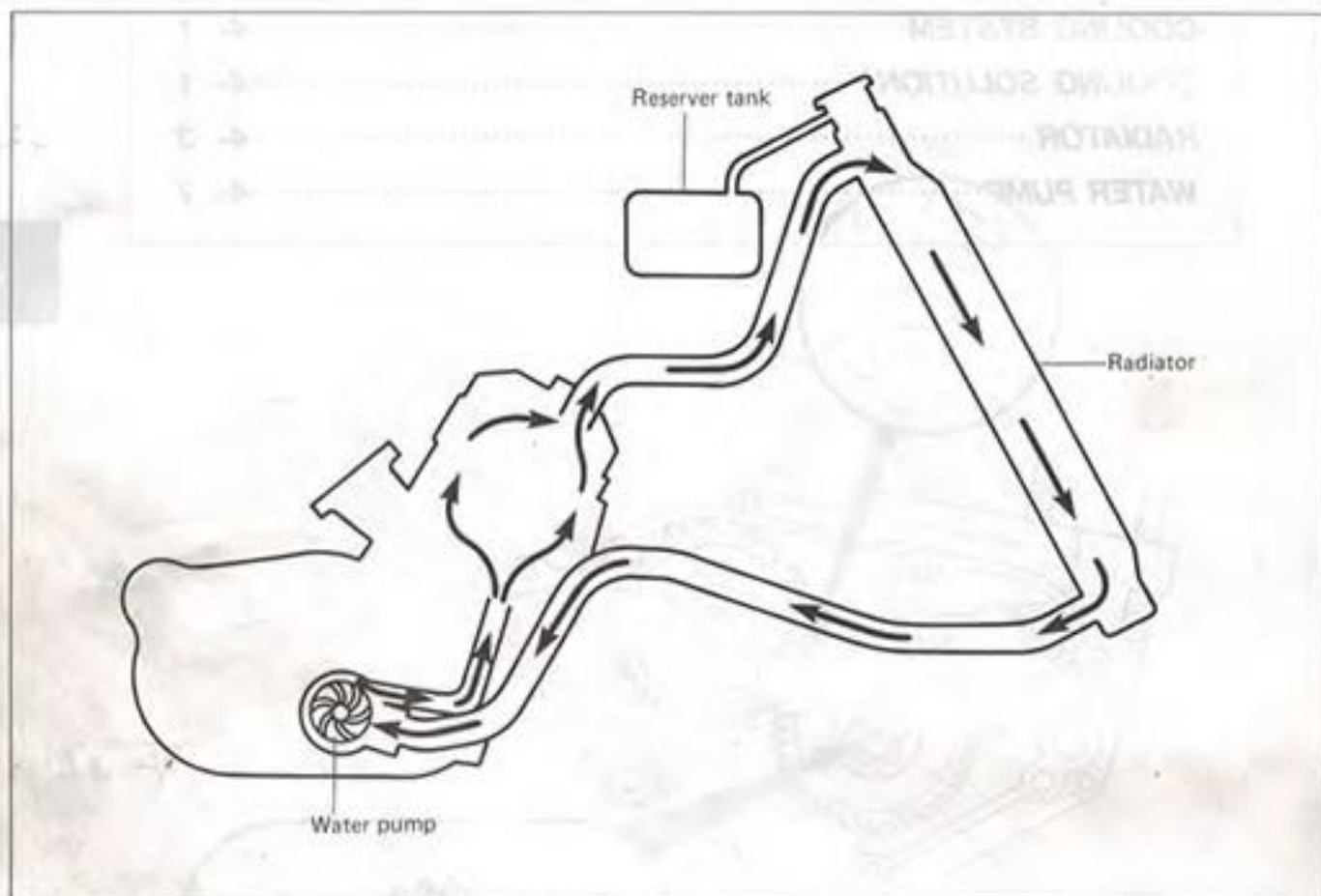


COOLING SYSTEM

The engine is cooled by coolant set in forced recirculation through jackets formed in the cylinder and head, and through the radiator. For the water pump, a high-capacity centrifugal pump is used. The radiator is a tube-and-fin type made of aluminum material, which is characterized by lightness in weight and good radiation.



COOLING SOLUTION

At the time of manufacture, the cooling system is filled with 50 : 50 solution of distilled water and anti-freeze/summer coolant. This 50 : 50 mixture will provide excellent heat protection, and will protect the cooling system from freezing at temperatures above -31°C (-24°F).

If the motorcycle is to be exposed to temperatures below -31°C (-24°F), this mixing ratio should be increased up to 55% or 60% according to the Fig.2.

NOTE:

Also included in the cooling solution at the time of manufacture is Bar's Leaks material to help ensure protection against coolant leakage.

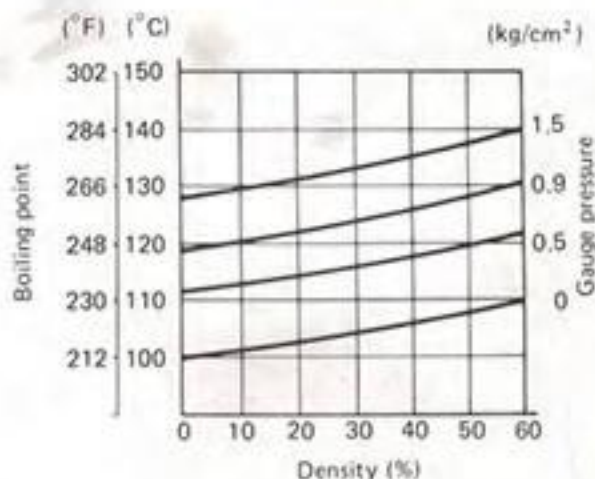


Fig. 1 Coolant density-boiling point curve.

NOTE:

The characteristics of different anti-freezes vary. Read the label to know the protection you will have.

CAUTION:

Do not put in more than 60% anti-freeze or less than 50%. Do not mix different brands of anti-freeze.

ANTI-LEAKAGE MATERIAL

The anti-freeze is characterized by very high values of permeability and a leakage accident of the cooling system is highly likely. The anti-leakage substance is used to prevent such a possible leakage and every new motorcycle is serviced with "Bar's Leaks". The same material or its equivalent should be filled in the radiator when the cooling water is changed. "Bar's Leaks" is available as spare parts in solid form. A suitable amount for use is 1/5 pack per model, and in the case of a liquid anti-leakage material available in the market, 15 - 18 ml (cc) should be used.

09900-24240	Bar's Leaks Not available in US model
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CAUTION:

Anti-leakage material should not be added except the time of the renewal of cooling water.

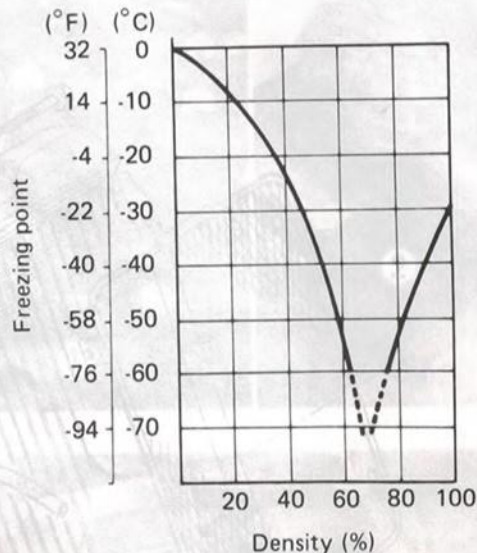
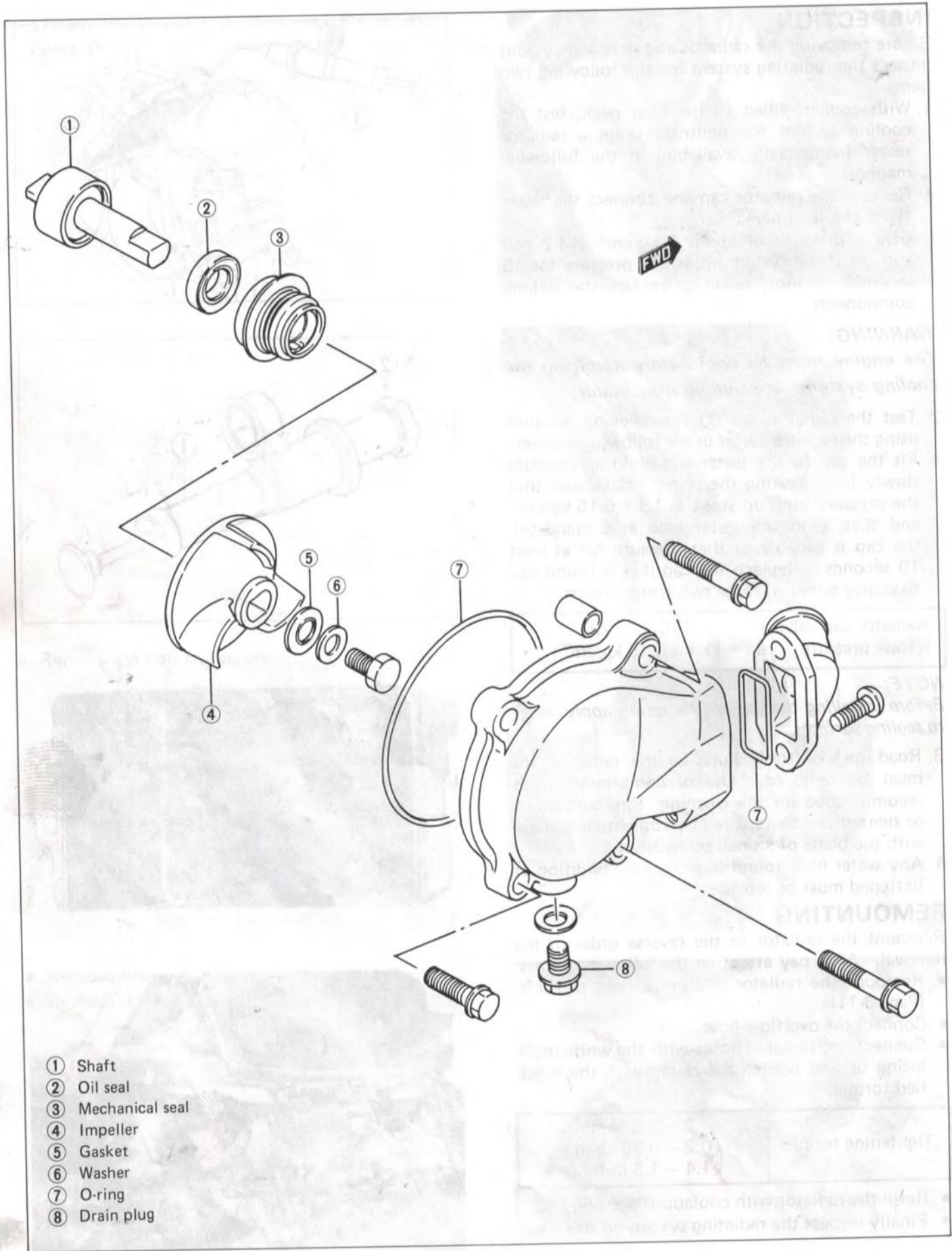


Fig. 2 Coolant density-freezing point curve.

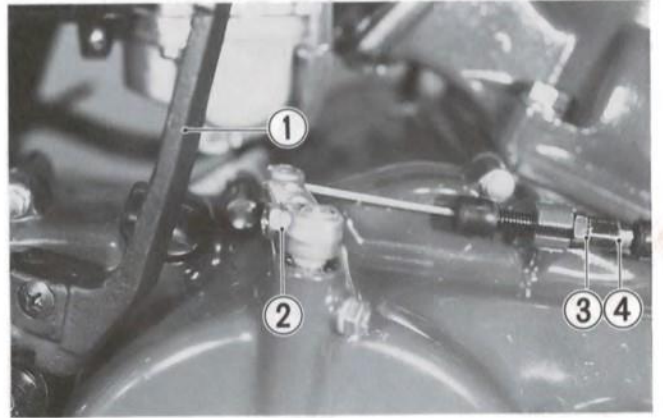
WATER PUMP



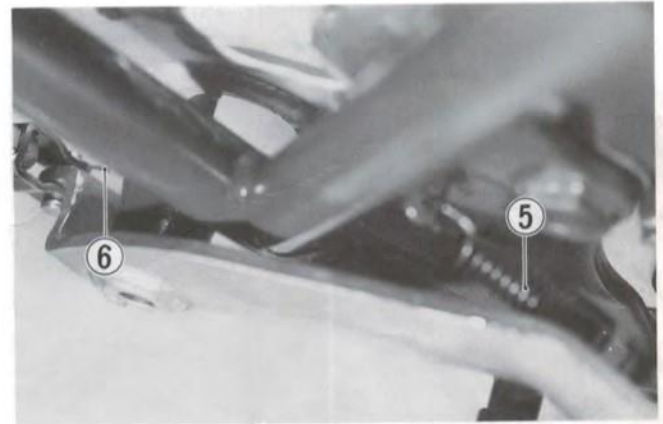
- ① Shaft
- ② Oil seal
- ③ Mechanical seal
- ④ Impeller
- ⑤ Gasket
- ⑥ Washer
- ⑦ O-ring
- ⑧ Drain plug

REMOVAL

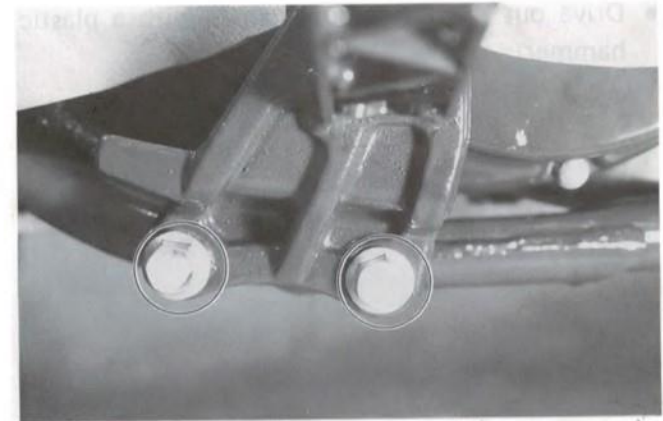
- Drain transmission oil. (Page 2-3)
- Drain coolant. (Page 4-3)
- Remove the radiator hose at the water pump case.
- Remove the kick lever ①.
- Remove the bolt ② and disconnect the lever.
- Loosen the lock nut ③ and remove the adjuster ④.
- Remove the clutch cable.



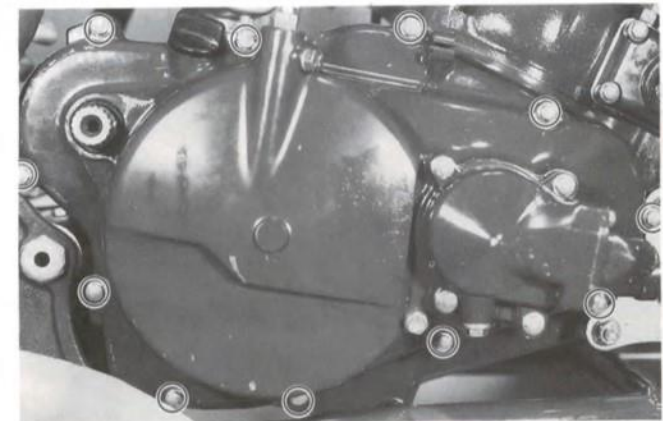
- Remove the spring ⑤.
- Remove the cotter pin ⑥ and disengage the rear brake lever.



- Remove the two bolts and remove the footrest.



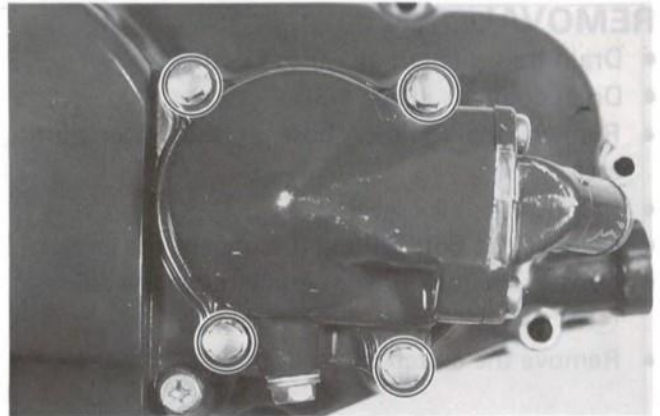
- Remove the bolts and remove the clutch cover.



WATER PUMP

DISASSEMBLY AND INSPECTION

- Remove the bolts and remove the water pump case.



- Hold the water pump shaft and remove the water pump bolt, washer and gasket.
- Remove the impeller.

NOTE:

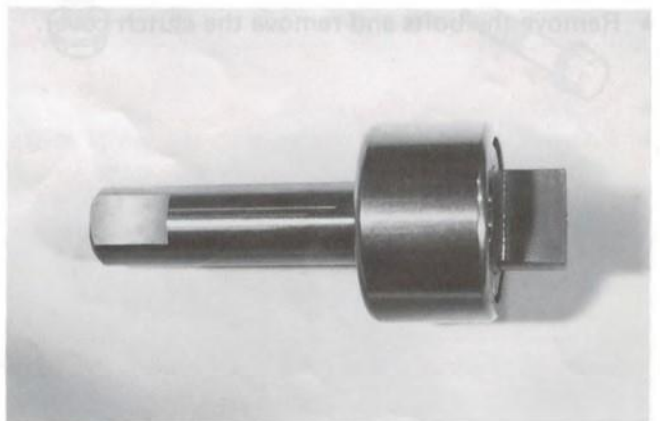
The water pump bolt has left-hand thread.



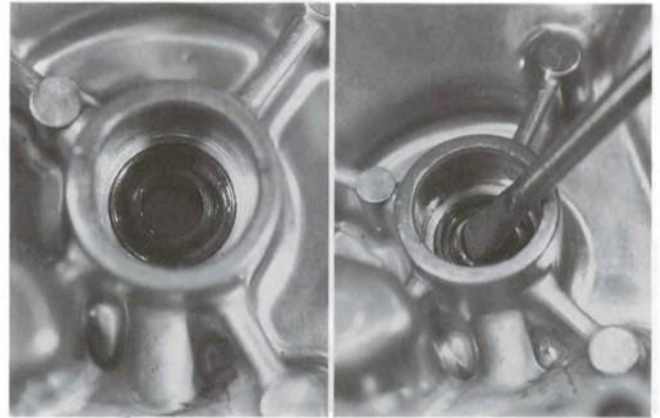
- Drive out the water pump shaft with a plastic hammer.



Inspect the water pump bearing and check for looseness and damage. If any damage is found replace the water pump shaft with a new one.

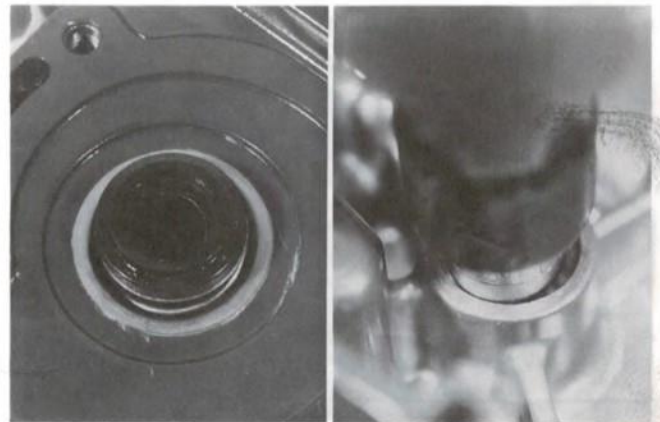


Inspect the oil seal and if any damage is found replace it with a new one. (Refer to page 4-11.)



Inspect the mechanical seal and if any damage is found replace it with a new one.

- First remove the oil seal of the opposite side.
- Then drive out the mechanical seal using a proper socket wrench.



Inspect the ceramic plate and oil seal at the back-side of the impeller. If any damage found replace the impeller.



Drive the water pump shaft with a proper socket wrench.

REASSEMBLY

Reassemble the water pump in the reverse order of the disassembly, and also carry out the following steps:

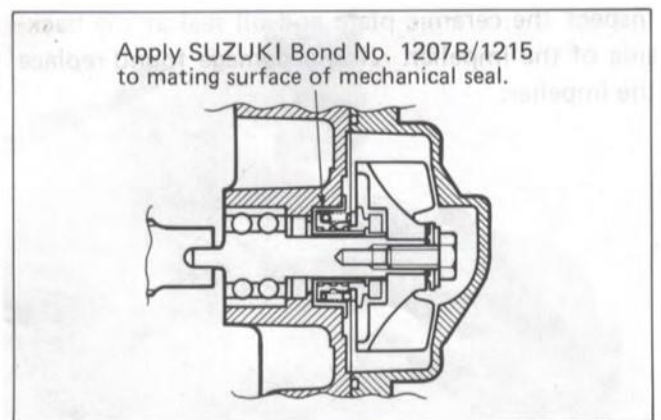
- Drive a new oil seal with a proper socket wrench.



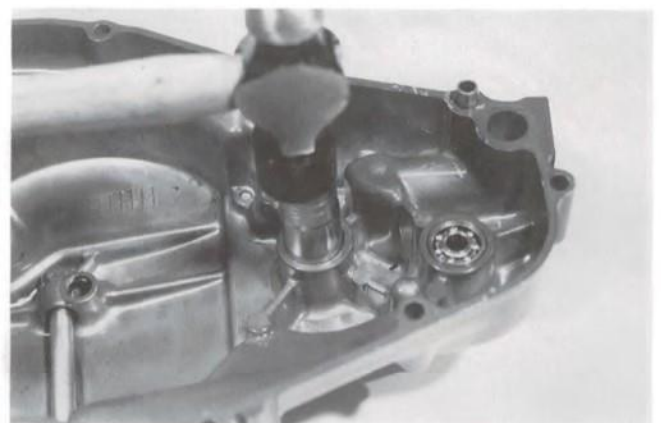
- Drive a new mechanical seal with a proper socket wrench.
- Apply the SUZUKI BOND NO. 1207B/1215 to the mating surface of the mechanical seal as shown in the illustration.



99104-31140	SUZUKI BOND NO. 1207B For U.S. model
99000-31110	SUZUKI BOND NO. 1215 For other models



- Drive the water pump shaft with a proper socket wrench.



Apply **THREAD LOCK SUPER "1303"/"1322"** to the impeller bolt and tighten it to the specified torque.

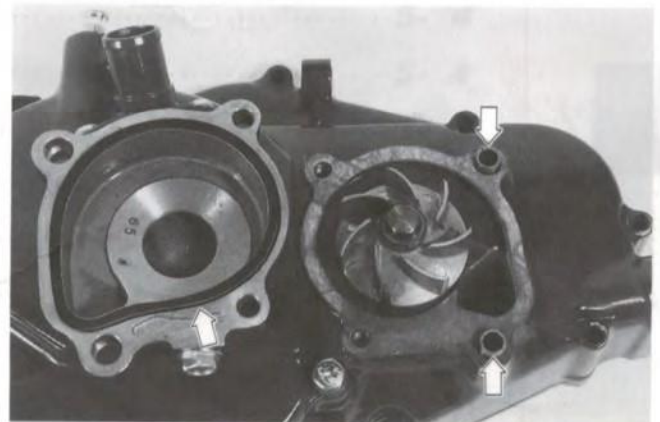
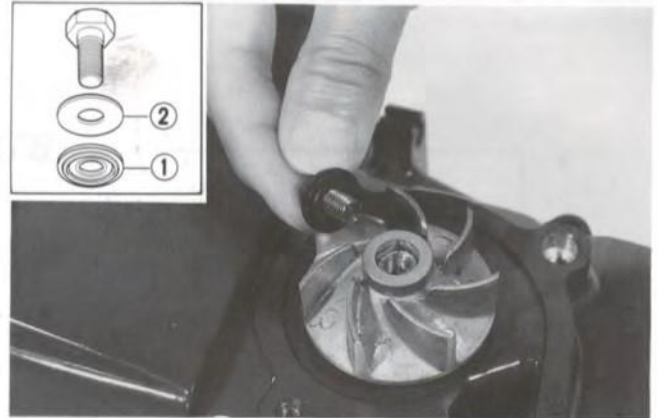
99000-32030 For U.S. model	THREAD LOCK SUPER "1303"
99000-32110 For other models	THREAD LOCK SUPER "1322"

Tightening torque	8 – 12 N·m (0.8 – 1.2 kg·m) (6.0 – 8.5 lb·ft)
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CAUTION:

Use a new gasket ① for the impeller bolt. When installing the gasket, face the iron side to the spring washer ② and bolt.

- Install the dowel pins and a new O-ring.



- Connect the radiator hose and tighten the clamp to the specified torque. (Page 8-11)

Tightening torque	2 – 2.5 N·m (0.2 – 0.25 kg·m) (1.4 – 1.8 lb·ft)
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- Refill transmission oil. (Page 2-3).
- Refill coolant. (Page 4-6, 2-9)
- Inspect the radiating system. (Page 4-6)
- Adjust the clutch cable play. (Page 2-3)