



VFR Gasket Installation Guide

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Prep cylinder head and block deck surfaces by scuffing with ~220 grit sandpaper. The gasket surfaces may also be prepped with the same sandpaper. *Much like how paint sticks best to a rough surface, scuffing the block/head will allow for better sealant adhesion. Sealant will not stick to mirror finished surfaces.*

Clean all surfaces with solvent, ensuring there is no oil, water or debris on any surface.

Ensure the cylinder head contains no coolant or oil and is internally dry so that no fluids will drip onto applied sealant in later steps.

Using a light adhesive applied to the flat side of the fire rings, (spray adhesive works well) stick the flat surface of the fire rings onto the block deck around each cylinder. Ensure that they are centered and not interfering with the pistons.

The rest of the procedure is for the use of Red RTV Silicone. **Permatex 59423 or 59413**. You may substitute your own instructions if you are using a different type of sealant.

With the fire rings in place, apply sealant around all coolant galleries, oil galleries and fluid passages on the block and on the head. Be liberal around coolant galleries, but do not use excessive sealant around oil passages as they are more prone to clogging.

For RTV type sealants, install the steel gasket plate to the block immediately after sealant is applied. Then install the cylinder head onto the steel gasket plate, ensuring that you do not accidentally wipe any sealant off of the head onto dowels, timing chain guides or any other obstructions.

Lightly torque the cylinder head to 30ftlbs and allow the RTV to set for 1 hour. (This is recommended by RTV sealant instructions) After one hour, torque the cylinder head down using the correct sequence up to maximum torque. This will vary depending on your engine/head stud combination. Allow sealant to set for 24hours until filling with fluids.

After the first few heat cycles, retorquing the cylinder head is recommended since the fire rings will dig into the head causing the head to fully seat onto the deck.

Poor sealant application will result in fluid leaks. Small leaks can sometimes be fixed by retorquing head studs, but large ones will require the head to be removed and sealant reapplied properly. It's important to note that fluid leaks will be external only. No fluid should be able to leak into combustion chambers even with poor sealing.

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