



DL TENSION PACKER

9-5/8" X 3-1/2"

Manual No:
DL-401-9625-1739

Revision: **A**

Revision Date:
02/02/2024

Authored by: *J.Anderson*

Approved by: *E.Visaez*

A) DESCRIPTION

The DL Tension Packer is an economical, compact tool for injection, pumping, medium range treating and production applications. The packer is set by 1/4 right-hand rotation of the tubing and then pull tension. To release the packer, slack off the tubing and the packer will automatically re-jay into the release position. The packer has 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.

B) SPECIFICATION GUIDE

CASING			TOOL		THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)	GAGE OD (INCHES)	NOMINAL ID (INCHES)		
9-5/8	43.5 – 53.5	8.535 – 8.755	8.250	3.00	3-1/2" EUE	40196 40196H ¹ 40196V ² 40196C ³ 40196HC ⁴ 40196VC ⁵

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

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
5,000 PSI	140,000 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.

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



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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 20,000 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 required to release 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.



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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 sub (1) in vise.

I-1.1) Unscrew and remove bottom sub (8) from mandrel (2).

I-1.2) Remove rubber mandrel assembly from mandrel (2):

I-1.2.1) Remove element (7) and cone (6) from rubber mandrel (13).

I-1.2.2) Remove o-ring (17) from rubber mandrel (13).

I-1.3) Unscrew and remove low head cap screws (15) from cage ring (3).

I-1.4) Remove J-body assembly from mandrel (2) and disassemble:

I-1.4.1) Unscrew and remove button head cap screws (14) from spring ring (11).

I-1.4.2) Remove spring ring (11) from J-body (5).

I-1.4.3) Unscrew and remove button head cap screws (16) from J-body (5).

I-1.4.4) Remove drag springs (4) from J-body (5).

I-1.4.5) Unscrew and remove low head cap screws (15) from slip sleeve (12).

I-1.4.6) Wedge slips (9) outwards. Remove slip sleeve (12) from J-body (5).

I-1.4.7) Remove wedges. Remove slips (9) and slip springs (10) from J-body (5).

I-1.5) Unscrew and remove mandrel (2) from top sub (1) (**NOTE**₁: Left-hand threads).

I-1.5.1) Remove cage ring (3) from mandrel (2).

I-2) Unclamp and Remove top sub (1) from vise.



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J) ASSEMBLY

NOTE₂: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

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

J-1.1) Install cage ring (3) onto upper end of mandrel (2).

J-1.2) Screw mandrel (2) into top sub (1) (**NOTE₁:** Left-hand threads).

J-1.3) Assemble J-body assembly and install:

J-1.3.1) Install slips (9) and slip springs (10) into J-body (5). Wedge slips outwards.

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

J-1.3.2) Install slip sleeve (12) into J-body (5). Align threaded holes in slip sleeve (12) with holes in J-body (5)

J-1.3.3) Screw low head cap screws (15) into slip sleeve (12). Remove wedges.

J-1.3.4) Set drag springs (4) in place on J-body (5). Align holes in drag springs (4) with threaded holes in J-body (5).

NOTE₄: Install drag springs (4) in sets of three (3 ea).

J-1.3.5) Screw button head cap screws (16) into J-body (5).

J-1.3.6) Install spring ring (11) onto upper end of J-body (5). Align threaded holes in spring ring (11) with holes in drag springs (4).

J-1.3.7) Screw button head cap screws (14) into spring ring (11).

J-1.3.8) Install J-body (5) onto mandrel (2). Position J-pin of mandrel (2) in running position on J-body (5).

J-1.4) Install cage ring (3) into J-body (5). Align threaded holes in cage ring (3) with holes in J-body (5).

J-1.5) Screw low head cap screws (15) into cage ring (3).

J-1.6) Assemble rubber mandrel assembly and install:

J-1.6.1) Install o-ring (17) in o-ring groove in rubber mandrel (13).

J-1.6.2) Install cone (6) and element (7) onto rubber mandrel (13).

J-1.6.3) Install rubber mandrel (13) and assembly onto mandrel (2).

CAUTION₃: Do not rip or tear o-ring during installation.

J-1.7) Screw bottom sub (8) onto mandrel (4) (**NOTE₁:** Left-hand threads).

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

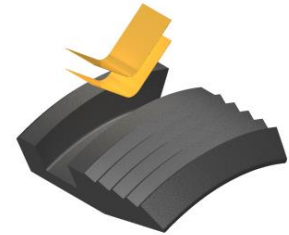


Fig. 2

K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40196
1	1	COUPLING	DLMS60	41299610-VBAE
2	1	MANDREL	DLMS60	40198210
3	1	CAGE RING	DLMS60	41099325
4	18	DRAG SPRING	DLMS35 / DLMS60	40570920
5	1	J-BODY	DLMS35 / DLMS60	41095310
6	1	CONE	DLMS35	40094410
7	1	ELEMENT	70 DURO NITRILE	40594511
8	1	BOTTOM SUB	DLMS35 / DLMS60	40198630-XBAE



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K) PARTS LIST (cont'd)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40196
9	4	SLIP	DLMS35	71095110
10	8	SLIP SPRING	-	7170901
11	1	SPRING RING	DLMS35	40095820
12	1	SLIP SLEEVE	DLMS60	40095810
13	1	RUBBER MANDREL	DLMS60	40099220
14	6	5/16-18 UNC X 5/8 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C062
15	13	5/16-18 UNC X 5/8 LOW HEAD SOCKET CAP SCREW	STEEL	LHSC031C062
16	12	5/16-18 UNC X 3/8 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C037
17	1	350 O-RING	90 DURO NITRILE	90350

REDRESS KIT (RDK)	40196050
ASSEMBLED WEIGHT	177 LBS

K-1) ELASTOMER TRIM OPTIONS

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

K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40196H
7	1	ELEMENT	70 DURO HSN	40594511H
17	1	350 O-RING	90 DURO HSN	90350H

REDRESS KIT (RDK)	40194050H
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K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40196V
7	1	ELEMENT	70 DURO VITON	40594511V
17	1	350 O-RING	90 DURO VITON	90350V

REDRESS KIT (RDK)	40194050V
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K-2) CARBIDE OPTION

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40196C
9	4	CARBIDE SLIP	DLMS110	71095110C



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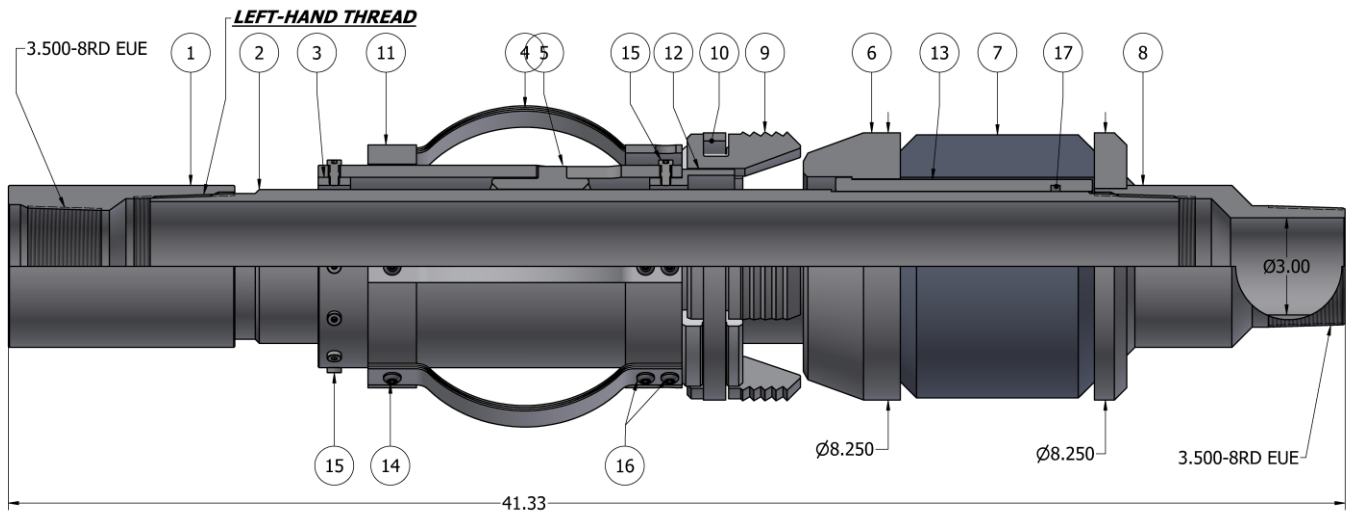
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L) TECHNICAL ILLUSTRATION



M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
02/02/2024	A	Created manual	-	-