



**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH<sup>H</sup>  
HEAVY WALL  
CONNECTIONS**

Approved	Initials	Date
Prepared by	SPL	Stephon Lopez <small>Digitally signed by Stephon Lopez Date: 2022.12.16 11:08:24 0900</small>
Engineer	SJH	SH <small>Digitally signed by SH Date: 2022.12.16 11:08:24 0900</small>
GGM QA	ALR	Andrea Romero <small>Digitally signed by Andrea Romero Date: 2022.12.16 10:00:00 0900</small>
Revision	015	01/17/2023

**SUBJECT: FIELD RUNNING AND HANDLING PROCEDURES**

**1.0 SCOPE**

1.1 This document sets forth Hunting’s recommended practice for the field running and handling procedures that should be used in conjunction with SEAL-LOCK FLUSH/SEMI FLUSH/HEAVY-WALL tubing and casing product line connections.

**2.0 REFERENCES**

2.1 The following documents were used for reference in the preparation of this document:  
 2.1.1 API RP 5C1  
 2.1.2 API BUL. 5A2

**3.0 EQUIPMENT**

3.1 The following list of equipment should be on location when Hunting SEAL-LOCK FLUSH/SEMI FLUSH/HEAVY WALL tubing or casing connections are run:  
 3.1.1 Ample supply of fresh, unopened thread compound.

**NOTE 1:** For thread compounds, please refer to Hunting’s website to verify the current Recommended Thread Compounds approved by Hunting – Per Connection List.

To access the list, visit [www.hunting-intl.com](http://www.hunting-intl.com), click on “Connection Technology” and look for the link: “Recommended Thread Compounds approved by Hunting”.

**WARNING:** Thread lubricants with large particles such as Best-O-Life 2000 or similar thread lubricants are not acceptable on connections with metal-to-metal seals.

3.1.2 Thread lubricant applicators #58235 moustache brush.

**NOTE 2:** Hunting does not recommend the bottlebrush commonly used for thread lubricant application as the amount of lubricant cannot be adequately controlled.

- 3.1.3 Hunting’s field service kit (requires 4-month calibration).
- 3.1.4 Certified Hunting Field Service Representative
- 3.1.5 Appropriate sales data sheet with pipe information and torque values for appropriate size and weight connections.
- 3.1.6 VISUAL THREAD INSPECTION, Ancillary Specification.
- 3.1.7 STEEL IMPERFECTIONS, Ancillary Specification.
- 3.1.8 Molybdenum disulfide spray. Hunting recommends Jet Lube Moly Mist, Banner Moly-G-Spray or DuPont Molykote ® D321 or Molykote 3402-CLF Anti-Friction Coating Liquid.

**NOTE 3:** Liquid molybdenum disulfide shall be mixed well prior to use and frequently while in use.

- 3.1.8 OPTIONAL - WD-40.
- 3.1.9 RECOMMENDED - Torque turn monitoring equipment.
- 3.1.10 Appropriate size and weight handling plug with recommended make up bar.



**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH/  
HEAVY WALL  
CONNECTIONS**

**SUBJECT: FIELD RUNNING AND HANDLING PROCEDURES**

**NOTE 4:** Hunting's recommended use for a handling plug is limited to 1-3 joints at a time. The limitations of this recommendation are due to a connection being made up hand-tight while being used in dynamic movements which could cause the connection to loosen. It is the operation's responsibility to mitigate risks when using the handling plug outside of this recommendation. In addition to the limited use of the handling plug, the equipment shall be inspected at minimum, every 12 months to the product drawing requirements.

- 3.1.11 Appropriate size and weight stabbing guide.
- 3.1.12 Appropriate size single joint elevators, swivel with appropriate load rating.

**NOTE 5:** For SEAL-LOCK SEMI-FLUSH only, single joint elevators shall be bored to box turned O.D. + 0.030 + 0.050" and a minimum yield of 110 KSI.

#### **4.0 FIELD RUNNING AND HANDLING PROCEDURES**

##### **4.1 Precaution**

- 4.1.1 Tubulars should not be stacked higher than five tiers at the rig. (API RP 5C1).
- 4.1.2 Layers should be separated by wooden dunnage so that no weight rests on the connections. (API RP 5C1)
- 4.1.3 Thread protectors should always remain in place when moving or handling tubulars.
- 4.1.4 If a mixed string is to be run, ensure proper identification to accommodate sequence of running.
- 4.1.5 Do not use a welding torch to remove thread protectors. A thread protector removal tool is available from Hunting should weather, handling or other conditions make protector removal a difficult or time-consuming procedure.
- 4.1.6 Avoid rough handling. Do not unload pipe by dropping.
- 4.1.7 Do not handle more than three joints unless the pipe is packaged or bundled.
- 4.1.8 Never use hooks on the ends of pipe without liftable protectors. When liftable protectors are not available, handle with nylon slings only.

##### **4.2 Preparation**

- 4.2.1 Ensure that all necessary running equipment is available and in good condition.

**NOTE 6:** Following a thorough review of running/accessory equipment, discuss running procedures with Drilling Supervisor.

- 4.2.2 Slip type elevators of proper size, in good repair and with the setting plate adjusted properly, should be used.

**NOTE 7:** Hunting does not recommend the use of bottleneck or shoulder type elevators.

- 4.2.3 Ensure that slips are of the correct size to accommodate the size, weight and length of the tube.
- 4.2.4 Ensure that the safety clamp is the correct size and in serviceable condition. The safety clamp should be used above the table slips up to a string weight per the clamp manufacturer's rated load limit.



**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH/  
HEAVY WALL  
CONNECTIONS**

<b>SUBJECT:</b>	<b>FIELD RUNNING AND HANDLING PROCEDURES</b>
-----------------	--

- 4.2.5 Check for traveling block alignment and rotary hole alignment.
- 4.2.6 Ensure that an ample supply of thread compound is available. Only fresh, previously unopened containers of compound shall be used. Stir thoroughly.
- 4.2.7 Ensure that an ample supply of Molybdenum Disulfide spray (reference 3.1.7) is available.

**NOTE 8:** See Section 3.1.1 for recommended thread compounds.

- 4.2.8 A stabbing board or a yoke may be required to offer stability for ease of make-up. However, such devices should be adjustable, so as not to create detrimental bending forces at the connection during make-up.

- 4.2.9 Ensure that the power tong snub line is at 90° and level with the tong.

**NOTE 9:** Ensure that an accurate torque monitoring device (Martin-Decker torque gauge) is available, the load cell is for use in the required torque range, and the load cell has been calibrated within the past six (6) months.

**4.3** Cleaning and Thread Inspection

All tubular connections shall be thoroughly cleaned and dried at the rig prior to running or inspection.

- 4.3.1 Immediately before running, remove protectors from both the field and box ends. Clean each connection and pin protectors thoroughly. Pre-install handling plugs in the first joints to be run, and reinstall pin protectors (dry).
- 4.3.2 All compounds that have been applied to the connections and protectors are to be wiped off or washed off using solvent and a non-metallic bristle brush. Wipe out or blow out the solvent from the connection or protector after washing.

**NOTE 10:** Care must be taken to ensure that the cleaning process does not cause environmental pollution.

- 4.3.3 Check and clean the inside of the tubulars to eliminate any foreign material that may fall into the box while stabbing. If compressed air is available, air blast from box to pin.

**NOTE 11:** Ensure that there are no bristles left on the threads from cleaning.

- 4.3.4 Drift the pipe and accessory equipment with a clean, properly sized mandrel. Drift shall be performed box to pin, being careful not to damage the box torque shoulder, seal, or threads when placing the mandrel in the joint.

- 4.3.5 Inspect the threaded connections using Hunting's **VISUAL THREAD INSPECTION** guidelines and **ANCILLARY SPECIFICATIONS**.

**NOTE 12:** Repair as required by **VISUAL THREAD INSPECTION** and/or **STEEL IMPERFECTION ANCILLARY SPECIFICATIONS**.

- 4.3.6 If any joint shows obvious ovality, it should not be run.
- 4.3.7 Never leave the threads exposed for longer than two hours without corrosion protection. If the connection is cleaned more than two hours but less than twelve hours before the joint is run, a light oil should be used to prevent corrosion. If it will be more than twelve hours until a joint is to be run, reapply thread compound and clean thread protectors.



**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH/  
HEAVY WALL  
CONNECTIONS**

**SUBJECT: FIELD RUNNING AND HANDLING PROCEDURES**

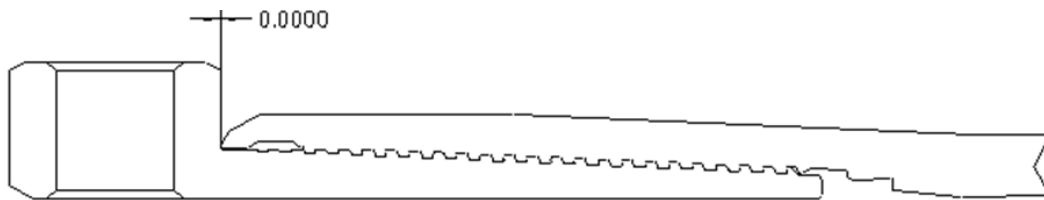
**4.4 Running**

- 4.4.1 Handling plugs and/or thread protectors must be in place whenever tubulars are moved.
- 4.4.2 Joints should be moved to the V-door via a pick-up machine. If a pick-up machine is unavailable, joints should be moved to the V-door by slings or a pick-up line attached to the box end.

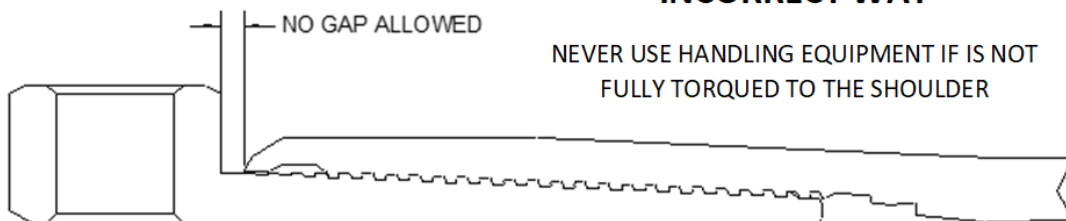
**MANDATORY: It is mandatory that a swivel be used in conjunction with single joint elevators when using HANDLING PLUG. Failure to do so may result in the HANDLING PLUG disengaging, causing the pipe to fall. Possible connection damage, property damage, bodily injury, or loss of life can occur.**

- 4.4.3 Elevators or pick-up line with or without single joint elevators may be used to lift the joint up in the derrick. The single joint elevators shall be bored to box O.D. + .0030 + 0.050" and a minimum yield of 110 KSI, for the appropriate size and weight to be run.

**WARNING: Prior to lifting SEAL-LOCK FLUSH and SEAL-LOCK SF (Semi Flush) handling plug must be shouldered with the external box shoulder using makeup bar supplied with handling tools. Failure to do so may cause the handling plug to disengage, which may result in the pipe falling. This may cause connection damage, property damage, bodily injury or loss of life.**



**INCORRECT WAY**



**NOTE 13:** Clean handling plug every ten connections to ensure proper shouldering of handling plug with the box connector.



**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH/  
HEAVY WALL  
CONNECTIONS**

**SUBJECT: FIELD RUNNING AND HANDLING PROCEDURES**

**NOTE 14:** Do not remove handling plug from box until mud line is removed after filling.

4.4.4 If CRT (casing running tool) is to be used, remove the thread protector and replace it with a Hunting internal tool guide / handling / lift plug.

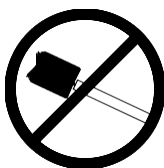
**NOTE 15:** When running with a CRT (Casing Running Tool) no dump valve shall be used and a 5 to 8 second torque shall be applied.

**NOTE 16:** When running with a CRT (Casing Running Tool) Hunting recommends the use of a compensator.

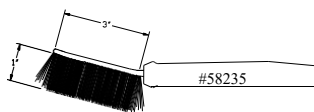
**NOTE 17:** Hunting connections are not interchangeable with any other connections in the industry. The use of an internal tool guide / handling plug different than the ones designed by Hunting Energy Services for specific connections or applications may result in property damage, injury, or death. Hunting will not be held accountable or accept any liability if the proper equipment is not utilized for its intended purpose.

4.4.5 Clean and re-inspect each connection as it hangs in the derrick. Remove any thread compound, drilling mud or solvent or moisture remaining on the connection after removing the protector and/or handling plug.

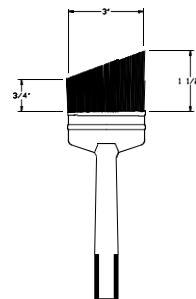
4.4.6 After the connection is clean and dry, apply a light, even coating of the thread compound to the pin and box connectors.



Do Not Use  
Bottle Brush



Preferred Moustache Brush #58235



Alternate Acceptable  
Modified Paint Brush

**NOTE 16:** A light, even coating of thread compound is defined as all thread surfaces, root and crest, seal surfaces and pin face/torque shoulder covered with an even coat of thread compound. However, the thread form should remain clearly visible.

4.4.7 Use an alignment yoke to assist make-up. However, such devices should be adjustable, so as not to create detrimental bending forces at the connection during make-up.

4.4.8 Stab the pin connector into the box connector utilizing the appropriate size and weight stabbing guide.

4.4.9 If the connection is mis-stabbed, pick up the joint, clean the pin and the box and reinspect.



**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH/  
HEAVY WALL  
CONNECTIONS**

**SUBJECT: FIELD RUNNING AND HANDLING PROCEDURES**

**4.5 Dump Test**

- 4.5.1 Dump test shall be conducted prior to casing run. Failure to verify dump test could result in premature dump of torque prior to acceptable optimal torque and or over torque of connection.
- 4.5.2 When conducting a dump test, the torque applied at test will depend on the wall thickness of the casing body. Consideration should be given to “THIN WALL” casing. This will have to be evaluated by the qualified Hunting representative on location at that time. It is recommended, in questionable thin wall casing dump tests that 65% of the connection optimal torque be utilized. If the dump test results are questionable, contact HUNTING FIELD SERVICE for guidance.
- 4.5.3 When conducting multiple dump tests on casing, it is crucial that the Hunting representative have the tong operator release the jaws and remove the tongs from casing. Tongs are to be applied at a different area on the casing for sequential dump tests. Failure to do so may result in excessive die penetration or point loading which can jeopardize the integrity of the casing.

**4.6** A torque turn monitoring system is recommended to assist in confirmation of acceptable make-ups.

**4.6.1 Recommended Torque-Turn Equipment.**

A torque-turn/time or torque/turn monitoring system may be utilized. Monitoring equipment should be capable of resolving torque to 1/100th of a turn increments as a minimum but equipment capable of resolving torque to 1/1000th of a turn should be utilized when available. An enhanced computer display should be part of the torque-turn monitoring equipment and should be utilized to monitor make up. The monitoring equipment should be capable of dumping during the make-up by either the computer technician or when maximum parameters are reached. As the torque enters the acceptable window, the technician should be able to depress a function key to manually terminate the make-up. The system should be capable of automatic dumping as input parameters are met. The load cells used with the torque monitoring equipment should be calibrated every **six (6) months**, traceable to the appropriate national standard.

- 4.6.2 Back-up tongs should be placed below the box connection. Use back-up tongs for the first 10 joints or until sufficient weight is generated in the slips to prevent the entire string from rotating.

**NOTE 18:** In the event of horizontal makeups all ordinary procedures apply.

- 1) A Scribe Line across the connection shall be painted.
- 2) Any time the Scribe is no longer aligned the connection shall be retorqued in accordance with the appropriate sales data sheet and Field Running and Handling Procedures. The end user may request for the connection to be rechecked for torque at any time between the initial makeup and the run-in hole procedure.
- 3) The care and transportation of the doubles and the connections is the responsibility of the end user.



**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH/  
HEAVY WALL  
CONNECTIONS**

**SUBJECT: FIELD RUNNING AND HANDLING PROCEDURES**

**NOTE 19:** Power and backup tong dies shall be clean and not worn down and shall not leave marks **over the connection** exceeding 0.015" in depth. Excessive marks or sharp-bottomed marks must be removed. Removal may be by filing only; grinding is prohibited. **It is not recommended to bite over the box connection; however, accessory configuration may make this impossible.**

4.6.3 Position the power tongs approximately 7" above the pin connector.

**NOTE 20:** Do not allow the stabber to rock the tube during make-up or the guide arm to exert, push or pull additional forces during make-up.

4.6.4 Make up in high gear is allowed from stabbing to hand-tight but should be continuous and not exceed 20 RPM. Make-up speed should not vary excessively and should be continuous with no gear changing after the snub line becomes tight. In no case should the make up speed exceed 20 RPM in high gear and 5 RPM in low gear.

**NOTE 21:** If shoulder torques are high or low, adjust the thread compound application to **produce acceptable** make up torque curves. For high torque, apply more compound. For very high torque, apply **approved** Molybdenum Disulfide to both pin and box connectors prior to the application of the thread compound.

**NOTE 22:** The normal shoulder window is based on dimensional tolerances only. Other factors affecting shoulder torque are texture of phosphate coating, type of thread lubricant, make-up speeds, temperature, etc.

4.6.5 **If the recommended torque/turn monitoring equipment is used, a make-up torque/turn graph should be generated for every connection.**

4.6.6 Lower the elevators over the pipe after make-up is complete, not during make-up.

4.6.7 In the event torque/turn or torque turn/time equipment is used at the rig site, the following procedure should be used to set acceptance criteria:

- a) Prior to the job, the operating company representative should review the Hunting sales data sheet for this connection. Shoulder torque acceptance limits should be in the range shown on Hunting's optimum torque/turn graph.
- b) Those connections falling outside the acceptable shoulder torque values should be broken out and checked for damage. If no damage is found, the connection may be made up again. **Adjust doping procedures as suggested in NOTE 21 to achieve higher or lower shouldering torque as necessary.**
- c) A torque curve showing a small wave shall be acceptable. However, the connection with a wave in the torque curve exceeding the shouldering torque shall be broken out and visually inspected. If no damage is found, the connection may be made up again.
- d) Final torque in excess of the maximum acceptable final torque or less than the minimum acceptable final torque should be broken out and visually inspected. If no damage is found, the connection may be made up again.

**4.7 Pulling**

**4.7.1 Preparation**

- a) Slip type elevators are required.
- b) Use an alignment yoke and weight compensator when pulling casing.





**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH/  
HEAVY WALL  
CONNECTIONS**

<b>SUBJECT:</b>	<b>FIELD RUNNING AND HANDLING PROCEDURES</b>
-----------------	--

- c) Use power tongs with acceptable torque read-out and back-up tongs.
- d) A wooden platform must be used for standing back tubing. (Refer to API 5C1)
- e) Clean thread protectors should be available prior to laying down or standing back. As each connection is broken out, protectors shall be installed on each pin.

**NOTE 23:** Safety clamps and handling plugs must be used during pulling.

**4.7.2** Breaking Out

- a) Use power tongs with torque adjustment adequate for breakout without damaging pipe. When coming out of hole, the back-up tong should be placed on the pipe below the connection. Pipe wrenches or chain tongs shall not be used as back-ups.
- b) Break out the connection at a speed less than 10 rpm.
- c) After breaking loose continue to rotate at 10 RPM or less until the connection drops down one thread. Remove the power tongs and slowly pick up the joint. The connection will be disengaged and ready for separation in 5 to 6 turns from the power tight position.

**NOTE 24:** Do not spin after the connection has “dropped.” This can and will cause thread damage and/or galling.

- d) If excessive torque is noted, rotation should be stopped until cause is determined.
- e) Great care should be exercised to disengage all of the threads before lifting the tubing/casing out of the box. Do not jump out of the box. If this occurs, inspect the pin face, threads, and seal for damage.

**4.7.3** Standing Back (Tubing)

- a) Tubulars should be set on a firm wooden platform when stood back in the derrick.
- b) Protect threads from dirt or damage when the tubulars are out of the hole. Thread protectors should be installed on the pin members when standing back and may be required in the box when conditions warrant.

**4.7.4** Re-Running

- a) Clean connection members fully and inspect for damage.
- b) Re-run as per 4.4 and 4.5.

**4.7.5** Laying Down (Casing)

- a) Clean protectors shall be placed on the tubulars before they are laid down.
- b) If tubulars are stored or re-used, remove the protectors after laying down, clean and inspect connections. Coat all exposed threads with water displacing oil (WD-40) followed by Kendex or other acceptable storage compound and install clean thread protectors.





**RECOMMENDED  
PRACTICE  
SL-FLUSH/SEMI FLUSH/  
HEAVY WALL  
CONNECTIONS**

**SUBJECT: FIELD RUNNING AND HANDLING PROCEDURES**

**5.0 RUNNING PROCEDURE FOR ACCESSORIES MADE UP USING THREAD LOCKING  
COMPOUND / LUBRICANT**

- 5.1** Using steam, soap and hot water, or safety solvent, remove all thread storage or running compound from both pin and box connectors.
- 5.2** Ensure that the thread and sealing surfaces are clean, dry, and free of oil, grease, or residues.
- 5.3** On metal-to-metal seal connections, apply the Hunting recommended thread compound to the seal area on both elements (pin and box connectors).
- 5.4** Just prior to make up, the thread locking lubricant shall only be applied on the pin threads (not on the box), on the area that has not been covered by the approved thread compound.
- 5.5** When making up accessories like float equipment, hangers, thick wall accessories, and others, shoulder torques might be higher than normal due to relationship of the friction factors of the thread locking lubricant in comparison with the API Modified thread compounds and the wall thickness.
- 5.6** The make up torque of the accessories should be aimed to the maximum recommended torque. Therefore, if necessary, the published torque may be exceeded but in any case, shall not exceed 80% of the published minimum yield torque.