



# CASING PACKER

## RIGHT HAND AUTO, CARBIDE

### 16" X 13-3/8"

Manual No:  
**DL-441-16000-954**

Revision: **A**

Revision Date:  
**10/15/2015**

Authored by: J.Anderson

Approved by: N.Banker

#### 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)		
16	65.0 – 84.0	15.010 – 15.250	14.625	12.34	13-3/8 STC	44116C

**NOTE<sub>1</sub>**: Tool listed is right-hand set / left-hand release. Additional J-slot designs are available.

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
3,500 PSI	450,000 LBS

#### C) PRE-INSTALLATION INSPECTION PROCEDURES

**CAUTION<sub>1</sub>**: 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.

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.

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 & 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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#### 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 (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 (32,000 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 the work string approximately (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 (32,000 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 approximately (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	70° - 300°F
HSN (HNBR)	70° - 325°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

**NOTE<sub>3</sub>:** Ensure vise is capable of handling weight of tool.

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), element spacer (7), and cone (6) from mandrel (2).

I-1.3) Unscrew and remove flat head cap screws (11) securing drag springs (3) to support ring (13).

I-1.4) Remove drag springs (3) from J-body (14).

I-1.5) Unscrew and remove flat head cap screws (10) securing slip arms (5) to support ring (13).

I-1.6) Remove slip arm assemblies and disassemble:

I-1.6.1) Unscrew and remove flat head cap screws (12) from slips (4).

I-1.6.2) Separate slips (4) from slip arms (5).

I-1.7) Unscrew and remove low head cap screw (15) from mandrel (2).

I-1.8) Remove J-body (14) from mandrel (2).

I-1.9) Remove two halves of support ring (13) from mandrel (2).

I-1.10) Unscrew and remove mandrel (2) from coupling (1).

**CAUTION<sub>4</sub>:** Do NOT wrench or clamp on seal surface.

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

## J) 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.

**NOTE<sub>3</sub>:** Ensure vise is capable of handling weight of tool.

J-1) Clamp coupling (1) in vise.

J-1.1) Screw mandrel (2) into coupling (1).

**CAUTION<sub>4</sub>:** Do NOT wrench or clamp on seal surface.

J-1.2) Install J-body (14) onto mandrel (2).

J-1.3) Install two halves of support ring (13) onto upper end of mandrel (2) and slide into J-body (14). Align threaded holes in support ring (13) with holes in J-body (14).

J-1.4) Set drag springs (3) in place on J-body (14). Align holes in drag springs (3) with threaded holes in support ring (13).

J-1.5) Screw flat head cap screws (11) into support ring (13) to secure drag springs (3).



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#### J) ASSEMBLY (cont'd)

J-1.6) Assemble slip arm assemblies and install:

J-1.6.1) Set slips (4) in place on slip arms (5). Align threaded holes in slips (4) with holes in slip arms (5).

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

J-1.6.3) For each slip arm assembly:

J-1.6.3.1) Set in place on mandrel (2). Align holes in slip arms (5) with threaded holes in mandrel (2).

J-1.6.3.2) Screw flat head cap screws (10) into support ring (13).

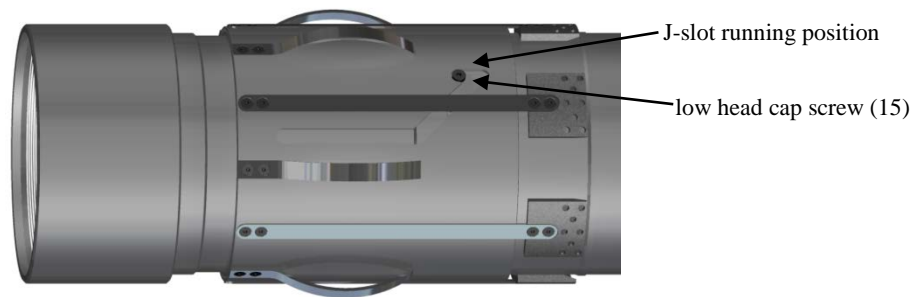


Fig. 2

J-1.7) Position J-body slot to align running position in J-slot with threaded hole in mandrel (2) (Fig. 2).

J-1.8) Screw low head cap screw (15) into mandrel (2) (Fig. 2).

J-1.9) Install cone (6), elements (8), and element spacer (7) onto mandrel (2).

J-1.10) Screw bottom sub (9) onto mandrel (2).

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



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**K) PARTS LIST**

ITEM	QTY	DESCRIPTION	MATERIAL	PART NUMBER
1	1	COUPLING	DLMS80	CP-BDL-B
2	1	MANDREL	DLMS80	44116210
3	18	DRAG SPRING	STAINLESS STEEL	44070911
4	6	SLIP W/ CARBIDE	DLMS110	44116115C
5	6	SLIP ARM	STAINLESS STEEL	45570900
6	1	CONE	DLMS80	44116410
7	1	ELEMENT SPACER	DLMS35	44116840
8	2	ELEMENT	80 DURO NITRILE	44016512
9	1	BOTTOM SUB	DLMS80	44016610
10	12	FLAT HEAD CAP SCREW 5/16-24 UNF X 1/2	STEEL	FHSC031F050
11	12	FLAT HEAD CAP SCREW 5/16-24 UNF X 5/8	STEEL	FHSC031F062
12	12	FLAT HEAD CAP SCREW 5/16-18 UNC X 3/8	STEEL	FHSC031C037
13	2	SUPPORT RING	DLMS110	44116345
14	1	J-BODY	DLMS80	44116310
15	1	LOW HEAD CAP SCREW 1/2-13 UNC X 3/8	STEEL	LHSC050C037

REDRESS KIT (RDK)		44116050
ASSEMBLED WEIGHT		480 LBS



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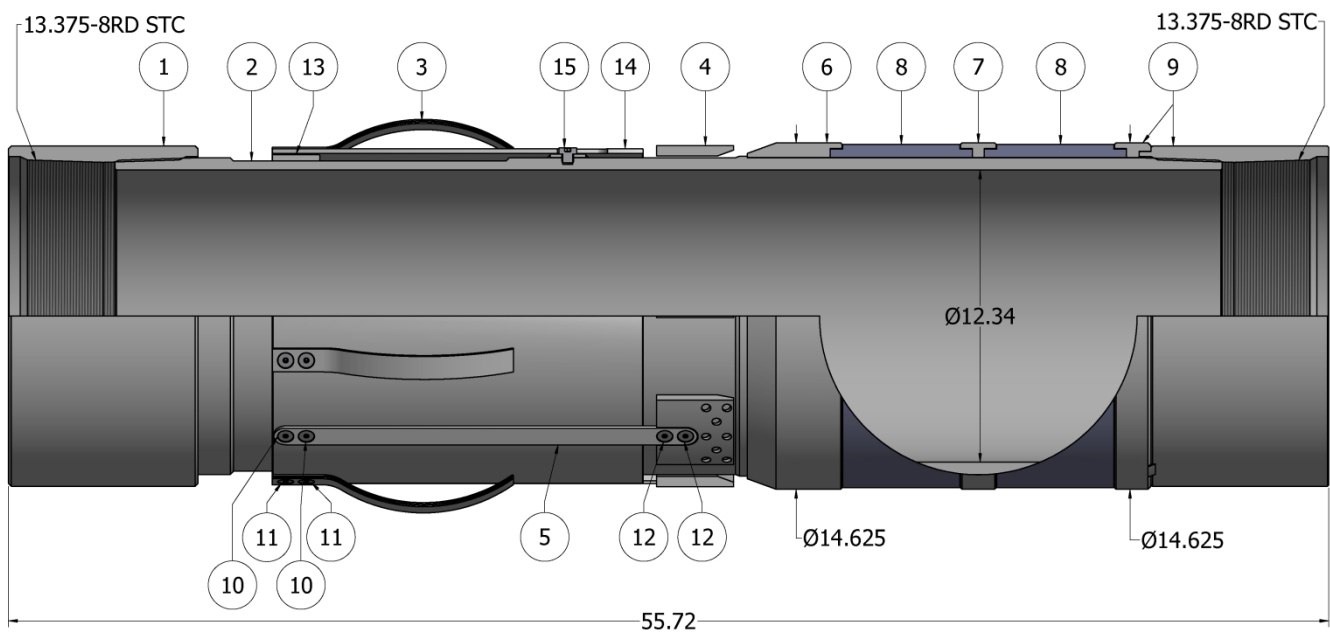
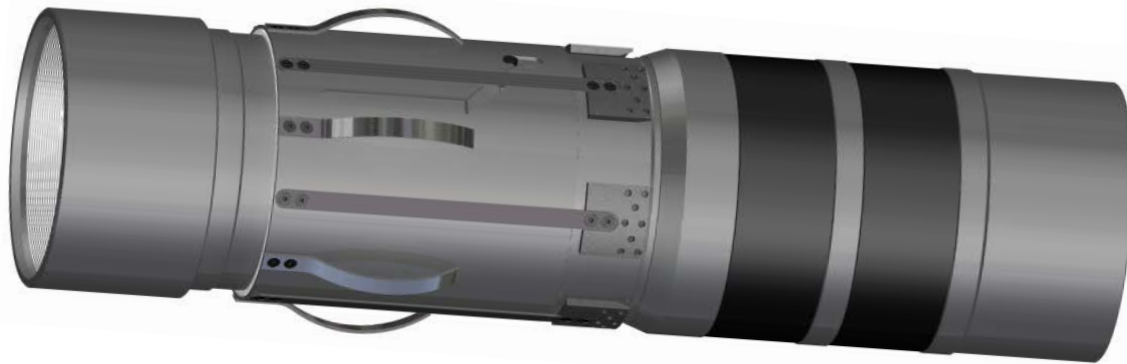
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#### L) TECHNICAL ILLUSTRATIONS



#### M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
10/15/2015	A	Created new manual	-	-