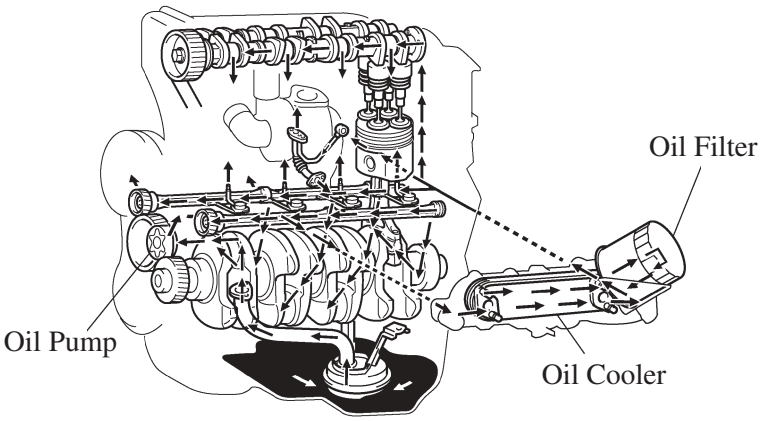
■LUBRICATION SYSTEM

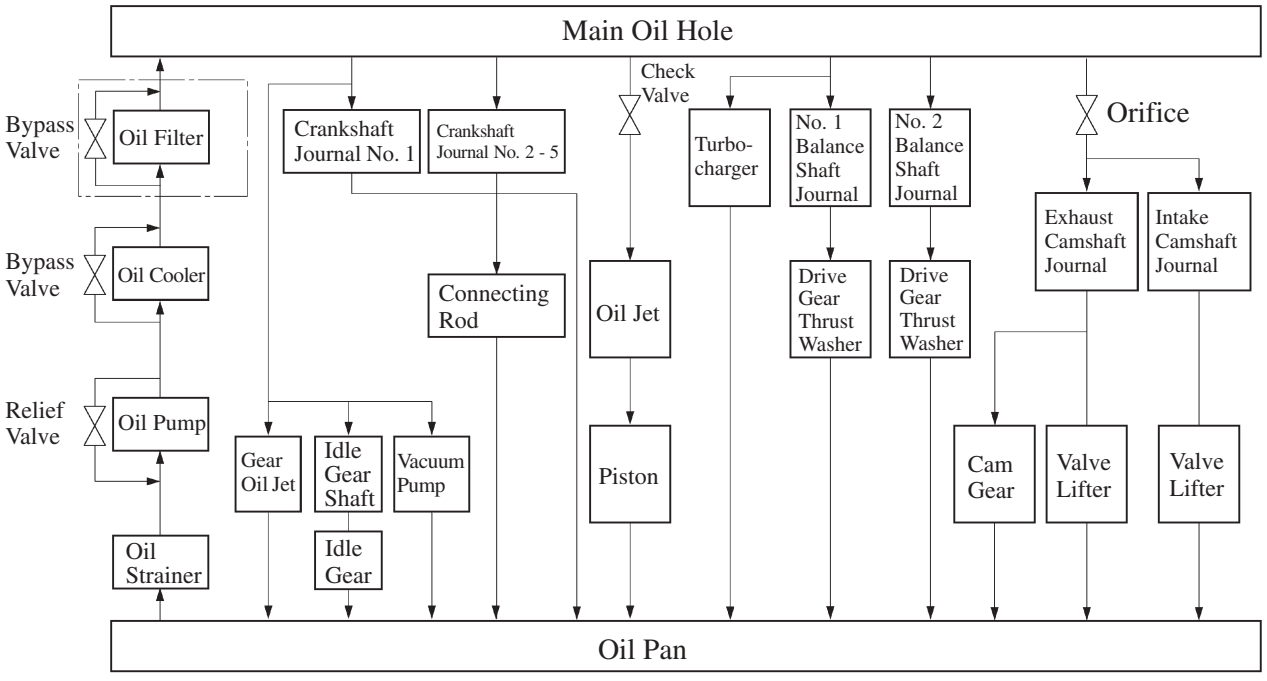
1. General

- The lubrication circuit is fully pressurized and all oil passes through an oil cooler and oil filter.
- A trochoid oil pump driven by a gear engaged with the crankshaft is used.
- A water-cooled type engine oil cooler is enclosed in the cylinder block.
- Piston oil jets that lubricate and cool the pistons are provided.



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▶ System Diagram ◀



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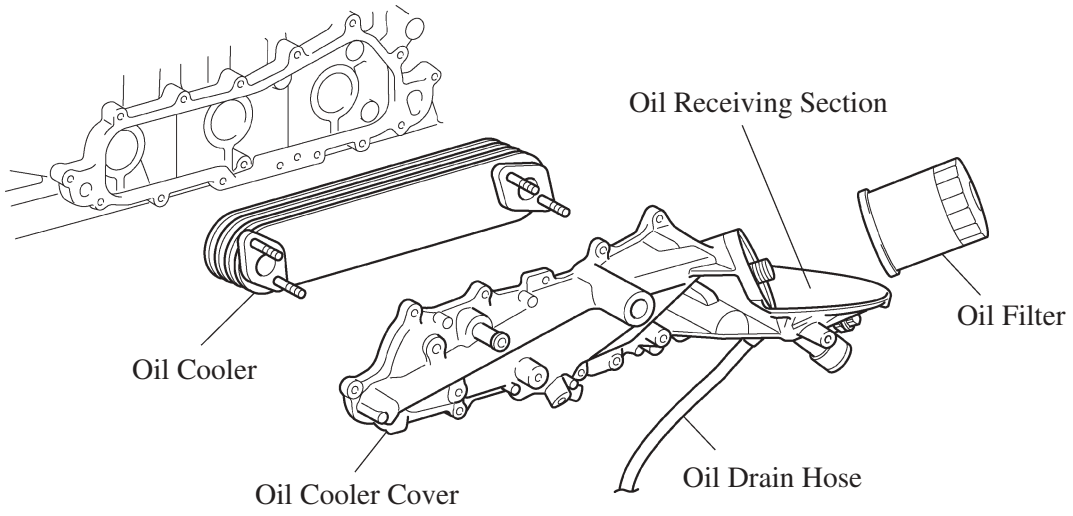
▶ Oil Capacity ◀

Dry	7.7 Liters (8.1 US qts, 6.8 Imp. qts)
With oil filter	7.0 Liters (7.4 US qts, 6.2 Imp. qts)
Without oil filter	6.8 Liters (7.2 US qts, 6.0 Imp. qts)

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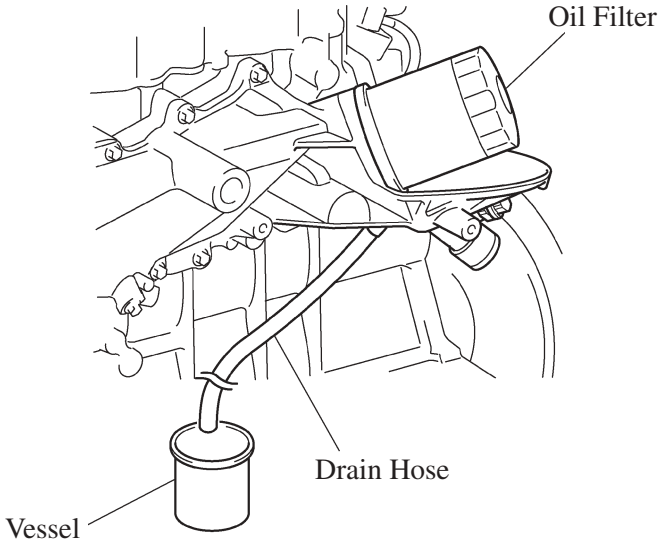
2. Oil Filter and Oil Cooler

- The oil filter is mounted on an oil cooler cover. Therefore, the oil filter can be replaced easily.
- During oil filter replacement, the filter is removed upward. Therefore, an oil receiving section and oil drain hose are provided at the oil cooler cover.
- The water-cooled oil cooler is enclosed in the cylinder block.



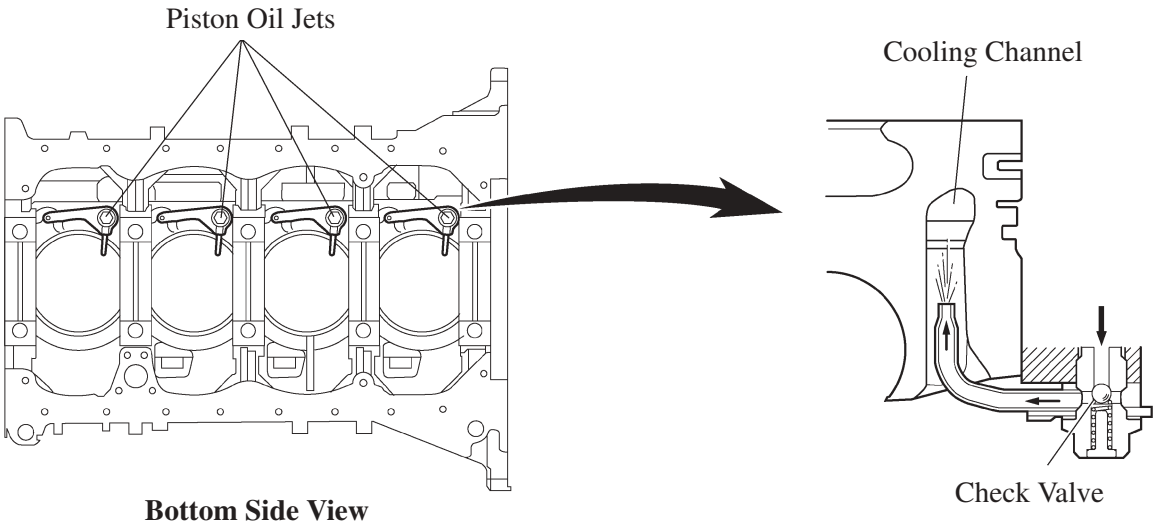
Service Tip

Before removing the oil filter, prepare to catch the oil that will be discharged from the oil cooler cover. Use a vessel to catch the engine oil. For details, refer to the Hiace Repair Manual (Pub. No. RM04Z0E).



3. Piston Oil Jet

- Piston oil jets are provided at the bottom of the cylinder block to spray oil to the piston's cooling channel, thus further cooling and lubricating the pistons.
- These oil jets contain a check valve to prevent oil from being fed when the oil pressure is low. This prevents the overall oil pressure in the engine from dropping.



Bottom Side View

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