



RD-M805 / RD-M800

Rear derailleur

Special instruction of installation for SAINT FH-M800/RD-M800 and FH-M805/RD-M805

A hub axle is an essential component for the firm and reliable attachment of a rear hub and a rear derailleur to the bicycle frame. Its material, strength, size and shape all are key to accomplishing this goal. That is why Shimano ships a hub axle with a hub.

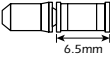
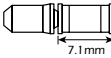
We strongly recommend that you use the hub axle that is shipped with a hub when attaching the hub to the bicycle frame. A wheel may come off and cause a serious injury to the rider if you use a different hub axle because (1) a different hub axle may not be long enough to be able to sufficiently tighten the rear hub, and/or (2) a different hub axle may break due to lack of strength.

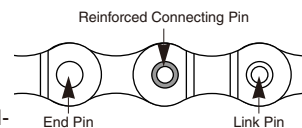
Shimano does not sell its hub axle separately except when a customer uses Shimano's RD-M805 or RD-M800 rear derailleur with a non-Shimano rear hub. However, if a customer chooses to use a non-Shimano rear hub, the customer is doing so at his/her own risk and is responsible for making sure that the wheel is firmly fixed.

General Safety Information

⚠ WARNING

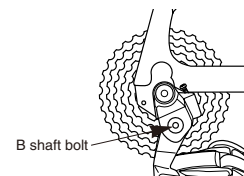
- **Off-road bicycle riding and extreme mountain bike riding, represented in part by North Shore style riding, "trials riding", or urban stunt riding is an inherently dangerous activity. There is a risk of being involved in an accident that can result in a serious injury or even death. It is strongly recommended that riders wear protective head and body gear and perform thorough safety checks of their bicycles before riding. Please remember that you are riding at your own risk and that you have to consider your experience and your skills very carefully.**
- The ST-M800 DUAL CONTROL lever is used for both gear shifting and braking operations. Make sure that you fully understand and are accustomed to the gear shifting and braking operations for your bicycle. Refer to the illustration for the method of operation.
- Braking can only be performed with the DUAL CONTROL lever. If you use the gear shifting release lever (Auxiliary release lever) for braking, the release lever may become damaged and you may lose control of the bicycle, which could result in an accident.
- If the internal unit of the DUAL CONTROL lever becomes damaged, the lever will move down from the normal lever position, and it may move to a position where braking is difficult to carry out. If this happens, you should stop riding the bicycle immediately.
- Before riding, confirm that the hub axle has been tightened with torque of 35 - 45 N·m and the wheel has been secured to the frame. Serious injury can result from falling if the wheel comes off.
- 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.
- 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.
- 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.
- Use a front chainwheel which is compatible with 9-speed chains in conjunction with Shimano CN-7701, CN-HG93 and CN-HG73 chains. If a chainwheel for an 8-speed chain or less is used, front chainwheel gear shifting problems may occur, or the chain pins might fall out, causing the chain to break.
- Obtain and read the service instructions carefully prior to installing the parts. Loose, worn, or damaged parts may cause injury to the rider.
- We strongly recommend only using genuine Shimano replacement parts.
- Read these Technical Service Instructions carefully, and keep them in a safe place for later reference.

Chain	Reinforced connecting pin	Chain tool
9-speed super narrow chain such as CN-7701 / CN-HG93	 Silver 6.5mm	TL-CN31 / TL-CN22
8-/7-/6-speed narrow chain such as CN-HG50 / CN-IG51	 Black 7.1mm	TL-CN31 / TL-CN22 and TL-CN30 / TL-CN21



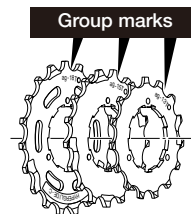
CAUTION

- Do not loosen the B shaft bolt while the RD-M805 / RD-M800 rear derailleur is installed to the frame. (In case the rear derailleur is removed from the frame, the hub axle has to be pulled out.)



Note

- When installing the wheel and rear derailleur onto the frame, first apply grease to the hub axle by following directions in the Service Instructions.
 - 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 clean the derailleur and lubricate all moving parts (mechanism and pulleys).
 - If gear shifting adjustment cannot be carried out, check the degree of parallelism at the rear end of the bicycle. Also check if the cable is lubricated and if the outer casing is too long or too short.
 - If you hear abnormal noise as a result of looseness in a pulley, you should replace the pulley.
 - If the wheel becomes stiff and difficult to turn, you should lubricate it with grease.
 - Do not apply any lubricant to the inside of the hub, otherwise the grease will come out.
 - You should periodically wash the sprockets in a neutral detergent and then lubricate them again. In addition, cleaning the chain with neutral detergent and lubricating it can be a effective way of extending the useful life of the sprockets and the chain.
 - If the chain keeps coming off the sprockets during use, replace the sprockets and the chain.
 - Adjust the RD-M805 / RD-M800 reverse spring type rear derailleur from the low side.
 - Use a frame with internal cable routing is strongly discouraged as it has tendencies to impair the SIS shifting function due to its high cable resistance.
 - Always be sure to use the sprocket set bearing the same group marks. Never use in combination with a sprocket bearing a different group mark.
 - 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.
 - Make sure that the gear shifting cable and the brake cable do not obstruct each other during braking operations. If they do obstruct, it may interfere with braking.
- Install the cables so that they still have some slack in them even when the handlebars are turned fully in either direction.
- A special grease is used for the gear shifting cable (SIS-SP41). Do not use DURA-ACE grease or other types of grease, otherwise they may cause deterioration in gear shifting performance.
 - Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly.
 - For smooth operation, use the specified outer casing and the bottom bracket cable guide.
 - Operation of the levers related to gear shifting should be made only when the front chainwheel is turning.
 - If the brake fluid used in the oil disc brakes is of a type which tends to adhere to the plastic parts of the shifting lever, this may cause the plastic parts to crack or become discolored. Therefore, you should make sure that the brake fluid does not adhere to these plastic parts.
- The mineral oil which is used in SHIMANO disc brakes does not cause cracking or discoloration if it adheres to plastic parts, but such parts should be cleaned with alcohol beforehand to prevent foreign particles from adhering.
- This product is not warranted against damage resulting from use such as jumping while riding or if the bicycle falls over, except if such malfunctions result from non conforming materials or manufacturing methods.
 - 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.



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

Series	SAINT	Freehub	FH-M805 / FH-M800
DUAL CONTROL lever	ST-M800	Gears	9
Outer casing	SIS-SP41	Cassette sprocket	CS-M760
Rear derailleur	RD-M805 / RD-M800	Chain	CN-HG93
Type	SS / GS / SGS	Bottom bracket guide	SM-SP17 / SM-BT17

Specifications

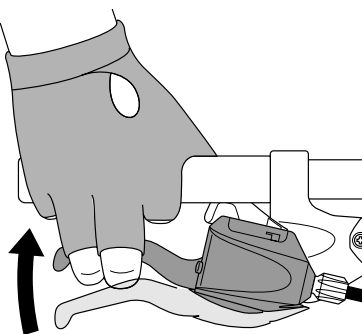
Rear Derailleur

Model number	RD-M805			RD-M800		
Type	SS	GS	SGS	SS	GS	SGS
Gears	9			9		
Total capacity	29T	33T	45T	29T	33T	45T
Largest sprocket	34T	34T	34T	34T	34T	34T
Smallest sprocket	11T	11T	11T	11T	11T	11T
Front chainwheel tooth difference	22T	22T	22T	22T	22T	22T
Applicable freehub	FH-M805			FH-M800		

These Service Instructions describe the operation method when using the ST-M800 DUAL CONTROL lever in combination with the RD-M800/M805 reverse spring-type rear derailleur. If using in combination with a top normal-type derailleur, the operations will be reversed.

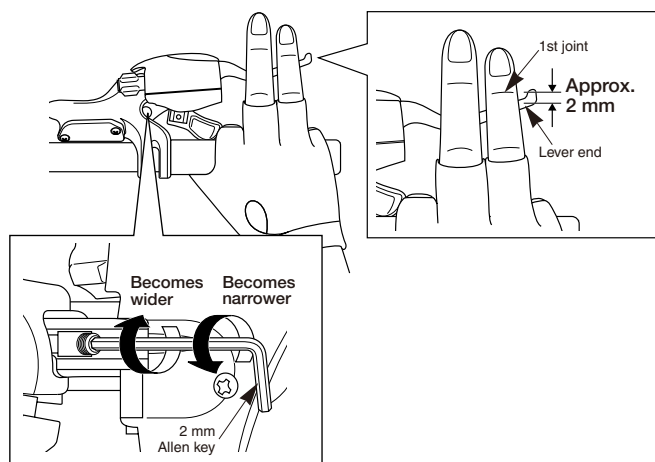
Operating the levers

■ Operating the brake lever



Adjusting the grip width

It is recommended that you adjust the grip widths of the levers to the most comfortable widths for gear shifting and braking.

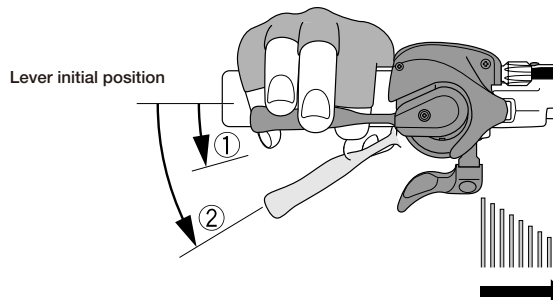


■ Gear shifting operation

The lever always returns to the initial position when it is released after shifting. When operating the lever, always be sure to turn the crank arm at the same time.

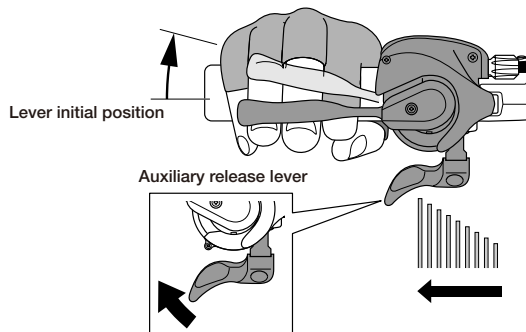
To shift from a large sprocket to a smaller sprocket

To shift one step only, press lever to the (1) position. To shift two steps at one time, press to the (2) position. A maximum two-step shift can be made in this manner.



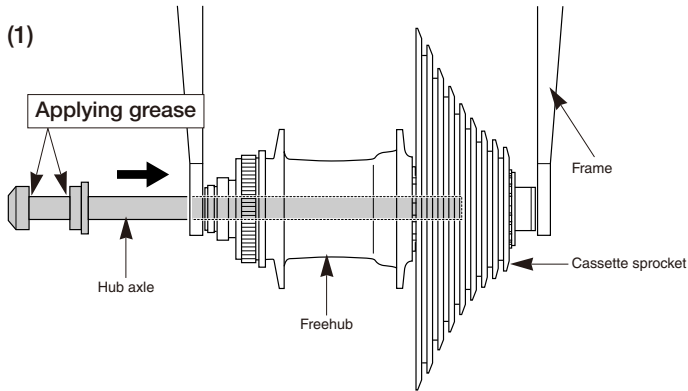
To shift from a small sprocket to a larger sprocket

Press lever once to shift one step from a smaller to a larger sprocket.



Installation to the frame

(1)

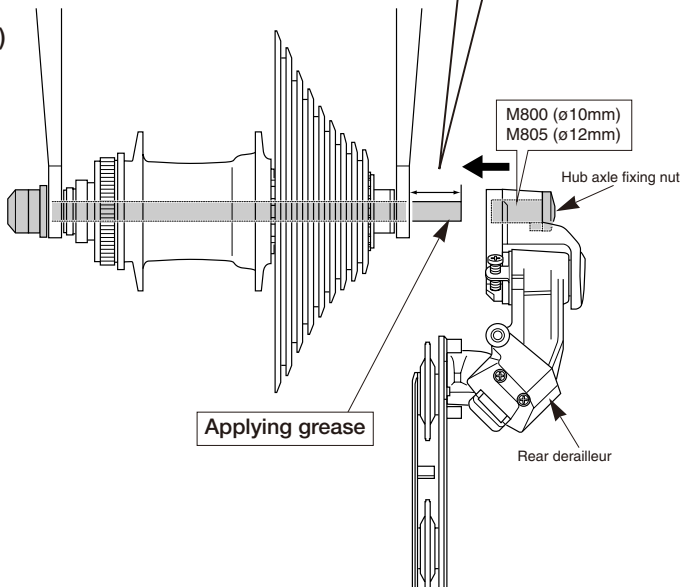


1. Install the sprockets to the FH-M805 / FH-M800 freehub, place the freehub onto the frame and pass the hub axle through it.
2. Install the hub axle fixing nut that is attached to the rear derailleur onto the hub axle.
* FH-M805 (ø12mm), FH-M800 (ø10mm)
3. Turn the hub axle to secure the freehub and the rear derailleur to the frame.
Check that the pawl on the fork end is set into the end stopper.

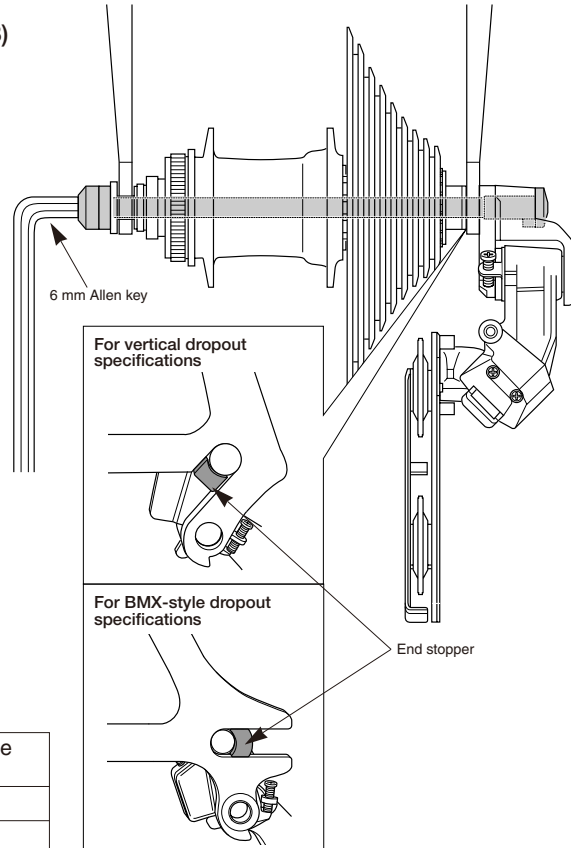
Freewheel hub / Rear derailleur
tightening torque:
35 - 45 N·m {305 - 392 in.lbs}

Check that the axle on the right hand side protrudes about 20 - 30 mm. If it is not long enough, the wheel may come off because the hub axle does not tighten the hub sufficiently.

(2)



(3)

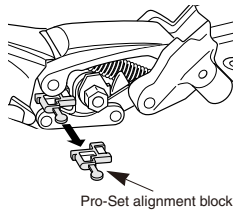


	Axle diameter	Vertical dropout	BMX-style dropout
FH-M800	ø10mm	×	×
FH-M805	ø12mm	×	—

SIS Adjustment

Installation of the chain

Install the chain with the Pro-Set alignment block still attached. After installing, remove the Pro-Set alignment block.

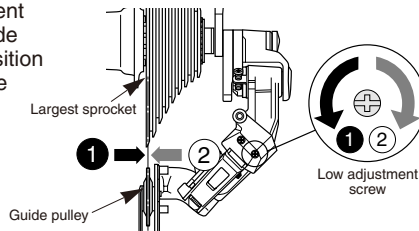


Turn the crank arm to set the derailleur to the low position.

Start the adjustment after loosening the bump stopper adjustment bolt.

1. Low adjustment

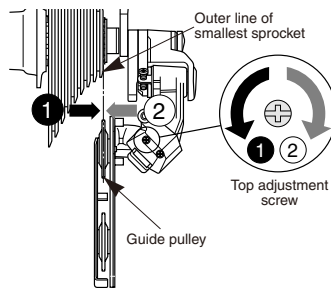
Turn the low adjustment screw so that the guide pulley moves to a position directly in line with the largest sprocket.



2. Top adjustment

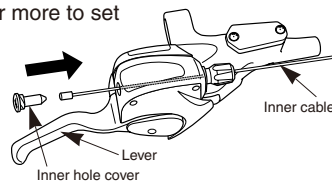
Turn the crank arm while pulling the derailleur with your hand to move the derailleur to the top position, and then turn the top adjustment screw to adjust so that the guide pulley is in line with the outer line of the smallest sprocket when looking from the rear.

Turn the crank arm to set the derailleur to the low position.



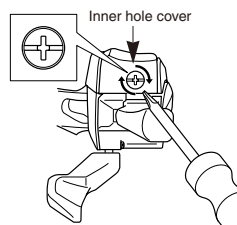
3. Connecting and securing the inner cable

Operate the lever eight times or more to set the lever to the lowest position. Then remove the inner hole cover and connect the inner cable.



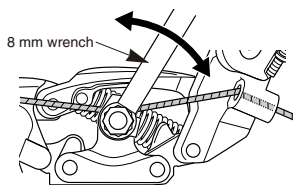
Tightening torque :
5 - 7 N·m {44 - 60 in. lbs.}

Install the inner hole cover by turning it as shown in the illustration until it stops. Do not turn it any further than this, otherwise it may damage the screw thread.

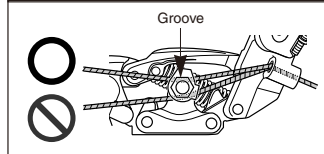


Tightening torque :
0.3 - 0.5 N·m {3 - 4 in. lbs.}

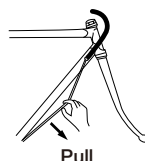
Connect the inner cable to the derailleur as shown in the illustration.



Note: Be sure that the cable is securely in the groove.



Connect the cable to the rear derailleur and, after taking up the initial slack in the cable, re-secure to the rear derailleur as shown in the illustration.



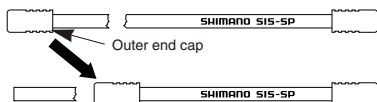
Tightening torque :
5 - 7 N·m {44 - 60 in. lbs.}

Cutting the outer casing

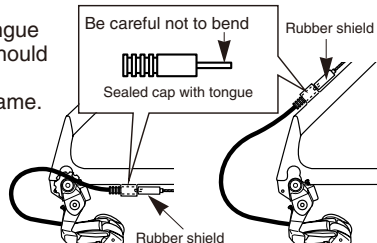
When cutting the outer casing, cut the opposite end to the end with the marking. After cutting the outer casing, make the end round so that the inside of the hole has a uniform diameter.



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

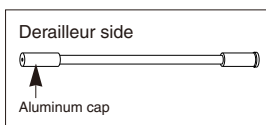


The sealed cap with tongue and the rubber shield should be installed to the outer casing stopper of the frame.



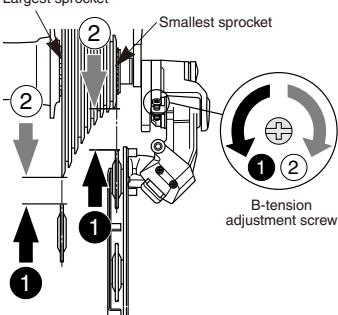
* If the rear derailleur moves to a large degree, such as in bicycles with rear suspension, it is recommended that you replace the cap with the accessory aluminum cap.

The end of the outer casing which has the aluminum cap should be at the derailleur side.



4. How to use the B-tension adjustment screw

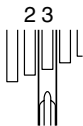
Mount the chain on the smallest chainring and the largest sprocket, and turn the crank arm backward. Then turn the B-tension adjustment screw to Largest sprocket adjust the guide pulley as close to the sprocket as possible but not so close that it touches. Next, set the chain to the smallest sprocket and repeat the above to make sure that the pulley does not touch the sprocket.



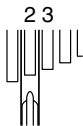
5. SIS Adjustment

Push lever while turning the crank arm to move the derailleur to the largest sprocket. Then operate lever once to move the derailleur to the 2nd-gear sprocket. After this, operate lever just as far as the extent of play, and then turn the crank arm.

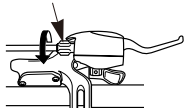
When changing to 3rd



When no noise is heard at all



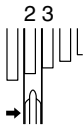
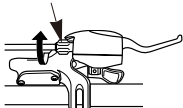
Adjustment bolt



Turn the cable adjustment bolt clockwise to tighten it until the chain returns to the 2nd sprocket.

* Turn the adjustment bolt together with the outer casing adjustment barrel cover.

Adjustment bolt



Turn the cable adjustment bolt counterclockwise to loosen it until the chain touches a sprocket and generates noise.

* Turn the adjustment bolt together with the outer casing adjustment barrel cover.

Best setting

The best setting is when the cable adjustment bolt is tightened (turned clockwise) until noise occurs without lever being operated, and then loosened (turned counterclockwise) 90 - 180 degrees from that point.

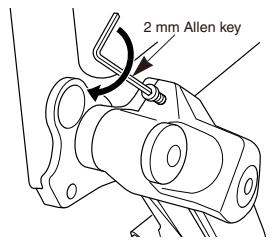
Operate lever to change gears, and check that no noise occurs in any of the gear positions.

For the best SIS performance, periodically lubricate all power-transmission parts.

Lastly, adjust the bump stopper adjustment bolt.

6. Adjustment of the bump stopper

With the pulley cage fully extended, adjust the clearance between the top of the P body and the chainstay to 5 - 10 mm. Be careful not to overtighten.



Tighten
Becomes further away from chainstay

Clearance 5 - 10 mm

