

Use of RTV and Anaerobic Sealer For Automotive Engines

The AERA Technical Committee offers the following information regarding the use of RTV and Anaerobic Sealer for automotive-style engines. This information should be considered before applying sealers during engine assembly.

Three types of sealers are commonly used in engines. These are RTV sealer, anaerobic gasket eliminator sealer, and pipe joint compound. The correct sealer and amount must be used in the proper location to prevent oil leaks. DO NOT interchange the three types of sealers. Use only the specific sealer, or the equivalent, as recommended in the service procedure.

Pipe Joint Compound

Pipe joint compound is a pliable sealer that does not completely harden. This type of sealer is used where two non-rigid parts (such as the oil pan and the engine block) are assembled together.

Do not use pipe joint compound in areas where extreme temperatures are expected. These areas include: exhaust manifold, head gasket, or other surfaces where gasket eliminator is specified.

Follow all safety recommendations and directions on the container. To remove the sealant or the gasket material, refer to replacing engine gaskets in the appropriate service manual.

Apply the pipe joint compound to a clean surface. Use a bead size, or quantity specified in the procedure. Run the bead to the inside of any bolt holes. Do not allow the sealer to enter any blind threaded holes, as it may prevent the bolt from clamping properly or cause component damage when the bolt is tightened.

Apply a continuous bead of pipe joint compound to one sealing surface. Sealing surfaces to be resealed must be clean and dry.

Tighten bolts to specifications. Do not over-tighten.

RTV Sealer

Room Temperature Vulcanizing (RTV) sealant hardens when exposed to air. This type of sealer is used where two non-rigid parts (such as the intake manifold and the engine block) are assembled together.

Do not use RTV sealant in areas where extreme temperatures are expected. These areas include: exhaust manifold, head gasket, or other surfaces where a gasket eliminator is specified.

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RTV Sealer - continued

Follow all safety recommendations and directions on the container. To remove the sealant or the gasket material, refer to replacing engine gaskets in the appropriate service manual.

Apply RTV to a clean surface. Use a bead size as specified in the procedure. Run the bead to the inside of any bolt holes. Do not allow the sealer to enter any blind threaded holes, as it may prevent the bolt from clamping properly or cause damage when the bolt is tightened.

Assemble components while RTV is still wet (within 3 minutes). Do not wait for the RTV to skin over.

Tighten bolts to specifications. Do not over-tighten.

Anaerobic Sealer

Anaerobic gasket eliminator hardens in the absence of air. This type of sealer is used where two rigid parts (such as castings) are assembled together. When two rigid parts are disassembled, and no sealer or gasket is readily noticeable, the parts were probably assembled using a gasket eliminator.

Follow all safety recommendations and directions on the container. To remove the sealant or the gasket material, refer to replacing engine gaskets in the appropriate service manual.

Apply a continuous bead of gasket eliminator to one flange. Surfaces to be resealed must be clean and dry.

Spread the sealer evenly with your finger to get a uniform coating on the sealing surface.

Do not allow the sealer to enter any blind threaded holes, as it may prevent the bolt from clamping properly, or cause damage when tightened.

Important: Anaerobic sealed joints that are partially torqued, and allowed to cure more than five minutes, may result in incorrect shimming and sealing of the joint.

Do not allow the sealer to enter any blind threaded holes, as it may prevent the bolt from seating properly, or cause damage when the bolt is tightened.

Tighten bolts to specifications. Do not over-tighten.

After properly tightening the fasteners, remove the excess sealer from the outside of the joint.