



AS-III PACKER, RH AUTO, CARBIDE

5" X 2-3/8" (11.5 – 15.0#)

Manual No:
DL-631-5000-1339

Revision: **A**

Revision Date:
08/06/2020

Authored by: J.Anderson

Approved by: K.Plunkett

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)	ID (INCHES)		
5	11.5 – 15.0	4.408 – 4.560	4.125	1.94	2-3/8 EUE	63150RSC 63150RSHC ¹ 63150RSVC ²

Elastomer Trim Options: ¹HSN, ²Viton

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
7,000 PSI	58,500 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 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.

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)

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.

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 tubing and rotate 1/4 turn at the packer. Slack off weight and set down and minimum of 10,000 lbs on the packer, while holding right-hand torque, 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 picking up on the tubing 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
150° - 250°	90	80	90
250° +	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
- STRAP WRENCH
- 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) OPTIONAL SPECIAL TOOLS

ITEM	QTY	DESCRIPTION	PART NUMBER
T1	1	DRAG BLOCK ASSEMBLY TOOL	AT055110

I) DISASSEMBLY

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

I-1.1) From lower end of tool, unscrew and remove bottom sub (4) from inner mandrel (2).

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

I-1.2) Unscrew and remove set screws (7) from J-body (20).

I-1.3) Compress drag blocks (10) with drag block assembly tool (T1).

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

I-1.5) Release drag blocks (10). Remove drag blocks (10) and drag block springs (3) from drag block body (18).

I-1.6) 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-1.7) Wedge lower slips (17) outwards (if needed). Remove drag block body assembly and disassemble:

I-1.7.1) Remove wedges (if needed). Remove lower slips (17) and lower slip springs (9) from drag block body (18).

I-1.8) Unscrew and remove lower cone (16) from rubber retainer (15).

I-1.9) Unscrew rubber mandrel (11) from valve body (5). Remove rubber mandrel assembly and disassemble:

I-1.9.1) Remove elements (13, 14), rubber spacers (12), and rubber retainer (15) from rubber mandrel (11).

I-1.10) Remove valve body (5) from inner mandrel (2).

I-1.10.1) Remove o-ring (21) from valve body (5).

I-1.11) Unscrew valve plunger (6) from top sub (1). Remove valve plunger assembly and disassemble:

I-1.11.1) Unscrew and remove seal (8) from valve plunger (6).

I-1.11.2) Remove o-ring (22) from valve plunger (6).

I-1.12) Unscrew and remove inner mandrel (2) from top sub (1).

I-2) Unclamp and remove 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 inner mandrel (2) into top sub (1).

J-1.2) Assemble valve plunger assembly and install:

J-1.2.1) Install o-ring (22) in o-ring groove in valve plunger (6).

J-1.2.2) Screw seal (8) onto valve plunger (4).

CAUTION5: Do not damage seal while installing.

J-1.2.3) Install valve plunger (6) onto mandrel (2) and screw onto top sub (1).

CAUTION6: Do not damage o-ring while installing.

J-1.3) Install o-ring (21) in o-ring groove in valve body (5).

J-1.4) Install valve body (5) onto inner mandrel (2).

J-1.5) Assemble and install rubber mandrel assembly:

J-1.5.1) Install rubber retainer (15), elements (13, 14), and rubber spacers (12) onto rubber mandrel (11).

J-1.5.2) Install rubber mandrel assembly onto inner mandrel (2). Screw rubber mandrel (11) into valve body (5).

CAUTION4: Do not damage o-ring during installation.

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

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

J-1.7.1) Set lower slips (17) and lower slip springs (9) in place in drag block body (18). Wedge slips outward.

NOTE5: Uses 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).

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

J-1.9) Set drag blocks (10) and drag block springs (3) in place in drag block body (18). Compress drag blocks (10) with drag block assembly tool (T1).

NOTE6: Uses four (4ea) drag block springs per drag block (Fig. 4).

J-1.10) Screw J-body (20) onto drag block body (18) (**NOTE2:** Left-hand threads).

J-1.11) Screw set screws (7) into J-body (20). Release drag blocks (10).

J-1.12) Screw bottom sub (4) 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.

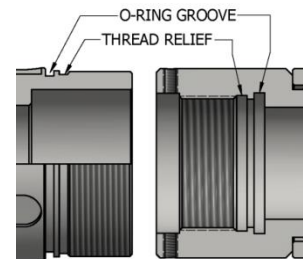


Fig. 2

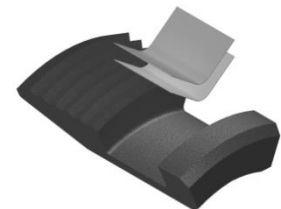


Fig. 3



Fig. 4



AS-III PACKER, RH AUTO, CARBIDE 5" X 2-3/8" (11.5 – 15.0#)

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K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 63150RSC
1	1	TOP SUB	DLMS80	63155610
2	1	INNER MANDREL	DLMS80	63145210
3	16	DRAG BLOCK SPRING		9100900
4	1	BOTTOM SUB	DLMS110	61045630
5	1	VALVE BODY	DLMS110	63150350
6	1	VALVE PLUNGER	DLMS80	63145611
7	4	SOCKET SET SCREW 1/4-20 UNC X 3/8	STEEL	SSS025C037
8	1	SEAL	90 DURO NITRILE	61145520
9	8	LOWER SLIP SPRING		7145901
10	4	DRAG BLOCK	DLMSDB4	9057900C
11	1	RUBBER MANDREL	DLMS80	61045220
12	2	RUBBER SPACER	DLMS35	60250840
13	1	ELEMENT	70 DURO NITRILE	60250511
14	2	ELEMENT	90 DURO NITRILE	60250513
15	1	RUBBER RETAINER	DLMS60	60250850
16	1	LOWER CONE	DLMS60	60045420
17	4	LOWER SLIP	DLMS110	60050135C
18	1	DRAG BLOCK BODY	DLMS60	60050335
19	1	RUBBER MANDREL CAP	DLMS110	61345230
20	1	J-BODY	DLMS60	61045340
21	1	231 O-RING	90 DURO NITRILE	90231
22	1	233 O-RING	90 DURO NITRILE	90233
		REDRESS KIT (RDK)		60350050
		ASSEMBLED WEIGHT		90 LBS



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K) PARTS LIST (cont'd)

K-1) ELASTOMER TRIM OPTIONS

NOTE₂: For temperature range, refer to Elastomer Trim Temperature Guide.

K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 63150RSHC
8	1	SEAL	90 DURO HSN	61145520H
13	1	ELEMENT	70 DURO HSN	60250511H
14	2	ELEMENT	90 DURO HSN	60250513H
21	1	231 O-RING	90 DURO HSN	90231H
22	1	233 O-RING	90 DURO HSN	90233H

REDRESS KIT (RDK)		60350050H
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K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 63150RSVC
8	1	SEAL	90 DURO VITON	61145520V
13	1	ELEMENT	70 DURO VITON	60250511V
14	2	ELEMENT	90 DURO VITON	60250513V
21	1	231 O-RING	90 DURO VITON	90231V
22	1	233 O-RING	90 DURO VITON	90233V

REDRESS KIT (RDK)		60350050V
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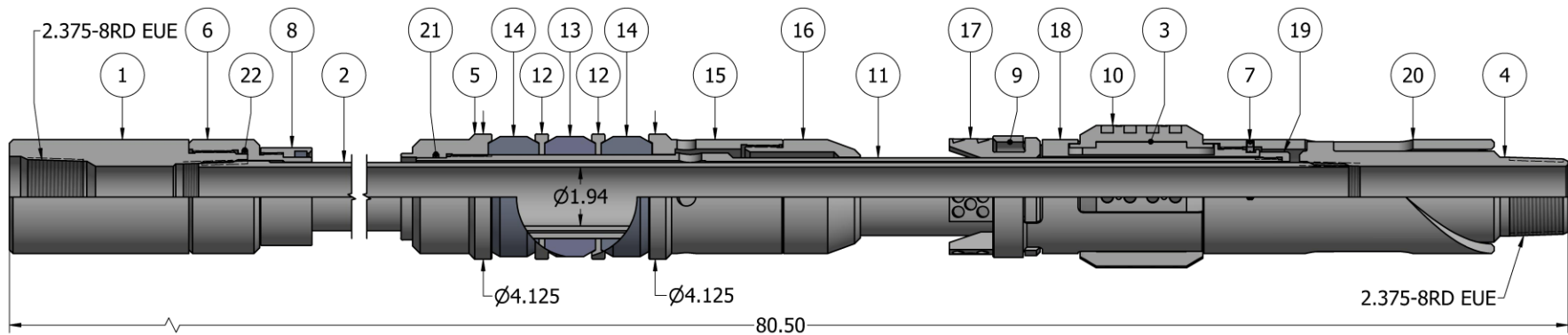
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L) TECHNICAL ILLUSTRATION



M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/06/2020	A	Created new manual	-	-