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		**RECOMMENDED HOLE SIZE**	**TOOL OD** (INCHES)	**TOOL ID** (INCHES)	**THREAD CONNECTION BOX UP / PIN DOWN**	**PART NUMBER**
SIZE (INCHES)	**WEIGHT** (LBS/FT)					
7-5/8	20.0 – 33.7	6.765 – 7.125	6.625	2.44	2-7/8 EUE	41275-3 41275H-3[1] 41275V-3[2] 41275C-3[3] 41275HC-3[4] 41275VC-3[5]

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

DIFFERENTIAL PRESSURE (MAX)	**TENSILE LOAD THRU TOOL** (MAX)
4,000 PSI	40,000 LBS

C) PRE-INSTALLATION INSPECTION PROCEDURES

CAUTION[1]: 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.

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

D) SETTING PROCEDURES

CAUTION$_2$: 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 proper quantities of shear pins are installed.

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 15,000 lbs. at the packer is required to pack off the elements.

NOTE$_1$: 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 element and re-jay the packer. The packer may now be moved and reset, or pulled from the well.

E-1) EMERGENCY RELEASE

In the event the packer will not release in the normal manner, pull to shear the safety shear release. Once it shears, set down one to two feet (1'-2') and pick up to ensure the packer is released. Trip out with the packer. 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.

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 (6) in vise.

I-1.1) Unscrew and remove pressure 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 (1).

I-1.3.1) Remove o-ring (16) from bottom sub (4).

I-1.4) Unscrew and remove shear sleeve (8) from flange (19).

I-1.5) Remove flange (19) from mandrel (1).

I-1.6) Remove element (3) and cone (2) from mandrel (1).

I-1.7) Wedge slips (12) outward (if needed). Unscrew and remove set screws (22) from slip housing (17).

I-1.8) Unscrew slip housing (17) from J-body (7). Remove slip housing assembly from mandrel (1) and disassemble:

I-1.8.1) Remove wedges (if needed). Remove slips (12) and slip springs (11) from slip housing (17).

I-1.8.2) Unscrew and remove set screws (24) from slip housing (17).

I-1.8.3) Remove spring retainer (20) from slip housing (17).

I-1.9) Unscrew and remove button head screws (14) from cage ring (9).

I-1.10) Remove drag springs (10) from J-body (7).

I-1.11) Unscrew and remove button head screws (15) from cage ring (9).

I-1.12) Remove J-body (7) from J-pin ring (18) and mandrel (1).

I-1.13) Unscrew and remove mandrel (1) from top coupling (6) (**NOTE$_2$**: Left-hand threads).

CAUTION$_3$: Do NOT wrench or clamp on seal surface.

I-1.13.1) Remove cage ring (9) from mandrel (1).

I-1.13.2) Unscrew and remove set screws (21) from J-pin ring (18).

I-1.13.3) Unscrew and remove J-pin ring (18) from mandrel (1).

I-2) Unclamp and remove top coupling (6) from vise.

J) ASSEMBLY

NOTE3: 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 coupling (6) in vise.

J-1.1) Screw J-pin ring (18) onto mandrel (1).

J-1.2) Screw set screws (21) into J-pin ring (18).

J-1.3) Install cage ring (9) onto mandrel (1).

J) ASSEMBLY (cont'd)

J-1.4) Screw mandrel (1) into top coupling (6) (**NOTE$_2$**: Left-hand threads).

CAUTION$_3$: Do NOT wrench or clamp on seal surfaces.

J-1.5) Install J-body (7) onto mandrel (1) and J-pin ring (18).

J-1.6) Align threaded holes in cage ring (9) with holes in J-body (7). Screw set screws (15) into cage ring (9).

J-1.7) Set drag springs (10) in place on J-body (7).

NOTE$_5$: Install drag springs in sets of three (3ea).

J-1.8) Align holes in drag springs (10) with holes in J-body (7) and threaded holes in cage ring (9). Screw button head cap screws (14) into cage ring (9).

J-1.9) Assemble slip housing assembly and install:

J-1.9.1) Install spring retainer (20) into slip housing (17).

J-1.9.2) Screw set screws (24) into slip housing (17).

J-1.9.3) Install slips (12) and slip springs (11) into slip housing (17). Wedge slips outward.

NOTE$_4$: Install two (2 ea) springs per slip (Fig. 2).

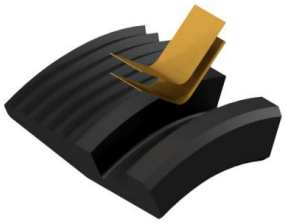


Fig. 2

J-1.9.4) Install slip housing (17) onto mandrel (1) and screw onto J-body (7). Remove wedges.

J-1.10) Screw set screws (22) into slip housing (17).

J-1.11) Install cone (2) and element (3) onto mandrel (1)

J-1.12) Install shear sleeve flange (19) onto mandrel (1).

J-1.13) Install shear sleeve (8) onto mandrel (1) and screw into flange (19).

J-1.14) Install o-ring (16) in o-ring groove in bottom sub (4).

J-1.15) Screw bottom sub (4) onto mandrel (1).

CAUTION$_4$: Do not rip or tear o-ring during installation.

J-1.16) One at a time, align plug hole in shear sleeve (8) with counterbore in bottom sub (4) and insert shear pin (5).

J-1.17) After installing desired quantity of shear pins (5), screw pressure plug (13) into shear sleeve (8).

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

K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41275-3
1	1	MANDREL	DLMS60	41275210A-3
2	1	CONE	DLMS35	40075410
3	1	ELEMENT	70 DURO NITRILE	40575511
4	1	BOTTOM SUB	DLMS60	41070615
5	10	SHEAR PIN (4000#)	DLM360BRS	41000990
6	1	TOP COUPLING	DLMS60	40070620
7	1	J-BODY	DLMS60	41075310A-3
8	1	SHEAR SLEEVE	DLMS60	41056850A-3
9	1	CAGE RING	DLMS60	41070325
10	12	DRAG SPRING	DLMSSP301	40070920

K) PARTS LIST (cont'd)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41275-3
11	8	SLIP SPRING	-	7170901
12	4	SLIP	DLMS35	60085135
13	1	1/4 NPT SOCKET PRESSURE PLUG	4140	SPP025
14	8	5/16-18 UNC X 1-1/4 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C125
15	6	5/16-18 UNC X 1 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C100
16	1	232 O-RING	90 DURO NITRILE	90232
17	1	SLIP HOUSING	DLMS80	41275310B-3
18	1	J-PIN RING	DLMS80	41270210B-3
19	1	FLANGE	DLMS35	41075850B-3
20	1	SPRING RETAINER	DLMS35	41275310C-3
21	3	1/4-20 UNC X 1/4 SOCKET SET SCREW	STEEL	SSS025C025
22	1	1/4-20 UNC X 3/8 SOCKET SET SCREW	STEEL	SSS025C037
23	1	SPRING RING	DLMS60	40075318
24	4	#10-24 UNC X 5/16 SOCKET SET SCREW	STEEL	SSS1024C031

REDRESS KIT (RDK)		41275050-3
ASSEMBLED WEIGHT		98 LBS

K-1) ELASTOMER TRIM OPTIONS

NOTE6: For temperature range, refer to Elastomer Trim Temperature Guide.

K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41275H-3
3	1	ELEMENT	70 DURO HSN	40575511H
16	1	232 O-RING	90 DURO HSN	90232H

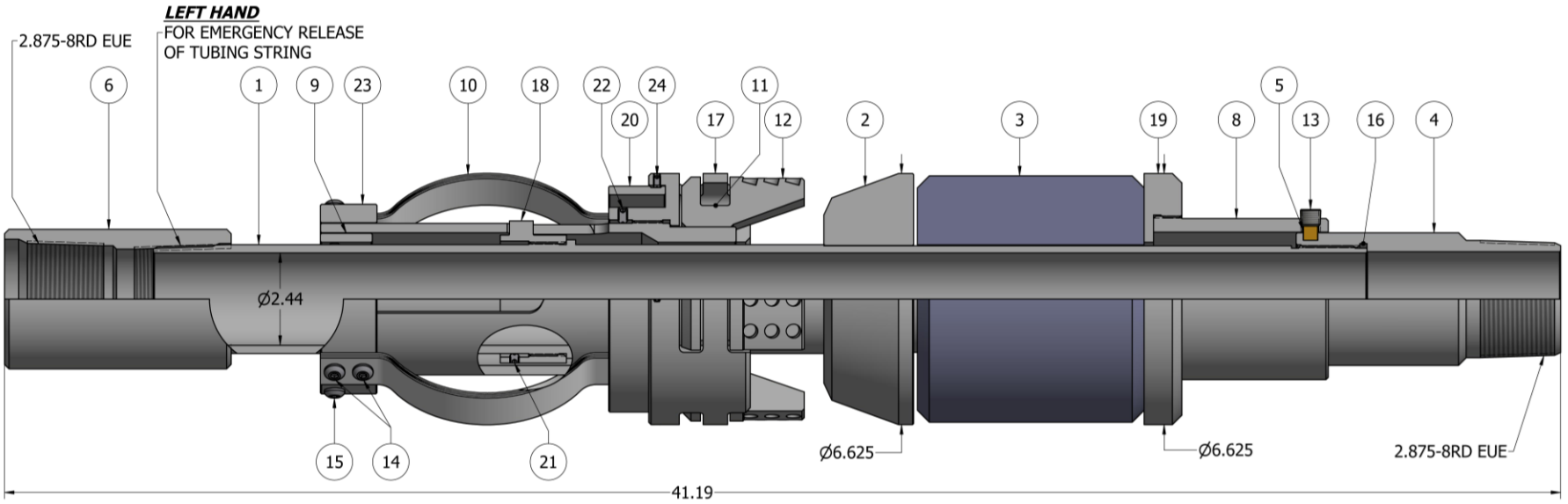
K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41275V-3
3	1	ELEMENT	70 DURO VITON	40575511V
16	1	232 O-RING	90 DURO VITON	90232V

K-2) CARBIDE OPTION

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 41275C-3
12	4	CARBIDE LOWER SLIP	DLMS110	60085135C

L) TECHNICAL ILLUSTRATION



M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/01/2022	A	Created manual	-	-