



# SC TENSION UNLOADER

## 2-7/8"

Manual No:  
**DL-525-2875-680**

Revision: **A**

Revision Date:  
**05/16/2014**

Written by: J.Anderson

Approved by: K.Plunkett

### A) DESCRIPTION

The SC Tension Unloader provides a means of equalizing tubing and casing annulus pressures when used with a tension packer. The SC Tension Unloader 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)		
2-7/8	4.500	2.50	2.347	2-7/8 EUE	52525

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
10,000 PSI	100,000 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](http://www.dloiltools.com)



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### D) OPERATION

**CAUTION<sub>2</sub>:** 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) RECOMMENDED TOOLS

#### G-1) 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

### G) DISASSEMBLY

G-1) Clamp body (8) in vise.

G-1.1) Unscrew and remove bottom sub (9) from body (8).

G-1.1.1) Remove o-ring (11) from bottom sub (9).

G-1.2) Unscrew and remove collet (3) from center coupling (4).

G-1.3) Unscrew and remove top sub (1) from mandrel (2).

G-1.4) Unscrew and remove center coupling (4) from body (8).

G-1.4.1) Unscrew and remove coupling extension (5) from center coupling (4).

G-1.5) Remove mandrel (2) from body (8).

G-1.6) Remove guide ring (7) and bonded seal (6) from mandrel (2).

G-1.6.1) Remove o-ring (10) from bonded seal (6).

G-2) Unclamp and remove body (8) from vise.



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### H) ASSEMBLY

**NOTE<sub>2</sub>:** Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

H-1) Clamp body (8) in vise.

H-1.1) Install o-ring (10) in groove in bonded seal (6).

H-1.2) Install bonded seal (6) and guide ring (7) into body (8).

**CAUTION<sub>3</sub>:** Do NOT rip or tear o-ring or seal during installation.

H-1.3) Assemble mandrel assembly and install:

H-1.3.1) Screw top sub (1) onto mandrel (2).

H-1.3.2) Install mandrel (2) into upper end of body (8). Slide seal area of mandrel (2) past bonded seal (6) and mandrel (2) into open position.

H-1.4) Assemble coupling assembly and install:

H-1.4.1) Screw coupling extension (5) into center coupling (4).

H-1.4.2) Screw center coupling (4) into body (8).

H-1.5) Install collet (3) onto top sub (1) and screw onto center coupling (4).

H-1.6) Install o-ring (11) in groove in bottom sub (9).

H-1.7) Screw bottom sub (9) into body (8).

**CAUTION<sub>3</sub>:** Do NOT rip or tear o-ring during installation.

H-2) Unclamp body (8) from vise and remove assembled tool.

### I) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	PART NUMBER
1	1	TOP SUB	P-110	52525620
2	1	MANDREL	P-110	52525210
3	1	COLLET	4140	52525810
4	1	CENTER COUPLING	P-110	52525630
5	1	COUPLING EXTENSION	L-80	52525920
6	1	BONDED SEAL	90 DURO NITRILE	52525910
7	1	GUIDE RING	L-80	52525820
8	1	BODY	P-110	52525310
9	1	BOTTOM SUB	P-110	52525610
10	1	154 O-RING	90 DURO NITRILE	90154
11	1	343 O-RING	90 DURO NITRILE	90342

REDRESS KIT (RDK)		52525050
ASSEMBLED WEIGHT		57 LBS



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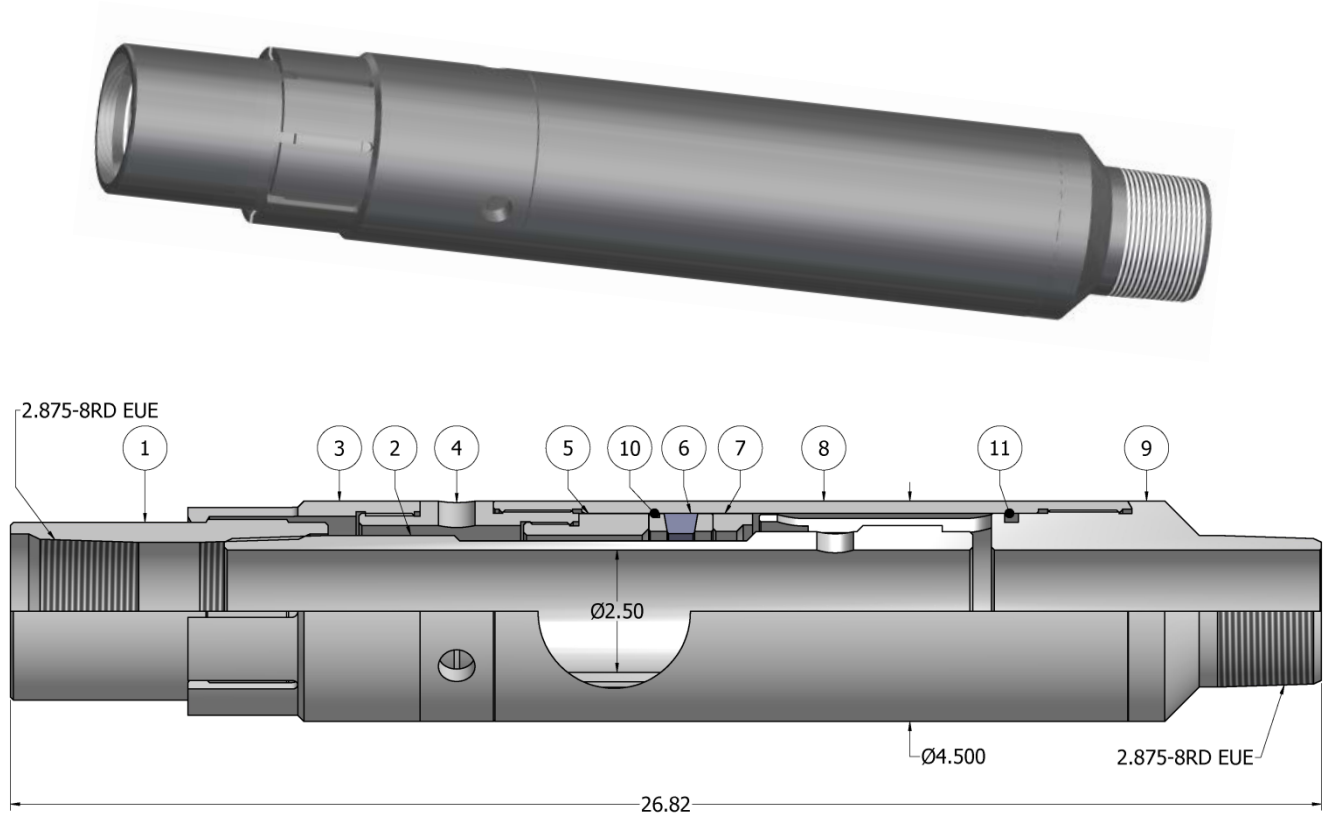
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## J) TECHNICAL ILLUSTRATION



## K) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
05/16/14	A	Created new manual	-	-