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INSTALLATION PROCEDURE FOR CONDUCTOR WELLHEAD ASSEMBLY

..... Operator name

..... Size

..... Service (type)

..... Area name and OCS block number

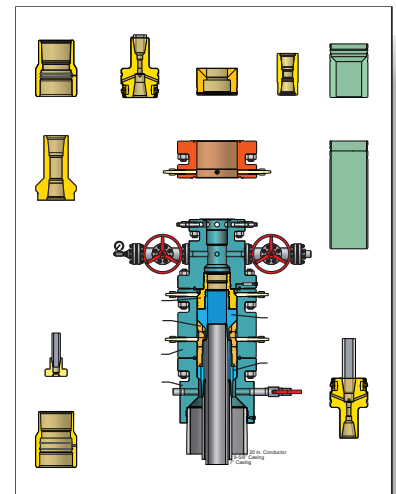
..... Well name and API number

..... Casing program

..... Today's date

..... Contact Person

..... Manual Identification Number



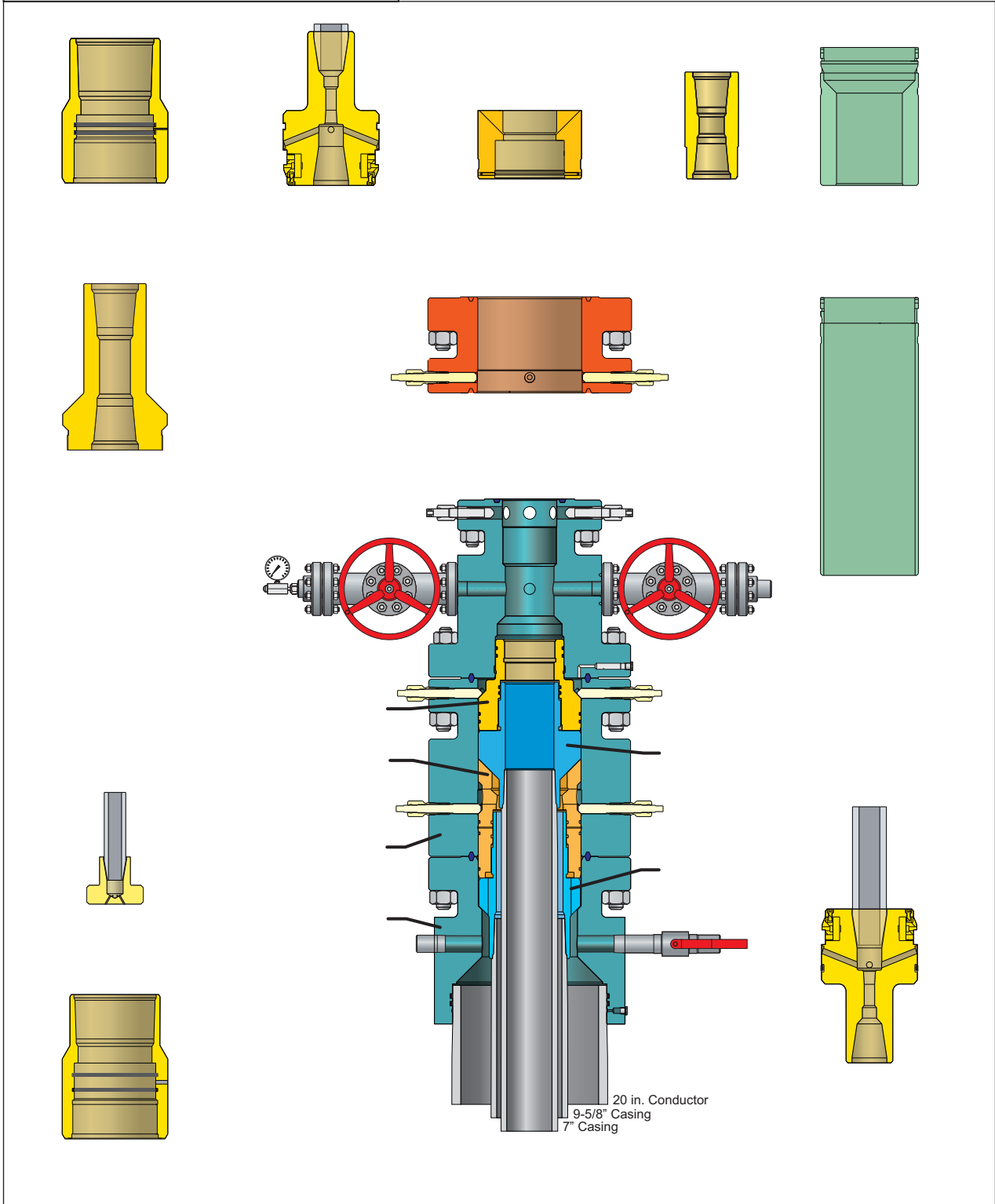
Revision Log		LIST OF ILLUSTRATIONS	
Revision	Details	page	Title
0	Sept. 4, 2014 Updated logo header / footer Added list of illustrations Added indexed electronic forms	5	DWG-1
		6	DWG-2
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1	Oct. 7, 2014 Updated art.	19	DWG-11
2	Jan. 1, 2015 Updated Logo	21	DWG-12
3	June 10, 2015 all pages revised.	23	DWG-13
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ENGINEERING			
Approval Log	Approved By: _____ <small>SIGNATURE</small>		
	_____ <small>PRINT NAME</small>		
Revision	REVIEWER NAME	REVIEWER TITLE	DATE
0			
1			
2			
3			

FIELD	Date of Printing
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1.0

EQUIPMENT



**RIGHT SIDE VIEW
W/ TUBING HEAD**

2.0

Equipment List			
Item No.	Description	Part Number	Qty.
1			
1A			
1B			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			

2.0

- 1. Record Multibowl Assembly Part and Serial Number. Check parts.
- 2. Inspect Multibowl's upper and lower bowl. Ensure that seal areas are in good condition and free from any damage.
- 3. Inspect ring groove for burrs and damage. Should there be any burrs present, redress using emery cloth.
- 4. Ensure SOW o-rings are in good condition. Replace if necessary.

2.1

- 1. Determine the 20" casing cutoff height. Cut and bevel accordingly.
- 2. Clean any scale off the casing OD.
- 3. Pick up Multibowl with a certified wire rope harness and lower carefully over the casing sub.

Ensure the Multibowl is level and outlet orientation will match the flow lines. Remove the 1/2" NPT pipe plug from bottom of lower head.

NOTE: The Multibowl approximate weight is:

- 4. Tack-weld the Multibowl SOW to the casing at four points. Recheck level.

NOTE: Do Not use HOT HEADS, or similar methods of pre-heating, as it may damage seals and packing.

- 5. Preheat the casing and Multibowl to specifications, 3 inches on either side of the weld areas. Use heat sensitive crayons to monitor temperature limits.
- 6. Complete the external weld. Perform post weld heat treatment.

NOTE: Steps 4 to 6 are ONLY to be done by operator's authorized welder.

See Field Welding Procedure, page 35

- 7. When weld area is cool enough, test the weld to 80% of casing collapse rating for at least 15 minutes. Use only water and do not use oil as a test fluid.

Option – Test the weld with Nitrogen.

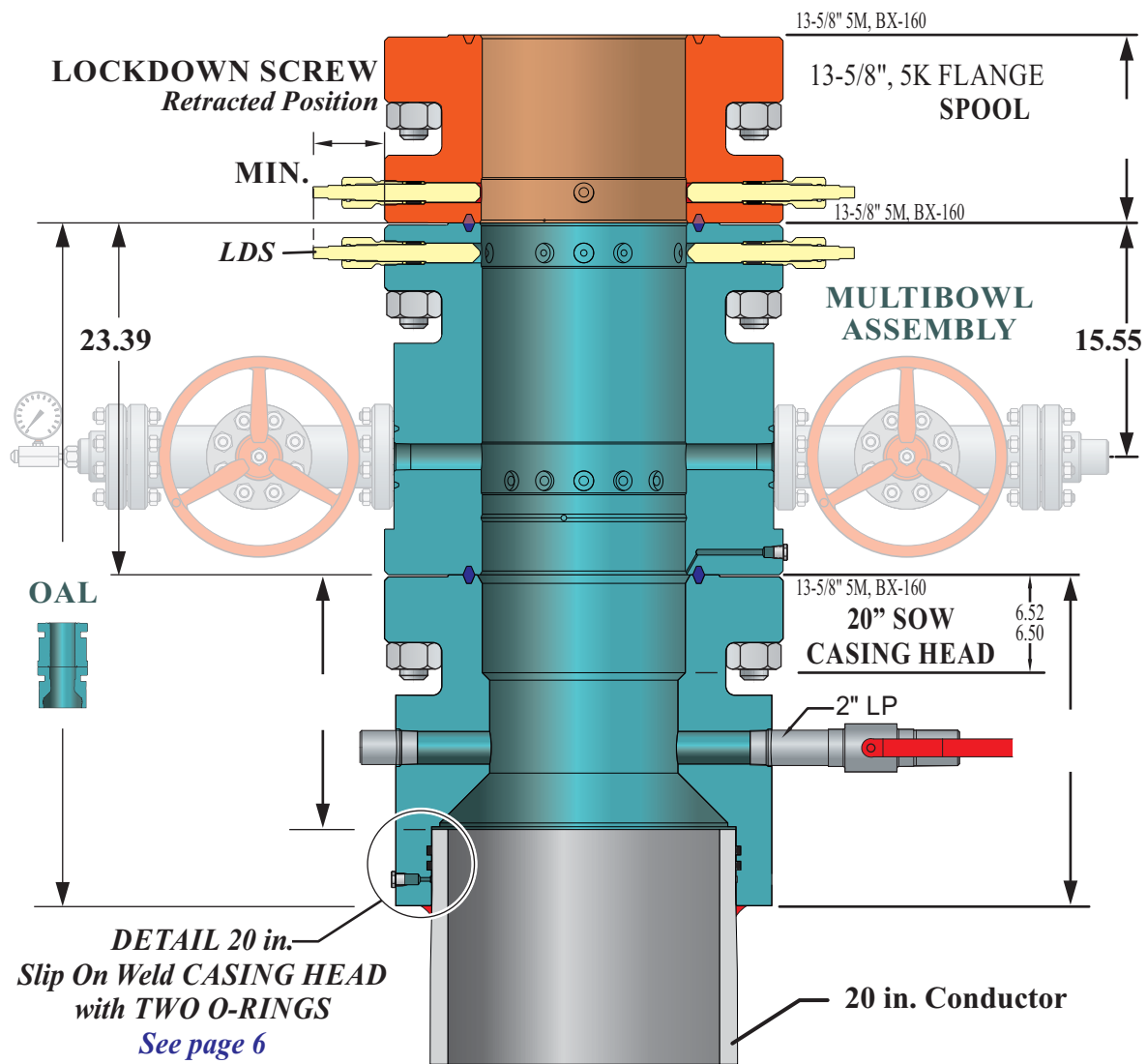
- 8. Bleed off pressure after successful test. Replace pipe plug.
- 9. Install outlet accessories as required.

2.2

RUNNING and RETRIEVING

DWG-1

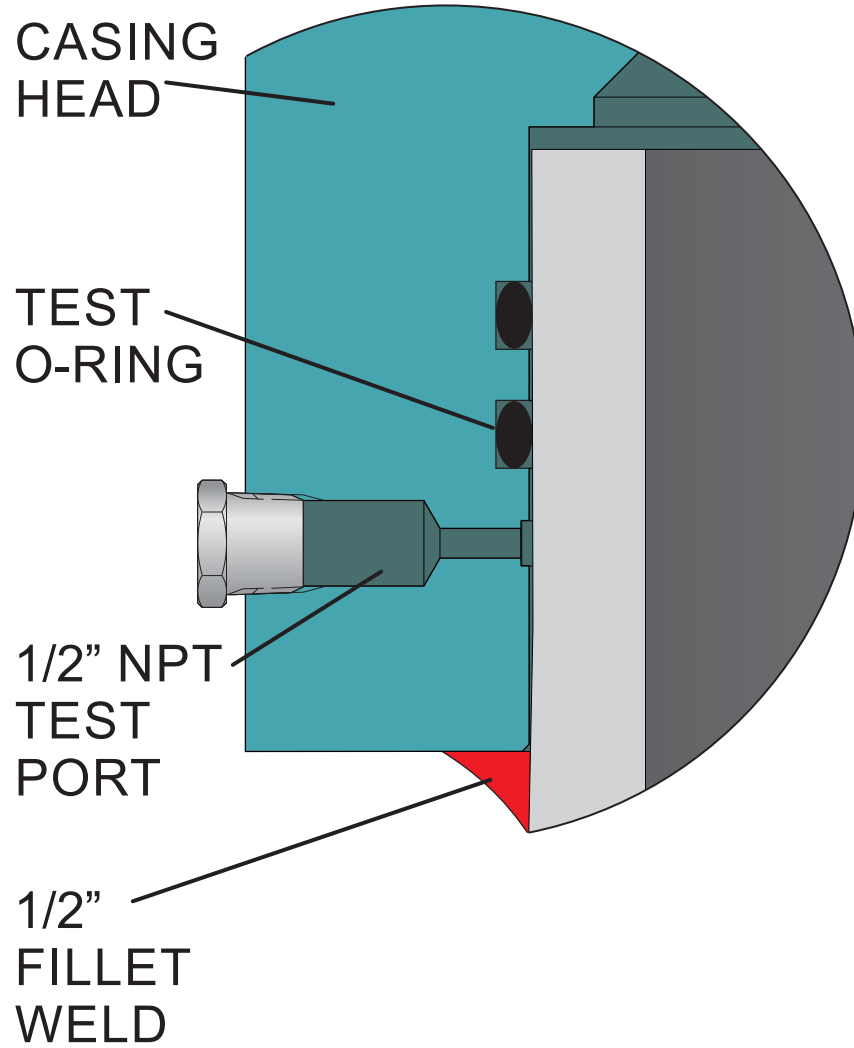
Rental Equipment List			
Item No.	Description	Part Number	Qty.
1			
2			



FRONT VIEW

RUNNING and RETRIEVING

DWG-2



DETAIL
20 in. SOW CASING HEAD w/ TWO O-RINGS

2.3

Equipment List			
Item No.	Description	Part Number	Qty.
1			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			

PREPARATION

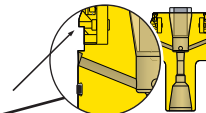
- 1. Check and record the Combination BOP Test Plug / Wear Bushing R&R Tool part number and serial number.
- 2. Inspect the test plug's LP threads and Tool Joint threads for any damage. Ensure D-Ring and lift lugs are in good condition.

RUNNING

- 1. Install a new BX-160 gasket in the ring groove of the Multibowl Rental Spool and nipple up the Blowout Preventer (BOP) stack.
NOTE: Recommended make-up torque for 1-5/8" DIA Stud is ft.-lbs.

- 2. Make up a joint of drill pipe to the test plug.

Ensure the D-Ring is down and the lift lugs up.

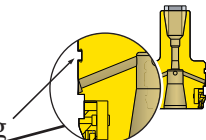


NOTE: If it is intended to test by pumping through the drill pipe, make sure that the four 1/2" LP pipe plugs are removed. *However*, if the test is to be done by pressurizing through the choke or kill line, the four 1/2" LP pipe plugs should be installed and the drill pipe must be properly torqued to the test plug.

- 3. Verify all the lockdown screws (LDS) are **fully retracted**.
- 4. Open the Multibowl's lower outlet valve to check for leakage past the test plug during BOP test.
- 5. Lubricate the Test Plug's D-Ring with oil or light grease.
- 6. Lower the test plug through the BOP and riser stack until it lands on Multibowl's load shoulder in the lower head.
- 7. Test the BOP stack per operator's requirements. Never exceed 5,000 psi test pressure. Monitor any leakage through the open lower outlet valve.

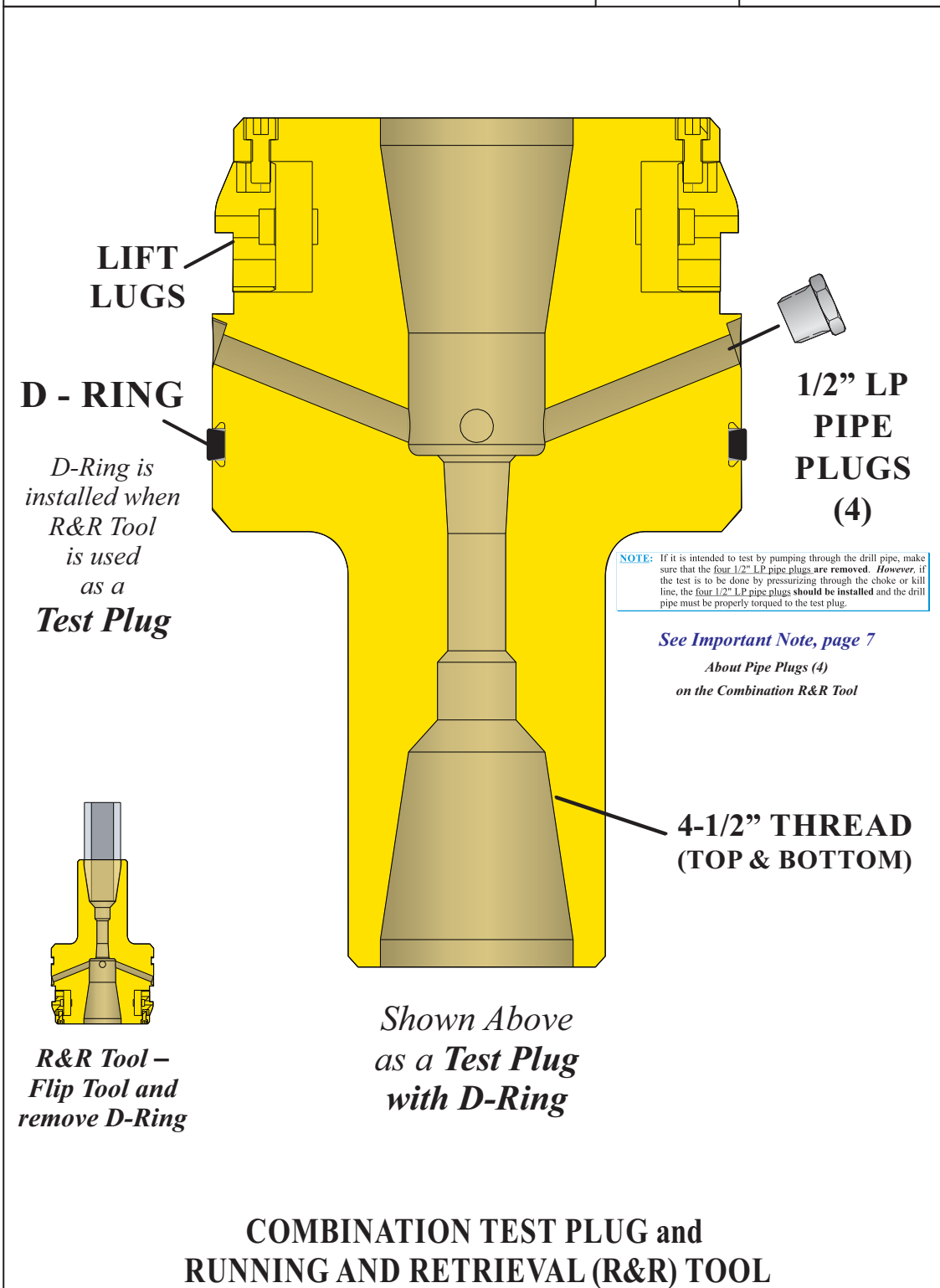
RETRIEVING

- 1. After a successful test, release pressure and open BOP Rams.
- 2. Drain the fluid from BOP stack.
- 3. Pull and retrieve the test plug slowly to avoid damage.
- 4. Close the Multibowl's lower outlet valve.
- 5. Inspect the test plug for any damage. Remove the D-Ring in preparation for use as a RUNNING tool.



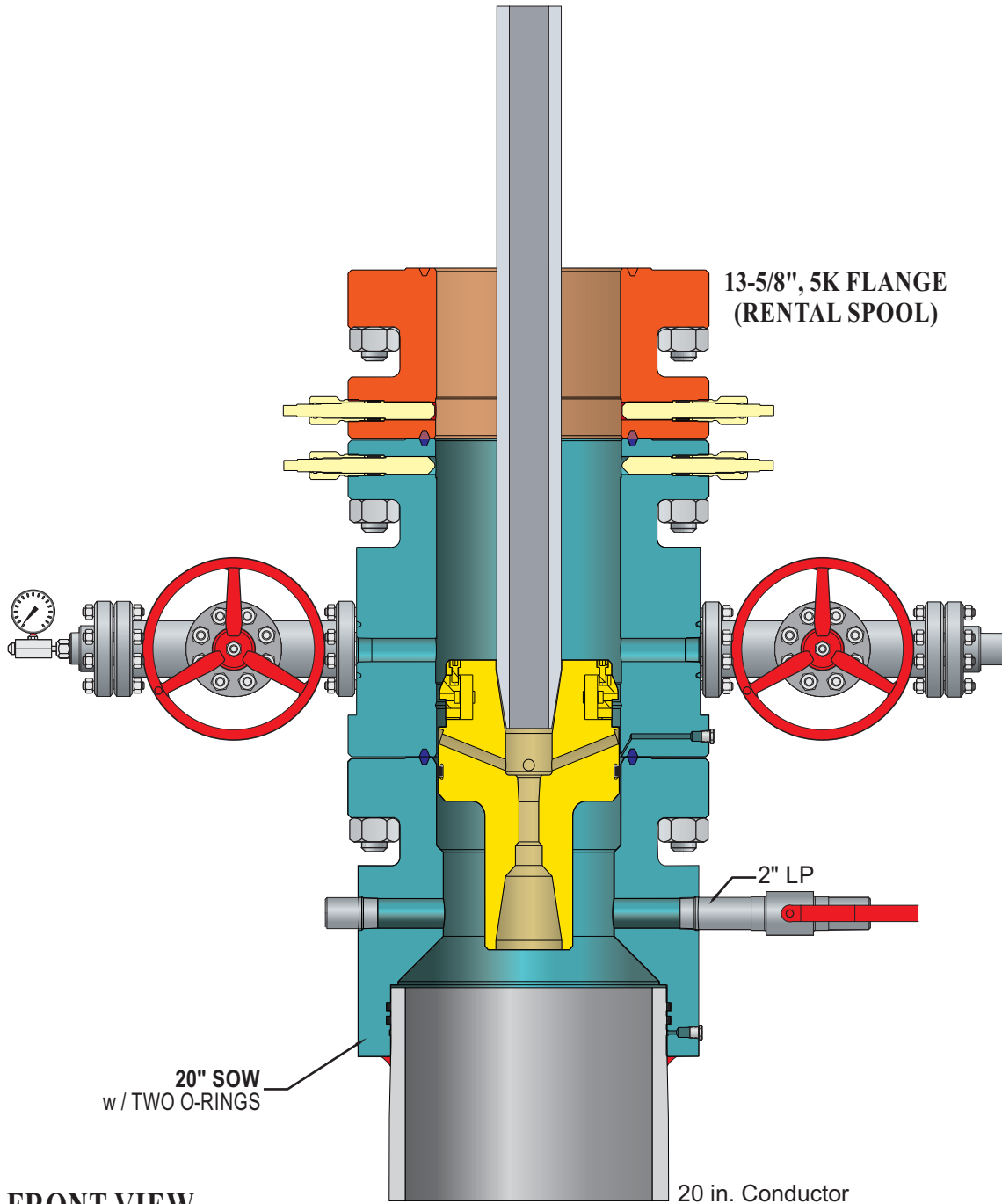
RUNNING and RETRIEVING

DWG-3



**RUNNING AND
RETRIEVING**

DWG-4



**FRONT VIEW
LONG WEAR BUSHING and R&R TOOL**

2.4

Equipment List			
Item No.	Description	Part Number	Qty.
1			
2			

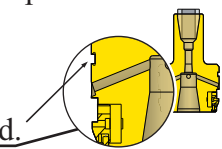
Recommended Spares			
Item No.	Description	Part Number	Qty.
1			

PREPARATION

- 1. Check and record Long Wear Bushing and Combination Test Plug/Wear Bushing R&R Tool part numbers and serial numbers.
- 2. Inspect Long Wear Bushing ensuring the bore is clean, and the spring-loaded latches function properly. Lubricate the latches with oil or light grease.
- 3. Remove the D-Rings from the OD of the running tool for this procedure.

RUNNING

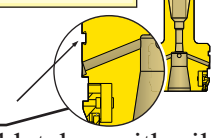
- 1. Make up a joint of drill pipe to the Combination R&R Tool.
Ensure the lift lugs are down and the D-Ring is removed.
- 2. Lower the Combination Tool into the Long Wear Bushing and rotate *clockwise* to lock in position.
- 3. Verify all the lockdown screws (LDS) in the Multibowl Heads are *fully retracted*.
- 4. Liberally grease the OD of the Wear Bushing.
- 5. Slowly lower the assembly through the BOP stack until it lands on the Multibowl's load shoulder.
- 6. Run in the four lock down screws (LDS) in the upper **Rental Spool** snug tight, 90 deg. apart, (*seen as the uppermost flange in the System*).
- 7. Remove the Combination R&R Tool from Long Wear Bushing by rotating the drill pipe clockwise 1/4 turn and slowly lifting it straight up.
NOTE: While retrieving the tool, monitor the weight indicator to ensure the tool is properly disengaged.
- 8. Inspect the Combination Tool for any visible damage.
- 9. Proceed with drilling for next casing size.



UWS recommends retrieving the **wear bushing** every bit trip and inspecting for damage.

RETRIEVING

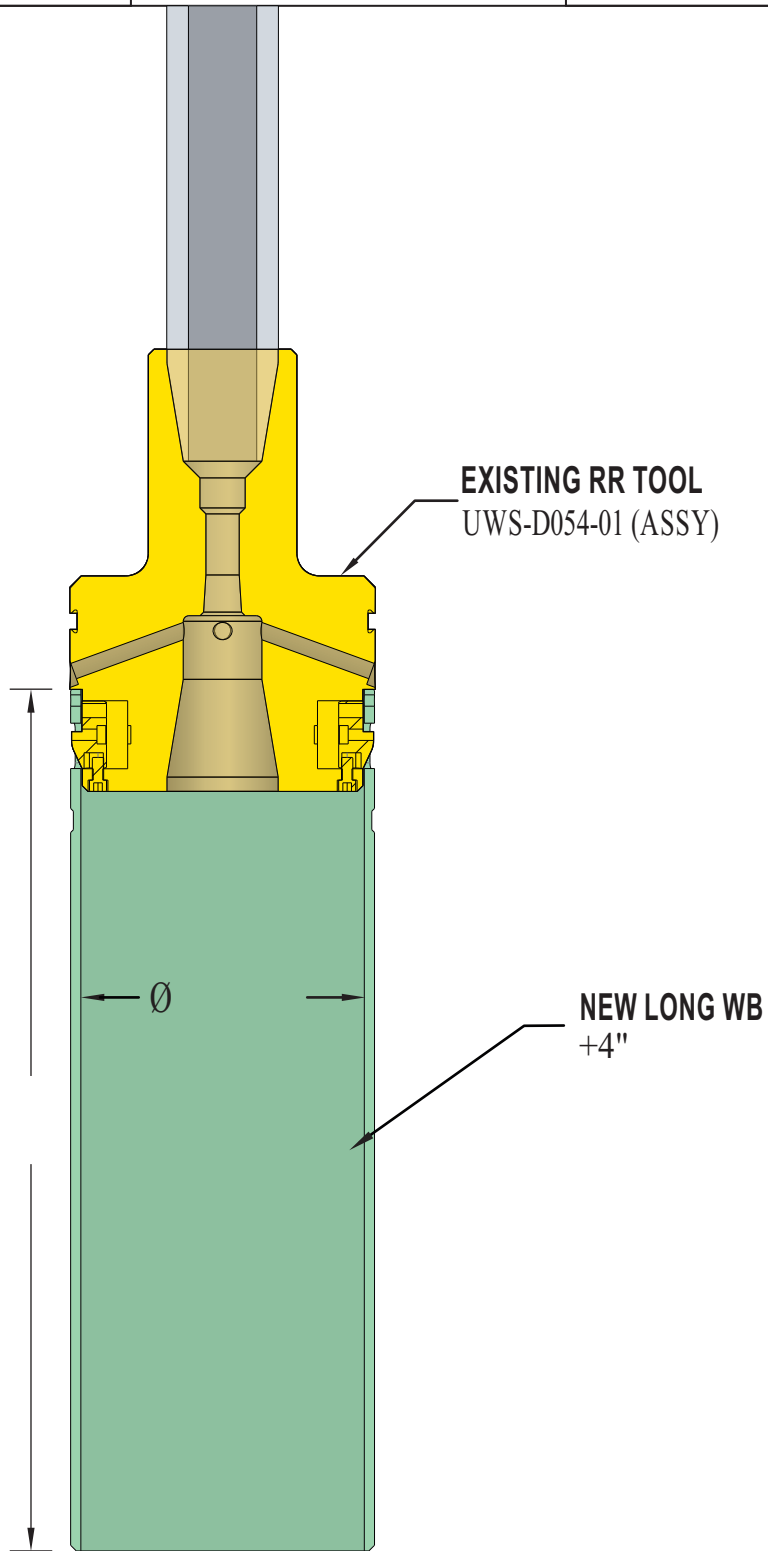
- 1. Make up a joint of drill pipe to the Combination R&R Tool.
Ensure the lift lugs are down and the D-Ring is removed.
- 2. Liberally lubricate the Retrieving Tool and the spring-loaded latches with oil or light grease. Slowly lower the Combination Tool through the BOP stack until it lands on the Long Wear Bushing.
- 3. Slack off all weight to make sure the tool is down.
- 4. Rotate the tool clockwise to fully engage the lugs in the Long Wear Bushing.
- 5. Fully retract all lockdown screws and pull straight up to retrieve the Long Wear Bushing.
- 6. Inspect the Combination R&R Tool and the Wear Bushing for any damage.
Clean, grease, and store.
- 7. Proceed to running the next casing.



2.5

INSTALLATION

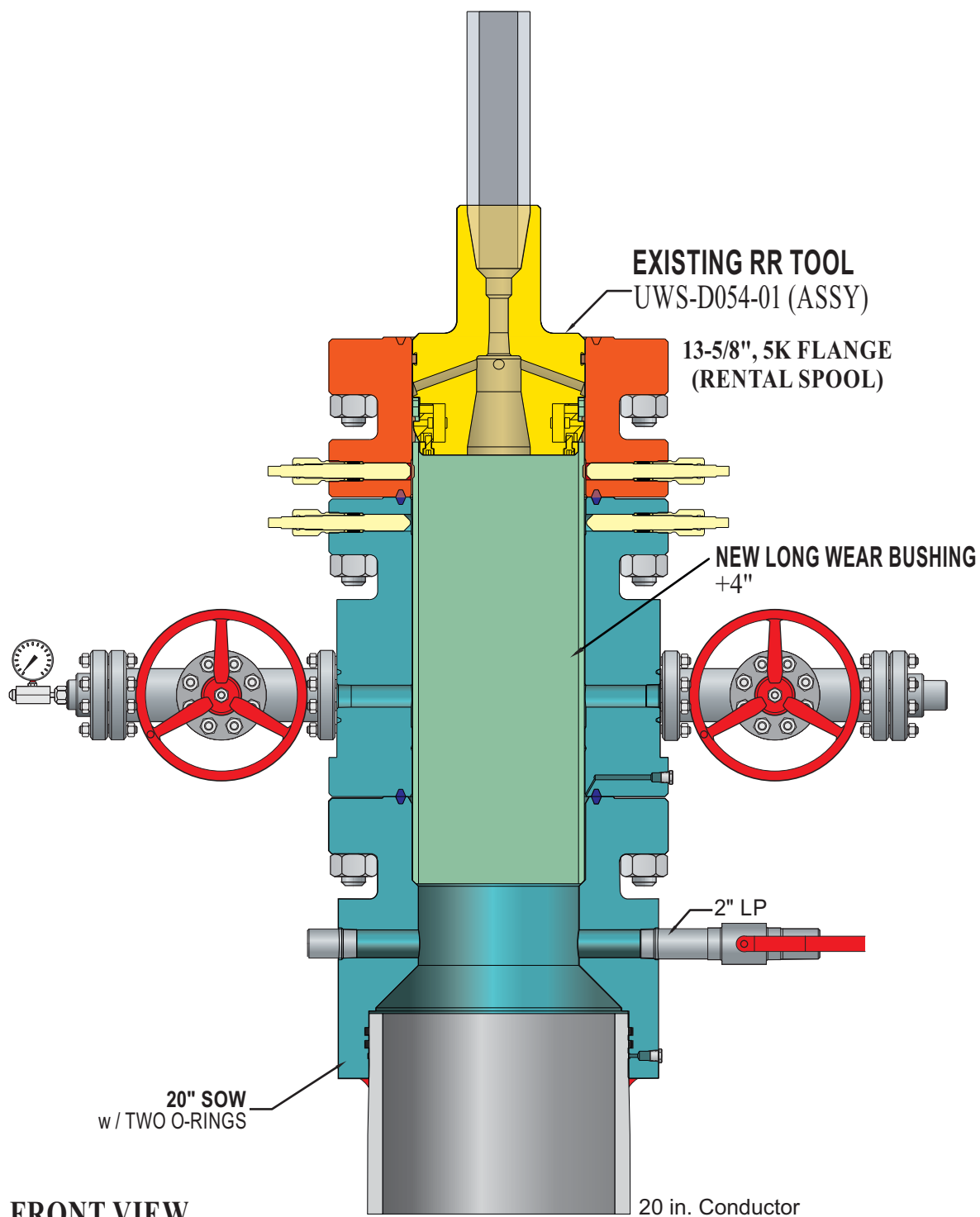
DWG-5



LONG WEAR BUSHING and R&R TOOL

INSTALLATION

DWG-6



**FRONT VIEW
LONG WEAR BUSHING with R&R TOOL**

2.6

Equipment List			
Item No.	Description	Part Number	Qty.
1			
2			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			

PREPARATION

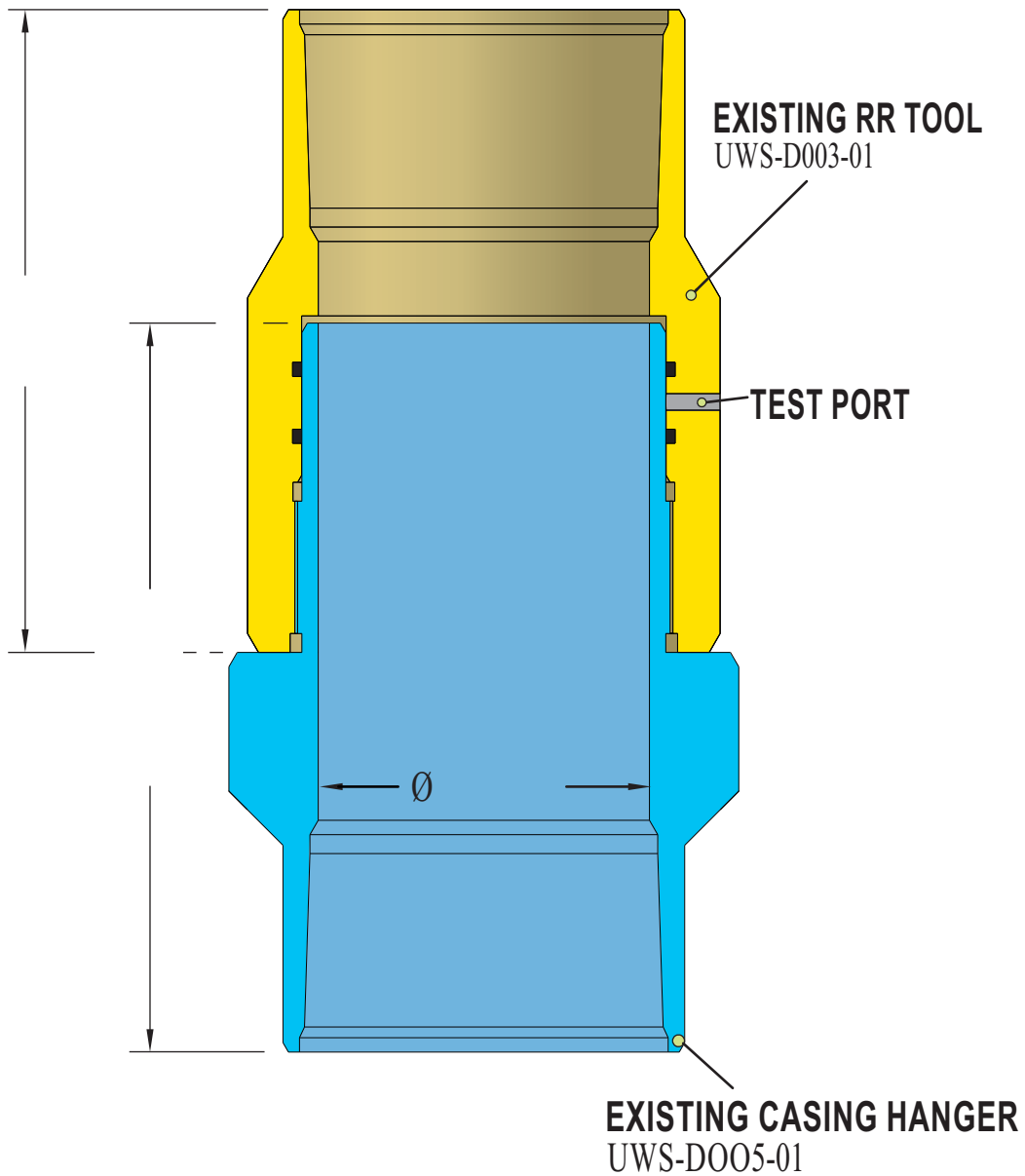
1. Check and record Mandrel Casing Hanger and Running Tool part number and serial number.
2. Inspect the Mandrel Casing Hanger's casing thread and ACME running threads for any damage. Ensure the neck seal area is clean and in good condition.
3. Inspect the Running Tool's casing thread and running thread for any damage. Ensure bore and o-ring is clean and in good condition.
4. **Verify that the Running Tool's .50" width OD groove is painted with fluorescent yellow.**

INSTALLATION

1. Make up a landing joint to the Running Tool. Ensure to power tight the landing joint to the Running Tool *per API Thread Specifications*.
2. Lightly oil the Hanger's neck OD and running threads.
3. Make up the Running Tool to the Hanger by rotating counter-clockwise turns until it bottoms out on the Hanger.
NOTE: Do not torque to hanger.
4. Pressure test the Running Tool's seal through the 1/8" LP test port for at least 5 min. or until the Well Site Supervisor is satisfied.
Do Not exceed psi test pressure.
5. After a successful test, release pressure and re-install the 1/8" pipe plug.
6. Lower the Hanger onto the last joint of casing run. Make up the connection to the API thread's recommended optimum torque.
7. Verify all lockdown screws (LDS) are fully retracted.
8. Slowly and carefully lower the Hanger through the BOP and land it in the Multibowl.
9. Slack off all weight on the casing.
10. Visually verify the yellow paint marking on the Running Tool is in the center of the upper most outlet of the Multibowl indicating that the Hanger is properly landed.
NOTE: Ensure that the well is safe and there is no pressure before opening the uppermost outlet.
Close the outlet valve after visual inspection.
11. Cement as required.
12. Back off the running tool by *rotating clockwise* until thread jump is felt.
13. Retrieve the landing joint and running tool to the rig floor.
14. Inspect the running tool for any damage. Clean, grease and store.
15. Proceed to next operation.

RUNNING and RETRIEVING

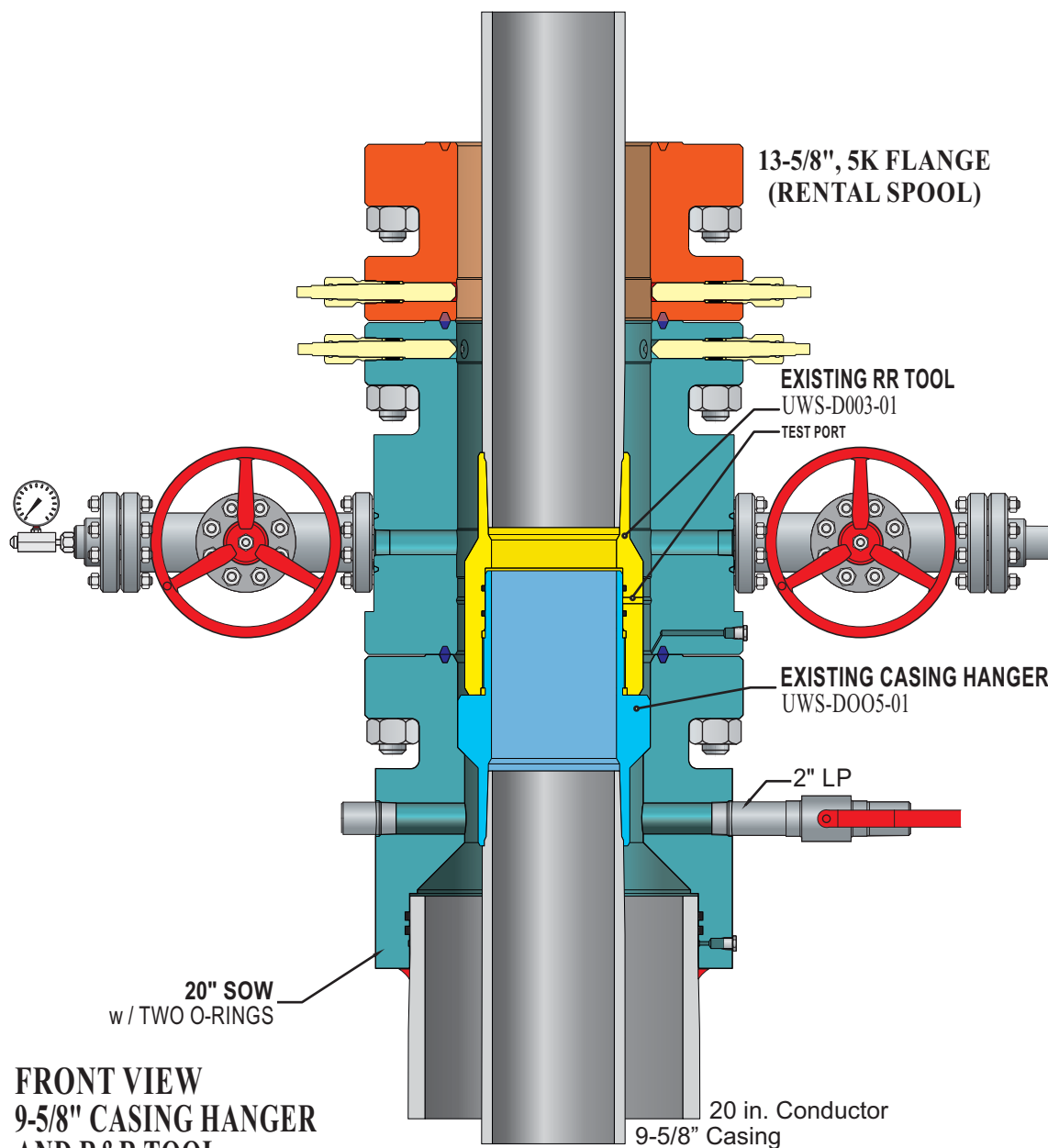
DWG-7



**9-5/8" CASING HANGER
with R&R TOOL**

**RUNNING AND
RETRIEVING**

DWG-8



**FRONT VIEW
9-5/8" CASING HANGER
AND R&R TOOL**

2.8

Equipment List			
Item No.	Description	Part Number	Qty.
1			
2			
3			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			
2			

PREPARATION

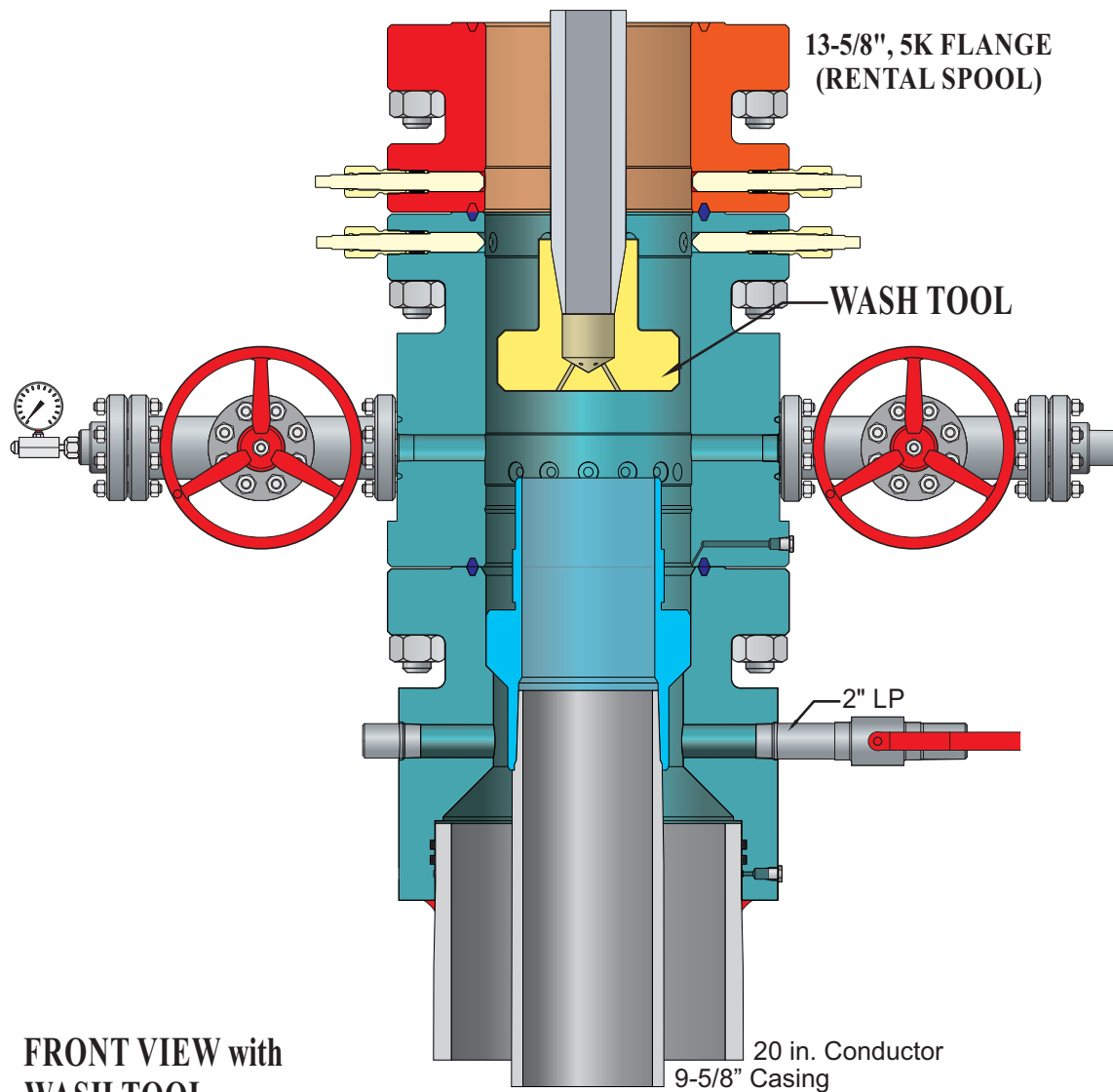
1. Check and record Packoff Support Bushing and Running Tool part number and serial number.
2. Inspect the Packoff's elastomeric seals, ACME running thread, bore, and OD for any damage. Ensure that all are clean and in good condition.
3. Inspect the Running Tool's ACME running thread and IF thread for any damage. Ensure all are clean and in good condition.
4. Install Wash Tool on Drill Pipe. Wash out Multibowl and top of casing hanger landing flutes and open lower valves in lower head.

INSTALLATION

1. Make up a landing joint to the Running Tool. Ensure to power tight the landing joint to the Running tool per API thread's specification.
2. Lightly oil the Packoff's elastomeric seals and running threads.
3. Make up the Running Tool to the Packoff by rotating clockwise 7 to 8 turns until it bottoms out on the Packoff. Do not tighten.
4. Verify all Lockdown Screws (LDS) are fully retracted.
5. Slowly and carefully lower the Packoff through the BOP and land it on the Hanger inside the Multibowl. *Note: Heavy drill pipe or drill collar might be required when using FS seals to push down the Packoff into its landing position.*
6. Verify that the Packoff has landed properly by removing the inspection port plug.
7. Run Lockdown Screws (LDS) in pairs, 180 degrees apart, at the lower Multibowl. Tighten gland nuts to 350 ft-lbs and LDS to 450 ft-lbs.
8. Pull the Running Tool to 2,000 lbs to confirm that the Packoff has been successfully locked down.
9. Slack off tension.
10. Locate the two Flange Test Ports on the upper Multibowl and remove the test cap from each of the fittings.
11. Attach a bleeder tool to one of the fittings and open the tool.
12. Attach a hydraulic test pump to the other fitting and pump hydraulic fluid until a continuous stream flows from the bleeder tool. Close the bleeder tool.
13. Perform pressure test to _____ psi for at least 5 minutes or until the Well Site Supervisor is satisfied.
Note: In case of testing against a casing, do not exceed to 80% of casing collapse.
14. After a successful test, release pressure. Replace test caps.
15. Back off the Running Tool by rotating counter-clockwise until the Running Tool disengages from the Packoff.
16. Retrieve the Running Tool to the rig floor.
17. Inspect the Running Tool for any damage. Clean, grease, and store.
18. Proceed to next operation.

INSTALLATION

DWG-9

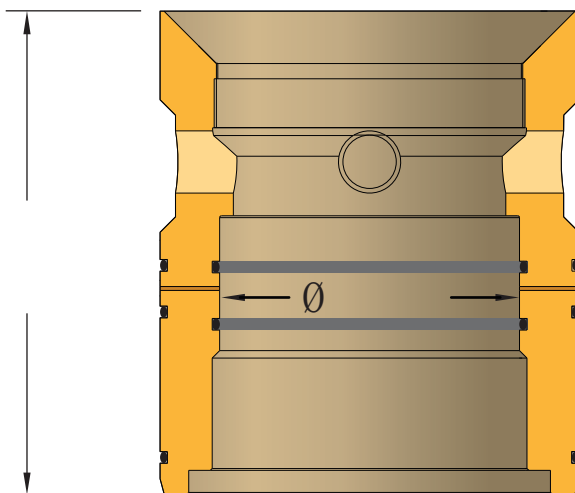
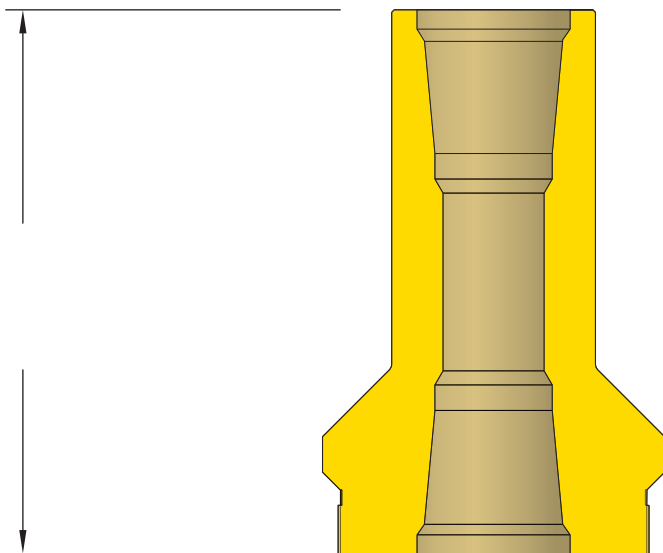


INSTALLATION

DWG-10

USE EXISTING UWS-D002-01
with / "FS" SEALS ON I.D. FOR
EMERGENCY APPLICATION

See Note about Pack-off



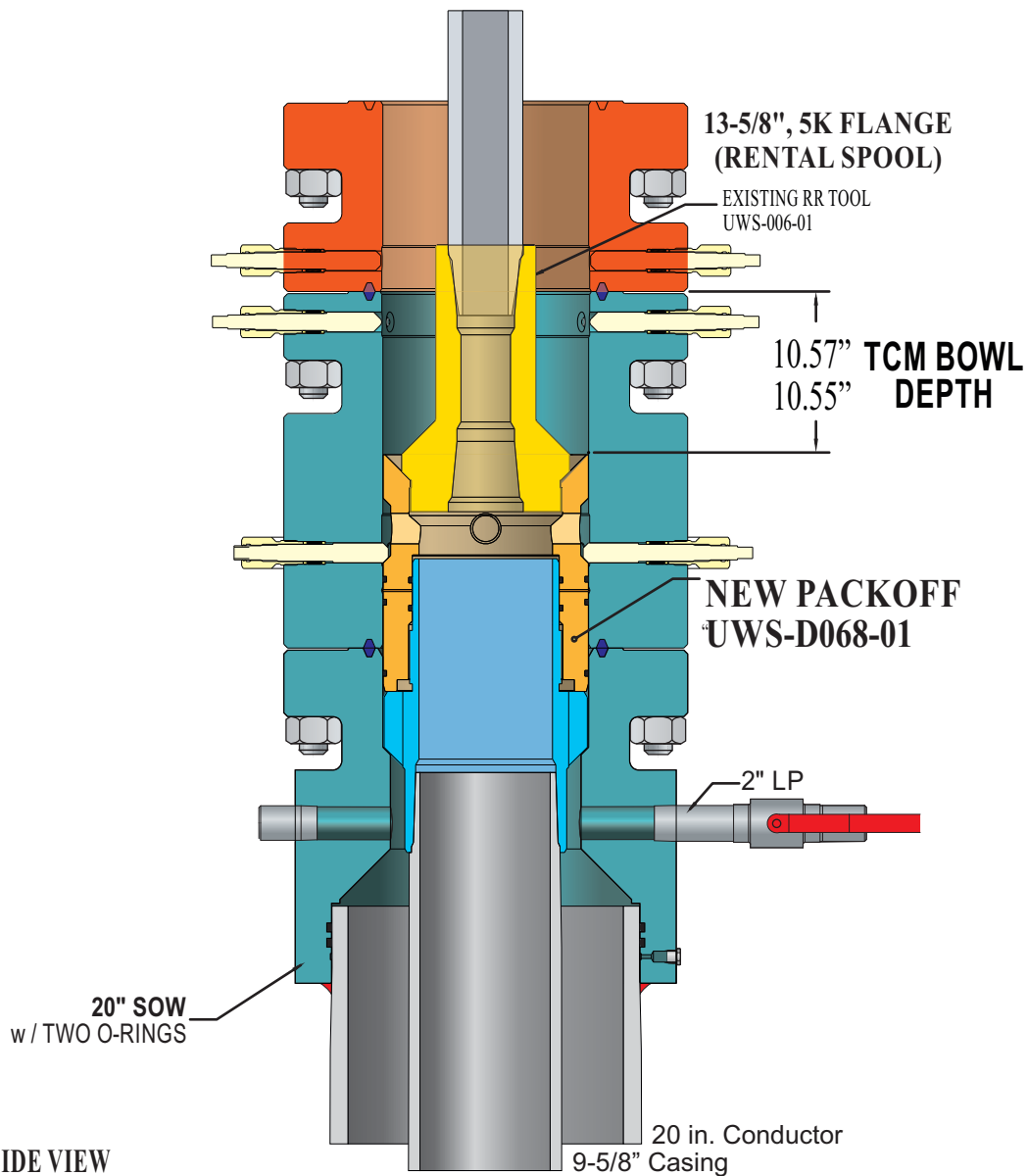
NEW PACK-OFF
UWS-D068-01
with "S" SEALS ON I.D.
FOR STANDARD (MANDREL)
APPLICATIONS

USE EXISTING UWS-D002-01
with / "FS" SEALS ON I.D. FOR
EMERGENCY APPLICATION

**9-5/8" CASING HANGER
PACK-OFF / R&R TOOL**

INSTALLATION

DWG-11



**RIGHT SIDE VIEW
9-5/8" CASING HANGER PACKOFF AND R&R TOOL**

2.9

Equipment List			
Item No.	Description	Part Number	Qty.
1			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			
2			

PREPARATION

- Check and record the Combination BOP Test plug and Wear Bushing R&R Tool part number and serial number.
- Inspect the test plug's LP threads and tool joints threads for any damage. Ensure the D-Rings are properly installed and in good condition.

RUNNING

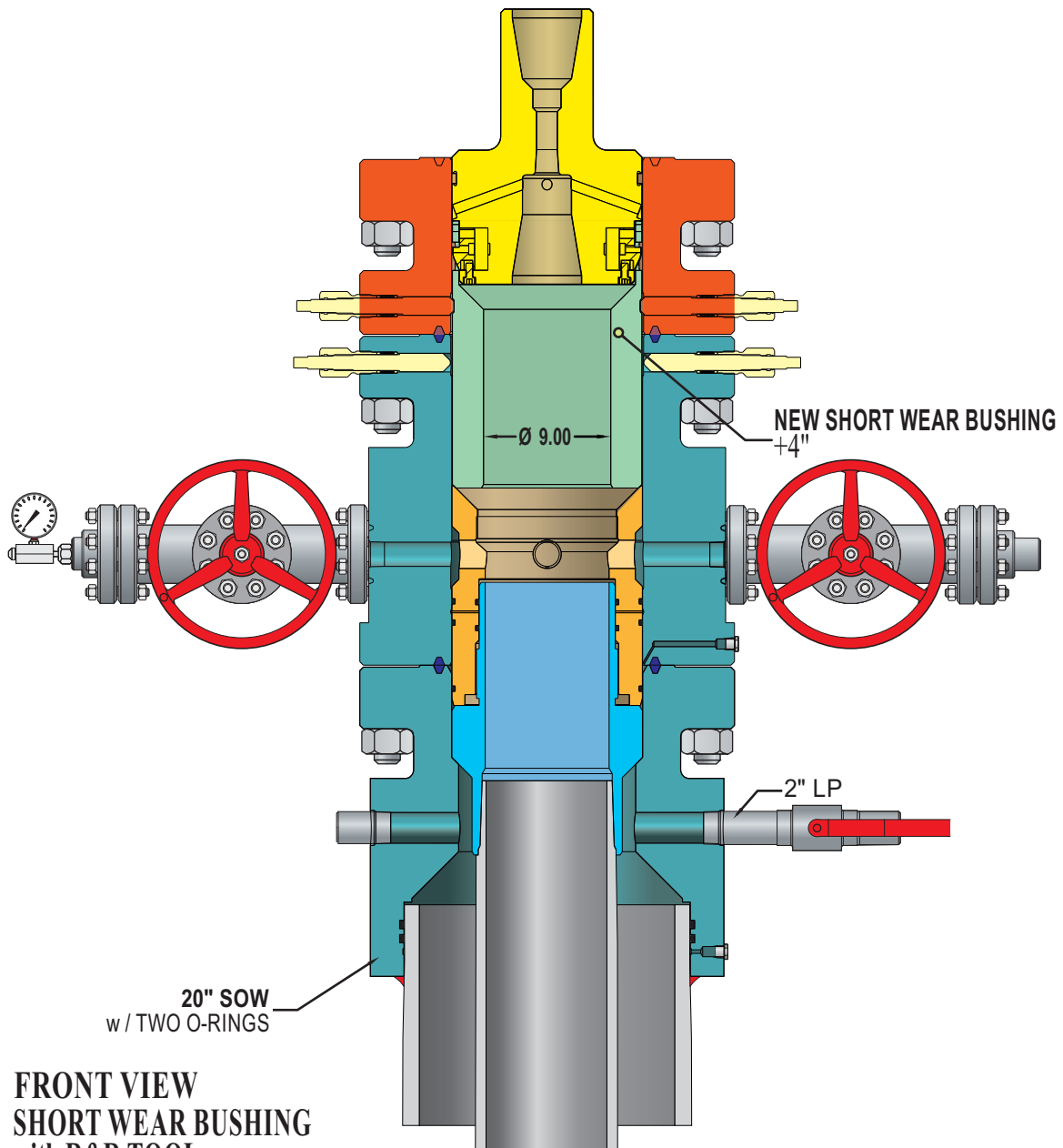
- Make up a joint of drill pipe to the test plug. Ensure the o-ring is down and the lift lugs up.
Note: If it is intended to test by pumping through the drill pipe, make sure that the four 1/2" LP pipe plugs are removed. However, if the test is to be done by pressurizing through the choke or kill line, the four 1/2" LP pipe plugs should be installed and the drill pipe must be properly torqued to the test plug.
- Verify lockdown screws (LDS) in the top flange are fully retracted.
- Open the Multibowl's upper outlet valve to check for leakage past the test plug during BOP test.
- Lightly oil test plug's seal.
- Lower the test plug through the BOP and riser stack until it lands on top of the Packoff Support Bushing.
- Test the BOP stack per operator's requirements. Never exceed psi test pressure. Monitor any leakage through the open lower outlet valve.

RETRIEVING

- After a successful test, release pressure and open BOP rams.
- Drain the fluid from BOP stack.
- Pull and retrieve the test plug slowly to avoid damage.
- Close the Multibowl's upper outlet valve.
- Inspect test plug for any damage. Replace o-ring if necessary. Clean, grease, and store.

**RUNNING AND
RETRIEVING**

DWG-12



3.0

Equipment List			
Item No.	Description	Part Number	Qty.
1			
2			

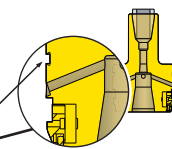
Recommended Spares			
Item No.	Description	Part Number	Qty.
1			

PREPARATION

1. Check and record Short Wear Bushing and Combination Test Plug / Wear Bushing R&R Tool part numbers and serial numbers.
2. Inspect Short Wear Bushing ensuring the Bore is clean, and the spring-loaded latches are operational, and lubricated with oil.

RUNNING

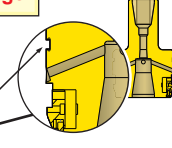
1. Make up a joint of drill pipe to the Combination R&R Tool.
Ensure the lift lugs are down. **Remove the D-Ring from the tool.**
2. Lower the Combination Tool into the Short Wear Bushing and rotate *clockwise* to the locked position.
3. Verify all lockdown screws (LDS) in the top flange of Multibowl are fully retracted.
4. Liberally grease the OD of the wear bushing - **Do Not install dry.**
5. Slowly lower the assembly through the BOP stack until it lands on top of the Packoff Support Bushing.
6. Run in the four lockdown screws (LDS) snug tight, 90 deg. apart, located on the the rental spool.
7. Remove the Combination Tool from Short Wear Bushing by rotating the drill pipe clockwise 1/4 turn and slowly lifting straight up. *Note: While retrieving the tool, monitor the weight indicator to ensure the tool is properly disengaged.*
8. Inspect the Combination Tool for any visible damage.
9. Proceed with drilling for next casing size.



UWS recommends retrieving the **wear bushing** every bit trip and inspecting for damage.

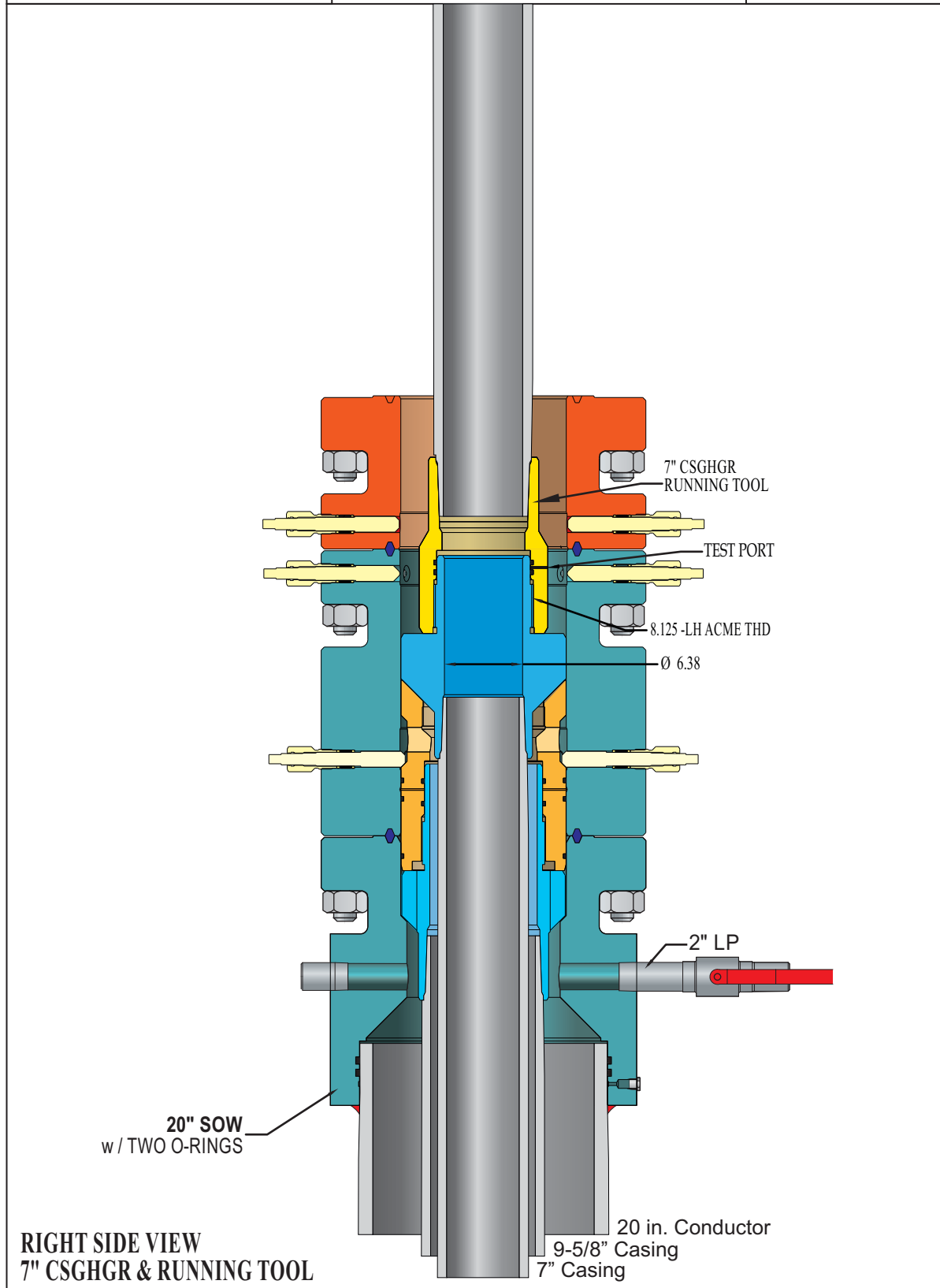
RETRIEVING

1. Make up a joint of drill pipe to the Combination R&R Tool.
Ensure the lift lugs are down and **the D-Ring is removed.**
2. Lubricate the OD of the tool and the spring loaded-latches with oil or light grease.
3. Slowly lower the Combination Tool through the BOP stack until it lands on the Short Wear Bushing.
4. Slack off all weight to make sure the tool is down.
5. Rotate the tool clockwise to fully engage the lugs in the Short Wear Bushing.
6. Fully retract all lockdown screws (LDS) in the top flange of the Multibowl and pull straight up to retrieve the Short Wear Bushing.
7. Inspect the R&R Tool and Wear Bushing for any damage. Clean, grease and store.
8. Proceed to running the next casing.



**RUNNING AND
RETRIEVING**

DWG-13



3.1

Equipment List			
Item No.	Description	Part Number	Qty.
1			
2			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			

PREPARATION

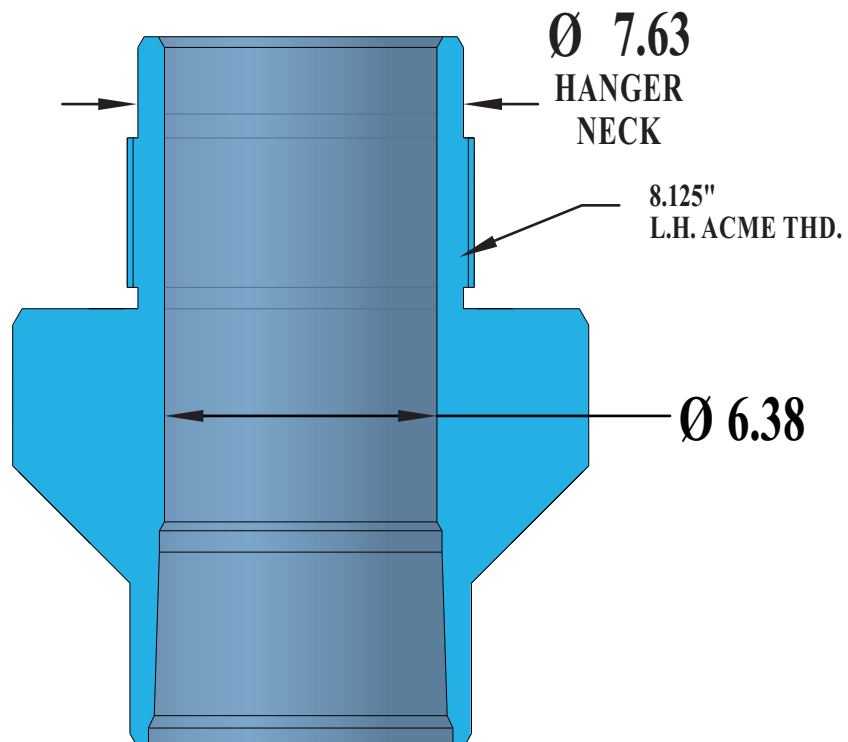
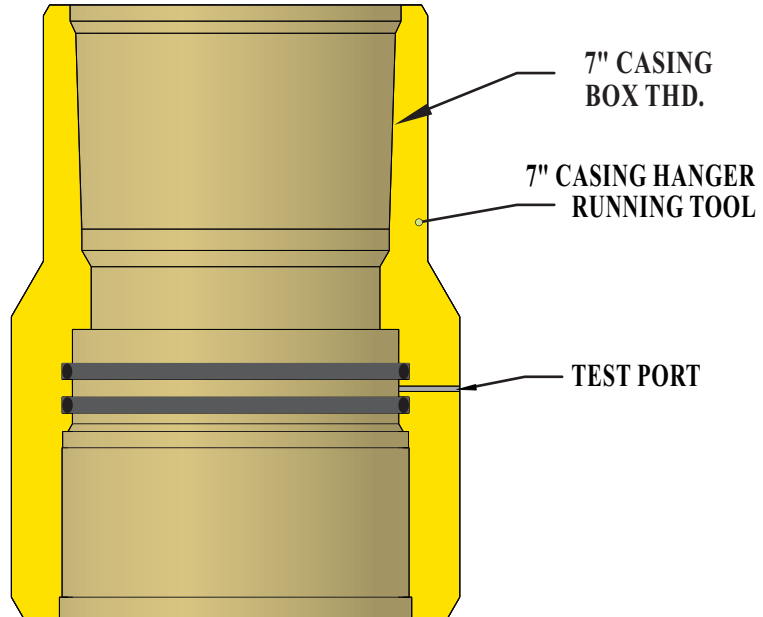
1. Check and record Mandrel Casing Hanger and Running Tool part number and serial number.
2. Inspect the Mandrel Casing Hanger's casing thread and ACME running threads for any damage. Ensure the neck seal area is clean and in good condition.
3. Inspect the Running Tool's casing thread and running thread for any damage. Ensure bore and o-ring is clean and in good condition.

INSTALLATION

1. Make up a landing joint to the Running Tool. Ensure to power tight the landing joint to the Running Tool per *API Thread Specifications*.
2. Lightly oil the Hangers neck OD, the seals on the tool ID, and the running threads.
3. Make up the Running Tool to the Hanger by rotating counter-clockwise 16 to 17 turns until it bottoms out on the Hanger. *Note: Do not torque to hanger.*
4. Pressure test the Running Tool's seal through the 1/8" LP test port for at least 5 min. or until well site Supervisor is satisfied. Do not exceed psi test pressure.
5. After a successful test, release pressure and re-install the 1/8" test plug.
6. Lower the Hanger onto the last joint of casing run. Make up the connection to the API thread's recommended optimum torque.
7. Verify all lockdown screws (LDS) on the upper portion of the Multibowl are fully retracted.
8. Slowly and carefully lower the Hanger through the BOP and land it on top of the Packoff Support Bushing.
9. Slack off all weight on the casing.
10. Verify that the Casing Hanger has landed properly by making measurement on its setting depth.
11. Cement as required.
12. Back off the Running Tool by rotating clockwise until the thread jump can be felt.
13. Retrieve the landing joint and running tool to the rig floor.
14. Inspect the Running tool for any damage.
Clean, grease, and store.
15. Proceed to next operation.

INSTALLATION

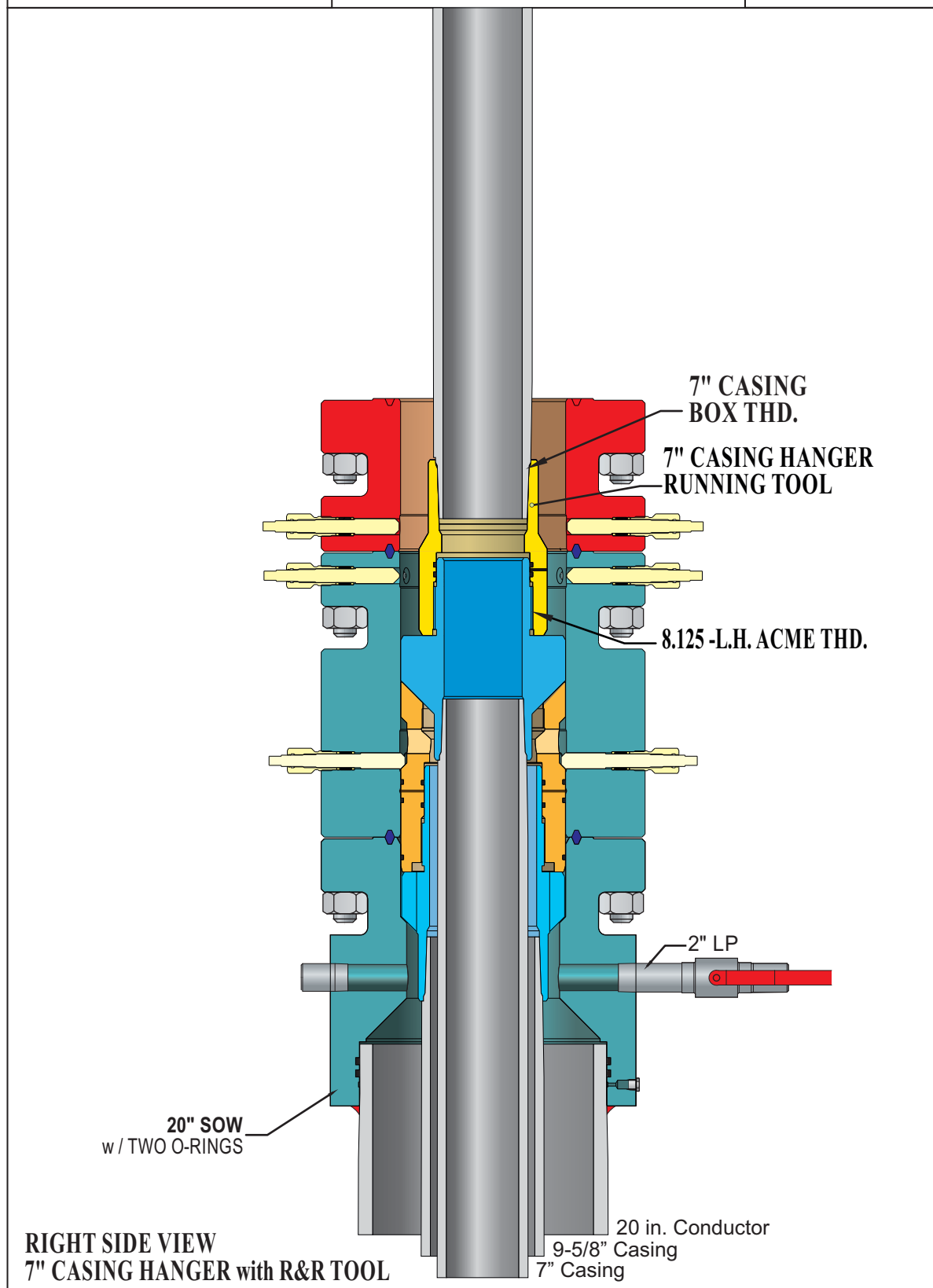
DWG-14



7" CASING HANGER with R&R TOOL

INSTALLATION

DWG-15



3.2

Equipment List			
Item No.	Description	Part Number	Qty.
1			
2			
3			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			
2			

PREPARATION

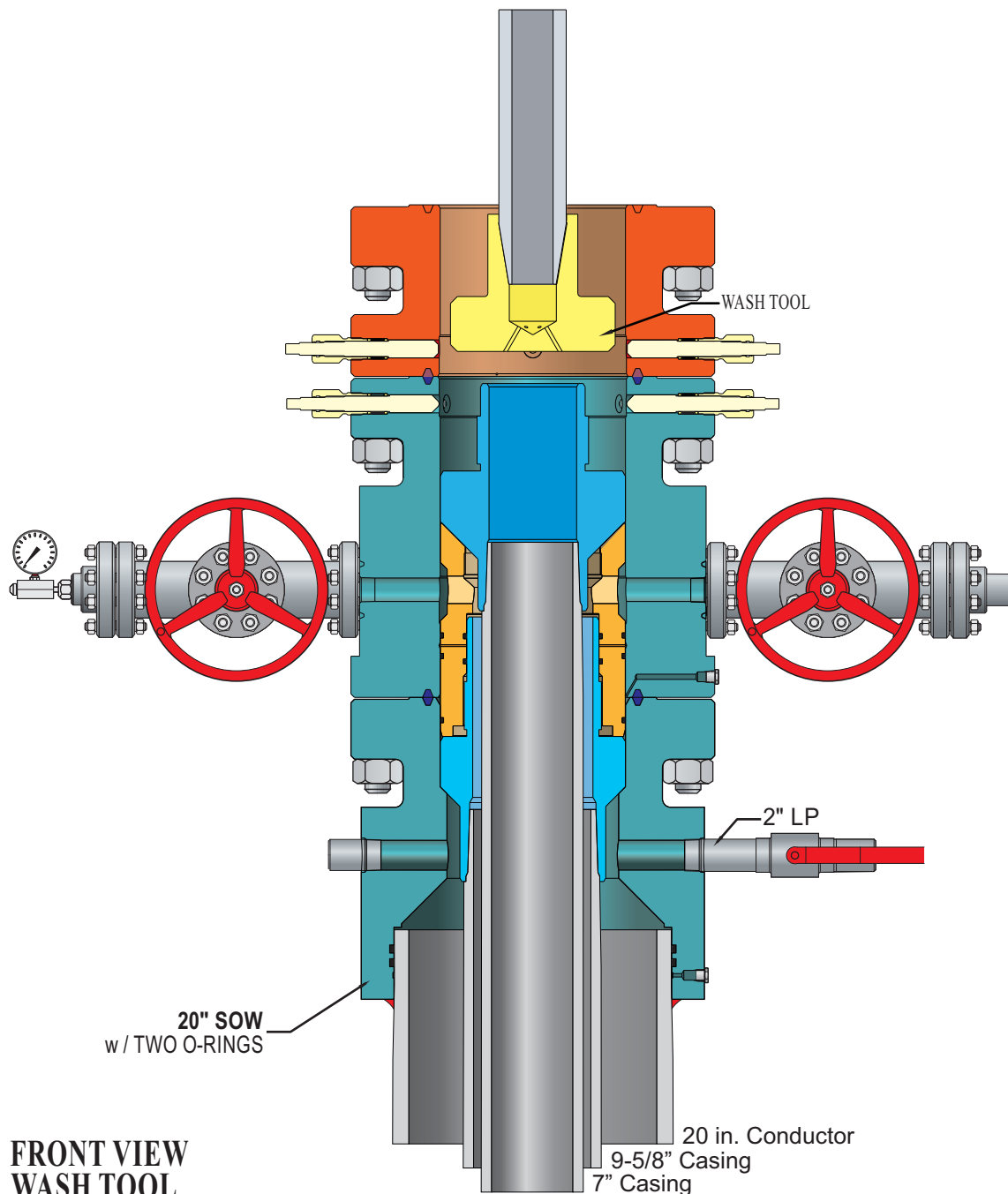
1. Check and record Pack-off Bushing and Running Tool part number and serial number.
2. Ensure the Neck Protector is properly installed on the Pack-off bushing. Secure with set screws to the neck.
3. Inspect the Pack-off's elastomeric seals, ACME running thread, bore and OD for any damage. Ensure that all are clean and in good condition.
4. Inspect the Running Tool's ACME running thread and IF thread for any damage. Ensure all are clean and in good condition.
5. Install the wash tool on drill pipe. Wash out Multibowl and top of casing hanger landing flutes and open valves in upper head.

INSTALLATION

1. Make up a landing joint to the Running Tool. Ensure to power tight the landing joint to the Running Tool per *API Thread Specifications*.
2. Lightly oil the Pack-off's elastomeric seals and running threads.
3. Make up the Running Tool to the Pack-off by rotating *counter clockwise* 5 to 6 turns until it bottoms out on the Packoff. Do not tighten.
4. Verify all lockdown screw (LDS) are fully retracted.
5. Slowly and carefully lower the Packoff through the BOP and land it on the Hanger inside the Multibowl.
Note: Heavy drill pipe or drill collar might be required as additional weight to push down the Packoff into its landing position.
6. Verify that the Packoff has landed properly by making measurement on its setting depth.
7. Run lockdown screws (LDS) in pairs, 180 degrees apart, at the Multibowl. Tighten gland nuts to 350 ft-lbs and LDS to 450 ft-lbs.
8. Pull the Running Tool to 2,000 lbs to confirm that the Pack-off has been successfully locked down.
9. Slack off tension.
10. Back off the Running Tool by rotating *clockwise* until the Running Tool disengages from the Pack-off.
11. Retrieve the Running Tool to the rig floor.
12. Inspect the Running Tool for any damage. Clean, grease, and store.
13. Proceed to next operation.

INSTALLATION

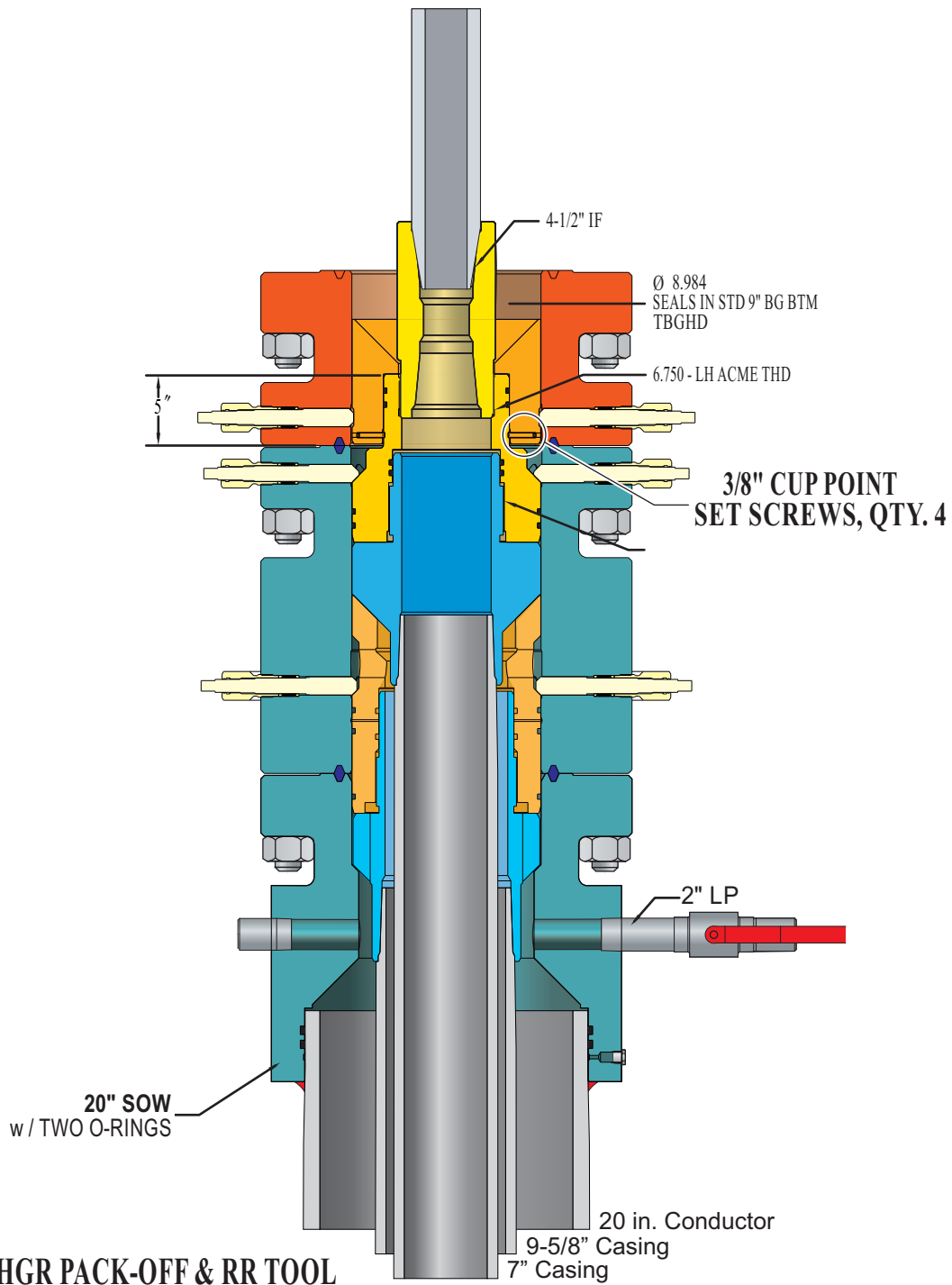
DWG-16



**FRONT VIEW
WASH TOOL**

INSTALLATION

DWG-17



DWG-18

3.3

Equipment List			
Item No.	Description	Part Number	Qty.
1			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			

PREPARATION

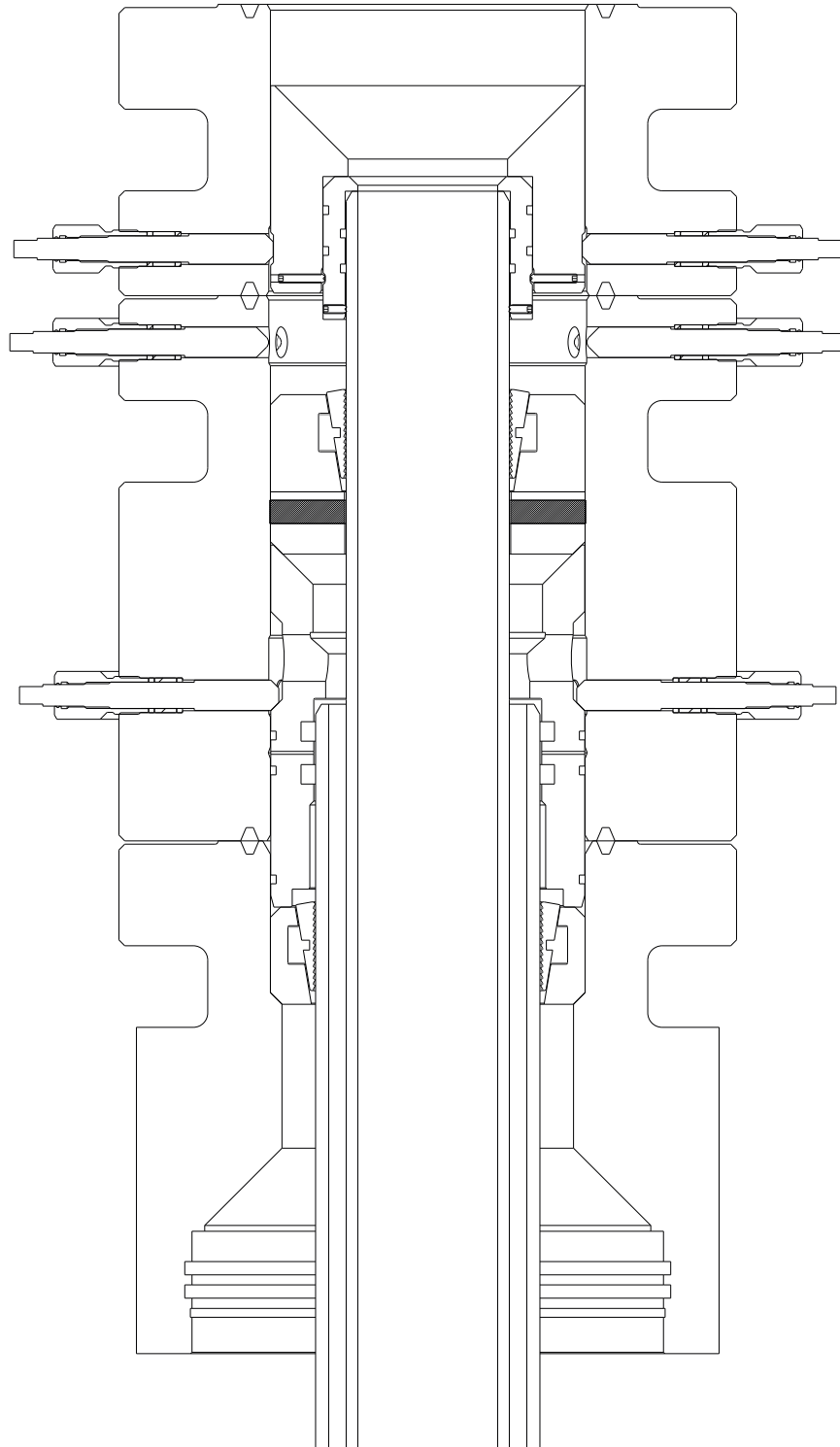
1. Check and record Slip Casing Hanger Assembly part number and serial number.
2. Inspect the Slip Casing Hanger's segment for any damage. Ensure all screws are in place.

INSTALLATION

1. Cement the casing as required.
2. Drain the bowl through the side outlet valve on the Multibowl.
3. Separate the Upper Multibowl from the Lower Head. *Note: Ensure that the well is safe and there is no pressure before breaking the connection.*
4. Lift the Upper Multibowl and suspend it above the Lower Head – high enough to install the Slip Casing Hanger.
5. Washout the Lower Head's bowl as necessary.
6. Remove the slip bowl latch screw (not the slip retainer screws) to open the Hanger.
7. Place two boards on the Lower Head's top flange against the casing.
8. Wrap the Hanger around the casing using the boards for support.
9. Replace the latch screw.
10. Grease the Hanger's body and remove the slip retaining screws.
11. Remove the boards and allow the Hanger to drop into the Lower Head's bowl.
Note: Ensure to center the casing as much as possible using a catline.
12. Ensure that Hanger is properly seated by tapping down on the slip bowl.
13. Pull tension on the casing to the desired hanging weight and slowly slacken off tension to load the casing weight onto Hanger.
Note: Weight suspended on the hanger is the weight with which the weight indicator registers as a sharp decrease. If the desired weight has not been achieved, lift the casing load and repeat the procedure.
14. Rough cut the casing approximately 12" above the Lower Head's top flange.
15. Final cut the casing at _____ above the top flange and bevel cut the stub to specifications. *Note: Ensure the stub is properly beveled without any rough edges that could damage the Packoff's seals.*
16. Verify the mating ring grooves of the Upper Multibowl and Lower Head are clean and in good condition.
17. Install new BX-160 ring gasket onto Lower Head's ring groove.
18. Re-install the Upper Multibowl.
Note: Recommended make-up torque for 1-5/8" diameter stud is _____ ft.-lbs.
19. Proceed to installation of 9-5/8" Packoff Support Bushing. *Refer to page 16 for Use the pack-off support bushing with the FS seals in the ID. detailed instructions.*

INSTALLATION

DWG-19



3.4

Equipment List			
Item No.	Description	Part Number	Qty.
1			

Recommended Spares			
Item No.	Description	Part Number	Qty.
1			

PREPARATION

1. Check and record Slip Casing Hanger Assembly part number and serial number.
2. Inspect the Slip Casing Hanger's segment for any damage.
Ensure all screws are in place.

INSTALLATION

1. Cement the casing as required.
2. Drain the bowl through the side outlet valve on the Multibowl.
3. Nipple down the BOP stack. *Note: Ensure that the well is safe and there is no pressure before breaking the connection.*
4. Lift the BOP Stack and suspend it above the Multibowl high enough to install the Slip Casing Hanger.
5. Washout the Multibowl's bowl as necessary.
6. Remove the slip bowl latch screw (not the slip retainer screws) to open the Hanger.
7. Place two boards on the Multibowl's top flange against the casing.
8. Wrap the Hanger around the casing using the boards for support.
9. Replace the latch screw.
10. Grease the Hanger's body and remove the slip retaining screws.
11. Remove the boards and allow the Hanger to drop on top of the Packoff Support Bushing.
Note: Ensure to center the casing as much as possible using a catline.
12. Ensure that Hanger is properly seated by tapping down on the slip bowl.
13. Engage slip segments by hammering down on top of the segments with a soft bar. It is important that the slips be engaged evenly around the casing.
14. Pull tension on the casing to the desired hanging weight and slowly slacken off tension to load the casing weight onto Hanger.

Note: Weight suspended on the hanger is the weight with which the weight indicator registers as a sharp decrease. If the desired weight has not been achieved, lift the casing load and repeat the procedure.
15. Rough cut the casing approximately 12" above the Multibowl's top flange.
16. Final cut the casing at _____ above the top flange and bevel cut the stub to specifications. *Note: Ensure the stub is properly beveled without any rough edges that could damage the Packoff's seals.*
17. Verify the mating ring grooves of the Upper Multibowl and BOP riser flange are clean and in good condition.
18. Install new BX-160 ring gasket onto Multibowl's ring groove.
19. Nipple up the BOP stack.
Note: Recommended make-up torque for 1-5/8" diameter stud is _____ ft.-lbs.
20. Proceed to install the 7" Packoff Support Bushing.
Refer to page 27 for detailed instructions. Note: (Optional) Packoff Bushing can be manually installed without running through BOP Stack after Step 16 (casing cutting).

INSTALLATION

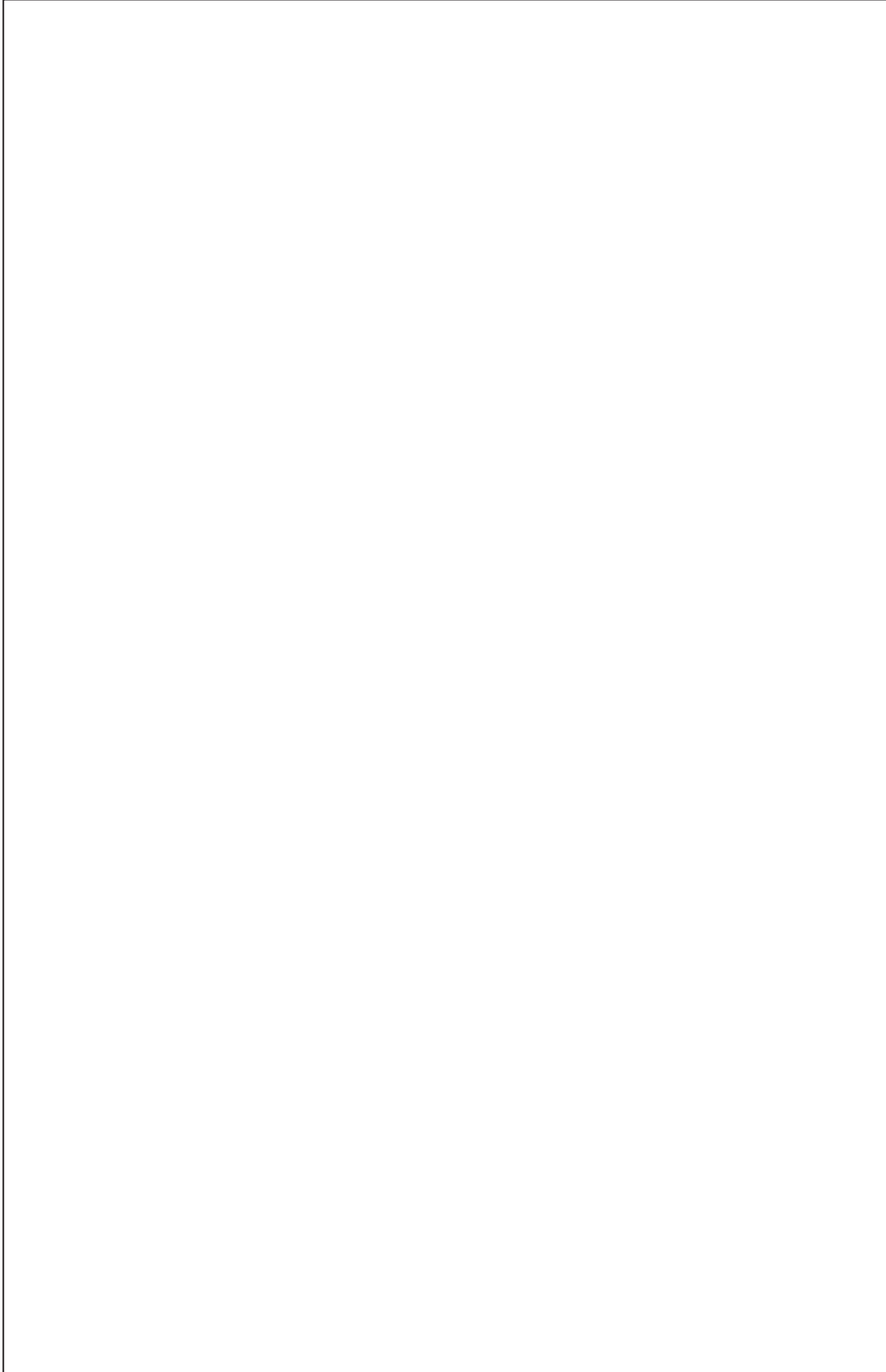
DWG-20



4.0 Recommended Field Welding Procedure



4.0 Recommended Field Welding Procedure *(Continued)*



4.0 Recommended Field Welding Procedure *(Continued)*



