

# Pacific Marine & Industrial

## ISO Container Lifting and Towing System Operations Manual

- Hand Lever Hydraulic Lifting
- Tow With Forklift or Tractor
- Up to 40 Metric Tons Container Weight



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# Container Lifting & Towing System Operations Manual

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## 1.0 General Product Overview

### 1.1 Product Use:

Pacific Marine & Industrial's Container Lifting & Towing System is for lifting and towing at slow speed standard 2438mm wide ISO ocean shipping containers.

**This equipment is only for warehouse and yard use. It is not for on-road or any use that requires a licensed vehicle.**

Double wheel assembly are attached to all 4 corners of an ISO Shipping Container. Hand lever hydraulic lifts raise the container up. The tow bar is attached to a forklift, tractor or other off-road vehicle.

### 1.2 Operation Conditions

- For use with standard width ISO Shipping containers of 2438mm wide and any length
- For use with standard ISO container bottom corners
- For dry terrain of concrete, asphalt, rip rap or hard packed dirt
- **Not suitable for very steep inclines or wet muddy conditions**
- **For use only with containers below the maximum weight specified for the product**

### 1.2 Specifications

- 4 hand cranked hydraulic wheel assemblies attach to container corners
- 8 rubber wheels with large diameter and aggressive traction, 2 per corner
- Cross attachment bars and tow bars
- For ISO standard width containers of 2,438 mm and any length
- Tow with speeds up to 5 or 6 miles per hour (10 kilometers per hour)

## 2.0 Model Number Chart with Capacities

Model	Container Capacity	Lifting Height	Tow Height	Tires
CTS-10	10 Metric Tons	≥380mm	>100mm	8 Pneumatic Rubber
CTS-15	15 Metric Tons	≥380mm	>100mm	8 Pneumatic Rubber
CTS-30	30 Metric Tons	≥380mm	>100mm	8 Pneumatic Rubber

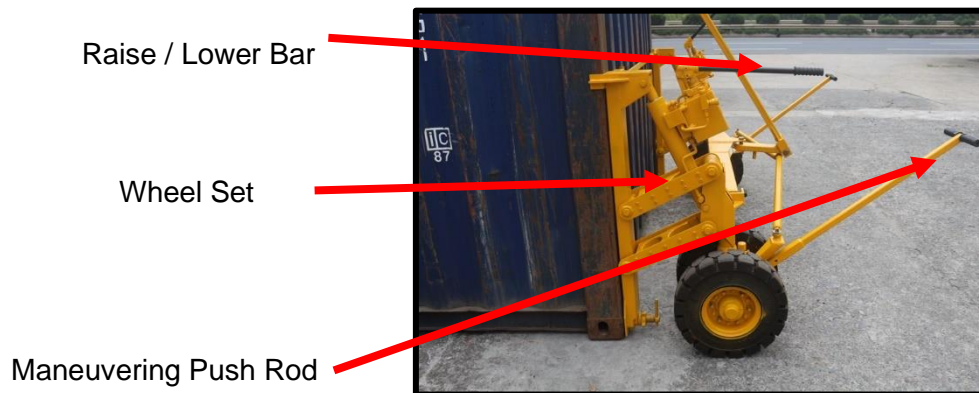
CTS-40	40 Metric Tons	$\geq 380\text{mm}$	$> 100\text{mm}$	8 Pneumatic Rubber
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### 3.0 Structure and Function of Components

Pacific Marine & Industrial's Container Lifting & Towing System consists of the: wheel assembly (4), tow bar (1), steering arm (2), locking rods (2), brake wedge (4) and mounting frame (1).



3.1 Each of the wheel assembly consists of a double wheel, raise / lower pressure bar and a manual / maneuvering push rod.



3.2 The tow bar includes the main tow bar and adapter rod.



3.3 The steering arm includes the main steering arm and steering tie rod.



3.4 The locking rods include the front and rear locking rod. These lock the 2 corner assembly together at the top on each end.



3.5 Brake wedges:

4 brake wedges are equipped to stop the wheels after container is placed.



### 3.6 Mounting Frame

The mounting frame is used for easy transfer of the entire Container Lifting and Towing System as one compact unit. Component storage positions vary depending on the model.



### 4.0 Operation

4.1 Move the 4 wheel assemblies to the front and rear corner fittings of the container. Insert the spin lock at the container bottom into the front / rear corner hole. Turn the lock and tighten the nut.





4.2 Install the upper locking rod between the wheel assembly on each end. Install the traction crossbar and tow bar on the front wheel assemblies. Install the steering rod.



UNLOCKED

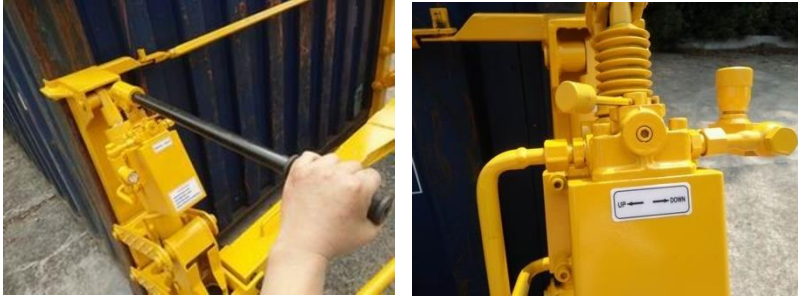


LOCKED

**Note:** The steering limit latch in the front wheel assembly must be moved to the unlocked position and the steering limit latch in the rear wheel assembly must be moved to the locked state. This will keep the rear wheels straight.

4.3 After the container handling system is connected with the container, operate the black raise / lower pressure bar above the cylinder to lift the container to the required height.

(Note: UP, DOWN directional marking)



4.4 The container can now be moved as needed.

4.5 Once in its new position, use the wheel chocks to secure the container in place if it is not lowered to ground.

## 5.0 Maintenance

### 5.1 Inspection Before Driving

- Check if the connecting rods and wheel bolts are fastened reliably.
- Check if the steering limit latches are in the corresponding position (UP is unlocked and DOWN is locked. The front is in the unlocked state and the rear is in the locked state.)
- Check the wear of tire tread, and replace tire if their patterns are worn more than half.
- Check if the traction pins and connecting pins are connected reliably.

### 5.2 Grease and hydraulic oil.

The wheels use high temperature resistant No. 2 lithium grease and the hydraulic cylinder uses the HM-46 hydraulic oil.

## 6.0 Safety Precautions for Operation

6.1 The maximum speed of the container handling system is 5-6 miles per hour (10 km/h) during straight driving and 1 or 2 miles per hour (4 km/h) during turns.

6.1 The tires should be replaced when worn.

6.2 Use with containers over the specified weight is prohibited.



6.3 Containers should be loaded with cargo weight distributed equally.

6.4 When connecting the tow bar to forklift or tractor use shackles or other swivel connection to avoid damage to the main towbar when turning.

