



# CASING PACKER DOUBLE ELEMENT

## 8-5/8" X 4-1/2" LTC

Manual No:  
**DL-441-8625-517**

Revision: **B**

Revision Date:  
**01/18/2023**

Authored by: B.Mathis

Approved by: D.Hushbeck

### A) DESCRIPTION

The Casing Packer is a large bore, single grip packer used to isolate damaged casing and for production or injection. This packer can run in tension or compression and can be used as a liner hanger when equipped with a right-hand release sub. Coarse, deep wickered slips allow this packer to set in open-hole or scaly casing. For open-hole set, this packer can be equipped with two elongated packing elements to assure a positive seal.

### B) SPECIFICATION GUIDE

CASING			TOOL		THREAD CONNECTION BOX UP / BOX DOWN	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)	GAGE OD (INCHES)	NOMINAL ID (INCHES)		
8-5/8	24.0 – 40.0	7.725 – 8.097	7.500	4.15	4-1/2" LTC	44184 44184H <sup>1</sup> 44184V <sup>2</sup> 44184C <sup>3</sup> 44184HC <sup>4</sup> 44184VC <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

**NOTE:** Tool listed is left-hand set / right-hand release. Additional J-slot designs are available.

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
4,000 PSI	172,000 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.

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 tools 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.

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

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

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 elements, cap screws, etc. Contact D&L sales for redress kit and/or other part information.

### D) SETTING PROCEDURE

**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.

#### D-1) TENSION SET

Run packer to setting depth. Slack off on the work string (3"). Pick up on the work string and rotate 1/4 turn to the right at the packer. Pull tension to set slips and pack off elements (17,000 lbs). The work string must be left in tension or packer will become unset.

#### D-2) COMPRESSION SET

**CAUTION<sub>3</sub>:** Casing packer **MUST** be run upside down to set with compression.

Run packer upside down to setting depth. Pick up the work string (3"). Rotate the work string 1/4 turn to the right at the packer. Slack off on the work string sufficient weight to set the packer (17,000 lbs). The work string must be left in compression or packer will become unset.

### E) RELEASING PROCEDURE

#### E-1) TENSION SET

Slack off on the work string and rotate 1/4 turn to the left at the packer to release the slips and relax the elements. Pick up on the work string to return J-pin to the J-slot running position. The tool may now be retrieved or moved downhole and reset.

#### E-2) COMPRESSION SET

Pick up on the work string (3") and rotate the work string 1/4 turn to the left at the packer to release the slips and relax the elements. The tool may now be retrieved or moved downhole and reset.

### 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



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### H) DISASSEMBLY

H-1) Clamp bottom sub (3) in vise.

- H-1.1) Unscrew and remove top sub (1) from mandrel assembly (2).
- H-1.2) Unscrew and remove button head cap screws (14) from cage ring (8).
- H-1.3) Remove drag springs (11) from J-body (9).
- H-1.4) Unscrew and remove flat head cap screws (12) from cage ring (8).
- H-1.5) Remove slip arm assemblies and disassemble:
  - H-1.5.1) Unscrew and remove flat head cap screws (12) from slips (9).
  - H-1.5.2) Remove slips (9) from slip arms (10).
- H-1.6) Unscrew and remove low head cap screw (13) from mandrel assembly (2).
- H-1.7) Remove J-body (7) and cage ring (8) from mandrel assembly (2).
  - H-1.7.1) Separate cage ring (8) from J-body (7).
- H-1.8) Remove cone (4), elements (5), and rubber spacer (6) from mandrel assembly (2).
- H-1.9) Unscrew and remove mandrel assembly (2) from bottom sub (3).

H-2) Unclamp and remove bottom sub (3) from vise.

### I) ASSEMBLY

**NOTE<sub>2</sub>:** Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

I-1) Clamp bottom sub (3) in vise.

- I-1.1) Screw mandrel assembly (2) into bottom sub (3).
- I-1.2) Install elements (5), rubber spacer (6), and cone (4) onto mandrel assembly (2).
- I-1.3) Install J-body (7) onto mandrel assembly (2).
- I-1.4) Align J-slot in J-body with threaded hole in mandrel assembly (2). Screw low head cap screw (13) into mandrel assembly (2).
- I-1.5) Install cage ring (8) onto mandrel assembly (2) and into J-body (7).
- I-1.6) Set drag springs (11) in place on J-body (9).
- I-1.7) Align holes in drag springs (11) with holes in J-body (7) and threaded holes in cage ring (8).
- I-1.8) Screw button head cap screws (14) into cage ring (8) securing drag springs (11).

**NOTE<sub>3</sub>:** Prior to tightening, be sure all threaded holes in cage ring (8) are aligned with holes in J-body (7).
- I-1.9) Assemble slip arm assemblies and install:
  - I-1.9.1) Set slips (9) in place on slip arms (10).
  - I-1.9.2) Align holes in slips (9) with threaded holes in slip arms (10). Screw flat head cap screws (12) into slips (9).
  - I-1.9.3) Set slip arm assemblies in place on J-body (7).
  - I-1.9.4) Align holes in slip arms (10) with holes in J-body (7) and threaded holes in cage ring (8). Screw flat head cap screws (12) into cage ring (8).

I-1.10) Screw top sub (1) onto mandrel assembly (2).

I-2) Unclamp bottom sub (3) from vise and removed assembled tool



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## J) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44184
1	1	COUPLING	DLMS80	CP-BCC-BCA-B
2	1	MANDREL ASSEMBLY	DLMS60	44185211
3	1	BOTTOM SUB	1026	44084610
4	1	CONE	DLMS35	44085410
5	2	ELEMENT	80 DURO NITRILE	44085512
6	1	RUBBER SPACER	DLMS35	44185840
7	1	J-BODY RH AUTO	DLMS60	44085342
8	1	CAGE RING	DLMS60	45085210E
9	3	SLIP	DLMS35	44085110
10	3	SLIP ARM	DLMSSP301	45095900
11	6	DRAW SPRING	DLMSSP301	44070910
12	12	5/16-18 UNC X 1/2 FLAT HEAD SOCKET CAP SCREW	STEEL	FHSC031C050
13	1	1/2-13 UNC X 3/8 LOW HEAD SOCKET CAP SCREW	STEEL	LHSC050C037
14	6	5/16-18 UNC X 5/8 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C062

REDRESS KIT (RDK)		44184050
ASSEMBLED WEIGHT		148 LBS

### J-1) ELASTOMER TRIM OPTIONS

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

#### J-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44184H
5	2	ELEMENT	80 DURO HSN	44085512H

REDRESS KIT (RDK)		44184050H
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#### J-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44184V
5	2	ELEMENT	80 DURO VITON	44085512V

REDRESS KIT (RDK)		44184050V
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### J-2) CARBIDE OPTION

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44184C
9	3	CARBIDE SLIP	DLMS110	44085110C



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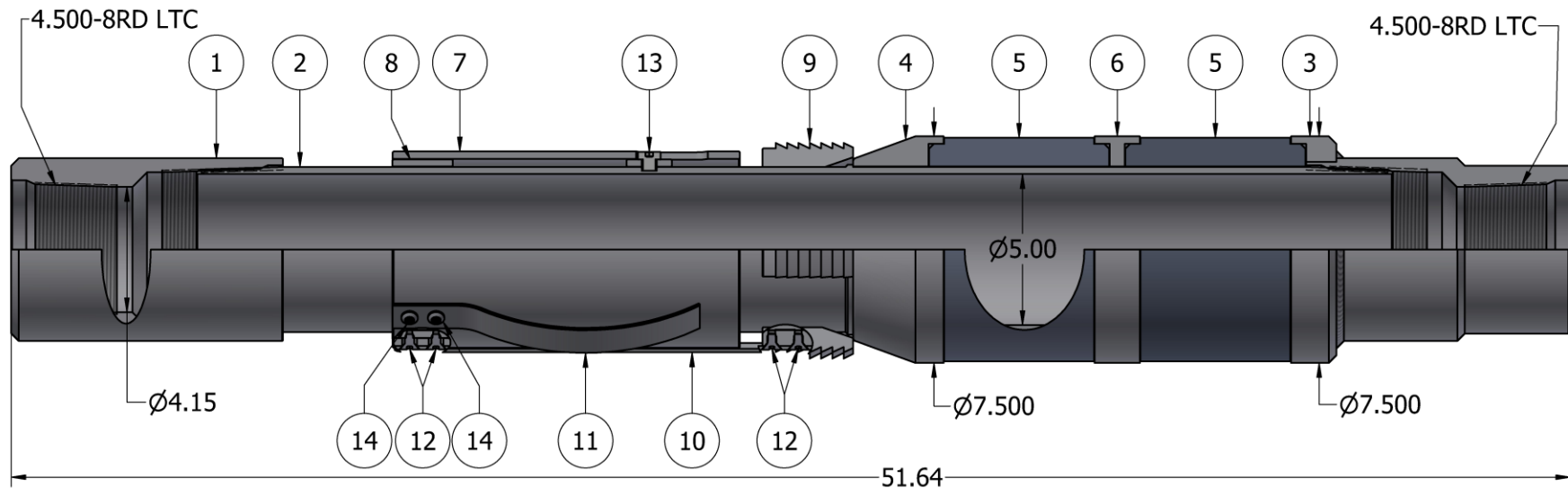
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## K) TECHNICAL ILLUSTRATIONS



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## L) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
01/18/2023	B	Revised entire manual	J.Anderson	D.McKeon