



SC TENSION UNLOADER

1-5/8" with 2-3/8 EUE

Manual No:
DL-525-2375-1023

Revision: **A**

Revision Date:
01/16/2017

Authored by: *J.Anderson*

Approved by: *N.Banker*

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)		
1-5/8	3.25	1.63	2-3/8 EUE	52506 52506H ¹ 52506V ²

Elastomer Trim Options: ¹HSN, ²Viton

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
10,000 PSI	114,500 LBS

C) PRE-INSTALLATION INSPECTION PROCEDURES

CAUTION: 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) OPERATING PROCEDURES

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 5,000 lbs to close the unloader. Set down weight (approximately 5,000 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 RECOMMENDATIONS

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) ELASTOMER TRIM TEMPERATURE GUIDE

RUBBER TYPE	TEMPERATURE RANGE
NITRILE	70° - 250°F
HSN (HNBR)	70° - 300°F
VITON	100° - 350°F

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

H) DISASSEMBLY

H-1) Clamp bottom sub (3) in vise.

H-1.1) From upper end of tool, unscrew and remove top sub (1) from collet (5) and mandrel (2).

H-1.2) Unscrew and remove lock sleeve (8) from center coupling (4).

H-1.2.1) Remove collet (5) from center coupling (4).

H-1.3) Unscrew and remove center coupling (4) from body (7).

H-1.3.1) Remove o-rings (11, 12) from center coupling (4).

H-1.4) Unscrew and remove body (7) from bottom sub (3).

H-1.5) Remove mandrel (2) from bottom sub (3).

H-1.5.1) Remove seal (6) and o-rings (9, 10) from mandrel (2).

H-2) Unclamp and remove bottom sub (3) from vise.

H-2.1) Remove o-ring (13) from bottom sub (3).



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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) Install o-ring (13) in o-ring groove in bottom sub (3).

I-2) Clamp bottom sub (3) in vise.

I-2.1) Install o-rings (9, 10) in o-ring grooves in mandrel (2).

I-2.2) Install seal (6) onto mandrel (2).

CAUTION₃: Do NOT damage o-rings during installation.

I-2.3) Align lugs on mandrel (2) with slots in bottom sub (3). Install mandrel (2) into bottom sub (3).

I-2.4) Install body (7) onto mandrel (2) and screw into bottom sub (3).

CAUTION₃: Do NOT damage seal during installation.

I-2.5) Install o-rings (11, 12) in o-ring grooves center coupling (4).

I-2.6) Install center coupling (4) onto mandrel (2) and screw into body (7).

CAUTION₃: Do NOT rip or tear o-rings during installation.

I-2.7) Install collet (5) onto lock sleeve (8).

I-2.8) Install lock sleeve (8) onto mandrel (2) and screw into center coupling (4).

I-2.9) Screw top sub (1) onto mandrel (2) and collet (5).

I-3) Unclamp bottom sub (3) from vise and remove assembled tool.

J) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52506
1	1	TOP SUB	P-110	52506620
2	1	MANDREL	P-110	52506210
3	1	BOTTOM SUB	P-110	52506610
4	1	CENTER COUPLING	P-110	52506630
5	1	COLLET	P-110	52506810
6	1	SEAL	90 DURO NITRILE	52506910
7	1	BODY	P-110	52506310
8	1	LOCK SLEEVE	P-110	52506830
9	1	SNAP RING	-	WSM-215
10	2	136 O-RING	90 DURO NITRILE	90136
11	2	227 O-RING	90 DURO NITRILE	90227
12	1	232 O-RING	90 DURO NITRILE	90232
13	1	329 O-RING	90 DURO NITRILE	90329

REDRESS KIT (RDK)	52506050
ASSEMBLED WEIGHT	34 LBS



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J) PARTS LIST (cont'd)

J-1) ELASTOMER TRIM OPTIONS

NOTE₂: For temperature range, refer to Elastomer Trim Temperature Guide.

J-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52506H
6	1	SEAL	90 DURO HSN	52506910H
10	2	136 O-RING	90 DURO HSN	90136H
11	2	227 O-RING	90 DURO HSN	90227H
12	1	232 O-RING	90 DURO HSN	90232H
13	1	329 O-RING	90 DURO HSN	90329H

REDRESS KIT (RDK)		52506050H
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J-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52506V
6	1	SEAL	90 DURO VITON	52506910V
10	2	136 O-RING	90 DURO VITON	90136V
11	2	227 O-RING	90 DURO VITON	90227V
12	1	232 O-RING	90 DURO VITON	90232V
13	1	329 O-RING	90 DURO VITON	90329V

REDRESS KIT (RDK)		52506050V
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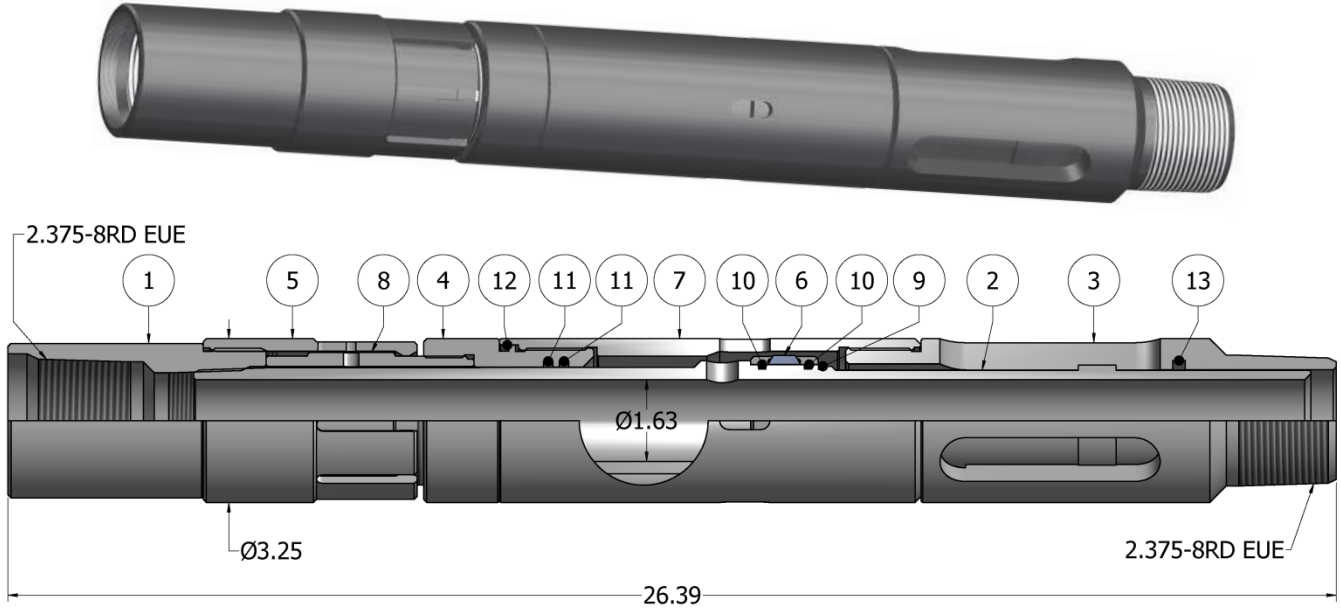
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K) TECHNICAL ILLUSTRATION



L) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
01/16/2017	A	Created new manual	-	-