



# MECHANICAL COLLAR LOCATOR

Manual No:  
**DL-205-0000-1046**

Revision: **A**

Revision Date:  
**08/08/2018**

Authored by: *J.Anderson*

Approved by: *J.Johnson*

## A) DESCRIPTION

The Mechanical Collar Locator is designed to provide a positive indication when pulled through each casing collar. An accurate tubing depth can be calculated by combining the number of collars the locator has traveled through and the casing tally.

## B) SPECIFICATION GUIDE

CASING			TOOL MAX. OD* (INCHES)	THREAD CONNECTION (BOX UP/PIN DOWN)	PART NUMBER
SIZE (INCHES)	WEIGHT (LBS/FT)	RECOMMENDED HOLE SIZE (INCHES)			
4-1/2	9.5 – 13.5	3.920 - 4.090	3.850	2-3/8 EUE	20545
	13.5 – 15.1	3.826 - 3.920	3.780	2-3/8 EUE	20546
5-1/2	13.0 – 23.0	4.670 - 5.044	4.620	2-3/8 EUE	20555
	14.0 – 26.0	4.548 - 5.012	4.513	2-3/8 EUE	20556
7	17.0 – 38.0	5.920 - 6.538	5.868	3-1/2 EUE	20570
	17.0 – 38.0	5.920 - 6.538	5.868	2-7/8 EUE	20571
8-5/8	24.0 – 49.0	7.511 - 8.097	7.452	4-1/2 EUE	20585
9-5/8	29.3 – 53.5	8.535 - 9.063	8.472	4-1/2 EUE	20595
11-3/4	38.0 – 65.0	10.682 - 11.150	10.597	4-1/2 EUE	20511
13-3/8	48.0 – 77.0	12.275 - 12.715	12.207	4-1/2 EUE	20513

\*Max OD across compressed locator blocks.

## 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.dloiltools.com](http://www.dloiltools.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.

## D) 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.

## E) RECOMMENDED TOOLS

### E-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
- STRAP WRENCH
- 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

### E-2) OPTIONAL SPECIAL TOOLS

ITEM	QTY	DESCRIPTION	PART NUMBER
T1	1	DRAG BLOCK ASSEMBLY TOOL	AT045110 (4-1/2") AT055110 (5-1/2") AT070110 (7") AT095110 (8-5/8", 9-5/8") AT016110 (11-3/4", 13-3/8")

## F) DISASSEMBLY

F-1) Clamp body (1) in vise.

F-1.1) Compress collar locator blocks (2) with drag block assembly tool (T1).

F-1.2) Unscrew and remove set screws (5) from body (1).

F-1.3) Unscrew and remove retainer (3) from body (1).

F-1.4) Remove drag block assembly tool (T1) and remove collar locator blocks (2) from body (1).

F-1.4.1) Remove drag block springs (4) and compression springs (6) (if applicable).

F-2) Unclamp body (1) and remove from vise.



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## G) ASSEMBLY

**NOTE<sub>1</sub>:** Clean and inspect all parts. Replace all worn and damaged parts. Install parts in proper order and orientation.

G-1) Clamp body (1) in vise.

G-1.1) Install compression springs (6) into collar locator blocks (2) (if applicable).

G-1.2) Install collar locator blocks (2) and drag block springs (4) into body (1). Compress blocks with drag block assembly tool (T1).

**NOTE<sub>2</sub>:** Install the appropriate number of springs (4) per collar locator block (2). See Parts List.

G-1.3) Screw retainer (3) onto body (1) capturing lower end of locator blocks (2).

G-1.4) Screw set screws (5) into retainers (3). Remove drag block assembly tool (T1).

G-2) Unclamp body (1) and remove assembled tool from vise.

## H) PARTS LIST

### H-1) 4-1/2" X 2-3/8" (9.5 – 13.5#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20545
1	1	BODY	DLMS110	20545330
2	4	COLLAR LOCATOR BLOCK	DLMS35	2059041
3	1	RETAINER	DLMS35	20545320
4	16	DRAG BLOCK SPRING	-	9101900*
5	4	SET SCREW 1/4-20 UNC X 5/16	STEEL	SSS025C031

\*Install four (4 ea) springs per locator block.

ASSEMBLED WEIGHT	20 LBS
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### H-2) 4-1/2" X 2-3/8" (13.5 – 15.1#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20546
1	1	BODY	DLMS110	20545330
2	4	COLLAR LOCATOR BLOCK	DLMS35	2059042
3	1	RETAINER	DLMS35	20545320
4	16	DRAG BLOCK SPRING	-	9101900*
5	4	SET SCREW 1/4-20 UNC X 5/16	STEEL	SSS025C031

\*Install four (4 ea) springs per locator block.

ASSEMBLED WEIGHT	20 LBS
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## H) PARTS LIST (cont'd)

### H-3) 5-1/2" X 2-3/8" (13.0 – 23.0#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20555
1	1	BODY	DLMS110	20555330
2	4	COLLAR LOCATOR BLOCK	DLMS35	2059051
3	1	RETAINER	DLMS35	20555320
4	20	DRAG BLOCK SPRING	-	9101900*
5	4	SET SCREW 1/4-20 UNC X 5/16	STEEL	SSS025C031

\*Install five (5 ea) springs per locator block.

ASSEMBLED WEIGHT	31 LBS
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### H-4) 5-1/2" X 2-3/8" (14.0 – 26.0#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20556
1	1	BODY	DLMS110	20555330
2	4	COLLAR LOCATOR BLOCK	DLMS35	2059052
3	1	RETAINER	DLMS35	20555320
4	20	DRAG BLOCK SPRING	-	9101900*
5	4	SET SCREW 1/4-20 UNC X 5/16	STEEL	SSS025C031

\*Install five (5 ea) springs per locator block.

ASSEMBLED WEIGHT	31 LBS
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### H-5) 7" X 3-1/2" (17.0 – 38.0#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20570
1	1	BODY	DLMS110	20570330
2	4	COLLAR LOCATOR BLOCK	DLMS35	2059071
3	1	RETAINER	DLMS35	20570320
4	24	DRAG BLOCK SPRING	-	9101900*
5	4	SET SCREW 1/4-20 UNC X 5/16	STEEL	SSS025C031
6	4	COMPRESSION SPRING	DLMCRSP	2058070

\*Install six (6 ea) springs per locator block.

ASSEMBLED WEIGHT	57 LBS
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## H) PARTS LIST (cont'd)

### H-6) 7" X 2-7/8" (17.0 – 38.0#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20571
1	1	BODY	DLMS110	20571330
2	4	COLLAR LOCATOR BLOCK	DLMS35	2059071
3	1	RETAINER	DLMS35	20570320
4	24	DRAG BLOCK SPRING		9101900*
5	4	SET SCREW 1/4-20 UNC X 5/16	STEEL	SSS025C031
6	4	COMPRESSION SPRING	DLMCRSP	2058070

\*Install six (6 ea) springs per locator block.

ASSEMBLED WEIGHT	59 LBS
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### H-7) 8-5/8" X 4-1/2" (24.0 – 49.0#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20585
1	1	BODY	DLMS110	20585330
2	4	COLLAR LOCATOR BLOCK	DLMS35	2059071
3	1	RETAINER	DLMS35	20585320
4	24	DRAG BLOCK SPRING	-	9101900*
5	4	SET SCREW 1/4-20 UNC X 5/16	STEEL	SSS025C031
6	4	COMPRESSION SPRING	DLMCRSP	2058070

\*Install six (6 ea) springs per locator block.

ASSEMBLED WEIGHT	97 LBS
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### H-8) 9-5/8" X 4-1/2" (29.3 – 53.5#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20595
1	1	BODY	DLMS110	20595330
2	4	COLLAR LOCATOR BLOCK	DLMS35	2059095
3	1	RETAINER	DLMS35	20595320
4	24	DRAG BLOCK SPRING	-	9101900*
5	4	SET SCREW 1/4-20 UNC X 5/16	STEEL	SSS025C031
6	4	COMPRESSION SPRING	DLMCRSP	2058070

\*Install six (6 ea) springs per locator block.

ASSEMBLED WEIGHT	121 LBS
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## H) PARTS LIST (cont'd)

### H-9) 11-3/4" X 4-1/2" (38.0 – 65.0#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20511
1	1	BODY	DLMS110	20511330
2	6	COLLAR LOCATOR BLOCK	DLMS35	2059095
3	1	RETAINER	DLMS35	20511320
4	24	DRAG BLOCK SPRING	-	9101900*
6	6	COMPRESSION SPRING	DLMCRSP	2058070
5	4	SET SCREW 1/4-20 UNC X 3/8	STEEL	SSS025C037

\*Install four (4 ea) springs per locator block.

ASSEMBLED WEIGHT		229 LBS
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### H-10) 13-3/8" X 4-1/2" (48.0 – 77.0#)

ITEM	QTY	DESCRIPTION	MATERIAL	P/N 20513
1	1	BODY	DLMS110	20513330
2	6	COLLAR LOCATOR BLOCK	DLMS35	2059095
3	1	RETAINER	DLMS35	20513320
4	24	DRAG BLOCK SPRING	-	9101900*
5	4	SET SCREW 1/4-20 UNC X 3/8	STEEL	SSS025C037
6	6	COMPRESSION SPRING	DLMCRSP	2058070

\*Install four (4 ea) springs per locator block.

ASSEMBLED WEIGHT		298 LBS
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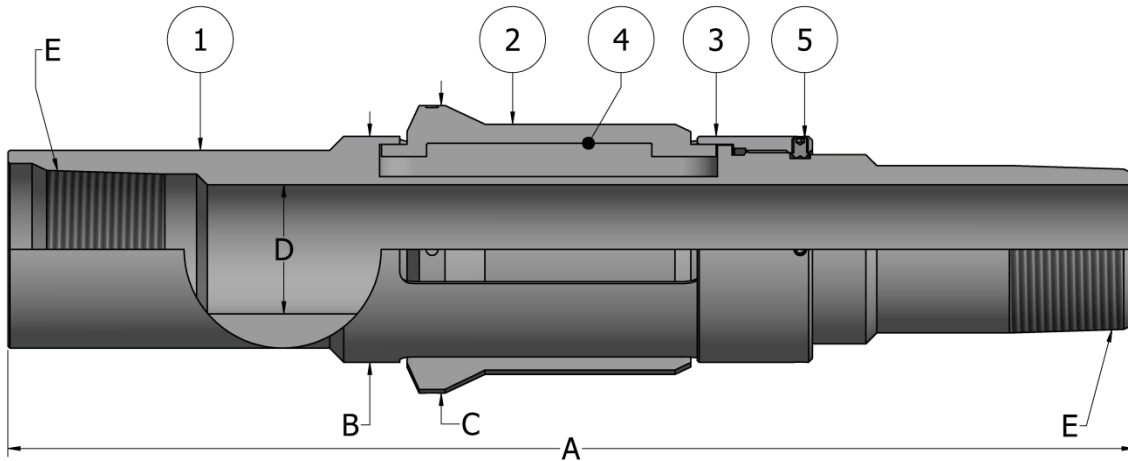
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## I) TECHNICAL ILLUSTRATION

I-1) 4-1/2" – 5-1/2"



**I-1.1) Dimensional Data**

PART NUMBER	A	B	C	D	E
	TOOL LENGTH (INCHES)	TOOL GAGE OD (INCHES)	MAX. TOOL OD* (INCHES)	MIN. TOOL ID (INCHES)	THREAD CONNECTION
20545	17.50	3.50	3.850	2.00	2.375-8RD EUE
20546	17.50	3.50	3.780	2.00	2.375-8RD EUE
20555	19.00	4.12	4.620	2.00	2.375-8RD EUE
20556	19.00	4.12	4.513	2.00	2.375-8RD EUE

\*Max OD across compressed locator blocks.



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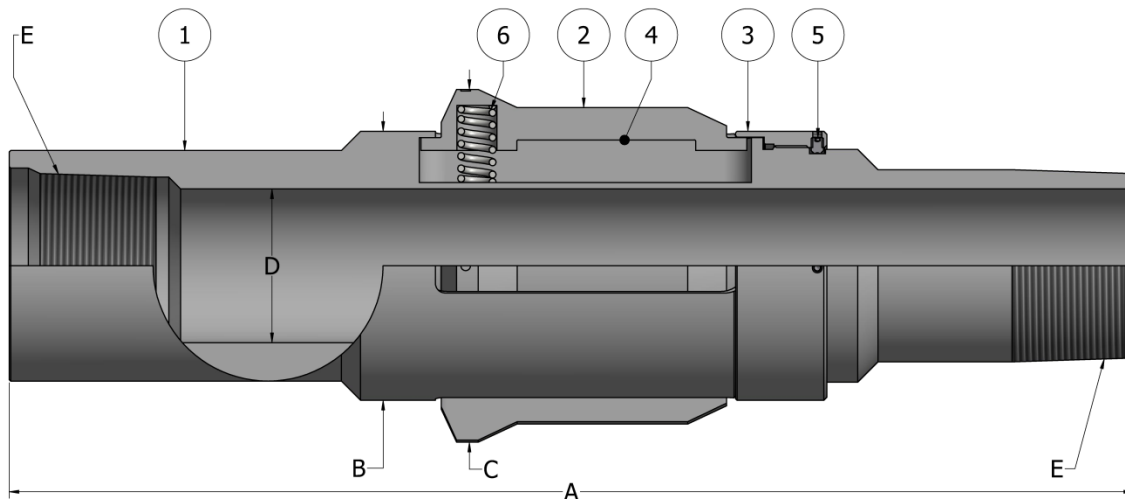
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## D) TECHNICAL ILLUSTRATION (cont'd)

### I-2) 7" – 13-3/8"



### I-3) Dimensional Data

PART NUMBER	A	B	C	D	E
	TOOL LENGTH (INCHES)	TOOL GAGE OD (INCHES)	MAX. TOOL OD* (INCHES)	MIN. TOOL ID (INCHES)	THREAD CONNECTION
20570	22.00	5.25	5.868	3.00	3.500-8RD EUE
20571	22.00	5.25	5.868	2.44	2.875-8RD EUE
20585	22.25	7.09	7.452	4.00	4.500-8RD EUE
20595	22.25	8.00	8.472	4.00	4.500-8RD EUE
20511	24.50	10.13	10.597	4.00	4.500-8RD EUE
20513	24.50	11.74	12.207	4.00	4.500-8RD EUE

\*Max OD across compressed locator blocks.





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## J) REVISION HISTORY

DATE	REVISION	DESCRIPTION OF CHANGES	REVISED BY	APPROVED BY
08/08/2018	A	Created new manual	-	-