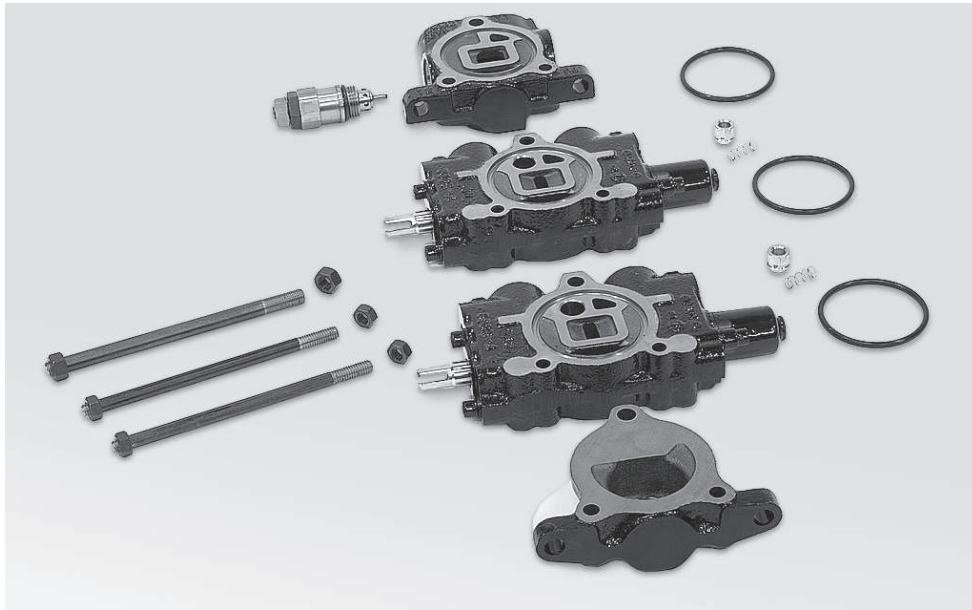


## SECTION 3.1

### 5000 SERIES BUILD & TORQUE

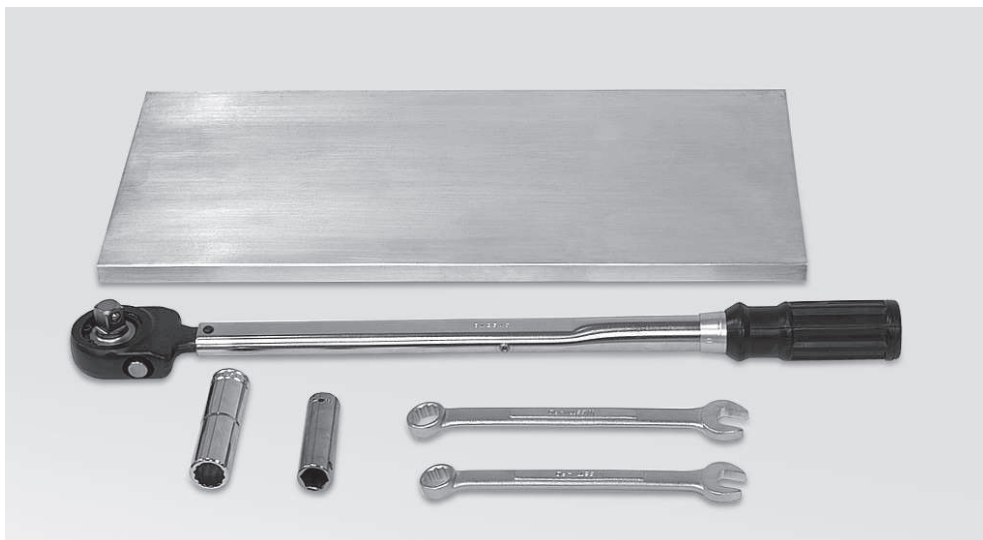
Lay out valve components on a clean, flat working surface. The inlet assembly will include an o-ring, and the spool section(s) will include an o-ring; load check poppet and load check spring.



✖ Tools required for basic valve assembly include:

- ½" and 9/16" open-end or box type wrenches
- Torque wrench
- ½" and 9/16" thin wall sockets

Note: If work space where valve is to be serviced does not have a smooth, level working surface, a metal plate should be used to ensure proper valve section alignment.

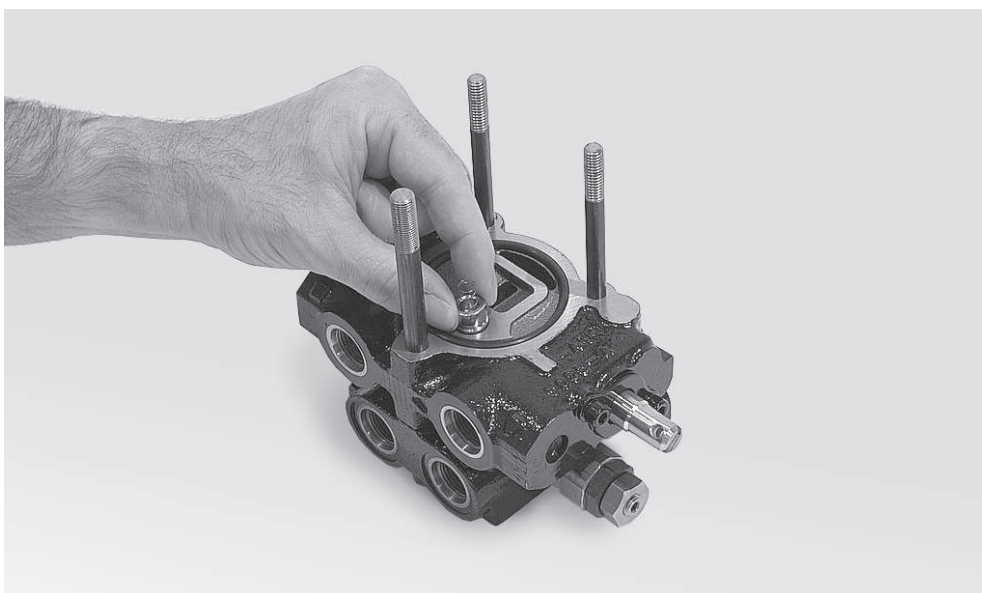


Thread tie rod nuts onto the short threaded end of each of the individual tie rods with the nuts threaded up the entire length of the threads.

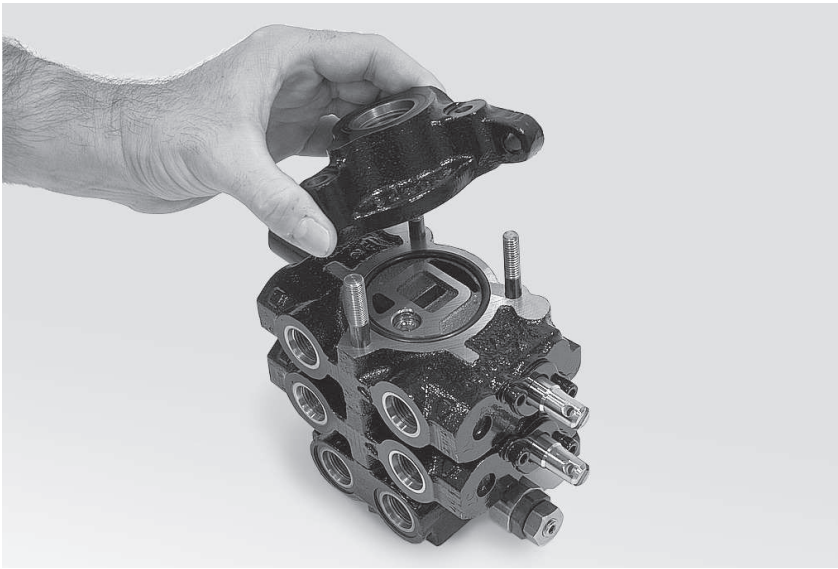
Insert tie rods through tie rod holes of inlet housing, lay inlet on end with tie rods pointing up and install o-ring into groove. Special care must be taken to ensure o-ring has been completely installed in groove.



Place first spool section over inlet section with o-ring groove facing upward and install o-ring into groove. Special care must be taken to ensure o-ring has been completely installed in groove. Install load check poppet into load check cavity as shown (nose-first into cavity). Once load check poppet has been properly installed, place load check spring in hollow cavity inside check poppet.

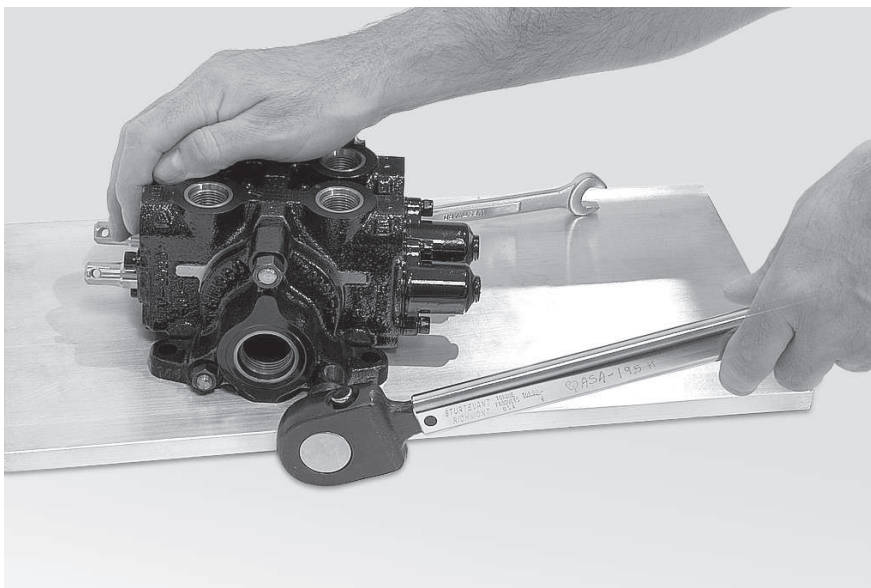


Repeat this procedure for additional spool sections. Special care must be taken to ensure o-ring and / or load check spring are not pinched between sections during assembly. Lastly, position the outlet section over the last spool section as shown.

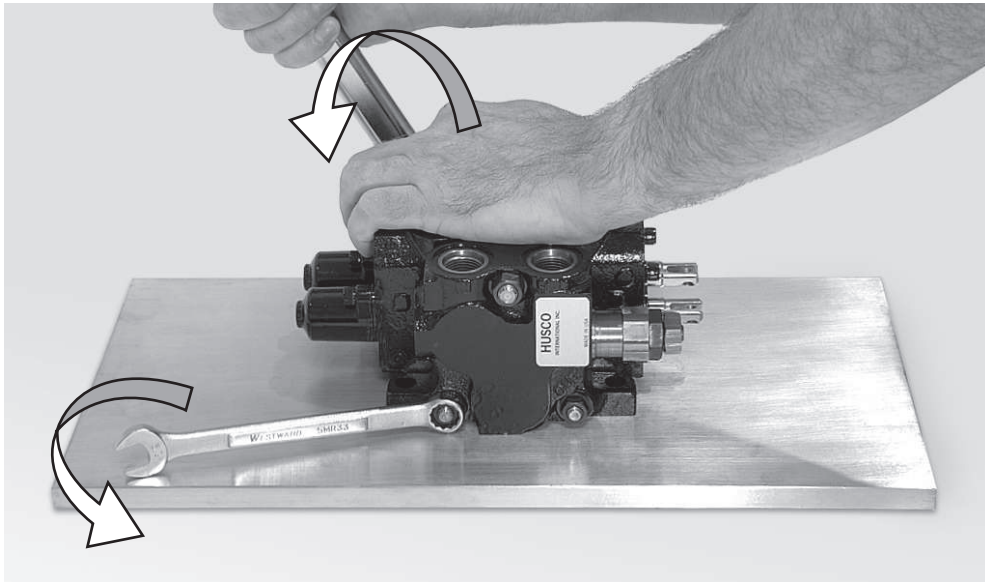


After hand-tightening all three tie rod nuts, position the valve assembly with the mounting feet on a smooth and flat working surface. To ensure proper alignment of entire valve assembly, apply a downward pressure to the inlet and outlet sections prior to torquing tie rod nuts.

When torquing tie rod nuts, the lower (2) tie rod nuts should be torqued first at  $18 \pm 2$  ft-lbs. ( $24.4 \pm 2.7$  N-m), followed by torquing of the upper tie rod at  $33 \pm 3.5$  ft-lbs. ( $44.7 \pm 4.7$  N-m). During the torquing operation, place one hand on top of valve assembly (to keep all mounting feet in contact with working surface), while the other hand applies force to torque wrench.



A noteworthy technique is to position the open-end or box type wrench over the nut so rotation during torquing operation is prevented by wrench making contact with working surface.



Install auxiliary valves and plugs and torque to proper specifications.

