

# PTT6

## Operation Manual

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100,000 lbs. Capacity Battery Powered Tugger



[ALIGNPROD.COM](http://ALIGNPROD.COM) 800.888.0018

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[SUPPORT@ALIGNPROD.COM](mailto:SUPPORT@ALIGNPROD.COM)





# Manufactured by Align Production Systems

## Air Caster Solutions

- Air Skid
- Air Skid Rigging Kit
- Air Skid Lift Glide
- Air Caster Plank
- Air Caster Utility Platform
- Air Caster Platform
- Pneumatic Power Tugger

## Turntables

- Air Caster Turntable
- Flush Floor Turntable
- High Speed Turntable
- Mechanical Turntable
- Precision Mech. Turntable
- Heavy Duty Mech. Turntable

## Coil/Roll Handling

- Coil Car with Spike
- Coil Car with Cradle
- Coil Tipper
- Coil Tipper w/ Rotate

## Ergonomic

- Pneumatic Lift
- Self-Leveling Pneumatic Lift
- Pneumatic Tilt
- Mechanical Rotate
- Hydraulic Lift
- Hydraulic 90° Upender

## Battery Tuggers

- Powered Tugger
- Ride-On Tugger
- GT Tugger

## Wheeled Transporters

- Pallet Transporter
- Platform Transporter
- Mold & Die Transporter
- Flatbed Transporter Single and Multi-Drive

## Welding Positioners

- Heavy Duty Head & Tailstock
- Head & Tailstock
- Two Axis Positioner

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- Conveyor Systems
- Over/Under Conveyors
- Mold & Die Changers
- Manlifts
- Integrated Systems
- AGV Enabled Solutions
- Robotic Work Cells
- Air Caster Transporters

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General Specifications	
Model No.	APS030-2200
Dimensions	78.75" x 32.6875" x 40.5"
Weight Approx.	1,750 lbs.
Capacity	100,000 lbs.
Battery	105 Ah
Charging	48 VDC / 32 A
Stroke	5.9"

## I. Important Precautions

***Read the following safety precautions before operating or servicing your equipment.***

Follow correct lockout/tagout procedures.

Prevent personnel from leaning on equipment and containers or placing their arms, hands, legs or any bodily member in pinch-point areas throughout the system.

Instruct personnel on the proper placement of product on the equipment. Failure to place containers or loads in the engineered locations may hinder the operation of the equipment or cause structural damage.

Never walk or climb into or onto the product while it is in motion.

Never alter the equipment in any way unless authorized by a qualified employee of Align.

Thoroughly read the manual and understand how to use the PTT6.

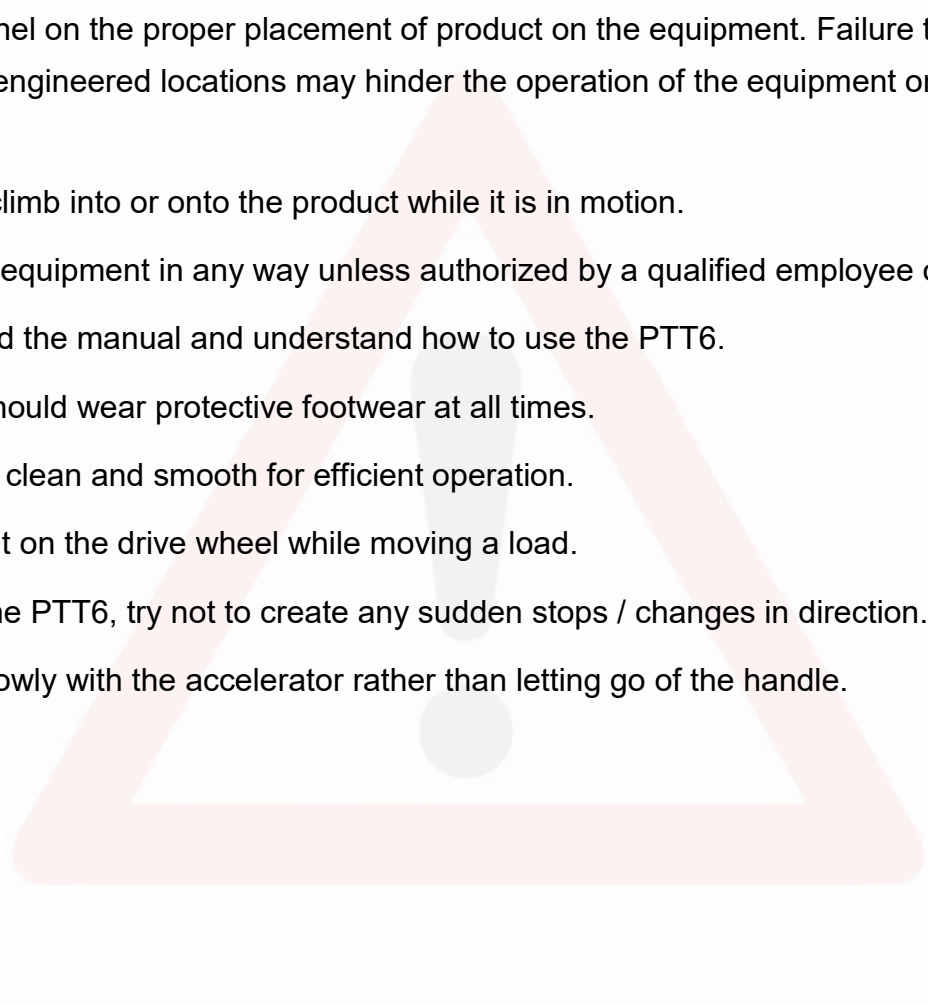
The operator should wear protective footwear at all times.

Keep the floors clean and smooth for efficient operation.

Keep the weight on the drive wheel while moving a load.

When driving the PTT6, try not to create any sudden stops / changes in direction.

Stop the unit slowly with the accelerator rather than letting go of the handle.



## II. Safety

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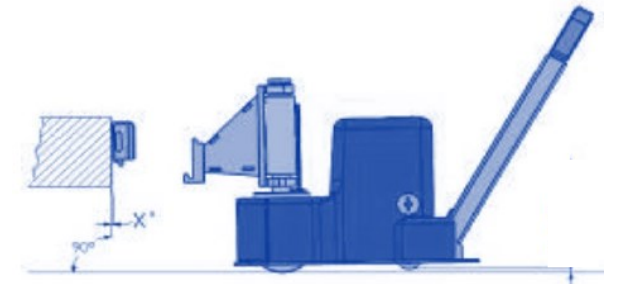
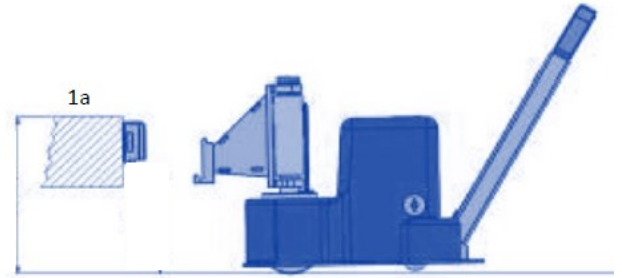
### PTT6 Safety

Charge the batteries after using the PTT6 Tugger.

Always place the female coupling (1a) at the correct height. It's important that the coupling is at the correct angle and is firmly fastened to your trailer.

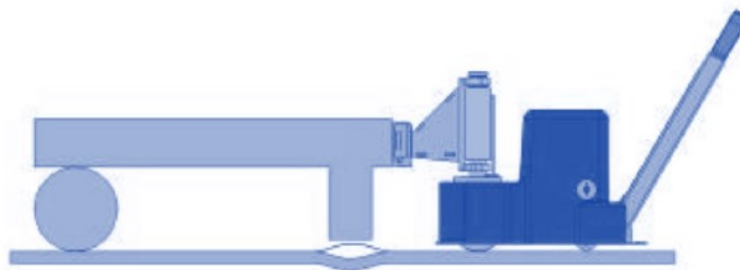
Raise / lift the coupling until the casters have enough ground clearance (1.5").

Only lift the coupling high enough to perform the transport.



### Load Placement

The image below shows the correct setup that should be used with the PTT6, as well as where to place the load. These trailers should consist of one wheel axle. When the trailer and the PTT6's coupling are attached to each other, and the PTT6's arm is raised, the trailer leg will be lifted off the ground.

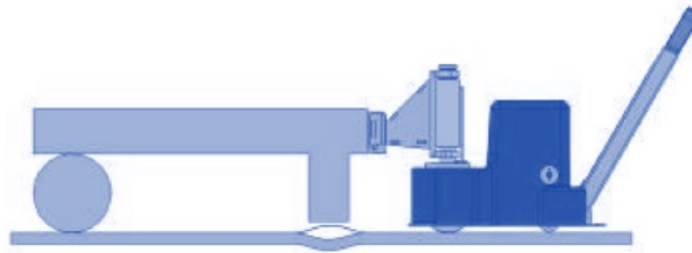


As mentioned above, trailers should consist of one wheel axle. If there are two axles and the floor is uneven, the front wheel will be lifted up by the PTT6 and overload the wheels. Uneven floors put the trailer coupling at risk of unfastening and can disconnect from the trailer.

### III. Load Placement

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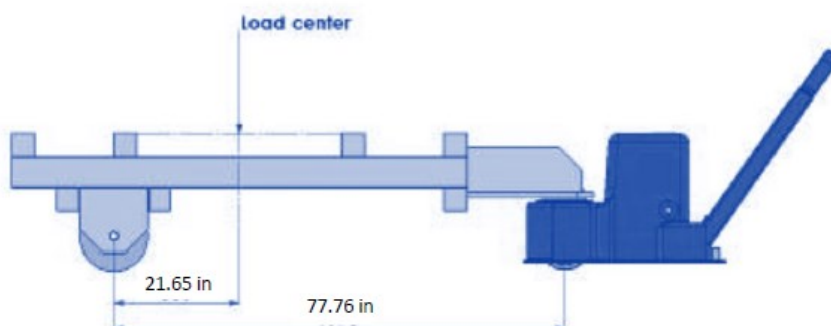
The PTT6 has a maximum load capacity of 6,614 lbs on the drive wheel under normal conditions.

The load capacity depends on the configuration of the load. Max capacity could be under 6,614 lbs. depending on if there is a swing bearing or a lift cylinder. Contact Hedin USA if you are unsure of your lift capacity.

The drive wheel needs ground force on it to make sure friction between the floor and wheel provides the traction required to perform the transport.

The load center has to be in between the trailer's wheels and the PTT6's drive wheel. If not, there is a chance the load could overturn.

Heavier loads must be balanced on the trailer - see picture below.



#### Example:

$$22,047\text{lbs gives } 22,047 \times 21.65 / 77.76 \\ = 6,138.34\text{lbs on Drive Wheel}$$

## IV. Sequence of Operations

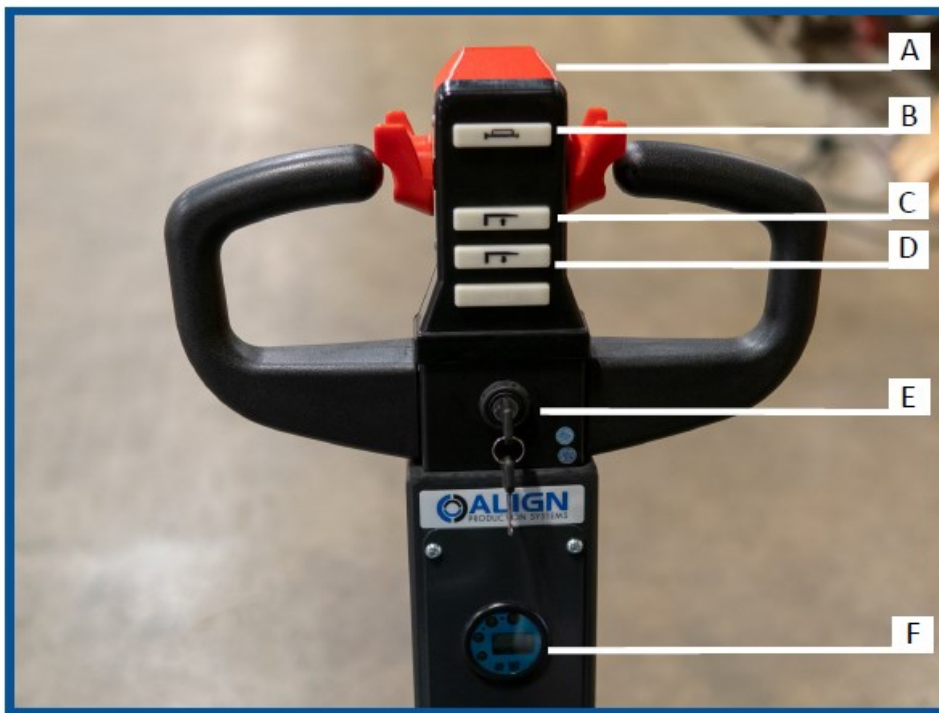
**As operator, you are responsible that no one is in harm's way whilst you are operating the transporter.**

### **Starting the Equipment**

Turn the key switch on the handle when it is in its upright position.

Check the battery indicator to make sure the PTT6 is charged and ready for use.

Push the "lift cylinder down" button to assure that the cylinder is in its lowest position.



- A. Safety stop switch
- B. Signal Horn
- C. Lift cylinder up
- D. Lift cylinder down
- E. Key switch
- F. Battery indicator

## **IV. Sequence of Operations**

**As operator, you are responsible that no one is in harm's way whilst you are operating the transporter.**

### **Connecting the PTT6 to a Trailer**

Ensure the coupling between the PTT6 and the trailer is properly connected.

When the lift is performed, do not lift higher than necessary as it puts additional strain on the lift cylinder.

The casters at the back of the PTT6 will lift from 1.5" from the floor. This applies the load to the drive wheel for easy maneuverability.

The coupling must be attached vertically so the casters in the back of the PTT6 are in the air when it has been connected to the trailer.

If the trailer is fixed to the PTT6, the casters can be removed to avoid becoming stuck on uneven floors.

### **Connecting the PTT6 to a Trailer**

The direction and speed of the PTT6 is controlled and adjusted by the accelerator at the top of the handle.

A safety switch is located on the handle. When triggered, the PTT6 will stop and take a small leap forward to prevent the pinning of the operator.



## IV. Sequence of Operations

### Pinch Points



**REMEMBER:**  
THE OPERATOR IS  
RESPONSIBLE FOR THE  
SAFETY OF PEOPLE  
AND THE WORK  
ENVIRONMENT.

***Be careful of pinch points.*** They can occur:

- Between the PTT6 and moving or fixed objects
- During lifting—between the floor and the PTT6 or between the object being connected and the PTT6.
- When operating the hydraulic cylinder.
- While driving the PTT6. Be cautious of surroundings.

## V. Batteries

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### Charging the Batteries

Always switch the battery charger off before connecting / disconnecting the battery cables.

The batteries are to be charged a minimum once a week to maintain their capacity over time.

The charging cable is to be connected to the outlet on top of the PTT6.

“Charging” is indicated by a **yellow light**.

“Charge Complete” is indicated by a **green light**.

The charger has an extra green light which indicates that the charging current (1 Ah) is not reached in the maximum charging time of 20 hours to prevent overcharging and harm to the battery.

## VI. Maintenance

### Lifting the Cover

Disconnect the charging cable if connected.

Unscrew the two bolts located on at the sides of the cover close to the floor.

Pull the cover straight up and make sure the hydraulic hoses don't get pinched.

### Safety During Maintenance

Service and maintenance are to be carried out by trained personnel only.

When doing service or maintenance on the PTT6, always disconnect battery cables.

Always make sure the hydraulic lift cylinder is at its lowest position when servicing the hydraulics.

Schedule	Maintenance Task
Monthly	Keep wheels clean and check for wear and tear.
	Check batteries for leakage and clean connectors from oxidation.
	Check switches on the front for functionality.
	Check hydraulic hoses, oil level, tighten nuts and bolts, check gear belt and gear wheel for wear.
Semiannual	Check cables for wear, replace if necessary.
Annual	Clean the PTT6 chassis and parts.
	Change hydraulic oil, ISO 46.
	Check all components for damage.
	Check relays, fuses, and connections.

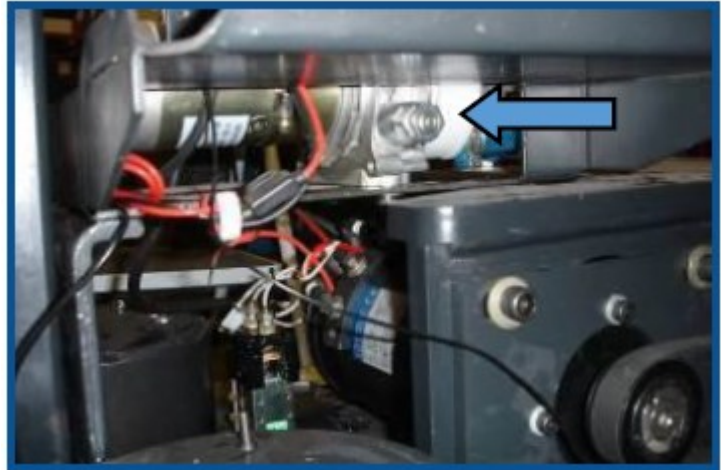
## VI. Detailed Maintenance

### Increase / Decrease Pressure

Loosen the nut (shown to right) with a 24mm wrench.

To increase pressure, tighten the Allen Key bolt in the center. Decrease pressure by loosening the bolt.

Always check the pressure with a pressure gauge. **DO NOT** exceed 2,000 PSI.



## VII. Limited Warranty

### Limited Warranty - One (1) Year From Ship Date

Align Production Systems (APS) warrants all of its products to be free of defects in material and workmanship for a period of One (1) year from date of shipment to the original purchaser or 2,000 operating hours, whichever comes first, provided purchaser gives APS prompt notice of the alleged defect(s) and, if requested by APS, returns the defective items, freight prepaid (F.O.B. APS's plant in Decatur, Illinois).

**THE WARRANTIES SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.**

For any claim under warranty, APS may elect to repair or replace the defective component or components.

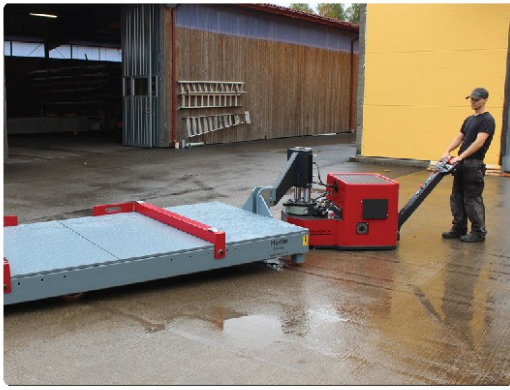
All claims for warranty must be accompanied by a Return Goods Authorization number, which may be obtained from APS.

This warranty does not cover, and APS is not responsible for, any labor or other expense for inspections, removal or reinstallation of components or products. This warranty does not cover, among other things, damages resulting from foreign matter or water, negligence, accident, unreasonable use, abuse or misuse, alterations not authorized by APS, failure to provide reasonable and necessary maintenance or failure to follow operating instructions or load limits.

**IN ADDITION, IN NO EVENT SHALL APS BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR CONTINGENT DAMAGES, WHETHER OR NOT IT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.**

APS makes no representation that the product complies with local, state, or federal safety/product standards codes. If the product fails to comply in any way with those codes, it shall not be considered a defect in materials or workmanship, and APS shall not be liable for any damages resulting from noncompliance. This limited warranty is provided to the original purchaser (meaning the original end user) and is nontransferable. This limited warranty constitutes the complete and final agreement regarding APS warranty obligations for the product.

Up-To-Date Warranty Terms can be found at [www.alignprod.com/warranty/](http://www.alignprod.com/warranty/).



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