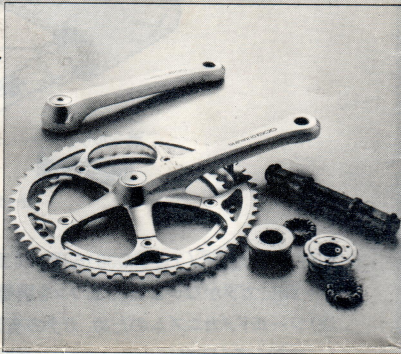


# SERVICE INSTRUCTION

## New Shimano 600EX Front Chainwheel

- Front chainwheel FC-6207
- Bottom Bracket Assembly BB-6207



NEW  
**SHIMANO 600 EX**

### ■ Features

- Seal caps are attached on the right and left cups to avoid mud entry. (Sealed mechanism)
- A short pin is provided between the large front chainwheel and the crank arm; the chain, if slipping off the large front chainwheel, can be easily replaced into position with the front derailleur.
- Safety crank concept is adopted. Your ankle is no longer liable to strike against the crank arm: Enjoy comfortable riding.

### ■ Specifications

Material	Light alloy, steel
Gear setting pitch dia.	130 mm (LD pitch)
Applicable chain	1/2" × 3/32"
No. of teeth	Inner chain ring; 39T — 45T Outer chain ring; 48T — 53T
Crank length	170 mm
Pedal set-screw	B.C. 9/16" × 20 T.P.I., M 14 × P.I. 25
Cup screw size	1.37" × 24T (ENGLISH) 35 × 1.0 (FRENCH) 36 × 24T (ITALIAN)

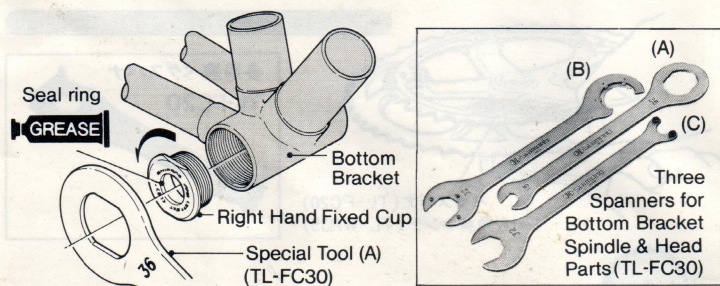
### ■ Note

- Bottom bracket spindle, and right and left hand cups are not interchangeable with Dura-Ace and Dura-Ace EX series.
- Be sure to tighten up the right and left cranks securely.
- The bottom bracket spindle comes in 2 types depending on bracket shell widths.  
116 mm for Shell width 68 mm  
119 mm for Shell width 70 mm

### ■ Assembly

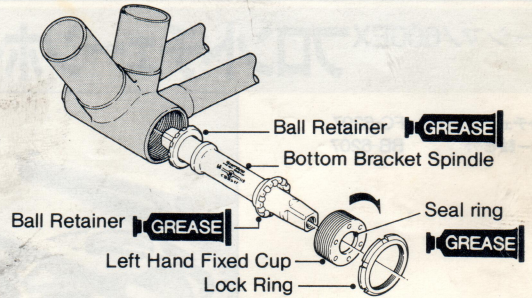
#### Assembly of Bottom Bracket Section

- 1) Apply a little grease to the right hand cup threads, and screw the cup anticlockwise into the bottom bracket. Then tighten up this cup using the Shimano exclusive tool (A) (TL-FC30). Apply a force by hand up to 35 — 40 kg (77-88 lbs.) by gripping the spanner 20 cm (7-7/8") from its end.



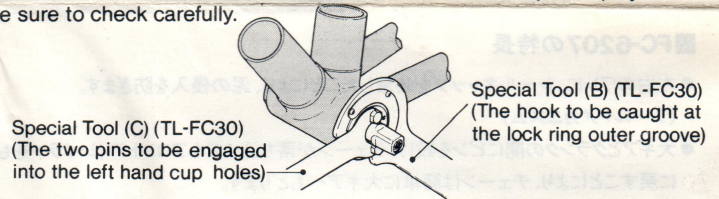
Right hand cap tightening torque: 700 — 800 kgfcm (600 — 690 in.lbs.)

- 2) Apply enough grease to the ball retainers. Install them onto each side of the bottom bracket spindle, and put them into the bottom bracket from left side. Next, apply grease to the left hand cup threads and assemble this cup and the lock ring. See the illustration below



- 3) Using the Shimano exclusive tools (B) and (C) (TL-FC30), adjust the left hand cone to eliminate any play. Next tighten up the lock ring.

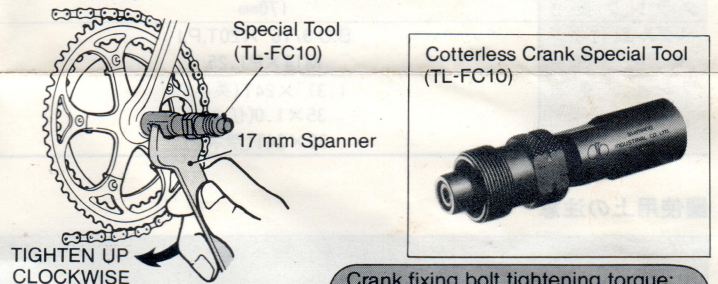
Note: The sealed mechanism makes it difficult to detect spindle play. Be sure to check carefully.



Lock ring tightening torque: 700 — 800 kgfcm (600 — 690 in.lbs.)

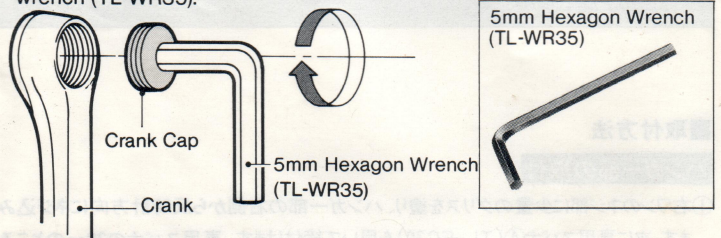
### Crank Assembly

- 1) Set the right hand crank to the right side of the bottom bracket spindle (just onto its four sides). Screw the crank fixing bolt onto the bottom bracket spindle by means of the cotterless crank special tool (TL-FC10) and a 17 mm spanner. Secure the left hand crank the same way.



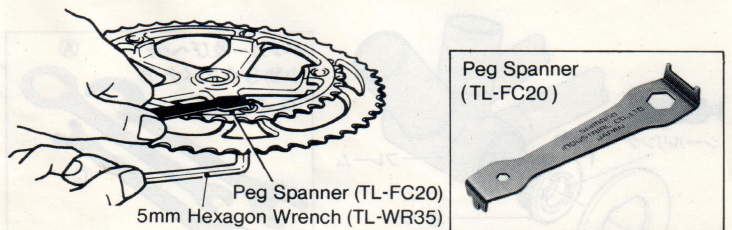
Crank fixing bolt tightening torque: 250 — 350 kgfcm (220 — 300 in.lbs.)

- 2) Place and tighten up the right and left crank caps with the 5 mm hexagon wrench (TL-WR35).



### ■ Chain-ring Replacement

- Holding the chain-ring fixing nut with the special peg spanner (TL-FC20), turn the chain-ring fixing bolt using the 5 mm hexagon wrench (TL-WR35). Now the ring can be removed.



Chain-ring fixing bolt tightening torque: 80 — 110 kgfcm (70 — 97 in.lbs.)

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