Component Procedures: Positive Crankcase Ventilation

Table of Contents

Component Procedures: Positive Crankcase Ventilation

Crankcase Ventilation System Description (Article 12011)

A crankcase ventilation system is used to consume crankcase vapors created during the combustion process instead of venting them to the atmosphere.
Fresh air is supplied through a filter to the crankcase, the crankcase mixes the fresh air with the blow-by gases and then passed through a positive crankcase ventilation (PCV) orificed tube into the intake manifold. The PCV orificed tube restricts the flow rate of the blow-by gases using an orifice (1) located at the end of the tube. If abnormal operating conditions arise, the system is designed to allow excessive amounts of blow-by gases to back flow through the crankcase vent tube into the throttle body in order to be consumed by normal combustion.

Crankcase Ventilation System Inspection/Diagnosis (Article 12026)

Crankcase Ventilation (CV) System Inspection
- Test for vacuum at the vacuum hose where it connects to the crankcase ventilation housing. There should be manifold vacuum present at the hose. If there is no vacuum, inspect for a plugged hose, leaking hose or a plugged vent adapter.
- Plug the end of the vacuum hose while the engine is running. Inspect the hose for any areas that collapse when the end of the hose is blocked. Replace the hose if it collapses when blocked.
- If oil has accumulated in the intake air duct, inspect for the following conditions:
- Plugged vacuum orifice in the crankcase ventilation housing
- Plugged or restricted crankcase ventilation housing
- Excessive crankcase pressure or blow-by, refer to Oil Consumption Diagnosis .
- Additional items to inspect:
- Plugged or leaking fresh air vent hose assembly or vent adapter
- Plugged or restricted passages in the throttle body
- Missing or damaged O-ring seals on the vent adapter
- Inspect the cam covers, the oil pan gasket, and other sealing areas for leaks

Results of Incorrect Operation
A plugged crankcase ventilation housing or hose may contribute to the following conditions:
- A rough idle
- Stalling or a slow idle speed
- Oil leaks
- Oil accumulation in the intake air duct
- Sludge in the engine

A leaking housing or hose may contribute to the following conditions:
- Stalling
- Unstable idle speed