

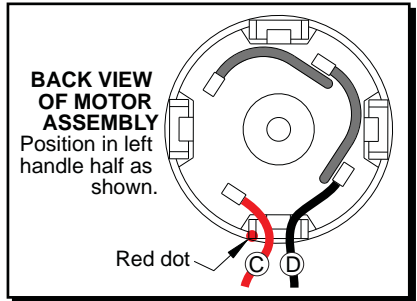
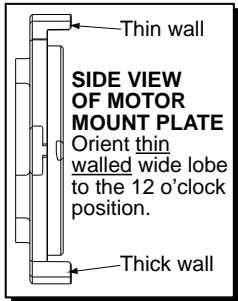
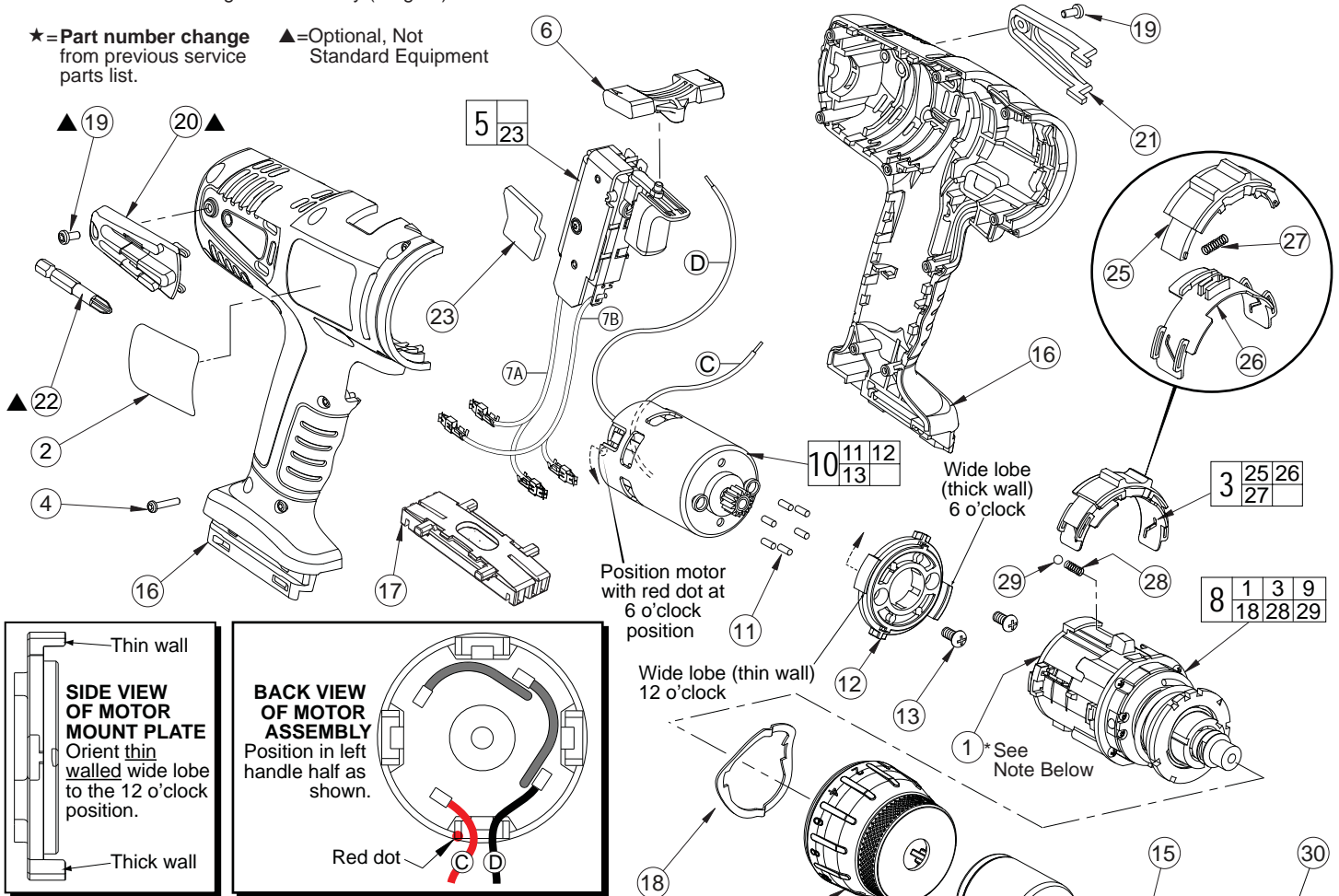


SERVICE PARTS LIST

| SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS | | REVISED BULLETIN | DATE |
|--|----------------|--|-------------|
| CORDLESS 28V 1/2" HAMMER-DRILL | | 54-24-7010 | Oct. 2011 |
| CATALOG NO. | 0724-20 | STARTING SERIAL NO. | A55B |
| | | WIRING INSTRUCTION SEE REVERSE SIDE | |

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

★ = Part number change from previous service parts list. ▲ = Optional, Not Standard Equipment



| FIG. | PART NO. | DESCRIPTION OF PART | NO. REQ. |
|------|------------|--|----------|
| 1 | ----- | Mounting Plate | (1) |
| 2 | 12-20-1540 | Service Nameplate | (1) |
| 3 | 45-24-0600 | Speed Selector Assembly | (1) |
| 4 | 06-82-7236 | 4-20 x 5/8" Pan Hd. Plastite T-10 | (9) |
| 5 | 23-66-1779 | Switch Assembly | (1) |
| 6 | 45-24-0640 | Reversing Shuttle | (1) |
| 7a | 23-94-0279 | Lead Wire Assembly - Black | (1) |
| 7b | 23-94-0179 | Lead Wire Assembly - Red | (1) |
| 8 | 14-29-0225 | Gearbox Assembly | (1) |
| 9 | 42-76-0775 | Clutch Ring Assembly | (1) |
| ★ 10 | 23-30-0730 | Motor Assembly | (1) |
| ★ 11 | 45-22-0712 | Rubber Pin | (6) |
| ★ 12 | 44-66-1092 | Motor Mount Plate | (1) |
| ★ 13 | 06-82-7238 | Motor Mount Plate Screw | (2) |
| 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 | 31-50-1952 | Handle Kit | (1) |
| 17 | 22-56-0975 | 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, Optional | (1) |
| 21 | 43-72-0300 | Belt Clip Holder | (1) |
| 22 | 48-30-1520 | #2 Phillips Bit, Optional | (1) |
| 23 | 23-50-0120 | Rubber Spacer | (1) |
| 25 | 45-24-0850 | Speed Selector Slide | (1) |
| 26 | 43-56-0800 | Speed Selector Guide | (1) |
| 27 | 40-50-1390 | Speed Selector Spring | (1) |
| 28 | 40-50-0520 | Speed Selector Detent Spring | (1) |
| 29 | 02-02-1300 | 5mm Ball | (1) |
| 30 | 48-55-0935 | Carring Case, Optional | (1) |
| | 42-70-5005 | Clip-Lok (Not Shown) | (1) |
| | 49-15-0400 | Side Handle (Not Shown) | (1) |

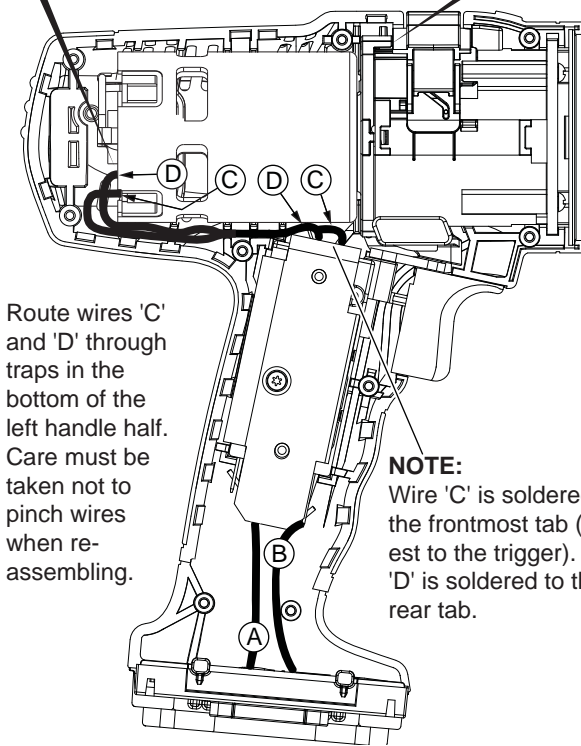
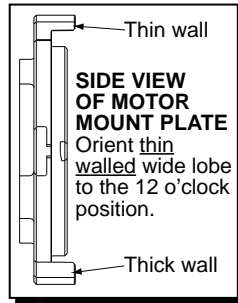
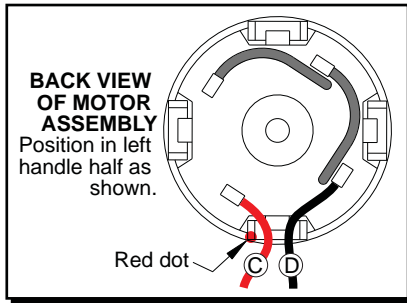
FIG. 10 NOTES:
Orient the motor assembly (10) with the red dot on the back at the 6 o'clock position. With the motor assembly in place in the left handle half, the terminal for the red motor lead (C) should be at the 7 o'clock position and the terminal for the black motor lead (D) at the 4 o'clock position as shown in the detail above.

10,12 Orient the motor mount plate (12) with the thin walled wide lobe at the 12 o'clock position when assembling to the motor assembly (10).

1,8,10,12 Service replacement gearbox assembly (8) comes with a nylon motor mount plate (1) that must be removed and discarded when servicing. A metal mounting plate (12) already exists on the motor assembly (10).

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

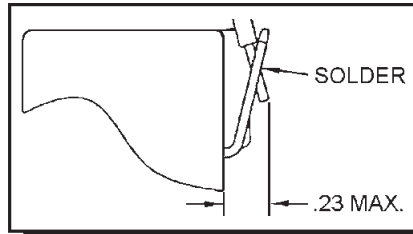
WIRING INSTRUCTIONS



Route wires 'C' and 'D' through traps in the bottom of the left handle half. Care must be taken not to pinch wires when re-assembling.

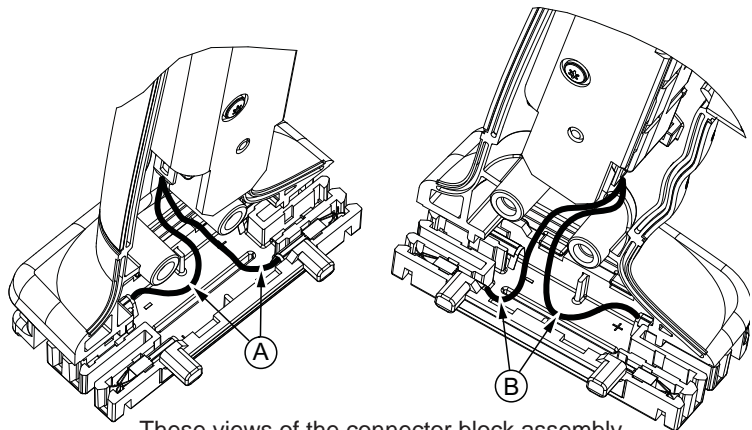
NOTE:
Wire 'C' is soldered to the frontmost tab (closest to the trigger). Wire 'D' is soldered to the rear tab.

Motor assembly leads 'C' and 'D' are to be soldered to the switch, as shown.



Connect the terminals of leadwire assemblies 'A' and 'B' to the tabs on the bottom of the switch and solder.

WARNING
SWITCH POLARITY SENSITIVE
If wired incorrectly with connector block #17, switch #5 **will be** damaged and destroyed!



These views of the connector block assembly are shown without the connector block cover for clarity.

WIRING SPECIFICATIONS

| Wire No. | Wire Color | Origin or Gauge | Length | Terminals, Connectors and 1 or 2 End Wire Preparation |
|----------|------------|-----------------|--------|---|
| 7A | Black | ----- | ----- | Leadwire assembly - Black |
| 7B | Red | ----- | ----- | Leadwire assembly - Red |
| 13C | Red | 23-30-0730 | 5.5" | Component of the motor assembly |
| 13D | Black | 23-30-0730 | 4" | Component of the motor assembly |

BULK LEAD WIRE - BULLETIN NO. 58-01-0003

TERMINAL DESCRIPTION

| Code | Part No. | Qty. |
|------|----------|------|
| | | |

INSTRUCTIONS FOR SERVICING THE CLUTCH MECHANISM

SETTING THE CLUTCH RETAINING COLLAR

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

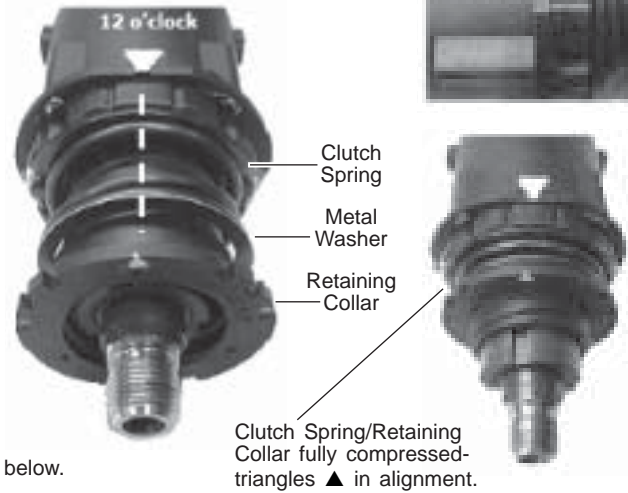
Begin assembly by aligning the retaining collar triangle ▲ with front housing square ■ and rear gearbox triangle ▲ at the 12 o'clock ⌚ position.

- 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.

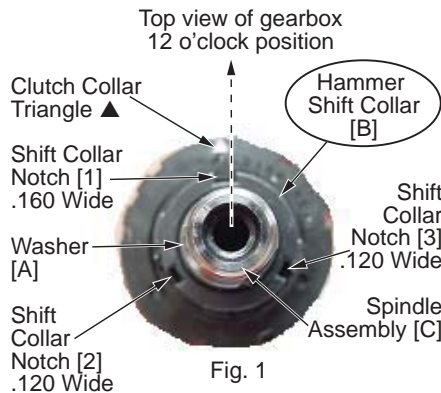


Fig. 1

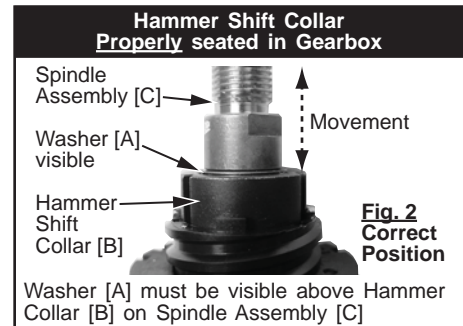


Fig. 2 Correct Position

Washer [A] must be visible above Hammer Collar [B] on Spindle Assembly [C]

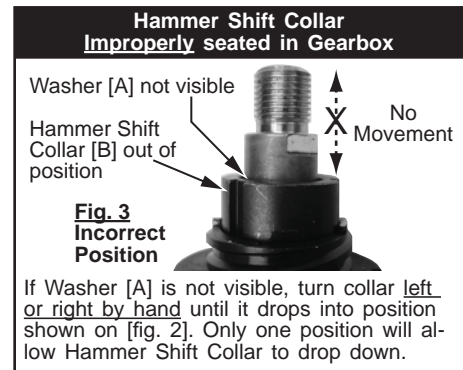


Fig. 3 Incorrect Position

If Washer [A] is not visible, turn collar left or right by hand until it drops into position shown on [fig. 2]. Only one position will allow Hammer Shift Collar to drop down.

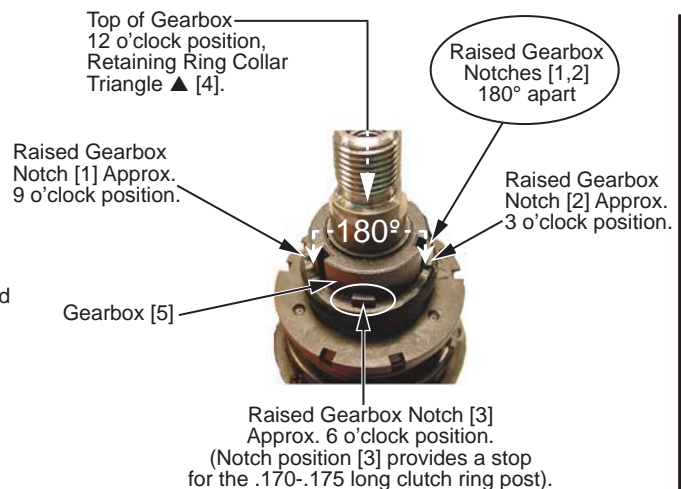
STEP 2

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.



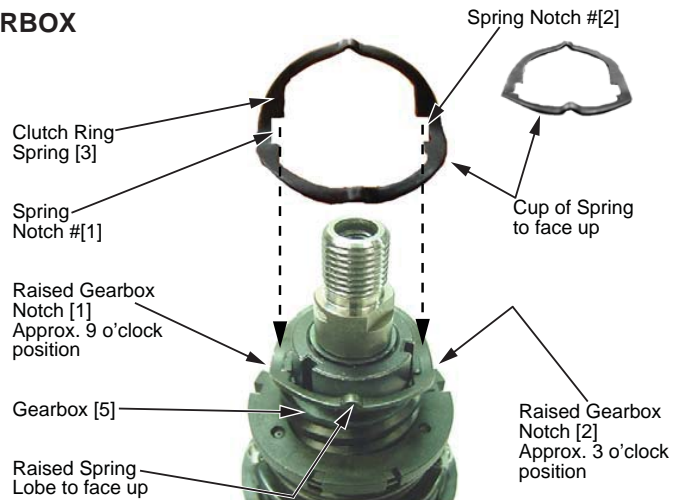
Raised Gearbox Notch [3] Approx. 6 o'clock position. (Notch position [3] provides a stop for the .170-.175 long clutch ring post).

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.**

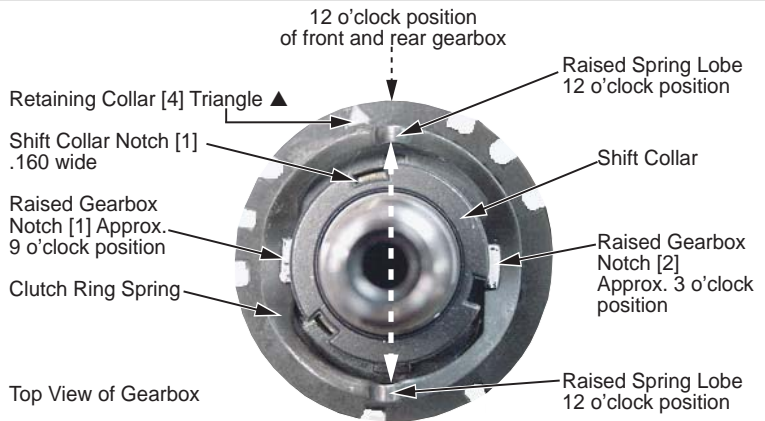


STEP 4

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

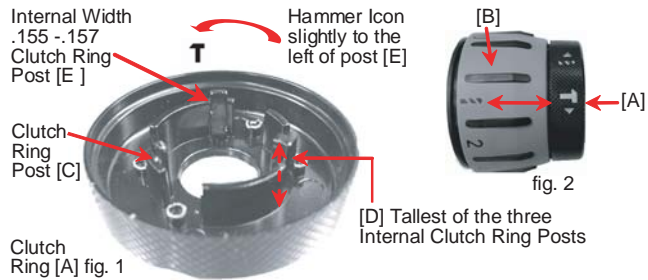
Before installing clutch ring assembly [A,B] onto gearbox...

- Locate and identify post [E] on the inside of clutch ring [A], fig. 1.
- Align hammer icon **T** on clutch collar [A] with drill bit icon **⚡** on collar [B], fig. 2.

This alignment will position internal post [E] slightly to the right of the hammer icon **T** stamped into outside cover [A] when clutch is viewed from the backside, as illustrated in step 6.

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.

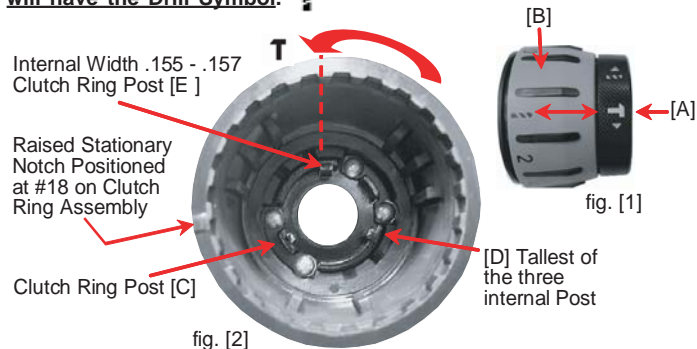
STEP 5

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. ⚡



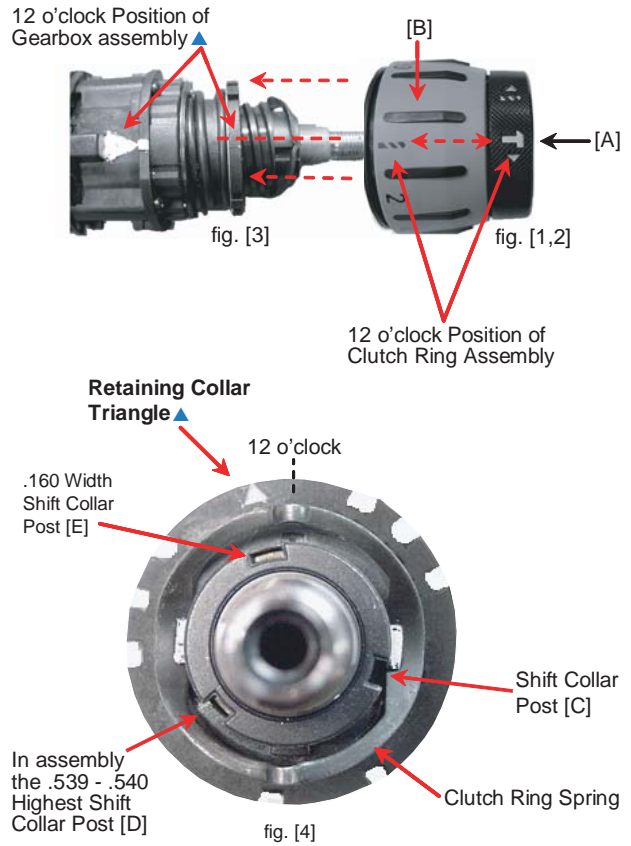
Picture shown with hammer symbol **T** aligned with drill symbol **⚡** ready for assembly.

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 [A,B], 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.




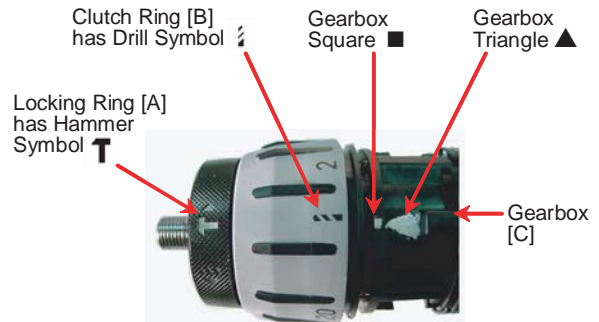
STEP 7

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