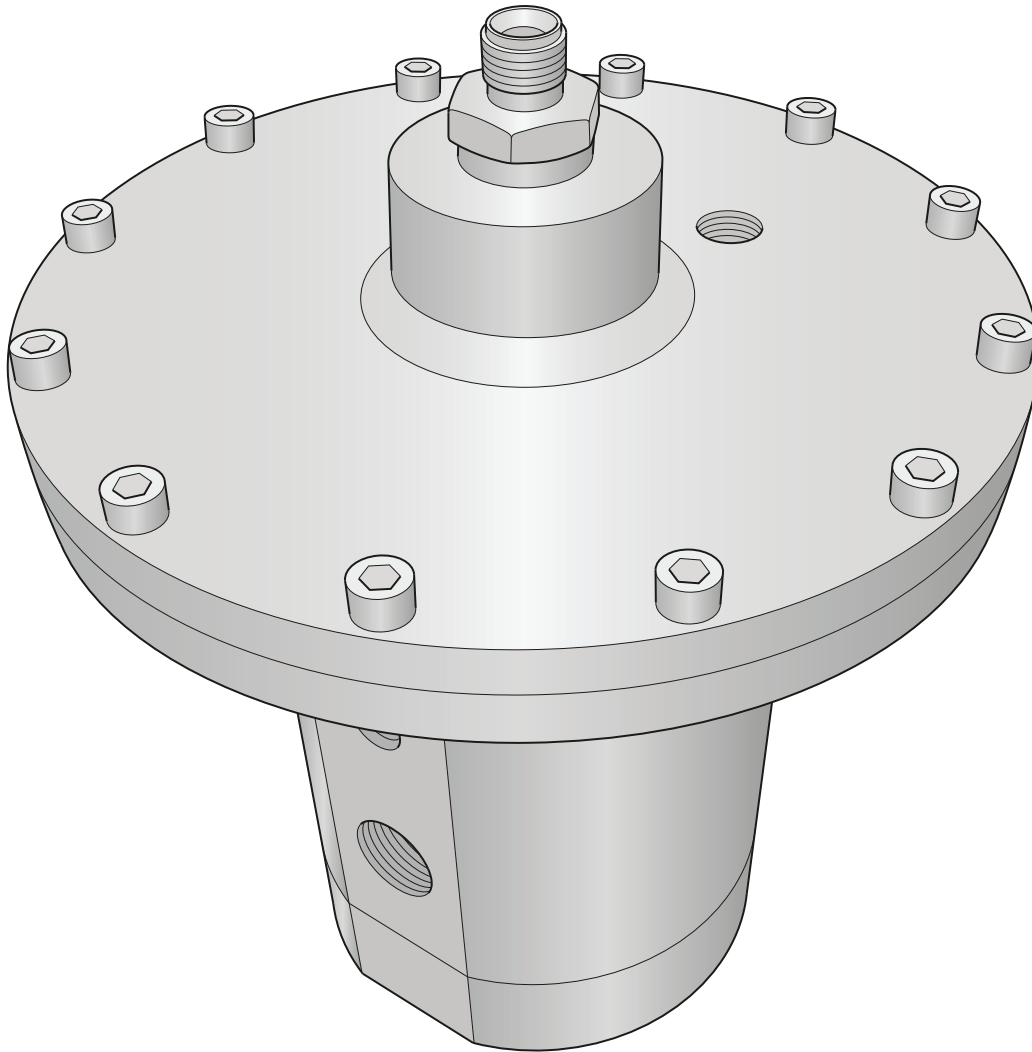


## Ramp Regulator Cartridge Replacement Instructions



These instructions are applicable for pressure-reducing ramp regulators.

### Kit Contents

Cartridge  
Sachet of Lube

### Tool Requirements

15 N·m Torque Wrench  
110 N·m Torque Wrench  
6 mm Hex Drive  
14 mm Hex Drive



## CAUTION

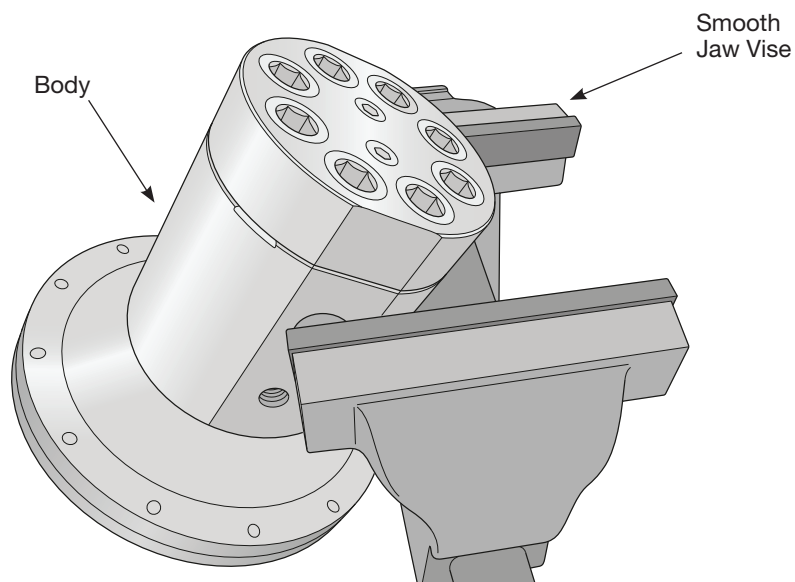
Before servicing any installed regulator you must depressurize the system and purge the regulator.

1. Firmly hold the Ramp regulator **body** in a **smooth jaw vise**.

### Note:

Ensure the lower flange and bolts are free to be removed.

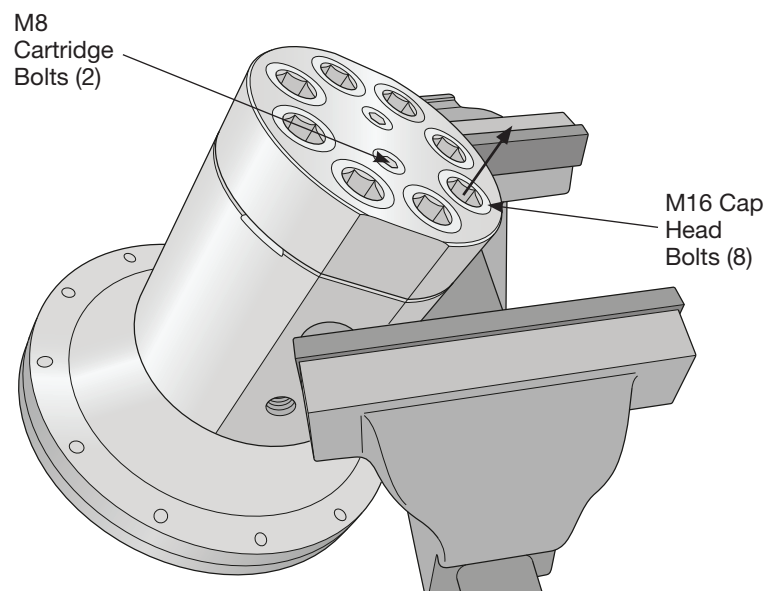
If the Regulator is not removed from system during service, ensure it is rigidly mounted to take the loading and not just reliant on the pipework.



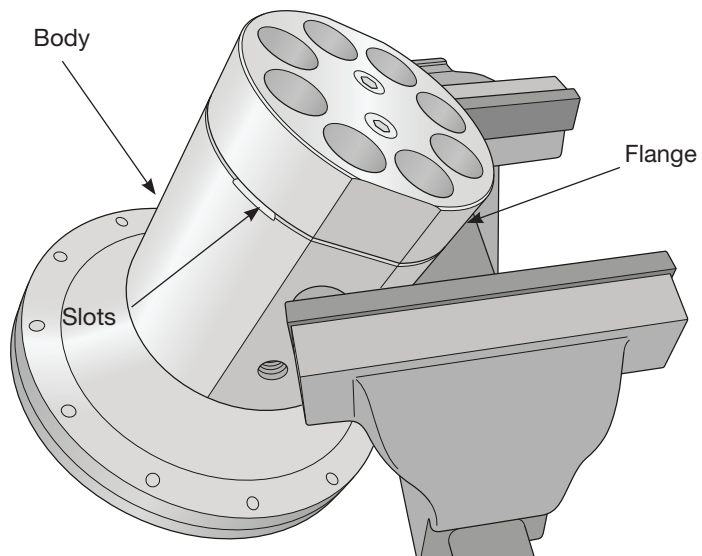
2. Loosen and remove the eight **M16 cap head bolts** by using a 14 mm hex drive.

### Note:

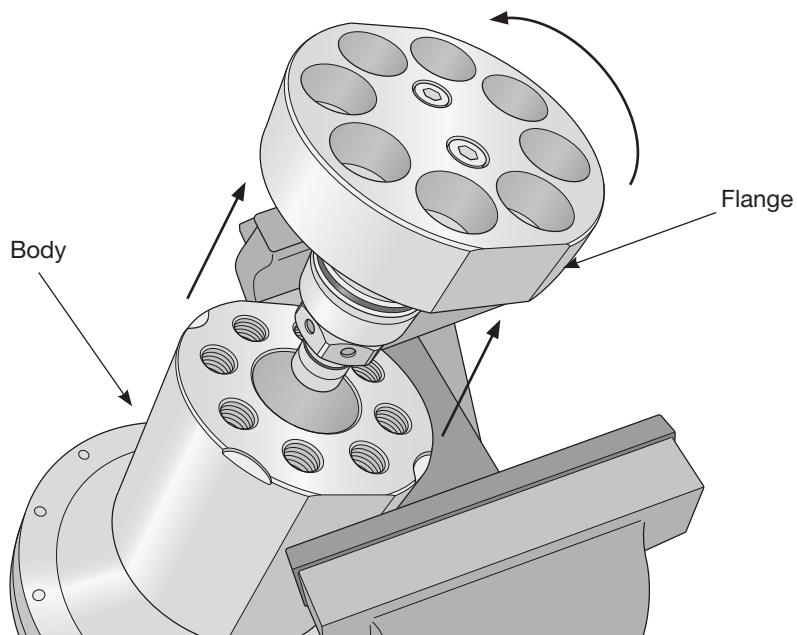
Do not remove the two **M8 cartridge bolts** at this stage.



3. Use a flathead screwdriver in the **slots** to pry the **flange** away from the **body**.



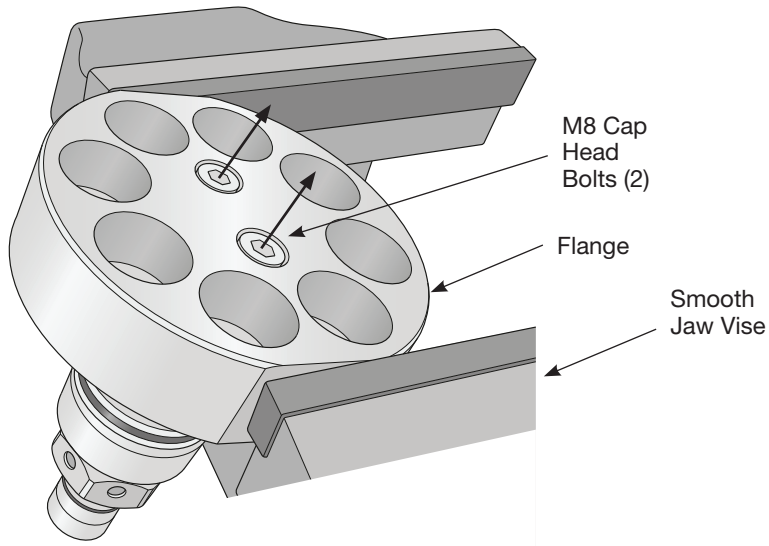
4. Gently twist and pull the lower **flange** until it comes free of the **body**.



5. Firmly hold the lower flange in a **smooth jaw vise** and remove the two **M8 cap head bolts** by using a 6 mm hex drive.

**Note:**

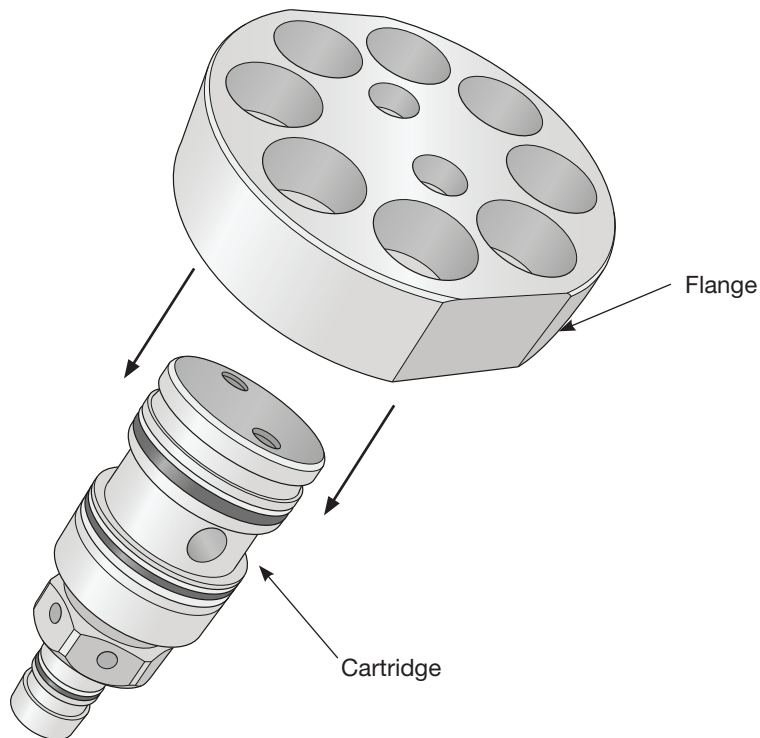
**Hold the Cartridge as it will become loose as the M8 bolts are removed.**



6. Remove the **cartridge** from the lower **flange**.

**Note:**

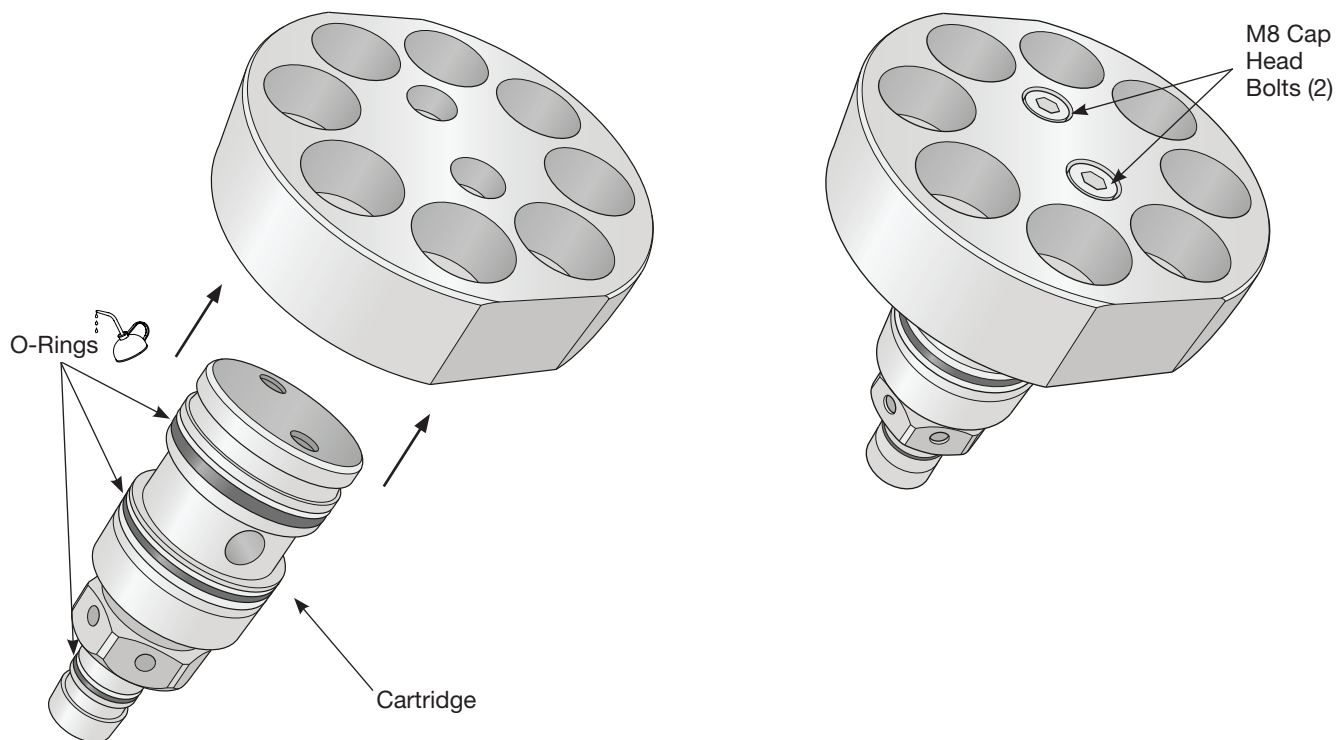
**Take care not to knock or damage the cartridge during removal as it is a serviceable item.**



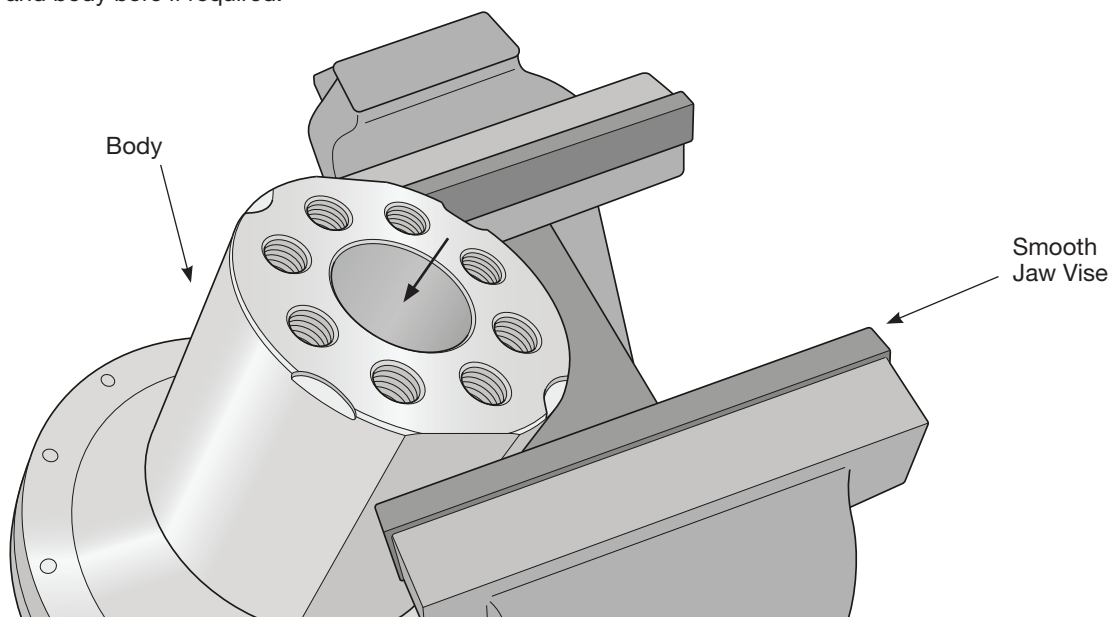
7. Attach a new **cartridge** with the two **M8 cap head bolts** by using a 6 mm hex drive; finger tight only at this stage. Apply lube to the three **O-rings** and the cartridge and body bore if required.

**Note:**

**Ensure that the cartridge is clean and not damaged.**



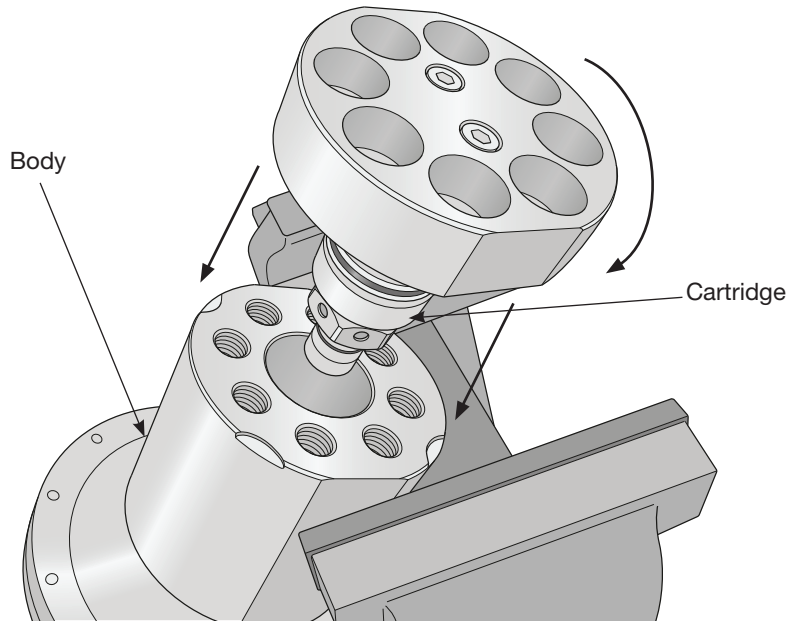
8. Hold the **body** in the **smooth jaw vise**; ensure that the internal bore is clean and free of damage. Apply lube to cartridge and body bore if required.



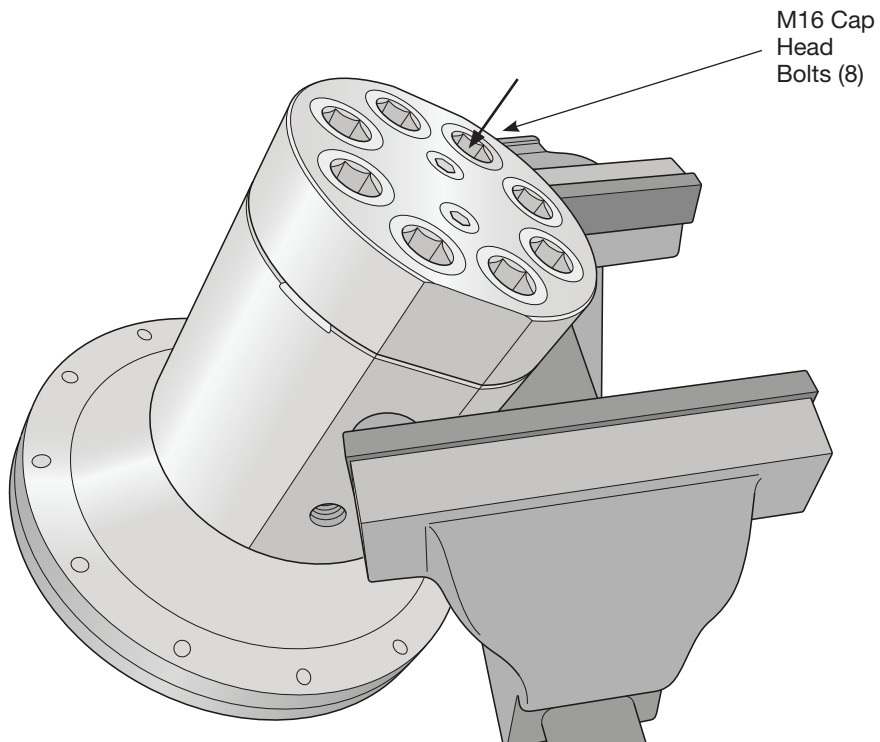
9. Insert the **cartridge** into the **body**, gently twisting and pushing into place.

**Note:**

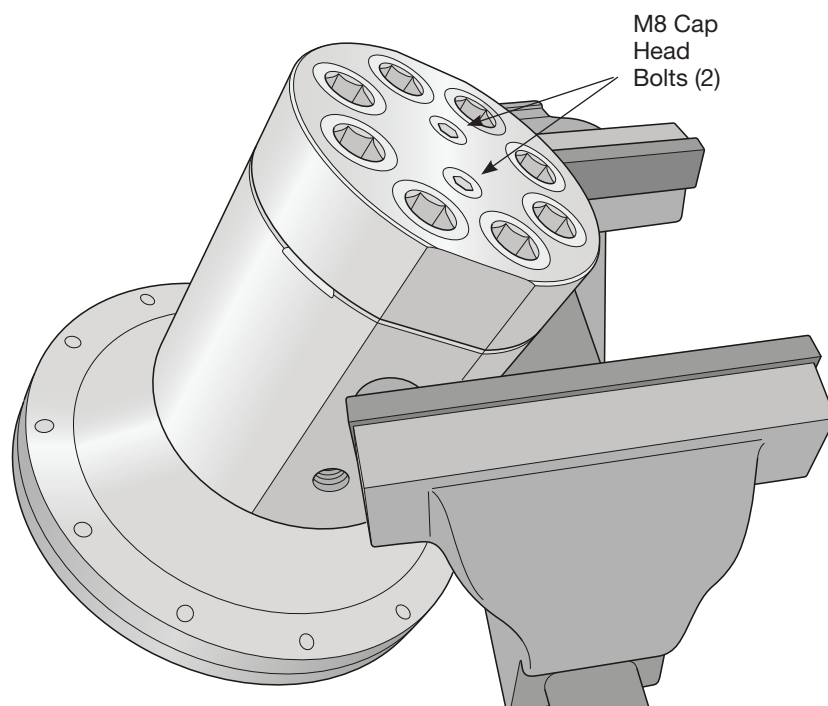
**Ensure that the side flats on the flange align with those of the body.**



10. Insert the eight **M16 cap head bolts** by using a 14 mm hex drive torqued to 110 N·m.



11. Using a 6 mm hex drive, torque the two **M8 bolts** to 15 N·m.



*For additional information, see **swagelok.com**.*

