Power Tools and Industrial Lifting - Customer Technical Service

2955 Series Impact Wrench
Service Instruction

Required Service Tools

5/16 HEX Wrench

Arbor Press

Long Thin T handle HEX

1/4 HEX Wrench

Torque Wrench

Medium Thread Locker

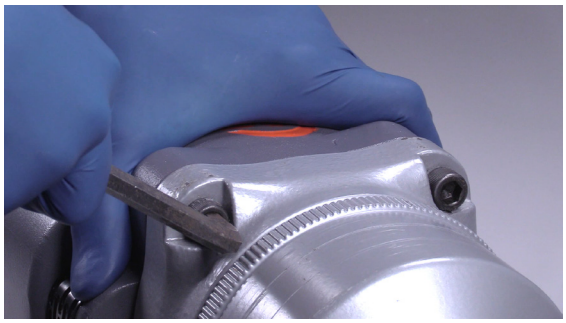
IR Grease Gun

Grease #170

O-ring Lubrication

IR #10 Oil

Service Steps Disassembly



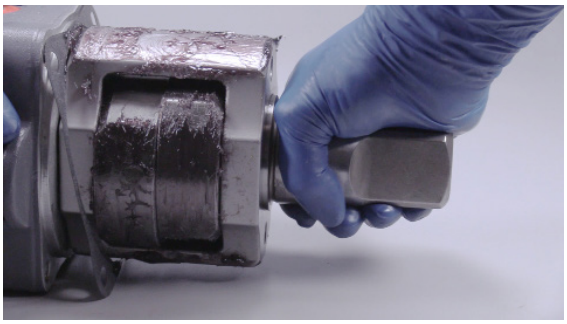
Using a 5/16 Hex wrench break loose (4) Hammer Case Cap Screws.

Remove the (4) Hammer Case Cap Screws.

Use a dead hammer to dislodge the Hammer Case from tool by tapping the Anvil while holding on to the Hammer Case.

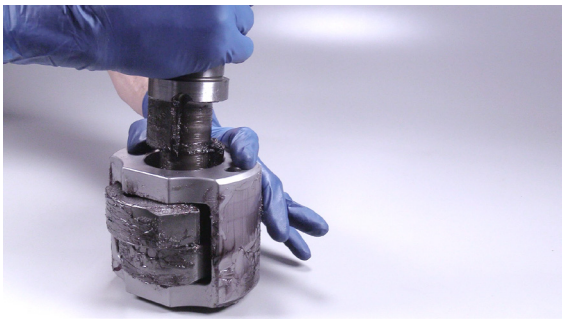
Push lightly down with the left while removing the Hammer Case with the right hand.

Service Steps Disassembly



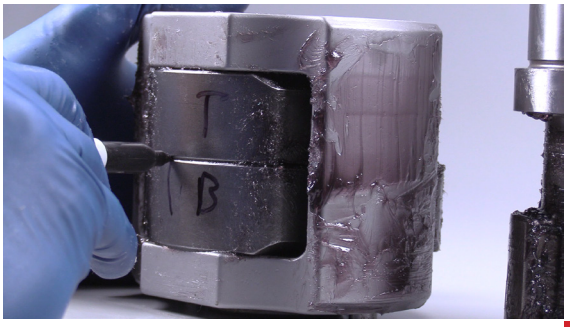
Grasp the Anvil firmly. Carefully lift and pull the assembly off the Tool.
Take care not to let the assembly come apart.

Hammer Frame Assembly



To disassemble Hammer Frame Assembly:

- Hold firmly onto the Hammer Frame.
- Rotate Anvil slightly while lifting to disengage the Anvil from the Hammers and remove it from Hammer Frame.



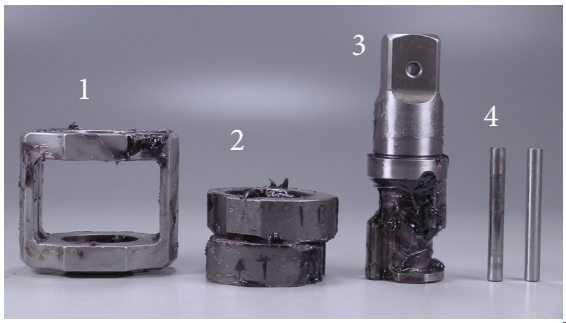
The Hammers are identical but need to be placed back in the same orientation as they were when they were taken apart.

Mark the Hammers for re-installation later.

Service Steps Disassembly

Use a slim hex wrench to push (2) Hammer Pins from the Hammer Frame.

Remove (2) Hammers from the Hammer Frame.



Hammer Frame components

1. Hammer Frame
2. Hammers
3. Anvil
4. Hammer Pins

Motor Housing Assembly

Service Steps Disassembly

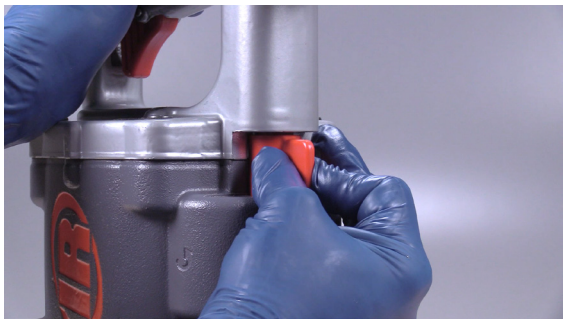
Remove Hammer Case Gasket.

Pinch the Exhaust Guard upward to dislodge and remove it.

Remove Exhaust Silencer.

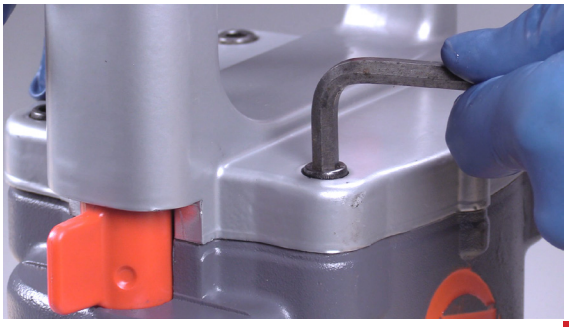
Set Motor Assembly Housing upright on the bench.

Service Steps Disassembly



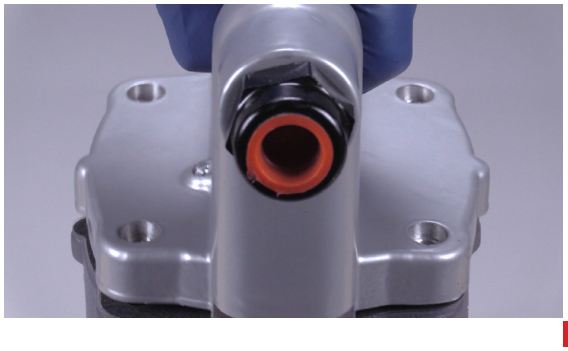
Set Reverse Lever to center position.

This will avoid the Reverse Lock Plunger from jamming while removing the Reverse Lever Assembly.



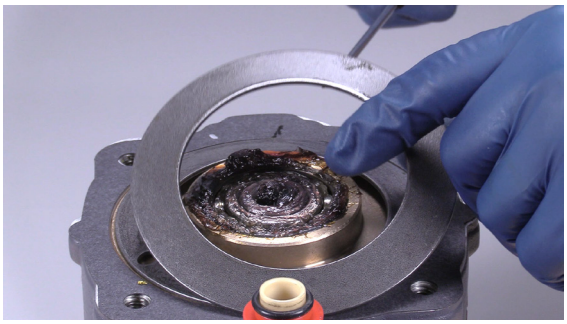
Use a 1/4” Hex wrench to loosen (4) Cap screws.

Remove (4) Cap screws.

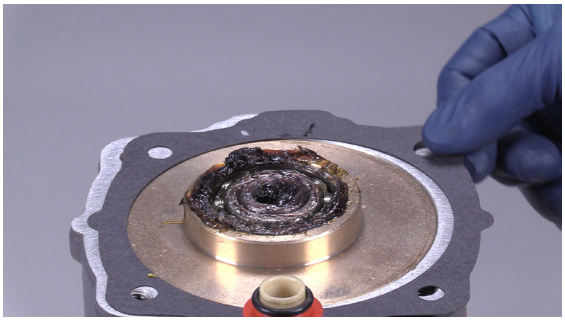


Remove Handle Assembly.

Service Steps Disassembly

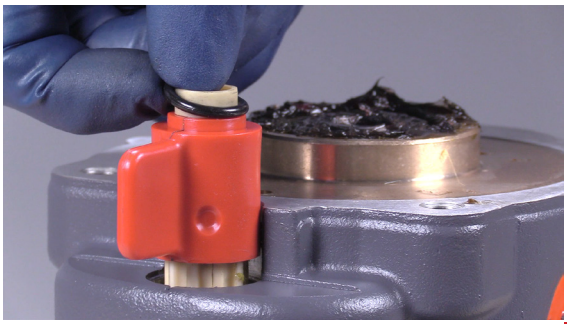


Remove (2) Motor Clamp Washers.



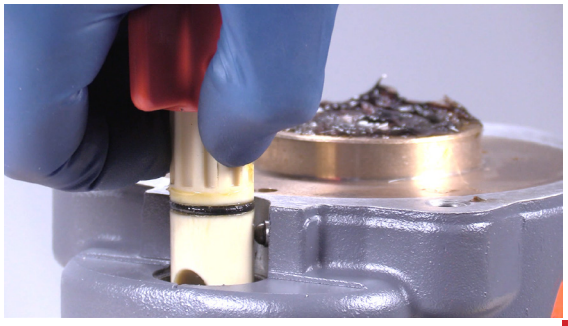
Remove Handle Gasket.

From the Exhaust Outlet use the short end of the 1/4” Hex wrench to press the Reverse Valve upwards.

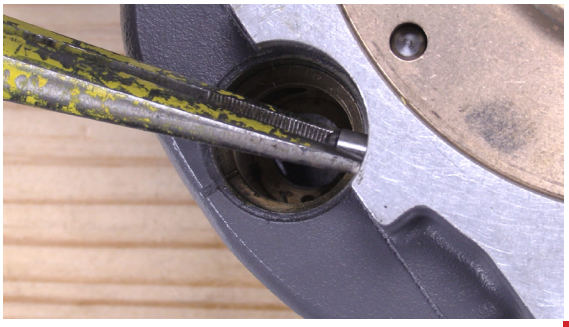


Remove Oring.

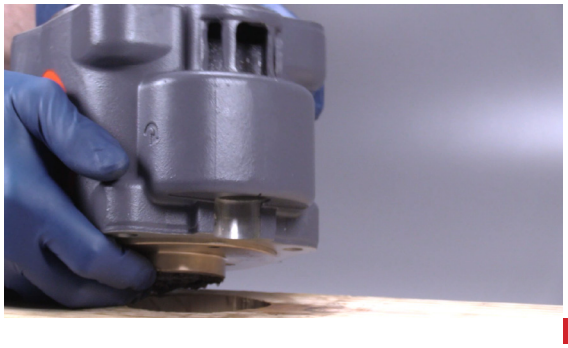
Service Steps Disassembly



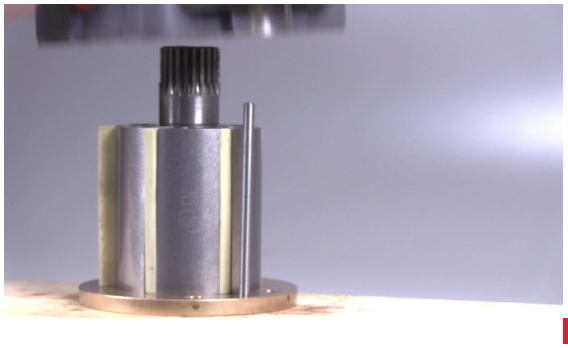
Remove Reverse Valve Assembly.



Remove Reverse Lock Plunger and Spring.

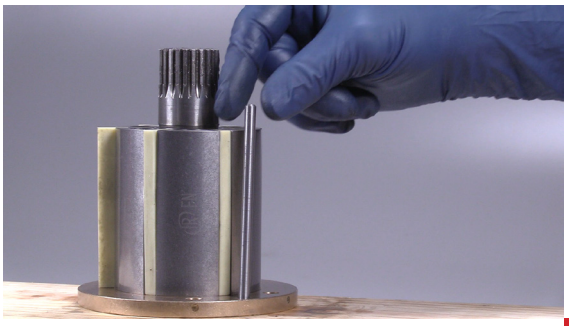


Holding on to the End Plate, flip Motor Housing Assembly onto its End Plate.

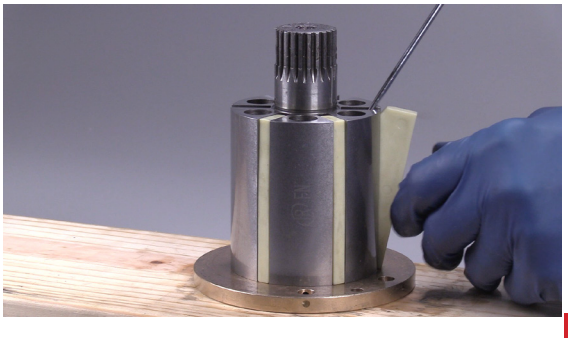


Lift the Motor Housing Assembly off Rotor, Rear End Plate, and Rear Rotor Bearing which will remain together as unit.

Service Steps Disassembly

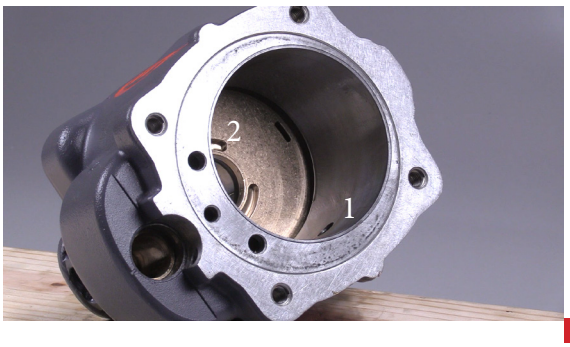


Remove Cylinder Dowel.



Remove (6) Vanes.

Remove Rotor from Rear End Plate.

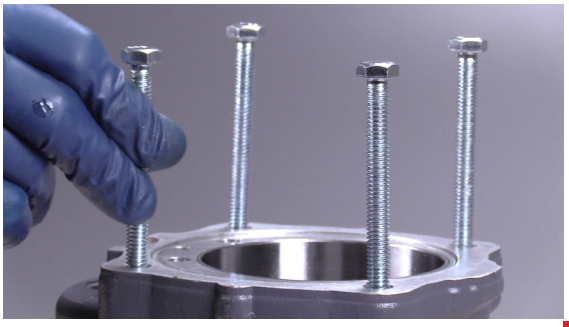


Motor Housing Assembly

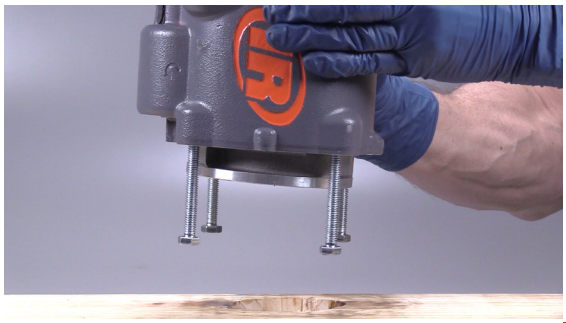
1. Cylinder
2. Front Endplate

Service Steps Disassembly

To remove Cylinder and Front End Plate from Motor Housing Assembly, place Motor housing facing up on workbench.



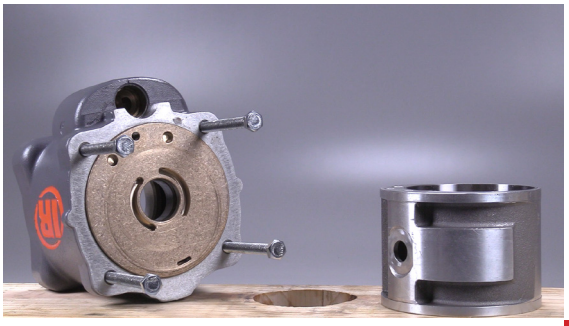
Thread four 5/16” - 18 thread socket head cap screws that are at least 3” (75mm) long into the handle end of Housing.



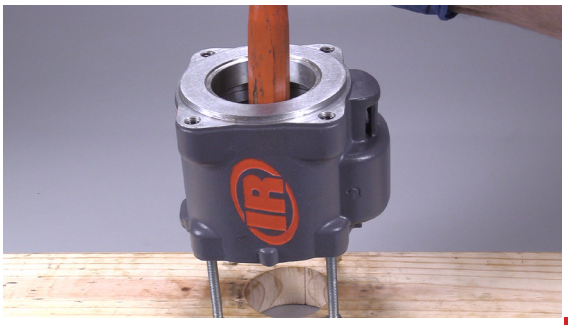
Grasping Housing with installed screws downward, sharply strike heads of screws on a sturdy table to dislodge Cylinder.

Cylinder should drop out of housing after a few impacts.

Service Steps Disassembly



The End Plate may not drop completely out of the Cylinder.

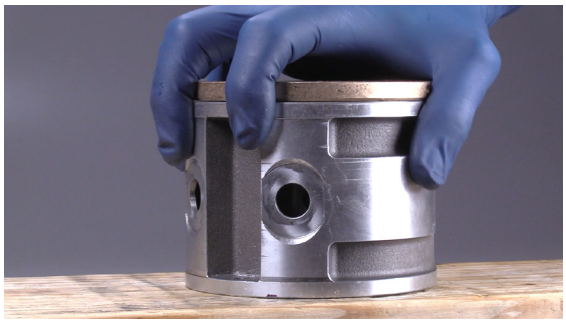


If Front End Plate remains in the Cylinder use a wood drift to gently tap the Front End Plate the rest of the way out.

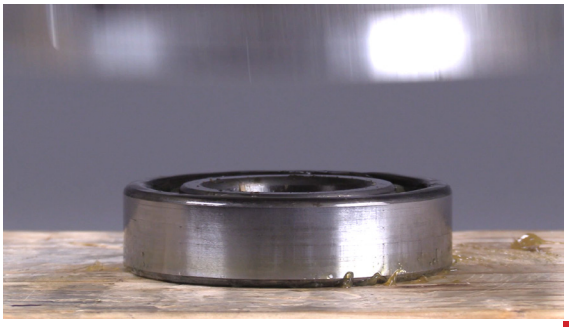
Remove Bearings from End Plate(s).

Using the Cylinder place the End Plate over its opening, Bearing down.

Service Steps Disassembly



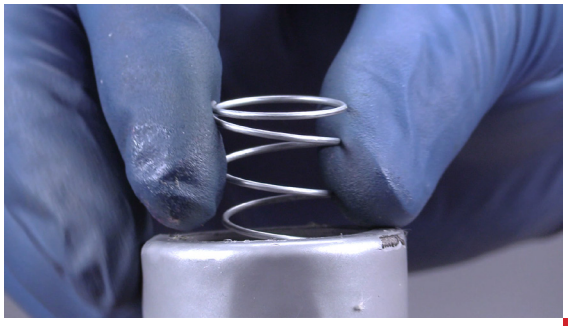
Lift both Cylinder and End Plate at the same time and thump them on a wood work bench to dislodge the End Plate Bearing.



End Plate Bearing will dislodge after a few thumps of the Cylinder on the work bench.

Loosen and remove Straight Inlet Bushing.

Note: Use a 33mm socket.



Remove Throttle Valve Spring.

Service Steps Disassembly

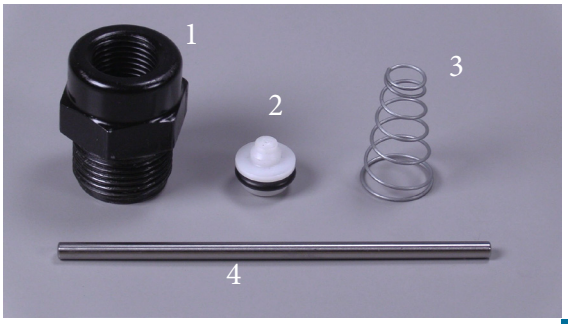
Remove Throttle Valve Seal.

Remove Throttle Valve Plunger.

2955 Series Impact Wrench components

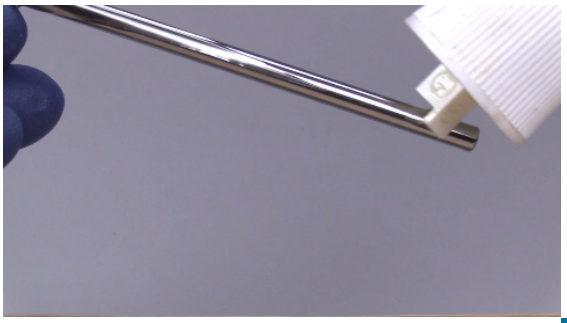
Service Steps Reassembly

2955 Series Impact Wrench components

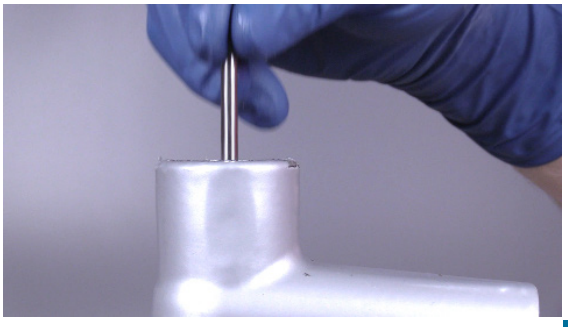


Valve components:

1. Straight Inlet
2. Reverse Valve Seal
3. Throttle Valve Spring
4. Throttle Valve Plunger

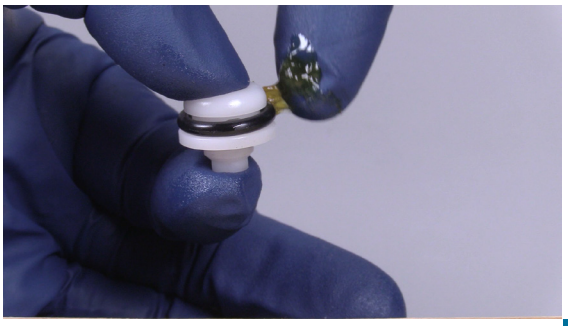


Lubricate Throttle Valve Plunger with IR Motor #10 Oil.



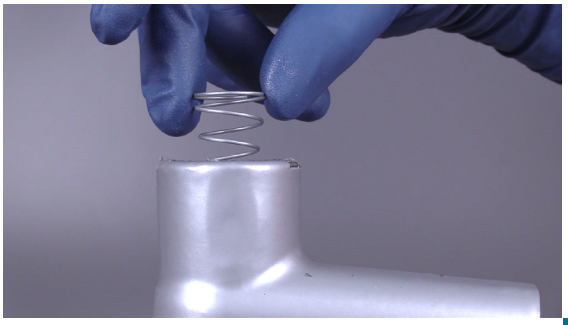
Insert Throttle Valve Plunger into Handle, rounded end leading first.

Service Steps Reassembly

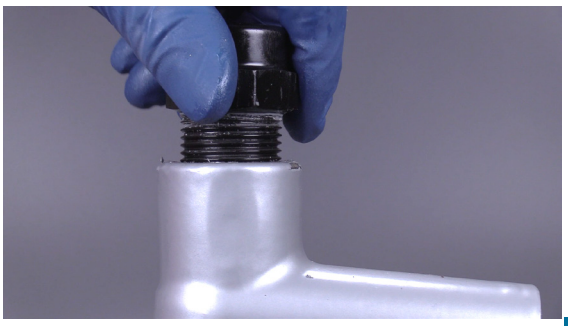


Lubricate Throttle Valve Assembly O-ring with o-ring lubricant.

Insert Assembly with Throttle Valve Seal leading, into Handle Inlet.



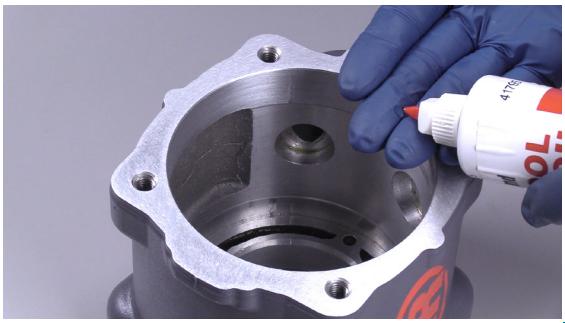
Insert Throttle Valve Spring, small diameter end first, into Handle.



Tighten Straight Inlet to 50 - 60 ft-lb (68 - 80Nm).

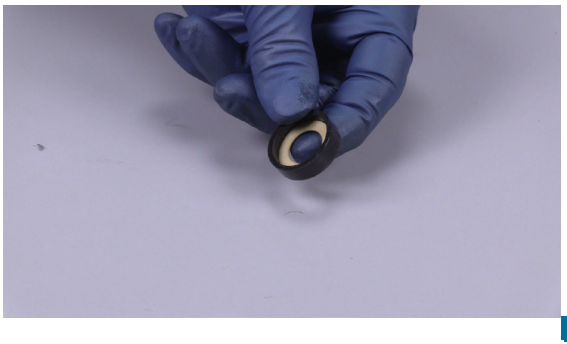
Note: Use a 33mm socket

Service Steps Reassembly

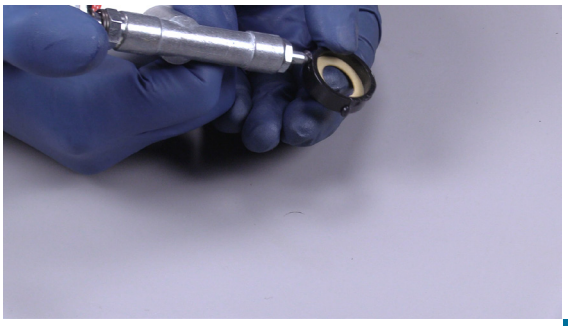


Use IR Motor #10 Oil to lubricate opening of the Motor Housing.

1. Air port Gasket container(s)
2. Air port Gasket(s)

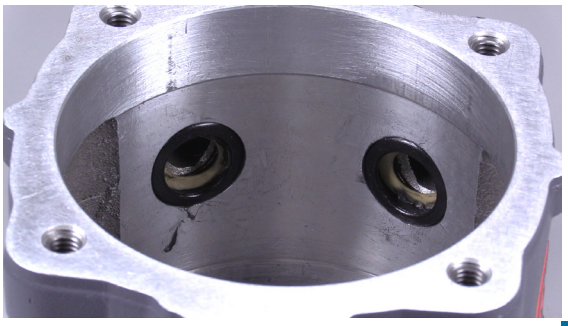


Insert Air Port Gasket into Air Port Container.

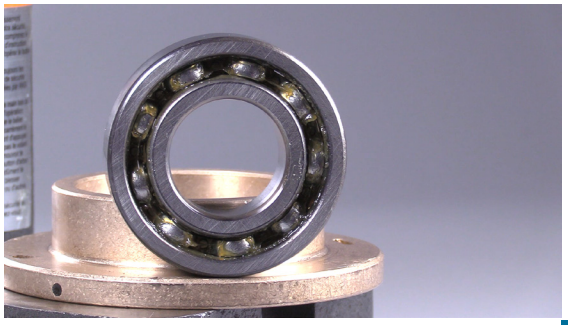


Lubricate Air Port Gasket Container(s) with IR 105 grease.

Service Steps Reassembly



Insert Air Port Assembly into air port(s) inside Motor Housing.

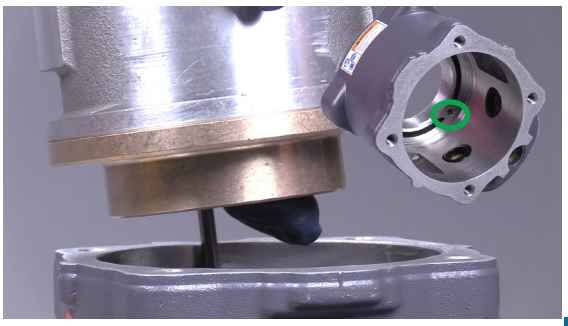


Installation of End Plate bearings:

Pack Bearing races with grease and use aan Arbor press or equivalent to press Bearing(s) into End Plate(s).

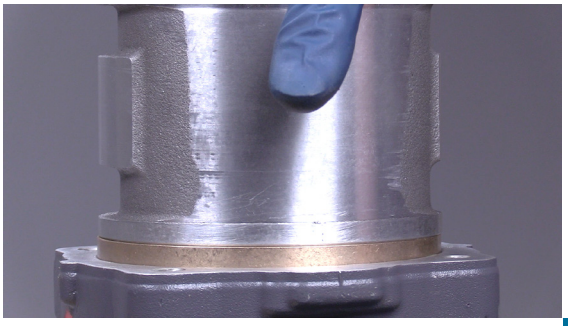
When pressing a bearing into a recess, press on the outer race.

Note: When pressing a bearing onto a shaft, press on its inner race



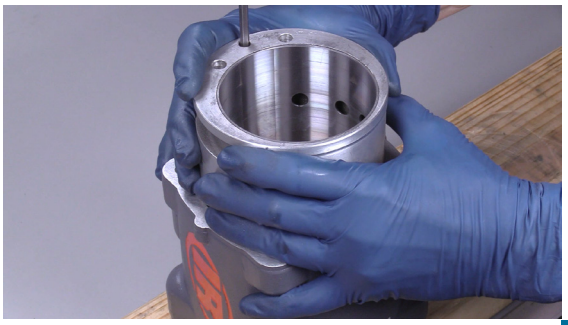
Using a long T hex wrench as an alignment pin, align Dowel Hole(s) in End Plate and Cylinder with the Dowel Hole in the bottom of the motor bore.

Service Steps Reassembly



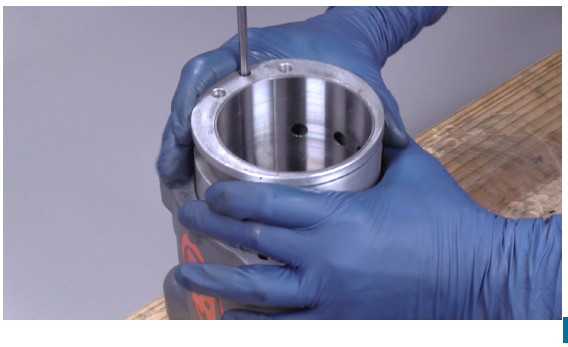
Lower both pieces together into the Cylinder opening.

The pieces will support each other and make installing the items easier.



Do **NOT FORCE**. Extremely tight tolerances.
Manipulate the cylinder using small adjustments to further advance the Cylinder into Motor Housing.

If necessary, gently tap around perimeter of the Cylinder until the End Plate drops into the housing.



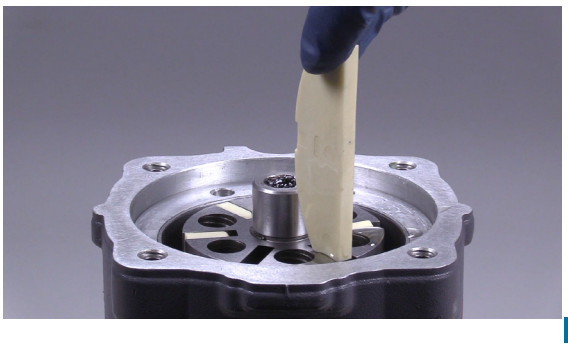
Again maneuver the Cylinder slightly until it drops completely into the Motor Housing.

Service Steps Reassembly

Press firmly downward to ensure the Cylinder is properly seated.

Insert splined hub of Rotor through Cylinder and into Front End Plate.

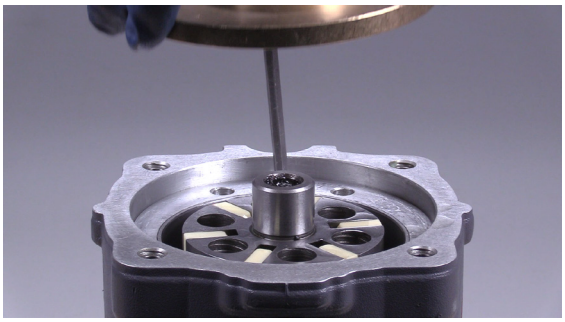
Coat each vane with a light coat of IR #10 oil.



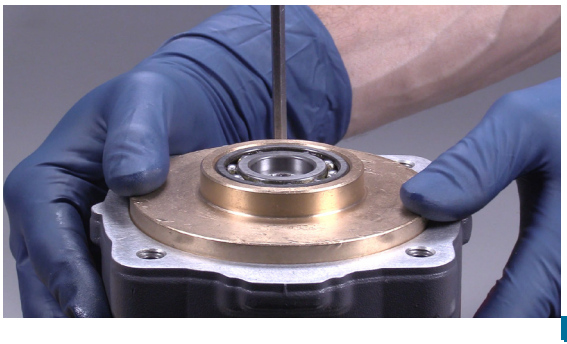
Insert Vanes into Rotor, straight edge facing out.

Service Steps Reassembly

Liberally lubricate Rotor and Vanes with IR #10 motor oil.



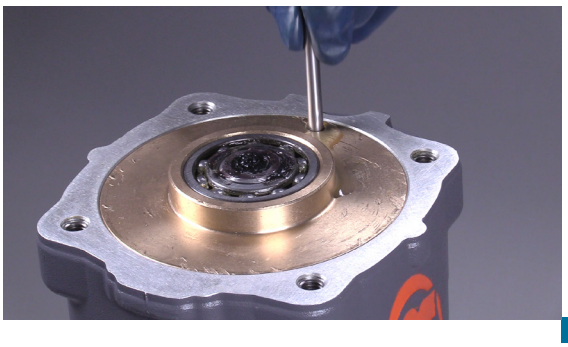
Use a long T hex wrench to align Front End Plate Dowel Hole with Cylinder Dowel Hole and insert Front End Plate into Motor Housing.



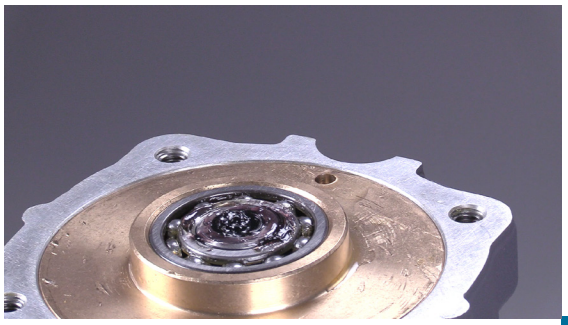
Press down on Endpalte to ensure it is fully seated.

Lubricate Cylinder Dowel with IR #10 motor oil.

Service Steps Reassembly



Insert Cylinder Dowel into Rear End Plate.



Cylinder Dowel is properly seated when it doesn't protrude above End Plate.

Valve assembly

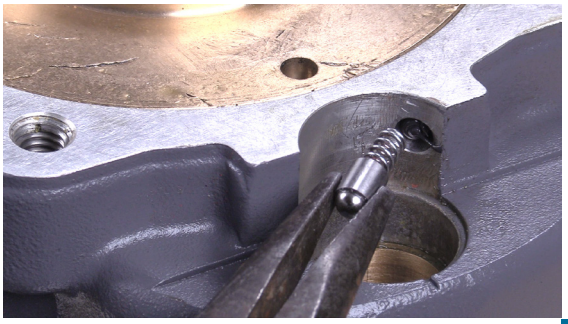
1. Reverse Lever
2. O-ring
3. Reverse Valve
4. Reverse Lock Plunger and Spring

Inject a small amount of grease into the opening where Lock Plunger and Spring will be installed

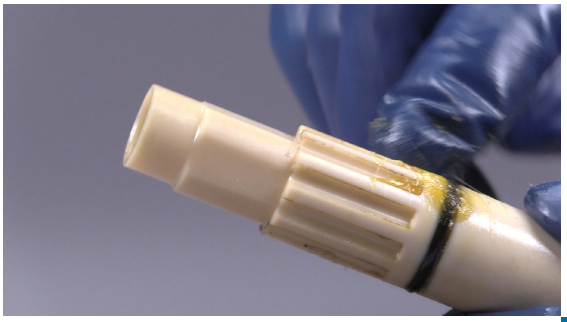
Note: This will help hold Reverse Lock Plunger Assembly in place during installation.

Service Steps Reassembly

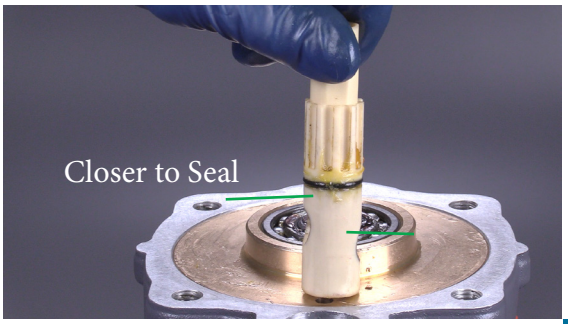
Reverse Lock Plunger and Spring Assembly



Install Reverse Lock Plunger and Spring Assembly.

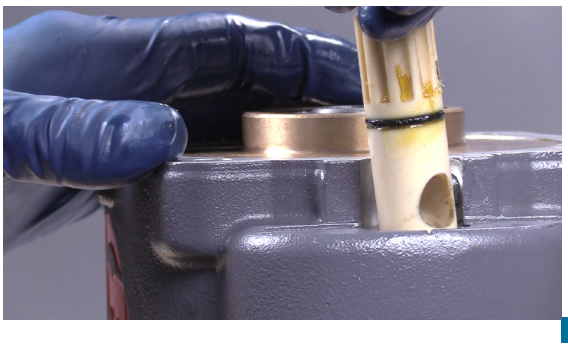


Lubricate Reverse Valve o-ring with o-ring lubricant.

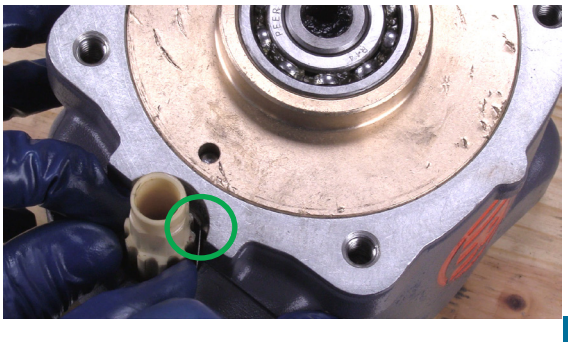


Orientate the Valve opening closest to the Seal towards back.

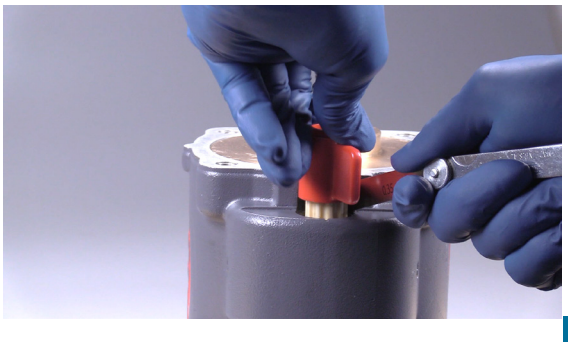
Service Steps Reassembly



Insert Reverse Valve.



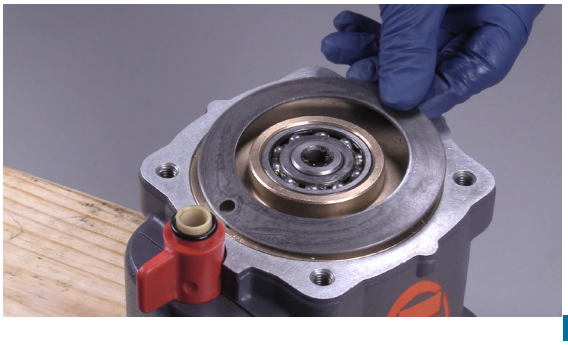
Use a thin blade to compress Reverse Lock Plunger Assembly.



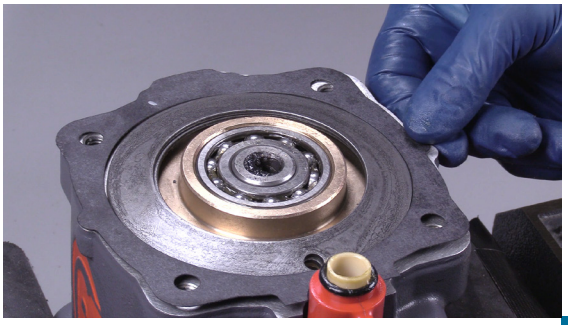
Install Reverse Lever.

Install Reverse Valve Seal.

Service Steps Reassembly

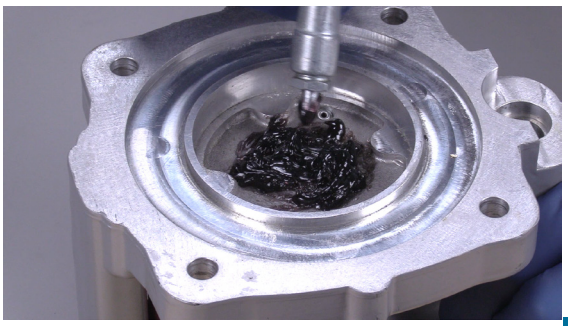


Install Motor Clamp Washer(s).



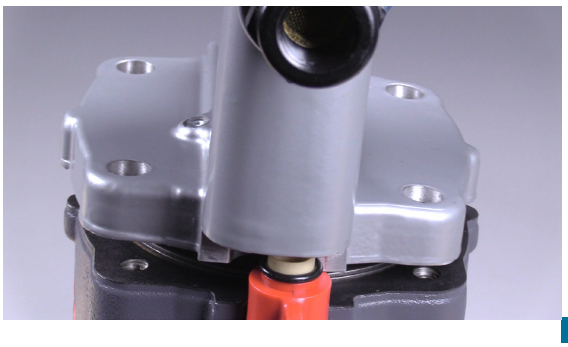
Install Handle Gasket.

Fill hole through Rotor and Anvil with #170 IR grease.



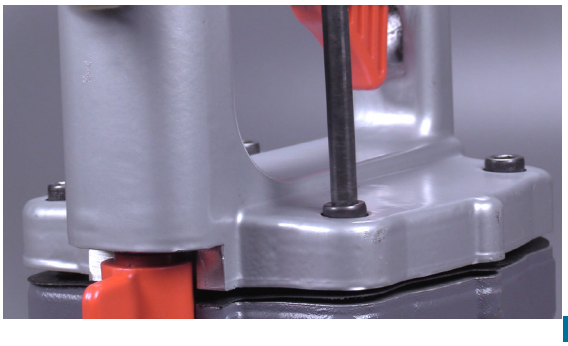
Fill Rotor cavity 2/3s full with #170 IR grease.

Service Steps Reassembly



Place Handle Assembly on top / over valve.

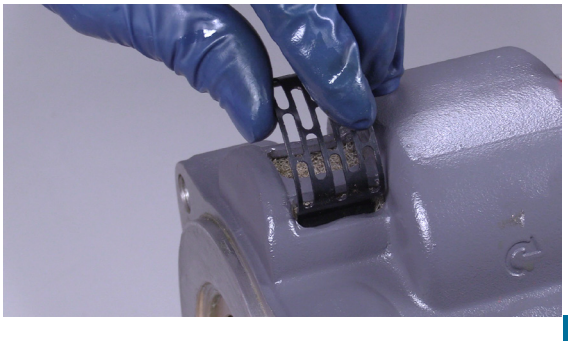
Insert Screws and tighten to snug.



Using an alternating tightening pattern, tighten the screws between 25 - 28 ft-lbs (34 - 38 Nm).

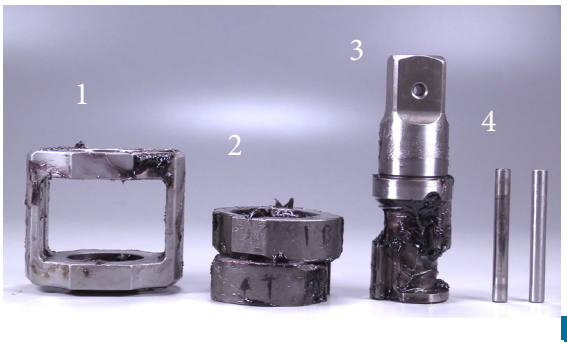
Insert Exhaust Silencer.

Service Steps Reassembly



Install Exhaust Deflector.

Add Hammer Case Gasket.

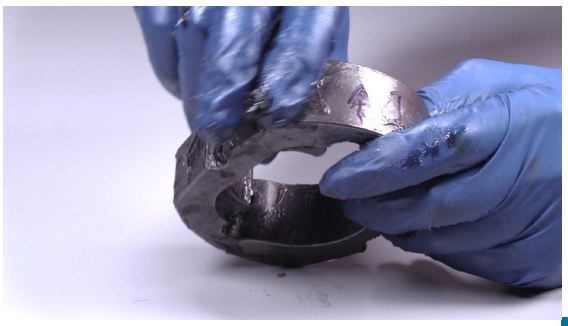


Hammer Frame Assembly.

1. Hammer Frame
2. Hammers
3. Anvil
4. Hammer Pins

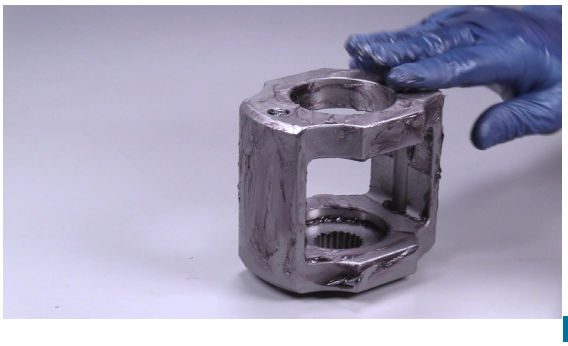
Grease Hammer Pin(s) with #170 IR grease.

Service Steps Reassembly

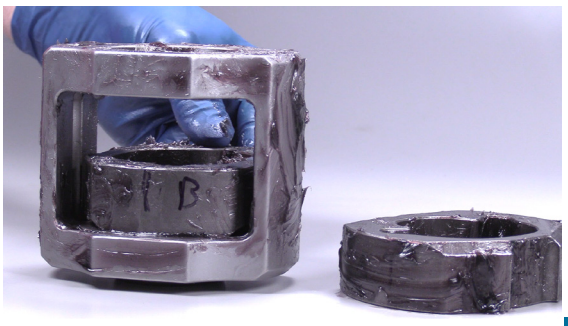


Grease Hammers with #170 IR grease.

Fill the lugs on the Anvil with #170 IR grease.

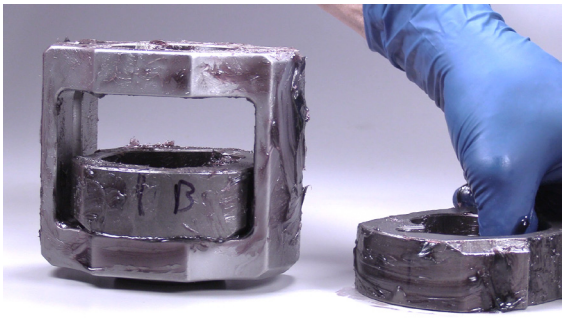


Grease Hammer Frame with #170 IR grease.

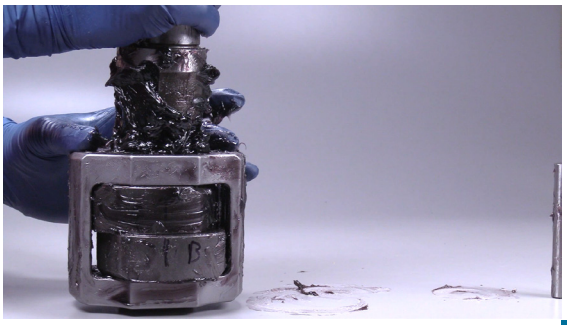


Insert bottom Hammer first using its original orientation.

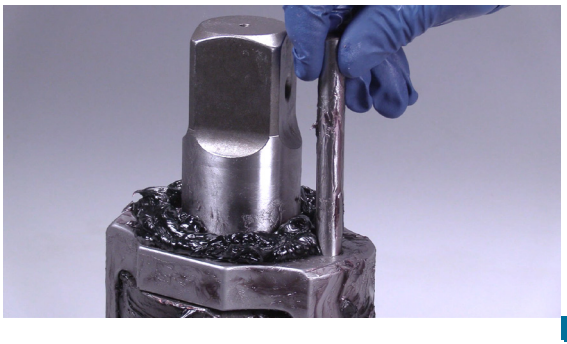
Service Steps Reassembly



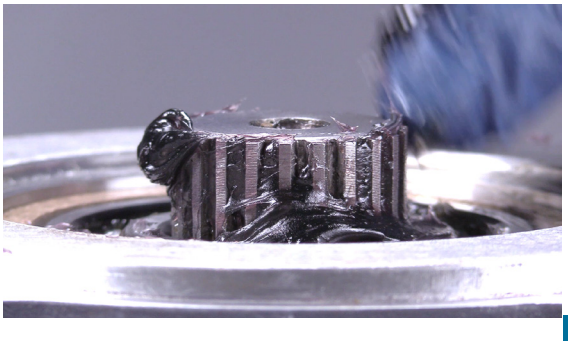
Insert top Hammer in its original orientation.



Insert Anvil into Hammer Frame, rocking back and forth until seated.



Insert Hammer Pins

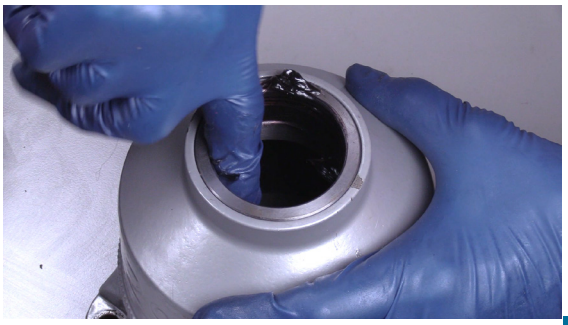


Add #170 IR grease to Rotor splines.

Service Steps Reassembly

Carefully lift Hammer Assembly up and onto Rotor shaft spline.

Note: Becareful that the Hammer Pins do not slide out the bottom of the frame.



Coat barrel of Hammer Case with #170 IR grease.

Install Hammer Case over Hammer assembly.

Insert 4 Hammer Case screws.

Service Steps Reassembly

Using an alternating tightening pattern, tighten screws to 35 - 40 ft-lbs (47- 54 Nm).

Complete 2955 Series Impact Wrench

Power Tools and Industrial Lifting - Customer Technical Service

Pneumatic Impact Tool diagnostic

Pneumatic tool is not performing properly; performance may have degraded over time; tool may be making unusual noises.

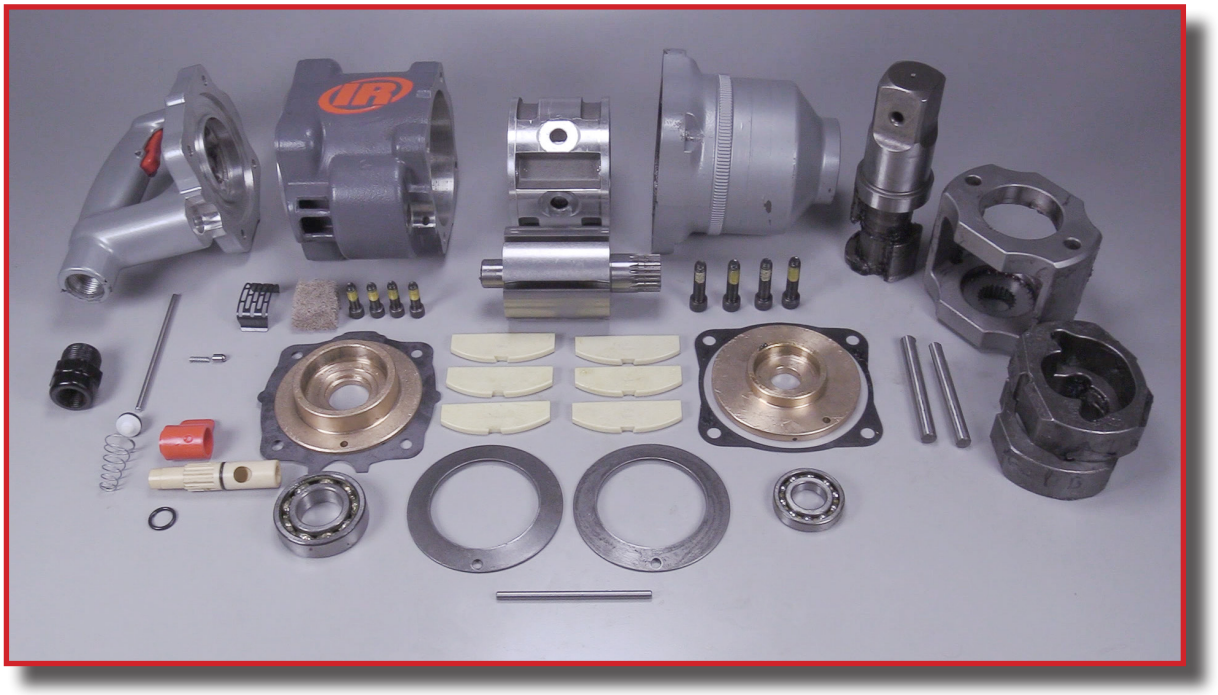
Evaluate the tool. Define the symptoms. What is not normal about the tool?

1. Verify Air Supply
2. Connect the tool to an air supply - run at full speed, no load
3. Measure Dynamic Air Pressure to verify there is adequate air supply - 90 psi at the tool inlet while running.

   See article/video link: FAQ - Dynamic Air Pressure

[If servicing a 2146 series tool, verify that the 2146 series tool air gauge is in the "green".]

4. Adjust the air supply as necessary.
5. Feel/Listen to the tool while running. Note any excessive noise or vibration and its apparent source.
6. Check tool performance
7. Measure torque output on a Skidmore or equivalent.
8. Compare against published working range torque.
9. Determine if performance is in range.



Power Tools and Industrial Lifting - Customer Technical Service

Pneumatic Impact Tool diagnostic

Problem/Trouble found	Probable Causes	Solution	Warrantable
Low Power Low Torque output	Dirty inlet bushing or air strainer and/ or exhaust silencer material	Using a suitable cleaning solution in a well ventilated area, clean inlet parts and exhaust silencer	No
	Worn or broken vanes	Replace complete Vane set	Maybe, if not due to improper lube or contamination
	Worn or broken cylinder and/or scored end plates	Examine cylinder and replace if worn or broken or if bore is scored or wavy. Replace end plates if they are scored. Note: 2146 Series - it is recommended to replace the Cylinder Rotor Pressure Gauge Assembly 2146-A3 if motor is damaged.	Maybe, if not due to improper lube or contamination
	Dirty motor parts	Disassemble the tools and clean in a suitable cleaning solution in a well ventilated area. Reassemble and test	No
	Improper positioning of FWD/REV valve	Make certain valve is fully engaged to left or right. Make certain that valve is properly timed in composite body tools.	Yes, unless caused by improper previous repair.
Motor will not run “blows air”	Incorrect assembly or damage of motor components (rotor, bearings, vanes, cylinder, spacers, etc.)	Disassemble motor, replace worn or broken parts Note: 2146 Series - it is recommended to replace the Cylinder Rotor Pressure Gauge Assembly 2146-A3 if motor is damaged.	Yes, unless caused by improper previous repair.
Tool will not impact	Broken or worn impact mechanism parts	Remove hammer case and examine impact mechanism parts. Replace any worn or broken parts. Lubricate upon reassembly.	Yes, unless caused by improper previous repair or abuse.
	Impact mechanism assembled incorrectly	Review assembly and correct as necessary. Refer to the service information.	Yes, unless caused by improper previous repair.

Notes:

For more information see the Maintenance Manual and Parts List Manual for the tool. Most manuals can be found on the Ingersoll Rand product web page under the Documents tab.

For Additional Information and assistance:

Browse the Knowledge Base: https://irtoolhelp.ingersollrand.com

Submit a Request for assistance:

Technical/Warranty Support: irtoolhelp@irco.com.

Power Tools and Industrial Lifting - Customer Technical Service

Pneumatic Impact Tool diagnostic