

# Dealer's Manual

ROAD	MTB	Trekking
City Touring/ Comfort Bike	URBAN SPORT	E-BIKE

## Crankset

### DEORE XT

FC-M8000-1  
FC-M8000-B1  
FC-M8000-2  
FC-M8000-B2  
FC-M8000-3

### SLX

FC-M7000-11-1  
FC-M7000-11-B1  
FC-M7000-11-2  
FC-M7000-11-B2  
FC-M7000-10-3

### DEORE

FC-M6000-2  
FC-M6000-B2  
FC-M6000-3  
FC-M617  
FC-M617-B2

### Non-Series

FC-MT500-2  
FC-MT500-B2  
FC-MT500-3  
FC-MT600-2  
FC-MT600-B2  
FC-MT700-2  
FC-MT700-B2

### Bottom bracket

SM-BB52  
BB-MT501  
BB-MT500-PA  
BB-MT800  
BB-MT801  
BB-MT800-PA

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## IMPORTANT NOTICE

- **This dealer's manual is intended primarily for use by professional bicycle mechanics.**

Users who are not professionally trained for bicycle assembly should not attempt to install the components themselves using the dealer's manuals. If any part of the information on the manual is unclear to you, do not proceed with the installation. Instead, contact your place of purchase or a local bicycle dealer for their assistance.

- Make sure to read all instruction manuals included with the product.
- Do not disassemble or modify the product other than as stated in the information contained in this dealer's manual.
- All manuals and technical documents are accessible online at <https://si.shimano.com>.
- For consumers who do not have easy access to the internet, please contact a SHIMANO distributor or any of the SHIMANO offices to obtain a hardcopy of the User's Manual.
- Please observe the appropriate rules and regulations of the country, state or region in which you conduct your business as a dealer.

**For safety, be sure to read this dealer's manual thoroughly before use, and follow it for correct use.**

The following instructions must be observed at all times in order to prevent personal injury and physical damage to equipment and surroundings. The instructions are classified according to the degree of danger or damage which may occur if the product is used incorrectly.

 **DANGER**

Failure to follow the instructions will result in death or serious injury.

 **WARNING**


Failure to follow the instructions could result in death or serious injury.

 **CAUTION**

Failure to follow the instructions could cause personal injury or physical damage to equipment and surroundings.

## TO ENSURE SAFETY

### WARNING

- **Be sure to follow the instructions provided in the manuals when installing the product.**  
Only use SHIMANO genuine parts. If a component or replacement part is incorrectly assembled or adjusted, it can lead to component failure and cause the rider to lose control and crash.
-  Wear approved eye protection while performing maintenance tasks such as replacing components.

#### Be sure to also inform users of the following:

- **Never use alkali- or acid-based solvents such as rust cleaners. If those solvents are used the chain might break and cause serious injury.**
- **Clean the chain with an appropriate chain cleaner regularly. Intervals between maintenance depend on the use and riding circumstances.**
- Check that there are no cracks in the crank arms before riding the bicycle. If there are any cracks, the crank arm may break and you may fall off the bicycle.
- Check the chain for any damage (deformation or cracking), skipping, or other abnormalities such as unintended gear shifting. If any problems are found, consult a dealer or an agency. The chain may break, and you may fall.
- Be careful not to let the hemming of your clothes get caught in the chain while riding. Otherwise you may fall off the bicycle.

#### For Installation to the Bicycle, and Maintenance:

##### ■ HOLLOWTECH II type

- Install the inner cover correctly. If it is not installed correctly, the axle may rust and become damaged, and the bicycle may fall over and serious injury may occur as a result.
- The two left crank arm screws should be tightened alternately in stages rather than each fully tightened at once. Use a torque wrench to check that the tightening torques are within the range of 12 - 14 N·m. Furthermore, after riding approximately 100 km (60 miles), use a torque wrench to re-check the tightening torques. It is also important to periodically check the tightening torques. If the tightening torques are too weak or if the mounting screws are not tightened alternately in stages, the left crank arm may come off and the bicycle may fall over, and serious injury may occur as a result.

**CAUTION**

**Be sure to also inform users of the following:**

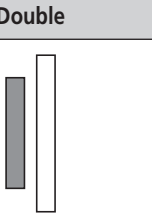

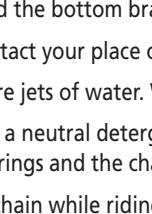
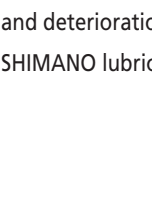
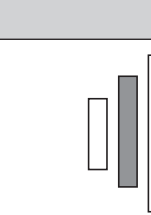
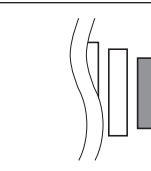
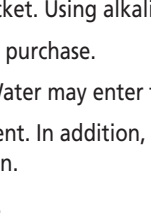
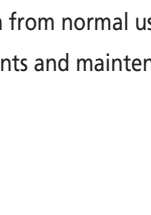
- Be careful not to touch the teeth of chainrings. There is a danger of injury.

**NOTICE**

**Be sure to also inform users of the following:**

- Check that there is no excess play or looseness in any fastening sections before riding the bicycle. Also, be sure to retighten the crank arm and pedals at periodic intervals.
- Be sure to keep turning the crank arm during the shift lever operation.

- **MTB**
  - When the chain is in any of the positions shown in the illustration, the chain may come into contact with the chainring or front derailleur and generate noise. If noise is a problem, shift the chain onto the next largest sprocket or the one after if the chain is in the position shown in Figure 1. Shift the chain onto the next smallest sprocket or the one after if it is in the position shown in Figure 2.

	Figure 1			Figure 2
	Double	Triple		
Chainring				
Sprocket				

- Use a neutral detergent to clean the crank arm and the bottom bracket. Using alkaline or acidic detergents may cause discoloration.
- If pedaling performance does not feel normal, contact your place of purchase.
- Do not wash the bottom bracket with high-pressure jets of water. Water may enter the bearing section and cause noise or adhesion.
- The chainrings should be periodically washed with a neutral detergent. In addition, cleaning the chain with neutral detergent and lubricating it can be an effective way of extending the life of the chainrings and the chain.
- The cuffs of your clothing may get dirty from the chain while riding.
- Products are not guaranteed against natural wear and deterioration from normal use and aging.
- For maximum performance we highly recommend SHIMANO lubricants and maintenance products.

**For Installation to the Bicycle, and Maintenance:**

- When installing the pedals, apply a small amount of grease to the threads to prevent the pedals from seizing. Use a torque wrench to securely tighten the pedals. Tightening torque is 35 - 55 N·m. The right crank arm has a right-hand thread, and the left crank arm has a left-hand thread.
- If the bottom bracket shell is not parallel, gear shifting performance will drop.
- If the chain keeps coming off the gears during use, replace the chainrings and the chain.

■ **HOLLOWTECH II / 2-piece crankset**

- When installing the left and right cups, apply grease and be sure to install the inner cover. Otherwise the waterproofing performance will worsen.
- To ensure the best performance, be sure to use only the recommended type of chain.
- If a squeaking noise is heard coming from the bottom bracket axle and the left crank arm connector, apply grease to the fastening section, then tighten it to the specified torque.
- If you feel any looseness in the bearings, the bottom bracket should be replaced.
- Use the specified chainring combination. If other chainring combinations are used, it can create poor shifting and cause the chain to jam, resulting in damage to the bicycle.

■ **B type crankset**















- Use B type cranksets with specially designed frames.

The actual product may differ from the illustration because this manual is intended mainly to explain the procedures for using the product.

# LIST OF TOOLS TO BE USED

## LIST OF TOOLS TO BE USED

The following tools are needed for installation, adjustment, and maintenance purposes.

Tool		Tool		Tool	
	5 mm hexagon wrench		TL-FC18		TL-FC37
	8 mm hexagon wrench		TL-FC25		TL-BB12
	17 mm spanner		TL-FC32		TL-BB13
	Soft face mallet		TL-FC33		Hexalobular[#30]
	TL-FC16		TL-FC36		



# INSTALLATION

# INSTALLATION

## ■ Threaded bottom bracket

### List of tool combinations

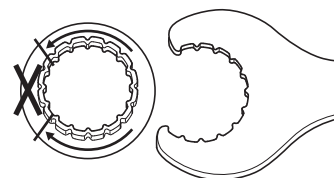
Use the tools in the correct combination.

#### BB-MT800 / BB-MT801

TL-FC25 & TL-FC32	TL-FC25 & TL-FC33
TL-FC25 & TL-FC36	TL-FC37

### NOTICE

- For an impact wrench, use TL-FC37. Using other tools may damage the tool.
- When setting TL-FC25 in TL-FC32, check the possible setting position.



When setting in TL-FC32, check the possible setting position.

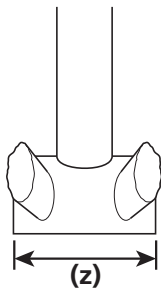
- Any position is possible when setting to TL-FC33/FC36.

#### SM-BB52 / BB-MT501

TL-FC32	TL-FC33
TL-FC36	

Spacer installation method

1

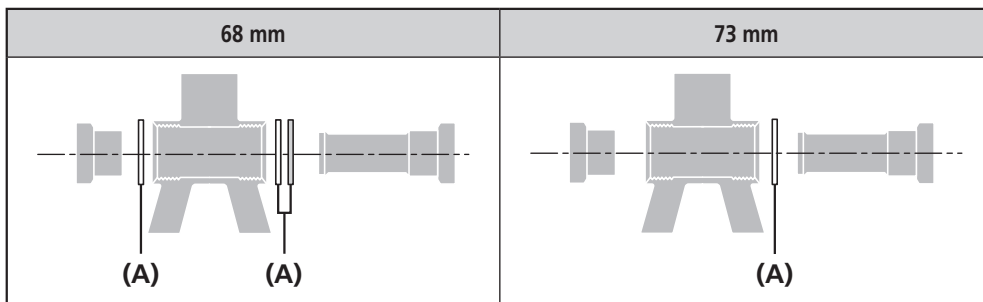


Check whether the width of the bottom bracket shell is 68 mm or 73 mm.

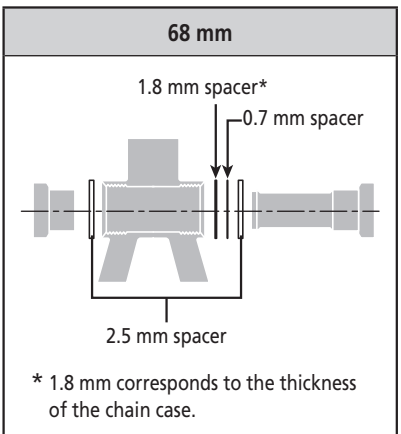
**(z)** Bottom bracket shell width

2

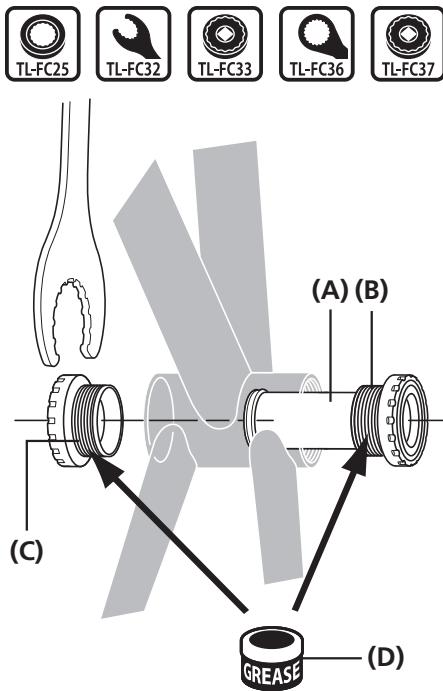
Install the bottom bracket.



**(A)** 2.5 mm spacer



**Installation to the bottom bracket shell**



Grease the left- and right-hand cups and use the SHIMANO original tool to install the right-hand cup of the bottom bracket, the inner cover and the left-hand cup of the bottom bracket.

- (A)** Inner cover
- (B)** Right-hand cup (left-hand thread)
- (C)** Left-hand cup (right-hand thread)
- (D)** Apply grease  
Premium Grease (Y04110000)

Tightening torque	
TL-FC25 TL-FC32 TL-FC33 TL-FC36 TL-FC37	<p><b>35 - 50 N·m</b></p>

**NOTICE**

TL-FC25 are tightened by combining with TL-FC32/FC36.

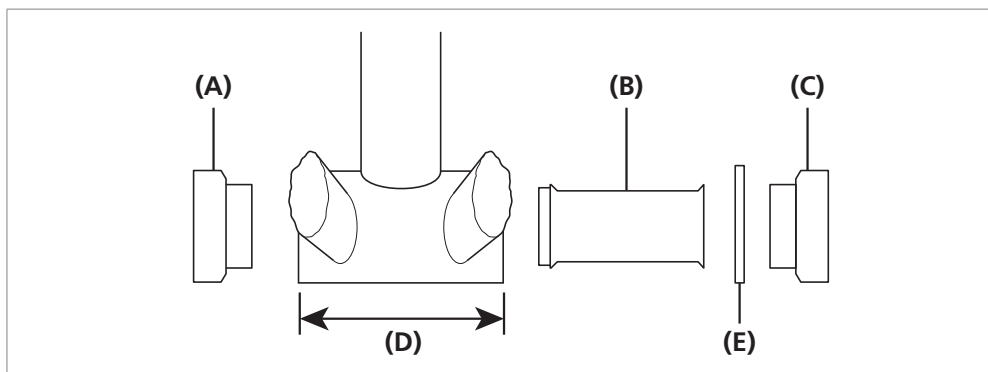
**TECH TIPS**

For tool combinations used when installing/uninstalling the bottom bracket, refer to "List of tool combinations".

■ PRESS-FIT BB

BB-MT500-PA / BB-MT800-PA

Bottom bracket cups

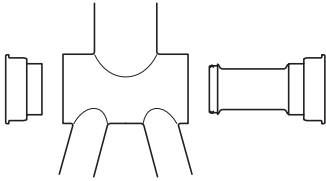
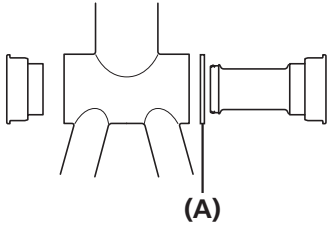


- (A) Left-hand cup
- (B) Inner cover
- (C) Right-hand cup
- (D) Bottom bracket shell width
- (E) 2.5 mm spacer

**NOTICE**

Some models do not need spacers.

Assembly example

Bottom bracket shell with 92 mm width	Bottom bracket shell with 89.5 mm width
 <ul style="list-style-type: none"> <li>• The 2.5 mm spacer is not needed for a bottom bracket shell width of 92 mm.</li> <li>• Use the inner cover.</li> </ul>	 <ul style="list-style-type: none"> <li>• For a bottom bracket shell width of 89.5 mm, insert the 2.5 mm spacer into the right-hand side (between the frame and the right-hand cup).</li> <li>• Use the inner cover.</li> </ul>

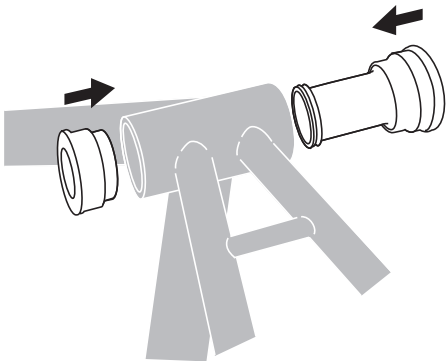
- (A) 2.5 mm spacer

**NOTICE**

- If the frame has openings for the bottom bracket shell, attach an inner cover sleeve to prevent foreign objects from getting inside.
- If the frame has no openings inside the bottom bracket shell, it can be installed without the inner cover sleeve.

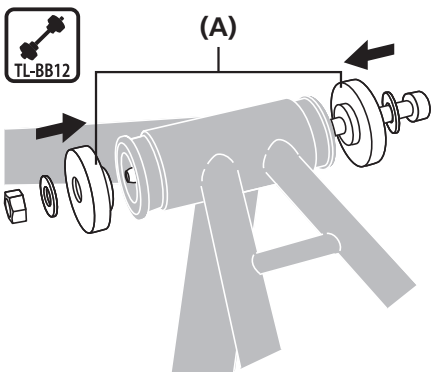
Installation to the bottom bracket shell

**1**



Insert the bottom bracket into the bottom bracket shell.

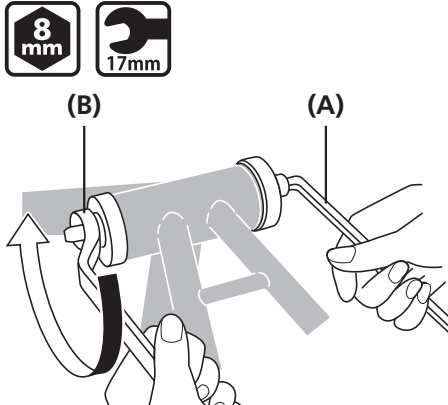
**2**



Insert the SHIMANO original tool into the bottom bracket.

**(A)** TL-BB12

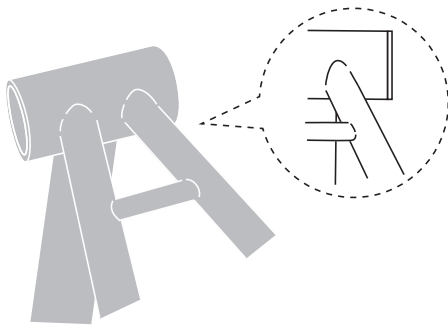
**3**



Press fit the bottom bracket by tightening with a spanner while making sure that the contact surface of the bottom bracket stays parallel to the contact surface of the bottom bracket shell.

**(A)** 8 mm hexagon wrench  
**(B)** 17 mm spanner

**4**



Check to confirm that there is no gap between the bottom bracket and the bottom bracket shell.

Removal from the bottom bracket shell

**1**

Insert the SHIMANO original tool into the bottom bracket.

(A) TL-BB13

**NOTICE**

Do not reuse the cups as they can be damaged during removal.

**2**

As shown in the illustration, hold down the flap with your fingers and push it in from the opposite side. (When pushed in, the flap opens.)

**TECH TIPS**

While holding down the end of the removal tool, push the tool in from the other side until it locks in place.

**3**

Tap the SHIMANO original tool with a soft face mallet until the end of the bottom bracket is ejected.

(A) Soft face mallet

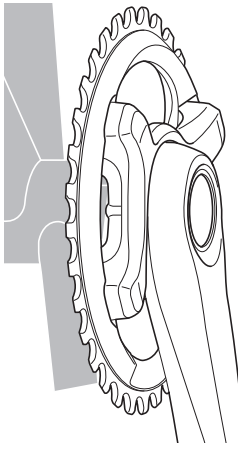
**4**

Tap the opposite end of the bottom bracket in the same way and remove it.

(A) Soft face mallet

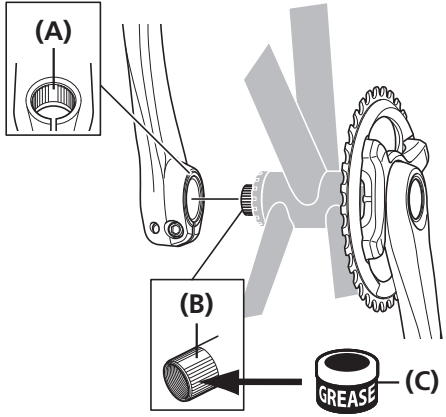
■ Installing the crank arms

**1**



Fully insert the right crank arm unit until it touches the bottom bracket.

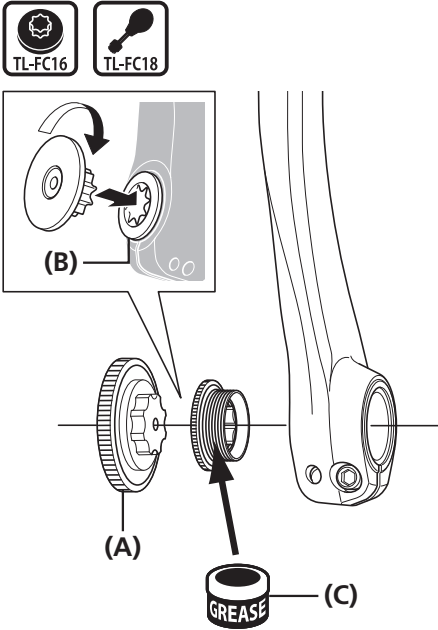
**2**



Set the wide groove area of the left crank arm into the axle of the right crank arm unit where the groove is wide.



(A) Wide groove area (left crank arm)  
 (B) Wide groove area (axle)  
 (C) Apply grease  
 Premium Grease (Y04110000)

**3**



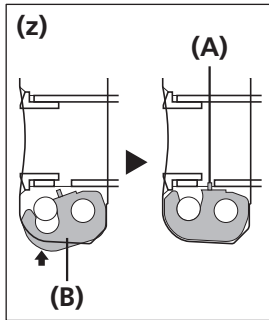
Use the SHIMANO original tool to tighten the cap.

(A) TL-FC16  
 (B) Cap  
 (C) Apply grease  
 Premium Grease (Y04110000)

Tightening torque	
	<b>0.7 - 1.5 N·m</b>
	



4



Push in the stopper plate and check that the plate pin is securely in place, and then tighten the screws of the left crank arm.

Tighten both screws equally to the specified tightening torque (12 - 14 N·m).

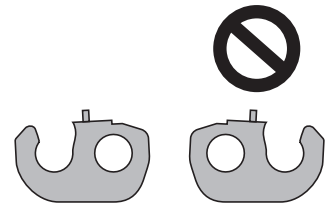
(z) The illustration is of the left crank arm (cross-section)

- (A) Plate pin
- (B) Stopper plate
- (C) Left crank arm

Tightening torque	
	12 - 14 N·m

**NOTICE**

- The two screws should be tightened alternately in stages rather than each screw being fully tightened at once.
- Spacers used vary according to the width of the bottom bracket shell. For details, refer to "Spacer installation method".
- Set the stopper plate in the correct direction as shown in illustration.



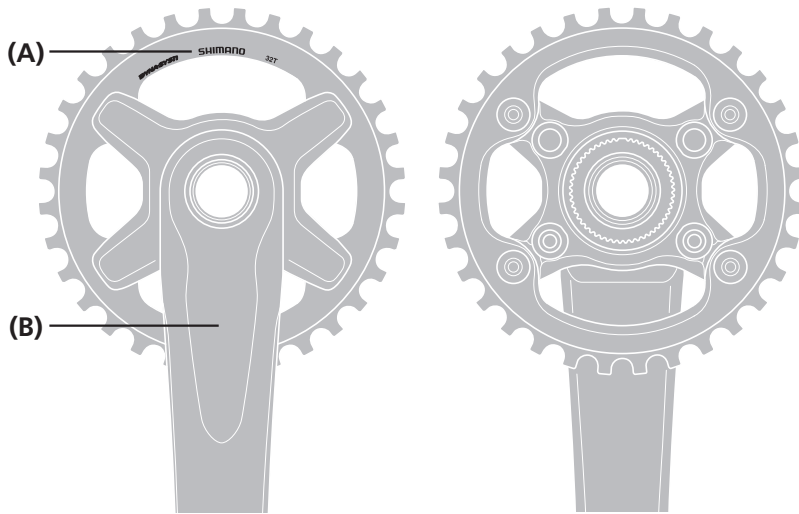
# MAINTENANCE

# MAINTENANCE

## ■ Replacing chainrings

FC-M8000-1 / FC-M8000-B1 / FC-M7000-11-1 / FC-M7000-11-B1 Single chainring type

Set the chainring so that the marked side faces the front, and set the crank arm as shown in the illustration.



- (A) Mark
- (B) Crank arm

Tightening torque



12 - 14 N·m

FC-M8000-2 / FC-M8000-B2 / FC-M7000-11-2 / FC-M7000-11-B2 / FC-MT700-2 / FC-MT700-B2 /  
FC-MT600-2 / FC-MT600-B2 Double chainring type

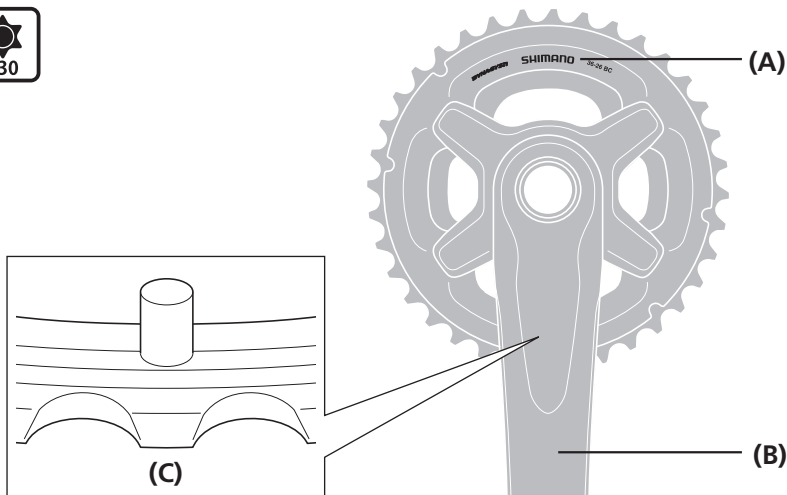
Only use chainring combinations listed below. If other chainring combinations are used, it can create poor shifting and cause the chain to jam, resulting in damage to the bicycle.

		Top		
		34T-BB	36T-BC	38T-BD
Low	24T-BB	X	-	-
	26T-BC	-	X	-
	28T-BD	-	-	X

With the marked side of the largest chainring facing outward, set the largest chainring so that the chain drop prevention pin is positioned under the crank arm.



1



- (A) Mark
- (B) Crank arm
- (C) Chain drop prevention pin

Tightening torque

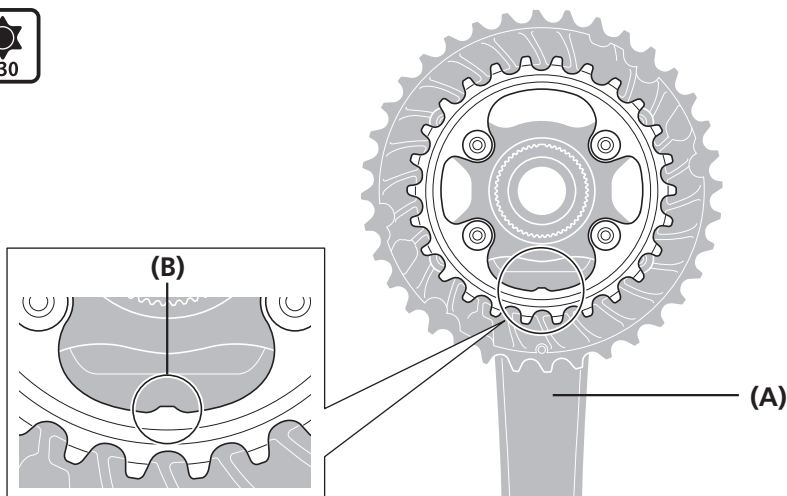


12 - 14 N·m

Set the smallest chainring so that the marked side faces inward and the alignment tab is positioned under the crank arm.



2



- (A) Crank arm
- (B) Alignment tab

Tightening torque



16 - 17 N·m

**FC-M6000-2 / FC-M6000-B2 / FC-MT500-2 / FC-MT500-B2 Double chainring type**

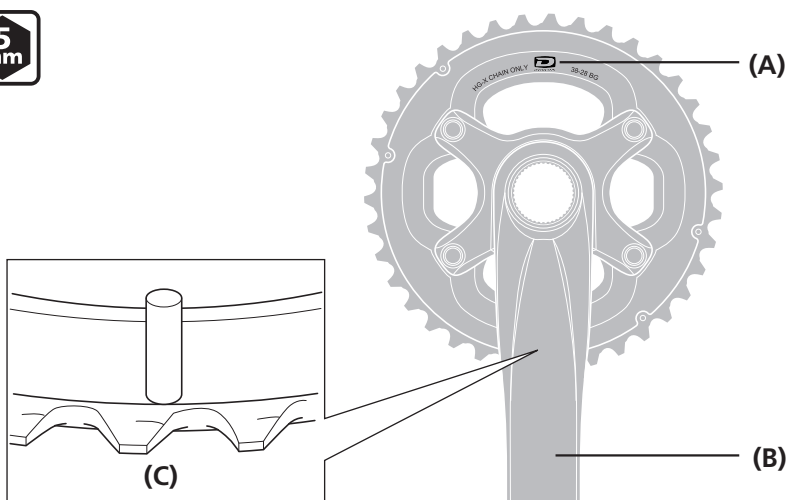
Only use chainring combinations listed below. If other chainring combinations are used, it can create poor shifting and cause the chain to jam, resulting in damage to the bicycle.

		Top		
		34T-BE	36T-BF	38T-BG
Low	24T-BE	X	-	-
	26T-BF	-	X	-
	28T-BG	-	-	X

With the marked side of the largest chainring facing outward, set the largest chainring so that the chain drop prevention pin is positioned under the crank arm.



**1**



- (A) Mark
- (B) Crank arm
- (C) Chain drop prevention pin

**Tightening torque**

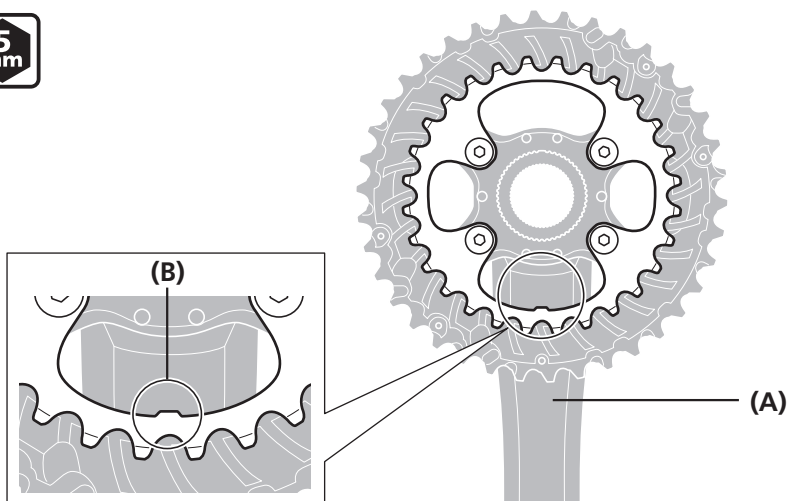


**16 - 17 N·m**

Set the smallest chainring so that the marked side faces inward and the alignment tab is positioned under the crank arm.



**2**



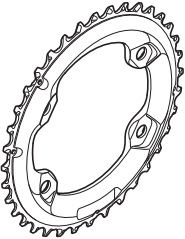
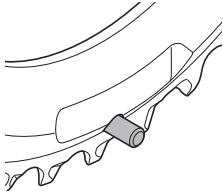
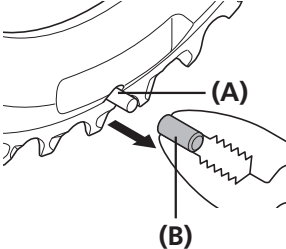
- (A) Crank arm
- (B) Alignment tab

**Tightening torque**



**16 - 17 N·m**

Repair chainring

Part	Model	Chain drop prevention pin
<p>Chainring</p> 	<p>FC-M8000-2 FC-M7000-11-2 FC-M6000-2 FC-MT700-2 FC-MT600-2 FC-MT500-2</p>	<p>Use with chain drop prevention pin cover.</p> 
	<p>FC-M8000-B2 FC-M7000-11-B2 FC-M6000-B2 FC-MT700-B2 FC-MT600-B2 FC-MT500-B2</p>	<p>Remove chain drop prevention pin cover.</p> 

- (A) Chain drop prevention pin
- (B) Chain drop prevention pin cover

**NOTICE**

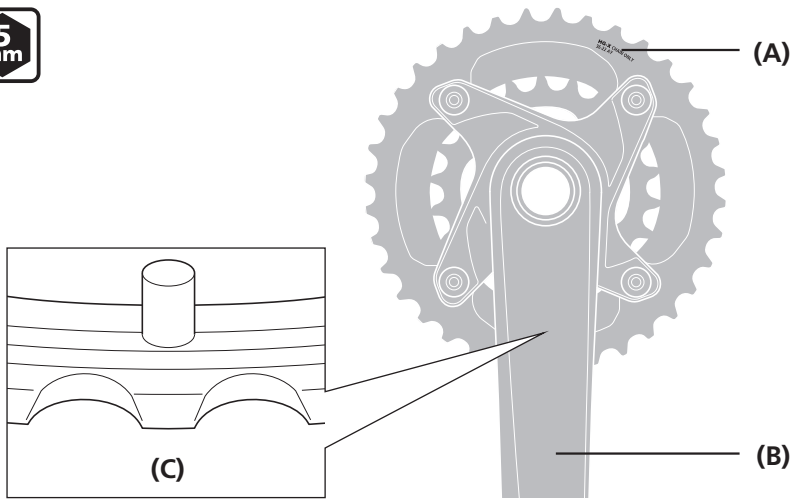
- If the chainring is combined with a standard specification right crank arm without the chain drop prevention pin cover, the chain may get caught between the crank arm and the largest chainring if it falls to the outside of the largest chainring.
- If the chainring is combined with a B specification right crank arm with the chain drop prevention pin cover still in place, the cover will interfere with the crank arm, and it will not be possible to assemble the chainring correctly. It may cause the chain to fall, etc.
- Removed chain drop prevention pin covers cannot be reused.

FC-M617 / FC-M617-B2 Double chainring type

With the marked side of the largest chainring facing outward, set the largest chainring so that the chain drop prevention pin is positioned under the crank arm.



1



- (A) Mark
- (B) Crank arm
- (C) Chain drop prevention pin

Tightening torque

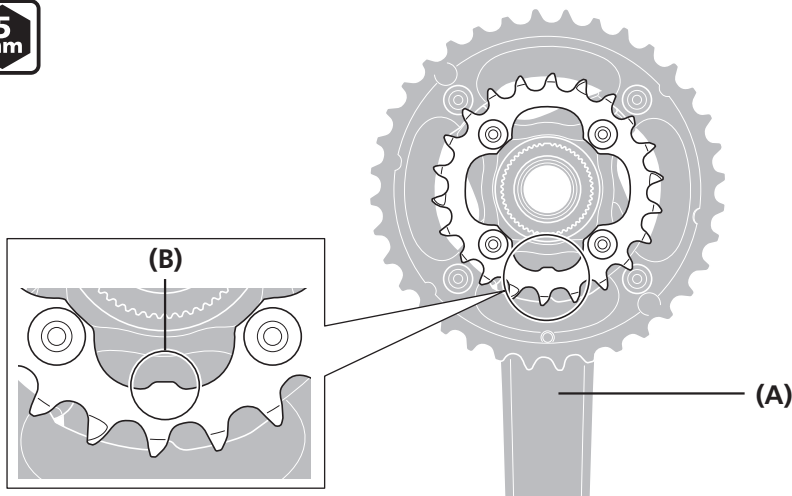


12 - 14 N·m

Set the smallest chainring so that the marked side faces inward and the alignment tab is positioned under the crank arm.



2



- (A) Crank arm
- (B) Alignment tab

Tightening torque



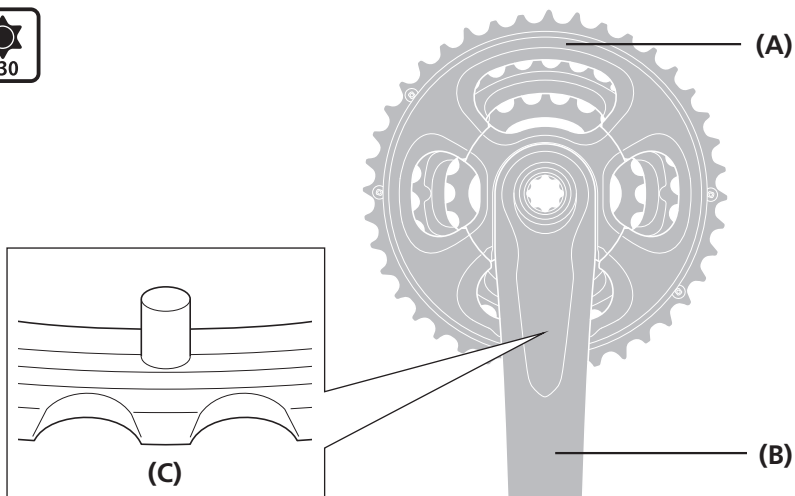
16 - 17 N·m

FC-M8000-3 / FC-M7000-10-3 Triple chainring type

With the marked side of the largest chainring facing outward, set the largest chainring so that the chain drop prevention pin is positioned under the crank arm.



1



- (A) Mark
- (B) Crank arm
- (C) Chain drop prevention pin

Largest chainring / Middle chainring  
Tightening torque

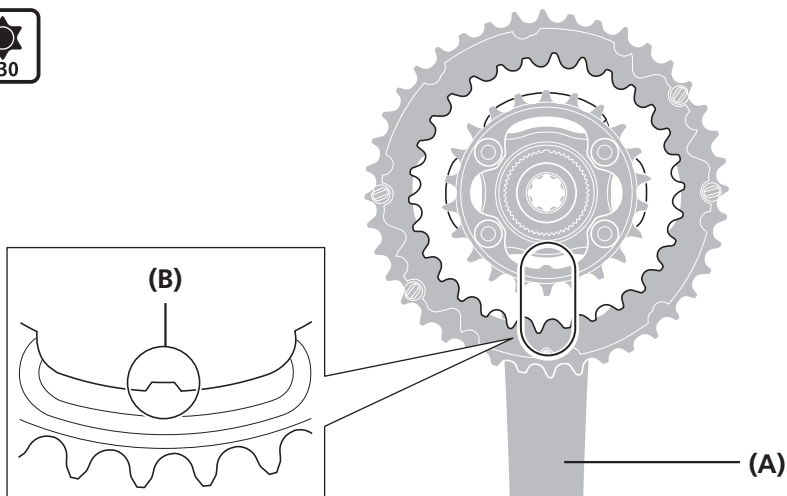


10 - 12 N·m

Set the middle chainring and the smallest chainring so that the marked sides face inward and the alignment tab on each chainring is positioned under the crank arm.



2



- (A) Crank arm
- (B) Alignment tab

Smallest chainring  
Tightening torque



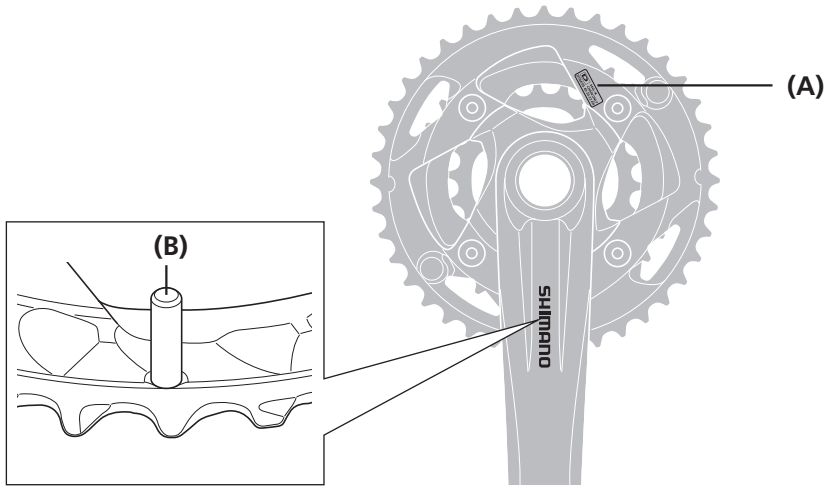
16 - 17 N·m



FC-MT500-3 / FC-M6000-3 Triple chainring type

1

With the marked side of the largest chainring facing outward, set the largest chainring so that the chain drop prevention pin is positioned under the crank arm.

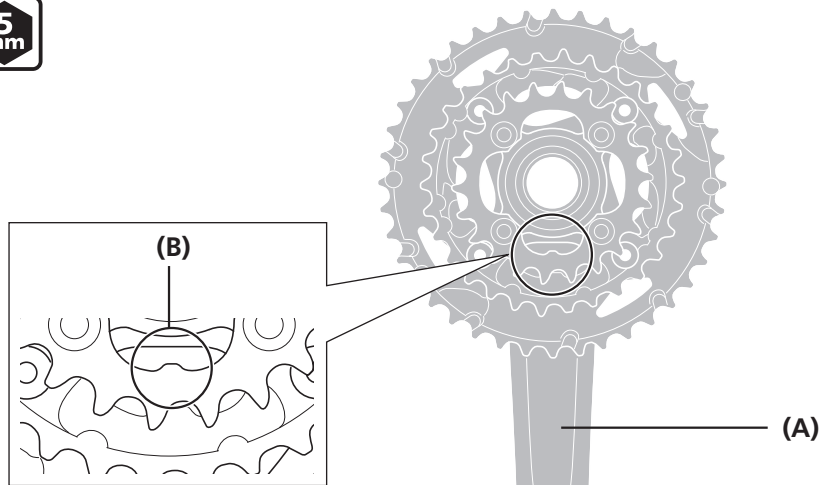


(A) Mark

(B) Chain drop prevention pin

2

Set the middle chainring and the smallest chainring so that the marked sides face inward and the alignment tab on each chainring is positioned under the crank arm.



(A) Crank arm

(B) Alignment tab

Smallest chainring  
Tightening torque



16 - 17 N·m

Largest chainring / Middle chainring  
Tightening torque



12 - 14 N·m

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Please note: specifications are subject to change for improvement without notice. (English)

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