

General Safety Information

⚠ WARNING

- When the shifting switch is operated, the motor which drives the front derailleur will operate without stopping at the shifting lever position. Always be sure to remove the battery before carrying out installation and adjustment, otherwise your fingers may become stuck.
- 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.
- AE Use the CN-7900 chain in combination with the FC-7900. If a 10-speed chain such as the CN-7801 or CN-6600 is used, the chain may come off and the bicycle may suddenly fall over, and serious injury may result.
- Be careful not to let the cuffs of your clothes get caught in the chain while riding, otherwise you may fall off the bicycle.
- Read these Technical Service Instructions carefully, and keep them in a safe place for later reference.

Note

- If gear shifting operations cannot be carried out smoothly, clean 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.
- Always be sure to use the TL-EW01 special tool to remove the cable.
- Be careful not to let water get into the terminal.
- Parts are not guaranteed against natural wear or deterioration resulting from normal use.
- For maximum performance we highly recommend Shimano lubricants and maintenance products.
- For any questions regarding methods of installation, adjustment, maintenance or operation, please contact a professional bicycle dealer.

Technical Service Instructions

SI-5LF0A-002

FD-7970

Front derailleur

SHIMANO

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

Series	DURA-ACE
Dual control lever	ST-7970
Electric cable	EW-7970 / SM-EW79A
Battery	SM-BTR1
Gears	20
Front derailleur	FD-7970
Front chainwheel	FC-7900
Rear derailleur	RD-7970
Freehub	FH-7900
Cassette sprocket	CS-7900 (Except for 11-28T)
Chain	CN-7900

Specifications

Type	Brazed on type	Band type		
Model number	FD-7970-F	FD-7970-L	FD-7970-M	FD-7970-S
Band adapter (Front derailleur installation band diameter)	-	SM-AD79L (34.9 mm)	SM-AD79M (31.8 mm)	SM-AD79MS (28.6 mm)
Top gear teeth	50 - 56 T			
Front chainwheel tooth difference	16 teeth or less			
Chainstay angle (α)	61° - 66°			
Chain line	43.5 mm			

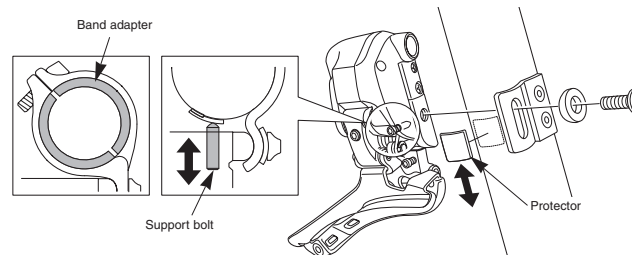
Refer to the Service Instructions for the electric cable when connecting and routing the electric cable.

Installation of the front derailleur

If installing the front derailleur to a brazed-on type frame, a protector must be attached to the seat tube. Always be sure to install the protector in order to prevent damage to the frame from the pressure applied by the support bolt of the front derailleur.

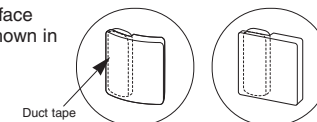
■ Installation of the protector

Check the position where the support bolt directly touches the frame when the support bolt of the front derailleur is being adjusted, and attach the protector in that position. In addition, avoid positioning the duct tape that attaches the protector to the seat tube in the location where the support bolt directly touches the frame.



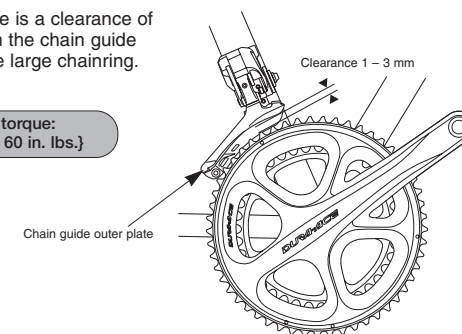
* If using a band adapter (SM-AD79L/M/S), the protector and washer are not required. Use the SM-AD79 in combination with the FD-7970. The SM-AD11/15 cannot be installed.

* Protectors with a curved adhesion surface and a flat adhesion surface exist as shown in the illustration, so use whichever type matches the shape of the frame.

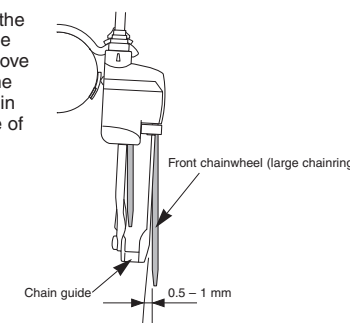


1. Adjust so that there is a clearance of 1 - 3 mm between the chain guide outer plate and the large chainring.

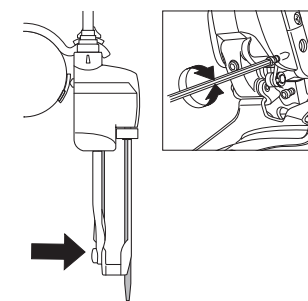
Tightening torque:
5 - 7 N·m {43 - 60 in. lbs.}



2. Use a 5 mm Allen key to secure the chain guide outer plate so that the flat part of the plate is directly above the large chainring and so that the rear edge of the chain guide within 0.5 - 1.0 mm from the front edge of the chain guide.



3. Use a 2 mm Allen key to turn the support bolt in order to adjust the position of the front derailleur so that the flat part of the chain guide outer plate is directly above and parallel to the large chainring.



When installing the components to carbon frame/handle bar surfaces, verify with the manufacturer of the carbon frame/parts for their recommendation on tightening torque in order to prevent over tightening that can cause damage to the carbon material and/or under tightening that can cause lack of fixing strength for the components.

* Refer to the Service Instructions for the ST-7970 for details on the adjustment method for the front derailleur.