



D-H OPEN HOLE TENSION PACKER 7" X 2-3/8"

Manual No:
DL-406-7000-923

Revision: **A**

Revision Date:
08/18/2015

Authored by: J.Anderson

Approved by: J.McArthur

A) DESCRIPTION

The D-H Tension Packer is for use in water flood, injection or producing wells. This tension packer has a built-in safety system to eliminate problems should conventional retrieval methods fail. Right-hand rotation releases the first safety joint allowing the slips to pull off the cone and release the packer. Should the packer fail to release, a second safety joint can be broken to release the packer. This safety feature allows for circulation down the tubing to remove debris.

In addition, the D-H Tension Packer is available for open-hole applications and incorporates dual elongated packing elements and deep wickered slips for better bite into the formation.

B) SPECIFICATION GUIDE

RECOMMENDED HOLE SIZE (INCHES)	TOOL			THREAD CONNECTION BOX UP / PIN DOWN	PART NUMBER
	GAGE OD (INCHES)	NOMINAL ID (INCHES)	DRIFT ID (INCHES)		
6.184 – 6.538	6.000	2.00	1.901	2-3/8 EUE	40672 40672H ¹ 40672V ²
6.094 – 6.135	5.750	2.00	1.901	2-3/8 EUE	40674 40674H ¹ 40674V ²

Elastomer Trim Options: ¹HSN, ²Viton

NOTE₁: Tools listed are right-hand set.

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
5,000 PSI	80,000 LBS

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 tools 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.

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 part information.

D & L OIL TOOLS
P.O. BOX 52220 TULSA, OK 74152
PHONE: (800) 441-3504 www.dloilttools.com



D-H OPEN HOLE TENSION PACKER 7" X 2-3/8"

Manual No:
DL-406-7000-923

Revision: **A**

Revision Date:
08/18/2015

Authored by: J.Anderson

Approved by: J.McArthur

D) SETTING PROCEDURES

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

Run to setting depth. Set down the work string and rotate 1/4 turn to the right at the packer. Pull tension on the packer to set the slips and compress the packing elements. A minimum pull of 14,000 lbs. at the packer is required to pack off the elements.

E) RELEASING PROCEDURES

Set down on the work string to unset the slips, relax the packing elements and re-jay the packer. The tool may now be moved and reset, or pulled from the well.

E-1) EMERGENCY RELEASE

In the event the packer will not release in the normal manner, torque the work string to the right 10-12 rotations to unscrew the upper mandrel from the R&L coupling (i.e., release the first safety joint). Pick up on the work string to release the slips and retrieve the tool. If still unable to release the packer, then continue torquing to the right while picking up on the work string to unscrew the clutch nut from the upper mandrel (i.e., release the second safety joint). Retrieve work string with the upper mandrel. The remaining assembly can then be fished.

F) 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.

G) ELASTOMER TRIM TEMPERATURE GUIDE

RUBBER TYPE	TEMPERATURE RANGE
NITRILE	70° - 300°F
HSN (HNBR)	70° - 325°F
VITON	100° - 350°F

H) 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



D-H OPEN HOLE TENSION PACKER 7" X 2-3/8"

Manual No:
DL-406-7000-923

Revision: **A**

Revision Date:
08/18/2015

Authored by: J.Anderson

Approved by: J.McArthur

I) DISASSEMBLY

I-1) Clamp coupling (1) in vise.

I-1.1) From lower end of tool, unscrew and remove bottom sub (11) from lower mandrel (8).

I-1.2) Remove elements (10), rubber spacer (16) and cone (9) from lower mandrel (8).

I-1.3) Unscrew and remove button head cap screws (15) from J-body (7) and remove drag springs (12).

I-1.4) Unscrew and remove button head cap screws (14) from clutch ring (5).

I-1.5) Wedge slips (7) outward (if needed). Remove J-body assembly from R&L coupling (4) and lower mandrel (8) and disassemble:

I-1.5.1) Remove wedges (if needed). Remove slips (7) and slip springs (13) from J-body (6).

I-1.6) Unscrew and remove lower mandrel (8) from R&L coupling (4).

I-1.7) Unscrew and remove R&L coupling (4) from upper mandrel (2) (**NOTE₂**: Left-hand threads).

I-1.7.1) Remove o-rings (17) from R&L coupling (4).

I-1.8) Unscrew and remove clutch nut (3) from upper mandrel (2) (**NOTE₂**: Left-hand threads).

I-1.9) Remove clutch ring (5) from upper mandrel (2).

I-1.10) Unscrew and remove upper mandrel (2) from coupling (1).

I-2) Unclamp and remove coupling (1) from vise.

J) ASSEMBLY

NOTE₃: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

CAUTION₃: To ensure tool operates properly, install o-rings in o-ring grooves **NOT** thread reliefs (Fig. 2).

J-1) Clamp coupling (1) in vise.

J-1.1) Screw upper mandrel (2) into coupling (1).

J-1.2) Install clutch ring (5) onto upper mandrel (2).

J-1.3) Screw clutch nut (3) onto upper mandrel (2) (**NOTE₂**: Left-hand threads).

J-1.4) Install o-rings (17) in o-ring grooves in R&L coupling (4).

J-1.5) Screw R&L coupling (4) onto upper mandrel (2) (**NOTE₂**: Left-hand threads).

CAUTION₄: Do not rip or tear o-ring during installation.

J-1.6) Screw lower mandrel (8) into R&L coupling (4).

CAUTION₄: Do not rip or tear o-ring during installation.

J-1.7) Assemble J-body assembly and install:

J-1.7.1) Install slips (7) and slip springs (13) into J-body (6). Wedge slips outwards.

NOTE₄: Install two (2ea) springs per slip (Fig. 3).

J-1.7.2) Install J-body (6) onto lower mandrel (8) and onto R&L coupling (4). Position J-pin of R&L coupling in running position of slot in J-body. Remove wedges.

J-1.8) Move clutch ring (5) downwards and into J-body (6). Align threaded holes in clutch ring (5) with holes in J-body (6).

J-1.9) Screw button head cap screws (14) into clutch ring (5).

J-1.10) Set drag springs (12) in place on J-body (6) with lower end of springs captured by lower lip of J-body (6). Align holes in springs with threaded holes in J-body (6).

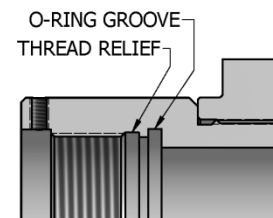


Fig. 2

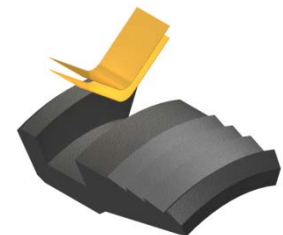


Fig. 3



D-H OPEN HOLE TENSION PACKER 7" X 2-3/8"

Manual No:
DL-406-7000-923

Revision: **A**

Revision Date:
08/18/2015

Authored by: J.Anderson

Approved by: J.McArthur

J) ASSEMBLY (cont'd)

J-1.11) Screw button head cap screws (15) into J-body (6).

J-1.12) Install cone (9), elements (10), and rubber spacer (16) onto lower mandrel (8).

J-1.13) Screw bottom sub (11) onto lower mandrel (8).

J-2) Unclamp coupling (1) from vise and remove assembled tool.

K) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40572	P/N 40574
1	1	COUPLING	1026	CP2375E2875N	
2	1	UPPER MANDREL	1026 CD	40572220	
3	1	CLUTCH NUT	1026 CD	40570810	
4	1	R&L COUPLING	1026 CD	40570640	
5	1	CLUTCH RING	1026	40570820	
6	1	J-BODY	1026	40670310	
7	4	SLIP	1026	40670110	
8	1	LOWER MANDREL	1026	40672211	
9	1	CONE	1026	40070410	40071410
10	2	ELEMENT	60 DURO NITRILE	40570510	40571510
11	1	BOTTOM SUB	1026	40070615	40074610
12	8	DRAG SPRING	STAINLESS STEEL	40570920	
13	8	SLIP SPRING	ELGILOY	7170901	
14	6	BUTTON HEAD CAP SCREW 5/16-18 UNC X 1/2	STEEL	BHSC031C050	
15	8	BUTTON HEAD CAP SCREW 5/16-18 UNC X 3/8	STEEL	BHSC031C037	
16	1	RUBBER SPACER	-	40670840	40671840
17	2	232 O-RING	90 DURO NITRILE	90232	

REDRESS KIT (RDK)		40572050	40574050
ASSEMBLED WEIGHT		112 LBS	109 LBS



D-H OPEN HOLE TENSION PACKER 7" X 2-3/8"

Manual No:
DL-406-7000-923

Revision: **A**

Revision Date:
08/18/2015

Authored by: J.Anderson

Approved by: J.McArthur

K-1) ELASTOMER TRIM OPTIONS

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

K-1.1) HSN

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40572H	P/N 40574H
10	2	ELEMENT	60 DURO HSN	40570510H	40571510H
17	2	232 O-RING	90 DURO HSN	90232H	

REDRESS KIT (RDK)		40572050H	40574050H
-------------------	--	-----------	-----------

K-1.2) VITON

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 40572V	P/N 40574V
10	2	ELEMENT	60 DURO VITON	40570510V	40571510V
17	2	232 O-RING	90 DURO VITON	90232V	

REDRESS KIT (RDK)		40572050V	40574050V
-------------------	--	-----------	-----------



D-H OPEN HOLE TENSION PACKER 7" X 2-3/8"

Manual No:
DL-406-7000-923

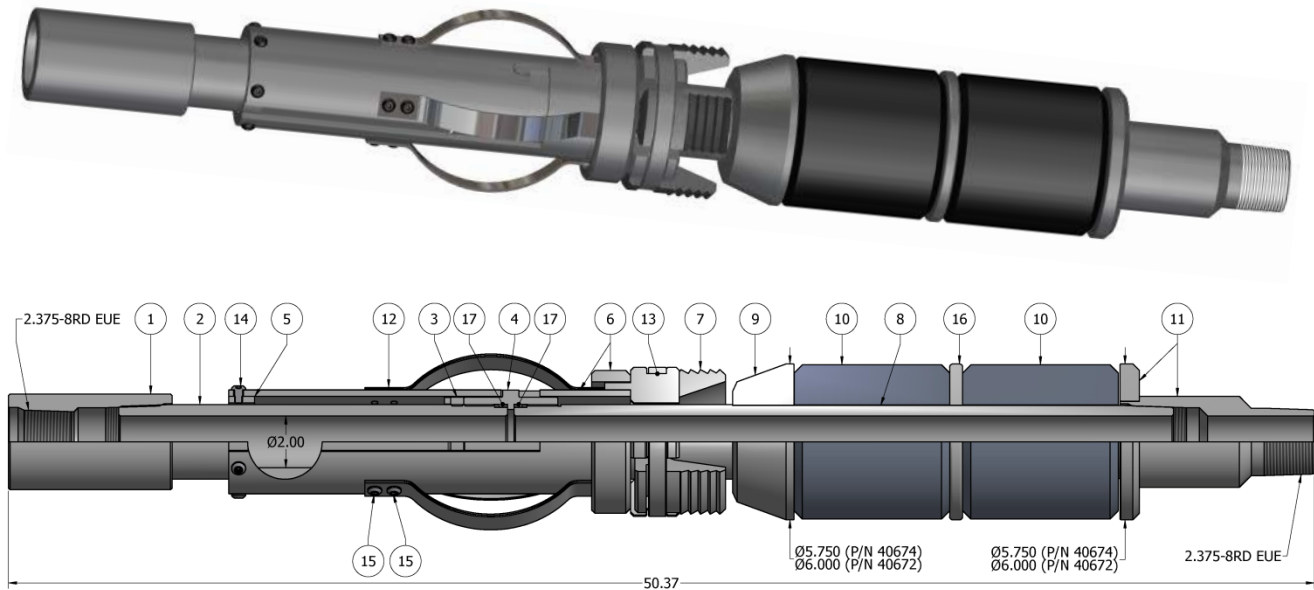
Revision: **A**

Revision Date:
08/18/2015

Authored by: J.Anderson

Approved by: J.McArthur

L) TECHNICAL ILLUSTRATION



M) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/18/2015	A	Created new manual	-	-