

Magnum A-1, 3 1/8" Hydraulic Setting Tool Assembly

1. Place all parts on clean and uncluttered surface for ease of inspection and assembly.
2. Check all parts for defects and damage. Clean all threads and seal surfaces of rust, dirt, and burrs. If a part cannot be cleaned or repaired satisfactorily, replace it and set defective part aside for rework.
3. Pre-assemble parts excluding O-Rings to insure proper machine work.
4. Set aside proper O-Rings;
(3) 224 VITON for the internal sealing surface for the pistons. (6) 229 VITON for the subs
5. High temp grease should be used during assembly.
6. Always check all sealing surfaces (pistons, o-ring grooves, and threads) are clean, free of debris and in good working condition.
7. **Upper Hydraulic Mandrel (Top Sub)**
Part #: 40.HSTC.238.0100
Place (1) 229 O-ring on the Upper Mandrel
Grease liberally with high temp assembly lube.
8. **Upper Cylinder (Shear Sleeve)**
Part#: 40.HSTC.238.0200
Apply a thin layer of assembly lube on the inside of the Upper Cylinder to ensure o-ring damage does not occur.
Slide Upper Cylinder over the o-ring on the Upper Mandrel and continue until the Sheer screw holes align with the sheer groove.
Once in place install the four 3/8" – 16 x 3/8" brass sheer screws.
9. **Piston**
Part #: 40.HSTC.238.0300
Install the internal (224) o-ring and apply a small amount of assembly lube. Next install the exterior (229) o-ring and apply assembly lube.
Once the piston is properly lubricated, it can be threaded into the Upper Cylinder.
Note: The piston should be installed with the external o-ring going into the upper cylinder.
10. **Cylinder Rod**
Part #: 40.HSTC.238.0400
Install the (229) o-ring into groove located at the bottom of the rod. Apply assembly lube.
Apply a generous amount of assembly lube to the sealing (polished) surface of the rod.
Careful not to damage the internal o-ring of the piston, slide the rod through and thread into the Upper Hydraulic Mandrel.
11. **Rod Chamber**
Part #: 40.HSTC.238.0500
The Rod Chamber slides over the o-ring of the Cylinder Rod and thread onto the lower portion of the piston.
Apply assembly lube to the internal sealing surface to prevent o-ring damage.
Once completed gently push the Rod Chamber over the Cylinder Rod, and thread onto the piston.
12. **Piston**
Part #: 40.HSTC.238.0300
Install the internal (224) o-ring and apply a small amount of assembly lube. Next install the exterior (229) o-ring and apply assembly lube.
Once the piston is properly lubricated, it can be threaded into the Upper Cylinder.
Note: The piston should be installed with the external o-ring going into the Upper Rod Chamber.
13. **Lower Cylinder Rod**
Part #: 40.HSTC.238.0400
Install the (229) o-ring into groove located at the bottom of the rod. Apply assembly lube.
Apply a generous amount of assembly lube to the sealing (polished) surface of the rod.
Careful not to damage the internal o-ring, slide the rod through the piston and thread into the Upper Cylinder Rod.
14. **Lower Rod Chamber**
Part #: 40.HSTC.238.0500
The Rod Chamber slides over the o-ring of the Cylinder Rod and thread onto the lower portion of the piston.
Apply assembly lube to the internal sealing surface to prevent o-ring damage.
Once completed gently push the Rod Chamber over the Cylinder Rod, and thread onto the piston.
15. **Setting Sleeve Adapter**
Part#: 40.HSTC.238.0600
Install the external (229) o-ring and the internal (224) o-ring. Apply assembly lube to both.
Thread the Setting Sleeve Adapter into the Lower Rod Chamber.
16. **Connector Rod**
Part #: 40.HSTC.238.0700
Apply a light layer of assembly lube to the sealing (polished) surface.
Slide Connector Rod through the Setting Sleeve Adapter. Then thread the Connector Rod into the Lower Cylinder Rod.
17. **Tension Rod Adapter**
Part #: 40.HSTC.238.0800
Thread the Tension Rod Adapter into the connector rod.