

Operator's Manual
for Morse Stationary Drum Rotators

1-5154 Series
 with Serial Number 285568 to 403341

Contents

	Page
Receiving Procedures.	1
Warranty.	1
Safety Information.	1 - 2
Machine Description.	3
Options.	3
Assembly and Installation Instructions.	3 - 4
Operating Instructions.	4
Maintenance.	4
Parts List and Diagram.	5

Receiving Procedures

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

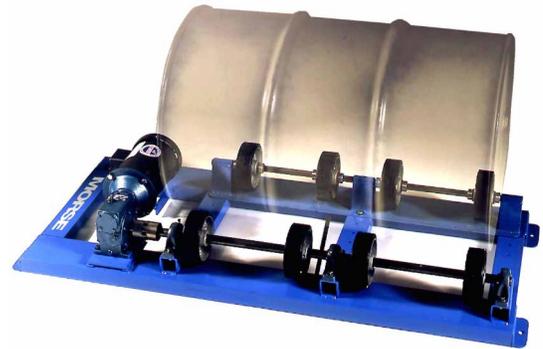
- Check for visible damage. If you choose to accept damaged freight, always sign noting the damage on the **Bill of Lading**.
- Document the damage and have the truck driver sign. We recommend keeping a digital camera at your receiving dock for this purpose.
- Open packages expeditiously to check the 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.

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.



Model 1-5154-3 shown

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.

Review the Material Safety Data Sheet(s) for the material(s) in the drum(s) and take all necessary precautions. Safety shoes, work gloves, hard hat and other personal protective devices are recommended.

Prior to initial use, inspect all moving parts and test rotation of wheels. Perform necessary inspections, operator training, etc.

**Operator's Manual for Morse 1-5154 Series Drum Rotators
Serial Number 285568 to 403341**

Safety Information (continued)

 **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.



DANGER - Stay Clear of Rotating Drum. NEVER allow anyone to be near any part of the rotating drum. Operator should remain clear of the rotator.



WARNING - The 1-5154 Series Drum Rotators are designed to handle one drum of the types listed at the top of page 3 under Machine Description. DO NOT attempt to handle any other type of drum or object. DO NOT exceed the weight capacity.



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.



CAUTION - Wear safety shoes with non-slip soles and hard toe protection.



CAUTION - DO NOT allow drum to impact on floor, ground, etc.



CAUTION - Install Morse Rotators in accordance with OSHA requirements for enclosure and interlock, etc. For OSHA compliance, see OSHA subpart O.1910.212 "General Requirements for all Machines." Power connections and motor controls must comply with applicable codes.

An optional Safety Enclosure with Safety Interlock can be ordered for any Morse drum rotator.



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

Operator's Manual for Morse 1-5154 Series Drum Rotators
Serial Number 285568 to 403341

Machine Description

The 1-5154 Series Drum Rotators are designed to roll a steel drum, 6" to 28" (15 to 71 cm) in diameter, and up to 40" (102 cm) long. The drum speed of 20 RPM was set at the factory according to customer's order specification. The drum speed is based on a 22.5" (57 cm) diameter 55-gallon (210 liter) steel drum and a 60 Hz, 1725 RPM motor. The drum rotation speed decreases with a 50 Hz motor to 16 RPM. The maximum liquid load capacity rating is 1000 Lb. (454 kg). Dry load capacity is 300 Lb. (136 kg).



WARNING - DO NOT exceed these ratings. Exceeding these ratings or handling a drum other than those mentioned above is unsafe and could result in equipment damage, excessive wear, motor overload and shortened service life of transmission components.

Options

- A 1 to 5 gallon can or pail can be rotated with the Idler Attachment (part # 1-5-1) installed.
- A 55-gallon plastic drum can be rotated with the correct POLY option installed.
 - Order Option POLY-1-5154 factory installed on your new 1-5154 Series Drum Rotator.
 - Order Option POLY-1-5154FI for field installation of POLY Kit on your existing 1-5154 Series Drum Rotator.

Assembly and Installation Instructions

The base has four 1/2" (1.27 cm) diameter holes spaced 19" wide x 56.5" long (48.26 cm wide x 143.51 cm long). Morse recommends the rotator be secured to the floor using 3/8" x 3" (.95 cm x 7.6 cm) lag bolts (not included). Install all Morse Rotators in accordance with OSHA requirements for enclosure and safety interlock, etc. Drum rotator must automatically turn off when enclosure door is opened.

Control Station - Making Connections:

- For the air motor powered rotator, a filter, regulator, lubricator is mounted on the control station. A shutoff ball valve is installed on the inlet of the regulator. The air connection should be made at the inlet of this valve.
- Ensure that the supply air lines are of sufficient size to provide proper air volume. The air motor requires 20 scfm, and 22 psi of compressed air. (The proper air pressure will depend on the weight of the drum.)
- For AC motor powered rotator, the main power must be wired into the control box.
- Models ordered with non-explosion proof motor and appropriate Morse Control Package have the control box wired to the motor.
- Models ordered with explosion proof motor and appropriate Morse Explosion-Proof Control Package have no wiring from the nema 7/9 control box to the motor. Please consult an electrician to complete the wiring. **The motor should turn clockwise when viewed from the fan end.** Jog the motor to determine proper rotation.

Assembly and Installation Instructions (continued)

**Operator's Manual for Morse 1-5154 Series Drum Rotators
Serial Number 285568 to 403341**

Adjust drive and idler wheels to your particular drum. With provided 1/8" allen wrench, loosen the two set screws found in each drive wheel hub and the set screw in each collar surrounding the idler wheels. Wheels should be positioned to support the drum at its strongest point; adjacent to ribs (see Figure 1). This configuration will also prevent the drum from moving axially. Tighten set screws.

1. A variety of drum diameters can be accommodated by adjusting the idler plate assembly toward the drive side for smaller diameters and away from the drive side for larger diameters. The plate may be adjusted to allow drive shaft spacing from 8" to 18". It is preset to the second (outer) set of holes for use with standard 55-gallon steel drums. To adjust, remove the three idler plate bolts (item 8) and slide the idler plate assembly (item 7) to the proper set of mount holes and refasten the mount bolts.

2. Do not put into service without proper motor protection and controls. Customer should provide the proper controls and consult an electrician to complete the wiring. When starting the unit be careful to stand clear of the rotator as the drum will begin to rotate. Rotators equipped with an air motor require 20 psi, 22 scfm. Operating the air motor at higher pressures will reduce the life of the air motor and power transmission components.

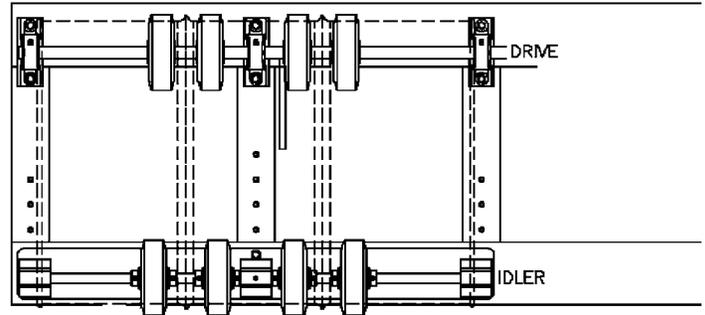


Figure 1

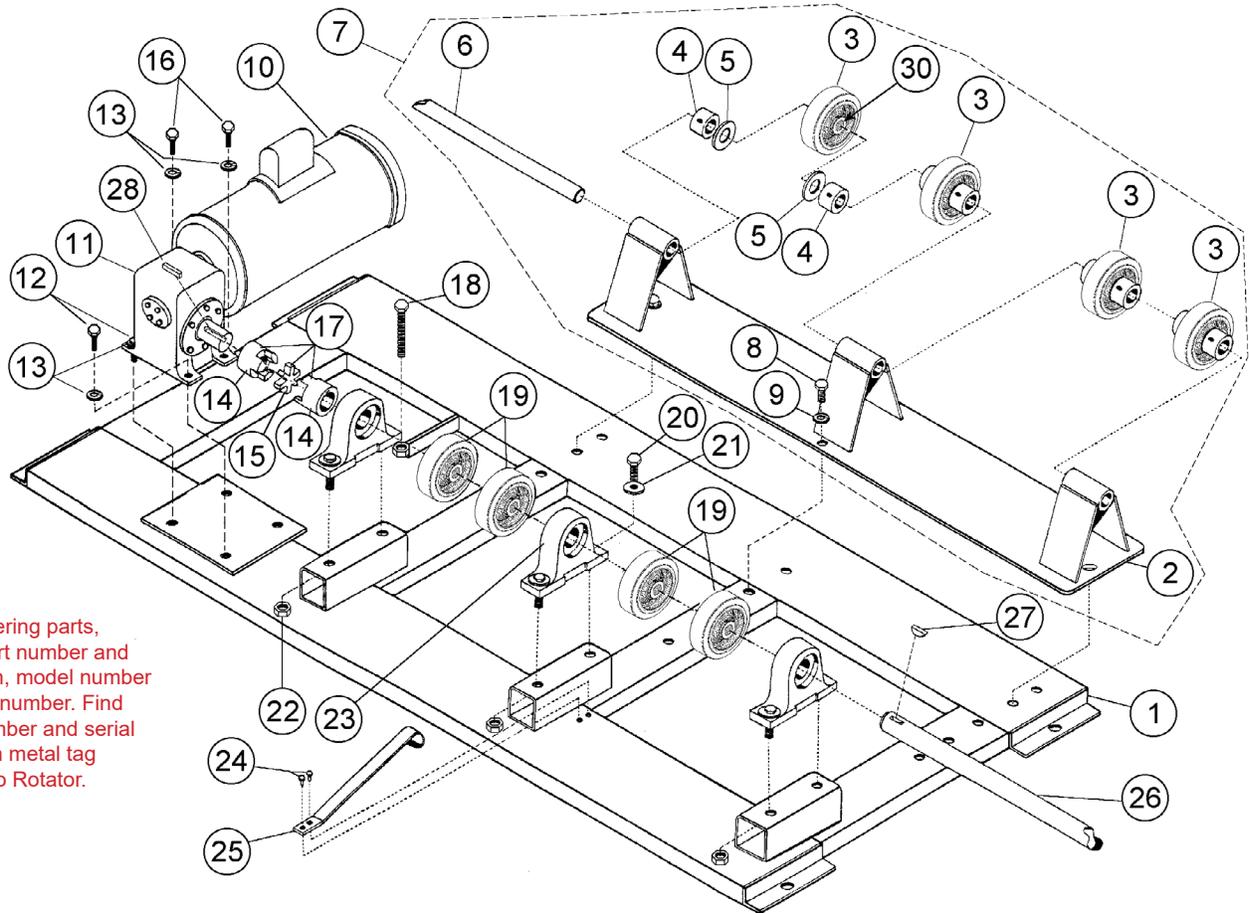
Operating Instructions

1. Drum should be loaded onto the rotator horizontally. Overhead lifting equipment and the Morse model 41 Drum Lifting Hook provide an effective loading system for a horizontal 55-gallon (210 liter) steel drum. Also, the Morse model 405 Omni-Lift Karrier™ can be used for taking a drum from vertical and placing onto the rotator horizontally (see literature).
2. Drum is now ready to be rotated.

Preventative Maintenance

1. Periodically inspect all moving parts, framework, and contact areas for signs of wear or loosening. Tighten, adjust, or replace parts as necessary to prevent failure and maintain proper function.
2. Idler wheels are equipped with grease fitting and should be lubricated periodically. High pressure grease guns are not recommended, as their force may damage seals. Grease every 6-12 months in ordinary environment, grease monthly in dirty conditions. Any common bearing grease will suffice, (i.e. Shell Alvania)
3. Inspect oil level in gear box / speed reducer and fill with high quality, synthetic lubricant for gears if necessary. The speed reducer has been filled and tested prior to shipment. After operating a new machine for 1500 hours, the housing should be thoroughly flushed out and new oil added to fill the housing to the oil level plug. The oil should be changed every 5000 operating hours thereafter with [Klubersynth UH1 6-460 \(#096060\)](#) or equivalent, or more often if operating conditions cause condensation of moisture resulting in sludge formation inside housing.
4. Motors have permanently lubricated ball bearings.
5. Pillow Block Bearings: Grease every 6-12 months in ordinary environment, grease monthly in dirty conditions. See [Bearing Lubrication Sheet](#) for grease types and fill amounts.

Operator's Manual for Morse 1-5154 Series Drum Rotators Serial Number 285568 to 403341



When ordering parts, specify part number and description, model number and serial number. Find model number and serial number on metal tag attached to Rotator.

ITEM	MODEL SUFFIX	QTY.	PART #	DESCRIPTION
1		1	298-P	FRAME WELDMENT, 1-5154
2		1	295-P	IDLER PLATE WELDMENT, 5154
3 *		4	292-P	WHEEL, IDLER, 6" W/ 3/4" BRG
4		8	15-P	COLLAR, 3/4" ID
5		8	55-P	WASHER, 3/4 SAE FL 1-1/2 OD
6		1	301-P	IDLER SHAFT, 3/4" X 38" 5154
7		1	295CPT-P	IDLER PLATE CPT, 1-5154
8		3	1657-P	3/8 - 16 X 3/4 HHCS GR 2 STL
9		3	1474-P	WASHER, 3/8 SPLIT LOCK
10	-1	1	290-1-P	MOTOR, 1/2HP, 1PH, 56C, TEFC
10	-3	1	4732-P	MOTOR, 1/2HP, 3PH, INV DUTY
10	-E1	1	290-E1-P	MOTOR, 1/2HP, 1PH, 56C, EXP
10	-E1-50	1	290-E1-50-P	MOTOR, 1/2HP, 1PH 56C 50HZ EXP
10	-E3	1	290-E3-P	MOTOR, 1/2HP, 3PH, 56C, EXP
10	-E3-50	1	290-E3-50-P	MOTOR, 1/2HP, 3PH 56C 50HZ EXP
10	-E575	1	290-E575-P	MOTOR, 1/2HP, 3PH 56C 575V EXP
10	-A	1	290-A-2P	MOTOR, 2HP, AIR, 56C
11		1	2914-P	SPEED REDUCER 5154 20:1

ITEM	MODEL SUFFIX	QTY.	PART #	DESCRIPTION
12		2	1464-P	3/8 - 16 X 1-1/4 HHCS GR 2 STL
13		4	1474-P	WASHER, 3/8 SPLIT LOCK
14		2	1665-P	COUPLING BODY HALF, 1" BORE
15 *		1	305-P	SPIDER, BUNA N, 5154
16		2	82-P	3/8 - 16 X 2-1/4 HHCS GR 2 STL
17		1	2808-P	COUPLING CPT, 1" TO 1"
18		1	1315-P	3/8 - 16 X 2-3/4 HHCS GR 2 STL
19 *		4	291-P	WHEEL, DRIVE, 6", 1" BORE
20		6	1464-P	3/8 - 16 X 1-1/4 HHCS GR 2 STL
21		6	1166-P	WASHER, 3/8 USS 1" OD
22		6	1169-P	3/8 - 16 REV HEX LOC NUT
23		3	297-P	BEARING, 1" PILLOW BLOCK
24		2	213-P	DRIVE SCREW, #7 X 5/16"
25		1	217-P	GROUNDING STRAP, 5154, 201
26		1	299-P	DRIVE SHAFT, 1" X 40" 5154
27		1	736-P	KEY, WOODRUFF, SIZE 15, ASA808
28		1	1326-P	KEY, SQUARE, 3/16 X 1"
30 *		4	1875-P	BEARING, 3/4" ID, 6" WHEEL

* Recommended spare parts