

Checklist for Large Tap/Stop-off Jobs

(Mueller C1-36 and T.D. Williamson Tap/stop-off Equipment)

1. Job location (street/town): Queens Harbor Blvd and Hwy 17 – Myrtle Beach
2. Date Tap/stop-off Scheduled: Wednesday, August 7th
3. Type of tap/stop equipment: 4" TDW Plastic "Tap Only"
4. Identify Tap/stop-off team members and establish job tasks/function (list members below and verify OQ Qualifications).
 - (Leader) JJ Burns
 - (Boom truck operator) N/A
 - (operator) Doug Miller
 - (operator) Thomas Johnson
 - (operator) _____
 - (operator) _____

NOTE: Once section 1-4 is completed fax or email a copy to Danny Lynch 1-803-733-4091

5. **Pre-Job Check-off Process (i.e. pre-job preparation & loading of equipment onto boom truck)**
 - Meet with tap/stop-off team & review assigned job tasks prior to performing required processes. _____
 - Ensure a copy of the required procedures and processes associated with tap/stop-off process are on the job site (to include a copy as required for each team member). ✓
 - Review fitting/pipe size to ensure proper tapping/stop-off equipment is identified & loaded. ✓
 - Inspect and verify that all equipment to be used during tap/stop-off process is in proper operating condition before loading on boom truck (to include spare fittings & equipment). ✓
6. **Job Site Check-off Process (i.e. on job site)**
 - Complete Pre-job Safety Briefing Form. ✓
 - Verify that equipment to be used matches fitting installed. ✓
 - Verify job site set-up (i.e. warning signs, cones, etc.). ✓
 - Inspect excavation. _____
 - Complete all required paper work (i.e. as built drawing, etc.). _____
7. **Post-Job Check-off Process (i.e. unloading/putting equipment back in warehouse/storeroom)**
 - Inspect and verify that all equipment used during tap/stop-off process is in proper operating condition before it is removed from boom truck and document any irregularities. (Include spare fitting & equipment as required). ✓
 - Communicate any issues with equipment to the responsible individual in order to repair, replace defective parts or purchase replacement equipment and/or parts as required. ✓
 - Send a copy of this checklist and Pre-job Safety Brief to Danny Lynch K-70. _____

Completed by: JJ Burns
 Supervisor: Alan H

Date: 8-7-19
 Date: 8-21-19

NOTE: Reference SCE&G O&M Procedure 109 – Tapping and Stopping Pipelines

Revision 6/1/12

Queens Harbor Blvd.

Name: _____ #: _____ Date: _____ PASS ☐

Employer: _____ Evaluator: _____ FAIL ☐

Task 21.5

Tap Pipelines – TDW 4" & 6" SHORTSTOPP

Preparation

- ☒ Prepare site and discuss safety concerns in accordance with SCE&G procedures.
- ☒ Verify completion plug is in good condition and is the correct plug for the fitting used.
- ☒ Check by visually inspecting and manually installing into fitting (hand tight).
- ☒ Install and test fitting in accordance with SCE&G and manufacturer procedures. Be sure to apply supplied thread compound to fitting bolts.
- ☒ Inspect isolated section of pipe, if additional weight may cause pipe to sag, install pipe supports as necessary; monitor pipe throughout procedure to ensure no sagging occurs.

Installing the Tapping Valve

- ☒ Remove fitting cap and completion plug.
- ☒ Lubricate interior O-ring and fitting adapter threads.
- ☒ Thread the fitting adapter onto the fitting; **hand tighten adapter** until completely sealed (a strap wrench can be used).
- ☒ Install pipe support over fitting adapter and attach brackets around pipe.
- ☒ Tighten brackets hand tight.
- ☒ Lubricate the exterior O-ring of fitting adapter.
- ☒ Install tapping valve on pipe support adapter with the arrow pointing away from pipe.
- ☒ Install the nuts hand tight.
- ☒ Tighten the nuts using a criss-cross pattern.
- ☒ Make sure the pipe is supported for the weight of the equipment.
- ☒ Retighten the pipe support assembly alternating from side to side.
- ☒ Close and open the tapping valve; record the number of turns.
- ☒ Measure from top of valve to top of fitting for completion plug (measurement 'J')

Installing the Drilling Machine

- ☒ Determine machine being used: PS 2000 XL or PS 2000 XXL. Be aware of height dangers associated with the taller machine, PS 2000 XXL.
- ☒ Lay drilling machine horizontally and unlock the feed tube; turn the feed tube clockwise extending the boring bar out of the tapping adapter.
- ☒ Install proper pilot drill and cutter assembly onto boring bar (wear gloves, cutter is very sharp).
- ☒ Secure cutter assembly to boring bar with spring clip. Wrap tape around spring clip to help hold it in place.

- ☒ Retract cutter fully into housing until bottom indentions are visible (zero position). Do this by turning the feed tube counter clockwise (all the way), and turning the boring bar counter clockwise (all the way).
- ☒ Measure distance from tip of pilot bit to bottom of flange (Measurement "A"). Measure distance from top of main to top of valve (Measurement "B"). Use these measurements to determine distance between pilot bit and main (B minus A). Make note of this distance (Distance "U").
- ☒ Close tapping valve.
- ☒ Install gasket on tapping valve.
- ☒ Install drilling machine onto the tapping valve and tighten with wrench using criss-cross pattern.
- ☒ Test fitting assembly.

Tapping the Line

- ☒ Open the tapping valve fully (count the turns).
- ☒ Unlock the feed tube.
- ☒ Mark Distance "U" on feed tube to show how far the tube needs to be advanced before the cutter touches the pipe.
- ☒ Turn the feed tube clockwise until the cutter touches the pipe. The distance traveled should match Distance "U".
- ☒ Lock the feed tube (rotate slightly to allow latch to lock into position).
- ☒ Refer to manufacture's minimum and maximum tap distances for relevant pipe size.
- ☒ Mark this distance on the boring bar (Distance "C").
- ☒ Open bleeder valve.
- ☒ Install the hand wheel on top of machine and turn clockwise to tap the pipe.
- ☒ When the pilot goes through the pipe it will relieve through the bleeder valve.
- ☒ Close bleeder valve.
- ☒ Resume tapping.
- ☒ Hand wheel will turn easily when tap is complete. This distance should align with mark on boring bar (Distance "C").
- ☒ Unlock the feed tube and rotate body tube counterclockwise to retract the cutter into the housing. If the feed tube cannot be retracted at this point lock the feed tube and continue tapping 6 complete turns of wheel handle. Repeat until feed tube can be easily retracted.
- ☒ Turn the wheel handle counterclockwise and retract the boring bar to zero (the upmost position).
- ☒ **Crew leader should verify feed tube AND boring bar are fully retracted to the upmost position.**
- ☒ Remove handle from boring bar.
- ☒ Close the tapping valve.
- ☒ Open bleeder valve to relieve pressure on top of valve.
- ☒ Remove drilling machine.
- ☒ Lay down drilling machine and advance feed tube to expose cutter and pilot drill for removal.
- ☒ Remove cutter and pilot drill.

- ☒ Disassemble pilot drill and cutter, push chips and coupon out through the cutter.

Bottom Out Tap

- ☒ Reassemble pilot bit in cutter (wear gloves) and install to drilling machine. When reinserting the pilot bit, install it into the shell cutter sharp end (cutting end) first. Installing it from the back side of the cutter hub may damage the threads on the pilot bit as it slips through the hole.
- ☒ Install proper pilot drill and cutter assembly onto boring bar (wear gloves cutter is very sharp).
- ☒ Secure cutter assembly to boring bar with spring clip. Wrap tape around spring clip to help hold it in place.
- ☒ Retract cutter fully into housing until bottom indentions are visible (zero position). Do this by turning the feed tube counter clockwise (all the way), and turning the boring bar counter clockwise (all the way).
- ☒ Lock the feed tube.
- ☒ Distance "U" was previously measured when tapping the top of the main. When tapping the bottom of the main, add the internal diameter of the main and the wall thickness of the main to this measurement "U". This gives you measurement "L".
- ☒ Install drilling machine onto the tapping valve and tighten with wrench using criss-cross pattern.
- ☒ Open bleeder valve slightly.
- ☒ Open tapping valve.
- ☒ Close bleeder valve after air is purged (be aware of the combustible mixture).
- ☒ Mark Distance "L" on feed tube to show how far the tube needs to be advanced before the cutter touches the pipe.
- ☒ Unlock the feed tube.
- ☒ Turn the feed tube clockwise until the cutter touches the pipe. The distance traveled should approximately match Distance "L".
- ☒ Lock the feed tube (rotate slightly to allow latch to lock into position).
- ☒ Refer to manufacture's minimum and maximum tap distances for relevant pipe size. Mark this distance on the boring bar (Distance "C").
- ☒ Install the hand wheel on top of machine and turn clockwise to tap the pipe.
- ☒ Hand wheel will turn easily when tap is complete. This distance should align with mark on boring bar (Distance "C").
- ☒ Unlock the feed tube and rotate body tube counterclockwise to retract the cutter into the housing. If the feed tube cannot be retracted at this point lock the feed tube and continue tapping 6 complete turns of wheel handle. Repeat until feed tube can be easily retracted.
- ☒ Turn the wheel handle counterclockwise and retract the boring bar to zero (the upmost position).
- ☒ **Crew leader should verify feed tube AND boring bar are fully retracted to the upmost position.**
- ☒ Remove handle from boring bar.
- ☒ Close the tapping valve.
- ☒ Open bleeder valve and relieve pressure (be aware of combustible mixture).

- ☒ Remove drilling machine.

Note: It may be beneficial to first install a set of well lubricated used sealing elements into the main to prepare the internal surface of the pipe. After inserting these sealing elements, the machine should be removed and new sealing elements installed for the plugging operation. While not written into the manufacturer's procedure, this step has been recognized by the manufacturer as improving the plugging process, particularly because of the extra lubrication applied to the inside wall of the pipe.

Prepare Plugging Head

- ☐ Extend control bar through plugging head housing.
- ☐ Install sealing elements onto nose pieces (6" seal require adapter plates). Lubricate the inside of the sealing element halves lightly.
- ☐ Attach sealing head assembly onto plugging head bar.
- ☐ Fully open the folding until pin locks into position.
- ☐ Lubricate edges of sealing elements.
- ☐ Fold and lock plugging head in closed position and remove handles.
- ☐ Lubricate the flat (mating) surfaces of the sealing elements.
- ☐ Fully retract plugging head into plugging head housing.
- ☐ Measure distance from bottom of sealing elements to face of flange (measurement "D"). Recall distance from top of main to bottom of valve (measurement "B"). Add pipe outside diameter together with "B" and "D" to get total distance to set plugging head (measurement "P"). Distance "P" is approximately how far the plugging head will need to go down until it reaches the correct position to stop off the main.

Plugging the Main Line

- ☐ Mount plugging machine onto tapping valve.
- ☐ Open bleeder valve.
- ☐ Open tapping valve.
- ☐ Close bleeder valve when free of air.
- ☐ Measure from top of control bar clamp upwards distance "P" and slide metal ring to this position. This will be an approximate position.
- ☐ Install handles on plugging machine.
- ☐ Turn control bar handles 45 to 90 degrees to the run of the main and lower into pipe.
- ☐ Lower plugging head (to mark).
- ☐ Twist top control bar clockwise to disengage locking pin.
- ☐ Open handles until snaps into open position. Some jockeying of the handle to include raising or lowering could be required as it opens.
- ☐ When handle locks turn the plugging head until arrow on the top handle points to isolated section. Ensure plugging head is fully inserted in main toward isolated section to obtain a complete seal. Some adjustment up or down may be required to obtain a complete seal.
- ☐ Tighten control bar latch.
- ☐ Turn the jack/bar lock mechanism opposite the isolated section and secure.
- ☐ Tighten control bar clamp.

- ☐ Bleed pressure off isolated section.
- ☐ Remove handles.

Remove Plugging Head

- ☐ Install control bar handles.
- ☐ Loosen and unlatch control bar latch.
- ☐ Slightly loosen control bar clamp.
- ☐ Turn control bar to break plugging head seal.
- ☐ Turn upper handle to unlock and bring handles together.
- ☐ Remove handles.
- ☐ Retract plugging head with jack.
- ☐ Close tapping valve.
- ☐ Bleed off pressure.
- ☐ Remove plugging machine from valve.

Setting the Completion Plug

- ☒ Install completion plug, in a clockwise rotation, onto end of control bar.
- ☒ Lubricate O-ring and threads of completion plug.
- ☒ Pull control bar upward bringing the completion plug into machine adapter.
- ☒ Tighten locking nut.
- ☒ Install bleeder valve onto machine adapter.
- ☒ Install completion machine onto tapping valve.
- ☒ Open bleeder valve.
- ☒ Open tapping valve.
- ☒ Close bleeder valve.
- ☒ Mark (measurement 'J') on the control bar to ensure completion plug is properly installed.
- ☒ Loosen locking nut and lower control bar until completion plug hits top of fitting.
- ☒ While holding plug down, turn wheel handle clockwise until plug is threaded into fitting.
- ☒ Gently try to pull the control bar up to make sure threads are engaged.
- ☒ Push down on control bar and turn ¼ turn counterclockwise to release control bar from completion plug.
- ☒ Raise control bar to upmost position and tighten locking nut.
- ☒ Open bleeder valve to release pressure.
- ☒ Remove all equipment from fitting.
- ☒ Install cap and soap test (strap wrench may be required to tighten cap).

Completion

- ☒ Return area to normal operating conditions
- ☒ Complete any relevant documentation associated with task in accordance with SCE&G procedures

NOTE:
Take ALL Measurements Before Tapping.

INFORMATION

Tapping Chart

Pipe Size	Cutter Diameter	SDR 11	SDR 13.5	SDR 17
4"	2.79"	1.55"	1.44"	1.34"
6"	3.66"	2.56"	2.42"	2.35"

Bottom Tap (Lower-in Distance plus Stroke Distance)

Pipe Size	Cutter Diameter	Distance	SDR 11	SDR 13.5	SDR 17
4"	2.40"	Stroke	4.09"	4.17"	4.24"
		Tap	2.45"	2.36"	2.27"
6"	3.15"	Stroke	6.02"	6.13"	6.24"
		Tap	3.31"	3.17"	2.55"

Record the turns required to operate the following:

SHORTSTOPP® Valve _____

Completion Plug _____



T.D. Williamson, Inc.

USA Toll Free: 888-TDWmSon (888-839-6766)

www.tdwilliamson.com

* Registered trademarks of T.D. Williamson, Inc. in the United States and in foreign countries. * TM Trademarks of T.D. Williamson, Inc. in the United States and in foreign countries.
Copyright © 2010 All rights reserved T.D. Williamson, Inc. Pub#: 63-403-0910-ENG

NOTE:
Take ALL Measurements Before Tapping.



T.D. Williamson, Inc.
Pipeline Performance™

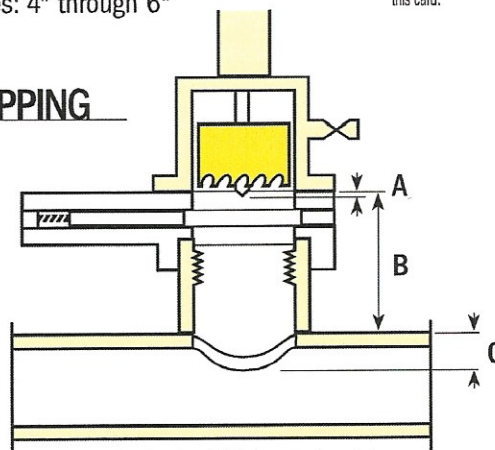
Tapping & Plugging Measurement Card

SHORTSTOPP® II PE SYSTEM

Sizes: 4" through 6"

NOTICE: Read the operating instructions in the appropriate TDW manual before using this card.

TAPPING



Representative drawing - PE fitting adapter not shown.

Start Hot Tap

Job no: Queens Harbor

Date: 8-7-19

Time: 9:00 AM Approval: _____

Upstream Downstream

B Top of Valve to Top of Pipe

13"

- A Bottom of Pilot to Bottom of Housing

1 1/2"

U = Lower-in Distance

11 1/2"

+ C Refer to Tapping Distance Chart

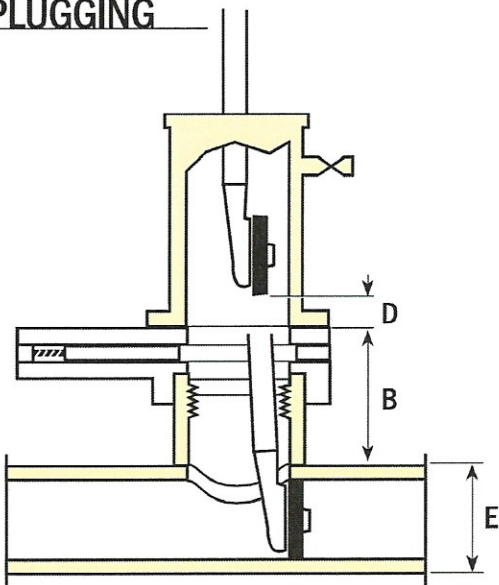
1 1/2" / 4"

= Total Travel Distance

13" / 15 1/2"

NOTE:
Take All Measurements Before Tapping.

PLUGGING

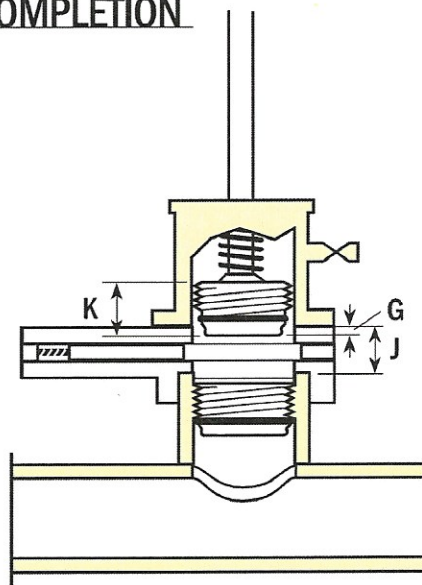


Representative drawing - PE fitting adapter not shown.

Set Plugging Head	Date:	Time:	Approval:																		
Pull Plugging Head	Date:	Time:	Approval:																		
	<table><tr><th></th><th>Upstream</th><th>Downstream</th></tr><tr><td>D Bottom of S.E. to Bottom of Housing</td><td></td><td></td></tr><tr><td>+ B Top of Valve to Top of Pipe</td><td></td><td></td></tr><tr><td>+ E (Pipe OD)</td><td></td><td></td></tr><tr><td>- One Wall Thickness</td><td></td><td></td></tr><tr><td>= Total Distance to Set Plugging Head</td><td></td><td></td></tr></table>				Upstream	Downstream	D Bottom of S.E. to Bottom of Housing			+ B Top of Valve to Top of Pipe			+ E (Pipe OD)			- One Wall Thickness			= Total Distance to Set Plugging Head		
	Upstream	Downstream																			
D Bottom of S.E. to Bottom of Housing																					
+ B Top of Valve to Top of Pipe																					
+ E (Pipe OD)																					
- One Wall Thickness																					
= Total Distance to Set Plugging Head																					

NOTE:
Take All Measurements Before Tapping.

COMPLETION



Representative drawing - PE fitting adapter not shown.

	Upstream	Downstream
J Top of Valve to Top of Fitting	9 1/2"	
- G Face of Adapter to Bottom of Plug	1"	
+ K Plug Thickness	1-1/2"	1-1/2"
= Total Distance to Set Completion Plug	10"	