



MECHANICAL SETTING TOOL FOR CEMENT RETAINER

9-5/8"

Manual No:
DL-524-9625-493

Revision: **C**

Revision Date:
03/25/2020

Authored by: S. White

Approved by: D. Hushbeck

A) DESCRIPTION

The Mechanical Setting Tool (MST) is designed to run and mechanically set a Cement Retainer or converted Bridge Plug at any depth on tubing or drill pipe. The MST is used anytime it is advantageous to run a Cement Retainer or Bridge Plug on tubing or drill pipe. Cement Retainers can be set, pressure tested and squeezed in a single trip.

The MST and Cement Retainer or Bridge Plug are shear pinned together and the slips are held in a retracted position for safer running.

B) RELATED TOOLS (sold separately)

B-1) 9-5/8" Cement Retainers (P/N varies)—refer to applicable technical manual.

C) SPECIFICATION GUIDE

CASING			TOOL OD (INCHES)	TOOL ID (INCHES)	THREAD CONNECTION BOX UP	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)				
9-5/8	29.3 – 58.4	8.435 – 9.063	8.125	1.12	2-7/8 EUE	52495
			8.125	1.12	3-1/2 IF TOOL JOINT	52495-XBEC

DIFFERENTIAL PRESSURE (MAX)
10,000 PSI

D) 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

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



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D) PRE-INSTALLATION INSPECTION PROCEDURES (cont'd)

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 replacement part information.

E) GENERAL OPERATIONS

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

When it is advantageous to run a Cement Retainer or a Bridge Plug on tubing or drill pipe, the MST is used. The MST is designed to contain the upper slips of the Cement Retainer or Bridge Plug in a safe retracted position while running to setting depth. The upper slips are released by right-hand rotation and slacking off on the work string. The Cement Retainer or Bridge Plug is then set and locked to the casing by pulling 27,000 to 50,000 lbs. tension (depending on size) at the tool. The slide valve on the Cement Retainer is in the open position while being run in the well. When the setting procedure is completed, the slide valve may be closed by picking up two (2) inches at the tool or opened by slacking off two (2) inches at the tool. With the slide valve in the closed position, the work string may be pressure tested.

The MST is released from the Cement Retainer or Bridge Plug by pulling tension and right-hand rotation at the tool. The MST contains a snap out feature that is actuated after it is rotationally released from the Cement Retainer. This feature allows it to be relatched to the Cement Retainer by setting weight down and released by picking up the work string. The stinger seal will remain in the Cement Retainer bore until the snap out retaining force is exceeded. The slide valve is closed each time the MST is snapped out.

The MST is equipped with drag springs to allow a single MST to cover the full casing range of the size Cement Retainer or Bridge Plug it is configured to run. This assures positive control during running and setting procedures at all depths or in deviated wells.

F) LOADING A CEMENT RETAINER OR BRIDGE PLUG ONTO A MST

F-1) Place coupling of MST in vise.

F-1.1) Rotate the drag spring assembly to the right until the control nut engages the control nut clutch and stops
NOTE1: - On sizes 4-1/2" through 5-3/4", move drag spring assembly UP until it stops.

- On sizes 6-5/8" and larger, move drag spring assembly DOWN until stopped by snap ring.

NOTE2: Ensure that the snap ring is properly installed before proceeding.

F-2) Screw setting sleeve up toward drag spring assembly until control latch is accessible.

F-3) Slide upper slips (non-wickered end first) over stinger sub body. Loosen clamp on slips only enough to slide slip segments over shoulder (or slip adapter) on control latch and then retighten.

F-4) Lubricate non-wickered portion of slips with grease. Rotate setting sleeve down over slips until about 3/4 of the non-wickered portion is covered. Loosen and move the clamp up over the setting sleeve. Let the clamp on the tool for later use.

F-5) Ensure that the control nut is still engaged with the control nut clutch by rotating drag spring assembly to the right.

F-6) Lubricate stinger seal and control latch threads with grease. Place a liberal amount of grease in Cement Retainer bore.

F-7) **FOR CEMENT RETAINERS ONLY:**

F-7.1) Slide Cement Retainer over stinger.

F-7.2) Use a wood block to protect the lower end of the Cement Retainer while driving it over the stinger seal with a heavy hammer until it bottoms out on the control latch.

F-7.3) Rotate the Cement Retainer to the **LEFT** until it shoulders out on the control latch. Make up hand tight.

NOTE3: It may be necessary to drive the Cement Retainer, rotate, drive, rotate and repeat until the Cement Retainer shoulders out.



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F) LOADING A CEMENT RETAINER OR BRIDGE PLUG ONTO A MST (cont'd)

F-8) FOR BRIDGE PLUGS ONLY:

F-8.1) Slide Bridge Plug over stinger sub body until it bottoms out on the control latch.

F-8.2) Rotate the Bridge Plug to the **LEFT** until it shoulders out on control latch. Make up hand tight.

F-9) Back off the Cement Retainer or Bridge Plug slightly to align holes. Locate and install shear screw(s) in hole(s) in control latch.

F-10) Rotate the setting sleeve down until it bottoms out on wickered portion of slip. Loosen setting sleeve 1/4 turn and secure with two (2) set screws.

F-11) Move clamp down over wickers on upper slips and tighten securely for transport.

F-12) Remove clamp from upper slips before running.

G) TO CONVERT THE MST TO RUN A BRIDGE PLUG:

G-1) Remove stinger sub and seal. Replace with spacer and thread protector.

G-2) Replace coupling with ported coupling to allow the tubing to fill while running in the hole.

G-3) Follow instructions for loading a Cement Retainer or Bridge Plug.

H) RUNNING AND SETTING INSTRUCTIONS (refer to sequence instructions)

H-1) During "Run In", extreme care should be taken to avoid any right hand rotation at the setting tool. As a precaution, one left hand turn should be placed in the work string every 10 to 15 stands.

H-2) When the desired setting depth has been reached, the tools should be picked up two (2) feet above the desired setting point. This movement is necessary to provide the required tool stroke to release the upper slips and allow the control nut to move freely.

H-3) Rotate the work string to the **RIGHT** sufficiently to transmit 10 turns to the tool. This right-hand rotation will thread the control nut off of its matching thread on the MST mandrel and release the control sleeve from the running in position.

H-4) Lower the tools back down to the desired setting depth. The drag springs will support the control sleeve and setting sleeve. The downward motion will push the upper slips from under the setting sleeve. The upper slip segments are then forced out against the casing by the leaf springs attached to the inside of each slip segment. When the upper slips are released, the retaining sleeve is pulled from over the dog allowing it to move out and release the control latch from the stinger sub body.

TOOL SIZE (INCHES)	MIN TENSION	MAX TENSION
9-5/8	45,000 LBS	50,000 LBS

H-5) Refer to the above chart and pull tension over pipe weight at the tool to set the slips and affect packoff. It is recommended that the maximum tension shown above be pulled when possible. However, to assure sufficient packoff and slip breakage, the minimum tension shown must be pulled. Set down weight equal to the calculated weight required to prevent the slide valve from closing during pumping operations. Do not apply tension after setting weight on retainer other than that required to release setting tool or close valve. Pull a slight strain on work string and pressure the work string to insure that the slide valve is closed.

NOTE4: In wells where paraffin or suspended solids in the well fluids are present, the dog on the control latch may not fully release from the stinger sub body. This is indicated when the Cement Retainer sets properly (as in steps F-1 through F-5), but the slide valve will not close so that the work string can be pressure tested. In this event the work string should be alternately picked up and slacked off. This movement will assist the dog to move outward on the inclined edges of the locking groove in the stinger sub body, thus freeing the stinger sub body for the required two (2) inches of vertical movement.



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H) RUNNING AND SETTING INSTRUCTIONS (cont'd)

H-6) The MST is released from the Cement Retainer or Bridge Plug by pulling 500 to 1,000 lbs tension at the tool and then rotating the work string 10 turns to the RIGHT at the tool. This will shear the rotational lock screw and unscrew the control latch from the Cement Retainer or Bridge Plug.

H-7) After releasing from a Cement Retainer:

H-7.1) The MST can be relatched to the Cement Retainer by setting down 3,000 to 5,000 lbs of work string weight and snapped out again by pulling 8,000 to 10,000 lbs tension at the Cement Retainer.

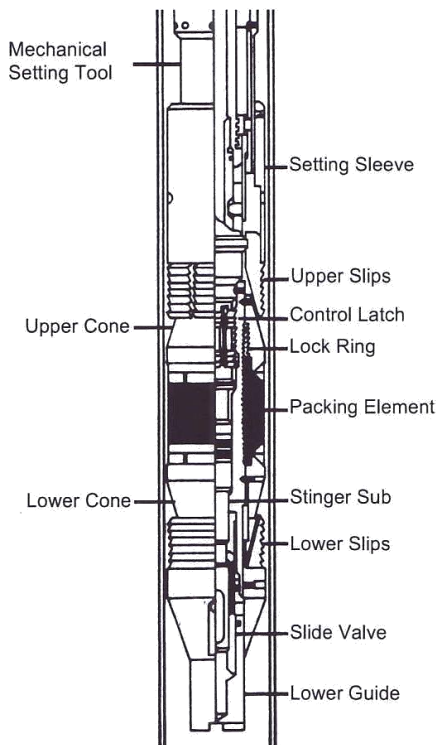
H-7.2) The stinger seal will remain in the Cement Retainer until the snap-out retaining force is exceeded. Each time the MST is snapped in and snapped out, the snap-in and snap-out value is reduced until they stabilize at about 2,500 lbs snap-in and 5,000 lbs snap-out.

H-7.3) Two (2) inches of upward movement at the Cement Retainer will close the slide valve; two (2) inches of downward movement at the Cement Retainer will open the slide valve.

TOOL SIZE (INCHES)	MIN TENSION (LBS)	MAX TENSION (LBS)
9-5/8"	45,000 LBS	50,000 LBS

D) SEQUENCE ILLUSTRATIONS

I-1) Set A



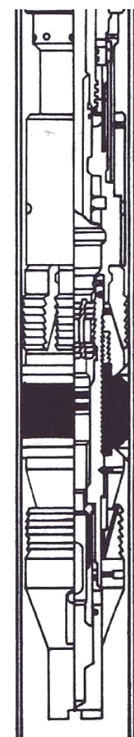
Running In

Slips and cones in safe position. Slide valve open.



Upper Slips Released

Work string rotated 10 turns to right and lowered 2 ft.



Setting Upper Slips

Beginning tension forces upper cone under upper slips, expands element back-up rings and compresses packing element.



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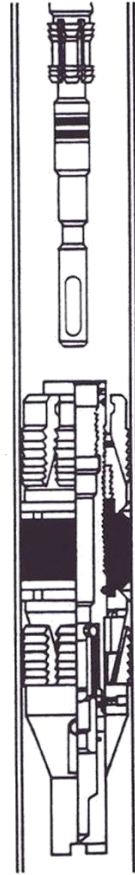
I) SEQUENCE ILLUSTRATIONS (cont'd)

I-2) Set B



Setting Lower Slips

Continued tension pulls lower guide against lower slips forcing them over lower cone and further compressing packing element. Pack-off complete. Pressure testing performed.



Setting Tool Released

Work string rotated 10 turns to right while holding 1,000 lbs tension. Control latch and stinger snapped-out allowing circulation above cement retainer.



Cementing

3,500 lbs set down to snap into cement retainer and open slide valve. Perform squeeze operation. Pick-up 2 inches to close slide valve and retain squeeze pressure. Pull 8,000 to 10,000 lbs over string weight to snap-out stinger.

J) 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.



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K) RECOMMENDED TOOLS

K-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

K-2) SPECIAL TOOLS

ITEM	QTY	DESCRIPTION	PART NUMBER
T1	1	DRAG BLOCK ASSEMBLY TOOL	AT070110

L) MST CONVERSION FOR A SNAP-OUT SEAL ASSEMBLY CONFIGURATION

NOTES: If the MST is to be used to manipulate a wireline set cement retainer, it must be reconfigured per the following instructions.

- L-1) Clamp mandrel (2) in a vise
- L-2) Unscrew stinger sub body (12) from mandrel (2) and remove stinger sub assembly (stinger sub body (12), bonded seal (18), stinger (17)) from tool.
 - L-2.1) Loosen set screws (22) in slip support (31) and unscrew and remove slip support (31) from control latch (8). Lay slip support (31) aside.
- L-3) Loosen set screws (32) in setting sleeve (6) and unscrew and remove setting sleeve (6) from control sleeve (7). Lay setting sleeve aside.
- L-4) Rotate the drag block body assembly to the **LEFT** until the control nut (5) will slide up and down mandrel (2).
- L-5) Screw stinger sub assembly, minus slip support (31), into mandrel (2).
 - NOTE:** Do **NOT** re-thread the control nut with the threads on the mandrel.
 - CAUTION:** Do **NOT** rip or tear o-ring during installation.
- L-6) Run the MST as if it were a stinger seal (aka latch locator) assembly.

M) DISASSEMBLY

- M-1) Clamp coupling (1) in vise.
 - M-1.1) Unscrew and remove stinger (17) from stinger sub body (12).
 - M-1.2) Remove bonded seal (18) from stinger sub body (12).
 - M-1.2.1) Remove o-ring (34) from bonded seal (18).
 - M-1.3) Unscrew and remove set screws (32) from setting sleeve (6).
 - M-1.4) Screw setting sleeve (6) upwards temporarily on control sleeve (7) to allow access to slip support (31).
 - M-1.5) Unscrew and remove set screws (22) from slip support (31).
 - M-1.6) Unscrew and remove slip support (31) from control latch (8).
 - M-1.7) Unscrew and remove setting sleeve (6) from control sleeve (7).



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M) DISASSEMBLY (cont'd)

M-1.8) Depress dog (10) through holes in retaining sleeve (11) if necessary. Unscrew and remove stinger sub body assembly from mandrel (2) and disassemble:

M-1.8.1) Remove o-ring (35) from stinger sub body (12).

M-1.8.2) Depress dog (10). Remove dowel pins (26) from control latch (8) and dog (10).

M-1.8.3) Remove dog (10) and dog springs (4) from stinger sub body (12).

M-1.8.4) Unscrew and remove set screws (21) from control latch (8).

M-1.8.5) Separate control latch (8) from stinger sub body (12).

M-1.8.6) Remove key (24) from stinger sub body (12).

M-2) Unclamp coupling (1) from vise. Clamp lower end of control sleeve (7) in vise.

M-2.1) Unscrew and remove coupling (1) from mandrel (2).

M-2.2) Unscrew and remove cap screws (23) from segment support ring (20).

M-2.3) Temporarily screw cap screw (25) into mandrel lock segment (15).

M-2.4) Unscrew remove drag block body retainer (28) from upper drag block body retainer (30) and remove from mandrel (2). Pull mandrel lock segment (15) up with cap screw (25) as necessary to pass over upset in mandrel (2).

NOTE7: Compression spring (27) is compressed with spring tension against segment support ring (20).

M-2.5) Unscrew and remove temporary cap screw (25) from mandrel lock segment (15)

M-2.6) Remove compression spring (27), segment support ring (20), and mandrel lock segment (15) from drag block body retainer (28).

M-2.7) Compress drag blocks (16) with drag block assembly tool (T1).

M-2.8) Unscrew drag block retainer (14) from drag block body (13). Move down temporarily on control sleeve (7).

M-2.9) Release drag blocks. Remove drag blocks (16) and drag block springs (3) from drag block body (13).

M-2.10) Unscrew and remove set screws (33) from both ends of drag block body (13).

M-2.11) Unscrew and remove cap screws (19) from control sleeve (7).

M-2.12) Unscrew and remove drag block body assembly from control sleeve (7) and disassemble:

M-2.12.1) Unscrew and remove upper drag block body support (30) from drag block body (13).

M-2.12.2) Unscrew and remove lower drag block body support (29) from drag block body (13).

M-2.13) Remove mandrel assembly from control sleeve (7) and disassemble:

M-2.13.1) Unscrew and remove control nut (5) from mandrel (2).

M-2.13.2) Unscrew and remove control nut clutch (9) from mandrel (2).

M-2.14) Remove retaining sleeve (11) from control sleeve (7).

M-3) Unclamp and remove control sleeve (7) from vise.

N) ASSEMBLY

NOTES: 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).

N-1) Clamp lower end of control sleeve (7) in vise.

N-1.1) Install retaining sleeve (11) into control sleeve (7).

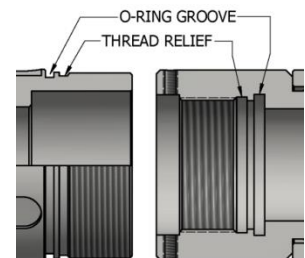


Fig. 2



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N) ASSEMBLY (cont'd)

N-1.2) Assemble mandrel assembly and install:

N-1.2.1) Screw control nut clutch (9) onto mandrel (2).

N-1.2.2) Screw control nut (5) onto mandrel (2).

N-1.2.3) Align key of control nut (5) of mandrel assembly with key groove in control sleeve (7) and install mandrel (2) into control sleeve (7).

N-1.3) Loosely install drag block retainer (14) onto control sleeve (7) to be installed later.

N-1.4) Assemble drag block body and install:

N-1.4.1) Screw upper and lower drag block body supports (29, 30) into drag block body (13).

N-1.4.2) Screw set screws (33) into upper and lower ends of drag block body (13).

N-1.4.3) Install drag block body assembly onto mandrel (1) and screw lower drag block body support (29) into control sleeve (7).

N-1.4.4) Align threaded holes in lower drag block body support (29) with holes in control sleeve (7). Screw cap screws (19) into lower drag block body support (29).

N-1.5) Install drag blocks (16) and drag block springs (3) on drag block body (13). Compress drag blocks (16) with drag block assembly tool (T1).

NOTE₉: Install five (5 ea) springs per drag block (Fig. 3).

N-1.6) Screw drag block retainer (14) onto drag block body (13) to capture lower ends of drag blocks (13). Release drag blocks.

N-1.7) Install segment support ring (20), mandrel lock segment (15), and compression spring (27) into drag block body retainer (28). Align threaded hole in mandrel lock segment (15) with hold in drag block retainer (15).

N-1.8) Temporarily screw cap screw (25) into mandrel lock segment (15).

N-1.9) Install drag block body retainer (28) onto mandrel and screw onto upper drag block body support (30). Pull mandrel lock segment (15) up with cap screw (25) as necessary to pass over upset in mandrel (2)..

NOTE₇: Compression spring (27) is compressed with spring tension against segment support ring (20).

N-1.10) Screw coupling (1) onto mandrel (2).

N-2) Unclamp and remove control sleeve (7) from vise. Clamp coupling (1) in vise.

N-2.1) Assemble stinger sub body assembly and install:

N-2.1.1) Install key (24) in key groove in stinger sub body (12).

N-2.1.2) From lower end of stinger sub body (12), install control latch (8) onto stinger sub body (12). Align key groove in control latch (8) with key (24).

N-2.1.3) Align cut out in control latch (8) with groove in stinger sub body (12) and install dog springs (4) and dog (10) into control latch (8).

N-2.1.4) Press down dog (10) and install dowel pins (26) into control latch (8).

N-2.1.5) Screw cap screws (21) into control latch (8).

N-2.1.6) Install o-ring (35) from stinger sub body (12).

N-2.1.7) Screw stinger sub body (12) into mandrel (2). Press down dog (10) as necessary to clear retaining sleeve (11).

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

N-2.2) Screw setting sleeve (6) onto control sleeve (7).

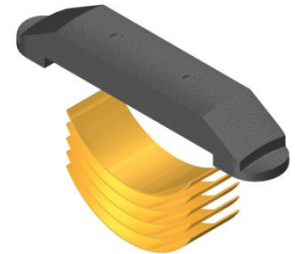


Fig. 3



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N) ASSEMBLY (cont'd)

N-2.3) Screw slip support (31) onto control latch (8). Screw setting sleeve (6) upwards on control sleeve (7) as necessary to access threads on control latch (8).

N-2.4) Screw set screws (22) into slip support (31).

N-2.5) Screw set screws (32) into setting sleeve (6).

N-2.6) Install o-ring (34) into bonded seal (18).

N-2.7) Install bonded seal (18) onto stinger sub body (12).

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

N-2.8) Screw stinger (17) onto stinger sub body (12).

N-2.9) Unscrew and remove temporary cap screw (25) from mandrel lock segment (15).

N-3) Unclamp and remove control sleeve (7) from vise.

O) PARTS LIST

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52495 (29.3 - 58.4#)	P/N 52495-XBEC (29.3 - 58.4#)
1	1	COUPLING	DLMS110	CP-BAC-C	CP-BEC-BAC-W
2	1	MANDREL	DLMS110	52495210	
3	30	DRAG BLOCK SPRING	-	9101900	
4	2	COMPRESSION (DOG) SPRING	DLMSPP302	52470920	
5	1	CONTROL NUT	DLMS110/DLMSKS	52470711	
6	1	SETTING SLEEVE	DLMS110	52495470	
7	1	CONTROL SLEEVE	DLMS110	52495350	
8	1	CONTROL LATCH	DLMS110	52495720	
9	1	CONTROL NUT CLUTCH	DLMS110	52470715	
10	1	DOG	DLMS80	52470500	
11	1	RETAINING SLEEVE	DLMS80	52470450	
12	1	STINGER SUB BODY	DLMS110	52470215	
13	1	DRAG BLOCK BODY	DLMS110	52495330	
14	1	DRAG BLOCK RETAINER	DLMS110	52495910	
15	1	MANDREL LOCK SEGMENT	DLMS80	52470506	
16	6	DRAG BLOCK	DLMSDB8	9090900	
17	1	STINGER	DLMS110	52470510	
18	1	BONDED SEAL	DLMS60 / 90 DURO NITRILE	52470520	
19	4	CAP SCREW 1/4-20 UNC X 1/4	STEEL	SCS025C025	
20	1	SEGMENT SUPPORT RING	DLMS80	52470505	
21	2	SET SCREW 1/4-20 UNC X 3/8	STEEL	SSS025C037	



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ITEM	QTY	DESCRIPTION	MATERIAL	P/N 52495 (29.3 – 58.4#)	P/N 52495-XBEC (29.3 – 58.4#)
22	2	SET SCREW 1/4-20 UNC X 7/16	STEEL		SSS025C043
23	3	CAP SCREW 5/16-18 UNC X 5/8	STEEL		SCS031C062
24	1	KEY 1/4 X 1/4 X 2-9/16	DLMSKS		KS025X025X256
25	1	CAP SCREW 1/4-20 UNC X 1-1/4	STEEL		SCS025C125
26	2	DOWEL PIN 3/16 X 1-1/4	STEEL		DP018125
27	1	COMPRESSION SPRING	DLMCRSP		36111GS
28	1	DRAG BLOCK BODY RETAINER	DLMS110		52470910
29	1	LOWER DRAG BLOCK BODY SUPPORT	DLMS110		52495325
30	1	UPPER DRAG BLOCK BODY SUPPORT	DLMS110		52495320
31	1	SLIP SUPPORT	DLMS110		52495725
32	2	SET SCREW 3/8-16 UNC X 3/4	STEEL		SSS037C075
33	6	SET SCREW 5/16-18 UNC X 1/2	STEEL		SSS031C050
34	1	030 O-RING	90 DURO NITRILE		90030
35	1	225 O-RING	90 DURO NITRILE		90225

REDRESS KIT (RDK)		52495050	
ASSEMBLED WEIGHT		239 LBS	255 LBS

P) OPTIONAL ACCESSORIES

NOTE₁₀: Ported top sub and thread protector available for running mechanical setting tool for a converted bridge plug.
All sold separately.

DESCRIPTION	MATERIAL	THREAD CONNECTION	PART NUMBER
PORTED TOP SUB	J-55	2-7/8 EUE	52470615
THREAD PROTECTOR	P-110	-	52470515



MECHANICAL SETTING TOOL FOR CEMENT RETAINER

9-5/8"

Manual No:
DL-524-9625-493

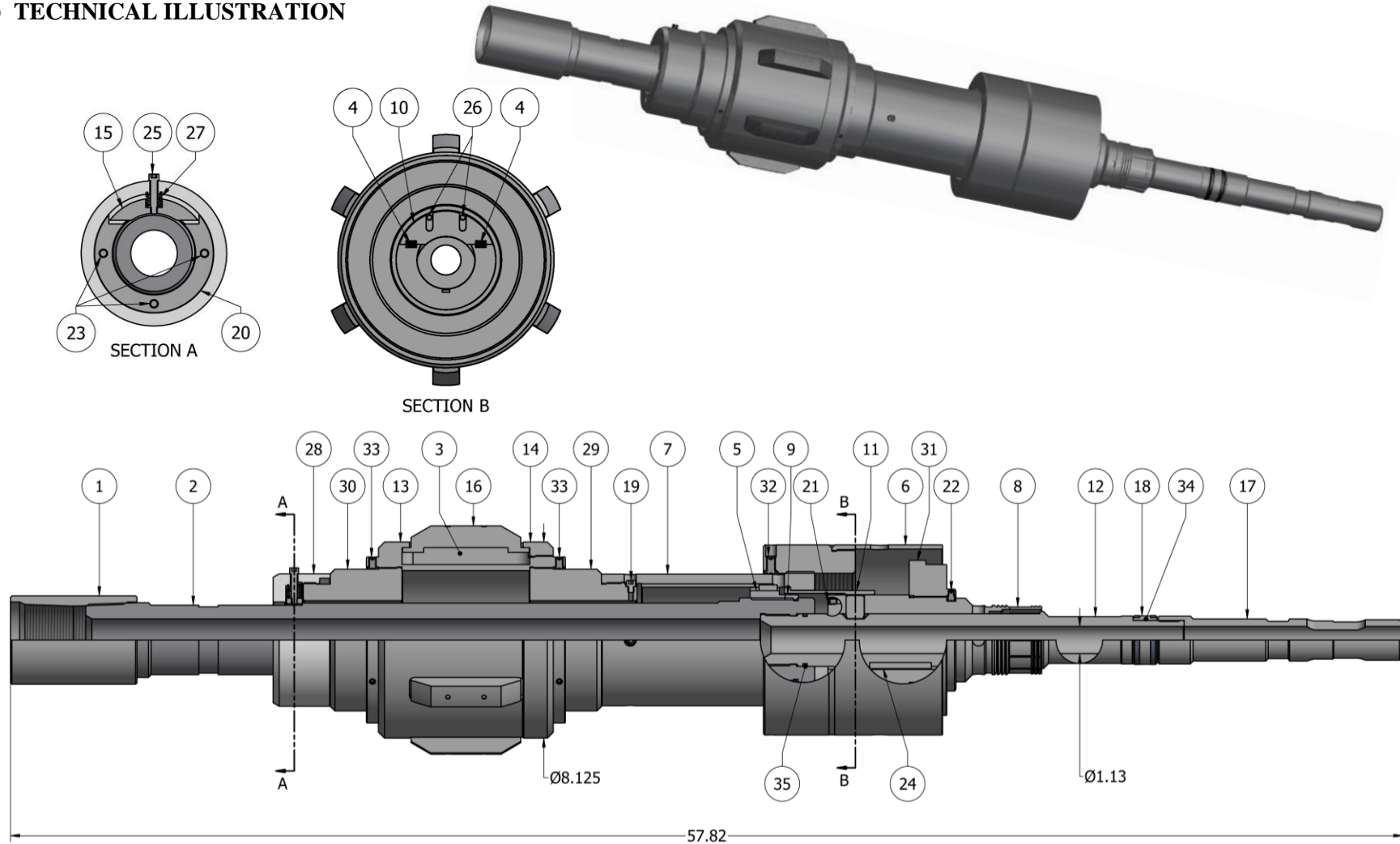
Revision: C


Revision Date:
03/25/2020

Authored by: S. White

Approved by: D. Hushbeck

Q) TECHNICAL ILLUSTRATION



	MECHANICAL SETTING TOOL FOR CEMENT RETAINER 9-5/8"	Manual No: DL-524-9625-493
		Revision: C
		Revision Date: 03/25/2020
<i>Authored by: S. White</i>		<i>Approved by: D. Hushbeck</i>

R) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
03/25/2020	C	Revised CP-BAC-C was CP2875E2875E, 52470711 was 52470710, Item #25 was 36, 9101900 qty 30 was 36; Removed KS025X025X075	J.Anderson	Z.Speer
01/12/15	B	Added Related Tools, differential pressure, Pre-Installation Inspection and Storage Procedures, Recommended Hand Tools, P/N SCS025C037, P/N 9101900 qty for P/N 52495-XBEC was 30, RDK P/N 52495050, Optional Accessories, Revision History; Revised Technical Illustration	J.Anderson	K.Riggs