

Dealer's Manual

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

Front Chainwheel

SORA

FC-R3000
FC-R3030

Bottom bracket

BB-RS500
BB-RS500-PB

CONTENTS

IMPORTANT NOTICE	3
TO ENSURE SAFETY.....	4
LIST OF TOOLS TO BE USED.....	7
INSTALLATION.....	9
Installation of the crank	9
Bottom bracket	12
MAINTENANCE.....	16
Replacing chainrings.....	16

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 dealer's manuals and instruction manuals can be viewed on-line on our website (<http://si.shimano.com>).
- 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

- **When installing components, be sure to follow the instructions that are given in the instruction manuals.**
It is recommended to use genuine Shimano parts only. If parts such as bolts and nuts become loose or damaged, the bicycle may suddenly fall over, which may cause serious injury.
In addition, if adjustments are not carried out correctly, problems may occur, and the bicycle may suddenly fall over, which may cause serious injury.
-  Be sure to wear safety glasses or goggles to protect your eyes while performing maintenance tasks such as replacing parts.
- After reading the dealer's manual thoroughly, keep it in a safe place for later reference.

Be sure to also inform users of the following:

- *Intervals between maintenance depend on the use and riding circumstances. Clean the chain with an appropriate chain cleaner regularly. Never use alkali based or acid based solvents, such as rust cleaners. If those solvents are used the chain might break and cause serious injury.*
- 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 crack), 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.

CAUTION

Be sure to also inform users of the following:

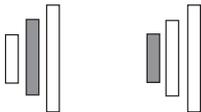
- Be careful to keep body parts away from the sharp teeth of chainrings.

NOTE

Be sure to also inform users of the following:

- Before riding the bicycle, check that there is no play or looseness between connecting parts. Also, be sure to retighten the crank and pedals at periodic intervals.
- Be sure to keep turning the crank arm during the 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	Triple
Front chainring		
Rear 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, check the bicycle once more.
- 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.
- 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: 35 - 55 N·m. The right-hand crank arm has a right-hand thread, and the left-hand 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 gears and the chain.
- When installing the left and right adapters, 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.
- 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 dimension between the gears changes, and the chain may fall in between the gears.

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	
	4mm Allen key		Plastic mallet		TL-FC33
	5mm Allen key		TL-FC16		TL-FC36
	8mm Allen key		TL-FC18		TL-BB12
	17mm spanner		TL-FC32		TL-BB13

NOTE

When using TL-FC32&TL-FC36, an impact wrench cannot be used.

INSTALLATION

INSTALLATION

■ Installation of the crank

1

Grease the left and right hand adapters and use the Shimano original tool to install the right hand adapter of the bottom bracket, the inner cover and the left hand adapter of the bottom bracket.

- (A)** TL-FC32
- (B)** Inner cover
- (C)** Right hand adapter (counterclockwise thread)
- (D)** Left hand adapter (clockwise thread)
- (E)** Applying grease
Premium grease (Y-04110000)

Tightening torque	
 	<p>35 - 50 N·m</p>

TECH TIPS

Turn the right hand adapter clockwise when the 70mm [M36] bottom bracket is used (clockwise thread).

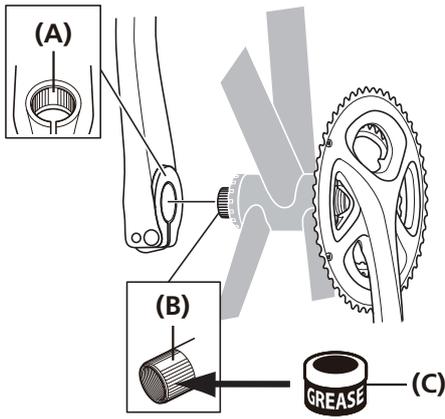
2

Insert the right crank arm unit.

INSTALLATION

▶▶ Installation of the crank

3

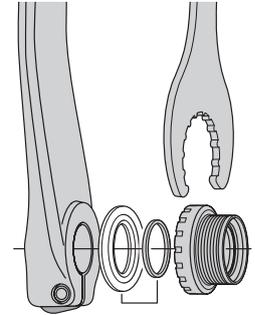


Set the wide groove area of the left crank arm into the axle of the right crank arm unit where the groove is wide.

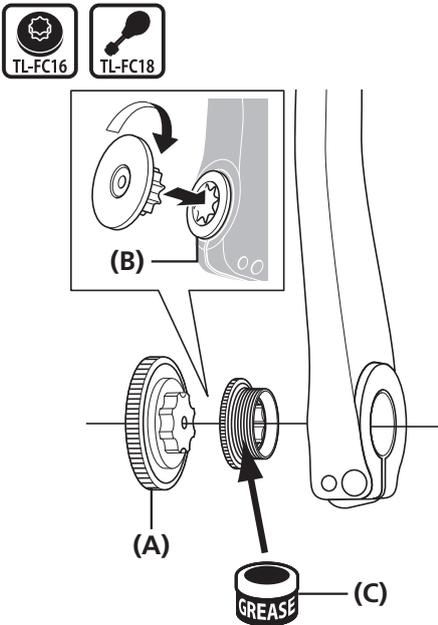
- (A) Wide groove area (left crank arm)
- (B) Wide groove area (axle)
- (C) Applying grease
Premium grease (Y-04110000)

NOTE

Insert a spacer for the road bike triple specification.



4



Use the Shimano original tool to tighten the cap.

- (A) TL-FC16
- (B) Cap
- (C) Applying grease
Premium grease (Y-04110000)

Tightening torque



TL-FC16



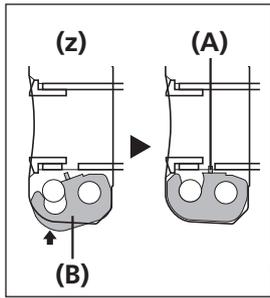
TL-FC18

0.7 - 1.5 N·m

INSTALLATION

►► Installation of the crank

5



(C)

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.

Tighten both bolts 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

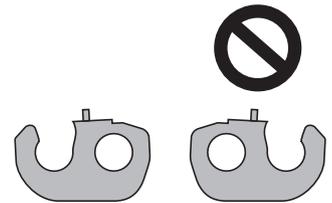
Tightening torque



12 - 14 N·m

NOTE

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

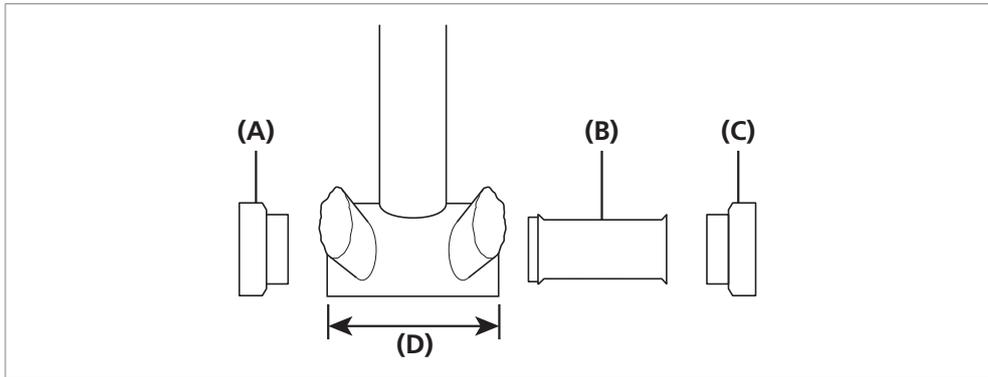


INSTALLATION

▶▶ Bottom bracket

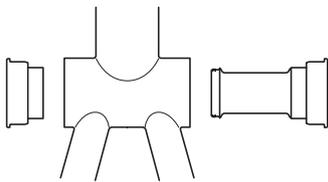
■ Bottom bracket

Adapter



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

Assembly example



Use for a bottom bracket shell width of 86.5mm.

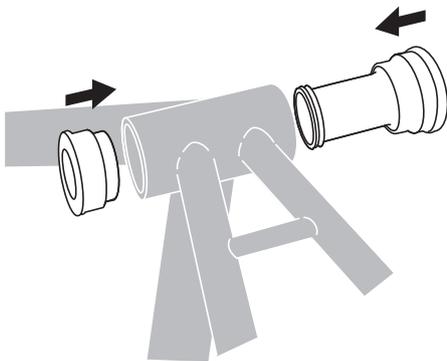
Use the inner cover.

NOTE

- If the frame has openings inside the bottom bracket shell, it should be installed with the inner cover sleeve to prevent possible contamination.
- If the frame has no openings inside the bottom bracket shell, it can be installed without the inner cover sleeve.

Installation

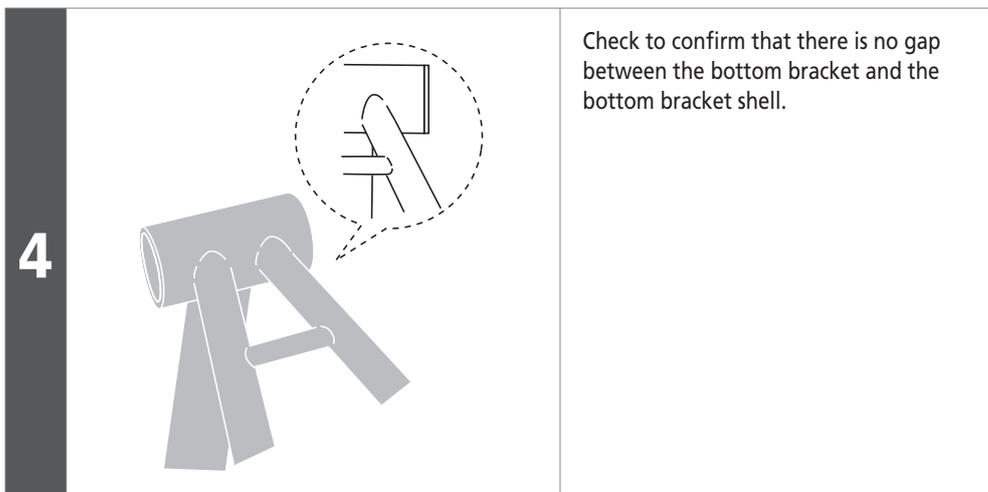
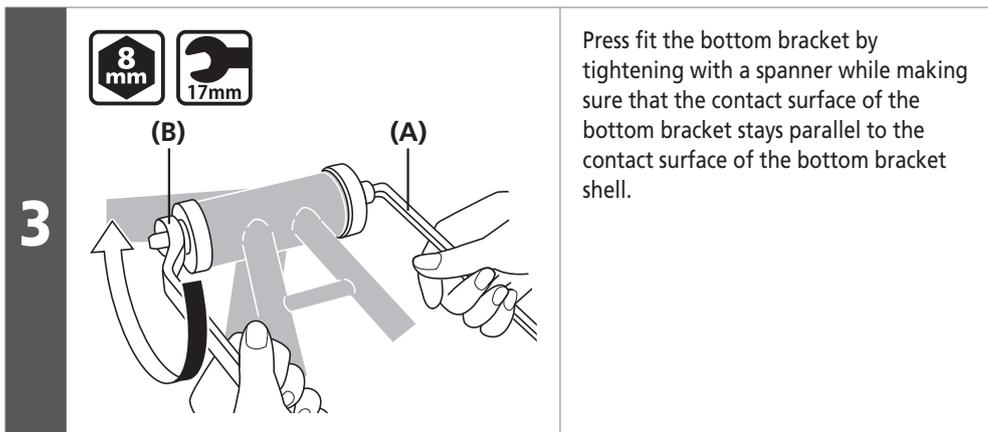
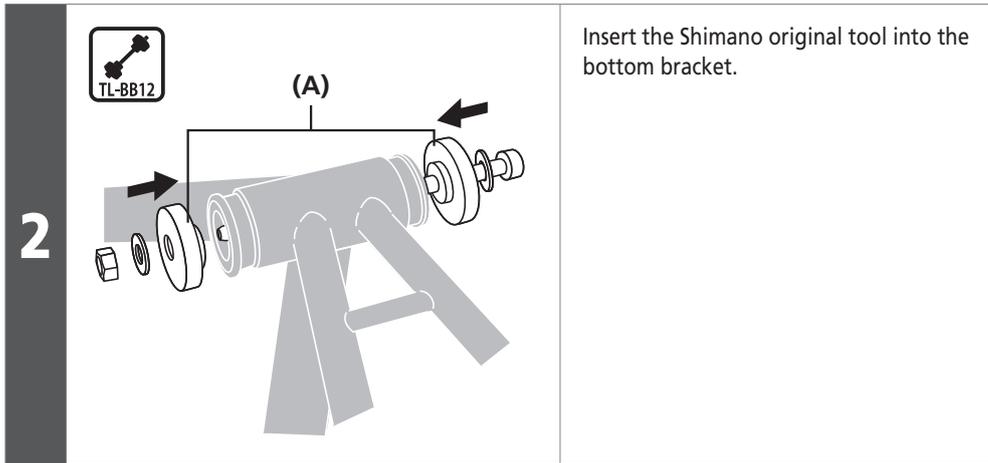
1



Insert the bottom bracket into the bottom bracket shell.

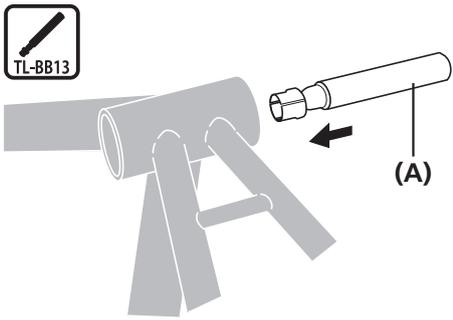
INSTALLATION

▶▶ Bottom bracket



Removal

1



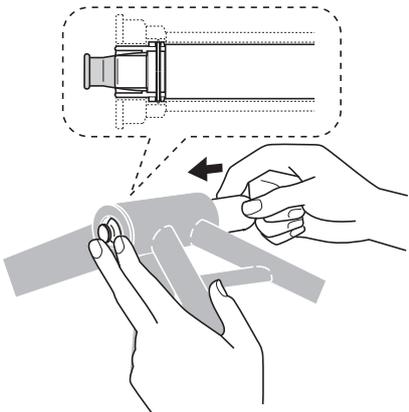
Insert the Shimano original tool into the bottom bracket.

(A) TL-BB13

NOTE

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

2

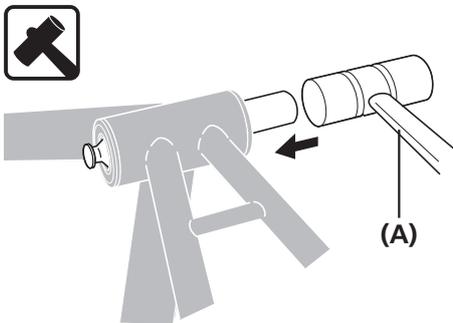


As shown in the illustration, hold down the flap with your fingers and push it in from the opposite side. (When pushed in, the flap opens.)

 **TECH TIPS**

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

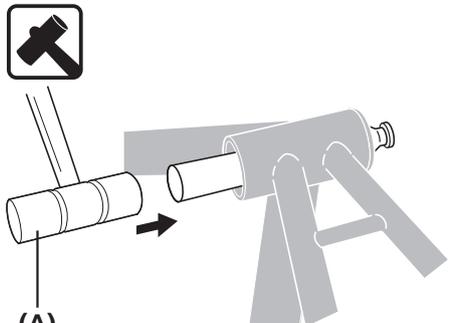
3



Tap the Shimano original tool with a plastic mallet until the end of the bottom bracket is ejected.

(A) Plastic mallet

4



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

(A) Plastic mallet

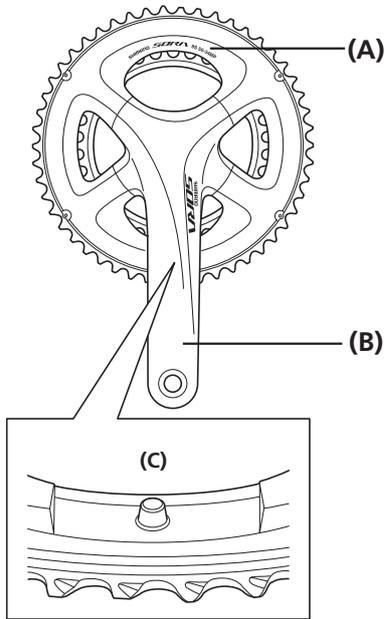
MAINTENANCE

MAINTENANCE

■ Replacing chainrings

Double gear type

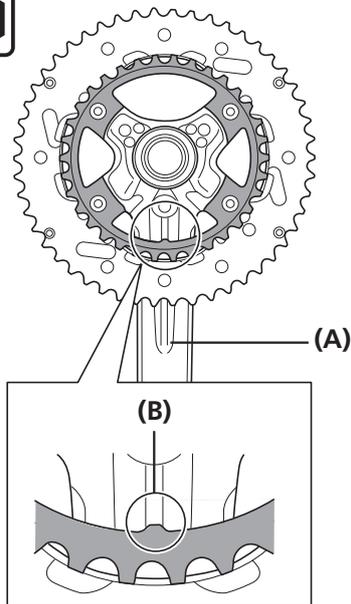
1



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) Crank arm
- (C) Chain drop prevention pin

2



With the marked side of the smallest chainring facing inward, set the smallest chainring so that the convex section is positioned under the crank arm.

- (A) Crank arm
- (B) Convex section

Tightening torque



12 - 14 N·m

Double gear with chain guard type

1

Diagram showing the components of a double gear with chain guard type. The diagram includes a 4 mm Allen key icon and a 5 mm Allen key icon. The components are labeled as follows: (y) 4mm Allen key, (z) 5mm Allen key, (B) Chain guard, and (A) Crank arm.

- (A) Crank arm
- (B) Chain guard

Tightening torque	
	1.47 N·m
	12 - 14 N·m

2

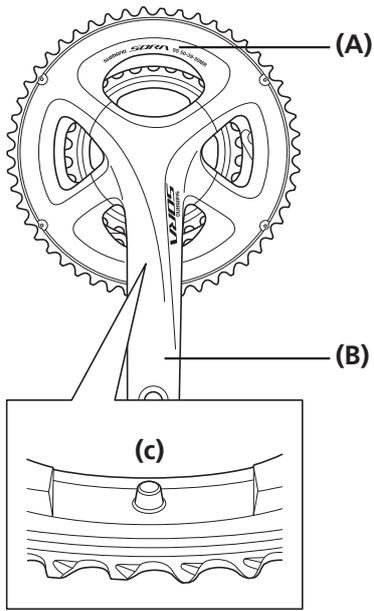
Diagram showing the installation of a chainring on the crank arm (A) and the convex section (B). The diagram includes a callout showing the convex section (B) of the chainring.

- (A) Crank arm
- (B) Convex section

With the marked side of the smallest chainring facing inward, set the smallest chainring so that the convex section is positioned under the crank arm.

Triple gear type

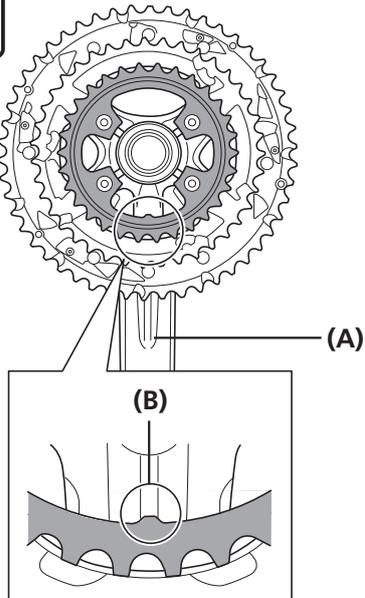
1



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) Crank arm
- (C) Chain drop prevention pin

2



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

- (A) Crank arm
- (B) Convex section

Smallest chainring

Tightening torque	
	14 - 16 N·m

Largest chainring/Middle chainring

Tightening torque	
	12 - 14 N·m

Triple gear with chain guard type

1

(y) 4mm Allen key
(z) 5mm Allen key

(A) Crank arm
(B) Chain guard

Tightening torque	
	1.47 N·m
	12 - 14 N·m

2

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

(A) Crank arm
(B) Convex section

Tightening torque	
	14 - 16 N·m

Smallest chainring

Tightening torque	
	14 - 16 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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