



# SEAL BORE ACCESSORIES

## 1.750”

Manual No:  
**DL-581-1750-1480**

Revision: **B**

Revision Date:  
**01/08/2024**

Authored by: J.Anderson

Approved by: D.McKeon

### A) DESCRIPTION

The D&L 1.750” Seal Bore Accessories are designed to work with D&L Permapak Packers with 1.750” seal bores.

**NOTE<sub>1</sub>:** Other seal bore accessories are available. Contact D&L Sales for more information.

### B) 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.

### C) 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) ELASTOMER TRIM TEMPERATURE GUIDE

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



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### E) 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

### F) LOCATOR SEAL ASSEMBLY

The Locator Seal Assembly is used in installations which require floating seals. Once landed, the seal locator prevents downward movement of the tubing while allowing the seal to move with tubing contraction.

#### F-1) SPECIFICATION GUIDE

PACKER BORE SIZE (INCHES)	ASSEMBLY OD (INCHES)	ASSEMBLY BORE (INCHES)	THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
1.750	2.20	1.19	1.900 NUE / 1.4375 STUB ACME	58317BS-XBBA 58317BSH-XBBA <sup>1</sup> 58317BSV-XBBA <sup>2</sup>

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

#### F-2) DISASSEMBLY

F-2.1) Clamp locator sub (1) in vise.

F-2.1.1) Remove bonded seals (2) and spacer sleeves (3) from locator sub (1).

F-2.1.1.1) Remove o-rings (4) from bonded seals (2).

F-2.2) Unclamp and remove locator sub (1) from vise.

#### F-3) ASSEMBLY

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

F-3.1) Clamp locator sub (1) in vise.

F-3.1.1) Install o-rings (4) in o-ring grooves in bonded seals (2).

F-3.1.2) Install bonded seals (2) and spacer sleeves (3) onto locator sub (1).

**CAUTION<sub>1</sub>:** Do not rip or tear o-rings during installation

F-3.2) Unclamp locator sub (1) from vise and remove assembled tool.

#### F-4) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58317BS-XBBA
1	1	LOCATOR SUB	DLMS80	58317613-WBBA
2	3	BONDED SEAL	90 DURO NITRILE	58017520
3	2	SPACER SLEEVE	DLMS60	58017550-6000
4	3	029 O-RING	90 DURO NITRILE	90029

ASSEMBLED WEIGHT	8 LBS
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### F) LOCATOR SEAL ASSEMBLY (cont'd)

#### F-4.1) ELASTOMER TRIM OPTIONS

**NOTE<sub>3</sub>:** For temperature range, refer to Elastomer Trim Temperature Guide.

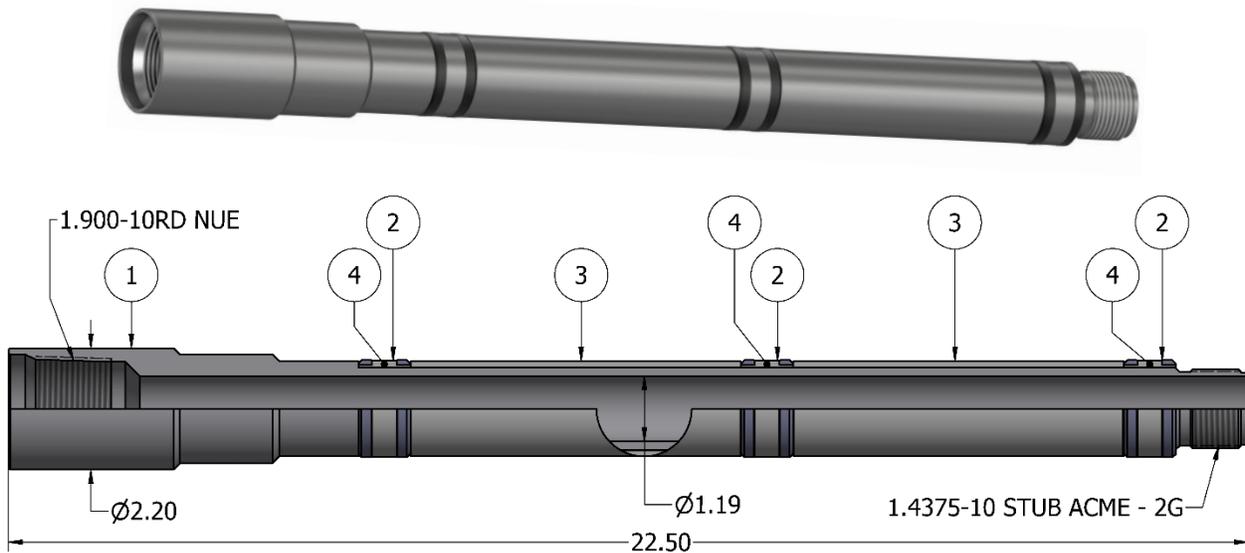
##### F-4.1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58317BSH-XBBA
2	3	BONDED SEAL	90 DURO HSN	58017520H
4	3	029 O-RING	90 DURO HSN	90029H

##### F-4.1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58317BSV-XBBA
2	3	BONDED SEAL	90 DURO VITON	58017520V
4	3	029 O-RING	90 DURO VITON	90029V

### F-5) TECHNICAL ILLUSTRATION



### G) ANCHOR LATCH ASSEMBLY

The D&L Anchor Latch is used to hold tubing in tension, or compression. The D&L Anchor Latch will automatically latch into the packer upon set down. To release the Anchor Latch from the packer put 1 to 2 points tension (1,000-2,000 lbs) on the tubing and rotate 8-10 turns to right at packer. The D&L Anchor Latch works with standard packer latch thread.

#### G-1) SPECIFICATION GUIDE

PACKER BORE SIZE (INCHES)	ASSEMBLY OD (INCHES)	ASSEMBLY BORE (INCHES)	TENSILE LOAD THRU TOOL (MAX)	THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
1.750	2.44	1.19	31,900 LBS	1.900 EUE / 1.4375 STUB ACME	58217BS 58217BSH <sup>1</sup> 58217BSV <sup>2</sup>

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



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### G) ANCHOR LATCH ASSEMBLY (cont'd)

#### G-2) DISASSEMBLY

- G-2.1) Clamp top sub (1) in vise.
  - G-2.1.1) Unscrew and remove seal mandrel cap (4) from seal mandrel (2).
  - G-2.1.2) Remove bonded seals (5) and spacer sleeves (6) from seal mandrel (2).
    - G-2.1.2.1) Remove o-rings (7) from bonded seals (5).
  - G-2.1.3) Unscrew and remove seal mandrel (2) from top sub (1).
  - G-2.1.4) Remove collet (3) from seal mandrel (2).
- G-2.2) Unclamp and remove top sub (1) from vise.
- G-2.3) Remove o-ring (8) from top sub (1).

#### G-3) ASSEMBLY

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

- G-3.1) Install o-ring (8) in o-ring groove in top sub (1).
- G-3.2) Clamp top sub (1) in vise.
  - G-3.2.1) Install collet (3) onto seal mandrel (2).
  - G-3.2.2) Screw seal mandrel (2) into top sub (1).
    - CAUTION<sub>1</sub>:** Do not rip or tear o-ring during installation
  - G-3.2.3) Install o-rings (7) in o-ring grooves in bonded seals (5).
  - G-3.2.4) Install bonded seals (5) and spacer sleeves (6) onto seal mandrel (2).
    - CAUTION<sub>1</sub>:** Do not rip or tear o-rings during installation
- G-3.3) Unclamp top sub (1) and remove assembled tool from vise.

#### G-4) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58217BS
1	1	TOP SUB	DLMS80	58217610
2	1	SEAL MANDREL	DLMS80	58217211
3	1	COLLET	DLMS110	58217003
4	1	SEAL MANDREL CAP	DLMS80	58417618
5	3	BONDED SEAL	90 DURO NITRILE	58017520
6	2	SPACER SLEEVE	DLMS60	58017550-6000
7	3	029 O-RING	90 DURO NITRILE	90029
8	1	223 O-RING	90 DURO NITRILE	90223

ASSEMBLED WEIGHT	12 LBS
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### G) ANCHOR LATCH ASSEMBLY (cont'd)

#### G-4.1) ELASTOMER TRIM OPTIONS

**NOTE<sub>3</sub>:** For temperature range, refer to Elastomer Trim Temperature Guide.

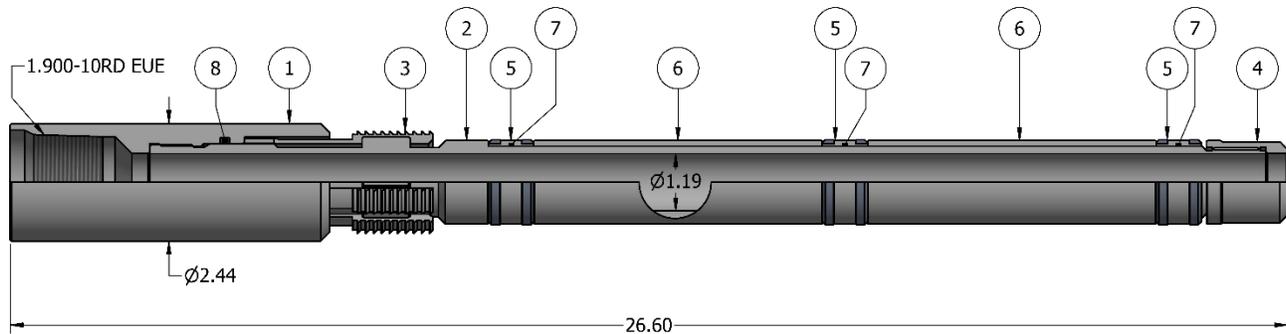
##### G-4.1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58217BSH
5	3	BONDED SEAL	90 DURO HSN	58017520H
7	3	029 O-RING	90 DURO HSN	90029H
8	1	223 O-RING	90 DURO HSN	90223H

##### G-4.1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58217BSV
5	3	BONDED SEAL	90 DURO VITON	58017520V
7	3	029 O-RING	90 DURO VITON	90029V
8	1	223 O-RING	90 DURO VITON	90223V

### G-5) TECHNICAL ILLUSTRATION





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### H) SNAP LATCH ASSEMBLY

The Snap Latch Seal Assembly latches into the packer upon set down (like our Anchor Latch Seal Assembly). It can be removed with straight pull of 2,000 to 4,000 lbs. above tubing weight. The Snap Latch Seal Assembly is used where a mechanical indication is required to verify the seal assembly is properly positioned in the packer bore.

#### H-1) SPECIFICATION GUIDE

PACKER BORE SIZE (INCHES)	ASSEMBLY OD (INCHES)	ASSEMBLY BORE (INCHES)	THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
1.750	2.44	1.19	1.900 EUE / 1.4375 STUB ACME	57817BS 57817BSH <sup>1</sup> 57817BSV <sup>2</sup>

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

#### H-2) DISASSEMBLY

H-2.1) Clamp top sub (1) in vise.

H-2.1.1) Unscrew and remove seal mandrel cap (4).

H-2.1.2) Remove bonded seals (5) and spacer sleeves (6) from seal mandrel (2).

H-2.1.2.1) Remove o-rings (7) from bonded seals (5).

H-2.1.3) Unscrew and remove seal mandrel (2) from top sub (1).

H-2.1.4) Unscrew and remove collet (3) from seal mandrel (2).

H-2.2) Unclamp and remove top sub (1) from vise.

H-2.3) Remove o-ring (8) from top sub (1).

#### H-3) ASSEMBLY

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

H-3.1) Install o-ring (8) in o-ring groove in top sub (1).

H-3.2) Clamp top sub (1) in vise.

H-3.2.1) Screw collet (3) onto seal mandrel (2).

H-3.2.2) Screw seal mandrel (2) into top sub (1).

**CAUTION<sub>1</sub>:** Do not rip or tear o-ring during installation

H-3.2.3) Install o-rings (7) in o-ring grooves in bonded seals (5).

H-3.2.4) Install bonded seals (5) and spacer sleeves (6) onto seal mandrel (2).

**CAUTION<sub>1</sub>:** Do not rip or tear o-rings during installation

H-3.3) Unclamp top sub (1) from vise and remove assembled tool.



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### H) SNAP LATCH ASSEMBLY (cont'd)

#### H-4) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 57817BS
1	1	TOP SUB	DLMS80	57817610
2	1	SEAL MANDREL	DLMS80	57817211
3	1	COLLET	DLMS110	57817003
4	1	SEAL MANDREL CAP	DLMS80	58417618
5	3	BONDED SEAL	90 DURO NITRILE	58017520
6	2	SPACER SLEEVE	DLMS60	58017550-6000
7	3	029 O-RING	90 DURO NITRILE	90029
8	1	223 O-RING	90 DURO NITRILE	90223

ASSEMBLED WEIGHT	12 LBS
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#### H-4.1) ELASTOMER TRIM OPTIONS

**NOTE<sub>3</sub>:** For temperature range, refer to Elastomer Trim Temperature Guide.

##### H-4.1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 57817BSH
5	3	BONDED SEAL	90 DURO HSN	58017520H
7	3	029 O-RING	90 DURO HSN	90029H
8	1	223 O-RING	90 DURO HSN	90223H

##### H-4.1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 57817BSV
5	3	BONDED SEAL	90 DURO VITON	58017520V
7	3	029 O-RING	90 DURO VITON	90029V
8	1	223 O-RING	90 DURO VITON	90223V



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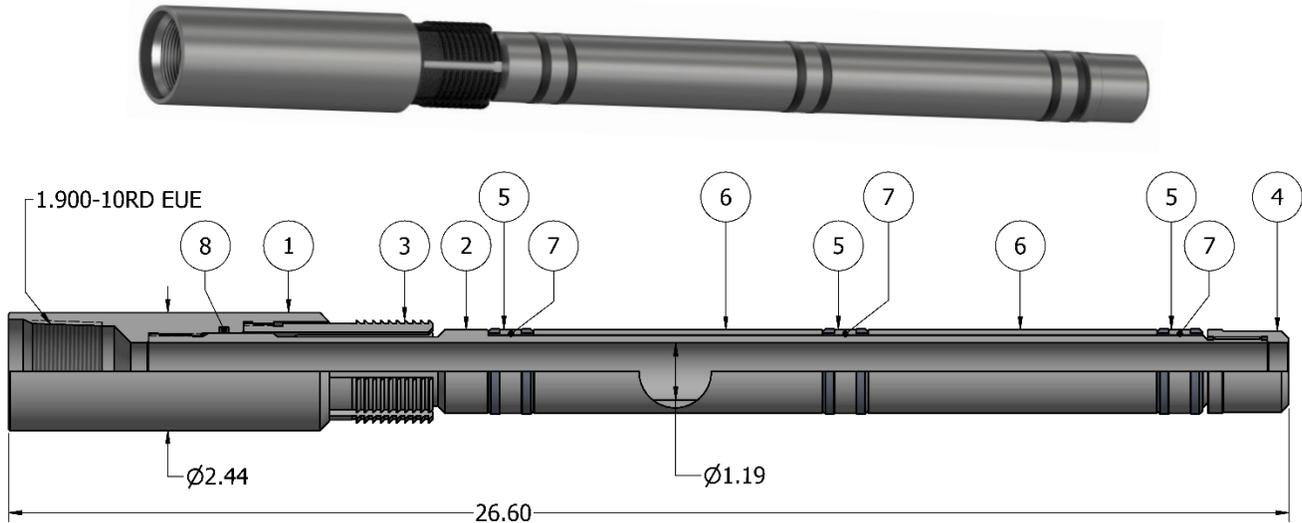
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### H) SNAP LATCH ASSEMBLY (cont'd)

#### H-5) TECHNICAL ILLUSTRATION



### I) SEAL UNIT ASSEMBLY

The D&L Seal Unit Assembly is used in conjunction with the D&L Anchor Latch or Locator Assembly to increase the length of seals. The D&L Seal Unit Assembly is installed between the Anchor Latch or Locator Assembly and the Mule Shoe.

#### I-1) SPECIFICATION GUIDE

PACKER BORE SIZE (INCHES)	ASSEMBLY OD (INCHES)	ASSEMBLY BORE (INCHES)	THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
1.750	1.730	1.19	1.4375 STUB ACME	58117BS 58117BSH <sup>1</sup> 58117BSV <sup>2</sup>

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

#### I-2) DISASSEMBLY

I-2.1) Clamp mandrel (1) in vise.

I-2.1.1) Remove bonded seals (2) and spacer sleeves (3) from mandrel (1).

I-2.1.1.1) Remove o-rings (4) from bonded seals (2).

I-2.2) Unclamp and remove mandrel (1) from vise.

I-2.3) Remove o-ring (5) from mandrel (1).

#### I-3) ASSEMBLY

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

I-3.1) Install o-ring (5) in thread relief in mandrel (1).

I-3.2) Clamp mandrel (1) in vise.

I-3.2.1) Install o-rings (4) in o-ring grooves in bonded seals (2).



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### I) SEAL UNIT ASSEMBLY (cont'd)

I-3.2.2) Install bonded seals (2) and spacer sleeves (3) onto mandrel (1).

**CAUTION<sub>1</sub>**: Do not rip or tear o-rings during installation

I-3.3) Unclamp mandrel (1) from vise and remove assembled tool.

### I-4) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58117BS
1	1	MANDREL	DLMS80	58117025
2	3	BONDED SEAL	90 DURO NITRILE	58017520
3	2	SPACER SLEEVE	DLMS60	58017550-6000
4	3	029 O-RING	90 DURO NITRILE	90029
5	1	125 O-RING	90 DURO NITRILE	90125

ASSEMBLED WEIGHT	8 LBS
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#### I-4.1) ELASTOMER TRIM OPTIONS

**NOTE<sub>3</sub>**: For temperature range, refer to Elastomer Trim Temperature Guide.

##### I-4.1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58117BSH
2	3	BONDED SEAL	90 DURO HSN	58017520H
4	3	029 O-RING	90 DURO HSN	90029H
5	1	125 O-RING	90 DURO HSN	90125H

##### I-4.1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 58117BSV
2	3	BONDED SEAL	90 DURO VITON	58017520V
4	3	029 O-RING	90 DURO VITON	90029V
5	1	125 O-RING	90 DURO VITON	90125V



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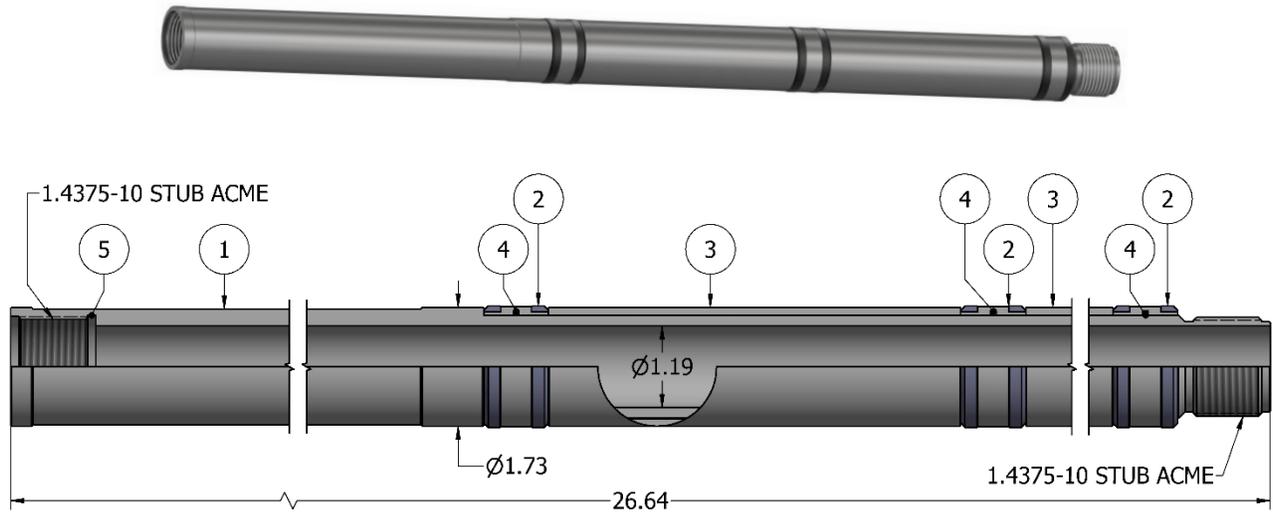
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### I) SEAL UNIT ASSEMBLY (cont'd)

#### I-5) TECHNICAL ILLUSTRATION



### J) MULE SHOE

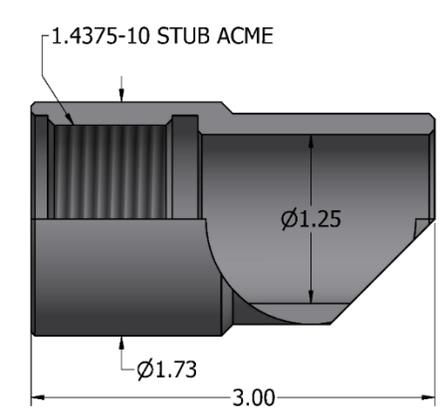
The D&L Mule Shoe is installed on the bottom of the D&L Anchor Latch, Seal Locator, or Seal Unit. The D&L Mule Shoe allows for rotation of the tubing to help guide the seals into the packer seal bore.

#### J-1) SPECIFICATION GUIDE

PACKER BORE SIZE (INCHES)	PART OD (INCHES)	PART BORE (INCHES)	THREAD CONNECTION	PART NUMBER
1.750	1.73	1.25	1.4375-10 STUB ACME	58417615

WEIGHT	1 LBS
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#### J-2) TECHNICAL ILLUSTRATION





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### K) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
01/08/2024	B	Revised P/N 90029 was 901029, 90029H was 90129H, 90029V was 90129V	J.Anderson	D.McKeon
10/05/2021	A	Created manual	-	-