

Operator Training Program

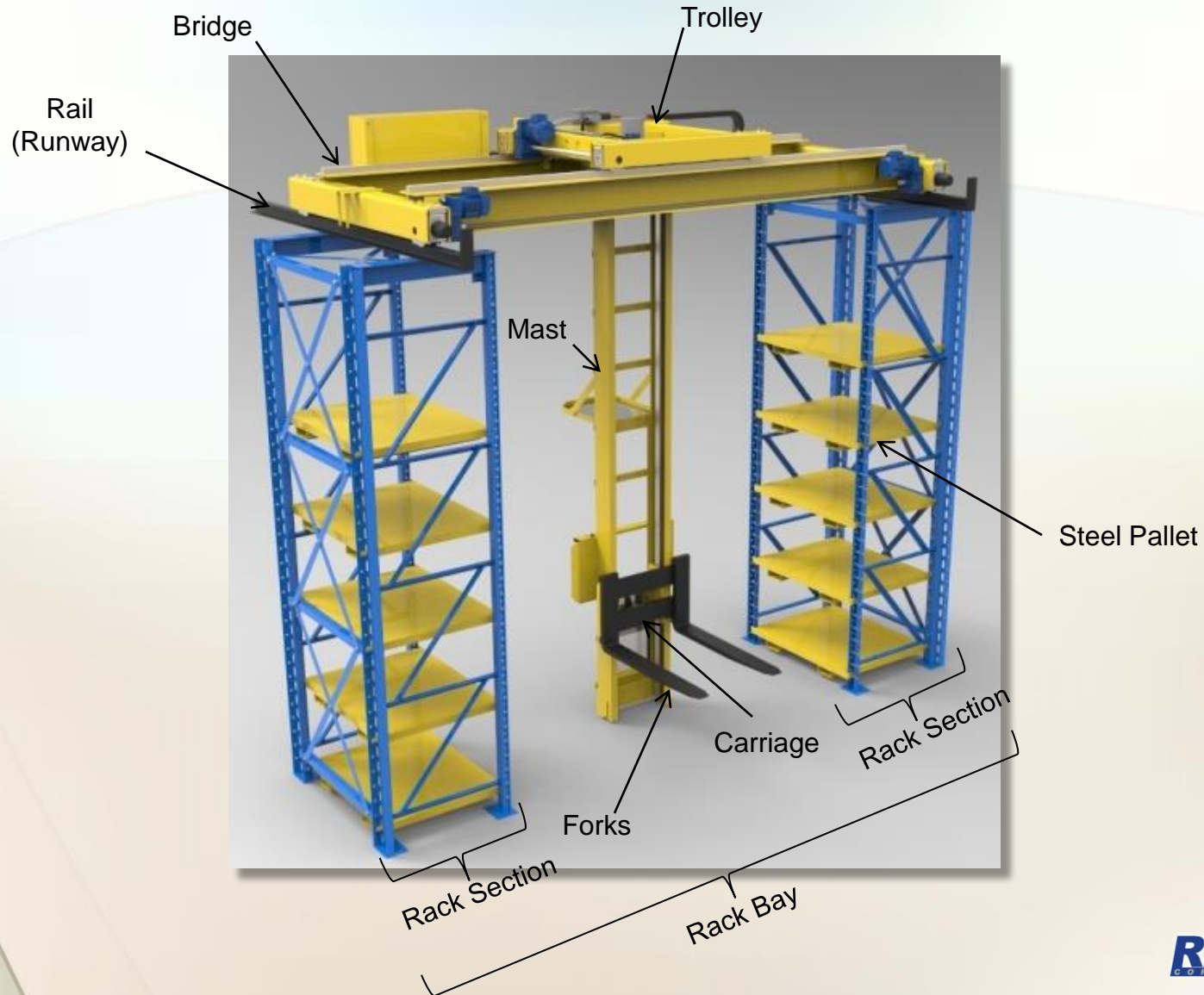
PROSTAK Storage Management Systems



Operator Training Index

- | | |
|-------------------------------------|------------------|
| 1. PROSTAK System Nomenclature | Slide 3 |
| 2. Safe Operating Guidelines | Slides 4 and 5 |
| 3. Types of PROSTAK Stackers | Slide 6 |
| 4. PROSTAK Pushbutton controls | Slide 7 |
| 5. Adjustable Pallet Forks | Slide 8 |
| 6. PROSTAK Pallets | Slide 9 |
| 7. Power Up the PROSTAK Stacker | Slide 10 |
| 8. Operator Positions | Slide 11 |
| 9. Raise and Lower Pallet Forks | Slide 12 |
| 10. Move the Trolley North or South | Slide 13 |
| 11. Move the Bridge East or West | Slide 14 |
| 12. Rotate the Mast Left or Right | Slide 15 |
| 13. How to Remove a Pallet | Slide 16 |
| 14. How to Place a Pallet | Slides 17 and 18 |

PROSTAK System Nomenclature



Safe Operating Guidelines

1. Stacker operation concerns the safety of many people. The operator should be alert and give his undivided attention to his duties at all times.
2. Operate all controls to ensure their proper operation. Do not operate damaged or malfunctioning equipment.
3. Test the upper limit switch by raising the carriage slowly into the upper limit switch to verify proper operation. If it does not stop the hoisting motion, stop the upward movement and report the failure to your supervisor. **DO NOT OPERATE A HOIST WITH A MALFUNCTIONING LIMIT SWITCH!**
4. The operator should test all brakes frequently or each time a load approaches the rated capacity of the Stacker, especially the hoist brakes. When testing the hoist brakes the operator should raise the load just a few feet above the floor and stop. If the brake does not hold the load, stop work until the brake has been adjusted.
5. Never work with defective hook attachments, cables, chains, slings, hooks or load beams.
6. Close controls gradually so that motors start smoothly. Never reverse the direction quickly.
7. Always allow the Stacker to come to a complete stop before reversing direction of motion.
8. Always make certain that loads are fully engaged on the forks.
9. Under normal operating conditions a signalman is not required to operate the Stacker. However, the operator shall obey a stop signal at all times, no matter who gives it.
10. Side or end pulling is very dangerous and should not be performed with the Stacker.
11. Rolling a load is a dangerous process and should not be performed with the stacker.
12. A good operator will never swing or jerk a load, or lift it when anyone could be caught between it and other objects.

Safe Operating Guidelines

13. When handling loads, always make sure there is no person or obstacle in the way of the load being carried.
DO NOT CARRY LOADS OVER PERSONNEL.
14. IF A CONTROL BUTTON SHOULD STICK TO AN “ON” POSITION, PRESS THE “STOP” RED MUSHROOMHEAD BUTTON IMMEDIATELY. This will shut off all motions. Do not press the “START” button until the defective button has been repaired.
15. The forks should never be left in the air when the Stacker is not in use. Lower the forks to the floor when not in use.
16. An operator should never let his Stacker bump into another crane or stacker unnecessarily, and he should never push one crane or stacker with another crane or stacker.
17. When the Stacker is no longer to be operated, always press the “STOP” button to disconnect power to the control panels.
18. Never leave a suspended load unattended!
19. Keep your hands, arms and legs on the operator side of the stacker mast at all times.
20. NEVER lift a pallet when the forks are not fully engaged in the pallet.
21. Make sure the aisle is clear of boxes or other objects to prevent tripping while operating the stacker.
22. A Stacker operator should always consider a loaded stacker with the same respect as a loaded gun. If pointed in the wrong direction and not controlled properly, it can injure and even kill.

Types of PROSTAK Stackers

There are four types of PROSTAK Stackers. Each PROSTAK Stacker comes with a motorized two speed lift.

1. Hand propelled bridge, trolley and rotation.
2. Motorized bridge, hand propelled trolley and rotation.
3. Motorized bridge and trolley, hand propelled rotation.
4. Motorized bridge, trolley and rotation.

All motorized options are provided with variable frequency controls.



PROSTAK Pushbutton Controls

The PROSTAK pushbutton controls are as follows...

“Twist On - Push Off” - Red mushroom head emergency button

Used to turn power to the controls on or off

“On -Off” - Key switch

To prevent unauthorized operation of the equipment

“Hoist Up - Down”

Raises and lowers the forks

“Trolley North - South” **

Allows travel from side to side

“Bridge East - West” **

Allows travel from end to end

“Rotation Left - Right”

Allows left hand or right hand rotation

** North, South, East, West directions are based on the position of the storage system within your facility.



Adjustable Pallet Forks

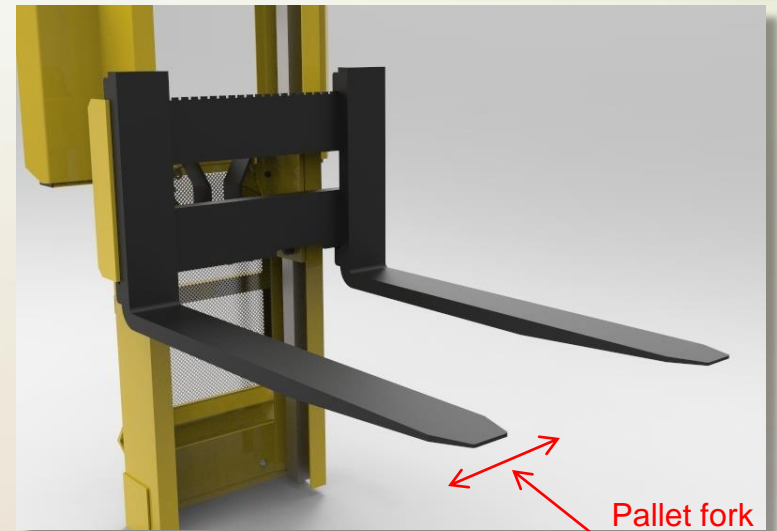
All PROSTAK Stackers have adjustable pallet forks. To adjust the pallet forks a positioning lock is located on the top rear side of the pallet fork. When the positioning lock is in the down position the pallet fork can not be moved. To move the pallet fork the operator must raise the positioning lock as shown. This will allow the pallet fork to slide on the carriage bars.



Positioning lock in locked position



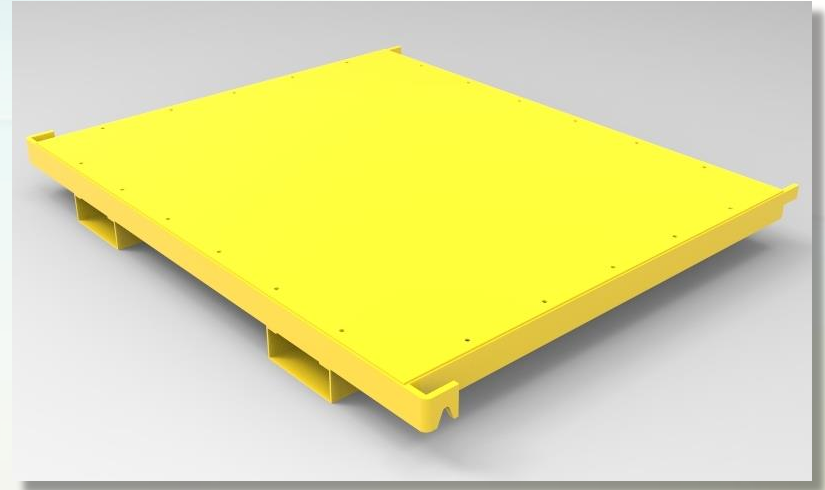
Positioning lock in unlocked position



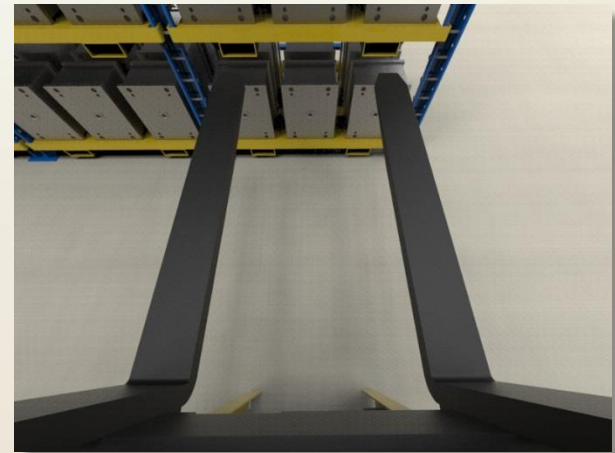
Pallet fork movement

ProStak Pallets

PROSTAK Pallets are made of fabricated welded steel construction and are provided with full length fork pockets.



The pallet forks should be adjusted to engage the full length fork pockets as shown.



Power Up The PROSTAK Stacker



Insert the key into the key switch.



Turn the key to the right.



Grip the outside edge of the red mushroom head pushbutton.



Twist the red mushroom head pushbutton to the right.



The button will pop out and the PROSTAK Stacker will have power.

Operator Positions

The operator can operate the PROSTAK Stacker from behind the mast. This method is used when the PROSTAK Stacker is supplied with a manual trolley and manual rotation.



Or...

The operator can operate the PROSTAK Stacker from the side of the mast by removing the pendant controls. This method can be used on PROSTAK Stackers that are fully motorized.



Raise and Lower the Pallet Forks

- To raise the pallet forks slowly, press the “Hoist Up” pushbutton part way in. The pallet forks will raise up in slow speed.
- To raise the pallet forks fast, press the “Hoist Up” pushbutton all the way in. The pallet forks will raise up in high speed.
- To lower the pallet forks slowly, press the “Hoist Down” pushbutton part way in. The pallet forks will lower in slow speed.
- To lower the pallet forks fast, press the “Hoist Down” pushbutton all the way in. The pallet forks will lower in high speed.
- You can change the speed by pressing the pushbutton all the way in or partway out.
- You should always use the slow speed to store or retrieve a pallet from the rack. High speed is used to move up or down before or after storing or retrieving a pallet.



Hoist Up Pushbutton

Hoist Down Pushbutton

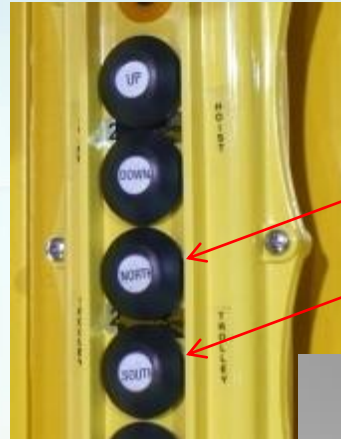


Move the Trolley North or South**

To move the trolley North press the “Trolley North” pushbutton. When the button is pressed part way the trolley will move in slow speed. When the button is pressed all the way in, the trolley will speed up. To hold that speed release the pushbutton part way, to maintain that speed. If you hold the pushbutton in all the way it will ramp up to high speed.

To move the trolley South press the “Trolley South” pushbutton. The pushbutton will function the same way as the above description.

** Trolley North, South direction based on positioning of system in your facility.



Trolley North Pushbutton

Trolley South Pushbutton

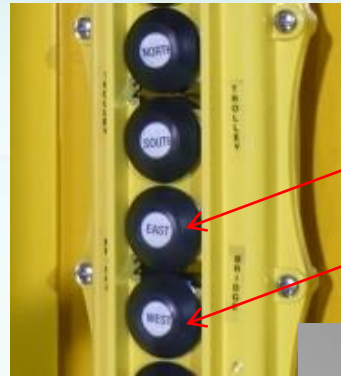


Move the Bridge East or West**

To move the bridge East press the “Bridge East” pushbutton. When the button is pressed part way the bridge will move in slow speed. When the button is pressed all the way in, the bridge will speed up. To hold that speed release the pushbutton part way, to maintain that speed. If you hold the pushbutton in all the way it will ramp up to high speed.

To move the bridge West press the “Bridge West” pushbutton. The pushbutton will function the same way as the above description.

** Bridge East, West direction based on positioning of system in your facility.



Bridge East Pushbutton

Bridge West Pushbutton



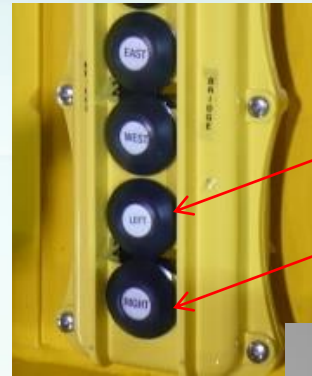
Rotate the Mast Left or Right

To rotate the mast Left press the “Rotate Left” pushbutton. When the button is pressed part way the mast will rotate in slow speed. When the button is pressed all the way in, the mast will speed up. To hold that speed release the pushbutton part way, to maintain that speed. If you hold the pushbutton in all the way it will ramp up to high speed.

To rotate the mast Right press the “Rotate Right” pushbutton. The pushbutton will function the same way as the above description.

The mast can rotate 360 degrees continuously, there is no need to stop and rotate in the opposite direction.

If the forks or load makes contact with the racking during rotation a slip clutch will prevent damage to the drive system.



Rotate Left Pushbutton

Rotate Right Pushbutton



How To Remove A Pallet

Begin by locating the pallet you wish to remove from the rack.

Then position the pallet forks in front of the pallet and aligned with the fork pockets on the pallet.

Move the forks toward the pallet to fully engage the pallet.

With the pallet fully engaged press the “Hoist Up” pushbutton in, partway, to begin raising the pallet in slow speed.

When the pallet has been raised 1 to 1.5 inches you can begin moving the pallet out of the rack by either pulling back on the Mast Handles for manual stackers or by pressing the “Trolley North or South” pushbutton for motorized trolley stackers.

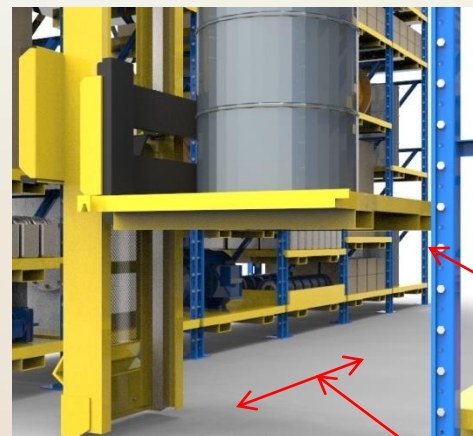
Once the pallet has cleared the front of the rack you can begin moving up or down the aisle or you can rotate the mast.



Pallet to Remove



Pallet Fork Pockets



Front of Rack

Move Up/Down Aisle

How To Place A Pallet

Begin by locating the pallet you wish to place into the rack.

Then position the pallet forks in front of the pallet and aligned with the fork pockets on the pallet.

Move the forks toward the pallet to fully engage the pallet.

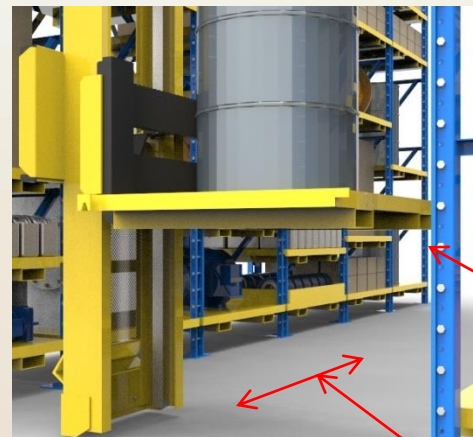
With the pallet fully engaged press the “Hoist Up” pushbutton in, partway, to begin raising the pallet in slow speed.

When the pallet has been raised 3 to 4 inches you can begin moving the pallet up/down the aisle to find a location to place the pallet into the rack.

Once you have located a location in the rack raise the pallet up until the pallet tabs are above the pins on the front of the rack where you want to place the pallet.

With the pallet fully aligned between the left and right uprights push on the handles for manual trolleys or push the “Trolley North/South” pushbutton in partway to begin moving into the rack.

Continued...



Pallet Fork Pockets

Front of Rack

Move Up/Down Aisle

How To Place A Pallet

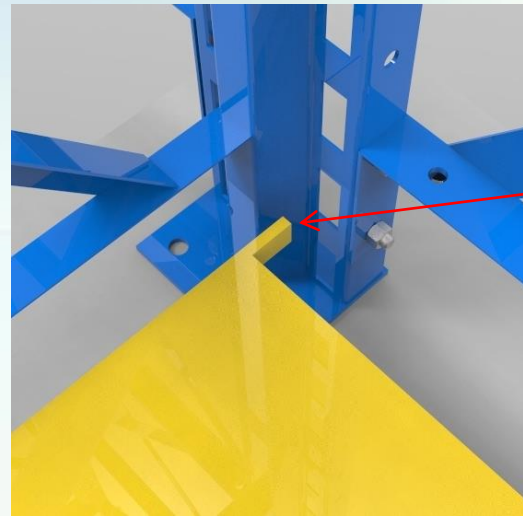
As you begin moving into the rack the “Rear Pallet Tabs” will engage the rear upright slots, the “Front Pallet Tabs” will move into position over the “Support Pins”.

Once the pallet is fully set into the rack press the “Hoist Down” pushbutton partway to slowly lower the pallet onto the front “Support Pins”.

When the pallet engages the “Support Pins” the pallet will be locked into the rack and it will now be safe to remove the forks from the pallet fork pockets.

To remove the pallet forks from the pallet fork pockets press the “Hoist Down” pushbutton in partway until the pallet forks are no longer supporting the pallet.

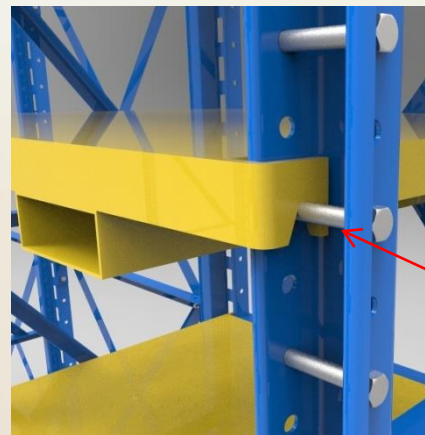
To back the pallet forks out of the pallet pockets pull on the handles for manual trolley units or press the “Trolley North/South” pushbutton partway and slowly back the forks out of the pallet pockets.



Rear Pallet Tab



Front Pallet Tabs



Support Pins

Thank you for your interest in Rapistak PROSTAK Stacker
Crane Storage Management Systems.