



WARNING

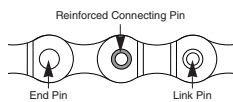
- Use neutral detergent to clean the chain. Do not use alkali-based or acid based detergent such as rust cleaners as it may result in damage and/or failure of the chain.
- Use the reinforced connecting pin only for connecting the narrow type of chain.
- There are two different types of reinforced connecting pins available. Be sure to check the table below before selecting which pin to use. If connecting pins other than reinforced connecting pins are used, or if a reinforced connecting pin or tool which is not suitable for the type of chain is used, sufficient connection force may not be obtained, which could cause the chain to break or fall off.

Chain	Reinforced connecting pin	Chain tool
9-speed super narrow chain such as CN-7701 / CN-HG93	 Silver	TL-CN32 / TL-CN27
8- / 7- / 6-speed narrow chain such as CN-HG50 / CN-HG40	 Black	TL-CN32 / TL-CN27

- If it is necessary to adjust the length of the chain due to a change in the number of sprocket teeth, make the cut at some other place than the place where the chain has been joined using a reinforced connecting pin or an end pin. The chain will be damaged if it is cut at a place where it has been joined with a reinforced connecting pin or an end pin.
- Be careful not to let the cuffs of your clothes get caught in the chain while riding, otherwise you may fall off the bicycle.
- Check that the tension of the chain is correct and that the chain is not damaged. If the tension is too weak or the chain is damaged, the chain should be replaced. If this is not done, the chain may 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.
- Obtain and read the service instructions carefully prior to installing the parts. Loose, worn or damaged parts may cause the bicycle to fall over and serious injury may occur as a result. We strongly recommend only using genuine Shimano replacement parts.
- Obtain and read the service instructions carefully prior to installing the parts. If adjustments are not carried out correctly, the chain may come off and this may cause you to fall off the bicycle which could result in serious injury.
- Read these Technical Service Instructions carefully, and keep them in a safe place for later reference.

Note

- The reinforced connecting pins cannot be used with the UG chain, otherwise the connections will not move properly and noise will occur.
- FD-TZ31/TZ30/TZ21/TZ20 are Non SIS compatible, and cannot be used in combination with the SL-RS35-L.
- Apply grease to the thread section of the bottom bracket and to the inside thread of the adapter before installing the bottom bracket.
- In addition, if pedaling performance does not feel normal, check this once more.
- Before riding the bicycle, check that there is no play or looseness in the connection. Also, be sure to retighten the crank arms and pedals at periodic intervals.
- Do not wash the bottom bracket with high-pressure jets of water.
- If you feel any looseness in the bottom bracket axle, the bottom bracket should be replaced.
- If gear shifting operations do not feel smooth, wash the derailleur and lubricate all moving parts.
- If the amount of looseness in the links is so great that adjustment is not possible, you should replace the derailleur.
- You should periodically wash the chainrings in a neutral detergent and then lubricate them again. In addition, cleaning the chain with neutral detergent and lubricating it can be an effective way of extending the useful life of the chainrings and the chain.
- If the chain keeps coming off the chainrings during use, replace the chainrings and the chain.
- Use an outer casing which still has some length to spare even when the handlebars are turned all the way to both sides. Furthermore, check that the shifting lever does not touch the bicycle frame when the handlebars are turned all the way.
- Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly.
- Operation of the levers related to gear shifting should be made only when the front chainwheel is turning.
- For smooth operation, use the specified outer casing and bottom bracket cable guide.
- To ensure the best performance, be sure to use only the specified type of chain. The wide type chain cannot be used.
- For maximum performance we highly recommend Shimano lubricants and maintenance products.
- Parts are not guaranteed against natural wear or deterioration resulting from normal use.
- For any questions regarding methods of installation, adjustment, maintenance or operation, please contact a professional bicycle dealer.



Technical Service Instructions

SI-6NGFA-004

Front Drive System

SHIMANO
Tourney

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

Series	Tourney (SIS)				Tourney (Non SIS)	
	Right	7-gears	6-gears	7-gears	6-gears	
Gears	Left	3-gears	3-gears	3-gears	3-gears	
Shifting lever	Left	SL-RS35-L	SL-RS35-L	SL-RS35-LN	SL-RS35-LN	
Outer casing	SIS					
Front derailleur	FD-C051/FD-C050/FD-TY10/ FD-C102/FD-C101-E/FD-TX51/FD-TX50			FD-C051/FD-C050/FD-TZ31/FD-TZ21/ FD-TZ30/FD-TZ20/FD-TX51/FD-TX50		
Front chainwheel	FC-M151			FC-M151		
Bottom bracket	BB-UN26			BB-UN26		
Chain	CN-UG51			CN-UG51		
Bottom bracket cable guide	SM-SP18/SM-BT18			SM-SP18/SM-BT18		

This service instruction explains how to use and maintain the Shimano bicycle parts which have been used on your new bicycle. For any questions regarding your bicycle or other matters which are not related to Shimano parts, please contact the place of purchase or the bicycle manufacturer.

SHIMANO

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3-77 Oimatsu-cho, Sakai-ku, Sakai-shi, Osaka 590-8577, Japan* Service Instructions in further languages are available at:
<http://techdocs.shimano.com>Please note: specifications are subject to change for improvement without notice. (English)
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Specifications

Shifting lever

Model number	SL-RS35-L	SL-RS35-LN
Gears	SIS 3-gears	Non SIS



Front Derailleur

Model number	FD-C102	FD-C101-E FD-TX51 FD-TX50	FD-C051 FD-C050	FD-TY10	FD-TZ31 FD-TZ30	FD-TZ21 FD-TZ20
Front derailleur installation band diameter (Normal type)	S, M, L	S, M, L	S, M, L	S, M	S, M	S, M
Front derailleur installation band diameter (Top route type)	S, M, L	S, M, L	S, M, L	S, M	S, M	S, M
Chainstay angle (α)	66° - 69°	63° - 66° 66° - 69°	63° - 66° 66° - 69°	66° - 69°	66° - 69°	66° - 69°

Front chainwheel

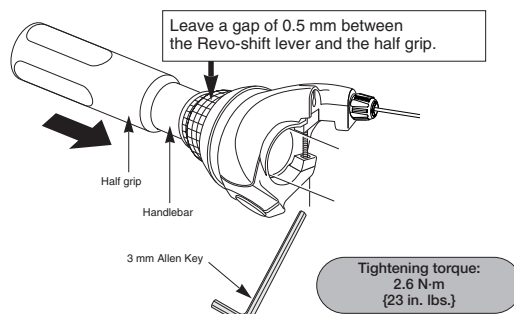
Model number	FC-M151	FC-M151
Front chainwheel tooth combination	48T-38T-28T	42T-34T-24T
Crank arm length	170 mm	170 mm
Pedal thread dimensions	BC 9/16" X 20 T.P.I. (English thread)	BC 9/16" X 20 T.P.I. (English thread)
Bottom bracket cup thread dimensions	BC 1.37" X 24 T.P.I. (68, 73 mm)	BC 1.37" X 24 T.P.I. (68, 73 mm)
Applicable front derailleur	FD-C102 / C051 / TZ31 / TZ21 / TX51	FD-C101-E / C050 / TY10 / TZ30 / TZ20 / TX50

Bottom Bracket

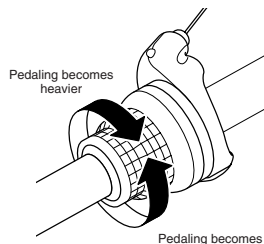
Type	Chain line	Spindle length	Shell width	Stamped marking	Thread dimensions
Triple	47.5 mm	122.5 mm	68 mm	D-NL	BC1.37 X 24 T.P.I.

Mounting the shifting lever

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.

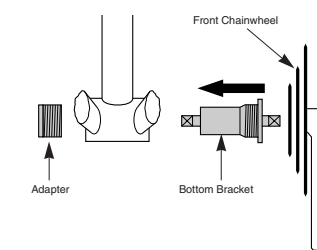


Gear shifting operation



Installation of the bottom bracket

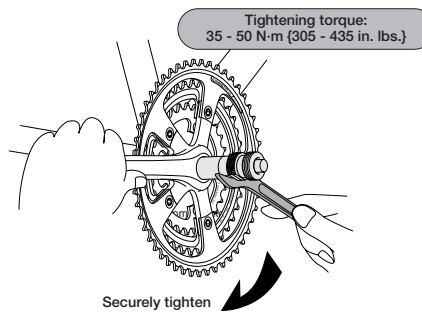
Install using the special tool TL-UN74-S.
First install the main body, then the adapter.



Adapter / bottom bracket tightening torque:
50 - 70 N-m (435 - 608 in. lbs.)
Front chainwheel tightening torque:
35 - 50 N-m (305 - 435 in. lbs.)

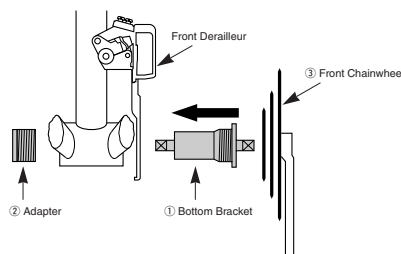
Installation of the front chainwheel

Use the cotterless crank extractor (TL-FC10) to install the front chainwheel.



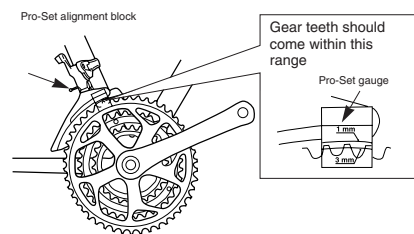
< FD-C101-E >

Use the special tools (TL-UN65 and TL-UN74-S) to install the bottom bracket (1) and the front derailleur so that they face as shown in the illustration. Install the adapter (2), and then use the cotterless crank extractor (TL-FC10) to install the front chainwheel.



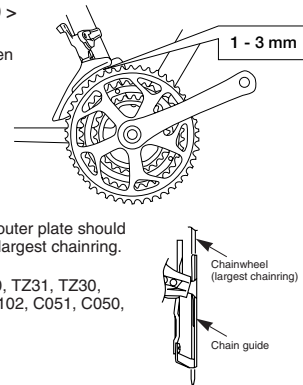
Installation of the front derailleur

1. < FD-C102 / C051 / C050 / TY10 / TX51 / TX50 >
Adjust and then install the front derailleur as shown in the illustration. Do not remove the Pro-Set alignment block at this time.



< FD-TZ31 / TZ30 / TZ21 / TZ20 >

Install so that there is 1 - 3 mm of clearance at the closest point between the largest chainring and the bottom edge of the chain guide.



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

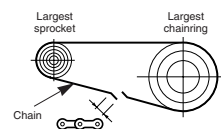
- Secure using a 9 mm spanner (TY10, TZ31, TZ30, TZ21, TZ20) or a 5 mm Allen key (C102, C051, C050, TX51, TX50).

Tightening torque:
5 - 7 N-m (44 - 60 in. lbs.)

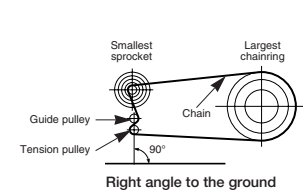
Chain length

< GS >

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



< SS >



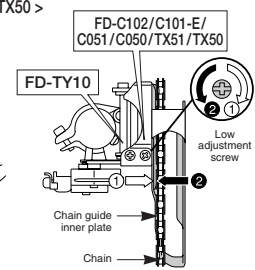
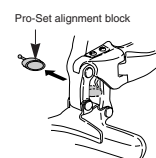
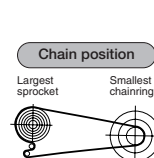
Adjustment

Be sure to follow the sequence described below.

1. Low adjustment

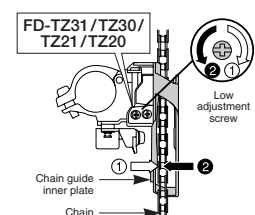
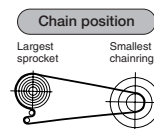
< FD-C102 / C101-E / C051 / C050 / TY10 / TX51 / TX50 >

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.



< FD-TZ31 / TZ30 / TZ21 / TZ20 >

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



2. Connection and securing of cable

While firmly pulling the cable, tighten the fixing bolt with a 9 mm spanner (TY10, TZ31, TZ30, TZ21, TZ20) or a 5 mm Allen key (C102, C051, C050) to secure the cable.

Tightening torque:
5 - 7 N-m (44 - 60 in. lbs.)

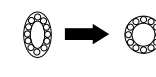
Inserting the inner cable

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.

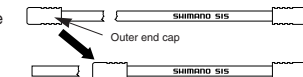


Cutting the outer casing

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.



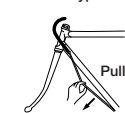
Attach the same outer end cap to the cut end of the outer casing.



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.

Normal type

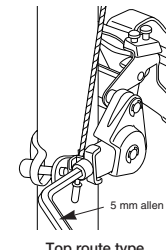


Top route type

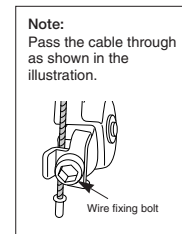


Cut off the excess length of inner cable and then install the inner end cap.

< FD-C051 / C050 / TX51 / TX50 >



Top route type

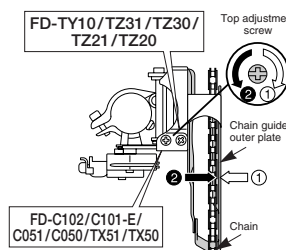
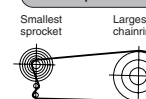


Normal type

4. Top adjustment

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

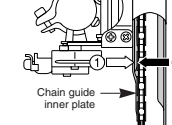
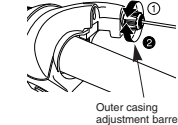
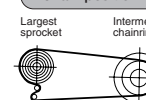
Chain position



5. Adjustment of the intermediate chainring

Set the chain onto the largest sprocket, and at the front, move the chain from the largest chainring to the intermediate chainring. Adjust using the cable adjusting bolt so that the clearance between the chain guide inner plate and the chain is 0 - 0.5 mm.

Chain position



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 rear sprocket is shifted to the largest sprocket when the chainwheel is at the intermediate chainring position.	Tighten the outer casing adjustment barrel clockwise (1 or 2 turns).
If shifting is difficult from the largest chainring to the intermediate chainring.	Loosen the outer casing adjustment barrel counterclockwise (1 or 2 turns).
If the chain falls to the bottom bracket side.	Tighten the low adjustment screw clockwise (about 1/2 turn).

* SL-RS35-L

Replacing the inner cable

1. Operate the shifter to set it to the low position. Then use a screwdriver or similar tool to push point A and remove the cover.

2. Replace the inner cable by carrying out steps ① to ③ as shown in the illustrations.

