

REMEMBER..."SAFETY FIRST, EVERY TIME"

- Always use eye protection when using power tools.
- Always wear protective footwear when working in a workshop environment.
- Always wear hand protection and remove jewelry when performing workshop duties.
- Always wear protective head wear when performing workshop duties
- Always wear ear protection when working in a noisy workshop environment.
- Only use certified equipment.
- Do not manually lift heavy loads, always use a fork lift or gantry crane with a designated operator.

Post Job Maintenance:

- Remove the ram assemblies from the wireline valve.
- Remove any well deposits and clean the wireline valve.
- Remove ram guides and inspect for damage.
- Replace any damaged O-rings and back-ups.
- Remove equalizing assembly and clean.
- Check all threads and apply copper-slip.
- Inspect all seals and sealing surfaces.
- Update inspection and maintenance file for the wireline valve, and have signed off by the competent person in charge.

On location inspection:

- Open all rams and inspect the inner seals are correct for the cable being ran.
- Inspect the correct orientation for the outer seals, upper ram face up, lower face down when being used for a braided line application.
- Inspect the ram guides are correct for the cable being ran.
- Open and close all rams.
- Open and close the equalizing assembly.
- Check inspection band to ensure the equipment is in current certification and rating for the operation.
- Follow the pre-job pressure testing guidelines on page 6 & 7.

Tool List:

1. Socket set.
2. Spanner set.
3. Allen key set.
4. Screw driver set.
5. Brass punch set.
6. Circlip pliers.
7. O-ring pick.
8. Plastic hammer.
9. 12" adjustable spanner.
10. Vice.
11. Grease.
12. Anti-seize protective compound (Copperslip).
13. PTFE thread tape.
14. Clean rags.
15. Wireline valve control panel, hoses and bridals.
16. Wireline valve schematics for the valve being worked on.
17. Maintenance file for valve being worked on.
18. Complete Brace supplied redress kit suited for the well conditions and equipment specification.

DISASSEMBLY: Reference Bill of Materials for Part Identification

1. Remove adapter plugs from the body.
2. Remove the hexagon socket button head cap screw from the by pass plug.
3. Remove the bleed off plug from the by pass plug.
4. Remove the by pass plug from the body.
5. Remove the 5/8" UNC and "T" handles from the lock out pins.
6. Remove the piston housing from the body:
 - a. This can be done by unthreading the nut until it comes into contact with the spiroloc ring (not shown),
 - b. Continue to unthread the nut.
 - c. The nut will begin to remove the piston housing from the body of the wireline valve.
 - d. Once the nut is completely unthreaded, the piston housing can be removed by sliding the piston housing out of the body by hand.
7. Remove the ram block from the lock out pin by sliding the ram off of the "T" on the lock out pin.
8. Remove inner and outer seals from the rams.
9. Remove the lock out pins and bronze bushings from the piston housing.
10. Remove the V-packing and O-rings, and the anti rotation pin from the piston housing.
11. Remove the lock nut from the piston housing.
12. Repeat steps 5 thru 11 for remaining arm assembly.
13. Remove the set screws on the top and bottom subs of the wireline valve.
14. Remove the top sub.
15. Remove the bottom sub and the union nut.
16. Remove #236 O-ring and back-up rings from the wireline valve body.
17. Clean and inspect all parts for wear or damage.
 - a. If any significant damage or wear; replace or repair as per original OEM spec.

ASSEMBLY: Reference Bill of Materials for Part Identification

1. Install #236 O-ring and back-up rings in the wireline valve body.
2. Install the top sub into the body of the wireline valve (take note, that the arrow on the body of the wireline valve points toward the bottom sub).
RECOMMENDED TORQUE – 600 FT/LBS
3. Install two set screws in the wireline valve body located at the top sub and tighten.
4. Install the bottom sub and hand nut into the body of the wireline valve (the wellhead direction arrow will be pointing towards the bottom sub and hand nut) .
RECOMMENDED TORQUE – 600 FT/LBS
5. Install two set screws in the wireline valve body located at the bottom sub and tighten.
6. Install one #111 O-ring onto each adapter plug.
7. Install the adapter plugs into the body of the wireline valve.
8. Install the #009 O-rings and #009 back-up rings on the bleed off plug and install into the by pass plug.
9. Install two #114 O-rings and two #114 back-up rings onto by pass plug.
10. Install the by pass plug into the body of the wireline valve.
11. Install the #009 O-rings and the #009 back-up rings on the bleed off plug and install into the by pass plug.
12. Install the hexagon socket button head cap screw into the by pass plug.
13. Install the #236 O-Rings and #236 back-up rings into the piston housing as per the assembly drawing.
14. Install V-packing, back-up rings, and the snap ring into the packing bore of the seal housing. As per the assembly drawing.
15. Install the locating pin into the piston housing.
16. Install the bronze bushing onto the lock out pin.
17. Install lock out pin into the piston housing. (take care not to score the O-rings when sliding the threads of the lock out pin through the seal sub).
18. Install the required inner and outer seals onto the rams using the key retainer to retain the inner seals.
19. Install the lock out pin and bushing into the “T” slot of the ram, the bushing is to act as a bearing between the “T” slot and the lock out pin.
20. Install the anti rotation pin into the seal housing. (This is accomplished by dropping the pin through the inspection hole on the ram, aligning the threaded hole in the ram and tightening with a wrench).
21. Install the ram and piston housing into the body of the wireline valve. (Ensure that the outer seal is facing up and the locating pin is lined up with the locating pin hole on the seal housing).
22. Install the nut and thread onto the wireline valve body.
23. Install the spiroloc snap ring.
24. Install the “T” handle and 5/8” NC nut onto the lock out pin.
25. Repeat steps to 13-25 for second arm assembly.
26. It is recommended that a pressure test be performed at this point to verify the wireline valve integrity. As per your local regulations.

Pressure Testing Guidelines for a Slickline Wireline Valve:

- Confirm that all personnel are deemed competent to perform the task.
- Document all changes, configurations and repairs made to the equipment and keep copies in your company maintenance files.
- Sign off completed pre-job inspection checklist.
- Place signs and barriers warning all personnel of the defined test area.
- Ensure clear radio communication between the controller of the pressure test unit (PTU) and the supervisor in charge of the test.
- Ensure all personnel without radio communication are in a clear line of visibility.
- Ensure constant communication between the PTU operator and the supervisor.
- Pressure test as per local regulations or manufacture guidelines.

Pressure Testing Guidelines for Slickline Wireline Valve dressed with Blind Ram Seals:

- Install the wireline valve and connect bridals and hoses to wireline valve panel/hand pump.
- Make an announcement for pressure testing, so everyone in the area is aware of the danger.
- Open the equalizing port.
- Partially close blind rams, leaving enough gap to allow test fluid overflow above the rams to expel any air in the system.
- Fill with test fluid.
- Cease pumping fluid when the fluid is level with the blind rams.
- Close the blind rams.
- Instruct the pressure pump operator to pump slowly and wait for fluid to overflow over the blind ram via equalization port or manifold if the test is being done with the lubricator in position.
- Stop pump operator and close equalization ports.
- Perform initial low-pressure test. The test is a 5-minute, 300 psi test to ensure the integrity of the pressure test lines etc.
- Perform the high-pressure test as per company's pressure test procedure, typically working pressure rating.
- Pressure up slowly in stages to the required test pressure. Ensure this figure does not exceed the working pressure.
- On completion of a successful blind ram test, bleed pressure back to zero via PTU.
- Open equalization ports (slowly) on the wireline valve to dispel any residual low pressure.
- Open the wireline valve blind ram.
- Close the equalization ports and continue pressure test procedure.

Pressure Testing Guidelines for Braided Line Wireline Valve:

- Confirm that all personnel are deemed competent to perform the task.
- Document all changes, configurations and repairs made to the equipment and keep copies in the maintenance files.
- Sign off completed pre-job inspection checklist.
- Place signs and barriers warning all personnel of the defined test area.
- Ensure clear radio communication between the controller of the pressure test unit (PTU) and the supervisor in charge of the test.
- Ensure all personnel without radio communication are in a clear line of visibility.
- Ensure constant communication between the PTU operator and the supervisor.
- Ensure all grease lines and sufficient injection grease is available for the operation duration.
- For hydraulic wireline valves connect bridals and hoses to control panel and grease injection ports.
- Make an announcement for pressure testing, so everyone in the area is aware of the danger.
- Install the correctly sized test rod and close lower ram and apply ram pressure, ensuring the rod is tied off correctly with certified strop and shackles.
- Inject grease and close upper and lower rams on the test rod applying equal pressure on both top and bottom rams.
- Apply injection grease pressure between the rams.
- Open the equalizing port to remove air pocket.
- Instruct the pressure pump operator to pump slowly and wait for test fluid to overflow over the wireline valve ram via equalization port.
- Stop the pump operator and close equalization ports.
- Perform initial low-pressure test. This is a 5-minute test, 300 psi test to ensure the integrity of the pressure test lines etc.
- Perform the high-pressure test as per company's pressure test procedure, typically working pressure rating.
- Pressure up slowly in stages to the required test pressure. Ensure this figure does not exceed the working pressure.
- On completion of a successful ram test, bleed pressure back to zero via PTU..
- Open the equalization ports on the wireline valve to dispel any residual low pressure.
- Open the wireline valve rams.
- Close equalization ports and continue pressure test procedure.

Inspection & Testing

- Brace Tool recommends a complete tear down inspection after any procedure that may expose the wireline valve to sand, salt, KCL water, or like fluid, extended periods of H₂S service, or any other corrosive or oxidizing fluids or materials.
- Brace Tool recommends a complete tear down inspection at least quarterly based on operational exposure; this may increase at the user's discretion.
- All Pressure Control Equipment must be maintained at regular intervals and re-certified at least once per year with an accurate record of all essential and non-essential maintenance.
- The yearly maintenance procedure should be implemented after any job that exposes the Pressure Control Equipment to conditions, such as accidental drops, corrosive fluids, long durations in position on H₂S or CO₂ or any major maintenance.
- An annual pressure test should be performed when any service requirements are performed.
- After any integral part is removed or replaced that may compromise the integrity of the wireline valve.
- After servicing of the wireline valve.
- After any inspection or repair.
- After any seals are changed out.
- Prior to any pressure test remove any NPT plugs, clean, oil and thread depth check.

AT ANY POINT THAT WELLBORE PRESSURE OR FLUIDS ARE ALLOWED TO ESCAPE UNEXPECTEDLY TO ATMOSPHERE DUE TO FAILURE OF THE WIRELINE VALVE. IT IS RECOMMENDED THAT THE EQUIPMENT BE IMMEDIATELY REMOVED FROM SERVICE AND QUARANTINED UNTIL A COMPLETE INSPECTION, REPAIR, AND PRESSURE TEST CAN BE DONE.

