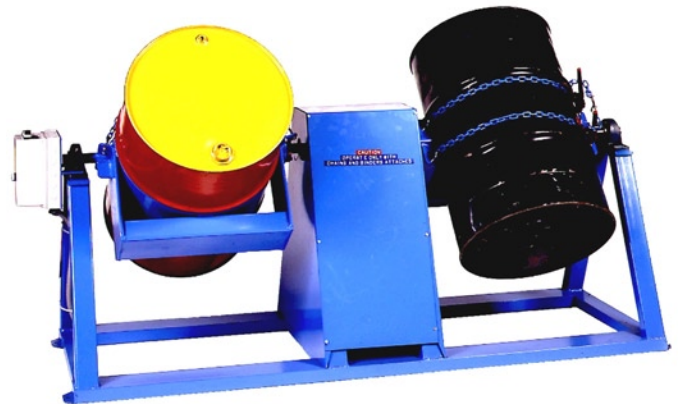


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Operator's Manual
for Morse End-Over-End Drum Rotators
2-300 Series

Serial Number 239790 to _____



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.

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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.



WARNING - The End-Over-End Drum Rotator is designed to handle one or two drums of the types listed at the top of page 3. Machine Description. DO NOT attempt to handle any other type of drum or object. DO NOT exceed the weight capacity of 800 Lb.



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



DANGER - Stay Clear of Rotating Drum. NEVER allow anyone to be near any part of the rotating drum or drum holder. Operator should remain near the push button station and others should stay clear of the rotator. Morse Drum Rotators should be installed in accordance with OSHA subpart O, 1910.212 - "General requirements for all machines." "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." (An optional safety enclosure can be ordered for any MORSE drum rotator.)

Machine Description

The 2-300 End-Over-End Drum Rotators are designed to rotate a ribbed 55-gallon steel drum 22.5" in diameter. The maximum full-drum capacity is 800 Lb. Capacity is de-rated to 400 Lb. for a half-full drum. Half-full capacity is an indication of the capacity for tilting a bottom heavy drum. A partially full drum with an unbalanced and shifting load is harder to tilt than a full drum.

MORSE
Mfg. Co., Inc.
E. Syracuse, NY

The Specialist
In Drum
Handling
Equipment

800 Lb.
Max.
Capacity
(363 kg)

Made in U.S.A.

**Operator's Manual for Morse 2-300 Series End-Over-End Drum Rotators
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Options

1. A 30-gallon steel drum can be rotated by installing 19" Diameter Adaptor, part # 55/30-19GR.
2. A Load Crane (shown right) for self contained loading capability is available. Attach the provided drum lifting hook to the Load Crane to engage a horizontal drum.
 - Order option 300LCF for field installation (bolt-on right side) on your existing 2-300 Series Drum Rotator.
 - Order option 300LCFL for field installation (bolt-on left side) on your existing 2-300 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 rotator.
3. The 2-300 series has a maximum capacity rating of 800 Lb. per drum, and is designed to rotate two 55-gallon steel drums, end over end. DO NOT exceed these ratings. Exceeding these ratings or handling drums other than those mentioned above is unsafe and could result in equipment damage, excessive wear, motor overload and shortened service life of transmission components.
4. 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 near a rotating drum. Read operating instructions and review the pictures in the sales brochure before operation.
5. Install all Morse rotators in accordance with OSHA subpart O, 1910.212 - "General requirements for all machines."

Assembly Instructions

1. Remove the four bolts from the floor mount angles and remove the rotator from the shipping pallet.
2. Position the rotator in the desired location and bolt to floor using floor mount angles. 5/8" x 3" Lag bolts are recommended.
3. The control box is wired to motor at factory on rotators equipped with an AC non-explosion proof motor (e.g. model # 2-300-3-230). The main power must be wired into the starter. See wiring diagram included inside the control box. Units ordered with an explosion proof motor (e.g. model # 2-300-E3-230), have no wiring from the NEMA 7/9 control box to motor and the control box is not mounted. Please consult an electrician to complete the wiring. Rotators equipped with an air motor (e.g. model # 2-300-A), feature an onboard filter/regulator/lubricator with a 3/8" NPT shutoff on the inlet where a quick coupling can be installed for connecting an air line. Air requirements are 60 psi, 60 scfm. Operating the air motor at higher pressures will reduce the life of the air motor and power transmission components. Do NOT operate an air powered unit at 60 PSI without a load, as it will increase the motor RPM beyond the intended design, resulting in damage to transmission components.

Operating Instructions

1. Before operating the rotator, ensure that the load binders are secured to the drum holder to prevent interference with the frame. Never operate rotator when load binders are loose or detached.
2. Using the "JOG" option, position the drum holder with the load binders on the top side. Disengage the load binders and drape away from the saddle band to allow room for the drum.
3. Using an overhead hoist and the MORSE model 41 Lifting Hook, raise the 55-gallon steel drum in the horizontal position and set into the drum holder with the saddle band centered between the middle two ribs.
4. Secure the drum into the drum holder by tightening the two load binders around the drum. Secure the snap hook to the loose ends of the cinch chains, pinning the load binder handles under the chain to prevent inadvertent releasing of the load binder. Remove model 41 Lifting Hook.
5. After ensuring that the area around the rotator is clear, turn the switch to "RUN" and press the start button.

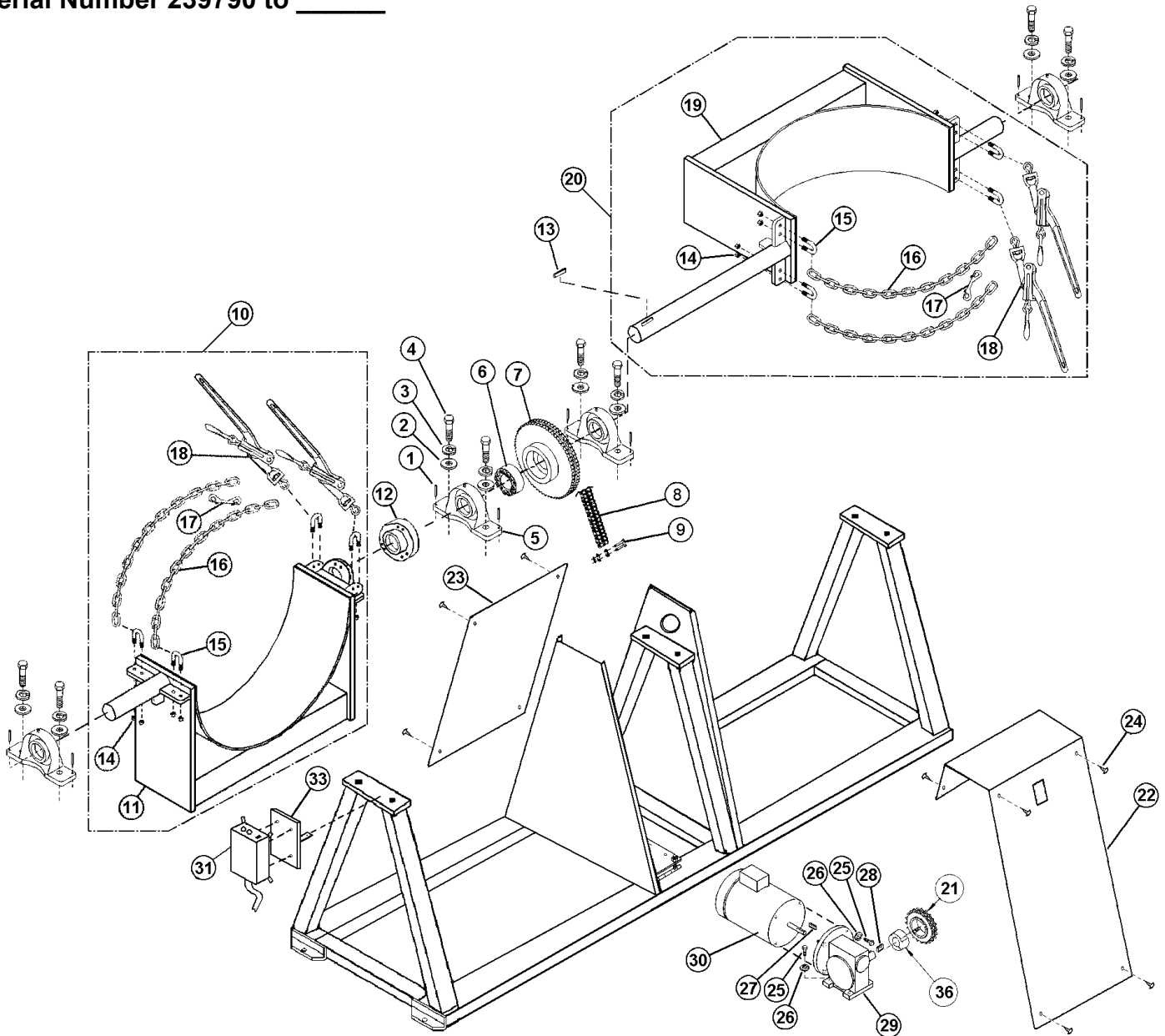
Maintenance

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. Inspect oil level in gear box / speed reducer and fill with high quality, synthetic lubricant for gears if necessary. Use [Klubersynth UH1 6-460 \(#096060\)](#) or equivalent. The speed reducer has been filled and tested prior to shipment. After operating a new machine for 50 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 6 months or 2500 operating hours thereafter, or more often if operating conditions cause condensation of moisture resulting in sludge formation inside housing.
3. Motors have permanently lubricated ball bearings.
4. Periodically inspect all moving parts, load binders and cinch chains, framework and contact areas for signs of wear or loosening. Tighten, adjust or replace parts as necessary to prevent failure and maintain proper function.

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| ITEM | MODEL SUFFIX | QTY | PART # | DESCRIPTION |
|------|---|-----|--------------|---|
| 1 * | | 8 | 64-P | ROLL PIN, 3/16 X 1-1/4 |
| 2 | | 8 | 807-P | WASHER, 1/2 USS 1-3/8 OD |
| 3 | | 8 | 1644-P | WASHER, 1/2 SPLIT LOCK |
| 4 | | 8 | 1168-P | HHCS, 1/2-13 X 2 GR2 |
| 5 * | | 4 | 312-P | BEARING, 1-1/2" PILLOW BLOCK |
| 6 | | 1 | 2348-P | HUB, 1-1/2 KEYLESS, FRICTIONAL |
| 7 * | | 1 | 2353-P | 60T SPROCKET #40D, KEYLESS |
| 8 * | | 1 | 317-72-P | CHAIN, ROLLER, #40D 145 PITCH |
| 9 * | | 1 | 796-P | LINK, MASTER, #40D CHAIN |
| 10 | | 1 | 2376-P | SADDLE ASM, HUB, 2-300 |
| 11 | | | 2375-P | SADDLE WELD, HUB, 2-300 (NOT SOLD SEPARATELY) |
| 12 | | 1 | 1224-P | QD BUSHING, SK X 1-1/2" BORE |
| 13 | | 1 | 525-P | KEY, WOODRUFF, SIZE F, ASA1211 |
| 14 | | 16 | 1169-P | NUT, LOCK, 3/8-16 REV HEX |
| 15 * | | 8 | 314-P | U-BOLT, 3/8-16, GR, 300 |
| 16 * | | 4 | 180-P | CHAIN, CINCH, 3/16 ALLOY 33 LK |
| 17 | | 2 | 575-P | SNAP HOOK, GR, 300 |
| 18 * | | 4 | 315-P | LOAD BINDER |
| 19 | | | | SADDLE WELD (NOT SOLD SEPARATELY) |
| 20 | | 1 | 2371-P | SADDLE ASM, DRIVE, 2-300 |
| 21 * | | 1 | 3127-P | SPROCKET #40D 20T, TAPER 310 |
| 22 | | 1 | 1065-P | COVER, DRIVE, FRONT, 300 |
| 23 | | 1 | 1066-P | COVER, DRIVE, BACK, 300 |
| 24 | | 16 | 193-P | SCREW, TEK, 12-14 X 3/4" 3 PT |
| 25 | | 8 | 1572-P | HHCS, 3/8-16 X 1 GR2 |
| 26 | | 8 | 1474-P | WASHER, 3/8 SPLIT LOCK |
| 27 * | | 1 | 1638-P | KEY, SQUARE, 3/16 X 1-3/8" |
| 28 * | | 1 | 1646-P | KEY, SQUARE, 1/4 X 1-1/2" |
| 29 | | 1 | 4701-P | SPEED REDUCER, 2-300, 50:1 |
| 29 | 3-220-50, 3-380-50, 3-440-50, E3-220-50, E3-380-50, E3-440-50, E3-575 | 1 | 4701-50-P | SPEED REDUCER, 2-300 50:1 50HZ |
| 30 | 1-115, 1-230 | 1 | 320-1-2P | MOTOR, 1-1/2HP, 1PH, 56C, TEFC |
| 30 | 1-220-50 | 1 | 320-1-50-2P | MOTOR, 1-1/2HP, 1PH, 50HZ |
| 30 | 3-230, 3-460 | 1 | 320-3-2P | MOTOR, 1-1/2HP, 3PH, 56C, TEFC |
| 30 | 3-220-50, 3-380-50, 3-440-50 | 1 | 320-3-50-2P | MOTOR, 1-1/2HP, 3PH, 50HZ |
| 30 | 3-575 | 1 | 320-575-2P | MOTOR, 1-1/2HP, 575V, 56C |
| 30 | E1-115, E1-230 | 1 | 320-E1-2P | MOTOR, 1-1/2HP, 1PH, 56C, EXP |
| 30 | E1-220-50 | 1 | 320-E1-50-2P | MOTOR, 2HP, 3PH, EXP 50HZ |
| 30 | E3-230, E3-460 | 1 | 320-E3-2P | MOTOR, 1-1/2HP, 3PH, 56C, EXP |
| 30 | E3-220-50, E3-380-50, E3-440-50 | 1 | 320-E3-50-2P | MOTOR, 1-1/2HP, 3PH, 50HZ EXP |
| 30 | E3-575 | 1 | 320-E575-2P | MOTOR, 1-1/2HP, 575V, EXP |
| 30 | A | 1 | 320-A-2P | MOTOR, AIR, 2+, 56C 6AM 8 VANE |
| 31 | 1-115 | 1 | 1249-P | CONTROL BOX, X-300-1-115 |
| 31 | 1-230, 1-220-50 | 1 | 1250-P | CONTROL BOX, 2-300-1-230 |
| 31 | 3-230, 3-220-50 | 1 | 1247-P | CONTROL BOX, 2-300-3-230 |
| 31 | 3-380-50 | 1 | 1679-P | CONTROL BOX, X-300-380-50 |
| 31 | 3-460, 3-440-50 | 1 | 1248-P | CONTROL BOX, 2-300-3-460 |
| 31 | 3-575 | 1 | 1251-P | CONTROL BOX, 2-300-3-575 |
| 31 | E1-115 | 1 | 2968-P | CONTROL BOX, X-300-E1-115 |
| 31 | E1-230, E1-220-50 | 1 | 2969-P | CONTROL BOX, X-300-E1-230 |

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| ITEM | MODEL SUFFIX | QTY | PART # | DESCRIPTION |
|------|-------------------|-----|---------|-------------------------------|
| 31 | E3-230, E3-220-50 | 1 | 2966-P | CONTROL BOX, X-300-E3-230 |
| 31 | E3-380-50 | 1 | 3976-P | CONTROL BOX, X-300-E3-380-50 |
| 31 | E3-460, E3-440-50 | 1 | 2971-P | CONTROL BOX, X-300-E3-460 |
| 31 | E3-575 | 1 | 2963-P | CONTROL BOX, X-300-E3-575 |
| 32 | A | 1 | 90020-P | FRL ASM, KIT, 3/8", REGULATOR |
| 33 | ALL NON EXP & A | 1 | 3205-P | PLATE, CONTROL BOX, 2-300 |
| 34 | ALL NON EXP & A | 4 | 2683-P | FHMS, SLOTTED, 10-24 X 3/4 |
| 35 | ALL NON EXP & A | 4 | 1869-P | NUT, LOCK, 10-24 NYLON |
| 36 | | 1 | 4700-P | BUSHING, 1-1/4" TAPER LOCK |

* Recommended spare parts