



DL SHEAR TENSION PACKER

6" X 2-7/8"

Manual No:
DL-412-6000-178

Revision: **B**

Revision Date:
04/10/2020

Written by: J.Anderson

Approved by: K.Plunkett

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 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		THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)	GAGE OD (INCHES)	ID (INCHES)		
6	15.0 – 20.0	5.352 – 5.524	5.125	2.44	2-7/8 EUE	41261 41261H ¹ 41261V ²
	20.0 – 23.0	5.240 – 5.352	5.000	2.44	2-7/8 EUE	41260 41260H ¹ 41260V ²

Elastomer Trim Options: ¹HSN, ²Viton

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
7,000 PSI	35,000 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

Before running the packer, check the safety shear release to see that the proper quantities of shear pins are installed. Each pin shears at 4,000 lbs.

Run to setting depth. Set down the tubing 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. Pull a minimum of 12,000 lbs at the packer to pack off the elements.

NOTE₁: Take care not to pull more than two-thirds (2/3) of the safety shear setting.

E) RELEASING PROCEDURES

Set down the tubing to unset the slips, relax the packing elements and re-jay the packer. The packer 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, set down 1-2 feet and pick up to ensure the packer is released. Trip out with the packer. If the safety shear release will not shear, torque the tubing 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.



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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 (6) in vise.
- I-1.1) Unscrew and remove pipe plug (13) from shear sleeve assy (8).
- I-1.2) Remove shear pins (5) from shear sleeve assy (8). Rotate shear sleeve assy (8) as needed to access shear pins (5).
- I-1.3) Unscrew and remove bottom sub (4) from mandrel assy (1).
- I-1.3.1) Remove o-ring (16) from bottom sub (4).
- I-1.4) Remove shear sleeve assy (8) from mandrel assy (1).
- I-1.5) Remove element (3) and cone (2) from mandrel assy (1).
- I-1.6) Unscrew and remove button head cap screws (14 or 15) from J-body (7); 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 assy (1) and disassemble:
- I-1.8.1) Remove wedges. Remove slips (12) and slip springs (11) from J-body assy (7).
- I-1.9) Unscrew and remove mandrel assy (1) from top sub (6) (**NOTE₂**: Left-hand threads).
- CAUTION₃**: Do NOT wrench or clamp on seal surface.
- I-1.10) Remove cage ring (9) from mandrel assy (1).
- I-2) Remove top sub (6) from vise.

J) ASSEMBLY

- NOTE₃**: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order and orientation.
- J-1) Clamp top sub (6) in vise.
- J-1.1) Install cage ring (9) onto mandrel assy (1).
- J-1.2) Screw mandrel assy (1) into top sub (6) (**NOTE₂**: Left-hand threads).
- CAUTION₃**: Do NOT wrench or clamp on seal surfaces.



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J) ASSEMBLY (cont'd)

J-1.3) Assemble J-body assembly:

J-1.3.1) Install slips (12) and slip springs (11) into J-body assy (7). Wedge slips outward.

J-1.4) Install J-body assembly onto mandrel assy (1). Remove wedges.

J-1.5) Align holes in J-body assy (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 ring on J-body assy (7).

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 or 15) into cage ring (9).

J-1.8) Install cone (2) and element (3) onto mandrel assy (1)

J-1.9) Install shear sleeve assy (8) onto mandrel assy (1).

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

J-1.11) Screw bottom sub (4) onto mandrel assy (1).

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

J-1.12) One at a time, align plug hole in shear sleeve assy (8) with pocket hole in bottom sub (4) and insert a shear pin (5).

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

J-2) Unclamp top sub (6) from vise and remove assembled tool.

K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41260	P/N 41261
1	1	MANDREL ASSY	DLMS60	41270210	
2	1	CONE	1026	40060410	40061410
3	1	ELEMENT	80 DURO NITRILE	40560512	40561512
4	1	BOTTOM SUB	DLMS60	41070615	
5	10	SHEAR PIN (4000#)	BRASS	41000990	
6	1	TOP SUB	DLMS60	40070620	
7	1	J-BODY	1018	41056310	41061310
8	1	SHEAR SLEEVE ASSY	1026	41060850	41061850
9	1	CAGE RING	DLMS60	41070325	
10	8	DRAG SPRING	DLMSSP301	40070920	
11	8	SLIP SPRING	-	7145900	7170901
12	4	SLIP	DLMS35	40055110	
13	1	PIPE PLUG 1/4 NPT	4140	SPP025	
14	8	BUTTON HEAD SOCKET CAP SCREW 5/16-18 UNC X 5/8	STEEL	-	BHSC031C062



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K) PARTS LIST (cont'd)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41260	P/N 41261
15	-	BUTTON HEAD SOCKET CAP SCREW 5/16-18 UNC X 1/2	STEEL	BHSC031C050	
				14 QTY	6 QTY
16	1	232 O-RING	90 DURO NITRILE	90232	

REDRESS KIT (RDK)	41260050	41261050
ASSEMBLED WEIGHT	63 LBS	65 LBS

K-1) ELASTOMER TRIM OPTIONS

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

K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41260H	P/N 41261H
3	1	ELEMENT	80 DURO HSN	40560512H	40561512H
16	1	232 O-RING	90 DURO HSN	90232H	

REDRESS KIT (RDK)	41260050H	41261050H
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K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41260V	P/N 41261V
3	1	ELEMENT	80 DURO VITON	40560512V	40561512V
16	1	232 O-RING	90 DURO VITON	90232V	

REDRESS KIT (RDK)	41260050V	41261050V
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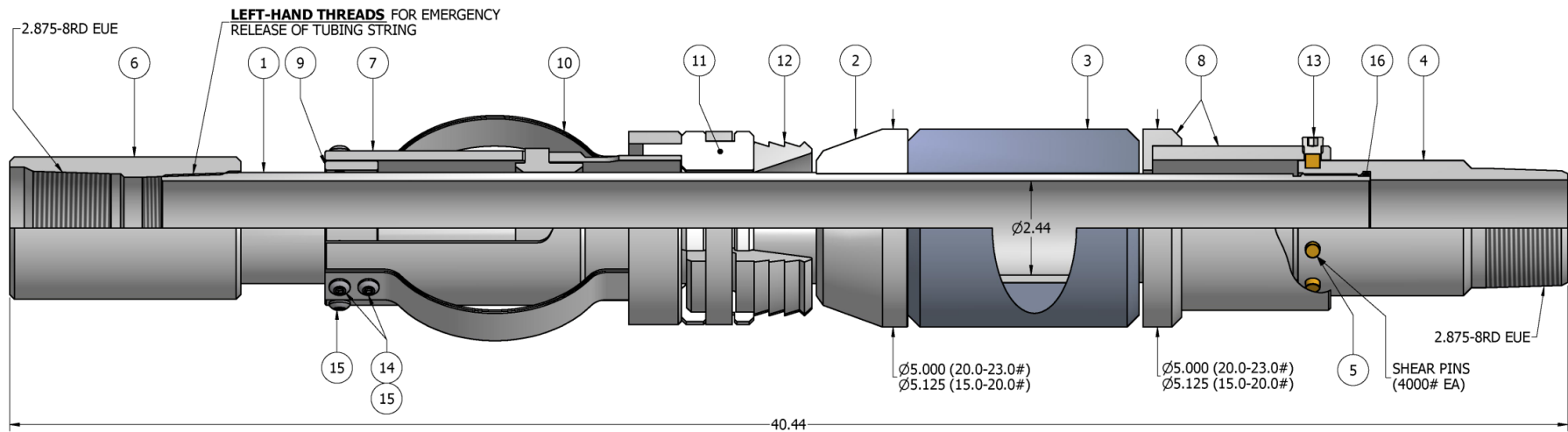
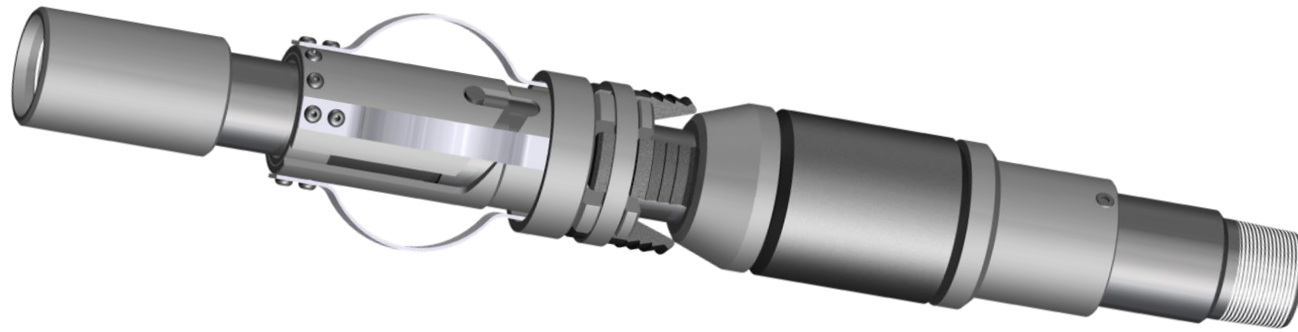
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L) TECHNICAL ILLUSTRATION



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M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
04/10/2020	B	Added Pre-Inspection Procedures, Storage Recommendations; Revised Elastomer Trim Temp. Guide, P/N 7145900 was 7155901	J.Anderson	Z.Speer
01/02/14	A	Created new manual	-	-