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Compressor Valve Plate Sleeve and Piston Replacement Models PC0968N / PC0969 / PC0970

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Procedure 2 (piston replacement)

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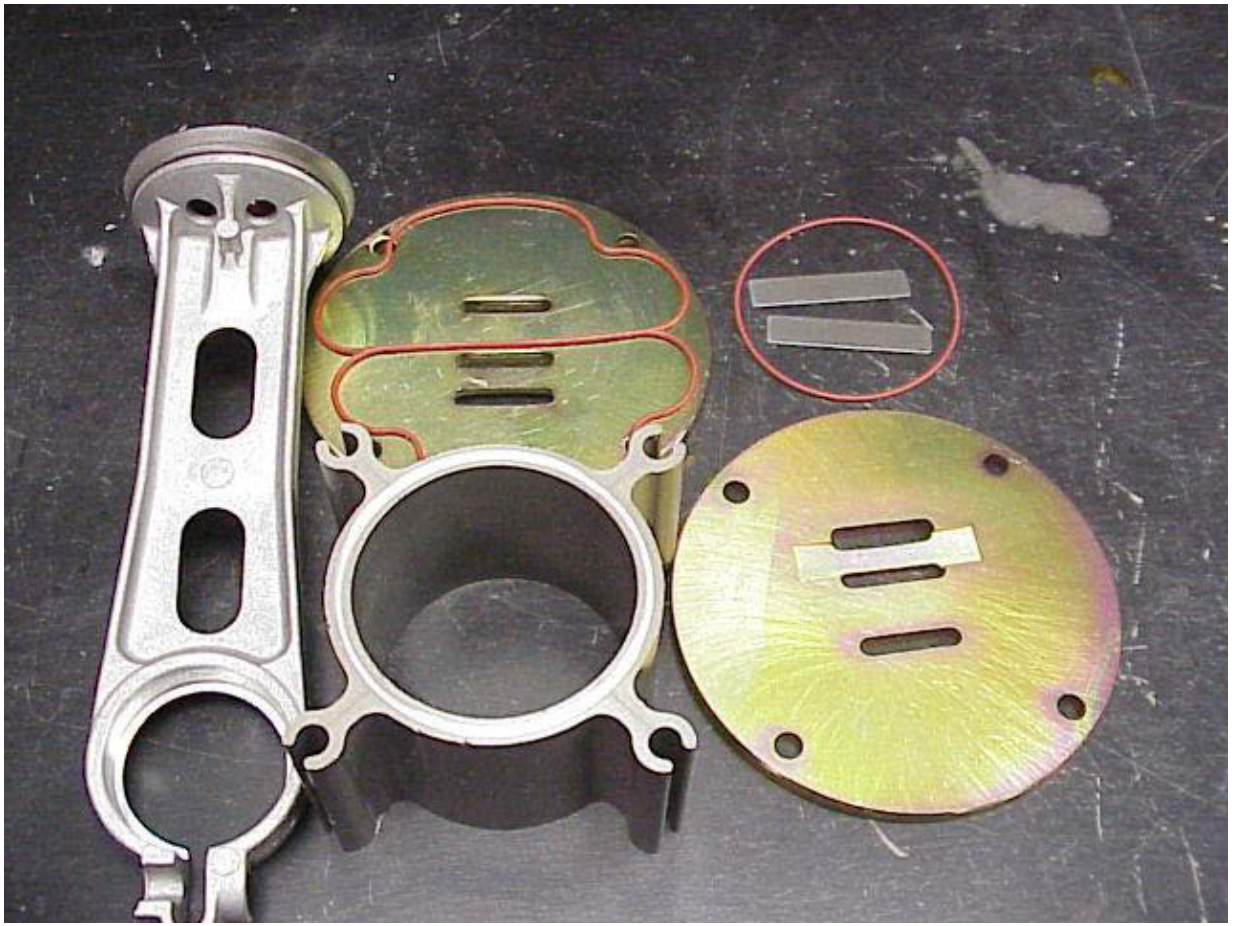
Compressor Valve Plate + Sleeve + Piston Replacement



Parts

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Compressor Valve Plate + Sleeve + Piston Replacement

Issue

- Leakage between valve plates and piston results in lower scfm output
- Low scfm output results in longer fill / recovery times
- Longer run time creates high head temperature which damages plates, piston and seals.

Fix

- Replace valve plates
- Replace sleeve w/ modified seal design
- Replace seals (2)
- Replace reed valves (2)
- Replace piston assembly

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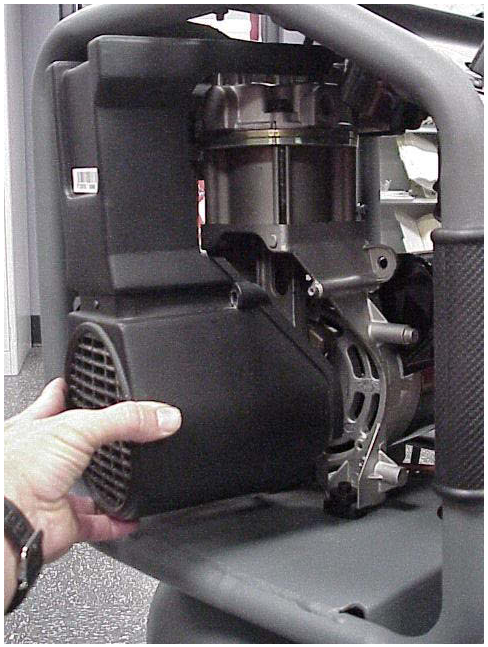
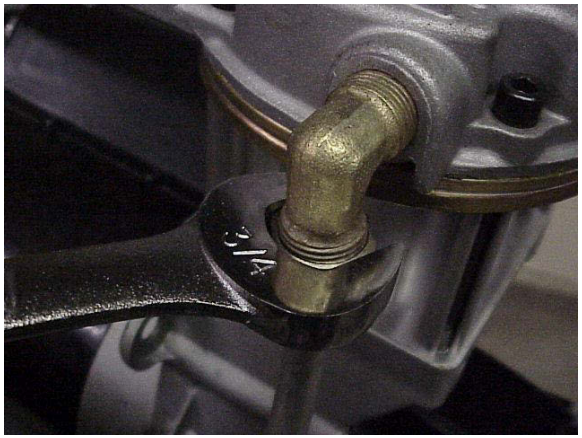
Compressor Valve Plate + Sleeve + Piston Replacement

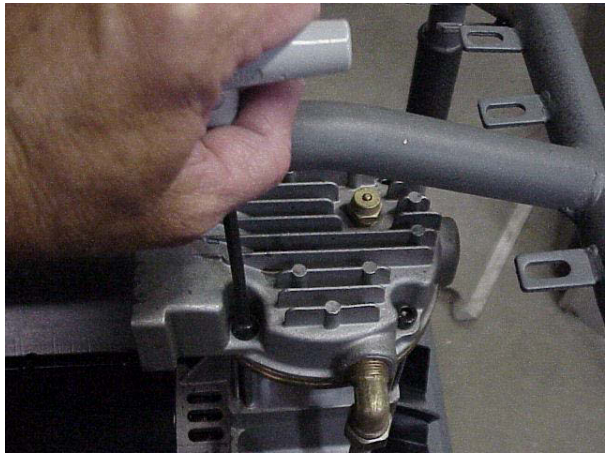
- Remove plastic shroud



- Remove discharge line from head



- Remove head and old valve plate



Remove sheet metal panels and plastic fan shroud

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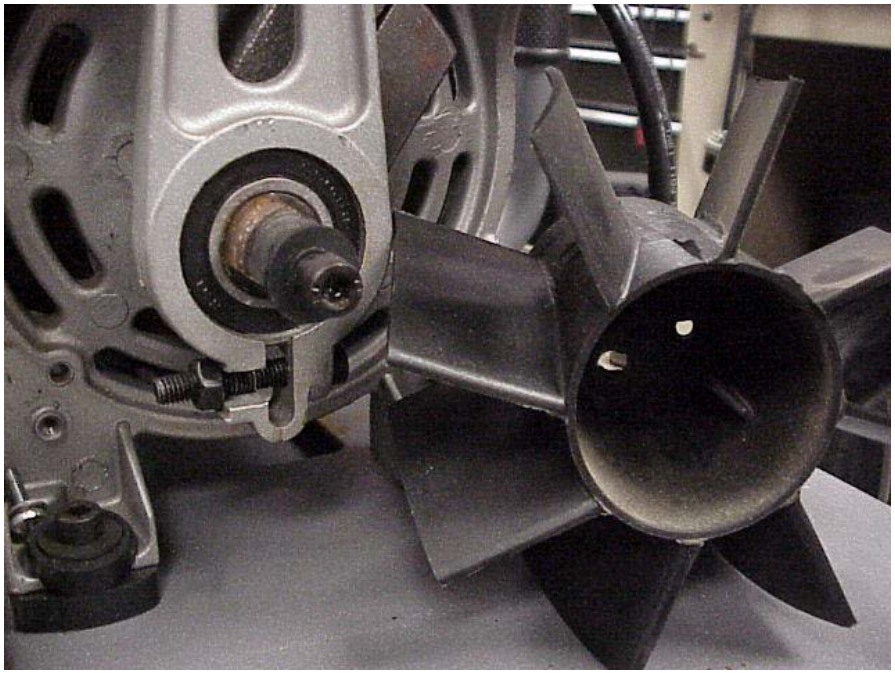
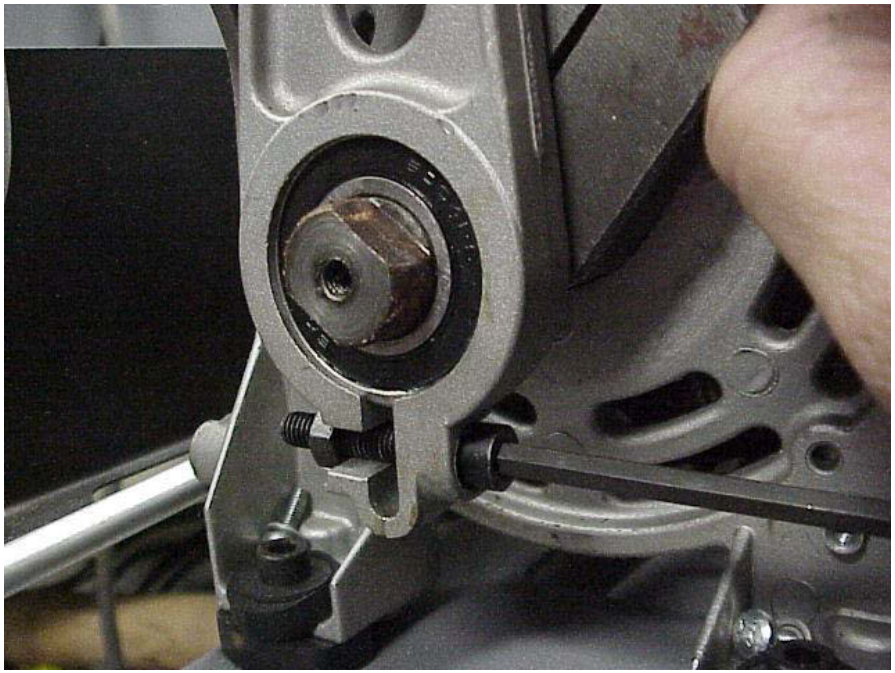
Compressor Valve Plate + Sleeve + Piston Replacement



Remove Cooling Fan



Loosen Connecting Rod Bolt

Remove connecting rod from crankshaft bearing

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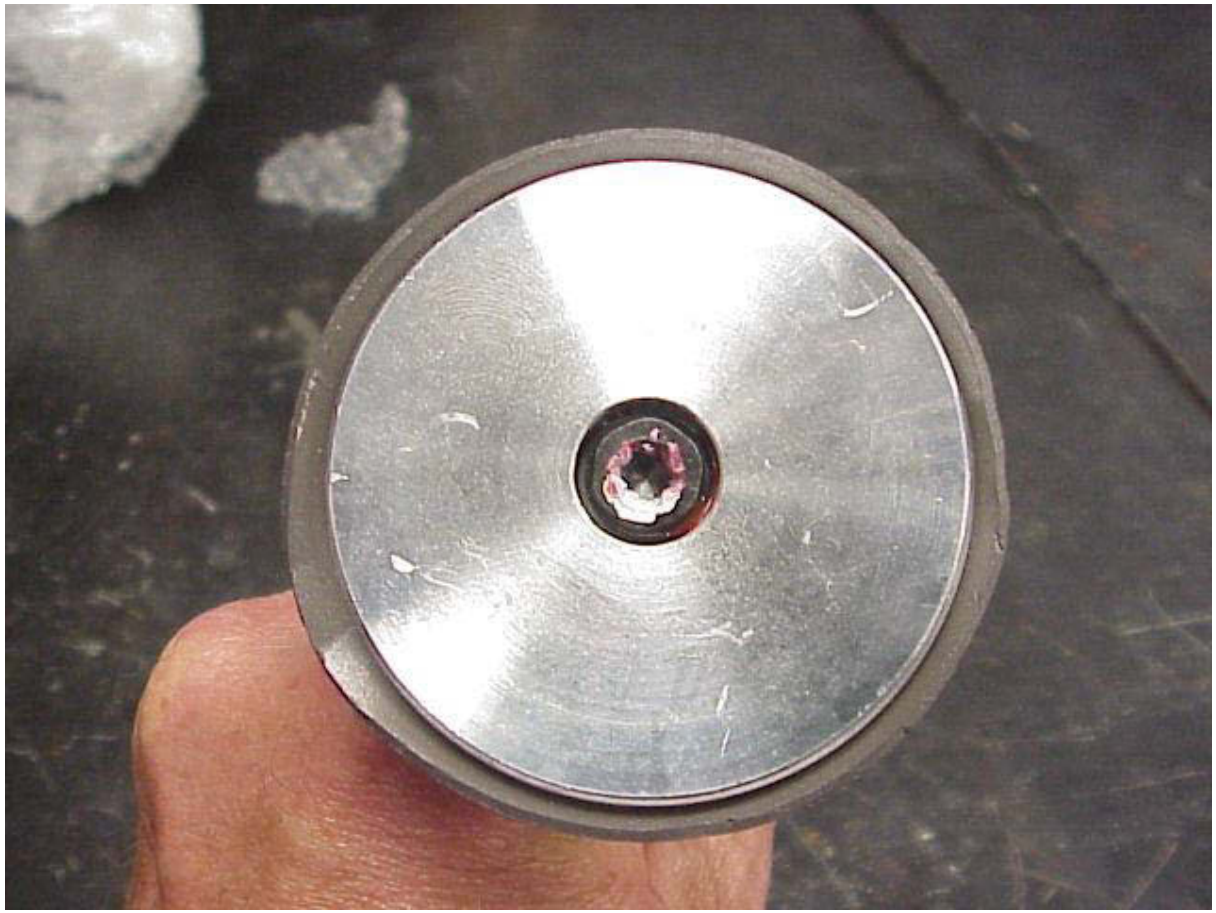
Compressor Valve Plate + Sleeve + Piston Replacement



Piston assembly star shaped screw holding piston assembly together should be torqued to 10 ft-lbs.

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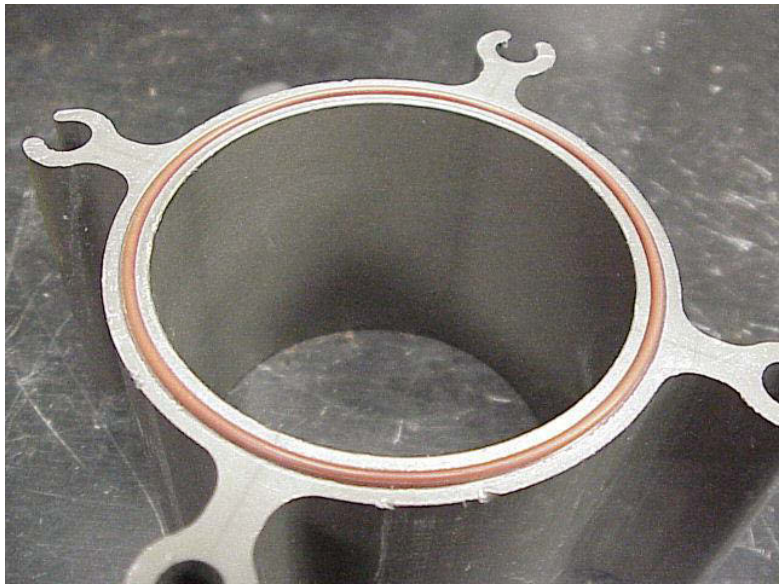
Compressor Valve Plate + Sleeve + Piston Replacement

New Cylinder Design



Normal Discoloration

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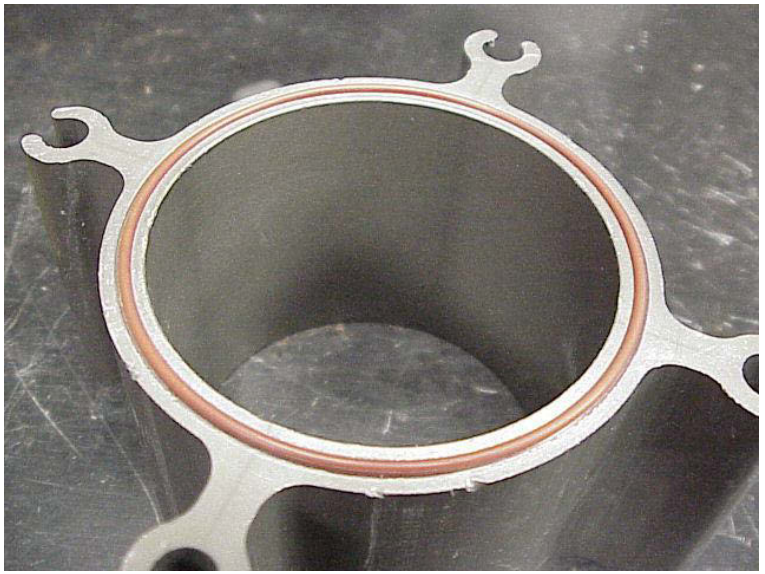
Compressor Valve Plate +Sleeve + Piston Replacement

Lubricant used to hold parts during assembly

Set round gasket in sleeve. Use grease to hold in position for assembly



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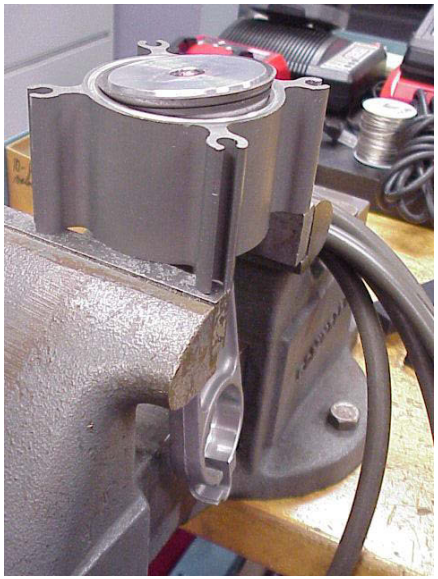
Compressor Valve Plate +Sleeve + Piston Replacement

The new piston seal needs to be carefully inserted into the sleeve

- Secure Sleeve
- Set piston at angle as shown



- Press connecting rod assembly / piston through sleeve

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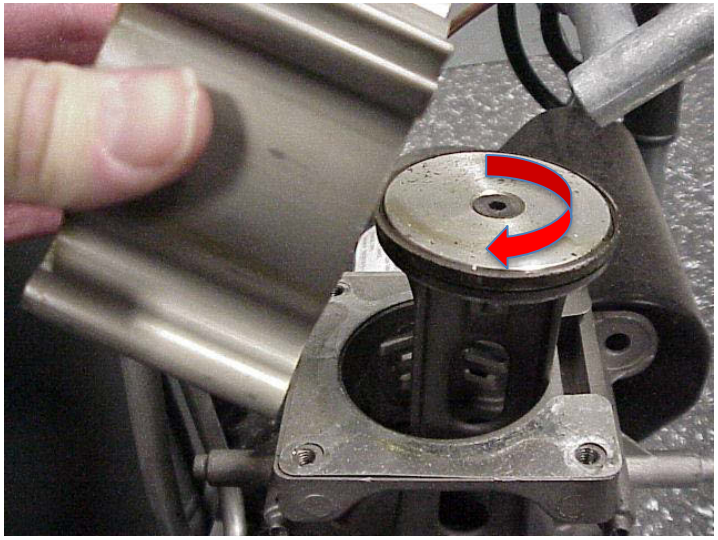
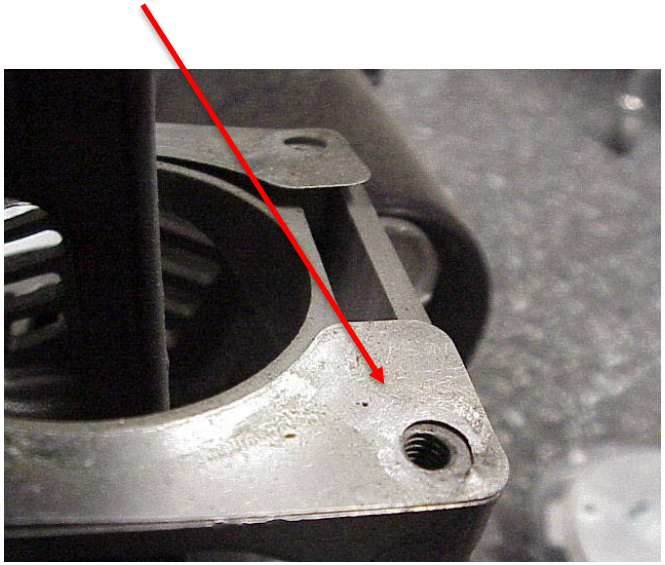
Compressor Valve Plate + Sleeve + Piston Replacement

Sleeve can be easily slipped over piston IF you are re-using the old piston assembly



This shim is crucial to compressor performance. Shim quantity may need to be changed.



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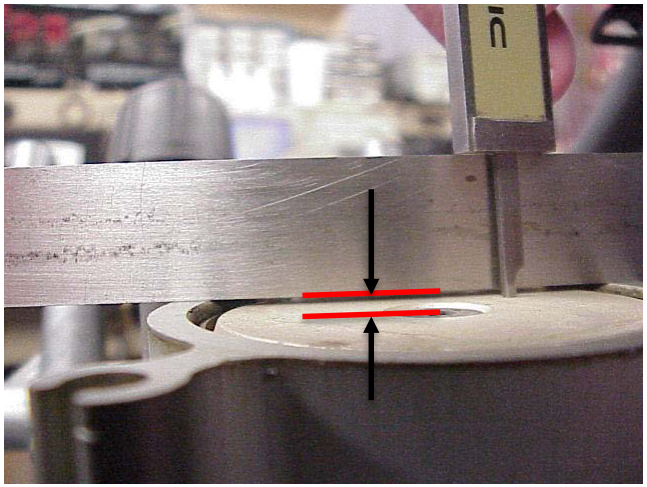
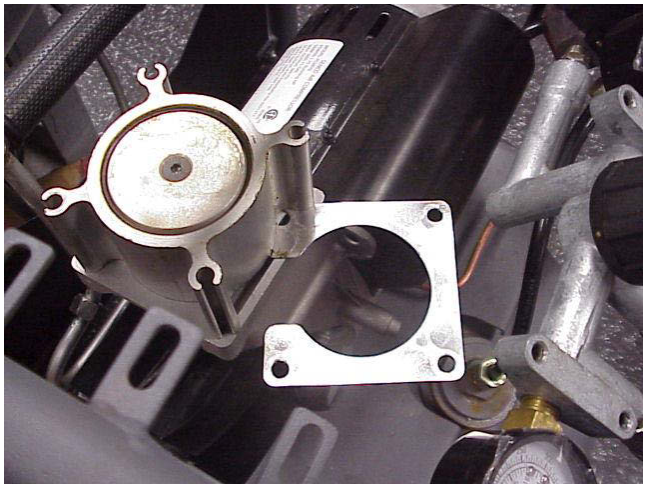
Compressor Valve Plate + Sleeve + Piston Update

Shim Modification

- Factory setting for clearance is 0.020” – 0.030” between lower valve plate and piston (see pictures below).
- If value is too high, remove 1 shim and re-measure
- If value is too low, add 1 shim and re-measure





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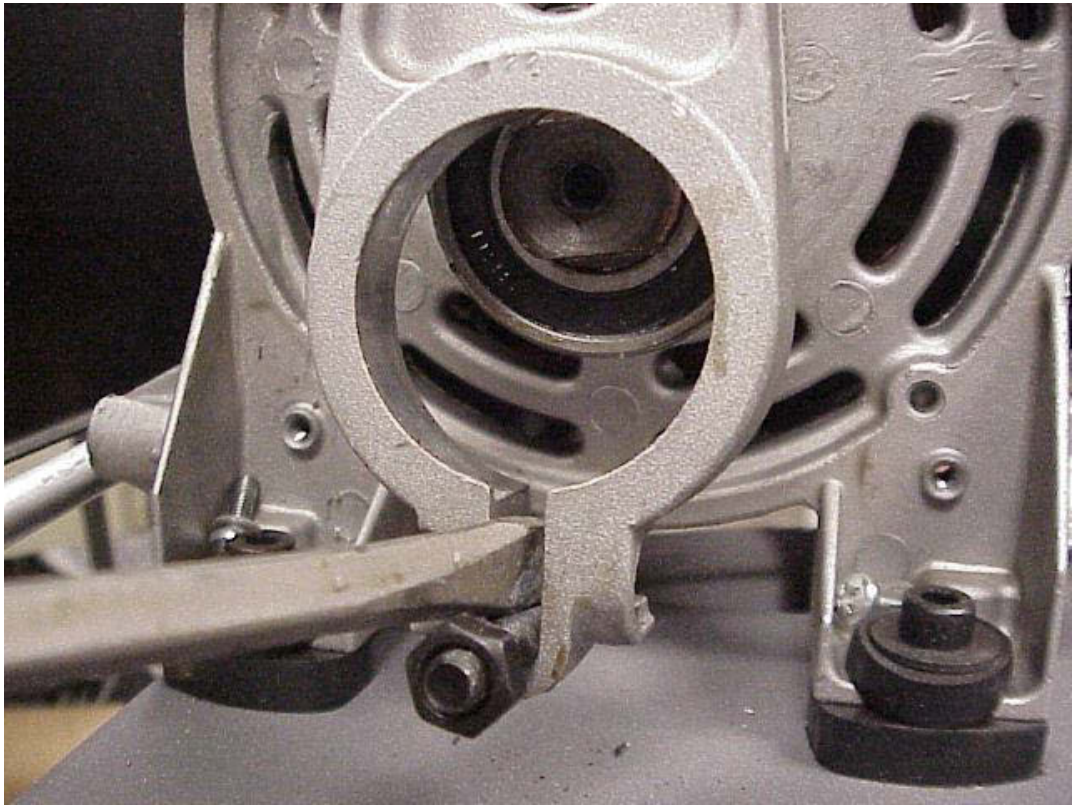
Compressor Valve Plate + Sleeve + Piston Replacement



Spread assembly slightly while placing over bearing

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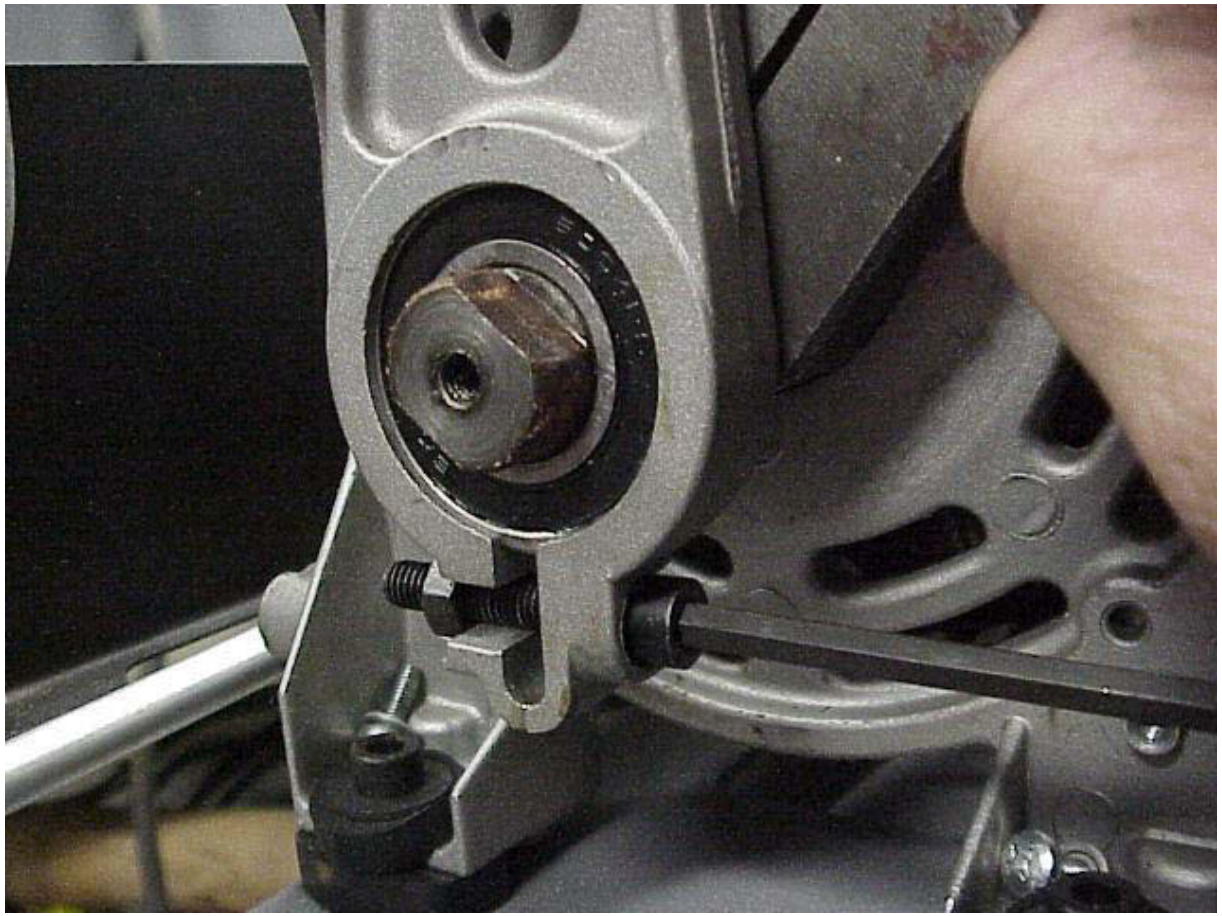
Compressor Valve Plate + Sleeve + Piston Replacement



Tighten bolt

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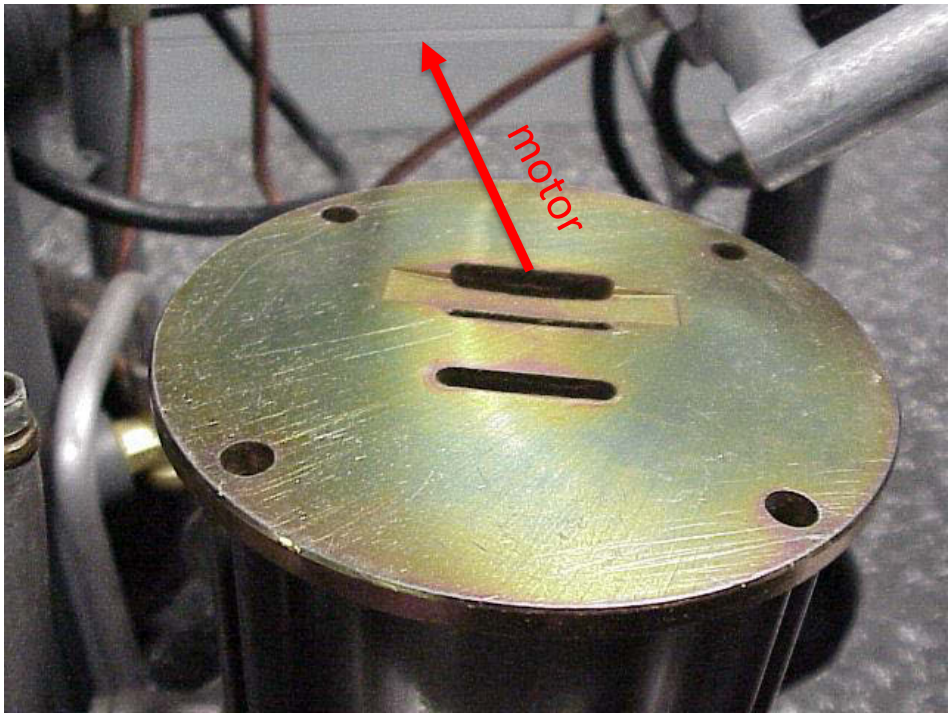
Compressor Valve Plate + sleeve + Piston Replacement



Place thick valve plate on top of cylinder. Make sure that reed valve pocket is in correct position as shown. Orient toward motor as shown

Note: All holes must align with cylinder and pump base

Compressor Valve Plate Update + Sleeve + Piston Replacement

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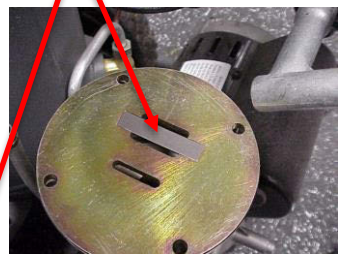
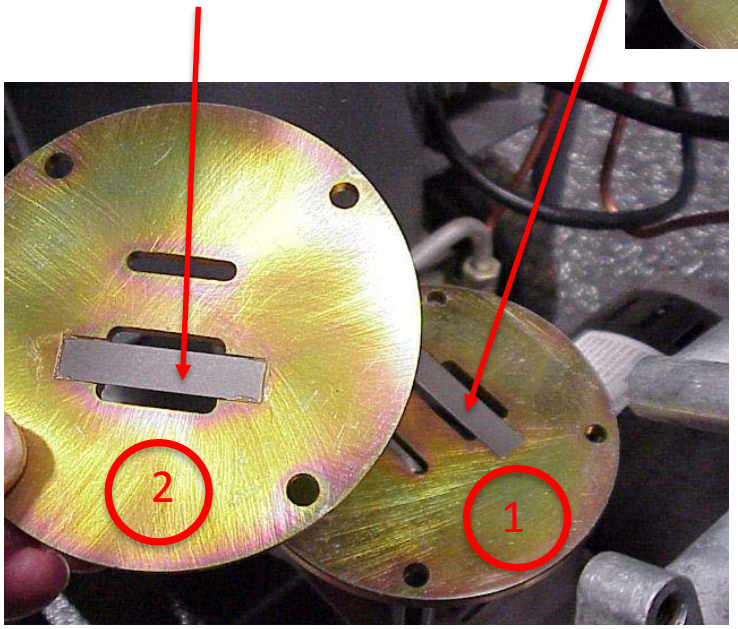
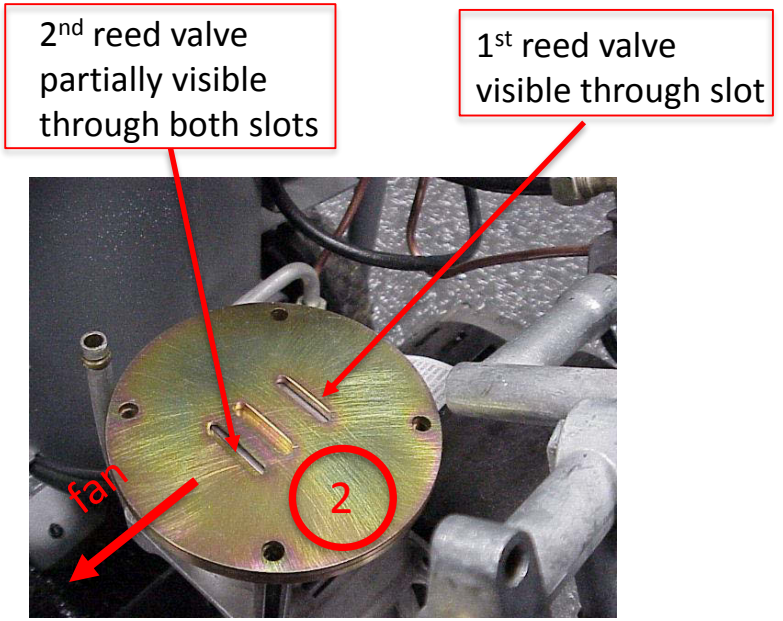
Set 2nd reed valve in thicker upper valve plate. Use grease to hold in position





Flip valve plate. Position new plate so that 2nd reed valve is oriented toward cooling fan.



Note: No gasket is required between valve plates

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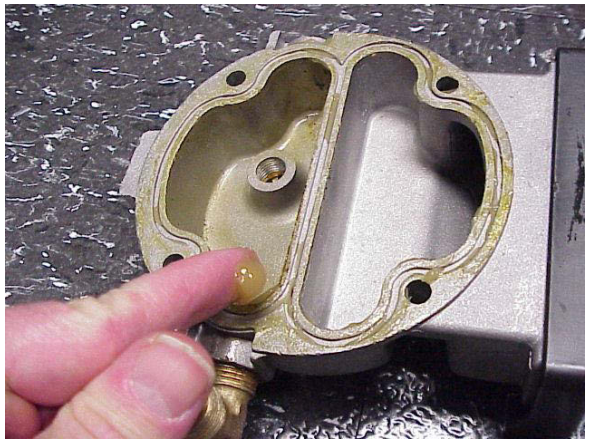
Compressor Valve Plate + Sleeve + Piston Replacement

Apply grease to the groove in the compressor pump head to hold seal.



Carefully set seal in groove. Note that the seal is a bit larger on the side facing the air filter.

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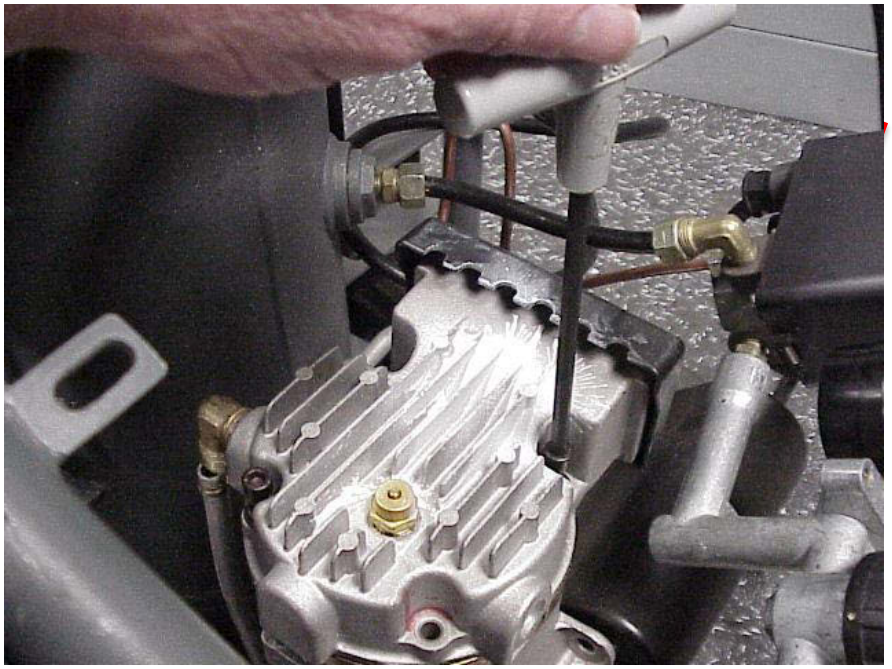
Compressor Valve Plate + Sleeve + Piston Update

Flip compressor head. It is recommended that you place two of the four head bolts in the head casting to help align all holes



Tighten all four head bolts gradually until head is snug against pump assembly.

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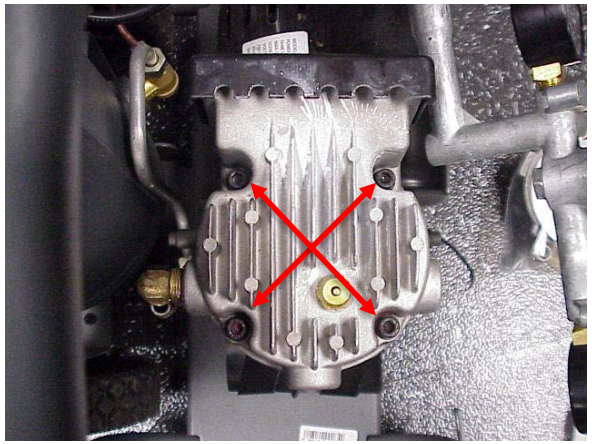
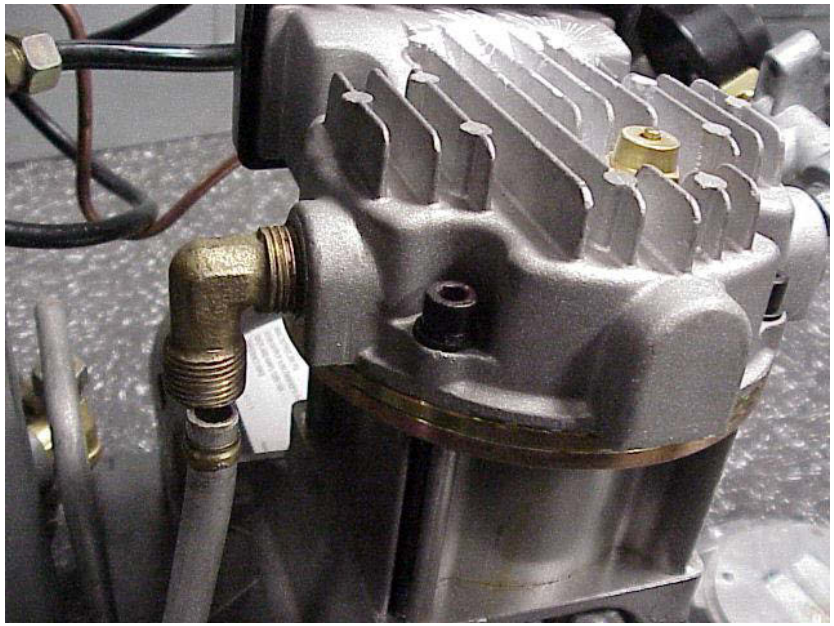
Compressor Valve Plate + Sleeve + Piston Update

Tighten in a cross pattern until reaching final torque of 11 ft-lbs.





Start compressor with discharge line disconnected. If pressurized air passes through connector, stop motor and re-assemble pressure line.

Remember: cooling fan is exposed until plastic shroud is re-attached

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Compressor Valve Plate + Sleeve + Piston Update

Place fan back on crankshaft
Place plastic shroud back on pump housing
Re-assemble metal shrouds and panels