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Receiving Procedures

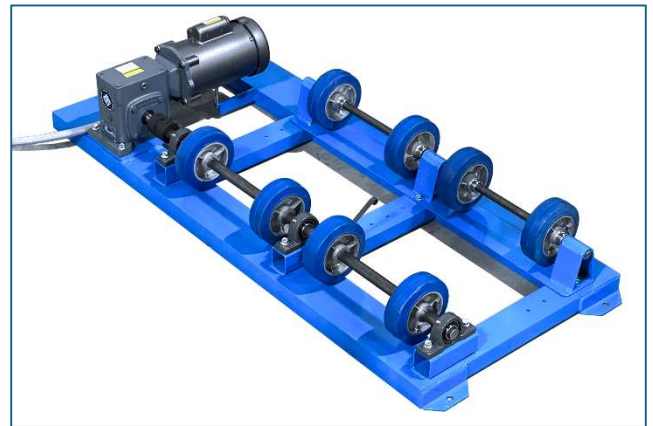
Every Morse drum handler is inspected prior to shipping. However, damage may be incurred during transit.

- 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.

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.



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 in 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 - Properly Mount to Floor. Do Not put into service without proper floor mounting and leveling. Use the four mounting holes in each corner of the base to anchor to floor.
		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

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

- To roll a 55-gallon (210 liter) plastic drum install Kit POLY-1-5154FI. This kit includes extra wheels and an end stop to prevent a plastic drum from traveling length-ways while rolling.
 - Kit POLY-1-5154FI is Kit for CUSTOMER to install on existing 1-5154 Series Drum Roller.
 - Option POLY-1-5154 is FACTORY INSTALLED on a NEW 1-5154 Series Drum Roller.
- Install Idler Attachment part # 1-5-1 to roll a 1 to 5 gallon (4 to 20 liter) size can or pail.

Installation Instructions

The drum roller base has four 1/2" (1.27 cm) diameter holes spaced 19" wide x 50.5" long (48.26 cm wide x 128.3 cm long). Morse recommends the rotator be secured to floor using 3/8" x 3" (.95 cm x 7.6 cm) lag bolts (not included).

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.)

Air Motor Technical Info is online at: <https://morsedrum.com/ops/PLAIR.pdf>

- 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.

Install all Morse Rotators in accordance with local requirements for enclosure and safety interlock, etc. One way to accomplish this is with a Morse enclosure with safety interlock, so the rotator automatically turns off when enclosure door is opened. Power connections and motor controls must also comply with applicable local codes.

For OSHA compliance in the USA, see OSHA subpart O.1910.212(a)(4) "Barrels, containers, and drums. Revolving drums, barrels, and containers shall be guarded by an enclosure which is interlocked with the drive mechanism, so that the barrel, drum, or container cannot revolve unless the guard enclosure is in place."

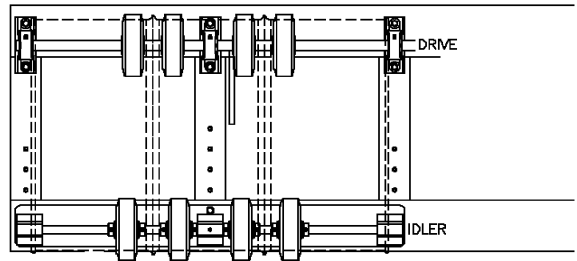


Morse Control Packages (sold separately) include appropriate Control Station for each model.

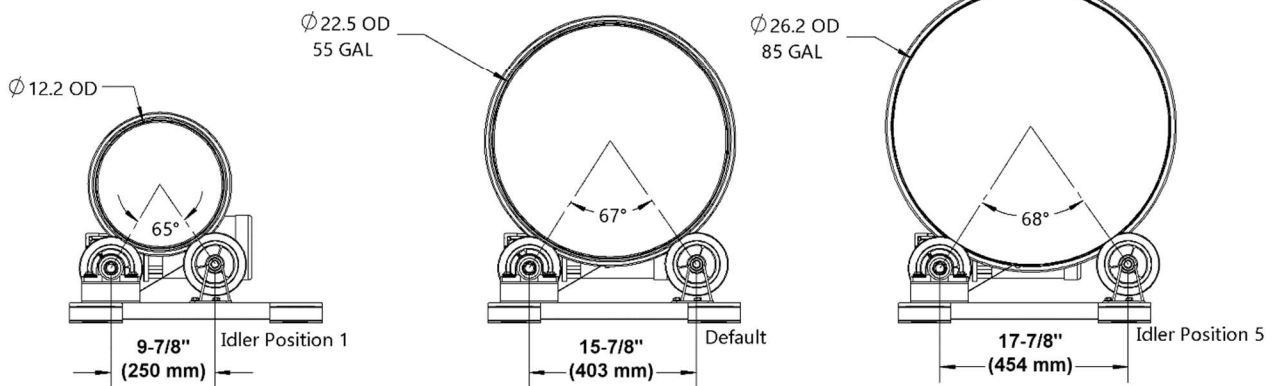
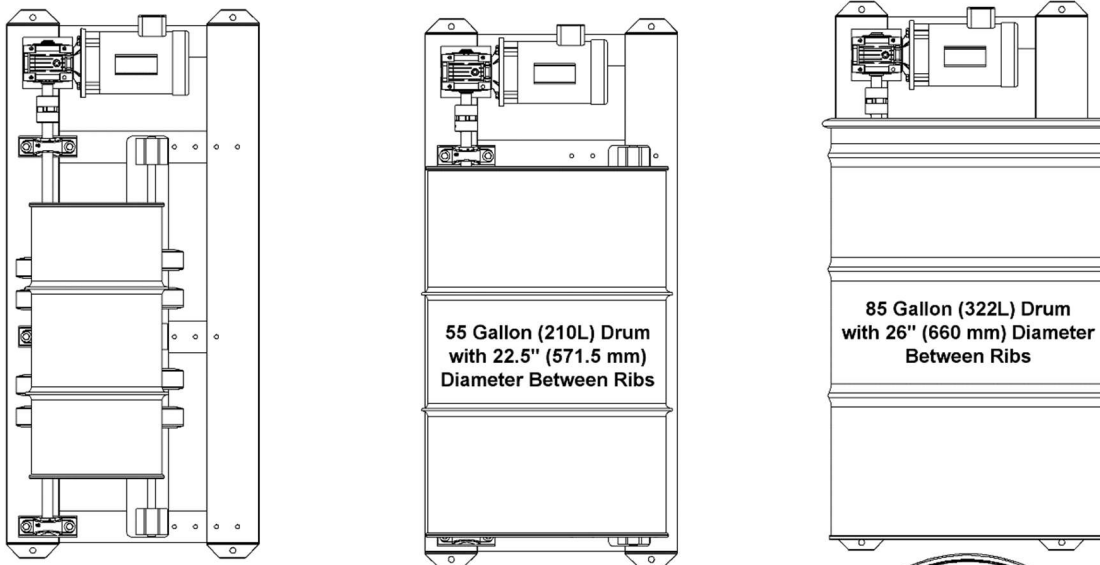


Guard Enclosure Kits with Safety Interlock Switch are sold separately.

1. Adjust drive and idler wheels to your particular drum.
 - a. With provided 1/8" allen wrench, loosen two set screws found in each drive wheel hub and set screw in each collar around idler wheels.
 - b. Position wheels along shafts to support drum at strongest points on drum; adjacent to ribs. This configuration also prevents drum from moving axially.
 - c. Tighten set screws.



2. Adjust Idler Plate position to accommodate different drum diameters. Move idler plate assembly toward drive side for smaller diameters and away from drive side for larger diameters. Units ship with idler plate preset for standard 55-gallon (210 liter) steel drum. To adjust, remove three idler plate bolts and slide idler plate assembly to proper set of holes and refasten mount bolts. See example idler plate positions shown below.



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

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.
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 **Enduratex EP 460 synthetic oil** 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.

**AC Control Packages
(sold separately)**

NON-Explosion Proof AC Control Box



NON-explosion proof AC Control Packages (sold separately) include control box with timer, start and stop buttons, emergency stop button and lockable main disconnect.

Control Box for model 1-5154-3 also includes variable speed control from 2 to 20 RPM.

Explosion Proof AC Control Box

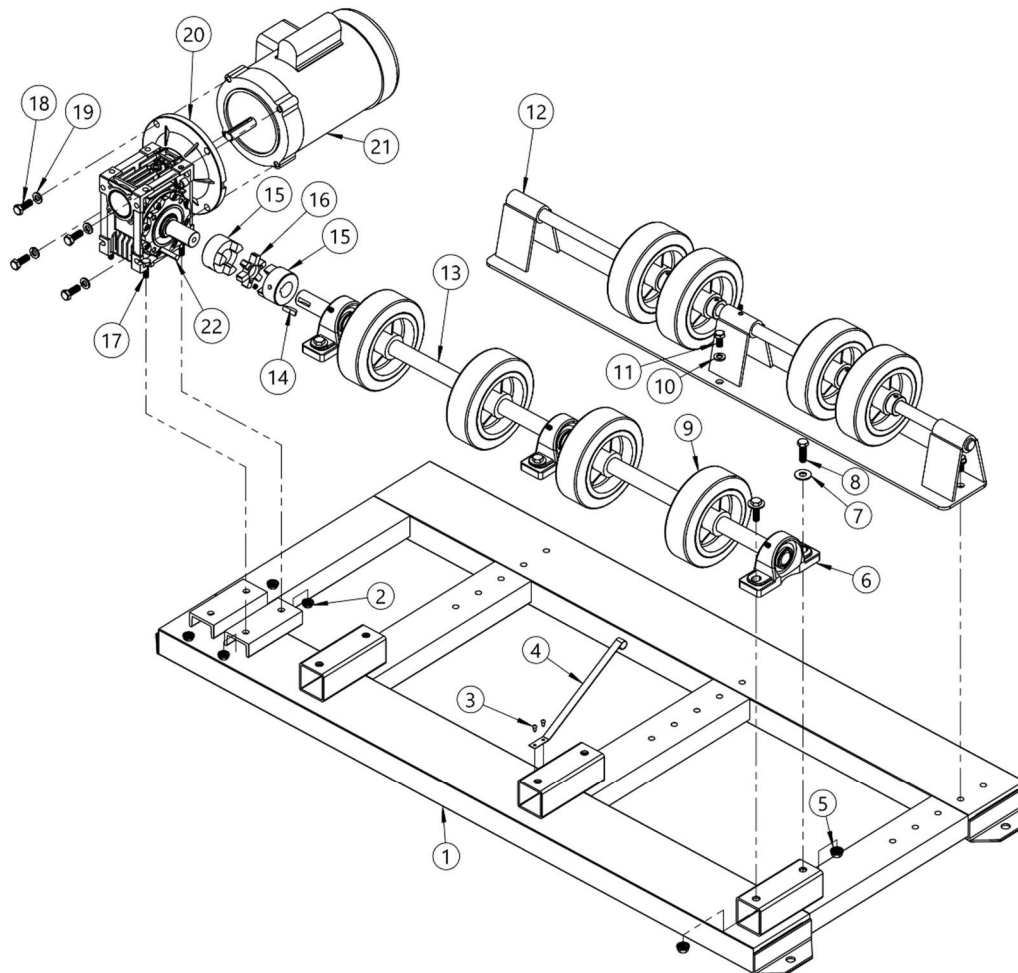


Explosion Proof AC Control Packages (sold separately) include control box with start and stop buttons.

**AIR Controls
Included with Model 1-5154-A**



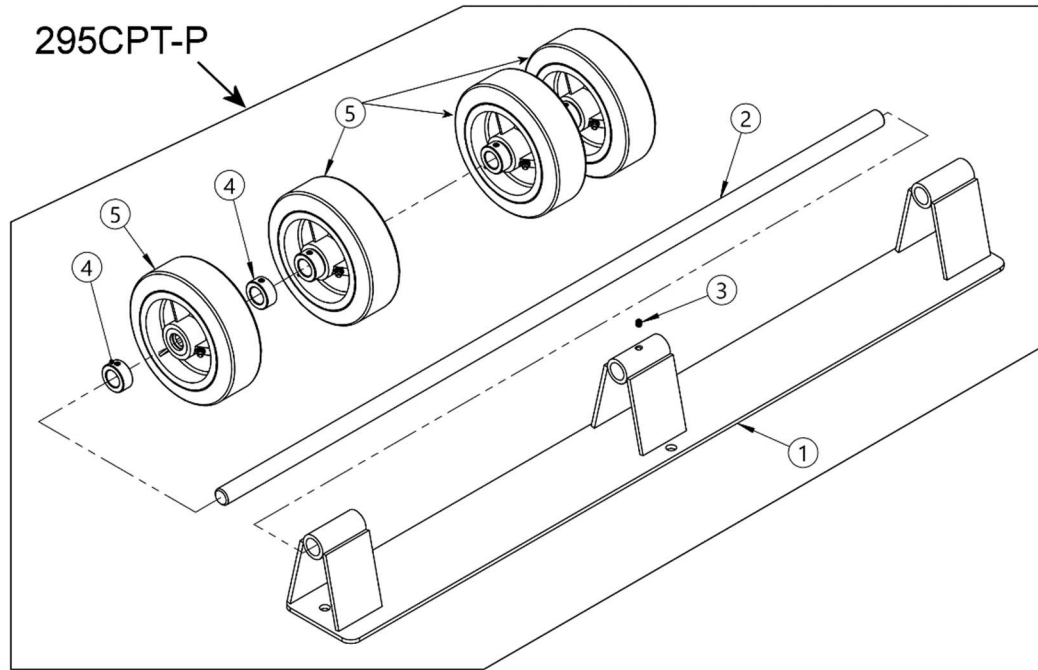
Air Control Package (included with model 1-5154-A) includes Filter, Regulator, Lubricator (FRL) and on / off valve. Drum Tumbler rotates drum at 14 RPM and allows you to vary RPM with air flow and pressure.



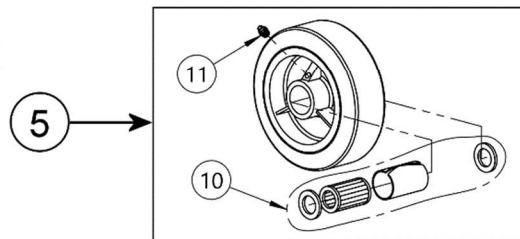
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	6769-P	FRAME WELD, 1-5154, IPTS	1
2	1634-P	NUT, 5/16-18 WHIZ LOCK	4
3	213-P	SCREW, DRIVE, #7 X 5/16	2
4	217-P	GROUNDING STRAP, 5154, 201	1
5	4002-P	NUT, 3/8-16 WHIZ LOCK	6
6	297-P	BEARING, 1" PILLOW BLOCK	3
7	1166-P	WASHER, 3/8 USS 1" OD, ZINC	6
8	535-P	HHCS, 3/8-16 X 1-1/4 GR 5 ZINC	6
9	291-P	WHEEL, DRIVE, 6", 1" BORE	4
10	1474-P	WASHER, 3/8 SPLIT LOCK	3
11	1657-P	HHCS, 3/8-16 X 3/4 GR2	3
12	295CPT-P	IDLER PLATE CPT, 1-5154	1
13	299-P	DRIVE SHAFT, 1" X 40" 5154	1
14	736-P	KEY, WOODRUFF, SIZE 15, ASA808	1
15	1665-P	COUPLING BODY HALF, 1" BORE	2
16	305-P	SPIDER, BUNA N, 5154	1
17	35-P	HHCS, 5/16-18 X 1 GR2	4
18	1572-P	HHCS, 3/8-16 X 1 GR2 ZINC	4
19	1474-P	WASHER, 3/8 SPLIT LOCK	4
20	6750-P	SPEED REDUCER, 5154 20:1 IPTS	1
21	SEE BELOW	MOTOR	1
22	6827-P	KEY, 1/4" X 1.25", IPTS	1

ITEM 21 - MOTOR

ITEM	DRUM ROLLER MODEL NUMBER	QTY.	MOTOR PART #	DESCRIPTION
21	1-5154-1	1	290-1-P	MOTOR, 1/2HP, 1PH, 56C, TEFC
21	1-5154-3	1	4732W-P	MOTOR, 1/2HP, 3PH, INV DUTY
21	1-5154-E1	1	290-E1-P	MOTOR, 1/2HP, 1PH, 56C, EXP
21	1-5154-E1-50	1	290-E1-50-P	MOTOR, 1/2HP, 1PH 56C 50HZ EXP
21	1-5154-E3	1	290-E3-P	MOTOR, 1/2HP, 3PH, 56C, EXP
21	1-5154-E3-50	1	290-E3-50-P	MOTOR, 1/2HP, 3PH 56C 50HZ EXP
21	1-5154-E3-575	1	290-E575-P	MOTOR, 1/2HP, 3PH 56C 575V EXP
21	1-5154-A	1	290-A-2P	MOTOR, 2HP, AIR, 56C



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	295-P	IDLER PLATE WELD, 5154	1
2	301-P	IDLER SHAFT, 3/4" X 38" 5154	1
3	1000-P	SET SCREW, 1/4 - 20 X 1/4	1
4	15-P	COLLAR, 3/4" ID	8
5	292-P	WHEEL, IDLER, 6" W/ 3/4" BRG	4



ITEM	P/N	DESCRIPTION	QTY
10	1875-P	BEARING, 3/4" ID, 6" WHEEL	1
11	33-P	ALEMITE GREASE FIT	1