



# Servicing the Maxon Micro-Ratio Valve

MEGTEC recommends that this procedure be completed on an annual basis. Performing this maintenance procedure may prevent or resolve temperature control or over temperature fault issues.

Figure 1 shows the Micro-Ratio Valve Assembly. To disassemble the valve, loosen the linkage arms at the knuckles located on the MRV and the air shutter. Note that the 5/32 setscrews may be located on the front or the backside of the knuckles. Disconnect the 'A' linkage arm at the MRV air shutter. Disconnect the 'B' linkage arm at the MRV. The 'A' linkage will remain attached to the MRV when it is removed. Proceeding with this method of disassembly will prevent the burner settings from changing when the valve is re-assembled.

With the linkage arms disconnected, back out the 3/16 setscrews about 3/8 of an inch (See Figure 2.) Move the valve so the 'MAX' point lines up with the indicator. Using both hands, turn the valve back and forth and away from the burner until the valve separates from the plunger housing. The valve is mounted with a metal-to-metal fit and may offer some resistance.

One note of caution: Do Not pull the plunger out after the valve has been disassembled! There is an O-ring on the backside of the plunger that will fall off (See figure 5 ).

Figure 3 shows the plunger assembly being removed. To loosen the brass insert, locate the 1/8 Allen setscrew as shown in Figure 4. Back the setscrew out about 1/4 inch. Using a flat screwdriver, gently pry the brass insert free of the valve body.

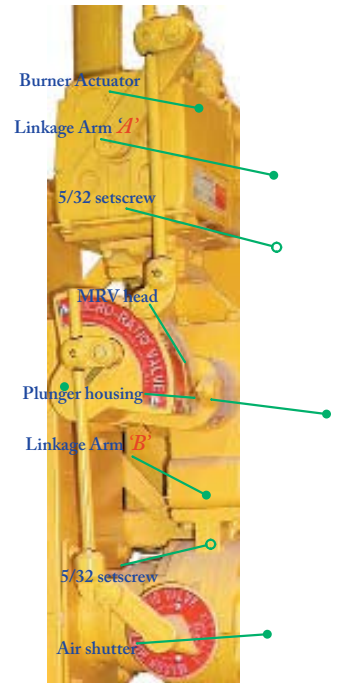


Figure 1. Micro-Ratio Valve Components



Figure 2. The arrows indicate the location of the 3/16" setscrew



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With the plunger assembly removed, remove the 'shaft O-ring' and the shaft from the brass insert (figure 5). Clean the entire assembly with WD-40 or a parts washing solution. Do not use blanket wash on the O-rings, they will dry out and come apart. Using a fine Scotch-Brite pad clean any paint or rough spots from the shaft.

After the plunger assembly has been cleaned, lubricate the plunger assembly with good lithium grease. The shaft should be fully greased before it is inserted into the brass insert. The area around the shaft O-ring should be fully greased. The area around the O-ring on the brass insert should be lubricated generously as well.

Insert the plunger assembly fully into the valve body and make sure it seats fully. Then tighten the 1/8 setscrew that secures it in place. If the plunger assembly is not inserted properly the MRV head will not line up correctly.



Figure 4. Setscrew location that is used to allow the plunger assembly to be removed from the plunger housing.

Figure 3. Plunger assembly being removed from the plunger housing. Do not pull the shaft out of the brass insert until the entire plunger assembly has been removed!



Figure 3. Shows the plunger assembly after it has been removed from the plunger housing. Note: the shaft O-ring will fall into the housing if the shaft is pulled out of the brass insert before the complete assembly is removed. This O-ring is very important as it prevents gas from leaking at the MRV pivot joint.

For further information, availability, please contact your nearest MEGTEC office by visiting [www.megtec.com](http://www.megtec.com) and click on parts and upgrades or email to [info@megtec.com](mailto:info@megtec.com).