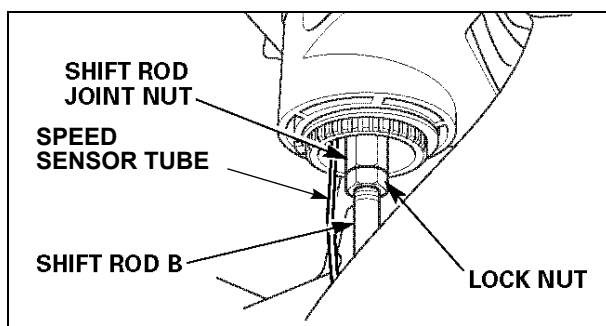


## Water Pump Replacement for BF40D•BF50D Outboard Motors

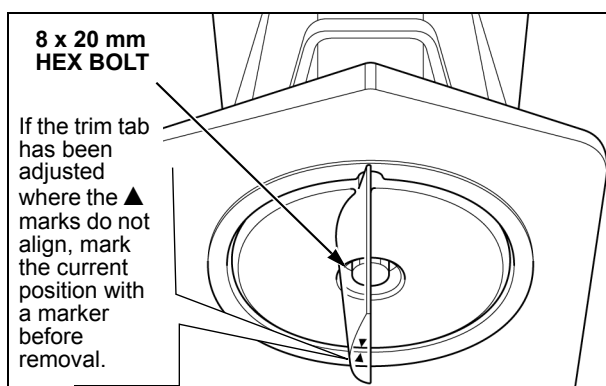
Prior to removing the gear case, make sure the outboard motor is secure on an engine stand or transom of a boat that is out of the water. Tilt the outboard motor up to the highest position and place the shift lever in the “R” (reverse) position.

### DISASSEMBLY

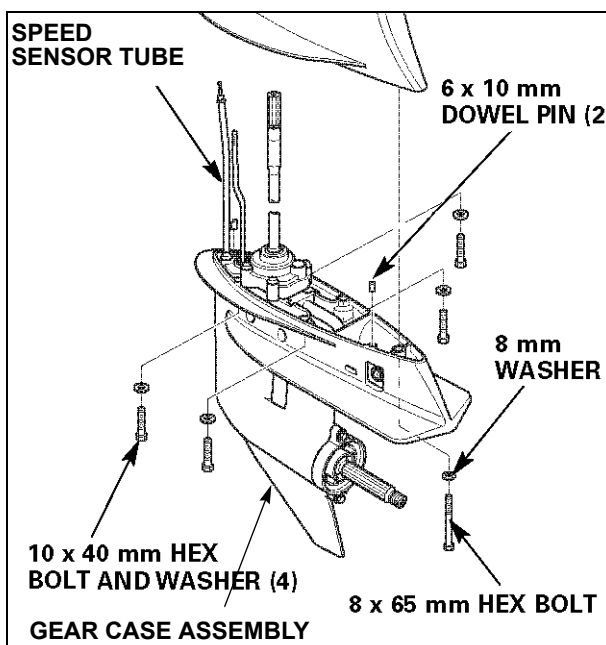
1. Disconnect shift rod B by loosening the lock nut and turning the shift rod joint nut with a 12 mm wrench. The speed sensor tube will have to be disconnected either at this point or when the gear case assembly is lowered enough to reach the tube.



2. Remove the trim tab 8 x 20 mm hex bolt and washer.



3. Remove the 8 x 65 mm hex bolt, four 10 x 40 mm hex bolts and washers, and remove the gear case assembly.
4. With a 10 mm wrench, remove the four impeller housing 6 x 40 mm bolts and washers.



- Clean all parts and check the impeller, liner, and cover for wear or cracks.

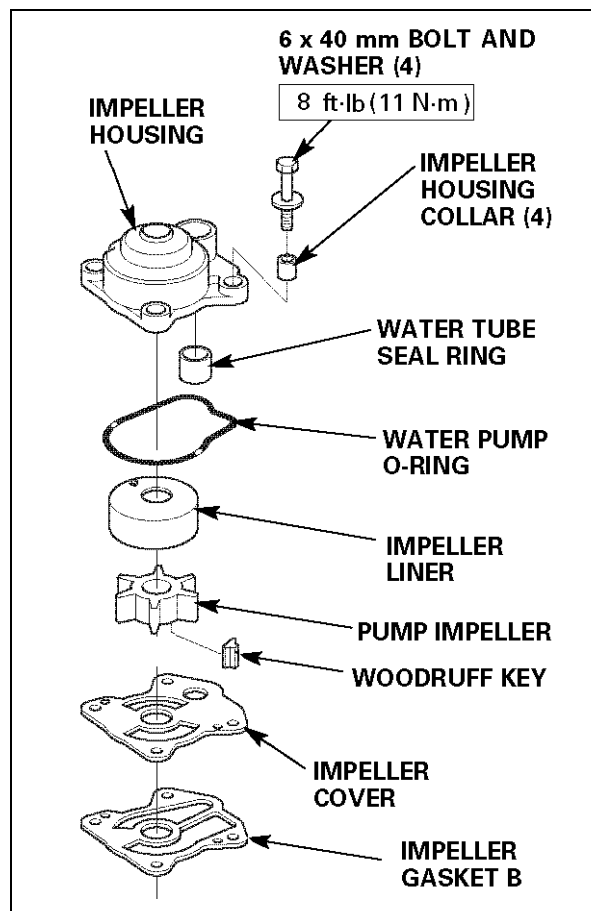
TYPE KIT	CONTENTS	PART NUMBER
Service kit	Impeller, O-ring, gasket, key	06192-ZV5-003
Rebuild kit	Housing, liner, impeller, water tube seal ring, O-ring, cover, key, gasket (2), washer bolt (4), collar (4)	06193-ZV5-020

Use the service kit if only the impeller is worn.

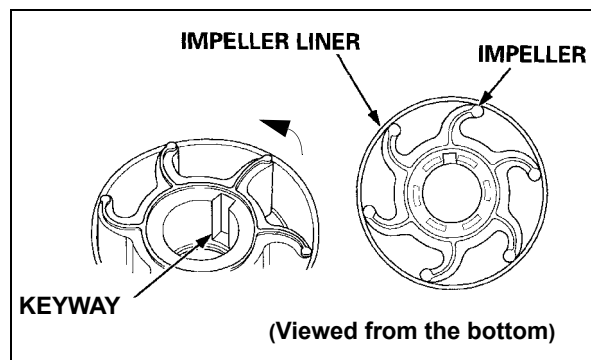
Use the rebuild kit if the liner and/or the impeller cover are worn.

## ASSEMBLY

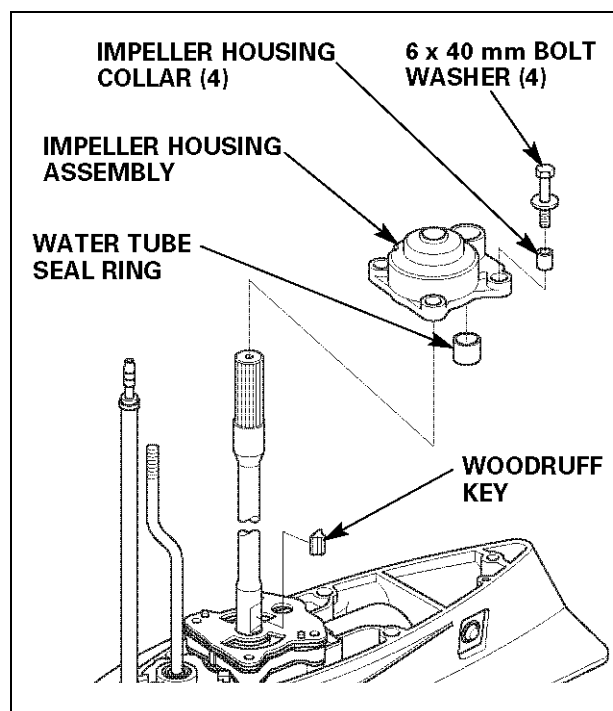
- Start reassembling the pump by applying marine grease to the inner surface of the impeller liner, housing O-ring, and the water tube seal ring.



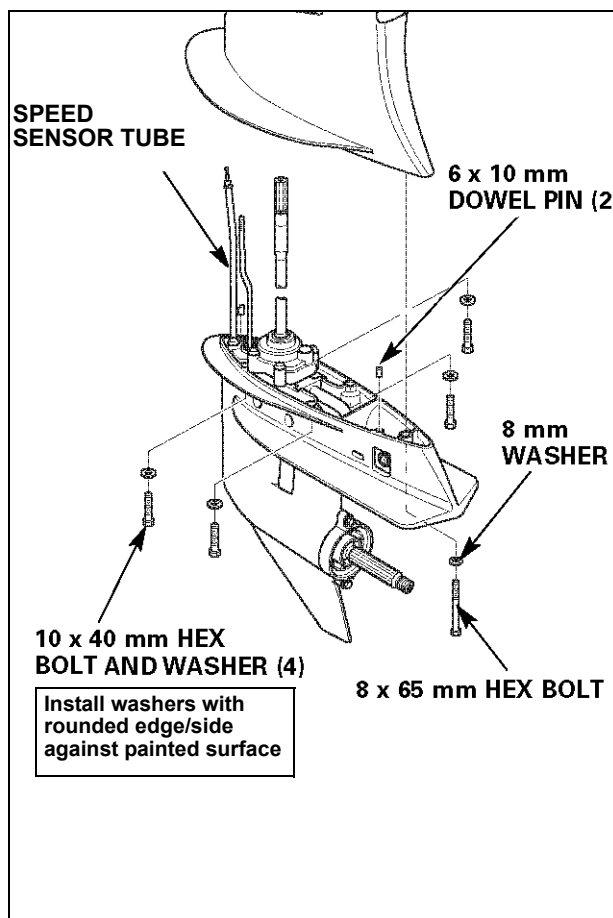
- Install the impeller by turning it counterclockwise into the impeller liner. Make sure the open end of the keyway is visible and will face out when installed in the pump.



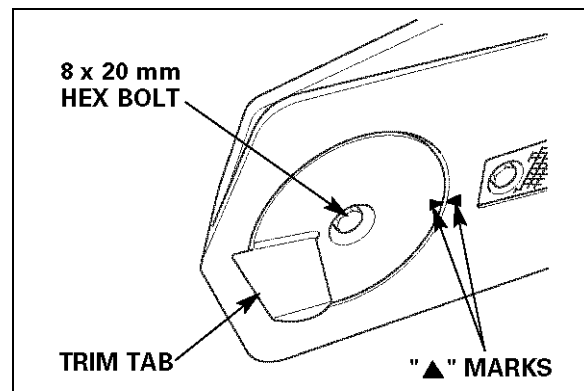
3. Insert a new greased O-ring and water tube seal ring into the impeller housing. Install the impeller/liner into the housing. Install the impeller cover and gasket.
4. Place a small amount of marine grease on the Woodruff key and insert it onto the flat surface of the vertical shaft.
5. Slide the impeller housing assembly over the shaft, making sure to align the Woodruff key with the impeller keyway.
6. Install the four impeller housing collars and 6 x 40 mm bolt washers and torque to **8.0 ft•lb (11 N•m)** in a crisscross pattern to make sure the housing seats correctly.



7. Apply marine grease to the vertical shaft splines and two dowel pins, and then install the gear case assembly into the motor. If needed, turn the prop clockwise to align the vertical shaft splines. Make sure the water tube seal ring has been greased for ease of installation. Connect the speed sensor tube.
8. Start threading the 8 x 65 mm and four 10 x 40 mm flange bolts and washers to hold the gear case in place. Install washers with the rounded edge facing the painted surface of the gearcase assembly.
9. Torque the four 10 mm gear case bolts to **26 ft•lb (35 N•m)** and the 8 mm hex bolt to **16 ft•lb (22 N•m)**.



10. Install the trim tab by aligning the "▲"marks (or marks previously made) on the trim tab and gear case assembly.
11. Tighten the 8 x 20 mm hex bolt to **15.5 ft•lb (21.5 N•m)**.



12. Make sure the shift lever is in the "R" (reverse) position and push shift rod B down to the lowermost position (reverse).
13. Turn the lock nut to leave at least 5/16 inch (8 mm) of threads visible to the end of the rod.
14. Turn the shift rod joint nut to align with the bottom end of shift rod A.
15. Turn the shift rod joint nut and tighten against the shift rod B lock nut.
16. Make sure that the shift lever moves smoothly into all positions.

