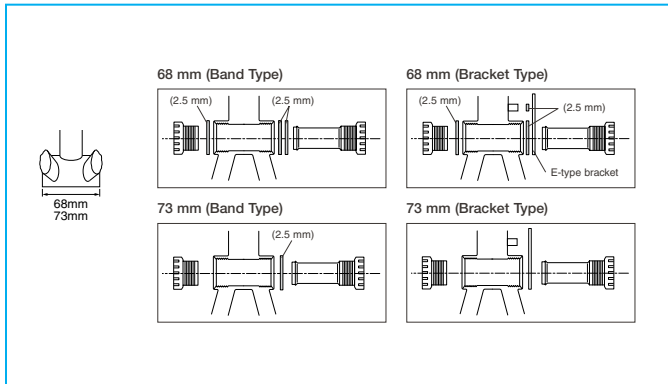


FRONT CHAINWHEEL: Installation



1. CHOOSING & INSTALLING THE PROPER SPACER

Prior to installation, determine proper spacer configuration. Determine whether the width of the bottom bracket shell is 68mm or 73mm. Then, refer to the illustrations below and install the proper adapter accordingly.



Use Special Tool TL-FC32 to install the right and left adapter.



SPECIAL TOOLS

Use Special Tool TL-FC32 (spanner) and TL-FC35 to install the right and left adapter. Use TL-FC17 to turn adjustment nut when adjusting play.



Counterclockwise thread for the right and clockwise thread for the left.



Insert the right crank unit.



NOTE: Before installing the left-side crank arm, check that there is not gap between the adjustment nut and the crank arm. (The nut should be fully tightened.) Then, set the left-side crank arm so that the axle of the right-side arm is aligned correctly with the serrations of the left-side crank arm.



Insert an 8 mm Allen key and turn it clockwise to tighten the crank arm fixing bolt. NOTE: The crank arm fixing bolt should be retightened periodically.



Tightening Torque:
45 - 55 Nm {392 - 479 in. lbs.}



Use the TL-FC17 to turn the adjustment nut in order to adjust the play, and then tighten.

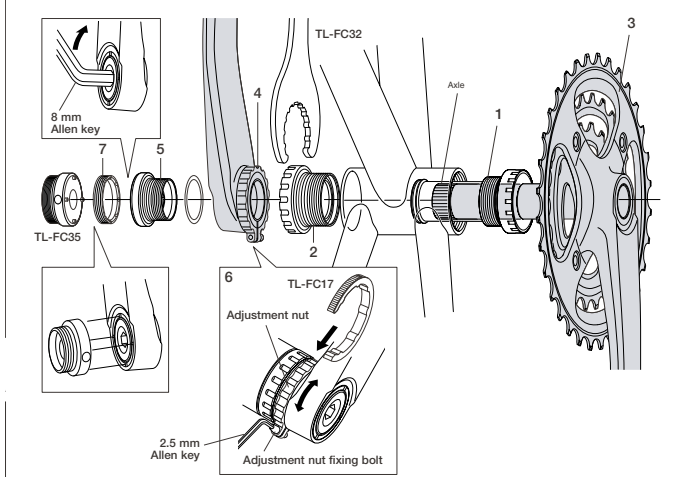


Then tighten the Adjustment Nut and Adjustment Nut Fixing Bolt.

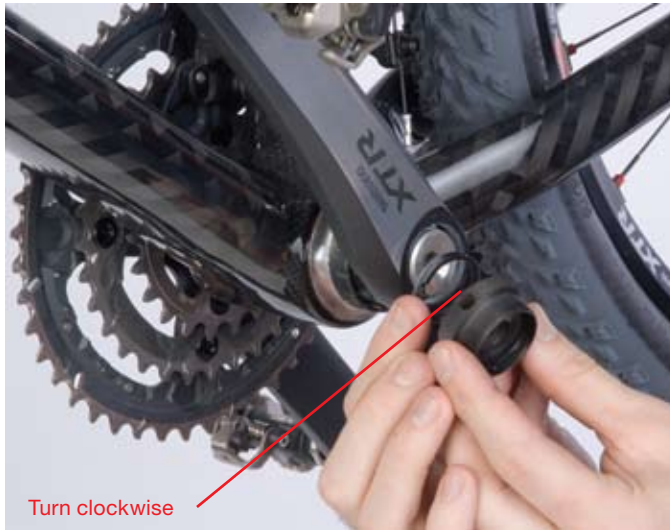
Tightening Torque:
Adjustment Nut: 1 - 1.5 Nm {8.7 - 13 in. lbs.}
Adjustment Nut Fixing Bolt: 1 - 1.2 Nm {8.7 - 10.4 in. lbs.}



Turn the TL-FC35 counterclockwise to install the crank arm cap.
NOTE: At the time of shipment from the factory, the crank arm cap is installed to the crank arm. So use the TL-FC35 to check that it is securely tightened.



FRONT CHAINWHEEL: Removal



Turn the TL-FC35 clockwise to remove the crank arm cap.

NOTE: The crank arm cap and the TL-FC35 screw have a left-hand (reverse) thread. This is to prevent the crank arm from turning as you remove the crank arm fixing bolt.



Turn the TL-FC35 counterclockwise and tighten it as far as it will go. Make sure it turns at least 3.5 times or more. (If fewer than 3.5 threads are engaged, then there is a higher possibility that the threads will strip.)



Use an 8 mm Allen key and turn it counterclockwise to remove the left-side crank arm.

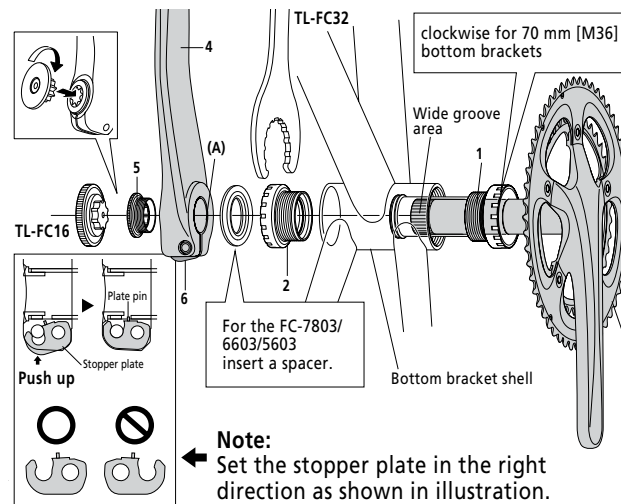


HOLLOWTECH II: Crankset Assembly

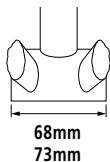
CRANKSET: Installation

Follow the procedure in the figure.

- 1, 2 Use the special tool TL-FC32 to install the right adapter (counterclockwise thread) and the left adapter (clockwise thread).
Tightening torque : 35 - 50 N·m {305 - 435 in. lbs.}
- 3 Insert the right crank unit.
- 4 Set section A of the left crank into the axle of the right crank unit where the groove is wide.
(Insert a spacer when installing the FC-7803, 6603 and 5603 left crank unit.)
- 5 Use the TL-FC16 to tighten the cap.
Tightening torque: 0.7 - 1.5 N·m {6 - 13 in. lbs.}
- 6 Push in the stopper plate and check that the plate pin is securely in place, and then tighten the bolt of the left crank arm.
Note : Each of the bolts should be evenly and equally tightened to 12 - 15 N·m {106 - 132 in. lbs.}.

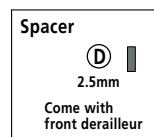
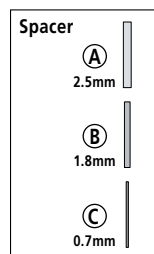


SPACER: Installation Method (MTB)



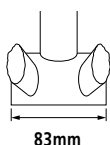
FC-M970/FC-M960/FC-M800/**NEW** FC-M770
FC-M760/FC-M600/**NEW** FC-M582/FC-M580

Band Type	Bracket Type
68mm 	68mm
73mm 	73mm



NEW FC-M771-K/FC-M761/**NEW** FC-M583-K/FC-M581

Band Type	Chaincase Stay Type	Bracket Type
68mm 	68mm 	68mm
73mm 	73mm 	73mm



FC-M805

Band Type	Bracket Type
83mm 	83mm