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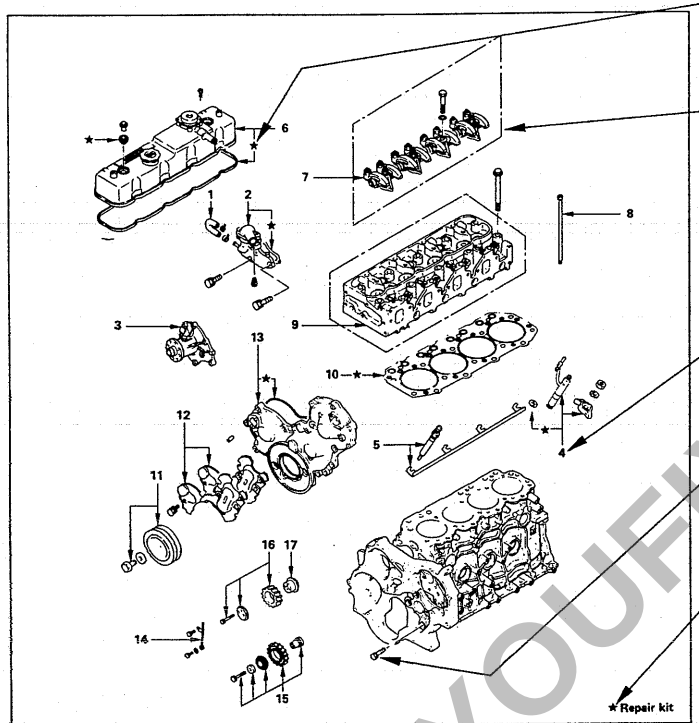
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4. When the same servicing operation is applicable to several different units, the manual will direct you to the appropriate page.
5. For the sake of brevity, self-explanatory removal and installation procedures are omitted.

   More complex procedures are covered in detail.
6. Each service operation section in this Workshop Manual begins with an exploded view of the applicable area. A brief explanation of the notation used follows.



Disassembly Steps - 2

1. Water by-pass hose
2. Thermostat housing
3. Water pump
▲ 4. Injection nozzle holder
5. Glow plug and glow plug connector
6. Cylinder head cover
▲ 7. Rocker arm shaft and rocker arm
8. Push rod
▲ 9. Cylinder head
10. Cylinder head gasket
▲ 11. Crankshaft damper pulley with dust seal
12. Timing gear case cover
13. Timing gear cover
14. Timing gear oil pipe
15. Idler gear "B" and shaft
▲ 16. Idler gear "A"
▲ 17. Idler gear shaft

Inverted Engine

Parts marked with an asterisk (*) are included in the repair kit.

Parts within a square frame are to be removed and installed as a single unit, and their disassembly steps or reassembly steps are shown in the illustrations respectively.

The number tells you the service operation sequence.

Removal of unnumbered parts is unnecessary unless replacement is required.

The "* Repair Kit" indicates that a repair kit is available.

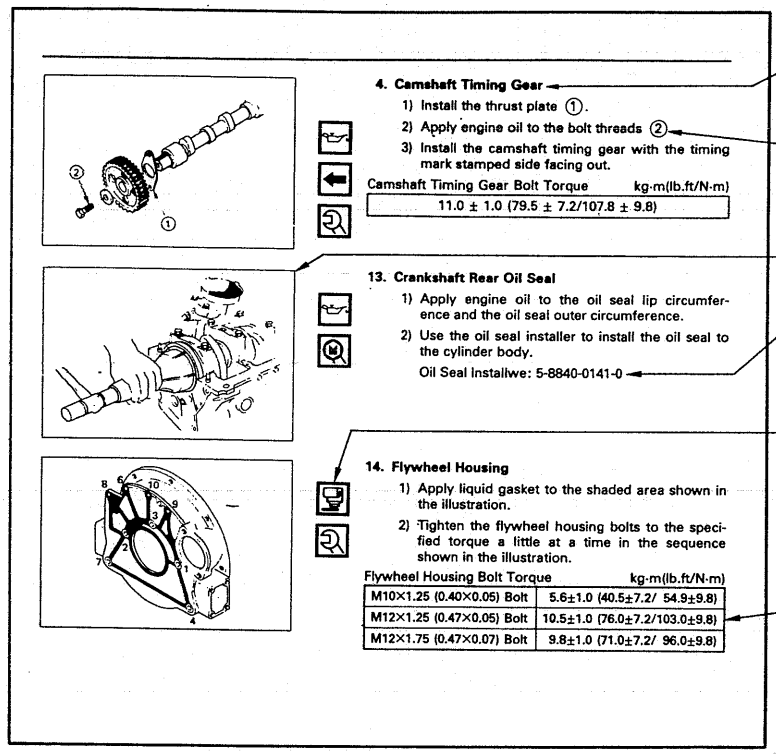
The parts listed under "Disassembly Steps" or "Reassembly Steps" are in the service operation sequence.

The removal or installation of parts marked with a triangle (▲) is an important operation. Detailed information is given in the text.

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7. Below is a sample of the text of the Workshop Manual.



4. Camshaft Timing Gear

1) Install the thrust plate ①.
2) Apply engine oil to the bolt threads ②.
3) Install the camshaft timing gear with the timing mark stamped side facing out.

Camshaft Timing Gear Bolt Torque — kg·m(lb.ft/N·m)

11.0 ± 1.0 (79.5 ± 7.2/107.8 ± 9.8)

13. Crankshaft Rear Oil Seal

1) Apply engine oil to the oil seal lip circumference and the oil seal outer circumference.
2) Use the oil seal installer to install the oil seal to the cylinder body.

Oil Seal Installwe: 5-8840-0141-0

14. Flywheel Housing

1) Apply liquid gasket to the shaded area shown in the illustration.
2) Tighten the flywheel housing bolts to the specified torque a little at a time in the sequence shown in the illustration.

Flywheel Housing Bolt Torque — kg·m(lb.ft/N·m)

M10×1.25 (0.40×0.05) Bolt	5.6±1.0 (40.5±7.2/ 54.9±9.8)
M12×1.25 (0.47×0.05) Bolt	10.5±1.0 (76.0±7.2/103.0±9.8)
M12×1.75 (0.47×0.07) Bolt	9.8±1.0 (71.0±7.2/ 96.0±9.8)

This is the item shown in the illustration. It is marked with a triangle (▲) on the Major Components page.

Letters and numbers contained in a circle refer to the illustration.

Special tools are identified by the tool name and/or number.

The illustration shows how the special tool is to be used.

Symbols indicate the type of service operation or step to be performed. A detailed explanation of these symbols follows.

Service data and specifications are given in this table.

8. The following symbols appear throughout this Workshop Manual. They tell you the type of service operation or step to perform.

.... Removal

.... Installation

.... Disassembly

.... Reassembly

.... Alignment (marks)

.... Directional indication

.... Inspection

.... Measurement

.... Adjustment

.... Cleaning

... Important operation requiring extra care

.... Specified torque (tighten)

.... Special tool use required or recommended(Isuzu tool or tools)

.... Commercially available tool use required or recommended

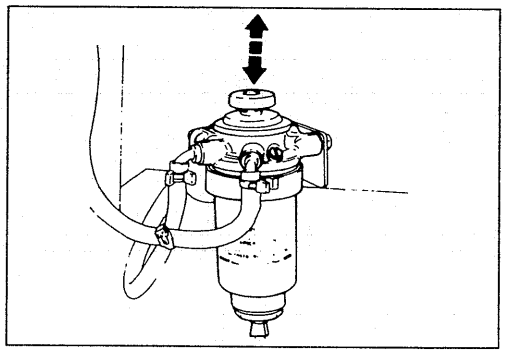
.... Lubrication (oil)

.... Lubrication (grease)

.... Sealant application

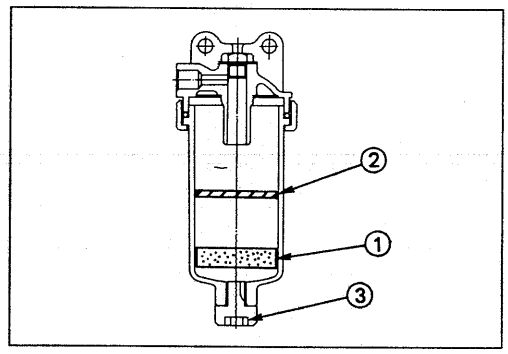
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8. Loosen the bleeder plug on the injection pump overflow valve.
9. Operate the priming pump until fuel begins to flow from the fuel filter.
10. Retighten the bleeder plug.
11. Operate the priming pump several times and check for fuel leakage.

NOTE:
The use of an ISUZU genuine fuel filter is strongly recommended.

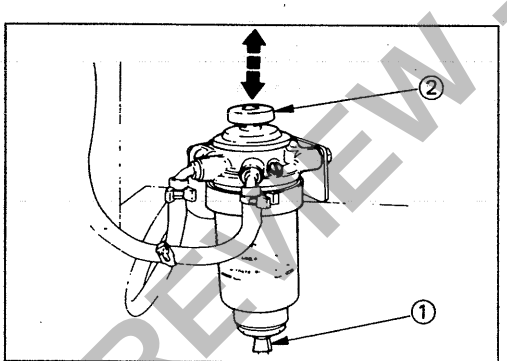


Water Separator (Water Sedimentor) (Optional Equipment)

Check the water separator float ① level.
If the float ① has reached level ② , loosen the drain plug ③ (at the bottom side of the water separator) to drain the water.

Drain Plug Torque	kg·m(lb.ft./N·m)
0.9 – 1.5 (6.5 – 10.9/8.8 – 14.7)	

Fuel Filter with Water Level Sensor
Water Draining Procedure
The indicator light will come on when the water level in the water separator exceeds the specified level.
Drain the water and foreign material from the water separator with the following procedure.



1. Open the engine hood and place a container (Approximately 0.2 liter capacity) at the end of the vinyl hose beneath the drain plug on the separator.
2. Loosen the drain plug by turning it counterclockwise (Approximately 5-turns) and operate the priming pump up and down about 10 times until water is drained approximately 0.1 liter.
3. After draining, securely tighten the drain plug by turning it clockwise and operate the priming pump manually up and down several times.
4. After starting the engine, check to see that there is no fuel leak from the drain plug.

   Also check to see that the fuel filter water indicator light has turned off.

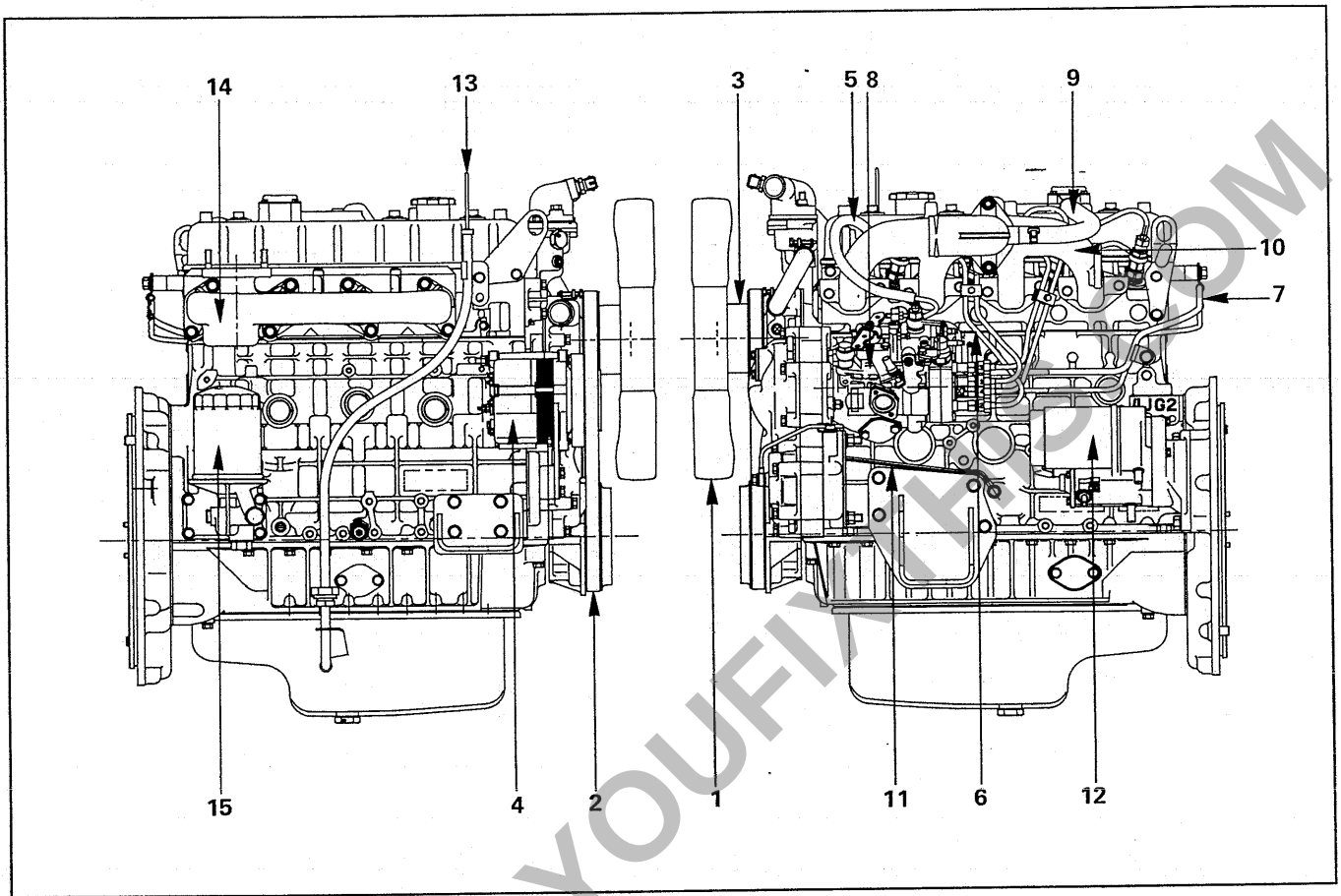
   If water separator requires frequent draining, have the fuel tank drained fro removal of water at your Isuzu Dealer.

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DISASSEMBLY

These disassembly steps are based on the 4JG2PE engine.



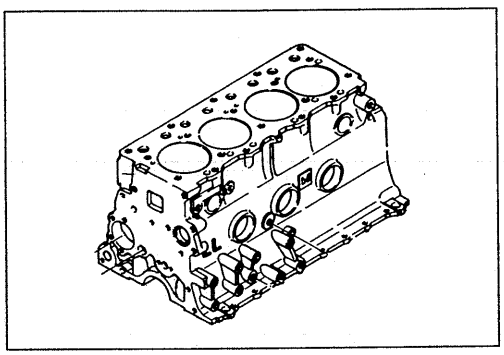
Disassembly Steps - 1

1. Cooling fan and spacer
2. Cooling fan drive belt
3. Cooling fan drive pulley
4. Alternator and adjusting plate
5. Fuel hose (Leak off)
6. Injection pipe
7. Fuel pipe
8. Injection pump
9. Breather hose
10. Inlet manifold
11. Oil pipe
12. Starter motor
13. Dipstick and guide tube
14. Exhaust manifold
15. Oil filter

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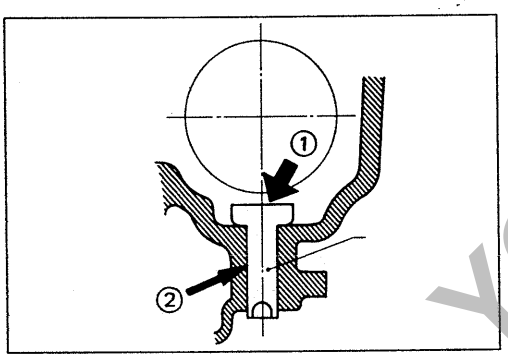
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Important Operations (Reassembly Steps-1)



1. Cylinder Body

Use compressed air to thoroughly clean the inside and outside surfaces of the cylinder body, the oil holes, and the water jackets.

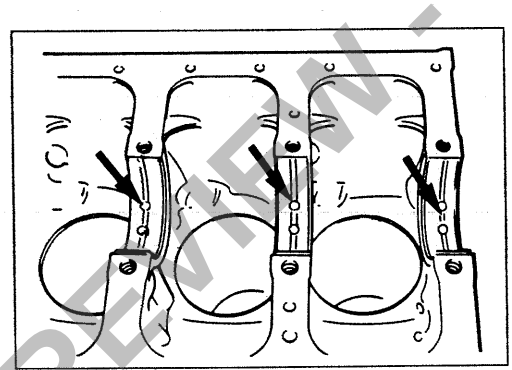


2. Tappet

1) Apply a coat of engine oil to the tappet ① and the cylinder body tappet insert holes ② .
2) Locate the position mark applied at disassembly (if the tappet is to be reused).

Note:

The tappet must be installed before installing the camshaft.



3. Crankshaft Upper Bearing

The crankshaft upper bearings have an oil hole and an oil groove. The lower bearings do not.

1) Carefully wipe any foreign material from the crankshaft upper bearing and the crankshaft upper bearing fitting surfaces.
2) Locate the position mark applied at disassembly if the removed crankshaft upper bearings are to be reused.

4. Crankshaft with Crankshaft Timing Gear

Apply an ample coat of engine oil to the crankshaft journals and the crankshaft bearing surfaces before installing the crankshaft.

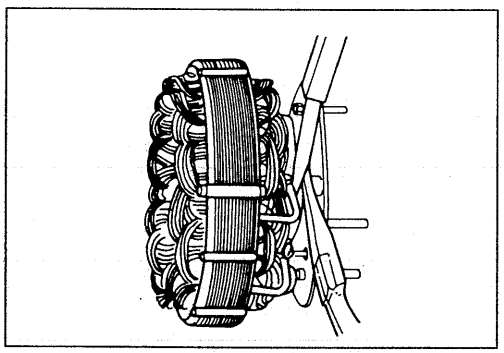
Note:

Do not apply engine oil to the bearing back faces and the cylinder body bearing fitting surfaces.

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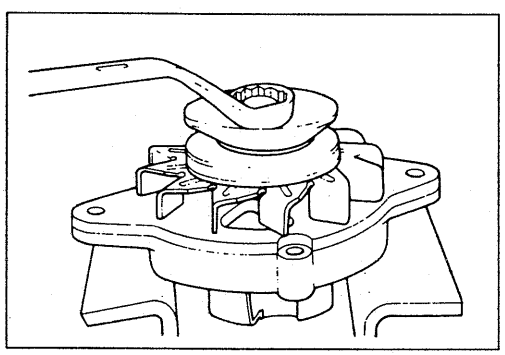
Important Operations



3. Rectifier with Brush Holder

4. Stator

When connecting stator coil leads and diode leads using solder, use long-nose pliers and finish the work as quickly as possible to prevent the heat from being transferred to the diodes.



11. Pulley and Fan

Tighten the pulley and fan to the specified torque.

Pulley and Fan Nut Torque	kg·m(lb.ft./N·m)
5.0 – 6.5 (36 – 47/49 – 64)	

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SECTION 1

GENERAL INFORMATION

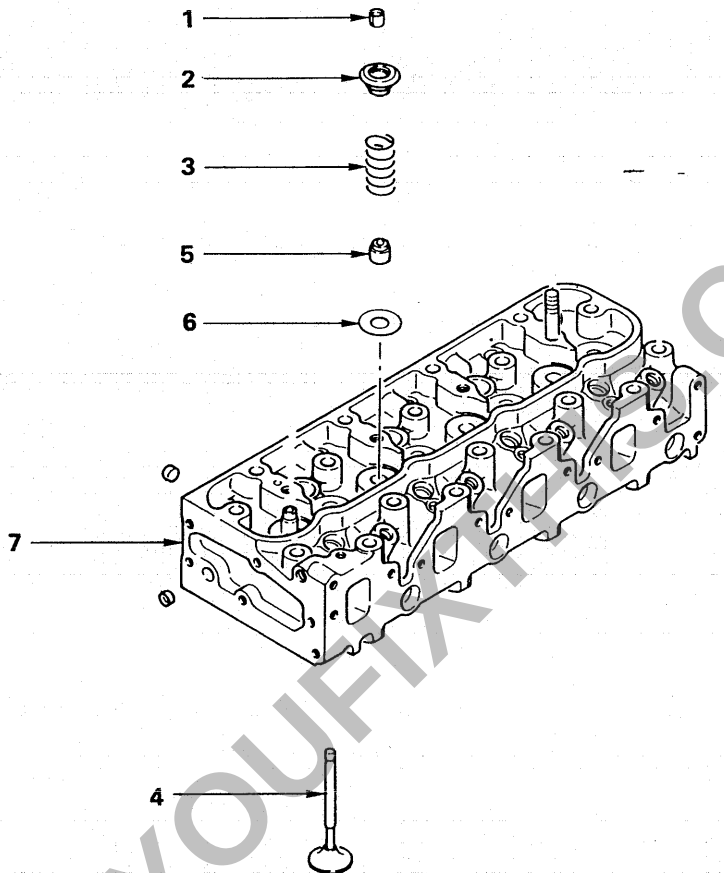
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Notes on the format of this manual	2
Main data and specifications	6
Tightening torque specifications	7
Augular nut and bolt tightening method	9
Special parts fixing nuts and bolts	11

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CYLINDER HEAD



Disassembly Steps

▲ 1. Split collar
2. Valve spring upper seat
3. Valve spring
▲ 4. Intake and exhaust valves
5. Valve stem oil seal
6. Valve spring lower seat
7. Cylinder head

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SECTION 5

ENGINE ASSEMBLY (3)

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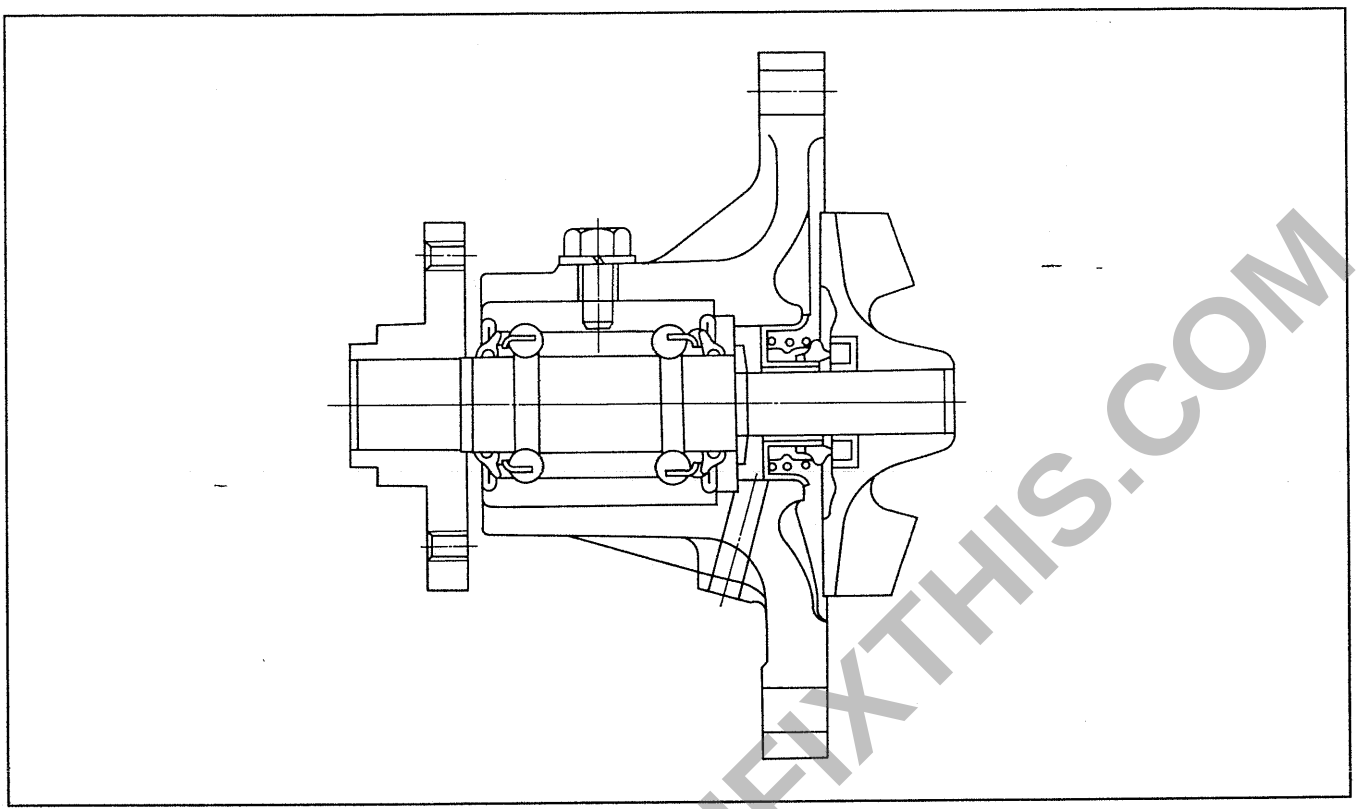
ITEM PAGE

Reassembly 86

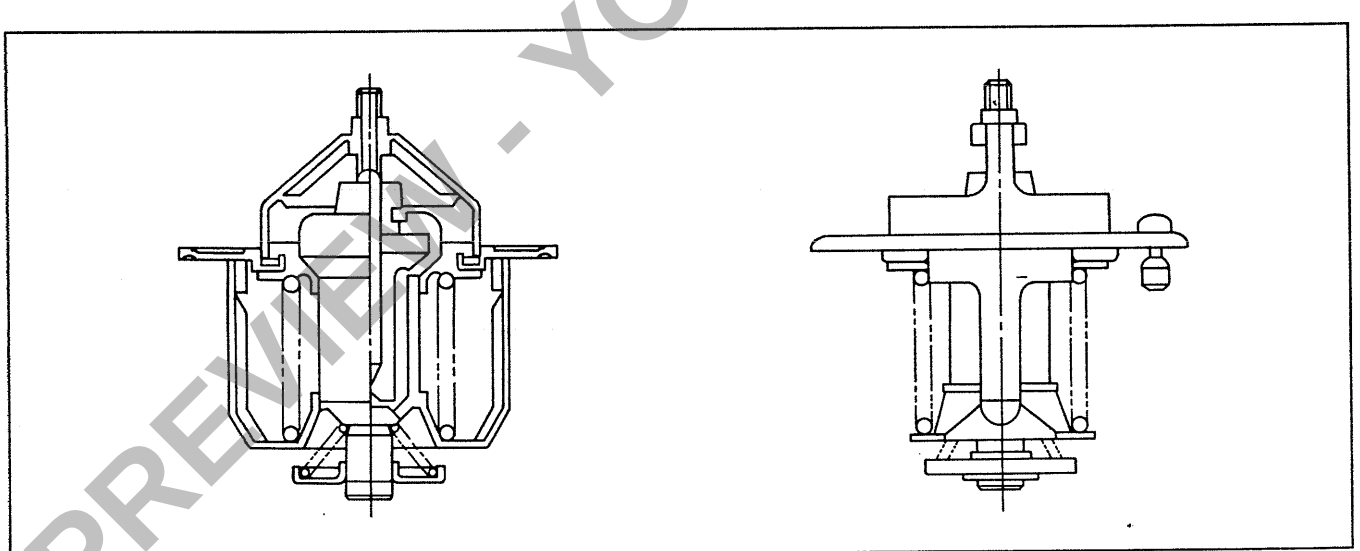
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WATER PUMP



THERMOSTAT



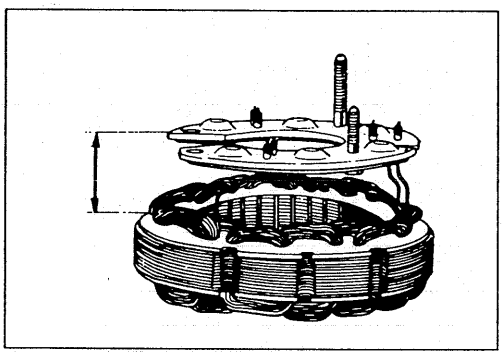
A centrifugal type water pump forcefully circulates the coolant through the cooling system.

A wax pellet type thermostat is used.

The jiggle valve accelerates engine warm-up.

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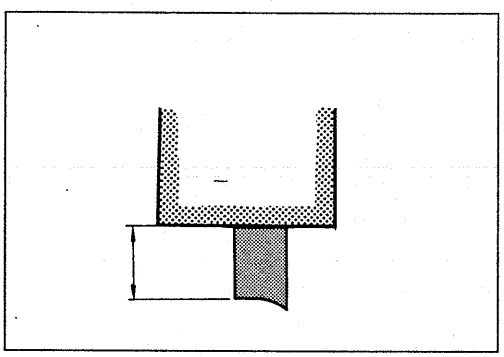
Note:

1. **The stator lead wires must be cut to the proper length before they are connected to the rectifier lead wires. If the stator lead wires are too long or too short, trouble may occur.**

Stator Lead Wire Length mm(in.)

33.5 (1.32)

2. **Take care not to damage the rectifier paint surfaces.**



BRUSH

Use a vernier caliper to measure the brush.

If the measured value exceeds the limit, the brush must be replaced.

Brush Length mm(in.)

	Standard	Limit
8-94423-756-0	14.5 (0.57)	7.5 (0.30)

Brushes are provided with a line which indicates the limit of usage.

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