Flat Coil Tubing Overshot

MAN-TTT-180FP (R01)

Thru-Tubing Technology

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Description

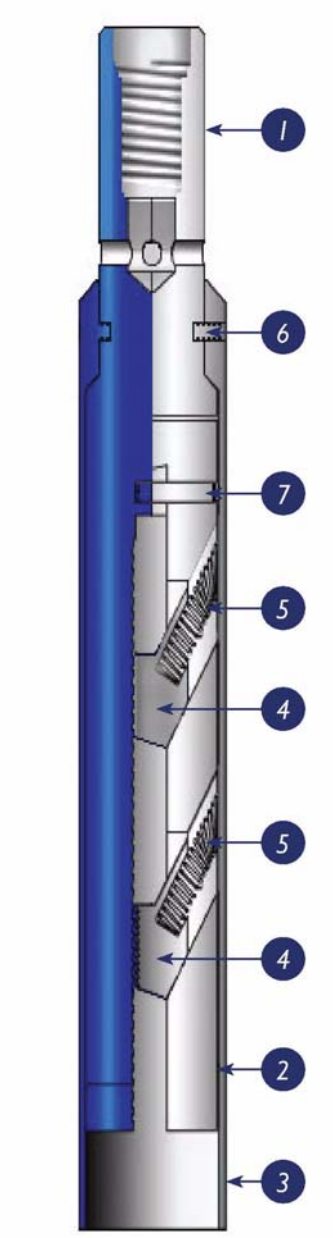
The Flat Coil Tubing Overshot is used to engage coil tubing that has become flattened or collapsed, making it difficult for a conventional overshot to be used. The overshot consists of a body, body plate, housing sleeve, springs and slips.

Operation

The overshot is ran in the hole. Once the top of the fish has been tagged, and the string is rotated a quarter to a half of a turn, the overshot will fall over the fish. The tool incorporates two slips, which are spring loaded and retract while swallowing the fish. Once the overshot is over the fish, and upward pull is applied, the slips wedge tightly into the damaged tubing. The upward pull is continued until the tubing is freed. The overshot is not releasable once latched to the fish.

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.

TT0180-231D BOM, Schematic and Specs



ITEM	QTY	TOOL PARTS DESCRIPTION	PART NUMBER
1	1	Top Sub	TT0180-231D-001
2	1	Body Plate	TT0180-231D-002
3	2	Slips	TT0180-231D-004
4	1	Housing Sleeve	TT0180-231D-005
5	2	C-672 Compression Springs 3/8" x 1 3/4" x .30"	PUR-TCS1024-112
6	6	1/4-20 x 7/16" Steel Allen Set Screws	PUR-TSAS160-028
7	1	1/4" Dia. X 1 1/4" Lg. Steel Pin	PUR-TDWS016-080
8	2	3/8" Dia. X .50" Lg. Wood Dowell	PUR-TDWW375-050

Tool Name: 2.312 in. OD Flat CT Overshot

Product Code: TT0180-231D **Tool OD:** 2.312 in. **Tool ID:** 0.50 in.

Material: AISI 4140 HT **Tool Length:** 16 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: The 1-1/4 in. AMMT Box Connection of the Body, 55,000 lbs.

Burst Point & Burst Pressure: N/A

Torsional Weak Point and Ft-Lbs to Yield: N/A

Recommended Make Up Torque:

1st Connection: 1/4-20 Steel Allen set screws - 77.9 in/lbs.

Catch Range Size: 1.00 in. – 1.50 in. Coil Tubing

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 job!***

2.0 Assembly

2.1 Put the Top Sub (item #1), teeth up, into a vise.

2.2 Insert the Steel Pin (item #7) into the Top Sub.

2.3 Place the 2 Slips (item #3) into the Body Plate (item #2).

2.4 Put 2 Wood Dowels (item #8) onto the teeth of the Top Sub, so that they will align with the Slips in the Body Plate. Now while holding the Slips in place, place the Body Plate onto the Pin/Top Sub.

Note: The dowels will hold the slips in place during assembly and running.

2.5 Remove the assembly from the vise and then put the Housing Sleeve (item #4) into the vise, holes up.

2.6 Insert the Top Sub/Body Plate assembly, threaded end first, into the sleeve and stop at the Pin. Insert 1 Spring (item #5) into the first Slip (item #3), then push the assembly in until you reach the next Slip. Insert the next Spring as before, the push the assembly into the sleeve until it shoulders out.

2.7 Line up the holes in the assembly with those in the Housing Sleeve, then insert the 6 Set Screws (item #6) and tighten.

3.0 Disassembly

3.1 Put the tool in a vise on the Housing Sleeve (item #4).

3.2 Remove the 6 Set Screws (item #6).

3.3 Slowly back off the Body Plate (item #2)/Top Sub (item #1) assembly out of the sleeve to the first Slip (item #3)/Spring (item #5). Remove the Spring and Slip, then repeat for the other Spring/Slip.

Warning: ***Be careful when backing off the Body Plate/Top Sub as the Spring could come flying out!***

3.4 Remove the Body Plate from the Top Sub, then remove the Pin (item #7) from the Top Sub.

Note: 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.