



# PALLET MOVER AMR



User Directed  
Autonomous Mobile Robot

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# PALLET MOVER AMR

## Big Joe User Directed Automation



Developed in partnership with Thoro.ai, the Big Joe Pallet Mover AMR is an easy to deploy solution for autonomous floor-to-floor pallet transportation and drop-off that companies can set up and put into operation in less than 1 hour. This new Big Joe unit seeks to revolutionize on-demand material handling across a broad number of industries by offering self-driving technology at an accessible price point on one of the most common material handling vehicles, an electric pallet truck.

The new Big Joe Pallet Mover works just like a conventional lift truck but features an intuitive user interface, onboard computer, LiDAR, and camera system to transport and drop pallets to locations autonomously once the operator loads it up and selects a mission. This collaborative approach uses self-driving technology as

a productivity force multiplier by giving workers the ability to focus on higher-value tasks or direct multiple independent workflows concurrently. With the ability to use the machine in manual mode at any time, the flexibility of the Pallet Mover AMR allows it to bring efficiencies to facilities without intensive changes to their operations or need for any infrastructure other than a wi-fi connection for software updates if desired.

**\$45,000** Each + Tax & Freight

**Pricing** inclusive of deployment, initial training, and on-site annual follow-up visit  
**Includes:** 3-year autonomous software & support subscription: Software updates, tier-two technical support, dashboard reporting package, and 3-year limited product warranty. Warranty and services subject to hour limitations based on use and conformance to standard terms and conditions. Option to renew software & support subscription for an additional fee after initial 36-month term.

# FEATURES

4,400lb Capacity with  
Autonomous Travel  
Speed of up to 2.8 MPH

Control Head Beacon

Blue Light

Stereoscopic  
Camera

270 Degree Forward  
Facing LiDAR

Intuitive Touch Screen User Interface

Integrated 205AH UL  
Recognized Li-ion Battery  
and 120vac Charger

Low-profile Forks:  
3" to 7.6" Elevation

Compact Rider  
Platform



## SAFETY

Compliant to ANSI/ITSDF B56.5  
& B56.1 safety standards

**Run-time:** Up to 10 hours  
continuous operation

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**Natural feature autonomous navigation** with obstacle avoidance, dynamic mapping, map sharing between multiple units, and dynamic rerouting.

**Floor-to-floor autonomous** pallet drop capability, with advanced zone drop functionality and the ability to set-up special zone rules for enhanced productivity and safety.

**On-demand manual operation** for loading and conventional use. Optional universal carrier attachment available for custom material handling applications.



# ONBOARD USER INTERFACE



The Pallet Mover AMR features an easy to learn user interface accessed via the onboard touchscreen, allowing you to set-up, map and start missions in less than one hour. If you can use a smartphone, you can program the Pallet Mover AMR!



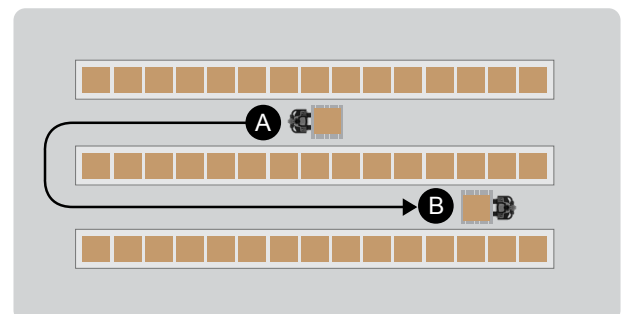
## GO TO LOCATION

The Go to Location Function is the most basic operation, essentially shuttling from waypoint to waypoint, with direct operator input at both start and finish. Once at the pre-set location, it will wait for the operator to give it the next task. The Pallet Mover AMR will not drop a pallet in Go to Location mode.



## DROP & RETURN

Drop & Return is the next level of operation, where the unit will navigate to the pre-set waypoint, drop a pallet and return unladen to the start location.







## **ZONE DROP**

Zone Drop is an advanced level of operation where the Pallet Mover AMR will travel to a defined “zone” and drop a pallet in the first location from a pre-set group, based on user priority. It will then return unladen to the start location.



## **MISSIONS**

You can build and save Missions using a series of waypoints, including Drop Zones, and operator interactions. Missions are used to send the Pallet Mover AMR into your facility on the safest and most efficient path, to a number of waypoints, where it will either wait for an operator interaction, wait for a predefined timed wait to continue, drop a pallet, or proceed to the next waypoint, depending on mission settings.



## **DYNAMIC MAPPING & ROUTING**

The Pallet Mover AMR uses an innovative self-driving system developed by Thoro.ai that automatically updates its onboard facility map based on changes made to the environment while traveling through a facility. This powerful feature helps maintain map quality in rapidly changing environments and improves both vehicle localization (the vehicle knowing its location and orientation) and route planning to keep productivity and reliability of the system performing at high levels. Should a pathway or aisle become blocked, this intelligent system is capable of taking an alternate route on the fly to complete a task.

**EASY TO SET-UP, MAP & START  
MISSIONS IN LESS THAN 1 HOUR!**

# ZONE BASED RULES

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To further enhance the safe and productive operation of the vehicle when in autonomous mode, zone based rules can be programmed by the user on the onboard user interface. As part of a vehicle mission, such rules can direct the vehicle to honk a horn before entering an aisle, reduce travel speeds in a specific location, or avoid areas as examples of this feature.



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**EASY SWITCHING  
FROM  
AUTONOMOUS TO  
MANUAL MODE**

The intuitive software package of the Pallet Mover AMR allows the operator to easily switch the unit from autonomous to manual mode by simply pulling the control handle down into a manual operating position. When an operator has completed their manual operated task, they can resume autonomous mode by allowing the control head to return to its vertical position.

Should an autonomous mission or action be interrupted by a manual task, it can then be easily resumed on the touch screen once the operator has moved away from the vehicles path of travel.

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# THE FORCE MULTIPLIER

The Pallet Mover AMR follows a simple principle which is that technology is best when it helps people get more done and provide more value overall in collaboration with it. Not only does the Pallet Mover AMR reduce the need for manual labor within basic material handling workflows, but by doing so, it allows workers to focus on activities that drive organization profit as opposed to operational cost.



**How many more pallets can your workers move with our user directed approach?**

**What else could they do with the time saved?**

A user directed approach to automating on-demand material handling workflows acts as a force multiplier by empowering people, improving their work experience, and maximizing their potential.

## SET UP AND GO IN 1 HOUR

The Pallet Mover AMR's exclusive Thoro.ai self-driving system employs a user-friendly, four-step mapping process that typically takes just one hour to initiate and put into operation.



April Tag

- Mount an April Tag to a static facility location, which the unit scans to localize, or in other words set its "Zero" position.
- Manually drive the unit around the area that you want it to navigate in.
- Set the waypoints where you want a task performed.
- Create zones and missions to be performed at the waypoints.

Each map you create will be associated with a specific April Tag. You can have multiple April Tags throughout your facility. When "Tagged up" to an April Tag the unit will only be able to use maps and waypoints created from that location.

This simple system allows companies to easily deploy the Pallet Mover for various tasks across a facility while maintaining a great deal of system control without need of heavy physical infrastructure, dedicated staff, or industrial engineers.

# DAY 1 ROI

The Pallet Mover AMR is so advanced yet easy to use, it can make an impact on your bottom line immediately upon receipt. You will be able to set up and begin moving product in as little as one hour, eliminating mundane tasks and allow your personnel to focus on higher value or priority tasks.

**How much time are workers at your facilities moving materials when they could simply send it and forget it?**

**Do they have more value added activities they can be doing?**

If so, user directed automation will not just provide ROI day one, but everyday from now on to you.



# CUSTOM OPTIONS

- External rapid charger
- Universal Carrier load deck for customizable material handling

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