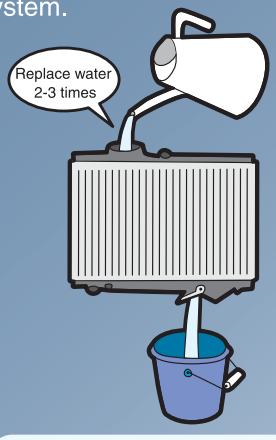
Installation Procedure

1

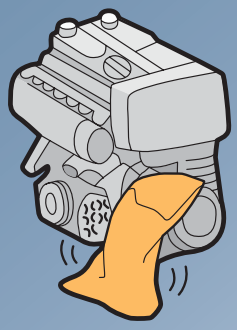
Flush the radiator 2-3 times with water while letting the engine idle. This will remove scale, rust deposits and sludge from the coolant system.



Why? Prevents foreign materials from contaminating the new water pump mechanical seal.

2

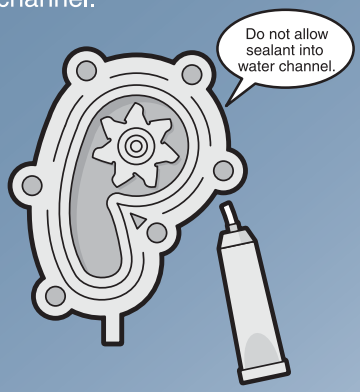
After engine is cooled down, drain water from step 1, remove old pump, gaskets and foreign materials left on the mounting surface. Thoroughly clean with non-abrasive solvent.



Why? Prevents leakage from the mounting surface.

3

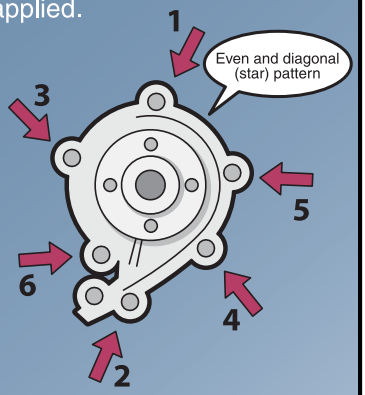
If a sealant is needed, apply an even amount around the pump. Wipe off excess and make sure the sealant(RTV) does not intrude into the water channel.



Why? Excess sealant material may damage the mechanical seal, which may cause pump failure.

4

Install the new water pump in a diagonal (star) pattern and apply torque specified by the vehicle manufacturer. Allow sealant(RTV) to cure if applied.



Why?
- Prevents leakage from the mounting surface.
- Prevents body damage from installation.
- Prevents body fractures caused by belt tension.

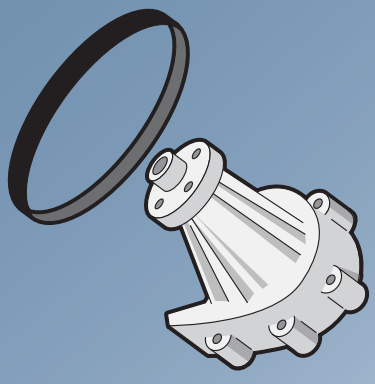
5

Confirm that the fan coupling is free of rust and contaminants. After installation, verify run-out tolerances specified by the manufacturer using a dial indicator.

Why? Prevents fractures and damage caused by belt tension.

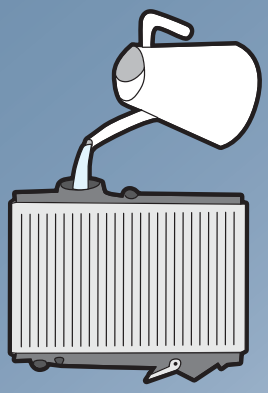
6

Install the fan belt or timing belt and apply tension specified by the manufacturer.



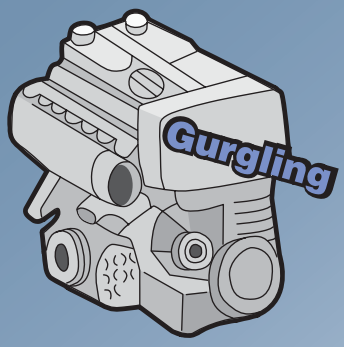
Why?
- Prevents fractures and damages caused by belt tension.
- Prevents noise.

7 Refill with new coolant (LLC) to the mixture amount and volume specified by the vehicle manufacturer.



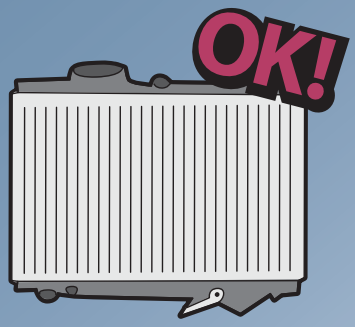
Why? Insufficient amount or incorrect mixture of coolant (LLC) will cause abnormal wear of the mechanical seal, which will cause coolant leak.

8 Bleed the air completely to ensure the engine, pump, radiatior and reservoir are filled with the manufacutrer specified amount of coolant.



Why?
- Insufficient amount or incorrect mixture of coolant (LLC) will cause abnormal wear of the mechanical seal, which will cause coolant leak.
- Air bubbles may create additional cavitation which will corrode the rotor.

9 Reconfrim the amount of coolant(LLC) and belt tension. Start the engine and look for leaks.

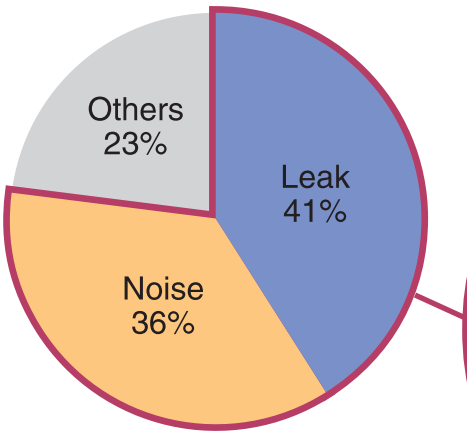


Why?
- Prevents coolant leak under normal operation.
- Prevents damage from installation error.

Caution

Failure to follow recommended procedures may cause engine failure and injury.

Failure Rate by Cause (Customer complaints)



More than 75% of failures are due to complaints related to coolant leaks and noise occuring from the water pump.

To prevent most water pump problems from occuring, follow the 4 key steps described in the installation procedures from steps:

❶ Flush the radiator and coolant system regularly

❻ Apply vehicle manufacturer specified belt tension

❼ Re-fill with new coolant (LLC)

❽ Bleed air completely