



SERVICE PARTS LIST

BULLETIN NO.
54-24-0290

SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS		REVISED BULLETIN	DATE
18 Volt 1/2" Lok-Tor™ II Hammer Drill			July 2013
CATALOG NO.	0627-20	STARTING SERIAL NO.	A79A
		WIRING INSTRUCTION SEE REVERSE SIDE	

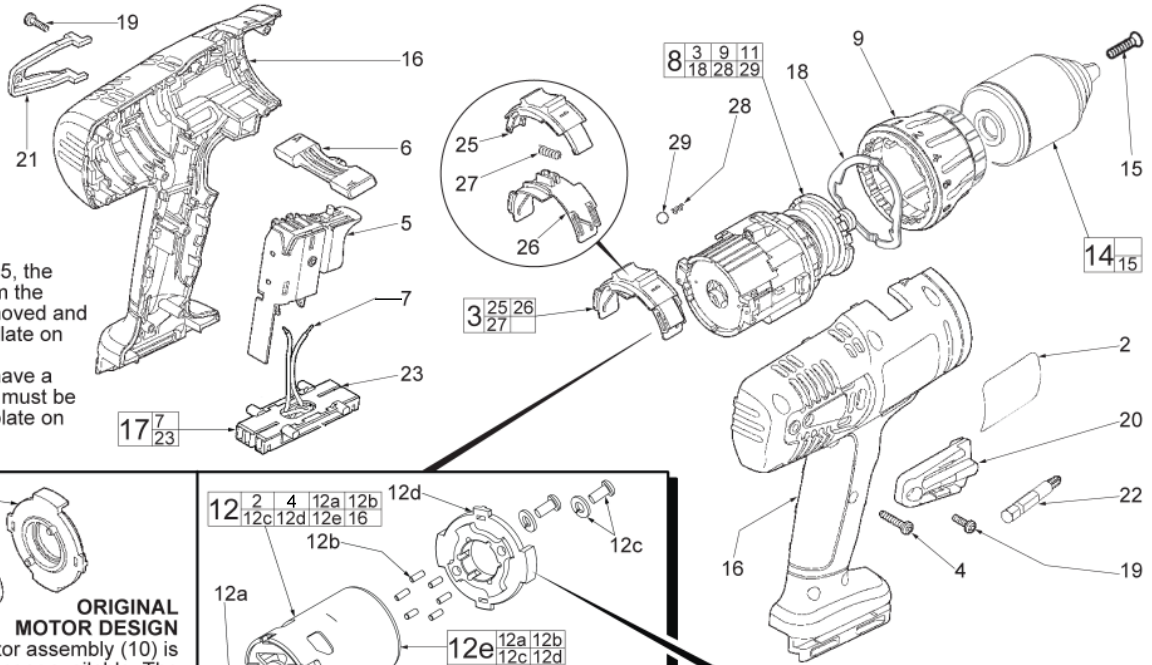
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EXAMPLE:

Component Parts (Small #)
Are Included When Ordering
The Assembly (Large #).

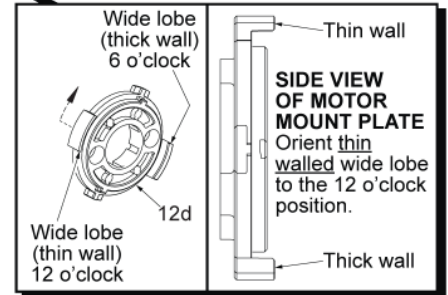
NOTE:

When installing kit 23-30-0755, the Nylon Motor Mount Plate from the original gearbox must be removed and the Aluminum Motor Mount Plate on new Motor used. Service replacement gearboxes will have a nylon motor mount plate that must be removed and the aluminum plate on motor used.



ORIGINAL MOTOR DESIGN
Motor assembly (10) is no longer available. The individual components for the original motor design (10a, 10b, 10c and 10d) are available for service along with the corresponding handle kit (16a).
If the original motor needs replacing, Motor/Handle Service Kit 23-30-0755 (12) must be ordered. All elements of the old motor assembly must be discarded. Motor Mounting Plate (11) must also be removed and discarded.

23-30-0755 MOTOR/HANDLE SERVICE KIT (12)
This is a direct replacement for motor assembly (10). This kit consists of the motor parts shown above (12a, 12b, 12c, 12d and 12e along with a new set of handles 16b and service nameplate 2).



SEE NEXT PAGE FOR PROPER ORIENTATION OF MOTOR IN THE LEFT HANDLE HALVE

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.	FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	44-66-1090	Mounting Plate	(1)	22	48-30-1520	#2 Phillips Bit	(1)
2	12-20-0655	Service Nameplate	(1)	23	-----	Connector Block Cover	(1)
3	45-24-0600	Speed Selector Assembly	(1)	25	45-24-0850	Speed Selector Slide	(1)
4	06-82-7236	4-20 x 5/8" Pan Hd. Plastite T-10	(9)	26	43-56-0800	Speed Selector Guide	(1)
5	23-66-0605	Switch Assembly	(1)	27	40-50-1390	Speed Selector Spring	(1)
6	45-24-0640	Reversing Shuttle	(1)	28	40-50-0520	Speed Selector Detent Spring	(1)
7	-----	Lead Wire Assembly (set of 2)	(1)	29	02-02-1300	5mm Ball	(1)
8	14-29-0185	Gearbox Assembly	(1)		42-70-5005	Clip-Lok (Not Shown)	(1)
9	43-76-0800	Clutch Ring Assembly	(1)		49-15-0400	Side Handle (Not Shown)	(1)
10	-----	Motor Assembly (See item #12 below)	(1)				
10a	45-22-0710	Rear Rubber Sleeve	(1)				
10b	45-22-0340	Front Rubber Sleeve	(1)				
10c	22-18-1165	Brush Assembly Set (Set of 2)	(2)				
10d	43-56-0820	Motor/Switch Wire Harness (not shown)	(1)				
11	44-66-1090	Mounting Plate	(1)				
12	23-30-0755	Motor/Handle Service Kit	(1)				
12a	45-22-0505	Rubber Sleeve	(1)				
12b	45-22-0712	Rubber Pin	(6)				
12c	06-82-7238	Screw/Lockwasher	(2)				
12d	44-66-1092	Mounting Plate	(1)				
12e	-----	Motor Assembly	(1)				
14	48-66-1575	1/2" Keyless Chuck	(1)				
15	05-88-1500	M6 x 1.0 LH Chuck Screw w/ locking patch	(1)				
16	31-50-2275	Handle Kit	(1)				
17	22-56-0985	Connector Block Assembly	(1)				
18	40-50-1130	Detent Spring	(1)				
19	06-82-5275	6-32 x 5/16" Pan Hd. Tapt. T-15 Scr.	(2)				
20	43-72-0455	Bit Holder Assembly	(1)				
21	43-72-0300	Belt Clip Holder	(1)				

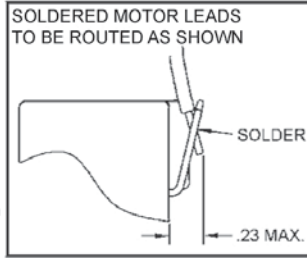
FIG. NOTES:
 10c When ordering the service brush assemblies (10c) only, the yellow wires are not supplied. The wires must be unsoldered from the old brush holders and resoldered to the new brush holders.
 17,23 Snap cover (23) onto connector block (17) after installing leadwire assembly (7).

SEE PAGES 3, 4 AND 5 FOR IMPORTANT INSTRUCTIONS TO PROPERLY ASSEMBLE THE GEARBOX AND THE CLUTCH RING.

WIRING INSTRUCTIONS - Original Motor Design

NOTE:

Proper polarity in the terminal block requires leads to be crossed as illustrated.



◆ NOTE:

When ordering the service brush assemblies (13) only, the yellow brush assembly wires are not supplied. The wires must be unsoldered from the old brush holders and resoldered to the new brush holders. Care must be taken to position and resolder the wires as in the old assembly.

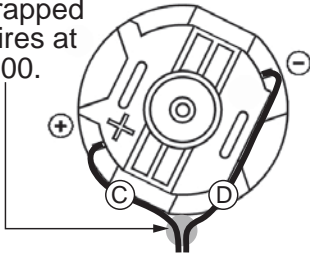
Shorter lead to the lower ⁺ motor terminal

Longer lead to upper ⁻ motor terminal

Connect the terminals of leadwire assemblies to the tabs on the bottom of the switch and solder, as shown.

If yellow motor lead wires are damaged, order No. 23-94-5061 (10' length of yellow 16 gauge wire). Cut and strip to the specifications listed below.

Position motor as shown. Trapped wires at 6:00.



Yellow motor leads 'C' and 'D' are placed in a molded trap on the motor. Orient the motor (where the wires come together in the trap) at the 6:00 position and place in the left handle half.

WARNING!

Switch polarity sensitive if wired incorrectly with the terminal block(17). The switch will be damaged and destroyed.

WIRING SPECIFICATIONS				
Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
A	Black	22-56-0985	-----	Leadwire assembly - Black
B	Red	22-56-0985	-----	Leadwire assembly - Red
C	Yellow	◆	4"	Strip one end .25 and solder to switch / Strip the other end .18 and solder to brush assy.
D	Yellow		5"	

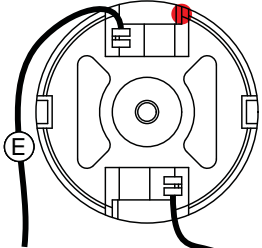
TERMINAL DESCRIPTION		
Code	Part No.	Qty.

Longer lead to upper ⁺ motor terminal

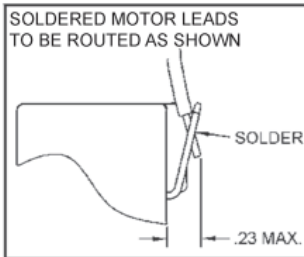
WIRING INSTRUCTIONS - 23-30-0755 Motor Assembly

Shorter lead to lower ⁻ motor terminal

Position motor as shown with 'red dot' at the top (positive terminal).



Positive brush assembly is to be at the 12:00 position.



NOTE:

Proper polarity in the terminal block requires leads to be crossed as illustrated.

WARNING!

Switch polarity sensitive if wired incorrectly with the terminal block(17). The switch will be damaged and destroyed.

WIRING SPECIFICATIONS				
Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
A	Black	22-56-0985	-----	Leadwire assembly - Black
B	Red	22-56-0985	-----	Leadwire assembly - Red
E	Red	-----	5"	Strip one end .25 and solder to switch/Strip the other end .18 and solder to motor terminal (Both wires).
F	Black	-----	4"	

TERMINAL DESCRIPTION		
Code	Part No.	Qty.

SETTING THE CLUTCH RETAINING COLLAR

- NOTE: Triangle ▲ of rear gearbox assembly housing is aligned with square ■ located on front housing.

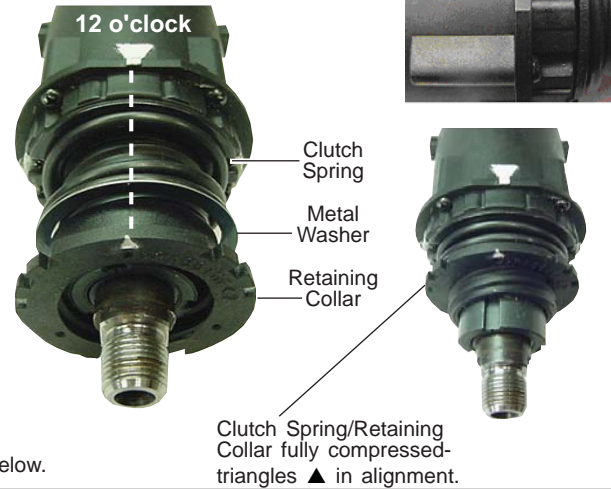
Begin assembly by aligning the retaining collar triangle ▲ with front housing square ■ and rear gearbox triangle ▲ at the 12 o'clock ⊙ position.

- Turn retaining collar clockwise until clutch spring is fully collapsed. Retaining collar triangle ▲ should be at approximately the 12 o'clock ⊙ position to the front housing square ■ and the rear gearbox triangle ▲.
- If the front retaining collar triangle ▲ stops at approximately the 5 o'clock ⊙ position, the retaining collar will have been installed 180° off. This requires unthreading and rethreading of the collar. Initial position of collar for proper threading is with triangles ▲ aligned.
- When fully compressed, make sure the retaining collar triangle ▲ is in line with the front housing square ■ and rear gearbox triangle ▲.

Clutch collar triangles ▲ on a few gearboxes may be slightly to the left of the center 12 o'clock position when tightened, as shown below.

Gearbox square ■ and triangle ▲ are whitened for reference only.

Triangle ▲ of rear gearbox assembly housing is aligned with square ■ located on front housing.



STEP 1

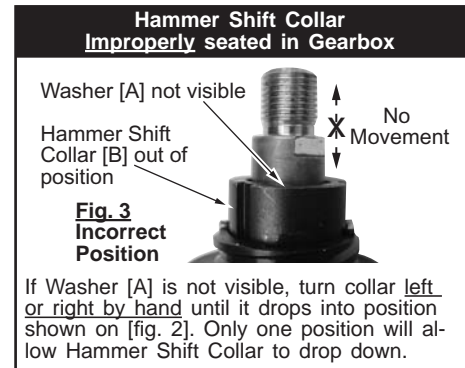
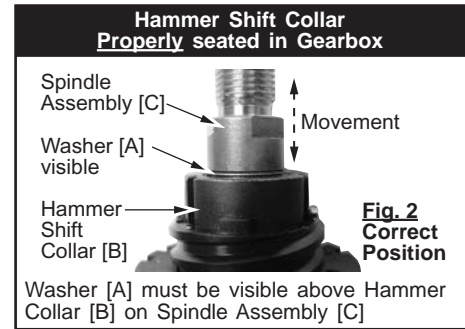
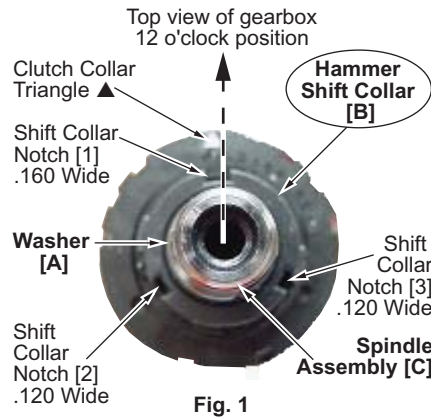
CHECKING / SETTING THE HAMMER SHIFT COLLAR

The following must be in place:

- Clutch collar triangle ▲ (tight) in-line, slightly to the left of gearbox 12 o'clock ⊙ position. (Set in step 1).
- Washer [A] visible above hammer shift collar, (fig. 2).
- Hammer Shift Collar [B] notch [1] with the .160 wide notch in-line or slightly left of gearbox 12 o'clock position (fig. 1).

If hammer Shift Collar [B] is out of position, it will look like example shown in (fig. 3).

Rotate shift collar left or right by hand until it drops into position shown in (fig. 2). The washer must be visible, and the .160 wide shift collar notch [1] must be in-line or slightly left of top 12 o'clock position, as viewed from the front of the gearbox.



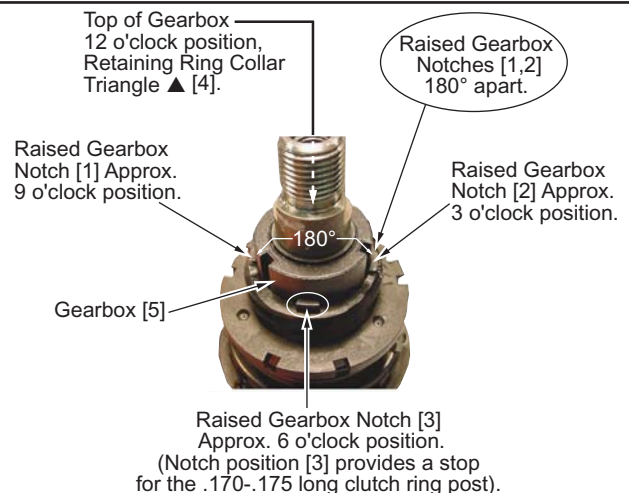
STEP 2

LOCATING RAISED GEARBOX NOTCHES FOR CLUTCH RING SPRING ASSEMBLY

Locate clutch ring spring notches by first identifying...

- The triangle ▲ on top of retaining collar [4].
- Raised gearbox notch [1] located at approx. 9 o'clock position.
- Raised gearbox notch [2] located at approx. 3 o'clock position. (Notch [1] and [2] located 180° apart on gearbox [5], as viewed from front of gearbox).
- Raised gearbox notch [3]. (Will not contact clutch ring spring).

Proceed to STEP 4.

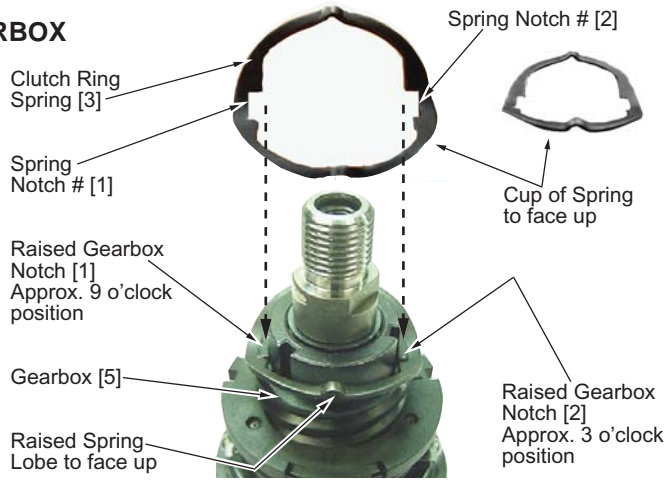


STEP 3

INSTALLING CLUTCH RING SPRING ONTO GEARBOX

- Position clutch ring spring [3] above gearbox [5]. (Cup of spring to face up).
- Position clutch ring spring notches [1,2] over raised gearbox notches [1,2]. (Make sure spring is seated flat and fits firmly over both raised gearbox notches).

Proceed to **RECAPPING STEPS 1,2,3,4.**

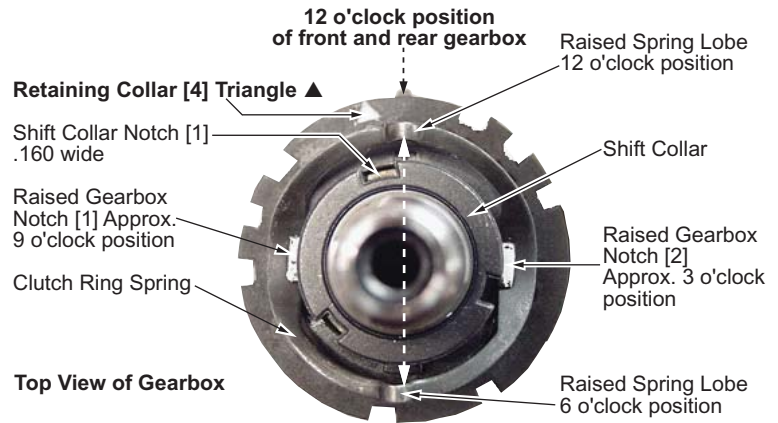


STEP 4

RECAPPING STEPS 1,2,3,4

- Retaining collar [4] should be tightened completely (clockwise) with triangle ▲ in-line or slightly to the left of top 12 o'clock position.
- Shift collar notch [1] with a .160 wide opening must be in-line or slightly to the left of the 12 o'clock position of front gearbox. (Widest of the three openings in the shift collar).
- Raised spring lobes will be in-line with the 12 and 6 o'clock position of front gearbox.

Proceed to **STEP 5.**



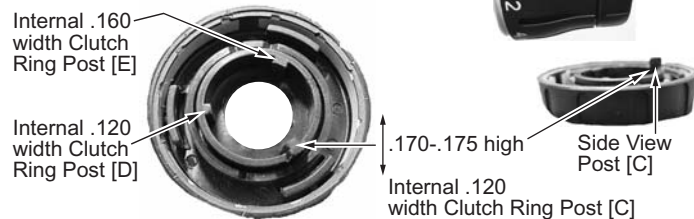
INSTALLING CLUTCH RING ONTO GEARBOX

Before installing clutch ring assembly [A,B] onto gearbox...

- Identify internal clutch ring [A] components and the corresponding widths.
- Concentrate on the main clutch ring post when installing the clutch collar assembly. The main post [E] is the widest of the three, with a width of approximately .160.

Proceed to **STEP 6.**

NOTE: Front Clutch Ring section [A] has been removed from section [B] for Illustration Only. Section [A,B] should remain together and not separated.



Rear view of (outside) Clutch Ring [A] to illustrate internal Clutch Ring Post widths and positions.

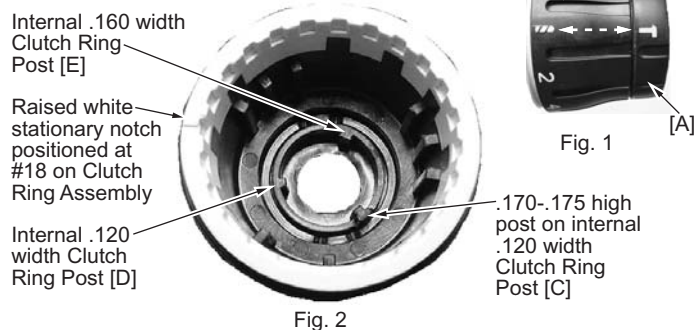
STEP 5

INSTALLING CLUTCH RING ONTO GEARBOX

- Align two piece clutch assembly [A,B], as shown in fig. 1.
- Turn clutch ring assembly to position shown in fig. 2 to view internal clutch ring posts [C,D,E] for correct position prior to assembling clutch ring to gearbox.

Proceed to **STEP 7.**



12 o'clock position of Clutch Ring [B] will have the Drill Symbol .



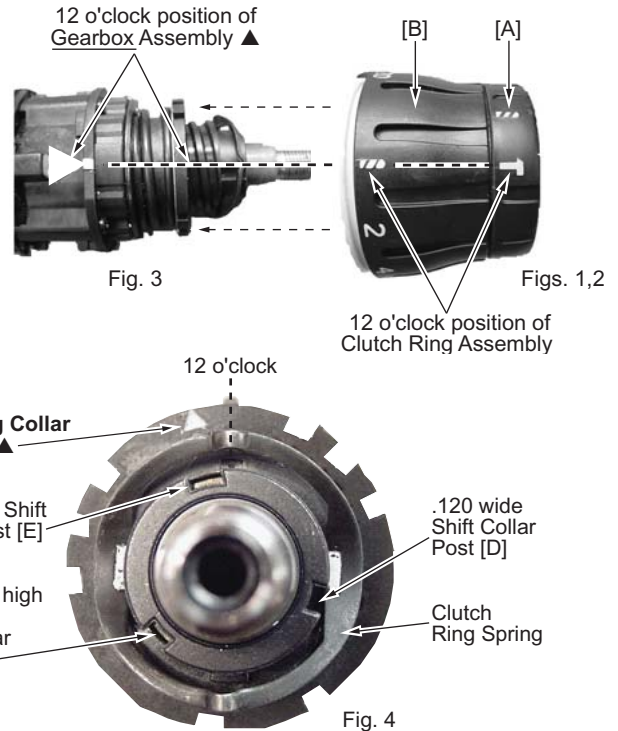
Picture shown with hammer symbol **T** aligned with drill symbol **⚡** ready for assembly.

STEP 6

INSTALLING CLUTCH RING ONTO GEARBOX



- Hold gearbox assembly, fig. 3 in one hand with the 12 o'clock position facing up.
- Install clutch ring assembly, figs. 1,2 over gearbox assembly, fig. 3 in direction of arrows.
- Make sure drill symbol  and hammer symbol  stay in-line with the top 12 o'clock position of the gearbox when installing clutch ring.
- Failure to hold clutch ring symbols together, as shown in figs. 1,2, when installing clutch ring assembly, will result in a misalignment of the internal clutch ring post, shown / illustrated in step 5.

Proceed to STEP 8.




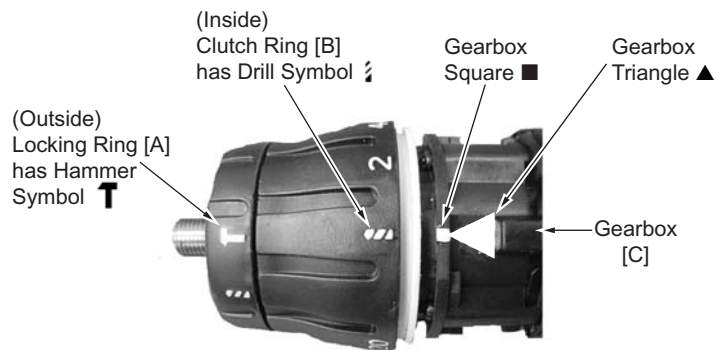
STEP 7

TOP VIEW OF GEARBOX WITH CLUTCH RING INSTALLED

- Triangle ▲ and square ■ located on gearbox [C], should be in-line with drill symbol  and hammer symbol  on clutch ring assembly [A,B].

Proceed to STEP 9.

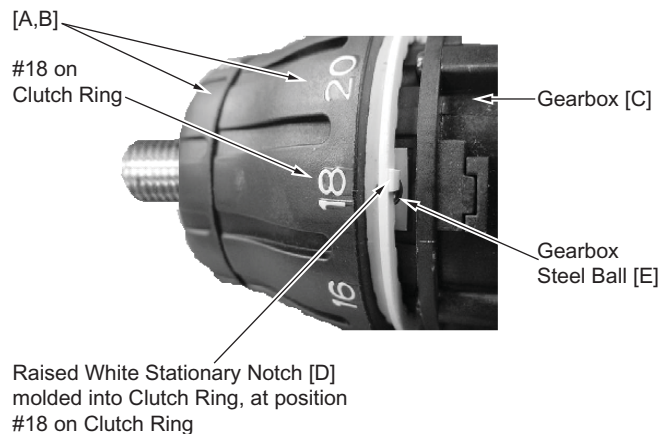
 Gearbox square ■ and triangle ▲ are highlighted for reference only.



STEP 8

RIGHT SIDE OF GEARBOX WITH CLUTCH RING INSTALLED (As viewed from the front of the gearbox)

- Clutch ring [A,B], when properly installed, will have the number 18 and raised white stationary notch [D] (as viewed from the front of the gearbox) on the right side of gearbox [C] in-line with gearbox steel ball [E].



STEP 9