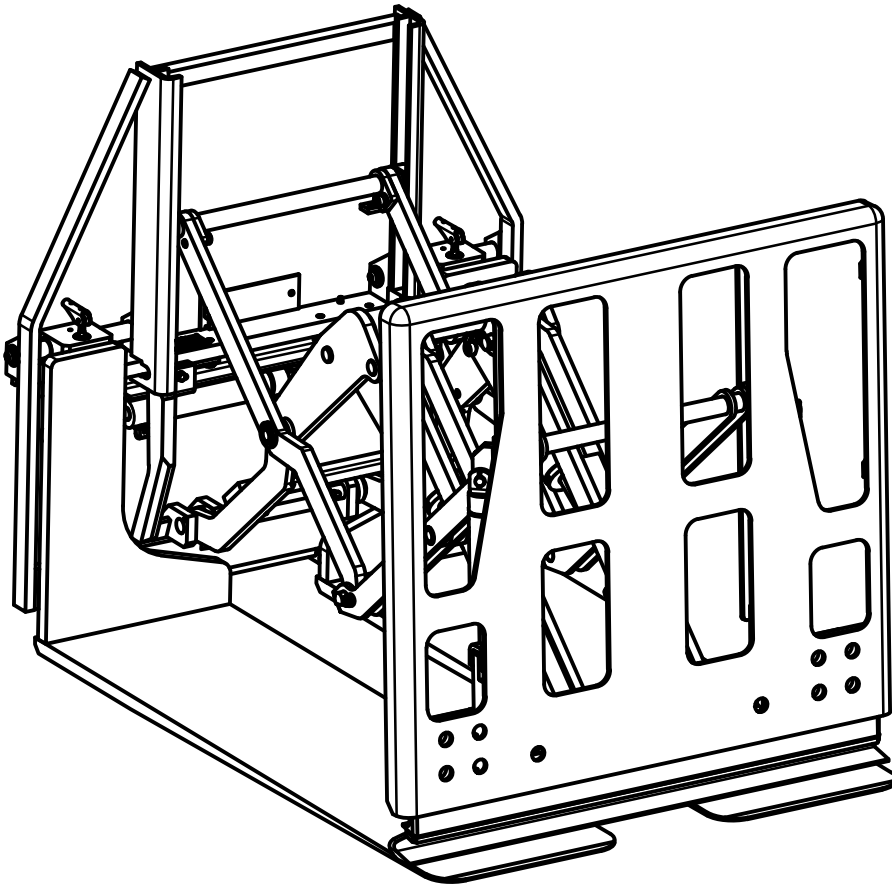




# OPERATION MANUAL

## PUSH PULL AND LOAD PUSHER



## CONTENT:

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2	Daily Inspection Weekly Inspection
3	Load Handling Techniques
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# INTRODUCTION

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The Loron family of Push Pull and Load Pusher attachments is designed to provide many hours of trouble-free, efficient service. Proper operating technique and common sense can help prevent damage to the product and to the attachment, as well as contribute to a safe working environment.

The purpose of this Operation Manual is to suggest ways you, as the operator, can learn the techniques and tricks professional operators use every day. Study this manual and familiarize yourself with the attachment. Learn to recognize normal operation and indicators of problems before they cause downtime. Take a few moments to look the attachment over to spot areas that may become a problem later.

This manual will show you what to look for and provides proper operating techniques. If you have any questions about procedures in this manual or about the attachment be sure to ask your supervisor or an experienced, trained operator before proceeding.

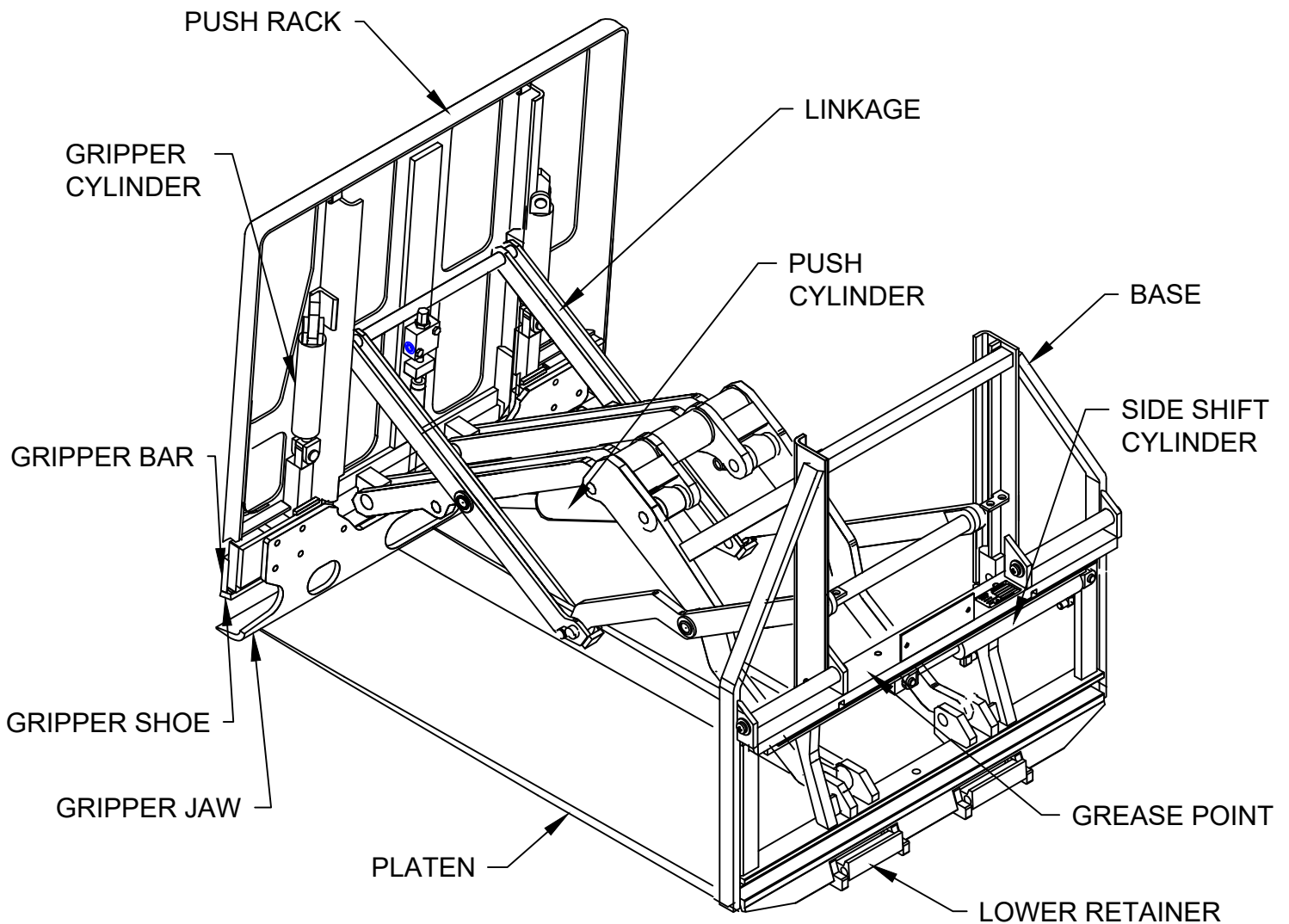
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## MAJOR PUSH PULL PARTS

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# DAILY INSPECTION

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Be sure the truck is shut off prior to inspection.

1. Check level of hydraulic oil in the lift truck's hydraulic reservoir.
2. Check for presence of hydraulic oil on attachment indicating possible leaks.
3. Visually inspect mounting points to be sure the attachment is securely mounted to the lift truck.
4. Inspect platens for damage. Repair or replace as damaged parts as necessary.
5. Actuate attachment functions. Report any unusual behavior to your supervisor.

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# WEEKLY INSPECTION

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Be sure the truck is shut off prior to inspection.

1. Check all hydraulic fittings, hoses, cylinders and valve for leakage. Repair or replace them as required.
2. Check hoses for pinch points and signs of wear. Contact supervisor if hoses are badly worn, have cuts, bulges, or are fraying.
3. All bolts should be checked and tightened as necessary.
4. Inspect all weld joints for signs of cracking. Pay close attention to the linkage group welds and all platen welds.
5. On side shifting units grease upper bronze slides as required.
6. Grease platen mounting pins. Check and tighten platen pin mounting bolts.
7. Grease slide block channels in base and push rack as required.
8. Check and tighten jaw and gripper shoe mounting bolts. Check gripper shoe for wear and replace if badly worn.
9. Inspect the gripper jaw area and make sure that pieces of slip sheet or other materials are not caught in mechanism.

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# LOAD HANDLING TECHNIQUES

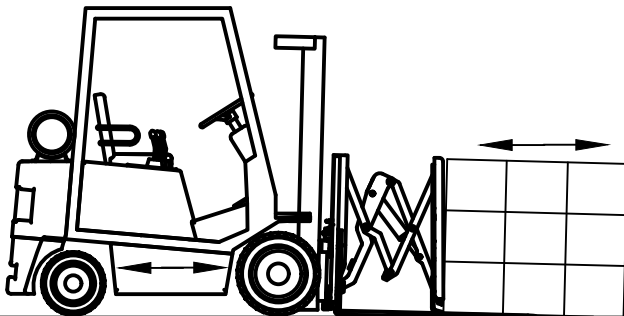
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In the following pages you will find suggested methods for basic load handling. Experienced operators often develop their own techniques as they gain confidence in the equipment and their abilities. Methods vary for different situations of loading and unloading. These methods include but are not limited to the drive and pull or push method, the pull or push only method, and the chisel loading method.

The examples show how to handle a load using a basic Push Pull. A Load Pusher is the same as a Push Pull without the gripper mechanism. To pick up a load with a Load Pusher, chisel under the load as you would using forks. Depositing a load is the same whether using a Load Pusher or a Push Pull.

Special options such as hydraulically adjustable platens or sheet retaining functions can increase the versatility and productivity of the attachment. However, the basic operating techniques are outlined in this manual. If the attachment is equipped with special options, have your supervisor or qualified trainer demonstrate and teach the operation of these options prior to operation.



## Drive and Pull/Push

While pulling a load onto the platens drive the truck forward at roughly the same speed as the rack coming back.

While pushing a load off the platens drive the truck backwards at roughly the same speed as the rack going forward.

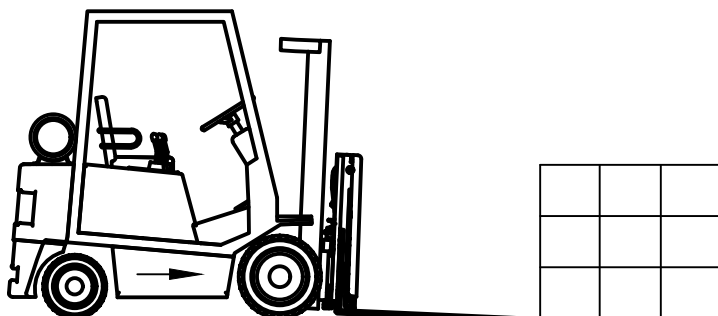
## Push/Pull Only

Hold the brake while pulling or pushing the load.



## Chisel Loading

Use the platens like normal forks to get under the load. It may be helpful to have something behind the load to fully get under the load.



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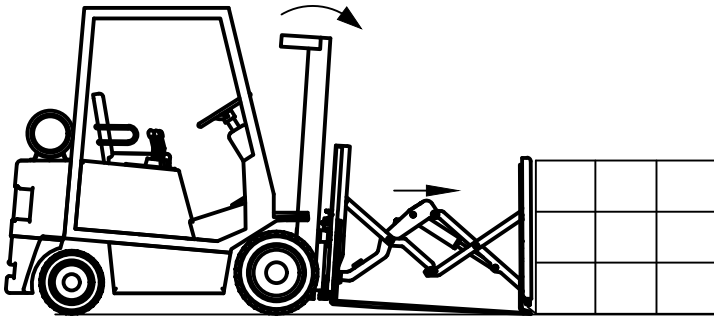
# FLOOR LOADING

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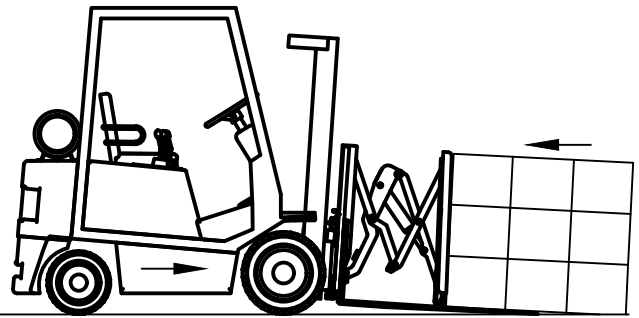
## Step 1:

- 1-1) Stop in front of the load.
- 1-2) Fully extend the push rack.



## Step 2:

- 2-1) Engage the slip sheet with the gripper.



- 1-3) Tilt mast forward till push rack is parallel with load.

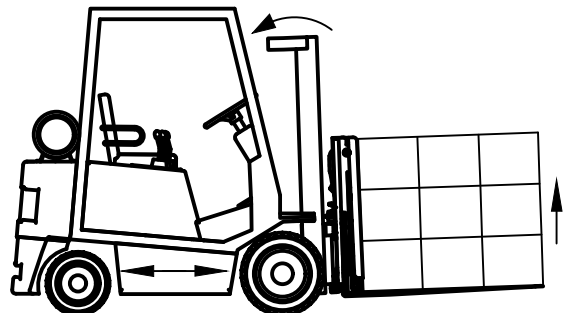
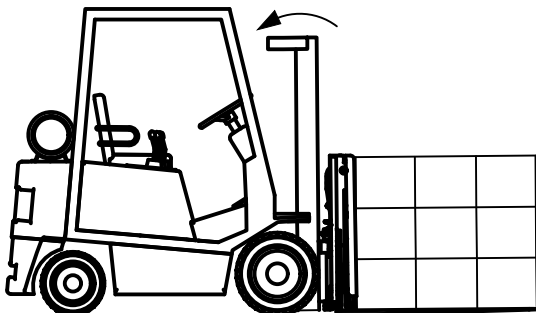
- 2-2) Begin to draw load onto the platens.
- 2-3) Drive forward with the movement of the push rack.

## Step 3:

- 3-1) Tilt mast back as load nears the base.

## Step 4:

- 4-1) Raise load slightly above the ground.
- 4-2) Tilt load back slightly for transport.



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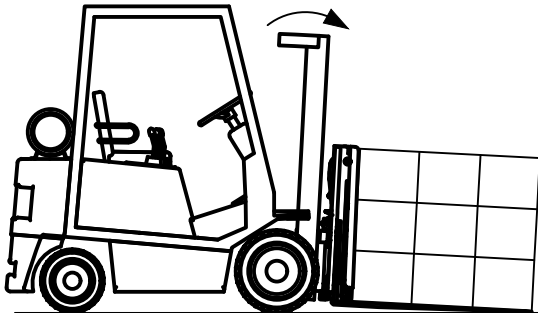
# FLOOR UNLOADING

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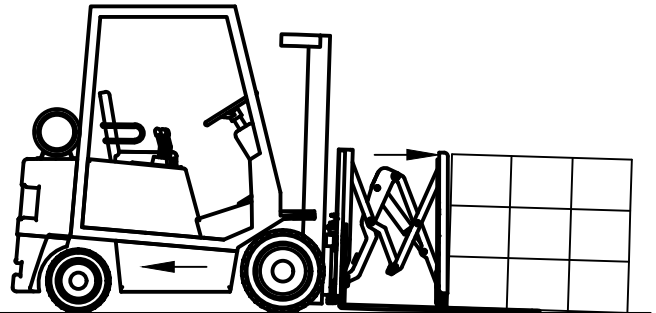
## Step 1:

- 1-1) Position truck and load where desired.
- 1-2) Tilt load and place platen tips on the ground.



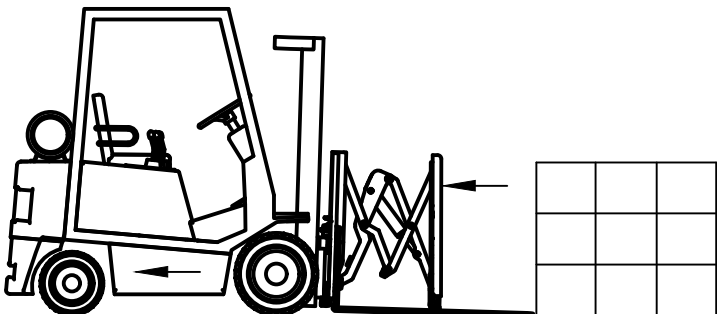
## Step 2:

- 2-1) Begin pushing the load off platens.
- 2-2) Drive truck backward with the movement of the push rack going forwards.



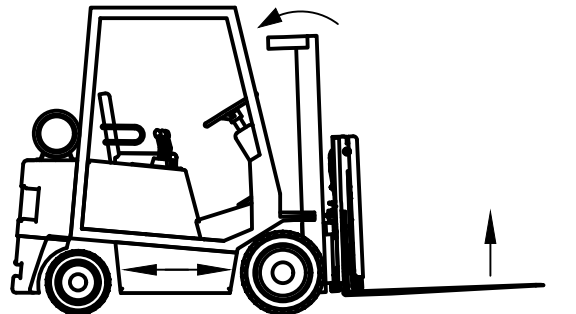
## Step 3:

- 3-1) Move away from the deposited load.
- 3-2) Retract the push rack to the base.



## Step 4:

- 4-1) Raise attachment off of the ground.
- 4-2) Tip mast back for moving to the next location.



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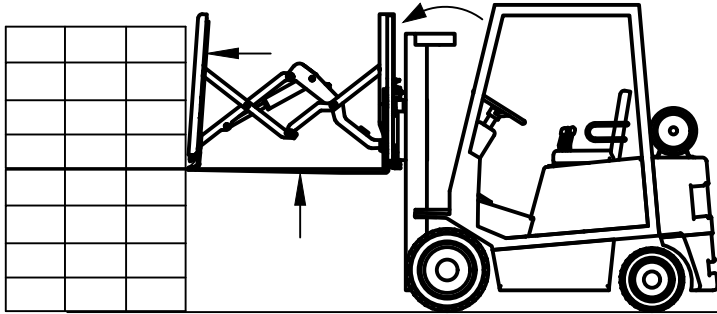
# STACKED LOADING

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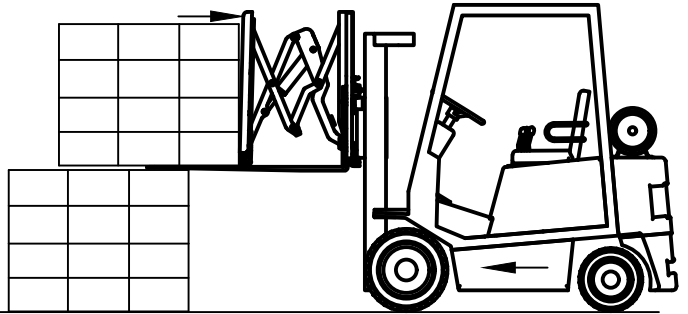
## Step 1:

- 1-1) Stop in front of the load.
- 1-2) Fully extend the push rack.
- 1-3) Tilt mast so platens are close to parallel with the ground.
- 1-4) Raise attachment to the load.



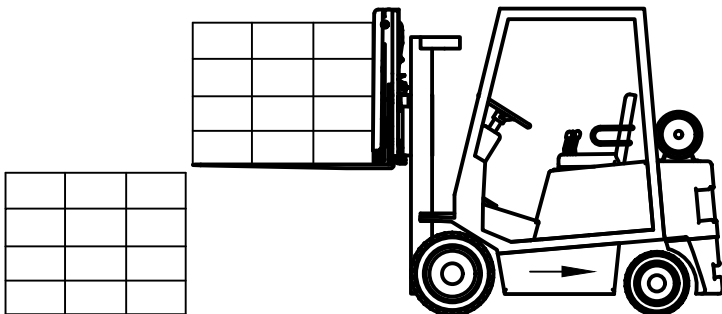
## Step 2:

- 2-1) Engage the slip sheet of the load with the gripper.
- 2-2) Draw the load onto the platens.
- 2-3) Drive forward with the movement of the push rack.



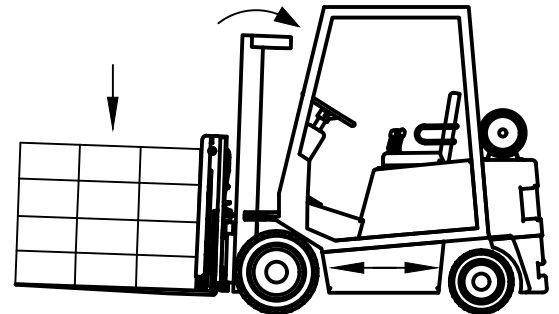
## Step 3:

- 3-1) Drive backwards for clearance of the stack.



## Step 4:

- 4-1) Lower load so slightly off of the ground.
- 4-2) Tilt load back slightly for transport.



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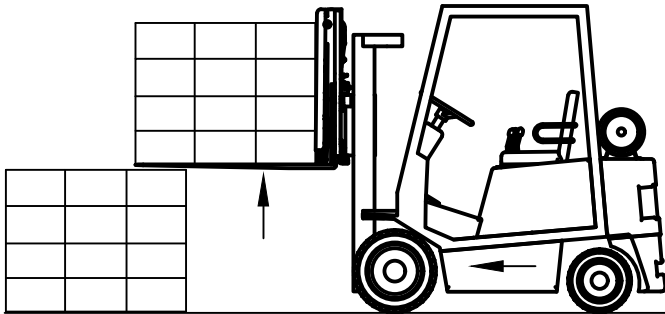
# STACKED UNLOADING

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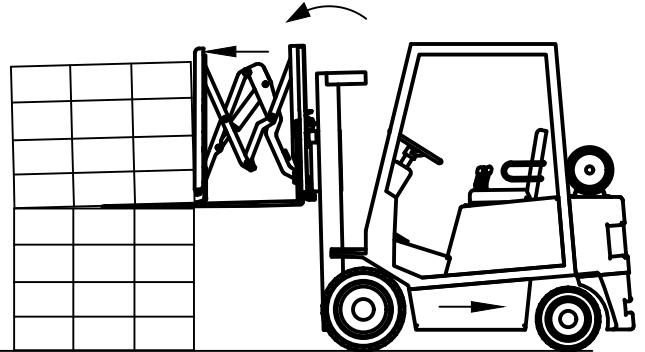
## Step 1:

- 1-1) Stop in front of the load.
- 1-2) Raise load for clearance of the stack.
- 1-3) Drive forward to align where the load will go on the stack.



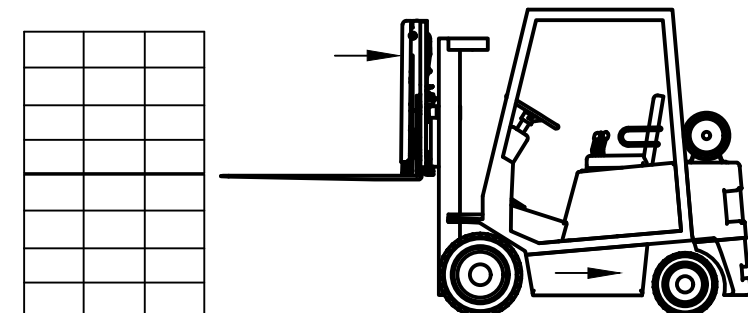
## Step 2:

- 2-1) When aligned engage push rack to push load on stack.
- 2-2) Drive backwards with the movement of the push rack.



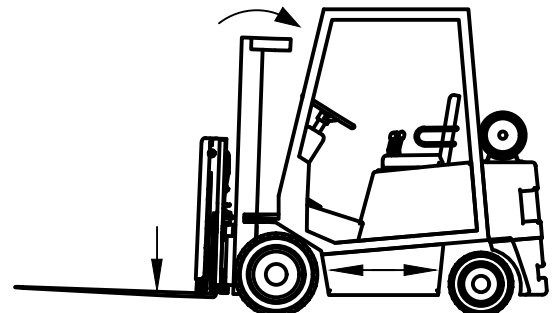
## Step 3:

- 3-1) Retract push rack when load is deposited in the correct location.
- 3-2) Drive backwards away from the stack.



## Step 4:

- 4-1) Lower the attachment to be slightly above the ground.
- 4-2) Tilt mast back for moving to next location.





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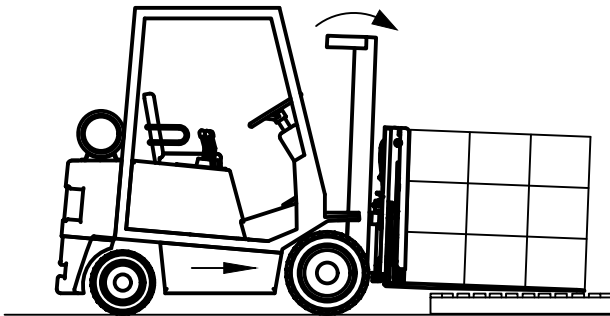
# PALLET LOADING

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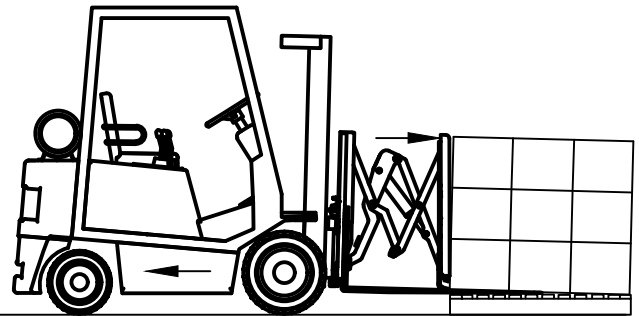
## Step 1:

- 1-1) Raise the load above the pallet.
- 1-2) Align the load with the pallet.
- 1-3) Tilt the mast till platen tips touch pallet.



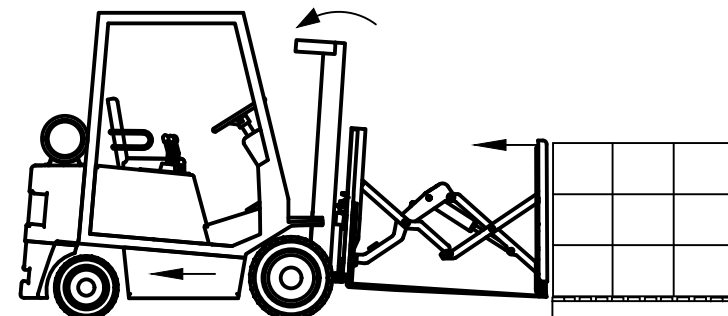
## Step 2:

- 2-1) Engage push rack starting the load onto the pallet.
- 2-2) Drive back slowly with the movement of the push rack.



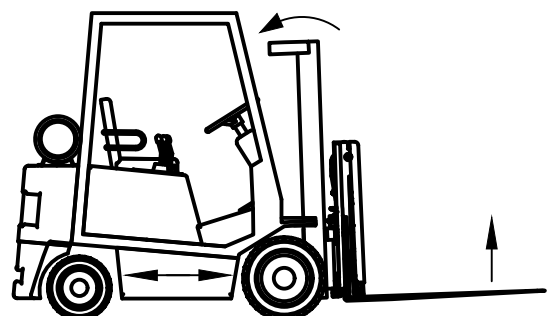
## Step 3:

- 3-1) Drive back away from the loaded pallet.
- 3-2) Retract the push rack to the base.
- 3-3) Tilt mast back as push rack reaches the base.



## Step 4:

- 4-1) Raise or lower attachment slightly above the ground.
- 4-2) Tilt the mast back for moving to the next location.



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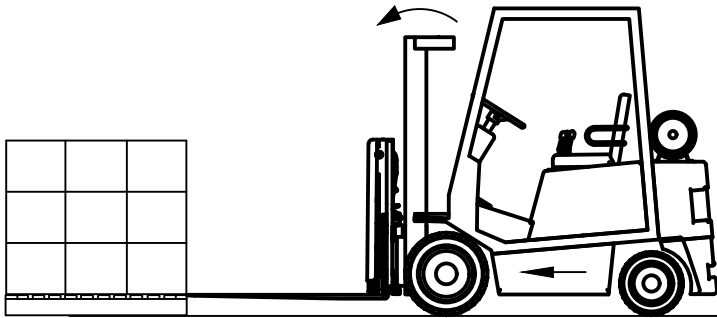
# PALLET UNLOADING

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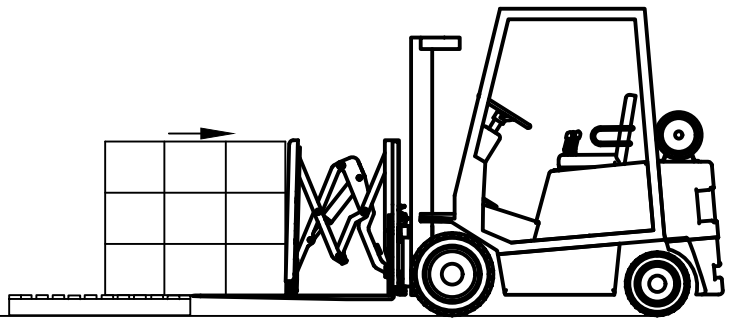
## Step 1:

- 1-1) Stop in front of the load.
- 1-2) Fully extend the push rack.
- 1-3) Raise attachment to the load resting the platen tips to side of pallet.



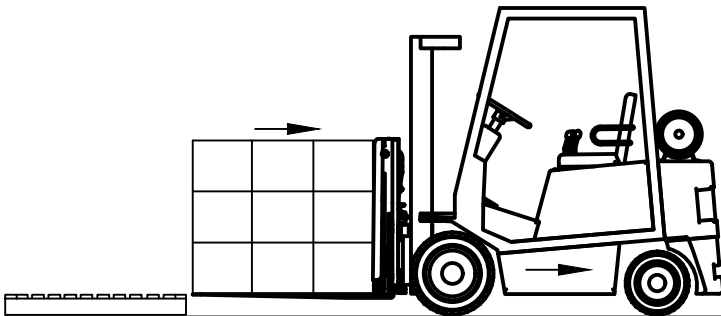
## Step 2:

- 2-1) Engage push rack starting to pull load off of pallet.



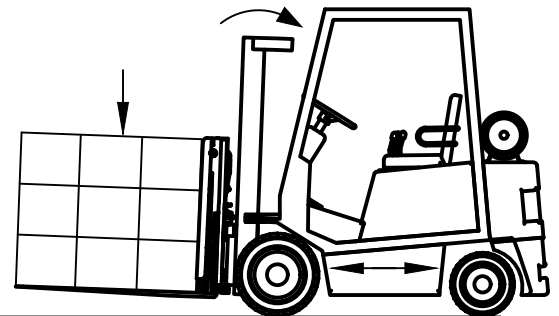
## Step 3:

- 3-1) Drive back away from the pallet.



## Step 4:

- 4-1) Raise or lower load to be slightly above the ground.
- 4-2) Tilt load back slightly for transport.



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# LOADING / UNLOADING TRAILERS/BOXCARS - 1

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Working in trailers and boxcars take some special considerations.

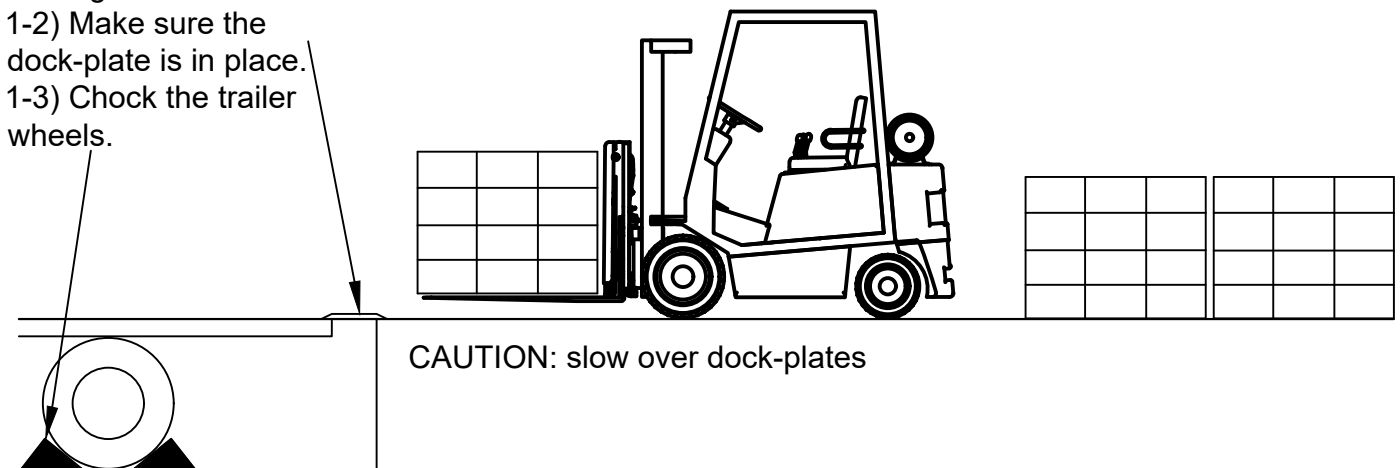
However, loading and unloading will be the same methods as floor or stacking in a more confined space.

## Step 1:

1-1) Inspect trailer for damage before unloading or loading.

1-2) Make sure the dock-plate is in place.

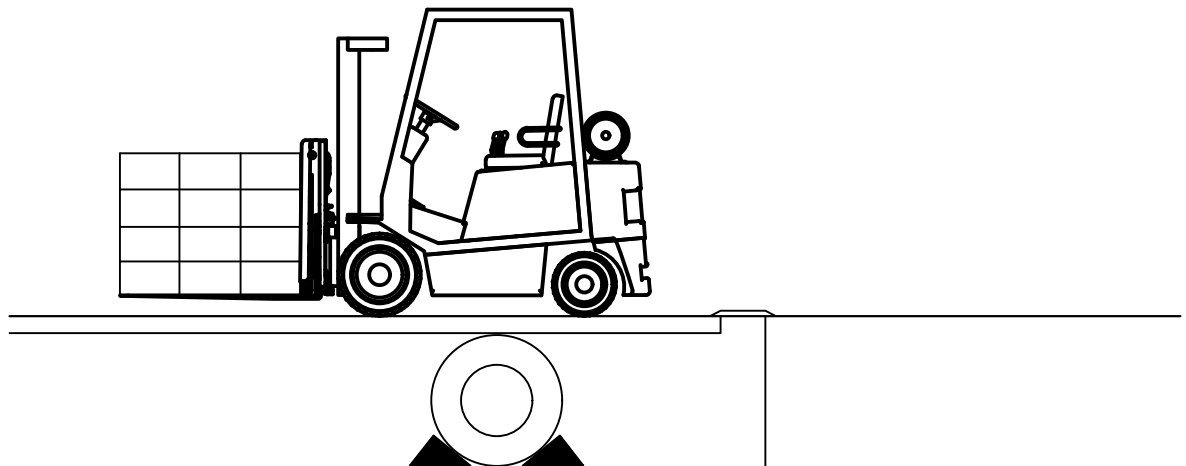
1-3) Chock the trailer wheels.



## Step 2:

2-1) Watch for clearance when entering or exiting with a load.

2-2) Stay centered in the trailer and brake gently.



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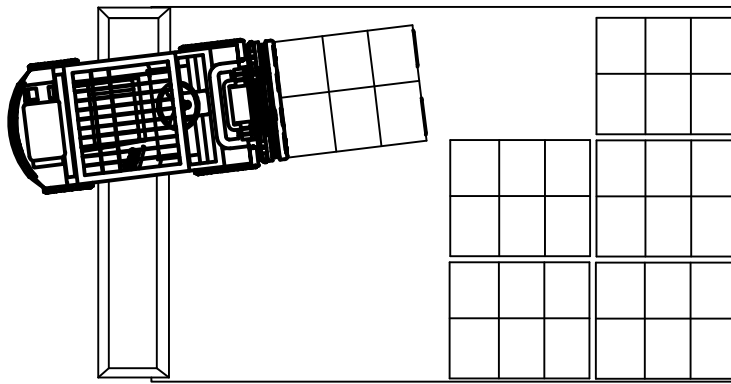
# LOADING / UNLOADING TRAILERS / BOXCARS - 2

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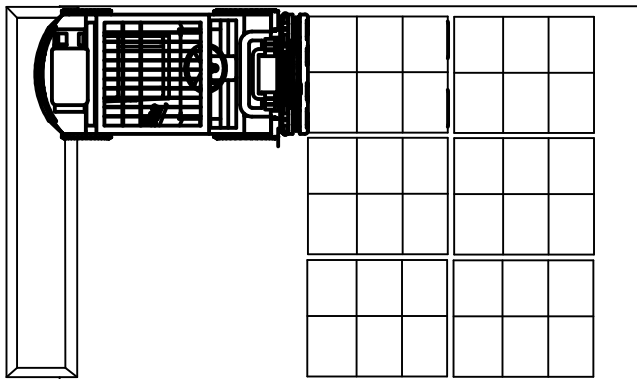
## Step 3:

- 3-1) Approach the side wall at a smaller angle.
- 3-2) Use side shift to help position the load as needed.



## Step 4:

- 4-1) Use side shift to square loads and make room for removal.
- 4-2) Back up slowly.



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# SAFETY PRECAUTIONS

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Please follow the safety precautions below to help prevent personal injury or damage:

Prior to operating the lift truck and attachment you must receive proper training and get certification as an operator.

Know the capacity of the lift truck and the attachment. Handle loads weighing at or less than the lowest stated maximum capacity only. Truck and attachment may have different maximum capacities.

When leaving truck, lower attachment to floor, shut off truck, place transmission in park (or put in gear for trucks with manual transmissions) and set the hand brake.

Transport loads near to the floor with mast tilted back.

Obey speed limits. Drive only in designated aisles. Obey all stop and caution signs. Sound horn at blind spots.

Back straight down inclines. Drive straight forward up inclines.

If load obstructs view drive truck in reverse.

If load is unstable or separating, re-stack load prior to handling.

Always keep arms and legs within the confines of the operator's compartment.

Keep others off of and out from under the attachment at all times, whether empty or loaded.

Operate the attachment only if it is in good condition and functioning properly.

Always keep hands, feet and other body parts clear of linkage and gripper mechanisms while truck is turned on. Avoid pinch points.

Use the attachment only as specified in the manual or as instructed by your supervisor or trainer. Misuse can lead to damage to the load or attachment and may cause personal injury.

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# NOTES

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# OPERATOR SIGN OFF

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*Operator Name*

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*Operator Signature*

*Date*

Signature of operator above indicates the date of when the handbook was received.

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*Supervisor / Trainer Name*

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*Supervisor/ Trainer Signature*

*Date*

Signature of supervisor / trainer indicates the above named operator has read the handbook and received adequate training and test to safely operate the Loron Push Pull or Load Pusher.