



Boot Collar Basket

MAN-TTT-300 (R01)

Thru-Tubing Technology

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Boot Collar Basket

Description

The Boot Collar Basket is used to collect debris that is too large to be carried out of the hole by normal circulation. The boot collar is designed to create a change in velocity around the skirt and the upper end of the mandrel, allowing the debris to fall into the cavity between the skirt and the mandrel.

Operation

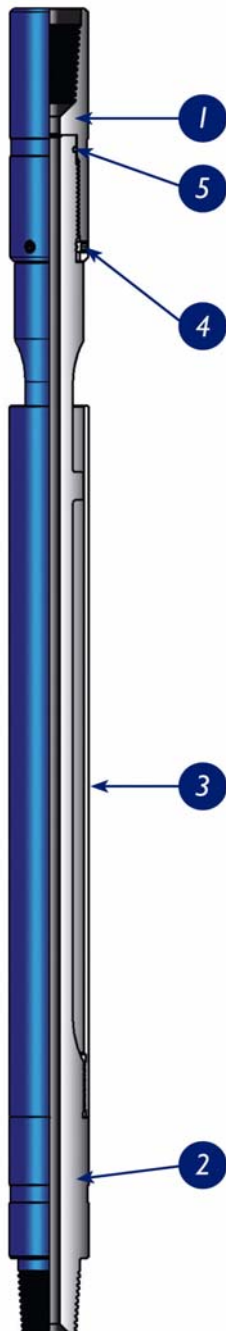
The Boot Collar Basket is often used in conjunction with motor milling operations. The tool can be ran above or below the mud motor to catch debris, such as metal or plastic, that may be too heavy to be circulated out of the hole.



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.

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TTT0300-168B BOM, Schematic and Specs



ITEM	QTY	TOOL PARTS DESCRIPTION	PART NUMBER
1	1	TOP SUB	TT0300-168B-001
2	1	MANDREL	TT0300-168B-002
3	1	SKIRT	TT0300-168B-003
4	6	SOCKET SET SCREW 1/4"-20 x 5/16" w/CUP POINT	PUR-TSAS160-020
5	1	O-RING 2-119, 80 DUROMETER HSN	PUR-TORV000-119

Tool Name: 1.688 in. OD Boot Collar Basket

Product Code: TT0300-168B **Tool OD:** 1.688 in. **Tool ID:** 0.50 in.

Material: AISI 4140 HT **Tool Length:** 31.38 in.

Minimum Yield: 100,000 psi (AISI 4140 30-36 Rockwell C)

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Either fillet at ends of reduced OD of Mandrel, or upset area of Mandrel, 54,100 lbs.

Burst Point and Burst Pressure: Reduced section of Mandrel, 48,400 psi.

Torsional Weak Point and Ft-Lbs to Yield: 1000 ft-lbs as a function of torsional yield of the reduced OD section of the Mandrel.

Recommended Make Up Torque:

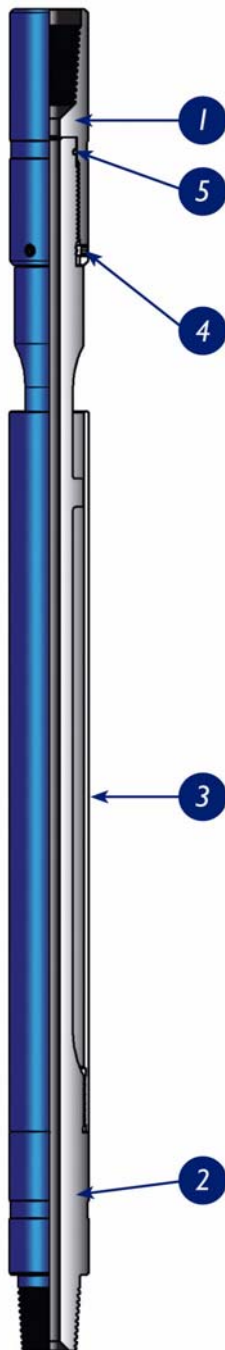
1st Connection: Top Sub - Mandrel Stub Acme connection - 447 ft-lbs.

2nd Connection: Skirt - Mandrel Stub Acme connection - 275 ft-lbs (max.).

3rd Connection: 1/4-20 Steel Allen Set Screws - 168 in-lbs.

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TTT0300-206B BOM, Schematic and Specs



ITEM	QTY	TOOL PARTS DESCRIPTION	PART NUMBER
1	1	TOP SUB	TT0300-206B-001
2	1	MANDREL	TT0300-206B-002
3	1	SKIRT	TT0300-206B-003
4	6	SOCKET SET SCREW 1/4"-20 x 5/16" w/CUP POINT	PUR-TSAS160-020
5	1	O-RING 2-124, 80 DUROMETER HSN	PUR-TORV000-124

Tool Name: 2.063 in. OD Boot Collar Basket

Product Code: TTT0300-206B **Tool OD:** 2.063 in. **Tool ID:** 0.562 in.

Material: AISI 4140 HT **Tool Length:** 33.38 in.

Minimum Yield: 100,000 psi (AISI 4140 30-36 Rockwell C)

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: Either fillet at ends of reduced OD of Mandrel, or upset area of Mandrel: 97,900 lbs.

Burst Point and Burst Pressure: Reduced section of Mandrel: 54,900 psi.

Torsional Weak Point and Ft-Lbs to Yield: 2,212 ft-lbs as a function of torsional yield of the reduced OD section of the Mandrel.

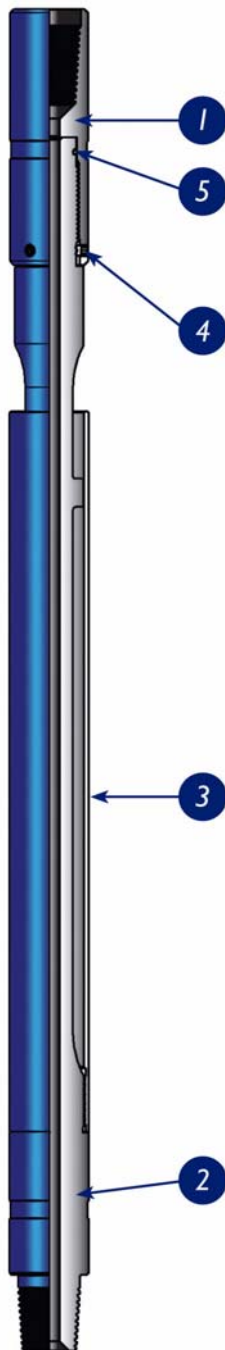
Recommended Make Up Torque:

1st Connection: Top Sub - Mandrel Stub Acme connection - 524 ft-lbs

2nd Connection: Skirt - Mandrel Stub Acme connection - 419 ft-lbs (max.)

3rd Connection: 5/16 -18 Steel Allen Set Screws - 226 in-lbs

TTT0300-288B BOM, Schematic and Specs



ITEM	QTY	TOOL PARTS DESCRIPTION	PART NUMBER
1	1	TOP SUB	TT0300-288B-001
2	1	MANDREL - SUB ASSEMBLY	TT0300-288B-002
3	1	SKIRT (WELDED TO MANDREL)	TT0300-288B-002
4	6	SOCKET SET SCREW 3/8"-16 x 7/16" w/CUP POINT	PUR-TSAS240-028
5	1	O-RING 2-130, 80 DUROMETER HSN	PUR-TORV000-130

Tool Name: 2.875 in. OD Boot Collar Basket

Product Code: TT0300-288B **Tool OD:** 2.875 in. **Tool ID:** 0.625 in.

Material: AISI 4140 HT

Tool Length: 31.8 in.

Minimum Yield: 100,000 psi

Strength Properties of Tool:

Minimum Yield Point and Load to Yield: The thread relief of the Stub Acme pin connection of the Mandrel, 124,000 lbs.

Burst Point and Burst Pressure: The O-ring bore of the Top Sub, 40,000 psi.

Torsional Weak Point and Ft-Lbs to Yield: 2,470 ft-lbs as a function of O-ring groove collapse of the Mandrel, **without** the six 3/8-16 Steel Allen set screws tightened to 273 in-lbs; 3,060 ft-lbs as a function of torsional yield of the Stub Acme pin end of the Mandrel, **without** the six 3/8-16 Steel Allen set screws tightened to 273 in-lbs; 3,510 ft-lbs as a function of O-ring groove collapse of the Mandrel, **with** the six 3/8-16 Steel Allen set screws tightened to 273 in-lbs; 4,100 ft-lbs as a function of torsional yield of the Stub Acme pin end of the Mandrel, **with** the six 3/8-16 Steel Allen set screws tightened to 273 in/lbs; and 6,700 ft-lbs as a function of torsional yield of the Mandrel at the thread relief of the Stub Acme pin.

Recommended Make Up Torque:

1st Connection: The Top Sub - Mandrel Stub Acme connection - 610 ft-lbs.

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

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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 the ID and the shaft of the Mandrel (item #2) and then put into a vise.

2.2 Put an O-Ring (item #5) on the Mandrel.

2.3 Grease the entire ID of the Skirt (item #3) and install, threads first, onto the Mandrel. Make wrench tight.

2.4 Grease the threads and the O-ring on the Mandrel, then grease the entire ID of the Top Sub (item #1). Install the sub onto the Mandrel. Make wrench tight.

2.5 Finally, insert the 6 Set Screws (item #4) into the Top Sub and tighten.

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3.0 Disassembly

3.1 Put the tool in a vise, Top Sub (item #1) down, on the Mandrel (item #2).

3.2 Remove the 6 Set Screws (item #4).

3.3 Remove the Top Sub.

3.4 Remove the Skirt (item #3).

3.5 Remove the Mandrel from the vise.



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.