PENTALIFT

PENTALIFT EQUIPMENT CORPORATION

PENTALIFT HFR32
VEHICLE RESTRAINT

OWNERS MANUAL

SERIAL NUMBER : _____

Individual Serial Number(s) must be filled out by the user for future reference.

⚠ DANGER

THIS MANUAL IS AN IMPORTANT DOCUMENT

IT SHOULD BE KEPT WITH THE MACHINE OR LOCATI
WHERE READILY AVAILABLE TO OPERATORS AI
MAINTENANCE PERSONNEL FOR REFERENCE PURPOSE
DO NOT INSTALL, OPERATE OR SERVICE THIS PRODU(
UNLESS YOU HAVE READ AND FULLY UNDERSTAND TI
ENTIRE CONTENTS OF THIS MANUAL. FAILURE TO DO S
MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY C
DEATH. KEEP THIS MANUAL IN A SAFE PLACE FOR FUTUI
REFERENCE.

SAFETY INFORMATION AND WARNINGS

⚠ DANGER

READ THESE SAFETY PRACTICES BEFORE INSTALLING, OPERATING OR SERVICING THE VEHICLE RESTRA FAILURE TO FOLLOW THESE SAFETY PRACTICES MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OF DEATH.

THE OPERATION OF THIS EQUIPMENT IS SUBJECT TO CERTAIN HAZARDS THAT CAN BE PROTECTED AGAI ONLY BY THE EXERCISE OF CARE AND COMMON SENSE AND NOT BY MECHANICAL MEANS. IT IS, THEREF ESSENTIAL TO HAVE COMPETENT, QUALIFIED OPERATORS TRAINED IN THE SAFE OPERATION AND CARE THIS TYPE OF EQUIPMENT. ALL PERSONNEL MUST COMPLETELY UNDERSTAND THIS SAFETY INFORMATI BEFORE WORKING ON OR NEAR THIS EQUIPMENT.

1. ⚠ DANGER — BEFORE DOING ANY INSTALLATION, MAINTENANCE, INSPECTION OR TROUBLE SHOOTING, BARRICADE ALL AREAS FROM TRAFFIC AROUND THE WORK AREA IN (AND OUTSIDE IF APPLICABLE) FOR SAFETY AND POST APPROPRIATE WARNING SIGNS.

2. ⚠ DANGER — BEFORE DOING ANY ELECTRICAL WORK, BE CERTAIN THAT THE POWER IS DISCONNECTED WITH A FUSED DISCONNECT, PROPERLY TAGGED AND LOCKED FUSED DISCONNECT AND LOCKOUT DEVICE (SUPPLIED AND INSTALLED BY OTHE MUST MEET WITH ALL APPLICABLE CODES AND REGULATIONS. ALL ELECTRICA WORK MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WI ALL APPLICABLE CODES AND REGULATIONS.

3. ⚠WARNING — IT IS THE RESPONSIBILITY OF OTHERS TO ENSURE THE PROPER MOUNTING OF A WALL MOUNTED EQUIPMENT SUCH AS REMOTE POWER UNITS, CONTROL PANEL LIGHT PACKAGES AND TO ENSURE THAT THE MOUNTING SURFACE IS CAPABLE FULLY SUPPORTING THE LOADS GENERATED BY THE EQUIPMENT.

4. **Do not load/unload any truck without visually confirming that the vehicle restraint has securely engaged th truck's R.I.G. (Rear Impact Guard) and the appropriate signal lights are illuminated as indicated by the oper instructions in the Owners Manual and on the control panel. If the vehicle restraint fails to engage the truc R.I.G. for any reason, be certain to restrain the truck with appropriate alternate means and to follow the ove procedures listed in this manual before proceeding with any loading/unloading.**

5. Never stand between the dock and a truck.

6. Stay clear of operating path at all times.

7. When not in use, the restraint must always be in the stored position.

8. Regular inspection and maintenance must be performed to keep the equipment in proper operating condition in accordance with the detailed instructions in this manual. (See the MAINTENANCE & LUBRICATION section of this manual on page 14.)

9. Assure that the equipment is not used by anyone if you believe that any part of it might be in disrepair (e.g. loose wi leaking hoses, bent structural members, broken welds, etc.). See Warranty Section.

10. If you have any questions, contact your immediate supervisor or your authorized Pentalift representative for assistai

11. Do not use the VEHICLE RESTRAINT while under the influence of drugs or alcohol.

⚠ DANGER — This is the highest level statement. Failure to follow the listed instructions will most likely re severe injury or death.

⚠ WARNING — This is a statement of serious hazard. Failure to follow the listed instructions could place the inc at risk of serious injury or death.

⚠ CAUTION — The statements used with this level of warning deal with a safe operating procedure. If the pro is ignored, the possibility of personal injury may exist.

IMPORTANT — This statement draws attention to a procedure that needs to be followed to prevent machine or property damage.

OWNER RESPONSIBILITY

he Owner's Responsibilities include the following:

4.1 The owner should recognize the inherent danger of the interface between dock and transport vehicle. The Owner should, therefore, train and instruct operators in the safe use of dock leveling devices in accordance with information provided in Section 4.1.2.

4.2 When a transport vehicle is positioned as closely as practicable to a dock leveling device, there shall be at least 4" (100 mm) of overlap between the front edge of the lip and the edge of the floor or sill of the transport vehicle.

4.3 Nameplates, cautions, instructions and posted warnings shall not be obscured from the view of operating or maintenance personnel for whom such warnings are intended.

4.4 Manufacturer's recommended periodic maintenance and inspection procedures in effect at date of shipment shall be followed, and written records of performance of these procedures should be kept.

4.5 Dock leveling devices that are structurally damaged or have experienced a sudden loss of support while under load, such as might occur when a transport vehicle is pulled out from under the dock leveling device, shall be removed from service, inspected by the manufacturer's authorized representative, and repaired as needed before being placed back in service.

4.6 The manufacturer shall supply replacement nameplates, caution or instruction labels and operating and maintenance manuals upon request of the owner. The owner shall see that all nameplates and caution and instruction markings or labels are in place and legible and that the appropriate operating and maintenance manuals are provided to users.

4.7 Modifications or alterations of dock leveling devices shall be made only with written permission of the original manufacturer. These changes shall be in conformance with all applicable provisions of this standard and shall be at least as safe as the equipment was before modification. These changes shall also satisfy all safety recommendations of the original equipment manufacturer for the particular application of the dock leveler.

4.8 When industrial trucks are driven on and off transport vehicles during the loading and unloading operation, the brakes on the transport vehicle shall be applied and wheel chocks or positive restraints that provide the equivalent protection of wheel chocks engaged.

4.9 In selecting dock leveling devices, it is important to consider not only present requirements but also future plans or adverse environments.

4.10 The dock leveler should never be used outside its vertical working range or vertical lifting range or outside the manufacturer's labeled rated capacity. It must also be compatible with the loading equipment and other conditions relating to the dock.

TE: The MH30 Committee recognizes the devices intended to secure a transport vehicle to a loading dock by mechanical ans. The NHTSA Standard 49CFR ch.V 571.223 specifies the strength of the rear impact guard and 49 CFR Ch.V 571.224 ecifies the size and locations of the rear impact guard. It is, therefore, recommended that users of such positive restraint vices review:

- *The means of attachment to the transport vehicle*
- *The strength of the overall connection*
- *The proper coordination of the actuation of devices with any signaling system used*
- *The need to use wheel chocks*

⚠ DANGER Unless specifically agreed to in writing by Pentalift Equipment Corporation at the time the equipment is ordered and prior to the equipment's manufacture, this equipment is sold as a complete package. It is not to be altered, changed or added to in any way or form, in its figuration and function, without the written permission of Pentalift Equipment Corporation.

quested by a customer, Pentalift Equipment Corporation is not supplying all or some of the power unit and / or control mponents for the equipment's application. The power unit and controls constitute important safety and functional aspects of equipment. It is the customer's responsibility to address the operational and safety issues associated with providing the uired controls and power units to satisfy the operational and safety requirements of the equipment.

customer's decision to supply all or some of these components indicates that the customer is taking full responsibility for and all possible operational, safety and liability issues associated to the product and its configuration. The customer also es to absolve Pentalift Equipment Corporation from any and all possible operation, safety and liability issues.

TABLE OF CONTENTS

SAFETY LABELING

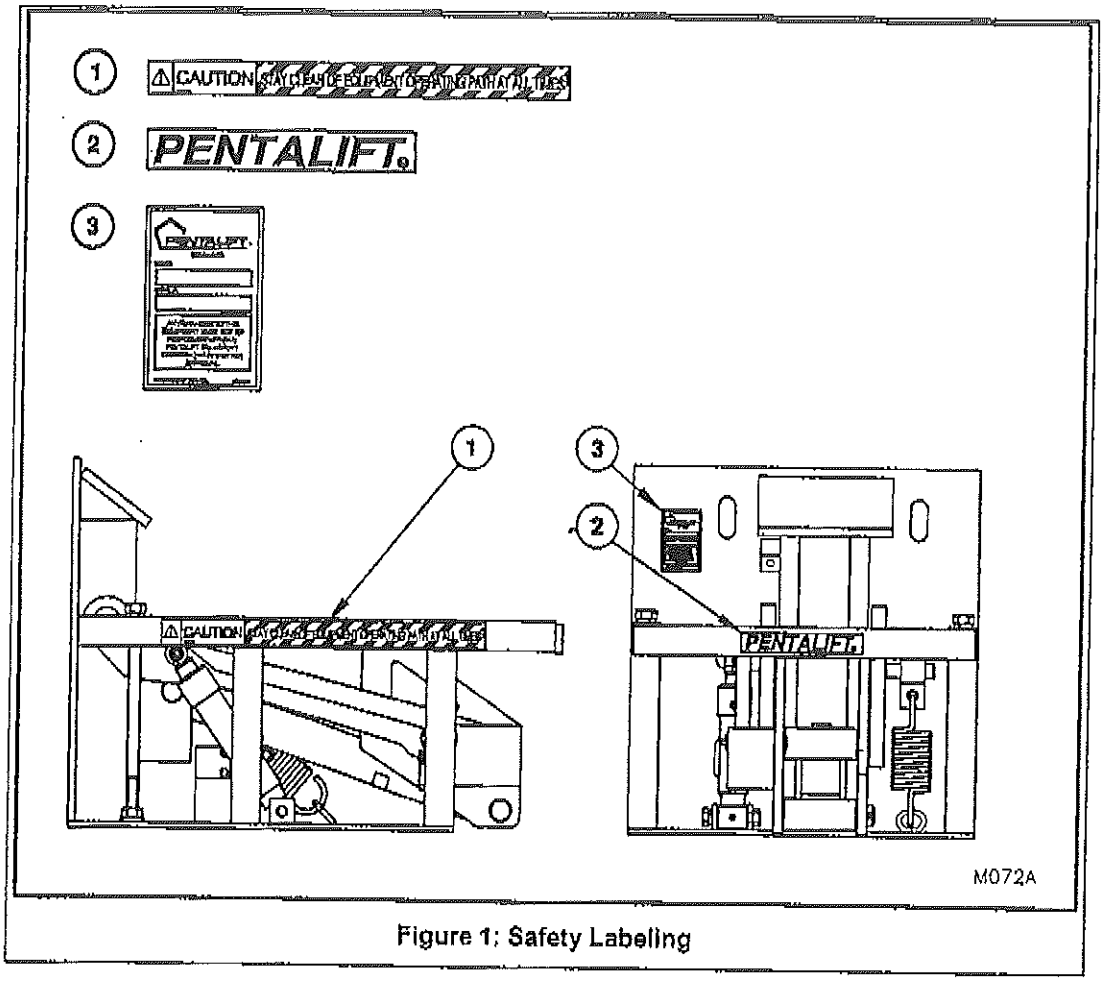


Figure 1: Safety Labeling

sure that all labeling is in place and intact when the unit is received. If any of the safety labels or decals are ssing or illegible, contact your Pentalift representative for immediate replacement.

)TE: It is the owner's responsibility to assure that all safety labeling remains legible and in its original sition throughout the life of the product. If any of the safety labels or decals are missing or illegible, contact ur Pentalift representative for immediate replacement. Inspection shall be done during regular maintenance d lubrication (see Maintenance Section, page 14)

re-order labels and decals, use the following part numbers:

ITEM	PART NO.	DESCRIPTION
1	250-2341	"CAUTION Stay clear of equipment..."
2	250-1143	"Pentalift"
3	250-2368	Specification Plate

NOTE: State Model # and Serial # when ordering replacement parts.

INSTALLATION INSTRUCTIONS

⚠ DANGER

DO NOT INSTALL, OPERATE OR SERVICE THIS PRODUCT UNLESS HAVE READ AND FULLY UNDERSTAND THE ENTIRE CONTENTS O THIS MANUAL. FAILURE TO DO SO MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OR DEATH.

IMPORTANT
PREPARATION PRIOR TO INSTALLATION

Follow all installation instructions in the precise consecutive order that they are written. If the equipment can be installed in the order as outlined below, contact Pentalift Equipment Corporation for written instructions or to proceed. Do not proceed with an alternate installation method unless written confirmation has been provi by Pentalift Equipment Corporation.

1. ⚠ DANGER

BEFORE DOING ANY INSTALLATION, MAINTENANCE, INSPECTION OR TROUBLE SHOOTING, BARRICADE ALL AREAS FROM TRAFFIC AROUND T WORK AREA INSIDE (AND OUTSIDE IF APPLICABLE) FOR SAFETY AND PO APPROPRIATE WARNING SIGNS.

2. ⚠ DANGER

BEFORE DOING ANY ELECTRICAL WORK, BE CERTAIN THAT THE POWER DISCONNECTED WITH A FUSED DISCONNECT, PROPERLY TAGGED AND LOCKED OUT. FUSED DISCONNECT AND LOCKOUT DEVICE (SUPPLIED AI INSTALLED BY OTHERS) MUST MEET WITH ALL APPLICABLE CODES AND REGULATIONS. ALL ELECTRICAL WORK MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.

3. ⚠ DANGER

MAKE SURE LIFTING AND SLINGING DEVICES ARE OF SUFFICIENT CAPAC USED IN THE CORRECT MANNER AND ARE IN GOOD WORKING ORDER. AI LIFTING, POSITIONING AND INSTALLATION, AS WELL AS THE BREAK-IN AI PERFORMANCE CHECK, IS TO BE DONE BY QUALIFIED PERSONNEL TRAIN AND EXPERIENCED IN THE NECESSARY SAFETY PROCEDURES.

4 ⚠ WARNING

IT IS THE RESPONSIBILITY OF OTHERS TO ENSURE THE PROPER MOUNTIN OF ANY WALL MOUNTED EQUIPMENT SUCH AS REMOTE POWER UNITS, CONTROL PANELS AND LIGHT PACKAGES AND TO ENSURE THAT THE MOUNTING SURFACE IS CAPABLE OF FULLY SUPPORTING THE LOADS GENERATED BY THE EQUIPMENT.

5. ⚠ WARNING

THIS RESTRAINT IS DESIGNED TO OPERATE WITH THE FACE OF THE DOCK BUMPERS EXTENDED 4" PAST THE POSITION OF THE BACK PLATE OF THE RESTRAINT ONCE IT IS INSTALLED. THIS DIMENSION RELATIONSHIP IS CRITICAL TO ASSURING THE PROPER OPERATIONAL POSITIONING OF THE RESTRAINT. PRIOR TO COMMENCING WITH THE INSTALLATION, CONFIRM THAT THE ABOVE NOTED RELATIONSHII BETWEEN THE DOCK BUMPER AND THE RESTRAINT WILL EXIST ONCE THE INSTALLATION IS COMPLETED. ONCE THIS IS CONFIRMED, COMMENCE THE INSTALLATION. IF THE PROPER RELATIONSHIP WILL NOT EXIST, A RESTRAINT INSTALLATION EXTENSION PLATE MAY BE REQUIRED. CONSULT YOUR AUTHORIZED REPRESENTATIVE FOR ASSISTANCE.

Assure concrete and anchor bolts have sufficient strength to meet the draw pull forces which will be applied simultaneously. (See Figure 2, page 4).

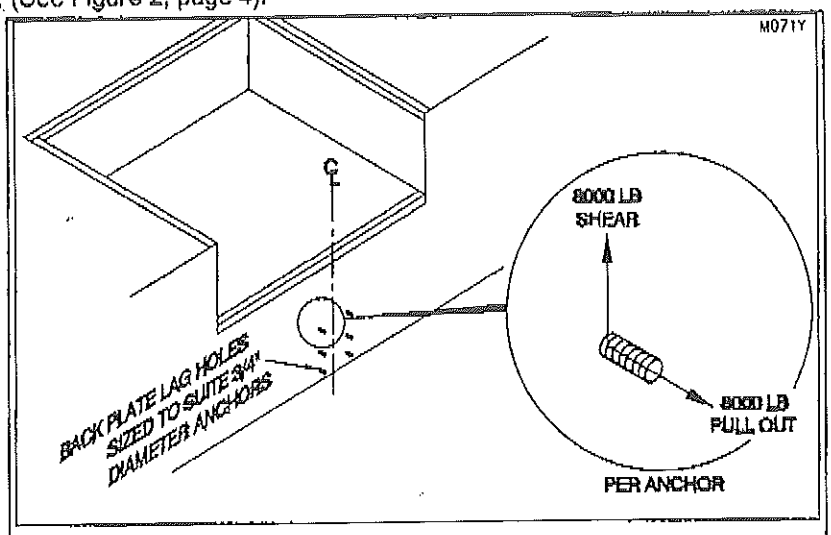


Figure 2: Draw Pull Forces

- Assure that the required conduits are in place (see Figure 7, page 7).
- Mark the centerline of the dock and the center line of the restraint back plate.

9. Position the HFR32 by matching the centerline of the dock and the center line of the restraint back plate Figure 3, page 5).

IMPORTANT: The restraint must be at finished driveway level and flush with the foundation wall

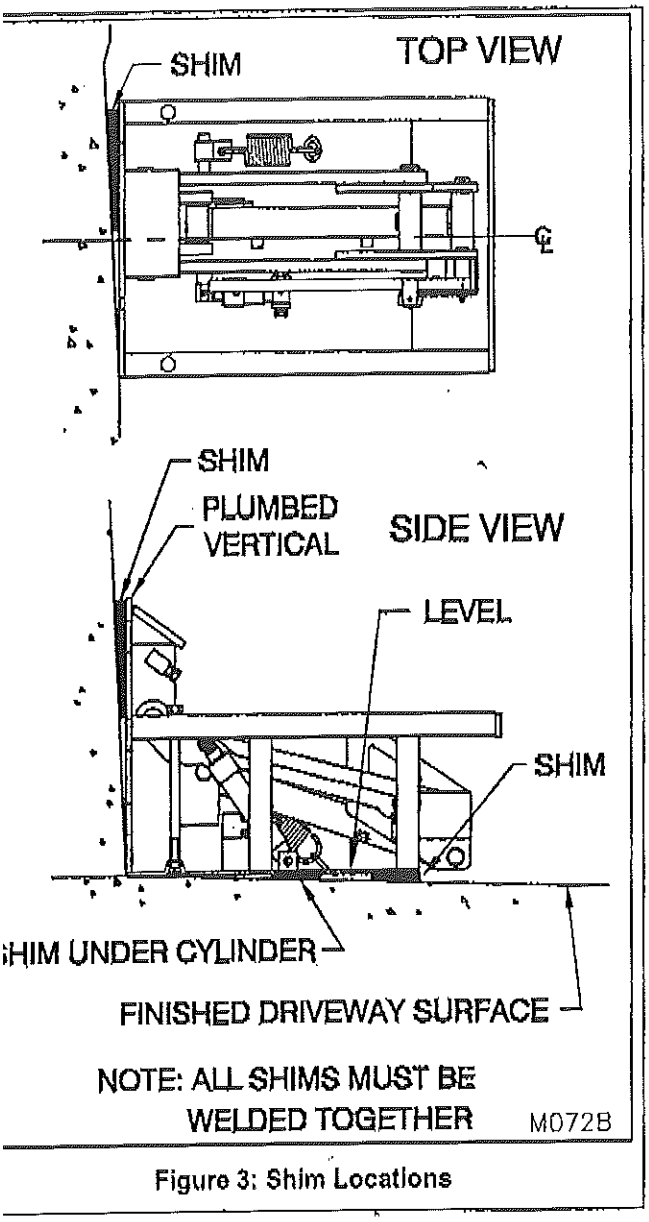


Figure 3: Shim Locations

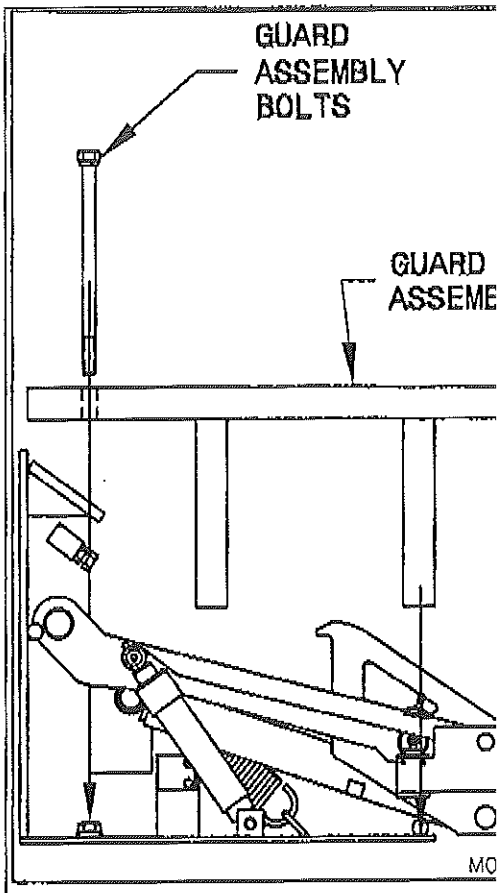


Figure 4: Remove / Replace the Guar Assembly

10. Remove the guard assembly from the restraint (see Figure 4, page 5).

11. If the wall and/or ground are not square with respect to the back plate and the bottom plate of the restrai metal shims must be inserted to prevent the back plate from twisting during lagging to the wall (see Figu page 5). Shims must be placed under the bottom plate below the hydraulic cylinder and at the front end the bottom plate for proper support.

12. If the dock face is equipped with a cast in weld plate, proceed to step 14. Otherwise, drill the required h into the foundation wall, using the back plate of the restraint as a template.

13. Recommended fasteners are ¾" diameter x minimum 7" long wedge anchors with a minimum shear valu 18,500 lbs (8,390kg), and a tension value of 16,400 lbs (7,440 kg). Torque to manufacturers specificatic

f a weld plate has been pre-cast into the foundation, apply a 3/8" fillet weld 3" long at 6" intervals around the wo sides and the top of the back plate. Also, weld all slots in the back plate to the foundation weld plate. For nore information, see WELDING REFERENCE INFORMATION on page 7 as well as Figure 5 on page 6.

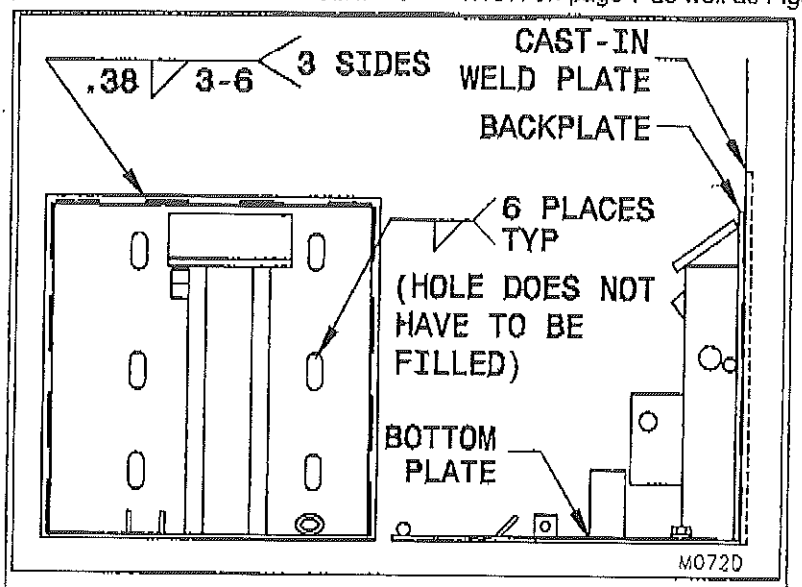


Figure 5: Weld Locations

/eld all shims in a stack to each other as well as to the back plate.

lount the power unit horizontally with the ›servoir breather facing up (see Figure 6, page).

stall the control panel and interior safety arning sign in a location that assures an ıobstructed view at all times. The installation cation must ensure the complete legibility of the ›erating instructions during the operation of all ading dock equipment, including the fork lifts.

›ed the hydraulic hose through the conduit from e power unit to the cylinder on the restraint, ınnect and secure.

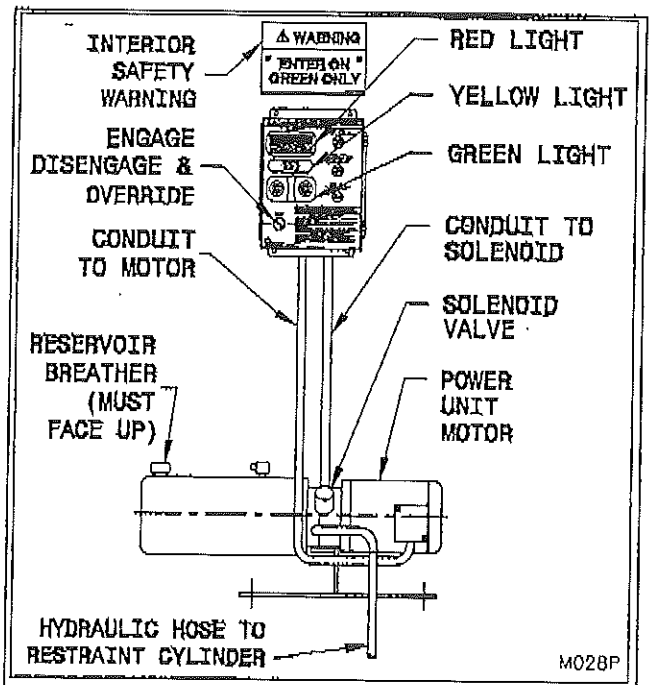


Figure 6: Power Unit and Control Panel

OPTIONAL EXTENSION PLATE INSTALLATION INSTRUCTIONS

⚠ DANGER BEFORE DOING ANY INSTALLATION, MAINTENANCE, INSPECTION OR TROUBLE SHOOTING, BARRICADE ALL AREAS FROM TRAFFIC AROUND THE WORK AREA INSIDE (AND OUTSIDE IF APPLICABLE) FOR SAFETY AND POST APPROPRIATE WARNING SIGNS.

⚠ WARNING THIS RESTRAINT IS DESIGNED TO OPERATE WITH THE FACE OF THE DOCK BUMPERS EXTENDED 4" PAST THE POSITION OF THE BACK PLATE OF THE RESTRAINT ONCE IT IS INSTALLED. THIS DIMENSION RELATIONSHIP IS CRITICAL ASSURING THE PROPER OPERATIONAL POSITIONING OF THE RESTRAINT. THE OPTIONAL TENSION IS REQUIRED ONLY WHEN THIS RELATIONSHIP BETWEEN THE DOCK BUMPER AND THE STRAINT WILL NOT EXIST ONCE THE INSTALLATION IS COMPLETED. ONCE IT IS CONFIRMED THAT RESTRAINT INSTALLATION EXTENSION PLATE IS REQUIRED, FOLLOW THESE INSTRUCTIONS TO STALL IT PROPERLY. (CONSULT YOUR AUTHORIZED PENTALIFT REPRESENTATIVE FOR SISTANCE IN ACQUIRING THE CORRECT EXTENSION.)

Assure that the required conduits are in place (See Figure 7, Page 7).

Assure concrete has sufficient strength to meet the draw pull forces which will be applied (See Figure 2, page 4).

Mark the center line of the dock, the center line of the restraint back plate between the mounting holes and the center line of the extension back plate.

If a cast in weld plate has been installed in the dock face, proceed to instruction 9.

Center the extension back plate on the center line of the dock.

If required, shim behind the extension back plate (as shown in Figure 8, page 8) to ensure the extension back plate is plumb and flush with the foundation wall.

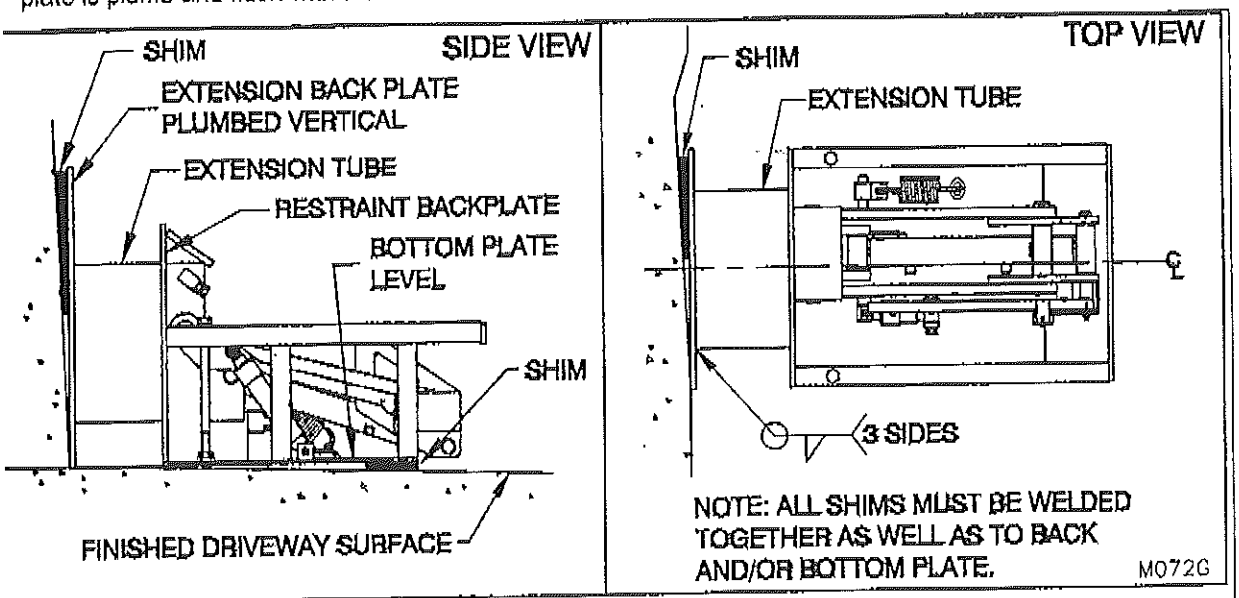


Figure 8: Extension Shim Locations

Drill required holes into the foundation using the extension plate as a template.

Recommended fasteners are 3/4" diameter x minimum 7" long wedge anchors with a minimum shear value of 18,500 lbs (8,390 kg), and tension value of 16,400 lbs (7,440 kg). Torque to manufacturers' specifications.

9. Weld the extension tube to the restraint backplate, centered both vertically and horizontally between the mounting holes, as shown in Figure 9, page 9, and weld using a minimum ¼" leg on the welds and 2" lor welds on 4" centers. (Refer to the WELDING REFERENCE INFORMATION on page 7.)

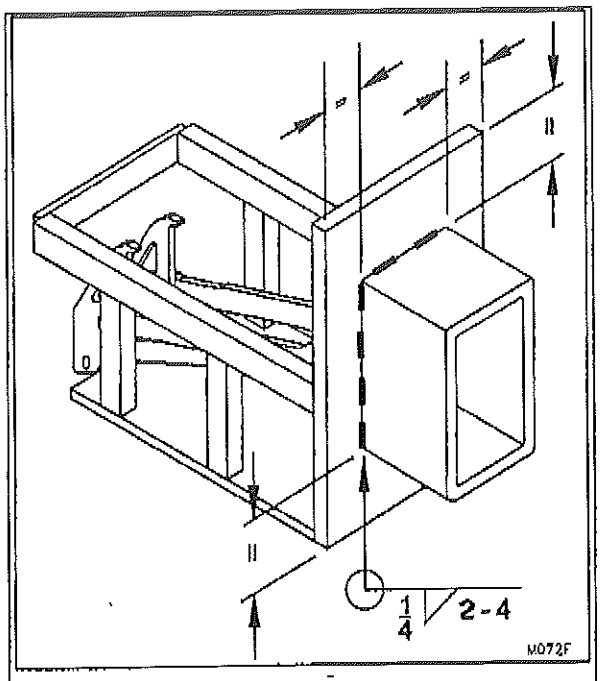


Figure 9: Optional Extension

10. Position the restraint, complete with extension tube, centered vertically and horizontally to the extension

11. If required, shim beneath the restraint as shown in Figure 8, Page 8.

12. Weld the extension tube to the extension back plate (or cast-in weld plate) using the same weld specific as noted for welding the extension tube to the back plate of the restraint in Figure 9, page 9.

13. Weld all shims in a stack to each other as well as to the back plate and/or bottom plate.

14. Lubricate all pivot points (see MAINTENANCE & LUBRICATION on Page 14).

15. Clean and Paint Welds.

16. Test operation (see OPERATION AND PERFORMANCE CHECK on Page 11).

17. Check the raised height of the restraint and ensure that it is properly set. If adjustment is required follo adjustment instructions. (see ADJUSTMENT OF RESTRAINT ENGAGE HEIGHT on page 20).

OPERATION AND PERFORMANCE CHECK

⚠ DANGER

BEFORE DOING ANY INSTALLATION, MAINTENANCE, INSPECTION OR TROUI SHOOTING, BARRICADE ALL AREAS FROM TRAFFIC AROUND THE WORK AF INSIDE (AND OUTSIDE IF APPLICABLE) FOR SAFETY AND POST APPROPRIA WARNING SIGNS.

⚠ DANGER

BEFORE DOING ANY ELECTRICAL WORK, BE CERTAIN THAT THE POWER IS DISCONNECTED WITH A FUSED DISCONNECT, PROPERLY TAGGED AND LOCKED OUT. FUSED DISCONNECT AND LOCKOUT DEVICE (SUPPLIED AND INSTALLED BY OTHERS) MUST MEET WITH ALL APPLICABLE CODES AND REGULATIONS. ALL ELECTRICAL WORK MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS.

⚠ DANGER

FAILURE TO CONFIRM THE CORRECT OPERATION OF THE VEHICLE RESTR. IN ACCORDANCE WITH THESE INSTRUCTIONS MAY RESULT IN PROPE DAMAGE, BODILY INJURY OR DEATH.

NOTE: IN SOME CASES THERE IS A CONSIDERABLE AMOUNT OF TIME BETWEEN THE SHIPMENT DATE AND USE OF YOUR VEHICLE RESTRAINT. THIS INITIAL BREAK-IN AND PERFORMANC CHECK SHOULD BE PERFORMED BEFORE YOU BEGIN REGULAR USE OF YOUR VEHICLE RESTRAINT TO ENSURE THAT IT IS OPERATING PROPERLY.

1. Ensure the vehicle restraint has been returned to the **STORED** position (hook fully lowered). The **inside** light and the **outside GREEN** light must be illuminated.

2. Turn the selector switch to the **"ENGAGE"** position. The Restraint must move to the **FULLY** raised pos The **inside red** light must be illuminated while the **outside red** light is also illuminated and the audible a must be sounding. (See Figure 15, page 13.)

3. **Depress and hold the signal bar** (see Figure 21, page 19). This will simulate a truck's R.I.G. The **in GREEN** light must be illuminated. The **outside RED** light must be illuminated and the audible alarm turn off.

4. To test the **OVERRIDE** feature, ensure the signal bar is not depressed and follow the entire seque outlined in Step 2. With the restraint in the fully raised position and with the audible alarm sounding, turr selector switch to the **"OVERRIDE"** position. The hooking arm will automatically return to the low position, and the audible alarm will be silenced. The **outside RED** light must be illuminated and the In **YELLOW** light must be illuminated. (see Figure 16 and Figure 17, Page 13).

5. Replace any burnt out light bulbs on the control panel or defective LED modules immediately.

6. Lubricate all pivot points as outlined in the MAINTENANCE & LUBRICATION Section on page 14.

The above steps describe and confirm the correct operation of this important piece of safety equipment. If the unit you have does not meet the requirements listed above, discontinue its use and/or repair it immediately. S the Troubleshooting section to correct problems. Contact your Pentalift representative for any required assistance.

OPERATING INSTRUCTIONS

⚠ DANGER USE BY UNTRAINED PEOPLE CAN RESULT IN PROPERTY DAMAGE, BODILY INJURY OR DEATH. READ, KNOW, AND OBEY ALL OPERATING INSTRUCTIONS AND SAFETY INFORMATION. FOLLOW ALL OSHA REGULATIONS REGARDING THE USE OF THIS EQUIPMENT. DO NOT USE THE VEHICLE RESTRAINT IF ANY PART OF IT LOOKS BROKEN IF IT DOES NOT SEEM TO OPERATE PROPERLY. IF REPAIRS ARE NEEDED, CONTACT YOUR NEAREST ITALIFT REPRESENTATIVE.

DOCK VACANT / READY TO RECEIVE A VEHICLE

n the selector switch set at "**DISENGAGE**" Position the inside control panel red light is illuminated and the side green light is illuminated, indicating that the dock is ready for truck arrival or departure.

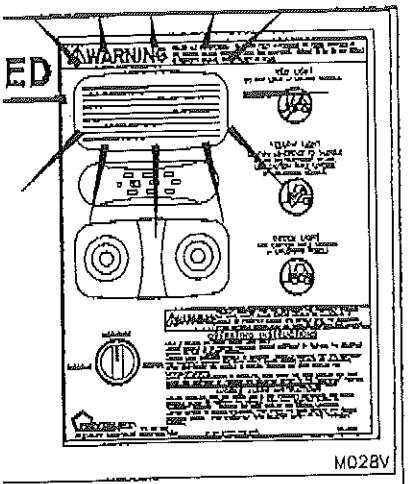


Figure 10: Inside Light Red

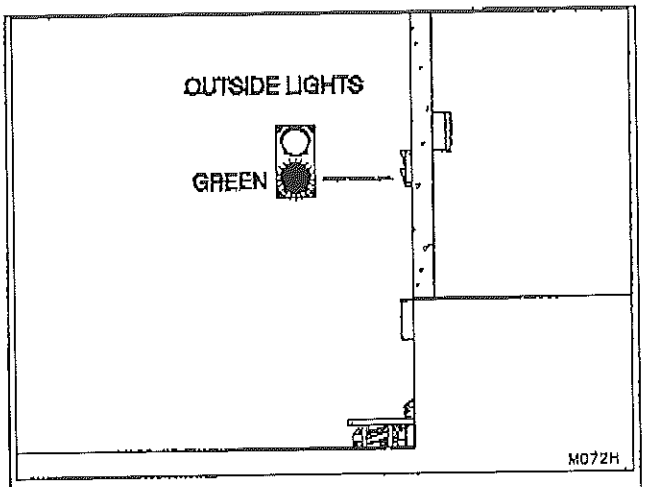


Figure 11: Restraint Lowered

TRAILER IN POSITION

th the trailer centered in front the loading dock and parked tight against both dock bumpers, the operator turns SELECTOR SWITCH TO "**ENGAGE**" POSITION. The outside red light will illuminate and the restraint will e until the signal bar makes contact with the truck's R.I.G. (if audible alarm sounds see "R.I.G. CANNOT BE GAGED BY RESTRAINT" on page 13). With the R.I.G. properly engaged, the inside control panel green light minates. Visually confirm that the restraint has properly engaged the rear impact guard before loading or oading. If unable to properly engage the vehicle with the restraint, other suitable means must be used to train the vehicle.

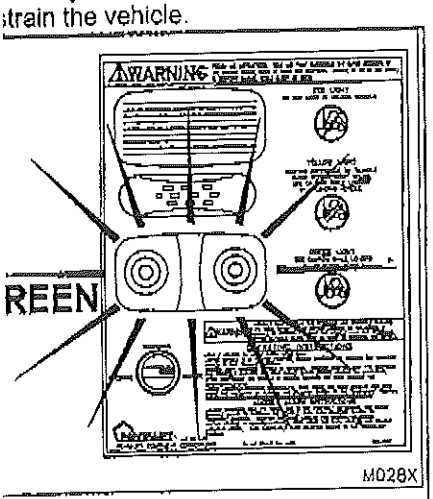


Figure 12: Inside Light Green

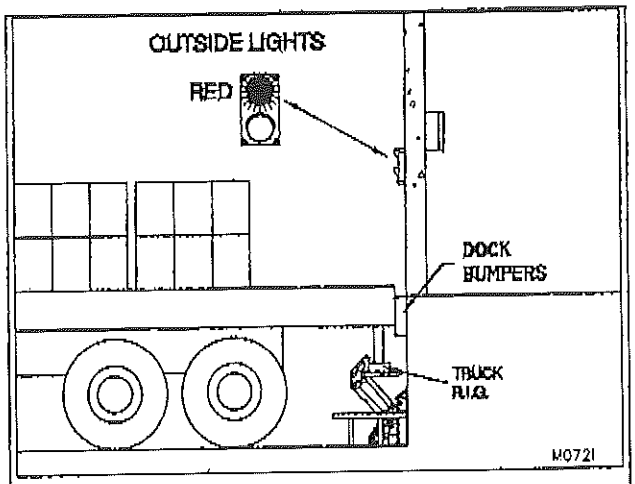


Figure 13: Vehicle in Position

LOADING / UNLOADING COMPLETE

hen loading/unloading is complete, turn the SELECTOR TO SWITCH TO "**DISENGAGE**" POSITION. umination of the lights will reverse (inside red and the outside green will illuminate) and the truck is free to part.

R.I.G. CANNOT BE ENGAGED BY RESTRAINT

If the restraint fails to properly engage the R.I.G. an AUDIBLE ALARM WILL SOUND. Both the inside light a the outside light will remain red. Confirm that the trailer is centered with the loading dock and parked tight ag both bumpers; and that the R.I.G. is not damaged, missing or located too far toward the rear trailer axle for th restraint to properly engage it.

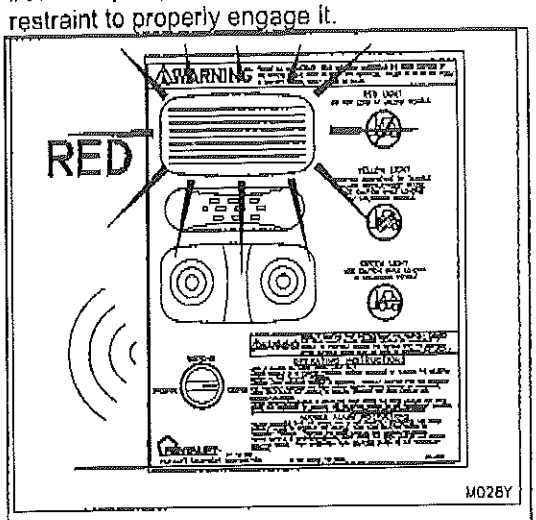


Figure 15: Inside Light Red and Alarm Sounding

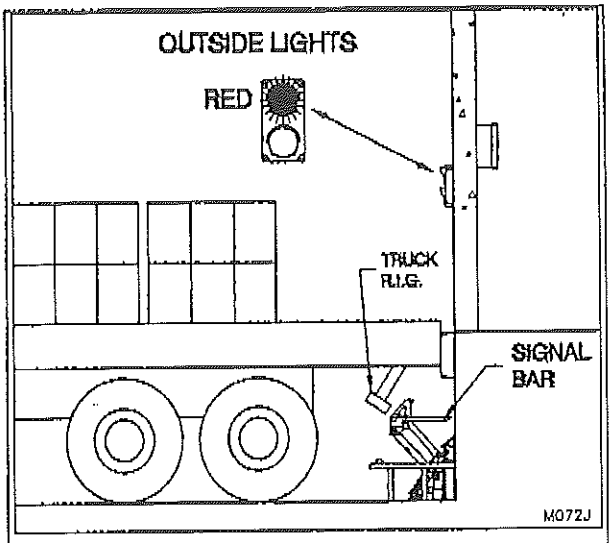


Figure 14: R.I.G. Not Secure

If engagement by the restraint is not possible, SECURE THE TRAILER BY OTHER MEANS. Turn the SELECTOR SWITCH TO THE **"OVERRIDE"** POSITION. The outside red light will remain red, the inside ye light will illuminate. The inside red light and audible alarm will turn off. The restraint will return to its lowered position.

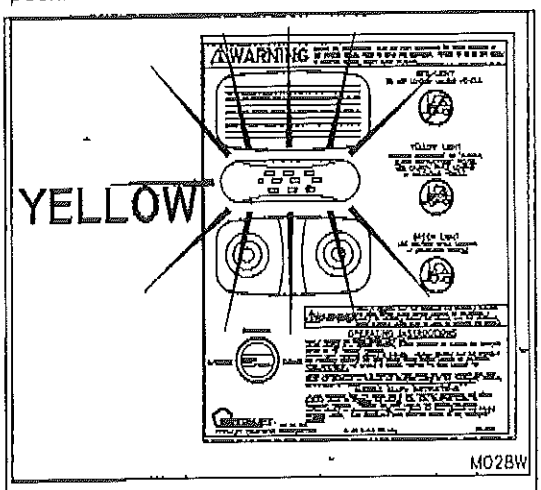


Figure 16: Inside Light Yellow

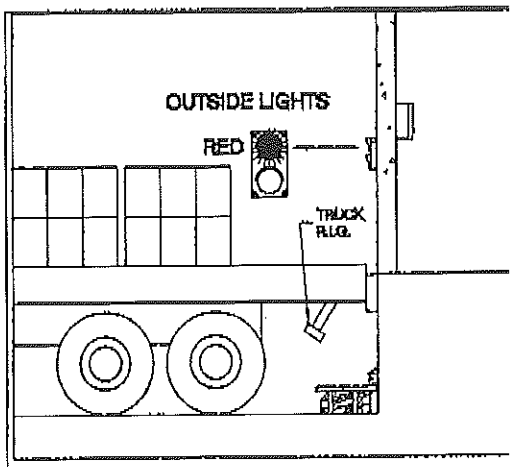


Figure 17: Secure Vehicle by Other Mea

LOADING / UNLOADING COMPLETE

If the trailer was secured by other means, remove them at this time. Immediately turn the selector switch to **"DISENGAGE"** Position. The inside red and outside green light will be illuminated. The truck is free to depa the dock is ready to receive another vehicle.

NOTE: If the vehicle R.I.G. has moved forward during loading / unloading (truck "creep" has occurred), ther be draw pull force and friction holding the restraint in the engaged position. If the restraint will not release, r the trailer back toward the dock to release the tension on the restraint, allowing it to lower.

MAINTENANCE & LUBRICATION

⚠ DANGER ONLY TRAINED AND QUALIFIED PERSONNEL SHOULD PERFORM INSPECTION OR MAINTENANCE AND SERVICE PROCEDURES.

⚠ DANGER BEFORE DOING ANY INSTALLATION, MAINTENANCE, INSPECTION OR TROUBLE SHOOTING, BARRICADE ALL AREAS FROM TRAFFIC AROUND THE WORK AREA INSIDE (AND OUTSIDE IF APPLICABLE) FOR SAFETY AND POST APPROPRIATE WARNING SIGNS.

⚠ DANGER BEFORE DOING ANY ELECTRICAL WORK, BE CERTAIN THAT THE POWER IS DISCONNECTED WITH A FUSED DISCONNECT, PROPERLY TAGGED AND LOCKED OUT. FUSED DISCONNECT AND LOCKOUT DEVICE (SUPPLIED AND ITALLED BY OTHERS) MUST MEET WITH ALL APPLICABLE CODES AND REGULATIONS. ALL ECTRICAL WORK MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH ALL PLICABLE CODES AND REGULATIONS.

⚠ DANGER THE RELIEF VALVE ON THE POWER UNIT IS PRESET AT THE FACTORY. IT IS AN IMPORTANT SAFETY DEVICE. DO NOT ADJUST OR REMOVE THE RELIEF VALVE.

EANING: The face of a loading dock is generally one of the dirtiest areas in a facility. Dirt and debris fall from loading dock into and on the restraint area. The **HFR32 Vehicle Restraint** is designed to have a long trouble operating life in this type of condition. However, the area around the restraint must be cleaned on a regular is. Frequency will vary depending on the conditions at each individual location. Initially, cleaning must be ie on a weekly basis. Thereafter, the frequency of cleaning can be adjusted to suit the specific individual allation conditions. Snow and ice must be cleaned away as soon as it accumulates.

ECK ON A DAILY BASIS:

olace burnt out light bulbs on the control panel, or defective LED modules, immediately. Due to the continuous y of dock traffic light systems and the life span of light bulbs, daily inspection of the light system should be formed. Spare light bulbs and an LED module should be kept on hand at all times for immediate replacement. ure that the proper lens color is in the proper position after checking bulbs and LED modules. Check the nal arm spring to ensure that it is not broken (See REPLACEMENT PARTS on page 21, item #19). Replace ken signal arm springs immediately. **USE ONLY GENUINE PENTALIFT REPLACEMENT PARTS**

nduct the steps listed in the OPERATION AND PERFORMANCE CHECK Section of this manual. (See page)

eck the raised height of the restraint and ensure that it is properly set. If adjustment is required follow the ustment instructions. (see ADJUSTMENT OF RESTRAINT ENGAGE HEIGHT on page 20)

TE: Read the SAFETY INFORMATION AND WARNINGS before servicing the HFR32 Vehicle Restraint. (See page iii.)

TE: It is the owner's responsibility to assure that all labeling remains legible and in its original position throughout the life of the product (See Safety Labeling Section, Page 2).

TE: Inspect equipment for protective coatings (i.e. paint) that have deteriorated or been removed. Prepare affected area and reapply protective coating as required.

NOTE: At every maintenance interval, inspect the HFR32 Vehicle Restraint for any damaged or worn parts. If any damaged or worn parts are found, discontinue use of the vehicle restraint and/or repair immediately.

The recommended lubrication service interval is every 30 days or at a greater frequency as required in severe environments. For maximum bearing life, the recommended lubricant is NLGI Grade 2 grease with EP and MOS2 additives.

Also note that the power unit fluid should be changed every 12 months. The required hydraulic oil is Dexron III Automatic Transmission Fluid.

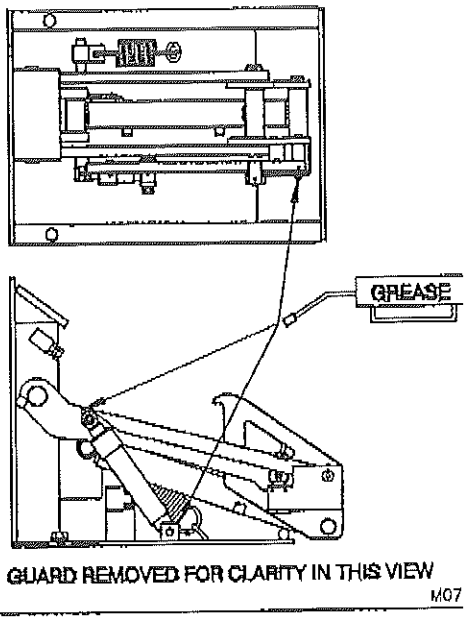


Figure 18: Lubrication Points

TROUBLE SHOOTING GUIDE

TE: This equipment has been fully tested and confirmed to be operational at the factory. Historically, majority of operating problems are caused by unnecessary tampering by unqualified personnel. To nform to the terms of the Warranty, contact your authorized Pentalift representative if you are having / difficulty with the VEHICLE RESTRAINT during the warranty period. Do not risk voiding the warranty tampering with the equipment.

⚠ DANGER ONLY TRAINED AND QUALIFIED PERSONNEL SHOULD PERFORM INSPECTION OR MAINTENANCE AND SERVICE PROCEDURES.

⚠ DANGER THE RELIEF VALVE ON THE POWER UNIT IS PRESET AT THE FACTORY. IT IS AN IMPORTANT SAFETY DEVICE. DO NOT ADJUST OR REMOVE THE RELIEF VALVE.

⚠ DANGER BEFORE DOING ANY INSTALLATION, MAINTENANCE, INSPECTION OR TROUBLE SHOOTING, BARRICADE ALL AREAS FROM TRAFFIC AROUND THE WORK AREA INSIDE (AND OUTSIDE IF APPLICABLE) FOR SAFETY AND POST APPROPRIATE WARNING SIGNS.

⚠ DANGER BEFORE DOING ANY ELECTRICAL WORK, BE CERTAIN THAT THE POWER IS DISCONNECTED WITH A FUSED DISCONNECT, PROPERLY TAGGED AND LOCKED OUT. FUSED DISCONNECT AND LOCKOUT DEVICE (SUPPLIED AND INSTALLED OTHERS) MUST MEET WITH ALL APPLICABLE CODES AND REGULATIONS. ALL ELECTRICAL RK MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH ALL PLICABLE CODES AND REGULATIONS.

ORTANT: See page 14 for recommended hydraulic oil.

Restraint will not rise when the selector switch is turned to the "II" (Raise) position:

a. Confirm that the signal bar limit switch has not been depressed (see Figure 21, page 19).
b. Check the signal bar spring is in place (see Figure 21, page 19).
c. Check signal bar limit switch adjustment on signal bar (see Figure 21, page 19).
d. Check that hydraulic fluid level is approximately two inches from the top of the reservoir when the restraint is completely lowered.
e. Examine all moving parts for obstructions or binding.
f. Check all wiring and hydraulic connections.
g. Confirm that power is reaching the power unit.
h. Check the timer in the control box and verify time and mode settings. The top dip switch must be toggled to the right and the second down toggles to the left for the 10 second range. The third dip switch must be toggled to the right and the forth toggled to the left for the off setting. (See Figure 19, page 16) The timer should be set at 6 seconds.

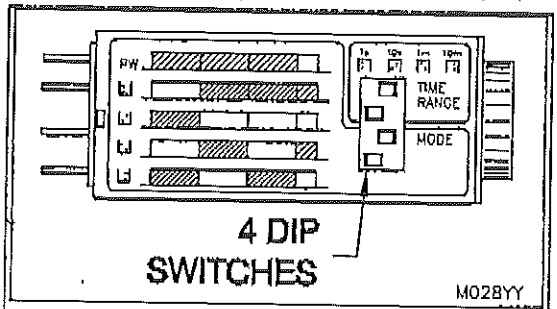


Figure 19: Time and Mode Settings

i. If the problem cannot be solved, consult your authorized Pentalift representative.

estraint rises but has a jerking movement:

a. Check that hydraulic fluid level is approximately two inches from the top of the reservoir when the restraint is completely lowered.
b. Check signal bar limit switch adjustment (see Figure 21, page 19).
c. If the problem cannot be solved, contact your authorized Pentalift Representative.

ump continues to run when restraint is at the raised position:

a. Check the timer in the control box and verify time and mode settings. The top dip switch must be toggled to the right and the second down toggles to the left for the 10 second range. The third dip switch must be toggled to the right and the forth toggled to the left for the "off" mode setting. (See Figure 19, page 16) The timer should be set at 6 seconds.
b. If the problem cannot be solved, contact your authorized Pentalift Representative

4. **The restraint will not raise completely:**
   a. Check that hydraulic fluid level is approximately two inches from the top of the reservoir wh restraint is completely lowered.
   b. Check for any obstructions or binding to ensure the hook can move freely.
   c. Check the timer setting (timer should be set at 6 seconds). Ensure the timer is not shutting pump before the restraint reaches the top of its travel.
   d. If the problem cannot be solved, contact your authorized Pentalift Representative.

5. **The Restraint will not lower:**
   a. Check for any obstructions and binding to ensure the hook can move freely.
   b. The down travel limit switch lower position setting may need to be reset. See SETTING THE D TRAVEL LIMIT SWITCH LOWERED POSITION:, page 18.
   c. Check for power to the lowering valve.
      NOTE: If the vehicle R.I.G. has moved forward during loading / unloading (truck "creep occurred), there may be draw pull force and friction holding the restraint in the engaged posit the restraint will not release, move the trailer back toward the dock to release the tension restraint, allowing it to lower.
   d. Ensure lowering extension spring is in place (see item 18, Figure 23, page 21).
   e. If the problem cannot be solved, contact your authorized Pentalift Representative.

6. **The Restraint will not rise.**
   a. Check all wiring.
   b. Check the timer in the control box and verify time and mode settings. The top dip switch m toggled to the right and the second down toggles to the left for the 10 second range. The th switch must be toggled to the right and the forth toggled to the left for the off setting. (See Figu page 16) The timer must be set at 6 seconds.
   c. Check for leaking hose or hydraulic connections.
   d. Check that hydraulic fluid level is approximately two inches from the top of the reservoir wh restraint is completely lowered.
   e. Confirm that the signal bar limit switch is not activated. (see Figure 21, page 19)
   f. If the problem cannot be solved, contact your authorized Pentalift Representative.

7. **Alarm Sounds and Restraint is not completely raised.**
   a. Check the signal bar wiring and limit switch adjustments.
   b. Check the timer in the control box and verify time and mode settings. The top dip switch m toggled to the right and the second down toggles to the left for the 10 second range. The th switch must be toggled to the right and the forth toggled to the left for the off setting. (See Fig page 16) The timer must be set at 6 seconds.
   c. Check for leaking hose or hydraulic connections.
   d. Check that hydraulic fluid level is approximately two inches from the top of the reservoir wh restraint is completely lowered.
   e. Confirm that the signal bar limit switch is not activated. (see Figure 21, page 19)
   f. If the problem cannot be solved, contact your authorized Pentalift Representative.

8. **Outside red light remains illuminated and will not change to green.**
   a. Confirm that restraint is able to completely lower. The rear limit switch will not switch the lights unless the restraint hook is completely lowered and in contact with the bottom plate.
   b. Check down travel limit switch lower position setting. (See SETTING THE DOWN TRAVEL SWITCH LOWERED POSITION:, page 18.)
   c. Confirm that the signal bar limit switch is not activated. (see Figure 21, page 19)
   d. If the problem cannot be solved, contact your authorized Pentalift Representative.

If damaged or worn parts are detected upon inspection, replacement must be undertaken **immediately. Th vehicle restraint must not be used until replacement is completed.** Parts are readily available from yo Pentalift representative.

RESTRAINT ADJUSTMENTS

ETTING THE DOWN TRAVEL LIMIT SWITCH LOWERED POSITION:

⚠ DANGER **TO ENSURE THAT THE RESTRAINT IS NOT INADVERTANTLY ACTIVATED WHILE THE FOLLOWING ADJUSTMENTS ARE BEING MADE, BARRICADE ALL AREAS FROM TRAFFIC AROUND THE WORK AREA INSIDE (AND OUTSIDE IF PPLICABLE) FOR SAFETY (PARTICULARLY THE CONTROL BOX LOCATION) AND POST PPROPRIATE WARNING SIGNS.**

Remove the guard assembly (see Figure 4, Page 5).
Raise the restraint and place a 1/2" shim under the hooking arm (see Figure 20, page 18).
Lower the restraint onto the 1/2" shim.
Loosen the set screw on the limit switch roller arm.
Turn the roller arm on the post until the roller contacts the hook arm.
Tighten the set screw of the roller arm.
Raise the restraint; remove the 1/4" shim
Lower the restraint with no shim and confirm the outside green light is illuminated.
Raise the restraint and place a 3/4" shim under the hooking arm.
Lower the restraint onto the 3/4" shim and confirm that the outside red light is illuminated.

NOTE: When the restraint is in the lowered position with **no shim** under the hooking arm, the outside **green light** should be illuminated.
When the restraint is in the lowered position with the **3/4" shim** under the hooking arm, the outside **red light** should be illuminated.
Repeat items b) to f) until this is accomplished.

Remove all shims.
Reinstall the guard assembly.

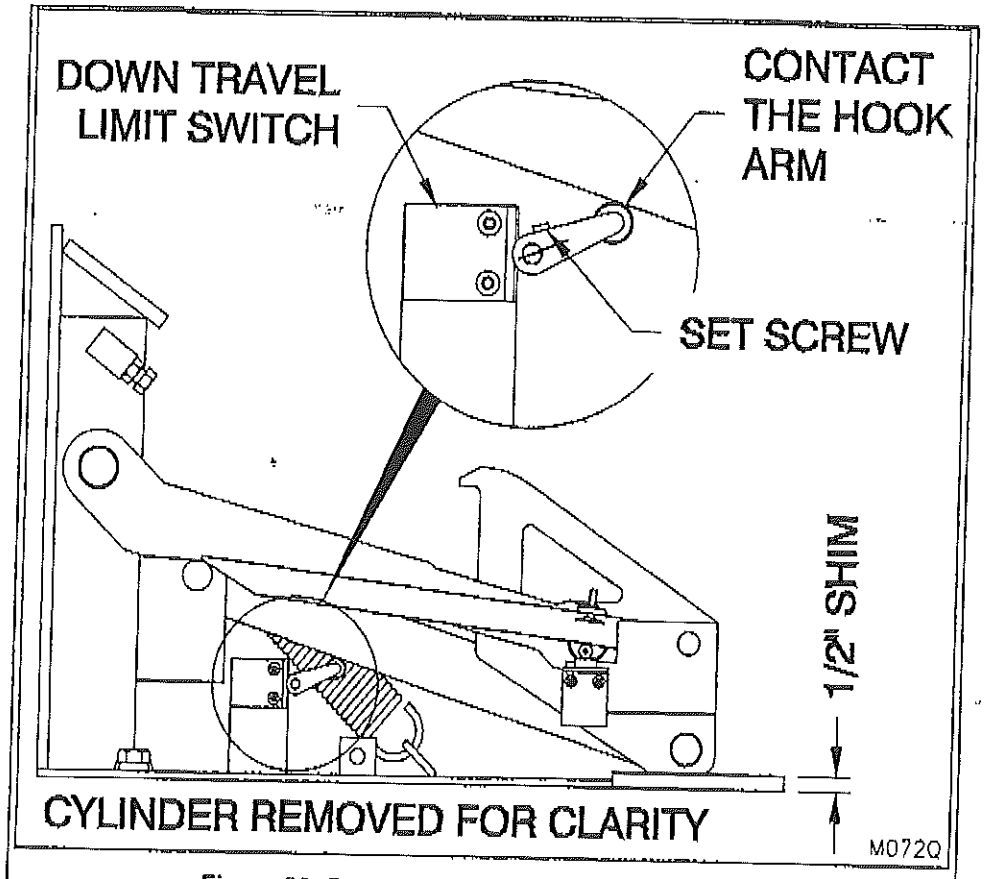


Figure 20: Setting the Down Travel Limit Switch

RESTRAINT ADJUSTMENT (CON'T)

⚠ DANGER **TO ENSURE THAT THE RESTRAINT IS NOT INADVERTANTLY ACTIVATED WH THE FOLLOWING ADJUSTMENTS ARE BEING MADE, BARRICADE ALL AREA FROM TRAFFIC AROUND THE WORK AREA INSIDE (AND OUTSIDE IF APPLICABLE) FOR SAFETY (PARTICULARLY THE CONTROL BOX LOCATION) AND POST APPROPRIATE WARNING SIGNS.**

SIGNAL BAR SWITCH ADJUSTMENTS

a) Raise the restraint.
b) Raise the signal bar and confirm that the signal bar spring is in position (see Figure 21, page 19).
c) Lower the signal bar and confirm that the signal bar is resting on the signal bar spring.
d) Loosen the jam nut and turn the adjusting screw until it is approximately 1/16" away from the signal bar lir switch roller.
e) Tighten the jam nut while ensuring the adjustment screw does not move.
f) Ensure the signal bar limit switch does not bottom out when the signal bar is completely depressed.

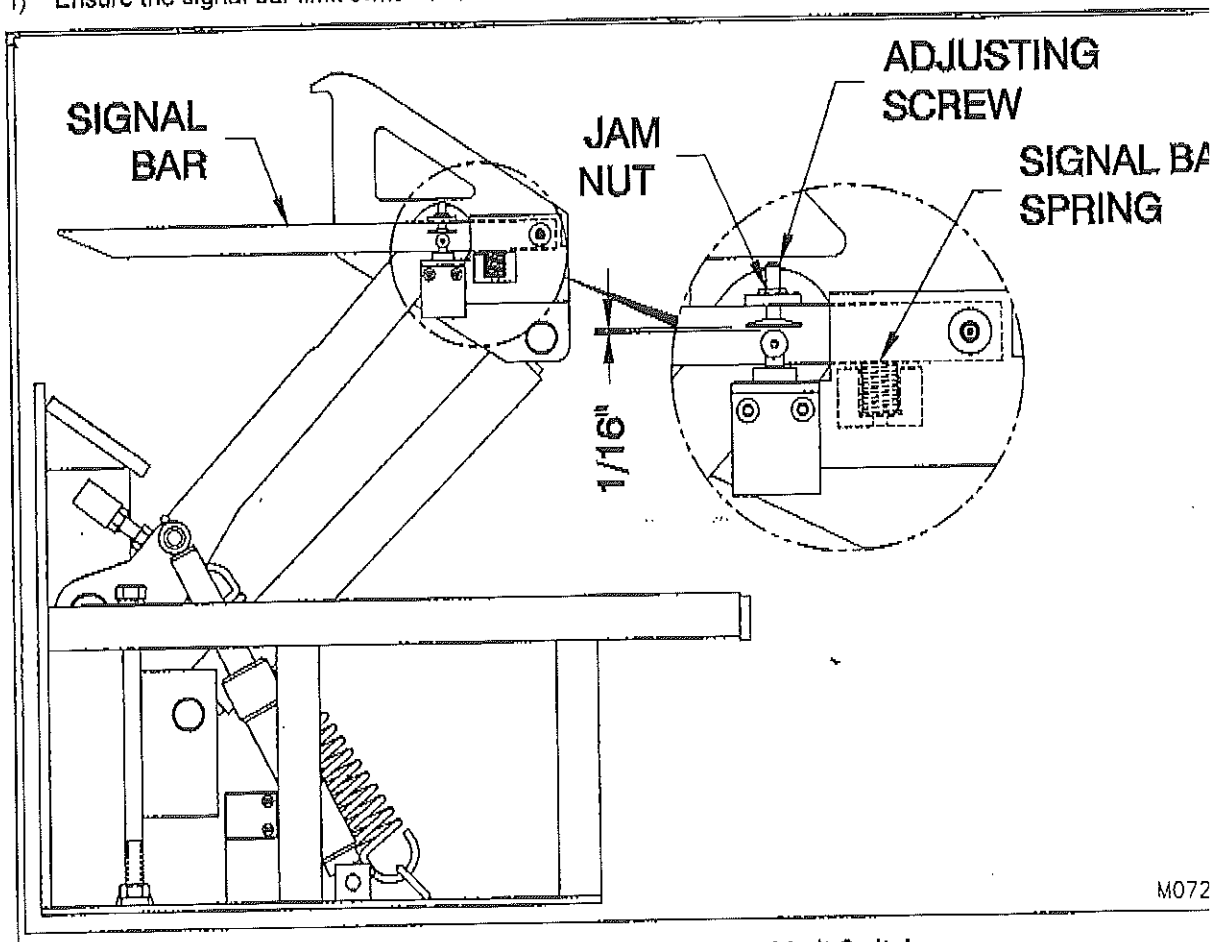


Figure 21: Setting the Signal Bar Limit Switch

ADJUSTMENT OF RESTRAINT ENGAGE HEIGHT

'E: THE RAISED HEIGHT IS PRESET AT THE FACTORY AND SHOULD NOT REQUIRE ADJUSTMENT

'E: THE OPTIMAL RAISED HEIGHT OF THE RESTRAINT IS 29". IF THE RAISED HEIGHT IS ABOVE 29" IAGE TO THE SIGNAL ARM MAY RESULT. IF THE RAISED HEIGHT IS BELOW 29" THE AGEMENT ENVELOPE WILL BE REDUCED AND THE VEHICLE MAY NOT BE RESTRAINED.

justment is required, proceed with the following steps.

AISED HEIGHT IS TO LOW: Loosen stop block locking nut. Turn adjustment bolt **in** to **increase** raised ıt. When proper height is achieved, tighten lock nut against the adjustable stop block.(see Figure 22: Raised ht Adjustment on page 20.)

AISED HEIGHT IS TO HIGH: Loosen stop block locking nut. Turn adjustment bolt **out** to **decrease** raised ıt. When proper height is achieved, tighten lock nut against the adjustable stop block. (see Figure 22: Raised ıt Adjustment on page 20.)

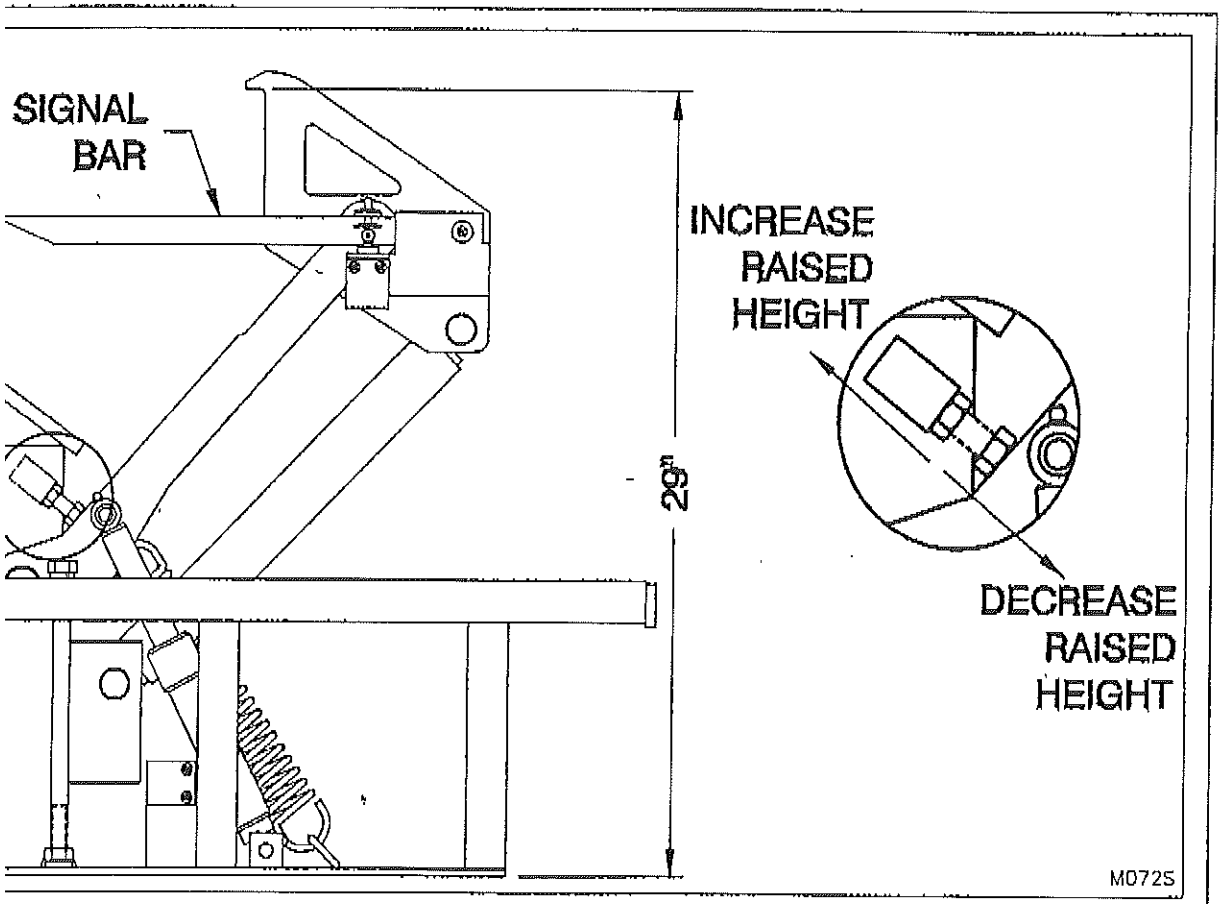


Figure 22: Raised Height Adjustment

REPLACEMENT PARTS

USE ONLY GENUINE PENTALIFT REPLACEMENT PARTS

⚠ DANGER **TO ENSURE PROPER FUNCTIONING, DURABILITY AND SAFETY OF PRODUCT, ONLY GENUINE PENTALIFT REPLACEMENT PARTS MUST BE U ALTERING THE PRODUCT FROM ITS ORIGINAL MANUFACTU CONFIGURATION MUST NOT BE DONE. PENTALIFT EQUIPMENT CORPORATION DISCLAIMS LIABILITY FOR FAILURE TO COMPLY WITH THIS WARNING. WARRANTIES ARE SPECIFIC/ DISCLAIMED IN THE EVENT THE PURCHASER FAILS TO COMPLY WITH THIS WARNING.**

To expedite order processing when ordering parts, provide the following information to your Pentalift representative:

1. Model and Serial Number of equipment.
2. Part Number, Description and Quantity.
3. Shipping Instructions.

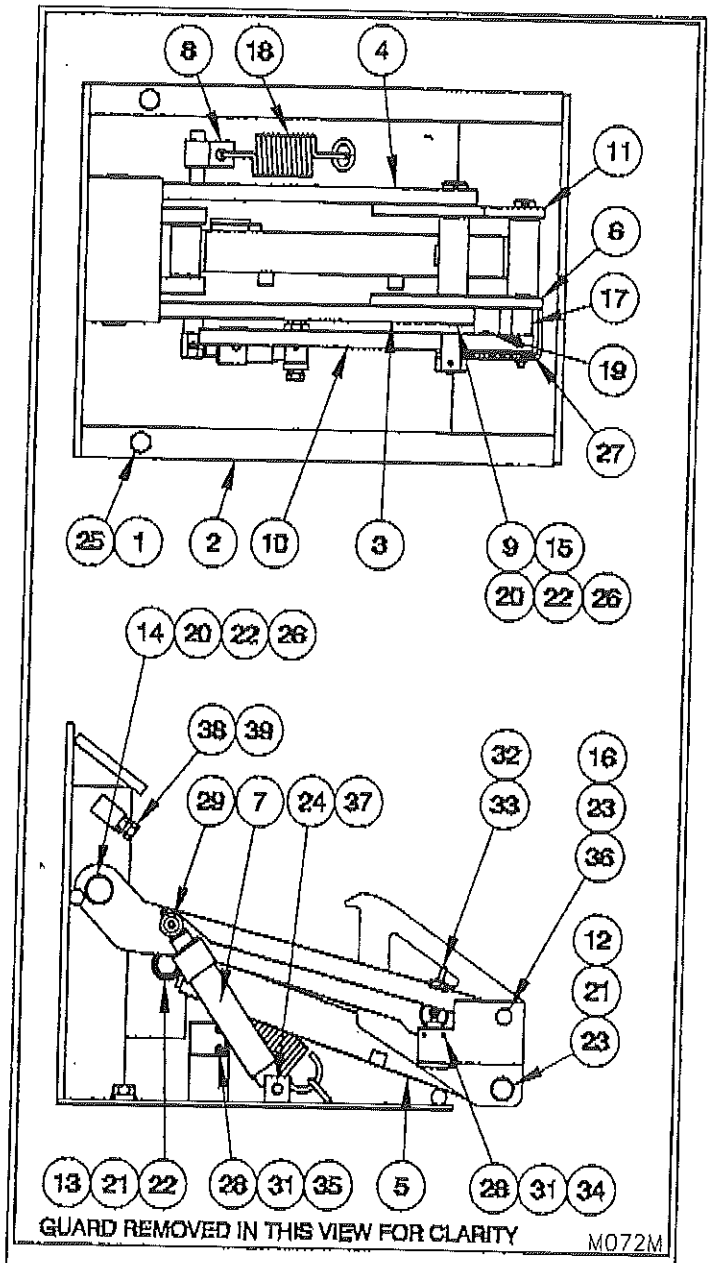


Figure 23: Replacement Parts

RESTRAINT REPLACEMENT PARTS LIST

USE ONLY GENUINE PENTALIFT REPLACEMENT PARTS

ITEM NO.	PART NO.	DESCRIPTION
1	072-0275	Bolt
2	812-0014	Guard Weldment
3	812-0008	Right Arm Weldment
4	812-0015	Left Arm Weldment
5	812-0017	Lower Arm Weldment
6	812-0042	Signal Arm Hook Weldment
7	812-0018	Cylinder Assembly
8	812-0016	Spring Pivot Weldment
9	812-0007	Upper Pin Weldment
10	812-0011	Signal Arm Assembly
11	312-0077	Drilled Hook
12	312-0024	Lower Arm Pin
13	312-0023	Flush Lower Pin
14	312-0027	Upper Arm Pin
15	312-0017	Hook Spacer
16	312-0018	Signal Arm Pin
17	312-0016	Signal Arm Spacer
18	302-0566	Lowering Spring
19	097-0039	Signal Arm Spring (Green)
20	095-0023	Bushing
21	095-0002	Bushing
22	080-0004	Spring Pin
23	080-0001	Spring Pin
24	070-0017	Nylock Nut
25	074-0087	Lock Washer
26	074-0092	Flat Washer
27	074-0056	Flat Washer
28	074-0068	Lock Washer
29	072-0242	Shoulder Bolt
30	072-0001	Hex Bolt
31	072-0118	Machine Screw
32	072-0177	Elevator Screw
33	070-0007	Hex Nut
34	060-0210	Limit Switch
35	060-0686	Limit Switch
36	052-0170	Grease Fitting
37	072-0193	Hex Bolt
38	072-0001	Hex Bolt
39	070-0006	Hex Nut

NOTE: State Model # and Serial # when ordering replacement parts.

CONTROL PANEL REPLACEMENT PARTS

SINGLE PHASE

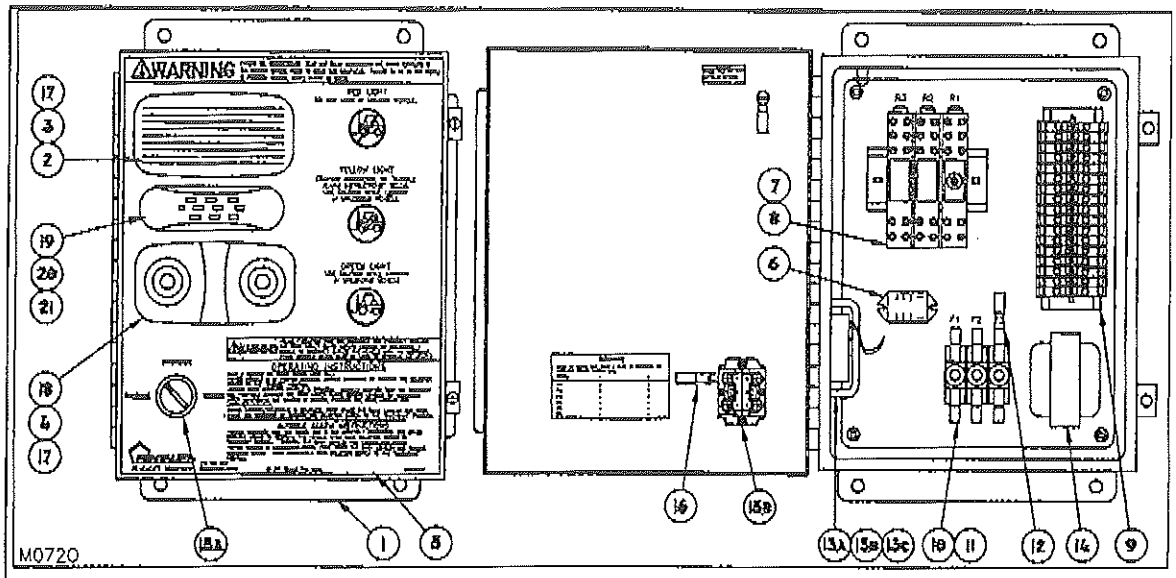


Figure 24: Single Phase Control Panel

ITEM NO.	PART NO.	DESCRIPTION
1	060-0200	Electrical Enclosure
2	060-772	Red Light Assembly – Includes Fixture, Lens and LED's (Note: Lens may also be ordered separately - see item 3)
3	060-0773	Red Lens
4	060-0201	Green Light Assembly – Includes Fixture, Lens and Bulb (Note: Lens may also be ordered separately – see item 18)
5	250-2377	Decal
6	060-0552	Relay
7	060-0553	Timer
8	060-0551	Relay
9	NOTE	Terminals
	060-0463	Ends
	060-0466	Makers
	060-0464	Stops
10	060-0380	Fuse Holder
11	NOTE	Fuse
12	060-0203	Crimp
13a	060-0097	Audible Alarm
13b	309-0061	Bracket
13c	054-0351	O-ring
14	060-0209	Transformer
15a	060-0710	Selector Switch Head
15b	060-0719	Selector Switch Contact
16	060-0205	Terminal
17	060-0330	Replacement Bulb for Item 4, Green Light
18	060-0202	Green Lens
19	060-0502	Yellow Light Assembly – Includes Fixture, Bulb and Lens (Note: Lens may also be ordered separately – see item 20)
20	060-0512	Yellow Lens
21	060-0329	Replacement Bulb for Lights (items 19)

NOTE: State Model # and Serial # when ordering replacement parts.

REE PHASE

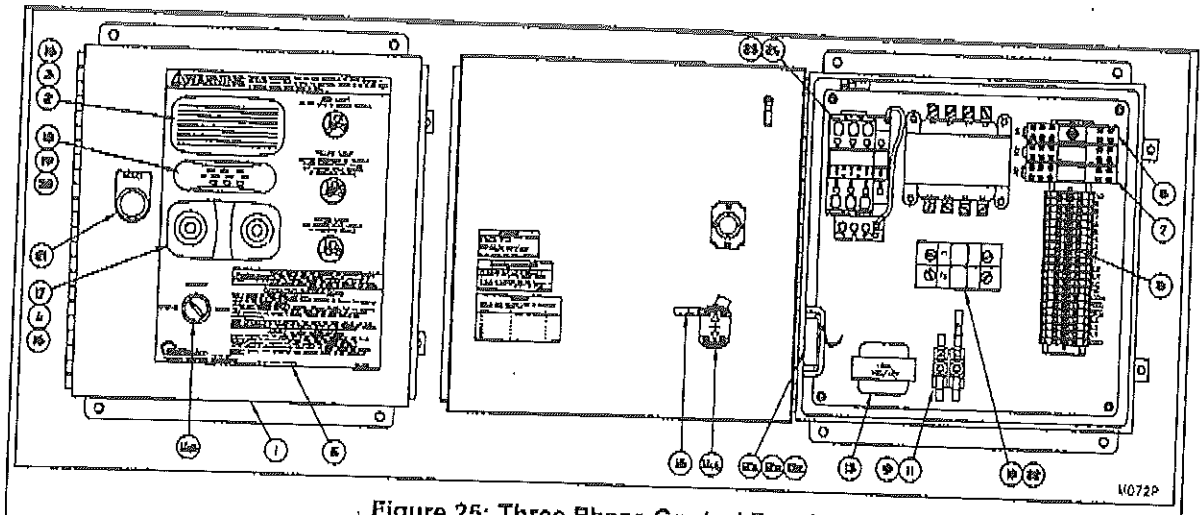


Figure 25: Three Phase Control Panel

ITEM NO.	PART NO.	DESCRIPTION
1	060-0233	Electrical Enclosure
2	060-0772	Red Light Assembly – Includes Fixture, Lens and LED's (Note: Lens may also be ordered separately- see item 3)
3	060-0773	Red Lens
4	060-0201	Green Light Assembly – Includes Fixture, Lens and Bulb (Note: Lens may also be ordered separately – see item 17)
5	250-2377	Decal
6	060-0553	Timer
7	060-0551	Relay
8	NOTE	Terminals
	060-0463	Ends
	060-0466	Makers
	060-0464	Stops
9	060-0380	Fuse Holder
10	NOTE	Fuse
11	060-0203	Crimp
12	060-0097	Audible Alarm
13a	NOTE	Transformer
13b	309-0061	Bracket
13c	054-0351	O-ring
14a	060-0719	Selector Switch Contact
14b	090-0710	Selector Switch Head
15	060-0205	Terminal
16	060-0330	Replacement Bulb for Item 4, Green Light
17	060-0202	Green Lens
18	060-0502	Yellow Light Assembly – Includes Fixture, Bulb and Lens (Note: Lens may also be ordered separately – see item 19)
19	060-0512	Yellow Lens
20	060-0329	Replacement Bulb for Lights (item 18)
21	060-0289	Reset Push Button
22	060-0381	Midget Fuse Holder
23	NOTE	Contactor
24	NOTE	Overload

NOTE: State Model # and Serial # when ordering replacement parts.

DELUXE OUTSIDE LIGHT REPLACEMENT PARTS

USE ONLY GENUINE PENTALIFT REPLACEMENT PARTS

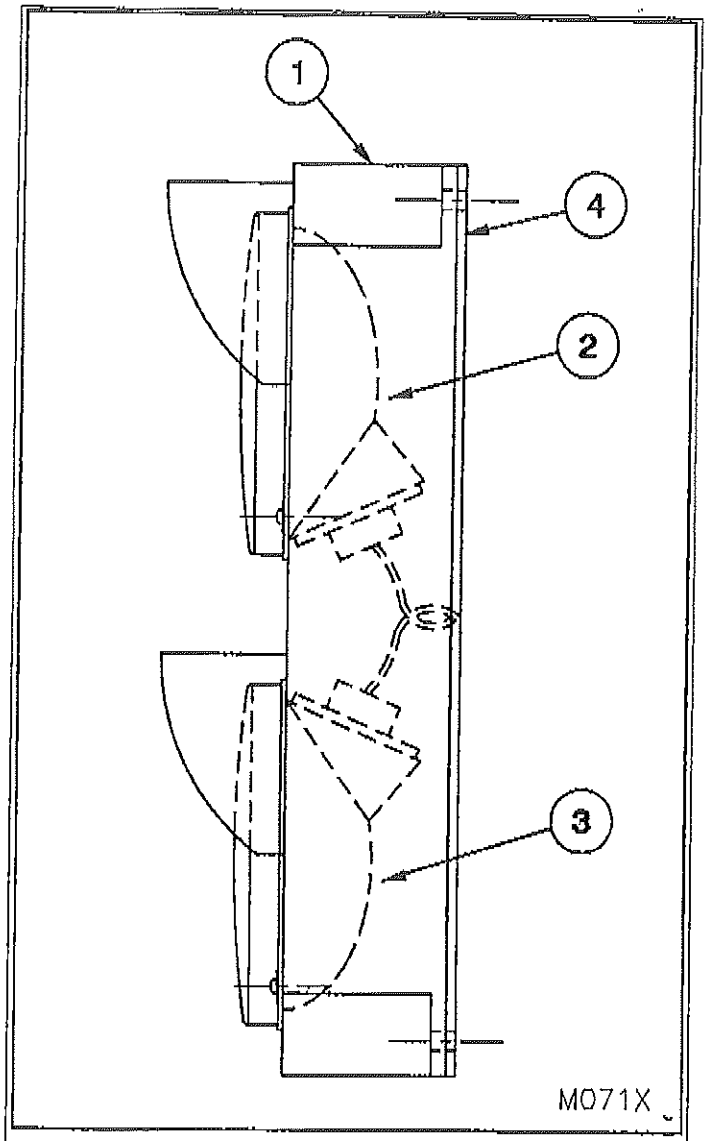


Figure 26: Outside Light Replacement Parts

ITEM NO.	PART NUMBER	DESCRIPTION
1	060-0529	Housing
2	060-0702	Red LED Module
3	060-0703	Green LED Module
4	060-0524	Mounting Gasket
5	060-0701	Complete Unit (Includes items 1 – 4)

NOTE: State Model # and Serial # when ordering replacement parts.

REPLACEMENT SIGNS

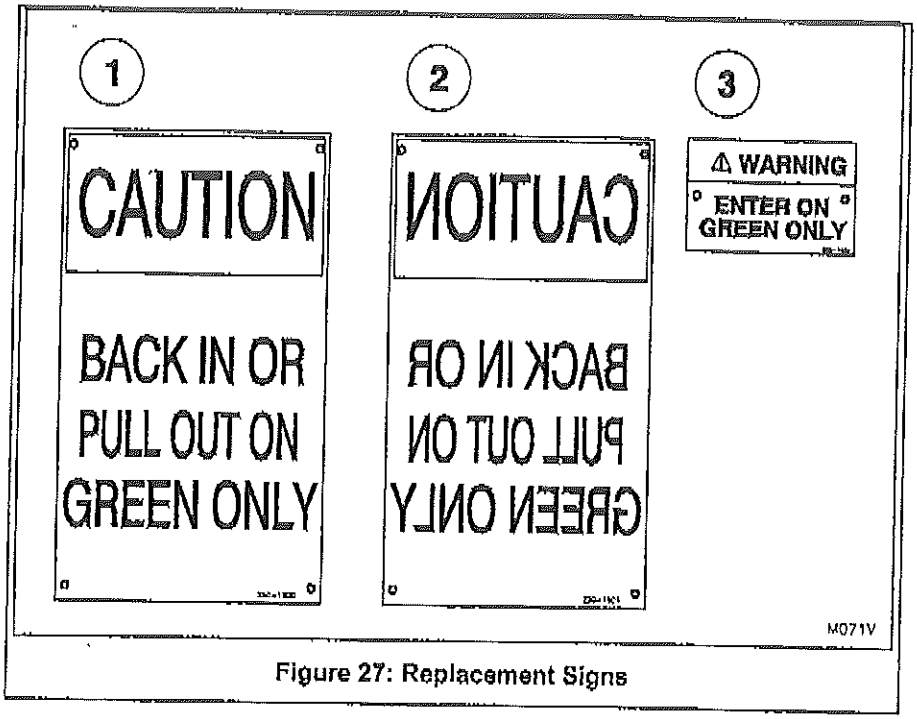


Figure 27: Replacement Signs

ITEM NO.	PART NUMBER	DESCRIPTION
1	250-1900	Exterior Driver Sign
2	250-1901	Exterior Driver Sign – Mirror
3	250-1904	Interior Shipper/Receiver Sign

LIST OF ILLUSTRATIONS

ct and indirect costs of an industrial accident at the loading dock can easily exceed 00,000 and result in increased insurance costs.

Pentalock HFR32 Safety System reduces the potential for such an accident.

'entalock HFR32 Safety System offers rugged design, simple and reliable hydraulic operation, minimal maintenance an num product value. The loading dock has been rated as one of the most hazardous areas within most facilities. Seriou ıg dock accidents can result from such things as premature truck departure, trailer creep and collapsing landing gear o d trailers. The Pentalock HFR32 Vehicle Restraint is a proven solution to loading dock safety concerns. The reliabl ulic operation promotes continued use by the dock attendant. The 10-1/2" lowered height accommodates new trailers wit singly lower rear impact guards (R.I.G.).

atures and Components: Pentalock HFR32 Safety Systen

ı hydraulic operation ensures that the restraint will function reliably, in the toughest environments. This is very important on the harsh environment that most restraints are subjected to. Hydraulic systems have been proven to be extremely reliable urable. Due to this, hydraulic systems are the activation method of choice in industries such as aircraft and heavy uction equipment. The use of hydraulics on a vehicle restraint eliminates problems associated with relying on external c motors, linear activators and / or gas spring operation that are incorporated by other manufacturers.

resistant, standard and construction s reliable operation fter unit has been rged. Other acturers offer this as an option or not

ide-by-side hook ment effectively es the rear impact olding strength and raining capacity of raint.

PSI yield high steel on structural d hooks.

10-1/2 inch Lowered Height facilitates "No impact" operation. Accommodates new lower vehicle Rear Impact Guards and meets 1998 NHTSA rear impact guard bar regulations for trailers.

Signal Bar requires approximately 30 lbs of pressure to activate, thereby eliminating false engagement signal.

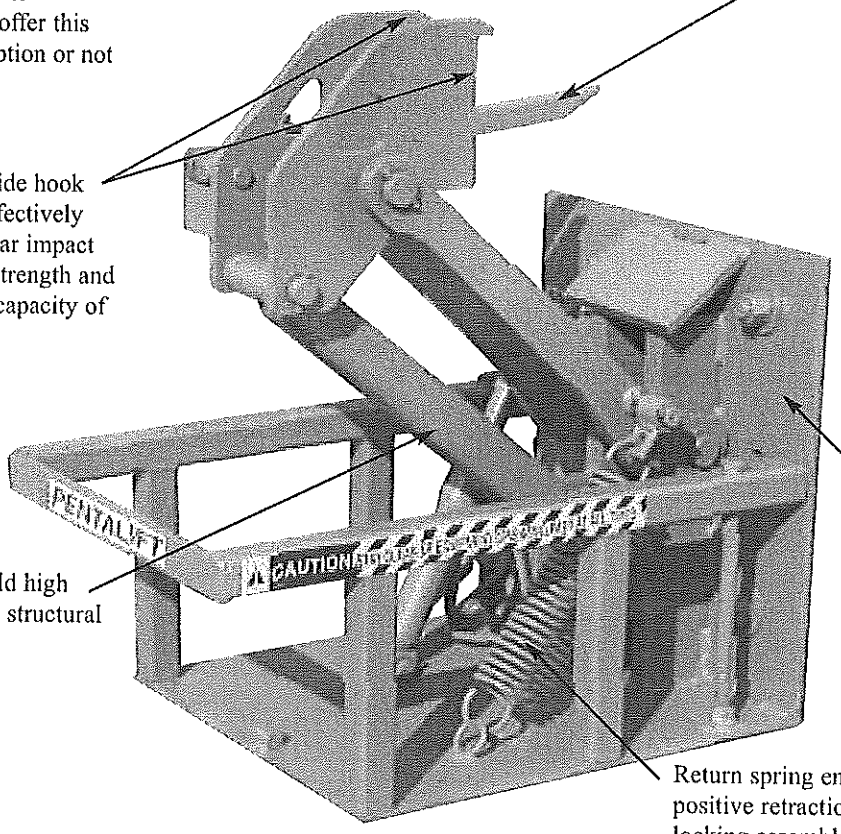
32,000 lb Restraining Capacity

PTFE bushings in combination with Hard Chrome plated pins for reduced maintenance, on all pivot points.

Heavy – Duty mounting plate ensures simple yet secure installation.

Watertight and corrosive duty limit switches.

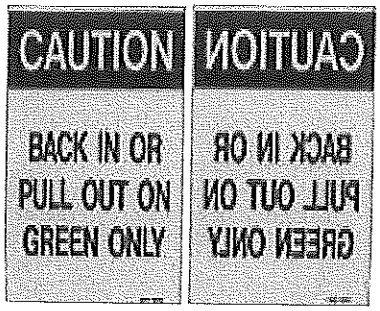
Return spring ensures positive retraction of locking assembly.

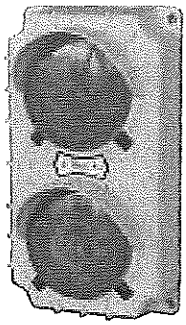


Note: Restraint is shown in a partially raised position

structural guard protects the hook arrangement and hydraulic cylinder from impacts such as snow removal equipment and ks. "Open" design allows dirt and debris to naturally move away from restraint components as opposed to competitive

Communication System Components

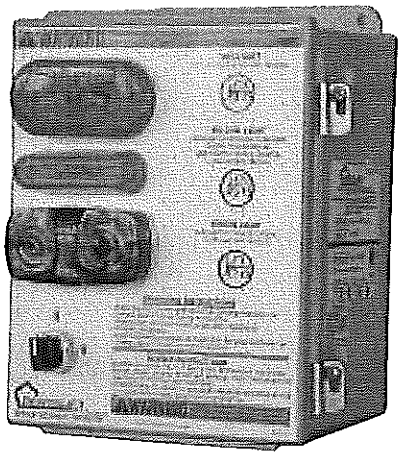


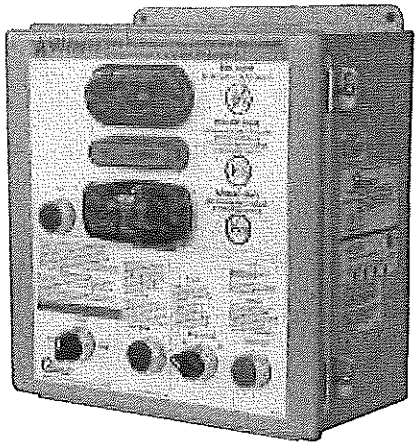


Interior sign directs lift truck operator to load/unload on green light signal only.

:xterior high visibility, LED Deluxe lights and dual image safety yellow ıstruction signs are provided as standard. Narrow width of light and signs ıcilitates easy installation between dock seal side pads. LED lights ensure ›ng reliable operation.

Control Panels

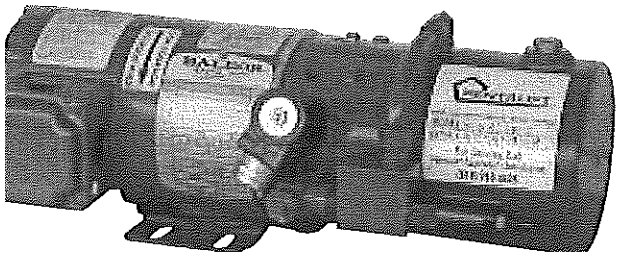




EMA 12 interior wall mount control station. High visibility terior signal lights are coordinated with exterior signal lights. ear, concise and easy to follow instructions guide dock attendant how to use the system.
lector switch and amber light accommodate "override" mode. SA certified for the design and manufacturer of industrial control uipment.

Combination control panels combine the controls for loa dock equipment such as Vehicle Restraint System, Hydr Dock Leveler, Overhead Door and Inflatable Dock Sh into a single common panel. This ensures proper use sequencing of equipment for increased safety and eas operation. PLC activation is available for more com interlocking and sequencing.

:eliable Hydraulics



Hydraulic power unit is compact and easily installed interior wall of loading dock or under the dock lev Internal wall mount installation safely positions motor pump assembly away from the elements, condensation and potential impact of an incoming vehicle.

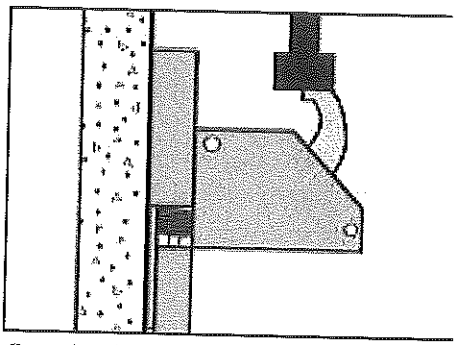
When purchased in conjunction with a Pentalift Hydra Dock Leveler, the operation of the Pentalock HFR32 Sa System and Hydraulic Dock Leveler are combined into

Pentalock HFR32's 32,000 lb pull rating offers protection against:

- Unscheduled truck / trailer departure
- Excessive trailer creep
- Landing gear collapse

'entalock HFR32 Safety System Minimizes the Potential of Dangerous False ged Signals

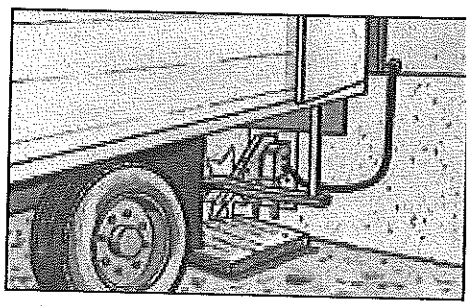
rimary concept of a vehicle restraint system is to engage and hold a truck/trailer communicating the loading/unloading status to the truck driver and the lift truck or. The design of many competitive vehicle restraints can cause them to unicate that a truck/trailer is restrained when in fact, it is not. An incorrect signal more dangerous than no signal at all since it defeats the primary purpose for ing a vehicle restraint system. A major advantage of the Pentalock HFR32 e Restraint is its signal bar, which minimizes the potential for a false signal. This bar is positioned directly under the area where the R.I.G. should be when it is to rained. The signal bar ensures the R.I.G. is properly engaged before it activates en light on the inside control panel. With other restraint designs, if the tip of the g member contacts something under the truck, or if the locking member doesn't ise or rotate, the restraint can falsely signal that the truck/trailer is engaged. ock HFR32 Vehicle Restraint's signal bar ensures that this can't happen.



Competitors locking member under R.I.G. (improperly restrained)

ock HFR32 Safety System Operation is operator Controlled

on-impact operation of the Pentalock HFR32 Vehicle Restraint ensures ing trouble free performance and eliminates damage to the restraint system or ıcoming vehicle's rear impact guard. Other non-impact models are available, ly the Pentalock Model HFR32 Vehicle Restraint provides a structural ve guard as standard equipment. The structural guard withstands accidental to the operating components caused by unusually low incoming vehicles and ows. The compact design reduces the projection from the dock face as well as ered height of the restraint, thereby minimizing the risk of accidental impact e incoming vehicles, exterior cross traffic or snow removal equipment.



Competitors impact operation can cause damage

Pentalock HFR32 Safety System Features

- 32,000 lb restraining capacity
- Ease of operation
- Understandable, advanced high visibility communication system
- Meets 1998 NHTSA rear impact guard bar regulations for trailers
- Low profile height of 10 1/2"
- Operation range of 10 1/2" to 28 1/2"
- Dual side-by-side hook arrangement effectively increases the rear impact guard holding strength and the maximum restraining capacity of the restraint
- Open structural guard allows dirt and debris to naturally move away from restraint components as opposed to competitive designs with boxed in housings that retain and hold dirt and debris that fall into the restraint. The boxed in housing causes cleaning of the restraint to be more involved and more frequently
- Heavy-duty structural components
- Reliable, low-maintenance hydraulic operation
- Audible alarm
- Interlocking capabilities with other dock equipment
- Watertight and corrosive duty limit switches ensures reliability

ailable Options include: Zinc Plated Finish, Pit Extension plate and Cast in concrete weld plate.

e photos may reflect products with optional features. All Pentalift Equipment products are subject to design improvement through modification without notice.

TALIFT EQUIPMENT CORPORATION

1510 Buffalo NY U.S.A. 14240-1510
1060 Guelph ON Canada N1H 6N1

Phone: (519) 763-3625 Fax: (519) 763-2894
Phone: (519) 763-3625 Fax: (519) 763-2894

PENTALIFT EQUIPMENT CORPORATION WARRANTY

WARRANTY

ntalift Equipment Corporation expressly warrants that any product manufactured by **Pentalift Equipment Corporation** will be free n defects in material and workmanship under normal use for a period of one (1) year from the date of shipment of the equipment, vided the original purchaser maintains and operates the product in accordance with proper procedures. In the event the product ves defective in material or workmanship, **Pentalift Equipment Corporation** will at its option:

1. Replace the product or the defective portion thereof without charge to the purchaser; or
2. Alter or repair the product; on site or elsewhere, as **Pentalift Equipment Corporation** may deem advisable, without charge to the purchaser.

warranty stated in the previous paragraph is that expressed by **PENTALIFT EQUIPMENT CORPORATION** AND IS IN LIEU OF ALL RANTEES AND WARRANTIES, EXPRESSED OR IMPLIED BY ANYONE OTHER THAN **PENTALIFT EQUIPMENT PORATION**. This warranty does not cover any failure caused by improper installation, misapplication, overloading, abuse, gence, or failure to lubricate and adjust or maintain the equipment properly and regularly. Parts requiring replacement due to ge resulting from abuse, improper operations, improper or insufficient lubrication, lack of proper protection or vehicle impact are not ed by this warranty. **Pentalift Equipment Corporation** assumes no responsibility or liability for:

1. Consequential damages of any kind which result from use or misuse of the equipment.
2. Damage or failure resulting from the use of unauthorized replacement parts.
3. Damage or failure resulting from modification of the equipment.
4. Damage resulting from the misuse of the equipment.

E ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. HERE IS NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

lft Equipment Corporation warranties extend only to the original product itself. In no event shall **Pentalift Equipment ration** be responsible for or liable to anyone, including third parties, for special, indirect, collateral, punitive, incidental or uential damages, even if **Pentalift Equipment Corporation** has been advised of the possibility of such damages. Such excluded es include, but are not limited to, loss of good will, loss of profits, loss of use, interruption of business or other similar indirect l loss.

lt Equipment Corporation DISCLAIMS all liability arising out of the workmanship, methods and materials used by the installer.

t Equipment Corporation DISCLAIMS all liability for premature product wear, product failure, property damage or bodily injury rom improper installation and application.

t Equipment Corporation will not accept any warranty for which the original purchaser does not notify **Pentalift Equipment tion's** Warranty Department of the defect within ninety (90) days after the product defect is discovered. A fully completed Registration Card is required prior to the review or processing of any warranty requests or claims.

NTIES, whether expressed or implied, relating to workmanship and materials used in connection with the installation of **Pentalift nt Corporation** products are specifically DISCLAIMED.

WR001R02

P.O. Box 1510, Buffalo, NY, U.S.A. 14240-1510
Phone: (519) 763-3625 • FAX (519) 763-2894
P.O. Box 1060, Guelph, ON, Canada N1H 6N1
Phone: (519) 763-3625 • FAX (519) 763-2894
www.pentalift.com

ntalift Equipment Corporation products are subject to design improvement through modification without notice.