



# CASING PACKER LEFT-HAND AUTO SET 4-1/2" X 2-7/8"

Manual No:  
**DL-441-4500-1622**

Revision: **A**

Revision Date:  
**10/11/2022**

Authored by: *J.Anderson*

Approved by: *J.Johnson*

## 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)		
4-1/2	9.5 – 13.5	3.920 – 4.090	3.750	2.50	2-7/8 EUE	44145LS 44145LSH <sup>1</sup> 44145LSV <sup>2</sup> 44145LSC <sup>3</sup> 44145LSHC <sup>4</sup> 44145LSVC <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	50,000 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.



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)

*This document is uncontrolled when printed. For the current revision, refer to the electronic copy in the Vault database.*



# CASING PACKER LEFT-HAND AUTO SET 4-1/2" X 2-7/8"

Manual No:  
**DL-441-4500-1622**

Revision: **A**

Revision Date:  
**10/11/2022**

Authored by: *J.Anderson*

Approved by: *J.Johnson*

## 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 left at the packer. Pull tension to set slips and pack off elements (10,000 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 left at the packer. Slack off on the work string sufficient weight to set the packer (10,000 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 right at the packer to release the slips and relax the elements. Pick up on the work string while holding right-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 (3") 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



# CASING PACKER LEFT-HAND AUTO SET 4-1/2" X 2-7/8"

Manual No:  
**DL-441-4500-1622**

Revision: **A**

Revision Date:  
**10/11/2022**

Authored by: *J.Anderson*

Approved by: *J.Johnson*

## 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 (9) from mandrel (2).
  - I-1.2) Remove elements (8), rubber spacer (7), and cone (6) from mandrel (2).
  - I-1.3) Unscrew cap screws (10) securing drag springs (3) from mandrel (2) and remove cap screws (10), star washers (11) and drag springs (3) from mandrel (2).
  - I-1.4) Unscrew cap screws (10) securing slip arms (3) from mandrel. Remove slip arm assemblies and disassemble:
    - I-1.4.1) Unscrew cap screws (12) from slips (4) and remove cap screws (10) and slips (4) from slip arms (5).
  - I-1.5) Unscrew and remove mandrel (2) from coupling (1).
- I-2) Unclamp and remove coupling (1) from vise.

## J) ASSEMBLY

**NOTE:** 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) Screw mandrel (2) into coupling (1).
  - J-1.2) For each slip arm, assemble slip arm assembly and install:
    - J-1.2.1) Set and hold slip (4) in place on slip arm (5). Align holes in slip arm (5) with holes in mandrel (2).
    - J-1.2.2) Align holes in slip (4) with threaded holes in slip arm (5). Screw cap screws (12) into slip (5).
    - J-1.2.3) Set and hold in place slip arm assembly on mandrel (2).
    - J-1.2.4) Screw cap screws (10) with (2 ea) star washers (11) into mandrel (2).
  - J-1.3) Set drag springs (3) in place on mandrel (2). Align holes in drag springs (3) with holes in mandrel (2).
  - J-1.4) Screw cap screws (10) with (2 ea) star washers (11) into mandrel (2).
  - J-1.5) Install cone (6), elements (8), and rubber spacer (7) in order onto mandrel (2).
  - J-1.6) Screw bottom sub (9) onto mandrel (2).
- J-2) Unclamp coupling (1) from vise and remove assembled tool.



# CASING PACKER LEFT-HAND AUTO SET 4-1/2" X 2-7/8"

Manual No:  
**DL-441-4500-1622**

Revision: **A**

Revision Date:  
**10/11/2022**

Authored by: *J.Anderson*

Approved by: *J.Johnson*

## K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44145LS
1	1	COUPLING	DLMS80	CP-BAC-BBC-B
2	1	MANDREL	DLMS60	44145211
3	3	DRAG SPRING	DLMSSP301	44070910
4	3	SLIP	DLMS35	44045110
5	3	SLIP ARM	DLMSSP301	44000910
6	1	CONE	DLMS60	44045410
7	1	RUBBER SPACER	DLMS60	44145840
8	2	ELEMENT	80 DURO NITRILE	44045512
9	1	BOTTOM SUB	DLMS60	44045610
10	12	5/16-18 UNC X 5/16 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C031
11	24	5/16 TOOTHED STAR WASHER	STEEL	ELW031
12	6	5/16-18 UNC X 1/4 BUTTON HEAD SOCKET CAP SCREW	STEEL	BHSC031C025

REDRESS KIT (RDK)		44145050
ASSEMBLED WEIGHT		41 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 44145LSH
8	2	ELEMENT	80 DURO HSN	44045512H

REDRESS KIT (RDK)		44145050H
-------------------	--	-----------

#### K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44145LSV
8	2	ELEMENT	80 DURO VITON	44045512V

REDRESS KIT (RDK)		44145050V
-------------------	--	-----------

### K-2) CARBIDE OPTION

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 44145LSC
4	3	CARBIDE SLIP	DLMS110	44045110C



# CASING PACKER LEFT-HAND AUTO SET 4-1/2" X 2-7/8"

Manual No:  
**DL-441-4500-1622**

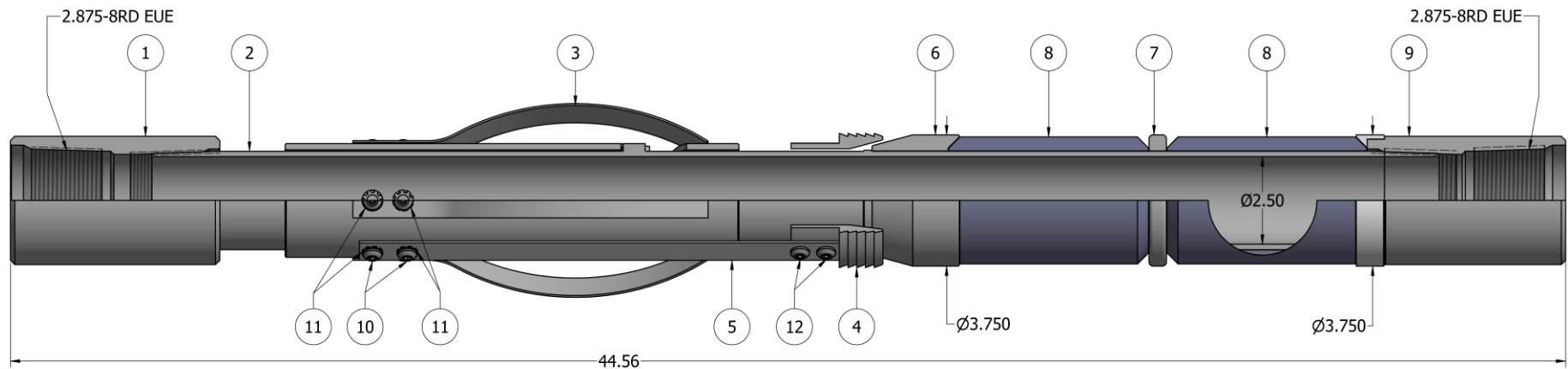
Revision: **A**

Revision Date:  
**10/11/2022**

Authored by: *J.Anderson*

Approved by: *J.Johnson*

## L) TECHNICAL ILLUSTRATIONS



## M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
10/11/2022	A	Created manual	-	-