



## INSTRUCTIONS FOR THE USE OF TOOL T-0186.

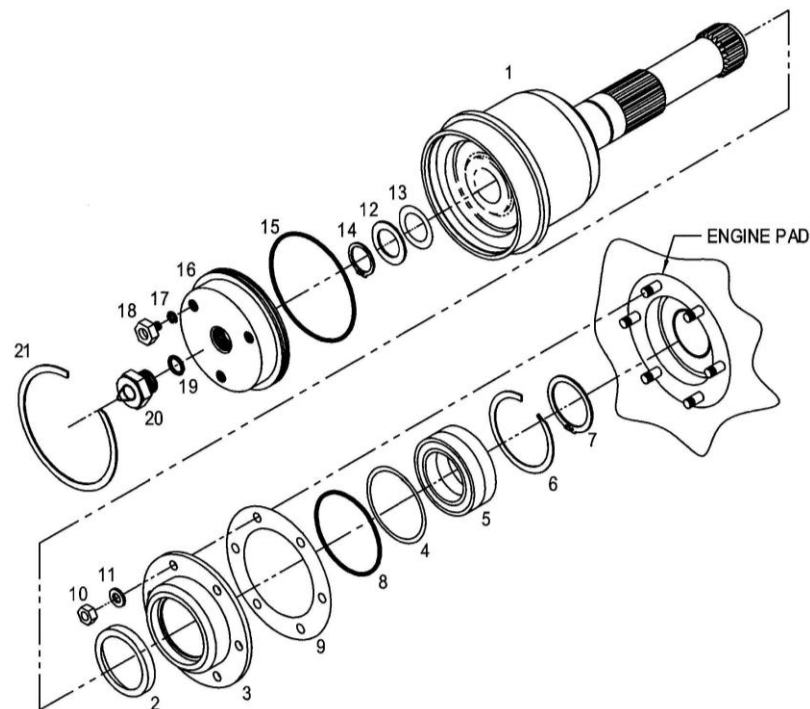


Figure 1

**NOTE;** The following is information for the use of T-0186 when performing the procedure to Repair the Over Running Clutch (Paragraph 11-7, Page MM-11-7.) and the Power Output Shaft (Paragraph 11-13, Page MM-11-13.)

**NOTE:** Pushing the ECD4014- ( ) and ECD 4017- ( ) bearing housings from the clutch and Power Out put Shaft will destroy the bearings. Do not reuse the bearings.

I. Removing the ECD4014-( ) bearing.

A. Remove the overrunning clutch assembly (1) from the engine gearbox in accordance with paragraph 11-5, page MM-11-5 of the TH28/480, 480B Maintenance Manual.

B. Remove the N5100-137-S-PP retaining ring (7) from the clutch assembly (1).

C. Place the clutch assembly in the T-0186-11 tool as shown in figure 2 using the T-0186-9 Segments to support the bearing housing (3).



Figure 2

D. Push the clutch assembly from the bearing housing (3) using a press. (Hydraulic or Arbor) (Figure 2). If the shaft will not press out of the bearing housing assembly using moderate pressure, heat the bearing assembly with a heat gun to 250°F (121°C).

E. Remove the ECD4014-( ) bearing (5) from the bearing housing (3).

1. Remove the VH-218 retaining ring (6) from the bearing housing (3).



Figure 3

2. Place the bearing housing assembly in the T-0186-11, & 9 tool and use T-0186-13 to press the bearing (5) from the housing (3). (Figure 3)

3. Retain any shims (4) that are installed under the bearing (5).

4. Turn the bearing housing (3) over in the T-0186-11, & 9 tool and use the T-0186-13 to press the seal (2) out of the bearing housing (3).

II. Installing the ECD0014-( ) bearing.

A. Place a new CRWI14809 seal (2) on the T-0186-5 stepped end, and press the seal into the bearing housing (3). (Figure 4)



Figure 4

B. Determine the amount of shims required for assembly in accordance with paragraph 11-7, D (6) on page MM-11-8 of the Enstrom TH28/480 Series Maintenance Manual and install the shims in the bearing housing (3).

C. Set the bearing housing with shims installed in the press and use T-0186-7 to push the bearing (5) into the housing (3). (Figure 5)

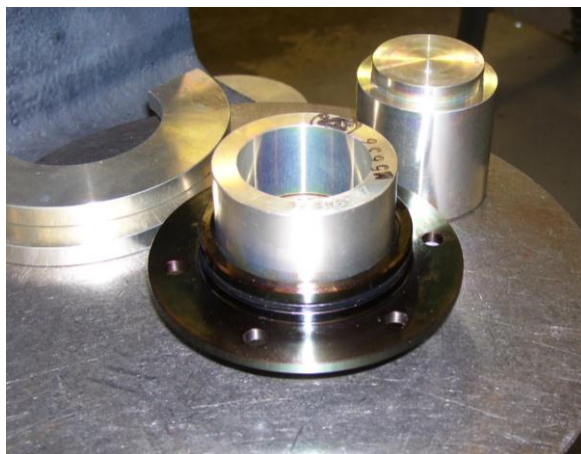


Figure 5

**Note: The ECD4014-( ) bearing must be pushed from the outside race to avoid damage to the bearing.**

D. Place the clutch assembly (1) in the press. (Figure 6), and carefully place the bearing housing assembly (3) onto the clutch shaft. (Figure 6)



Figure 6

E. Use T-0186-13 to press the bearing assembly onto the clutch shaft (Figure 6).

**NOTE: The ECD4014-( ) bearing must be pressed onto the clutch shaft from the inside race to avoid damage to the bearing.**

F. Install the N5100-137-S-PP retaining ring (7).

G. Install the clutch assembly onto the engine gearbox in accordance with paragraph 11-8, page MM-11-9 of the maintenance manual.

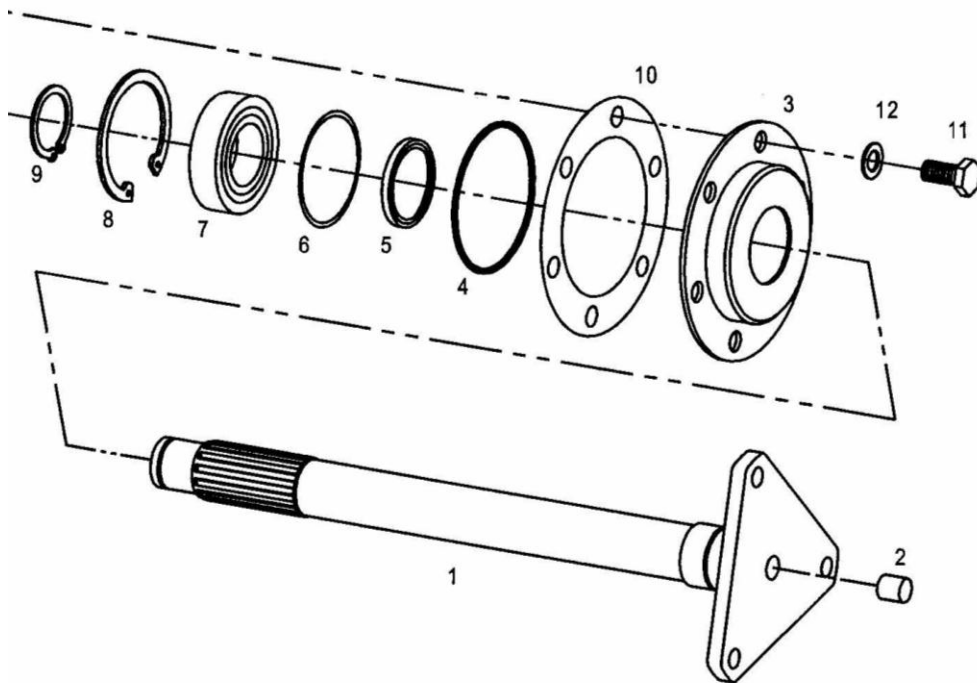


Figure 7

**NOTE; the following is an explanation of the use of T-0186 in the procedure to Repair the Power Output Shaft. (Paragraph 11-13, Page MM-11-13.)**

**NOTE: Pushing the ECD4014- ( ) and ECD 4017- ( ) bearing housings from the clutch and Power Output Shaft will destroy the bearings. Do not reuse the bearings.**

III Removing the ECD4017-( ) bearing.

- A. Remove the aft drive shaft assembly from engine in accordance with paragraph 11-11, page MM-11-12 of 480B Series maintenance manual.
- B. Remove the N5100-98-S-PP (9) retaining ring from the drive shaft. (Figure 8)



Figure 8

C. Position the drive shaft assembly in the T-00186-11, & 9 tool and press the shaft from the bearing housing assembly. (Figure 9)



Figure 9

D. Remove the N5000-187-S-PP (8) retaining ring from the bearing housing assembly (3).

E. Place the bearing assembly (3) in the tool T-0186-11 & 9 and push the bearing out of the assembly using T-0186-15. (Figure 10)



Figure 10

F. Remove the seal by inserting a small screw driver or pick under the seal and prying it out.

#### IV. Installing the ECD4017-( ) Bearing.

A. Position a new 11052 seal (5) in the housing (3) and use the stepped end of tool T-0186-3 to press it into place. (Figure 11)



Figure 11



B. Determine the amount of shims required for assembly in accordance with paragraph 11-13, B (7) on page MM-11-16 of the Enstrom TH28/480 Series Maintenance Manual and install the shims in the bearing housing (3).

C. Press the ECD4017-( ) bearing (27) into the bearing housing (23) using the non-stepped end of tool T-0186-3.

**NOTE: the T-0186-3 press tool must push on the outside race of the ECD4017-( ) bearing.**

D. Install the N5000-187-S-PP retaining ring (8) in the housing (3).

E. Install the drive shaft (1) into the bearing housing (3).

1. Position the bearing housing on the T-0186-5 with the stepped end up in the press. (Figure 12)



Figure 12

3. Press the shaft into the bearing until the shoulder on the shaft seats into the bearing inner race. (Figure 13)



Figure 13

4. Install the N5100-98-S-PP retaining ring (9) onto the shaft.
- C. Install the drive shaft assembly into the engine gearbox in accordance with paragraph 11-14, page MM-11-17.