	<h1>KNOCK-OUT PLUG</h1> <h2>5-1/2”</h2>	Manual No: <b>DL-586-5500-1487</b>
		Revision: <b>A</b>
		Revision Date: <b>08/26/2021</b>
Authored by: J.Anderson		Approved by: K.Plunkett

## A) DESCRIPTION

The Knock-Out Plug is run with a knock-out bottom to temporarily plug the packer. Dogs on the Knock-Out Plug hold pressure from above and below. The plug can be released when no longer needed with a standard locator seal assembly with half-mule shoe. Shear release is adjustable for string specific requirements.

**NOTE<sub>1</sub>:** Knock-out bottom and accessories sold separately.

## B) RELATED TOOLS (sold separately)

B-1) 5-1/2" Knock-Out Plug Bottom (P/N varies).

## C) SPECIFICATION GUIDE

TOOL OD (INCHES)	DIFFERENTIAL PRESSURE (MAX)	PART NUMBER
5.23	10,000 PSI	58655-C 58655H-C <sup>1</sup> 58655V-C <sup>2</sup>

Elastomer Trim Options: <sup>1</sup>HSN, <sup>2</sup>Viton

## D) PRE-INSTALLATION INSPECTION PROCEDURES

**CAUTION<sub>1</sub>:** 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.

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.

## 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.

**D & L OIL TOOLS**  
 P.O. BOX 52220 TULSA, OK 74152  
 PHONE: (800) 441-3504 [www.dloiltools.com](http://www.dloiltools.com)



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### 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
- 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) DISASSEMBLY

- H-1) Remove o-ring (8) from dogs (3).
- H-2) Remove dogs (3) from body (1).
- H-3) Clamp body (1) in vise.
- H-3.1) Unscrew and remove cap (6) from pin (5)
- H-3.2) Unscrew and remove shear screws (4) from body (1).
- H-3.3) Remove pin (5) and plug (2) from body (1).
- H-3.3.1) Unscrew and separate pin (5) from plug (2).
- H-4) Unclamp and remove body (1) from vise.
- H-5) Remove o-rings (7, 9) from body (1).

### I) ASSEMBLY

**NOTE<sub>2</sub>:** Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order and orientation.

- I-1) Install o-rings (7,9) in o-ring grooves in body (1).
- I-2) Clamp body (1) in vise.
- CAUTION<sub>2</sub>:** Do NOT wrench or clamp on o-ring.
- I-2.1) Screw pin (5) into plug (2).
- CAUTION<sub>3</sub>:** Do NOT wrench or clamp on seal surface.
- I-2.2) Install pin (5) and plug (2) into body (1).
- CAUTION<sub>4</sub>:** Do not rip or tear o-ring during installation.
- I-2.3) Screw shear screws (4) into body (1). Tighten until shear screws (4) contact plug (2). Back shear screws (4) out 1/4 turn.
- I-2.4) Screw cap (6) onto pin (5).
- I-3) Unclamp body (1) and remove body (1) from vise.



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### I) ASSEMBLY (cont'd)

- I-4) Install dogs (3) into body (1) to align grooves in dogs (3) with groove in body (1).

**NOTE<sub>3</sub>:** Dogs (7) are directional. They must be installed in correct direction for tool to work properly (Fig. 2).

- I-5) Install o-ring (8) in o-ring grooves in dogs (7).



Fig. 2

### J) KNOCK-OUT BOTTOM ASSEMBLY

- J-1) Clamp packer in vise.

- J-1.1) Screw knock-out bottom onto packer.

- J-1.2) Unscrew and remove shear screws (4) from body (1) of Knock-Out Plug.

- J-1.3) Install Knock-out Plug into bottom end of knock-out bottom.

**CAUTION<sub>4</sub>:** Do not rip or tear o-ring during installation.

- J-1.4) Align dogs (3) with relief in bottom end of knock-out bottom.

- J-1.5) Push plug (2) into body (1) to push locking dogs (3) into relief of knock-out bottom. Align groove in plug (2) with threaded holes in body (1).

- J-1.6) Screw shear screws (4) into body (1). Tighten until screws (4) contact plug (2). Back off 1/4 turn.

- J-2) Unclamp and remove packer from vise.

### K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58655-C
1	1	BODY	DLMS110	58655503-C
2	1	PLUG	DLMS110	58655504-C
3	4	LOCKING DOG	DLMS110	58655012-C
4	10	SHEAR SCREW (2375#)	DLM360BRS	60100990
5	1	PIN	DLMS110	58690507-C
6	1	CAP	DLMS110	58655505-C
7	1	218 O-RING	90 DURO NITRILE	90218
8	1	248 O-RING	90 DURO NITRILE	90248
9	1	347 O-RING	90 DURO NITRILE	90347

ASSEMBLED WEIGHT		23 LBS
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### K) PARTS LIST (cont'd)

#### K-1) ELASTOMER TRIM OPTIONS

**NOTE5:** For temperature range, refer to Elastomer Trim Temperature Guide.

##### K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58655H-C
7	1	218 O-RING	90 DURO HSN	90218H
8	1	248 O-RING	90 DURO HSN	90248H
9	1	347 O-RING	90 DURO HSN	90347H

##### K-1.2) VITON

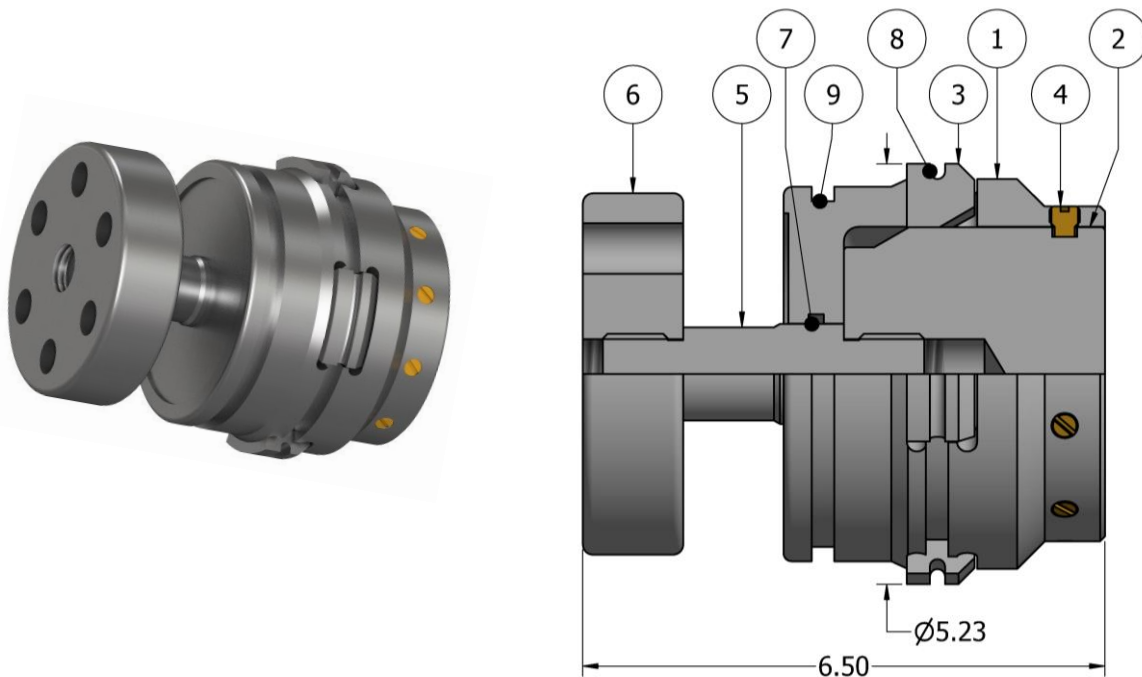
ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58655V-C
7	1	218 O-RING	90 DURO VITON	90218V
8	1	248 O-RING	90 DURO VITON	90248V
9	1	347 O-RING	90 DURO VITON	90347V

### L) KNOCK-OUT BOTTOM

**NOTE6:** Other tubing sizes/configurations and threads are available. All sold separately.

DESCRIPTION	MATERIAL	THREAD CONNECTION	PART NUMBER
KNOCK OUT BOTTOM	DLMS110	5-1/2 BUTTRESS	58655587-CBLC

### M) TECHNICAL ILLUSTRATION





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### N) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/26/2021	A	Created manual	-	-