



DL TENSION PACKER

5-1/2" X 2-3/8"

Manual No:
DL-401-5500-338

Revision: **B**

Revision Date:
11/06/2020

Authored by: *B.Mathis*

Approved by: *D.Hushbeck*

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.

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	1.94	2-3/8 EUE	40155 40155H ¹ 40155V ² 40155C ³ 40155HC ⁴ 40155VC ⁵
	20.0 – 23.0	4.670 – 4.778	4.500	1.94	2-3/8 EUE	40157 40157H ¹ 40157V ² 40157C ³ 40157HC ⁴ 40157VC ⁵

Tool Options: ¹HSN, ²Viton, ³Nitrile, Carbide, ⁴HSN, Carbide, ⁵Viton, Carbide

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
5,000 PSI	36,000 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.



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.dloiltools.com



DL TENSION PACKER

5-1/2" X 2-3/8"

Manual No:
DL-401-5500-338

Revision: **B**

Revision Date:
11/06/2020

Authored by: *B.Mathis*

Approved by: *D.Hushbeck*

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

Run to setting depth. Set down on 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.

E) RELEASING PROCEDURES

Set down on 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.

E-1) EMERGENCY RELEASE

If this does not un-set the packer, torque the work string to the right until the secondary release threads break loose. Rotate 12 to 15 additional turns to the right at the tool and trip out with the work string. When released in this manner, the packer will remain downhole.

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 TENSION PACKER

5-1/2" X 2-3/8"

Manual No:
DL-401-5500-338

Revision: **B**

Revision Date:
11/06/2020

Authored by: *B.Mathis*

Approved by: *D.Hushbeck*

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 bottom assy (8) from mandrel (2).

I-1.2) Slide element (7) and cone (6) off of mandrel (2).

I-1.3) Unscrew and remove button head cap screws (11) from J-body assy (5).

I-1.4) Unscrew and remove button head cap screws (13) from cage ring (3).

I-1.5) Remove drag springs (4) from J-body assy (5).

I-1.6) Unscrew and remove button head cap screws (12) from cage ring (3).

I-1.7) Wedge slips (9) outwards. Rotate and slide J-body assembly as needed to remove it from mandrel (2) and disassemble:

I-1.7.1) Remove wedges. Remove slips (9) and slip springs (10) from J-body assy (5).

I-1.8) Unscrew and remove mandrel (2) from top coupling (1) (**NOTE₂**: Left-hand threads).

I-1.8.1) Slide cage ring (3) off of mandrel (2).

I-2) Remove top coupling (1) from vise.

J) ASSEMBLY

NOTE₁: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order & orientation.

J-1) Clamp top coupling (1) in vise.

J-1.1) Slide cage ring (3) onto mandrel (2).

J-1.2) Screw mandrel (2) into top coupling (1) (**NOTE₂**: Left-hand threads).

J-1.3) Install slips (9) and slip springs (10) into J-body assy (5). Wedge slips outwards.

NOTE₃: Install two (2ea) springs per slip (Fig. 2).

J-1.4) Rotate and slide J-body assembly as needed so slots align with J-pins - slide onto mandrel (2).

J-1.5) Align holes in J-body assy (5) with threaded holes in cage ring (3). Screw button head cap screws (12) into cage ring (3). Remove wedges.

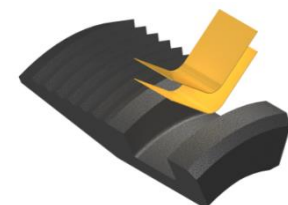


Fig. 2



DL TENSION PACKER

5-1/2" X 2-3/8"

Manual No:
DL-401-5500-338

Revision: **B**

Revision Date:
11/06/2020

Authored by: *B.Mathis*

Approved by: *D.Hushbeck*

J) ASSEMBLY (cont'd)

- J-1.6) Set drag springs (4) in place on J-body assy (5). Be sure lower ends of drag springs (4) are captured under lip on J-body assy (5).
- J-1.7) Align holes in drag springs (4) with holes in J-body assy (5) and threaded holes in cage ring (3).
 - J-1.7.1) Screw button head cap screws (12, 13) into cage ring (3).
- J-1.8) Align holes in drag springs (4) with threaded holes in J-body assy (5).
 - J-1.8.1) Screw button head cap screws (11) into J-body assy (5).
- J-1.9) Slide cone (6) and element (7) onto mandrel (2).
- J-1.10) Screw bottom assy (8) onto lower mandrel (4).
- J-2) Unclamp top coupling (1) from vise and remove tool assembly.

K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40155	P/N 40157
1	1	TOP COUPLING	DLMS60	CP2375NLH2375E	
2	1	MANDREL	1026 CD/1026	40145210	
3	1	CAGE RING	DLMS60	41045320	
4	8	DRAG SPRING	-	40055920	
5	1	J-BODY ASSY	DLMS60 / DLMS35	41055310	
6	1	CONE	DLMS35	40055410	40057410
7	1	ELEMENT	80 DURO NITRILE	40555512	40557512
8	1	BOTTOM SUB	1026	40055610	40057610
9	4	SLIP	DLMS35	40055110	
10	8	SLIP SPRING	-	7155901	
11	4	BUTTON HEAD CAP SCREW 5/16-18 UNC X 5/16	STEEL	BHSC031C031	N/A
12	-	BUTTON HEAD CAP SCREW 5/16-18 UNC X 3/8	STEEL	BHSC031C037 (6EA)	(8EA)
13	-	BUTTON HEAD CAP SCREW 5/16-18 UNC X 1/2	DLMS60	BHSC031C050 (4EA)	(6EA)

REDRESS KIT (RDK)		40155050	40157050
ASSEMBLED WEIGHT		40 LBS	40 LBS



DL TENSION PACKER

5-1/2" X 2-3/8"

Manual No:
DL-401-5500-338

Revision: **B**

Revision Date:
11/06/2020

Authored by: *B.Mathis*

Approved by: *D.Hushbeck*

K) PARTS LIST (cont'd)

K-1) ELASTOMER TRIM OPTIONS

NOTE4: For temperature range, refer to Elastomer Trim Temperature Guide.

K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40155H	P/N 40157H
7	1	ELEMENT	80 DURO HSN	40555512H	40557512H

REDRESS KIT (RDK)			40155050H	40157050H
-------------------	--	--	-----------	-----------

K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40155V	P/N 40157V
7	1	ELEMENT	80 DURO VITON	40555512V	40557512V

REDRESS KIT (RDK)			40155050V	40157050V
-------------------	--	--	-----------	-----------

K-2) CARBIDE OPTION

ITEM	QTY	DESCRIPTION	MATERIAL	PART NUMBER
9	4	CARBIDE SLIP	DLMS35	40055110C



DL TENSION PACKER

5-1/2" X 2-3/8"

Manual No:
DL-401-5500-338

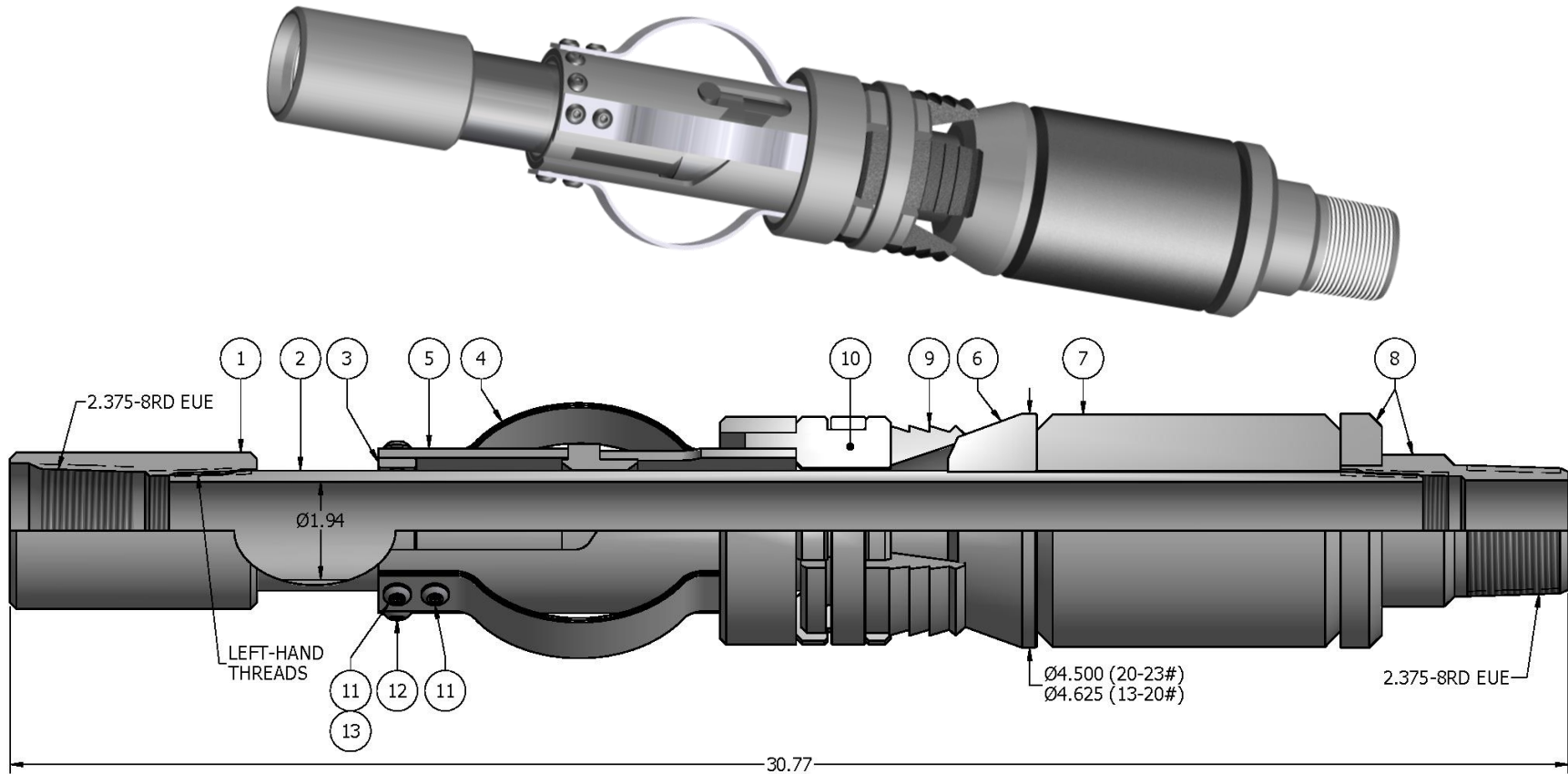
Revision: **B**


Revision Date:
11/06/2020

Authored by: *B.Mathis*

Approved by: *D.Hushbeck*

L) TECHNICAL ILLUSTRATION



	DL TENSION PACKER 5-1/2" X 2-3/8"	Manual No: DL-401-5500-338
		Revision: B
		Revision Date: 11/06/2020
<i>Authored by: B.Mathis</i>		<i>Approved by: D.Hushbeck</i>

M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
11/06/2020	B	Revised entire manual	J.Anderson	E.Visaez