



# DL SHEAR TENSION PACKER

## 5-1/2" X 2-7/8", 3-1/2" EUE

Manual No:  
**DL-412-5500-1684**

Revision: **A**

Revision Date:  
**06/15/2023**

Authored by: J.Anderson

Approved by: E.Visaez

### A) DESCRIPTION

The DL Tension Packer and DL Shear Tension Packer are economical, compact tools for injection, pumping, medium range treating and production applications. These packers are set by 1/4 right-hand rotation of the tubing and then pull tension. To release these packers, slack off the tubing and the packer will automatically re-jay into the release position. These packers have a right-hand rotation release allowing retrieval of the tubing string.

The DL Tension Packer can be run in tension or compression. When the DL Tension Packer is run in compression, the right-hand release option cannot be utilized.

The DL Shear Tension Packer features an adjustable straight pull safety shear release. This packer is not designed to be run in compression.

**NOTE<sub>1</sub>:** If running the packer with high pressure from below, risk of unsetting the packer exists. Contact D&L sales for recommendations.

### B) SPECIFICATION GUIDE

CASING			TOOL OD (INCHES)	TOOL ID (INCHES)	THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)				
5-1/2	13.0 – 20.0	4.778 – 5.044	4.625	2.44	3-1/2" EUE	41256-XBAE 41256H-XBAE <sup>1</sup> 41256V-XBAE <sup>2</sup> 41256C-XBAE <sup>3</sup> 41256HC-XBAE <sup>4</sup> 41256VC-XBAE <sup>5</sup>

Tool Options: <sup>1</sup>HSN, <sup>2</sup>Viton, <sup>3</sup>Nitrile, Carbide, <sup>4</sup>HSN, Carbide, <sup>5</sup>Viton, Carbide

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
5,000 PSI	25,000 LBS

### C) PRE-INSTALLATION INSPECTION PROCEDURES

**CAUTION<sub>1</sub>:** 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.

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



# DL SHEAR TENSION PACKER

## 5-1/2" X 2-7/8", 3-1/2" EUE

Manual No:  
**DL-412-5500-1684**

Revision: **A**

Revision Date:  
**06/15/2023**

Authored by: *J.Anderson*

Approved by: *E.Visaez*

### C) PRE-INSTALLATION INSPECTION PROCEDURES (cont'd)

GENERAL SCREW TORQUE RECOMMENDATIONS									
SCREW SIZE (INCHES)	#6	#8	#10	1/4	5/16	3/8	7/16	1/2	5/8 and larger
TORQUE RANGE (INCH-POUNDS)	5 – 8	10 – 15	18 – 25	25 – 40	50 – 80	90 – 135	160 – 210	250 – 330	450 - 650

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, elements, o-rings, shear screws, etc. Contact D&L sales for redress kit and/or other replacement part information.

### D) SETTING PROCEDURES

**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.

Before running the packer, check the safety shear release to see that the desired quantities of shear pins are installed. Use of all shear pins is recommended.

Run to setting depth. Set down the work string and rotate 1/4 turn to the right at the packer. Pull tension on the packer to set the slips and compress the packing elements. A minimum pull of 11,000 lbs at the packer is required to pack off the elements.

**NOTE<sub>2</sub>:** Take care not to pull more than two-thirds (2/3) of the safety shear setting.

### E) RELEASING PROCEDURES

Set down the work string to unset the slips, relax the packing elements and re-jay the packer. The tool may now be moved and reset, or pulled from the well.

If this does not un-set the packer, pull to shear the safety shear release. Once it shears, the tool must be tripped out. If the safety shear release will not shear, torque the work string to the right until the secondary release threads break loose. Rotate 12-15 additional turns to the right at the tool and trip out.

### F) 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. Elements should be in a relaxed state—free from tension, compression, and other stresses that could cause deformation.

Store the tool, if possible, in an enclosed, temperature and humidity controlled environment. Avoid excessively high temperatures over long periods of time. Shield elastomeric parts from ultraviolet light sources. Keep tool dry and protected from condensation. Do not store in contact with or near volatile or corrosive chemicals. Do not store near ozone generating equipment or operations such as welding.



# DL SHEAR TENSION PACKER

## 5-1/2" X 2-7/8", 3-1/2" EUE

Manual No:  
**DL-412-5500-1684**

Revision: **A**

Revision Date:  
**06/15/2023**

Authored by: J.Anderson

Approved by: E.Visaez

### G) ELASTOMER TRIM TEMPERATURE GUIDE

RUBBER TYPE	TEMPERATURE RANGE
NITRILE	40° - 250°F
HSN (HNBR)	70° - 300°F
VITON	100° - 350°F

### H) 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

### I) DISASSEMBLY

- I-1) Clamp top coupling (1) in vise.
- I-1.1) Unscrew and remove pipe plug (13) from shear sleeve (8).
- I-1.2) Remove shear pins (5) from shear sleeve (8). Rotate shear sleeve (8) as needed to access shear pins (5).
- I-1.3) Unscrew and remove bottom sub (4) from mandrel (2).
- I-1.3.1) Remove o-ring (16) from bottom sub (4).
- I-1.4) Remove shear sleeve (8) from mandrel (2).
- I-1.5) Remove element (3) and cone (6) from mandrel (2).
- I-1.6) Unscrew and remove button head cap screws (14) from cage ring (9) and remove drag springs (10).
- I-1.7) Unscrew and remove button head cap screws (15) from cage ring (9).
- I-1.8) Wedge slips (12) outward. Remove J-body assembly from mandrel (2) and disassemble:
- I-1.8.1) Remove wedges. Remove slips (12) and slip springs (11) from J-body (7).
- I-1.9) Unscrew and remove mandrel (2) from top coupling (1) (**NOTE**<sub>5</sub>: Left-hand threads).
- CAUTION**<sub>3</sub>: Do NOT wrench or clamp on seal surface.
- I-1.10) Remove cage ring (9) from mandrel (2).
- I-2) Unclamp and remove top coupling (1) from vise.

### J) ASSEMBLY

**NOTE**<sub>6</sub>: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order and orientation.

- J-1) Clamp top coupling (1) in vise.
- J-1.1) Install cage ring (9) onto mandrel (2).
- J-1.2) Screw mandrel (2) into top coupling (1) (**NOTE**<sub>5</sub>: Left-hand threads).
- CAUTION**<sub>3</sub>: Do NOT wrench or clamp on seal surfaces.
- J-1.3) Assemble J-body assembly:
- J-1.3.1) Install slips (12) and slip springs (11) into J-body (7). Wedge slips outward.
- NOTE**<sub>3</sub>: Install two (2 ea) springs per slip.



# DL SHEAR TENSION PACKER

## 5-1/2" X 2-7/8", 3-1/2" EUE

Manual No:  
**DL-412-5500-1684**

Revision: **A**

Revision Date:  
**06/15/2023**

Authored by: J.Anderson

Approved by: E.Visaez

### J) ASSEMBLY (cont'd)

J-1.4) Install J-body assembly onto mandrel (2). Remove wedges.

J-1.5) Align holes in J-body (7) with threaded holes in cage ring (9). Screw button head cap screws (15) into cage ring (9).

J-1.6) Set drag springs (10) in place on J-body (7). Capture end of springs under lip of J-body (7) ring.

**NOTE4:** Install springs in sets of two (2 ea).

J-1.7) Align holes in drag springs with holes in J-body (7) and threaded holes in cage ring (9). Screw button head cap screws (14) into cage ring (9).

J-1.8) Install cone (6) and element (3) onto mandrel (2)

J-1.9) Install shear sleeve (8) onto mandrel (2).

J-1.10) Install o-ring (16) into thread relief in bottom sub (4).

J-1.11) Screw bottom sub (4) onto mandrel (2).

**CAUTION4:** Do not rip or tear o-ring during installation.

J-1.12) For each desired shear pin, align plug hole in shear sleeve (8) with pocket hole in bottom sub (4) and install shear pin (5).

J-1.13) Once desired quantity of shear pins (5) is in place, screw pipe plug (13) into shear sleeve (8).

J-2) Unclamp top coupling (1) from vise and remove assembled tool.

### K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41256-XBAE
1	1	TOP COUPLING	DLMS60	40070620-VBAE
2	1	MANDREL	DLMS60	41270210
3	1	ELEMENT	80 DURO NITRILE	40556512
4	1	BOTTOM SUB	DLMS60	41070615-VBAE
5	10	SHEAR PIN (4000#)	DLM360BRS	41000990
6	1	CONE	DLMS35	40056410
7	1	J-BODY	DLMS35 / DLMS60	41056310
8	1	SHEAR SLEEVE	DLMS60	41056850
9	1	CAGE RING	DLMS60	41070325
10	8	DRAG SPRING	DLMSSP301	40070920
11	8	SLIP SPRING	-	7145900
12	4	LOWER SLIP	DLMS35	60055135
13	1	1/4 NPT SOCKET PRESSURE PLUG	4140	SPP025
14	8	5/16-18 UNC X 5/8 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C062
15	6	5/16-18 UNC X 1/2 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C050
16	1	232 O-RING	90 DURO NITRILE	90232

REDRESS KIT (RDK)	41256050
ASSEMBLED WEIGHT	70 LBS



# DL SHEAR TENSION PACKER

## 5-1/2" X 2-7/8", 3-1/2" EUE

Manual No:  
**DL-412-5500-1684**

Revision: **A**

Revision Date:  
**06/15/2023**

Authored by: *J.Anderson*

Approved by: *E.Visaez*

### K-1) ELASTOMER TRIM OPTIONS

**NOTE7:** For temperature range, refer to Elastomer Trim Temperature Guide.

#### K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41256H-XBAE
3	1	ELEMENT	80 DURO HSN	40556512H
16	1	232 O-RING	90 DURO HSN	90232H
REDRESS KIT (RDK)				41256050H

#### K-1.2) V

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41256V-XBAE
3	1	ELEMENT	80 DURO VITON	40556512V
16	1	232 O-RING	90 DURO VITON	90232V
REDRESS KIT (RDK)				41256050V

### K-2) CARBIDE OPTION

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41256C-XBAE
12	4	CARBIDE LOWER SLIP	DLMS110	60055135C



# DL SHEAR TENSION PACKER

5-1/2" X 2-7/8", 3-1/2" EUE

Manual No:  
DL-412-5500-1684

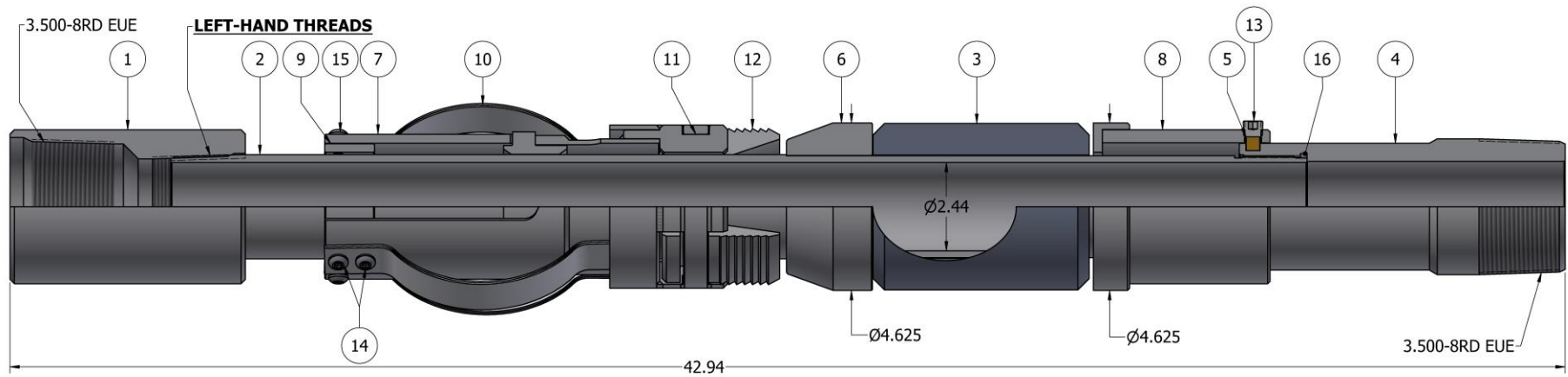
Revision: A


Revision Date:  
06/15/2023

Authored by: J.Anderson

Approved by: E.Visaez

## L) TECHNICAL ILLUSTRATION



	<b>DL SHEAR TENSION PACKER</b> 5-1/2" X 2-7/8", 3-1/2" EUE	Manual No: <b>DL-412-5500-1684</b>
		Revision: <b>A</b>
		Revision Date: <b>06/15/2023</b>
<i>Authored by: J.Anderson</i>		<i>Approved by: E.Visaez</i>

**M) REVISION HISTORY**

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
06/15/2023	A	Created manual	-	-