

# SERVICE INSTRUCTION

## Shimano 105 series Front chainwheel

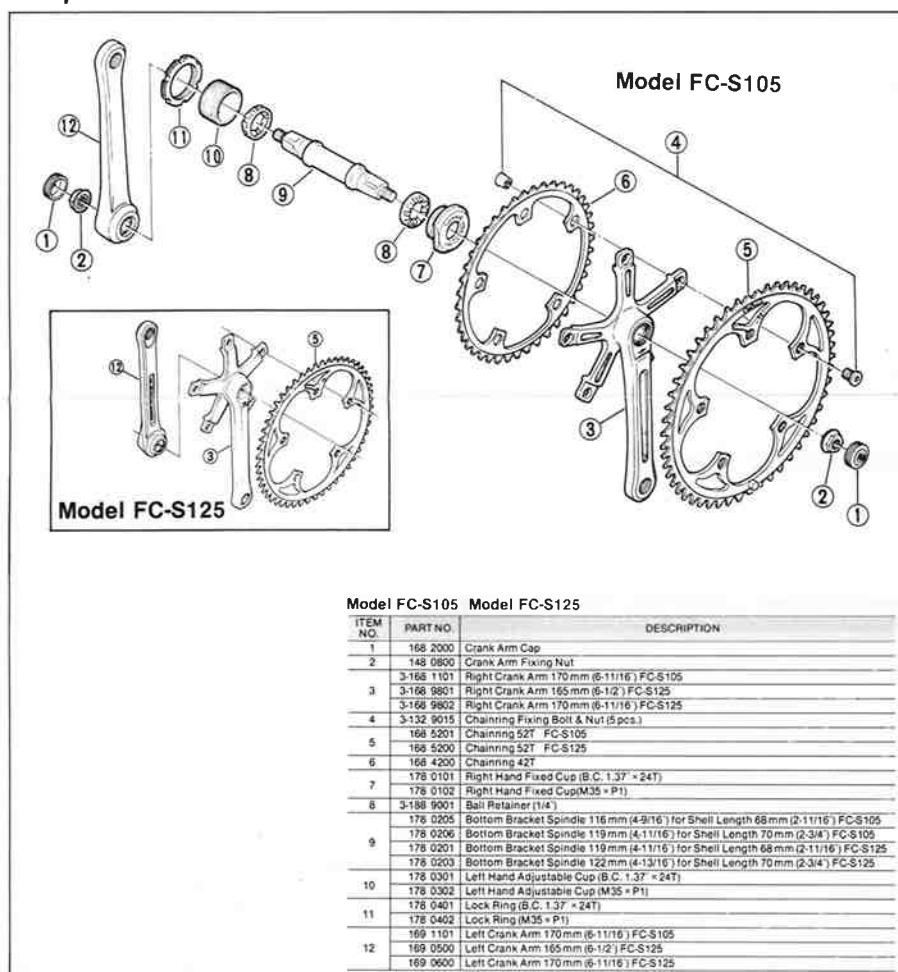
FC-S105 DOUBLE GEAR  
FC-S125 DOUBLE GEAR



### ■ Features

- The W-cut chainwheel teeth of the larger gear have been specially shortened in order to improve the gear change down to small gear. (FC-S105)
- A short pin on the large front chainwheel just behind the crank arm, means the chain does not slip between crank arm and chain-ring. (FC-S105)
- Crank arm has been recessed at the point near where it is attached to the front chainwheel. This means the ankle is no longer liable to strike the crank arm.
- Gold arrow pattern adds solid looking finish.

### ■ Exploded View and Parts List



ITEM NO.	PART NO.	DESCRIPTION
1	168 2000	Crank Arm Cap
2	148 0800	Crank Arm Fixing Nut
3	3-168 1101	Right Crank Arm 170mm (6-11/16") FC-S105
3	3-168 9801	Right Crank Arm 165mm (6-1/2") FC-S125
3	3-168 9802	Right Crank Arm 170mm (6-11/16") FC-S125
4	3-132 9015	Chaining Fixing Bolt & Nut (5 pcs.)
5	168 5201	Chaining 52T FC-S105
5	168 5200	Chaining 52T FC-S125
6	168 4200	Chaining 42T
7	178 0101	Right Hand Fixed Cup (B.C. 1.37" x 24T)
7	178 0102	Right Hand Fixed Cup (M35 x P1)
8	3-168 9001	Ball Retainer (1/4")
9	178 0205	Bottom Bracket Spindle 116mm (4-5/16") for Shell Length 68mm (2-11/16") FC-S105
9	178 0206	Bottom Bracket Spindle 119mm (4-11/16") for Shell Length 70mm (2-3/4") FC-S105
9	178 0201	Bottom Bracket Spindle 119mm (4-11/16") for Shell Length 68mm (2-11/16") FC-S125
9	178 0203	Bottom Bracket Spindle 122mm (4-13/16") for Shell Length 70mm (2-3/4") FC-S125
10	178 0301	Left Hand Adjustable Cup (B.C. 1.37" x 24T)
10	178 0302	Left Hand Adjustable Cup (M35 x P1)
11	178 0401	Lock Ring (B.C. 1.37" x 24T)
11	178 0402	Lock Ring (M35 x P1)
12	169 1101	Left Crank Arm 170mm (6-11/16") FC-S105
12	169 0500	Left Crank Arm 165mm (6-1/2") FC-S125
12	169 0600	Left Crank Arm 170mm (6-11/16") FC-S125

### ■ Product Specifications

Material: Light Alloy  
Type: Cotterless Type  
Suitable chain: 1/2" x 3/32" chain  
No. of gear teeth: 42T x 52T

### Special Tools

#### • Peg Spanner Model TL-FC20

The peg spanner is used with the Shimano 105 front chainwheel.

#### • Three Spanners for Hanger and Head Parts, Model TL-FC30

These spanners are specially designed for time-saving and smooth working on the special hanger section and around the head.

#### • Wrench for Mounting Crank and Tightening Bolt, Model TL-FC15

Special tool for 14mm crank tightening bolt.

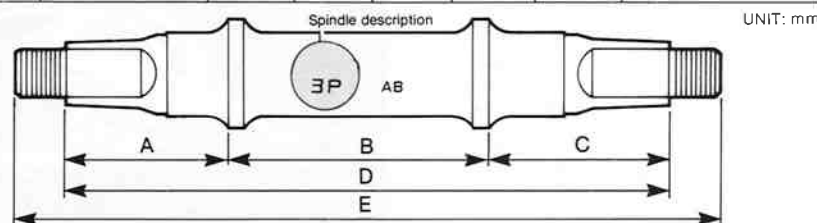


### Note:

- The gear plates are interchangeable with the Dura-Ace AX, EX, 600AX, and 600EX-LD Type, but are not interchangeable with the 600EX-MD Type.
- Firmly and securely tighten right and left cranks.

- Bottom bracket spindles are available depending on the hanger width and type of gear.

Front chainwheel Model No.	Bottom bracket length	A	B	C	D	E	Description
FC-S105	68	32	52	32	116	137	3 L
	70	32	55	32	119	140	5LL
FC-S125	68	32	52	35	119	140	3 P
	70	32	55	35	122	143	5 N



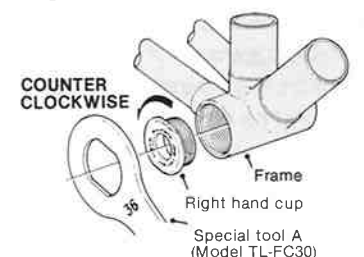
### Assembly of Bottom Bracket Section

1. Screw right hand cup, in counter-clockwise direction, to the bottom bracket. Then, tighten the right hand cup using the Shimano exclusive tool (A) (Model TL-FC30).

Tightening torque: 700~800kgfcm. (600—690 in. lbs.)

This power corresponds to that which produces 35-40kg (77-88 lbs.) when gripping tool 20cm. (7-7/8") from right hand cup. (Diagram 1)

Diagram 1



2. As shown in illustration, put the greased ball retainers on the both sides of the bottom bracket from left side. Next, assemble left hand cup and lock ring. (Diagram 2)

3. Using the Shimano exclusive tool (B) and (C) (Model TL-FC30), adjust left hand cone so that there is no play and smooth rotation as possible. Next, tighten the lock ring. (Diagram 3)

Tightening torque: 700~800kgfcm. (600—690 in. lbs.)

Diagram 2

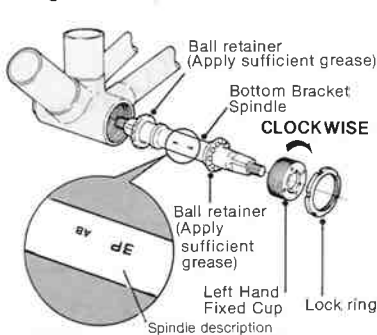
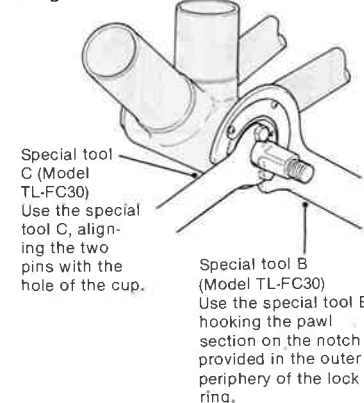


Diagram 3



### Crank Assembly

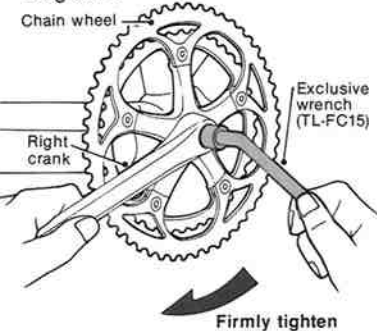
1. Set the right hand crank to the right side of the bottom bracket spindle. Then tighten the crank fixing nut to the bottom bracket spindle by means of the exclusive wrench (Model TL-FC15). (Diagram 4)

Tightening torque: 300~450kgfcm. (260—390 in. lbs.)

2. Left crank is the same as the right crank method and be sure to tighten securely.

3. Mount the crank caps on right and left sides.

Diagram 4



### Replacing Chain-ring

- Holding the chain-ring fixing nut with the special peg spanner (Model TL-FC20), turn the chain-ring fixing bolt using the 5mm hexagon spanner in order to replace the chain-rings. (Diagram 5)

Diagram 5

