

# UNIVERSAL WELLHEAD SERVICES FIELD SERVICE MANUAL



## LOCKDOWN SCREWS

### SECTION 14

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## LOCKDOWN SCREWS

### Dry Fit Operation Prior To Shipment – All Lockdown Screw Types

Most problems encountered with lockdown screws can be eliminated by following these guidelines.

1. Place the tubing hanger that will be installed in the top bowl of the tubing spool.
2. This will be the tubing hanger and tubing spool that will be installed together in the field completion.
3. Liberally coat the threads on the lockdown screws and gland nuts with an anti-seize compound prior to installation.
4. Run in one lockdown screw until it fully engages the tubing hanger.
5. Measure the distance from the flange outside diameter to the end of the lockdown screw.
6. Record this dimension on the shop router.
7. Stencil the following information on the flange outside diameter beside the lockdown screw.  
This will verify the lockdown screw is fully engaged and in the proper position on the tubing hanger:
  - a. PI (This stands for "Pin In") followed by the measured distance in Step 4 above.
  - b. Example of flange marking: PI - X.XXX inches
8. Retract the same lockdown screw in Step 3 above until it is fully retracted into the tubing spool lockdown screw gland.
9. Measure the distance from the flange outside diameter to the end of the retracted lockdown screw.
10. Record this dimension on the shop router.
11. Stencil the following information on the flange outside diameter beside the lockdown screw.  
This will verify the lockdown screw is fully retracted and is not exposed or extended into the tubing spool bowl:
  - a. PO (This stands for "Pin Out") followed by the measured distance in Step 8 above.
  - b. Example of flange marking: PO - X.XXX inches
12. Repeat Steps 3 through 11 above for all lockdown screws.
13. Always run in the lockdown screws in pairs, 180 degrees apart.
14. After completion of Step 12 above pack all lockdown screw glands with heavy grease.

**CAUTION:** *Run in the first lockdown screw until it contacts the device in the head or spool. Do not tighten. Run in opposite screw until it contacts the device in head or spool. Do not tighten. Now run in the screw located halfway between the two original screws. Run in the opposite screw. Work the remaining screws in the same way. This will keep the device in the head or spool straight.*

### General Operation Service – Standard Type

1. Before installing a head or spool that has standard lockdown screws, verify the gland of each lockdown screw has been packed with heavy grease.
2. If no grease is present pack all lockdown screw glands prior to installing the tubing spool.

**IMPORTANT:** *Standard lockdown screws do not have a wiper or trash seal on the nose. Packing the lockdown screw glands will help prevent mud from building up in the glands during drilling.*

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3. Make sure all lockdown screws are retracted before installing a hanger, packoff, or other device in the head or spool. Verify the distance stenciled next to each lockdown screw gland by measurement.
4. If measurement taken does not match measurement stenciled next to the lockdown screw gland retract the lockdown screw until correct measurement is obtained.

**NOTE:** *The nose of the lockdown screw should not protrude into the inside diameter of the top bowl.*

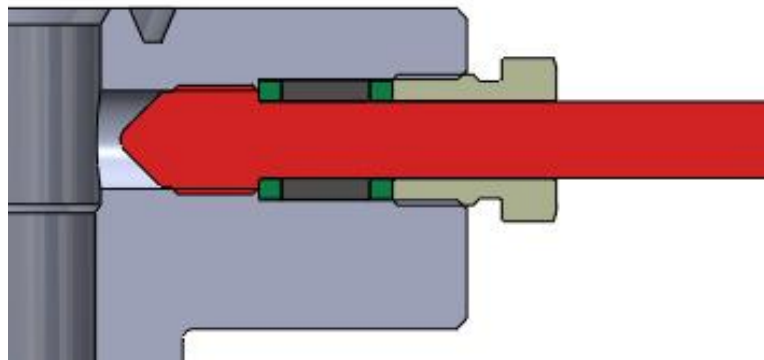
5. Once the measured distances for the lockdown screws have been verified advise the drilling crew.
6. Always run in the lockdown screws in pairs, 180 degrees apart.

**CAUTION:** *Run in the first lockdown screw until it contacts the device in the head or spool. Do not tighten. Run in opposite screw until it contacts the device in head or spool. Do not tighten. Now run in the screw located halfway between the two original screws. Run in the opposite screw. Work the remaining screws in the same way. This will keep the device in the head or spool straight.*

7. Tighten the remaining lockdown screws using the same method.
8. Make sure all lockdown screws have run in to the distance stenciled next to each lockdown screw gland.
9. A lockdown screw that has not run completely in should be removed and repaired or replaced.
10. Tighten all lockdown screws using the method above in increments of 50 ft/lbs until refusal. The refusal torque is approximately 450 ft/lbs.
11. Tighten all gland nuts to approximately 350 – 400 ft/lbs.

**NOTE:** *Use only two lockdown screws to secure bowl protectors. To identify these mark them with paint, chalk or tape. Ensure all other lockdown screws are fully retracted from the inside diameter of the tubing bowl.*

12. After drilling resumes, check all lockdown screw glands for possible leakage.
13. Retighten gland nuts if necessary.



**STANDARD (OLD STYLE) LOCKDOWN SCREW**

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### “ET” Lockdown Screw Procedure

1. Before installing a head or spool that has “ET” style lockdown screws, verify the gland of each lockdown screw has been packed with heavy grease.
2. If no grease is present pack all lockdown screw glands prior to installing the tubing spool.

**IMPORTANT:** *“ET” style lockdown screws do not have a wiper or trash seal on the nose. Packing the lockdown screw glands will help prevent mud from building up in the glands during drilling.*

3. Make sure all lockdown screws are retracted before installing a hanger, packoff, or other device in the head or spool. Verify the distance stenciled next to each lockdown screw gland by measurement.
4. If measurement taken does not match measurement stenciled next to the lockdown screw gland retract the lockdown screw until correct measurement is obtained.

**NOTE:** *The nose of the lockdown screw should not protrude into the inside diameter of the top bowl.*

5. Once the measured distances for the lockdown screws have been verified advise the drilling crew.
6. Always run in the lockdown screws in pairs, 180 degrees apart.

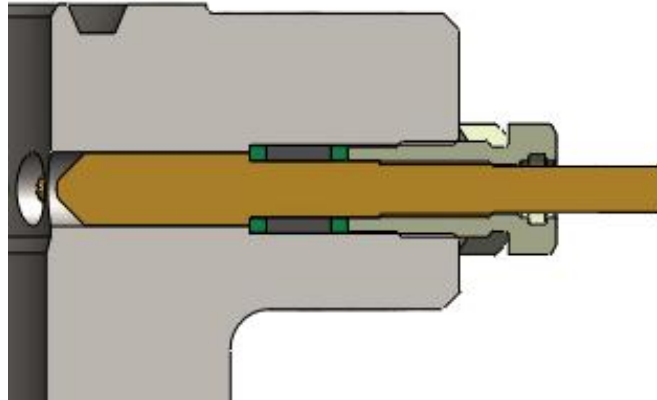
**CAUTION:** *Run in the first lockdown screw until it contacts the device in the head or spool. Do not tighten. Run in opposite screw until it contacts the device in head or spool. Do not tighten. Now run in the screw located halfway between the two original screws. Run in the opposite screw. Work the remaining screws in the same way. This will keep the device in the head or spool straight.*

7. Tighten the remaining lockdown screws using the same method.
8. Make sure all lockdown screws have run in to the distance stenciled next to each lockdown screw gland.
9. A lockdown screw that has not run completely in should be removed and repaired or replaced.
10. Tighten all lockdown screws using the method above in increments of 50 ft/lbs until refusal. The refusal torque is approximately 450 ft/lbs.
11. Tighten all gland nuts to approximately 350 – 400 ft/lbs.

**NOTE:** *Use only two lockdown screws to secure bowl protectors. To identify these mark them with paint, chalk or tape. Ensure all other lockdown screws are fully retracted from the inside diameter of the tubing bowl.*

12. After drilling resumes, check all lockdown screw glands for possible leakage.
13. Retighten gland nuts if necessary.

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**ET LOCKDOWN SCREW**