



# RSB PACKER

## 6-5/8" X 3.250"

Manual No:  
**DL-260-6625-192**

Revision: **B**

Revision Date:  
**07/14/2016**

Authored by: *B.Mathis*

Approved by: *F.Johnson*

### 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 at 250°F with standard nitrile elastomers 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) 6-5/8" X 3.250" Wireline Adapter Kit (WLAK) (P/N 26765)—refer to technical manual *DL-267-6625-710*.
- B-2) 6-5/8" X 3.250" RSB Retrieving Tool (P/N 26665)—refer to technical manual *DL-266-6625-958*.
- B-3) 3.250" Seal Bore Accessories—refer to technical manual *DL-581-3250-800*.

### C) SPECIFICATION GUIDE

CASING			TOOL OD (INCHES)	SEAL BORE (INCHES)	MIN ID THRU SEALS (INCHES)	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)				
6-5/8	20.0 – 32.0	5.675 – 6.049	5.468	3.250	2.41	26565 26565H <sup>1</sup> 26565V <sup>2</sup>

Elastomer Trim Options: <sup>1</sup>HSN, <sup>2</sup>Viton

DIFFERENTIAL PRESSURE (MAX)	HANGING WEIGHT ON SET TOOL (MAX)	TENSILE LOAD THRU TOOL (MAX)
7,000 PSI	159,000 LBS*	161,500 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)

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



# RSB PACKER 6-5/8" X 3.250"

Manual No:  
**DL-260-6625-192**

Revision: **B**

Revision Date:  
**07/14/2016**

Authored by: B.Mathis

Approved by: F.Johnson

## 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

**CAUTION:** 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 with the RSB Wireline Adapter Kit. The RSB Packer may also be set utilizing a hydraulic setting tool run on tubing. Setting is initiated at approximately 12,000 lbs of force. The slips are set and the elements are compressed at approximately 40,800 lbs. The setting equipment will shear out at approximately 48,000 lbs of force. To release from the B2 Hydraulic setting tool using a solid setting nut, right-hand rotation is required after the packer is set.

## F) RELEASING PROCEDURES

Run the RSB Retrieving Tool into the well until the tool is sitting on the packer. Set down weight to shear the screws retaining the latch mandrel of the retrieving tool and to engage the threaded latch of the retrieving tool with the top sub of the packer (Refer to RSB Retrieving Tool manual for retrieving tool operating procedures). Continue setting down to engage releasing collet of the retrieving tool with the support ring of the packer. Once the retrieving tool is fully engaged with the packer, straight pick up a minimum of 9,600 lbs to shear the screws retaining the packer support ring. Continue picking up to release the slips and relax the packing element. The packer may now be removed from the well.

### F-1) EMERGENCY RELEASE

If the packer fails to release, the retrieving tool can be released with straight pick up to shear the retrieving tool shear ring. Apply right-hand rotation to disconnect the retrieving tool from the packer (refer to RSB Retrieving Tool manual for retrieving tool operating procedures).



# RSB PACKER 6-5/8" X 3.250"

Manual No:  
**DL-260-6625-192**

Revision: **B**

Revision Date:  
**07/14/2016**

Authored by: *B.Mathis*

Approved by: *F.Johnson*

## 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.

## H) ELASTOMER TRIM TEMPERATURE GUIDE

RUBBER TYPE	TEMPERATURE RANGE
NITRILE	70° - 250°F
HSN (HNBR)	70° - 300°F
VITON	100° - 350°F

## I) 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

## J) DISASSEMBLY

J-1) Clamp setting sleeve (5) in vise.

J-1.1) From lower end of tool, unscrew and remove set screws (18) from both ends of connector sleeve (13).

J-1.2) Unscrew and remove bottom sub (6) from connector sleeve (13).

J-1.2.1) Remove o-ring (26) from bottom sub (6).

J-1.3) Unscrew and remove cap screws (17) from collet (3).

J-1.4) Unscrew and remove connector sleeve (13) from lower cone (9).

J-1.5) Unscrew and remove set screws (18) from collet (3).

J-1.6) Unscrew collet (3) from mandrel (2). Remove collet assembly and disassemble:

J-1.6.1) Unscrew and remove shear screws (16) from fingers on collet (3).

J-1.6.2) Separate collet (3) from support ring (12)

J-1.6.3) Remove o-rings (25, 26) from collet (3).

J-1.7) Unscrew and remove shear screws (14) from both ends of slip body (21).

J-1.8) Unscrew and remove low head cap screws (22) from lower cone (9).

J-1.9) Remove lower cone (9) from mandrel (2).

J-1.10) Remove pick-up ring (10) from mandrel (2). Move slip body (21) upwards as necessary to access pick-up ring (10).



# RSB PACKER

## 6-5/8" X 3.250"

Manual No:  
**DL-260-6625-192**

Revision: **B**

Revision Date:  
**07/14/2016**

Authored by: B.Mathis

Approved by: F.Johnson

### J) DISASSEMBLY(cont'd)

- J-1.11) Unscrew and remove low head cap screws (22) from upper cone (8).
- J-1.12) Unscrew upper cone (8) from gage ring (7).
- J-1.13) Wedge slips (11) outwards (if needed). Remove slip body assembly from mandrel (2) and disassemble:
  - J-1.13.1) Remove wedges (if needed). Remove slips (11) and slip springs (23) from slip body (21).
  - J-1.13.2) Remove upper cone (8) from slip body (21).
- J-2) Unclamp and remove setting sleeve (5) from vise. Clamp mandrel (2) in vise below gage ring (7).
  - J-2.1) Unscrew and remove cap screws (17) from setting sleeve (5).
  - J-2.2) Unscrew and remove setting sleeve (5) from lock ring housing (4).
  - J-2.3) Unscrew and remove set screws (18) from top sub (1).
  - J-2.4) Unscrew and remove shear screws (15) from lock ring housing (4).
  - J-2.5) Unscrew and remove top sub (1) from mandrel (2).
  - J-2.6) Unscrew and remove shear screw (24) from lock ring housing (4).
  - J-2.7) Unscrew lock ring housing (4) from lock ring (19).
  - J-2.8) Unscrew and/or slide to remove lock ring (19) from mandrel (2) (**NOTE<sub>6</sub>**: Left-hand threads).  
**NOTE<sub>3</sub>**: Using snap ring spreader pliers, lock ring (19) may be spread slightly to be removed from top sub (1).
  - J-2.9) Remove lock ring housing (4), element (20) and gage ring (7) from mandrel (2).
- J-3) Unclamp and remove mandrel (2) from vise.

### K) ASSEMBLY

**NOTE<sub>4</sub>**: Install parts in proper order, and orientation and tighten/torque all connections properly.

**CAUTION<sub>3</sub>**: To ensure tool operates properly, install o-rings in o-ring grooves **NOT** thread reliefs (Fig. 2).

- K-1) Clamp lower end of mandrel (2) in vise.
  - K-1.1) From upper end of tool, install gage ring (7), element (20), and lock ring housing (4) onto mandrel (2).
  - K-1.2) Screw and/or slide lock ring (19) onto upper end of ratchet threads on mandrel (2) (**NOTE<sub>6</sub>**: Left-hand threads).
  - K-1.3) Carefully screw lock ring housing (4) onto lock ring (19). Align threaded hole in lock ring housing (4) with gap in lock ring (19).
  - K-1.4) Screw shear screw (24) into lock ring housing (4). Tighten until shear screw (24) makes contact with mandrel (2). Back out shear screw (24) 1/4 turn.
  - K-1.5) Screw top sub (1) onto mandrel (2). Align shear screw groove in top sub (1) with threaded holes in lock ring housing (4).
  - K-1.6) Screw shear screws (15) into lock ring housing (4). Tighten until shear screws (15) make contact with top sub (1). Back shear screws (15) out 1/4 turn. .
  - K-1.7) Screw set screws (18) into top sub (1).
  - K-1.8) Install setting sleeve (5) onto top sub (1) and screw into lock ring housing (4). Align slots in setting sleeve with threaded holes in top sub (1).
  - K-1.9) Screw cap screws (17) into top sub (1).

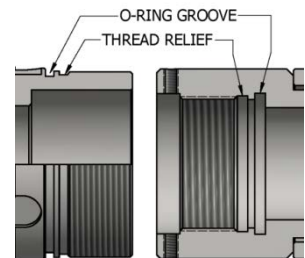


Fig. 2



# RSB PACKER

## 6-5/8" X 3.250"

Manual No:  
**DL-260-6625-192**

Revision: **B**

Revision Date:  
**07/14/2016**

Authored by: B.Mathis

Approved by: F.Johnson

### K) ASSEMBLY (cont'd)

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

K-2.1) Assemble slip body assembly and install:

K-2.1.1) Install upper cone (8) into slip body (21). Align threaded holes in upper cone (8) with slots in slip body (21).

K-2.1.2) Screw low head cap screws (22) into upper cone (8).

K-2.1.3) Align threaded holes in slip body (21) with pocket holes in upper cone (8).

K-2.1.4) Screw shear screws (14) into slip body (21). Tighten until shear screws (14) make contact with upper cone (8). Back shear screws (14) out 1/4 turn. .

K-2.1.5) Install slips (11) and slip springs (23) into slip body (21). Wedge slips (11) outwards.

K-2.1.6) Install slip body assembly onto mandrel (2) and screw upper cone (8) into gage ring (7). Remove wedges.

K-2.2) Install pick-up ring (10) in groove in mandrel (2). Move slip body (21) upwards as necessary to access groove.

K-2.3) Install lower cone (9) onto mandrel (2). Align threaded holes in lower cone (9) with slots in slip body (21).

K-2.4) Screw low head cap screws (22) into upper cone (8).

K-2.5) Align threaded holes in slip body (21) with pocket holes in lower cone (9).

K-2.6) Screw shear screws (14) into slip body (21). Tighten until shear screws (14) make contact with lower cone (9). Back shear screws (14) out 1/4 turn.

K-2.7) Assemble collet assembly and install:

K-2.7.1) Install o-rings (25, 26) in o-ring grooves in collet (3).

K-2.7.2) Install support ring (12) into collet (3). Align pocket holes in support ring (12) with threaded holes in collet (3).

K-2.7.3) Screw shear screws (16) into slip body (21). Tighten until shear screws (16) make contact with support ring (12). Back shear screws (16) out 1/4 turn.

K-2.7.4) Screw collet (3) onto mandrel (2).

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

K-2.7.5) Screw set screws (18) into collet (3).

K-2.8) Install connector sleeve (13) onto collet (3) and screw onto lower cone (9) and collet (3). Align slots in connector sleeve (13) with threaded holes in collet (3).

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

K-2.9) Screw cap screws (17) into collet (3).

K-2.10) Screw set screws (18) into upper end of connector sleeve (13).

K-2.11) Install o-ring (26) in o-ring groove in bottom sub (6).

K-2.12) Screw bottom sub (6) into connector sleeve (13).

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

K-2.13) Screw set screws (18) into lower end of connector sleeve (13).

K-3) Unclamp setting sleeve (5) from vise and remove assembled tool.



# RSB PACKER

## 6-5/8" X 3.250"

Manual No:  
**DL-260-6625-192**

Revision: **B**

Revision Date:  
**07/14/2016**

Authored by: *B.Mathis*

Approved by: *F.Johnson*

### L) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 26565
1	1	TOP SUB	DLMS80	26565370
2	1	INNER MANDREL	DLMS80	26565210
3	1	RELEASING COLLET	DLMS110	26565661
4	1	LOCK RING HOUSING	DLMS80	26565855
5	1	SETTING SLEEVE	DLMS80	26565761
6	1	BOTTOM SUB	DLMS80	26565621
7	1	GAGE RING	DLMS80	26565830
8	1	UPPER CONE	DLMS80	26565410
9	1	LOWER CONE	DLMS80	26565420
10	1	PICK-UP RING	DLMS80	26565662
11	4	SLIP	DLMS80	26565110
12	1	SUPPORT RING	DLMS80	26565530
13	1	CONNECTOR SLEEVE	DLMS110	26565611
14	12	SHEAR SCREW (3400#) 3/8-16 UNC X 3/8	DLM360BRS	BSSSLT037C037
15	10	SHEAR SCREW (1200#) 1/4-20 UNC X 5/16	DLM360BRS	BSSSLT025C031
16	8	SHEAR SCREW (1200#) 1/4-20 UNC X 1/4	DLM360BRS	BSSSLT025C025
17	4	CAP SCREW 3/8-16 UNC X 3/8	STEEL	SCS037C037
18	12	SET SCREW 3/8-16 UNC X 3/8	STEEL	SSS037C037
19	1	LOCK RING	DLMS80	58971011SPCL325
20	1	ELEMENT	80 DURO NITRILE	67065512
21	1	SLIP BODY	DLMS80	26565320
22	4	LOW HEAD CAP SCREW 3/8-16 UNC X 5/16	STEEL	LHSC037C031
23	4	SLIP SPRING	DLMINC750	DL94829
24	1	SHEAR SCREW (750#) #10-32 UNF X 3/8	DLM360BRS	BSSSLT1032F037
25	1	244 O-RING	90 DURO NITRILE	90244
26	2	349 O-RING	90 DURO NITRILE	90349
27	10	DRIV-LOK PIN (4800#) 5/16 X 1"	4140	DLP031100

\*Refer to Wireline Adapter Kit (WLAK) technical manual for placement.

REDRESS KIT (RDK)	26565050
ASSEMBLED WEIGHT	173 LBS



# RSB PACKER

## 6-5/8" X 3.250"

Manual No:  
**DL-260-6625-192**

Revision: **B**

Revision Date:  
**07/14/2016**

Authored by: *B.Mathis*

Approved by: *F.Johnson*

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

#### L-1) ELASTOMER TRIM OPTIONS

**NOTE<sub>5</sub>:** For temperature range, refer to Elastomer Trim Temperature Guide.

##### L-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 26565H
20	1	ELEMENT	80 DURO HSN	67065512H
25	1	244 O-RING	90 DURO HSN	90244H
26	2	349 O-RING	90 DURO HSN	90349H

REDRESS KIT (RDK)		26565050H
-------------------	--	-----------

##### L-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 26565V
20	1	ELEMENT	80 DURO VITON	67065512V
25	1	244 O-RING	90 DURO VITON	90244V
26	2	349 O-RING	90 DURO VITON	90349V

REDRESS KIT (RDK)		26565050V
-------------------	--	-----------



# RSB PACKER

6-5/8" X 3.250"

Manual No:  
**DL-260-6625-192**

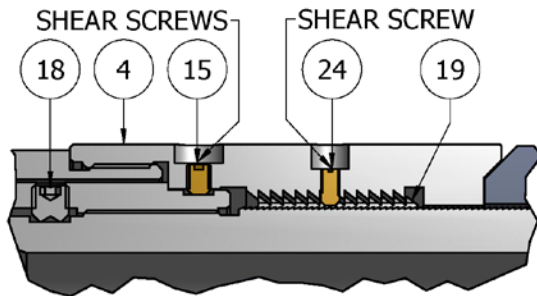
Revision: **B**

Revision Date:  
**07/14/2016**

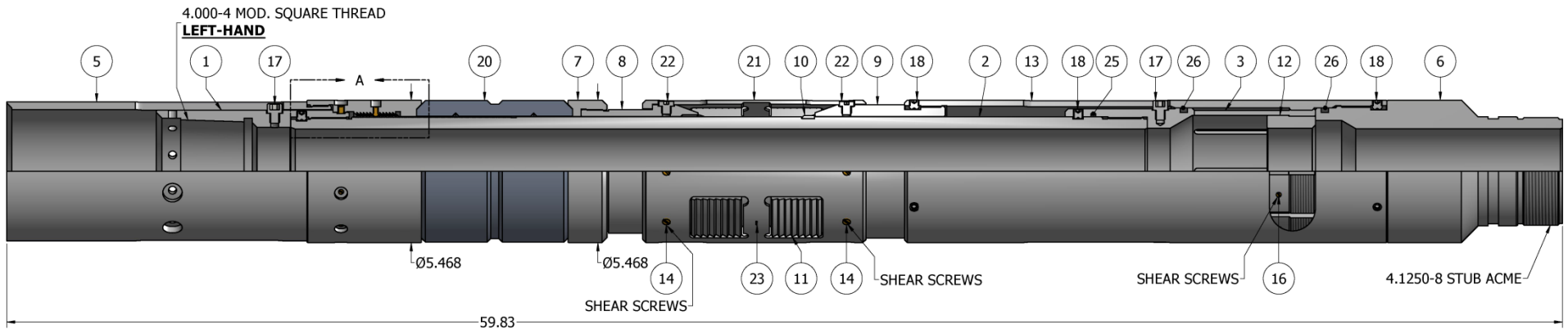
Authored by: *B.Mathis*

Approved by: *F.Johnson*


## M) TECHNICAL ILLUSTRATION



DETAIL A





	<b>RSB PACKER</b> 6-5/8" X 3.250"	Manual No: <b>DL-260-6625-192</b>
		Revision: <b>B</b>
		Revision Date: <b>07/14/2016</b>
<i>Authored by: B.Mathis</i>		<i>Approved by: F.Johnson</i>

**N) REVISION HISTORY0**

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
07/14/2016	B	Revised entire manual	J.Anderson	C.Colvin