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Air Percussive Chipping Hammer

"D" Series and MDT3-EU

Maintenance Information

Save These Instructions

Ingersoll Rand

Product Safety Information

⚠ WARNING

- **Failure to observe the following warnings, and to avoid these potentially hazardous situations, could result in death or serious injury.**
- **Read and understand this and all other supplied manuals before installing, operating, repairing, maintaining, changing accessories on, or working near this product.**
- **Always wear eye protection when operating or performing maintenance on this tool. The grade of protection required should be assessed for each use and may include impact-resistant glasses with side shields, goggles, or a full face shield over those glasses.**
- **Always turn off the air supply, bleed the air pressure and disconnect the air supply hose when not in use, before installing, removing or adjusting any accessory on this tool, or before performing any maintenance on this tool or any accessory.**

Note: *When reading the instructions, refer to exploded diagrams in parts Information Manuals when applicable (see under Related Documentation for form numbers).*

Lubrication

Each time a "D" Series or MDT3-EU Hammer is disassembled for maintenance and repair or replacement of parts, pour about 3 cc of **Ingersoll Rand** No. 10 Oil in the air inlet and operate the tool for 5 seconds to coat the internal parts with oil.

Weekly, flush the Tool and lubricate immediately afterwards as instructed in **PLACING THE TOOL IN SERVICE.**

Loss of power and excessive air consumption may be due to wear on the Piston (16) and the bore of the Barrel (17). This can be determined by checking the Piston diameter at each end and in the center with a micrometer. If the diameter at the center is .003" greater than the diameter at either end, it is proof that the Piston and Barrel are worn. To correct, lap the Barrel and install an oversize Piston as instructed below, under Installation of Oversize Piston.

Oversize Parts

The Piston (16), Nozzle (21) and Inlet Bushing (9) can be furnished oversize as well as standard size. When properly installed, oversize parts renew the efficiency of the Hammer as well as lengthen its life. See Installation of Oversize Piston on Page 3.

Disassembly

General Instructions

1. Do not disassemble the tool any further than necessary to replace or repair damaged parts.
2. Whenever grasping a tool or part in a vise, always use leather-covered or copper-covered vise jaws to protect the surface of the part and help prevent distortion. This is particularly true of threaded members and housings.
3. Do not remove any part which is a press fit in or on a subassembly unless the removal of that part is necessary for repairs or replacement.
4. Do not disassemble the tools unless you have a complete set of new gaskets and O-rings for replacement.

Disassembly of the Handle and Throttle Mechanism

1. Remove the Lock Spring (24A or 27) from the Retainer (24 or 28).
2. Using a vise with leather covered or copper covered jaws, clamp the tool by the Barrel (17) with the Handle (1) up.
3. To remove the Throttle Lever (2), drive out the Roll Pin (3) using a suitable pin punch.
4. Unscrew the Inlet Bushing (9) and remove the Air Strainer (7), Throttle Valve Spring (6), Throttle Valve Ball (5) and Throttle Valve Plunger (4).

Disassembly of the Barrel Piston and Nozzle

1. With the Barrel clamped in the vise as above, use two 3/4" wrenches and remove the four Nuts (20) which secure the Handle to the Barrel. The Handle can now be removed from the Barrel.
2. If necessary, pull out Roll Pins (15). Remove the Valve Seat (14), Valve (13), Valve Spacer (12), Valve Cap (11) and Valve Sealing O-ring (10).
3. Remove the Barrel from the vise and invert it to allow the Piston (16) to slide out.
4. Remove the Nozzle (21), using tool, Part No. H02-119 Nozzle Ejection Arbor. Support the end of the Barrel and press out the old Nozzle.

NOTICE

During the life of the tool, it is unlikely that the Collar (19) or Exhaust Deflector (22) will need to be separated from the Barrel. Should this be necessary, the following sequence should be followed.

Disassembly of the Collar

1. Grip the Barrel in a vise equipped with soft jaws so that the barrel is horizontal.
2. Remove the four Bolts (23) from the Collar.
3. The Collar can now be slid along the Barrel and removed.

Disassembly of the Deflector

1. The Exhaust Deflector (22) is a snap fit into a wide groove around the Barrel. If it needs to be removed, it must be pressed out of the groove using a tube or similar of a suitable diameter to clear the Barrel.
   If the Deflector is not to be reused, it can be cut free of the Barrel.

Assembly

General Instructions

1. Whenever grasping a tool or part in a vise, always use leather-covered or copper-covered vise jaws. Take extra care with threaded parts and housings.
2. Always clean every part and wipe every part with a thin film of oil before installation.
3. Apply a film of O-ring lubricant to all O-rings before final assembly.

Assembly of the Barrel, Piston and Nozzle

1. If the Nozzle (21) has been removed it should now be replaced. Stand the Barrel, tapered end up beneath a press and locate the Nozzle with the lead in towards the bore. Make sure that the nozzle sits square to the bore. Use a soft mallet to start the nozzle and press home.

NOTICE

The 19 mm Hex Nozzle is fully home when it is approximately 7 mm (0.750") below the end surface of the Barrel.

NOTICE

For hexagonal nozzles, be sure to orient the nozzle to the desired position.

2. Reposition the Barrel in the vise so that it is clamped vertically collar to the top. Lubricate the surface lightly with **Ingersoll Rand** No. 10 Oil and insert Piston (16) in the bore, small end first.
3. Assemble Valve components in the following sequence by placing each over the Roll Pins (15) in the Barrel face: Valve Seat (14), Valve (13) , Valve Spacer (12) and Valve Cap (11).
4. Lightly grease the Valve Sealing O-ring (10) to hold it in place in its groove in the Handle (1) and replace the Handle over the Valve Assembly.
5. Align the bolt holes in the Handle with the holes in the Collar (19) and replace the four Bolts (23). Thread new Nyloc Nuts (20) on each bolt and tighten down gradually and evenly to a torque of 40 ft/lbs (54 Nm).

NOTICE

Make sure that the Valve Sealing O-ring is still in place in its groove before tightening the nuts. The handle can distort causing the tool to leak air if the tightening process is not done evenly and to the correct torque.

Assembly of the Handle and Throttle Mechanism

1. Align the pivot hole of the Throttle Lever (2) with the corresponding pin hole in the Handle and secure in place with Roll Pin (3). Use a pin punch to bury the Pin below the Handle surface.
2. Install the Throttle Valve Plunger (4) in the bore of the Handle followed by the Throttle Valve Ball (5).
3. Locate the small end of Throttle Valve Spring (6) on the Throttle Valve Ball. Replace the Air Strainer (7) with the raised portion inside the Spring. Secure everything in place with the Inlet Bushing (9). Coat the threads of the Inlet Bushing with a suitable thread locking compound. Tighten the Bushing to a torque of 35 ft/lbs (47 Nm).

NOTICE

Over-tightening of the Bushing may cause stripping of the Bushing threads in the Handle.

4. Install the Retainer (24 or 28) on the front of the Barrel and secure in place with Locking Spring (24A or 27).

Refitting of the Collar

1. To refit the Collar (19) to the Barrel (17), slide the Collar along the Barrel and line up slot on Barrel with protrusion inside of collar.
2. Tap Collar with rubber mallet until secure.

Refitting the Exhaust Deflector

1. To refit the Exhaust Deflector (22), lightly lubricate the front large diameter of the Barrel with liquid soap or O-ring lubricant. Then push the Exhaust Deflector along the Barrel until it snaps into position in its retaining groove.

NOTICE

The Exhaust Deflector can be rotated to direct the exhaust stream away from the operator.

Installation of Oversize Piston

NOTICE

Do not install an oversize Piston without first lapping the Barrel.

Greater wear occurs near the center of the barrel bore than at either end. To obtain full benefit from an oversize Piston (16), it is necessary to lap the Barrel (17) until the bore is of uniform size for its entire length. Select and install the proper size Piston after truing up the Barrel bore. Pistons are furnished .004" or .008", .012" or .016" oversize.

Maintenance Tools

Tool Number for Ordering	Tool Name for Ordering	Operation
H02-119	Nozzle Ejection Arbor	Remove Nozzle (21) from the Barrel (17).

Troubleshooting Guide

Trouble	Probable Cause	Solution
Sluggish operation	Dirt or oil gum accumulation on internal parts	Pour about 3 cc of a clean, suitable, cleaning solution into the air inlet and operate for 30 seconds. After flushing, pour about 3 cc of oil into the air inlet and operate the tool for 5 seconds to coat the internal parts with oil.
Loss of power	Worn Valve	Replace the Valve.
Loss of efficiency	Worn Piston and/or accessory	Replace Piston and or accessory.

Related Documentation

For additional information refer to:
Air Percussive Chipping Hammer Product Safety Information Manual 04581450.
Air Percussive Chipping Hammer Product Information Manual 16574154.
Air Percussive Chipping Hammer Parts Information Manual 16574311.

Manuals can be downloaded from ingersollrandproducts.com

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