



Coil Tubing Connector

MAN-TTT-740 (R01)

Thru-Tubing Technology

A Division of Owen Oil Tools LP

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Coil Tubing Connector

Description

The Coil Tubing Connector is designed to be used on coil tubing having a diameter of 1.00-2.375 inches. The connector consists of a top sub, slip, brass ring, set screws, o-rings and a bottom sub. The Coil Tubing Connector is designed to surpass the tensile and burst of the coil tubing, therefore making the connector much stronger than the coil itself. The connector has a maximum ID for a non-restricted flow rate and allows balls to pass to tools below.

Operation

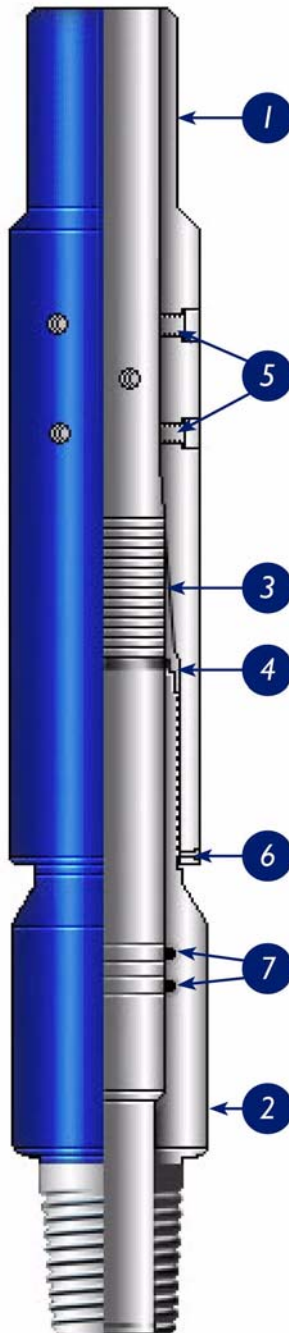
Installation is simple, the top sub and bottom sub are loosened so the slip can move freely, then the tool is slipped over the dressed coil tubing, and the coil is bumped down in the bottom sub. Holding a back-up wrench on the top sub, the bottom sub is then tightened, forcing the hardened slip around the coil. It is recommended to run a pull and pressure test once the connector is assembled on the coil.



Note: Unless otherwise indicated, all the strength figures given in this manual, are the result of calculations based on the yield strength of the material used in the manufacture of this product. These strength calculations are considered accurate within plus or minus 20% and are to be used only as a guide. They do not constitute a guarantee, actual or implied. In use, appropriate allowance should be made as a safety factor.

Coil Tubing Connector

TT0740-168A BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-168A-001 |
| 2 | 1 | Bottom Sub | TT0740-168A-002 |
| 3 | 1 | Slip f/1" Coil | TT0740-168A-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-168A-004 |
| 5 | 9 | Steel Allen Set Screws 1/4-20 x 1/4" | PUR-TSAS160-016 |
| 6 | 4 | Steel Allen Set Screws 5-40 x 1/8" | PUR-TSAS080-008 |
| 7 | 2 | O-Rings 1" x 1 1/4" x 1/8" 2-214 | PUR-TORV000-214 |
| 8 | 1 | SF Allen Wrench (not shown) | PUR-TSTWA00-004 |

Tool Name: 1.688 in. OD Coil Connector f/ 1 in. Coil Tubing

Product Code: TT0740-168A **Tool OD:** 1.688 in. **Tool ID:** 0.75 in.

Material: AISI 4140 HT **Tool Length:** 12.4 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: The fillet on the OD of the Bottom Sub, 30,500 lbs; bowl taper swell of the Top Sub, 40,400 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves of the Bottom Sub, 29,200 psi.

Torsional Weak Point and Ft-Lbs to Yield: 1,640 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet.

Recommended Make Up Torque:

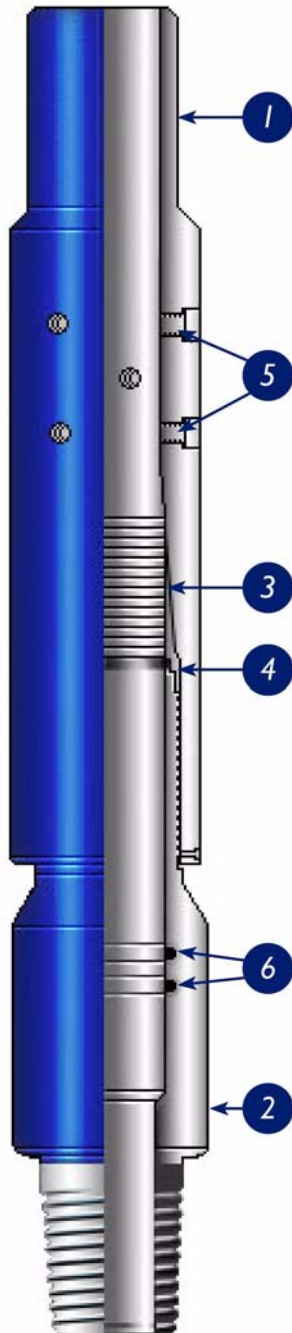
1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 100 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

3rd Connection: The 5-40 Steel Allen set screws - 9.5 in-lbs.

Coil Tubing Connector

TT0740-169B BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Top Sub | TT0740-168B-001 |
| 2 | 1 | Bottom Sub | TT0740-168B-002 |
| 3 | 1 | Slip f/1-1/4" Coil | TT0740-175B-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-175B-004 |
| 5 | 6 | Steel Allen Set Screws 1/4-20 x 3/16" | PUR-TSAS160-012 |
| 6 | 2 | O-Rings 1 1/4" x 1 7/16" x 3/32" 2-214 | PUR-TORV000-124 |

Tool Name: 1.688 in. OD Coil Connector f/ 1-1/4 in. Coil Tubing

Product Code: TT0740-169B **Tool OD:** 1.688 in. **Tool ID:** 0.75 in.

Material: AISI 4140 HT / AISI 4340 HT **Tool Length:** 12.3 in. w/ 1 in. MT

Minimum Yield: 100,000 psi (140,000 psi f/ Top Sub)

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 20,000 lbs.

Burst Point and Burst Pressure: The O-ring grooves on the Bottom Sub, 15,700 psi.

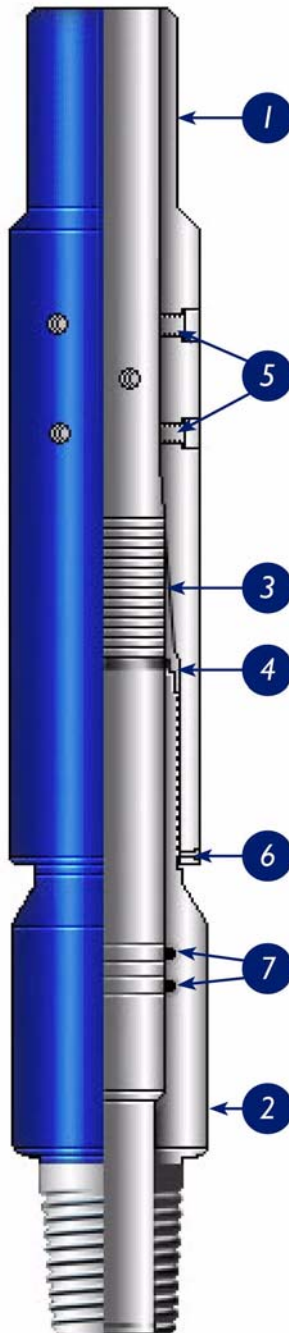
Torsional Weak Point and Ft-Lbs to Yield: 1,500 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet.

Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 370 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

TT0740-175B BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Top Sub | TT0740-175B-001 |
| 2 | 1 | Bottom Sub | TT0740-175B-002 |
| 3 | 1 | Slip f/1 1/4" Coil | TT0740-175B-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-175B-004 |
| 5 | 9 | Steel Allen Set Screws 1/4-20 x 1/4" | PUR-TSAS160-016 |
| 6 | 4 | Steel Allen Set Screws 5-40 x 1/8" | PUR-TSAS080-008 |
| 7 | 2 | 2-124 O-Rings 1 1/4" x 1 7/16" x 3/32" | PUR-TORV000-124 |
| 8 | 1 | SF Allen Wrench (not shown) | PUR-TSTWA00-004 |

Tool Name: 1.750 in. OD Coil Connector f/ 1-1/4 in. Coil Tubing

Product Code: TT0740-175B **Tool OD:** 1.750 in. **Tool ID:** 0.75 in.

Material: AISI 4140 HT / AISI 4340 HT **Tool Length:** 12.3 in. w/ 1 in. MT

Minimum Yield: 100,000 psi (140,000 psi f/ Top Sub)

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Either of the O-ring grooves of the Bottom Sub, 26,600 lbs; bowl taper swell of the Top Sub, 35,200 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 19,200 psi.

Torsional Weak Point and Ft-Lbs to Yield: 1,880 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet.

Recommended Make Up Torque:

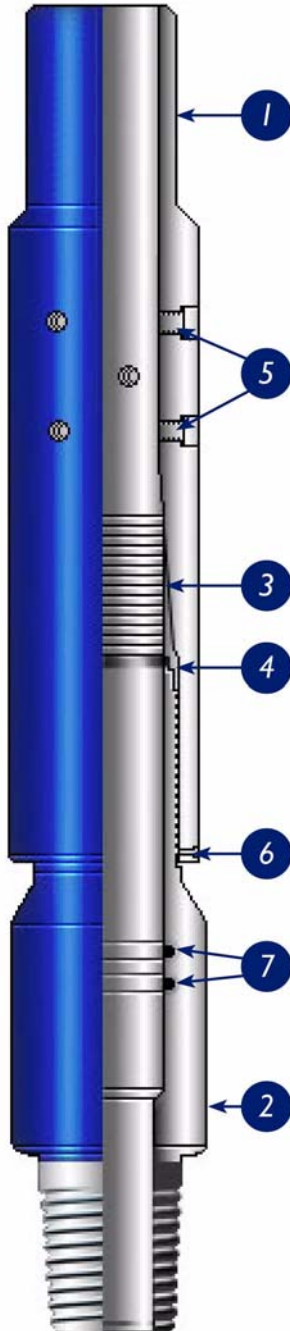
1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 560 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

3rd Connection: The 5-40 Steel Allen set screws - 9.5 in-lbs.

Coil Tubing Connector

TT0740-181B BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Top Sub | TT0740-181B-001 |
| 2 | 1 | Bottom Sub | TT0740-181B-002 |
| 3 | 1 | Slip f/1 1/4" Coil | TT0740-175B-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-175B-004 |
| 5 | 9 | Steel Allen Set Screws 1/4-20 x 1/4" | PUR-TSAS160-016 |
| 6 | 4 | Steel Allen Set Screws 5-40 x 1/8" | PUR-TSAS080-008 |
| 7 | 2 | O-Rings 1 1/4" x 1 7/16" x 3/32" 2-124 | PUR-TORV000-124 |
| 8 | 1 | SF Allen Wrench (not shown) | PUR-TSTWA00-004 |

Tool Name: 1.813 in. OD Coil Connector f/ 1-1/4 in. Coil Tubing

Product Code: TT0740-181B **Tool OD:** 1.813 in. **Tool ID:** 0.75 in.

Material: AISI 4140 HT **Tool Length:** 12.34 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 28,200 lbs; the OD fillet on the Bottom Sub, 30,300 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves of the Bottom Sub, 22,600 psi.

Torsional Weak Point and Ft-Lbs to Yield: 2,030 ft-lbs as a function of torsional yield of the Bottom Sub at the fillet on the OD; 2,770 ft-lbs as a function of O-ring groove collapse of either O-ring groove on the Bottom Sub.

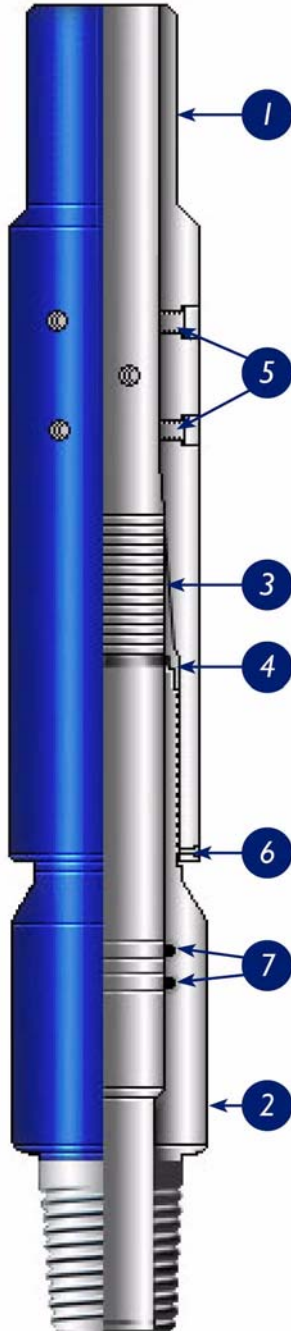
Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 500 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

3rd Connection: The 5-40 Steel Allen set screws - 9.5 in-lbs.

TT0740-206B BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-206B-001 |
| 2 | 1 | Bottom Sub | TT0740-206B-002 |
| 3 | 1 | Slip f/1 1/4" Coil | TT0740-175B-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-175B-004 |
| 5 | 9 | Steel Allen Set Screws 1/4-20 x 1/4" | PUR-TSAS160-016 |
| 6 | 4 | Steel Allen Set Screws 5-40 x 3/16" | PUR-TSAS080-012 |
| 7 | 2 | O-Rings 1 1/4" x 1 1/2" x 1/8" 2-218 | PUR-TORV000-218 |
| 8 | 1 | SF Allen Wrench (not shown) | PUR-TSRWA00-004 |

Tool Name: 2.063 in. OD Coil Connector f/ 1-1/4 in. Coiled Tubing

Product Code: TT0740-206B **Tool OD:** 2.063 in. **Tool ID:** 1.0 in.

Material: AISI 4140 HT **Tool Length:** 13.0 in. w/1-1/2 in. MT

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 42,800 lbs; the thread relief of the box connection of the Top Sub, 47,200 lbs; the fillet on the OD of the Bottom Sub, 54,200 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 30,900 psi.

Torsional Weak Point and Ft-Lbs to Yield: 3,640 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet.

Recommended Make Up Torque:

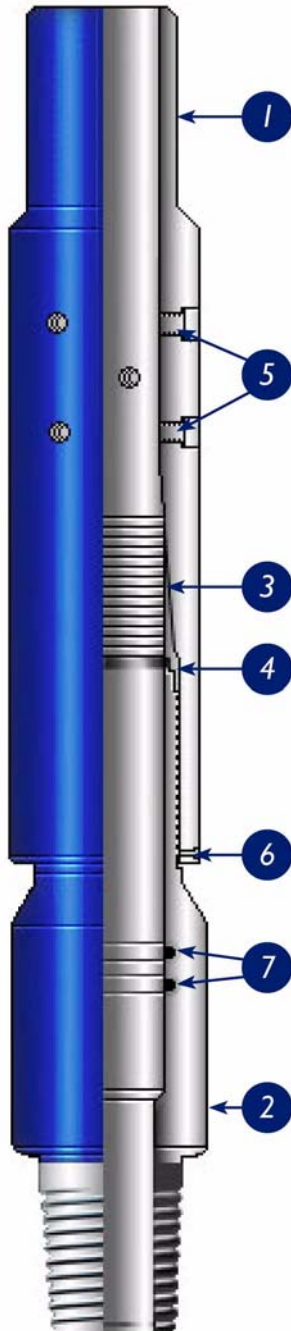
1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 1,090 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

3rd Connection: The 5-40 Steel Allen set screws - 9.5 in-lbs.

Coil Tubing Connector

TT0740-206C BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|---|-----------------|
| 1 | 1 | Top Sub | TT0740-206C-001 |
| 2 | 1 | Bottom Sub | TT0740-206C-002 |
| 3 | 1 | Slip f/1 1/2" Coil | TT0740-206C-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-206C-004 |
| 5 | 9 | Steel Allen Set Screws 1/4-20 x 1/4 | PUR-TSAS160-016 |
| 6 | 4 | Steel Allen Set Screws 5-40 x 1/8" | PUR-TSAS080-008 |
| 7 | 2 | O-Rings 1 1/2" x 1 11/16" x 3/32" 2-128 | PUR-TORV000-128 |
| 8 | 1 | SF Allen Wrench (not shown) | PUR-TSTWA00-004 |

Tool Name: 2.063 in. OD Coil Connector f/ 1-1/2 in. Coiled Tubing

Product Code: TT0740-206C **Tool OD:** 2.063 in. **Tool ID:** 1.00 in.

Material: AISI 4140 HT / AISI 4340 HT **Tool Length:** 13.0 in.

Minimum Yield: 100,000 psi (140,000 psi f/ Top Sub)

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 40,800 lbs; either of the O-ring grooves on the Bottom Sub, 52,800 lbs; the fillet on the OD of the Bottom Sub, 53,000 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 27,500 psi.

Torsional Weak Point and Ft-Lbs to Yield: 3,910 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet; 5,220 ft-lbs as a function of O-ring groove collapse of either O-ring groove on the Bottom Sub.

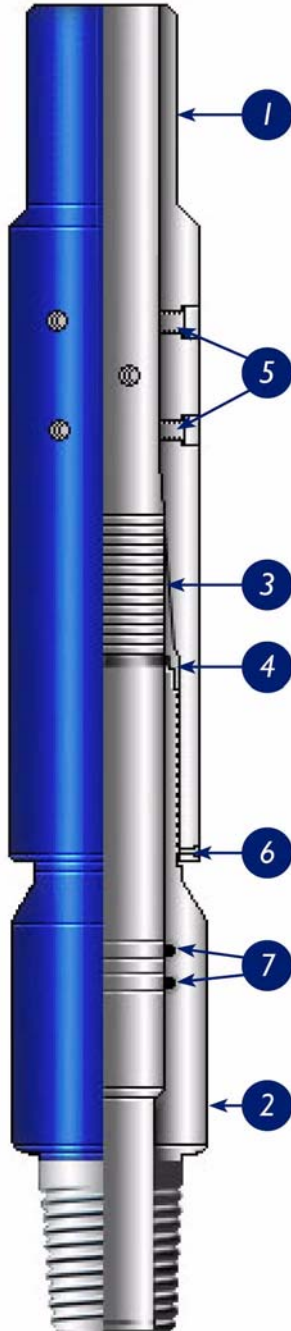
Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection – 1,170 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

3rd Connection: The 5-40 Steel Allen set screws - 9.5 in-lbs.

TT0740-213B BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-213B-001 |
| 2 | 1 | Bottom Sub | TT0740-213B-002 |
| 3 | 1 | Slip f/1 1/4" Coil | TT0740-175B-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-175B-004 |
| 5 | 9 | Steel Allen Set Screws 1/4-20 x 1/4" | PUR-TSAS160-016 |
| 6 | 4 | Steel Allen Set Screws 5-40 x 3/16" | PUR-TSAS080-012 |
| 7 | 2 | O-Rings 1 1/4" x 1 1/2" x 1/8" 2-218 | PUR-TORV000-218 |
| 8 | 1 | SF Allen Wrench (not shown) | PUR-TSTWA00-004 |

Tool Name: 2.125 in. OD Coil Connector f/ 1-1/4 in. Coiled Tubing

Product Code: TT0740-213B **Tool OD:** 2.125 in. **Tool ID:** 1.0 in.

Material: AISI 4140 HT **Tool Length:** 12.9 in. w/1-1/2 in. MT

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 46,000 lbs; the fillet on the OD of the Bottom Sub, 54,200 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 33,600 psi.

Torsional Weak Point and Ft-Lbs to Yield: 3,640 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet.

Recommended Make Up Torque:

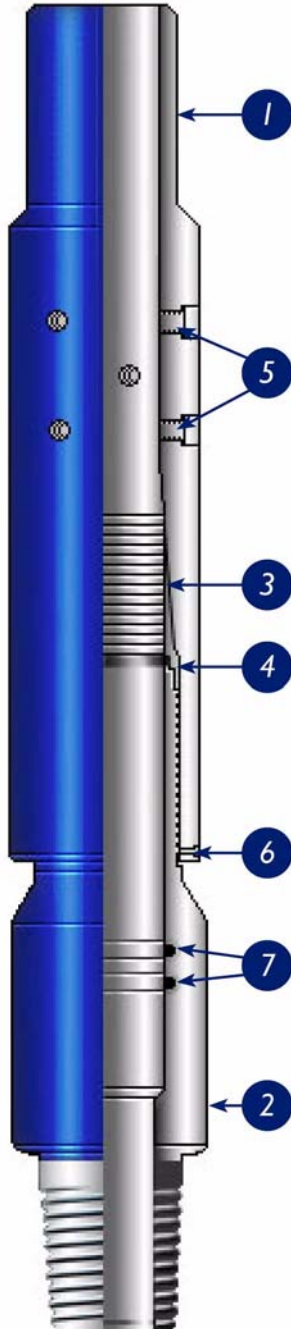
1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 910 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

3rd Connection: The 5-40 Steel Allen set screws - 9.5 in-lbs.

Coil Tubing Connector

TT0740-213C BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Top Sub | TT0740-213C-001 |
| 2 | 1 | Bottom Sub | TT0740-213C-002 |
| 3 | 1 | Slip f/1 1/2" Coil | TT0740-206C-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-206C-004 |
| 5 | 9 | Steel Allen Set Screws 1/4-20 x 5/16" | PUR-TSAS160-016 |
| 6 | 4 | Steel Allen Set Screws 5-40 x 3/16" | PUR-TSAS080-008 |
| 7 | 2 | O-Rings 1 1/2" x 1 11/16" x 1/8" 2-128 | PUR-TORV000-128 |
| 8 | 1 | SF Allen Wrench (not shown) | PUR-TSTWA00-004 |

Tool Name: 2.125 in. OD Coil Connector f/ 1-1/2 in. Coiled Tubing

Product Code: TT0740-213C **Tool OD:** 2.125 in. **Tool ID:** 1.00 in.

Material: AISI 4140

Tool Length: 13.0 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 33,300 lbs; the fillet on the OD of the Bottom Sub, 35,500 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 22,500 psi.

Torsional Weak Point and Ft-Lbs to Yield: 2,790 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet.

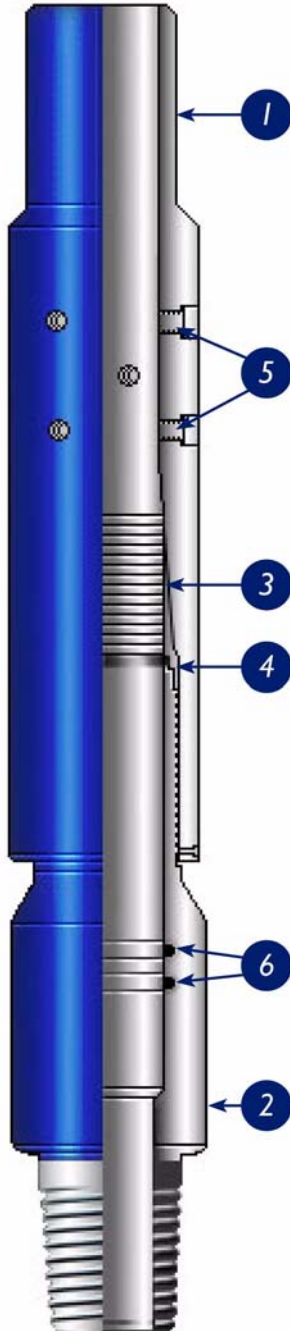
Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 830 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

3rd Connection: The 5-40 Steel Allen set screws - 9.5 in-lbs.

TT0740-230D BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|---|-----------------|
| 1 | 1 | Top Sub | TT0740-230D-001 |
| 2 | 1 | Bottom Sub | TT0740-230D-002 |
| 3 | 1 | Slip f/1 3/4" Coil | TT0740-230D-003 |
| 4 | 1 | Brass Bearing Ring | TT0740-230D-004 |
| 5 | 18 | Steel Allen Set Screws 5/16-18 x 1/4" | PUR-TSAS200-016 |
| 6 | 2 | 2-132 O-Rings 1 3/4" x 1 15/16" x 3/32" | PUR-TORV000-132 |

Tool Name: 2.295 in. OD Coil Connector f/ 1-3/4 in. Coiled Tubing

Product Code: TT0740-230D **Tool OD:** 2.295 in. **Tool ID:** 1.00 in.

Material: AISI 4140 HT / AISI 4340 HT **Tool Length:** 16.4 in.

Minimum Yield: 100,000 psi (140,000 psi for Top Sub)

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Either of the O-ring grooves on the Bottom Sub, 40,500 lbs; bowl taper swell of the Top Sub, 41,700 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 16,600 psi.

Torsional Weak Point and Ft-Lbs to Yield: 4,210 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet; 4,570 ft-lbs as a function of O-ring groove collapse of either O-ring groove on the Bottom Sub.

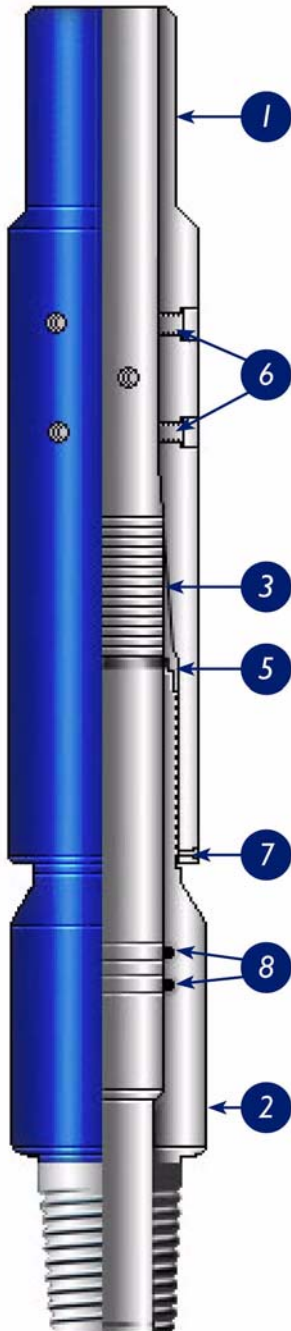
Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 840 ft-lbs.

2nd Connection: The 5/16-18 Steel Allen set screws - 156 in-lbs.

Coil Tubing Connector

TT0740-288C BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|---------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-288C-001 |
| 2 | 1 | Bottom Sub | TT0740-288C-002 |
| 3 | 1 | Slip f/1 1/2" Coil | TT0740-288C-003 |
| 4 | 1 | Retaining Ring (not shown) | TT0740-288C-004 |
| 5 | 1 | Brass Bearing Ring | TT0740-288C-005 |
| 6 | 16 | Steel Allen Set Screws 3/8-16 x 7/16" | PUR-TSAS240-028 |
| 7 | 4 | Steel Allen Set Screws 1/4-20 x 5/16" | PUR-TSAS160-020 |
| 8 | 2 | O-Rings 1 1/2" x 1 3/4" x 1/8" 2-222 | PUR-TORV000-222 |

Tool Name: 2.875 in. OD Coil Connector f/ 1-1/2 in. Coil Tubing

Product Code: TT0740-288C **Tool OD:** 2.875 in. **Tool ID:** 1.125 in.

Material: AISI 4140 HT **Tool Length:** 19.5 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: The OD fillet of the Bottom Sub, 105,000 lbs; bowl taper swell of the Top Sub, 115,000 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves of the Bottom Sub, 20,300 psi.

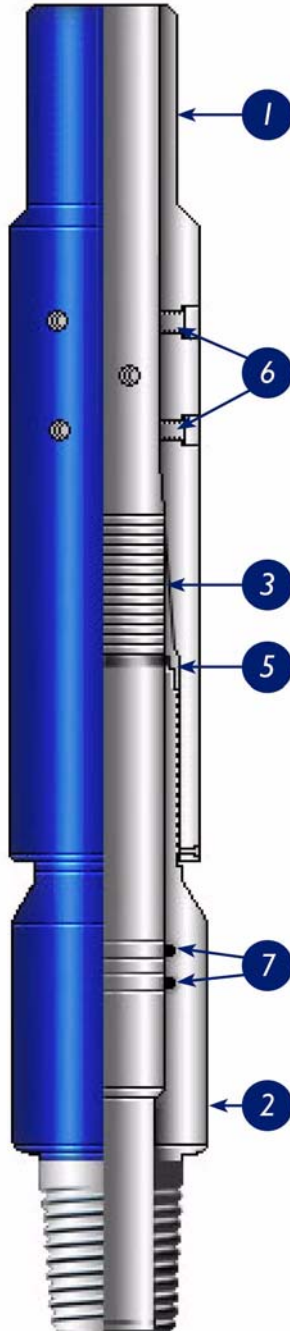
Torsional Weak Point and Ft-Lbs to Yield: 3,500 ft-lbs as a function of O-ring groove collapse on the Bottom Sub, **without** the four 1/4-20 Steel Allen set screws tightened to 77.9 in-lbs; 3,850 ft-lbs as a function of O-ring groove collapse on the Bottom Sub, **with** the four 1/4-20 Steel Allen set screws tightened to 77.9 in-lbs.

Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 1,050 ft-lbs.

2nd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

TT0740-288D BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-288D-001 |
| 2 | 1 | Bottom Sub | TT0740-288D-002 |
| 3 | 1 | Slip f/1 3/4" Coil | TT0740-270D-003 |
| 4 | 1 | Slip Ring (not shown) | TT0740-270D-004 |
| 5 | 1 | Brass Bearing Ring | TT0740-270D-005 |
| 6 | 8 | Steel Allen Set Screws 1/2-20 x 1/2" | PUR-TSAS320-032 |
| 7 | 2 | O-Rings 1 3/4" x 2" x 1/8" 2-224 | PUR-TORV000-224 |

Tool Name: 2.875 in. OD Coil Connector f/ 1-3/4 in. Coiled Tubing

Product Code: TT0740-288D **Tool OD:** 2.875 in. **Tool ID:** 1.300 in.

Material: AISI 4140 HT

Tool Length: 17.38 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: The fillet on the OD of the Bottom Sub, 108,000 lbs; bowl taper swell of the Top Sub, 133,500 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 15,700 psi.

Torsional Weak Point and Ft-Lbs to Yield: 4,270 ft-lbs as a function of O-ring groove collapse of either O-ring groove on the Bottom Sub; 10,800 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet.

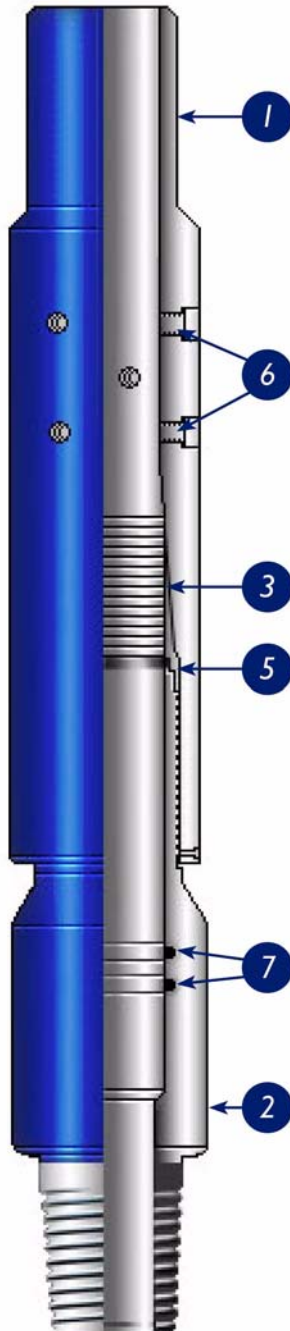
Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 1,280 ft-lbs.

2nd Connection: The 5/16-18 Steel Allen set screws - 156 in-lbs.

Coil Tubing Connector

TT0740-288E BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Top Sub | TT0740-288E-001 |
| 2 | 1 | Bottom Sub | TT0740-288E-002 |
| 3 | 3 | Slip f/2" Tubing | TT0740-270E-003 |
| 4 | 1 | Retaining Ring (not shown) | TT0740-270E-004 |
| 5 | 1 | Brass Bearing Ring | TT0740-270E-005 |
| 6 | 8 | Socket Head Set Screws 1/2-20UNF x 7/16" | PUR-TSAS320-028 |
| 7 | 2 | O-Rings 2-226 | PUR-TORV000-226 |

Tool Name: 2.875 in. OD Coil Connector f/2 in. Coiled Tubing

Product Code: TT0740-288D **Tool OD:** 2.875 in. **Tool ID:** 1.25 in.

Material: AISI 4140 HT

Tool Length: 18.65 in.

Minimum Yield: 110,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: The fillet on the OD of the Bottom Sub, 158,400 lbs; bowl taper swell of the Top Sub, 164,000 lbs. The section of the Top Sub between the bowl taper and the run-out of the Stub Acme threads, 128,700 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 16,400 psi.

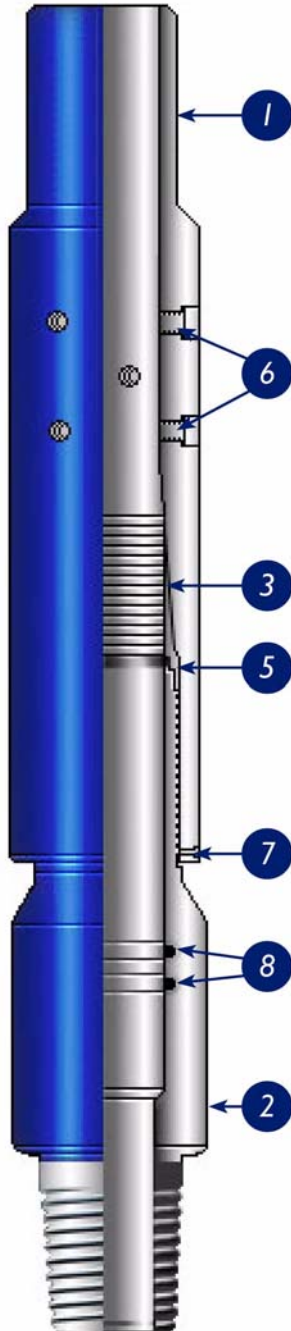
Torsional Weak Point and Ft-Lbs to Yield: 4,326 ft-lbs as a function of O-ring groove collapse of either O-ring groove on the Bottom Sub; 7,500 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet below the Stub Acme thread.

Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection – 1,650 ft-lbs.

2nd Connection: The 1/2-20UNF Steel Allen set screws - 451 in-lbs.

TT0740-313D BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Top Sub | TT0740-313D-001 |
| 2 | 1 | Bottom Sub | TT0740-313D-002 |
| 3 | 1 | Slip f/1 3/4" Coil | TT0740-270D-003 |
| 4 | 1 | Slip Ring (not shown) | TT0740-270D-004 |
| 5 | 1 | Brass Bearing Ring | TT0740-270D-005 |
| 6 | 18 | Steel Allen Set Screws 5/16-18 x 5/16" | PUR-TSAS200-020 |
| 7 | 4 | Steel Allen Set Screws 10-32 x 5/16" | PUR-TSAS121-020 |
| 8 | 2 | O-Rings 1 3/4" x 2" x 1/8" 2-224 | PUR-TORV000-224 |

Tool Name: 3.125 in. OD Coil Connector f/ 1-3/4 in. Coiled Tubing

Product Code: TT0740-313D **Tool OD:** 3.125 in. **Tool ID:** 1.00 in.

Material: AISI 4140 HT

Tool Length: 18.34 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: The fillet on the OD of the Bottom Sub, 108,000 lbs; bowl taper swell of the Top Sub, 164,000 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 15,700 psi.

Torsional Weak Point and Ft-Lbs to Yield: 4,270 ft-lbs as a function of O-ring groove collapse of either O-ring groove on the Bottom Sub; 10,800 ft-lbs as a function of torsional yield of the Bottom Sub at the OD fillet.

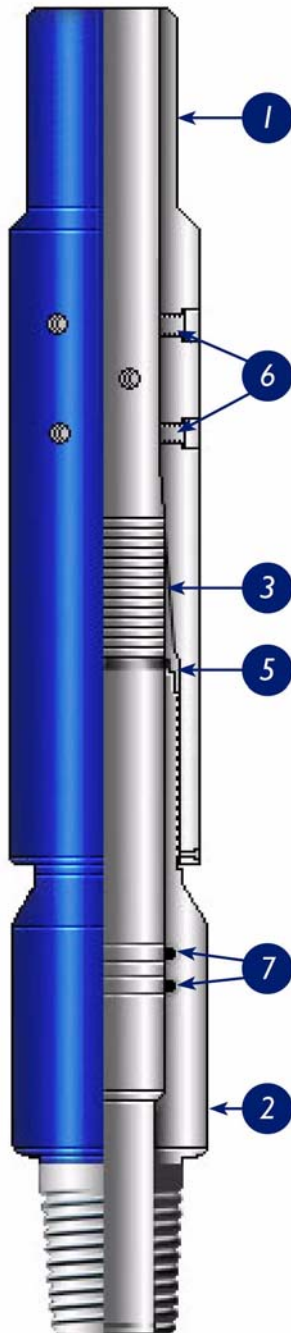
Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 1,280 ft-lbs.

2nd Connection: The 5/16-18 Steel Allen set screws - 156 in-lbs.

Coil Tubing Connector

TT0740-313E BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-313E-001 |
| 2 | 1 | Bottom Sub | TT0740-313E-002 |
| 3 | 1 | Slip F/2" Coil | TT0740-313E-003 |
| 4 | 1 | Slip Ring (not shown) | TT0740-313E-004 |
| 5 | 1 | Brass Bearing Ring | TT0740-313E-005 |
| 6 | 9 | Steel Allen Set Screws 3/8-16 x 1/2" | PUR-TSAS240-032 |
| 7 | 2 | O-Rings 2" x 2 1/4" x 1/8" 2-226 | PUR-TORV000-226 |

Tool Name: 3.125 in. OD Coil Connector f/ 2 in. Coiled Tubing

Product Code: TT0740-313E **Tool OD:** 3.125 in. **Tool ID:** 1.000 in.

Material: AISI 4140 HT

Tool Length: 19.9 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: The section of the Top Sub between the bowl taper and the Stub Acme threads, 113,000 lbs; the fillet on the OD of the Bottom Sub, 143,000 lbs; bowl taper swell of the Top Sub, 180,000 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves on the Bottom Sub, 18,000 psi.

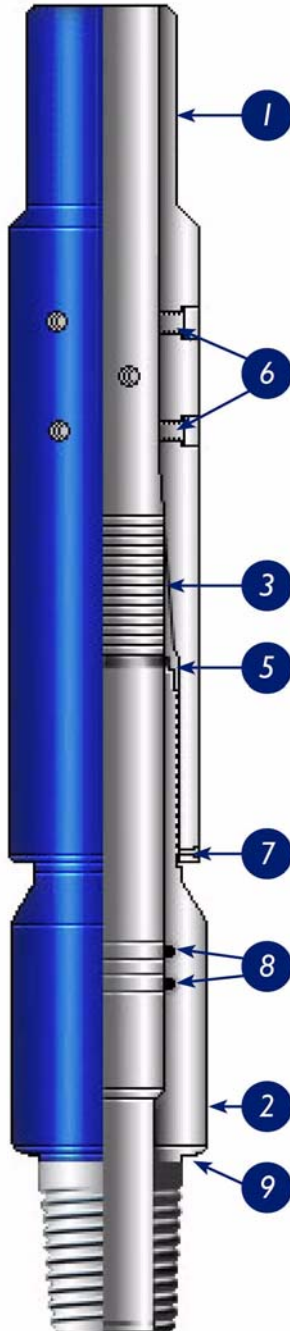
Torsional Weak Point and Ft-Lbs to Yield: 7,240 ft-lbs as a function of O-ring groove collapse of either O-ring groove on the Bottom Sub; 13,500 ft-lbs as a function of torsional yield of the Top Sub at the section between the bowl taper and the Stub Acme threads.

Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 2,170 ft-lbs.

2nd Connection: The 3/8-16 Steel Allen set screws - 273 in-lbs.

TT0740-325F BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|--------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-325F-001 |
| 2 | 1 | Bottom Sub | TT0740-325F-002 |
| 3 | 1 | Slip f/2.375" Coil | TT0740-325F-003 |
| 4 | 1 | Slip Ring (not shown) | TT0740-325F-004 |
| 5 | 1 | Brass Bearing Ring | TT0740-325F-005 |
| 6 | 9 | Steel Allen Set Screws 3/8-16 x 3/8" | PUR-TSAS240-024 |
| 7 | 6 | Steel Allen Set Screws 10-32 x 1/4" | PUR-TSAS121-016 |
| 8 | 2 | O-Ring 2 3/8" x 2 5/8" x 1/8" 2-229 | PUR-TORV000-229 |
| 9 | 1 | O-Ring 2 1/16" x 2 3/8" x 1/8" 2-227 | PUR-TORV000-227 |

Tool Name: 3.250 in. OD Coil Connector f/ 2-3/8 in. Coil Tubing

Product Code: TT0740-325F **Tool OD:** 3.250 in. **Tool ID:** 1.50 in.

Material: AISI 4140 HT **Tool Length:** 20.7 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 80,700 lbs; the fillet on the OD of the Bottom Sub, 81,600 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves of the Bottom Sub, 20,700 psi.

Torsional Weak Point and Ft-Lbs to Yield: 2,600 ft-lbs as a function of torsional yield of the Stub Acme pin connection of the Bottom Sub, **without** the six 10-32 Steel Allen set screws tightened to 33.5 in-lbs; 3,000 ft-lbs as a function of torsional yield of the Stub Acme pin connection of the Bottom Sub, **with** the six 10-32 Steel Allen set screws tightened to 33.5 in-lbs; 10,500 ft-lbs as a function of torsional yield of the Bottom Sub at the fillet on the OD

Recommended Make Up Torque:

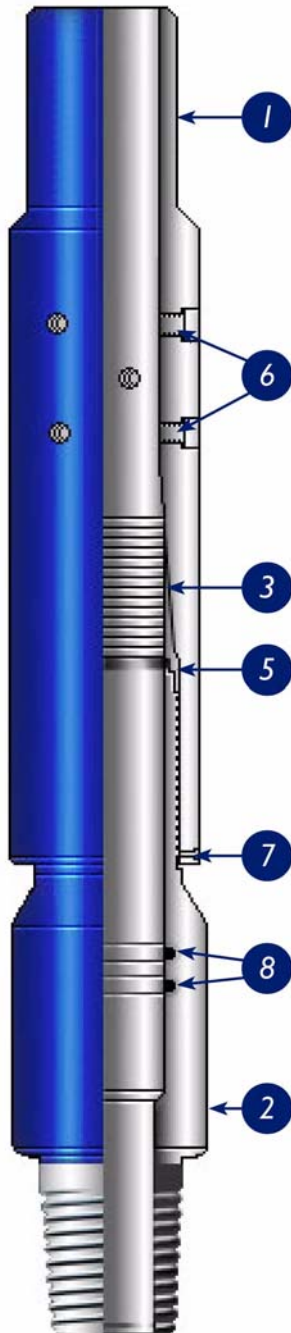
1st Connection: The Top Sub - Bottom Sub Stub Acme connection – 660 ft-lbs.

2nd Connection: The 3/8-16 Steel Allen set screws - 273 in-lbs.

3rd Connection: The 10-32 Steel Allen set screws - 33.5 in-lbs.

Coil Tubing Connector

TT0740-338F BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|---------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-338F-001 |
| 2 | 1 | Bottom Sub | TT0740-338F-002 |
| 3 | 1 | Slip f/2.375" Coil | TT0740-325F-003 |
| 4 | 1 | Slip Ring (not shown) | TT0740-325F-004 |
| 5 | 1 | Brass Bearing Ring | TT0740-325F-005 |
| 6 | 9 | Steel Allen Set Screws 3/8-16 x 7/16" | PUR-TSAS240-028 |
| 7 | 6 | Steel Allen Set Screws 1/4-20 x 1/4" | PUR-TSAS160-016 |
| 8 | 2 | 2-229 O-Rings 2 3/8" x 2 5/8" x 1/8" | PUR-TORV000-229 |

Tool Name: 3.375 in. OD Coil Connector f/ 2-3/8 in. Coil Tubing

Product Code: TT0740-338F **Tool OD:** 3.375 in. **Tool ID:** 1.50 in.

Material: AISI 4140 HT **Tool Length:** 20.7 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 95,300 lbs; the fillet on the OD of the Bottom Sub, 96,800 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves of the Bottom Sub, 24,500 psi.

Torsional Weak Point and Ft-Lbs to Yield: 2,700 ft-lbs as a function of torsional yield of the Stub Acme pin connection of the Bottom Sub, **without** the six 1/4-20 Steel Allen set screws tightened to 77.9 in-lbs; 3,400 ft-lbs as a function of torsional yield of the Stub Acme pin connection of the Bottom Sub, **with** the six 1/4-20 Steel Allen set screws tightened to 77.9 in-lbs; 12,600 ft-lbs as a function of torsional yield of the Bottom Sub at the fillet on the OD.

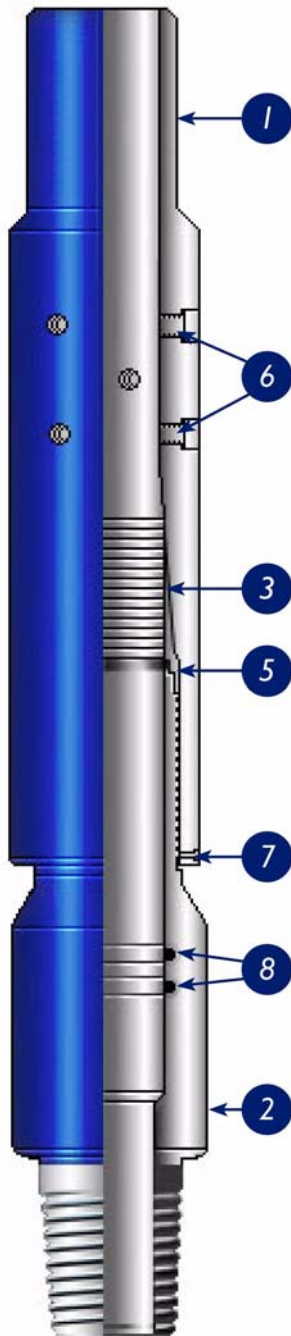
Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 810 ft-lbs.

2nd Connection: The 3/8-16 Steel Allen set screws - 273 in-lbs.

3rd Connection: The 1/4-20 Steel Allen set screws - 77.9 in-lbs.

TT0740-375F BOM, Schematic and Specs



| ITEM | QTY | TOOL PARTS DESCRIPTION | PART NUMBER |
|------|-----|---------------------------------------|-----------------|
| 1 | 1 | Top Sub | TT0740-375F-001 |
| 2 | 1 | Bottom Sub | TT0740-375F-002 |
| 3 | 1 | Slip f/2.375" Coil | TT0740-325F-003 |
| 4 | 1 | Slip Ring (not shown) | TT0740-325F-004 |
| 5 | 1 | Brass Bearing Ring | TT0740-325F-005 |
| 6 | 9 | Steel Allen Set Screws 3/8-16 x 7/16" | PUR-TSAS240-028 |
| 7 | 6 | Steel Allen Set Screws 1/4-20 x 1/4" | PUR-TSAS160-016 |
| 8 | 2 | 2-229 O-Rings 2 3/8" x 2 5/8" x 1/8" | PUR-TORV000-229 |

Tool Name: 3.750 in. OD Coil Connector f/ 2-3/8 in. Coil Tubing

Product Code: TT0740-375F **Tool OD:** 3.750 in. **Tool ID:** 1.50 in.

Material: AISI 4140 HT **Tool Length:** 21.4 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Bowl taper swell of the Top Sub, 134,000 lbs; the thread recess of the Stub Acme box connection of the Top Sub, 141,000 lbs.

Burst Point and Burst Pressure: Either of the O-ring grooves of the Bottom Sub, 15,600 psi.

Torsional Weak Point and Ft/Lbs to Yield: 2,810 ft/lbs as a function of torsional yield of the Stub Acme pin connection of the Bottom Sub, **without** the six 1/4-20 Steel Allen set screws tightened to 77.9 in/lbs; 3,570 ft/lbs as a function of torsional yield of the Stub Acme pin connection of the Bottom Sub, **with** the six 1/4-20 Steel Allen set screws tightened to 77.9 in/lbs; 22,900 ft/lbs as a function of torsional yield of the Bottom Sub at the fillet near the Stub Acme pin connection.

Recommended Make Up Torque:

1st Connection: The Top Sub - Bottom Sub Stub Acme connection - 700 ft/lbs.

2nd Connection: The 3/8-16 Steel Allen set screws - 273 in/lbs.

3rd Connection: The 1/4-20 Steel Allen set screws - 77.9 in/lbs.

Coil Tubing Connector

1.0 Pre-Assembly



Warning: *Make sure all tool parts and components have been thoroughly cleaned or serious damage and/or injury could occur!*



Note: *Verify that the correct O-ring redress kit and quantities are used as specified on the Bill Of Materials (for example, 5 each etc....). Lay out all redress kit components on a clean surface.*



Note: *Make sure to lubricate all O-rings and threaded surfaces.*



Note: *Visually inspect all parts for damage or wear. Thread parts together without the O-rings to check fit. Repair or replace damaged parts.*



Caution: *Always file wrench marks or burrs and clean off debris!*



Caution: *This tool should always be disassembled, cleaned thoroughly, inspected and reassembled after each job!*

2.0 Assembly

2.1 Grease all the connections on all the parts of the assembly.

2.2 Make sure to remove all set screws from the Top Sub (item #1). Then, take the Top Sub and slip it over the dressed coil tubing, leaving about 6-8 in. (15-18 cm) of tubing sticking out the bottom of the sub.

2.3 Slide the Slip (item #3) over the dressed coil tubing, then slide on the Brass Bearing Ring (item #4).

2.4 Take the Bottom Sub and slide it over the dressed coil tubing until it contacts the Brass Bearing Ring. Continue to slide the Bottom Sub until the coil tubing bottoms against the ID of the Bottom Sub. It may be necessary to tap the Bottom Sub by hand against the Brass Bearing in order to drive the CT Slip and Brass Bearing Ring "up" the coil tubing, toward the Top Sub, until the coil tubing bottoms out in the Bottom Sub.

Coil Tubing Connector

2.5 Slide the Top Sub "down" the coil tubing, toward the Slip, and begin screwing the Top Sub and Bottom Sub connection together and make wrench tight. Tightening this connection will force the Slip to bite down on the coil tubing. Once the connection has been tightened, it is recommended to perform a pull test. After running the pull test make sure to re-tighten the Top Sub and Bottom Sub connection. Finally, insert all the Set Screws into the Top Sub and tighten them to the recommended torque.

3.0 Disassembly

3.1 Pull the tool out of the hole and remove any bottom hole assemblies (BHA).

3.2 Remove the Set Screws.

3.3 Attach a thread protector to the bottom of the Bottom Sub. Loosen the Bottom Sub about an inch or so (3-5 cm). Now bump up the tool with a rubber mallet while holding on the tubing. This should break the bond between the Top Sub and the Slip.

3.4 Now remove the Bottom Sub and the Brass Bearing Ring.

3.5 Pull the Top Sub up until you have access to the slip. Now using spreaders or a flathead screwdriver, spread apart the Slip until it can easily be removed from the coil tubing.

3.6 Finally remove the Top Sub.



Note: Remove and discard all O-rings. Replace O-rings after each use. Thoroughly clean tool parts in a cleaner approved by state and/or local laws.



Note: Visually inspect tool for swelling after each use. Damaged or swelled components must be replaced.



Note: It is recommended that a Magnetic Particle Inspection (MPI) be completed on all components after each job.