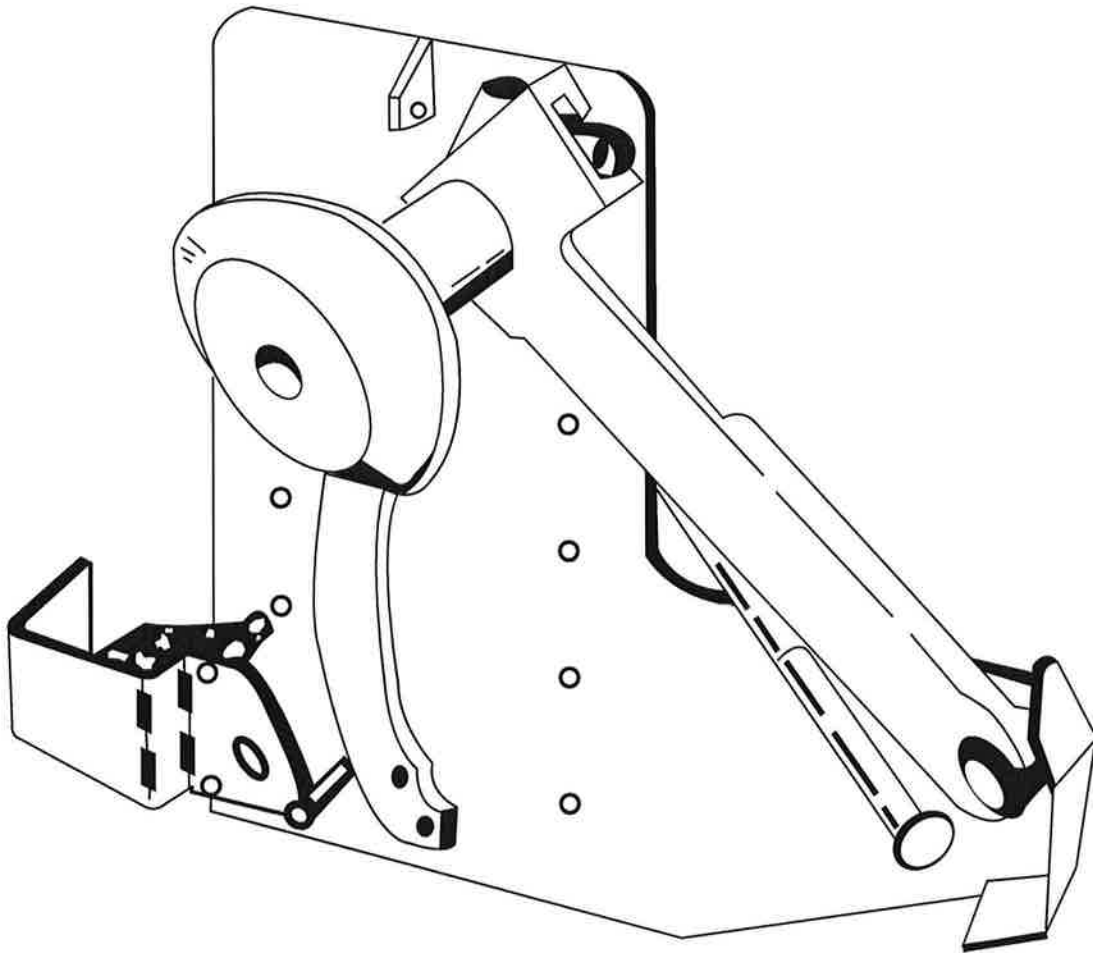




KELLEY®

**STAR® TRUK STOP®
Vehicle Restraint
STAR® 2
w/ 202B Control Module**



This manual applies to vehicle restraints manufactured beginning February 2013 with the serial numbers 61070042 and higher.

▲ 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.

User's Manual
Installation, Operations,
Maintenance and Parts

Part No. 5537R9

TROUBLESHOOTING

VEHICLE HITCHED

Hook Stored.....

Hook Released

Hook Contacts ICC Bar
Sensor Bar Deflects.....

Store Hook.....

VEHICLE NOT HITCHED

Hook Stored.....

Hook Released

Hook Does Not Contact ICC Bar
Sensor Bar Does Not Deflects.....

Press **OVERRIDE** Button

Store Hook.....

CORRECT LIGHT SEQUENCE		ALARM	AUX
INSIDE	*OUTSIDE		
RED	GREEN	OFF	OFF
RED/FLASH	RED	OFF	OFF
GREEN	RED	OFF	ON
RED	GREEN	OFF	OFF
RED	GREEN	OFF	OFF
RED/FLASH	RED	ON	OFF
ALT. RED/ GREEN FLASH	RED	OFF	ON
RED	GREEN	OFF	OFF

***Outside Lights Always Flash**

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 follow these safety practices could result in death or serious injury.

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

After checking lights daily, be certain lights are returned to the proper display. If no vehicle is at the dock, or the vehicle is not hitched, the red inside light should be lit and green outside light should be flashing. If a vehicle is at the dock and is hitched, the green inside light should be lit and the red outside light should be flashing. If a vehicle is at the dock and the vehicle has been manually chocked and the restraint is in "override" mode, the green and red inside light should be alternately flashing and the red outside light should be flashing.

DAILY

1. Operate the vehicle restraint to assure that it operates smoothly and that the hook moves freely along the entire length of track.
2. Check the lights on the control box. The RED or GREEN light must be on at all times. Operate unit to be certain both lights are working. Replace LEDs as required.
3. Check the outside signal lights (See Note). A RED or GREEN light must be flashing at all times. Operate unit to be certain both lights are working. Replace LEDs as required.

WEEKLY

Inspect the vehicle restraint for damage which may weaken the anchoring strength. Retighten the concrete anchors if necessary. (40 ft-lbs.)

MONTHLY

Check all operating, warning, and caution labels, lights and signs to be sure they can be read. Replace them if required. See the Parts List, on page 19, for part numbers.

QUARTERLY

Inspect dock bumpers. Four inches (4") of protection is required. Worn, torn, or missing bumpers must be replaced.

SENSOR BAR SWITCH ADJUSTMENT

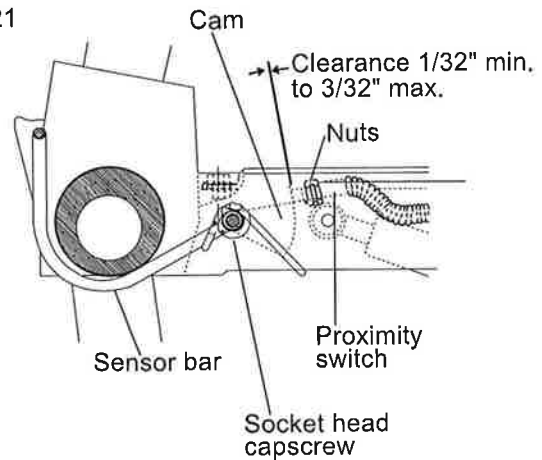
The operation range for ICC bar sensing of the vehicle restraints is from 11" to 30" above the drive. If the 11" minimum specification cannot be achieved, the proximity switch cam and sensor bar have come out of adjustment. When properly adjusted, a slight (about 3/16") deflection of the sensor bar will turn the proximity switch on. Readjustment is accomplished as follows:

1. Loosen the socket head cap screw that locks the proximity switch cam to the pivot shaft (see Fig. 21). This screw is locked in place at the factory with Loctite 222 and may have to be heated to loosen the Loctite.
2. Apply Loctite 222 to the screw threads. Keep the sensor bar up against the bottom of the hook and rotate the proximity switch cam counterclockwise until the proximity switch turns on and then clockwise until the switch just turns off. At this position tighten the socket head cap screw to a torque of 60 in.-lb.

Check to make sure that the proximity switch does not turn on until the sensor bar is deflected slightly. Re-adjust the cam as necessary to achieve a slight (approximately 3/16") deflection of the sensor bar before the proximity switch turns on.

Stepping on the sensor arm or otherwise manually deflecting the sensor arm farther than possible in normal operation can cause this out of adjustment problem.

Fig. 21



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 follow these safety practices could result in death or serious injury.

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

PARTS REPLACEMENT INSTRUCTIONS

LATCH MECHANISM – Fig. 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 – Fig. 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 pivot pin and ball studs.

Fig. 22

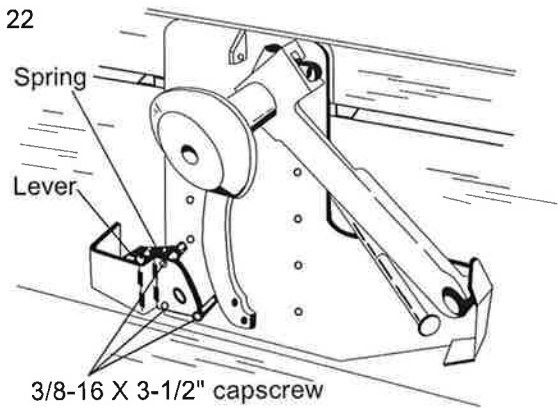
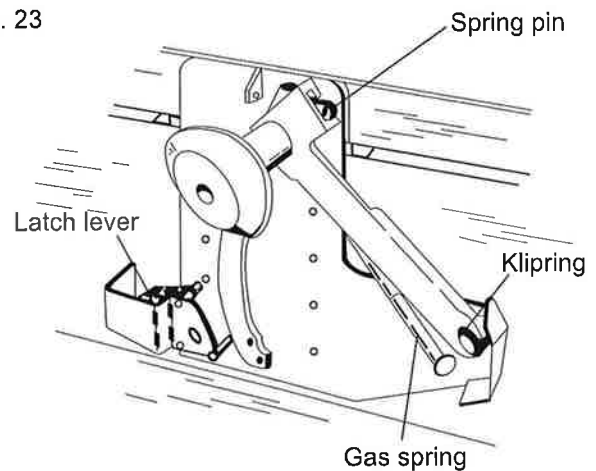


Fig. 23



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 follow these safety practices could result in death or serious injury.

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

SUBFRAME REINFORCING KIT

Use the Dock Leveler Reinforcing Kit P/N 901-323 when a horizontal mounting plate cannot be used to anchor the top of the vehicle restraint. This kit provides brackets that can be used to securely anchor the dock leveler to the pit so that the vehicle restraint can be anchored to the dock leveler. See Fig. 24, 25, and 26.

Fig. 24

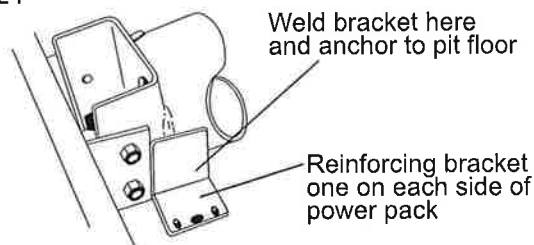


Fig. 25

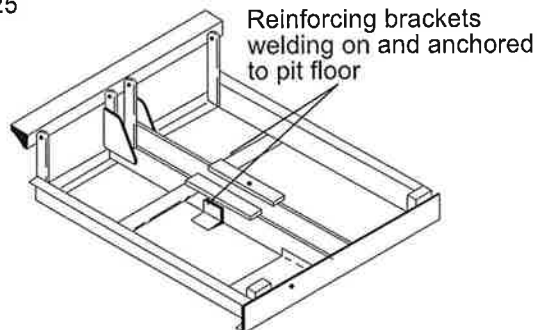
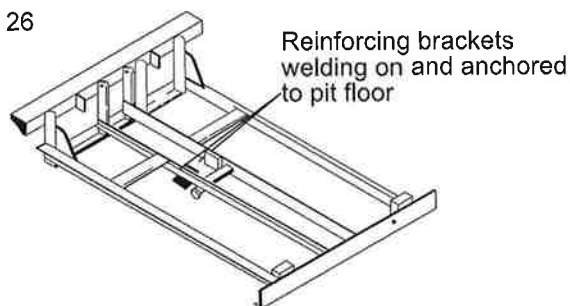
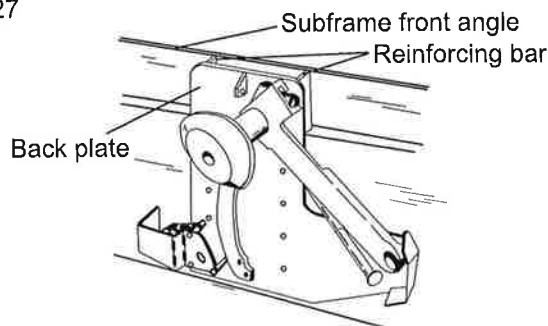


Fig. 26



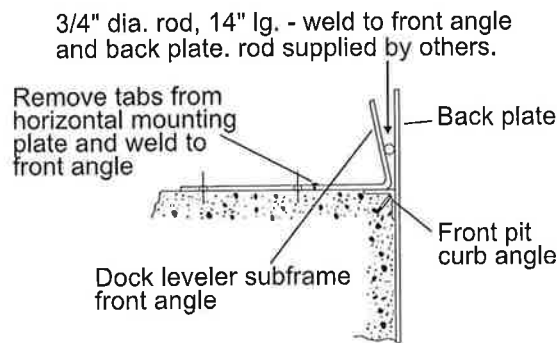
Weld reinforcing bars between the back of the vehicle restraint back plate and the front of the subframe front angle. Reinforcing bars provided by the installer. See Fig. 27.

Fig. 27



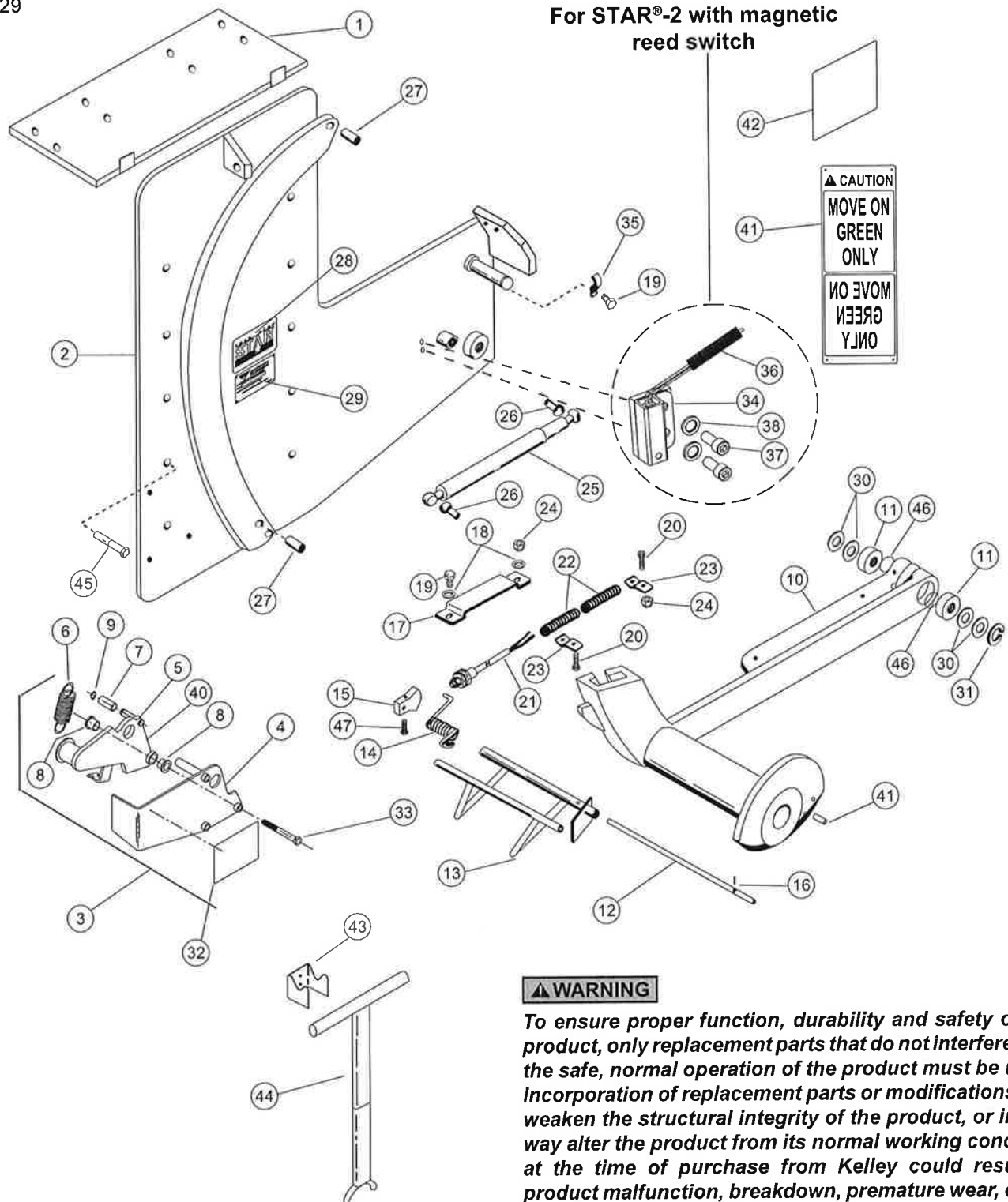
For dock levelers with angled front angles, reinforce as shown in Fig. 28. Locate horizontal mounting plate and vehicle restraint as shown in Fig. 2 page 6. Anchor horizontal mounting plate to pit floor per Fig. 4, page 6.

Fig. 28



PARTS LIST

Fig. 29



PARTS LIST — STAR® 2 ASSEMBLY

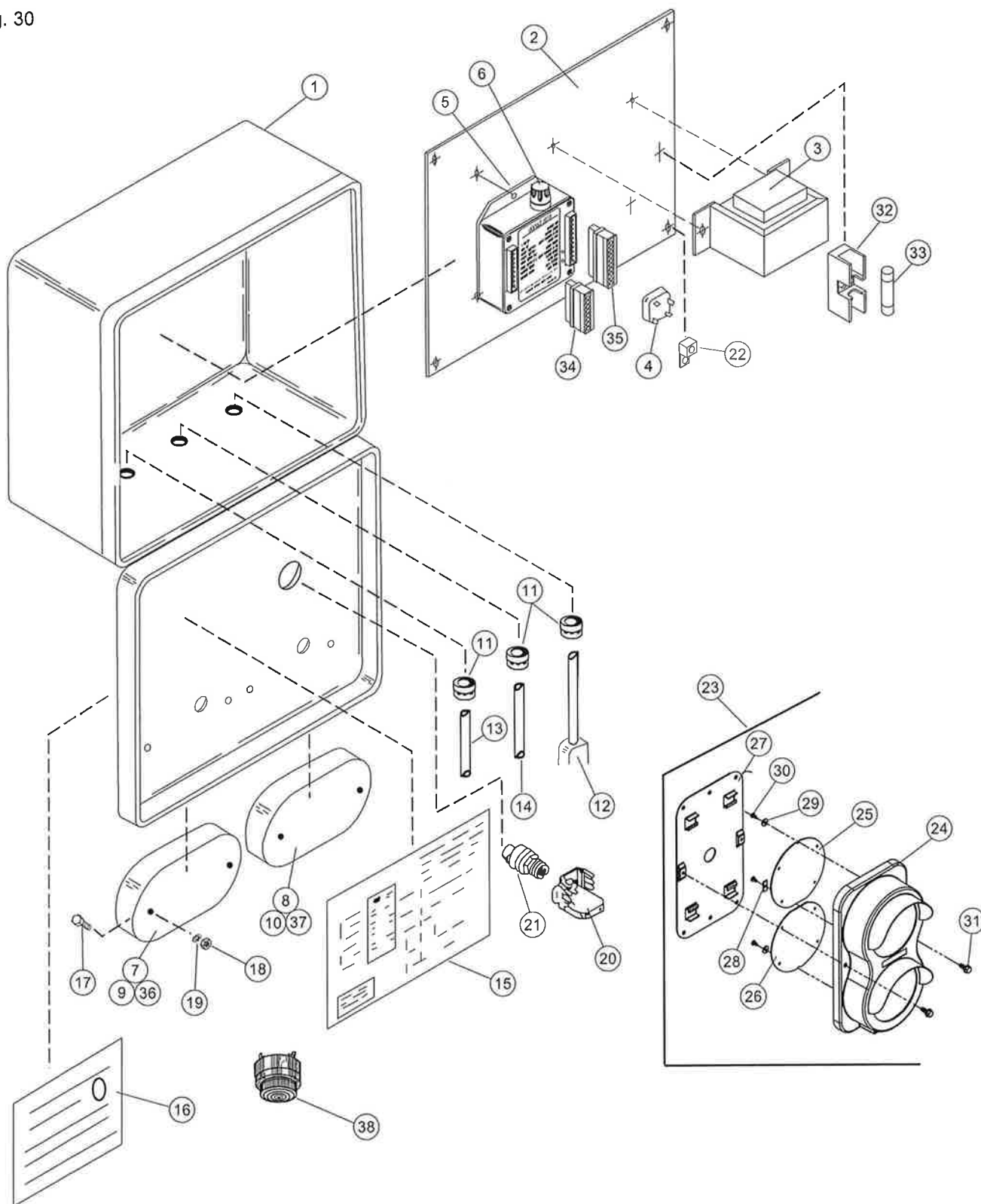
Item	Quantity	Description	Part Number
1	1	Horizontal Mounting Plate Green Paint	709-470
2	1	Back Plate Weldment Plated	713-397
3	1	Latch Assembly	713-025
4	1	Latch Arm Guard Weldment (Incl. in item 3) Plated	713-024
5	1	Release Lever Weldment (Incl. in item 3)	713-023
6	1	Spring, Extension (Incl. in item 3)	101-077
7	1	Cylindrical Bearing (Incl. in item 3)	091-095
8	2	Flanged Bearing (Incl. in item 3)	091-094
9	1	Retaining Ring, 1/2" (Incl. in item 3)	131-351
10	1	Hook Arm w/Bearing Yellow Paint Plated	709-469 675-411
11	2	Ball Bearing (Incl. in item 10)	091-097
12	1	Shaft, Sensor Bar	155-643
13	1	Weldment, Sensor Bar	712-914
14	1	Spring, Torsion - Sensor Bar	101-079
15	1	Cam, Proximity Switch	155-642
16	1	Screw, Soc. Hd. #10 - 24 x 5/8" lg.	131-250
17	1	Bracket, Proximity Switch	154-134
18	2	Washer, Flat 3/8"	000-214
19	2	Screw, Cap 3/8" - 16 x 1/2" lg.	000-310
20	2	Bolt, Hex Hd. 3/8" - 16 x 1-1/4" lg.	000-003
21	1	Switch, Proximity - 12 Volt	061-551
22	6'	Tubing, Flexible, Liquid Tight	154-201
23	2	Clip, Wire -.562 dia. 1/2 round	154-202
24	2	Nut, Lock Elastic 3/8" - 16	000-253
25	1	Gas Spring	709-472
26	2	Rod End (Incl. in item 25)	708-829
27	2	Pin, Roll 1/2" dia. x 1-1/4" lg.	035-100
28	1	Label, STAR® TRUK STOP® Logo	709-624
29	1	Serial Tag	6009761
30	A/R	Washer, 1-1/2" OD x 1-1/16" ID	000-064

PARTS LIST — STAR® 2 ASSEMBLY, continued

Item	Quantity	Description	Part Number
31	1	Klipring, 1" dia.	049-064
32	1	Label, Warning Stand Clear	708-778
33	3	Cap Screw, Hx. Hd. 3/8" - 16 x 3-1/2" lg.	131-364
34	1	Switch, Magnetic Reed with Spacer block	061-812
35	1	Dual Hose Clamp	709-683
36	5'	Tubing, Flexible, Liquid Tight	154-201
37	2	Screw, Socket. Hd. 1/4" - 20 x 5/8" lg. SS	131-275
38	2	Washer, Lock 1/4" Internal Tooth	131-518
40	1	Grease Fitting (Included in item 5)	127-002
41	1	Pin, Roll, 3/8" x 1-1/2" Lg.	035-031
42	1	Sign, Dock Workers Information	708-779
43	1	Hanger Bracket	152-814
44	1	Push Bar	708-736
45	1 pkg.	Anchors, 18 per package	287-510
46	2	Ring, Retaining (Included in item 10)	049-067
47	1	Screw, Socket Hd, 1/4-20 x 3/8" Lg.	131-471

PARTS LIST — CONTROL BOX ASSEMBLY

Fig. 30



PARTS LIST — CONTROL BOX ASSEMBLY, continued

Item	Quantity	Description	Part Number
—	—	Control Box Assembly (Standard) (Contains items 1 through 22 and 30 through 33)	908-947
—	—	Control Box Assembly (With Alarm) (Contains items 1 through 22 and 30 through 34)	908-948
1	1	Enclosure w/Holes (Standard)	712-578
2	1	Panel w/Holes	713-304
3	1	Transformer, 120/12 Volts	061-583
4	1	Rectifier Bridge, 35 Amp	061-507
5	1	Control Module - STAR® 202B	908-949
*6	1	Fuse, 4 Amp	061-474
7	1	Light base — rectangle	823-107
8	1	Light base — oval	823-111
9**	2	12VDC Red LED LRU	6006375
10**	2	12VDC Green LED LRU	6006377
11	3	Cord Grip, Straight - 1/2 NPT	705-315
12	1	Cord, Power Supply	708-862
13	1	Cable, Electric 16-3 6 FT	061-502
14	1	Cable, Electric 18-4 20 FT	182-483
15	1	Label, Wiring Diagram	713-498
16	1	Label, Instruction	6009521
17	4	Screw, Fillister. Hd. C.R. #10-32 x 3/4" lg.	131-356
18	4	Nut, Hex #10-32 UNF	131-357
19	4	Lock Washer #10 Int. Tooth	000-824
20	1	Contact Block - N.O.	061-566
21	1	Push-button - White	061-563
22	1	Connector, Solderless Lug	061-674
23†	1	Red/Green 8-32VAC/DC LED Light Assembly	6007798
24	1	Housing, Main	6007799
25	1	Red LED PCB Assembly	6007800
26	1	Green LED PCB Assembly	6007801
27	1	Wall Mounting Plate	6007802
28	1	PCB Retaining Clip	AP4454
29	2	Washer Flat #8 x 0.500	AP4615
30	3	Screw, Pan Head #8 x 5/16	AP4453

* Must be fast acting.

** 2 each included in replacement bulb kit AP-1579 LRU package.

† Includes items 24-32

PARTS LIST — CONTROL BOX ASSEMBLY, continued

Item	Quantity	Description	Part Number
31	2	Screw, Hex Head 1/4-20 X 5/8	AP4614
32	1	Fuse Holder, Single	061-492
33	1	Fuse, MEN 1/2 Amp	061-152
34	1	Connector, 8 pin	061-578
35	1	Connector, 10 pin	061-579
36	1	Lens Only - Red	823-100
37	1	Lens Only - Green	AP0027

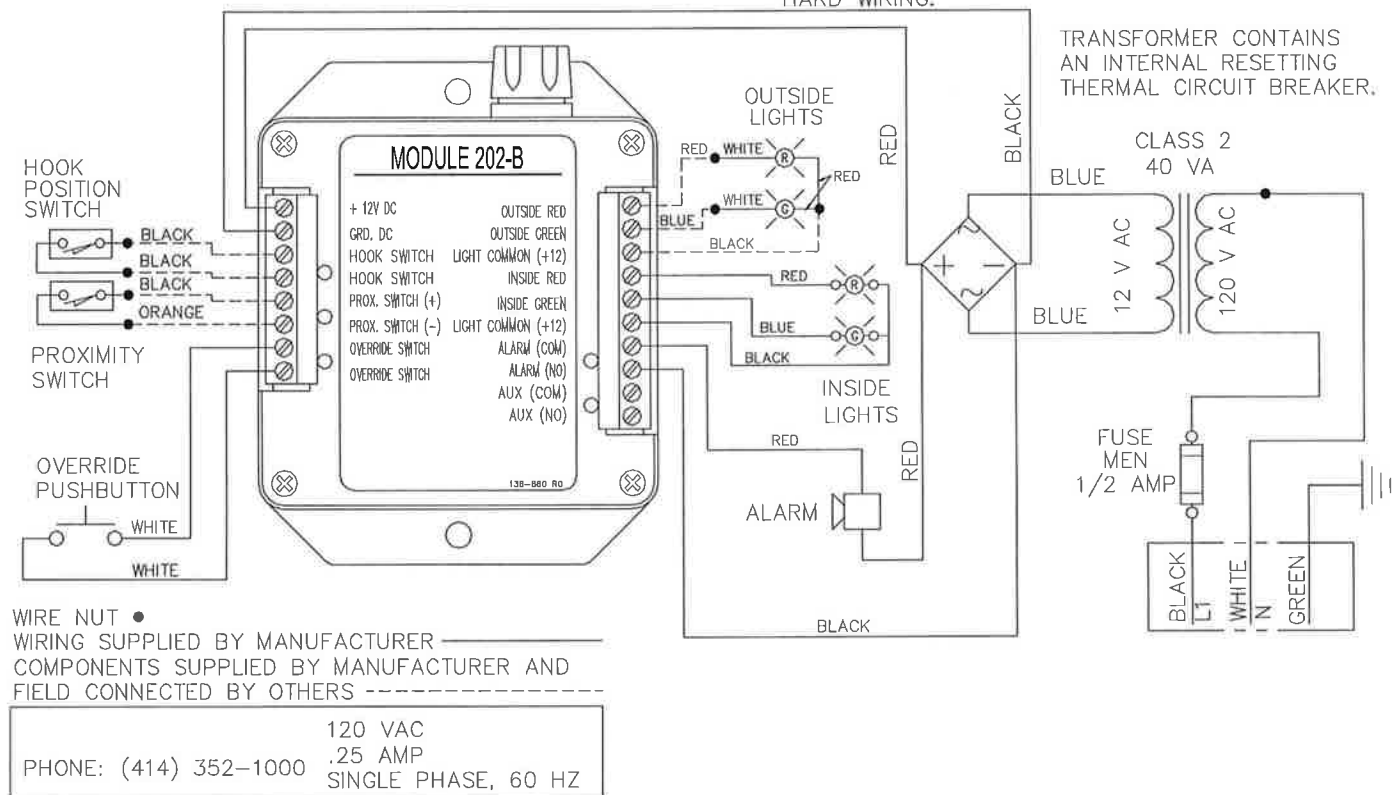
AVAILABLE OPTIONS ARE LISTED BELOW

Item	Quantity	Description	Part Number
38	1	Alarm, Continuous 12V	061-560
39	1	Light Guard Kit (Not Shown)	184-322

WIRING DIAGRAM

Fig. 31

THE MOLDED 3 PRONG POWER CORD SUPPLIED BY MANUFACTURER IS SJ 16 GAUGE 3 WIRE. CHECK FOR COMPLIANCE WITH LOCAL CODES. SOME LOCALITIES MAY REQUIRE HARD WIRING. A BREAKER OR DISCONNECT IS REQUIRED WITH HARD WIRING.



NOTE:

For 24V incoming power, consult factory.

KIT INSTRUCTIONS

INSTALLATION INSTRUCTIONS

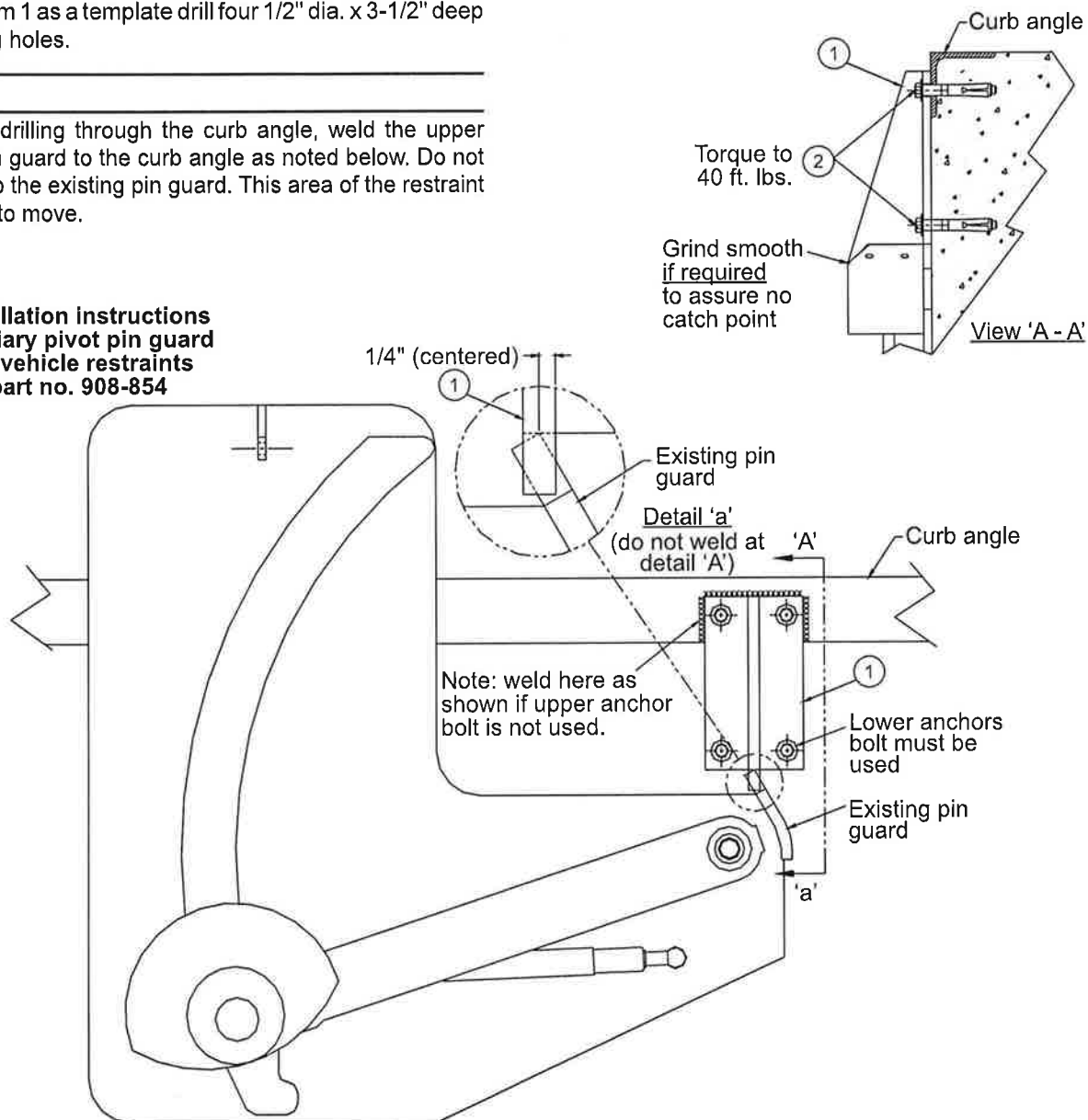
1. Place hook in the down position.
2. Located Item 1 directly above the existing pin guard. (See Fig. 32.) with its bottom edge aligned as shown in detail 'A'.
3. Using Item 1 as a template drill four 1/2" dia. x 3-1/2" deep mounting holes.
4. Fasten Item 1 to the dock face using the 4 anchor bolts (two anchor bolt if welding) torqued to 40 ft.-lbs. See Wedge Anchor installation instructions on page 5.
5. Grind smooth the mating surfaces of Item 1 and existing pin guard. Repaint this area and any welds to prevent rust.

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.

Fig. 32

**Installation instructions
auxiliary pivot pin guard
for vehicle restraints
part no. 908-854**



Item	Quantity	Description	Part Number
1	1	Guard, Pivot Pin	712-634
2	4	Anchor Bolt, 1/2 x 3-1/2	131-260