

OPERATOR'S SAFETY AND SERVICE MANUAL



AIRAMMER

This manual covers the following serial numbers

and higher for each model listed:

AR56/AR57 570059



RAMMERS

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SAFETY INFORMATION

Introduction



This Safety Alert Symbol is used to call attention to items or operations which may be dangerous to those operating or working with this equipment. The symbol can be found throughout this manual and on the unit. Please read these warnings and cautions, along with all decals, carefully before attempting to operate the unit. Make sure every individual who operates or works with this equipment is familiar with all safety precautions.

WARNING

GENERAL WARNING. Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

CAUTION

GENERAL CAUTION. Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment.

Safety Precautions



LETHAL EXHAUST GAS: An internal combustion engine discharges carbon monoxide, a poisonous, odorless, invisible gas. Death or serious illness may result if inhaled. Operate only in an area with proper ventilation. **NEVER OPERATE IN A CONFINED AREA!**



DANGEROUS FUELS: Use extreme caution when storing, handling and using fuels, as they are highly volatile and explosive in vapor state. Do not add fuel while engine is running. Stop and cool the engine before adding fuel. **DO NOT SMOKE!**



SAFETY GUARDS: It is the owner's responsibility to ensure that all guards and shields are in place and in working order.



IGNITION SYSTEMS: Breakerless, magneto, and battery ignition systems can cause severe electrical shocks. Avoid contacting these units or their wiring.



SAFE DRESS: Do not wear loose clothing, rings, wristwatches, etc. near machinery.



NOISE PROTECTION: Wear OSHA specified hearing protection devices.



EYE PROTECTION: Wear OSHA specified eye shields, safety glasses, and sweat bands.



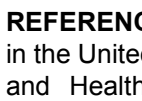
FOOT PROTECTION: Wear OSHA specified steel-tipped safety shoes.



HEAD PROTECTION: Wear OSHA specified safety helmets.



DUST PROTECTION: Wear OSHA specified dust mask or respirator.



OPERATOR: Keep children and bystanders off and away from the equipment.

REFERENCES: For details on safety rules and regulations in the United States, contact your local Occupational Safety and Health Administration (OSHA) office. Equipment operated in other countries must be operated and serviced in accordance and compliance with any and all safety requirements of that country. The publication of these safety precautions is done for your information. MBW does not by the publication of these precautions, imply or in any way represent that these are the sum of all dangers present near MBW equipment. If you are operating MBW equipment, it is your responsibility to insure that such operation is in full accordance with all applicable safety requirements and codes. All requirements of the United States Federal Occupational Safety and Health Administration Act must be met when operated in areas that are under the jurisdiction of that United States Department.

Safety Decals

Carefully read and follow all safety decals. Keep them in good condition. If decals become damaged, replace as required. If repainting the unit, replace all decals. Decals are available from authorized MBW distributors. Order the decal set listed on the following page(s).



TO START:
SQUEEZE ACTUATOR
HANDLE
TO STOP: RELEASE
13538

CAUTION

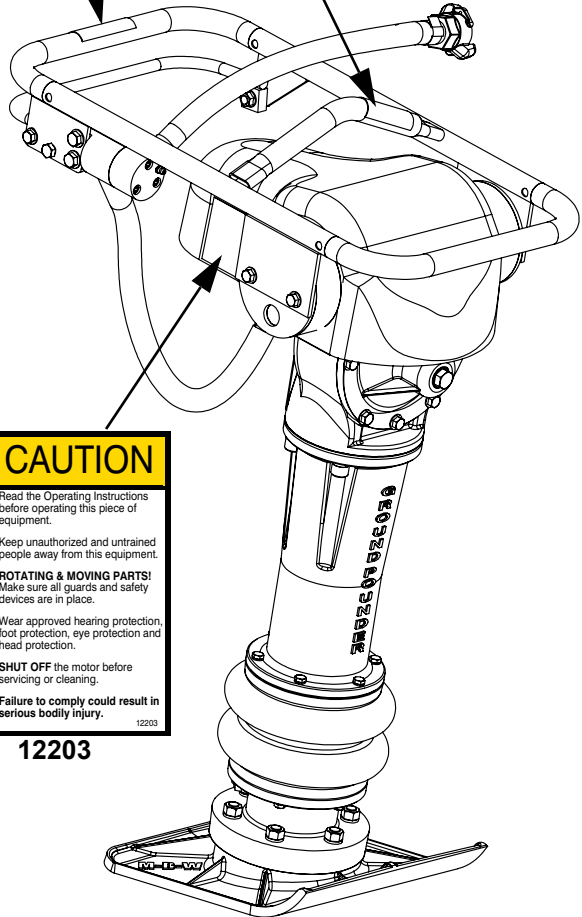
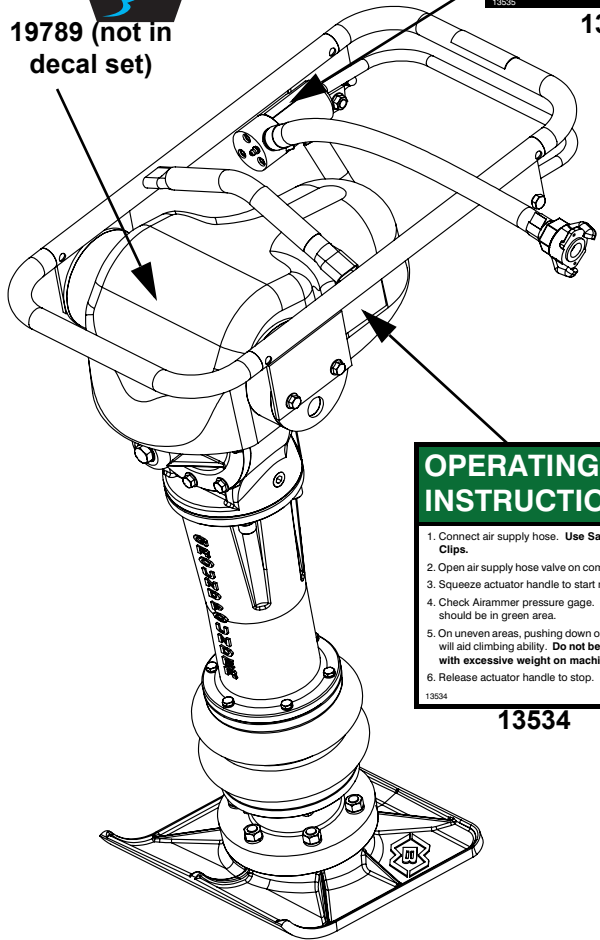
Machine is top heavy and could fall if not lifted from this bar.

AIRAMMER= #120 (54kg)

17779

U.S. PATENT 5,340,233
13535

19789 (not in decal set)



OPERATING INSTRUCTIONS

1. Connect air supply hose. Use Safety Clips.
2. Open air supply hose valve on compressor.
3. Squeeze actuator handle to start machine.
4. Check Airammer pressure gage. Needle should be in green area.
5. On uneven areas, pushing down on handle will aid climbing ability. Do not bear down with excessive weight on machine.
6. Release actuator handle to stop.

13534

CAUTION

Read the Operating Instructions before operating this piece of equipment.

Keep unauthorized and untrained people away from this equipment.

ROTATING & MOVING PARTS!
Make sure all guards and safety devices are in place.

Wear approved hearing protection, foot protection, eye protection and head protection.

SHUT OFF the motor before servicing or cleaning.

Failure to comply could result in serious bodily injury.

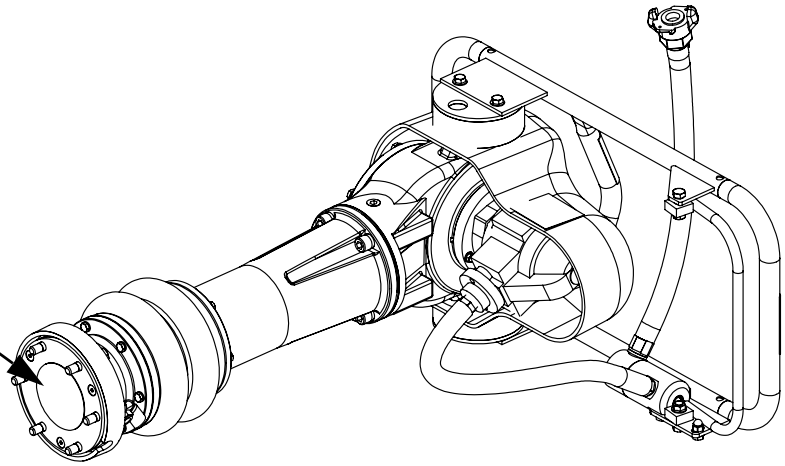
12203

DANGER PELIGRO

Compressed spring could cause severe injury. See manual for disassembly instructions.

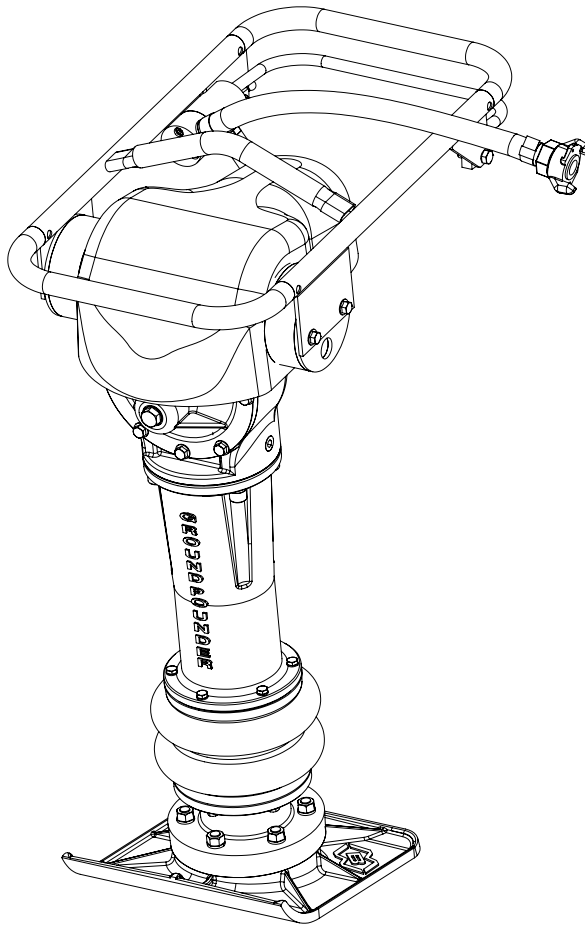
La resorte comprimida podría causar la herida severa. Consulte el libro para ver el desmontaje correcto.

01326



Safety Decals (Decal Set #12101)

SPECIFICATIONS



AR56

| | AR56 | AR57 |
|-------------------------|--|--|
| Operating Weight | 123 lbs (56 kg) | 125 lbs (57 kg) |
| Percussion Rate | 650 blows/minute | 650 blows/minute |
| Shoe Size | 11" x 13" (28 cm x 33cm) | 13" x 15" (33 cm x 38 cm) |
| Travel Speed | 60 ft/min (18.3 m/min) | 60 ft/min (18.3 m/min) |
| Compaction Area | 3300 ft ² /hour (307m ² /hour) | 3900 ft ² /hour (362m ² /hour) |
| Air Requirement | 75 cfm @ 110 psi | 75 cfm @ 110 psi |
| Operating Speed | 4500 rpm | 4500 rpm |

Specifications subject to change without notice

OPERATION

Introduction

MBW equipment is intended for use in very severe applications. The Airammer is powered by a pneumatic motor and is available with different size tamping shoes.

This parts manual contains only standard parts. Variations of these parts as well as other special parts are not included. Contact your local MBW distributor for assistance in identifying parts not included in this manual.

Before Starting & Operating

- REMEMBER! It is the owner's responsibility to communicate information on the safe use and proper operation of this unit to the operators.
- Review ALL of the Safety Precautions listed on page 1 of this manual.
- Familiarize yourself with the operation of the machine and confirm that all controls function properly.
- Know how to STOP the machine in case of an emergency.
- Make sure hands, feet, and clothing are at a safe distance from any moving parts.

Motor Lubrication

Oil lubrication must be supplied to the Airammer at all times during operation. Operating the Airammer without lubrication will cause damage to the pneumatic motor.

If the supply hose from the compressor to the Airammer is less than 50' long, the oiler on the compressor should be sufficient.

If the supply hose is longer than 50', a high volume in-line oiler should be installed near the Airammer. Do not install the oiler on the Airammer handle. The air lubrication system should supply 1/2 oz of oil for every 8 hours of operation.

Use suitable air tool oil such as Exxon Spinesstic 10, Atlantic Richfield Duro 55, Gulf Gulfspin 10, or any other equivalent.

Connecting to Air Compressor

For proper operation, the Airammer requires a compressed air supply of at least 75 cfm at 110 psi.

1. Start compressor and check pressure gage to verify proper operation of the compressor.
2. Connect air hose to compressor outlet and install safety clips if required.
3. Connect air hose to Airammer coupler and install safety clips if required.
4. Open compressor valve to pressurize Airammer.

Operating



CAUTION



Always wear safety goggles and hearing protection when operating Airammer.

1. Squeeze the Airammer actuator handle and check the Airammer pressure gauge.
2. If the pressure reading is less than 100 psi (indicated as a red section on some gages), the air pressure at the source must be increased.
3. On uneven terrain, pushing down on the handle will aid climbing ability.



CAUTION



Do not bear down (body weight of operator) on the machine.

4. After three passes, the rammer may have more kick back. This is an indication that ideal compaction is being reached.

Motor Icing

If the Airammer is operated for long periods of time or in a high humidity environment, frost will form on the motor. This is normal and will not harm the motor. If the motor should "freeze up" from icing, allow it to thaw before continuing use. Ensure there is adequate oil supply to the motor.

Stopping Airammer

1. Release Airammer actuator handle.
2. Close compressor valve to release supply pressure to the Airammer.
3. Squeeze the actuator handle to relieve all residual air pressure in the hose.
4. Disconnect the air hose from the Airammer.



WARNING



Always stop the motor and disconnect the air supply before:

Leaving the equipment unattended for any amount of time.

Before making any repairs or adjustments to the machine.

MAINTENANCE



WARNING



Always exercise the stopping procedure before servicing or lubricating the unit.

After servicing the unit, replace and fasten all guards, shields, and covers to their original positions before resuming operation.



CAUTION



Always verify fluid levels and check for leaks after changing fluids.

Do not drain oil onto ground, into open streams, or down sewage drains.

Maintenance Schedule

| SYSTEM | MAINTENANCE | EACH USE | EVERY 25 HOURS | EVERY 300 HOURS | YEARLY |
|-------------------|--|----------|----------------|-----------------|--------|
| Percussion System | Check oil level | X | X | | |
| | Change oil ¹ | | | X | X |
| Hardware | Check and tighten as needed ² | | X | | X |
| Shockmounts | Check for cracks or tears | | | | X |

1. Change oil in lower unit after first 50 hours of operation, then follow the maintenance schedule.
2. Check all hardware after the first 5 hours of use, then follow the maintenance schedule.

Fluid Levels

| SYSTEM | FLUID VOLUME | RECOMMENDED OIL |
|-------------------|----------------|-----------------------|
| Percussion System | 12 oz (360 ml) | Service SF SAE 10W-30 |

Checking Percussion System Oil

Refer to Lower Unit Assembly, page 16.

The rammer percussion system and gearbox are lubricated by an oil mist which is formed and carried throughout the rammer by a pumping action in the machine's lower system.

1. Before daily operation, place the rammer on a flat surface and check the oil level in the glass sight (#12) on the spring box (#14).
2. If the oil is not visible in the sight gauge, add oil as required. See Fluid Levels above for recommended type of oil.

Changing Percussion System Oil

Refer to Lower Unit Assembly, page 16.

1. Tip the rammer backward so the handle is on the ground.

2. Remove the pipe plug (#19) below the sight glass (#12) on the back of the spring box (#14).
3. Place an oil pan under the drain hole.
4. Rotate the rammer to drain the oil into the oil pan. The gearbox may need to be elevated to get all of the oil to drain.
5. Replace the pipe plug.
6. Lay rammer with valve side down.
7. Remove the pipe plug (#33, page 14) next to the breather on the top of the gearbox.
8. Fill the system with oil. See Fluid Levels above for recommended type and quantity of oil.
9. Replace pipe plug in gearbox.

SERVICE

Assembly and disassembly should be performed by a service technician who has been factory trained on MBW equipment. The unit should be clean and free of debris. Pressure washing before disassembly is recommended.

- Prior to assembly, wash all parts in a suitable cleaner or solvent.
- Check moving parts for wear and failure. Refer to the Replacement section in this manual for tolerance and replacement cycles.
- All shafts and housings should be oiled prior to pressing bearings. Also, ensure that the bearings are pressed square and are seated properly.
- All bearings should be replaced when rebuilding any exciter or gearbox.
- All gaskets and seals should be replaced after any disassembly.

Torque Chart

| SIZE | GRADE 2 | GRADE 5 | GRADE 8 |
|---------|------------|-------------|-------------|
| 1/4-20 | 49 in·lbs | 76 in·lbs | 9 ft·lbs |
| 1/4-28 | 56 in·lbs | 87 in·lbs | 10 ft·lbs |
| 5/16-18 | 8 ft·lbs | 13 ft·lbs | 18 ft·lbs |
| 5/16-24 | 9 ft·lbs | 14 ft·lbs | 20 ft·lbs |
| 3/8-16 | 15 ft·lbs | 23 ft·lbs | 33 ft·lbs |
| 3/8-24 | 17 ft·lbs | 26 ft·lbs | 37 ft·lbs |
| 7/16-14 | 24 ft·lbs | 37 ft·lbs | 52 ft·lbs |
| 7/16-20 | 27 ft·lbs | 41 ft·lbs | 58 ft·lbs |
| 1/2-13 | 37 ft·lbs | 57 ft·lbs | 80 ft·lbs |
| 1/2-20 | 41 ft·lbs | 64 ft·lbs | 90 ft·lbs |
| 9/16-12 | 53 ft·lbs | 82 ft·lbs | 115 ft·lbs |
| 5/8-11 | 73 ft·lbs | 112 ft·lbs | 159 ft·lbs |
| 5/8-18 | 83 ft·lbs | 112 ft·lbs | 180 ft·lbs |
| 3/4-16 | 144 ft·lbs | 200 ft·lbs | 315 ft·lbs |
| 1-8 | 188 ft·lbs | 483 ft·lbs | 682 ft·lbs |
| 1-14 | 210 ft·lbs | 541 ft·lbs | 764 ft·lbs |
| 1-1/2-6 | 652 ft·lbs | 1462 ft·lbs | 2371 ft·lbs |
| M 6 | 3 ft·lbs | 4 ft·lbs | 7 ft·lbs |
| M 8 | 6 ft·lbs | 10 ft·lbs | 18 ft·lbs |
| M 10 | 10 ft·lbs | 20 ft·lbs | 30 ft·lbs |

CONVERSIONS

in·lbs x 0.083 = ft·lbs

ft·lbs x 12 = in·lbs

ft·lbs x 0.1383 = kg·m

ft·lbs x 1.3558 = N·m

Service Tools

| Part No. | Description |
|----------|--------------------------------|
| 01629 | Rubber Test Mat |
| 20260 | Springbox Tool |
| 07205 | Bellows Installation tool |
| 07552 | Blind Hole Bearing Puller Tool |

General

The disassembly and assembly procedures given on the next few pages are intended for a complete dismantling of the rammer. Read the following sections carefully. It is not necessary to follow the complete disassembly procedure when only partial disassembly is required. If repairs have to be made to the Lower Unit only, it is recommended that the drive unit (engine, gearbox and handle) be removed from the lower unit. Refer to Remove the three whiz lock screws (#30) securing the adapter plate (#26) and motor (#22) to the gearbox (#25), page 7.

Handle Removal

Refer to Handle Assembly, page 18.

1. Remove the air hose (#3) from the motor (#22, page 14).
2. Remove the four whiz-lock screws (#11) securing the handle (#7) to the shockmounts (#8).

Motor Removal

NOTE: It is not necessary to remove the handle to take the motor off the rammer.

Refer to Gearbox Assembly, page 14.

1. Remove the three whiz lock screws (#30) securing the adapter plate (#26) and motor (#22) to the gearbox (#25).

Pinion Removal

NOTE: The pinion will be removed from the gearbox with the airmmer motor.

Refer to Gearbox Assembly, page 14.

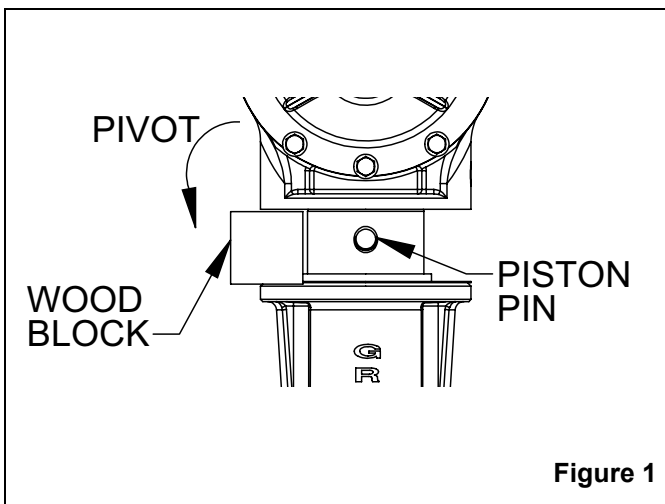
1. Remove the the three socket screws (#31) to detach the motor adapter plate (#26) from the motor (#22).
2. Remove the pinion (#27) from the motor (#22) by unscrewing it using the wrench flats on the pinion.

Gearbox Removal

It is necessary to remove the handle and motor to remove the gearbox.

Refer to Gearbox Assembly, page 14.

1. Remove the four socket head cap screws (#35) and lockwashers (#21) securing the gearbox (#25) to the guide tube (#17, page 16).
2. Compress the bellows enough to insert a small wooden block between the gearbox (#25) and the guide tube (#17, page 16).
3. Use the wooden block as a pivot point to separate the gearbox (#25) from the guide tube (#17, page 16) to expose the piston pin (#17).
4. Hold the gearbox (#25) and tap out the piston pin (#17) with a hammer and drift pin. See Figure 1.



Gearbox Disassembly

NOTE: It is necessary to remove the gearbox before disassembly.

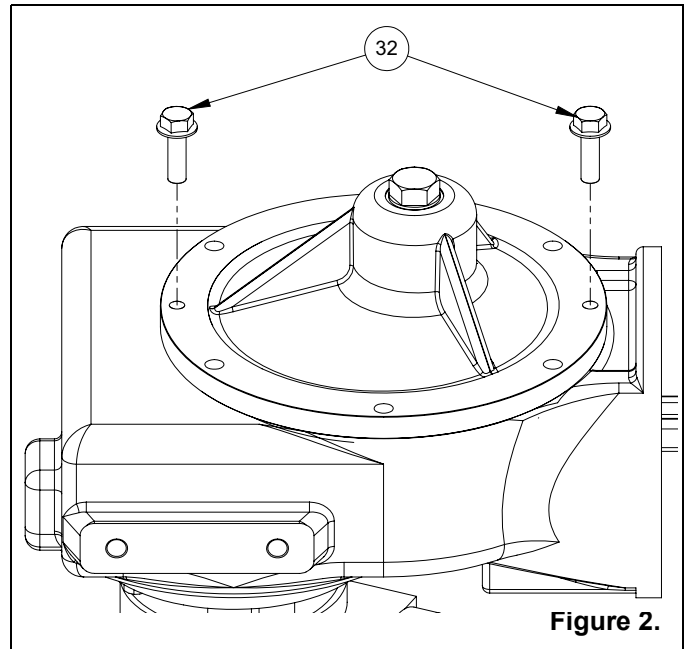
Refer to Gearbox Assembly, page 14.

Cover Removal

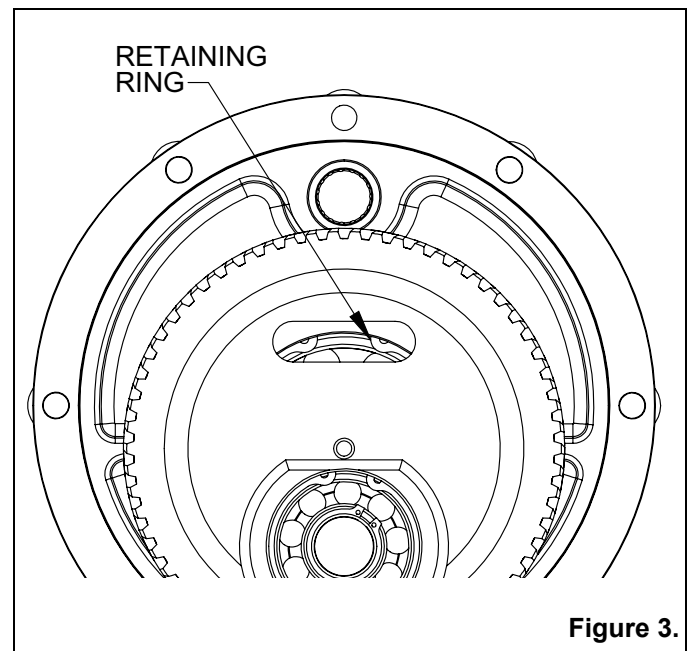
1. Remove the six flange head screws (#32) securing the cover (#23) to the gearbox (#25).
2. Install two of the screws from step 1 into the threaded holes protected by the caps (#7). Turn them in to back out the cover. If the cover should cock, a pry bar may be used to bring the cover off straight. See Figure 2.
3. Remove and discard the o-ring (#9).

Crank Gear Removal

1. Slip a retaining ring pliers through the slot in the opening in the crank gear (#10) and remove the retaining ring (#15). See Figure 3..



2. Remove the hex head cap screw (#34) and seal washer (#16) from the cover.
3. Use a 3/8" (10mm) diameter steel rod to press the crank gear out of the cover.
4. Remove the retaining ring (#1) from the crank gear.
5. Press the bearing (#4) off the crank gear.
6. Remove the small retaining ring (#14) from the crank



- gear.
7. Remove the connecting rod (#8) from the crank gear.
8. Remove the retaining ring (#13) from the connecting rod.
9. Press the bearing (#5) out of the connecting rod.

- Use a blind hole bearing puller to remove the two needle bearings (#11 and #12) from the cover.

Breather Removal

Refer to Gearbox Assembly, page 14.

- Remove the socket pipe plug (#29) from the top of the breather assembly.
- Remove spring (#19), washer (#28), and valve (#18).

Lower Unit Disassembly

The lower system can be separated from the drive unit (engine, gearbox, and handle) without going through the complete disassembly procedure. If the lower unit has not been separated, see Gearbox Removal, page 7.

Refer to Lower Unit Assembly, page 16.

Guide Tube and Bellows

- Drain the oil from the system. Refer to Changing Percussion System Oil, page 6.
- Remove the six hex head cap screws (#21) and lockwashers (#22) securing the spring box (#14) to the bellows mount (#8) and guide tube (#9).
- Remove the guide tube, bellows, and bellows clamps.
- Remove the retaining ring (#10) from the guide tube.
- Remove the slide bearings (#5) from the guide tube. Carefully drive the bearings out from the opposite end of the tube. Be careful not to scratch or gouge the inner guide tube walls.
- Remove the six hex head cap screws (#23) and lockwashers (#24) securing the shoe (#13). Remove the shoe.

Springbox



WARNING



Working with compressed springs. Failure to follow the next set of steps very carefully could result in serious injury or death.

- Flip the springbox assembly upside down.
- Insert the springbox tool (MBW #20260) rods into the springbox assembly as shown in Figure 4.
- Make sure the rods are 180° apart.
- Place the washers over the rods and run the nuts down so the washers are snug against the cover (#3).
- Remove the flat head socket screws (#20) holding the cover to the springbox.

- While holding the bottom of the rods from turning, slowly and evenly back off the nuts on the cover side.
- After the tension is removed from the cover, the springbox tools and the cover can be removed.
- Remove the o-ring (#6) from the cover and discard.
- The lower springs (#1 and #2) can be removed from the springbox (#21).
- Place a drift pin or steel rod through the piston hole in the ram head (#4). Use this to hold the ram head from turning while removing the hex nut (#7). Discard the hex nut.
- Remove the washers, spring separator (#17), and upper springs (#1 and #2).

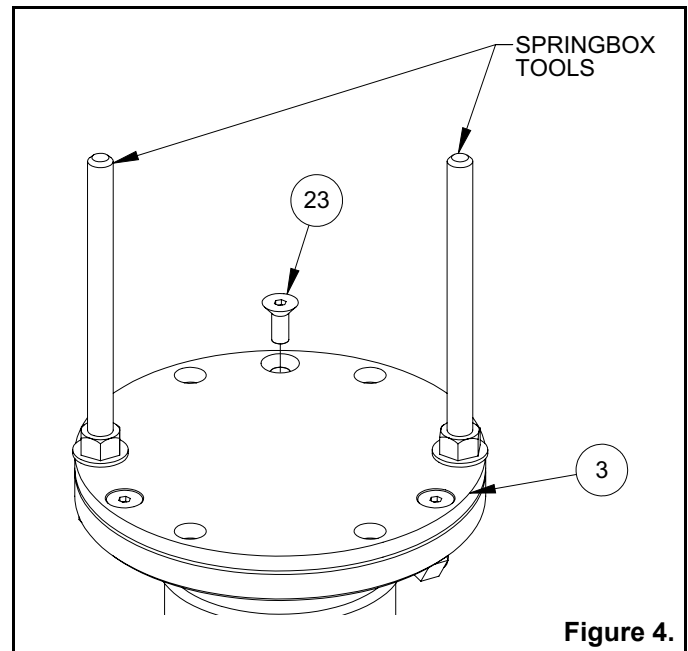


Figure 4.

Gearbox Assembly

Make sure all bearings are pressed on square and are seated properly. All shafts and housings should be lightly oiled prior to pressing any bearings.

Refer to Gearbox Assembly, page 14.

Crank Gear Assembly

- Press the bearing (#5) into the connecting rod (#8) and secure with an internal retaining ring (#13).
- Press the connecting rod assembly onto the crank gear (#10) and secure with an external retaining ring (#14).
- Slip a retaining ring onto the crank gear.
- Press a bearing (#4) onto the crank gear. Secure with a retaining ring (#1).
- Press the needle bearings (#11 and #12) into the cover (#23). **The bearing must be pressed in with the numbers and letters facing outward.**

6. Press the crank gear into the cover. Place a snap ring pliers through the slot in the crank gear and secure the retaining ring (#15).

Pinion Assembly

Refer to Gearbox Assembly, page 14.

1. Use the wrench flats on the pinion (#27) to thread the it onto the motor (#22).
2. Reattach the motor adapter plate (#26) to the motor (#22) using three socket screws (#31).

Motor Assembly

Refer to Gearbox Assembly, page 14.

1. Install the motor (#22) and adapter plate (#26) to the gearbox (#25) using three whiz-lock screws (#30).

Cover Assembly

1. Apply a light coat of oil to the o-ring (#9).
2. Tip the cover to feed the connecting rod into the gearbox.
3. Press the cover onto the gearbox.
4. Secure with six flange head screws (#32).
5. Put two plastic plugs (#7) into the threaded holes on the cover.
6. Assemble the seal washer (#16) and hex head cap screw (#34). Replace the seal washer if it is damaged.

Lower Unit Assembly

Refer to Lower Unit Assembly, page 16.

Note: Compare springs before installing. If not all the same height, replace all springs. Never replace only one.

1. Place the ram (#4) into the springbox (#14) and turn the assembly upside down.
2. Insert an inner and outer spring into the springbox.
3. Wrap the slide bearing (#18) around the spring separator and insert into spring box..
4. Install a new nyloc hex nut (#7) onto the ram.
5. Place a drift pin through the hole in the ram head and tighten the hex nut to 100ft lbs (135 Nm).
6. Place the lower springs (#1 and #2) into the springbox.
7. Lightly grease the groove in the cover (#3) and install a new o-ring (#6).
8. Place the cover over the springs and align the holes.



WARNING



Working with compressed springs. Failure to follow the next set of steps very carefully could result in serious injury or death.

9. Insert the rods from the springbox tool through the springbox and up through the cover. Make sure the rods are 180° apart.
10. Place the washers and hex nuts on the rods.
11. Slowly and evenly draw the cover down onto the springbox by alternately tightening each rod.



WARNING



Keep the cover level with the springbox during assembly.

12. Secure the cover to the springbox with three flat head screws (#20). Torque to 8 ft lbs (11 Nm).
13. The decal on the bottom of the springbox should be clean and easy to read. If it is not, the old decal should be completely removed and replaced..
14. Install a new set of slide bearings (#5) into the guide tube (#9) and secure with the retaining ring (#10).
15. Slide the bellows and guide tube over the springbox and align with the words "ground pounder" to the front.
16. Secure the bellows to the guide tube and bellows mount with twelve hex head cap screws (#21) and lockwashers (#22). Do not tighten.
17. Assemble the shoe with six bolts (#23) and lockwashers (#24). Torque to 50 ft lbs (67 Nm).
18. Now align shoe and guide tube and tighten hex head cap screws (#21) and lockwashers (#22).

Gearbox/Lower Unit Assembly

Refer to Gearbox Assembly, page 14.

1. Place a new gasket (#20) onto the guide tube (#9, page 16).
2. Push the guide tube down and place the piston pin (#17) into the ram head (#4, page 16). Let the pin stick out so it does not block the slot in the top of the ram head. The pin will also hold the guide tube down.
3. Place the gearbox over the lower assembly and line up the connecting rod assembly (#8) with the piston pin.
4. Push the piston pin through the connecting rod bushing. Keep pushing the piston pin in until the guide tube slides past and covers the pin.

5. Secure the gearbox to the guide tube using four socket head cap screws (#35) and high collar lockwashers (#21). Apply 243 Loctite.

Handle Assembly

Refer to Handle Assembly, page 18.

1. Secure the handle (#7) to the shockmounts (#8) using four whiz-lock screws (#11).
2. Reattach the hose (#3) to the motor (#22, page 14) and secure with two new clamps (#9).

Part Replacement Cycles and Tolerances

| | |
|------------------------------------|--|
| Bearings | Replace anytime a bearing is rough, binding, discolored or removed from housing or shaft. |
| Bearing, Bronze, Springbox | Replace if there are wear marks or the ID is greater than 1.145 in (29mm). |
| Bellows | Replace if the bellows are worn or cracked to the point of leaking. |
| Bushing, Bronze, Crankshaft | Replace if there are wear marks or the ID is greater than 0.630 in (16mm). |
| Clutch | Replace shoes and spring if they show signs of heat damage or if the clutch does not disengage below 2000 rpm. |
| Guide Bushings | Replace if a 0.025 in (0.635mm) feeler gage can be slide between the springbox and the guide bushings. |
| Hardware | Replace any worn or damaged hardware as needed. Replacement hardware should be grade 5 and zinc plated unless otherwise specified. |
| O-rings and Seals | Replace at every tear down. Use MBW O-ring and seal kit #06472. |
| Motor Components | Refer to the motor manufacturer's Owner's Manual. |
| Piston, Plastic, Springbox | Replace if a 0.025 in (0.635mm) feeler gage can be slide between the springbox and the piston. |
| Piston Pin | Replace if the OD is less than 0.620 in (15.75mm). |
| Piston Washers | Replace if dished. |
| Ram | Replace if shaft is less than 1.120 in (28.4mm). |
| Safety Decals | Replace if they become damaged or illegible. |
| Seals & Gaskets | Replace if a leak is detected and at every overhaul or tear down. |

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REPLACEMENT PARTS

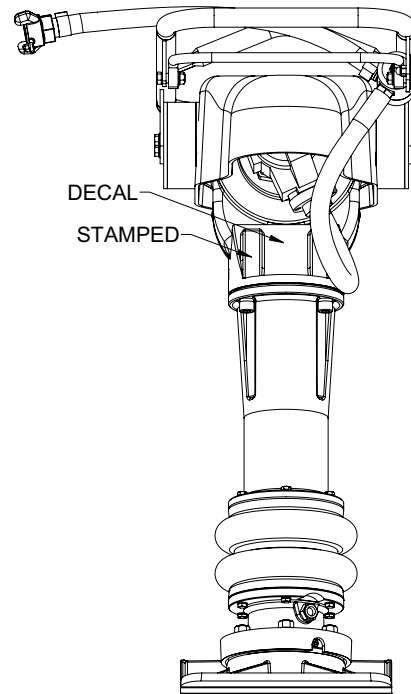
The warranty is stated in this book on page 18. Failure to return the Warranty Registration Card renders the warranty null and void.

MBW has established a network of reputable distributors/dealers with trained mechanics and full facilities for maintenance and rebuilding, and to carry an adequate parts stock in all areas of the country. Their sales engineers are available for professional consultation. If you cannot locate an MBW distributor in your area, contact MBW or one of our Sales Branches listed below.

When ordering replacement parts, be sure to have the following information available:

- Model and Serial Number of machine when ordering MBW parts
- Model and Serial Number of engine when ordering engine parts
- Part Number, Description, and Quantity
- Company Name, Address, Zip Code, and Purchase Order Number
- Preferred method of shipping

REMEMBER - You own the best! If repairs are needed, use only MBW parts purchased from authorized MBW distributors.



The unit's serial number can be found in the following locations:

- The serial number decal is located on the back of the gearbox.
- The serial number is stamped on the back of the gearbox next to the decal.

Write Model Number here

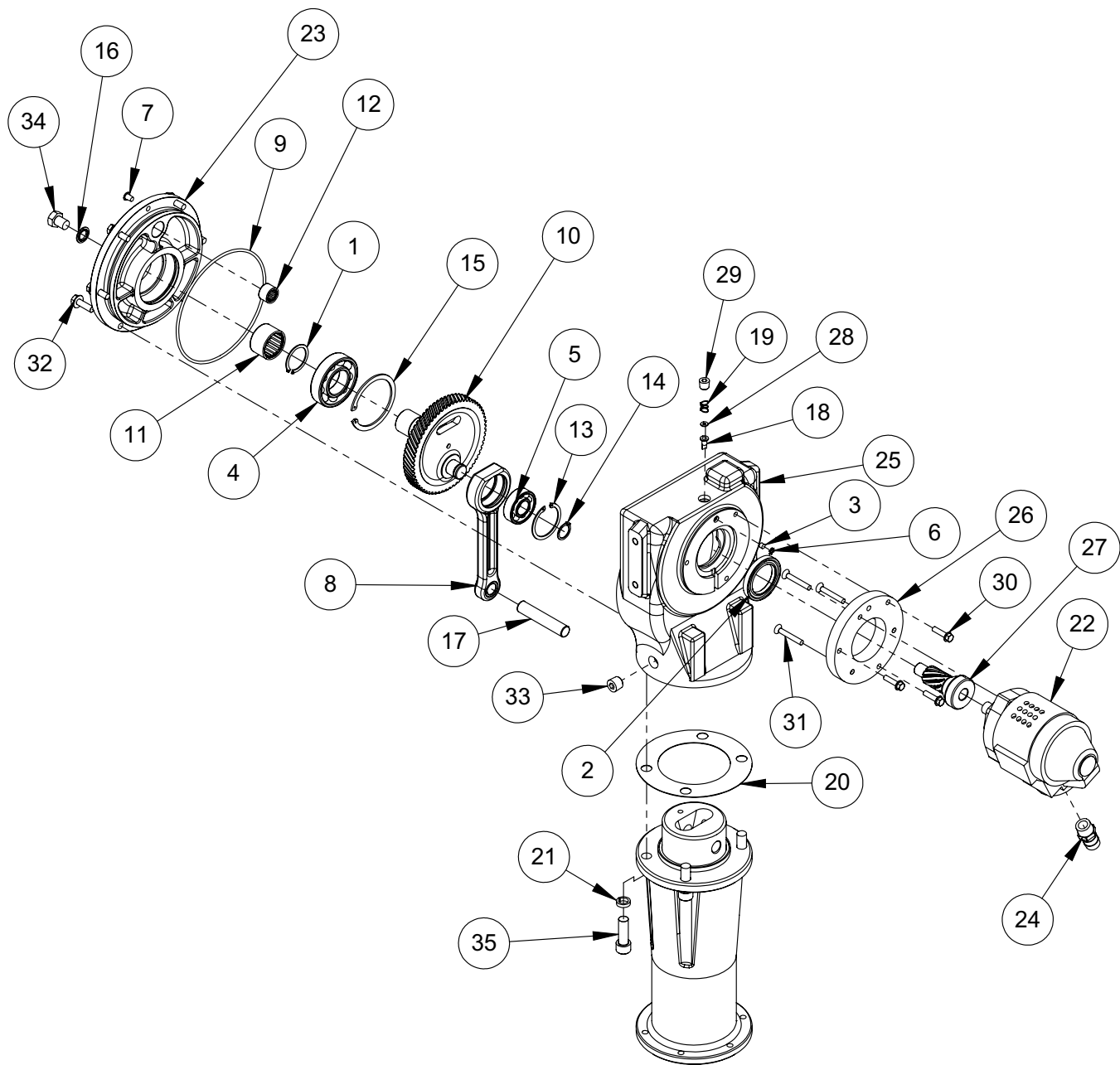
Write Serial Number here

Contact Information

MBW, Inc.
250 Hartford Rd • PO Box 440
Slinger, WI 53086-0440
Phone: (262) 644-5234
Fax: (262) 644-5169
Email: mbw@mbw.com
Website: www.mbw.com

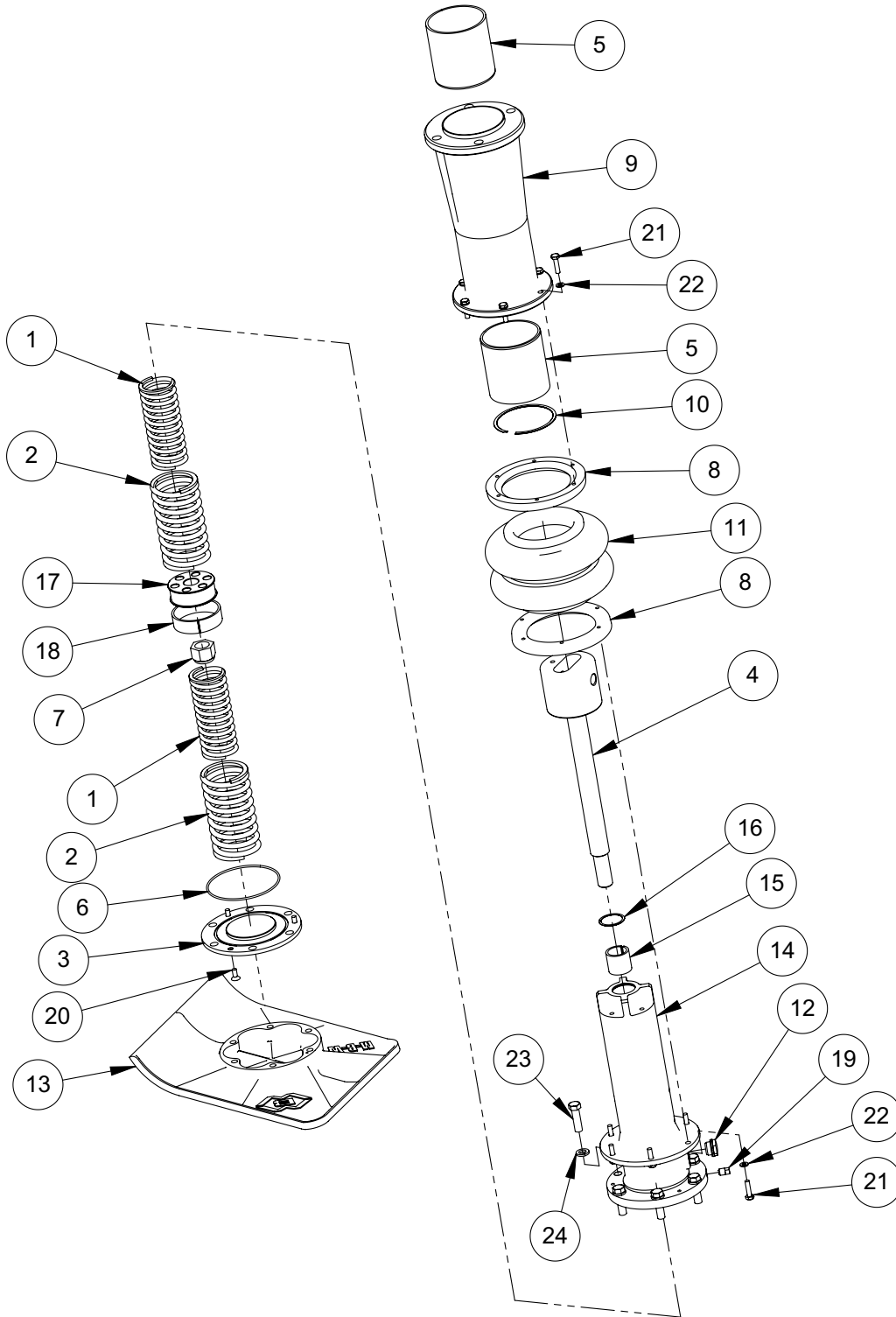
MBW (UK) Ltd.
Unit 6, Bradley Fold Trading Estate
Radcliffe Moor Road
Bolton BL2 6RT, England
Phone: 01204 387784
Fax: 01204 387797

MBW France S.A.R.L
Z.A. d'Outreville
11 rue Jean Baptiste Néron,
60540 BORNEL, France
Phone: 3 44 07 15 96
Fax: 3 44 07 41 28



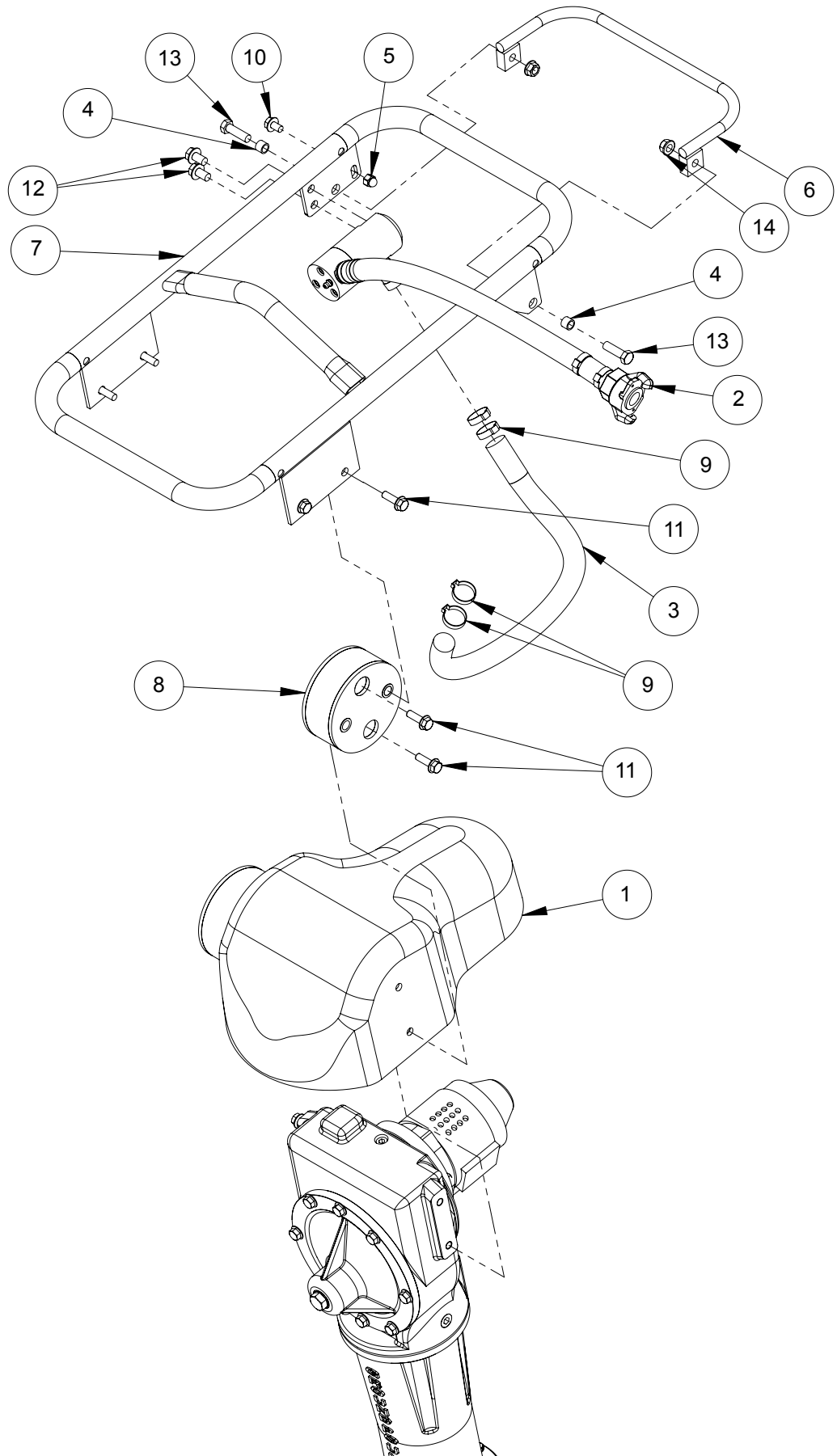
Gearbox Assembly

| ITEM | PART NO. | DESCRIPTION | QTY |
|------|------------|---------------------------------|-----|
| 1. | 01001 | RETAINING RING, EXT. 5100-137 | 1 |
| 2. | 01002 | SEAL, OIL | 1 |
| 3. | 01072 | FILTER, FELT | 1 |
| 4. | 01103 | BEARING, BALL | 1 |
| 5. | 01105 | BEARING, BALL | 1 |
| 6. | 01191 | RETAINING RING, INTERNAL | 1 |
| 7. | 05559 | PLUG | 2 |
| 8. | 06161 | ROD ASM, CONNECTING | 1 |
| 9. | 06238 | O-RING, 6.23 ID X 0.139 DIA | 1 |
| 10. | 06240 | GEAR | 1 |
| 11. | 06259 | BEARING, NEEDLE | 1 |
| 12. | 06260 | BEARING, NEEDLE | 1 |
| 13. | 06264 | RETAINING RING, INT .N5000-187 | 1 |
| 14. | 06265 | RETAINING RING, EXT .5100-78 | 1 |
| 15. | 06266 | RETAINING RING, INT .N50000-281 | 1 |
| 16. | 06275 | WASHER, SEAL | 1 |
| 17. | 06304 | PIN, PISTON | 1 |
| 18. | 06413 | VALVE | 1 |
| 19. | 06423 | SPRING, COMP. .420 OD | 1 |
| 20. | 06925 | GASKET | 1 |
| 21. | 08504 | LOCKWASHER, 1/2 HIGH COLLAR | 4 |
| 22. | 12189 | MOTOR, PNEUMATIC TCS | 1 |
| 23. | 15768 | COVER, GEARCASE (MACH.) | 1 |
| 24. | 19708 | FITTING, ST, 1/2 NPT X 3/4 HOSE | 1 |
| 25. | 19754 | HOUSING, GEARBOX, AR56/57 | 1 |
| 26. | 19779 | MOTOR ADAPTER, AIRAMMER | 1 |
| 27. | 19782 | PINION, GROUND, AR56/57 | 1 |
| 28. | F01PW | WASHER, 5/32 X 3/8 X 18 GA ZP | 1 |
| 29. | F0418SPP | SOCKET PIPE PLUG, 1/4-18 | 1 |
| 30. | F042008FWS | FWLS, 1/4-20 X 1 ZP | 3 |
| 31. | F042014FSS | FSS, 1/4-20 X 1-3/4 | 3 |
| 32. | F051808FWS | FWLS, 5/16-18 X 1 ZP | 6 |
| 33. | F0618SPP | PLUG, PIPE 3/8-18 | 1 |
| 34. | F081305HCS | HHCS, 1/2-13 X 5/8 GR5 ZP | 1 |
| 35. | F081312SCS | SCS, 1/2-13 X 1-1/2 | 4 |
| | | KITS | |
| | 19392 | KIT, AIRAMMER MOTOR, REBUILD | |
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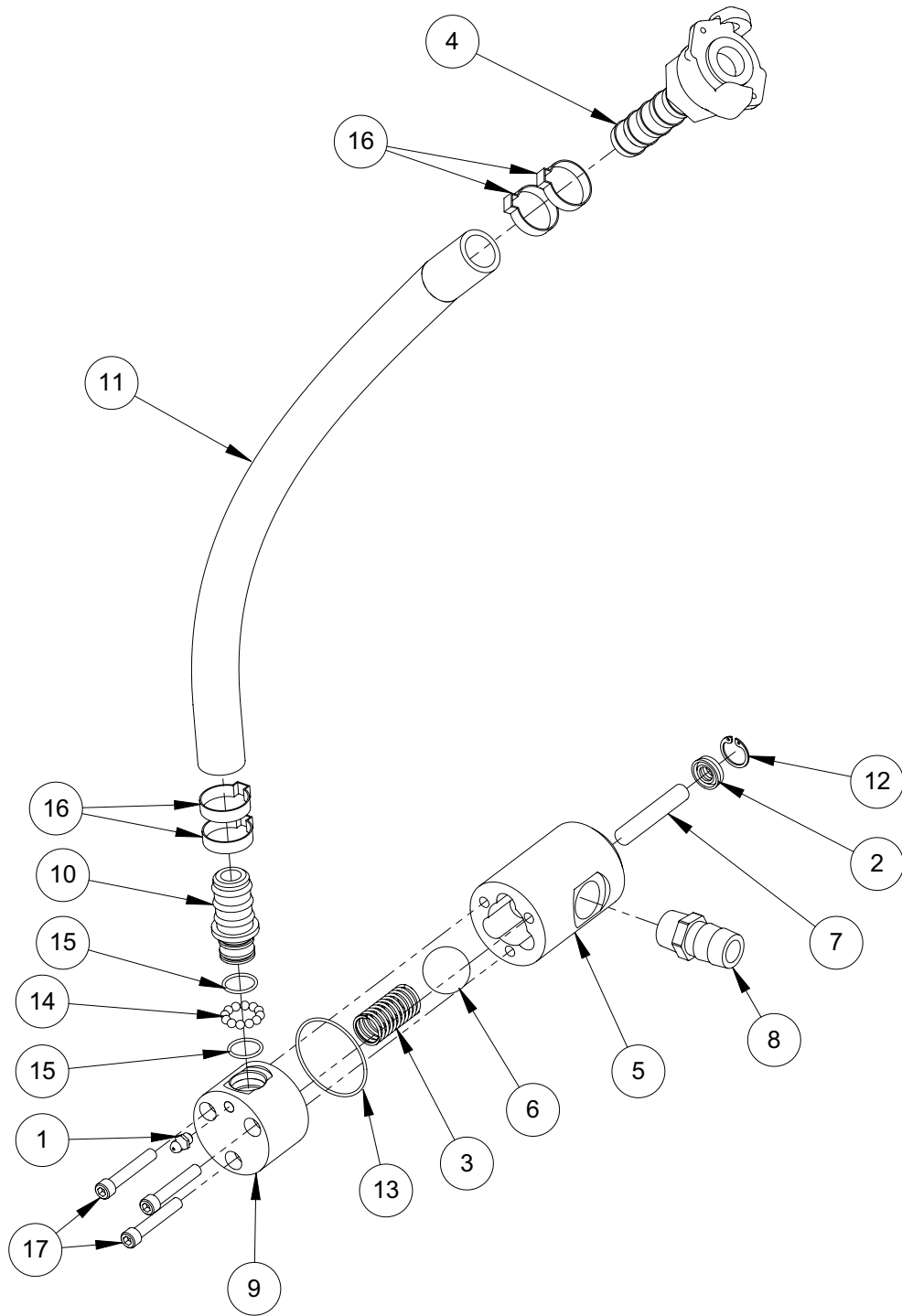
Lower Unit Assembly

| ITEM | PART NO. | DESCRIPTION | QTY |
|------|------------|---------------------------------------|-----|
| 1. | 03167 | SPRING, COMPRESSION, 2.188" OD | 2 |
| 2. | 03168 | SPRING, COMPRESSION, 2.875" OD | 2 |
| 3. | 06173 | COVER | 1 |
| 4. | 06174 | RAM | 1 |
| 5. | 06180 | BEARING, SLIDE | 2 |
| 6. | 06237 | O-RING, 4.33" ID | 1 |
| 7. | 06257 | NUT, HEX 7/8"-14 NYLOC | 1 |
| 8. | 07154 | RING, CLAMPING | 2 |
| 9. | 07163 | TUBE, GUIDE (INCLUDES ITEMS 5 AND 10) | 1 |
| 10. | 07735 | RETAINING RING, EXTERNAL | 1 |
| 11. | 11694 | BELLOWS | 1 |
| 12. | 18276 | PLUG, OIL LEVEL | 1 |
| 13. | 07507 | SHOE, 11" X 13" (56AC ONLY) | 1 |
| | 03172 | SHOE, 13" X 15" (57AC ONLY) | 1 |
| | 19728 | SHOE, 11" IRON (56IC ONLY) | 1 |
| 14. | 19763 | SPRING BOX | 1 |
| 15. | 19889 | SLIDE BEARING, FORMED, 480 | 1 |
| 16. | 19890 | RETAINING RING, INTERNAL | 1 |
| 17. | 19891 | SPRING SEPARATOR, 482 | 1 |
| 18. | 19893 | SLIDE BEARING, FORMED, 482 | 1 |
| 19. | F0227SPP | SOCKET PIPE PLUG, 1/8"-27 | 1 |
| 20. | F042005FSS | FLAT HEAD SCREW, 1/4"-20 X 5/8" ZP | 3 |
| 21. | F042008HCS | HEX HEAD SCREW, 1/4"-20 X 1" ZP | 12 |
| 22. | F04LW | LOCKWASHER, 1/4" ZP | 12 |
| 23. | F071412HCS | HHCS, 7/16-14 X 1-1/2 GR5 ZP | 6 |
| 24. | F07LW | LOCKWASHER, 7/16" ZP | 6 |
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Handle Assembly

| ITEM | PART NO. | DESCRIPTION | QTY |
|------|------------|-------------------------------------|-----|
| 1. | 19631 | SHROUD, AIRAMMER | 1 |
| 2. | 19711 | VALVE ASM, AIRAMMER | 1 |
| 3. | 19713 | HOSE, 3/4 AIR | 1 |
| 4. | 19718 | BUSHING, BRONZE | 2 |
| 5. | 19719 | ACORN NUT, 5/16-18 | 1 |
| 6. | 19720 | TRIGGER, COATED | 1 |
| 7. | 19721 | HANDLE, COATED | 1 |
| 8. | 19726 | SHOCKMOUNT ASM, AIRAMMER | 2 |
| 9. | 19805 | CLAMP, PINCH, 1.00-1.13 | 4 |
| 10. | F051804FWS | FWLS, 5/16-18 X 1/2 ZP | 1 |
| 11. | F051808FWS | FWLS, 5/16-18 X 1 ZP | 8 |
| 12. | F061605FWS | FWLS, 3/8-16 X 5/8 ZP | 2 |
| 13. | F061610HCS | HHCS, 3/8-16 X 1-1/4 ZP | 2 |
| 14. | F0616FN | FLANGE WHIZ-LOCK NUT, 3/8-16 | 2 |
| | | | |
| | | REPLACEMENT KITS | |
| | 03146 | KIT, JOB CART R270, 374, 376, 450 | 1 |
| | 03180 | KIT, JOB CART R451 | 1 |
| | 03842 | SAFETY CLIP, CLAW COUPLER | 1 |
| | 07235 | KIT, SHOE EXTENSION 12 X 4 | 1 |
| | 07240 | KIT, SHOE EXTENSION 12 X 6 | 1 |
| | 07552 | KIT, BEARING PULLER R270 | 1 |
| | 12230 | KIT, GOVERNOR WRENCH TCS MOTOR | 1 |
| | 12247 | FITTING, SWIVEL | 1 |
| | 12248 | KIT, FILTER & LUBE AIRAMMER | 1 |
| | 17599 | FITTING, QUICK-COUPLER, DIXON PML12 | 1 |
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Valve Assembly

WARRANTY- AIRAMMER (AR56/AR57)

WHAT DOES THIS WARRANTY COVER? MBW, Incorporated (MBW) warrants each New Machine against defects in material and workmanship for a period of thirty six (36) months. "New Machine" means a machine shipped directly from MBW or authorized MBW dealer to the end user. This warranty commences on the first day the machine is sold, assigned to a rental fleet, or otherwise put to first use.

MBW warrants each Demonstration Machine against defects in material and workmanship for a period of six (6) months. "Demonstration Machine" means a machine used by MBW or its agents for promotional purposes. This warranty commences on the first day the machine is sold, assigned to a rental fleet, or otherwise put to first use.

This warranty covers the labor cost for replacement or repair of parts, components, or equipment on New Machines or Demonstration Machines, and MBW shall pay labor costs at MBW's prevailing rate to affect the warranted repair or replacement. MBW reserves the right to adjust labor claims on a claim-by-claim basis.

This warranty covers the shipping cost of replacement parts, components, or equipment via common ground carriers from MBW to an authorized MBW dealer. Air freight is considered only in cases where ground transportation is not practical.

MAY THIS WARRANTY BE TRANSFERRED? This warranty is non-transferable and only applies to the original end user of a new machine or demonstration machine.

WHAT DOES THIS WARRANTY NOT COVER?

1.This warranty does not cover any Used Equipment. "Used Equipment" means any MBW machine or equipment that is not a New Machine or a Demonstration Machine. All Used Equipment is sold **AS IS/WHERE IS WITH ALL FAULTS**.

2.This warranty does not cover any New Machine, Demonstration Machine, or their equipment, parts, or components altered or modified in any way without MBW's prior written consent. This warranty does not cover the use of parts not specifically approved by MBW for use on MBW products. This warranty does not cover misuse, neglect, shipping damage, accidents, acts of God, the operation of any New Machine or Demonstration Machine in any way other than recommended by MBW in accordance with its specifications, or any other circumstances beyond MBW's control. This warranty does not cover any New Machine or Demonstration Machine repaired by anyone other than MBW factory branches or authorized MBW distributors.

3.This warranty does not cover, and MBW affirmatively disclaims, liability for any damage or injury resulting directly or indirectly from design, materials, or operation of a New Machine or Demonstration Machine or any other MBW product. MBW's liability with respect to any breach of warranty shall be limited to the provisions of this document and in no event shall exceed an amount equal to the purchase price of the New Machine or Demonstration Machine purchased from MBW.

4.This warranty does not cover engines, motors, and other assemblies or components produced by other manufacturers and used on a New Machine or Demonstration Machine, as said engines, motors, and other assemblies or components may have warranties provided by the manufacturer thereof. This warranty does not apply to consumable items, such as v-belts, filters, trowel and screed blades, seals, shock mounts,

batteries, and the like, all of which are sold AS IS/WHERE IS WITH ALL FAULTS.

5.This warranty does not cover the cost of transportation and other expenses which may be connected with warranty service but not specifically mentioned herein.

6.This warranty does not cover any updates to any New Machine, Demonstration Machine, or any other MBW product. MBW reserves the right to improve or make product changes without incurring any obligation to update, refit, or install the same on New Machines or Demonstration Machines previously sold.

WHAT MUST YOU DO TO OBTAIN WARRANTY COVERAGE? Each New Machine or Demonstration Machine is accompanied by a Warranty Registration Card. You must sign, date, and return the Warranty Registration Card to the place of origin of the New Machine or Demonstration Machine, either to MBW, Inc. at P.O. Box 440, Slinger, Wisconsin 53086, MBW (UK), Ltd. at Units 2 & 3 Cochrane Street, Bolton BL3 6BN, United Kingdom or MBW FRANCE SARL at ZA D'Outreville, 5 Rue Jean Baptiste Neron, Bornel 60540 France, within ten (10) days after purchase, assignment to a rental fleet, or first use. This signed warranty card is the buyer's affirmation that he has read, understood, and accepted the warranty at the time of purchase. Failure to return the warranty card as specified herein renders the warranty null and void. In order to receive warranty coverage consideration, warranty claims must be submitted within thirty (30) days after the New Machine or Demonstration Machine fails. Warranty claims must be submitted to MBW, Inc., MBW (UK), Ltd. or MBW FRANCE SARL, and written authorization for the return of merchandise or parts under the warranty must be obtained before shipment to MBW.

WHAT WILL MBW DO? MBW's obligation under this warranty is limited to the replacement or repair of parts for a New Machine or Demonstration Machine at MBW factory branches or at authorized MBW distributors, and such replacement or repair is the exclusive remedy provided hereunder. Labor must be performed at an authorized MBW distributor. MBW reserves the right to inspect and render a final decision on each warranty case, and MBW's repair or replacement is solely within the discretion of MBW.

IT IS EXPRESSLY AGREED THAT THIS SHALL BE THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. UNDER NO CIRCUMSTANCES SHALL MBW BE LIABLE FOR ANY COSTS, LOSS, EXPENSE, DAMAGES, SPECIAL DAMAGES, INCIDENTAL DAMAGES, OR PUNITIVE DAMAGES ARISING DIRECTLY OR INDIRECTLY FROM THE USE OF THE NEW MACHINE OR DEMONSTRATION MACHINE WHETHER BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER LEGAL THEORY.

THE FOREGOING WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE, AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER OBLIGATIONS OR LIABILITY ON MBW'S PART. MBW NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME ON BEHALF OF MBW ANY OTHER LIABILITY OR WARRANTY IN CONNECTION WITH THE SALE OR SERVICE OF ANY NEW MACHINE, DEMONSTRATION MACHINE , OR ANY OTHER MBW PRODUCT.