



# CASING PACKER RIGHT HAND MANUAL 9-5/8" X 7"

Manual No:  
**DL-441-9625-936**

Revision: **C**

Revision Date:  
**08/29/2023**

Authored by: J.Anderson

Approved by: J.McArthur

## 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)		
9-5/8	43.5 – 53.5	8.535 – 8.755	8.250	6.50	7" LTC	44196RM 44196RMH <sup>1</sup> 44196RMV <sup>2</sup> 44196RMC <sup>3</sup> 44196RMHC <sup>4</sup> 44196RMVC <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 right-hand set / left-hand release. Additional J-slot designs are available.

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
3,000 PSI	250,000 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  
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## C) PRE-INSTALLATION INSPECTION PROCEDURES (cont'd)

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 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 approximately three inches (3"). Rotate 1/4 turn to the right at the packer. Pull tension to set slips and pack off elements (20,000 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 while holding right-hand torque. Pick up on the work string approximately three inches (3") and rotate the work string 1/4 turn to the left at the packer. Slack off on the work string sufficient weight to set the packer (20,000 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 while holding left-hand torque 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 and rotate the work string 1/4 turn to the right 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) 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 coupling (1) in vise.

I-1.1) Unscrew and remove bottom sub (3) from mandrel (2).

I-1.2) Remove elements (5), rubber spacer (6), and cone (4) from mandrel (2).

I-1.3) Unscrew and remove button head cap screws (12) securing drag springs (11) to cage ring (8).

I-1.4) Remove drag springs (11) from mandrel (2).

I-1.5) Unscrew and remove button head cap screws (12) securing slip arms (10) to cage ring (8).

I-1.6) Remove slip arm assemblies and disassemble:

I-1.6.1) Unscrew and remove button head cap screws (12) from slips (9) and separate slips (9) from slip arms (10).

I-1.6.2) Separate slips (9) from slip arms (10).

I-1.7) Unscrew and remove low head cap screw (13) from mandrel (2).

I-1.8) Remove J-body (7) from mandrel (2).

I-1.9) Unscrew and remove mandrel (2) from coupling (1).

**CAUTION4:** Do NOT wrench or clamp on seal surface.

I-1.9.1) Remove cage ring (8) from mandrel (2).

I-2) Unclamp and remove coupling (1) from vise.

## 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 coupling (1) in vise.

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

J-1.2) Screw mandrel (2) into coupling (1).

**CAUTION4:** Do NOT wrench or clamp on seal surface.

J-1.3) Install J-body (7) onto mandrel (2) and cage ring (8). Align holes in J-body with threaded holes in cage ring.

J-1.4) Set drag springs (11) in place on mandrel (2). Align holes in drag springs (11) with threaded holes in cage ring (8).

J-1.5) Screw button head cap screws (12) into cage ring (8) to secure drag springs (11).

J-1.6) Assemble slip arm assemblies and install:

J-1.6.1) Set slips (9) in place on slip arms (10). Align threaded holes in slips (9) with holes in slip arms (10).

J-1.6.2) Screw button head cap screws (12) into slips (5).

J-1.6.3) For each assembly, set in place on J-body (7). Align holes in slip arms (10) with threaded holes in cage ring (8).



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## J) ASSEMBLY (cont'd)

J-1.6.4) Screw button head cap screws (12) into mandrel (2).

J-1.7) Install cone (4), elements (5), and rubber spacer (6) onto mandrel (2).

J-1.8) Screw bottom sub (3) onto mandrel (2).

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

## K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44196RM
1	1	COUPLING	DLMS60	CP700LTC700LTC
2	1	MANDREL	DLMS60	44195210
3	1	BOTTOM SUB	DLMS60	44096610
4	1	CONE	DLMS60	44096410
5	2	ELEMENT	80 DURO NITRILE	44096512
6	1	RUBBER SPACER	DLMS60	44196840
7	1	J-BODY	DLMS60	44195312
8	1	CAGE RING	DLMS60	45095210E
9	3	SLIP	DLMS35	45095115
10	3	SLIP ARM	STAINLESS STEEL	45570900
11	3	DRAG SPRING	DLMS301	45570920
12	20	FLAT HEAD CAP SCREW 5/16-18 UNC X 1/2	STEEL	FHSC031C050
13	1	LOW HEAD CAP SCREW 1/2-13 UNC X 5/16	STEEL	LHSC050C031
REDRESS KIT (RDK)				44196050
ASSEMBLED WEIGHT				169 LBS

### K-1) ELASTOMER TRIM OPTIONS

**NOTE<sub>3</sub>:** For temperature range, refer to Elastomer Trim Temperature Guide.

#### K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44196RMH
5	2	ELEMENT	80 DURO HSN	44096512H
REDRESS KIT (RDK)				44196050H

#### K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44196RMV
5	2	ELEMENT	80 DURO VITON	44096512V
REDRESS KIT (RDK)				44196050V

### K-2) CARBIDE OPTION

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44196RMC
9	3	CARBIDE SLIP	DLMS110	45095115C



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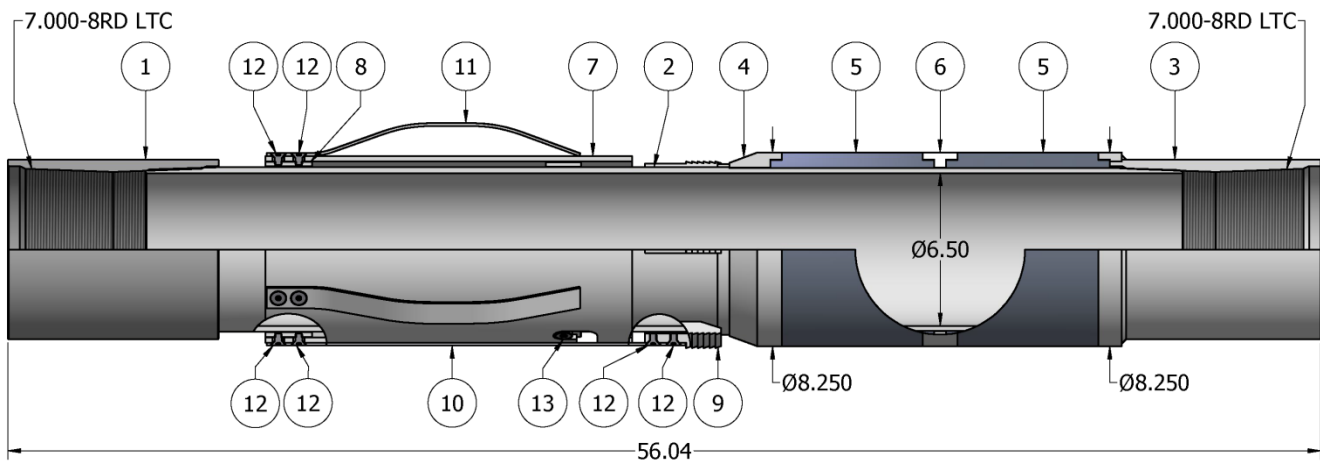
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## L) TECHNICAL ILLUSTRATIONS



## M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/29/2023	C	Revised tensile load, Added carbide options	J.Anderson	K.Plunkett
02/22/2019	B	Revised max. differential, tensile load, nitrile temp. rating; Added General Screw Torque Recommendations; Removed tool drift ID	J.Anderson	N.Banker
09/23/2015	A	Created new manual	-	-