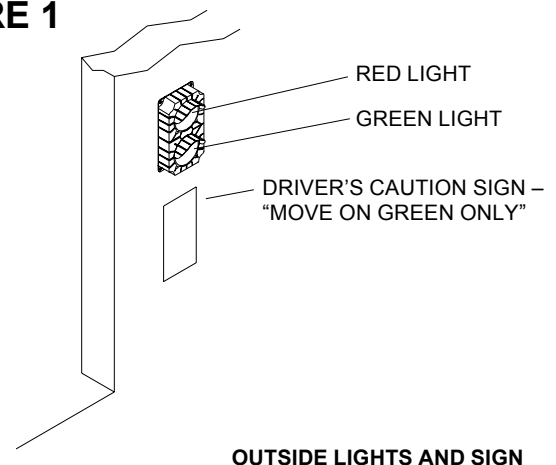
The STAR 1 is a manually operated TRUK STOP® that requires visual inspection of the hook and ICC bar to determine a hitched condition.

The TRUK ALERT establishes positive communications between the dock worker and the truck driver through the use of signs and signal lights.

The TRUK ALERT consists of two sets of red and green signal lights. One set is mounted inside the building and the other set is mounted outside of the building. Both sets of lights are controlled by a switch on the inside lights. When the green inside light is flashing, the red outside light will flash. Likewise, when the red inside light is flashing, the green outside light will flash. See Figure 1.

The sign mounted on the outside tells the truck driver to back in or pull out only when the GREEN outside signal light is on. The placard on the wall inside the building tells the dock worker to enter the truck only when the GREEN light is flashing.

FIGURE 1





INSTALLATION

INSTALLATION

MOUNTING CONSIDERATIONS

WARNING

Before installation read and follow the Safety Practices on page iii. Failure to follow these safety practices could result in death or serious injury.

READ AND FOLLOW THE OPERATION INSTRUCTION IN THIS MANUAL BEFORE OPERATING THE STAR TRUK STOP®. If you do not understand the instructions, ask your supervisor to teach you how to use the TRUK STOP.

Improper installation of the STAR TRUK STOP® could result in death or serious injury to dock workers or other users of the TRUK STOP.

Place barricades around pit on dock floor and drive while installing, maintaining or repairing trailer restraining device.

Be certain bystanders in the driveway stand clear when TRUK STOP is operated.

Be certain to follow the installation instructions in this manual.

Do not install the TRUK STOP anchor bolts into aged or unsound concrete.

1. The dock face on which the STAR TRUK STOP® will be mounted must be flat to prevent binding of the mechanism. If the dock face is not flat it may be necessary to use shims or physically modify the dock face to provide a flat mounting surface. If shimming is required it is necessary to shim behind the pivot pin as well as at the anchor bolts.

STAR Restraints require a 4" bumper projection from the front of the bumper to the rear of the back plate of the restraint (the mounting surface). Less than 4" of projection can allow truck ICC bars to damage the restraint. Some lip saddle type docklevelers may require modifications. Consult the factory.

2. The standard anchors provided with this product may only be used on docks constructed of solid concrete. For mounting to block walls refer to Service Bulletin #1023. Docks constructed with other materials require special mounting consideration. Contact your local Kelley distributor for information.

3. Docks 46 inches and lower may require a specially modified TRUK STOP or operation of the dockleveler may need to be restricted. Contact your local Kelley distributor for information.

4. A 3/8 inch gap is required between the dockleveler front angle and pit floor to install the horizontal mounting plate.

5. If the driveway beneath the TRUK STOP is affected by frost, additional clearance may be required between the TRUK STOP and the driveway to prevent damage.

TOOLS REQUIRED

- Welder
- Impact or rotary drill with 1/2 inch diameter concrete drill bit
- 9/16 inch wrench
- General hand tools
- Touch up paint (Gold)
- Torque wrench (60 ft-lb min.)

INSTALLATION

INSTALLATION WITH PIT TYPE DOCKLEVELERS

WARNING

Do not install, operate or service this product unless you have read and followed the Safety Practices, Warnings, and Installation and Operation Instructions in this manual. Failure to do so could result in death or serious injury. ALWAYS USE THE DOCKLEVELER SUPPORT WHEN WORKING UNDER A DOCKLEVELER RAMP OR LIP.

Place barricades around pit on dock floor and drive while installing, maintaining or repairing trailer restraining device.

Inadequate lifting equipment or practices can cause a load to fall unexpectedly. Make sure the lifting chain or other lifting devices are in good condition and have a rated capacity of at least 500 lbs for the lifting angle used. Never allow anyone to stand on or near the restraint when it is lifted or positioned. Stand clear of truck restraint when it is positioned. Failure to follow this warning can allow the restraint to fall, tip, or swing into people, causing death or serious injury.

1. Insert the horizontal mounting plate into the gap between the dockleveler front angle and the pit floor.

NOTE

For the Kelley Mechanical "MK" model docklevelers and Kelley 60,000 pound capacity hydraulic docklevelers, the mounting plate must be mounted to the left of the dockleveler centerline as shown in Figure 2. This off-center mounting is to allow for dockleveler spring adjustment and to prevent interference with lip rod lugs. For other docklevelers the horizontal mounting plate may be centered with the dockleveler. See Figure 3.

If the horizontal mounting plate cannot be used, the top portion of the TRUK STOP must be welded to the dockleveler front angle and additional anchor plates installed to fasten the dockleveler subframe securely to the pit floor. A dock-leveler reinforcing kit Kelley Part Number (P/N) 901-323 is available for this purpose. Recommended reinforcing is illustrated on page 13.

2. Check access to the horizontal mounting plate anchor holes. A minimum of four (4) anchor holes spaced across the plate must be accessible. Drill additional 9/16 inch diameter anchor holes through the mounting plate if required. See Figure 4.

FIGURE 2

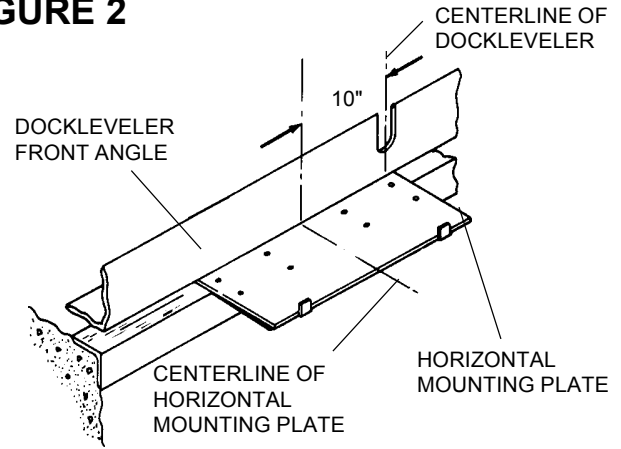


FIGURE 3

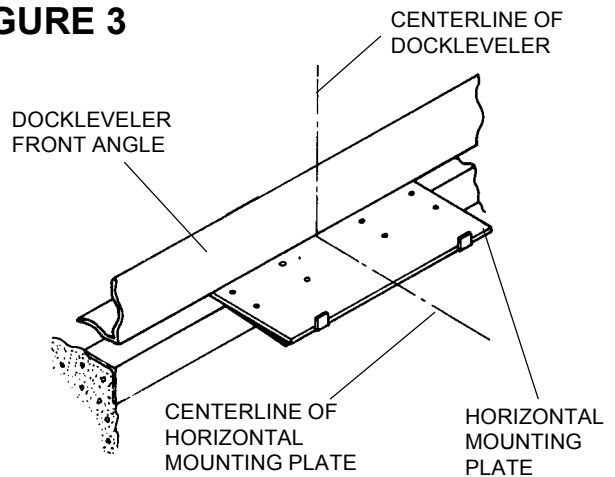
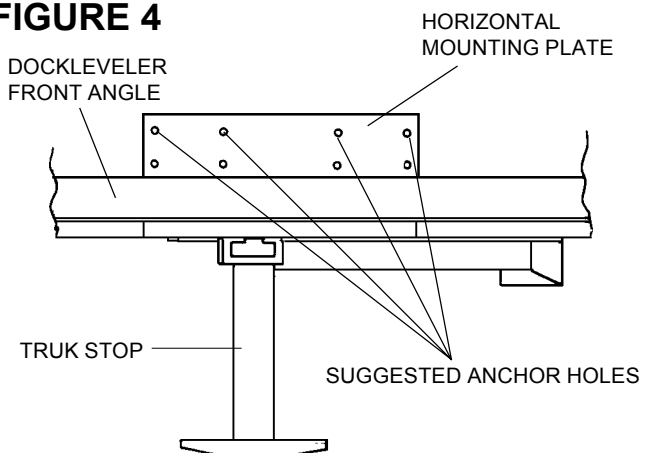


FIGURE 4



INSTALLATION

3. Place the bottom edge of TRUK STOP on the driveway and align the backplate with the horizontal mounting plate. See Figure 5. If the driveway is susceptible to heaving from frost, modify the driveway to provide additional clearance under the TRUK STOP to prevent damage from the driveway movement.

4. Weld the TRUK STOP to the horizontal mounting plate using the tabs on the front of the plate. See Figure 5.

5. Pull the TRUK STOP and mounting plate away from the dock and weld the full width of the horizontal mounting plate with a 1/4 inch fillet weld on the top side. Paint welded area to prevent rust. See Figure 6.

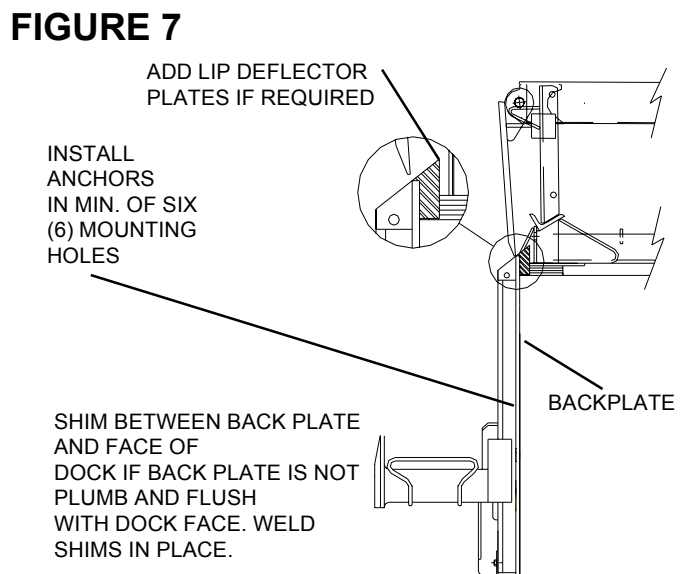
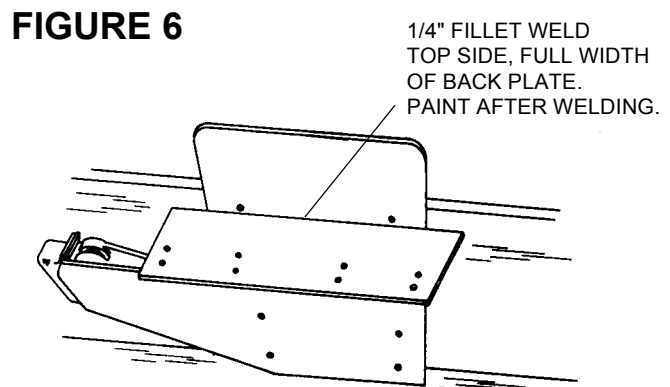
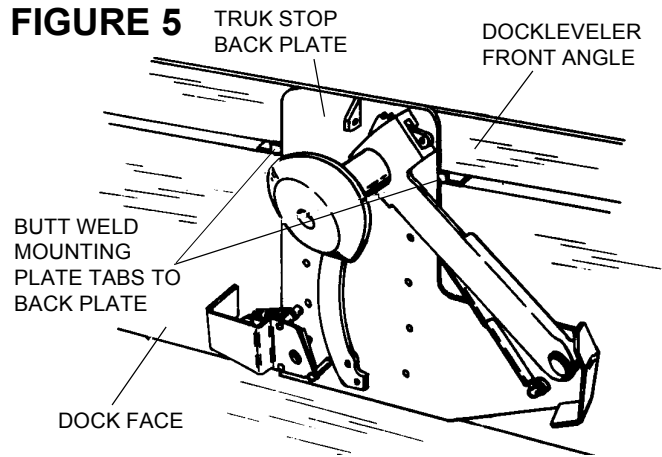
6. Slide the TRUK STOP/Mounting Plate assembly back into position on the dock. See Step 1, page 3 for location. If shimming is required it is necessary to shim behind the pivot pin as well as at the anchor bolts. The pivot pin is shimmed to prevent bending the back plate if the pivot area is struck. The pivot pin area must not be fastened but left free to float.

7. Before anchoring TRUK STOP, operate the dockleveler with the TRUK STOP in its intended mounting position. Check that the TRUK STOP does not interfere with below dock operation and that the pendant dockleveler lip does not support the weight of the dockleveler on any part of the TRUK STOP. Operate in the below dock and dock level end load position with the lip pendant and with the lip extended. Store the dockleveler several times to be sure the pendant lip does not come to rest supporting the weight of the dockleveler on the TRUK STOP. Readjust mounting position as required. The TRUK STOP may be moved such that the horizontal mounting plate is up to 12 inches off center.

WARNING

Improper installation that allows the pendant dockleveler lip to support the weight of the dockleveler could result in death or serious injury. It is sometimes necessary to install lip deflector plates as indicated in Figure 6 to avoid any chance of the pendant lip storing on top of or behind the backplate. Materials supplied by installer.

8. Anchor the TRUK STOP back plate to the dock face using the anchors provided. The anchor bolts must be torqued to 60 ft-lbs to achieve maximum holding strength. See Figure 7.



INSTALLATION

⚠ WARNING

Improper installation of anchoring devices or installation into aged or unsound concrete could result in death or serious injury.

Anchors must be installed in a minimum of six (6) back plate mounting holes. The anchor bolts should be installed as the holes are drilled to prevent the TRUK STOP from shifting.

CAUTION

The anchor bolt heads must be tight against the back plate to prevent interference with the hook arm and gas spring.

9. Anchor the horizontal mounting plate to the pit floor using the concrete anchors provided with the TRUK STOP. The anchor bolts must be torqued to 60 ft-lbs to achieve maximum holding strength. A minimum of (4) anchors across the plate must be used. See Figure 8.

10. Move the hook up and down to be certain the hook does not contact the track. Washers on the pivot pin may be moved from front to rear or vice versa to shim hook in or out as required. See "PARTS REPLACEMENT INSTRUCTIONS - Hook and Gas Spring" on page 13 for instructions on how to remove the hook to gain access to the rear shim washers. Operate the TRUK STOP per the operating instructions on page 10. Check for smoothness of operation and positive latching in the latched position.

11. Install pivot pin guard per instructions on pg. 18.

12. Permanently mount the dock worker's instruction sign to the inside building wall. Leave enough room between the sign and the door opening to mount the TRUK ALERT. See Figure 9.

13. Permanently mount the push bar hanger bracket to the inside building wall. See Figure 9.

14. Install TRUK ALERT per instructions on pages 7 to 9.

FIGURE 8

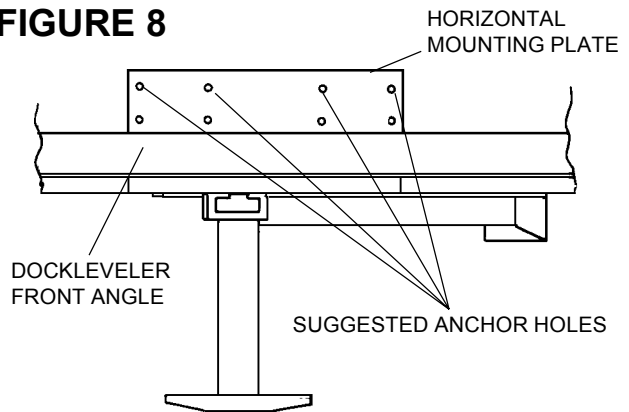
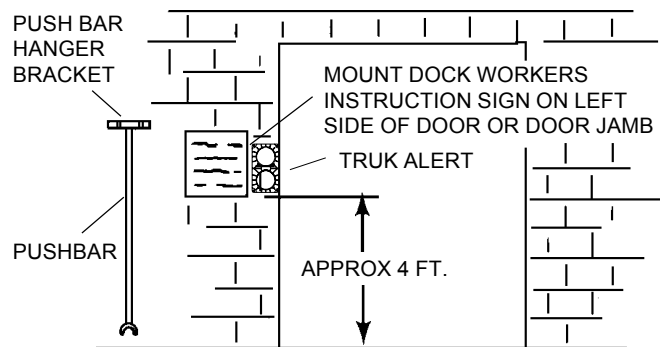


FIGURE 9



MOUNTING HARDWARE PROVIDED BY OTHERS

INSTALLATION

INSTALLATION WITH EOD TYPE DOCKLEVELERS

⚠ WARNING

Inadequate lifting equipment or practices can cause a load to fall unexpectedly. Make sure the lifting chain or other lifting devices are in good condition and have a rated capacity of at least 500 lbs for the lifting angle used. Never allow anyone to stand on or near the restraint when it is lifted or positioned. Stand clear of truck restraint when it is positioned. Failure to follow this warning can allow the restraint to fall, tip, or swing into people, causing death or serious injury.

Improper installation of anchoring devices or installation into aged or unsound concrete could result in death or serious injury.

Do not install, operate or service this product unless you have read and followed the Safety Practices, Warnings, and Installation and Operation Instructions in this manual. Failure to do so could result in death or serious injury. **ALWAYS USE THE DOCKLEVELER SUPPORT WHEN WORKING UNDER A DOCKLEVELER RAMP OR LIP.**

Place barricades around pit on dock floor and drive while installing, maintaining or repairing trailer restraining device.

1. Position the stand-off so that it is centered on the dock face in front of the dockleveler. See Figure 10.
2. Anchor the stand-off to the dock face using the 10 anchors provided. The anchors must be torqued to 60 ft-lbs to achieve maximum holding strength.
3. Position and anchor the pin support as shown in Figure 10 using the remaining anchor fasteners. The pin support is used to prevent bending of the back plate if the pin area is struck. The pivot pin area must not be fastened but left free to float.
4. Bolt the TRUK STOP to the stand-off. See Figure 11.
5. Follow applicable instructions 10-14 on page 5 for remaining installation.

OPTIONAL SNOW PLOW GUARD PLACEMENT

If desired install concrete filled posts for protection from damage that may be caused by snow removal equipment. See Figure 12 for suggested placement.

FIGURE 10

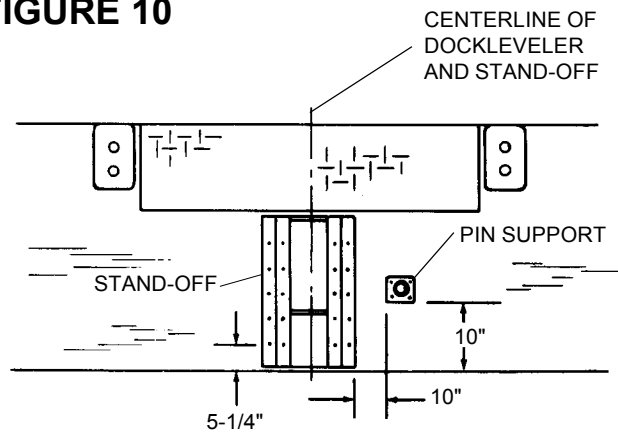
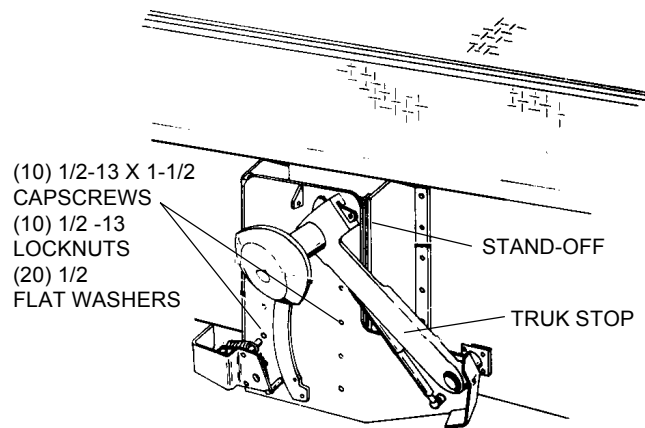
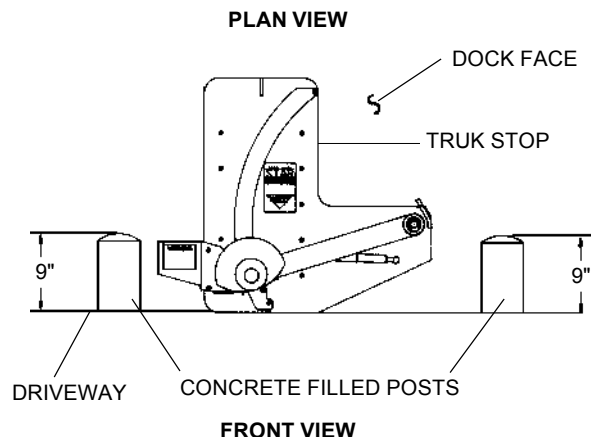
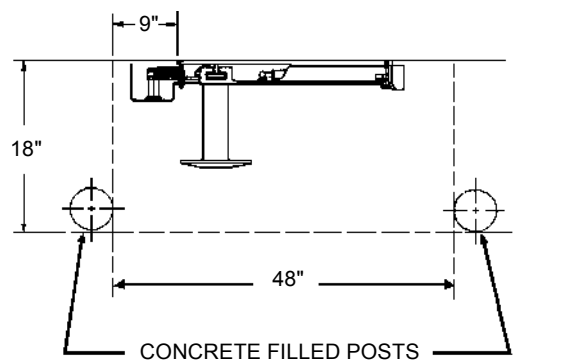


FIGURE 11



MOUNTING HARDWARE SUPPLIED BY OTHERS

FIGURE 12



INSTALLATION OF TRUK ALERT

STANDARD WALL MOUNTING PROCEDURE

1. Position the outside signal lights on the truck driver's side of the outside building wall so that they can be seen by the truck driver when he is backing the truck to the dock. Mark this location. See Figure 13.
2. Drill a hole through the wall at the center of the light assembly location, large enough to allow the signal cable to be run to the inside lights.

⚠ WARNING

Do not install, operate or service this product unless you have read and followed the Safety Practices, Warnings, and Installation and Operating Instructions contained in this manual. Failure to do so could result in death or serious injury.

Place barricades around pit on dock floor and drive while installing, maintaining or repairing TRUK ALERT.

3. Run signal cable from outside lights through hole in the wall and fasten outside signal lights to outside wall. Make sure to install gasket provided between lights and wall. See Figure 13.
4. Seal hole in inside building wall around cable.
5. Mount the inside signal lights on the inside of the building wall, as close as possible to the left side of the door, so that it is obvious to the dock worker that the lights refer to that particular door. Make sure to install gasket provided between lights and wall. See Figure 14.

FIGURE 13

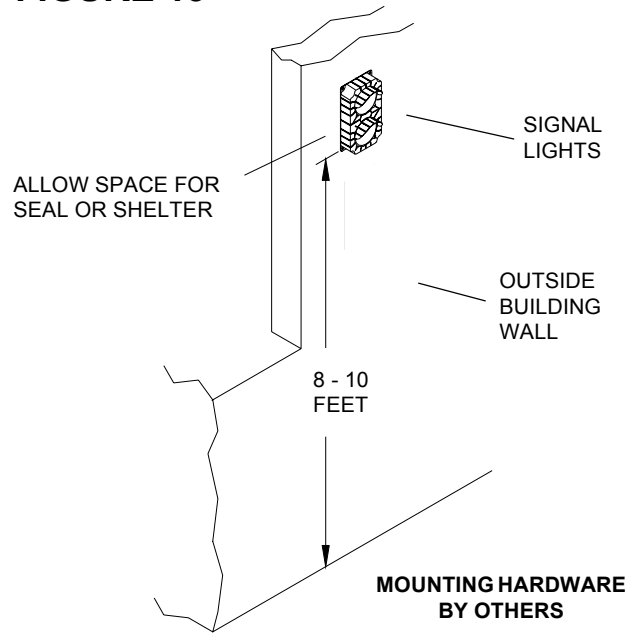
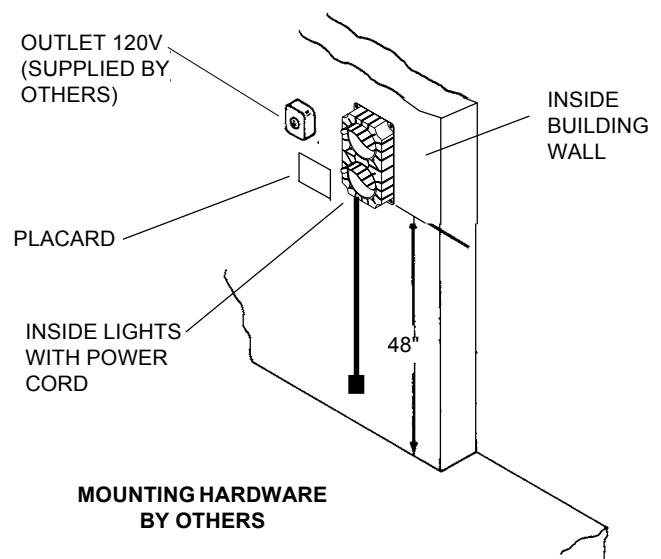


FIGURE 14



INSTALLATION OF TRUK ALERT

⚠ WARNING

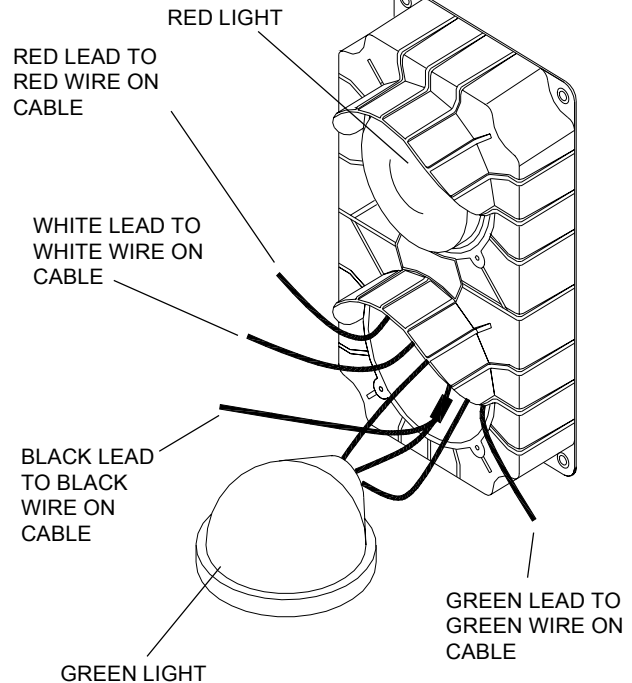
Before doing any electrical work, make certain the power is disconnected and properly locked or tagged off. Failure to do so could result in property damage, death or serious injury. All electrical work must be done by a qualified technician and must meet all applicable codes.

NOTE

The inside lights may be hard wired if an outlet is not available or local codes do not allow the use of a power cord. See page 17 for wiring diagram.

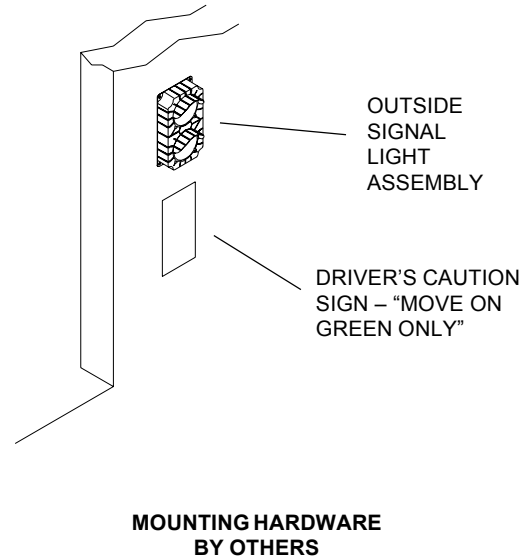
6. Remove green light on inside signal lights to access wires. Wire the inside signal light assembly. See Figure 15 and Wiring Diagram on page 17.
7. Re-install green light into signal light housing.
8. Plug the power cord into the electrical outlet or turn on power at fused disconnect.
9. Check for proper operation. One light must be on, inside and outside, at all times. When the GREEN inside light is flashing, the RED outside light must be flashing. When the RED inside light is flashing, the GREEN outside light must be flashing.
10. If the lights do not operate properly, TURN OFF POWER TO LIGHTS and rewire as required. Repeat step 8 above.
11. Permanently mount "ENTER TRUCK ON GREEN LIGHT ONLY" placard as close as possible to inside signal light. See Figure 14 on page 7.
12. Permanently mount the driver's caution sign on the outside building wall under the signal light. See Figure 16.
13. Instruct all dock workers on the proper use of the Star 1 with TRUK ALERT using the OPERATION PROCEDURE on page 10.

FIGURE 15



INSIDE SIGNAL LIGHT

FIGURE 16



INSTALLATION OF TRUK ALERT

OPTIONAL STANCHION MOUNTING (For Open Docks)

1. Anchor the stanchion to the dock floor, at the left side of the dock position, in a location so that the signal light assembly will be easily visible to the truck driver.
2. Mount the outside signal lights to the stanchion. Make sure to install gasket provided between lights and stanchion. See Figure 17.

NOTE

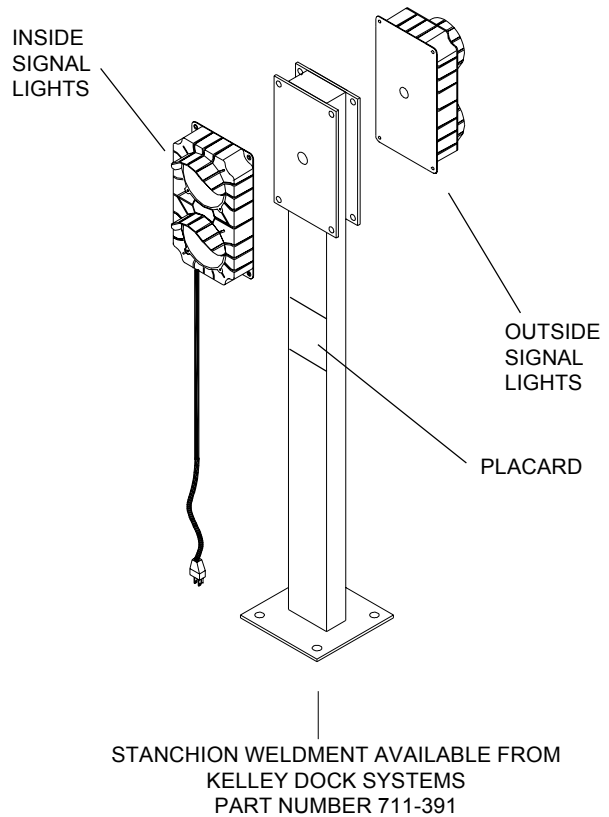
The inside lights may have to be hard wired if an outlet is not available or if local codes do not allow the use of a power cord.

⚠ WARNING

Before doing any electrical work, make certain the power is disconnected and properly locked or tagged off. Failure to do so could result in property damage, death or serious injury. All electrical work must be done by a qualified technician and must meet all applicable codes.

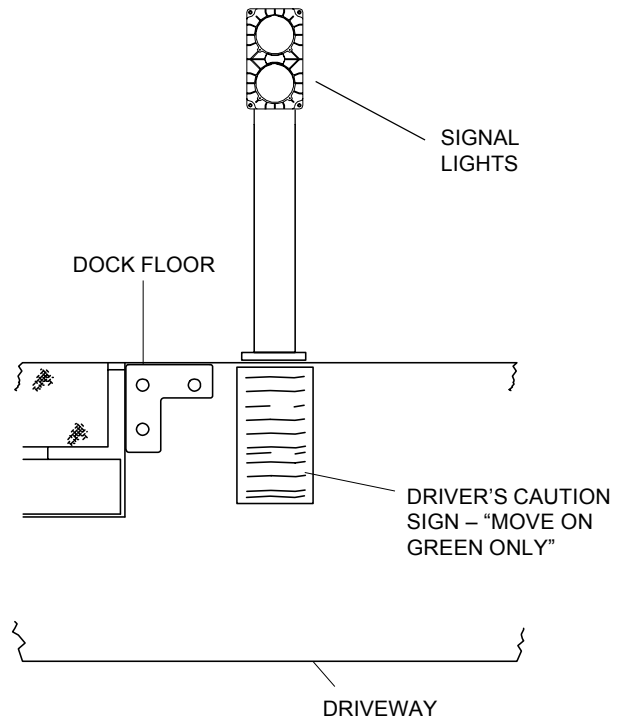
3. Wire and mount the inside signal light assembly to the stanchion. Make sure to install gasket provided between lights and stanchion. See Figure 15, page 8 and use the wiring diagram on page 17.
5. Plug power cord into the electrical outlet or turn power on at the fused disconnect. (Fused disconnect by others if required)
6. Check for proper operation. One light must be on, inside and outside, at all times. When the GREEN inside light is flashing, the RED outside light must be flashing. When the RED inside light is flashing, the GREEN outside light must be flashing.
7. If the lights do not operate properly, TURN OFF POWER TO THE CONTROL BOX and rewire as required. Then repeat steps 5 and 6 above.
8. Permanently mount "ENTER TRUCK ON GREEN LIGHT ONLY" placard as close as possible to inside signal light. See Figure 17.
9. Permanently mount the driver's caution sign on the dock wall under the signal light assembly. See Figure 18.
10. Instruct all dock workers on the proper use of the TRUK ALERT using the OPERATION PROCEDURE on page 10.

FIGURE 17



MOUNTING HARDWARE BY OTHERS

FIGURE 18



MOUNTING HARDWARE BY OTHERS

OPERATION

⚠ WARNING

Before operating the truck restraining device, read and follow the Safety Practices, Warnings, and Operation instructions contained in this manual. Use by untrained people could result in death or serious injury.

Enter truck only after making certain the truck is hitched (or chocked) and the light controls have been switched to indicate a green inside light and brakes are set. Trucks not restrained move unexpectedly. If the lights are not properly switched the truck driver will see a green light and could pull out unexpectedly. Trucks leaving or moving when loading and unloading are in process could result in death or serious injury.

Failure to place the hook in the stored position when not in use could result in damage to the TRUK STOP and incoming trucks. Be certain bystanders in the driveway stand clear when the TRUK STOP is operated.

TO HITCH TRUCK:

1. Position truck against dock bumpers and set brakes.
2. Using the pushbar supplied with the TRUK STOP, push down the latch lever. The hook will rise and hitch the truck ICC bar. See Figure 19.
3. Make certain that the hook has hitched the truck ICC bar. If the ICC bar is not hitched or the truck does not have an ICC bar, chock the truck wheels before loading or unloading.
4. Operate switch on inside signal lights to turn on the GREEN inside light, signaling the dock worker that he may proceed with the loading or unloading operation. The RED outside light will flash signaling the truck driver not to pull out. See Figure 20.

TO RELEASE TRUCK:

1. When loading or unloading is complete, use the pushbar to push the hook to the latched position at the bottom of the track. See Figure 21. The hook will automatically latch.
2. Operate switch on inside signal lights to turn on the RED inside light, signaling the dock attendant not to enter the truck. The GREEN outside light will flash, signaling the truck driver that he may pull away from the dock. See Figure 20.

FIGURE 19

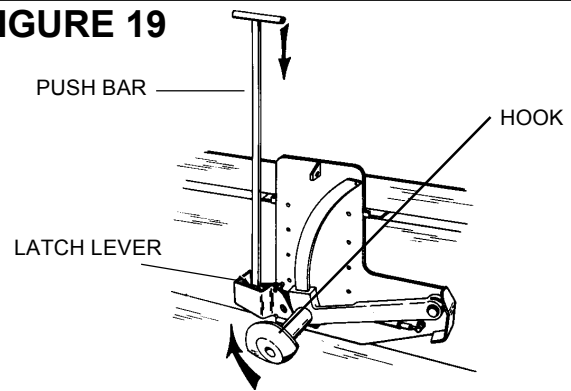


FIGURE 20

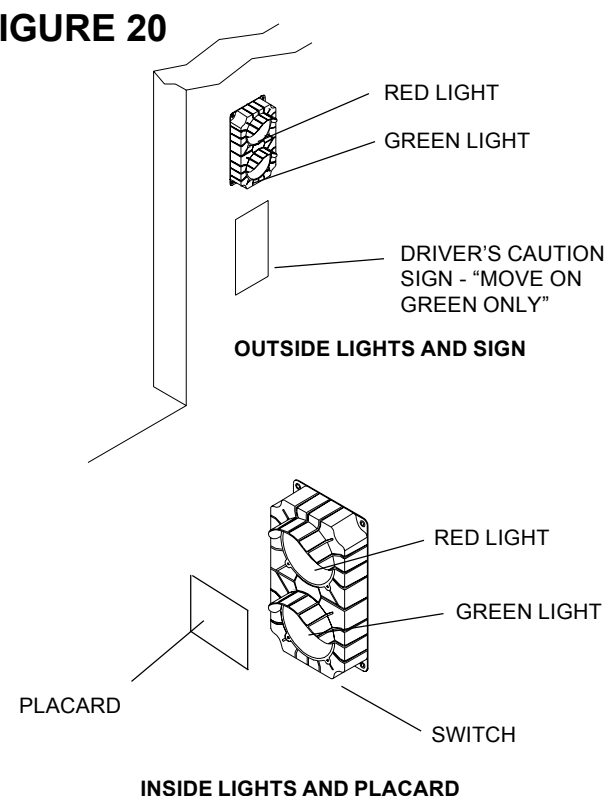
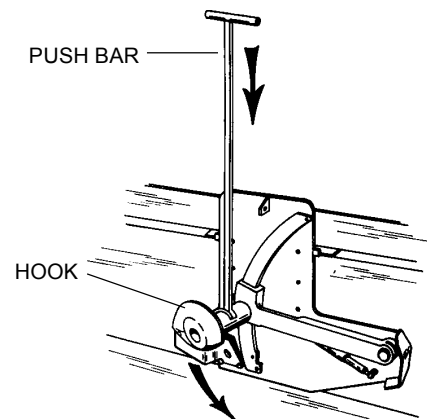


FIGURE 21





OPERATIONAL CHECKS

WARNING

Do not service this product unless you have read and followed the Safety Practices, Warnings, and Operation instructions contained in this manual. Failure to do so could result in death or serious injury.

Before doing any electrical work (including changing bulbs), make certain the power is disconnected and properly tagged or locked off.

OPERATIONAL CHECKS

DAILY

1. Operate the TRUK STOP to assure that it operates smoothly and that the hook moves freely along the entire length of track, and positively latches in the stored position per the Operation instructions, page 11.
2. Check the inside signal lights. The RED or GREEN light must be flashing at all times. Operate switch on inside signal lights to be certain both lights are working. Replace bulbs as required.
3. Check the outside signal lights. A RED or GREEN light must be flashing at all times. Operate switch on the inside signal lights to be certain both lights are working. Replace bulbs as required.

WEEKLY

Inspect the TRUK STOP for damage which may weaken the anchoring strength. Retighten the concrete anchors if necessary.

MONTHLY

Check all operating, warning, and caution labels, placard and signs to be sure they can be read. Replace them if required. See the Parts Lists, on pages 14-16, for part numbers.

NOTE

After checking lights, be certain lights are returned to the proper display. If no truck is at the dock, or the truck is not chocked or hitched, the red inside light should be flashing and green outside light should be flashing. If a truck is at the dock and is hitched or wheels are chocked, the green inside light should be flashing and the red outside light should be flashing.

PARTS REPLACEMENT INSTRUCTIONS

PARTS REPLACEMENT INSTRUCTIONS

WARNING

Do not service this product unless you have read and followed the Safety Practices, Warnings, and Operation instructions contained in this manual. Failure to do so could result in death or serious injury.

Place barricades around pit on dock floor and drive while installing, maintaining or repairing trailer restraining device.

LATCH MECHANISM – FIGURE 22

1. Release hook by pressing down the latch lever.
2. Remove three (3) 3/8-16 x 3-1/2" capscrews.
3. Carefully remove pretensioned spring.
4. Slide lever off of mounting pin.

HOOK ARM AND GAS SPRING – FIGURE 23

1. Release hook by pressing down the latch lever.
2. Hold hook partially down and drive the top spring pin through the track.
3. Slowly release the hook arm to allow the gas spring to fully extend.
4. **SUPPORT THE HOOK SO THAT IT DOES NOT FALL WHEN THE GAS SPRING IS REMOVED.** Remove clips on gas spring ball studs. Carefully pry the gas spring off of the ball stud on each end of the gas spring.
5. Remove the klipring from the pivot pin.
6. With the hook arm in the highest position, slide the arm off of the pin.
7. Reverse above sequence to replace parts. Lubricate the ball studs and pivot pin before reassembly.

FIGURE 22

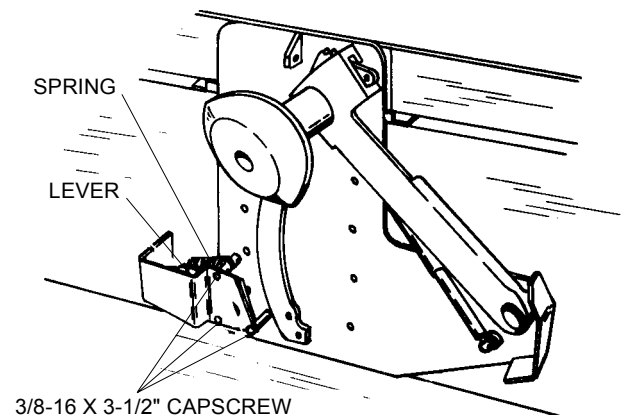
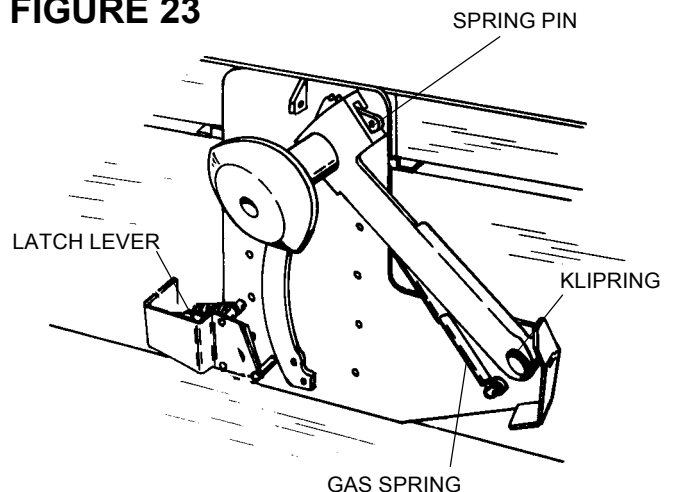


FIGURE 23



SUBFRAME REINFORCING KIT

⚠ WARNING

Do not install this product unless you have read and followed the Safety Practices, Warnings, and Operation instructions contained in this manual. Failure to do so could result in death or serious injury.

Place barricades around pit on dock floor and drive while installing, maintaining or repairing trailer restraining device.

SUBFRAME REINFORCING KIT

Use the Dockleveler Reinforcing Kit P/N 901-323 when a horizontal mounting plate cannot be used to anchor the top of the TRUK STOP. This kit provides brackets that can be used to securely anchor the dockleveler to the pit so that the TRUK STOP can be anchored to the dockleveler. See Figures 24, 25, & 26.

Weld reinforcing bars between the back of the TRUK STOP back plate and the front of the subframe front angle. Reinforcing bars provided by the installer. See Figure 27.

For docklevelers with angled front angles, reinforce as shown in Figure 28. Locate horizontal mounting plate and TRUK STOP as shown in Figure 2 or 3, page 3. Anchor horizontal mounting plate to pit floor per Figure 4, page 3.

FIGURE 24

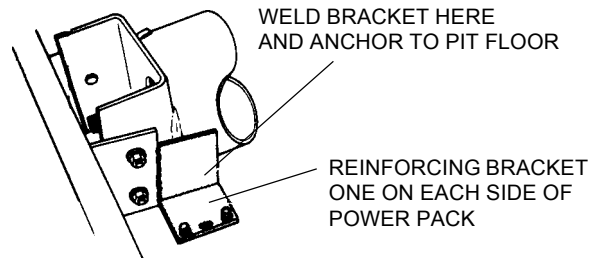


FIGURE 25

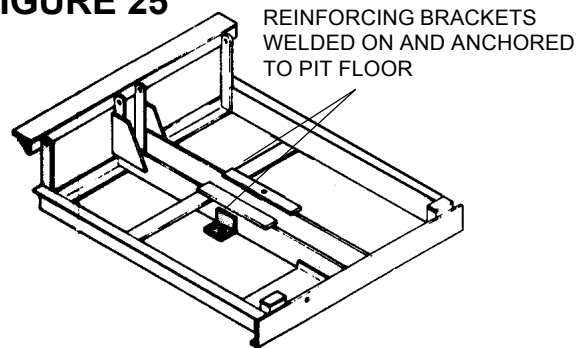


FIGURE 26

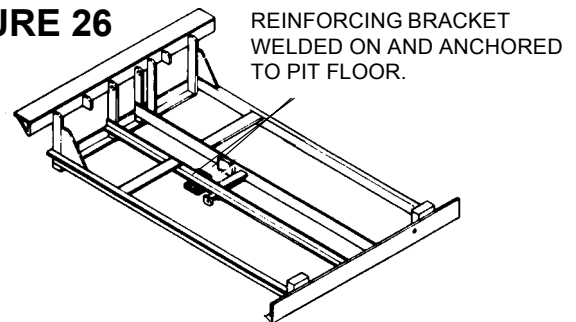


FIGURE 27

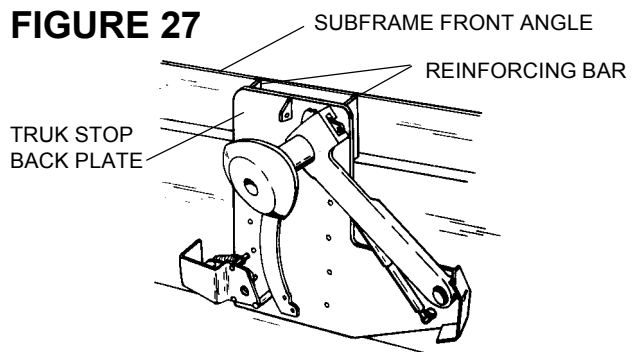
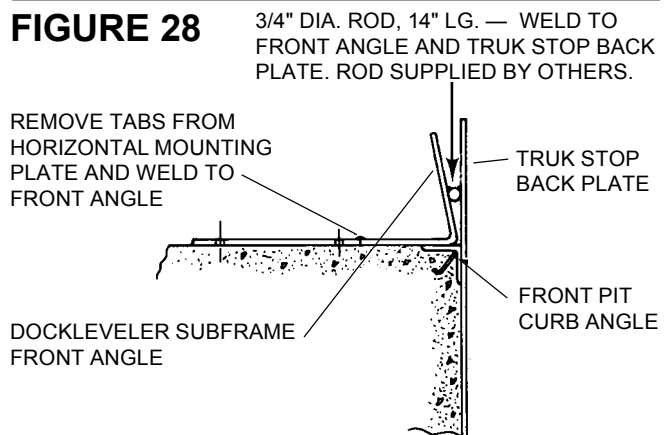
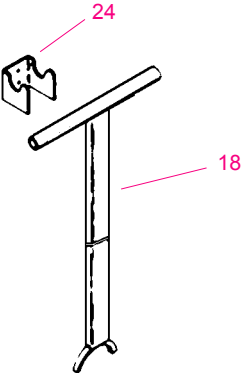
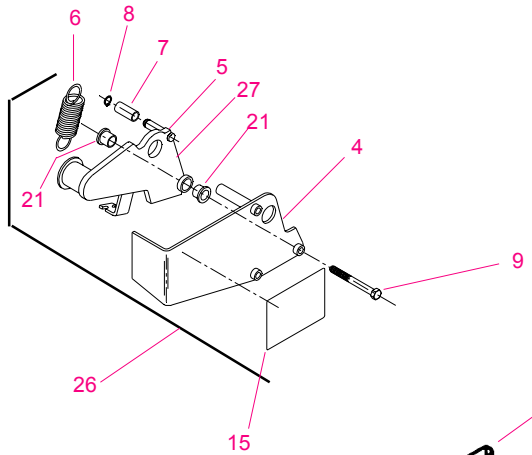
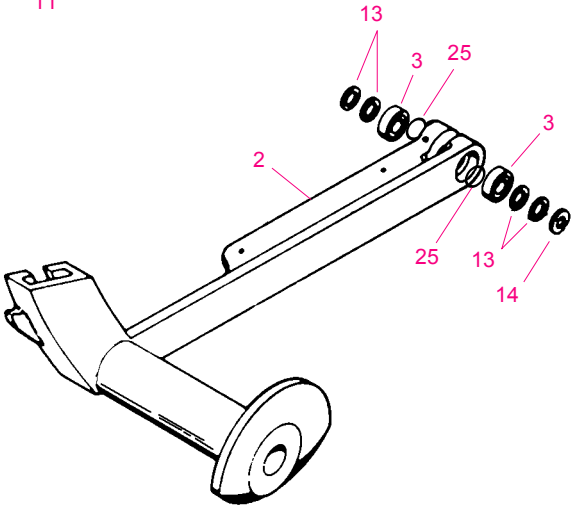
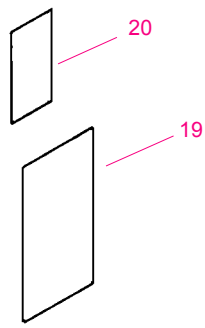
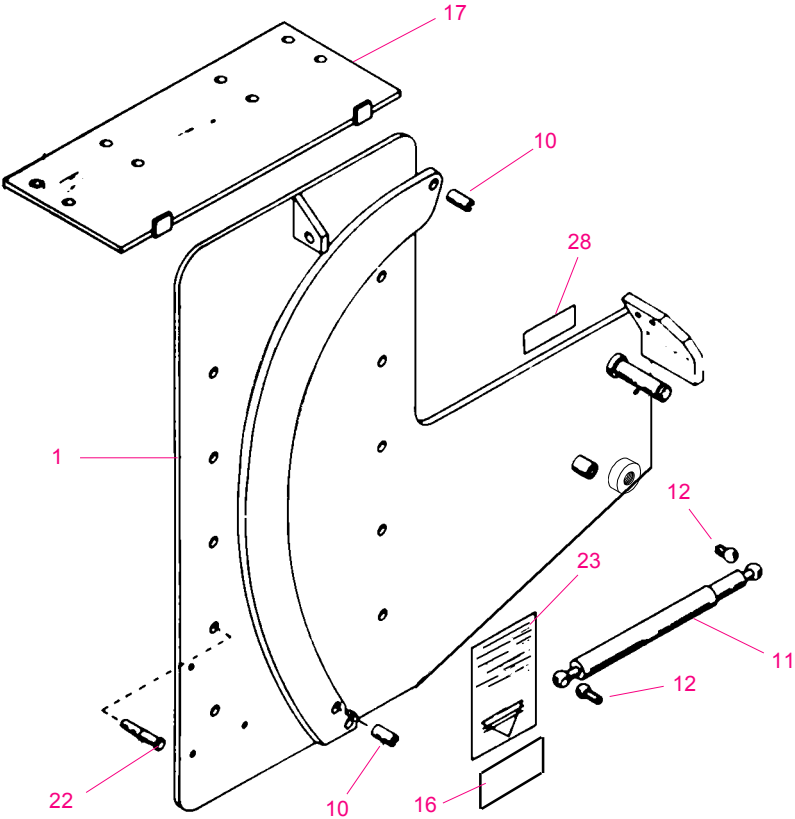


FIGURE 28





PARTS LIST



▲ WARNING

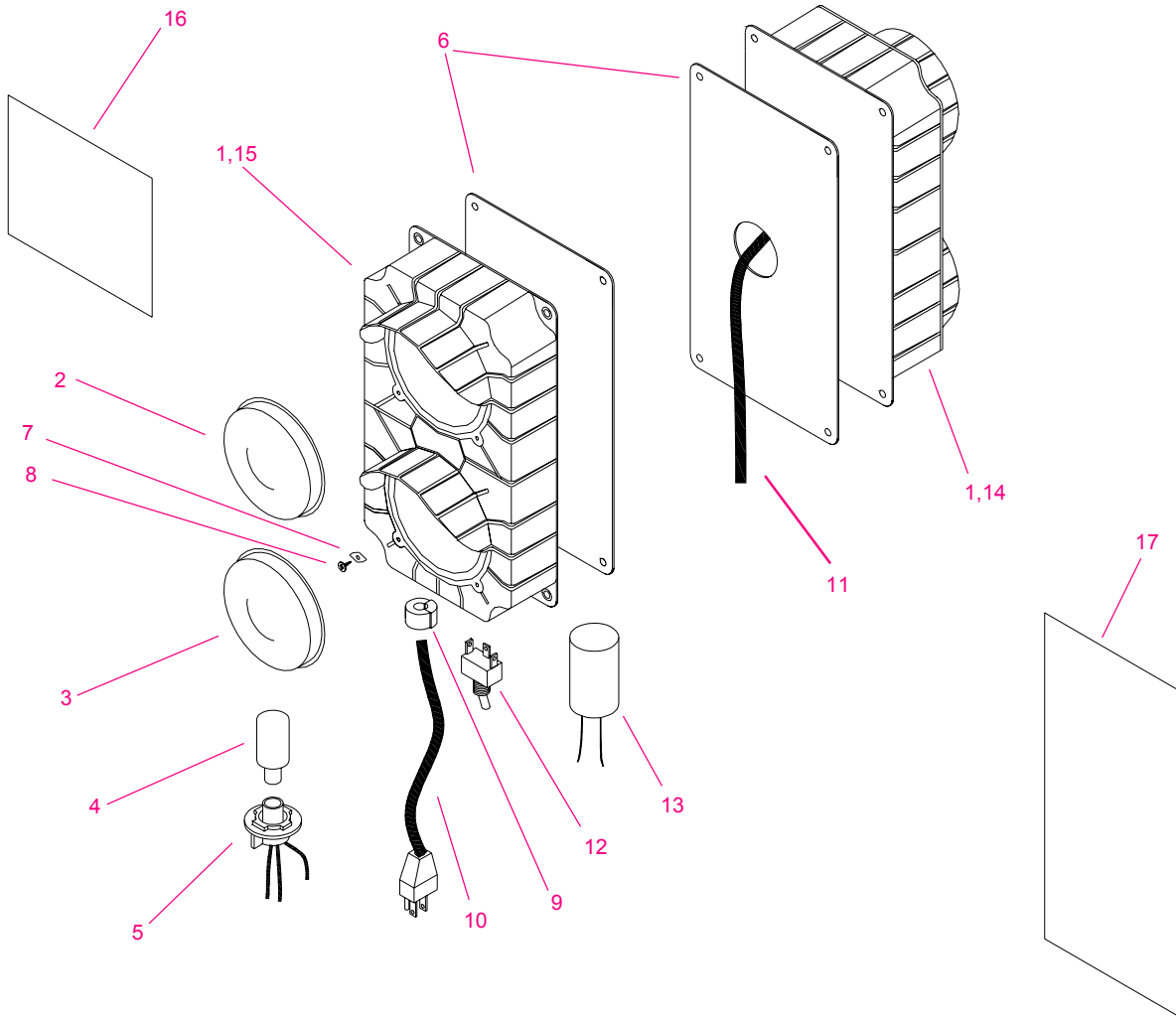
To ensure proper function, durability and safety of the product, only replacement parts that do not interfere with the safe, normal operation of the product must be used. Incorporation of replacement parts or modifications that weaken the structural integrity of the product, or in any way alter the product from its normal working condition at the time of purchase from Kelley Dock Systems could result in product malfunction, breakdown, premature wear, death or serious injury.

PARTS LIST - STAR 1 ASSEMBLY

Item	Qty	Description	Part Number
1	1	Back Plate Weldment - Plated	713-397
2	1	Hook Arm, Machined - Plated	675-411
3	2	Bearing, Ball (Included in Item 2)	091-097
4	1	Latch Arm Guard Weldment - Plated	*713-024
5	1	Release Lever Weldment - Plated	*713-023
6	1	Spring, Extension	*101-077
7	1	Bearing, Cylindrical 1/2" x 5/8" x 1"	*091-095
8	1	Ring, Retaining 1 /2"	*131-351
9	3	Capscrew, Hex Hd 3/8" - 16 x 3-1/2" lg	*131-364
10	2	Pin, Roll 1/2" dia x 1-1/4" lg	035-100
11	1	Gas Spring	709-472
12	2	Rod End (included in item 11)	708-829
13	A/R	Washer 1-1/2" OD x 1-1/16" ID	000-064
14	1	Klipring, 1"	049-064
15	1	Label "Warning Stand Clear"	708-778
16	1	Label "Serial Plate"	138-822
17	1	Horizontal Mounting Plate - Green Paint	709-470
18	1	Pushbar	708-736
19	1	Sign, Truck Driver Information	708-744
20	1	Sign, Dock Workers Information	708-779
21	2	Bearing, Flanged	*091-094
22	1 pkg.	Anchors, 14 per package (not shown)	287-510
23	1	Decal, STAR Logo	709-624
24	1	Hanger Bracket	152-814
25	2	Ring, Retaining (Included in Item 2)	049-067
26	1	Latch Assembly - Plated	713-025
27	1	Grease Fitting (Used for item 5)	*127-002
28	1	Label, Safety Products	711-266

* Included in Item 26

PARTS LIST - TRUK ALERT



ITEM	QTY	DESCRIPTION	P/N
1	2	HOUSING, Light	155-821
2	2	LENS - Red	155-822
3	2	LENS - Green	155-823
4	4	BULB, 110 VAC	061-780
5	4	SOCKET - AC	061-781
6	2	GASKET, Mounting	155-824
7	8	WASHER	131-494
8	8	SCREW, Rd Hd 3/8" lg	131-493
9	1	BUSHING	061-783
10	1	CORD, Power	713-170
11	1	CABLE, 4 Conductor 6 Feet	061-784
12	1	SWITCH, Toggle	061-782
13	1	FLASHER - AC	061-786
14	-	ASSEMBLY, Outside light (Contains items 1- 8 & item 11)	713-172
15	-	ASSEMBLY, Inside light (Contains items 1 - 10 & 12 & 13)	713-171
16	1	PLACARD, Instruction (inside)	908-899
17	1	DRIVER'S Caution sign (outside)	709-832

▲ WARNING

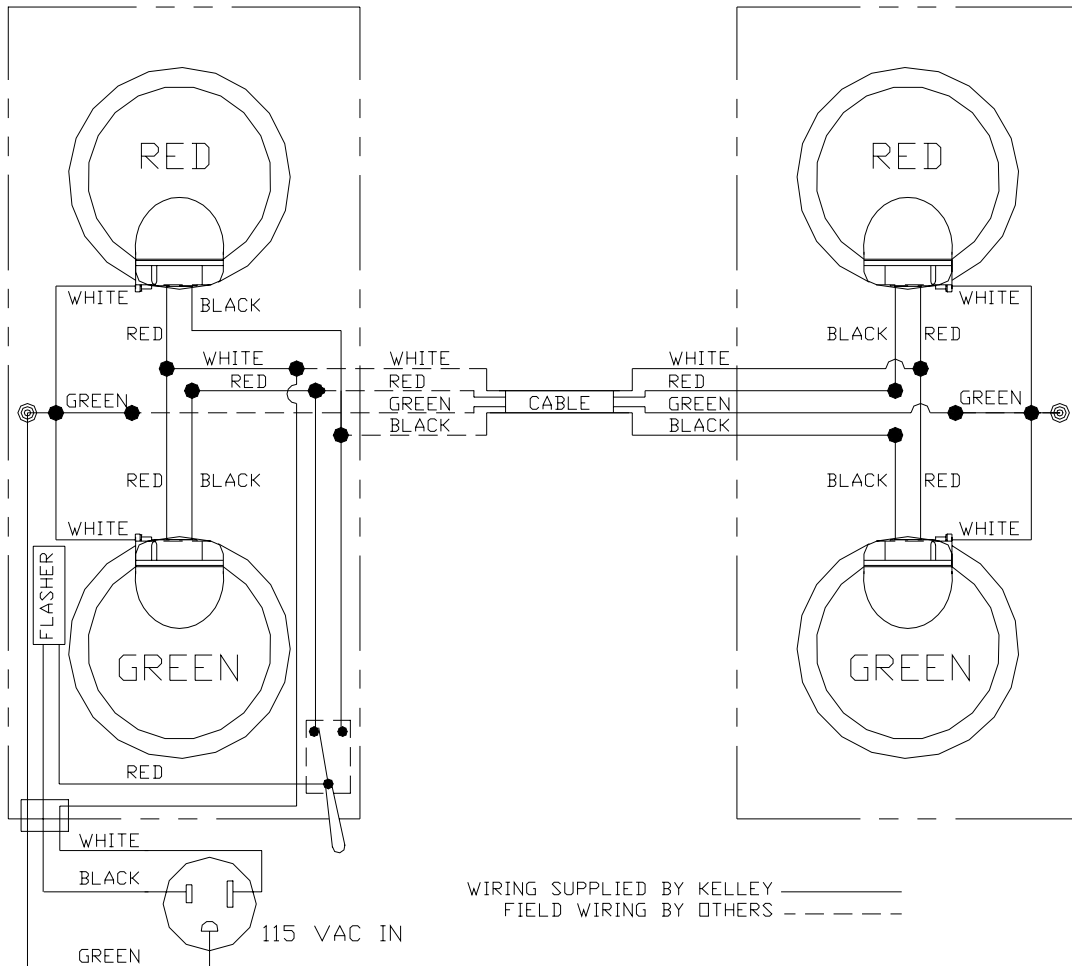
To ensure proper function, durability and safety of the product, only replacement parts that do not interfere with the safe, normal operation of the product must be used. Incorporation of replacement parts or modifications that weaken the structural integrity of the product, or in any way alter the product from its normal working condition at the time of purchase from Kelley Dock Systems could result in product malfunction, breakdown, premature wear, death or serious injury.



WIRING DIAGRAM

INSIDE SIGNAL LIGHTS

OUTSIDE SIGNAL LIGHTS



WIRING SUPPLIED BY KELLEY ———
FIELD WIRING BY OTHERS - - - -



KIT INSTRUCTIONS

INSTALLATION INSTRUCTIONS AUXILIARY PIVOT PIN GUARD FOR STAR TRUK RESTRAINTS PART NO. 908-854

BILL OF PARTS

ITEM NO.	DESCRIPTION	PART NO.	QTY.
1	GUARD, PIVOT PIN	712-634	1
2	ANCHOR BOLT, 1/2 X 3-3/4	131-260	4

INSTRUCTIONS:

1. PLACE HOOK IN THE DOWN POSITION.
2. LOCATE ITEM 1 DIRECTLY ABOVE THE EXISTING PIN GUARD (SEE FIG. 1) WITH ITS BOTTOM EDGE ALIGNED AS SHOWN IN DETAIL 'A'.
3. USING ITEM 1 AS A TEMPLATE DRILL FOUR 1/2" DIA. X 3-1/2" DEEP MOUNTING HOLES. NOTE: TO ELIMINATE DRILLING THROUGH THE CURB ANGLE, WELD THE UPPER END OF THE PIN GUARD TO THE CURB ANGLE AS NOTED BELOW. DO NOT WELD ITEM 1 TO THE EXISTING PIN GUARD. THIS AREA OF THE RESTRAINT MUST BE FREE TO MOVE.
4. FASTEN ITEM 1 TO THE DOCK FACE USING THE 4 ANCHOR BOLTS (TWO ANCHOR BOLT IF WELDING) TORQUED TO 60 FOOT POUNDS.
5. GRIND SMOOTH THE MATING SURFACES OF ITEM 1 AND EXISTING PIN GUARD. REPAINT THIS AREA AND ANY WELDS TO PREVENT RUST.

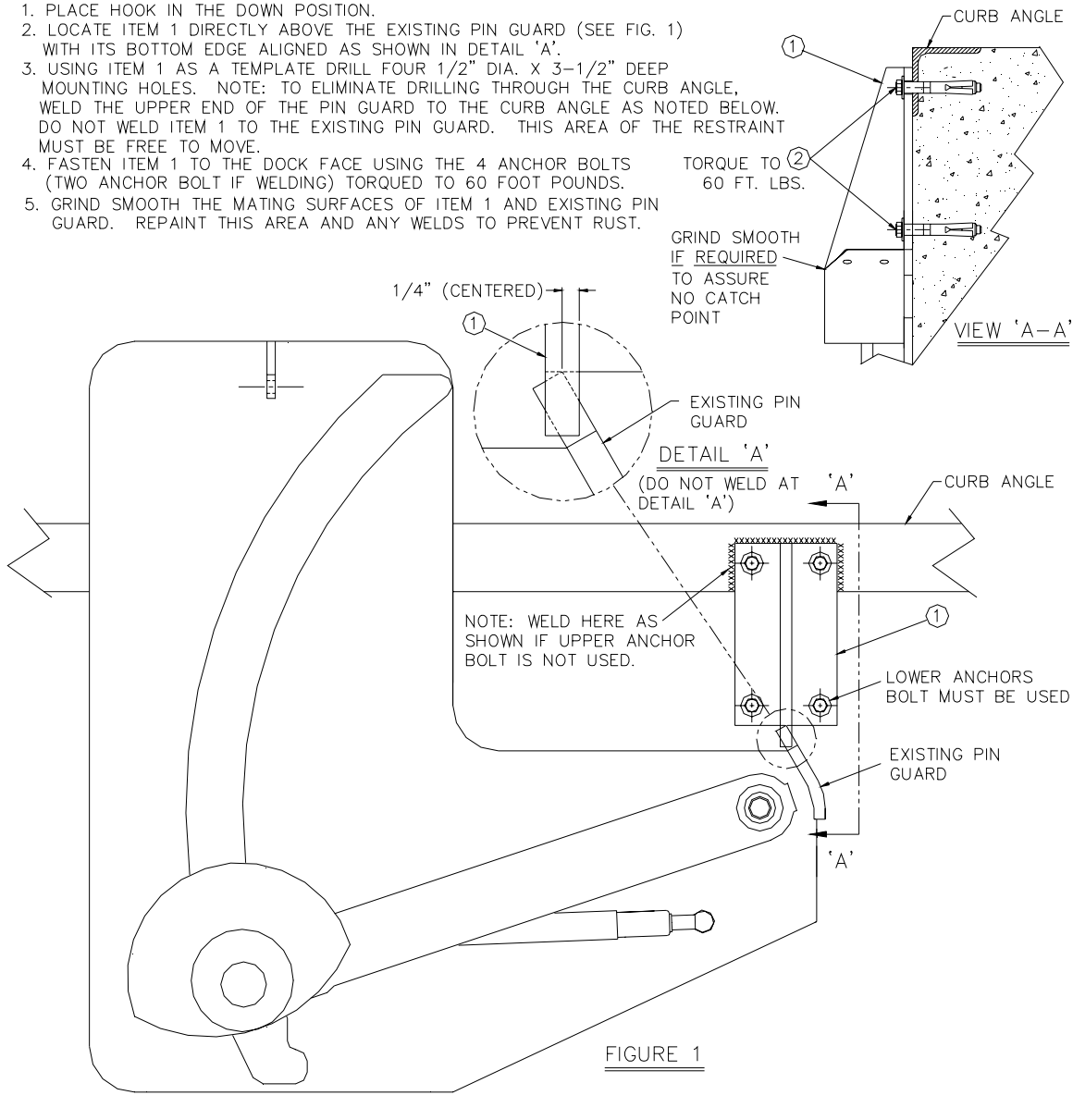


FIGURE 1