



HD ABANDONMENT PACKER

RIGHT-HAND AUTO

9-5/8" X 4-1/2" IF TOOL JOINT

Manual No:
DL-615-9625-394

Revision: **K**

Revision Date:
12/14/2015

Authored by: S. White

Approved by: H. Bringham

A) DESCRIPTION

The HD Abandonment Packer is a heavy duty service packer ideally suited for all types of squeeze cementing, formation fracturing, high pressure acidizing, etc. This packer is a large opening compression set packer with hydraulic button-type hold down. This packer withstands high pressure from above or below and uses a 3-element packing system, J-slot, and a drag block mechanism for easy setting. This packer has a built-in unloader which circulates across the hold down buttons to improve retrievability and run in performance.

B) SPECIFICATION GUIDE

CASING			TOOL		THREAD CONNECTIONS BOX UP / PIN DOWN	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)	GAGE OD (INCHES)	NOMINAL ID (INCHES)		
9-5/8	32.3 – 43.5	8.755 – 9.001	8.500	3.50	4-1/2 IF TOOL JOINT	61596-XBEE 61596H-XBEE ¹ 61596V-XBEE ²
	43.5 – 53.5	8.535 – 8.755	8.250	3.50	4-1/2 IF TOOL JOINT	61595-XBEE 61595H-XBEE ¹ 61595V-XBEE ²

Elastomer Trim Options: ¹HSN, ²Viton

NOTE₁: Tools listed are right-hand set / straight pick-up.

DIFFERENTIAL PRESSURE (MAX)	HANGING WEIGHT ON SET PACKER (MAX)	TENSILE LOAD THRU UNSET PACKER (MAX)	TORQUE THRU TOOL (MAX)
8,000 PSI	250,000 LBS*	500,000 LBS	2,000 FT-LBS

*Casing must be cemented for this load rating.

CAUTION₁: Before running the tool, check the pressure affected areas chart and consider other effects to be certain that the unloader will remain closed during operation.

CAUTION₂: If the HD Abandonment Packer is run with a Retrievable Bridge Plug, make sure the Retrievable Bridge Plug J-slot is compatible with the J-slot on the HD Abandonment Packer. Whichever direction you set the plug, the packer should set in the opposite direction.

C) PRE-INSTALLATION INSPECTION PROCEDURES

CAUTION₃: 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"	
1,000 – 1,500 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



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C) PRE-INSTALLATION INSPECTION PROCEDURES (cont'd)

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 (Fig. 1).

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

CAUTION₄: 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 rotate 1/4 turn at the packer. Slack off weight and set down on the packer to set the slips, close the unloader and compress the packing elements. A minimum weight of 20,000 lbs at the packer is required to pack off the elements.

CAUTION₅: Run the tool slowly, as with any hold down type packer, to help prevent dulling of the hydraulic buttons.

E) RELEASING PROCEDURES

Pick up on the work string to open the unloader, allowing time for the tubing and casing pressure to equalize. Continued upward movement of the work string unsets the slips, relaxes the packing elements 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) PRESSURE AFFECTED AREA GUIDE

When set downhole, the packer mandrel is subjected to a force created by differential pressure above or below the packer that acts on the pressure affected area (i.e., the piston effect). Depending on the drill pipe size and weight and the seal area of the packer the force created by differential pressure acts upwards or downwards on the packer mandrel. An upward force, designated as a negative (-) value, acts to push the packer mandrel up hole and must be accounted for to ensure that the packer remains set. A downward force, designated as a positive value, acts to push the packer mandrel down hole and must be accounted for when releasing the packer. Other factors (e.g., tubing movement due to temperature change) must be considered separately to determine all the forces acting on the packer.



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G) PRESSURE AFFECTED AREA GUIDE (cont'd)

PACKER SIZE (IN)	DRILL PIPE TO PACKER			PRESSURE AFFECTED AREA (IN ²)	
	SIZE (IN)	WEIGHT (LB/FT)	ID (IN)	ABOVE	BELOW
9-5/8"	ABANDONED	N/A	PLUGGED	15.584 (DOWN)	0.210 (DOWN)
	2.375*	4.85	1.995	11.154 (DOWN)	3.335 (DOWN)
		6.65	1.815	11.154 (DOWN)	2.797 (DOWN)
	2.875*	6.85	2.441	9.093 (DOWN)	4.889 (DOWN)
		10.40	2.151	9.093 (DOWN)	3.843 (DOWN)
	3.500	8.50	3.063	5.963 (DOWN)	7.578 (DOWN)
		13.30	2.764	5.963 (DOWN)	6.210 (DOWN)
		15.50	2.602	5.963 (DOWN)	5.527 (DOWN)
	4.000	11.85	3.476	3.018 (DOWN)	9.699 (DOWN)
		14.00	3.340	3.018 (DOWN)	8.971 (DOWN)
		15.70	3.240	3.018 (DOWN)	8.454 (DOWN)
	4.500	13.75	3.958	-0.320 (UP)	12.513 (DOWN)
		16.60	3.826	-0.320 (UP)	11.706 (DOWN)
		20.00	3.640	-0.320 (UP)	10.616 (DOWN)
		22.82	3.500	-0.320 (UP)	9.831 (DOWN)
	5.000	16.25	4.408	-4.051 (UP)	15.470 (DOWN)
		19.50	4.276	-4.051 (UP)	14.570 (DOWN)
		25.60	4.000	-4.051 (UP)	12.776 (DOWN)
	5.500	19.20	4.892	-8.174 (UP)	19.005 (DOWN)
		21.90	4.778	-8.174 (UP)	18.140 (DOWN)
		24.70	4.670	-8.174 (UP)	17.338 (DOWN)
	5.875	23.40	5.153	-11.524 (UP)	21.065 (DOWN)
		24.17	5.045	-11.524 (UP)	20.199 (DOWN)
	6.625	25.20	5.965	-18.887 (UP)	28.155 (DOWN)
		27.70	5.901	-18.887 (UP)	27.559 (DOWN)

*Drill pipe sizes not recommended.

Example: Consider a 9-5/8" X 4-1/2" HD Abandonment Packer set on 4.500", 16.60 lb/ft drill pipe with a differential pressure of 3,000 PSI in the annulus around the drill pipe above the packer. What is the force acting on the seal area of the mandrel?

To calculate the force (lbs) acting on the seal area of the mandrel, refer to the Pressure Affected Area Guide for a 9-5/8" X 4-1/2" HD Abandonment Packer run on 4.500", 16.60 lb/ft drill pipe. In this example, the differential pressure from above the packer acts on the seal area of the packer mandrel across a pressure affected area of -0.320 in². Multiplying the differential pressure (3,000 PSI) by the pressure affected area (-0.320 in²) results in a force of -960 lbs. The piston effect on the packer mandrel is an upward force of 960 lbs.



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H) ELASTOMER TRIM TEMPERATURE GUIDE

NITRILE (STD)			
TEMPERATURE RANGE (F°)	DUROMETER		
	END	MIDDLE	END
70° - 125°	80	70	80
125° - 250°	90	70	90
150° - 250°	90	80	90
250° +	Contact D&L Sales		

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

I) RECOMMENDED TOOLS

I-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
- JACK STANDS

I-2) SPECIAL TOOLS

ITEM	QTY	DESCRIPTION	PART NUMBER
T1	1	DRAG BLOCK ASSEMBLY TOOL	AT010110
T2	1	BUTTON REMOVAL TOOL	AT-BRT000
T3	1 GAL	KOPR-KOTE® ANTI-SEIZE LUBRICANT	DL-KOPR-KOTE-1G

J) DISASSEMBLY

NOTE₂: Ensure vise is capable of handling weight of tool.

NOTE₃: Support tool during disassembly and assembly with jack stands as necessary.

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

J-1.1) Unscrew and remove set screws (35) from J-pin bottom sub (23).

J-1.2) Unscrew and remove bottom sub (28) from J-pin bottom sub (23).

J-1.3) Unscrew and remove set screws (37) from J-pin bottom sub (23). Move J-body (20) as needed to access screws.

J-1.4) Unscrew and remove J-pin bottom sub (23) from inner mandrel (2).

NOTE₄: Drag block body assembly must be free to rotate.

J-1.4.1) Remove o-rings (43, 44) from J-pin bottom sub (23).

J-1.5) Compress drag blocks (22) with drag block assembly tool (T1).

J-1.6) Unscrew and remove set screws (38) from drag block body (18). Rotate drag block retainer (21) as needed to access screws.



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J) DISASSEMBLY (cont'd)

- J-1.7) Unscrew and remove J-body (20) from drag block body (18) (**NOTE₅**: Left-hand threads).
 - J-1.7.1) Remove retaining ring (31) from J-body (20).
- J-1.8) Remove drag block retainer (21) from drag block body (18).
- J-1.9) Remove drag block assembly tool (T1) from drag blocks (22). Remove drag blocks (22) and drag block springs (3).
- J-1.10) Unscrew and remove rubber mandrel cap (19) from rubber mandrel (11).
 - NOTE₆**: For added leverage, insert a rod through holes in lower cone (16) and rubber mandrel (11).
- J-1.11) Remove drag block body assembly and disassemble:
 - J-1.11.1) Wedge lower slips (17) outward (if needed). Unscrew and remove cap screw (33) from drag block body (18).
 - J-1.11.2) Remove lower slip support (32) from drag block body (18).
 - J-1.11.3) Remove wedges (if needed). Remove lower slips (17) and lower slip springs (25) from drag block body (18).
- J-1.12) Unscrew and remove lower cone (16) from rubber retainer (15).
- J-1.13) Unscrew rubber mandrel (11) from valve body (34).
- J-1.14) Remove rubber mandrel assembly and disassemble:
 - J-1.14.1) Remove elements (13, 14), rubber spacers (12), and rubber retainer (15) from rubber mandrel (11).
- J-1.15) Unscrew and remove gage ring (29) from valve body (34).
- J-1.16) Unscrew and remove valve body (34) from central body (10).
 - J-1.16.1) Remove o-ring (39) from valve body (34).
- J-1.17) Unscrew and remove central body (10) from hold down body (6).
- J-2) Unclamp and remove top sub (1) from vise. Clamp lower end of inner mandrel (2) in vise.
 - CAUTION₆**: Do **NOT** wrench or clamp on seal surface.
 - J-2.1) Unscrew and remove set screws (38) from top sub (1).
 - J-2.2) Unscrew and remove top sub (1) from inner mandrel (2).
 - J-2.2.1) Remove o-ring (43) from top sub (1).
 - J-2.3) Unscrew and remove hold down cap (7) from hold down body (6).
 - J-2.4) Unscrew and remove flat head cap screws (26) from hold down body (6).
 - J-2.5) Remove hold down straps (36) from hold down body (6).
 - J-2.6) Remove hold down button springs (3) from hold down buttons (30).
 - J-2.7) Remove hold down buttons (30) from hold down body (6) with button removal tool (T2).
 - J-2.7.1) Remove o-rings (42) from hold down buttons (30).
 - J-2.8) Unscrew and remove hold down extension (4) from hold down body (6).
 - J-2.8.1) Remove o-ring (45) from hold down extension (4).
 - J-2.9) Remove hold down body (6) from inner mandrel (2).
 - J-2.9.1) Remove o-rings (47, 48) from hold down body (6).
 - J-2.10) Unscrew and remove compensating mandrel (8) from seal receptacle (5).
 - J-2.10.1) Remove compensating piston (9) from compensating mandrel (8).
 - J-2.10.1.1) Remove o-rings (46, 48) from compensating piston (9).
- J-3) Unclamp and remove inner mandrel (2) from vise.



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J) DISASSEMBLY (cont'd)

J-3.1) Remove seal receptacle assembly and disassemble:

J-3.1.1) Unscrew and remove seal retainer (27) from seal receptacle (5).

J-3.1.1.1) Remove o-rings (40, 41) from seal receptacle (5).

J-3.1.1.2) Remove quad seal (24) from seal receptacle (5).

K) ASSEMBLY

NOTE₇: Ensure vise is capable of handling weight of tool.

NOTE₈: Support tool during disassembly and assembly with jack stands as necessary.

NOTE₉: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

CAUTION₇: To ensure tool operates properly, install o-rings in o-ring grooves **NOT** thread reliefs (Fig. 2).

NOTE₁₀: Apply anti-seize lubricant (T3) on STUB ACME and drill pipe connections when making up connections.

K-1) Assemble seal receptacle assembly and install:

K-1.1) Install o-rings (40, 41) in o-ring grooves in seal receptacle (5).

K-1.2) Install quad seal (24) in o-ring groove in seal receptacle (5).

K-1.3) Screw seal retainer (27) onto seal receptacle (5).

CAUTION₈: Do not rip or tear o-ring or seal during installation.

K-1.4) Install seal receptacle assembly onto inner mandrel (2).

K-2) Clamp lower end inner mandrel (2) in vise.

CAUTION₆: Do **NOT** wrench or clamp on seal surface.

K-2.1) Screw compensating mandrel (8) into seal receptacle (5).

CAUTION₈: Do not rip or tear o-ring during installation.

CAUTION₆: Do **NOT** mar or damage seal surface.

K-2.2) Install o-rings (46, 48) in o-ring grooves in compensating piston (9).

K-2.3) Install compensating piston (9) onto compensating mandrel (8).

NOTE₁₁: Compensating piston must be installed in correct direction (Fig. 3).

K-2.4) Install o-rings (47, 48) in o-ring grooves in hold down body (6).

K-2.5) Install hold down body (6) onto inner mandrel (2).

K-2.6) Install o-ring (45) in o-ring groove in hold down extension (4).

K-2.7) Screw hold down extension (4) into hold down button body (6).

CAUTION₈: Do not rip or tear o-ring during installation.

K-2.8) Assemble hold down buttons (30) and install:

K-2.8.1) Install o-rings (42) in o-ring grooves in hold down buttons (30).

K-2.8.2) Install hold down buttons (30) into hold down body (6) (Fig. 4).

CAUTION₈: Do not rip or tear o-rings during installation.

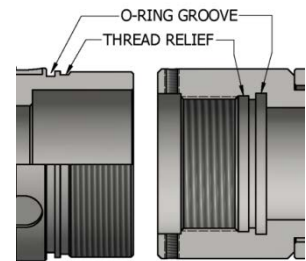


Fig. 2

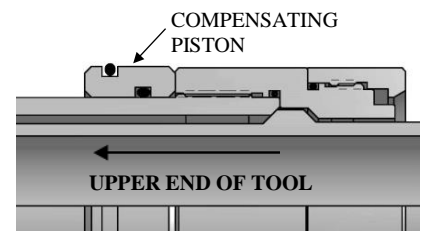


Fig. 3



Fig. 4



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K) ASSEMBLY (cont'd)

- K-2.8.3) Align slot in hold down buttons (30) with slot in hold down body (6).
Install hold down button springs (3) into hold down buttons (30).

NOTE₁₂: Install two (2ea) springs per hold down button (Fig. 5).

- K-2.8.4) Set hold down straps (36) in slots in hold down buttons (30) and hold down body (6) (Fig. 5).

- K-2.8.5) Screw flat head cap screws (26) into hold down body (6) securing hold down straps (36) in place (Fig. 5).

- K-2.8.6) Screw hold down cap (7) onto hold down body (6) capturing upper ends of hold down straps (36).

- K-2.9) Install o-ring (43) in o-ring groove in top sub (1).

- K-2.10) Screw top sub (1) onto inner mandrel (2).

CAUTION₈: Do not rip or tear o-ring during installation.

- K-2.11) Screw set screws (38) into top sub (1).

- K-3) Unclamp and remove inner mandrel (2) from vise. Clamp top sub (1) in vise.

- K-3.1) Screw central body (10) onto hold down body (6).

CAUTION₈: Do not rip or tear o-rings during installation.

- K-3.2) Install o-ring (39) in o-ring groove in valve body (34).

- K-3.3) Screw valve body (34) into central body (10).

- K-3.4) Screw gage ring (29) onto valve body (34).

- K-3.5) Assemble rubber mandrel assembly and install:

- K-3.5.1) Install rubber retainer (15), rubber spacers (12), and elements (13, 14) onto rubber mandrel (11).

- K-3.5.2) Install rubber mandrel assembly onto inner mandrel (2). Screw rubber mandrel (11) into valve body (34).

CAUTION₈: Do not rip or tear o-ring during installation.

- K-3.6) Screw lower cone (16) into rubber retainer (11).

- K-3.7) Assemble drag block body assembly and install:

- K-3.7.1) Install lower slips (17) and lower slip springs (25) into drag block body (18). Wedge slips outward.

NOTE₁₃: Install two (2ea) springs per slip (Fig. 6).

- K-3.7.2) Install lower slip support (32) into drag block body (18).

- K-3.7.3) Align hole in lower slip support (32) with threaded hole in drag block body (18). Screw cap screw (33) into drag block body (18). Remove wedges.

- K-3.7.4) Install drag block body assembly onto rubber mandrel (11).

- K-3.8) Screw rubber mandrel cap (19) onto rubber mandrel (11).

- K-3.9) Install drag blocks (22) and drag block springs (3) into drag block body (18).
Compress drag blocks (22) with drag block assembly tool (T1).

NOTE₁₄: Install six (6ea) drag block springs per drag block (Fig. 7).

- K-3.10) Install drag block retainer (21) onto drag block body (18) capturing ends of drag blocks (22). Align holes in drag block retainer (21) with threaded holes in drag block body (18).

- K-3.11) Install retaining ring (31) onto J-body (20).

- K-3.12) Screw J-body (20) into drag block body (18) (22) (**NOTE₅:** Left-hand threads).

- K-3.13) Screw set screws (38) into drag block body (18).



Fig. 5



Fig. 6

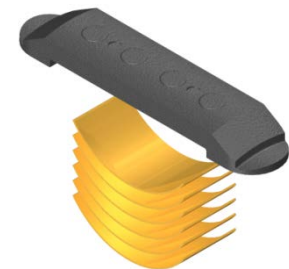


Fig. 7



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K) ASSEMBLY (cont'd)

K-3.14) Remove drag block assembly tool (T1) from drag blocks (22).

K-3.15) Install o-rings (43, 44) in o-ring grooves in J-pin bottom sub (23).

K-3.16) Screw J-pin bottom sub (23) onto inner mandrel (2).

NOTE₄: Drag block body assembly must be free to rotate.

CAUTION₈: Do not rip or tear o-ring during installation.

K-3.17) Move J-body (20) as needed to screw set screws (37) into J-pin bottom sub (23).

K-3.18) Screw bottom sub (28) onto J-pin bottom sub (23).

CAUTION₈: Do not rip or tear o-ring during installation.

K-3.19) Screw set screws (35) into J-pin bottom sub (23).

K-4) Unclamp top sub (1) from vise and remove assembled tool.

L) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	(43.5 – 53.5#) P/N 61595-XBEE	(32.3 - 43.5#) P/N 61596-XBEE
1	1	TOP SUB	DLMS110	61595612-YBEE	
2	1	INNER MANDREL	DLMS110	61595215	
3	36	DRAG BLOCK SPRING	INCONEL	9101900	
	16	HOLD DOWN BUTTON SPRING			
4	1	HOLD DOWN EXTENSION	DLMS110	61395310	
5	1	SEAL RECEPTACLE	DLMS110	61395730	
6	1	HOLD DOWN BODY	DLMS110	61395320	
7	1	HOLD DOWN CAP	DLMS110	61395370	61396370
8	1	COMPENSATING MANDREL	DLMS110	61395240	
9	1	COMPENSATING PISTON	DLMS110	61395715	
10	1	CENTRAL BODY	DLMS110	61395385	
11	1	RUBBER MANDREL	DLMS110	60313220HT	
12	2	RUBBER SPACER	P-110	68895840	68896840
13	1	ELEMENT	80 DURO NITRILE	60295512	60296512
14	2	ELEMENT	90 DURO NITRILE	60295513	60296513
15	1	RUBBER RETAINER	P-110	61595851	61596851
16	1	LOWER CONE	P-110	60395420HT	
17	5	LOWER SLIP W/ CARBIDE	DLMS110	60095135C	
18	1	DRAG BLOCK BODY	P-110/1026	61595335	
19	1	RUBBER MANDREL CAP	DLMS60	60095230	
20	1	J-BODY	DLMS110	61395340	
21	1	DRAG BLOCK RETAINING RING	DLMS60	60395910	



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L) PARTS LIST (cont'd)

ITEM	QTY	DESCRIPTION	MATERIAL	(43.5 – 53.5#) P/N 61595-XBEE	(32.3 - 43.5#) P/N 61596-XBEE
22	6	DRAG BLOCK W/ CARBIDE	4140	9080900C	
23	1	J-PIN SUB	DLMS110	61595620	
24	1	SEAL	90 DURO NITRILE	61395520	
25	10	LOWER SLIP SPRING	ELGILOY	7170901	
26	12	FLAT HEAD CAP SCREW 3/8-16 UNC X 5/8	STEEL	FHSC037C062	
27	1	SEAL RETAINER	DLMS110	61395530	
28	1	BOTTOM SUB	DLMS110	61762620	
29	1	GAGE RING	DLMS110	60295830HT	60296830HT
30	8	HOLD DOWN BUTTON	DLMSSP	61396974	
31	1	RETAINING RING	DLMS60	60095911	
32	1	LOWER SLIP SUPPORT	DLMS110	60395912HT	
33	1	CAP SCREW 1/2-13 UNC X 3/4	STEEL	SCS050C075	
34	1	VALVE BODY	DLMS110	61395350	
35	4	SET SCREW 1/4-20 UNC X 1/2	STEEL	SSS025C050	
36	4	HOLD DOWN STRAP	DLMS110	61395361	
37	2	SET SCREW 3/8-16 UNC X 3/8	STEEL	SSS037C037	
38	6	SET SCREW 3/8-16 UNC X 1/2	STEEL	SSS037C050	
39	1	160 O-RING	90 DURO NITRILE	90160	
40	1	253 O-RING	90 DURO NITRILE	90253	
41	1	256 O-RING	90 DURO NITRILE	90256	
42	8	338 O-RING	90 DURO NITRILE	90338	
43	2	346 O-RING	90 DURO NITRILE	90346	
44	1	348 O-RING	90 DURO NITRILE	90348	
45	1	351 O-RING	90 DURO NITRILE	90351	
46	1	356 O-RING	90 DURO NITRILE	90356	
47	1	357 O-RING	90 DURO NITRILE	90357	
48	2	363 O-RING	90 DURO NITRILE	90363	

REDRESS KIT (RDK)		61595050	61596050
ASSEMBLED WEIGHT		733 LBS	739 LBS



HD ABANDONMENT PACKER RIGHT-HAND AUTO 9-5/8" X 4-1/2" IF TOOL JOINT

Manual No:
DL-615-9625-394

Revision: **K**

Revision Date:
12/14/2015

Authored by: S. White

Approved by: H. Bringham

L) PARTS LIST (cont'd)

L-1) ELASTOMER TRIM OPTIONS

NOTE₁₅: For temperature range, refer to Elastomer Trim Temperature Guide.

L-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	(43.5 – 53.5#) P/N 61595H-XBEE	(32.3 - 43.5#) P/N 61596H-XBEE
13	1	ELEMENT	80 DURO HSN	60295512H	60296512H
14	2	ELEMENT	90 DURO HSN	60295513H	60296513H
24	1	QUAD SEAL	90 DURO HSN	61395520H	
39	1	160 O-RING	90 DURO HSN	90160H	
40	1	253 O-RING	90 DURO HSN	90253H	
41	1	256 O-RING	90 DURO HSN	90256H	
42	8	338 O-RING	90 DURO HSN	90338H	
43	2	346 O-RING	90 DURO HSN	90346H	
44	1	348 O-RING	90 DURO HSN	90348H	
45	1	351 O-RING	90 DURO HSN	90351H	
46	1	356 O-RING	90 DURO HSN	90356H	
47	1	357 O-RING	90 DURO HSN	90357H	
48	2	363 O-RING	90 DURO HSN	90363H	

REDRESS KIT (RDK)		61595050H	61596050H
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L-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	(43.5 – 53.5#) P/N 61595V-XBEE	(32.3 - 43.5#) P/N 61596V-XBEE
13	1	ELEMENT	80 DURO VITON	60295512V	60296512V
14	2	ELEMENT	90 DURO VITON	60295513V	60296513V
24	1	QUAD SEAL	90 DURO VITON	61395520V	
39	1	160 O-RING	90 DURO VITON	90160V	
40	1	253 O-RING	90 DURO VITON	90253V	
41	1	256 O-RING	90 DURO VITON	90256V	
42	8	338 O-RING	90 DURO VITON	90338V	
43	2	346 O-RING	90 DURO VITON	90346V	
44	1	348 O-RING	90 DURO VITON	90348V	
45	1	351 O-RING	90 DURO VITON	90351V	
46	1	356 O-RING	90 DURO VITON	90356V	



HD ABANDONMENT PACKER RIGHT-HAND AUTO 9-5/8" X 4-1/2" IF TOOL JOINT

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L) PARTS LIST (cont'd)

L-1) ELASTOMER TRIM OPTIONS (cont'd)

L-1.2) VITON (cont'd)

ITEM	QTY	DESCRIPTION	MATERIAL	(43.5 – 53.5#)	(32.3 - 43.5#)
				P/N 61595V-XBEE	P/N 61596V-XBEE
47	1	357 O-RING	90 DURO VITON	90357V	
48	2	363 O-RING	90 DURO VITON	90363V	

REDRESS KIT (RDK)		61595050V	61596050V
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HD ABANDONMENT PACKER **RIGHT-HAND AUTO** 9-5/8" X 4-1/2" IF TOOL JOINT

Manual No:
DL-615-9625-394

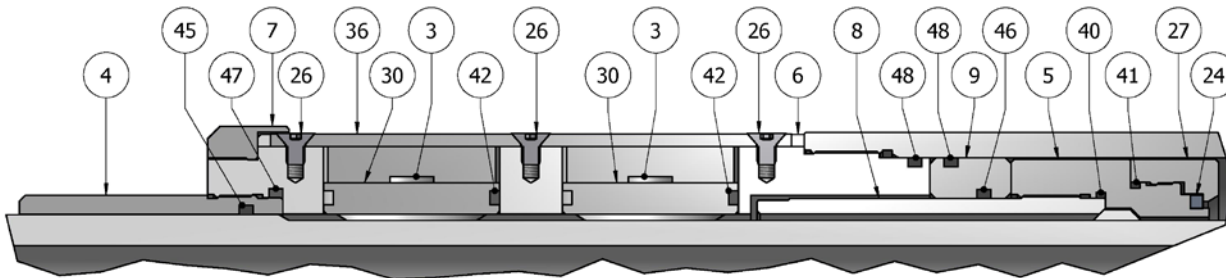
Revision: **K**

Revision Date:
12/14/2015

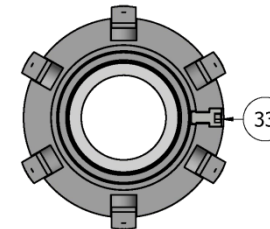
Authored by: S. White

Approved by: H. Bringham

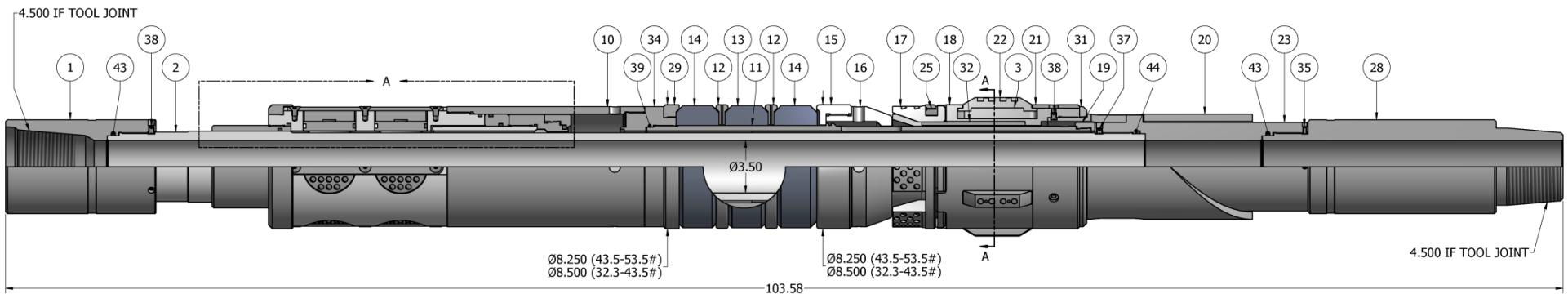
M) TECHNICAL ILLUSTRATION




DETAIL A



SECTION A



	HD ABANDONMENT PACKER RIGHT-HAND AUTO 9-5/8" X 4-1/2" IF TOOL JOINT		Manual No: DL-615-9625-394
			Revision: K
			Revision Date: 12/14/2015
<i>Authored by: S. White</i>		<i>Approved by: H. Bringham</i>	

N) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
12/14/2015	K	Revised: Elastomer Durometer Temperatures – Nitrile (90/80/90 Duro) was 250° - 300°F, Nitrile (Contact D&L Sales) was 300°F +, Rubber Type Temperature Ranges – Nitrile was 70° - 300°F, HSN was 70° - 325°F;	B.Mathis	B.Oligschlaeger
11/12/2015	J	Added: max. torque thru tool; Removed: tool drift ID;	J.Anderson	K.Riggs
04/29/15	H	Added: tool Drift ID, Pre-installation Inspection and Storage Procedures, Special Tool KOPR-KOTE (T3), HSN and Viton options; Revised: pressure affected area guide;	J.Anderson	T.Myerley
07/10/14	G	Revised: differential pressure was 6,000 psi; Remove <i>API</i> from thread designation;	J.Anderson	D.Hushbeck
01/15/14	F	Revised: assembly instructions, P/N 9101900 description and quantities; Added: recommended hand tools, revision history;	J.Anderson	K.Plunkett