# BB-4BG1T and BB-6BG1T ISUZU ENGINES

## Service Manual

7-28771

CASE CONSTRUCTION



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# SECTION 1

# GENERAL INFORMATION

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## SECTION 2

# MAINTENANCE

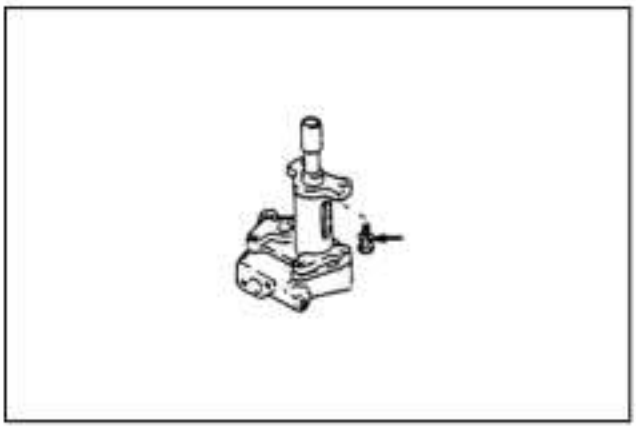
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Note: Maintenance intervals such as fuel or oil filter changes should be referred to in the Operator's Manual.



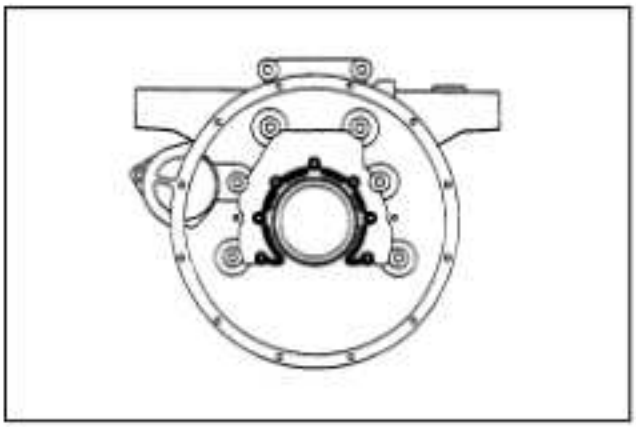
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### 12. Oil pump and coupling

1. Lubricate the oil pump with the specified grade of engine oil.
2. Install the oil pump with the coupling.
3. Tighten the oil pump bolts to the specified torque.

**Oil pump bolt torque:**
42-62 Nm (4.3-6.4 kgf.m/31-46 lb.ft)



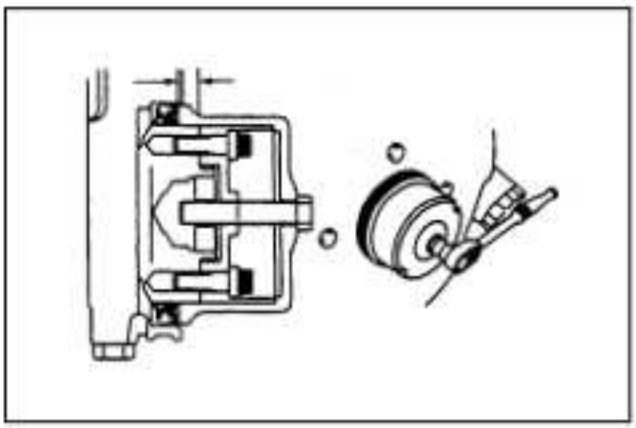
### 13. Flywheel housing

1. Apply a sealant to the shaded area of the illustration.
2. Install the flywheel housing.

   Tighten the flywheel housing bolts to the specified torque.

**Flywheel housing bolt torque:**

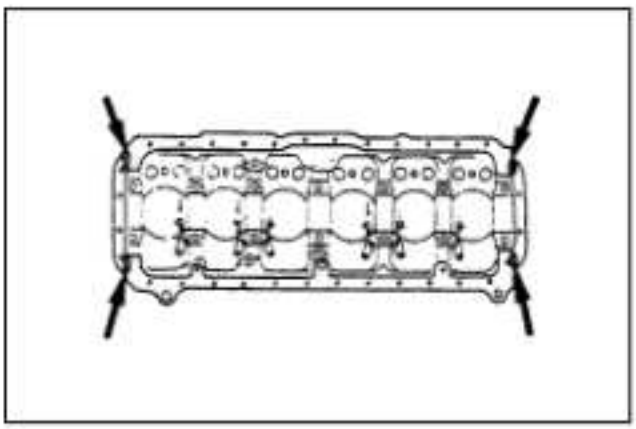
**Outer bolt**: 147-167 Nm (15-17 kgf.m/108-123 lb.ft)
**Inner bolt**: 21-30 Nm (2.1-3.1 kgf.m/15-22 lb.ft)



### 14. Rear oil seal (axial type)

1. Tighten the adapter to the crankshaft rear and section with 2 bolts.
2. Insert the oil seal into the peripheral section of adapter.
3. Insert the sleeve into the adapter section and 1) tighten it with a bolt until the adapter section hits the sleeve.
4. Remove the adapter and the sleeve.
5. With the seal pressed in, check the dimension of the oil seal section.

**Standard dimension**: 11.6±0.3 mm (0.457±0.012 in)



### 15. Oil pan

1. Apply sealant to the area indicated by the arrows in the illustration.
2. Install the oil pan gasket.
3. Install the oil pan.

   Tighten the oil pan bolts to the specified torque.

**Oil pan bolt torque:**
21-30 Nm (2.1-3.1 kgf.m/15-22 lb.ft)



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# ABNORMAL ENGINE NOISE

## 1. ENGINE KNOCKING

**Check to see that the engine has been thoroughly warmed up before beginning the troubleshooting procedure**

| CHECK POINT | | TROUBLE CAUSE | | REMEDY |
|---|---|---|---|---|
| Fuel | NG | Fuel unsuitable | NG | Replace the fuel |
| OK | | | | |
| Fuel injection timing | NG | Fuel injection timing incorrectly adjusted | NG | Adjust the fuel injection timing |
| OK | | | | |
| Injection nozzle | NG | Incorrect injection nozzle starting pressure and spray condition | NG | Adjust or replace the injection nozzle |
| OK | | | | |
| Compression pressure | NG | Blown out head gasket<br>Broken piston ring | NG | Replace the head gasket or the piston ring |

## 2. GAS LEAKAGE NOISE

| CHECK POINT | | TROUBLE CAUSE | | REMEDY |
|---|---|---|---|---|
| Exhaust pipes | NG | Loosely connected exhaust pipes<br>Broken exhaust pipes | NG | Tighten the exhaust pipe connections<br>Replace the exhaust pipes |
| OK | | | | |
| Injection nozzles and/or glow plugs | NG | Loose injection nozzles and/or glow plugs | NG | Replace the washers<br>Tighten the injection nozzles and/or the glow plugs |

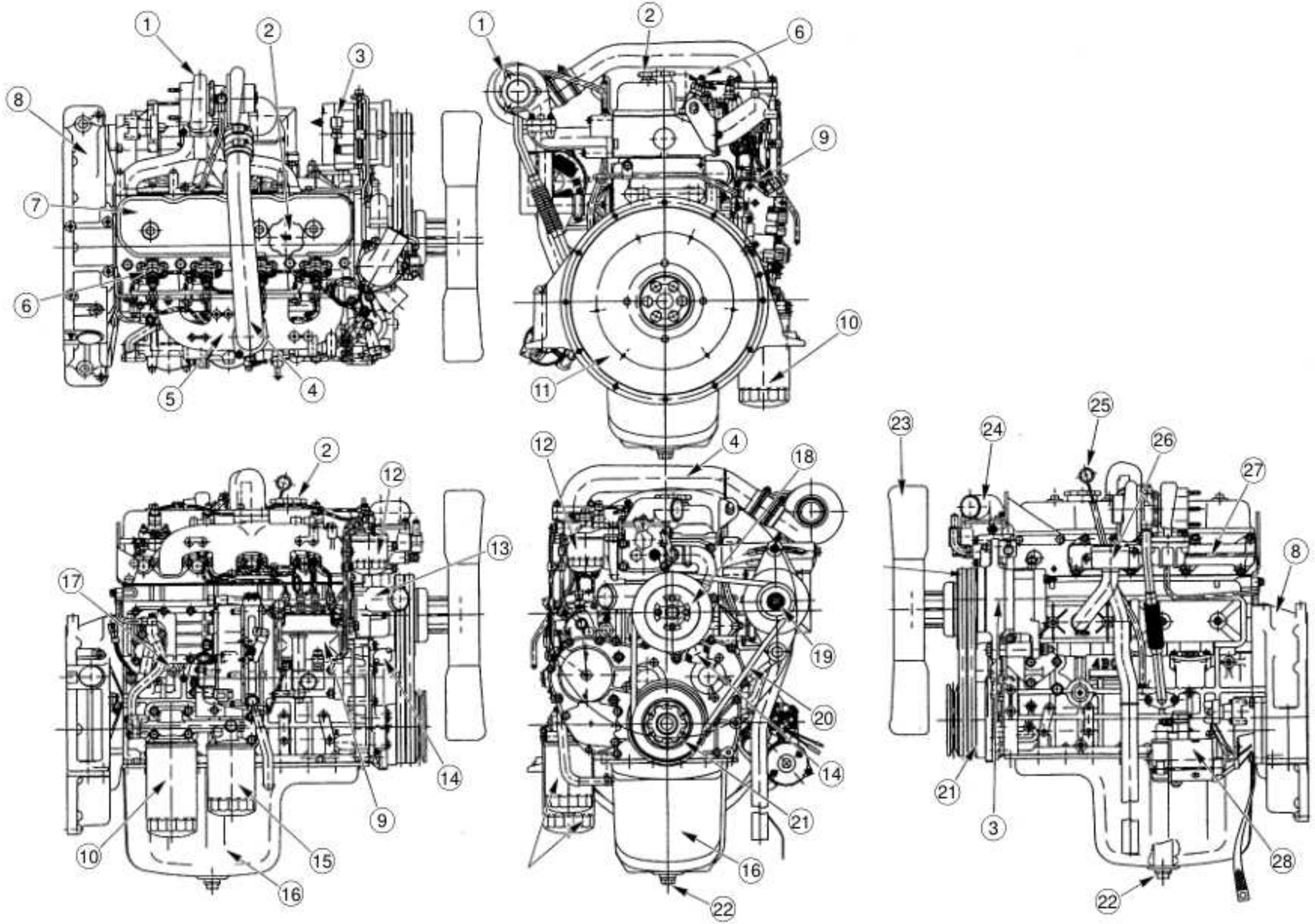
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## EXTERNAL VIEW

**Model BB-4BG1T**



1. Turbocharger
2. Oil filler cap
3. Alternator
4. Intake pipe
5. Inlet manifold
6. Nozzle holder
7. Cylinder head cover
8. Flywheel housing
9. Injection pump
10. Partial oil filter
11. Flywheel
12. Fuel filter
13. Water pump
14. Check hole cover
15. Main oil filter
16. Oil pan
17. Water drain cock
18. Fan pulley
19. Alternator pulley
20. Fan belt
21. Crank pulley
22. Oil drain plug
23. Cooling fan
24. Thermostat housing
25. Dipstick
26. Air breather
27. Exhaust manifold



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