

Component Procedures: Water Pump

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Component Procedures: Water Pump

Parts and Labor (itype_189)

Parts

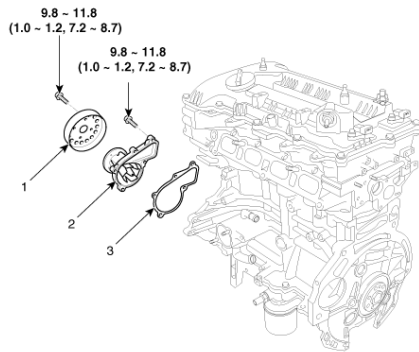
| Qualifier | Part # | Name | Price | Note |
|-------------------------|------------|----------------|--------|------|
| Water Pump > Gasket | 251242E000 | 7 - Gasket | 8.85 | |
| Water Pump > Water Pump | 251002E020 | 6 - Water Pump | 150.48 | |

Labor

| Operation | Qualifier Path | Skill | Std Hrs | Wty Hrs |
|------------------|------------------------------|-------|---------|---------|
| Remove & Replace | Water Pump > Water Pump, R&R | B | 1.6 | 0.0 |

Water Pump - Components and Components Location (Article 45372)

- Components

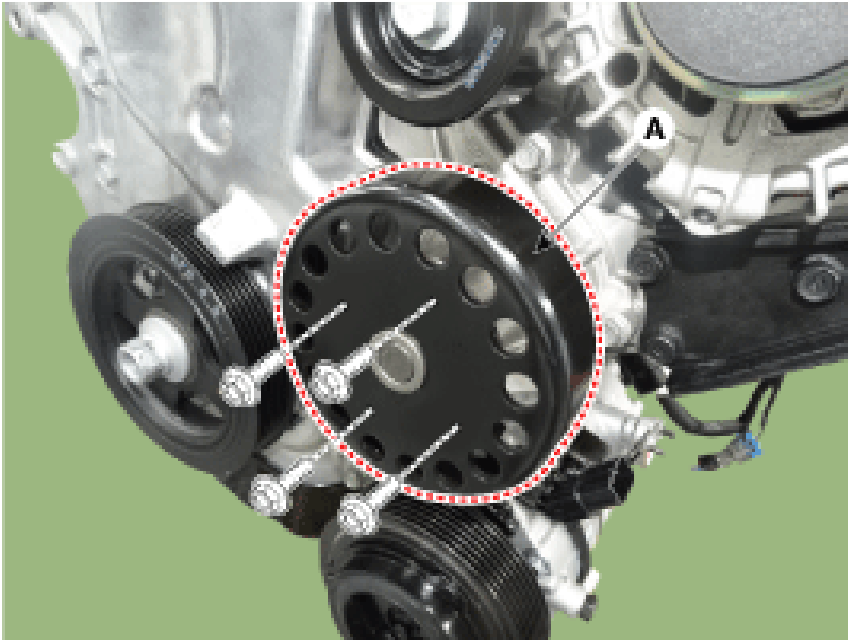


Tightening torque : N.m (kgf.m, lb-ft)

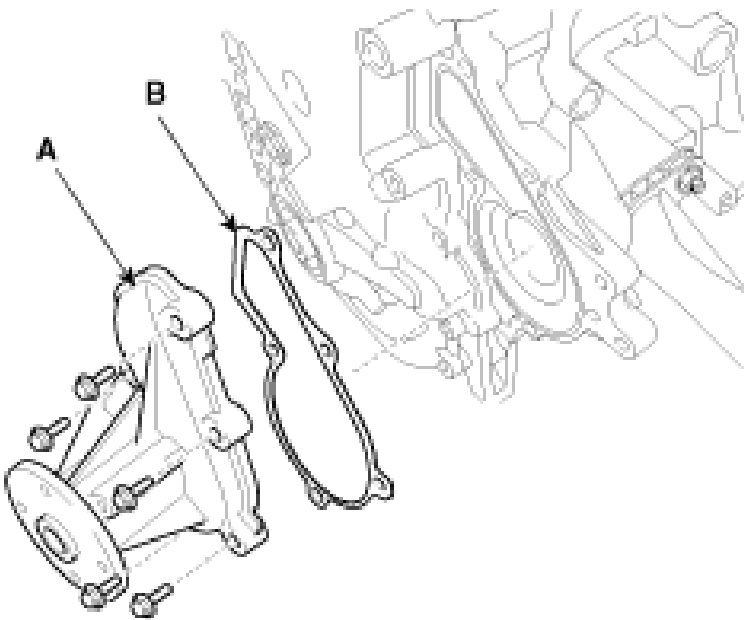
1. Water pump pulley 2. Water pump 3. Water pump gasket

Water Pump - Repair Procedures (Article 45373)

- Removal and Installation
- Drain the coolant. (Refer to Cooling System - "Coolant")
- Remove the drive belt .
- Remove the water pump pulley (A). Tightening torque: 9.8 - 11.8 N.m (1.0 - 1.2 kgf.m, 7.2 - 8.7 lb-ft)



- Remove the water pump assembly (A) with the gasket (B). Tightening torque: 9.8 - 11.8 N.m (1.0 - 1.2 kgf.m, 7.2 - 8.7 lb-ft)



- Install in the reverse order of removal. Install a new water pump gasket .
Install a new water pump gasket .

NOTICE

- Install a new water pump gasket .
- Fill the engine coolant. (Refer to Cooling System - "Coolant")
- Start the engine and check for leaks.
- Recheck the coolant level.

- Inspection
- Check each part for cracks, damage or wear, and replace the coolant pump assembly if necessary.
- Check the bearing for damage, abnormal noise and sluggish rotation, and replace the coolant pump assembly if necessary.
- Check for coolant leakage. If coolant leaks from hole, the seal is defective. Replace the coolant pump assembly. A small amount of "weeping" from the bleed hole is normal.
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Water Pump - Troubleshooting (Article 45374)

- Troubleshooting

Symptoms Possible Causes Remedy

Coolant leakage From the bleed hole of the water pump Visually check Check leaks after about ten-minute warming up. If coolant still leaks, replace a water pump.

- From the bleed hole of the water pump
- Check leaks after about ten-minute warming up.
- If coolant still leaks, replace a water pump.

If leakage stops, reuse the water pump (Do not replace the pump with a new one).

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From gaskets or bolts Check the tightening of the water pump mounting bolts. Retighten the mounting bolts.

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- Check the tightening of the water pump mounting bolts.
- Retighten the mounting bolts.

Check damage of gaskets or inflow of dust. Replace the gasket and clean dust off.

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- Replace the gasket and clean dust off.

From outer surface of water pump Check the material or any cracks of the water pump. Poor material. If any crack found, replace the water pump.

- From outer surface of water pump
- Check the material or any cracks of the water pump.
- Poor material. If any crack found, replace the water pump.

Noise From bearings From mechanical seals Impeller interference Inspection with a stethoscope After starting the engine, check noise with a stethoscope. If there is no noise, reuse the water pump (do not replace it).

- From bearings
- From mechanical seals
- Impeller interference
- After starting the engine, check noise with a stethoscope.
- If there is no noise, reuse the water pump (do not replace it).

If there is any noise from the water pump, remove the drive belt and recheck.

- If there is any noise from the water pump, remove the drive belt and recheck.

Inspection after removing a drive belt After removing a water pump and a drive belt, check noise again. If there is noise, reuse the water pump. Check other drive line parts.

- After removing a water pump and a drive belt, check noise again.
- If there is noise, reuse the water pump. Check other drive line parts.

If there is no noise, replace the water pump with a new one.

- If there is no noise, replace the water pump with a new one.

Inspection after removing a water pump After removing a water pump and a drive belt, check noise again. If there is any interference between them, replace the water pump with a new one.

- If there is any interference between them, replace the water pump with a new one.

Overheating Damaged impeller Loosened impeller Loosened impeller Corrosion of the impeller wing Check engine coolant. Poor coolant quality / Maintenance check

- Damaged impeller
- Loosened impeller
- Corrosion of the impeller wing
- Check engine coolant.
- Poor coolant quality / Maintenance check

Impeller separation from the shaft Replace the water pump.

- Impeller separation from the shaft
- Replace the water pump.