A) DESCRIPTION

The V-III Unloader is designed as a high-pressure accessory for the DLT Retrievable Packer designed to withstand severe operating conditions. This unloader provides a means of equalizing tubing and annulus pressures as well as a by-pass to allow fluid to pass through the mandrel of the packer while running the tubing string in and out of the well. Circulating can be established to spot fluids to the packer or circulating debris from the hole.

B) SPECIFICATION GUIDE

TUBING OD (INCHES)	**TOOL OD** (INCHES)	**TOOL ID** (INCHES)	**THREAD CONNECTION** BOX UP / PIN DOWN	**PART NUMBER**
3-1/2	5.500	2.69	3-1/2 IF TOOL JOINT	52735 52735H[1] 52735V[2]

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

NOTE1: The J-slot in the V-III Unloader is available in various configurations and should be compatible with the packer it is run with.

CAUTION1: When running the V-III Unloader, always match nominal tubing size of unloader to the size of tubing run above the unloader and packer.

DIFFERENTIAL PRESSURE (MAX)	**TORQUE THRU TOOL** (MAX)	**TENSILE LOAD THRU TOOL** (MAX)	**J-PIN LOAD** (MAX)	**FLOW RATE** (MAX)
10,000 PSI	8,000 FT-LBS	225,000 LBS	110,000 LBS	25 BBL/MIN

C) 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 (General thread torque recommendations applicable to parts not covered by SPEC014)			
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 (General screw torque recommendations applicable to parts not covered by SPEC014)									
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

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)

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.

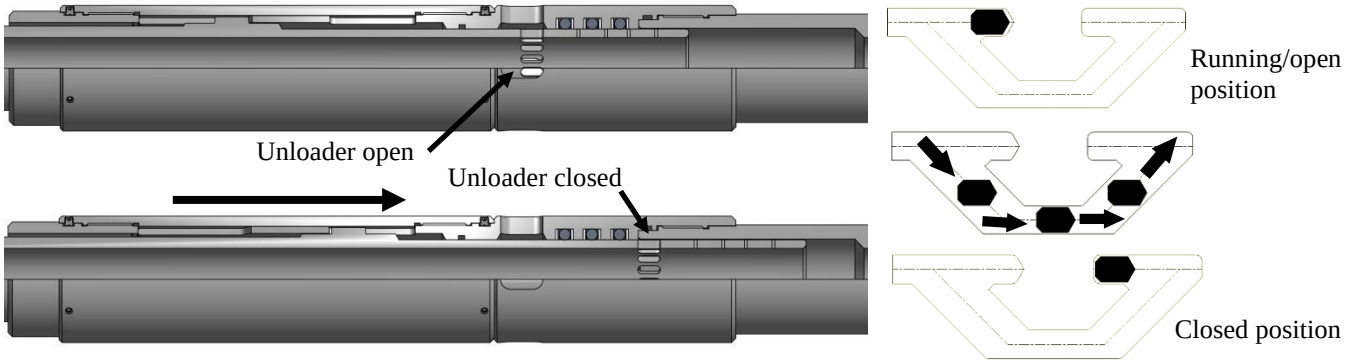
Re-assemble the tool after inspection. Install parts in the correct order and orientation. Properly tighten connections.

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.

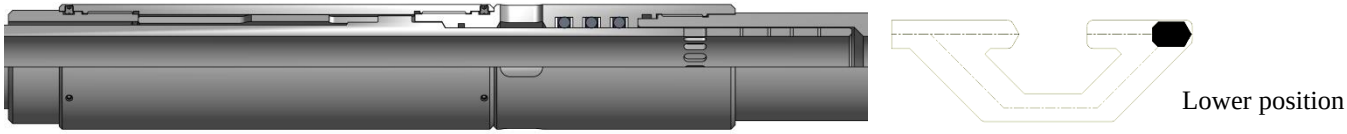
When redressing the tool, D&L recommends replacement of all seals, o-rings, etc. Contact D&L sales for redress kit and/or other replacement part information.

D) OPERATING PROCEDURES

The V-III Unloader is run above the packer in the open position. After the packer is run to setting depth, the procedures required to set the packer will automatically close the unloader. The J-slot in the standard V-III Unloader locks in both the open and closed positions. With the packer set and the unloader closed, well operation may proceed.



To open the unloader, set down to position the J-pin in the lower position of the J-slot. Rotate the tubing 1/4 turn, then pick-up on the tubing to equalize pressure before releasing the packer. The J-slot is available in various configurations and should be compatible with the packer it is run with.



E) 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.

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.

F) ELASTOMER TRIM TEMPERATURE GUIDE

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

G) RECOMMENDED 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) DISASSEMBLY

H-1) Clamp bottom sub (6) in vise.

H-1.1) Unscrew and remove set screws (8) from top sub (1).

H-1.2) Unscrew and remove top sub (1) from mandrel (2).

H-1.2.1) Remove o-ring (13) and back-up rings (9) from top sub (1).

H-1.3) Unscrew and remove set screws (7) from both ends of central body (4).

H-1.4) Unscrew and remove J-body cap (3) from central body (4).

H-1.5) Unscrew and remove central body (4) from J-body (5).

H-2) Remove bottom sub (6) from vise. Clamp upper end of mandrel (2) in vise.

H-2.1) Unscrew and remove set screws (8) from J-body (5).

H-2.2) Unscrew and remove bottom sub (6) from J-body (5).

H-2.3) Remove J-body (5) from mandrel (2). Rotate and slide J-body (5) as needed.

H-2.3.1) Remove o-rings (13, 14, 12) and back-up rings (10, 11) from J-body (5).

H-3) Unclamp mandrel (2) and remove from vise.

I) ASSEMBLY

NOTE$_2$: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

CAUTION$_3$: To ensure tool operates properly, install o-rings in o-ring grooves **NOT** thread reliefs (Fig. 2).

NOTE$_4$: If assembling tool with replacement mated parts (items 1 & 2 and 5 & 6), match counterbore holes (aka drill flat bottom holes) to mating part according to SPEC014.

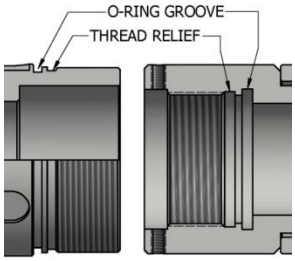


Fig. 2

I-1) Clamp upper end of mandrel (2) in vise.

- I-1.1) Install o-rings (12, 13, and 14) and back-up rings (10, 11) into grooves in J-body (5) (Detail B).
- I-1.2) Install J-body (5) onto mandrel (2). Rotate and slide J-body (5) as needed. Position J-pin on mandrel (2) in upper landing position of J-slot in J-body (5) (Fig. 3).

  CAUTION$_4$: Do not rip or tear o-rings or back-up rings during installation.
- I-1.3) Screw bottom sub (6) into J-body (5). Align threaded holes in J-body (5) with counterbore holes in bottom sub (6).

  CAUTION$_4$: Do not rip or tear o-ring or back-up rings during installation.
- I-1.4) Screw set screws (8) into J-body (5).

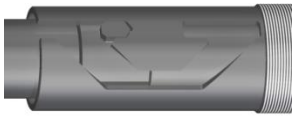


Fig. 3

I-2) Unlcamp and remove mandrel (2) from vise. Clamp bottom sub (6) in vise.

- I-2.1) Screw central body (4) onto J-body (5).
- I-2.2) Screw J-body cap (3) into central body (4)
- I-2.3) Screw set screws (7) into both ends of central body (4).
- I-2.4) Install o-ring (13) and back-up rings (9) into groove in top sub (1) (Detail B).
- I-2.5) Screw top sub (1) onto mandrel (2). Align threaded holes in top sub (1) with counterbore holes in mandrel (2).

  CAUTION$_4$: Do not rip or tear o-ring or back-up rings during installation.
- I-2.6) Screw set screws (8) into top sub (1).

I-3) Unclamp top sub (1) from vise and remove assembled tool.

J) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52735
1	1	TOP SUB*	DLMS110	52735612
2	1	MANDREL*	DLMS110	52735216
3	1	J-BODY CAP	DLMS110	52735315
4	1	CENTRAL BODY	DLMS110	52735346
5	1	J-BODY*	DLMS110	52735375
6	1	BOTTOM SUB*	DLMS110	52735632
7	6	SOCKET SET SCREW 3/8-16 UNC X 3/8	STEEL	SSS037C037
8	6	FULL DOG POINT SET 3/8-16 X 3/8	STEEL	DPS062C062[§]
9	2	BACK-UP RING - 341 PARBAK 8 SERIES	TEFLON	04500341
10	2	BACK-UP RING - 347 PARBAK 8 SERIES	TEFLON	04500347
11	6	BACK-UP RING	TEFLON	52935045
12	3	O-RING	85 DURO NITRILE	52935520
13	2	341 O-RING	90 DURO NITRILE	90341
14	1	347 O-RING	90 DURO NITRILE	90347

*Mated parts cannot be replaced separately without field adaptation.

[§]Set screw (P/N SSS037C037) used in Rev. F.

REDRESS KIT (RDK)		52735050
ASSEMBLED WEIGHT		214 LBS

J-1) ELASTOMER TRIM OPTIONS

NOTE3: For temperature range, refer to Elastomer Trim Temperature Guide.

J-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52735H
12	3	O-RING	80 DURO HSN	52935520H
13	2	341 O-RING	90 DURO HSN	90341H
14	1	347 O-RING	90 DURO HSN	90347H

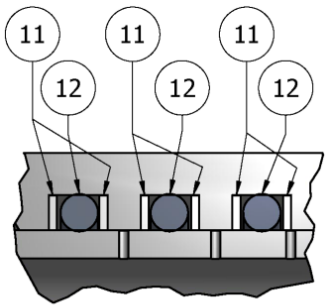
REDRESS KIT (RDK)		52735050H

J-1.2) VITON

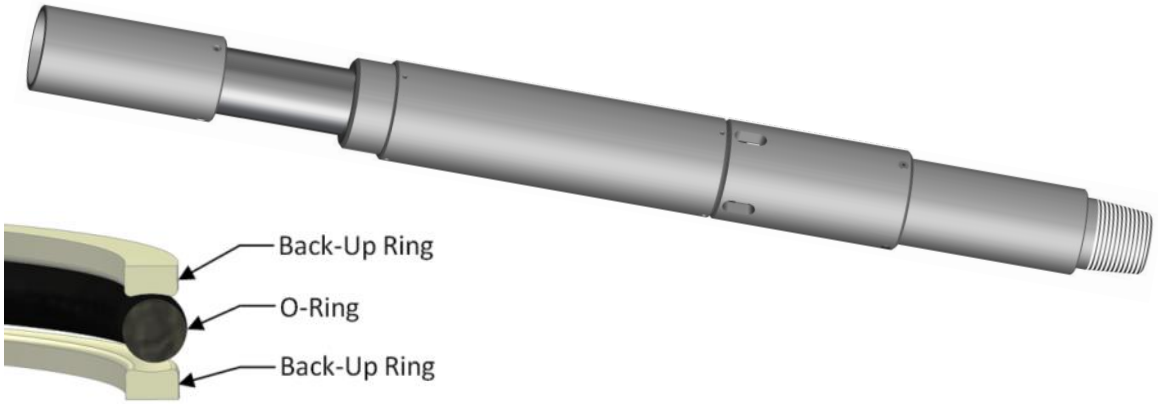
ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52735V
12	3	O-RING	80 DURO VITON	52935520V
13	2	341 O-RING	90 DURO VITON	90341V
14	1	347 O-RING	90 DURO VITON	90347V

REDRESS KIT (RDK)		52735050V

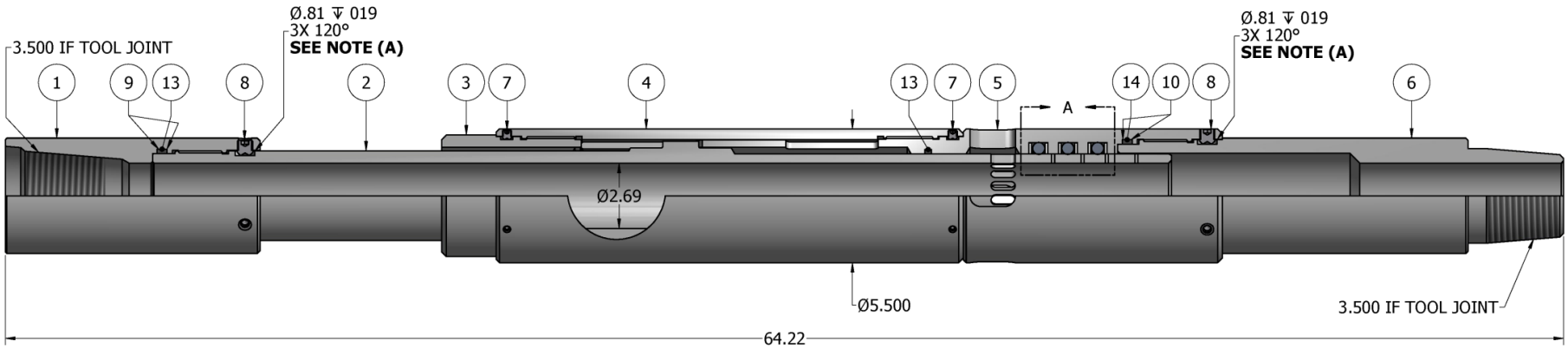
K) TECHNICAL ILLUSTRATION



DETAIL A



DETAIL B (TYP.)
NOTE: INSTALL WITH CURVED FACES OF BACK-UP RINGS TOWARDS O-RING.



NOTE4: If assembling tool with replacement mated parts (items 1 & 2 and 5 & 6), match counterbore holes (aka drill flat bottom holes) to mating part according to SPEC014.

L) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
10/10/2023	K	Revised material for P/Ns 52935520H, 52935520V	J.Anderson	E.Visaez
03/27/2020	J	Revised P/N SSS037C037 was SSS062C062	J.Anderson	D.Hushbeck
08/29/2017	H	Revised Operating Procedures, Elastomer Trim Temperature guide Nitrile temp. rating was 70-250°	J.Anderson	K.Riggs
12/07/2016	G	Added note for general screw torque recommendations; Revised P/N DPS062C062 was SSS062C062	J.Anderson	D.Hushbeck
09/23/2016	F	Revised Assembly mated parts	J.Anderson	D.Hushbeck
04/05/2016	E	Added HSN and Viton options, General Screw Torque Recommendations, Elastomer Trim Temperature Guide	J.Anderson	D.Hushbeck
10/13/2015	D	Added max. J-pin load, Pre-Installation Inspection Procedures, Storage Recommendations; Elastomer Trim Temperature Guide, Recommended Hand Tools	J.Anderson	T.Myerley
08/15/13	C	Revised max. torque and tensile load	J.Anderson	H.Bringham
07/30/13	B	Revised parts list to indicate mated parts, P/N SSS062C062 was SSS063C063, P/N 04500341 was 4500341, P/N 04500347 was 4500347; Added max flow rate.	J.Anderson	B.Oligschlaeger