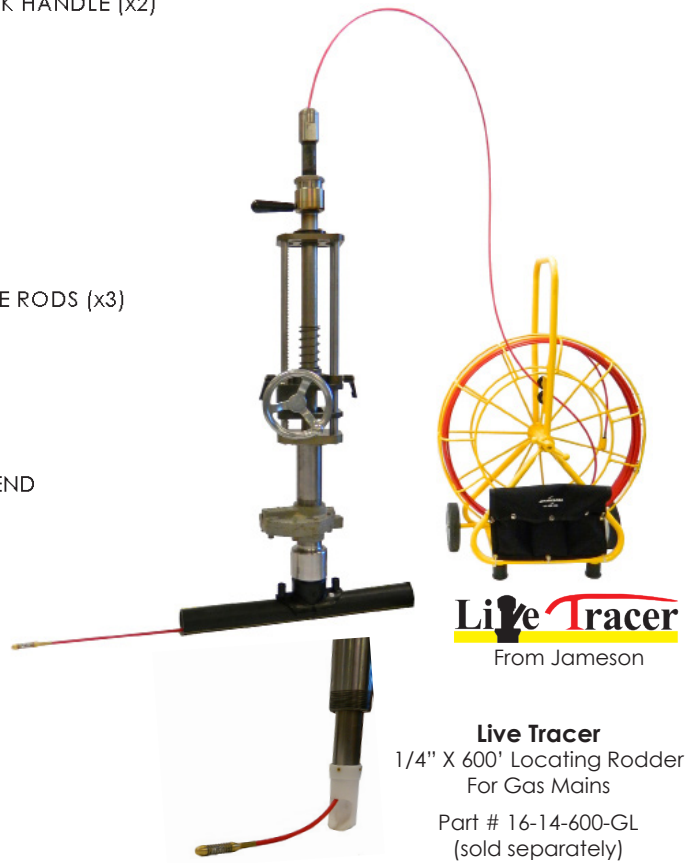
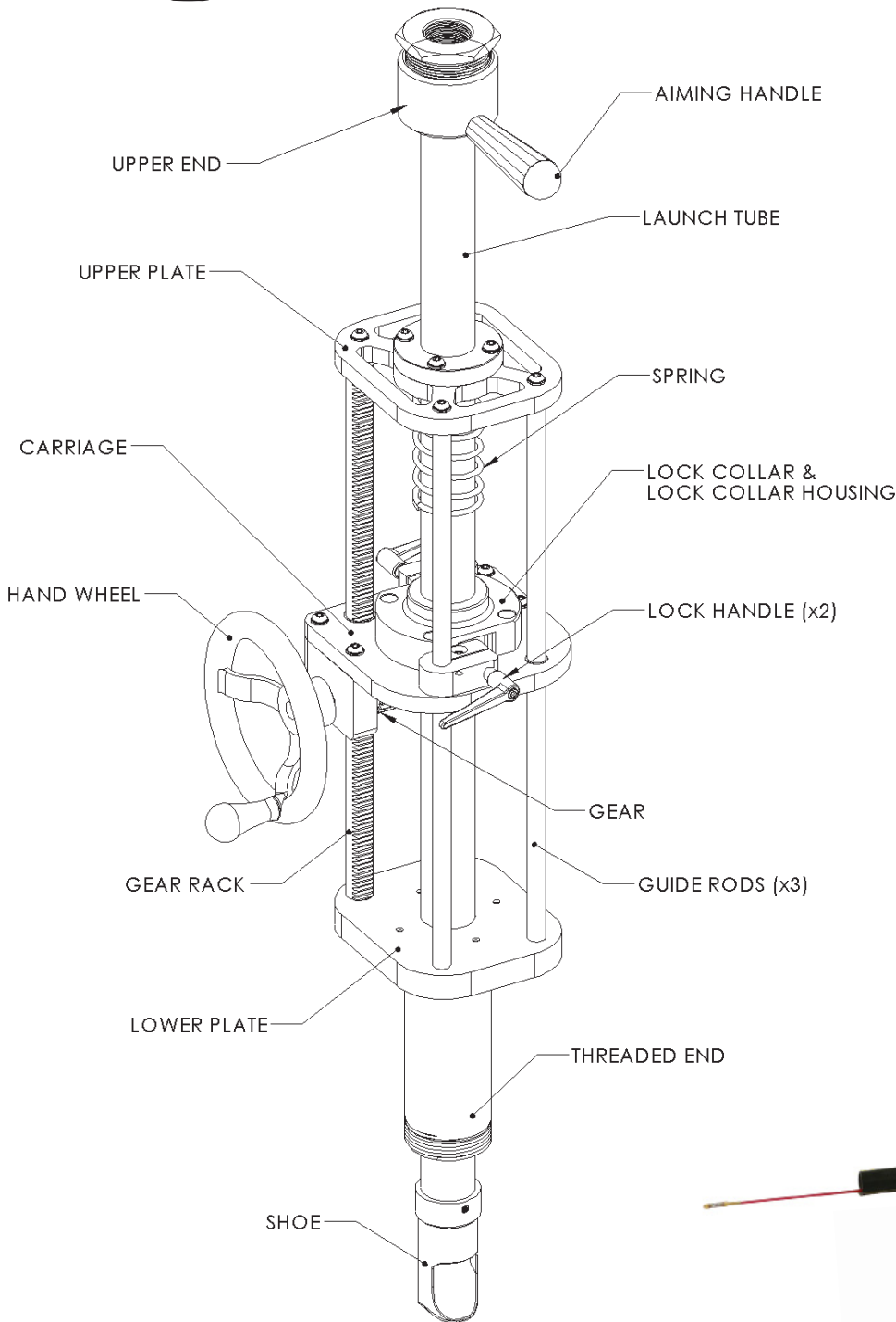


**OPERATION AND SAFETY MANUAL**

**Directional Entry Tool**

Directional Entry Tool with Hard Case	16-DT-2-C
Weight, Tool Only	21.5 lbs.
Weight In Case	50 lbs.
Tool Dimensions	40.5 x 11 x 9.5 in.
Case Dimensions	42 x 13 x 12 in.
Thread size	2" NPT
Pressure Rating	125 psi



**Live Tracer**  
1/4" X 600' Locating Rodder  
For Gas Mains  
Part # 16-14-600-GL  
(sold separately)

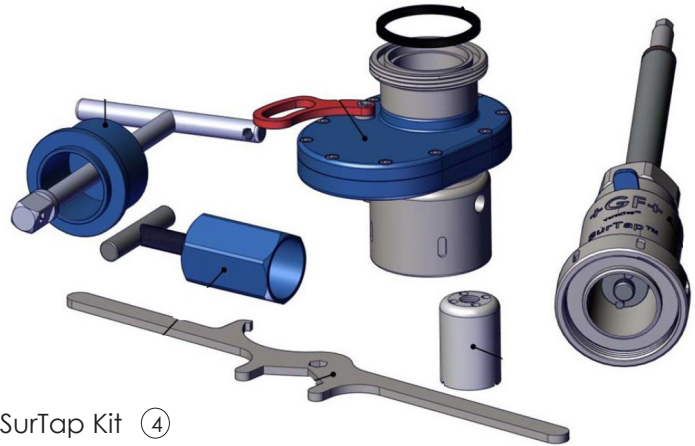
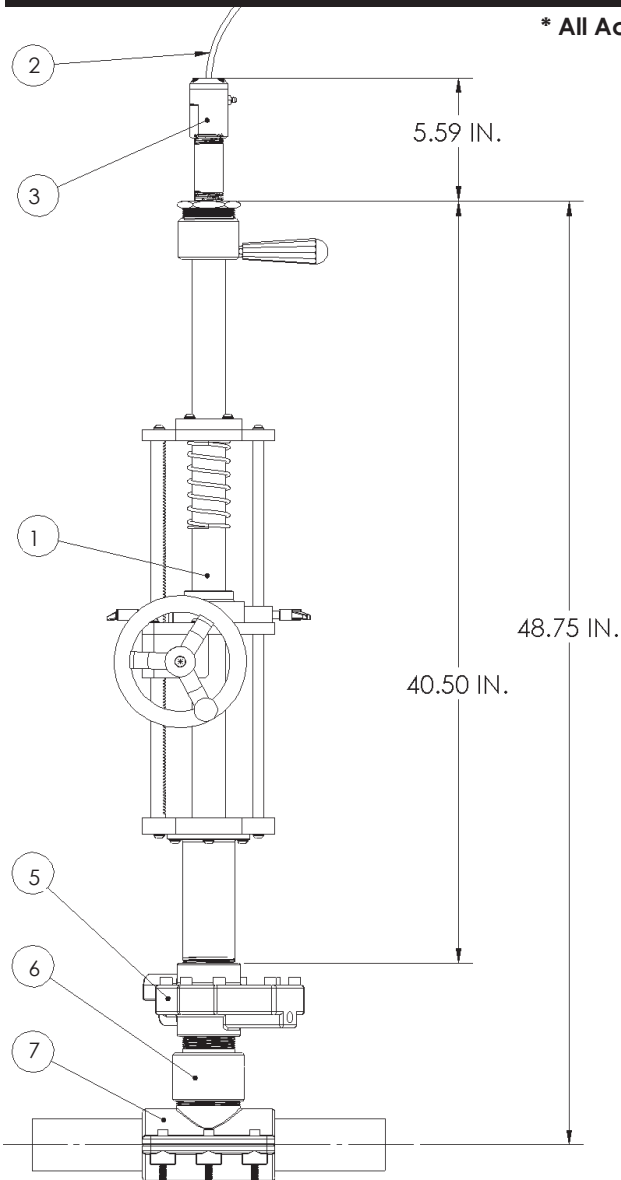
\* Due to continuous improvement, specifications may change at any time.

**Warranty**

Jameson products carry a warranty against any defect in material and workmanship for a period of one year from date of shipment unless failure is due to misuse or improper application. Jameson shall in no event be responsible or liable for modifications, alterations, misapplications or repairs made to its products by purchaser or others. This warranty is limited to repair or replacement of the product and does not include reimbursement for shipping or other expenses incurred. Jameson disclaims any other express or implied warranty.

## Accessories

\* All Accessories Sold Separately



Example Application: 2" IPS Pipe  
Dimensions Shown With Tool Fully Retracted

Other Configurations Can Be Implemented. Always Confirm Compatibility Of Accessories In A Lab Environment.

Several Accessories Are Required To Use Jameson's Directional Entry Tool. Please Review Charts Below For Compatible Accessories. Contact Manufacturer Listed For Pricing And Availability.

### Tools Required For Example Shown: Tracing A Gas Main With Jameson Live Tracer

	Manufacturer	Part Number	Description
1		16-DT-2-C	Directional Entry Tool, 2" NPT
2	Jameson	16-14-600-GL	1/4" x 600 ft. "Live Tracer" traceable rod for gas mains with stuffing box and accessories
3		16-SB	Stuffing Box, for 1/4" rod (included with 16-14-600-GL)
4		360063170	SurTap Kit: Sur Tap Device, cutter, gasket, knife valve, fitting adapter, spanner wrench, coupon removal tool, completion plug installation tool, storage case
5		360062606	Valve, 2" NPT (included with SurTap Kit 360063170)
6		360062601	Fitting Adapter for VersaTap, 2" NPT male x 2-7/8"-10 buttress female (included with 360063170)
7	GF Central Plastics	360061520	VersaTap electrofusion fitting, 2" IPS, black, 4.7mm electrodes, w/ completion plug and external cap
		360061521	VersaTap electrofusion fitting, 3" IPS, black, 4.7mm electrodes, w/ completion plug and external cap
		360061522	VersaTap electrofusion fitting, 4" IPS, black, 4.7mm electrodes, w/ completion plug and external cap
		360061523	VersaTap electrofusion fitting, 6" IPS, black, 4.7mm electrodes, w/ completion plug and external cap
		360061524	VersaTap electrofusion fitting, 8" IPS, black, 4.7mm electrodes, w/ completion plug and external cap
		360064094	Quick Connect adapter for lower end of Jameson 16-DT-2-C (optional, not pictured)

## Accessories

### Accessories For Camera Inspection (Available From Manufacturers Shown Below)

Manufacturer	Part Number	Description
Tellus Underground	TCL-4201	Stuffing Box with split head for camera insertion, 2" NPT, includes gasket set of your choice.
	CLK 4212	10 mm Gasket Set for TCL-4201
	CLK 4211	8 mm Gasket Set for TCL-4201
	CLK 4210	7 mm Gasket Set for TCL-4201
Hathorn Corp.	110002	Key Hole Gas Camera System, 3/8" x 400 ft, compatible with Jameson 16-DT-2-C, use 10mm gasket set

### Fittings For Steel Pipe (Available From Manufacturers Shown Below)

Continental	CD-548	Mechanical Bolt-On Fitting 2" IPS X 2" NPT
	CD-548-1	Mechanical Bolt-On Fitting 4" IPS X 2" NPT
Various		Weld-On Stopper Nipples

## Instructions For Directional Entry Tool

The following instructions describe an example set-up using Georg Fischer Central Plastics VersaTap fittings and SurTap Kit. Other types of saddles may be used, however the basic process will be similar.

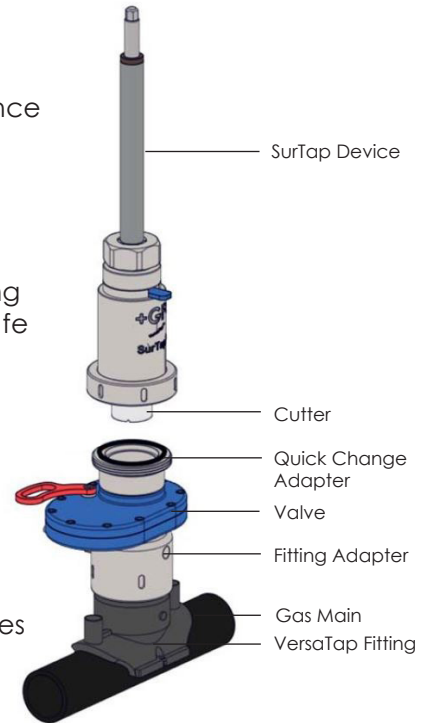
Always follow your company procedures.

**Notice:** Before using Directional Entry Tool (“the tool”), VersaTap fittings and SurTap kit for the first time, it is strongly recommended to perform the procedure outlined below in a controlled laboratory environment. Make any necessary adjustments to the tools or your procedures prior to performing any live work.

1. Identify pipe to be traced. Excavate work site per company procedures to expose at least 2 feet of pipe, removing soil around the complete circumference of pipe. It may be necessary to install supports under pipe to prevent buckling once work begins.
2. Install VersaTap fitting per manufacturer's instructions and follow company procedures. Verify top face of Versatap fitting is level to ensure tools mounted to it will align vertically. Remove cap and completion plug from VersaTap fitting following manufacturer's instructions. Store completion plug in a clean, dry safe place.

### Tapping The Pipe

3. Install fitting adapter to valve. Follow company procedures to ensure proper seal is achieved.
4. Install valve with fitting adapter to VersaTap fitting. Follow company procedures to ensure proper seal is achieved. Close valve. Pressure testing, if required by company procedures, can now be performed by installing optional mini-valve and pressure gauge into ports of fitting adapter.
5. Install low torque cutter into SurTap device per manufacturer's instructions. Open valve before installing SurTap device. Follow manufacturer's instructions to install SurTap device onto valve.
6. Verify valve is open. Tap pipe by following manufacturer's instructions to operate SurTap device.
7. Retract SurTap device and close valve. Remove SurTap device.



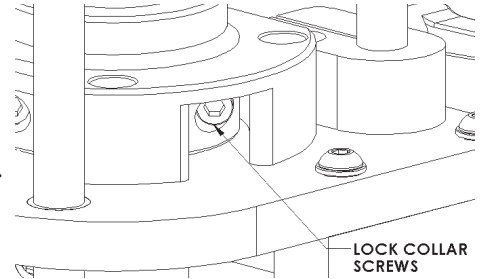
## Before Installing The Tool: Inspection and Launch Verification

Steps 8-13 should be performed in a controlled laboratory environment. The fully verified and adjusted Tool can then be used with no interruptions in the field.

8. Move Tool to a clean, dry place. Verify Tool is clean and lubricated. Apply company approved grease to gear rack and gear as necessary. Wipe guide rods clean and lubricate with company approved spray lubricant as needed.

9. Be certain shoe is secured tightly to launch tube of Tool, and all three set screws are completely engaged. The mouth of the shoe should be aligned with aiming handle at opposite end of the launch tube.

10. Turn hand wheel so carriage retracts completely to the top and compresses the spring. Lock carriage in place using the two lock handles. Verify lower edge of shoe will not interfere with closing the valve. The shoe may protrude slightly from bottom of the Tool, but valve can still close.



11. If adjustment is required to allow the shoe to retract further, loosen lock collar located inside lock collar housing. The lock collar screws are accessible through slots in lock collar housing. Slide launch tube to retract the shoe to the desired position then tighten the two lock collar screws.

12. Install valve and fitting adapter to a VersaTap fitting that is fused to a test pipe. Install the Tool to top of valve and open valve. Turn hand wheel to lower launch tube until shoe is inserted into pipe, allowing collar at upper end of shoe to rest on edge of tapped hole. Verify camera or traceable rod can launch successfully.

13. Use a permanent marker to make a mark on one of the guide rods at upper edge of carriage. Use this mark as a reference in the field to indicate when shoe is fully inserted.

## Installing The Tool

14. Use hand wheel to fully retract carriage and compress spring.

15. Lock carriage using the two lock handles.

**\*\*\*CAUTION\*\*\***When pressure is applied to Tool from gas main, the carriage can raise suddenly if not locked in place.

16. Install threaded end of Tool onto closed valve. The Tool can be threaded into valve directly, or quick-change fitting can be used if Tool is fitted with quick-change adapter. Follow your company approved sealing methods to ensure proper seal is achieved.

**NOTE:** The required travel length of launch tube differs when using quick-change adapter. Always verify launching capability in a controlled lab environment as described in steps 8-13 before performing a live installation.

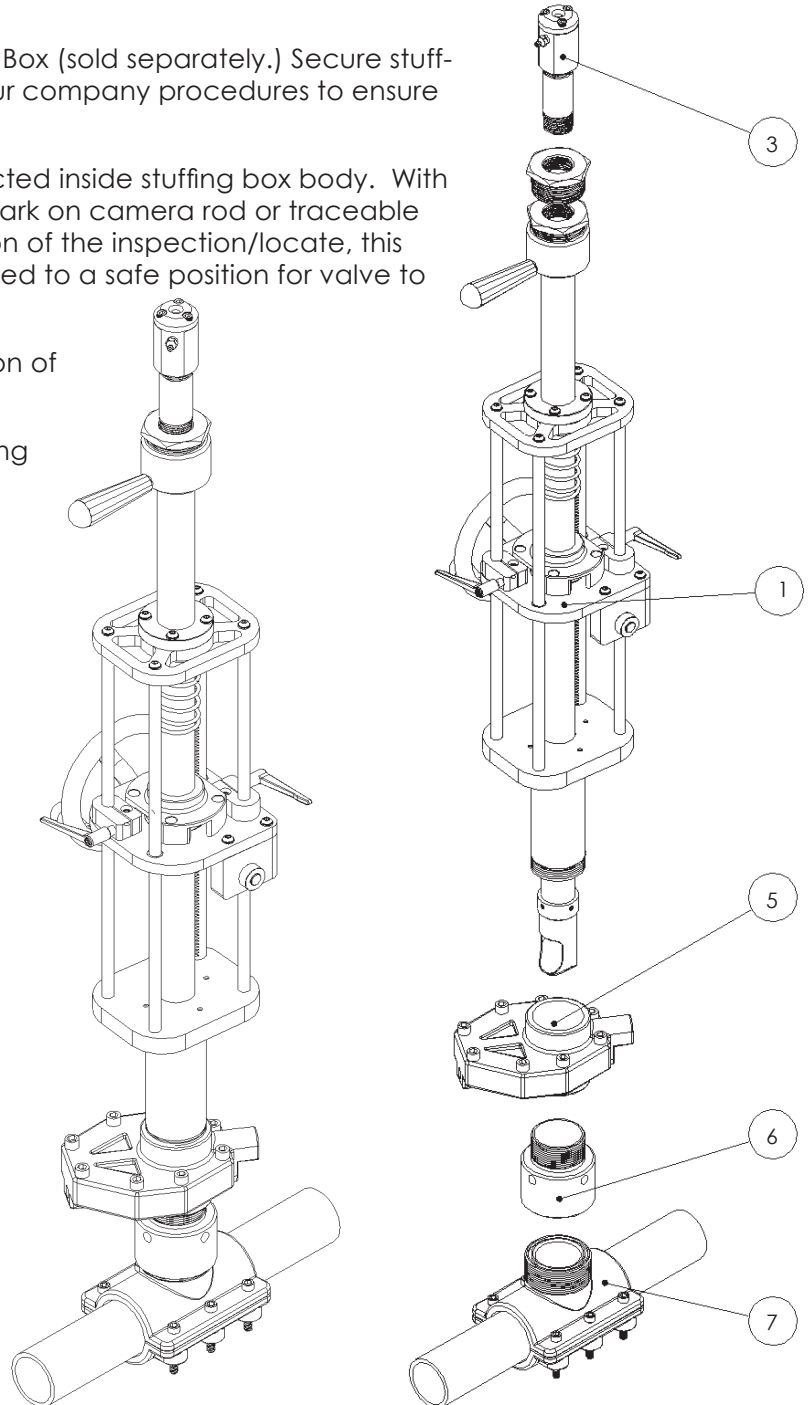
17. Install camera or traceable rod into Stuffing Box (sold separately.) Secure stuffing box to upper end of launch tube. Follow your company procedures to ensure proper seal is achieved.

18. Verify camera head or tip of rodder is retracted inside stuffing box body. With a permanent marker (black or silver), make a mark on camera rod or traceable rod where it enters stuffing box. After completion of the inspection/locate, this mark will indicate when rod or camera is retracted to a safe position for valve to be closed.

19. Turn aiming handle so it is pointed in direction of pipe you intend to launch.

20. Open valve. Use optional mini-valve on fitting adapter or the valve on camera stuffing box to purge air/gas mixture from inside tool. Follow company procedures.

21. Follow your company procedures to verify there are no leaks.



## Inserting Camera or Traceable Rod

22. Loosen lock handles on the Tool.
  23. Turn hand wheel to lower carriage and insert launch tube. This inserts shoe into pipe. There will be resistance due to internal pressure of gas main.
  24. When the visible mark applied in Step 13 is approached, feel for resistance in hand wheel to indicate shoe is fully inserted with collar of shoe resting on edge of tapped hole.
  25. Securely tighten both lock handles.
- \*\*\*CAUTION\*\*\*** When pressure is applied to the Tool from gas main, carriage can raise suddenly if not locked in place.
26. If available, use a C-clamp or other mechanical means to hold carriage in locked position as a redundant lock mechanism.
  27. Insert camera or traceable rod following manufacturer's instructions and your company procedures. Push rod in short sections. If an obstruction is felt, do not force rod. Use Jameson lubricated wipes to assist launching Jameson traceable rod.

## Changing Direction

28. When inspection or tracing is complete in first direction, retract camera or tracing rod until the mark on rod is visible, indicating camera head or rod tip is completely inside launch tube. If used on 3" gas mains or larger, turn aiming handle 180° in opposite direction and skip to step 34. If used on a 2" gas main, go to the next step.
29. Remove C-clamp from Step 26, if necessary.
30. Grasp hand wheel firmly and unlock the two lock handles. Use caution as pressure will cause carriage to raise suddenly.
31. Raise shoe approximately 1/2" and turn aiming handle 180° to the opposite direction.
32. Lower shoe using hand wheel until it bottoms out in pipe.
33. Securely tighten the two lock handles. Re-install C-clamp if used.
34. Insert camera or traceable rod to launch in opposite direction.

## Removing Camera or Traceable Rod

35. Remove camera or traceable rod until mark on rod from step 18 is visible.
36. Verify security of both lock handles.
37. Remove C-clamp from Step 26, if necessary.
38. Grasp hand wheel firmly and slowly release tension of the lock handles. Maintain firm grip on hand wheel, as internal pressure will raise carriage abruptly.
39. Allow carriage to retract to fully raised position.
40. Tighten both lock handles.
41. Close valve.
42. Purge gas from Tool and remove Tool per your company procedures.

## Installation of Completion Plug

43. Install VersaTap fitting completion plug using plug installation tool following manufacturer's instructions.
44. Retract plug installation tool, close valve and remove plug installation tool following manufacturer's instructions.
45. Remove valve and check for leaks per company procedures.
46. Install outer cap to VersaTap fitting per manufacturer's instructions. Check for leaks following company procedures.