



AS-III PACKER

6-5/8" X 2-7/8"

Manual No:
DL-631-6625-470

Revision: **D**

Revision Date:
06/24/2019

Authored by: *B.Mathis*

Approved by: *D.Hushbeck*

A) DESCRIPTION

The AS-III Packer is a single-grip packer with no upper hold-down for use where no differential pressure from below is present. From the packing elements down, this packer operates identically to the AS-II Packer. This packer also features a large by-pass area to prevent swabbing when running or retrieving. This packer is ideal for isolating casing holes or perforations when used as the lower packer in conjunction with the Snapset Packer as the upper packer.

B) SPECIFICATION GUIDE

CASING			TOOL		THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)	GAGE OD (INCHES)	NOMINAL ID (INCHES)		
6-5/8	17.0 – 24.0	5.921 – 6.135	5.750	2.50	2-7/8 EUE	63167RS 63167RSH ¹ 63167RSV ²
	24.0 – 32.0	5.675 – 5.921	5.500	2.50	2-7/8 EUE	63165RS 63165RSH ¹ 63165RSV ²

Elastomer Trim Options: ¹HSN, ²Viton

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
7,000 PSI	100,000 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
 PHONE: (800) 441-3504 www.dloiltools.com



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

D) 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 to setting depth. The unloader remains open while running in. Pick up the work string, and then lower the string while holding right-hand torque. Set down on the packer (14000 lbs) to set the slips, close the unloader and compress the packing elements.

E) RELEASING PROCEDURES

Pick up on the tubing to open the unloader, allowing time for the tubing and casing pressure to equalize. Continue upward movement of the tubing and pull to unset the top slips. Further upward movement relaxes the packing elements, releases the bottom slips, and re-jays the packer. The tool may now be moved and reset, or pulled from the well.

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

NITRILE (STD)			
TEMPERATURE RANGE (F°)	DUROMETER		
	END	MIDDLE	END
40° - 125°	80	70	80
125° - 250°	90	70	90
250° - 300°	90	80	90
300° +	Contact D&L Sales		

RUBBER TYPE	TEMPERATURE RANGE
NITRILE	40° - 250°F
HSN (HNBR)	70° - 300°F
VITON	100° - 350°F



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H) RECOMMENDED TOOLS

H-1) 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

H-2) SPECIAL TOOLS

ITEM	QTY	DESCRIPTION	PART NUMBER
T1	1	DRAG BLOCK ASSEMBLY TOOL	AT070110

I) DISASSEMBLY

I-1) Clamp top sub (1) in vise.

I-1.1) Unscrew and remove J-pin bottom sub (10) from inner mandrel (2).

NOTE₁: Drag block body assembly must be free to rotate.

I-1.2) Compress drag blocks (7) using drag block body assembly tool (T1).

I-1.3) Unscrew and remove set screws (22) from drag block body (18). Rotate drag block retainer (6) as needed.

I-1.4) Unscrew and remove J-body (20) from drag block body (18) (**NOTE₂:** Left-hand threads).

I-1.4.1) Remove retaining ring (4) from J-body (20).

I-1.5) Unscrew and remove rubber mandrel cap (19) from rubber mandrel (11).

NOTE₃: For added leverage, insert a rod thru rubber retainer (15) and rubber mandrel (11) as needed.

I-1.6) Remove drag block retainer (6) from drag block body (18).

I-1.7) Release drag blocks (7). Remove drag blocks (7) and drag block springs (3) from drag block body (18).

I-1.8) Wedge lower slips (17) outward (if needed). Remove drag block body assembly and disassemble:

I-1.8.1) Remove wedges (if needed). Remove lower slips (17) and lower slip springs (9) from drag block body (18).

I-1.9) Unscrew and remove lower cone (16) from rubber retainer (15).

I-1.10) Back up on valve body (5) with wrench. Unscrew rubber mandrel (11) from valve body (5).

I-1.11) Remove rubber mandrel assembly and disassemble:

I-1.11.1) Remove elements (13, 14), rubber spacers (12), and rubber retainer (15) from rubber mandrel (11).

I-1.11.2) If applicable, unscrew and remove gage ring (21) from rubber retainer (15).

I-1.12) Remove valve body (5) from inner mandrel (2).

I-1.12.1) Remove o-ring (23) from valve body (5).

I-1.13) Unscrew and remove inner mandrel (2) from top sub (1).

I-1.14) Unscrew and remove seal (8) from top sub (1).

I-2) Unclamp top sub (1) from vise.



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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.

CAUTION₃: To ensure tool operates properly, install o-rings in o-ring grooves **NOT** thread reliefs (Fig. 2).

J-1) Clamp top sub (1) in vise.

J-1.1) Screw seal (8) onto top sub (1).

CAUTION₁: Do not damage seal while installing.

J-1.2) Screw inner mandrel (2) into top sub (1).

J-1.3) Install o-ring (23) in groove in valve body (5).

J-1.4) From lower end of mandrel, install valve body (5) onto inner mandrel (2).

J-1.5) Assemble rubber mandrel assembly and install:

J-1.5.1) If applicable, screw gage ring (21) onto rubber retainer (15).

J-1.5.2) Install rubber retainer (15), elements (13, 14), and rubber spacers (12) onto rubber mandrel (11).

J-1.5.3) Install rubber mandrel assembly onto inner mandrel (2).

J-1.5.4) Screw rubber mandrel (11) into valve body (5).

CAUTION₂: Do not rip or tear o-ring during installation.

NOTE₃: For added leverage, insert a rod thru rubber retainer (15) and rubber mandrel (11) as needed.

J-1.6) Screw lower cone (16) into rubber retainer (15).

J-1.7) Assemble drag block body assembly and install:

J-1.7.1) Install lower slips (17) and lower slip springs (9) into drag block body (18). Wedge slips (17) outward.

NOTE₅: Install two (2ea) springs per slip (Fig. 3).

J-1.7.2) Install drag block body assembly onto rubber mandrel (11). Remove wedges.

J-1.8) Screw rubber mandrel cap (19) onto rubber mandrel (11).

J-1.9) Install drag blocks (7) and drag block springs (3) into drag block body (18). Compress drag block body assembly tool (T1).

NOTE₆: Install six (6ea) springs per drag block (Fig. 4).

J-1.10) Install drag block retainer (6) onto drag block body (18) capturing ends of drag blocks & block retainer (6) with threaded holes in drag block body (18).

J-1.11) Install retaining ring (4) onto J-body (20).

J-1.12) Screw J-body (20) into drag block body (18) (**NOTE₂:** Left-hand threads).

J-1.13) Screw set screws (22) into drag block body (18). Release drag blocks (7).

J-1.14) Screw J-pin bottom sub (10) onto inner mandrel (2).

NOTE₁: Drag block body assembly must be free to rotate.

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

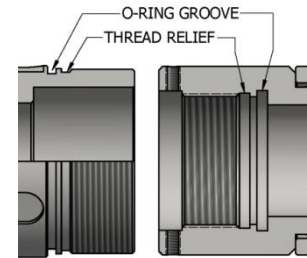


Fig. 2

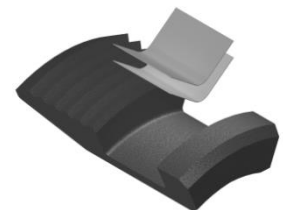


Fig. 3



Fig. 4



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K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	24.0 – 32.0# P/N 63165RS	17.0 – 24.0# P/N 63167RS
1	1	TOP SUB	DLMS110	63170612	
2	1	INNER MANDREL	DLMS80	63170210	
3	24	DRAG BLOCK SPRING	-	9101900	
4	1	RETAINING RING	1026	60065911	60067911
5	1	VALVE BODY	L-80	63165350	63167350
6	1	DRAG BLOCK RETAINER	DLMS60	60065910	60067910
7	4	DRAG BLOCK	DLMSDB8	9060900	
8	1	SEAL	90 DURO NITRILE	61170520	
9	8	LOWER SLIP SPRING	-	7170901	
10	1	J-PIN BOTTOM SUB	DLMS80	61070630	
11	1	RUBBER MANDREL	DLMS80 / DLMS60	63170220	63167220
12	2	RUBBER SPACER	DLMS35	60265840	60267840
13	1	ELEMENT	70 DURO NITRILE	60265511	60267511
14	2	ELEMENT	90 DURO NITRILE	60265513	60267513
15	1	RUBBER RETAINER	DLMS80	63165850	61170850
16	1	LOWER CONE	DLMS80	60065420	63167420
17	4	LOWER SLIP	DLMS35	60065135	60070135
18	1	DRAG BLOCK BODY	DLMS35 / DLMS60	60065335	60067335
19	1	RUBBER MANDREL CAP	DLMS60	60070230	
20	1	J-BODY	DLMS60	61070340	
21	1	GAGE RING	DLMS60	-	63167830
22	3	SET SCREW 5/16-18 UNC X 1/2	STEEL	SSS031C050	
23	1	239 O-RING	90 DURO NITRILE	90239	

REDRESS KIT (RDK)		63165050	63167050
ASSEMBLED WEIGHT		169 LBS	177 LBS



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K-1) ELASTOMER TRIM OPTIONS

NOTE7: For temperature range, refer to Elastomer Trim Temperature Guide.

K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	24.0 – 32.0# P/N 63165RSH	17.0 – 24.0# P/N 63167RSH
13	1	ELEMENT	70 DURO HSN	60265511H	60267511H
14	2	ELEMENT	90 DURO HSN	60265513H	60267513H
8	1	SEAL	90 DURO HSN	61170520H	
23	1	239 O-RING	90 DURO HSN	90239H	

REDRESS KIT (RDK)		63165050H	63167050H
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K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	24.0 – 32.0# P/N 63165RSV	17.0 – 24.0# P/N 63167RSV
13	1	ELEMENT	70 DURO VITON	60265511V	60267511V
14	2	ELEMENT	90 DURO VITON	60265513V	60267513V
8	1	SEAL	90 DURO VITON	61170520V	
23	1	239 O-RING	90 DURO VITON	90239V	

REDRESS KIT (RDK)		63165050V	63167050V
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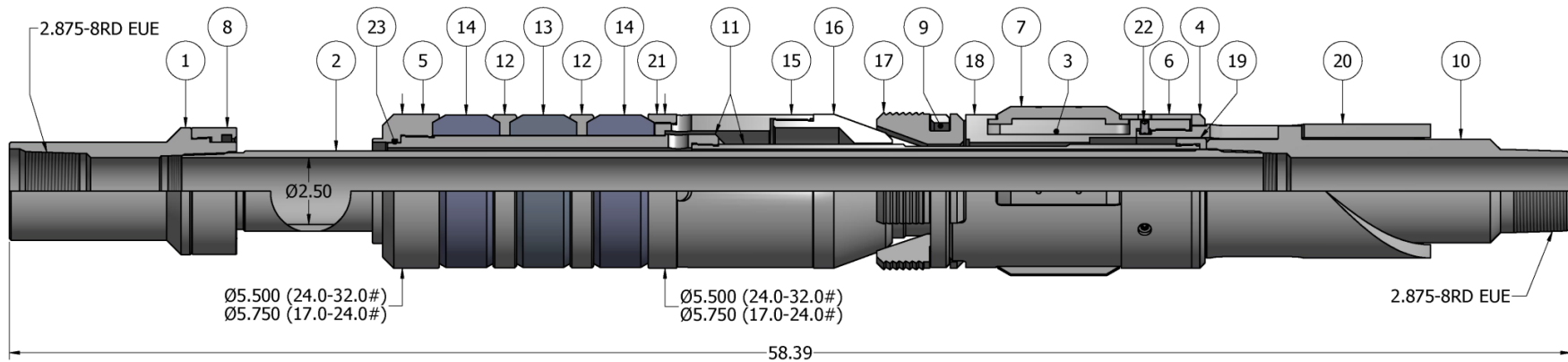
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L) TECHNICAL ILLUSTRATION



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M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
06/24/2019	D	Added Pre-Installation Inspection Procedures, Storage Recommendations; Revised Elastomer Trim Temp. Guide ratings	J.Anderson	Z.Speer
09/12/13	C	Removed Pressure Affected Area Guide.	S. McEntire	K. Plunkett
08/21/13	B	Revised P/N 63170210 was P-110; Added HSN and Viton options (P/N 63167RSH, 63167RSV, 63165RSH, 63165RSV), differential pressure and max tensile load, Pressure Affected Area Guide, Recommended Hand Tools, Options Parts List, Revision History; Removed Aflas from Element Selection Guide, Item T2 from Special Tools.	S. McEntire	K. Plunkett