



# TM ANCHOR LEFT-HAND SET 4-1/2" X 2-3/8"

Manual No:  
**DL-320-4500-205**

Revision: **C**

Revision Date:  
**03/21/2016**

Authored by: *B.Mathis*

Approved by: *B.Oligschlaeger*

## A) DESCRIPTION

The TM Anchor/Catcher is a retrievable positive action anchor tool to hold tubing strings in tension or compression during pump strokes to prevent tubing buckling. This increases pumping efficiency while reducing rod and tubing wear. This tool also catches the tubing should it part. Stainless steel drag springs employ low stress value to minimize failure under corrosive conditions. If the TM Anchor/Catcher cannot be released with right-hand rotation, it is equipped with a shear release activated by an upward pull.

## 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)		
4-1/2	9.5 – 13.5	3.920 – 4.090	3.750	2.00	2-3/8 EUE	32045
	13.5 – 15.1	3.826 – 3.920	3.656	2.00	2-3/8 EUE	32044

DIFFERENTIAL PRESSURE (MAX)	TENSILE LOAD THRU TOOL (MAX)
7,500 PSI	62,000 LBS

## 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.

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

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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## D) SETTING PROCEDURES

**CAUTION<sub>2</sub>:** Do not run the tool without properly tightening connections. Running the tool with loose connections may damage the tool and cause malfunction.

At the desired setting depth, rotate the work string to the left with hand tongs 5 to 8 turns, depending on casing weight. After slips contact casing, pick upon work string with full calculated tension. Slack off while holding left-hand torque on work string. Alternately, pick up and set down weight several times to firmly set the slips. Release torque and apply full tension.

## E) RELEASING PROCEDURES

The anchor/catcher should be released with the work string in slight compression. Apply slight amount of set-down weight. Rotate the work string to the right 5 to 8 turns at the anchor/catcher. Reciprocate the work string 2 to 3 times for a distance of several feet while rotating additional turns to the right.

**NOTE<sub>1</sub>:** Prevent left-hand rotation when retrieving anchor.

### E-1) EMERGENCY RELEASE

If the anchor/catcher will not release in the normal manner, pick up on work string with sufficient force to shear the emergency shear release screws (60,000 lbs).

## 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.

Store the tool, if possible, in an enclosed, temperature and humidity controlled environment. Avoid excessively high temperatures over long periods of time. 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) 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

## H) DISASSEMBLY

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

H-1.1) From lower end of tool, unscrew and remove shear screws (13) from shear ring (8).

H-1.2) Remove shear ring (8) from bottom sub (7).

H-1.3) Move lower cone (4) down and remove Smalley heavy duty ring (15) from lower cone.

H-1.4) Unscrew and remove bottom sub (7) from mandrel (2).

H-1.5) Remove lower cone (4) from mandrel (2).

H-1.6) Unscrew and remove flat head cap screws (12) from slip housing (6).

H-1.7) Remove drag springs (10) from slip housing (6).



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## H) DISASSEMBLY (cont'd)

- H-2) Unclamp and remove coupling (1) from vise. Clamp slip housing (6) in vise below slip windows.
  - H-2.1) From upper end of tool, unscrew and remove coupling (1) from mandrel (2).
  - H-2.2) Unscrew and remove cap screw (11) from upper cone (9).
  - H-2.3) Wedge slips outwards (if needed). Unscrew and remove mandrel (2) from upper cone (9).
  - H-2.4) Remove wedges (if needed). Remove slips (3) from slip housing (6).
    - H-2.4.1) Unscrew and remove button head screws (14) and slip springs (5) from slips (3).
  - H-2.5) Remove upper cone (9) from slip housing (6).
- H-3) Unclamp and remove slip housing (6) from vise.

## I) 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-1) Clamp slip housing (6) in vise below slip windows.
  - I-1.1) Install upper cone (9) into slip housing (6).
  - I-1.2) Assemble slips and install:
    - I-1.2.1) Set slip springs (5) in place on slips (3).

**NOTE<sub>3</sub>**: Install one (1ea) spring per slip (Fig. 2).
    - I-1.2.2) Screw button head screws (14) into slips (3) (Fig. 2).
    - I-1.2.3) Install slips (3) into slip housing (6). Wedge slips outwards.
  - I-1.3) Install mandrel (2) into slip housing (6) and screw into upper cone (9). Remove wedges.
  - I-1.4) Align threaded hole in upper cone (9) with slot in slip housing (6). Screw cap screw (11) into upper cone (9).
  - I-1.5) Screw coupling (1) onto mandrel (2).
- I-2) Unclamp and remove slip housing (6) from vise. Clamp coupling (1) in vise.
  - I-2.1) Set drag springs (10) in place on slip housing (6). Align holes in drag springs (10) with threaded holes in slip housing (6). Screw flat head cap screws (12) into slip housing to secure drag springs.
  - I-2.2) Install lower cone (4) onto mandrel (2).
  - I-2.3) Screw bottom sub (7) onto mandrel (2).
  - I-2.4) Install Smalley heavy duty ring (15) in groove in lower cone (4). Move lower cone downwards to access ring groove in lower cone.
  - I-2.5) Install shear ring (8) onto bottom sub (7). Align threaded holes in shear ring (8) with shear screw groove in bottom sub (7).
- I-3) Screw shear screws (13) into shear ring (8). Tighten until shear screws make contact with bottom sub (7). Back shear screws out 1/4 turn.
- I-4) Unclamp coupling (1) from vise and remove assembled tool.



Fig. 2



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**J) PARTS LIST**

ITEM	QTY	DESCRIPTION	MATERIAL	9.5 – 13.5# P/N 32045	13.5 – 15.1# P/N 32044
1	1	COUPLING	DLMS60	CP-BAB-BBB-A	
2	1	MANDREL	DLMS60	32045210	32044210
3	3	SLIP	1026	32045110	
4	1	LOWER CONE	1026 CD	32045420	
5	3	SLIP SPRING	INCONEL	32045950	
6	1	SLIP HOUSING	1026 CD	32045310	32044310
7	1	BOTTOM SUB	1026	32045620	
8	1	SHEAR RING	1026	32045710	
9	1	UPPER CONE	L-80/1026	32045410	32044410
10	3	DRAG SPRING	STAINLESS STEEL	32045920	
11	1	CAP SCREW 3/8-24 UNF X 3/8	STEEL	SCS037F037	
12	6	LOW HEAD CAP SCREW 5/16-24 UNF	STEEL	LHSC031F050 (1/2" LONG)	LHSC031F037 (3/8" LONG)
13	12	SHEAR SCREW	DLM360BRS	32045910	
14	3	BUTTON HEAD CAP SCREW #8-32 UNC X 3/8	STEEL	BHSC832C037	
15	1	SMALLEY MEDIUM DUTY INTERNAL RING	STEEL	WH-295	

REDRESS KIT (RDK)		32045050	32045050
ASSEMBLED WEIGHT		43 LBS	41 LBS



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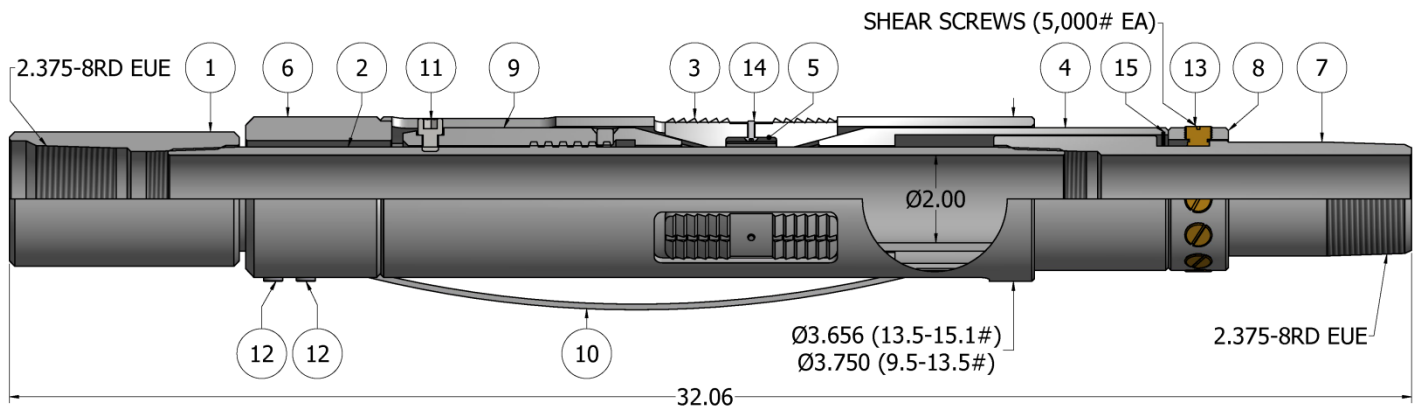
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## K) TECHNICAL ILLUSTRATION



## L) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
03/21/2016	C	Revised Setting and Releasing Procedures for LH set, RH release tool	J.Anderson	T.Myerley
10/09/2015	B	Added P/N 32044, max. differential pressure, max. tensile load thru tool, Pre-Installation Inspections Procedures, Storage Recommendations, Recommended Hand Tools; Revised P/N CP-BAB-BBB-A was 40545620, SCS037F037 was SCS037F025, LHSC031F050 was FHSC031F050, BHSC832C037 was BHSC08C037, WH-295 was 4001295	J.Anderson	J.McArthur