

Dealer's Manual

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

Crankset

DURA-ACE

FC-R9100

ULTEGRA

FC-R8000

SHIMANO 105

FC-R7000

Bottom bracket

BB-R9100

SM-BBR60

SM-BB92-41B

SM-BB72-41B

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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.
- Be careful not to let the hemming of your clothes get caught in the chain while riding. Otherwise you may fall off the bicycle.
- Check the chain for any damage (deformation or cracking), skipping, or other abnormalities such as unintended gear shifting. The chain may break, and you may fall. If any problems are found, consult your place of purchase or a distributor.

For Installation to the Bicycle, and Maintenance:

- 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 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. Also, after riding approximately 100 km (60 miles), use a torque wrench to re-check the tightening torques. Thereafter, continue to check the tightening torques periodically. If the tightening torques are too weak or if the mounting screws are not tightened alternately in stages, the left crank 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:

- Be sure to keep turning the crank arm during the shift lever operation.
- When the chain is in any of the positions shown in the illustration, the chain may come into contact with the front chainring or front derailleur and generate noise. If the noise is a problem, shift the chain onto the next largest sprocket or the one after.

	Double
Chainring	
Sprocket	

- Before riding the bicycle, check that there is no play or looseness between connecting parts. Also, be sure to retighten the crank arms and pedals at periodic intervals.
- 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 gears 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 gears and the chain.
- The cuffs of your clothing may get dirty from the chain while riding.
- This product is not warranted against damage resulting from improper use, such as jumping while riding or if the bicycle falls over, except if such malfunctions are caused by manufacturing methods.
- 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 sticking. Use a torque wrench to securely tighten the pedals. Tightening torque is 35 - 55 N·m. The right crank has a right-hand thread, and the left crank has a left-hand thread.
- If the bottom bracket shell is not parallel, gear shifting performance will drop.
- If the chain keeps skipping, replace the gears and chain.
- When installing the left- and right-hand 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 specified type of chain.

Crankset	Recommended chain
FC-R9100	CN-HG901-11
FC-R8000	CN-HG701-11
FC-R7000	CN-HG601-11

- If a squeaking noise is heard coming from the bottom bracket axle and the left crank arm connector, apply grease to the connector and then tighten it to the specified torque.
- If you feel any looseness in the bearings, the bottom bracket should be replaced.
- Be sure to use the specified gear tooth combination. If an unspecified gear is used, the chain may fall in between the gears, damaging them.

FC-R9100		Top				
		55T-MX	54T-MX	53T-MW	52T-MT	50T-MS
Low	42T-MX	X	X	-	-	-
	39T-MW	-	-	X	-	-
	36T-MT	-	-	-	X	-
	34T-MS	-	-	-	-	X

FC-R8000		Top			
		53T-MW	52T-MT	50T-MS	46T-MT
Low	39T-MW	X	-	-	-
	36T-MT	-	X	-	X
	34T-MS	-	-	X	-








FC-R7000		Top		
		53T-MW	52T-MT	50T-MS
Low	39T-MW	X	-	-
	36T-MT	-	X	-
	34T-MS	-	-	X

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		17 mm spanner		Hexalobular [#30]
	8 mm hexagon wrench		Soft face mallet	 	TL-FC16/TL-FC18

The tools required for installing and removing the bottom bracket differ by model. Use the tools in the table in combination.








■ BB-R9100

Tool		Tool	
 	TL-FC24 & TL-FC32	 	TL-FC24 & TL-FC36
 	TL-FC24 & TL-FC33		TL-FC34

NOTICE

When using TL-FC24 & TL-FC33, an impact wrench cannot be used.

■ SM-BBR60



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

NOTICE

When using TL-FC25 & TL-FC33, an impact wrench cannot be used.

LIST OF TOOLS TO BE USED

■ SM-BB92-41B/SM-BB72-41B

Tool		Tool	
 TL-BB12	TL-BB12	 TL-BB13	TL-BB13

INSTALLATION



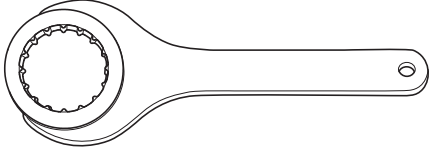


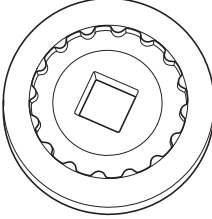


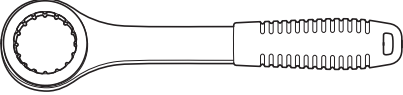

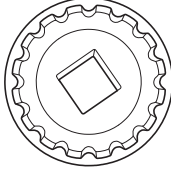
INSTALLATION

■ Threaded bottom bracket

List of tool combinations

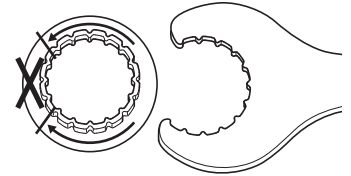
Use the tools in the correct combination.

BB-R9100

TL-FC24 & TL-FC32	TL-FC24 & TL-FC33
  	  
TL-FC24 & TL-FC36	TL-FC34
  	 

NOTICE

- For an impact wrench, use TL-FC34 for BB-R9100. Use TL-FC37 for SM-BBR60. Using other tools may damage the tool.
- TL-FC24/FC25 may become damaged and unusable after repeated use.
- When setting TL-FC24/FC25 in TL-FC32, check the possible setting position.



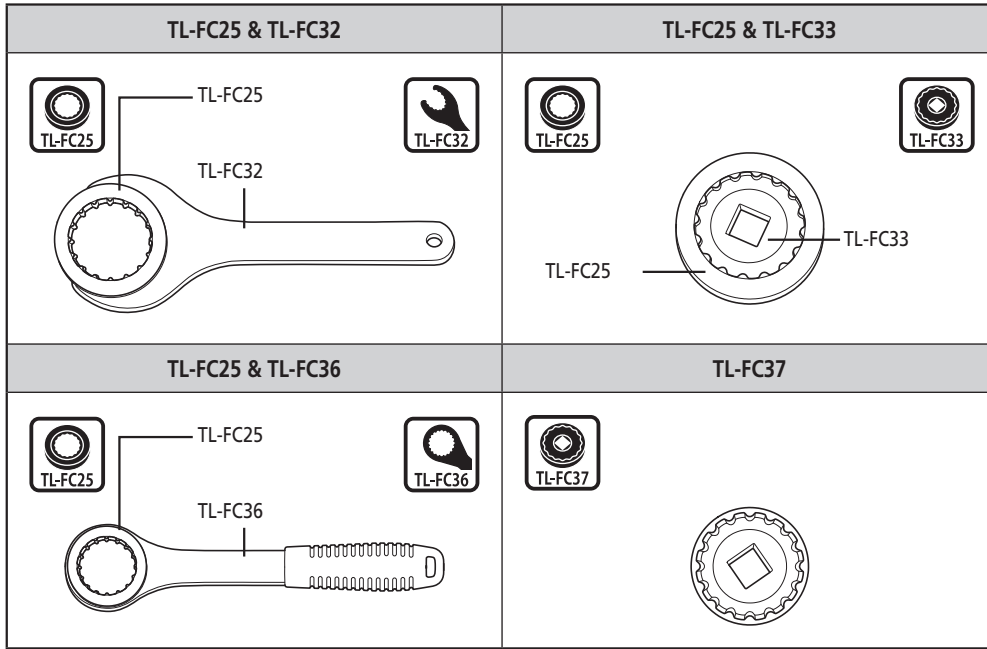
When setting in TL-FC32, check the possible setting position.

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

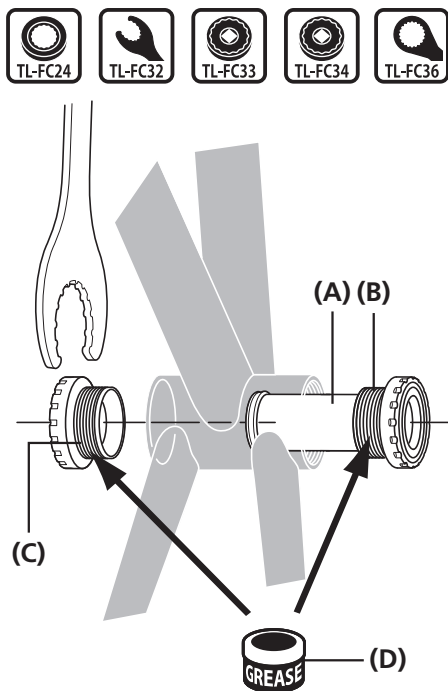
INSTALLATION

▶▶ Threaded bottom bracket

SM-BBR60



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)
(Right-hand thread for 70 mm [M36])
- (C) Left-hand cup
(right-hand thread)
- (D) Apply grease
Premium grease (Y04110000)

Tightening torque

 TL-FC24 TL-FC32 TL-FC33 TL-FC34 TL-FC36	<p>35 - 50 N·m</p>
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NOTICE

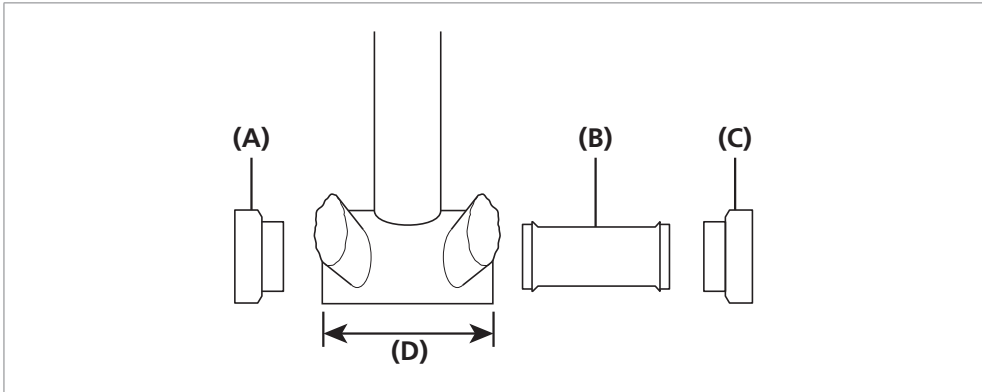
TL-FC24 are tightened by combining with TL-FC32/FC36.

TECH TIPS

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

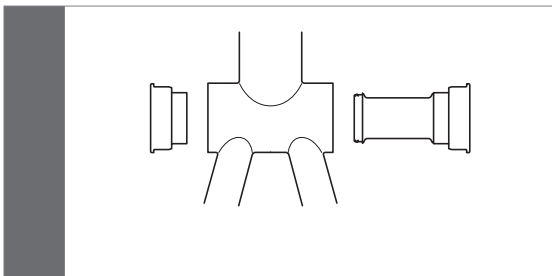
■ PRESS-FIT BB

Bottom bracket cups



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

Assembly example



Use a bottom bracket compatible with a shell width of 86.5 mm.

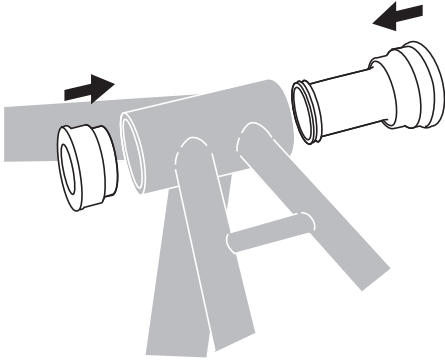
Use the inner cover.

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.

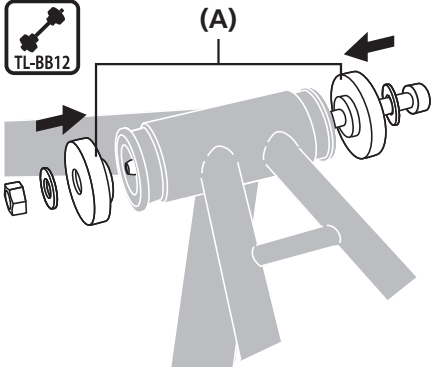
Installation to the bottom bracket shell

1



Insert the bottom bracket into the bottom bracket shell.

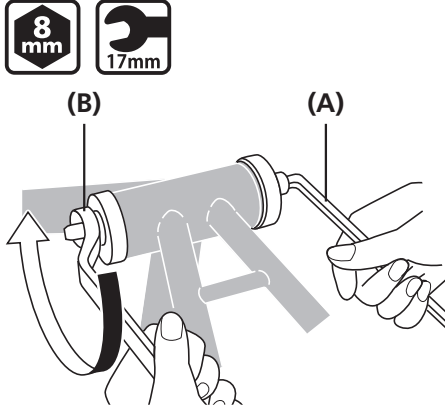
2



Insert the SHIMANO original tool into the bottom bracket.

(A) TL-BB12

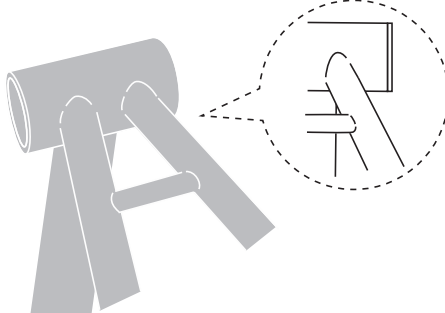
3



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

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.

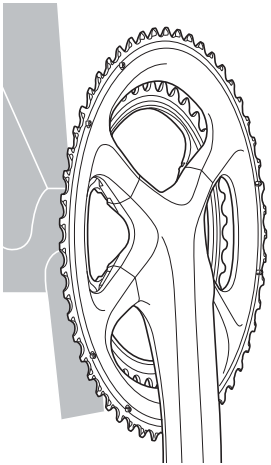
(A) Soft face mallet

NOTICE

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

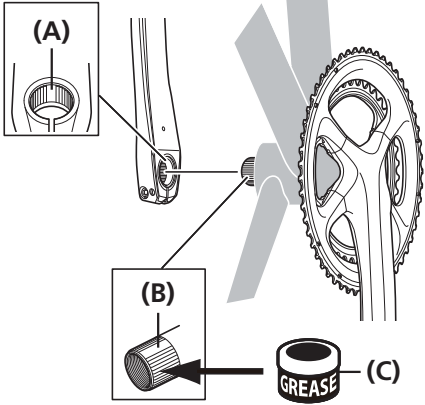
■ Installation of the crank

1



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

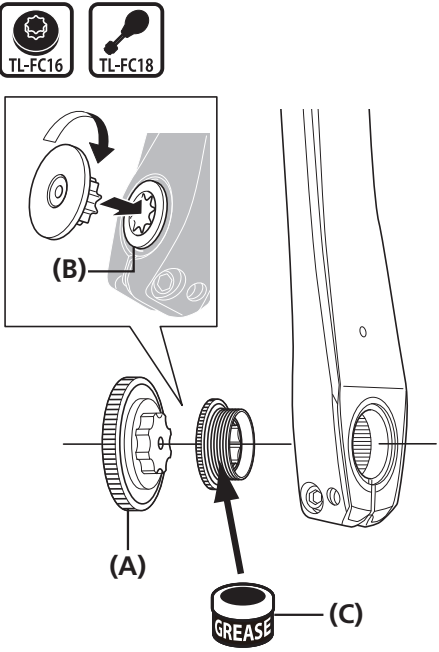
2



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

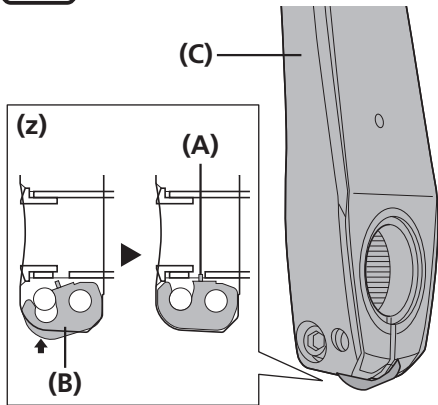


Use the SHIMANO original tool to tighten the cap.

- (A) TL-FC16/FC18
- (B) Cap
- (C) Apply grease
Premium grease (Y04110000)

Tightening torque	
 TL-FC16	0.7 - 1.5 N·m
 TL-FC18	

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).

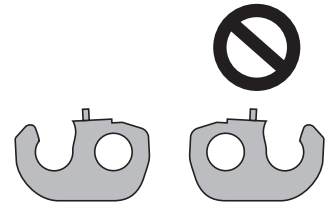
(z) The illustration is of the left crank arm (cross-section)

- (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.
- Set the stopper plate in the correct direction as shown in illustration.



MAINTENANCE

MAINTENANCE

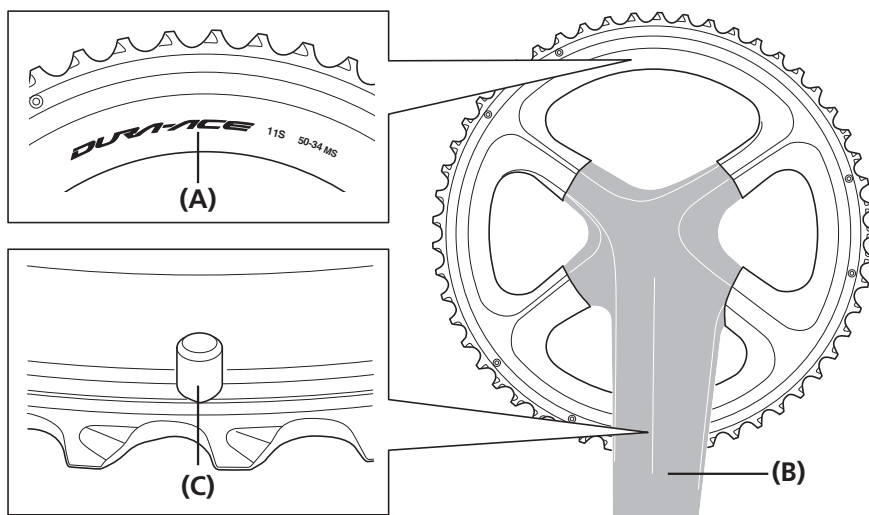
■ Replacing chainrings

NOTICE

- Gear shifting performance will be reduced if the installation positions of the chainrings are incorrect. Be sure to install the chainrings in the correct positions.
- Make sure to use the correct combination of SHIMANO genuine parts, otherwise the cranks or chainrings may become damaged.

Outer side

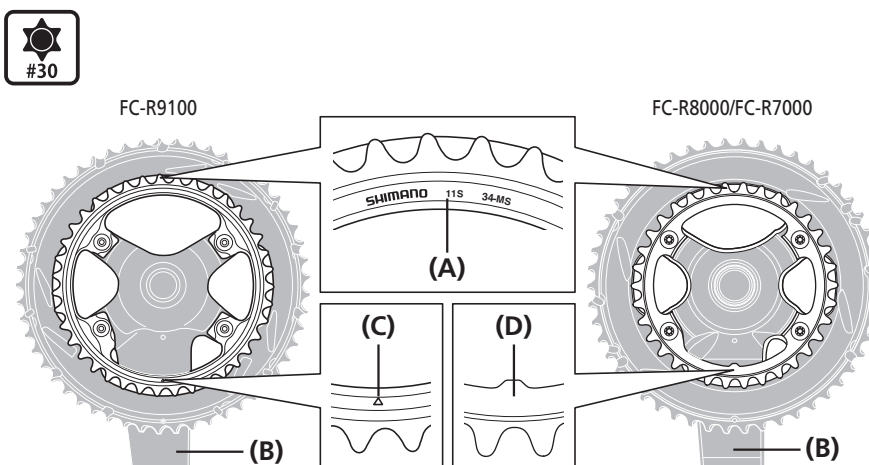
With the marked side of the largest chainring facing outward, set the largest chainring so that the chain drop prevention pin is positioned under the crank arm.



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

Inner side

With the marked side of the smallest chainring facing inward, set the smallest chainring so that the Δ mark or the alignment tab is positioned under the crank arm.



- (A) Marking
- (B) Crank arm
- (C) Δ mark
- (D) Alignment tab

Tightening torque



12 - 16 N·m

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

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