

MIS R40: Replacement Procedure
Adjustable Stop Bar Replacement

05-09-11

Shafer Rotary Vane Actuator
Adjustable Stop Bar Replacement

SERVICE INSTRUCTIONS

The purpose of this procedure is to guide the replacement of the Stop Bars in a Shafer Rotary Vane Actuator.

This procedure is to be used in conjunction with the following Maintenance and Service Manual.

Shafer Rotary Vane Maintenance and Service Manual	Bulletin RVSM-2/98

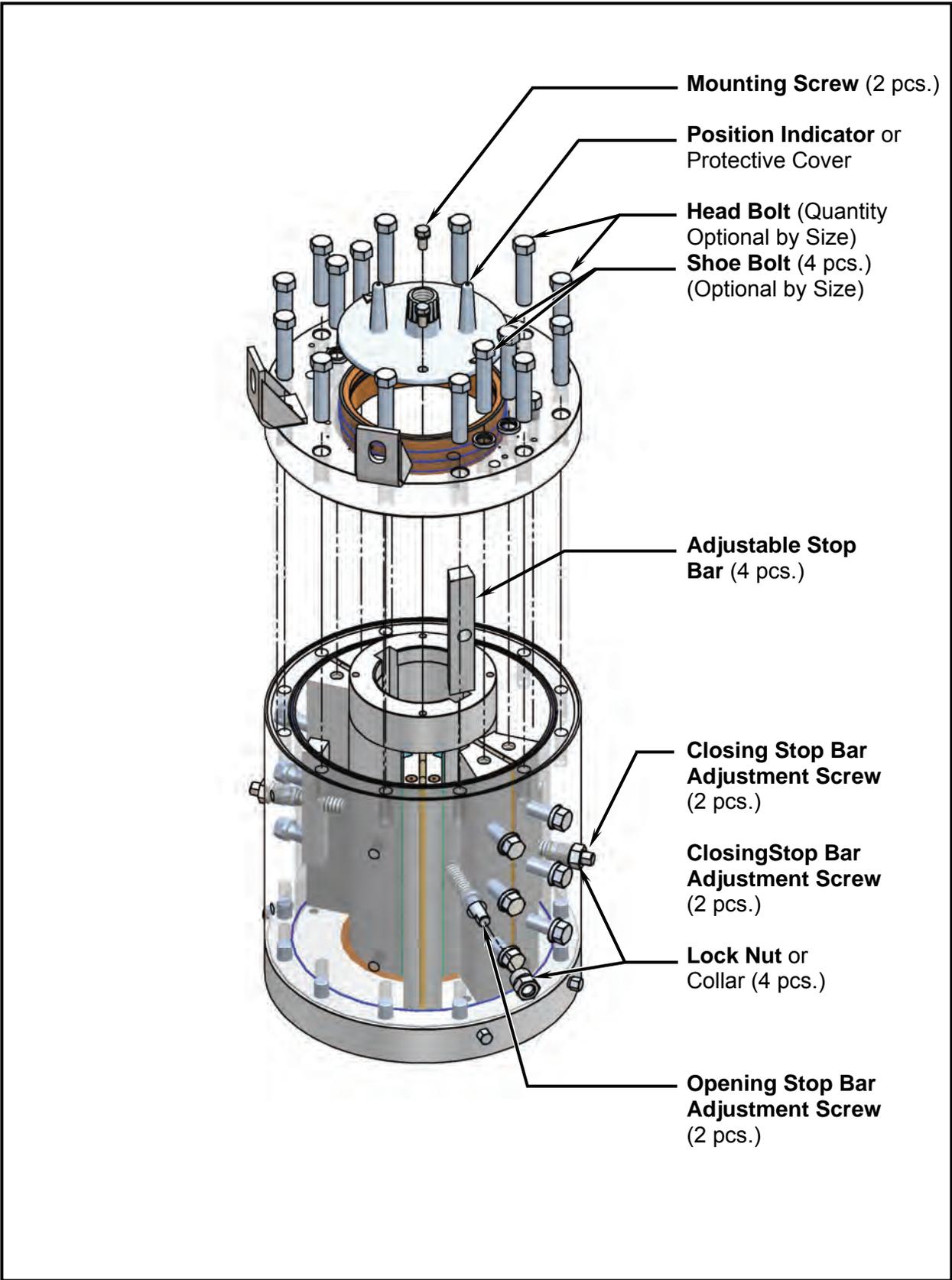
WARNING: Make sure actuator is isolated before doing any disassembly. In order, turn **OFF** the power gas and bleed off all pressure, including power storage tank. Next, bleed off pilot pressure, disconnect: power gas, pilot tubing and electrical wiring (if equipped).



DISASSEMBLY

1. Position actuator at mid stroke.
2. Remove tubing from actuator.
3. Remove all equipment mounted to top of actuator (limit switches, end of stroke valve, etc.)
4. Before any disassembly, match mark the position indicator, actuator head and actuator body.
5. The position indicator should be removed next. Remove the two mounting screws retaining the position indicator.
6. Remove the purge plugs and drain plugs. Drain oil from actuator. Catch the oil in a suitable clean container and use care to keep the oil clean for reuse later.
7. The Head bolts, can now be removed. Remove the optional shoe bolts if provided.
8. Locate the lift holes in the upper head and install eyebolts.
9. Using a straight upward pull, remove the head.
Caution: Care must be taken so that the head is pulled off straight. The head is fitted to a very close tolerances and prying, pounding or pulling side to side will only result in damage to the "soft" bronze head bushing.
10. Remove the stop lock nuts (collars) from the adjusting screws. While supporting the stop bar, so that it will not drop, turn the adjusting screw counter-clockwise until it is separated from the stop bar.
Caution: It is crucial the stop bar does not drop into the actuator; it will damage the lower head.
11. Keep the open end of the actuator covered whenever possible to prevent foreign material from entering.

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Typical Rotary Vane Actuator Assembly

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ASSEMBLY

1. During assembly lubricate all o-rings and seals; use Never-Seez[®] on the bolts.
2. Clean, lubricate and install the new stop bars. Support the stop bar inside of the actuator and carefully thread onto the adjusting screw by turning the adjusting screw clockwise. Turn the adjusting screw until the stop bar is against the cylinder wall.
3. Inspect and lubricate the seals in the stop lock nuts (collars) and wipers on the adjustment screws. Reinstall the stop lock nuts (collars); do not tighten until stop bars are adjusted.
4. Inspect and lubricate the upper head o-ring and rotor seal.
5. Install the drain plugs and fill the actuator by pouring clean oil into the chambers.
6. Align the upper head and slowly lower it onto the rotor, using care to keep it straight. Use the same care replacing the upper head as you did to remove it.

Caution: *Care must be taken so that the head remains straight during reinstallation. The head is fitted to a very close tolerances and prying, pounding or pulling side to side will only result in damage to the "soft" bronze head bushing.*

7. Install the head bolts and torque. The upper head bolts must be drawn up evenly in a standard cross torque method.
8. Install position indicator.
9. Reinstall purge plugs.
10. Reinstall all equipment mounted to top of actuator (limit switches, end of stroke valve, etc.)
11. Reconnect all tubing removed from the actuator.
12. Set adjustable stops. (Refer to Shafer Rotary Vane Maintenance and Service Manual RVSM-2/98).

If any further information is required, please feel free to contact:
Emerson Process Management
Valve Automation Inc.
2500 Park Avenue West
Mansfield, Ohio 44906

Phone: (419) 529-4311
Fax (419) 529-3688

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