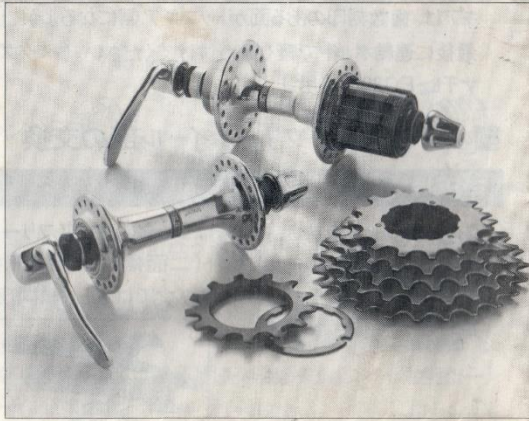


SERVICE INSTRUCTION

New Shimano 600EX Free Hub

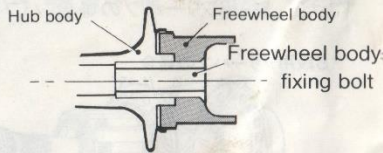
- 5 speed Freehub FH-6207-5
- 6 speed Freehub FH-6207-6

NEW
SHIMANO 600 EX



■ Features

- Freewheel body fixing bolt increases durability.
- The freewheel body and cones incorporate a seal to prevent entry of mud.
- The cassette systems used in the gear and freewheel sections provide easy, quick access for parts replacement and repair.
- The use of a freewheel body fixing bolt allows easy removal of the freewheel body from the hub.
- The cassette system results in increased rigidity. (Uni Balance Mechanism)
- Freehub structure increases the distance between hub balls for improved hub axle strength.
- The sprockets use the UG "Twist" teeth for smooth chain movement during gear changes.



■ Specifications

	5 speed Freehub FH-6207-5	6 speed Freehub FH-6207-6
Weight*1	579 g (1.276 lbs.)	630 g (1.39 lbs.)
Material	Light alloy, steel	
Suitable chain size	1/2" X 3/32"	
Spoke hole size	φ2.4mm (0.09")	
No. of spoke holes	36 holes	
Lock nut dimensions	120.5 mm (4-3/4")	126 mm (4-61/64")
Chain line	42.45 mm (1-43/64")	
Dishing distance*2	3.25 mm (1/8")	6 mm (15/64")
Sprocket replacement teeth	12T to 28T	
Top sprocket screw measurement	B.C. 34.6 X 24T.P.I.	

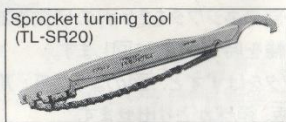
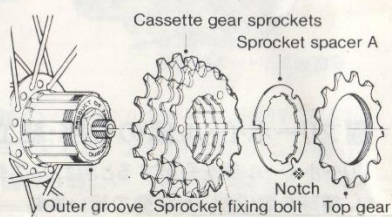
Note:
 (*1) The above weights are taken from the below teeth combinations. 5 speed (13-15-17-19-21T), 6 speed (13-15-17-19-21-23T)
 (*2) Dishing distance means the distance between the center line of the flanges and center line of the lock nuts.

■ Note

- The freewheel section is factory-assembled and strictly inspected for optimum performance. Do not attempt to disassemble unless absolutely necessary.

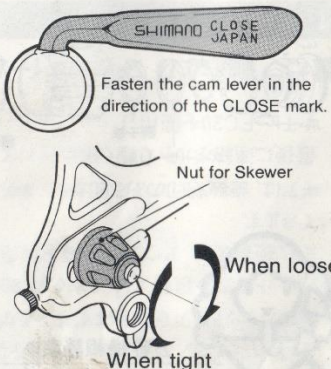
■ Assembly Operation

1. After assembling the wheel, assemble the cassette gear sprockets in alignment with the outer grooves. Then place sprocket spacer A and screw the top gear (smallest sprocket) in position by using the sprocket turning tool (TL-SR20).
 Note: During this assembly, secure the three notches of sprocket spacer A in alignment with the three sprocket fixing bolt holes.
2. Set the wheel into the center of the frame. Then turn the quick release cam lever to secure the wheel to the frame.



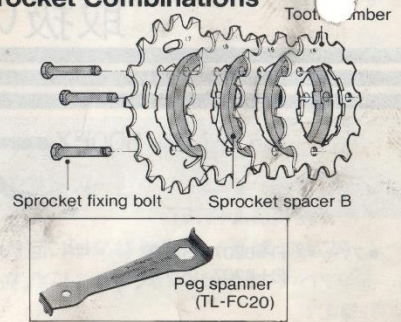
■ Fastening the Quick Release Mechanism

1. Control the nut for skewer and firmly fasten the cam lever in the direction of the CLOSE mark to secure the wheel to the frame. The cam lever fastening torque at this time ranges from 90 to 120 kgfcm. (80 to 105 in.lbs.)
2. If the cam lever is loose when fastened, turn the adjusting nut clockwise and fasten the lever again. Conversely, if the cam lever is too tight to turn, rotate the adjusting nut counterclockwise and fasten the lever again.



■ Replacing Sprockets and Changing Sprocket Combinations

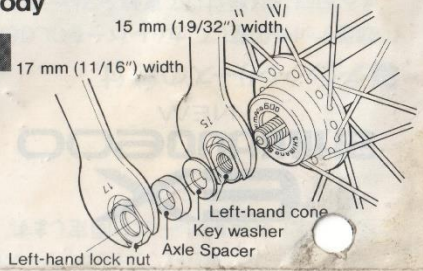
- For sprocket replacement, remove the top gear (smallest sprocket) by using two sprocket turning tools (TL-SR20). This allows the remaining cassette sprockets to be easily removed.
- Cassette sprocket combinations can be replaced by removing the three sprocket fixing bolts. This replacement will be facilitated by using the outer grooves. Position the sprockets with their tooth number facing the top gear, and lightly fasten the sprocket fixing bolts. (To fasten the bolts, use the peg spanner TL-FC20.)



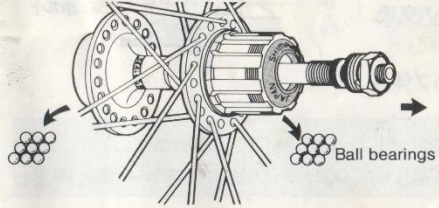
■ Replacing Hub Axle and Freewheel Body

1. Cone and hub axle disassembly

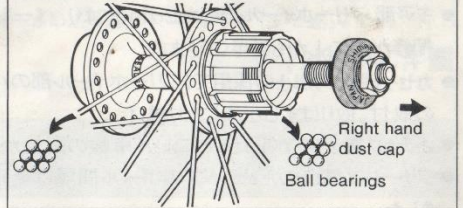
- (1) Remove the quick release mechanism, and remove the gears. Loosen the left side (side opposite to the freewheel body) lock nut [17 mm (11/16") wide] and left-hand cone [15 mm (19/32") wide] with the hub adjusting spanner, and then remove the lock nut, axle spacer and key washer.
- (2) Next, remove the left hand cone and pull the hub axle out to the right side towards the freewheel body. Remove the nine ball bearings on both right and left. Be careful not to remove the right and left hand dust caps at this time. Note, however, that with a 5 speed freehub the right hand dust cap is also removed.



[For a 6 speed freehub]

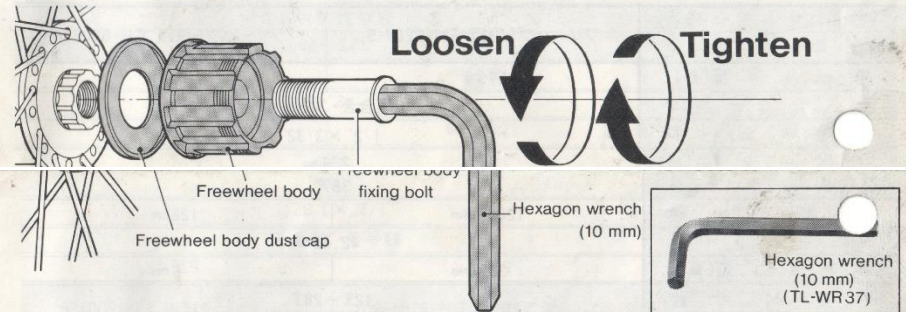


[For a 5 speed freehub]



2. Freewheel body replacement

- (3) Put a 10-mm hexagon wrench (TL-WR37) into the free-wheel body, and turn counterclockwise. Clamping the hexagon wrench in a monkey wrench will greatly ease the work.

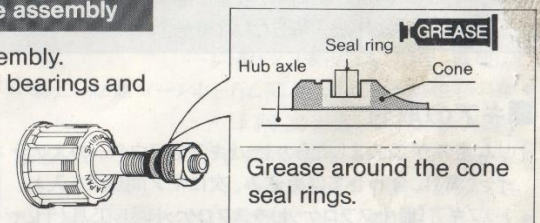


Freewheel body fixing bolt tightening torque: 350—500 kgfcm (307—440 in. lbs.)

Note: The freewheel body fixing bolt torque is 350—500 kgfcm (307—440 in.lbs.). Do not overtighten or the bolt collar will be damaged. If this happens, replace the bolt.

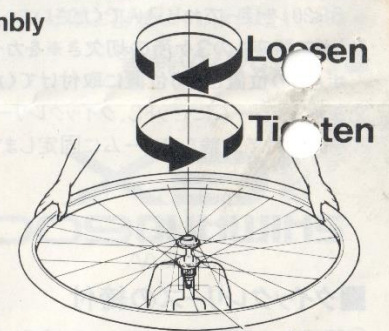
3. Freewheel body and hub axle assembly

Assembly is the reverse of disassembly. Be sure to liberally grease the ball bearings and replace them in their tracks.

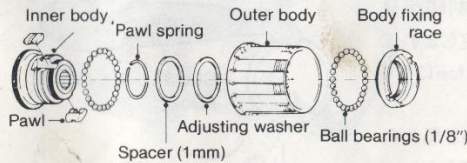


■ Freewheel Body Disassembly and Assembly

To disassemble the freewheel body, first remove the hub axle, dust cap and ball bearings. Next, clamp the freewheel disassembly tool (TL-FH40) in a vise, set the body fixing race to the 2 notches and rotate the wheel clockwise. For reassembly, reverse the above procedure and tighten the body fixing race.



Body fixing race tightening torque: 350—450 kgfcm (307—395 in.lbs.)



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*Please note: Specifications are subject to change for improvement without notice.