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ALPHA 2750 #10 WIRELINE SETTING TOOL

The Alpha 2750 #10 Wireline Setting Tool is designed to efficiently set bridge plugs, cement retainers, and packers by utilizing combustion products to gradually generate force through pressure. The setting pressure is effectively directed to the appropriate area of the tool through the use of O-ring seals. It is essential that all O-rings be replaced after each operation to ensure optimal performance.

Applications:
Designed to run and set the Alpha Big Boy™ Bridge Plugs, Model B-1 Bridge Plugs, Ball Check Cement Retainer and model B Cement Retainer then squeeze or spot cement in two-trip.

CEMENT RETAINERS AND BRIDGE PLUGS

Model "B-1" Bridge Plug		
005-3593-003		
Adapter Rod	**Setting Sleeve**	**Lock Spring**
005-3593-205	005-3593-200	000-3500-203

Model "B" Cement Retainer				
005-3593-002				
Adapter Rod	**Setting Sleeve**	**Lock Spring**	**Stinger Locator**	**Stinger Snap Latch**
005-3593-205	005-3593-200	000-3500-203	017-3593-070	017-3593-080

Ball Check Cement Retainer	
004-3120-002	
Adapter Rod	**Setting Sleeve**
004-3120-205	000-3120-200

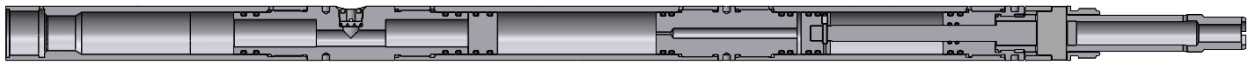
Big Boy™ Bridge Plug			
Bridge Plug	**Tension Mandrel**	**Setting Sleeve**	**Lock Spring**
000-2750-000	000-3120-206	000-2750-210	000-3500-203
000-3120-002	000-3120-206	000-3120-200	000-3500-203
000-3500-002	000-3500-206	000-3500-200	000-3500-203
000-3710-002	000-3500-206	000-3500-200	000-3500-203

GENERAL INFORMATION

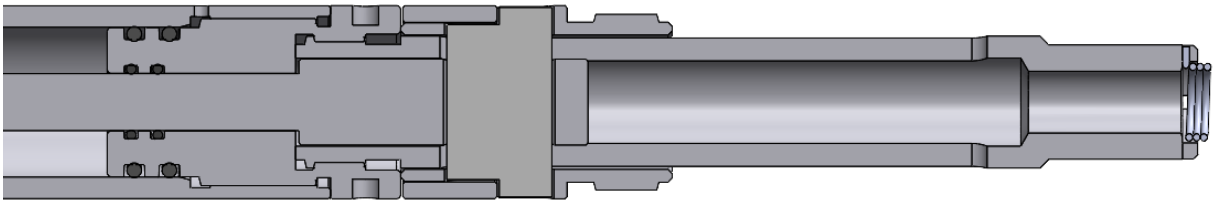
1. Use a casing scraper before running any equipment in the well to remove scale and other materials from the casing wall. Any tool that is expected to grip the casing wall has to first reach the casing wall.
2. Circulate the well to clean the well of debris and junk.
3. Drift the casing ID 80-100 feet below setting depth with a full OD gage ring and junk basket to ensure no restrictions or debris exist.
4. Use the correct Plug/Retainer for the temperature, pressure, casing size, casing weight and environment.
5. Never set the retainer in a casing collar or a location where milling has occurred.
6. Always set the retainer in static well conditions (no fluid or gas movement).
7. When perforating, the cement retainer should be protected with a minimum of ten feet of cement dumped directly on top of the retainer. Cement should be given sufficient time to harden before perforating.
8. Perforating should not be done closer than fifty feet of cement retainer without putting a minimum of 10 ft. of hard cement on top of retainer.

FIELD ASSEMBLY PROCEDURE

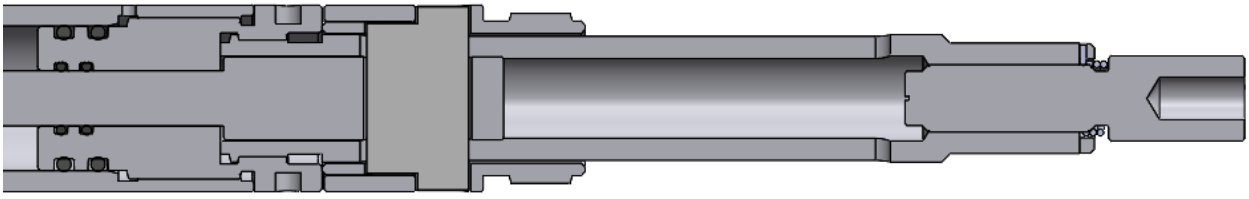
STEP 1: Place the setting tool in vise at the top sub. Place a steady rest under the Cylinder Connector for support.



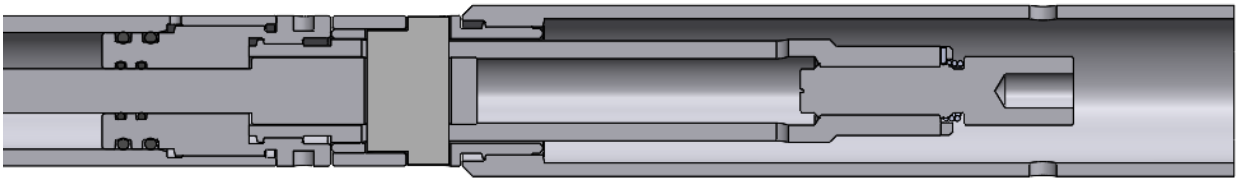
STEP 2: Install Lock Spring on Setting Mandrel (item 16).



STEP 3: Install and screw Tension Mandrel on Setting Mandrel (item 16) making sure Lock Spring is tight around it.



STEP 4: Install and screw Setting Sleeve on the Cross Link Sleeve (item 15).



STEP 5: Install and screw the Bridge Plug on the Tension Mandrel and adjust Setting Sleeve to touch the Top Slip. Top slip must be free to rotate.

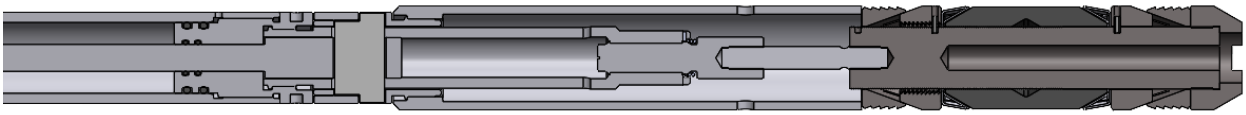
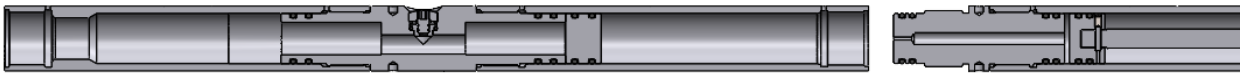


Illustration with 3120 Big Boy™ Bridge Plug.

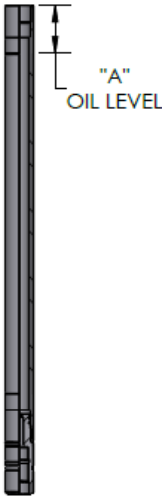
OPERATION PROCEDURE

1. Unscrew top half of the tool between Upper Cylinder (item 5) and Cylinder Connector (item 7).



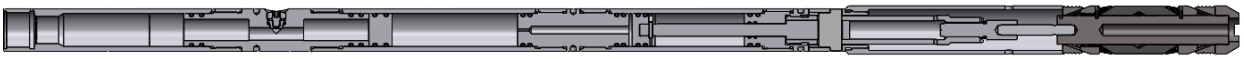
2. Use aluminum tube, dowel rod or broomstick to check that the Floating Piston (item 6) is completely bottomed out against the Manual Bleeder Valve (item 2).

3. Fill Pressure Chamber (item 1) with clean oil to the proper level. Determine proper Oil Level line by chart shown below for your Well temperature at setting depth.

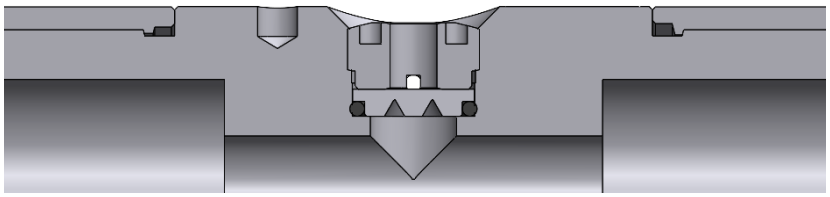


Temperature	Dimension "A" (in)
200°F or less	4
201°F - 275°F	4-1/8
276°F - 350°F	4-3/8
351°F - 400°F	4-5/8

4. Pick up Lower Portion of Tool and thread into Cylinder Connector (item 7) and tighten connection.



5. Check that the Rupture Disk (item 3) and Disk Retainer (item 4) are in place and tight.



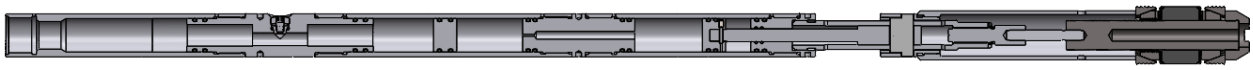
6. Install Firing head with igniter on Pressure Chamber (item 1). Check Firing Head for electrical continuity from the Connector to the Firing Pin. Check for shorting.

7. Pick up the tools, check zero and run in the hole at a speed no higher than 300 ft/min, being careful to slow down when approaching the fluid level. Continue running several feet past setting depth if possible. Check odometer and weight indicator and pick up slowly to setting depth.

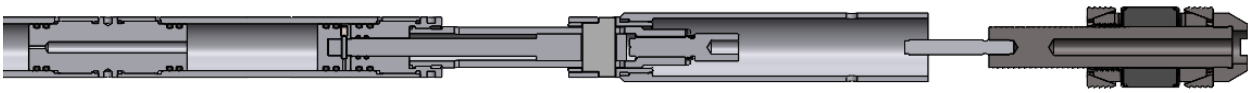
8. Fire primary igniter.

9. Depending in depth, well fluid and other conditions as many as three distinct impulses can be felt manually on the electric line or observed on the weight indicator as the tools set and shear off.

10. Wait approximately one minute after the last weight indicator bobble to be sure the tool is set.



11. After Plug/Retainer is set, pick up slowly and note the setting depth by the weight increase, remembering that the setting tool will increase in length due to stroking out.

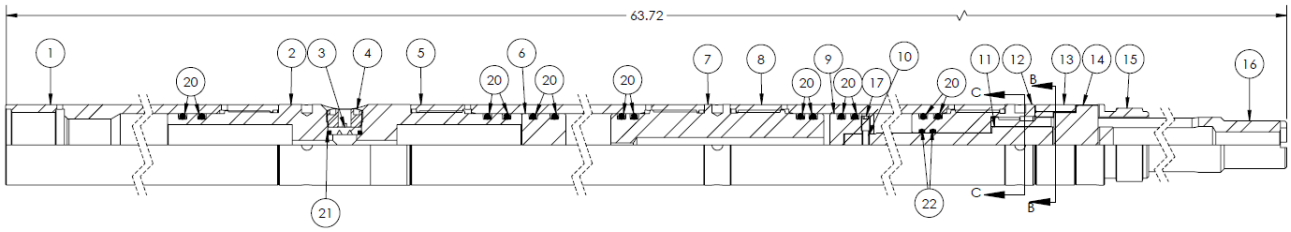


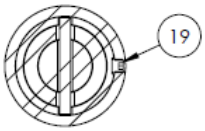
ASSEMBLY INSTRUCTIONS FOR ALPHA 2750 #10 WIRELINE SETTING TOOL

Anti-galling compound should be used on all threads. Downhole grease should be used on all O-rings. To avoid damage to parts, use a soft jaw vise and strap wrenches when tightening connections. Wrench on knurled areas or utilize spanner holes. File away wrench marks.

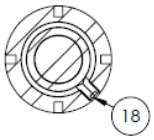
NOTE: Wrench tight means putting your weight on the end of a 24" pipe wrench. Screwdriver tight means hand tight with a medium blade 6" long screwdriver.

2750 #10 WIRELINE SETTING TOOL ASSEMBLY ILLUSTRATION





SECTION B-B

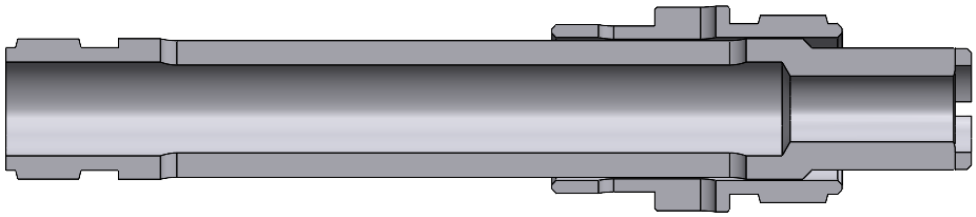


SECTION C-C

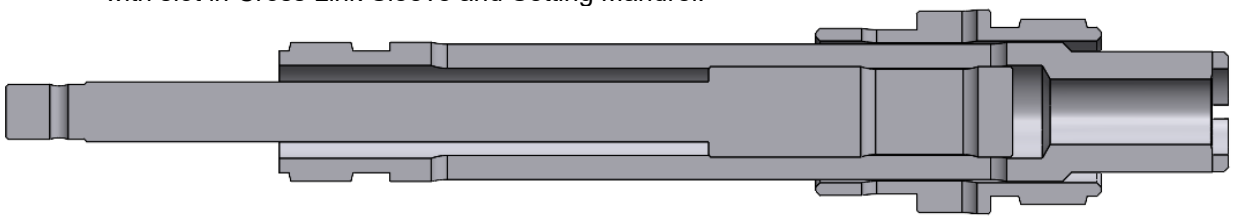
ITEM NO.	PART NUMBER	ALPHAPARTNAME	QTY.
1	024-2750-035	PRESSURE CHAMBER	1
2	024-2750-036	MANUAL BLEEDER VALVE	1
3	024-2750-054	RUPTURE DISK	1
4	024-2750-055	DISK RETAINER	1
5	024-2750-038	UPPER CYLINDER	1
6	024-2750-037	FLOATING PISTON	1
7	024-2750-039	CYLINDER CONNECTOR	1
8	024-2750-040	LOWER CYLINDER	1
9	024-2750-041	PISTON	1
10	024-2750-042	RETAINING PIN	1
11	024-2750-046	PISTON ROD	1
12	024-2750-043	CYLINDER HEAD	1
13	024-2750-044	LINK RETAINING RING	1
14	024-2750-045	CROSS LINK	1
15	024-2750-047	CROSS LINK SLEEVE	1
16	024-2750-048	SETTING MANDREL	1
17	313S18X500	5/16-18 X .50 SET SCREW	1
18	375S16X500	3/8 - 16 X .500 SET SCREW	1
19	313S18X250	5/16-18 X .25 SET SCREW	1
20	000-327-N090	327 O-RING	14
21	000-213N-090	213 O-RING	1
22	000-211N-090	211 O-RING	2

ALPHA 2750 #10 SETTING TOOL ASSEMBLY STEPS

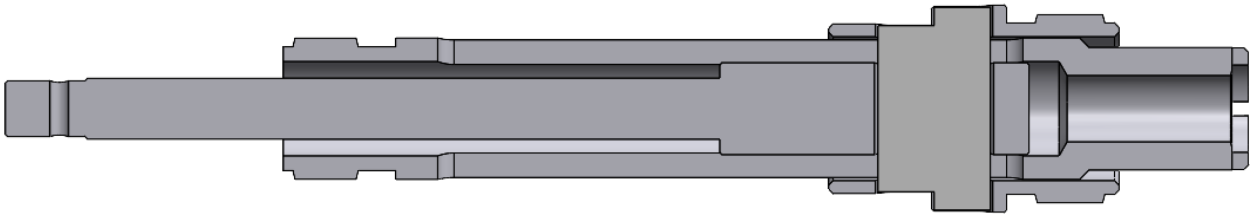
1. Grease all threads and O-ring surfaces.
2. Place Cross Link Sleeve (item 15) into a vise.
3. Lubricate Cross Link Sleeve (item 15) and Setting Mandrel (item 16) with downhole grease and slide Setting Mandrel into Cross Link Sleeve.



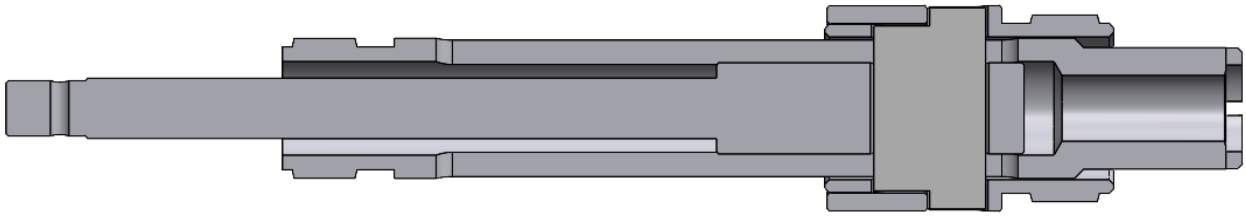
4. Lubricate Piston Rod (item 11) and slide into Setting Mandrel (item 16). Align Slot in Piston Rod with slot in Cross Link Sleeve and Setting Mandrel.



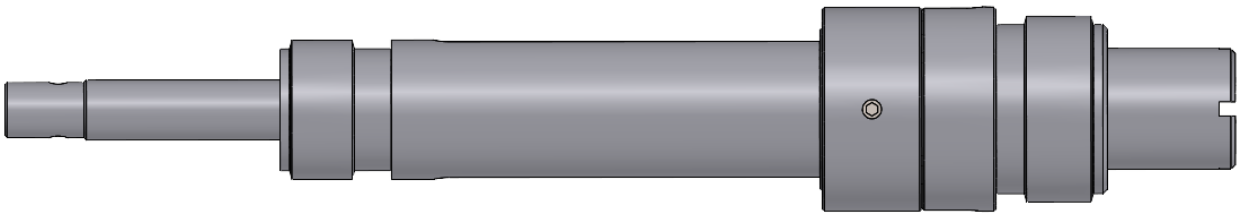
5. Insert Cross Link (item 14) into slots.



6. Slide Retaining Link Ring (item 13) over Cross Link Sleeve (item 15) until it shoulders.

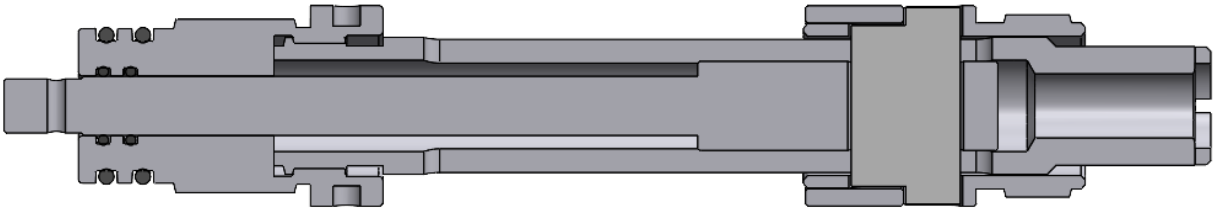


7. Thread Set Screw (item 19) into Retaining Link Ring (item 13) making sure to align Set Screw hole with indention on Cross Link Sleeve.

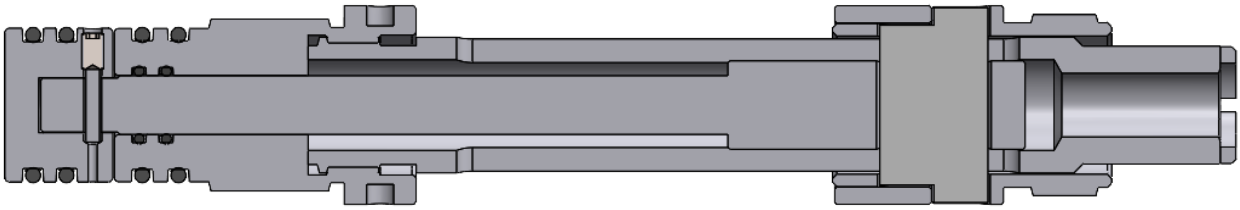


8. Lubricate and install internal and external O-rings (item 20 & 22) onto Cylinder Head (item 12).

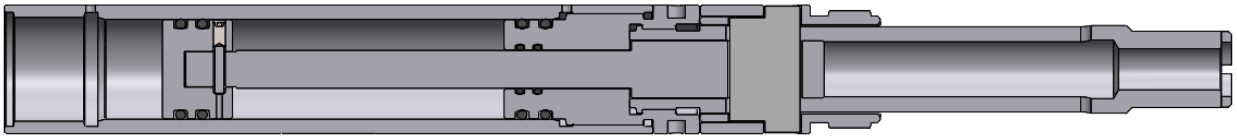
9. Thread Setting Mandrel (item 16) into Cylinder Head (item 12) and thread Set Screw (item 18) into Cylinder Head.



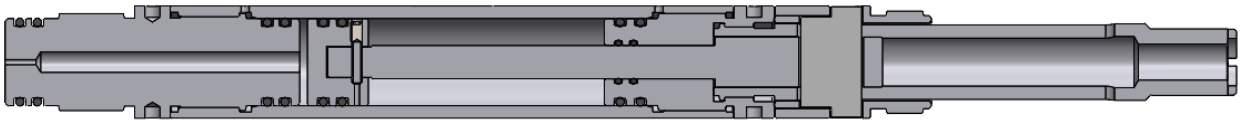
10. Lubricate and assemble O-rings (item 20) onto Piston (item 9) and connect to Piston Rod (item 11) with Retaining Pin (item 10) and Set Screw (item 17).



11. Push Cylinder Head (item 12) against Cross Link Sleeve (item 15), lubricate Piston (item 9), and slide Lower Cylinder (item 8) over Piston and thread onto Cylinder Head.

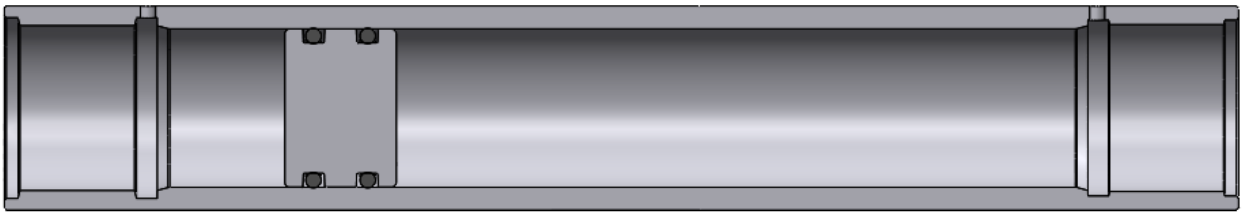


12. Assemble O-ring (item 20) on Cylinder Connector (item 7) and thread into Lower Cylinder (item 8).

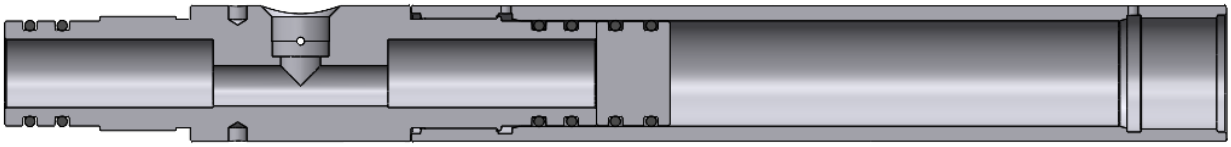


13. Remove Assembly from vise, set aside and Place Upper Cylinder (item 5) in vise.

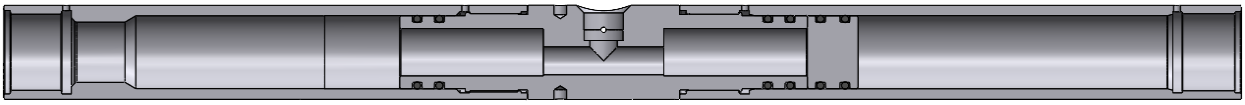
14. Lubricate and assemble O-rings (item 20) on Floating Piston (item 6) and place it into Top End of Upper Cylinder (item 5).



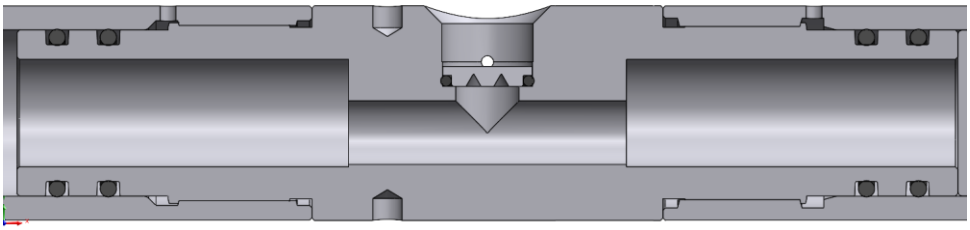
15. Lubricate and assemble O-rings (item 20) onto Manual Bleeder Valve (item 2) and thread the end of the Valve without the drill tip in the ID into the Upper Cylinder (item 5).



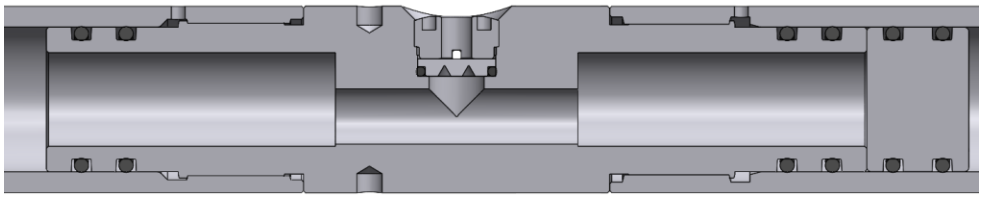
16. Thread Pressure Chamber (item 1) onto Manual Bleeder Valve (item 2).



17. Lubricate and install O-ring (item 21) into Manual Bleeder Valve (item 2).
18. Install Rupture Disk (item 3) into Manual Bleeder Valve (item 2) being careful not to pinch O-ring.

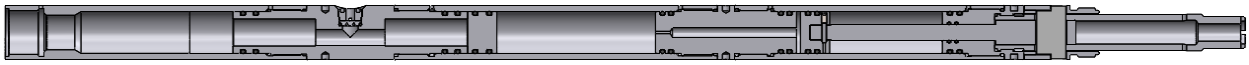


19. Install Disk Retainer (item 4) into Manual Bleeder Valve (item 2) to secure the Rupture Disk in place.



20. Remove upper half of tool from vise and set on end with Upper Cylinder (item 5) up. Use aluminum tub, dowel rod, or broomstick to push Floating Piston (item 6) down until it contacts the Manual Bleeder Valve (item 2).

21. Thread lower half of tool onto upper half of tool. Place tool back in vise and tighten all thread connections.



DISASSEMBLY OF THE 2750 #10 WIRELINE SETTING TOOL

1. Lay tools down, being careful not to damage the adapter kit.
2. Bleed the tool.
3. After bleeding tool make sure there is no pressure trapped inside the tool, a gap between the Cylinder Head (item 12) and Cross Link Sleeve (item 15) will be visible.
4. Place the tool in a vise anywhere between the Upper Cylinder (item 5) and the Cylinder Head (item 12) and secure in place.
5. Unscrew and remove Firing Head.
6. Remove Adapter Kit.
7. Use the Bleeder wrench to remove the Disk Retainer (item 4).
8. Use the screw extractor portion of the Bleeder wrench to remove the punctured Rupture Disk (item 3).
9. Remove Pressure Chamber (item 1).
10. Remove Manual Bleeder Valve (item 2).
11. Remove Upper Cylinder (item 5).
12. Using and aluminum tube, dowel rod, or broomstick, push burnt power charge from Upper Cylinder (item 5).
13. Push Floating Piston (item 6) out of lower end of Upper Cylinder (item 5).
14. Remove Set Screw (item 19) and slide Link Retaining Ring (item 13) up off Cross Link Sleeve (item 15).
15. Remove Cross Link (item 14).
16. Remove Cross Link Sleeve (item 15) and Link Retaining Ring (item 13).
17. Remove Set Screw (item 18) and remove Setting Mandrel (item 16)
18. Unscrew Cylinder Head (item 12) and remove along with Piston (item 9) and Piston Rod (item 11). Catch and discard oil from tool.
19. Remove Set Screw (item 17) from Piston (item 9).
20. Remove Retaining Pin (item 10) and separate Piston (item 9) from Piston Rod (item 11).
21. Pull Piston Rod (item 11) from lower end of Cylinder Head (item 12).
22. Remove Cylinder Connector (item 7).
23. Remove and discard all O-rings (item 20, 21 & 22).
24. Clean and inspect all parts for wear and damage.

REDRESS KIT (024-2750-110) FOR THE 2750 #10 WIRELINE SETTING TOOL

PART NUMBER	DESCRIPTION	QTY.
000-211N-090	211 O-RING	2
000-213N-090	213 O-RING	1
000-327N-090	327 O-RING	14
000-222N-090	222 O-RING	2
000-112N-090	112 O-RING	1
000-220N-090	220 O-RING	2
000-012N-090	012 O-RING	1
024-2750-054	RUPTURE DISK	1

ALPHA #10 WIRELINE SETTING TOOL DIMENSIONAL DATA