



SC TENSION UNLOADER

2-3/8"

Manual No:
DL-525-2375-787

Revision: **A**

Revision Date:
12/03/2014

Authored by: *B.Mathis*

Approved by: *J.McArthur*

A) DESCRIPTION

The SC Tension Unloader provides a means of equalizing tubing and annulus pressures when used with a tension packer. It also serves as a by-pass to allow fluid to pass through the mandrel of the packer while running the tubing string in and out of the well.

The SC Tension Unloader features simple setting and releasing and the ability to unload pressure above or below. The collet feature allows the unloader to remain closed while setting weight or picking up on the packer without packing off or swabbing the elements. The SC Tension Unloader transmits torque for setting and releasing packer below string.

B) SPECIFICATION GUIDE

TUBING SIZE (INCHES)	TOOL			THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
	OD (INCHES)	NOMINAL ID (INCHES)	DRIFT ID (INCHES)		
2-3/8	3.750	2.00	1.901	2-3/8 EUE	52520 52520H ¹ 52520V ²

¹HSN Option

²Viton Option

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
10,000 PSI	100,000 LBS

C) PRE-INSTALLATION INSPECTION PROCEDURES

CAUTION₁: D&L ships tool connections made-up **HAND TIGHT**—labeled with hand-tight tape on the tool (Fig. 1) — unless stated otherwise. Tighten/torque all connections properly before operating tool.



Fig. 1

GENERAL THREAD CONNECTION TORQUE RECOMMENDATIONS			
STUB ACME / ACME THREADS	INTERNAL TAPERED TUBING THREADS		PREMIUM THREADS
	UP TO 2-3/8"	GREATER THAN 2-3/8"	
600 – 800 FT-LBS	600 – 800 FT-LBS	800 – 1,200 FT-LBS	Consult thread manufacturer's recommendations.

Before first use, D&L recommends disassembly and inspection of the tool unless stated otherwise. Ensure parts have not been damaged during shipping. Replace damaged parts with D&L replacement parts. Contact D&L sales for replacement part information.

Re-assemble the tool after inspection. Install parts in the correct order and orientation. Properly tighten connections.

Before re-using the tool, D&L recommends disassembly and inspection of the tool. Clean parts and ensure parts are in good working condition. Replace worn or damaged parts with D&L replacement parts.

When redressing the tool, D&L recommends replacement of all seals, o-rings, etc. Contact D&L sales for redress kit and/or other replacement part information.

D & L OIL TOOLS
P.O. BOX 52220 TULSA, OK 74152
PHONE: (800) 441-3504 www.dloiltools.com



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D) OPERATION

CAUTION₂: Do not run the tool without properly tightening connections. Running the tool with loose connections may damage the tool and cause malfunction.

The SC Tension Unloader can be run in open or closed position. Make up unloader with tubing and packer. Run string down hole to the desired depth. Pick up a minimum of 6,000 lbs to close the unloader. Set down weight (approximately 6,000 lbs) to open the unloader. Allow time for pressure to equalize to ensure before moving string. If the packer should hang up, excessive tension to free the packer will close the unloader. Refer to the applicable packer technical manual for packer specific setting and releasing procedures.

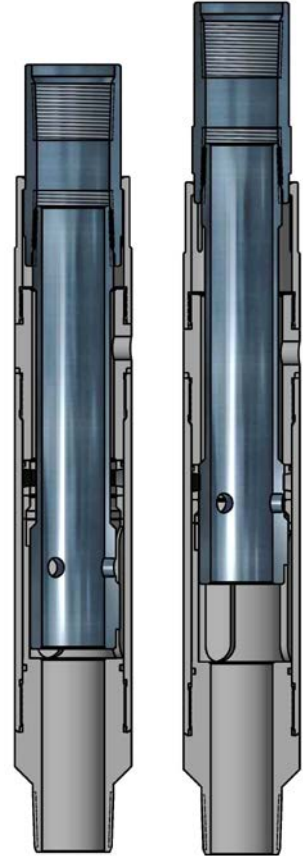
E) STORAGE PROCEDURES

When preparing the tool for storage, follow the Pre-Installation Inspection Procedures. Re-assemble the tool with connections hand-tight only and in running position if applicable.

Store the tool, if possible, in an enclosed, temperature and humidity controlled environment. Avoid excessively high temperatures over long periods of time. Keep tool dry and protected from condensation. Do not store in contact with or near volatile or corrosive chemicals,

F) RUBBER SELECTION GUIDE

RUBBER TYPE	TEMPERATURE RANGE
NITRILE	70° - 300°F
HSN (HNBR)	70° - 325°F
VITON	100° - 350°F



Open

Closed

G) RECOMMENDED HAND TOOLS

- VISE
- GLOVES
- ALLEN WRENCHES
- TAPE MEASURE
- O-RING PICK
- BAR
 - 1/2-INCH
 - 3/4-INCH
- PAINT BRUSH, 2-INCH
- PIPE WRENCH, 3-FT (2 EA)
- "CHEATER" PIPE, 4-FT LONG
- ADJUSTABLE WRENCH, 12-INCH
- CORDLESS DRILL, 18V
- SNAP RING SPREADER PLIERS
- ALIGNING PUNCH
- SCREWDRIVER SET, FLAT-TIPPED
- SOCKET SETS
 - 3/8-INCH DRIVE
 - 1/2-INCH DRIVE
- HAMMERS
 - SLEDGE
 - BALL PEEN
 - DEAD BLOW



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H) DISASSEMBLY

- H-1) Clamp body (8) in vise.
 - H-1.1) Unscrew and remove collet (3) from center coupling (4).
 - H-1.2) Unscrew and remove top sub (1) from mandrel (2).
 - H-1.3) Unscrew and remove center coupling (4) from body (8).
 - H-1.4) Unscrew and remove bottom sub (5) from body (8).
 - H-1.4.1) Remove o-ring (10) from bottom sub (9).
 - H-1.5) Remove mandrel (2) from body (8).
 - H-1.6) Remove guide ring (7) from body (8).
 - H-1.7) Remove bonded seal (6) from body (8).
 - H-1.7.1) Remove o-ring (9) from bonded seal (6).
- H-2) Unclamp and remove body (8) from vise.

I) ASSEMBLY

NOTE₁: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

- I-1) Clamp body (8) in vise.
 - I-1.1) Install o-ring (9) in o-ring groove in bonded seal (6).
 - I-1.2) Install guide ring (7) and bonded seal (6) into body (8).
 - CAUTION₃:** Do NOT rip or tear o-ring during installation.
 - I-1.3) Screw center coupling (4) into body (8).
 - I-1.4) Install o-ring (10) in groove in bottom sub (9).
 - I-1.5) Align lugs with slots in bottom sub and install mandrel (2) into bottom sub (9).
 - I-1.6) Install mandrel (2) and bottom sub (9) into body (8) and through bonded seal (6).
 - CAUTION₄:** Do NOT damage bonded seal during installation.
 - I-1.7) Screw bottom sub (5) into body (8).
 - CAUTION₃:** Do NOT rip or tear o-ring during installation.
 - I-1.8) Screw top sub (1) onto mandrel (2).
 - I-1.9) Install collet (3) over top sub (1). Screw collet (3) onto center coupling (4).
- I-2) Unclamp body (8) from vise and remove assembled tool.



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J) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52520
1	1	TOP SUB	P-110	52520620
2	1	MANDREL	P-110	52520210
3	1	COLLET	P-110	52520810
4	1	CENTER COUPLING	P-110	52520630
5	1	BOTTOM SUB	P-110	52520610
6	1	BONDED SEAL	1026 / 90 DURO NITRILE	52520910
7	1	GUIDE RING	P-110	52520820
8	1	BODY	P-110	52520310
9	1	151 O-RING	90 DURO NITRILE	90151
10	1	234 O-RING	90 DURO NITRILE	90234

REDRESS KIT (RDK)		52520050
ASSEMBLED WEIGHT		41 LBS

K) OPTIONS PARTS LIST

K-1) HSN

NOTE₂: For temperature range, refer to Rubber Selection Guide.

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52520H
6	1	BONDED SEAL	1026 / 90 DURO HSN	52520910H
9	1	151 O-RING	90 DURO HSN	90151H
10	1	234 O-RING	90 DURO HSN	90234H

REDRESS KIT (RDK)		52520050H
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K-2) VITON

NOTE₂: For temperature range, refer to Rubber Selection Guide.

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52520V
6	1	BONDED SEAL	1026 / 90 DURO VITON	52520910V
9	1	151 O-RING	90 DURO VITON	90151V
10	1	234 O-RING	90 DURO VITON	90234V

REDRESS KIT (RDK)		52520050V
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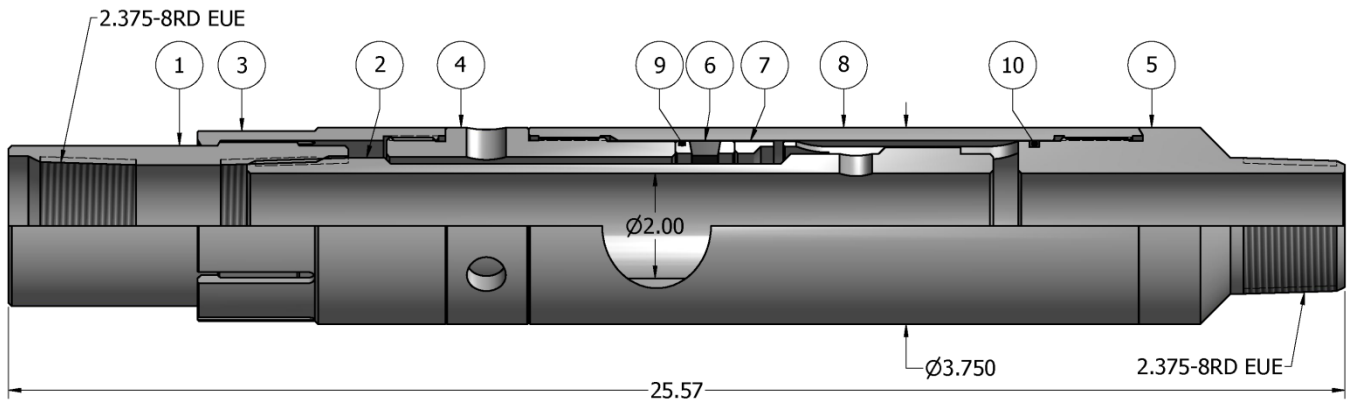
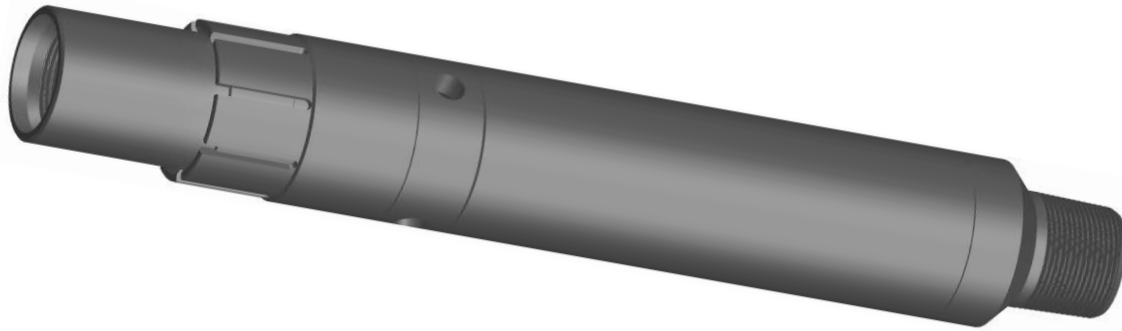
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L) TECHNICAL ILLUSTRATION



M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
12/03/14	A	Created new manual;	-	-