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Receiving Procedures

Every Morse drum handler is inspected prior to shipping. However, damage may be incurred during transit.

- Check for visible damage. If you choose to accept damaged freight, always sign noting the damage on the **BILL OF LADING**.
- Document the damage and have the truck driver sign. We recommend keeping a digital camera at your receiving dock for this purpose.
- Open packages expeditiously to check the condition of the goods. There is only a 24 hour window to notify the carrier of any concealed damage.
- **IMMEDIATELY REPORT ALL DAMAGE TO THE SHIPPING COMPANY!** Then you may contact Morse for assistance with your freight claim.
- Morse Manufacturing will not be held responsible for any damaged freight that is not signed for as damaged.

Delivery to non-business addresses without a loading dock result in additional freight charges. Residential delivery fees, inside delivery fees, re-delivery charges, and lift gate services will be added by the truck line, and are non-negotiable.

Limited 2 Year Warranty

Morse drum handling equipment is guaranteed against defects in workmanship or materials for **TWO YEARS** when used properly within its rated capacity. Warranty does not cover wear from normal use or damage from accident or abuse. Motors and other purchased parts carry the warranties of their manufacturers.

For warranty claims, contact your Morse Dealer to obtain a return authorization number, and for return freight advice. Return freight must be prepaid.



In all instances, liability is limited to the purchase price paid or to repairing or replacing the product. Customer assumes liability for any modifications, unauthorized repairs or parts substitution.

Safety Information

While Morse Manufacturing Co. drum handling equipment is engineered for safety and efficiency, a high degree of responsibility must be placed upon the machine operator to follow safe practices, based primarily on common sense, upon which true safety depends.

Failure to follow the safety precautions in this manual can result in personal injury or property damage. Observe the same precautions as with similar machinery where carelessness in operating or maintenance is hazardous to personnel. Carefully read the safety precautions below and throughout this manual.



DANGER - Indicates a situation which, if not avoided, will result in serious injury or death. This signal word is limited to the most extreme situations.



WARNING - Indicates a situation which, if not avoided, could result in serious injury or death.



CAUTION - Indicates a situation which, if not avoided, can result in damage to the machine.

		CAUTION – Do Not Transport with Drum Raised - ALWAYS LOWER THE DRUM HOLDER TO LOWEST POSITION BEFORE TRANSPORTING. The unit can become unstable when transporting with a raised load.
		DANGER - Stay Clear of Power Lines - Never approach a power line. Current in a high voltage line may arc some distance from the wire to the steel framed, grounded machine.
		WARNING - The Vertical-Lift Karrier is designed to handle one drum of the types listed in Machine Description . DO NOT attempt to handle any other type of drum or object. DO NOT exceed the weight capacity of 800 Lb. (363 kg).
		WARNING - Level Floors Only - For operation only on clean, level floors of suitable bearing capacity. Do not use on sloped surfaces, ramps, irregular or debris strewn floors.
		WARNING - Do Not Modify the Unit - Under no circumstances should any modifications be made to the Morse machinery without factory authorization. Any modifications may void the warranty. This machine was designed to perform a specific job and alterations may result in injury to operator or machine.
		WARNING - No Loose Fitting Clothing - Wear close-fitting clothing and safety equipment appropriate to the job. Loose fitting clothing may become caught on the machinery and cause severe personal injury.
		WARNING - Hydraulic Fluid Under Pressure Can Be Hazardous - Escaping hydraulic fluid under pressure can penetrate the skin, causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Keep hands and body away from pinholes and nozzles, which eject fluid under high pressure. Use a piece of cardboard to search for leaks. If an accident occurs, see a doctor immediately and inform them of the nature of the accident.
		CAUTION - Wear Safety Shoes - Wear safety shoes with non-slip soles and hard toe protection.
		WARNING - This product can expose you to chemicals including barium sulfate, cobalt, titanium dioxide, and 2-methylimidazole, which are known to the State of California to cause cancer, and bisphenol-A, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
		WARNING - This product can expose you to chemicals including lead and arsenic, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov



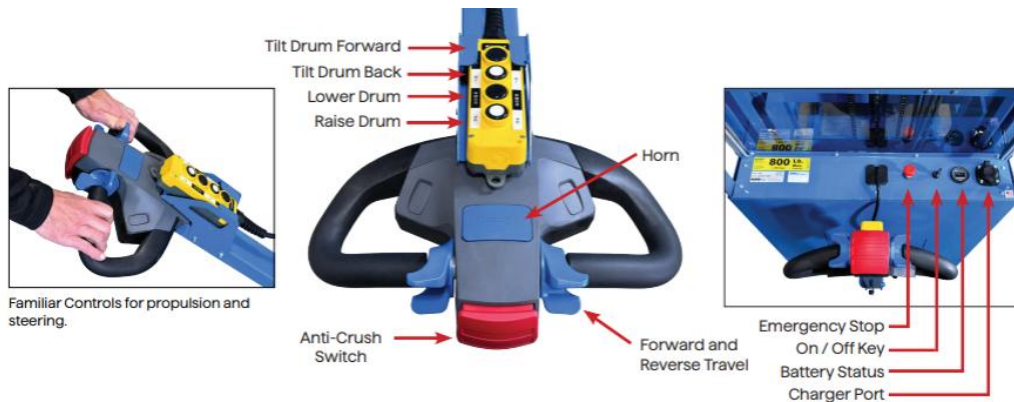
WARNING - Watch Out for Pinch Points.

Stay clear of moving parts. Operator should remain behind the push handle during the lift operation.

Machine Description

Model 540 Vertical-Lift Drum Pourer is a self-propelled drum lifter and rotator. It incorporates a power drive wheel with tiller handle for powered travel, a 24V battery system, onboard charger, emergency stop, key switch, and smart display. The lift and tilt functions position and pour a drum up to 106 in. (269 cm) high, measured from the floor to the lowest point of a horizontal drum. It is designed to lift, transport, and dispense a ribbed 55-gallon (210 liter) steel drum 22.5 in. (57 cm) in diameter, as well as a fiber drum between 22 in. and 23.5 in. (56 to 59.7 cm) in diameter.

Maximum full-drum capacity: 800 lb. (363 kg)	Half-full drum capacity: 500 lb. (227 kg)
The half-full rating is based on the tilt mechanism capacity for handling an unbalanced bottom-heavy drum.	
Feature	Model 540 Information
Propulsion	Self-propelled power drive wheel with tiller handle
Battery system	24V battery system with onboard charger
Operator controls	Emergency stop, key switch, smart display, travel controls, lift/lower control, and tilt forward/reverse control
Travel speed with drum lowered	2 mph
Travel speed with drum raised above 12 in.	1 mph speed-limited travel
Intended floor conditions	Clean, level floors of suitable bearing capacity



Controls

Model 540 is self-propelled and steered from the tiller handle. Keep both hands available for control of the tiller, maintain a clear view of the travel path, and remain behind the tiller handle during powered travel and lift operation. Travel speed is limited by drum lift height: maximum 2 mph with the drum below 12 in. raised height; maximum 1 mph when raised above 12 in. Always lower drum to be a few inches off the ground for transport.

Control	Function	Operator Notes
Key switch	Enables electrical system	Turn key ON only when ready to operate. Remove key when unattended.
Emergency stop	Stops powered functions in an emergency	Press to stop. Reset only after the condition is corrected.
Smart display	Shows system status such as battery/state information and fault indications	Do not operate if the display indicates a fault that affects safe operation.
Tiller handle travel control	Commands powered forward/reverse travel and steering	Use smooth inputs. Reduce speed around people, corners, and obstacles.
Lift / Lower	Raises or lowers drum holder	Raise only as needed. Lower to transport height before traveling.
Tilt FWD / REV	Rotates drum forward for pouring or back to upright	Tilt slowly, especially when handling open drums.

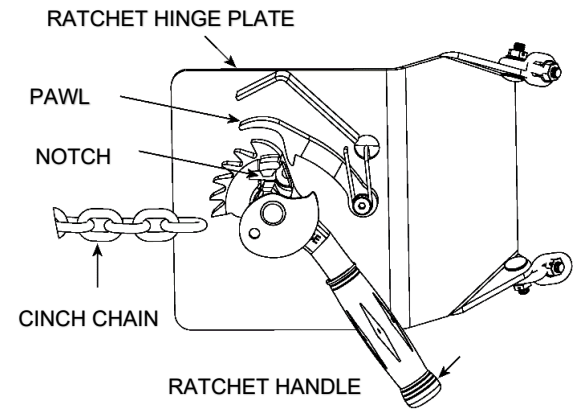
Drum Holder (Saddle) Assembly

The MORCINCH™ Drum Holder (Saddle) assembly is the component intended to hold drum. It is designed to secure a standard ribbed 55-gallon (210 liter) steel drum around it's middle using cinch chain and ratchet tightening system. It automatically adjusts for 22" to 23.5" (56 to 59.7 cm) diameter drum.

The MORCINCH™ Drum Holder also accepts accessories to handle plastic drum, fiber drum, or smaller diameter drum.

Operating Instructions

1. With tiller handle in upright position, Turn the key on. Smart display will initialize then show battery level.
2. To activate power drive, pull tiller handle down to operating position. This will enable power drive.
3. Use travel control levers to move machine in either direction.
4. Drive the Vertical-Lift Karrier to drum using control levers on tiller.
5. Using the "LIFT" control as described in "Controls", position drum holder assembly with back band at the middle of drum. With ratchet plate swung open and cinch chain hanging from chain hook, drive unit until back band rests firmly against drum. Some adjustment to tilt angle of saddle (drum holder) may be necessary to ensure band fits flush on drum.
6. Attaching the drum:
Drape chain across front of drum and engage chain link into notch in ratchet (Figure 3.2). Turn ratchet clockwise to tighten chain. If ratchet turns until pawl is beyond last ratchet tooth, turn ratchet back and slide next link into ratchet notch and try tightening again. Chain must be held tightly against drum with pawl engaged securely in ratchet teeth.
7. Operate lift function to lift drum clear of floor. Drive to dispensing location. NOTE: Do not allow drum to impact on floor, pouring station, etc. or spill or damage could occur.



CAUTION – Do Not Transport with Drum Raised.

ALWAYS LOWER THE DRUM HOLDER TO LOWEST POSITION BEFORE TRANSPORTING. The unit can become unstable when transporting with a raised load.

8. Lift drum to desired pouring height. Operate the tilt control as described in "Machine Description - Controls" to adjust drum attitude. This is especially important when lifting an open drum.
9. When dispensing is complete, tilt drum back to upright position. Lower drum to transporting height; about 6" (15.2 cm) off the floor
 **WARNING** - Stay Clear of Raised Drum. NEVER allow anyone to be below any part of raised drum handler or drum. Remain behind push handle while handling a drum.
-  **WARNING** – Do NOT Disengage the Cinch Chain When Drum is off the Ground. When drum is in upright position, lower drum to floor before releasing cinch chain.
10. Drive Unit to drum storage area and lower drum to floor in upright position. Release cinch chain from ratchet by applying pressure to ratchet handle in clockwise direction with one hand and opening pawl to free ratchet with other hand. Remove cinch chain link from ratchet.

Maintenance

1. Plug in machine when not in use. On-board smart charger will maintain battery at the appropriate level.
2. Periodic inspection for the general condition of structural and mechanical components is imperative for safe and efficient operation.

3. Periodically inspect all moving parts, framework, and contact areas for signs of wear, fatigue, or loosening. Tighten, adjust, or replace parts as necessary to prevent failure and maintain proper function.
4. Inspect the hydraulic system for oil drips, hose damage, or other signs of wear. Inspect the level and condition of the hydraulic fluid. Replace any parts that show signs of wear.
5. Grease wheel bearings periodically. Oil or grease all moving parts including gears and sprockets in the tilt drive, and the ratchet and pawl.
6. Worn or damaged parts must be properly replaced with the correct, genuine Morse parts.
7. Hydraulic pump is shipped filled with Noco Premium plus automatic transmission fluid d/m. Safety Data Sheet (SDS / MSDS) is available online. Change oil yearly, sooner depending on dirty conditions or outdoor use. Replace oil with Mobil dte 24 or equivalent for indoor use (Mobil dte 13 for outdoor use).

Fault Codes and Trouble Shooting

1. Smart Displays WAR=01 – Tiller handle improper position for startup- reset tiller handle to upright position and power cycle unit
2. Smart Displays WAR=07 – Battery charger active, drive inoperable – disconnect charging port, power cycle unit
3. Smart Displays WAR=32 – Anti-crush button activated – reset tiller handle to upright position
4. Smart Displays WAR=48 – Tiller handle in upright position, drive inoperable – move tiller handle down to drive