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)		
7	17.0 – 26.0	6.276 – 6.538	6.000 6.125*	3.00	3-1/2 EUE	63174RS 63174RSH[1] 63174RSV[2] 63174RSC[3] 63174RSHC[4] 63174RSVC[5]
	26.0 – 32.0	6.094 – 6.276	5.875 5.936*	3.00	3-1/2 EUE	63173RS 63173RSH[1] 63173RSV[2] 63173RSC[3] 63173RSHC[4] 63173RSVC[5]

Tool Options: [1]HSN, [2]Viton, [3]Nitrile, Carbide, [4]HSN, Carbide, [5]Viton, Carbide
*Maximum OD is over compressed drag blocks.

DIFFERENTIAL PRESSURE (MAX)	**TENSILE LOAD THRU TOOL** (MAX)
7,000 PSI	112,243 LBS

C) PRE-INSTALLATION INSPECTION PROCEDURES

CAUTION[1]: 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

C) 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.

D) SETTING PROCEDURES

CAUTION$_2$: 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. Hold right-hand torque and slack off weight and set down and minimum of 14,000 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** (F°)
NITRILE	40° - 250°F
HSN (HNBR)	70° - 300°F
VITON	100° - 350°F

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	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).
NOTE$_1$: Drag block body assembly must be free to rotate.

I-1.2) Unscrew and remove set screws (4) from J-body (20).

I-1.3) Unscrew and remove J-body (20) from drag block body (18) (**NOTE$_2$**: Left-hand threads).

I-1.4) Unscrew and remove rubber mandrel cap (19) from rubber mandrel (11).

NOTE$_3$: For added leverage, insert a rod through rubber retainer (15) and rubber mandrel (11) as needed.

I-1.5) Compress drag blocks (7) using drag block body assembly tool (T1).

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) DISASSEMBLY (cont'd)

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) Unscrew and remove gage ring (21) from rubber retainer (15).

I-1.12) Unscrew and remove gage ring (21) from valve body (5).

I-1.13) Remove valve body (5) from inner mandrel (2).

I-1.13.1) Remove o-ring (22) from valve body (5).

I-1.14) Unscrew and remove inner mandrel (2) from top sub (1).

I-1.15) Unscrew and remove seal (8) from top sub (1).

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

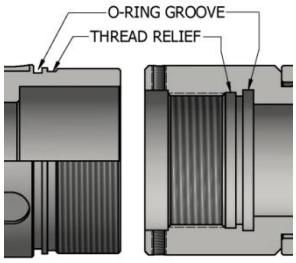


Fig. 2

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).

CAUTION4: Do not damage seal while installing.

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

J-1.3) Install o-ring (22) in groove in valve body (5).

J-1.4) Screw gage ring (21) onto valve body (5).

J-1.5) From lower end of mandrel, install valve body (5) onto inner mandrel (2).

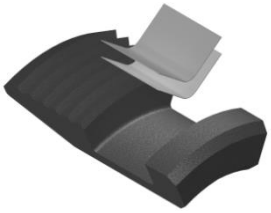


Fig. 3

J-1.6) Assemble rubber mandrel assembly and install:

J-1.6.1) Screw gage ring (21) onto rubber retainer (15).

J-1.6.2) Install rubber retainer (15), elements (13, 14), and rubber spacers (12) onto rubber mandrel (11).

J-1.6.3) Install rubber mandrel assembly onto inner mandrel (2).

J-1.6.4) Screw rubber mandrel (11) into valve body (5).

CAUTION5: Do not rip or tear o-ring during installation.

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

J-1.7) Screw lower cone (16) into rubber retainer (15).

J-1.8) Assemble drag block body assembly and install:

J-1.8.1) 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-1.8.2) Install drag block body assembly onto rubber mandrel (11). Remove wedges.

J-1.9) Screw rubber mandrel cap (19) onto rubber mandrel (11).

J-1.10) Install drag blocks (7) and drag block springs (3) into drag block body (18). Compress drag blocks (7) using drag block body assembly tool (T1).

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

Fig. 4

J) ASSEMBLY (cont’d)

J-1.11) Install drag block retainer (6) onto drag block body (18) capturing ends of drag blocks (7).

J-1.12) Screw J-body (20) into drag block body (18) (**NOTE$_2$**: Left-hand threads).

J-1.13) Screw set screws (4) into J-body (20). Release drag blocks (7).

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

NOTE$_1$: Drag block body assembly must be free to rotate.

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

K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 63173RS	P/N 63174RS
1	1	TOP SUB	DLMS110	65573610	
2	1	INNER MANDREL	DLMS80	63173210	
3	24	DRAG BLOCK SPRING	-	9101900	
4	2	SET SCREW 3/8-16 UNC X 3/8	STEEL	SSS037C037	
5	1	VALVE BODY	P-110	65573350	
6	1	DRAG BLOCK RETAINER	DLMS60	60073910	
7	4	DRAG BLOCK	DLMSDB8	9070900	9080900
8	1	SEAL	90 DURO NITRILE	61073520	
9	8	LOWER SLIP SPRING	-	7170901	
10	1	J-PIN BOTTOM SUB	DLMS80	61077650	
11	1	RUBBER MANDREL	DLMS60	60073220	
12	2	RUBBER SPACER	DLMS60	60273840	60274840
13	1	ELEMENT	70 DURO NITRILE	60273511	60274511
14	2	ELEMENT	90 DURO NITRILE	60273513	60274513
15	1	RUBBER RETAINER	DLMS60	60273850	
16	1	LOWER CONE	DLMS60	60073420	
17	4	LOWER SLIP	DLMS35	60073135	
18	1	DRAG BLOCK BODY	DLMS35 / DLMS60	60073335	
19	1	RUBBER MANDREL CAP	DLMS35	60073230	
20	1	J-BODY	DLMS60	61077340	
21	2	GAGE RING	DLMS60	60273830	60274830
22	1	243 O-RING	90 DURO NITRILE	90243	

REDRESS KIT (RDK)		63173050	63174050
ASSEMBLED WEIGHT		182 LBS	184 LBS

K) PARTS LIST (cont’d)

K-1) ELASTOMER TRIM OPTIONS

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

K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 63173RSH	P/N 63174RSH
13	1	ELEMENT	70 DURO HSN	60273511H	60274511H
14	2	ELEMENT	90 DURO HSN	60273513H	60274513H
8	1	SEAL	90 DURO HSN	61073520H	
22	1	243 O-RING	90 DURO HSN	90243H	

REDRESS KIT (RDK)		63173050H	63174050H	

K-1.2) VITON

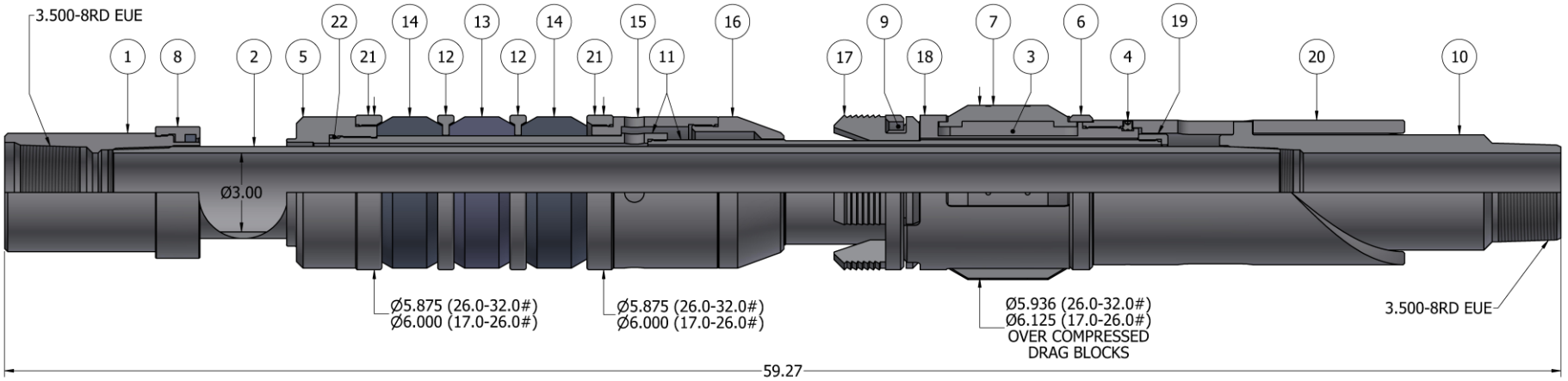
ITEM	QTY	DESCRIPTION	MATERIAL	P/N 63173RSV	P/N 63174RSV
13	1	ELEMENT	70 DURO VITON	60273511V	60274511V
14	2	ELEMENT	90 DURO VITON	60273513V	60274513V
8	1	SEAL	90 DURO VITON	61073520V	
22	1	243 O-RING	90 DURO VITON	90243V	

REDRESS KIT (RDK)		63173050V	63174050V	

K-2) CARBIDE OPTIONS

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 63173RSC	P/N 63174RSC
7	4	CARBIDE DRAG BLOCK	DLMSDB4	9070900C	9080900C
17	4	CARBIDE LOWER SLIP	DLMS110	60073135C	

L) TECHNICAL ILLUSTRATION



M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
11/01/2023	C	Added carbide option, pre-installation inspection procedures, storage recommendations; revised temperature guide	J.Anderson	E.Visaez
09/19/13	B	Revised P/N 63173210 material was P-110, P/N 9070900 was 9080900 for assembly P/N 63173RS, Assembled Weight was 180 lbs for P/N 63173RS; Added P/N 63174RS, HSN and Viton options (63173RSH, 63173RSV), differential pressure and max tensile load, Recommended Hand Tools, Options Parts List, Revision History; Removed Aflas from Element Selection Guide, Item T2 from Special Tools.	S. McEntire	K. Plunkett