



IE THERMAL PACKER

7" X 3-1/2"

Manual No:
DL-741-7000-429

Revision: **H**

Revision Date:
01/27/2022

Authored by: B.Mathis

Approved by: D.Hushbeck

A) DESCRIPTION

The IE Thermal Packer is a DLT Thermal Packer with an internal expansion (IE) joint used in steam injection/production applications. This packer maintains the design features of our reliable ASI-X Packer and includes a packing element that can be packed-off with tension to allow the packer to be set at shallow depth. This packer is capable of setting in shallow wells, and will hold pressure from above and below. Its design also features an adjustable safety shear release. This packer needs 1/4 right-hand rotation to set it, and 1/4 right-hand rotation to release it (other J-slot designs are available). The thermal elements are available in 450° F to 650° F versions.

B) SPECIFICATION GUIDE

| CASING | | | TOOL | | THREAD CONNECTION BOX UP / PIN DOWN | PART NUMBER |
|------------------|--------------------|--------------------------------------|---------------------|------------------------|--|--|
| SIZE (INCHES) | WEIGHT (LBS/FT) | RECOMMENDED HOLE SIZE (INCHES) | GAGE OD (INCHES) | NOMINAL ID (INCHES) | | |
| 7 | 17.0 – 26.0 | 6.276 – 6.538 | 6.000 | 3.00 | 3-1/2 EUE | 74170-120 (10 FT) 74170-180 (15 FT) 74170-240 (20 FT) |
| | 26.0 – 32.0 | 6.094 - 6.276 | 5.875 | 3.00 | 3-1/2 EUE | 74171-120 (10 FT) 74171-180 (15 FT) 74171-240 (20 FT) 74171-354 (29.5 FT) |

| DIFFERENTIAL PRESSURE (MAX) | TENSILE LOAD THRU TOOL (MAX) | TORQUE THRU TOOL (MAX) | TEMPERATURE RATING (MAX) |
|-----------------------------------|------------------------------------|------------------------------|--------------------------------|
| 3,000 PSI | 90,000 LBS | 1,500 FT-LBS | 625°F |

C) PRE-INSTALLATION INSPECTION PROCEDURES

CAUTION: 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. |

| GENERAL SCREW TORQUE RECOMMENDATIONS | | | | | | | | | |
|--------------------------------------|-------|---------|---------|---------|---------|----------|-----------|-----------|-------------------|
| 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.dloilttools.com

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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, elements, shear screws, etc. Contact D&L sales for redress kit and/or other replacement part information.

D) SETTING PROCEDURES

CAUTION₂: Do not run the tool without properly tightening connections. Running the tool with loose connections may damage the tool and cause malfunction.

Run the packer to setting depth, pick up on work string approximately one foot (1'), and rotate 1/4 turn to the right at the packer. Set down on work string while releasing torque until it takes weight. Set down weight (30,000 lbs) on the packer. Pick up on work string (30,000 lbs tension) and hold for 10 minutes to set the packer.

Since the thermal packing elements are more resistant to flowing than standard elastomeric elements, it is recommended to apply tension and slack off weight two or three (2-3) cycles to ensure the elements are fully packed off.

To release the expansion joint, set down on work string then rotate and hold left-hand torque while picking up. Stroke the expansion joint to the desired position.

E) RELEASING PROCEDURES

The releasing procedures are the same whether the packer has been tension or compression set. Set down weight on the packer to unseat the J-pin from the tension shoulder of the J-slot. Refer to the Pressure Affected Area Guide to determine necessary set down weight on the packer. Rotate the tubing 1/4 right-hand turn at the packer and pick up while holding right-hand torque. Weight in addition to pipe weight may be required to pick up on the packer – refer to Pressure Affected Area Guide. Continue to pick up to release the upper slips, relax the elements and release the lower slips so the packer can be re-set or removed from the well.

CAUTION₃: High differential pressure below the anchor may cause the upper slips to wedge in tighter, requiring an extra amount of tension to release the upper slips.

E-1) EMERGENCY RELEASE

In the event the packer will not release in the normal manner, the J-pin ring is equipped with an emergency shear release. The shear screws can be sheared with straight pickup above tubing weight. The shear release value is adjustable from 38,500 lbs to 66,000 lbs (5,500 lbs/screw) by adding or removing shear screws from the J-pin ring. When released in this manner, the anchor will reset when moved down the hole.



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F) PRESSURE AFFECTED AREA GUIDE

When set downhole, the packer mandrel is subjected to a force created by differential pressure above or below the packer that acts on the pressure affected area (i.e., the piston effect). Depending on the tubing size and weight and the seal area of the packer the force created by differential pressure acts upwards or downwards on the packer mandrel. An upward force, designated as a negative (-) value, acts to push the packer mandrel up hole and must be accounted for when releasing the packer. A downward force, designated as a positive value, acts to push the packer mandrel down hole and must be accounted for when releasing the packer. Other factors (e.g., tubing movement due to temperature change) must be considered separately to determine all the forces acting on the packer.

| PACKER SIZE (INCHES) | TUBING SIZE (INCHES) | PRESSURE AFFECTED AREA (SQ. INCHES) | |
|-------------------------|-------------------------|--|-------------|
| | | ABOVE | BELOW |
| 7 | 2.375 | 8.14 (DOWN) | -9.44 (UP) |
| | 2.875 | 6.08 (DOWN) | -7.89 (UP) |
| | 3.500 | 2.95 (DOWN) | -5.535 (UP) |

Example: Consider a 7" X 3-1/2" Thermal Packer set on 2.875" tubing with a differential pressure of 3,000 psi in the annulus around the tubing above the packer. What is the force acting on the seal area of the mandrel?

To calculate the force (lbs) acting on the seal area of the mandrel, refer to the Pressure Affected Area Guide for a 7"X 3-1/2" Thermal Packer run on 2.875" tubing. In this example, the differential pressure from above the packer acts on the seal area of the packer mandrel across a pressure affected area of 6.08 in². Multiplying the differential pressure (3,000 psi) by the pressure affected area (6.08 in²) results in a force of 18,240 lbs. The piston effect on the packer mandrel is a downward force of 18,240 lbs.

G) 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.

H) RECOMMENDED TOOLS

H-1) 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-2) SPECIAL TOOLS

| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|-----------------------------|-------------|
| T1 | 1 | 7" DRAG BLOCK ASSEMBLY TOOL | AT070110 |



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I) DISASSEMBLY

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

I-1.1) Unscrew and remove bottom sub (28) from lower end of expansion joint mandrel (14) (**NOTE₁**: Left-hand threads).

I-1.2) Unscrew expansion joint mandrel (14) from upper J-pin sub (30).

NOTE₃: Wrench directly above threads on lower end of expansion joint mandrel (14).

I-1.3) Remove upper J-pin sub (30) from top sub (1).

I-1.4) Remove mandrel extension assembly from lower end of packer assembly.

I-1.5) Unscrew and remove set screws (32) from lower J-pin sub (23). Move J-body (20) as needed to access screws.

NOTE₂: Drag block body assembly must be free to rotate.

I-1.6) Unscrew and remove J-pin sub (23) from inner mandrel (2) (**NOTE₁**: Left-hand threads). Wrench on J-body (20) as needed.

I-1.6.1) Unscrew and remove shear screws (31) from J-pin sub (23).

I-1.6.2) Remove J-pin ring (12) from J-pin sub (23).

I-1.7) Unscrew and remove set screws (32) from J-body (20).

I-1.8) Compress drag blocks (22) with drag block assembly tool (T1). Unscrew and remove J-body (20) from drag block body (18) (**NOTE₁**: Left-hand threads).

I-1.9) Release drag blocks (22). Remove drag blocks (22) and drag block springs (3) from drag block body (18).

I-1.10) Unscrew and remove rubber mandrel cap (19) from lower rubber mandrel (10).

I-1.11) Wedge lower slips (17) outwards (if needed). Remove drag block body assembly and disassemble:

I-1.11.1) Remove lower slips (17) and lower slip springs (25) from drag block body (18).

I-1.12) Unscrew and remove lower cone (16) from rubber retainer (15).

I-1.13) Unscrew and remove lower rubber mandrel (10) from rubber mandrel (11).

I-1.14) Remove rubber retainer (15) and thermal element (13) from rubber mandrel (11).

I-1.15) Unscrew and remove gage ring (29) from rubber mandrel (11).

I-1.16) Unscrew and remove rubber mandrel (11) from upper cone (9).

I-1.16.1) Remove seal stack (27) from rubber mandrel (11).

I-1.17) Remove upper cone (9) from inner mandrel (2).

I-2) Remove upper J-body (10) from vise. Clamp inner mandrel (2) in vise.

CAUTION₃: Do **NOT** wrench or clamp on seal surface.

I-2.1) Wedge releasing slip (7) and upper slips (8) outwards (if needed). Unscrew and remove spring cage (5) from upper slip body (6).

CAUTION₄: Compression spring (4) is compressed with spring tension against upper slip body.

I-2.2) Unscrew and remove set screws (32) from top sub (1).

I-2.3) Unscrew and remove top sub (1) from spring cage keeper (21).

I-2.4) Unscrew and remove set screws (32) from spring cage keeper (21).



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I) DISASSEMBLY (cont'd)

I-2.5) Unscrew and remove spring cage keeper (5) from inner mandrel (2).

I-2.5.1) Remove seal stack (24) from spring cage keeper (5).

I-2.6) Remove compression spring (4) from inner mandrel (2).

I-2.7) Wedge slips outwards (if needed). Remove upper slip body assembly from inner mandrel (2) and disassemble:

I-2.7.1) Remove wedges (if needed). Remove upper slips (8), releasing slip (7) and upper slip springs (26) from upper slip body (6).

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

J) ASSEMBLY

NOTE4: Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order, and orientation and tighten/torque all connections properly.

J-1) Clamp inner mandrel (2) in vise.

CAUTION3: Do NOT wrench or clamp on seal surface.

J-1.1) Assemble upper slip body assembly and install:

J-1.1.1) Install upper slips (8), releasing slip (7) and upper slip springs (26) into upper slip body (6) (Fig. 2). Wedge releasing slip (7) and upper slips (8) outwards.

J-1.1.2) Install upper slip body assembly onto inner mandrel (2). Remove wedges.

J-1.2) Install compression spring (4) onto mandrel (2).

J-1.3) Install seal (24) into spring cage keeper (21).

J-1.4) Screw spring cage keeper (21) onto inner mandrel (2).

J-1.5) Screw set screws (32) into spring cage keeper (21).

J-1.6) Install spring cage (5) onto spring cage keeper (21) and screw onto spring retainer (27).

CAUTION4: Compression spring (4) is compressed with spring tension against upper slip body assembly.

J-1.7) Screw top sub (1) onto spring cage keeper (21).

J-1.8) Screw set screws (32) into top sub (1).

J-1.9) Install upper J-pin sub (30) into top sub (1).

J-2) Unclamp and remove inner mandrel (2) from vise. Clamp upper J-pin sub (30) in vise.

J-2.1) Install upper cone (9) onto inner mandrel (2).

J-2.2) Install seal (27) into rubber mandrel (11).

J-2.3) Install rubber mandrel (11) onto inner mandrel (2) and screw into upper cone (9).

CAUTION5: Do not rip or tear seal during installation

J-2.4) Screw gage ring (29) onto rubber mandrel (11).

J-2.5) Install element (13) and rubber retainer (15) onto rubber mandrel (11).

J-2.6) Install lower rubber mandrel (10) onto inner mandrel (2) and screw into rubber mandrel (11).

J-2.7) Install lower cone (16) onto lower rubber mandrel (10) and screw into rubber retainer (15).

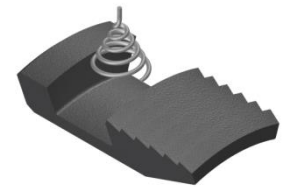


Fig. 2



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J) ASSEMBLY (cont'd)

J-2.8) Assemble drag block body assembly and install:

J-2.8.1) Install lower slips (17) and lower slip springs (25) into drag block body (18). Wedge slips outwards.

NOTE₅: Install two (2 ea) springs per slip (Fig. 3).

J-2.8.2) Install drag block body assembly onto lower rubber mandrel (10). Remove wedges.

J-2.9) Screw rubber mandrel cap (19) onto lower rubber mandrel (10).

J-2.10) Install drag blocks (22) and drag block springs (3) in drag block body (18). Compress drag blocks (22) with drag block assembly tool (T1).

NOTE₆: Install six (6 ea) springs per block (Fig. 4).

J-2.11) Screw J-body (20) onto drag block body (18) (**NOTE₁:** Left-hand threads).

J-2.12) Screw set screws (32) into lower J-body (20). Release drag blocks (22).

J-2.13) Assemble J-pin sub assembly and install:

J-2.13.1) Install J-pin ring (12) onto J-pin sub (23). Align threaded holes in J-pin ring (12) with pocket holes in J-pin sub (23).

J-2.13.2) Screw shear screws (31) into J-pin ring (12). Tighten until shear screws (31) contact J-pin sub (23). Back shear screws (31) out 1/4 turn.

J-2.13.3) Install J-pin sub assembly into J-body (20) and screw onto inner mandrel (2) (**NOTE₁:** Left-hand threads). Wrench on lower J-body (20) as necessary to screw J-pin sub (23) onto inner mandrel (2).

NOTE₂: Drag block body assembly must be free to rotate.

J-2.14) Screw set screws (32) into J-pin sub (23). Move J-body (20) as needed to access threaded holes in J-pin sub (23).

J-2.15) From lower end of tool, install expansion joint mandrel (14) into inner mandrel (2) and screw into upper J-pin sub (30).

CAUTION_s: Do not rip or tear seal during installation

J-2.16) Screw bottom sub (28) onto expansion joint mandrel (14) or mandrel extension (30) of two-piece expansion mandrel as applicable (**NOTE₁:** Left-hand threads).

J-3) Unclamp upper J-pin sub (30) from vise and remove assembled tool

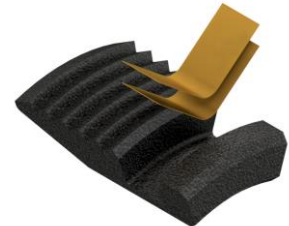



Fig. 3




Fig. 4

| | | |
|--|---|--------------------------------------|
|  | <h1>IE THERMAL PACKER</h1> <h2>7” X 3-1/2”</h2> | Manual No: DL-741-7000-429 |
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K) PARTS LIST

K-1) P/N 74170 (17.0 – 26.0#)


| ITEM | QTY | DESCRIPTION | MATERIAL | P/N 74170-120 | P/N 74170-180 | P/N 74170-240 |
|------|-----|-------------------------|----------|---------------|---------------|---------------|
| 1 | 1 | TOP SUB | DLMS80 | 74174610 | | |
| 2 | 1 | INNER MANDREL | DLMS80 | 74174210 | | |
| 3 | 24 | DRAG BLOCK SPRING | - | 9101900 | | |
| 4 | 1 | COMPRESSION SPRING | DLMCRSP | 74170920 | | |
| 5 | 1 | SPRING CAGE | DLMS60 | 74174310 | | |
| 6 | 1 | UPPER SLIP BODY | DLMS60 | 74174320 | | |
| 7 | 1 | RELEASING SLIP | DLMS110 | 74174125 | | |
| 8 | 2 | UPPER SLIP | DLMS35 | 74174115 | | |
| 9 | 1 | UPPER CONE | DLMS35 | 74174410 | | |
| 10 | 1 | LOWER RUBBER MANDREL | DLMS80 | 74174250 | | |
| 11 | 1 | RUBBER MANDREL | DLMS60 | 74174220 | | |
| 12 | 1 | J-PIN RING | DLMS80 | 74174870 | | |
| 13 | 1 | THERMAL ELEMENT | - | D10-001-00 | | |
| 14 | 1 | EXPANSION JOINT MANDREL | DLMS80 | 74174260-120 | 74174260-180 | 74174260 |
| 15 | 1 | RUBBER RETAINER | DLMS60 | 74174850 | | |
| 16 | 1 | LOWER CONE | DLMS35 | 74174420 | | |
| 17 | 4 | LOWER SLIP | DLMS35 | 74174135 | | |
| 18 | 1 | DRAG BLOCK BODY | DLMS80 | 74174330 | | |
| 19 | 1 | RUBBER MANDREL CAP | DLMS60 | 74174230 | | |

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K) PARTS LIST (cont'd)

| ITEM | QTY | DESCRIPTION | MATERIAL | P/N 74170-120 | P/N 74170-180 | P/N 74170-240 |
|------|-----|---------------------------------------|-----------|---------------|---------------|---------------|
| 20 | 1 | J-BODY | DLMS80 | 74174340 | | |
| 21 | 1 | SPRING CAGE KEEPER | DLMS60 | 74174811 | | |
| 22 | 4 | DRAG BLOCK | DLMSDB8 | 9070900 | | |
| 23 | 1 | J-PIN SUB | DLMS80 | 74174640 | | |
| 24 | 1 | SEAL STACK | - | D10-003-00 | | |
| 25 | 8 | LOWER SLIP SPRING | - | 7170901 | | |
| 26 | 3 | TAPERED SLIP SPRING | DLMINC625 | DL94830 | | |
| 27 | 1 | SEAL STACK | - | OEM 2541-00 | | |
| 28 | 1 | BOTTOM SUB | DLMS80 | 74174630 | | |
| 29 | 1 | GAGE RING | DLMS60 | 74174830 | | |
| 30 | 1 | UPPER J-PIN SUB | DLMS80 | 74174700 | | |
| 31 | 12 | SHEAR SCREW (5500#) 1/2-13 UNC X 7/16 | DLM360BRS | BSSSLT050C043 | | |
| 32 | 10 | SET SCREW 3/8-16 UNC X 3/8 | STEEL | SSS037C037 | | |


| | | | | | |
|-------------------|--|----------|---------|---------|--|
| REDRESS KIT (RDK) | | 74170050 | | | |
| ASSEMBLED WEIGHT | | 392 LBS | 429 LBS | 467 LBS | |

| | | | |
|--|---|-------------------------|--------------------------------------|
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K) PARTS LIST (cont'd)

K-2) P/N 74171 (26.0 – 32.0#)

| ITEM | QTY | DESCRIPTION | MATERIAL | P/N 74171-120 | P/N 74171-180 | P/N 74171-240 | P/N 74171-354 |
|------|-----|-------------------------|----------|---------------|---------------|---------------|---------------|
| 1 | 1 | TOP SUB | DLMS80 | 74174610 | | | |
| 2 | 1 | INNER MANDREL | DLMS80 | 74171210 | | | |
| 3 | 24 | DRAG BLOCK SPRING | - | 9101900 | | | |
| 4 | 1 | COMPRESSION SPRING | DLMCRSP | 74170920 | | | |
| 5 | 1 | SPRING CAGE | DLMS80 | 74171310 | | | |
| 6 | 1 | UPPER SLIP BODY | DLMS80 | 74171320 | | | |
| 7 | 1 | RELEASING SLIP | DLMS110 | 74174125 | | | |
| 8 | 2 | UPPER SLIP | DLMS35 | 74174115 | | | |
| 9 | 1 | UPPER CONE | DLMS35 | 74174410 | | | |
| 10 | 1 | LOWER RUBBER MANDREL | DLMS80 | 74174250 | | | |
| 11 | 1 | RUBBER MANDREL | DLMS60 | 74174220 | | | |
| 12 | 1 | J-PIN RING | DLMS80 | 74174870 | | | |
| 13 | 1 | THERMAL ELEMENT | - | D10-042-00 | | | |
| 14 | 1 | EXPANSION JOINT MANDREL | DLMS80 | 74174260-120 | 74174260-180 | 74174260 | 74174260-354 |
| 15 | 1 | RUBBER RETAINER | DLMS60 | 74171850 | | | |
| 16 | 1 | LOWER CONE | DLMS35 | 74174420 | | | |
| 17 | 4 | LOWER SLIP | DLMS35 | 74174135 | | | |
| 18 | 1 | DRAG BLOCK BODY | DLMS80 | 74174330 | | | |
| 19 | 1 | RUBBER MANDREL CAP | DLMS60 | 74174230 | | | |

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K) PARTS LIST (cont'd)

| ITEM | QTY | DESCRIPTION | MATERIAL | P/N 74170-120 | P/N 74170-180 | P/N 74170-240 | P/N 74171-354 |
|------|-----|---------------------------------------|-----------|---------------|---------------|---------------|---------------|
| 20 | 1 | J-BODY | DLMS80 | 74174340 | | | |
| 21 | 1 | SPRING CAGE KEEPER | DLMS60 | 74174811 | | | |
| 22 | 4 | DRAG BLOCK | DLMSDB8 | 9060900 | | | |
| 23 | 1 | J-PIN SUB | DLMS80 | 74174640 | | | |
| 24 | 1 | SEAL STACK | - | D10-003-00 | | | |
| 25 | 4 | LOWER SLIP SPRING | - | 7170901 | | | |
| 26 | 3 | TAPERED SLIP SPRING | DLMINC625 | DL94830 | | | |
| 27 | 1 | SEAL STACK | - | OEM 2541-00 | | | |
| 28 | 1 | BOTTOM SUB | DLMS80 | 74174630 | | | |
| 29 | 1 | GAGE RING | DLMS35 | 74171830 | | | |
| 30 | 1 | UPPER J-PIN SUB | DLMS80 | 74174700 | | | |
| 31 | 12 | SHEAR SCREW (5500#) 1/2-13 UNC X 7/16 | DLM360BRS | BSSSLT050C043 | | | |
| 32 | 10 | SET SCREW 3/8-16 UNC X 3/8 | STEEL | SSS037C037 | | | |

| | | | | | |
|-------------------|--|----------|---------|---------|---------|
| REDRESS KIT (RDK) | | 74171050 | | | |
| ASSEMBLED WEIGHT | | 392 LBS | 422 LBS | 459 LBS | 531 LBS |



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Manual No:
DL-741-7000-429

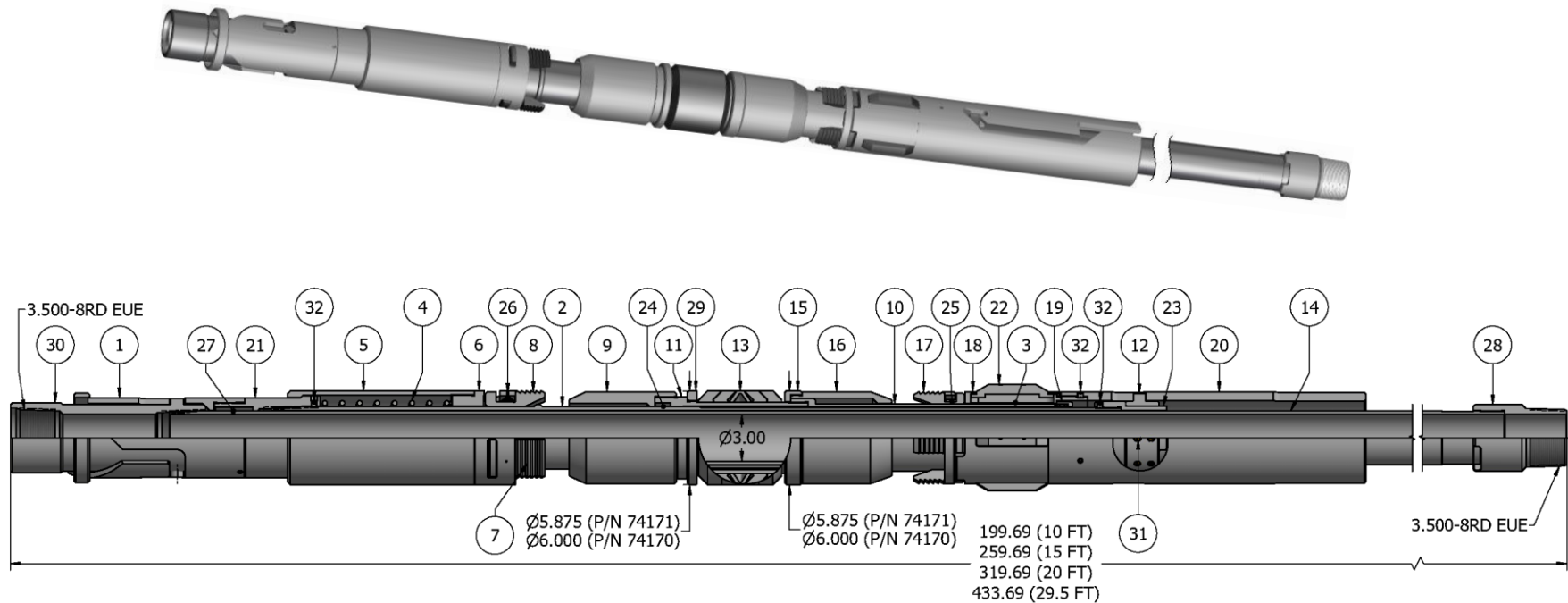
Revision: **H**


Revision Date:
01/27/2022

Authored by: B.Mathis

Approved by: D.Hushbeck

L) TECHNICAL ILLUSTRATION



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|--|--|--------------------------------------|
|  | IE THERMAL PACKER 7” X 3-1/2” | Manual No: DL-741-7000-429 |
| | | Revision: H |
| | | Revision Date: 01/27/2022 |
| <i>Authored by: B.Mathis</i> | | <i>Approved by: D.Hushbeck</i> |

M) REVISION HISTORY

| DATE | REVISION | DESCRIPTION OF CHANGES | REVISED BY | APPROVED BY |
|------------|----------|---|------------|-------------|
| 01/27/2022 | H | Revised minimum setting weight, emergency shear release range | J.Anderson | E.Visaez |
| 12/14/2021 | G | Added P/N 74171-354, Removed optional two piece mandrel, Revised tensile load for 20 ft versions | J.Anderson | E.Visaez |
| 04/10/2020 | F | Revised 7170901 qty 8 was 4 | J.Anderson | E.Visaez |
| 02/22/2019 | E | Revised max. differential pressure and max. temp. rating | J.Anderson | N.Banker |
| 10/04/2018 | D | Added P/N 74171-120, -180, -240. max. tensile load, General Screw Torque Recommendations, redress kits and assembled weight, Pre-Installation Inspection and Storage Procedures, Assembly; Revised temp rating was 625 F, P/N SSS037C037 qty was 11 | J.Anderson | N.Banker |