

Procedure for **Removing the Chainring**

Procedure for Replacement

- Be careful that you do not lose the screws that you remove.

1 **Remove the crank set from the bicycle.**

Refer to the documentation for the crank set regarding how to remove it.

2 **Remove the three screws for fastening the right transmitter to the chainring adapter.**



3 **Remove the chainring adapter.**



4 **Remove the inner and outer chainrings from the crank set.**

- Remove the chainrings carefully so as not to damage the right transmitter and the junction cable.
- Removing the chainrings by force may cause the disconnection of the junction cable because the right transmitter is pulled strongly.

Refer to the documentation for the crank set regarding how to remove the chainrings.

When removing the chainrings, take care not to disconnect the junction cable.

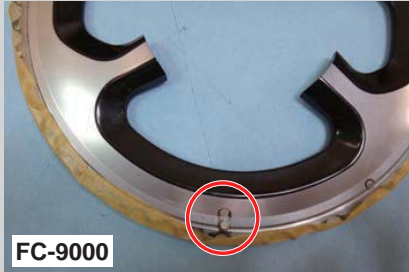


Assembling the Chainring and Installing the Right Transmitter

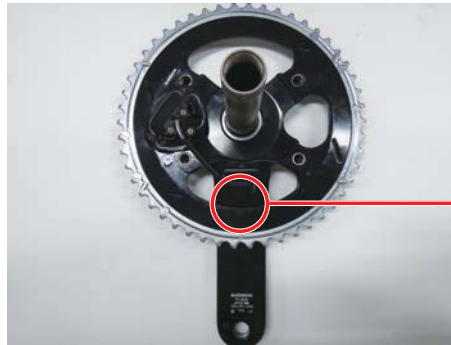
Install the right transmitter on the right crank as you assemble the chainring. The Shimano FC-9000 is used as an example in this explanation.

If the chainring and chainring adapter have been removed, assemble the chainring and fasten the right transmitter according to the following procedure.

- Refer to the instruction manual for the crank set you are using for the procedure to assemble the chainring.
- When you assemble the chainring, be careful that you do not scratch the crank with the pin that prevents the chain from falling off. Also, work safely by masking the teeth of the chainring and doing other things. Also, work safely by masking the teeth of the chainring and doing other things.



1 Install the outer chainring on the spider arm.



Pin that prevents chain from falling off

- Install the right transmitter so it is on the outside of the chainring. Do not install the right transmitter on the inside of the chainring.



2 Install the inner chainring.

Install the chainring so the mark is on the crank side.



Do not insert the chainring bolt at this time.



3 Install the chainring adapter.

Run the junction cable along the guide of the chainring adapter, line up the bolt holes as you overlay the chainring adapter over the inner chainring (center diagram).

Be sure that the chainring adapter is securely in the bolt holes, and is not riding up (right diagram).



4 Put grease on the chainring bolts and insert them into the bolt holes and temporarily install the chainring adapter on the chainring.

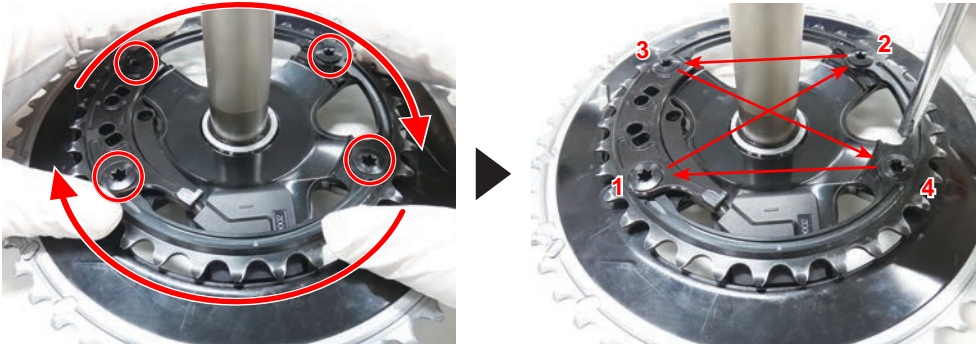
Do not tighten the chainring bolts too tightly when you temporarily tighten them, allow the chainring to move.



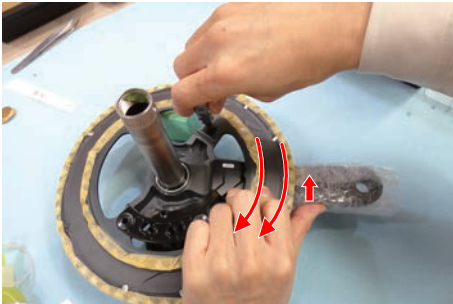
5 Press on the chaining in a clockwise direction to eliminate any play as you tighten the chaining bolts to the specified torque.

Tighten the chaining bolts in order 1, 2, 3, and 4 in a diagonal pattern. When doing this, do not tighten each bolt completely at one time. Gradually tighten the four bolts a little bit at a time about three times each in turn, until they all reach the specified torque.

- Tightening torque: 14 N•m



Apply force in the direction of the arrow to eliminate play as you tighten the chaining bolts.



- Refer to the instruction manual for the crank set you are using for the torque at which to tighten the chaining bolts.

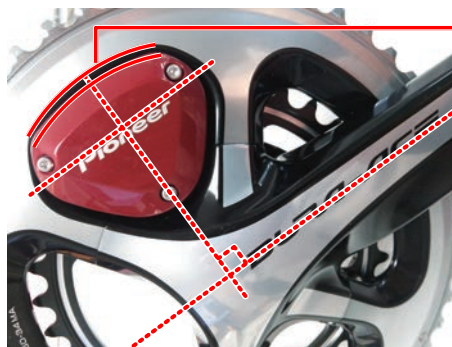
6 Install the right transmitter on the chaining adapter with the 8-mm length screws provided.

Check that the right transmitter is installed so it lines up with the chaining.

Press on the right transmitter from the outer side of the outer chaining as you insert the 3 screws, then tighten them to the specified torque. When tightening the screws, confirm that the right transmitter is not tilted to the crank as shown in the illustration below.

Use a tool to measure the torque when you tighten the screws.

- Tightening torque: 30 cN•m



- Install the right transmitter so its outer circumference is on a parallel concentric circle with the black line on the crank. If it is difficult to align with the outer circumference, install it so it is centered.

This completes the installation of the sensors on the right crank set.