

Front Drive System

Before use, read these instructions carefully, and follow them for correct use.

In order to realize the best performance, we recommend that the following combination be used.

Series	STX	ALIVIO
Rapidfire Plus	ST-MC30	ST-MC10 / ST-MC11
Outer casing	SIS-SP	
Front derailleur	FD-MC31 / FD-MC30	FD-MC11 / FD-MC10
Front chainwheel	FC-MC31 / FC-MC30	FC-MC11 / FC-MC10
Bottom bracket	BB-UN91 / BB-UN71 / BB-UN51 / BB-LP30 / BB-LP20	BB-LP30 / BB-LP20
Chain	CN-HG50 / CN-HG70	
Bottom bracket cable guide	SM-SP16 / SM-SP15 / SM-BT15	

Specifications

Combinations chart

Chain line	Spindle length (Shell width)	
	BB-UN91 / BB-UN71 / BB-UN51 / BB-LP30 / BB-LP20	
47.5 mm	110 (68, 70)	
50 mm	113 (68, 70, 73)	

Front Derailleur

Model number	FD-MC31	FD-MC30 FD-MC11	FD-MC10
Normal type	○	○	○
Top route type	○	○	○
Front derailleur installation band diameter	S, M, L	S, M	S
Stroke (A-A')	38 - 58	38 - 58	38 - 54
Chainstay angle (α)	66°-69°	66°-69°/ 63°-66°	66°-69°
Applicable chain line	47.5 / 50	47.5 / 50	47.5

Installation band diameters: S (28.0 - 28.6 mm), M (31.8 mm), L (34.9 mm)

Front chainwheel

Model number	FC-MC31	FC-MC30	FC-MC11	FC-MC10
Material	Chainrings: Light alloy	Chainrings: Steel	Chainrings: Steel	Chainrings: Steel
Crank arms	Light alloy			
Bolt circle diameter	95 mm (largest, intermediate), 58 mm (intermediate, smallest)			Integrated
Front chainwheel tooth combination	42-34-24			42-34-24
Crank arm length (mm)	175, 170			
Pedal thread dimensions	BC 9/16" X 20 T.P.I. (English thread)			

Note: For FC-MC31, only the largest chainring is made of light alloy.

Bottom Bracket

Model number	BB-UN91 / BB-UN71 / BB-UN51	BB-LP30 / BB-LP20
Stamped marking	LL113	MM110
Spindle length	113 (68, 70, 73)	110 (68, 70)
Chain line	50	47.5
Bottom bracket cup thread dimensions	BC 1.37 X 24 T.P.I. (68, 73 mm), M36 X 24 T.P.I. (70 mm)	

Note

- For smooth operation, always be sure to use the SIS-SP outer casing and the bottom bracket cable guide.
- The front derailleurs are for triple front chainwheel use only. They cannot be used with the double front chainwheel, as the shifting points do not match.
- For the chain, be sure to use only the Shimano narrow type chain. The wide type chain cannot be used.
- When installing the top route type, choose a frame that has three outer casing holders as shown in the illustration at right.
- For any questions regarding methods of installation, adjustment, maintenance or operation, please contact a professional bicycle dealer.



SHIMANO

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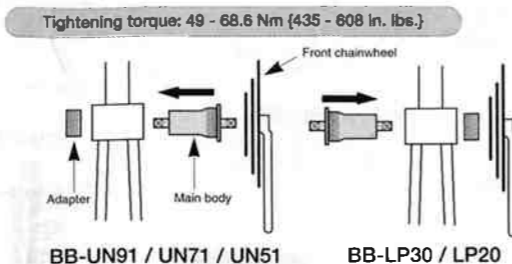
SHIMANO (EUROPA) GmbH
Kelmlehn 13-4010 Hilden, Germany Tel: 02103-5005-0

SHIMANO INC.
71 Gintama-cho, 3-chōme, Sakai, Osaka, 599 Japan Tel: (0722)-29-3243

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Installation of the bottom bracket

Install using the special tool TL-UN72. First install the main body, then the adapter. Note: Direction of insertion depends on the model.

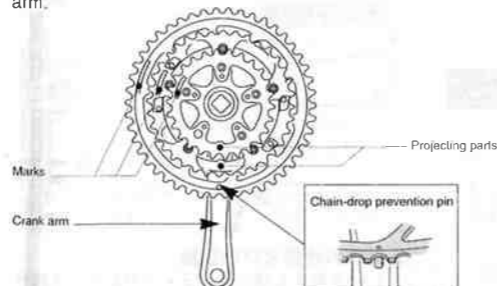


Installation of the chainrings

Be sure to use the following combination for the tooth configuration.

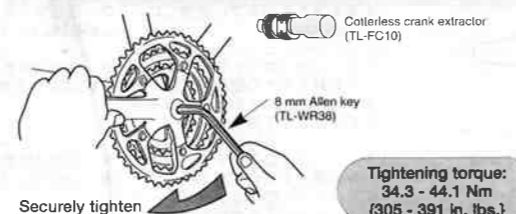
I 42-34-24

Position so that, when looking from the rear side, the I-□ marks come to the positions as shown in the illustration, and so that the chain-drop prevention pin is directly behind the crank arm.



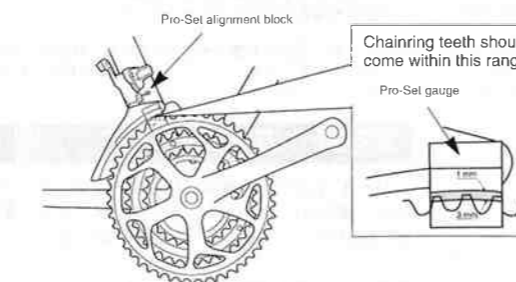
The features of the SIS will not be obtained if the chainrings are installed in the incorrect position, or if a chainring with a mark other than I-□ is being combined. Therefore, be sure to install them in the correct position.

Installation of the front chainwheel



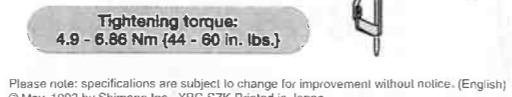
Installation to the frame

1. Adjust and then install as shown in the illustration. Do not remove the Pro-Set alignment block at this time.



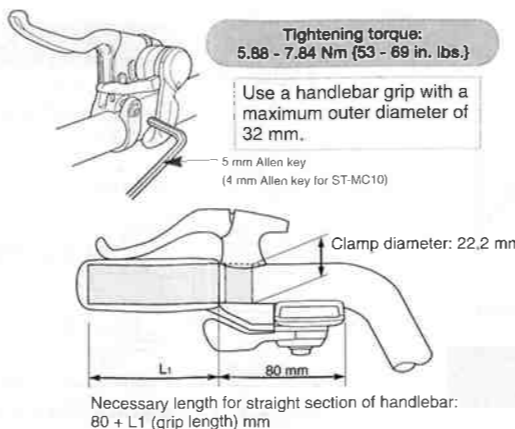
2. The level section of the chain guide outer plate should be directly above and parallel to the largest chainring.

3. Secure using a 5 mm Allen key or a 9 mm spanner.

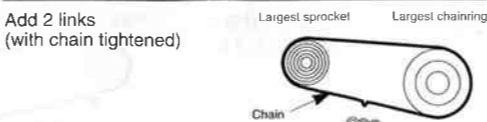


Please note: specifications are subject to change for improvement without notice. (English) © May, 1993 by Shimano Inc., XBC SZK Printed in Japan.

Installation of the lever



Chain length

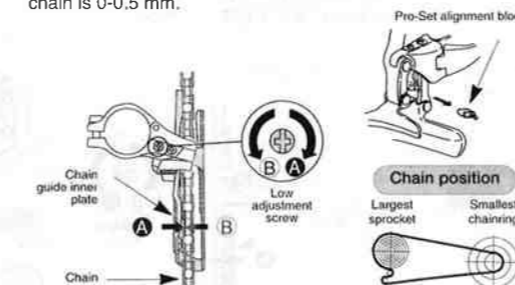


SIS adjustment

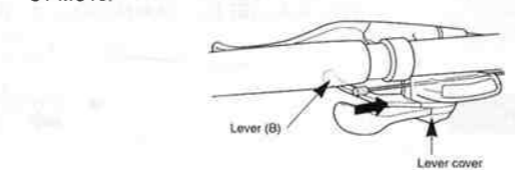
Be sure to follow the sequence described below.

1. Low adjustment

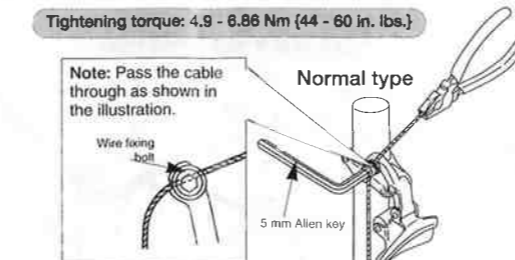
First remove the Pro-Set alignment block. Next, set so that the clearance between the chain guide inner plate and the chain is 0-0.5 mm.



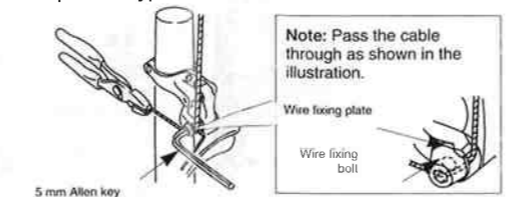
2. Connection and securing of the cable Press lever (B) 2 or more times to set the lever to the lowest position. Lever (A) and lever (B) are integrated in the ST-MC10.



While firmly pulling the cable, tighten the fixing bolt with a 5 mm Allen key or a 9 mm spanner to secure the cable.



Top route type



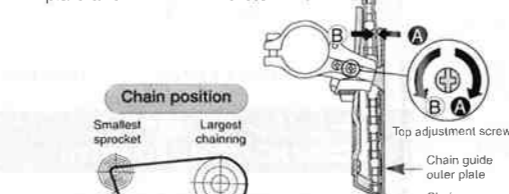
3. Adjustment of cable tension

After taking up the initial slack in the cable, re-secure to the front derailleur as shown in the illustration.



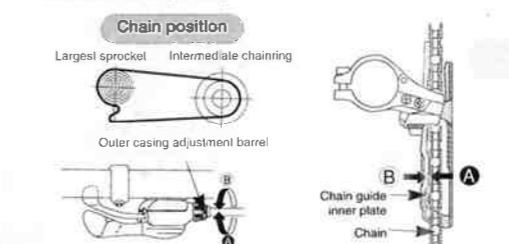
4. Top adjustment

Set so that the clearance between the chain guide outer plate and the chain is 0-0.5 mm.



5. Adjustment of the intermediate chainring

When carrying out adjustment, set the chain to the largest sprocket, and at the front, set the chain to the intermediate chainring. Adjust using the outer casing adjustment barrel so that the clearance between the chain guide inner plate and the chain is 0-0.5 mm.



6. Troubleshooting chart

After completion of steps 1 - 5, move the shifting lever to check the shifting. (This also applies if shifting becomes difficult during use.)

If the chain falls to the crank side	Tighten the top adjustment screw clockwise (about 1/4 turn).
If shifting is difficult from the intermediate chainring to the largest chainring	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If shifting is difficult from the intermediate chainring to the smallest chainring	Loosen the low adjustment screw counterclockwise (about 1/4 turn).
If there is interference between the chain and the front derailleur inner plate at the largest chainring	Tighten the top adjustment screw clockwise (about 1/8 turn).
If there is interference between the chain and the front derailleur outer plate at the largest chainring	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If the intermediate chainring is skipped when shifting from the largest chainring	Loosen the outer casing adjustment barrel counterclockwise (1 or 2 turns).
If there is interference between the chain and front derailleur inner plate when the chain is shifted to the largest sprocket and at the intermediate chainring position	Tighten the outer casing adjustment barrel clockwise (1 or 2 turns).
If the chain falls to the bottom bracket side	Tighten the low adjustment screw clockwise (about 1/2 turn).

Gear shifting operation

Both lever (A) and lever (B) always return to the initial position when they are released after shifting. When operating one of the levers, always be sure to turn the crank arm at the same time. Lever (A) and lever (B) are integrated in the ST-MC10.

To shift from a small chainring to a larger chainring

When lever (A) is pressed once, there is a shift of one step from a small chainring to a larger chainring. Example: from intermediate chainring to largest chainring.

To shift from a large chainring to a smaller chainring

When lever (B) is pressed once, there is a shift of one step from a large chainring to a smaller chainring. Example: from largest chainring to intermediate chainring.

Assembly and replacement of the shifting lever unit and indicator

Disassembly and reassembly should only be carried out when replacing the shifting lever unit or indicator.

Removal of the shifting lever unit

- Loosen the cable fixing nut of the front derailleur, and then pull the inner cable out of the shifting lever unit.
- Remove the outer casing adjustment barrel. For ST-MC30 and ST-MC11, remove the reach adjustment bolt.
- Remove the indicator set screw.
- Remove the two set screws of the shifting lever unit cover, and then remove the indicator cover.
- Remove the cam plate.
- Remove the shifting lever unit fixing bolt, and then remove the shifting lever unit.

Replacement and assembly of the shifting lever unit

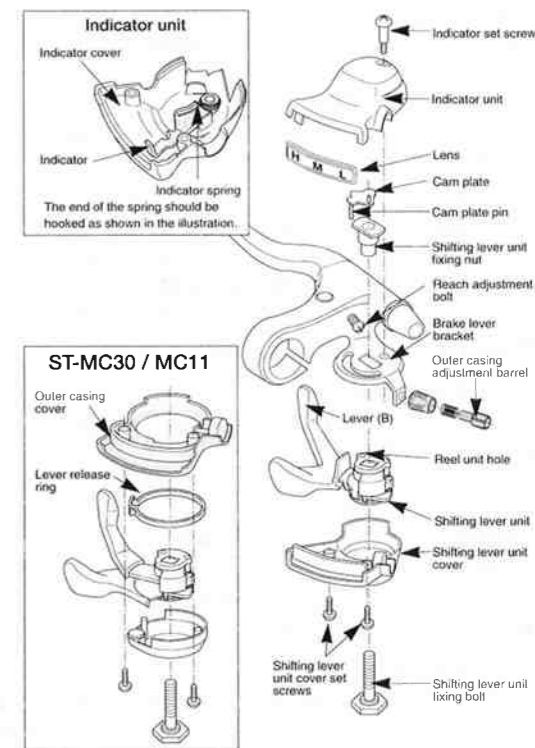
- Align the shifting lever unit with the brake lever bracket, and then secure the shifting lever unit with the shifting lever unit fixing bolt and nut.

Tightening torque: 2.45 Nm (22 in. lbs.)

- Align the cam plate pin with the hole of the reel unit, and then install the cam plate.
- Press lever (B) two or more times to set the lever to the lowest position.
- Install the lens to the indicator unit, and then after positioning the indicator unit correctly, secure it with the set screw.
- Install the shifting lever unit cover with the two set screws.

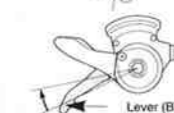
Replacement of the indicator

After carrying out steps 1 - 5 for removal of the shifting lever unit, carry out steps 2 - 5 for replacement and assembly of the shifting lever unit.



ST-MC30 / ST-MC11

Lever (A) initial position



ST-MC10

Lever (A) initial position

