



# RETRIEVABLE SEAL BORE PACKER

## 7" X 4.000" (17.0 – 20.0#)

Manual No:  
**DL-265-7000-1217**

Revision: **B**

Revision Date:  
**05/28/2021**

Authored by: J.Anderson

Approved by: K.Plunkett

### A) DESCRIPTION

The Retrievable Seal Bore (RSB) Packer delivers high performance with simplicity of design and desirable economics. This packer is rated for 7,000 PSI and can be equipped to withstand severe corrosion and high temperatures. The RSB Packer is set on wireline (with minor changes) or on tubing with a hydraulic setting tool and is retrieved using a retrieving tool.

**NOTE<sub>1</sub>:** A retrieving tool is required to retrieve these packers and must be purchased separately.

**NOTE<sub>2</sub>:** When run on wireline, this packer requires at least a 30 second burn on the wireline setting tool to ensure a proper set. A burn time less than 30 seconds may shear the setting tool off of the packer before fully setting the packer.

### B) RELATED TOOLS (sold separately)

B-1) 7" X 4.000" Wireline Adapter Kit (WLAK) (P/N 26774)—refer to technical manual *DL-267-7000-633*.

B-2) 7" X 4.000" RSB Retrieving Tool (P/N 26670)—refer to technical manual *DL-266-7000-433*.

### C) SPECIFICATION GUIDE

CASING		RECOMMENDED HOLE SIZE (INCHES)	TOOL OD (INCHES)	BORE (INCHES)	MIN ID THRU SEALS (INCHES)	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)					
7	17.0 – 20.0	6.456 – 6.538	6.200	4.000	3.00	26571 26571H <sup>1</sup> 26571V <sup>2</sup> 26571C <sup>3</sup> 26571HC <sup>4</sup> 26571VC <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

DIFFERENTIAL PRESSURE (MAX)	HANGING WEIGHT ON SET TOOL (MAX)	TENSILE LOAD THRU TOOL (MAX)
7,000 PSI	129,000 LBS*	129,000 LBS

\*Casing must be cemented for this load rating.

### D) 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.

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



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### D) 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 all seals, elements, o-rings, shear screws, etc. Contact D&L sales for redress kit and/or other replacement part information.

### E) SETTING PROCEDURES

**CAUTION2:** Do not run the tool without properly tightening connections. Running the tool with loose connections may damage the tool and cause malfunction.

Run the RSB packer in on a wireline pressure setting assembly or on tubing with a hydraulic setting tool with the RSB Wireline Adapter Kit. Setting is initiated at approximately 8,000 lbs of force. The slips are set and the elements are compressed at approximately 36,000 lbs. The setting equipment will shear out at approximately 50,000 lbs of force.

### F) RELEASING PROCEDURES

**CAUTION4:** Packers with ECNER packing elements are single-use tools and must be redressed following initial set.

To release the RSB packer, the RSB Retrieving Tool is run into the well on tubing and latched into the packer. Set down a minimum of 6,000 lbs at the packer to shear out the mandrel from the upper latch. The releasing collet will engage the support ring under the collet in the RSB. Straight pick up shears the support ring away from the collet fingers allowing the collet to collapse. Continued upward movement releases the slips and relaxes the packing element. The packer is now free of the casing and can be removed from the well.

### G) 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. Elastomers should be in a relaxed state—free from tension, compression or other 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.



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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 setting sleeve (5) in vise.
- I-1.1) Unscrew and remove set screws (11) from lower end of lower connector sleeve (14).
  - I-1.2) Unscrew and remove bottom sub (18) from lower connector sleeve (14).
    - I-1.2.1) Remove o-ring (26) from bottom sub (18).
  - I-1.3) Unscrew and remove set screws (11) from upper end of lower connector sleeve (14).
  - I-1.4) Unscrew and remove socket cap screws (10) from releasing collet (3).
  - I-1.5) Unscrew and remove lower connector sleeve (14) from lower cone (16).
  - I-1.6) Unscrew and remove set screws (11) from releasing collet (3).
  - I-1.7) Unscrew releasing collet (3) from mandrel (2). Remove releasing collet assembly and disassemble:
    - I-1.7.1) Unscrew and remove shear screws (21) from fingers on releasing collet (3).
    - I-1.7.2) Separate releasing collet (3) from support ring (12)
    - I-1.7.3) Remove o-rings (25, 26) from releasing collet (3).
  - I-1.8) Unscrew and remove shear screws (23) from slip body (6).
  - I-1.9) Unscrew and remove low head socket cap screws (24) from lower cone (16).
  - I-1.10) Remove lower cone (16) from mandrel (2).
- I-2) Unclamp setting sleeve (5) from vise. Clamp lower end of mandrel (2) in vise.
- I-2.1) Unscrew and remove socket cap screws (10) from top sub (1).
  - I-2.2) Unscrew and remove setting sleeve (5) from lock ring housing (4).
  - I-2.3) Unscrew and remove set screws (11) from top sub (1).
  - I-2.4) Unscrew and remove shear screws (22) from lock ring housing (4).
  - I-2.5) Unscrew and remove top sub (1) from mandrel (2).
  - I-2.6) Unscrew and remove shear screws (15) from lock ring housing (4).
  - I-2.7) Unscrew and remove lock ring (19) and lock ring housing (4) from mandrel (2) (**NOTE**<sub>3</sub>: Inner threads of lock ring (19) are left-hand threads).
    - I-2.7.1) Unscrew and remove lock ring (19) from lock ring housing (4).
  - I-2.8) Remove element (13) from mandrel (2).
  - I-2.9) Unscrew and remove gage ring (7) from upper cone (9).
  - I-2.10) Wedge slips outwards (if needed). Remove slip body assembly and disassemble:
    - I-2.10.1) Remove wedges (if needed). Remove slips (17) and slip springs (20) from slip body (6).
    - I-2.10.2) Unscrew and remove low head socket cap screws (24) from upper cone (9).
    - I-2.10.3) Separate upper cone (9) from slip body (6).
  - I-2.11) Remove pickup ring (8) from mandrel (2).



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### I) DISASSEMBLY (cont'd)

I-3) Unclamp and remove mandrel (2) from vise.

### J) ASSEMBLY

**NOTE4:** 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 lower end of mandrel (2) in vise.

J-1.1) Install pickup ring (8) in groove in mandrel (2).

J-1.2) Assemble slip body assembly and install:

J-1.2.1) Install upper cone (9) into slip body (6).

J-1.2.2) Align threaded holes in upper cone (9) with slots in upper slip body (6). Screw low head socket cap screws (24) into upper cone (9).

J-1.2.3) Install slips (17) and slip springs (20) into slip body (6) (Fig. 2).

J-1.2.4) Wedge slips outwards. Install slip body assembly onto inner mandrel (2).

J-1.3) Screw gage ring (7) onto upper cone (9).

J-1.4) Install element (13) onto mandrel (2).

J-1.5) Screw lock ring (19) into lock ring housing (4).

J-1.6) Screw lock ring (19) and lock ring housing (4) onto upper gage ring (7) (**NOTE3:** Inner threads of lock ring are left-hand threads).

J-1.7) Screw top sub (1) onto mandrel (2).

J-1.8) Screw set screws (11) into top sub (1).

J-1.9) Screw setting sleeve (5) into lock ring housing (4).

J-1.10) Align threaded holes in top sub (1) with slots in setting sleeve (5). Screw socket cap screws (10) into top sub (1).

J-1.11) Screw shear screws (15) into lock ring housing (4) to hold lock ring (19) in place.

J-1.12) Screw shear screws (22) into lock ring housing (4). Tighten until shear screws (22) contact top sub (1). Back shear screws (22) out 1/4 turn.

J-2) Unclamp inner mandrel (2) from vise. Clamp setting sleeve (5) in vise.

J-2.1) Install lower cone (16) onto mandrel (2).

J-2.2) Align threaded holes in lower cone (16) with slots in slip body (6). Screw low head socket cap screws (24) into lower cone (16).

J-2.3) Align threaded holes in slip body (6) with pocket holes in upper cone (9). Screw shear screws (23) into upper end of slip body (6). Tighten until shear screws (23) contact upper cone (9). Back shear screws (23) out 1/4 turn.

J-2.4) Align threaded holes in slip body (6) with pocket holes in lower cone (16). Screw shear screws (23) into lower end of slip body (6). Tighten until shear screws (23) contact lower cone (16). Back shear screws (23) out 1/4 turn.

J-2.5) Assemble releasing collet assembly and install:

J-2.5.1) Install support ring (12) into releasing collet (3).

J-2.5.2) Align threaded holes in releasing collet (3) with pocket holes in support ring (12). Screw shear screws (21) into fingers on releasing collet (3). Tighten until shear screws (21) contact support ring (12). Back shear screws (21) out 1/4 turn.

J-2.5.3) Install o-rings (25, 26) in o-ring groove in releasing collet (3).

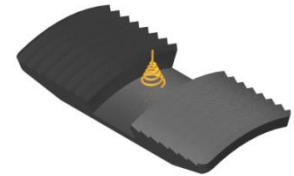


Fig. 2



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### J) ASSEMBLY (cont'd)

J-2.5.4) Screw releasing collet (3) and assembly onto mandrel (2).

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

J-2.6) Screw set screws (11) into releasing collet (3).

J-2.7) Screw lower connector sleeve (14) onto lower cone (16).

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

J-2.8) Screw set screws (11) into lower connector sleeve (14).

J-2.9) Align slots in lower connector sleeve (14) with threaded holes in releasing collet (3). Screw socket cap screws (10) into releasing collet (3).

J-2.10) Install o-ring (26) in o-ring groove in bottom sub (18).

J-2.11) Screw bottom sub (18) into lower connector sleeve (14).

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

J-2.12) Screw set screws (11) into lower connector sleeve (14).

J-3) Unclamp setting sleeve (5) and remove assembled tool.

### K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 26571
1	1	TOP SUB	DLMS110	26574371
2	1	MANDREL	DLMS80	26574210
3	1	RELEASING COLLET	DLMS80	26570661
4	1	LOCK RING HOUSING	DLMS80	26571855
5	1	SETTING SLEEVE	DLMS60	26574761
6	1	SLIP BODY	DLMS110	26571320
7	1	LOWER GAGE RING	DLMS60	26571860
8	1	PICKUP RING	DLMS80	26574662
9	1	UPPER CONE	DLMS80	26571410
10	4	SOCKET CAP SCREW 3/8-16 UNC X 3/8	STEEL	SCS037C037
11	13	SOCKET SET SCREW 3/8-16 UNC X 3/8	STEEL	SSS037C037
12	1	SUPPORT RING	DLMS60	26570530
13	1	ELEMENT	80 DURO NITRILE	26571X512
14	1	LOWER CONNECTOR SLEEVE	DLMS110	26572611
15	1	SLOTTED SHEAR SCREW (750#) #10-32 UNF X 3/8	DLM360BRS	BSSSLT1032F037
16	1	LOWER CONE	DLMS80	26571420
17	4	SLIP	DLMS35	26571110
18	1	BOTTOM SUB	DLMS80	26571621
19	1	LOCK RING	DLMS80	67070011
20	4	SLIP SPRING	-	DL94830



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### K) PARTS LIST (cont'd)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 26571
21	8	SLOTTED SHEAR SCREW (1200#) 1/4-20 UNC X 1/4	DLM360BRS	BSSSLT025C025
22	12	SLOTTED SHEAR SCREW (1200#) 1/4-20 UNC X 3/8	DLM360BRS	BSSSLT025C037
23	12	SLOTTED SHEAR SCREW (3400#) 3/8-16 UNC X 3/8	DLM360BRS	BSSSLT037C037
24	4	LOW HEAD SOCKET CAP SCREW 3/8-16 UNC X 3/8	STEEL	LHSC037C037
25	1	247 O-RING	90 DURO NITRILE	90247
26	2	352 O-RING	90 DURO NITRILE	90352
27	10	DRIV-LOK PIN (4800#) 5/16 X 1"	4140	DLP031100*

\* Not shown in technical illustration. Refer to WLAK tech manual for placement.

REDRESS KIT (RDK)	26571050
ASSEMBLED WEIGHT	173 LBS

### K-1) ELASTOMER TRIM OPTIONS

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

#### K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 26571H
13	1	ELEMENT	80 DURO HSN	26571X512H
25	1	247 O-RING	90 DURO HSN	90247H
26	2	352 O-RING	90 DURO HSN	90352H

REDRESS KIT (RDK)	26571050H
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#### K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 26571V
13	1	ELEMENT	80 DURO VITON	26571X512V
25	1	247 O-RING	90 DURO VITON	90247V
26	2	352 O-RING	90 DURO VITON	90352V

REDRESS KIT (RDK)	26571050V
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### K-2) CARBIDE OPTION

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 26571C
17	4	CARBIDE SLIP	DLMS110	26571110C



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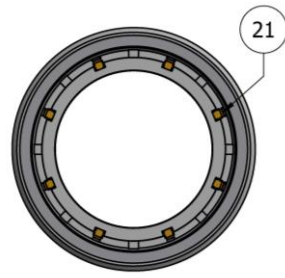
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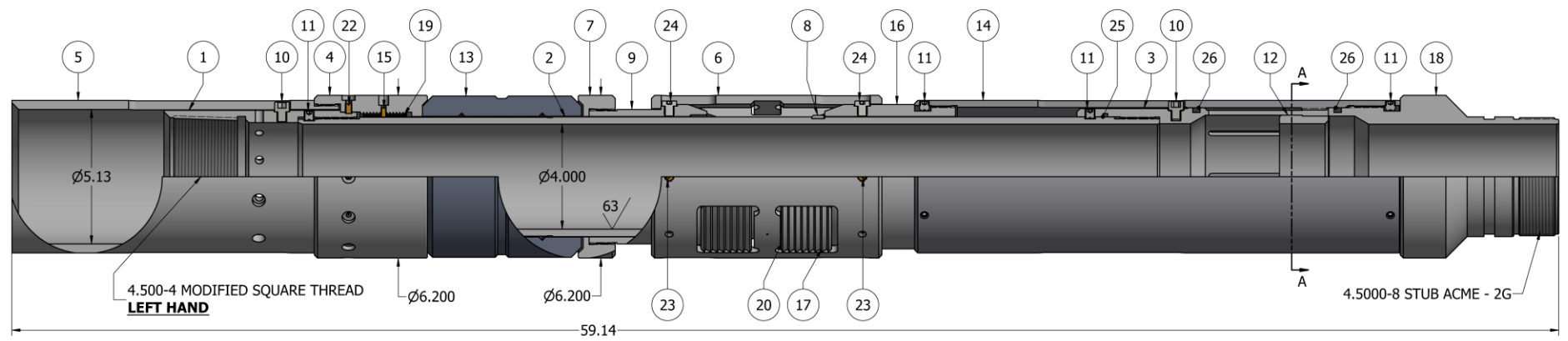
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## A) TECHNICAL ILLUSTRATION



SECTION A



	<b>RETRIEVABLE SEAL BORE PACKER</b> <b>7” X 4.000” (17.0 – 20.0#)</b>	Manual No: <b>DL-265-7000-1217</b>
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**B) REVISION HISTORY**

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
05/28/2021	B	Added carbide option, hanging weight and tensile load ratings; Revised DL94830 was DL94829	J.Anderson	E.Visaez
03/06/2019	A	Created new manual	-	-