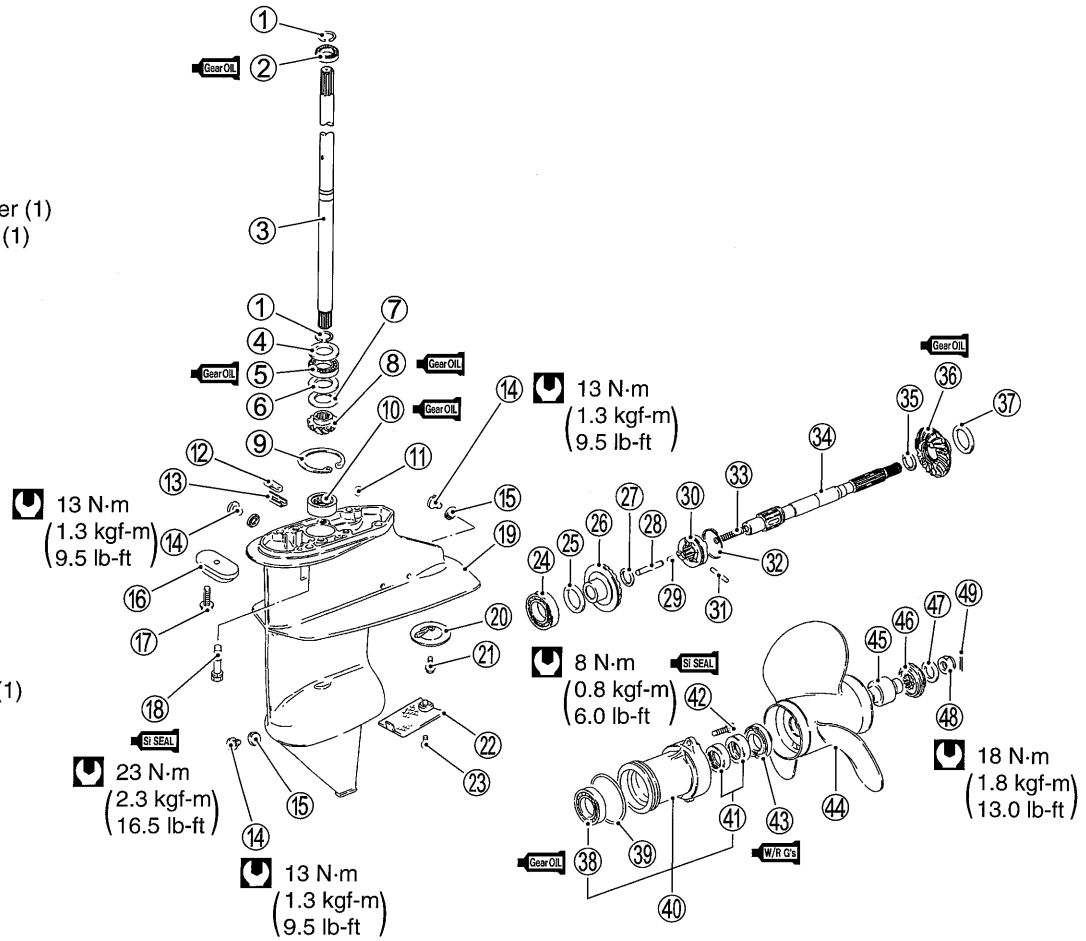
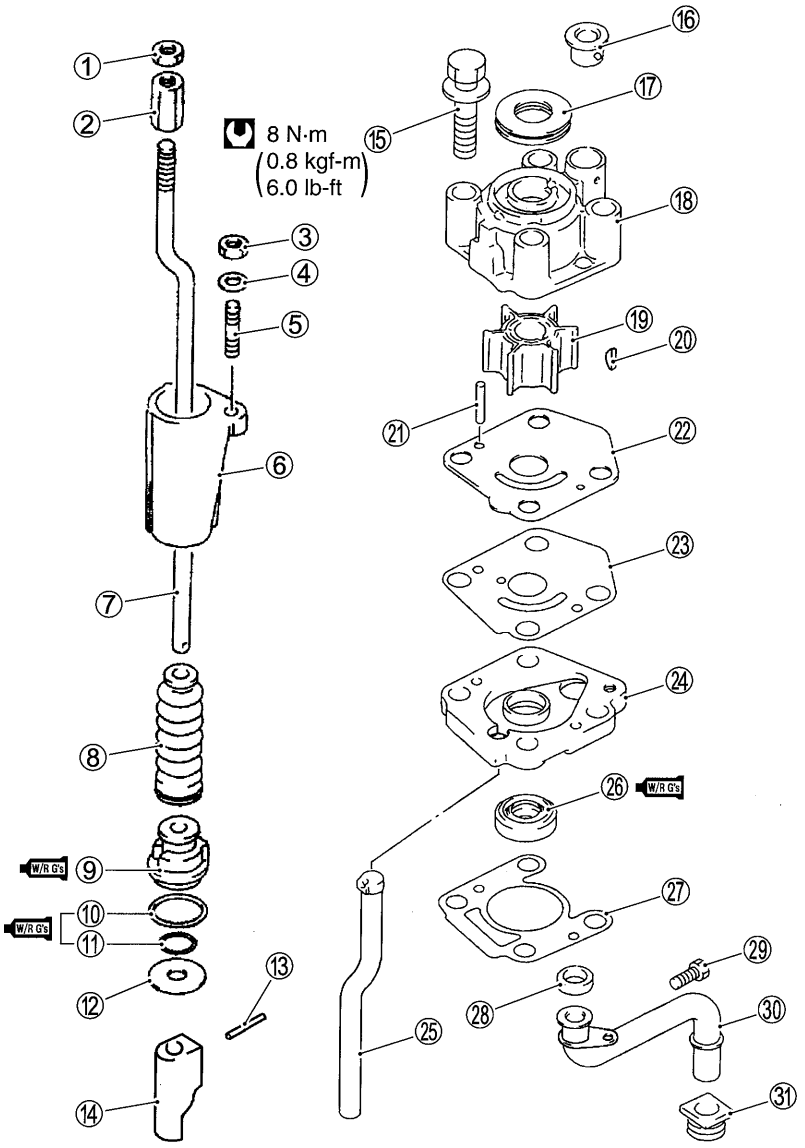
ASSEMBLY & INSTALLATION

Assembly & installation are reverse order of removal & disassembly with the special attention to the following steps.

① Circlip (2)
② Bearing (1)
③ Drive shaft (1)
④ Washer (1)
⑤ Bearing (1)
⑥ Washer (1)
⑦ Shim (1)
⑧ Pinion gear (1)
⑨ Circlip (1)
⑩ Pinion bearing (2)
⑪ Knock pin (2)
⑫ Exhaust seal rubber (1)
⑬ Exhaust seal core (1)
⑭ Plug (3)
⑮ Gascket (3)
⑯ Zinc (1)
⑰ Bolt (1)
⑱ Bolt (4)
⑲ Gearcase (1)
⑳ Zinc (1)
㉑ Bolt (1)
㉒ Water filter (1)
㉓ Screw (1)
㉔ Bearing (1)
㉕ Shim (1)
㉖ Forward gear (1)
㉗ Thrust washer (1)
㉘ Push rod (1)
㉙ Push pin (1)
㉚ Clutch dog shifter (1)
㉛ Dog pin (1)
㉜ Dog spring (1)
㉝ Return spring (1)
㉞ Propeller shaft (1)
㉟ Washer (1)
㊱ Reverse gear (1)
㊲ Shim (1)
㊳ Bearing (1)
㊴ O-ring (1)
㊵ Propeller shaft bearing housing (1)
㊶ Oil seal (2)
㊷ Bolt (2)
㊸ Propeller bush stopper (1)
㊹ Propeller (1)
㊺ Propeller bush (1)
㊻ Spacer (1)
㊼ Washer (1)
㊽ Nut (1)
㊾ Cotter pin (1)



① Nut (1)
② Turnbuckle (1)
③ Nut (1)
④ Washer (1)
⑤ Stud bolt (1)
⑥ Coller (1)
⑦ Shift rod (1)
⑧ Boot (1)
⑨ Shift rod guide (1)
⑩ O-ring (1)
⑪ O-ring (1)
⑫ Washer (1)
⑬ Spring pin (2)
⑭ Shift cam (1)
⑮ Bolt (4)
⑯ Bush (1)
⑰ Grommet (1)
⑱ Water pump case (1)
⑲ Impeller (1)
⑳ Key (1)
㉑ Dowel pin (2)
㉒ Under panel (1)
㉓ Gasket (1)
㉔ Water inlet housing (1)
㉕ Water inlet drain (1)
㉖ Oil seal (1)
㉗ Gasket (1)
㉘ Grommet
㉙ Bolt (1)
㉚ Water inlet tube (1)
㉛ Grommet (1)



CAUTION

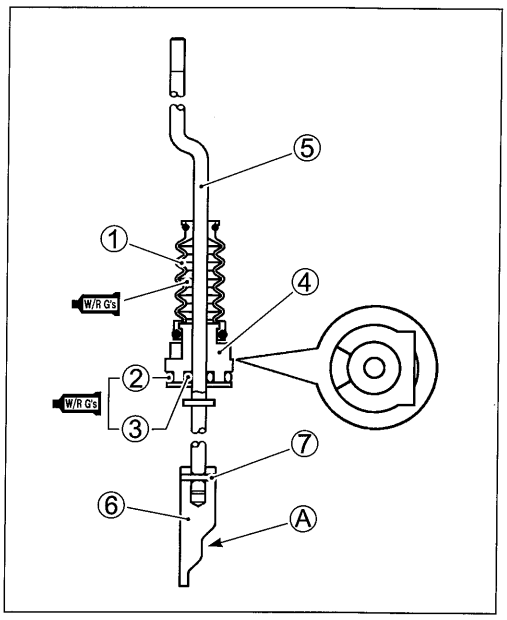
*** Make sure that all parts used in assembly are clean and lubricated.**
*** After assembly, check parts for tightness and smoothness of operation.**
*** Before final assembly, be absolutely certain that all gear contact, shim adjustments and tolerances are correct.**
Failure to correctly adjust these areas will result in lower unit damage. (See the "GEARS SHIMMING AND ADJUSTMENT" section on page 8-21.)

SHIFT ROD/SHIFT CAM ASSEMBLY

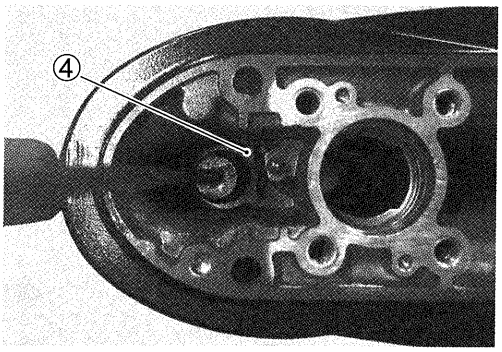
- Apply the grease to the inside of the boot ①, the O-ring ② and the O-ring ③.

W/R G's **99000-25160: SUZUKI WATER RESISTANT GREASE**

- Install the shift rod guide ④ to the shift rod ⑤ as shown in the figure.
- Fit the shift cam ⑥ to the shift rod as shown in the figure and insert the spring pin ⑦.
- Install the shift rod/shift cam assembly to gearcase with the face Ⓐ of the cam facing toward the propeller side.

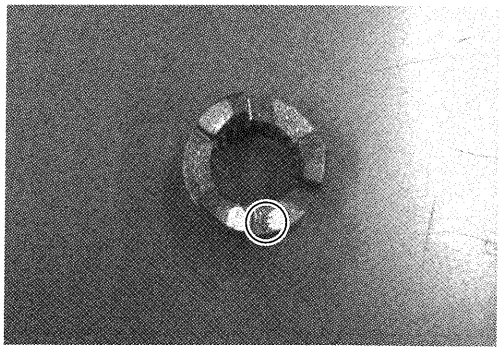


- Fit the shift rod guide ④ to gearcase as shown in the figure.

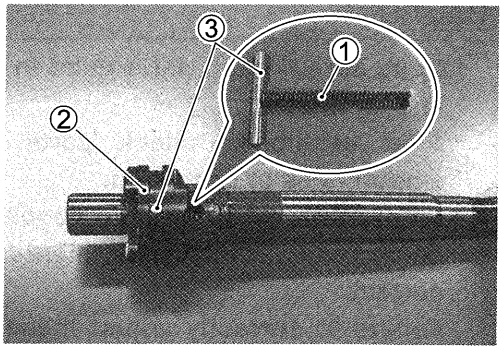


PROPELLER SHAFT/CLUTCH DOG ASSEMBLY

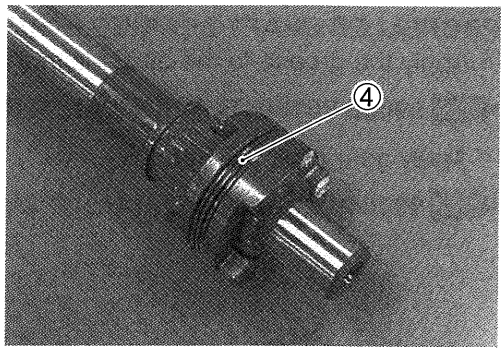
- Install the clutch dog shifter with "F" mark toward the forward gear side.



- Fit the return spring ① snugly in to the groove on the dog shifter ② so that the dog pin ③ does not come out.



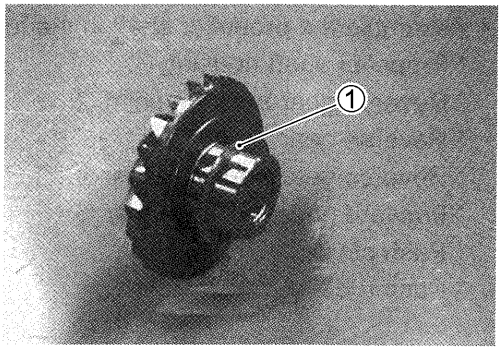
- Install the dog spring ④, ensuring that it fits snugly into the groove on the clutch dog shifter.



FORWARD GEAR

Apply the gear oil to the forward gear and place the back-up shim ① in position, then install the forward gear.

Gear OIL **99000-22540: SUZUKI OUTBOARD MOTOR GEAR OIL**

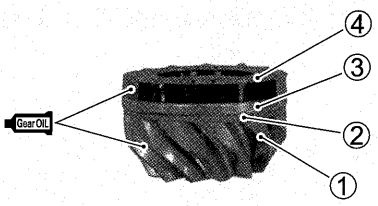


PINION GEAR AND DRIVE SHAFT

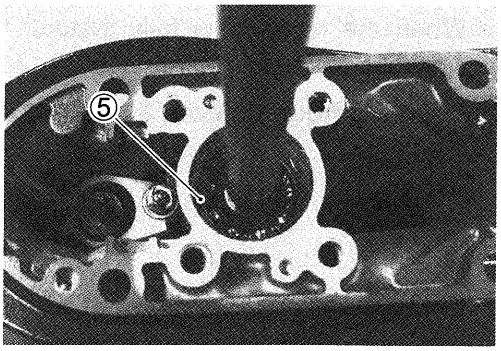
1. Apply the gear oil to the thrust bearing ④ and pinion gear ①.

Gear OIL **99000-22540: SUZUKI OUTBOARD MOTOR GEAR OIL**

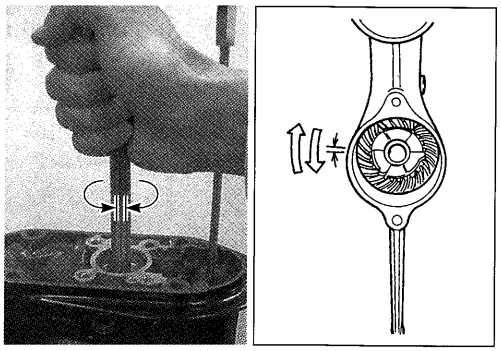
2. Place the pinion gear ①, the back-up shim ②, the washer ③ and the thrust bearing ④ in the gearcase.
3. Slide the driveshaft assembly down into the gearcase and install the pinion gear on splines.



4. Install the circlip ⑤.



5. Check the backlash exists between the pinion gear and the forward gear. (See the "FORWARD GEAR/PINION GEAR" section on page 8-21 to 8-23.)



PROPELLER SHAFT BEARING HOUSING

- Apply the grease to the oil seals and O-ring.

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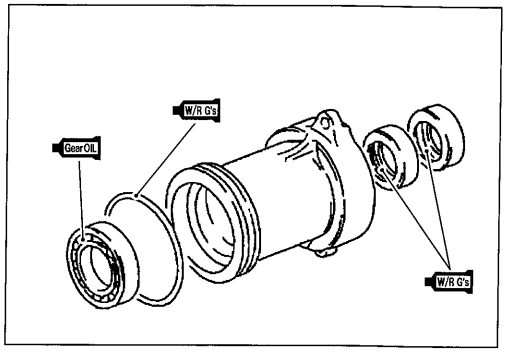
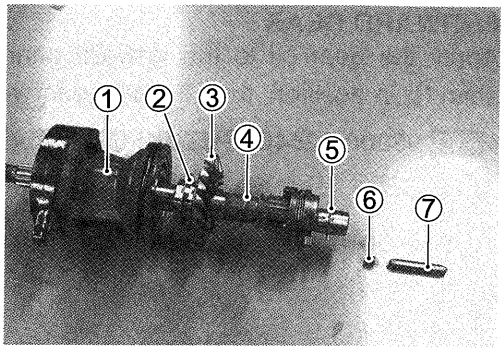
- Apply gear oil to the bearings.

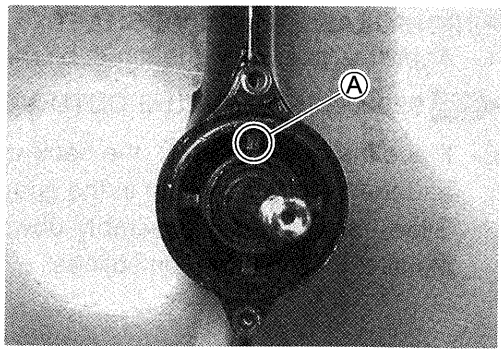
Gear OIL **99000-22540: SUZUKI OUTBOARD MOTOR GEAR OIL**



- Assemble the propeller shaft in the following sequence.
  * Propeller shaft housing ①
  * Reverse gear back-up shim ②
  * Reverse gear ③
  * Reverse gear thrust washer ④
  * Forward gear thrust washer ⑤
  * Push pin ⑥
  * Push rod ⑦

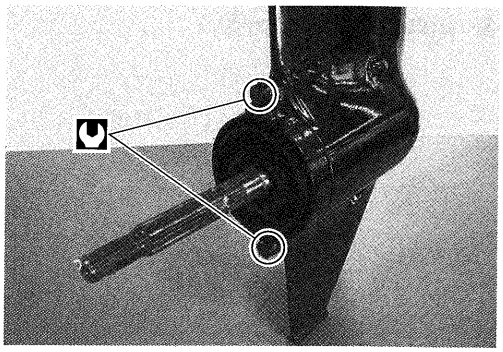


- Install the propeller shaft bearing housing assembly to gear-case with the arrow mark Ⓐ of the housing toward the upside.

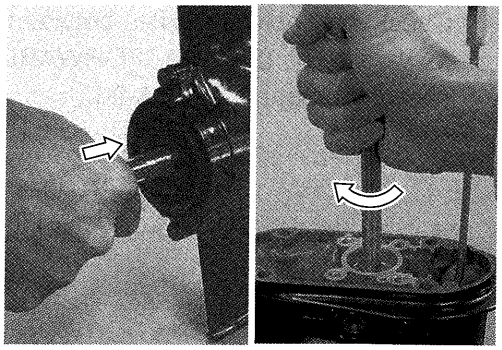


- When the housing is fully seated, tighten two bolts to the specified torque.

Bearing housing bolt: 8 N·m (0.8 kgf-m, 6.0 lb-ft)



- Check and adjust the shimming of the gears.
(See page 8-23.)

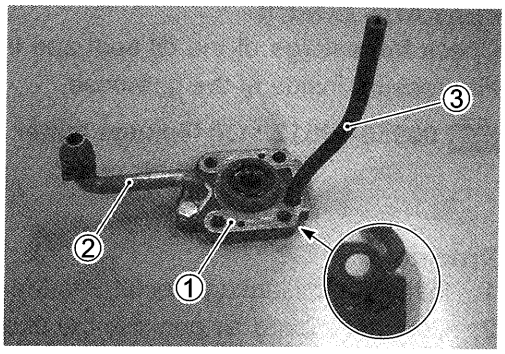


WARTER INLET HOUSING

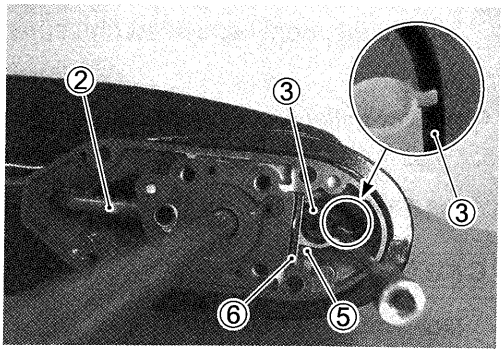
1. Apply the grease to the oil seal.

W/R G's 99000-25160: SUZUKI WATER RESISTANT GREASE

2. Install the gasket ①, the water inlet tube ② and the water inlet drain ③ to the water inlet housing.

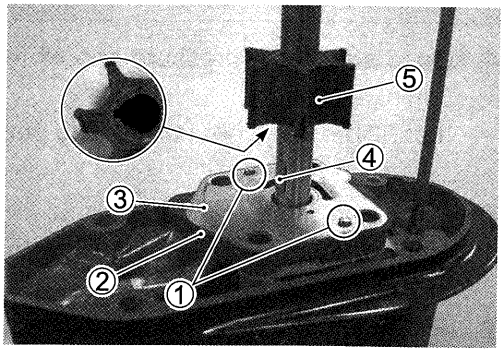


3. Install the exhaust seal core ⑤ and the rubber ⑥.
4. Install the water inlet housing assembly to the gearcase. Place the water inlet tube ② and drain ③ into position.



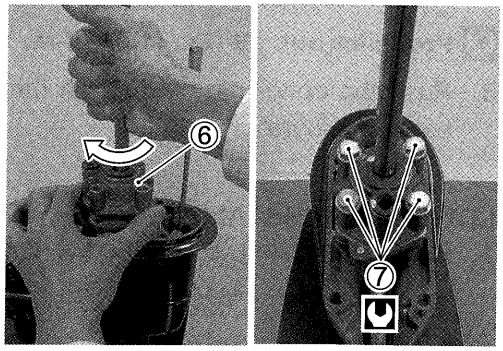
WATER PUMP

1. Place the dowel pins ①, the under panel gasket ② and the under panel ③ into the position.
2. Insert the key ④ in the driveshaft and slide the impeller ⑤ onto the driveshaft, ensuring that the key and keyway are aligned.



3. Install the pump case ⑥ while rotating the driveshaft clockwise to flex the impeller vanes in correct direction.
4. Tighten the four pump case bolts ⑦ to the specified torque.

Pump case bolt: 8 N·m (0.8 kgf-m, 6.0 lb-ft)



LEAKAGE CHECK

Check for leakage of the oil seal and the O-ring when applying air pressure inside of the gearcase.

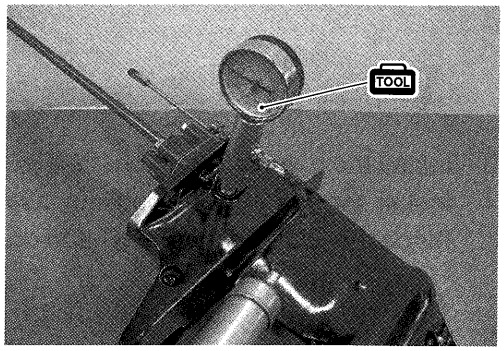
09950-69512 : Oil leakage tester
: Hand air pump

Procedure

1. Install the oil leakage tester into the oil level hole.
2. Connect a hand air pump to the oil leakage tester.
3. While rotate the driveshaft and propeller shaft clockwise several times, apply specified pressure for leakage test.

NOTE:
Apply low initial pressure of 20 – 40 kPa, (0.2 – 0.4 kg/cm², 2.8 – 5.7 psi) first, then apply specified pressure.

Leakage test pressure: 100 kPa (1.0 kgf/cm², 14.2 psi)



CAUTION

Do not exceed pressure of 110 kPa (1.1kg/cm², 15.6 psi) or damage to oil seals will result.

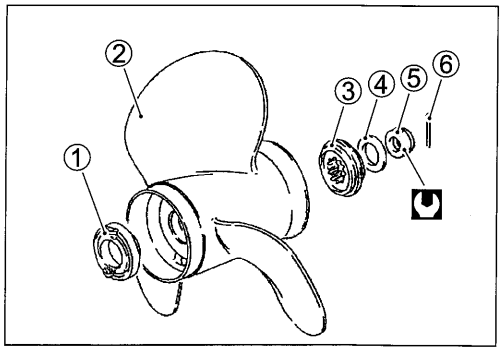
4. Once stabilized, pressure should remain steady for at least 5 min.
   If pressure does not fall, sealing performance is correct.

PROPELLER INSTALATION

1. Install the propeller stopper ① onto the propeller shaft, then slide on the propeller ②.
2. Fit the spacer ③, the washer ④ and the nut ⑤, then tighten the nut to the specified torque.

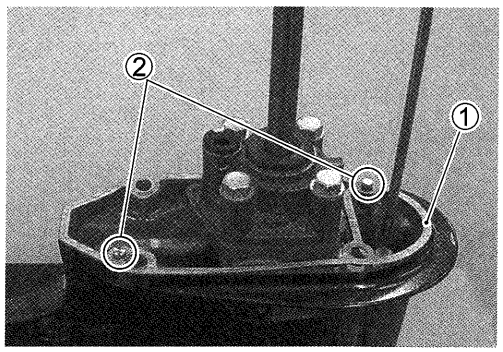
Propeller nut: 18 N·m (1.8 kgf-m, 13.0 lb-ft)

3. Push the cotter pin ⑥ through the nut and the shaft, then bend to secure.



LOWER UNIT INSTALLATION

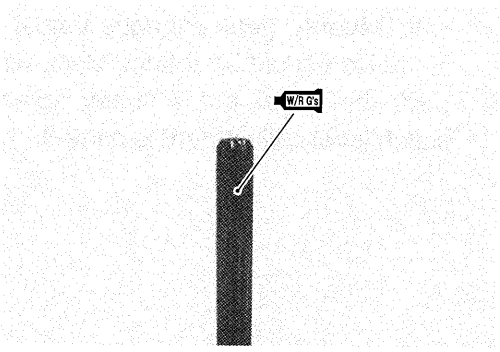
1. Install the gasket ① and the two dowel pins ②.



2. Apply the grease to the driveshaft splines.

W/R G's 99000-25160: SUZUKI WATER RESISTANT GREASE

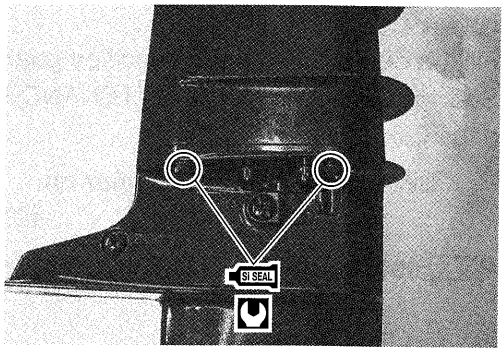
3. Slide the gearcase into place, making sure that the top of the driveshaft engages properly with the crankshaft and the water tube locates in the water pump case outlet.



4. Apply the seal to the four gearcase bolts and tighten them to the specified torque.

Si SEAL 99000-31120: SUZUKI SILICONE SEAL

Gearcase bolt: 23 N·m (2.3 kg-m, 16.5 lb-ft)

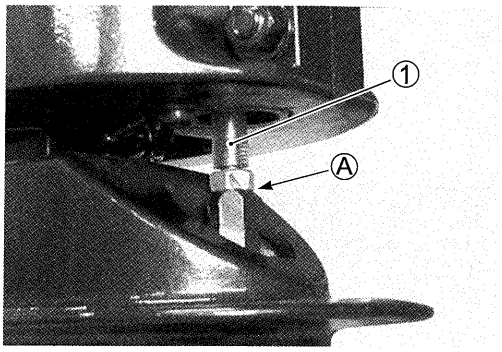


CLUTCH ADJUSTMENT

1. Install the hose ① on the clutch rod.
2. Connect the clutch rod to the shift rod as shown.

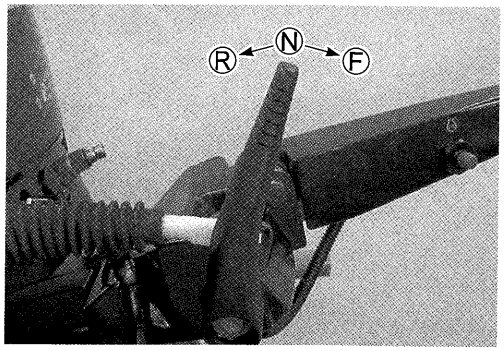
CAUTION

Make sure that chambered edge Ⓐ of the turnbuckle faces upward to seat against the upper nut when tightened.

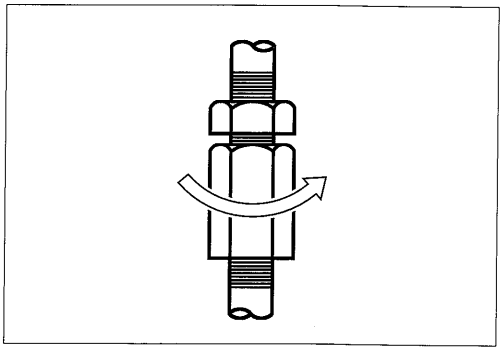


Adjustment step:

1. Shift the clutch lever from Neutral Ⓝ through Forward Ⓕ and Reverse Ⓡ to check that proper engagement of both gears is at an equal angle from Neutral.

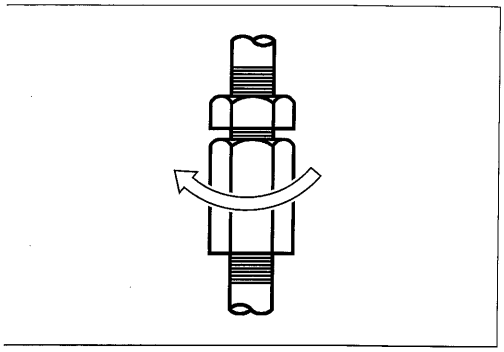


- If Forward gear engages earlier (at a smaller angle) than Reverse, the turnbuckle should be rotated counterclockwise until both gears engage with the same amount of clutch lever travel.



- If Reverse gear engages earlier than Forward, the turnbuckle should be rotated clockwise.

2. Lock the upper nut securely against the turnbuckle when clutch lever adjustment is correct.



GEAR OIL

Fill the gearcase with the specified gear oil.

See the "PERUIODIC MAINTENANCE/GEAR OIL" section on page 2-5.

Necessary amount of gear oil:

170 ml (5.7/6.0 US/Imp.oz)

Gear OIL 99000-22540: SUZUKI OUTBOARD MOTOR GEAR OIL