


# V Installation Procedure

**1** Thoroughly flush the cooling system (radiator) 2-3 times to remove the stains and rust with the engine running and the original water pump still in place.



Drain and refill 2-3 times.

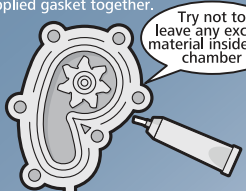
**Why?** To prevent water leakage caused by foreign materials caught in the mechanical seal.

**2** Before installation, remove the old gasket and other foreign materials with white gasoline or another solvent. Then, remove all oil and grease from the mating surface.



**Why?** To prevent water leakage from the mating surface.

**3** If the pump requires the liquid gasket, apply it evenly on the seal. If gaskets are supplied with the pump, use the supplied gaskets only. \*Do not use the liquid gasket and supplied gasket together.

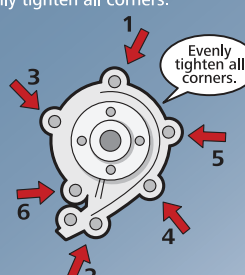


Try not to leave any excess material inside the chamber.

**Why?** If the liquid gasket gets into the water chamber, it will get caught in the mechanical seal, causing water leakage.

\*Please refer to section VI for details on how to apply liquid gasket.

**4** Fasten bolts with the torque specified by the car manufacturer to evenly tighten all corners.



Evenly tighten all corners.

**Why?** To prevent water leakage from the mating surface.

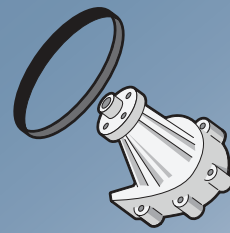
**5** When installing other parts such as a pulley or fan coupling, make sure to prevent failures caused by foreign materials that get caught. For vehicles with a fan coupling, make sure there is no rust or looseness, and then use a dial gauge to check the run-out accuracy after installation.



No foreign materials.


**Why?** To prevent foreign materials from getting caught which leads to eccentricity (excess vibration) and looseness on the pulley and fan coupling. This may cause the parts to fall off or get damaged.

**6** Adjust the belt tension to the tension specified by the car manufacturer.



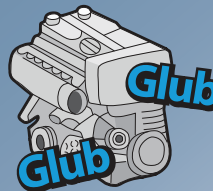
**Why?** To prevent damage to the shaft parts (body and bearing) that might be caused by excess tension on the belt.

**7** When changing the pump, fill the new LLC to the specified amount and density.



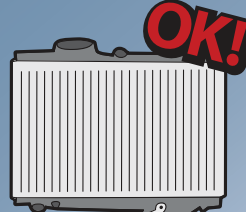
**Why?** If the pump spins without having enough LLC, the mechanical seal gets worn down, causing water leakage and abnormal noise.

**8** Make sure to thoroughly remove all the air before filling the radiator and reservoir tank to the specified amount.



**Why?** If the pump spins without having enough LLC, the mechanical seal gets worn down, causing water leakage and abnormal noise.

**9** After checking the LLC level and belt tension again, start the engine.




## Warning

• For your safety, please follow the directions. Inaccurate installation may lead to injury or breakdowns.

• The water pump is a consumable part, and if it breaks down it can disable operation. It is recommended to change the pump on a regular basis such as when getting your car major-serviced, changing the timing belt, and etc.

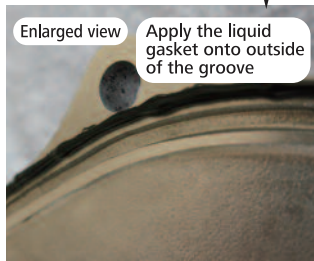
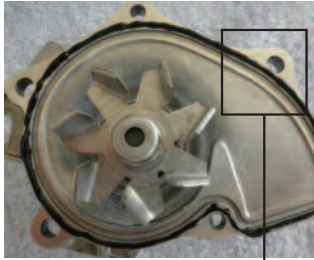
# VI Gasket Installation

## How to apply the liquid gasket

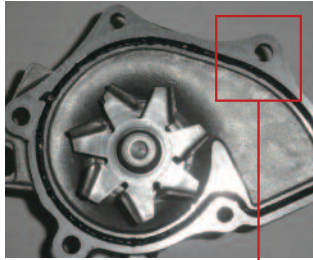
Where to apply the liquid gasket on the mating surface of the engine

### For Toyota vehicles

#### Good example



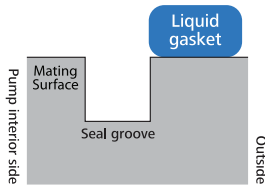
#### Poor example



#### Good example

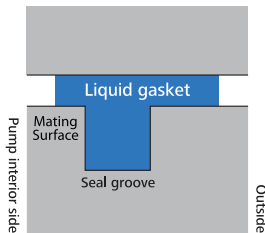
Cross Section view of mating surface of the engine

The position where the liquid gasket is applied



By applying the liquid gasket onto the outside of the seal groove, the mating surface gets sealed as shown below.

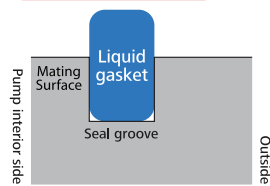
When installing onto the engine



#### × Poor example

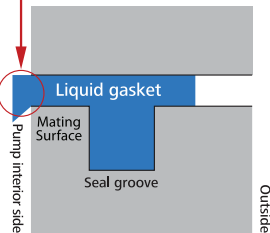
Cross Section view of mating surface of the engine

The position where the liquid gasket is applied

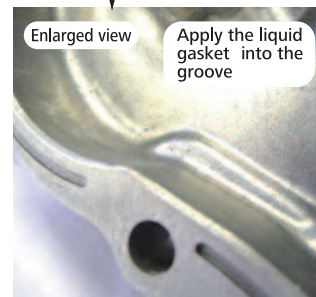
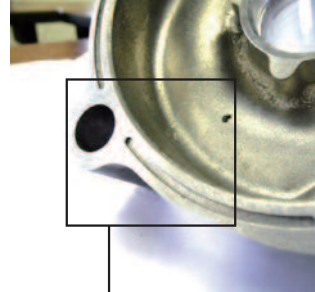


By applying the liquid gasket directly into the seal groove, the liquid gasket gets pushed out from the mating surface into the interior of the pump, resulting in debris that would cause water leakage.

When installing onto the engine

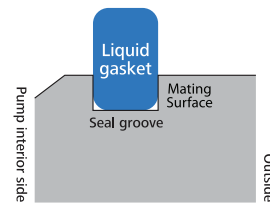


### For Nissan vehicles



Cross-section view of the mating surface of the engine

The position where the liquid gasket is applied



By applying the liquid gasket into the seal groove, a small notch on the mating surface holds excess gasket and it gets sealed as shown below.

When installing onto the engine

