



PUMP-OUT PLUG

2-7/8", SOLID PLUG, PIN BOTTOM

Manual No:
DL-597-2875-1612

Revision: **A**

Revision Date:
08/17/2022

Authored by: *J.Anderson*

Approved by: *J.Johnson*

A) DESCRIPTION

The Pump-Out Plug provides a means to temporarily plug the tubing string. The Pump-Out Plug can be set up to either be run in as a solid plug or with a ball seat that allows the string to fill on the trip in. The pressure required to shear the pins and pump the plug out of the pump out plug housing is adjustable.

When run as a solid plug, pressure from below does not load the shear pins. When an expendable ball seat is used the string is pressure balanced.

NOTE₁: Any hydrostatic pressure below the plug must be overcome before the shear pins are loaded and must be considered when calculating pump out pressure.

B) SPECIFICATION GUIDE

TUBING SIZE (INCHES)	GAGE OD (INCHES)	NOMINAL ID (INCHES)	THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
2.875	3.67	2.27	2-7/8 EUE	59727E-5 59727EH-5 ¹ 59727EV-5 ²

Elastomer Trim Options: ¹HSN, ²Viton

C) PRE-INSTALLATION INSPECTION PROCEDURES

CAUTION₁: 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.

D) RUNNING PROCEDURES

Make up pump-out plug on workstring and run downhole. Run ball downhole to ball seat. Apply pressure to shear screws (589 psi/screw) and expel ball seat. The number of shear screws is adjustable for desired shear out pressure.

D & L OIL TOOLS
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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
- 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) Clamp top sub (1) in vise.

H-1.1) Unscrew and remove set screws (5) from bottom sub (2).

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

H-1.3) Unscrew and remove shear screws (4) from top sub (1),

H-1.4) Remove plug insert (3) from top sub (1).

H-1.4.1) Remove o-ring (6) from plug insert (3).

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

H-2.1) Remove o-ring (7) from top sub (1).

I) ASSEMBLY

NOTE₂: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order and orientation.

I-1) Install o-ring (7) in o-ring groove in top sub (1).

I-2) Clamp top sub (1) in vise.

I-2.1) Install o-ring (6) in groove in plug insert (3).

I-2.2) Install plug insert (3) into top sub (1). Align groove in plug insert (3) with threaded holes in top sub (1).

CAUTION₂: Do not rip or tear o-ring during installation.

I-2.3) Screw shear screws (4) into top sub (1). Tighten until shear screws (4) contact plug insert (3). Back shear screws (4) out 1/4 turn.



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I) ASSEMBLY (cont'd)

I-2.4) Screw bottom sub (2) onto top sub (1).

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

I-2.5) Screw set screws (5) into bottom sub (2).

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

J) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 59727E-5
1	1	TOP SUB	DLMS80	59727400-5
2	1	BOTTOM SUB	DLMS80	59727300
3	1	PLUG INSERT	DLM6061T6	59727255-5
4	3	5/16-18 UNC X 5/16 SOCKET SET SCREW	STEEL	SSS031C031
5	8	SHEAR SCREW (2375#)	DLM360BRS	60100990
6	1	226 O-RING	90 DURO NITRILE	90226
7	1	233 O-RING	90 DURO NITRILE	90233

ASSEMBLED WEIGHT	14 LBS
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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 59727EH-5
6	1	226 O-RING	90 DURO HSN	90226H
7	1	233 O-RING	90 DURO HSN	90233H

J-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 59727EV-5
6	1	226 O-RING	90 DURO VITON	90226H
7	1	233 O-RING	90 DURO VITON	90233H



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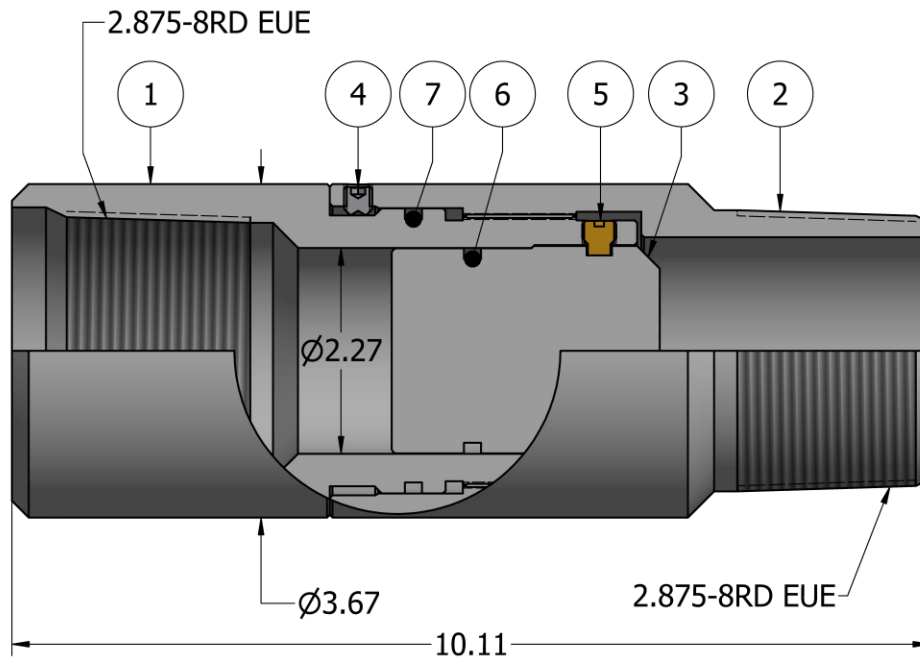
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K) TECHNICAL ILLUSTRATION



L) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/17/2022	A	Created manual	-	-