

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	DEORE XT	DEORE LX
Rapidfire	ST-M739	ST-M008
Outer casing	SIS-SP40 sealed outer casing	
Front derailleur	FD-M739	FD-M567
Front chainwheel	FC-M737-IG	FC-M563-IG
Bottom bracket	BB-UN72 / BB-UN52	
Chain	CN-IG90 / CN-IG70	
Bottom bracket cable guide	SM-SP17 / SM-BT17	

Specifications

Front derailleur	FD-M739	FD-M567
Model number	FD-M739	FD-M567
Normal type		
Top route type		
Front derailleur installation band diameter	S, M, L	S, M, L
Stroke (A-A')	38 - 58	
Chainstay angle (α)	66° - 69°	63° - 66°, 66° - 69°
Applicable chain line	47.5 mm, 50 mm	

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

Front chainwheel	FC-M737-IG	FC-M563-IG
Model number	FC-M737-IG	FC-M563-IG
Material	Light alloy	
Bolt circle diameter	94 mm (largest, intermediate), 58 mm (smallest)	
Front chainwheel tooth combination	42 - 32 - 22	42 - 32 - 22
Crank arm length (mm)	180, 175, 170, 165	175, 170
Pedal thread dimensions	BC 9.16" X 20 T.P.I. (English thread)	
Applicable chain line	47.5 mm, 50 mm	

Note: FC-M737 also includes a 44T largest chaining.
Furthermore, the smallest chaining is made of steel.

Bottom bracket	BB-UN72 / BB-UN52
Model number	BB-UN72 / BB-UN52
Stamped marking	MM107
Spindle length	107 (68, 70, 73)
Chain line	47.5 mm
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: BB-UN52 are not compatible with the MM107 shell width of 73 mm.

CAUTION

Be sure to use only the Shimano IG chain with the IG front chainwheel. The HG or UG type of chain cannot be used.

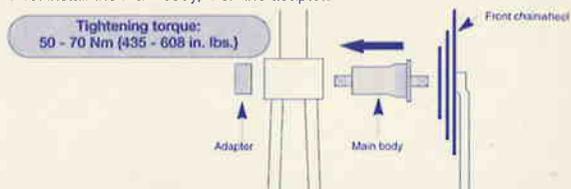
Note

- Apply grease to the bottom bracket before installing it.
- For smooth operation, always be sure to use the specified outer casing and the bottom bracket cable guide.
- This front derailleur is for triple front chainwheel use only. It cannot be used with the double front chainwheel, as the shifting points do not match.
- When installing the top route type, choose a frame that has three outer casing holders as shown in the illustration at right.
- Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly.
- For any questions regarding methods of installation, adjustment, maintenance or operation,

FD-M739/FD-M567 Adjustment Bolts
Because of the different construction of the new link, the positions of the top and low adjustment bolts on the FD-M739 / FD-M567 are reversed from the positions on previous front derailleurs.

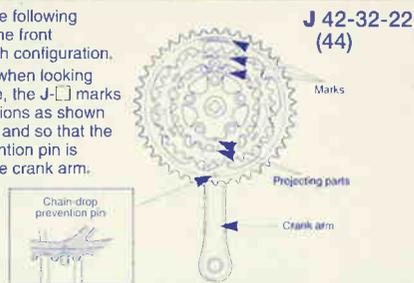
Installation of the bottom bracket

Install using the special tool TL-UN73.
First install the main body, then the adapter.



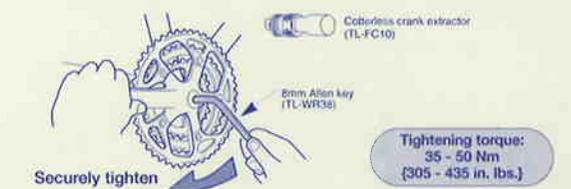
Installation of the chainrings

Be sure to use the following combination for the front chainwheel's tooth configuration. Position so that, when looking from the rear side, the J-□ marks come to the positions as shown in the illustration, and so that the chain-drop prevention pin is directly behind the crank arm.



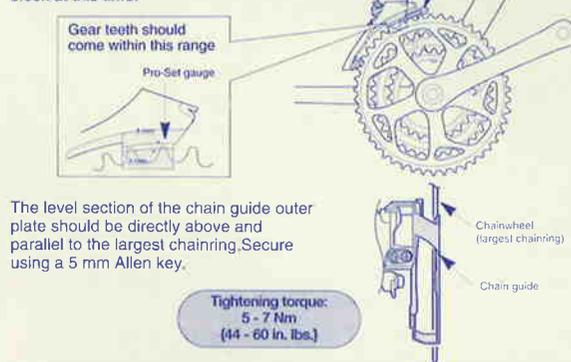
The features of the SIS will not be obtained if the chainrings are installed in the incorrect position, or if a chaining with a mark other than J-□ is being combined. Therefore, be sure to install them in the correct position.

Installation of the front chainwheel



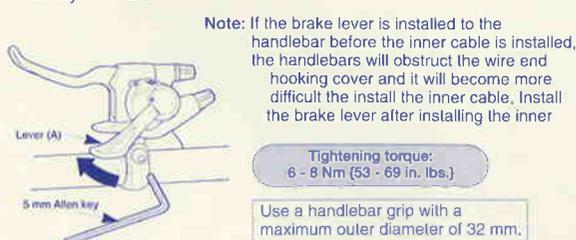
Installation to the front derailleur

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



Installation of the brake lever

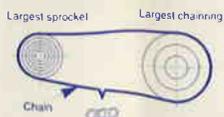
<ST-M739 / ST-M567>
Move lever (A) so that the installation bolt can be seen, and then use a 5 mm Allen key to install.



<ST-M008>
Install the brake lever in a position where it will not obstruct brake operation. Do not use in a combination which causes brake operation to be obstructed.

Chain length

Add 2 links (with the chain on both the largest sprocket and the largest chaining)



Checking the chain connection

For IG chains, insert the chain gauge (TL-CN24) into the inner link which is next to the chain connecting pin to check that the inner link width is correct. Check that the connecting pin protrudes past the outer link by the same amount on both sides, and that the amount of protrusion is 0.2 mm or more.

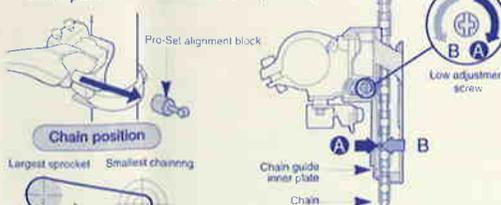


SIS adjustment

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 inner cable

Operate lever (B) two times or more. After checking on the indicator that the lever is at the lowest position, turn the cable adjusting bolt until the slit is on the same side as the handlebar. Open the wire end hooking cover as shown in the illustration, and then pull the wire end hook toward you (if lever (A) is moved as shown in the illustration to take up the play, the wire end hook will be easier to pull out), and then insert the inner cable from the bottom. Place the inner cable into the slit and then close the wire end hooking cover.

Note: The wire end hook may get hooked inside the lever mechanism, which will stop the lever from moving back to the proper position. If the lever does not return, use the end of the inner cable to unhook the wire end hook.

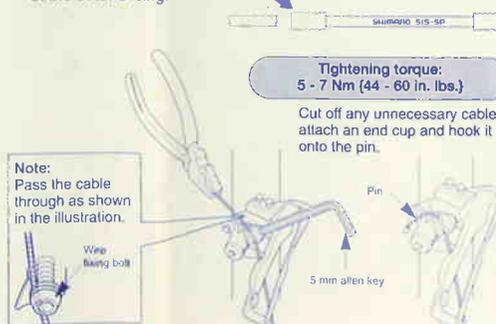
Inserting the inner cable

Insert the inner cable into the outer casing from the end with the marking on it. Apply grease from the end with the marking in order to maintain cable operating efficiency.

Cutting the outer casing

When cutting the outer casing, cut the opposite end to the end with the marking. After cutting the outer casing, make the end round so that the inside of the hole has a uniform diameter.

Attach the same outer end cap to the cut end of the outer casing.



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.



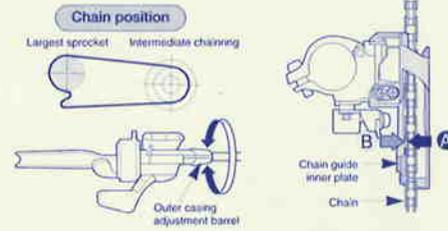
4. Top adjustment

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



5. Adjustment of the intermediate chaining

When carrying out intermediate adjustment, set the chain to the largest sprocket, and at the front, set the chain to the intermediate chaining. 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 chaining to the largest chaining	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If shifting is difficult from the intermediate chaining to the smallest chaining	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 chaining	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 chaining	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If the intermediate chaining is skipped when shifting from the largest chaining	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 chaining 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.

To shift from a small chaining to a larger chaining
When lever (A) is pressed once, there is a shift of one step from a small chaining to a larger chaining.

Example:
from intermediate chaining to largest chaining.



To shift from a large chaining to a smaller chaining
When lever (B) is pressed once, there is a shift of one step from a large chaining to a smaller chaining.

Replacement of the shifting lever unit and indicator

Disassembly and reassembly should only be carried out when replacing the indicator.

Removal of the indicator

1. Remove the two indicator set screws which are securing the indicator.

Tightening torque : 0.3 - 0.5 Nm (3 - 4 in. lbs.)

2. Remove the indicator unit and cam plate as shown in the illustration.

3. Operate lever (B) two times or more to set the lever to the lowest position. At this time, check that the lever returns to the proper position without the wire end hook becoming hooked inside the lever. If the lever does not return, use the end of the inner cable to unhook the wire end hook.

4. Push the cam plate onto the hexagonal end of the shaft so that the plate is in the position shown in the illustration. Note: Do not deliberately turn this hexagonal shaft with any tools, as this will damage the internal mechanism.

5. After checking that the indicator needle is at the right edge, set the indicator so that it is directly above the cam plate, and then secure it with the two indicator set screws.

6. Check the operation of the indicator. If it does not operate correctly, re-install the indicator by while taking particular note of steps 3. and 5.

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

Replacement of the shifting lever unit

1. Loosen the cable fixing bolt (nut) of the front derailleur, and then pull the inner cable out of the shifting lever unit in the same way as when installing the inner cable.

2. Carry out steps 1 - 2 for replacement of the indicator.

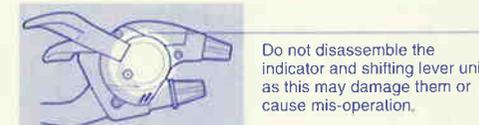
3. Remove the three shifting lever mounting screws, and then remove the shifting lever unit and wire end hooking cover as shown in the illustration.

Tightening torque : 0.5 - 0.8 Nm (4 - 7 in. lbs.)

Shifting lever mounting screws

4. To assemble, align the shifting lever unit and the brake lever bracket, install the wire end hooking cover while being careful that the pins at both ends go into their respective holes, and then secure the shifting lever mounting screws.

5. Carry out steps 3 - 5 for replacement of the indicator.



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