

**Operator's Manual
 for Morse Portable Drum Rotators**

201 Series
 with Serial Number 177113 to 273782

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Model 201VS-1 shown

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.

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.

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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 201 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.

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Machine Description

The 201 Series Drum Rotators are designed to roll a steel drum, 6" to 28" in diameter, and up to 40" long. The drum speed of 10, 20, OR 30 RPM was set at the factory according to customer's order specification. The 201VS Series has variable speed from 10 to 24 RPM. The drum speed is based on a 22.5" diameter 55-gallon steel drum and a 60 Hz, 1725 RPM motor. The drum rotation speed decreases with a 50 Hz motor to 8, 16 OR 25 RPM.

The maximum liquid load capacity rating is 500 Lb. (227 kg). Dry load capacity varies with speed of drum rotation. At 10 RPM dry load capacity is 400 Lb., at 20 RPM it is 300 Lb., at 30 RPM it is 250 Lb. (113 kg). The capacities of variable speed models are the same except the 250 lb. dry load capacity applies at 24 RPM.



WARNING -DONOT 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 # 1-5P) installed.
- A 55-gallon plastic drum can be rotated with the correct POLY option installed.
 - Order Option POLY-201 factory installed on your new 201 Series Drum Rotator.
 - Order Option POLY-201FI for field installation of POLY Kit on your existing 201 Series Drum Rotator.

Important

1. 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.
2. Please read all instructions thoroughly before attempting to operate your new Morse drum handler.
3. When loading, unloading, operating, or maintaining your MORSE drum rotator, always use care and good judgment. Maintain secure footing and a firm hold. Keep hands and loose clothing away from all moving parts. Never allow anyone to be below any part of a raised drum handler or drum. Read operating instructions and review the pictures in the sales brochure before operation.
4. Morse rotators do not comply with OSHA unless they are installed in accordance with OSHA subpart O, 1910.212 - "General requirements for all machines." Morse Rotators should be installed in accordance with OSHA requirements for enclosure and interlock, etc. Power connections and motor controls must comply with applicable codes.
5. Prior to initial use, inspect all moving parts. Perform necessary inspections, operator training, etc.

Assembly and Installation Instructions

1. Remove cotter pin from hole in end of tipping lever. Slide lever through hole in back plate of rotator. Replace cotter pin in hole in end of tipping lever and spread cotter pin ends.
2. Next, adjust drive and idler wheels to your particular drum. With provided 1/8" allen wrench, loosen the two set screws found in each wheel hub. Wheels should be positioned to support the drum at its strongest point; adjacent to ribs and near the ends (see Figure 1). Put the two inner wheels next to drum ribs to hold drum from moving axially. If the drum rubs the nose piece, readjust the wheels. Tighten wheel set screws.

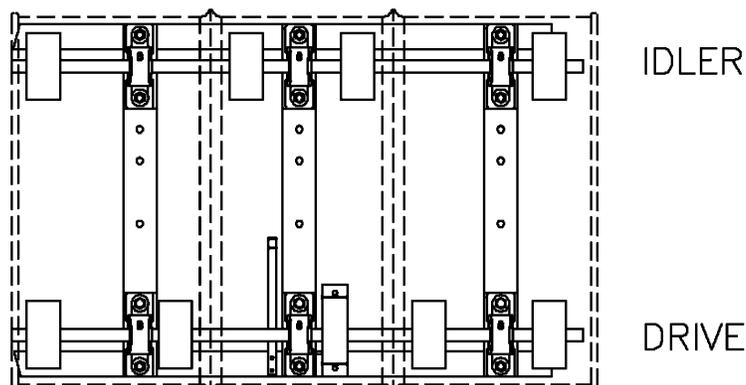


Figure 1

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3. A variety of drum diameters can be accommodated by adjusting the idler wheel assembly toward the drive side for smaller diameters and away from the drive side for larger diameters. Remove the six bearing mount bolts (item 36) and slide the idler wheel assembly to the proper set of mount holes and refasten the mount bolts. It is very important to ensure that all three pillow bearings are accurately aligned after tightening the mount bolts.
4. Do not put into service without proper motor protection and controls. The ½ horse power, single phase 115V unit is supplied with a switch, cord and plug. The motor can be plugged into the wall power supply and started with the switch. When starting the unit be careful to stand clear of the rotator as the drum will begin to rotate.

Units ordered with a three phase or an explosion proof motor are not supplied with switch, cord, or plug. Customer should provide the proper controls and consult an electrician to complete the wiring.

Rotators equipped with an air motor require 40 psi, 22 scfm. Operating the air motor at higher pressures will reduce the life of the air motor and power transmission components.

Operating Instructions

1. Position rotator in front of drum to be rotated. Tip rotator forward towards drum until almost vertical. Lower kickstand so the rotator stands by itself. Using a drum hand truck e.g. Morse Model 160 (image 2.1) or a below-hook drum lifter, carefully place the drum onto the base plate of the drum rotator.
2. With tipping lever fully extended for maximum leverage, attach tipping lever hook to rim of drum. Flip kickstand out of the way. Place foot on axle for added leverage and pull back on tipping lever until drum is broken over, remove foot and continue lowering until rotator and drum are horizontal (image 2.2).
3. Drum is now ready to be rotated or moved to desired location.
4. The speed on the 201VS is preset to 10 RPM and can be adjusted by turning the crank located in the bottom right corner of the back plate. Turn the crank counterclockwise to increase the speed.



Image 2.1



View video of Portable Drum Roller in operation by clicking on the link at:
www.morsedrum.com/products/201-Portable-Drum-Roller.htm

Maintenance

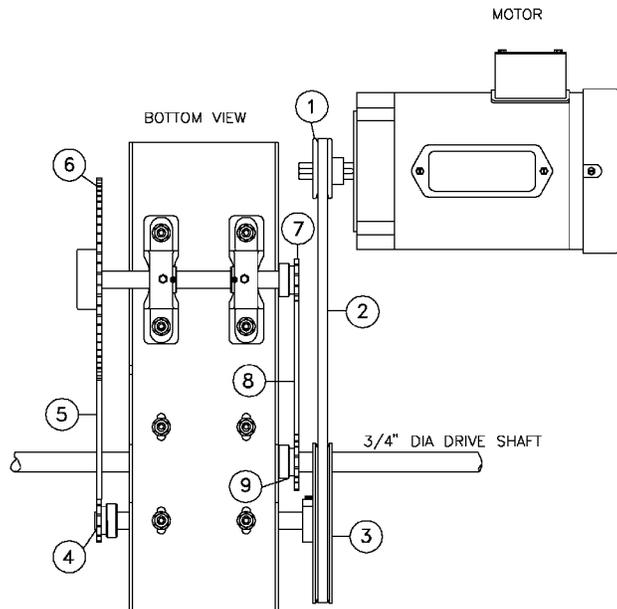
1. Pillow block bearings are equipped with grease fitting and should be lubricated periodically. High pressure grease guns are not recommended, as their force may damage seals.
2. Grease roller chain periodically with any sufficient grade of anti-sling grease (e.g. Whitmore lubes "surtac 2000").
3. Motors have permanently lubricated ball bearings.
4. 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.



Image 2.2

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201 SERIES ROTATOR - SHEAVES & SPROCKETS				
ITEM	MOTOR	RPM	PART #	DESCRIPTION
1	AC	10, 20, 30	2937-P	SHEAVE, 2" X 5/8 BORE, 201
1	AC	VS	191-P	SHEAVE, 3-1/4 X 5/8, 201VS
1	AIR	10, 20, 30	2936-P	SHEAVE, 2" X 1/2 BORE, 201 AIR
1	AIR	VS	191-C-P	SHEAVE, 3-1/4 X 1/2, 201VS AIR
3	AC, AIR	10, 20, 30	2938-P	SHEAVE, 6" X 5/8 BORE, 201
3	AC, AIR	VS	191-A-P	SHEAVE, 6" X 5/8 BORE, 201VS
4	AC, AIR	10, VS	2543-P	SPROCKET #35 10T, 5/8" BORE
4	AC, AIR	20,30	2544-P	SPROCKET #35 12T, 5/8" BORE
6	AC, AIR	10, VS	2549-P	SPROCKET #35 60T, 5/8" BORE
6	AC, AIR	20	2547-P	SPROCKET #35 36T, 5/8" BORE
6	AC, AIR	30	2546-P	SPROCKET #35 24T, 5/8" BORE
7	AC, AIR	10, 20, 30	2544-P	SPROCKET #35 12T, 5/8" BORE
7	AC, AIR	VS	2543-P	SPROCKET #35 10T, 5/8" BORE
9	AC, AIR	10, 20, 30, VS	2550-P	SPROCKET #35 18T, 3/4" BORE



201 SERIES ROTATOR - BELTS & CHAINS				
ITEM	RPM	TAKES OFFSET LINK? (P/N 1846-P)	PART #	DESCRIPTION
2	10, 20, 30	N	2939-P	VEE BELT, COG, 201
2	VS	N	191B-P	VEE BELT, B SECTION, 201VS
5 **	10, VS	N	2949-P	CHAIN, ROLLER, #35 78 PITCH
5 **	20	N	2950-P	CHAIN, ROLLER, #35 66 PITCH
5 **	30	Y	2951-P	CHAIN, ROLLER, #35 61 PITCH
8 **	10, 20, 30	N	2948-P	CHAIN, ROLLER, #35 104 PITCH
8 **	VS	N	2540-P	CHAIN, ROLLER, #35 70 PITCH

* Recommended spare parts

** ALL ROLLER CHAIN IS #35 (3/8 PITCH)

Note: DIAGRAM DEPICTS 10, 20 & 30 RPM CONFIGURATION (VS NOT SHOWN)

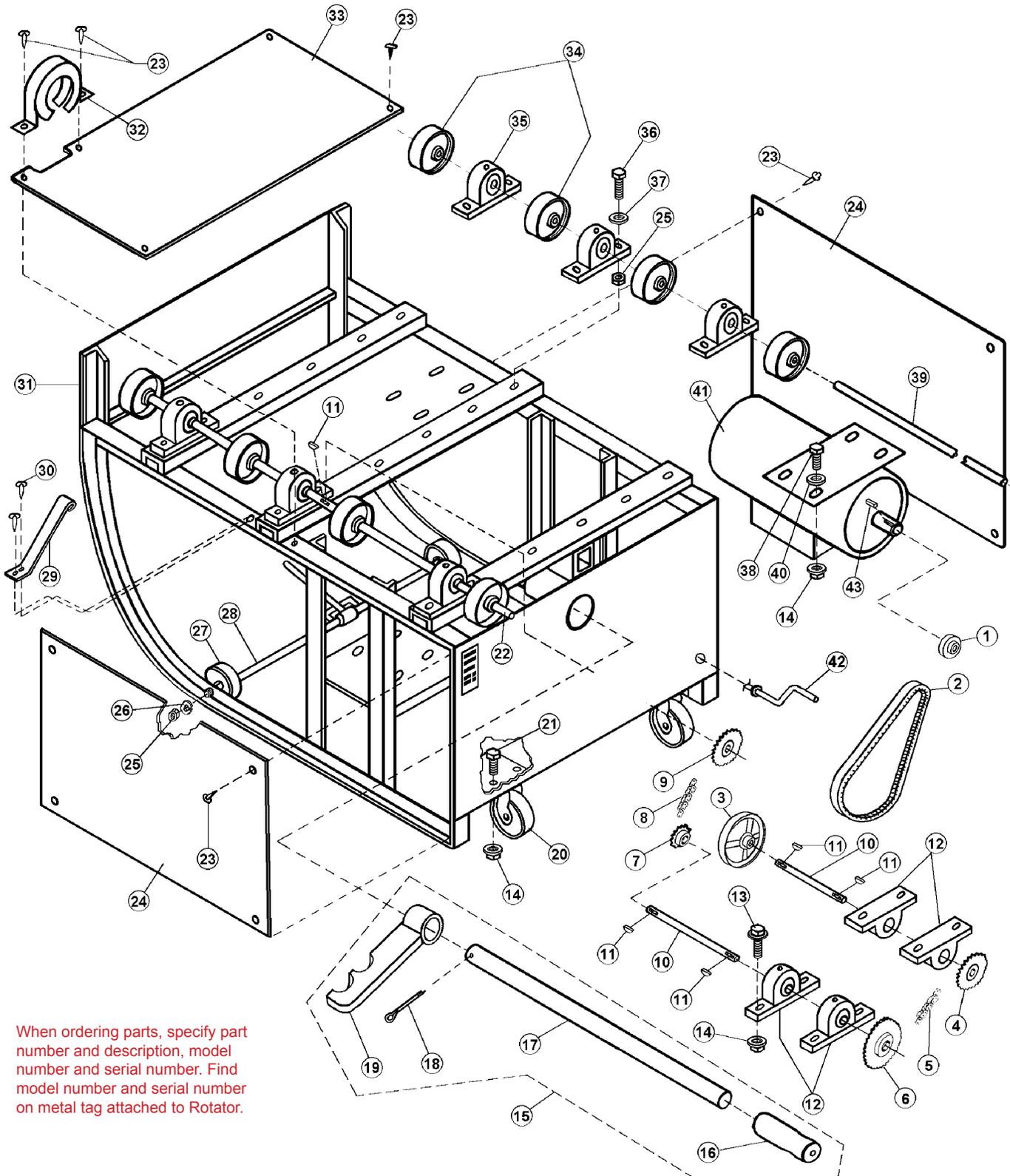
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ITEM	SERIES **	MODEL SUFFIX	QTY.	PART #	DESCRIPTION
10			2	194-P	JACK SHAFT, 201, 305 SERIES
11			5	735-P	KEY, WOODRUFF, SIZE 9, ASA606
12			4	186-P	BEARING, 5/8", PILLOW BLOCK
13			8	1635-P	5/16 - 18 X 1-1/4 WHIZ SCREW
14			20	1634-P	5/16 - 18 WHIZ - LOCK NUT
15			1	189-P	TIPPING LEVER ASM, 201, 201VS
16			1	83-P	HANDLE GRIP, 1-1/4 X 4-1/2
17			1	2873-P	HANDLE TUBE W/ HOLE, 201, 31
18			1	163-P	COTTER PIN, 3/16" X 2"
19			1	1835-P	HOOK SLIDE WELDMENT, 201
20			4	198-P	CASTER 3" 14, 34, 201
21			8	1317-P	1/4 - 20 X 1/2" CARRIAGE BOLT
22			1	197D-P	DRIVE SHAFT 3/4" X 34" 201
23			14	193-P	SCREW, TEK, 12-14 X 3/4" 3 PT
24			2	190-P	SIDE PLATE, 201 SERIES
25			14	1169-P	3/8 - 16 REV HEX LOC NUT
26			2	1474-P	WASHER, 3/8 SPLIT LOCK
27			2	210-P	WHEEL, MORTUF, 3" 1/2" BORE
28			1	199-P	AXLE- KICK STAND WELDMENT, 201
29			1	217-P	GROUNDING STRAP, 5154, 201
30			2	213-P	DRIVE SCREW, #7 X 5/16"
31			1	190F-P	FRAME WELDMENT, 201
32			1	188-P	CHAIN GUARD WELDMENT, 201
33			1	190T-P	TOP PLATE, 201 SERIES
34 *			8	202-P	WHEEL, DRIVE, OR IDLER, 4"
35			6	185-P	BEARING, 3/4" PILLOW BLOCK 201
36			12	1464-P	3/8 - 16 X 1-1/4 HHCS GR 2 STL
37			12	1166-P	WASHER, 3/8 USS
38			4	35-P	5/16 - 18 X 1 HHCS GR 2
39			1	197-P	IDLER SHAFT 3/4" X 34" 201
40			4	1570-P	WASHER, 5/16 USS
41		-1	1	228-1-P	MOTOR, 1/2HP, RB, 1PH, TEFC
41		-3	1	228-3-P	MOTOR, 1/2HP, RB, 3PH, TEFC
41		-E1	1	228-E1-P	MOTOR, 1/2HP, RB, 1PH, EXP
41		-E3	1	228-E3-P	MOTOR, 1/2HP, RB, 3PH, EXP
41		-A	1	228-A-P	MOTOR, AIR, RB, 201, 305
41		-1-50	1	228-1-50-P	MOTOR, 1/2HP, 1PH RB TEFC 50HZ
41		-3-50	1	228-3-50-P	MOTOR, 1/2HP, 3PH RB TEFC 50HZ
41		-575	1	228-575-P	MOTOR, 1/2HP, 3PH RB TEFC 575V
41		-E1-50	1	290-E1-50-P	MOTOR, 1/2HP, 1PH 56C 50HZ EXP
41		-E3-50	1	228-E3-50-P	MOTOR, 1/2HP, 3PH, RB 50HZ EXP
41		-575	1	228-E575-P	MOTOR, 1/2HP, 3PH, RB 575V EXP
42	201VS		1	2532-P	SPEED ADJUSTER ASM, 201VS
43			1	1326-P	KEY, SQUARE, 3/16 X 1"

* Recommended spare parts

** Unless otherwise specified, parts are for 201 and 201VS Series.

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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.