A) DESCRIPTION

The AS Retrievable Bridge Plug is a high pressure plug for multiple zone and selective single zone operations such as acidizing, fracturing, cementing, and testing. It features a large internal by-pass to reduce swabbing when running and retrieving. The by-pass closes during the setting of the plug and opens prior to releasing the upper slips to equalize pressure when unsetting. The by-pass is located directly below the upper slips to help wash debris when the by-pass is open.

This tool can be set in tension and compression. It can be set shallow in unsupported casing to contain pressure while working on wellhead equipment. It can be set in tension making it ideal for setting shallow to test wellhead equipment and also deep, high pressure wells.

The ASW Retrievable Bridge Plug is a version of the AS Retrievable Bridge Plug that allows the plug to be set on wireline or with a hydraulic setting tool, and retrieved with tubing. It cannot be reset in the wellbore once it is unset, but it can be pulled, re-dressed and run again. A Wireline Adapter Kit is required for this version.

CAUTION$_1$: When running this tool with a packer, make sure the J-slots in the plug, running/ retrieving tool, and packer are all compatible.

B) RELATED TOOLS (sold separately)

B-1) 5-1/2" X 2-3/8" Spring Loaded Retrieving Tool (P/N 57755) - refer to Technical Manual *DL-577-5500-323*.

C) SPECIFICATION GUIDE

CASING			TOOL GAGE OD (INCHES)	THREAD CONNECTION PIN DOWN	PART NUMBER
SIZE (INCHES)	**WEIGHT** (LBS/FT)	**RECOMMENDED HOLE SIZE** (INCHES)			
5-1/2	13.0 – 20.0	4.778 – 5.044	4.625	2-3/8 EUE	72555RR 72555RRH[1] 72555RRV[2]
	20.0 – 23.0	4.670 – 4.778	4.500	2-3/8 EUE	72557RR 72557RRH[1] 72557RRV[2]

Elastomer Trim Options: [1]HSN, [2]Viton

NOTE$_1$: Tools listed is right-hand set / right-hand release. Additional J-slot designs are available.

DIFFERENTIAL PRESSURE (MAX)	HANGING WEIGHT ON SET TOOL (MAX)	TENSILE LOAD THRU TOOL (MAX)	TORQUE THRU TOOL (MAX)
10,000 PSI	96,000 LBS[†]	96,000 LBS	2,000 FT-LBS

[†]Casing must be cemented for this load rating.

D) PRE-INSTALLATION INSPECTION PROCEDURES

CAUTION2: 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.

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

CAUTION3: Do not run the tool without properly tightening connections. Running the tool with loose connections may damage the tool and cause malfunction

CAUTION4: Lift the AS Retrievable Bridge Plug by placing the sling or chain just below the pulling head. **DO NOT** lift the bridge plug by the upper slip body assembly (Fig. 2).

Lift here

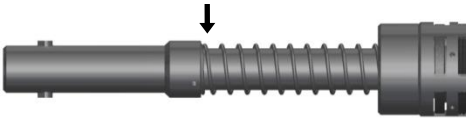


Fig. 2

E-1) TENSION SET

Run to setting depth while latched to its spring loaded retrieving tool. Pick up, rotate 1/4 turn to the right at the plug, and lower work string to set lower slips. Pull tension to pack-off elements, slack off, and then pick up again to assure plug setting (12,000 lbs minimum). After setting plug, slack off work string weight, hold left-hand torque and pick up to free work string from plug.

E-2) COMPRESSION SET

Run to setting depth while latched to its spring-loaded retrieving tool. Pick up, rotate 1/4 turn to the right at the plug, and lower work string to set lower slips. Slack off sufficient weight to pack-off elements, then pick up to firmly set upper slips and slack off again (12,000 lbs minimum). After setting plug, slack off work string weight, hold left-hand torque and pick up the free work string from plug.

F) RELEASING PROCEDURES

Lower work string until the retrieving tool automatically latches to the AS Retrievable Bridge Plug. Sand may be washed from the upper slip by circulating through the upper portion of the plug. Slack off weight, hold right-hand torque pick up to open the by-pass valve, and wait until differential pressure has equalized. Continue upward movement to release upper slips, relax packing elements and re-latch. The plug may now be removed or re-located.

F-1) EMERGENCY RELEASE

If the plug will not release conventionally, slack off re-set, then pick straight up to shear J-pins and release the plug (standard J-pins will shear at 40,000 lbs each – refer to Parts List for J-pins with other shear values) Once the J-pins are sheared, the tool cannot be moved down hole.

NOTE$_2$: Contact D&L Engineering if running tool equipped with lower than standard value shear J-pins.

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. 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.

H) 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 tubing 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 when releasing the packer. 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.

PACKER SIZE (INCHES)	**PRESSURE AFFECTED AREA** (SQ. INCHES)	
	ABOVE	**BELOW**
5-1/2	2.895 (DOWN)	-2.895 (UP)

Example: Consider a 5-1/2" AS Bridge Plug set on tubing with a differential pressure of 3,000 psi in the annulus around the tubing 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 5-1/2" AS Bridge Plug. 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 2.895in^2. Multiplying the differential pressure (3,000 psi) by the pressure affected area (2.895 in^2) results in a force of 8,685 lbs. The piston effect on the packer mandrel is a downward force of 8,685 lbs.

I) 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

J) RECOMMENDED TOOLS

J-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

J-2) SPECIAL TOOLS

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

K) DISASSEMBLY

K-1) Clamp center coupling (10) in vise.

NOTE$_3$: If needed, align hole in upper cone (9) with slot in sealing mandrel (27) and insert punch (or other tool) to prevent tool components from rotating during disassembly.

K-1.1) Unscrew and remove crossover (31) from J-slot mandrel (20).

K-1.2) Unscrew and remove set screws (36) from lower end of body extension (28).

K-1.3) Unscrew and separate body extension (28) from J-pin body (23) (**NOTE$_4$**: Left-hand threads).

NOTE$_5$: Drag block body assembly must be free to rotate.

K-1.4) Remove J-pins (15) from J-pin body (23).

K-1.5) Remove J-pin body (23) from J-slot mandrel (20).

K-1.6) Unscrew and remove set screws (36) from upper end of body extension (28).

K-1.7) Compress drag blocks (22) with drag block body assembly tool (T1). Unscrew and remove body extension (28) from drag block body (18) (**NOTE$_4$**: Left-hand threads).

K-1.8) Remove drag block retainer (21) from drag block body (18).

K-1.9) Release drag blocks (22). Remove drag blocks (22) and drag block springs (3) from drag block body (18).

K) DISASSEMBLY (cont'd)

K-1.10) Unscrew and remove rubber mandrel cap (19) from lower slip sleeve (32).

NOTE6: If the lower slip sleeve (32) moves in relation to the rubber mandrel (11) - **STOP! Tighten the connection before trying to loosen the cap again.**

K-1.11) Wedge lower slips (17) outward (if needed). Remove drag block body assembly and disassemble:

K-1.11.1) Remove wedges (if needed). Remove lower slips (17) and lower slip springs (25) from drag block body (18).

K-1.12) Unscrew and remove set screws (33) from lower slip sleeve (32).

K-1.13) Unscrew and remove lower slip sleeve (32) from rubber mandrel (11).

K-1.14) Unscrew and remove set screws (35) from J-slot mandrel (20).

K-1.15) Unscrew and remove J-slot mandrel (20) from sealing mandrel (27).

K-1.16) Unscrew rubber mandrel (11) from center coupling (10).

K-1.17) Remove rubber mandrel assembly and disassemble:

K-1.17.1) Remove elements (13, 14), rubber spacers (12), and lower cone (16) from rubber mandrel (11).

K-1.18) Unscrew and remove gage ring (29) from center coupling (10).

K-1.19) Moving to upper end of tool, unscrew and remove set screws (36) from pulling head (1).

K-1.20) Unscrew and remove pulling head (1) from upper mandrel (2).

CAUTION5: Compression spring (4) is compressed with spring tension against pulling head (1).

K-1.20.1) Unscrew and remove spring retaining ring (34) from pulling head (1).

K-1.21) Remove compression spring (4) from upper mandrel (2).

K-1.22) Wedge releasing slip (7) and upper slips (8) outward (if needed). Remove upper slip body assembly and disassemble:

K-1.22.1) Remove wedges (if needed). Remove releasing slip (7), upper slips (8) and upper slip springs (26) from upper slip body (6).

K-1.23) Unscrew and remove set screws (35) from upper mandrel (2).

K-1.24) Unscrew and remove upper mandrel (2) from sealing mandrel (27).

K-1.25) Remove plug (5) from sealing mandrel (27).

K-1.25.1) Remove o-ring (38) from plug (5).

K-1.26) Remove sealing mandrel (27) from center coupling (10).

K-1.27) Unscrew and remove set screws (35) from center coupling (10).

K-1.28) Unscrew and remove upper cone (9) from center coupling (10).

K-1.28.1) Remove o-ring (40), seal retaining ring (30), and bonded seal (24) from upper cone (9).

K-1.28.1.1) Remove o-ring (37) from bonded seal (24).

K-2) Unclamp and remove center coupling (10) from vise.

K-2.1) Remove bonded seal (24) and o-ring (39) from center coupling (10).

K-2.1.1) Remove o-ring (37) from bonded seal (24).

NOTE7: To redress tool assembly, follow disassembly instructions. It is recommended by D&L Oil Tools to replace all seals, elements, o-rings, shear screws, etc. when redressing tool.

L) ASSEMBLY

NOTE$_8$: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, orientation and tighten/torque all connections properly.

CAUTION$_6$: To ensure tool operates properly, install o-rings in o-ring grooves NOT thread reliefs (Fig. 3).

L-1) Install o-ring (39) in groove in center coupling (10).

L-2) Install o-rings (37) in grooves in bonded seals (24).

L-3) Install bonded seal (24) in center coupling (10).

CAUTION$_7$: Do not rip or tear o-ring during installation.

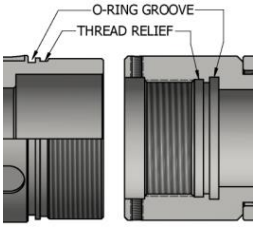


Fig. 3

L-4) Clamp center coupling (10) in vise.

L-4.1) Install o-ring (40) in groove in upper cone (9).

L-4.2) Install bonded seal (24) and seal retaining ring (30) in upper cone (9).

CAUTION$_7$: Do not rip or tear o-rings during installation.

L-4.3) Screw upper cone (9) into center coupling (10).

CAUTION$_7$: Do not rip or tear o-ring during installation.

L-4.4) Screw set screws (35) into center coupling (10).

L-4.5) Install sealing mandrel (27) through seals (24) into center coupling (10).

CAUTION$_8$: Do not damage seals during installation.

L-4.6) Install o-ring (38) in groove in plug (5).

L-4.7) Install plug (5) into end of sealing mandrel (27).

CAUTION$_7$: Do not rip or tear o-ring during installation.

L-4.8) Screw upper mandrel (2) onto sealing mandrel (27).

NOTE$_3$: If needed, align hole in upper cone (9) with slot in sealing mandrel (27) and insert punch (or other tool) to prevent tool components from rotating during assembly.

L-4.9) Screw set screws (35) into upper mandrel (2).

L-4.10) Assemble upper slip body and install:

L-4.10.1) Install releasing slip (7), upper slips (8) and upper slip springs (26) into upper slip body (6).

NOTE$_9$: Install two (2ea) springs per slip (Fig. 4).

L-4.10.2) Wedge slips outward. Install upper slip body assembly onto upper mandrel (2). Remove wedges.

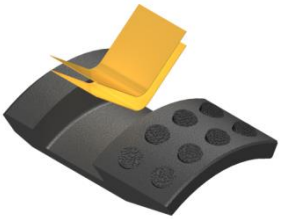


Fig. 4

L-4.11) Install compression spring (4) onto upper mandrel (2).

L-4.12) Screw spring retaining ring (34) onto pulling head (1).

L-4.13) Screw pulling head (1) onto upper mandrel (2).

CAUTION$_5$: Compression spring (4) will be compressed with spring tension against pulling head (1).

L-4.14) Screw set screws (36) into pulling head (1).

L-4.15) Moving to lower end of tool, screw gage ring (29) onto center coupling (10).

L-4.16) Assemble rubber mandrel assembly and install:

L-4.16.1) Install elements (13, 14), rubber spacers (12), and lower cone (16) onto rubber mandrel (11).

L-4.16.2) Install rubber mandrel assembly onto sealing mandrel (27).

L-4.17) Screw rubber mandrel (11) into center coupling (10).

L-4.18) Screw J-slot mandrel (20) onto sealing mandrel (27).

L-4.19) Screw set screws (35) into J-slot mandrel (20).

L) ASSEMBLY (cont'd)

L-4.20) Screw lower slip sleeve (32) onto rubber mandrel (11).

L-4.21) Screw set screws (33) into lower slip sleeve (32).

L-4.22) Assemble drag block body assembly and install:

L-4.22.1) Install lower slips (17) and lower slip springs (25) into drag block body (18). Wedge slips outward.

NOTE10: Install two (2ea) springs per slip (Fig. 5).

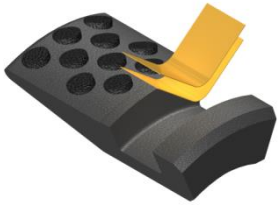


Fig. 5

L-4.22.2) Install drag block body assembly onto lower slip sleeve (32). Remove wedges.

L-4.23) Screw rubber mandrel cap (19) onto lower slip sleeve (32).

L-4.24) Install drag blocks (22) and drag block springs (3) into drag block body (18). Compress drag blocks (22) with drag block body assembly tool (T1).

NOTE11: Install five (5ea) springs per drag block (Fig. 6).

L-4.25) Install drag block retainer (21) onto drag block body (18) capturing ends of drag blocks (22).

L-4.26) Screw body extension (28) onto drag block body (18) (**NOTE4**: Left-hand threads). Back up drag block body (18) with wrench.

L-4.27) Screw set screws (36) into body extension (28). Release drag blocks (22).

L-4.28) Install J-pin body (23) onto J-slot mandrel (20).

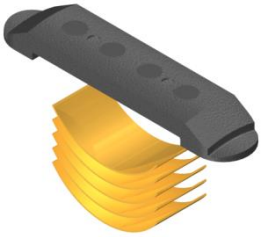
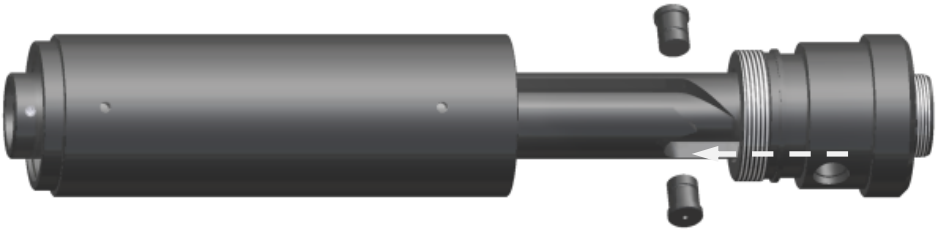


Fig. 6

Fig. 7



L-4.29) Align holes in J-pin body (23) with running position of J-slot mandrel (20). Install J-pins (15) into J-pin body (23) (Fig. 7).

L-4.30) Slide drag block body assembly down and screw body extension (28) onto J-pin body (23) (**NOTE4**: Left-hand threads).

NOTE5: Drag block body assembly must be free to rotate.

L-4.31) Screw set screws (36) into body extension (28).

L-4.32) Screw crossover (31) onto J-slot mandrel (20).

L-5) Unclamp center coupling (10) from vise and remove assembled tool.

M) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	13.0 – 20.0# P/N 72555RR	20.0 – 23.0# P/N 72557RR
1	1	PULLING HEAD - TYPE 1*	DLMS110	72555710	
2	1	UPPER MANDREL - TYPE 1	DLMS110	72555211	
3	20	DRAG BLOCK SPRING	INCONEL	9100900	
4	1	COMPRESSION SPRING	CHROME VANADIUM	72555920	
5	1	PLUG - TYPE 1	DLMS110	72555216	
6	1	UPPER SLIP BODY - TYPE 1	DLMS110 / DLMS60	72555320	
7	1	RELEASING SLIP - TYPE 1	DLMS110	60055125	
8	2	UPPER SLIP W/ CARBIDE -TYPE 1	DLMS110	60055115C	
9	1	UPPER CONE - TYPE 1	DLMS110	72555410	
10	1	CENTER COUPLING - TYPE 1	DLMS110	72555620	
11	1	RUBBER MANDREL - TYPE 1	DLMS110	72555220	
12	2	RUBBER SPACER - TYPE 2†	DLMS60	72055851	72057851
13	1	ELEMENT	70 DURO NITRILE	72055511	72057511
14	2	ELEMENT	90 DURO NITRILE	72055513	72057513
15	2	J-PIN – TYPE 2 **NOTE12**: Shear value is stamped on J-pin	DLMS110	72555870-25 (25,000#) 72555870-30 (30,000#) 72555870-40 (40,000# STD)	
16	1	LOWER CONE - TYPE 2	DLMS110	72055420	72057420
17	4	LOWER SLIP W/ CARBIDE - TYPE 1	DLMS110	60055135C	
18	1	DRAG BLOCK BODY - TYPE 1	DLMS60	60055335	60057335
19	1	RUBBER MANDREL CAP - TYPE 2	DLMS60	60155230	60055230
20	1	J-SLOT MANDREL - TYPE 1	DLMS110	72555230	
21	1	DRAG BLOCK RETAINER - TYPE 2	DLMS60	60055910	60057910
22	4	DRAG BLOCK W/ CARBIDE	4140	9055900C	9045900C
23	1	J-PIN BODY - TYPE 1	DLMS110	72555875	
24	2	BONDED SEAL	90 DURO NITRILE	60040520	
25	8	LOWER SLIP SPRING	ELGILOY	7155901	

M) PARTS LIST (cont'd)

ITEM	QTY	DESCRIPTION	MATERIAL	13.0 – 20.0# P/N 72555RR	20.0 – 23.0# P/N 72557RR
26	6	UPPER SLIP SPRING	ELGILOY	7155902	
27	1	SEALING MANDREL - TYPE 1	DLMS110	72555215	
28	1	BODY EXTENSION - TYPE 1	DLMS110	72555370	
29	1	GAGE RING - TYPE 2	DLMS60	72555830	72557830
30	1	SEAL RETAINING RING - TYPE 2	DLMS60	72055830	
31	1	CROSSOVER - TYPE 1	DLMS110	CH2375N2375EHT	
32	1	LOWER SLIP SLEEVE - TYPE 1	DLMS110	72555912	72557912
33	3	SET SCREW 1/4-20 UNC X 1/4	STEEL	SSS025C025	
34	1	SPRING RETAINING RING - TYPE 2	DLMS60	72055820	
35	9	SET SCREW 3/8-16 UNC X 3/8	STEEL	SSS037C037	
36	9	SET SCREW 3/8-16 UNC X 1/2	STEEL	SSS037C050	
37	2	140 O-RING	90 DURO NITRILE	90140	
38	1	211 O-RING	90 DURO NITRILE	90211	
39	1	229 O-RING	90 DURO NITRILE	90229	
40	1	239 O-RING	90 DURO NITRILE	90239	

REDRESS KIT (RDK)		72555050	72557050
ASSEMBLED WEIGHT		203 LBS	201 LBS

*Type 1 component isolates pressure and/or may be loaded in tension as the result of axial loads on the packer or bridge plug during run-in, setting, in situ, or retrieval.

†Type 2 component does not meet the criteria of a type 1 component.

M) PARTS LIST (cont'd)

M-1) ELASTOMER TRIM OPTIONS

NOTE13: For temperature range, refer to Elastomer Trim Temperature Guide.

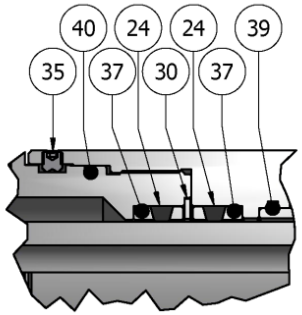
M-1.1) HSN

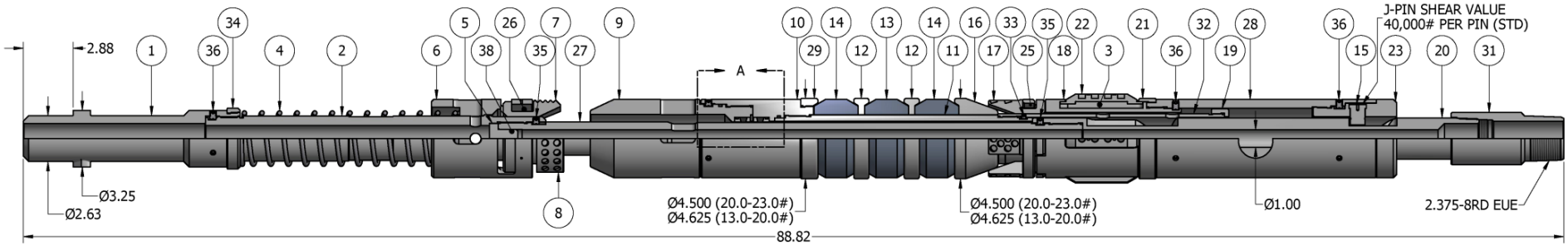
ITEM	QTY	DESCRIPTION	MATERIAL	13.0 – 20.0# P/N 72555RRH	20.0 – 23.0# P/N 72557RRH
13	1	ELEMENT	70 DURO HSN	72055511H	72057511H
14	2	ELEMENT	90 DURO HSN	72055513H	72057513H
24	2	BONDED SEAL	90 DURO HSN	60040520H	
37	2	140 O-RING	90 DURO HSN	90140H	
38	1	211 O-RING	90 DURO HSN	90211H	
39	1	229 O-RING	90 DURO HSN	90229H	
40	1	239 O-RING	90 DURO HSN	90239H	
		REDRESS KIT (RDK)		72555050H	72557050H

M-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	13.0 – 20.0# P/N 72555RRV	20.0 – 23.0# P/N 72557RRV
13	1	ELEMENT	70 DURO VITON	72055511V	72057511V
14	2	ELEMENT	90 DURO VITON	72055513V	72057513V
24	2	BONDED SEAL	90 DURO VITON	60040520V	
37	2	140 O-RING	90 DURO VITON	90140V	
38	1	211 O-RING	90 DURO VITON	90211V	
39	1	229 O-RING	90 DURO VITON	90229V	
40	1	239 O-RING	90 DURO VITON	90239V	
		REDRESS KIT (RDK)		72555050V	72557050V

N) TECHNICAL ILLUSTRATION





O) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
06/26/2023	M	Revised temp. ratings	J.Anderson	E.Visaez
05/18/2016	L	Added General Screw Torque Recommendations, Note$_2$, Pressure Affected Area Guide	J.Anderson	K.Riggs
12/04/2015	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	J.Anderson	H.Bringham
10/22/2015	J	Added max. torque thru tool, max. hanging weight on set tool; Revised max. tensile load thru tool was 68,000 lbs	J.Anderson	K.Riggs
08/24/2015	H	Added tensile load thru tool; Revised Parts List for parts description and material	J.Anderson	C.Colvin
10/02/14	G	Revised 60155230 was 60055230 for P/N 72555RR, 7155902 Qty 6 was LP05700 Qty 3; Added Related Tools, Pre-Installation Inspection Procedures, caution for tightening connections, Storage Procedures, caution for o-ring installation.	S. McEntire	K. Riggs
01/28/14	F	Revised Assembled weight for 72555RR was 201 lbs and 72557RR was 200 lbs; Added HSN and Viton options (P/N 72555RRH, 72557RRH, 72555RRV, 72557RRV), max. differential pressure, caution for lifting plug, Element Selection Guide, Recommended Hand Tools, Options Parts List, Revision History.	S. McEntire	K. Riggs