



PENTALIFT EQUIPMENT CORPORATION

MECHANICAL EDGE OF DOCK OWNERS MANUAL

MODEL NUMBER : _____ **SERIAL NUMBER :** _____

CAPACITY: _____

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

This manual is an important document.

It shall be kept with the machine or located where readily available to operators and maintenance personnel for reference purposes. Do not install, operate or service this product unless you have read and fully understand the entire contents of this manual. Failure to do so may result in property damage, bodily injury or death. Keep this manual in a safe place for future reference.

**Pentalift Equipment Corporation
21 Nicholas Beaver Rd
Puslinch, ON N0B 2J0
Phone: 519-763-3625
Fax: 519-763-2894
Parts Phone: 519-763-3625 Extension 625
Ask for Parts Department**

Pentalift Equipment Corporation provides an owners manual when equipment is shipped. Additional manuals are available at \$25.00 each.

IMPORTANT: The owners manuals that are provided on Pentalift Equipment Corporations website are generic in nature. They are provided for general information only. For all purposes, only the owners manual that is specific to the equipment should be referenced and relied on. In order to receive the specific owners manual for specific Pentalift equipment, please contact your Pentalift representative and supply the specific serial number(s) for the equipment the manual is required for. Do not rely on the information in the generic owners manuals provided through the website as it may not be appropriate for your specific Pentalift equipment.

Generic manual for reference only. Contact Pentalift with product serial number to receive owners manual for your specific equipment.

PRODUCT REGISTRATION



PRODUCT REGISTRATION CARD

To validate warranty and to advise of product updates please complete the following information and return to
Pentalift Equipment Corporation

To validate warranty on-line go to: www.pentalift.com

END USER INFORMATION

*Company Name:		
Contact *First Name:	*Last Name:	Title:
*Mailing Address:		
*City:	*State/Prov.	*Zip/Postal Code:
*Phone: () -	Fax: () -	Email:
Check Products Purchased:	<input type="checkbox"/> Levelers, <input type="checkbox"/> Vehicle Restraints, <input type="checkbox"/> Seals/Shelters, <input type="checkbox"/> Elevating Docks, <input type="checkbox"/> Lift Tables	
*Serial Number(s):	Invoice # (if available):	
Dealer Name:	Sales Rep.:	
Manual Verification *Manual Number:		

Please return to:

Pentalift Equipment Corporation
P.O. Box 1510,
Buffalo, NY 14240-1510

or

Pentalift Equipment Corporation
21 Nicholas Beaver Rd
Puslinch, Ontario
N0B 2J0

Attention: Service Department

Or Fax to (519) 763-2894

SAFETY INFORMATION AND WARNINGS



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

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



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, used with the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.



EDGE OF DOCK CAPACITY: THE RATED CAPACITY OF THE EDGE OF DOCK AS STATED ON THE SERIAL NUMBER PLATE IS A STATIC RATING. NUMEROUS DYNAMIC LOADING FACTORS RESULT IN THE GROSS LOAD CAPACITY (ROLLOVER CAPACITY) BEING SIGNIFICANTLY LESS THAN THE RATED STATIC CAPACITY OF THE EDGE OF DOCK. FACTORS WHICH EFFECT THE ROLL OVER CAPACITY ARE: WEIGHT OF THE LOAD; WEIGHT OF THE FORK TRUCK; SPEED OF THE FORK TRUCK AS IT ROLLS OVER THE EDGE OF DOCK; INCLINE OR DECLINE SLOPE OF THE EDGE OF DOCK DECK AND LIP WHEN IN USE; FREQUENCY OF USE; AND DESIRED LIFE OF THE EDGE OF DOCK. PRIOR TO USING THE EDGE OF DOCK, OR IF THE APPLICATION CONDITIONS FOR THE EDGE OF DOCK CHANGE IN ANY RESPECT, CONTACT YOUR AUTHORIZED PENTALIFT REPRESENTATIVE TO CONFIRM THE SPECIFIC DOCK LEVELER'S SUITABILITY FOR THE APPLICATION.



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.



NEVER GO BENEATH THE EDGE OF DOCK WHEN IT IS IN THE RAISED POSITION UNLESS THE LOAD HAS BEEN REMOVED AND IS PROPERLY SECURED FOR MAINTENANCE.



ALWAYS ASSURE NO ONE IS WITHIN 6 FEET OF THE FRONT (LIP END) OF THE EDGE OF DOCK PRIOR TO ACTIVATION. STAY CLEAR OF THE EDGE OF DOCK WHEN IT IS MOVING.

1. Before loading/unloading the truck, assure the trailer is in position firmly against both of the dock bumpers and **ENGAGE A VEHICLE RESTRAINT OR CHOCK THE TRUCK WHEELS** to eliminate the possibility of the truck rolling or inching forward.
2. Return Edge of Dock to the stored position before allowing truck to depart.
3. Regular inspection and maintenance must be performed to keep the equipment in proper operating condition in accordance with the detailed instructions in this manual.
4. Assure that the equipment is not used by anyone if you believe that any part of it might be in disrepair (e.g. bent structural members, broken welds, etc.). See Warranty Section.

5. The deck surface must be kept clean and free from oil, debris, etc. Keep debris, etc. from underneath the unit.
6. Ensure the working path of the unit is clear of any obstructions.
7. Anyone using or in the vicinity of this equipment must wear protective footwear with steel toes.
8. Never exceed the maximum rated capacity of the Edge of Dock. (See Note 1 Pg. ii)
9. Never stand between the dock and a truck.
10. Do not operate, use, maintain or install this equipment if you are impaired in any manner.
11. If you have any questions, contact your immediate supervisor or your authorized Pentalift representative for assistance.

Generic manual for reference only. Contact Pentalift with product serial number to receive owners manual for your specific equipment.

OWNER RESPONSIBILITY

The Owner's Responsibilities include the following:

1. The owner shall recognize the inherent danger of the interface between dock and transport vehicle. The Owner shall, therefore, train and instruct operators in the safe use of dock leveling devices.
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.
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. 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 shall be kept.
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 **Pentalift Equipment Corporation's** authorized representative and repaired as needed before being placed back in service. The owner shall receive written authorization from **Pentalift Equipment Corporation** through the authorized Pentalift representative that they can continue to use the dock leveler.
6. **Pentalift Equipment Corporation** 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.
7. Modifications or alterations of dock leveling devices shall be made only with written permission of **Pentalift Equipment Corporation**. Alteration permission must be signed by both the Pentalift Post Sale Customer Service Manager and the President to be valid.
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.

NOTE: It is recognized that these devices are intended to secure a transport vehicle to a loading dock by mechanical means. However, no standards currently exist for the strength, construction or attachment of the underride guard on a transport vehicle. It is therefore recommended that users of such positive restraint devices 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 signalling system used
 - The need to use wheel chocks
9. In selecting dock leveling devices, it is important to consider not only present requirements, but also future plans or adverse environments.



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 configuration and function, without the written permission of Pentalift Equipment Corporation.

TABLE OF CONTENTS

PRODUCT REGISTRATION	I
SAFETY INFORMATION AND WARNINGS.....	II
OWNER RESPONSIBILITY	IV
TABLE OF CONTENTS	1
SAFETY LABELING	2
INSTALLATION INSTRUCTIONS	4
PREPARATION PRIOR TO INSTALLATION	4
SURFACE INSTALLATION	6
PIT INSTALLATION	7
LAG PLATE INSTALLATION	8
FINAL WELDING	10
WELDING REFERENCE INFORMATION	10
After welding is complete, follow the instructions on adjusting the edge of dock spring tension procedure on page 11.	10
ADJUSTING THE EDGE OF DOCK SPRING TENSION	11
Bumper Installation Guide lines	12
Locating Dock Bumpers during installation:	12
Installation methods I.E. Lagging and or welding:	12
BREAK-IN AND PERFORMANCE CHECK	15
OPERATING INSTRUCTIONS.....	16
END LOADING/ UNLOADING	17
SUPPORTING THE MECHANICAL EDGE OF DOCK FOR MAINTENANCE.....	18
MAINTENANCE AND LUBRICATION	19
TROUBLE SHOOTING GUIDE	20
REPLACEMENT PARTS	21
LIST OF ILLUSTRATIONS	22
PENTALIFT EQUIPMENT CORPORATION WARRANTY	23

Generic manual for reference only. Contact Pentalift with product serial number to receive owners manual for your specific equipment.

SAFETY LABELING

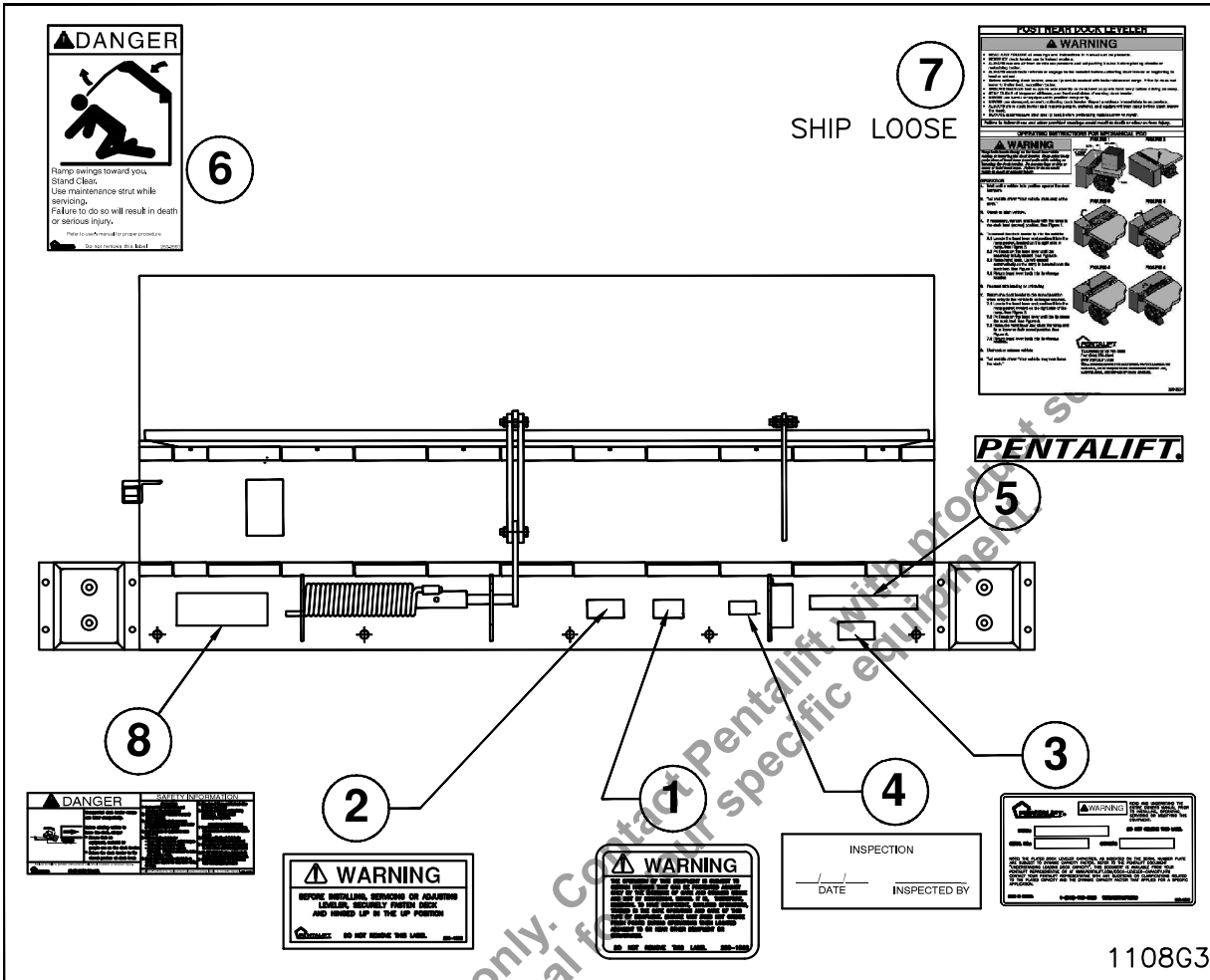


Figure 1: Safety Labels and Decals

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

NOTE: In some instances, product configuration and / or product options may dictate that the product labels will not be placed as indicated on the drawing (Figure 1). Different label locations will be selected at the factory, when required, to avoid an impaired view of the labels. Note the label locations as supplied on the product, when it is received to accommodate future label replacement requirements.

NOTE: It is the owner's responsibility to assure that all safety labeling remains legible and in its original position throughout the life of the product. It is also the owner's responsibility to assure that all labels are and will continue to be readily visible to the operators and people working with or around the equipment. If visibility of any of label is compromised for any reason then; either 1) Rectify the situation to allow the label to be readily visible 2) Order replacement label(s) from Pentalift for installation in a location that does facilitate complete visibility. If any of the safety labels or decals are missing or illegible, contact your Pentalift representative for immediate replacement. Inspection shall be done during regular maintenance and lubrication (See MAINTENANCE AND LUBRICATION on page 19)

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

ITEM NO.	PART NO.	QTY/UNIT	DESCRIPTION
1	250-1562	1	GENERAL OPERATIONAL WARNING
2	250-1652	1	WARNING BEFORE INSTALLING
3	250-1817	1	SPECIFICATION PLATE
4	250-1148	1	INSPECTION
5	250-1143	1	PENTALIFT LOGO
6	250-2550	1	"DANGER Ramp Swings Towards You..."
7	250-2531	1	OPERATING INSTRUCTIONS
8	250-2320	1	"Danger Unsupported Dock....."

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

Generic manual for reference only. Contact Pentalift with product serial number to receive owners manual for your specific equipment.

INSTALLATION INSTRUCTIONS

⚠ DANGER

Do not install, operate or service this product unless you have read and fully understand the entire contents of this manual. Failure to do so may result in property damage, bodily injury or death.

IMPORTANT

PREPARATION PRIOR TO INSTALLATION

Perform installation instructions in the same sequence as they are listed below.

⚠ 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

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

⚠ DANGER

NEVER GO BENEATH THE EDGE OF DOCK WHEN IT IS IN THE RAISED POSITION UNLESS THE LOAD HAD BEEN REMOVED AND IT IS PROPERLY SECURED FOR MAINTENANCE.

1. Remove any packing material and inspect for visible damage. All claims must be made against the carrier immediately.
2. Clean area of all debris.
3. Assure concrete, curb angle or channel has sufficient strength to meet the draw pull forces which will be applied. (See Figure 2 & Figure 3, page 5).
4. a) Mark centerline of door opening and centerline on dock back plate for surface installation.
b) Mark centerline of curb angle and centerline on pit face wall for surface installation.

Note On Capacity: The dock leveler capacity indicated on the serial plate must be divided with a factor to accommodate dynamic loading factors. For more information see Pentalift document - Dock Leveler Capacity – Understanding Loading Dock Capacity at <http://www.pentalift.com/dock-leveler-capacity.htm>

**EXISTING CONCRETE, CURB
ANGLE OR CHANNEL MUST
BE OF SUFFICIENT
STRENGTH FOR 20,000 lbs.
VERTICAL FORCE AS SHOWN**

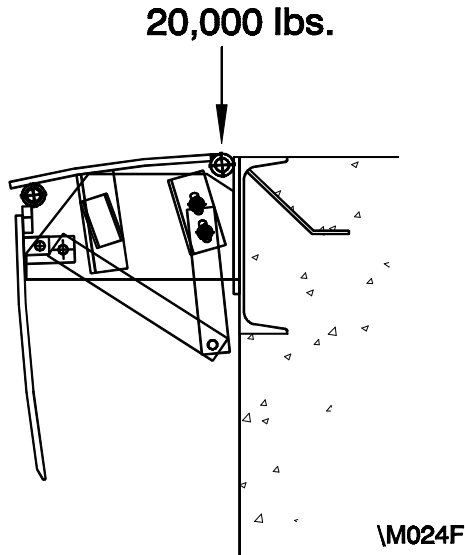


Figure 2: Load Specification (Surface)

EXISTING CONCRETE, CURB
ANGLE OR CHANNEL MUST
BE OF SUFFICIENT
STRENGTH FOR 20,000 lbs.
VERTICAL FORCE AS SHOWN

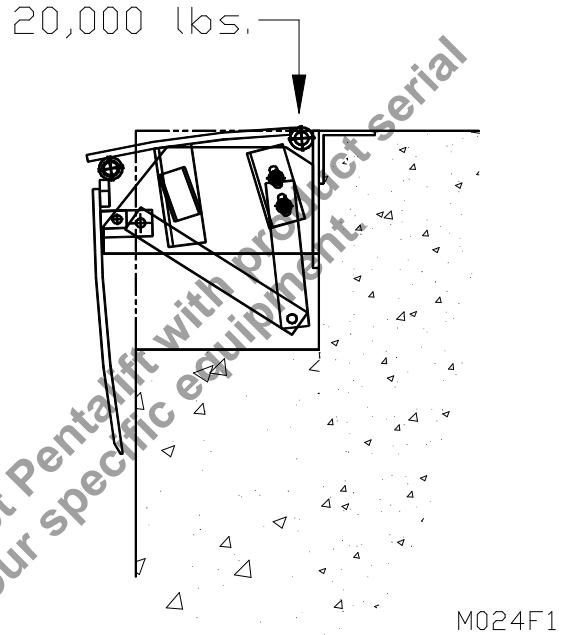


Figure 3: Load Specification (Pit)

Generic manual for reference only. Contact Pentlift with product serial number to receive owners manual for your specific equipment.

SURFACE INSTALLATION

MOUNTING CHANNEL

(See Figure 4, page 6)

1. Position back plate of dock flush with top of curb channel or curb angle, matching centerlines of dock and door opening. Care must be taken to assure the back plate of the dock remains straight. Shim any gaps caused by uneven curb channel to maintain a straight back plate.
2. Tack weld back plate to curb channel /angle starting at the centerline and working outward to hold the unit in place.
3. Position bumper boxes $\frac{1}{2}$ " from back plate as shown in Figure 4 and tack weld to curb channel/angle.
4. Using back plate and bumper boxes as templates, drill required holes into dock face.

NOTE: Recommended fasteners are 5/8" diameter X 4 1/2" long wedge anchors with a minimum shear value of 12,900 lbs (5,850 kg), and a tension value of 10,200 lbs (4,630 kg). Torque to manufacturers' specifications.

NOTE: If the curb channel is large enough to be seen through the holes in the back plate, plug weld the back plate to the channel using the holes provided rather than drilling and lagging as described in items 4 and 5.

5. Lag back plate and bumper boxes to dock face.
6. Attach the rubber bumpers to the bumper boxes with 5/8" x 3" lg bolts that have been provided.
7. Go to FINAL WELDING on page 10.

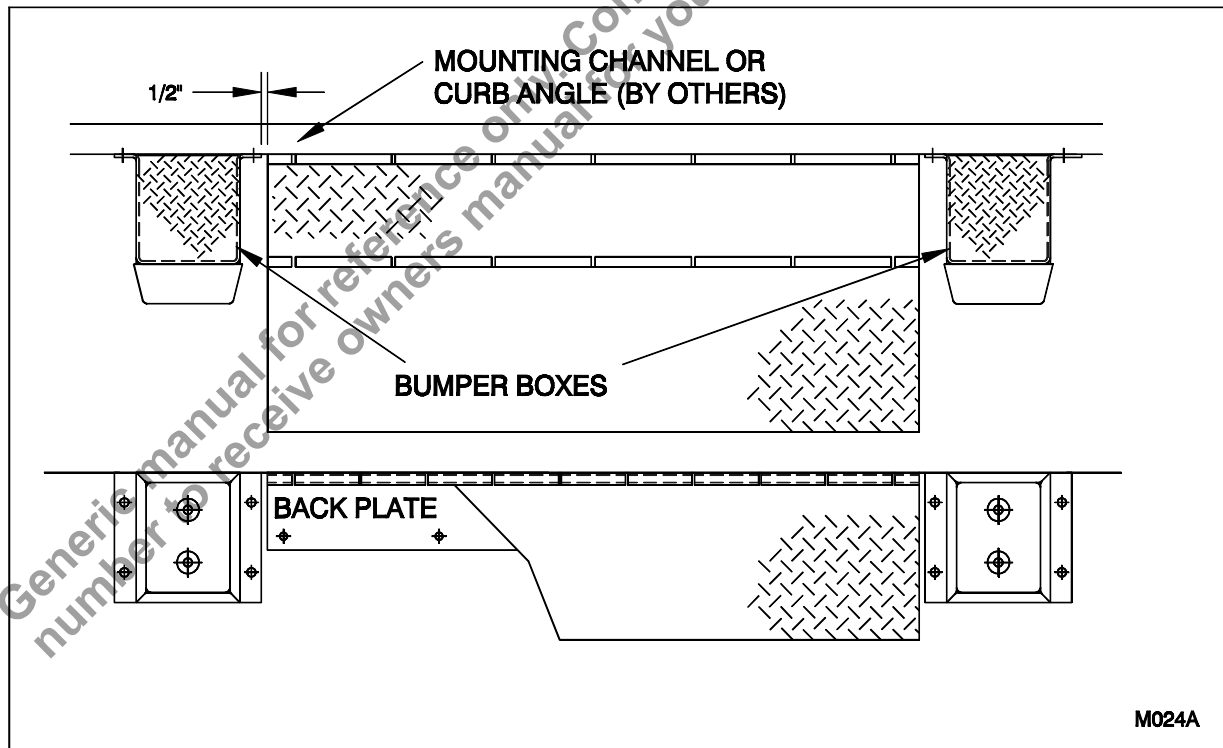


Figure 4: Mounting Channel

PIT INSTALLATION

CURB ANGLE

(See Figure 5, page 7)

1. Position back plate of dock flush with top of curb angle, matching centerlines of dock and pit. Care must be taken to assure the back plate of the dock remains straight. Shim any gaps caused by uneven curb angle to maintain a straight back plate.
2. Tack weld back plate to curb angle starting at the centerline and working outward to hold the unit in place.
3. Position bumpers as shown in Figure 4 and lag to mounting surface.
4. Using back plate and bumpers as templates, drill required holes into pit wall and dock face.

NOTE: Recommended fasteners are 5/8" diameter X 4 1/2" long wedge anchors with a minimum shear value of 12,900 lbs (5,850 kg), and a tension value of 10,200 lbs (4,630 kg). Torque to manufacturers' specifications.

5. Lag back plate to pit wall and bumper boxes to dock face.
6. Go to FINAL WELDING on page 10.

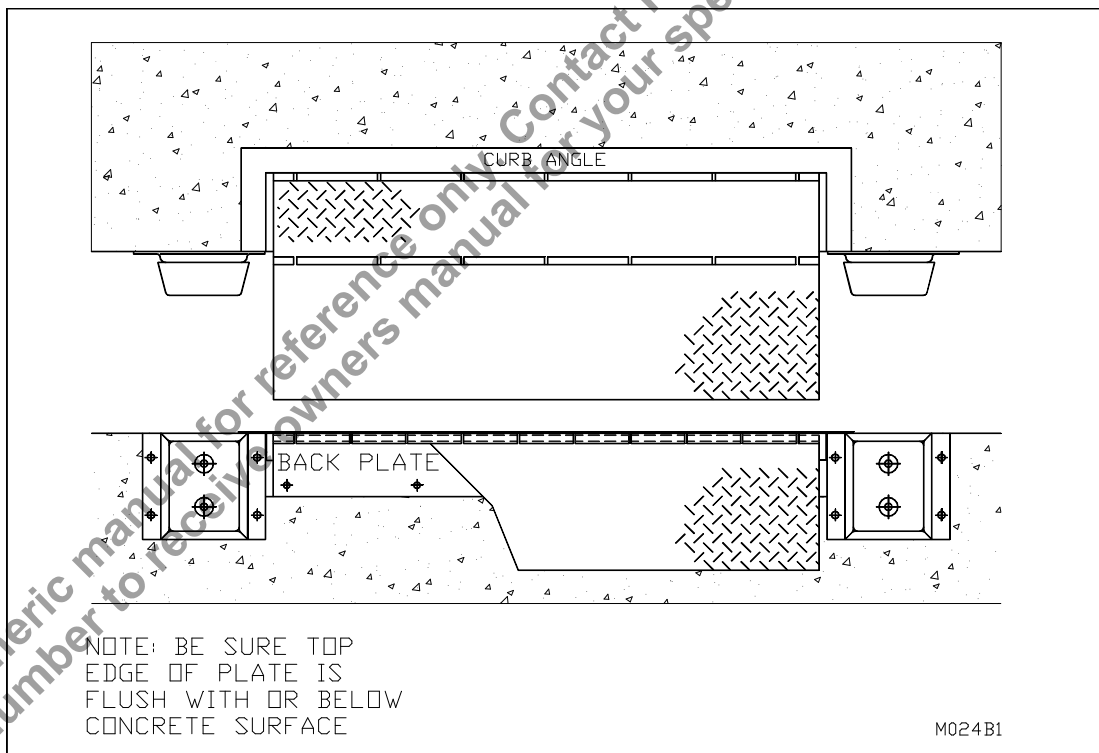


Figure 5: Curb Angle

LAG PLATE INSTALLATION

SURFACE INSTALLATION

(See Figure 6, page 9)

If the dock face does not have a curb channel or curb angle, follow these instructions using the optional lag plate which can be purchased from your authorized Pentalift representative.

1. Position back frame of dock 1/4" above floor, matching centerline of door opening and center line of back plate.
2. Using the back plate as a template, drill required holes into dock face.

NOTE: Recommended fasteners are 5/8" diameter X 4 1/2" long wedge anchors with a minimum shear value of 12,900 lbs (5,850 kg), and a tension value of 10,200 lbs (4,630 kg). Torque to manufacturers' specifications.

3. Lag back plate to dock face.
4. Position bumper boxes 1/2" from back plate as shown in Figure 6.1: Lag Plate - 96" long (Surface) on page 9, and 1/4" above the floor.
5. Using bumper boxes as a template drill required holes into dock face.
6. Securely fasten bumper boxes.

NOTE: Recommended fasteners are 5/8" diameter X 4 1/2" long wedge anchors with a minimum shear value of 12,900 lbs (5,850 kg), and a tension value of 10,200 lbs (4,630 kg). Torque to manufacturers' specifications.

7. Attach the rubber bumpers to the bumper boxes with 5/8" x 3" lg bolts that have been provided.
8. Mark centerline on lag plate.
9. Position lag plates flush with top of back frame, matching centerline of lag plate and centerline of back plate.
10. Weld the lag plates together and grind the seam flush.
11. Tack weld lag plates flush with top of back plate, matching centerline of lag plate and centerline of back plate.
12. Using the lag plate as a template, drill 7/8" dia. x 2 3/4" deep holes into the floor.
13. Remove the lag plate and clean floor.
14. Put 5/8" internal threaded by 7/8" outside diameter, drop-in anchors in the holes. Using a punch, hammer the anchor insert to expand anchor in the hole
15. Reposition the lag plate. Thread 5/8" x 2 1/2" long, button head fasteners into the anchors. Torque to manufacturers' specifications.
16. Go to FINAL WELDING on page 10.

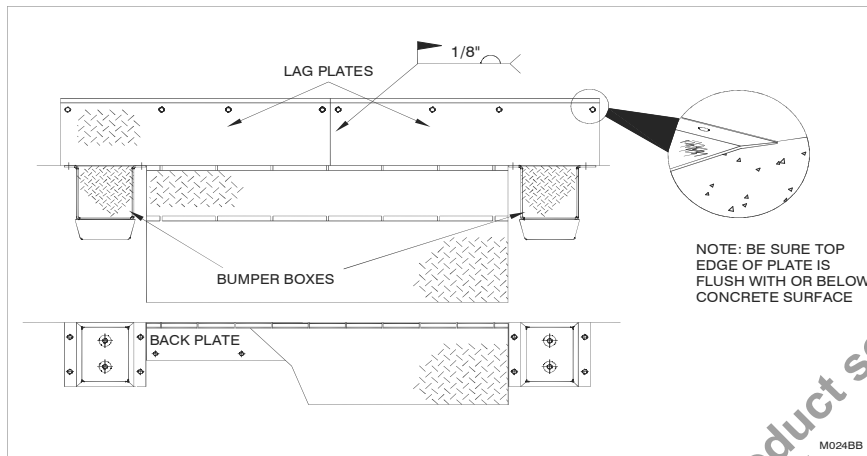


Figure 6.1: Lag Plate - 96" long (Surface)

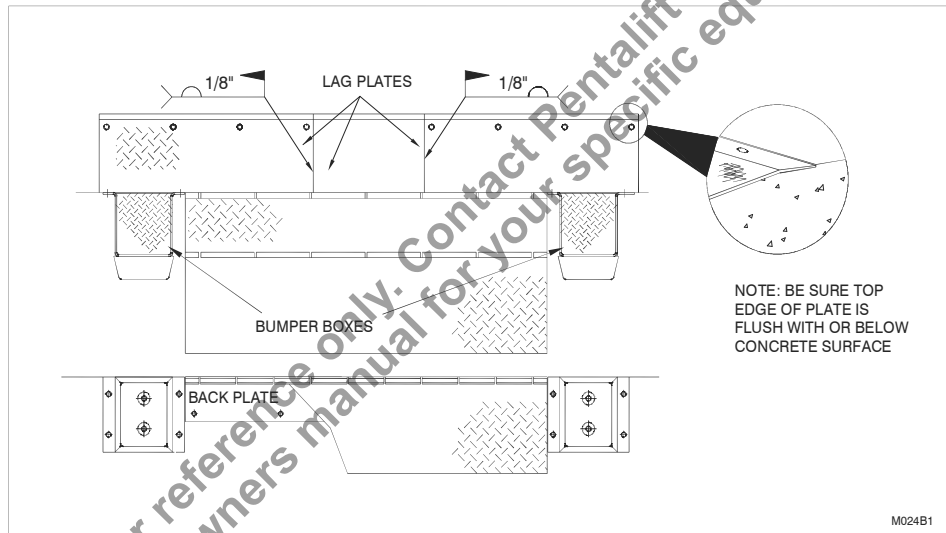


Figure 6.2: Lag Plate - 120" long (Surface)

Generic manual for reference only. Contact Pentalift with product serial number to receive owners manual for your specific equipment.

FINAL WELDING

Stitch weld full length back frame, using 5-6" welds. Weld 3" welds around upper corners of back frame and tack weld all anchor heads in place. (See Figure 7: Welding at Final Installation on page 10 and WELDING REFERENCE INFORMATION on page 10)

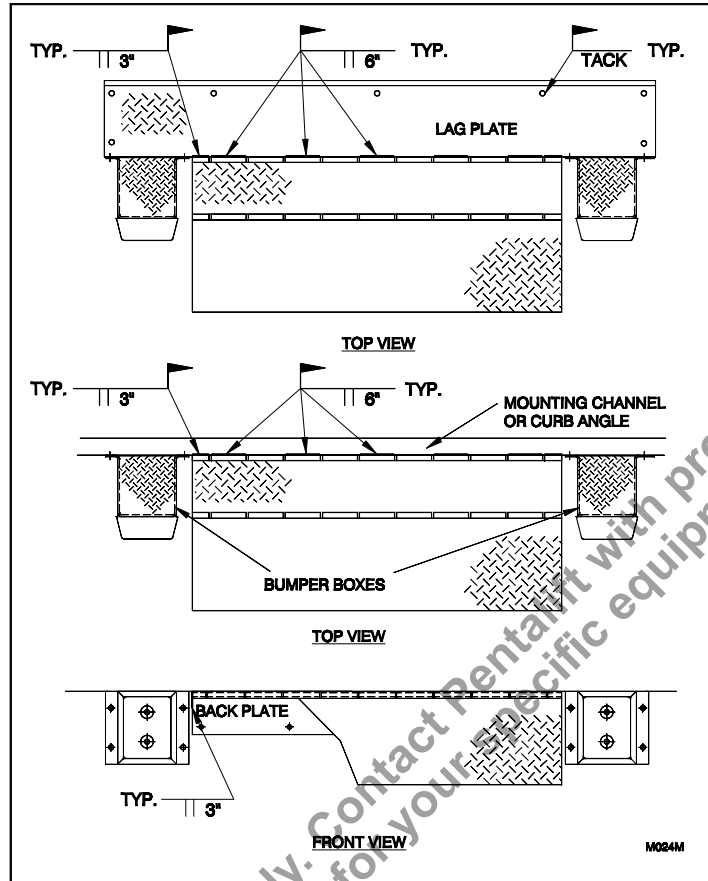


Figure 7: Welding at Final Installation

WELDING REFERENCE INFORMATION

- Observe and obey all welding safety requirements per AWS D1.1-92. (W117.2-74 in Canada.)
- Welding electrodes are to be clean and free from moisture.
- Material to be welded must be clean and free of oils, excessive millscale/rust etc.
- All craters are to be filled to a minimum of 85% of the cross sectional area of the weld.
- All under cutting is to be removed by either welding, grinding or a combination of both.
- Maximum reinforcement on butt welds is 1/8".
- Use highest current possible per chart below to obtain satisfactory weld.

Electrode	E7018	
Diameter	1/8"	5/32"
Amperage	130-150	140-180

After welding is complete, follow the instructions on adjusting the edge of dock spring tension procedure on page 11.



FAILURE TO PROPERLY INSTALL THE EDGE OF DOCK MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OR DEATH AND WILL VOID ALL WARRANTIES.

ADJUSTING THE EDGE OF DOCK SPRING TENSION



THE TORSION SPRING ASSEMBLY CONTAINS STORED ENERGY AND CAUTION SHOULD BE TAKEN ANY TIME WHEN LOOSENING THE LOCKING SET SCREWS.

Mechanical Edge of Docks are shipped without tension on the ramp. After the Edge of Dock has been final welded into position adjust the spring tension using this procedure.

1. Ensure the Mechanical Edge Of Dock is in the **Maintenance Position** with **Lever Arm** inserted correctly (See Figure 14: Maintenance Stand Position on page 18 for Maintenance Position).
2. Loosen the two set screws (See Figure 8: Spring Tension Adjustment on page 11 item B) on the spring winder.
3. Using a 1 ½" wrench place on area A (See Figure 8: Spring Tension Adjustment on page 11) of the spring winder, turn the spring winder towards you approximately ¼ turn, hold and retighten the two set screws.
4. Test the Edge of Dock for ease of movement. If further adjustment is required, repeat steps one and two until ease of operation is satisfactory.

NOTE: Too much tension on the torsion spring will cause the deck to float and not properly seat on the deck rests. Too little tension on the torsion spring and the deck will be too hard to lift for use.

Lubricate and test in accordance with the Break-in and Performance Check procedures on page 15.

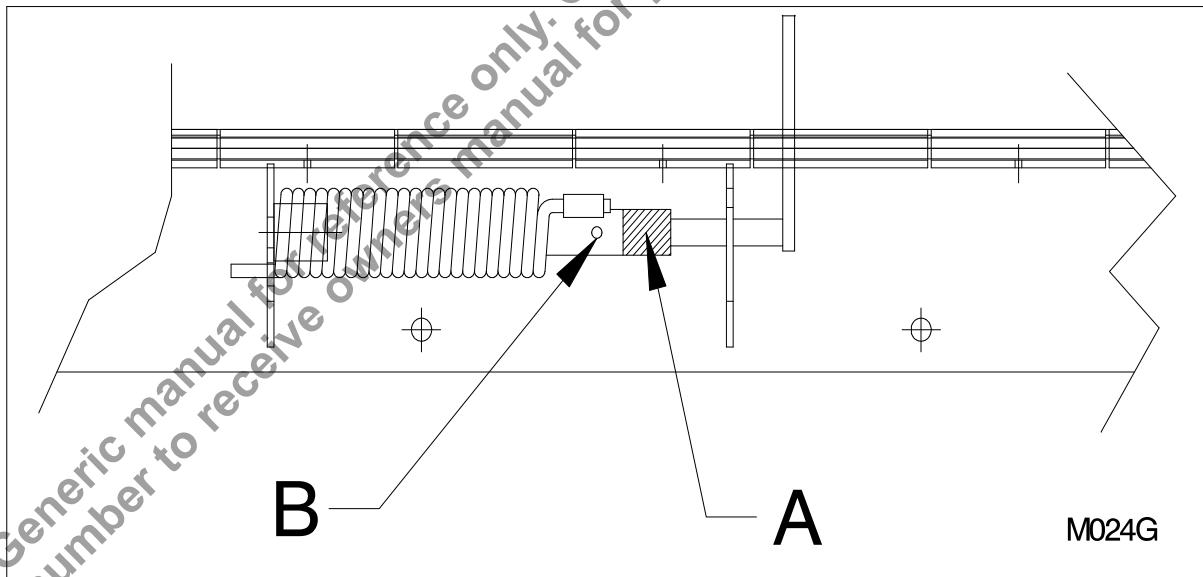


Figure 8: Spring Tension Adjustment

Bumper Installation Guide lines

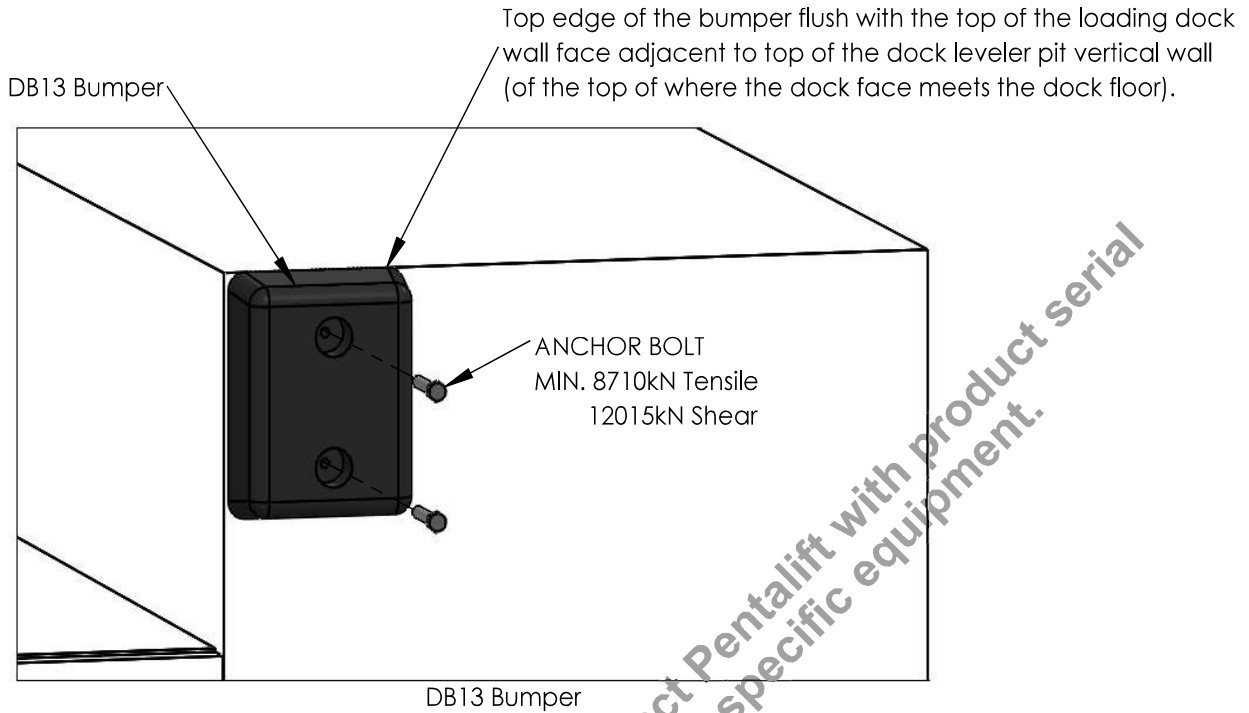
LOCATING DOCK BUMPERS DURING INSTALLATION:

1. For the majority of pit type dock leveler installations the dock bumpers are vertically positioned with the top edge of the bumper flush with the top of the loading dock wall face adjacent to top of the dock leveler pit vertical wall. (of the top of where the dock face meets the dock floor.)
2. For the majority of pit type dock leveler installations the dock bumpers are horizontally positioned with the inside edge of the bumper as close to the vertical edge of the dock leveler pit wall as reasonably possible.
3. Note: The word majority is utilized in the above two statements because there maybe exceptions to these rules. The purpose of the dock bumper is to create a designed impact area for approaching truck / trailer traffic. If the above location guidelines would result in locating the bumper such that it will not be properly impacted by the truck and trailers intended to be serviced at the facility, adjustments in positioning and the actual bumper arrangements may be required. Remember that trucks and trailers come in different physical configurations and sizing. The dock bumpers should be positioned to accommodate all the variations that will be serviced. Bumper risers are optionally added to accommodate lower dock heights and / or higher trucks. Bumper extensions or projected pits are optionally added to accommodate applications where the normal bumper projection is insufficient such as declined dock approaches. Contact your Pentalift representative for more information or guidelines to suit a specific application.

Installation methods I.E. Lagging and or welding:

1. Dock bumpers are generally attached in two ways; 1) utilization of concrete lag bolts or 2) welding in position. The use of these two methods depends on the type and configuration of the bumpers selected and the actual installation location.
2. It is quite common for the installation to be a combination of concrete lag bolts and welding.
3. When concrete lag bolts are utilized the dock bumper is usually provided with holes or has a bracket(s) on it with holes to accommodate the lagging. The dock bumper can be moved into the correct final position and used as a template to mark the required hole location for the lag bolts. Lag bolts that accommodate a minimum tensile value of 8710kN and shear value of 12015kN are to be utilized. Confirm the concrete arrangement and composition as well the that bumper hole location provides sufficient concrete material and strength to accommodate the selected lag bolts. Install the lag bolts according to the lag bolt manufacturer's instructions.
4. For welding attachment of bumpers, both the dock bumper and the loading dock area must be designed to accommodate. Typically the bumper will be provided with a flat bar (in place of the bracket with holes). That flat bar will line up with a steel surface that has been located and is suitably anchored into the dock face. Weld the dock bumper flat bar with $\frac{1}{4}$ " welds and 2" stitches a maximum of 4" apart. More weld is better than not enough. Clean and paint the welds after application and cooling.

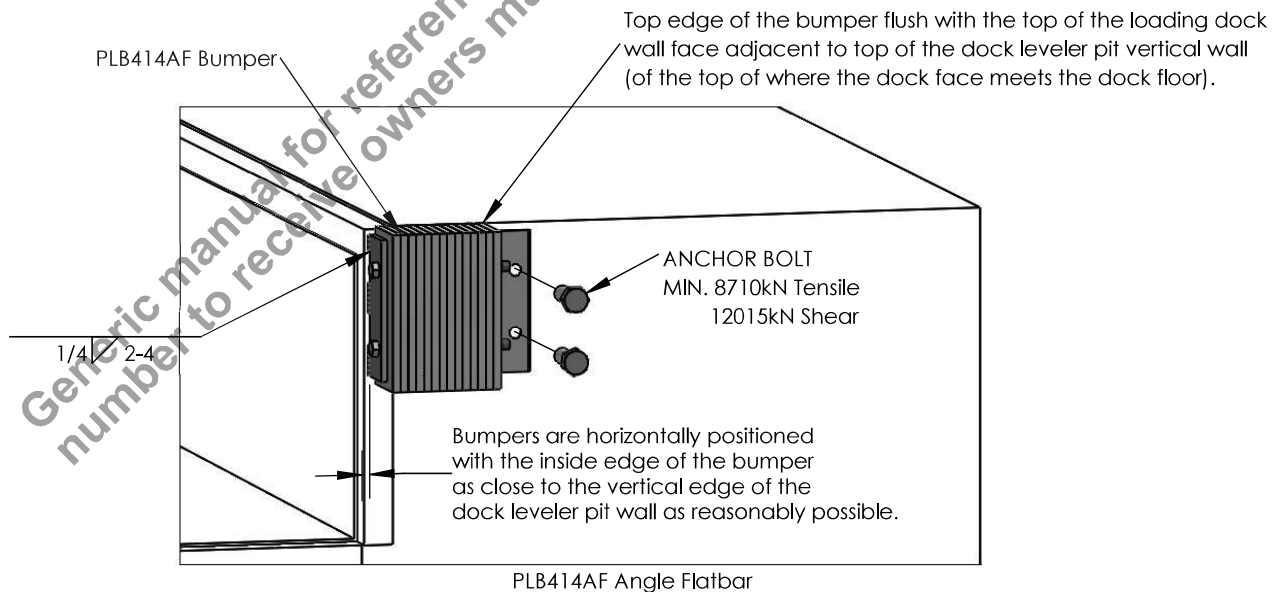
DB13 Bumper Typical Installation



M056AB

Figure 9: DB13 Installation

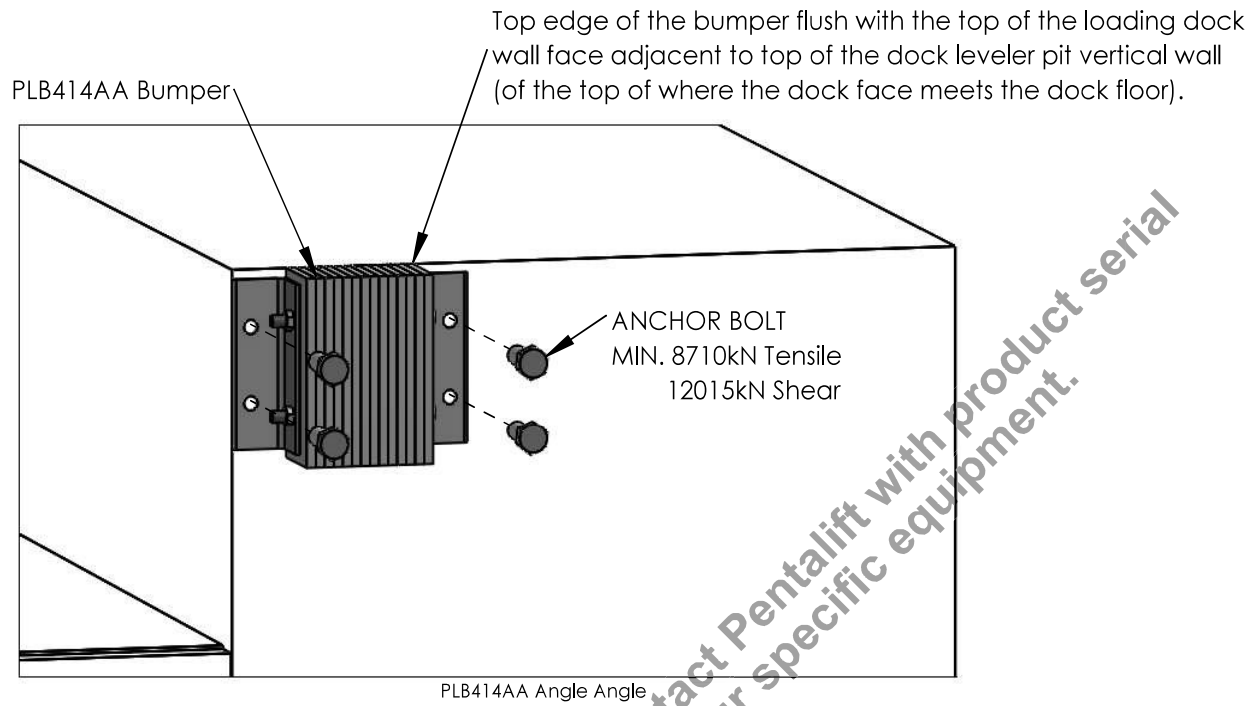
Bumper Angle Flat-bar Typical Installation



M056AC

Figure 10: PLB414AF Installation

Bumper Angle Angle Typical Installation



M056AD

Figure 11: PLB414AA Installation

Generic manual for reference only. Contact Pentalift with product serial number to receive owners manual for your specific equipment.

BREAK-IN AND PERFORMANCE CHECK



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.

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

NOTE: Read the SAFETY INFORMATION AND WARNINGS before operating the dock leveler. (See page iii)

1. Lubricate all pivot points and grease the lip and deck spools. (See MAINTENANCE AND LUBRICATION on page 19)



ALWAYS ASSURE NO ONE IS WITHIN 6 FEET OF THE FRONT (LIP END) OF THE EDGE OF DOCK PRIOR TO ACTIVATION. STAY CLEAR OF THE EDGE OF DOCK WHEN IT IS MOVING.



ENSURE THAT THE OPERATOR GRASPS THE HANDLE FIRMLY WITH BOTH HANDS WHILE OPERATING THE EDGE OF DOCK, IT CAN MOVE UNEXPECTEDLY.



THE TORSION SPRING ASSEMBLY CONTAINS STORED ENERGY AND CAUTION SHOULD BE TAKEN ANY TIME WHEN LOOSENING THE LOCKING SET SCREWS.

2. Operate the edge of dock several times as described below.
3. To raise the edge of dock, insert the lever arm into the lever arm guide and pull back until the deck is vertical (See Figure 12: Operation on page 16).
4. With the edge of dock raised, push forward on the lever arm, the lip will extend and drop after full extension.
5. Repeat this sequence (items 3 and 4) at least three more times.

NOTICE

As the performance test is being conducted, watch closely for any signs that the dock leveler might not be operating properly. If you are in doubt, refer to OPERATING INSTRUCTIONS on page 16 and TROUBLE SHOOTING GUIDE on page 20 or contact your Pentalift representative.

NOTE: Too much tension on the torsion spring will cause the deck to float and not properly seat on the deck rests. Too little tension on the torsion spring and the deck will be too hard to lift for use.

OPERATING INSTRUCTIONS

Note On Capacity: The dock leveler capacity indicated on the serial plate must be divided with a factor to accommodate dynamic loading factors. For more information see Pentalift document - Dock Leveler Capacity – Understanding Loading Dock Capacity at <http://www.pentalift.com/dock-leveler-capacity.htm>

⚠ 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 MECHANICAL EDGE OF DOCK IF ANY PART OF IT LOOKS BROKEN OR IF IT DOES NOT SEEM TO OPERATE PROPERLY. IF REPAIRS ARE NEEDED, CONTACT YOUR NEAREST PENTALIFT REPRESENTATIVE.

NOTE: Read the **SAFETY INFORMATION AND WARNINGS** before operating the dock leveler. (See page iii)

NOTE: Always be certain that the truck/trailer is parked tight against the face of both dock bumpers and that the truck is locked in place by a vehicle restraint and/or that the truck wheels are chocked before loading or unloading. All 'air ride' trailers must release the air from the suspension mechanism prior to activating the dock leveler for use.

1. Load or unload end loads (See **END LOADING/ UNLOADING** on page 17) with the deck and lip in the stored position (See Figure 13: End Loading/ Unloading on page 17)
2. Pull the lever arm up from its stored location in the Edge of Dock.
3. Pull the lever arm back until the deck is vertical
4. Push the lever arm forward to allow the deck to lower until contact is made with the truck bed. **NOTE:** The lip must extend a minimum of 4" onto the truck bed (See Figure 12: Operation on page 16).

NOTICE

For Pit Style edge of docks, remove the lever arm when in the stored position to prevent damage to the lever arm.

Proceed to load/unload the vehicle. When completed, return the dock to its stored position by pulling back on the lever arm until the lip clears the back of the truck bed and then allowing it to move forward until in the stored position.

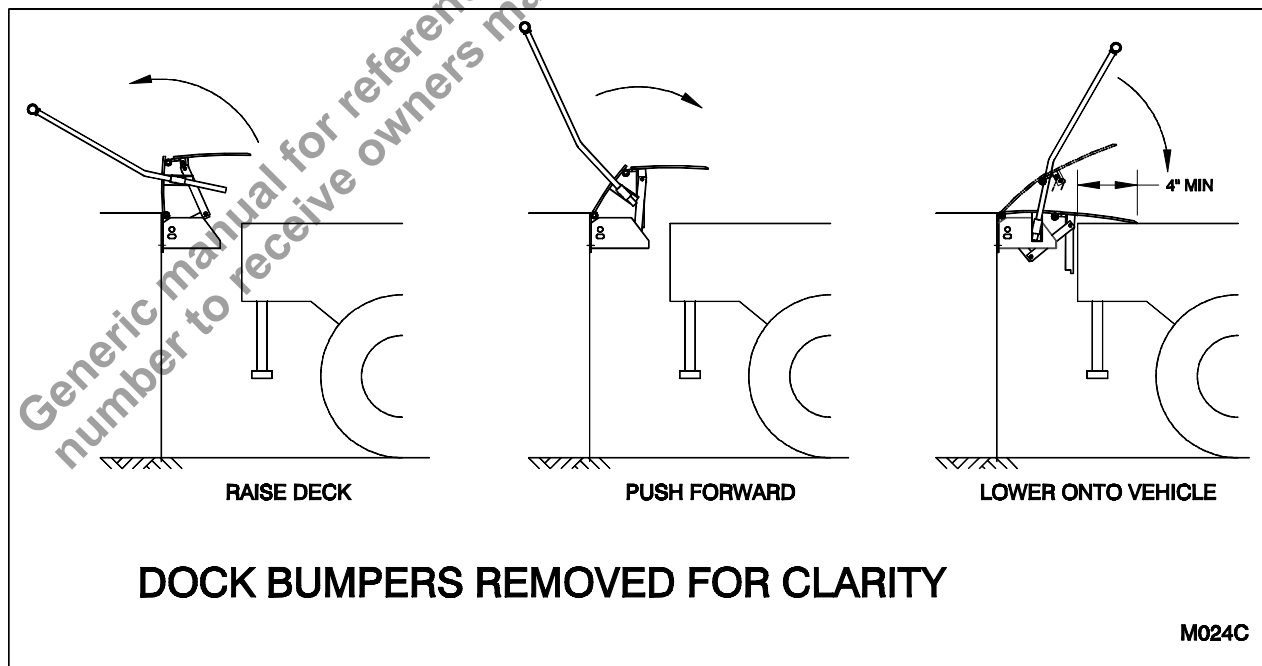


Figure 12: Operation

END LOADING/ UNLOADING



WHEN THE CARGO AT THE REAR OF THE TRUCK DOES NOT ALLOW THE LIP TO FULLY EXTEND AND REST FIRMLY ON THE TRUCK BED AS OUTLINED UNDER THE OPERATING INSTRUCTIONS (SEE PAGE 11), THEN THE END LOADING/UNLOADING PROCEDURES MUST BE USED AS OUTLINED UNDER THE OPERATING INSTRUCTIONS.

DURING END LOADING/UNLOADING THERE WILL BE A GAP PRESENT BETWEEN THE DOCK LEVELER AND THE TRUCK BED. ENSURE THAT THE FRONT WHEELS OF THE FORK TRUCK NEVER FALL INTO THE GAP BETWEEN THE STORED DOCK LEVELER AND THE TRUCK.

IMMEDIATELY AFTER THE END LOADS ARE REMOVED, THE EDGE OF DOCK IS TO BE USED WITH THE LIP EXTENDED AS INDICATED UNDER OPERATING INSTRUCTIONS.

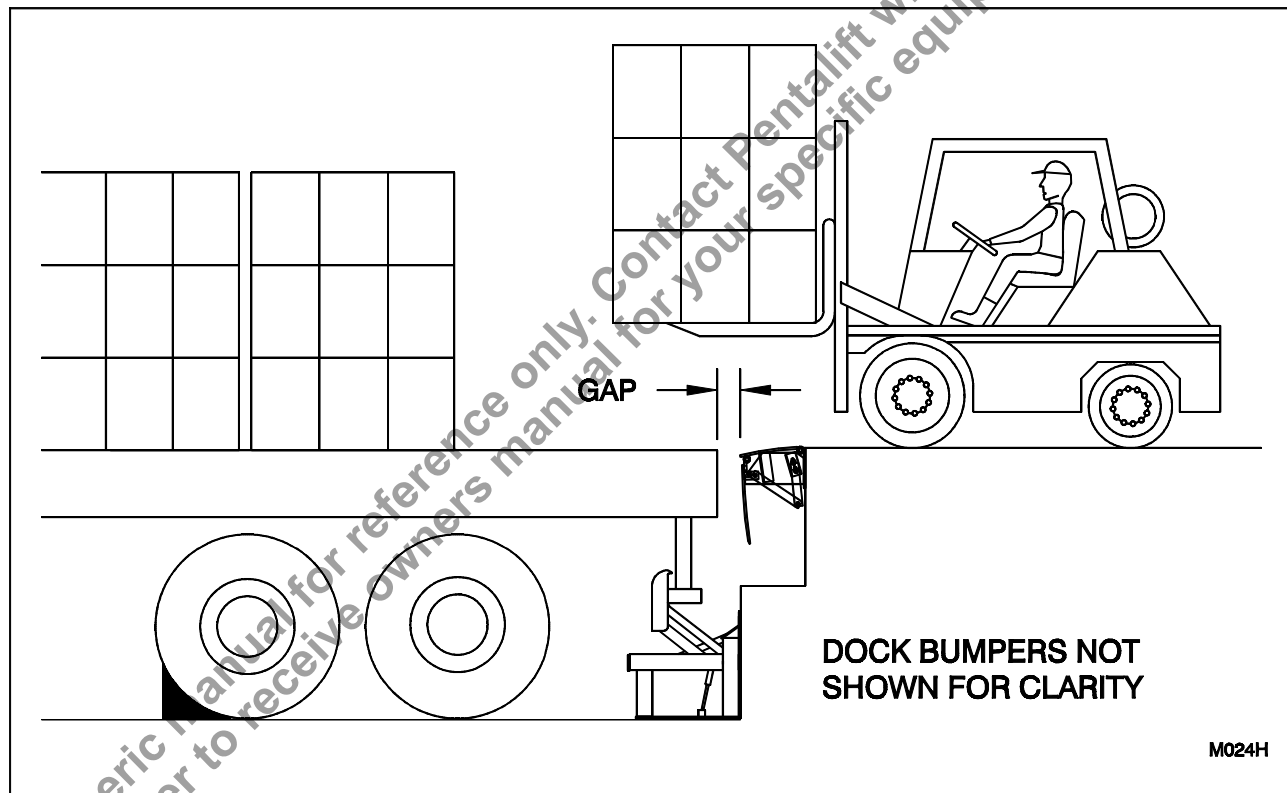


Figure 13: End Loading/ Unloading

SUPPORTING THE MECHANICAL EDGE OF DOCK FOR MAINTENANCE



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.

When performing and maintenance, adjustments, or trouble shooting on the Mechanical Edge Of Dock, always use the maintenance stand to support the Edge Of Dock.

Use the **Lever Arm** to raise the Mechanical Edge Of Dock to the vertical position shown in Figure 14: Maintenance Stand Position on page 18. Then insert the **Lever Arm** through the **Maintenance Stand Tube**, orientated as shown (See Figure 14: Maintenance Stand Position on page 18 for Maintenance Position).

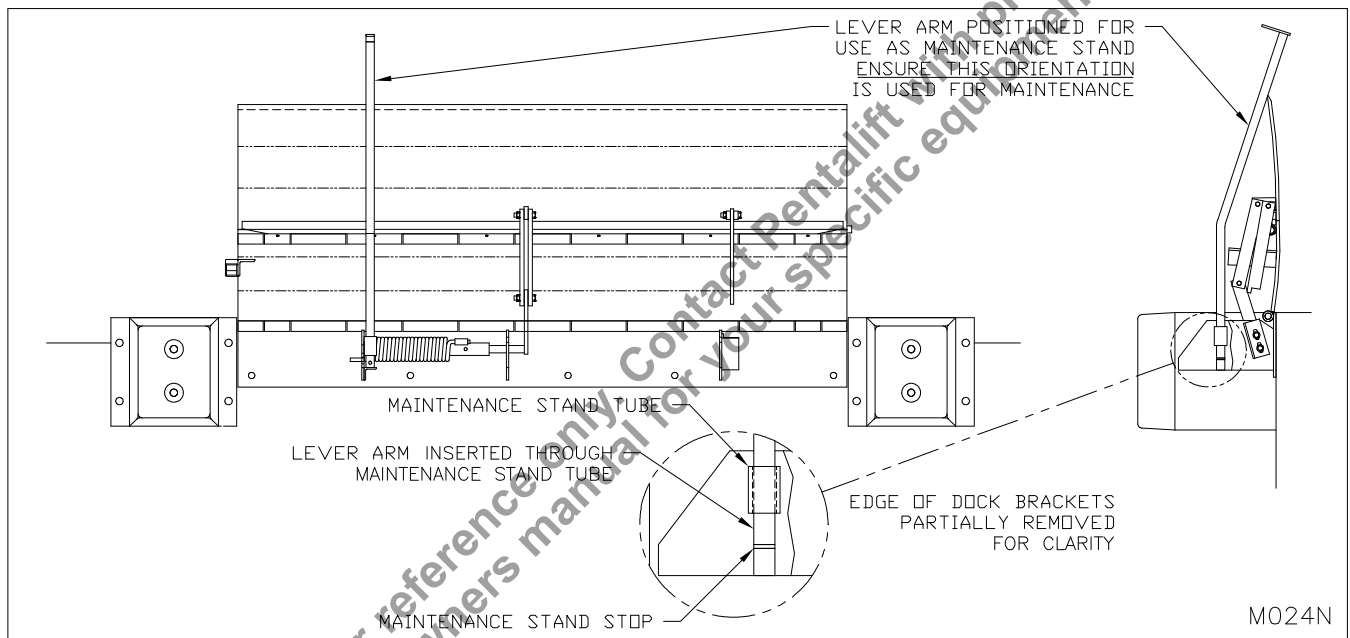


Figure 14: Maintenance Stand Position

MAINTENANCE AND LUBRICATION



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.

INSPECTION:

A general inspection of the unit should be performed at least once per week to check for damaged or worn parts. If parts appear to be damaged or significantly worn, **DO NOT use the unit. Repair or replace immediately any components showing signs of wear or damage.**

Should replacement components be required, please refer to the **REPLACEMENT PARTS** section of this manual and contact **Pentalift Equipment Corporation** or your local **Pentalift** dealer. Please specify model, serial number, part description, quantity and shipping instructions.

NOTE: Read the **SAFETY INFORMATION AND WARNINGS** before servicing the edge of dock. (See page i)

NOTE: 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).

NOTE: 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 lubrication period, inspect the edge of dock for any damaged or worn parts. If any damaged or worn parts are found, discontinue use of the edge of dock and/or repair immediately.

LUBRICATION:

Ensure the Mechanical Edge Of Dock is in the **Maintenance Position** with **Lever Arm** inserted correctly (See Figure 14: Maintenance Stand Position on page 18 for Maintenance Position). The pivot points requiring external lubrication are the hinges, and upper/lower push rod joints. (Refer to the lubrication points diagram below.) The recommended lubrication **service interval is every 30 days** or at a greater frequency as required in severe environments. **Dexron III Automatic Transmission Fluid** is recommended. (See Figure 15: Lubrication on page 19 for lubrication points).

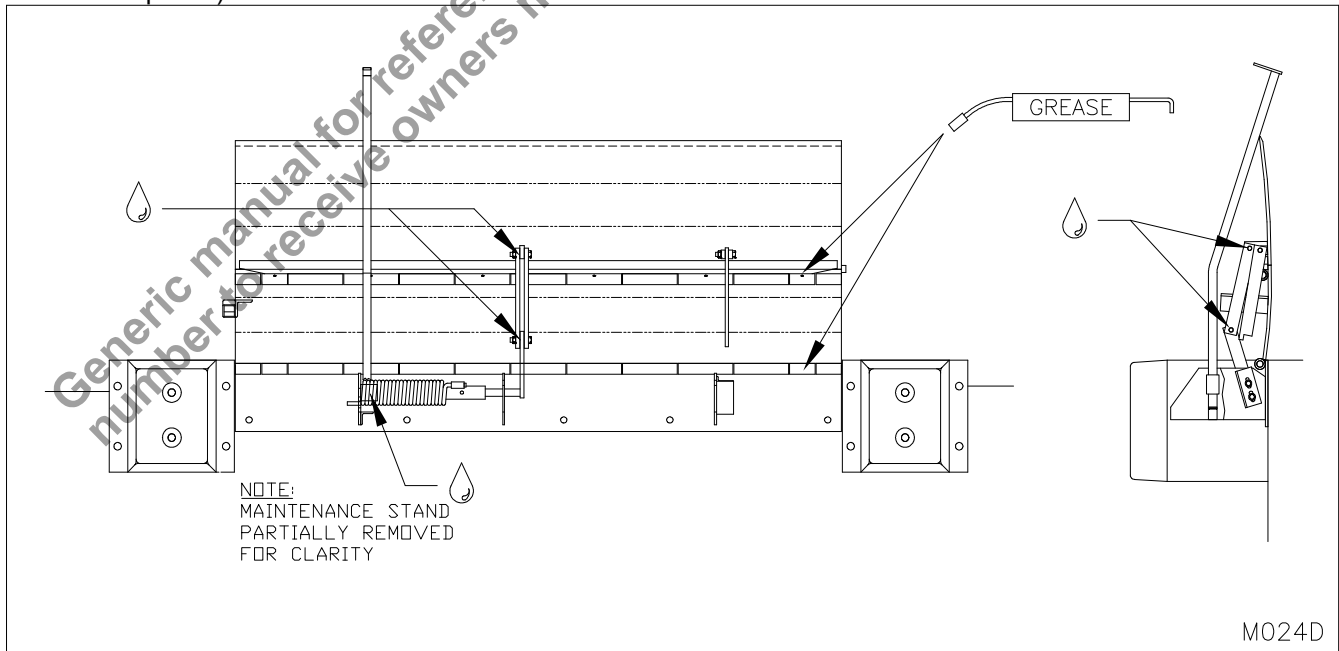


Figure 15: Lubrication

TROUBLE SHOOTING GUIDE

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



ONLY TRAINED AND QUALIFIED PERSONNEL ARE TO PERFORM INSPECTION OR MAINTENANCE AND SERVICE PROCEDURES.



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.

TOO HARD TO RAISE:

-Not enough tension on torsion spring. (Refer to ADJUSTING THE EDGE OF DOCK SPRING TENSION on page 11)

EDGE OF DOCK DOES NOT STORE PROPERLY AND BOUNCES EXCESSIVELY DURING USE AND DRIVE OVER:

-Too much tension on torsion spring. (Refer to ADJUSTING THE EDGE OF DOCK SPRING TENSION on page 11)

LIP DOES NOT EXTEND:

-Lip lock rest is too high and will not allow the locking bar to fully seat in the locking position. Lower the lip lock rest to just allow the locking bar to fully seat when the deck is in the full vertical position. (See Diagram A, Figure 16: Lip Lock Adjustment on page 20)

LIP TOO LOW TO EXTEND ONTO TRUCK BED:

-Lip lock rest is too low and will not allow the lip to fully extend. Raise the lip lock rest to just allow the locking bar to fully seat when the deck is in the full vertical position. (See Diagram B, Figure 16: Lip Lock Adjustment on page 20)

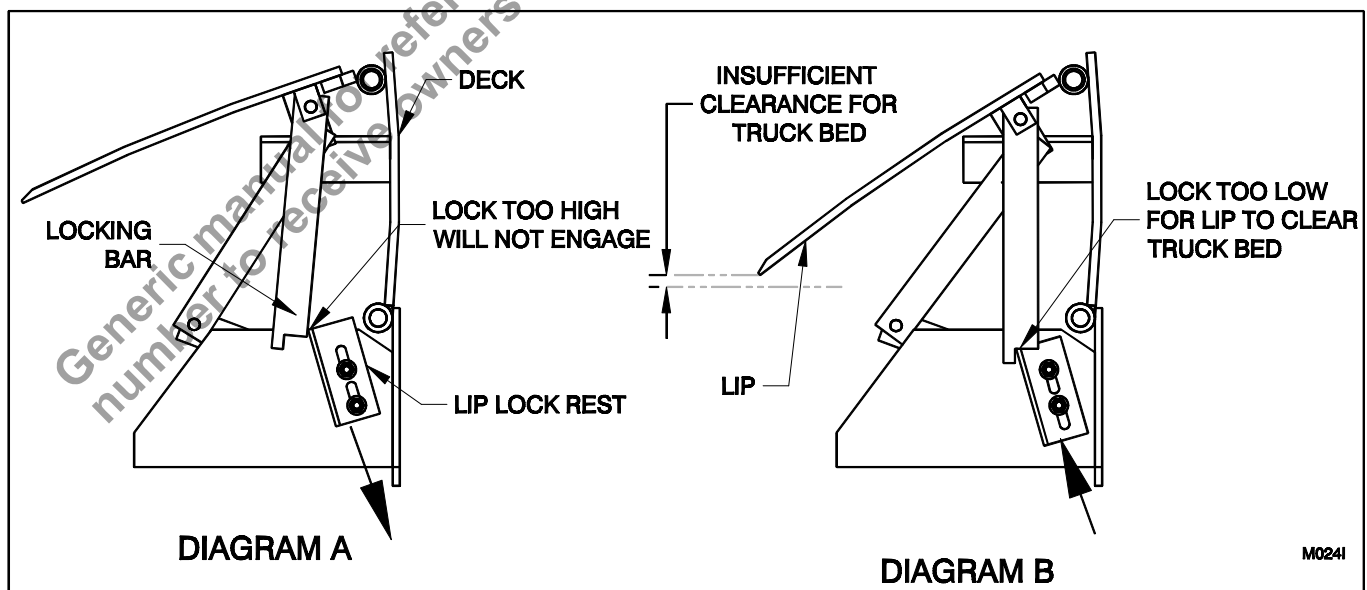


Figure 16: Lip Lock Adjustment

REPLACEMENT PARTS

USE ONLY GENUINE PENTALIFT REPLACEMENT PARTS



To ensure proper functioning, durability and safety of the product, only genuine pentalift replacement parts must be used. Altering the product from its original manufactured configuration must not be done. Pentalift equipment Corporation disclaims all liability for failure to comply with this warning. Warranties are specifically 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.

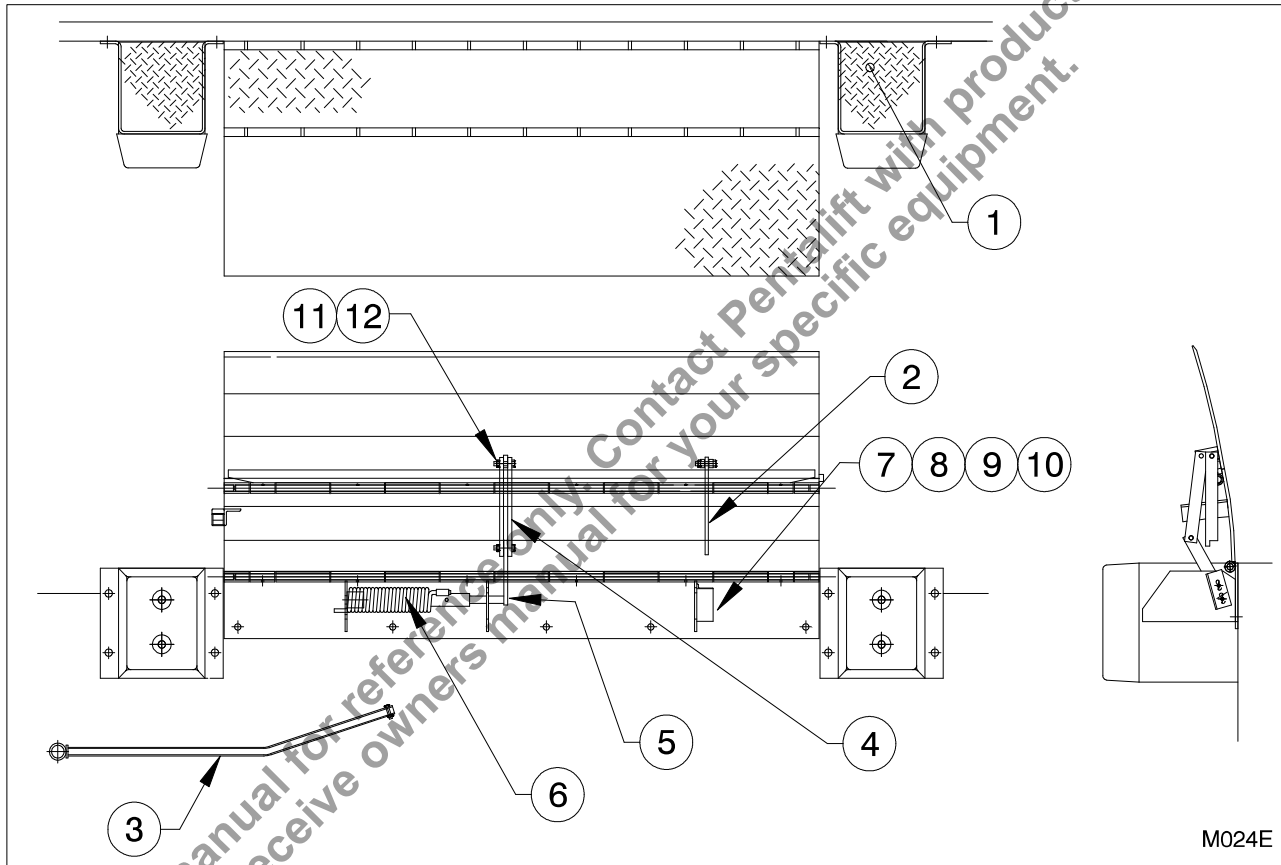


Figure 17: Replacement Parts

Item #	Part No.	Description	Item #	Part No.	Description
1	800-8769	Bumper Box	7	300-8833	Lip Lock Rest
2	300-8820	Lip Lock Bar	8	072-0035	3/8" -16 UNC x 1" Lg Hex Hd Capscrew
3	800-8714	Lever Arm Assembly	9	074-0084	3/8" Lockwasher
4	300-8832	Push Rod Bar	10	074-0015	3/8" Flat Washer
5	800-8772	Actuator Bar	11	072-0162	1/2" -13 UNC x 2 1/4" Lg Hex Hd Capscrew
6	800-8771	Spring Winder	12	070-0063	1/2" -13 Nylock Nut

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

LIST OF ILLUSTRATIONS

Figure 1: Safety Labels and Decals	2
Figure 2: Load Specification (Surface).....	5
Figure 3: Load Specification (Pit)	5
Figure 4: Mounting Channel	6
Figure 5: Curb Angle	7
Figure 6.1: Lag Plate - 96" long (Surface)	9
Figure 6.2: Lag Plate - 120" long (Surface)	9
Figure 7: Welding at Final Installation	10
Figure 8: Spring Tension Adjustment.....	11
Figure 9: DB13 Installation	13
Figure 10: PLB414AF Installation	13
Figure 11: PLB414AA Installation	14
Figure 12: Operation	16
Figure 13: End Loading/ Unloading	17
Figure 14: Maintenance Stand Position	18
Figure 15: Lubrication	19
Figure 16: Lip Lock Adjustment	20
Figure 17: Replacement Parts	21

Generic manual for reference only. Contact Pentalift with product serial number to receive owners manual for your specific equipment.

PENTALIFT EQUIPMENT CORPORATION WARRANTY

WARRANTY

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

The warranty stated in the previous paragraph is that expressed by **PENTALIFT EQUIPMENT CORPORATION** AND IS IN LIEU OF ALL GUARANTEES AND WARRANTIES, EXPRESSED OR IMPLIED BY ANYONE OTHER THAN **PENTALIFT EQUIPMENT CORPORATION**. This warranty does not cover any failure caused by improper installation, misapplication, overloading, abuse, negligence, or failure to lubricate and adjust or maintain the equipment properly and regularly. Parts requiring replacement due to damage resulting from abuse, improper operations, improper or insufficient lubrication, lack of proper protection or vehicle impact are not covered 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.

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

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

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

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

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

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

WR001R02



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NOTE: All Pentalift Equipment Corporation products are subject to design improvement through modification without notice.