1982 Crankcase Ventilation

TOYOTA

All Gasoline Models

DESCRIPTION

Toyota gasoline models use a "closed" crankcase ventilation system. The system consists of a hose connecting the air cleaner and valve cover and a hose connecting the crankcase or valve cover to the intake manifold. The intake manifold hose has a ventilation valve or calibrated orifice in it. Hose connections vary with engine models, as shown in illustrations.

OPERATION

SYSTEM OPERATION

Air enters system from air cleaner through hose to valve cover. Fresh air mixes with crankcase fumes and enters ventilation tube into valve or orifice. The valve or orifice regulates ventilation flow. The air is then drawn into the intake manifold where it is burned.

VENTILATION VALVE (PCV)

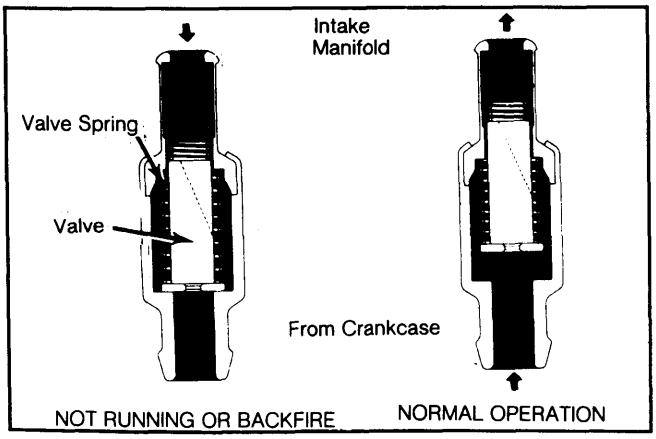
Valve is operated by pressure difference between crankcase and intake manifold. When there is no pressure difference (engine not running) or when pressure of intake manifold is greater than that of crankcase, valve is closed. During engine idle, high manifold vacuum overcomes valve spring and valve is pulled toward intake manifold side by vacuum. This causes air to pass through restricted passage between valve and housing. During normal engine operation, valve stays in a position where spring pressure and intake manifold vacuum balance. Amount of air flow then depends on position of valve.

TESTING

VENTILATION VALVE (PCV)

Remove PCV valve and attach a clean piece of hose to cylinder head end of valve. Blow through valve with mouth pressure; air should pass through. Move clean hose to intake manifold end of valve and again blow through valve; air should pass through with difficulty. Replace valve if defective.

Fig. 1: PCV Valve Operation



MAINTENANCE

After long periods of engine operation, ventilation valve tends to become clogged, which will affect proper engine operation. Every 30,000 miles for Federal vehicles or 60,000 miles for California vehicles, clean and inspect system and replace PCV valve.

Fig. 2: Celica, Corona & Pickup — 22R Engine Crankcase Ventilation System

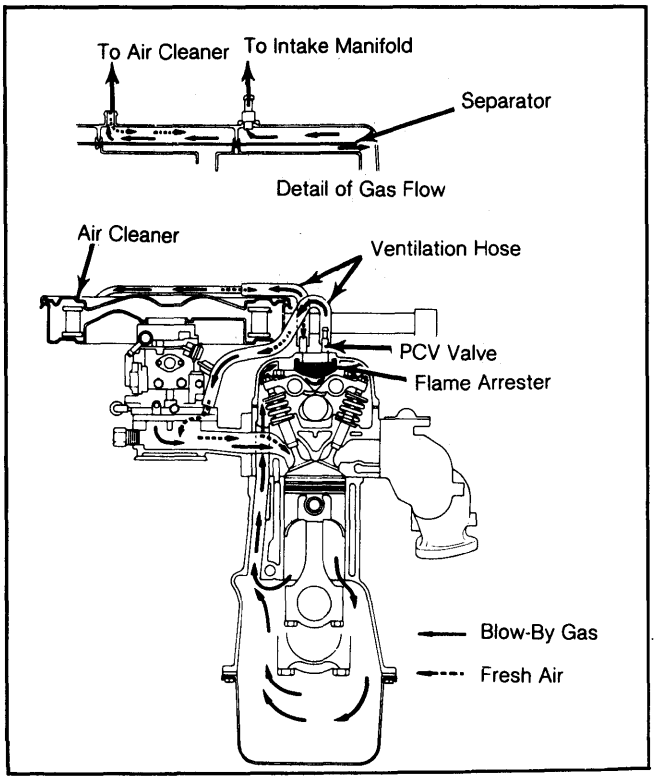


Fig. 3: Cressida — 5M-E Engine Crankcase Ventilation System

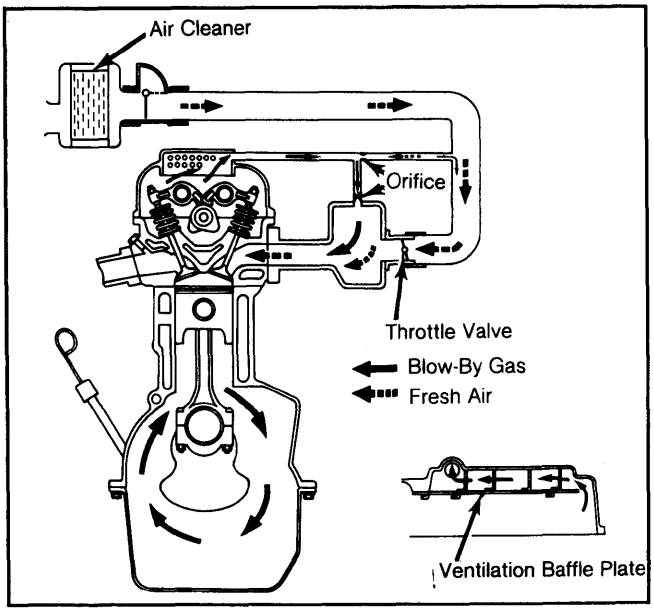


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Fig. 4: Corolla — 3TC Engine Crankcase Ventilation System

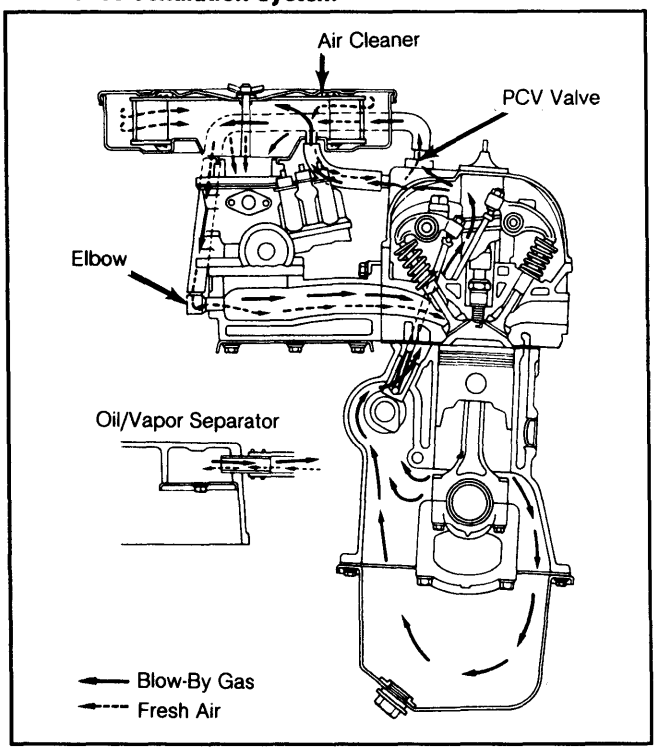

Fig. 5: Land Cruiser — 2F Engine Crankcase Ventilation System

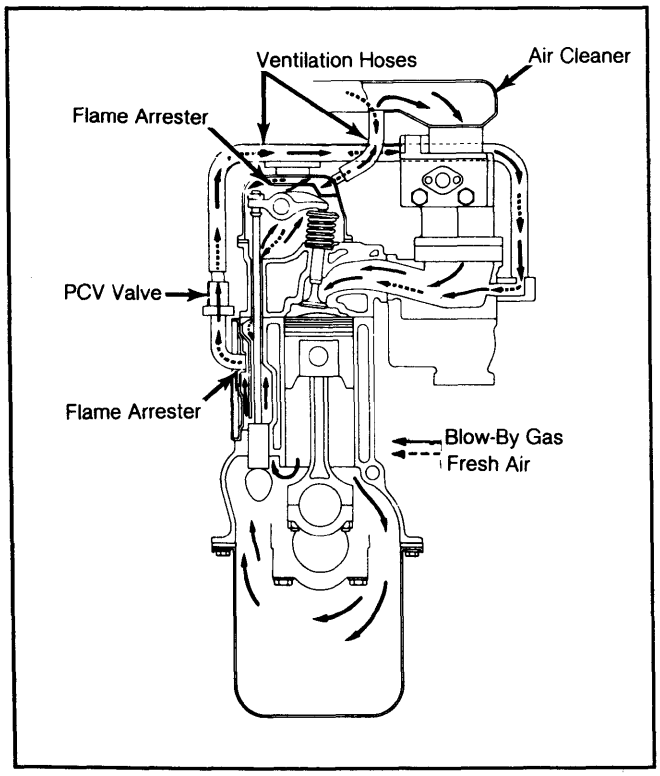

Fig. 6: Starlet — 4K-C Engine Crankcase Ventilation System

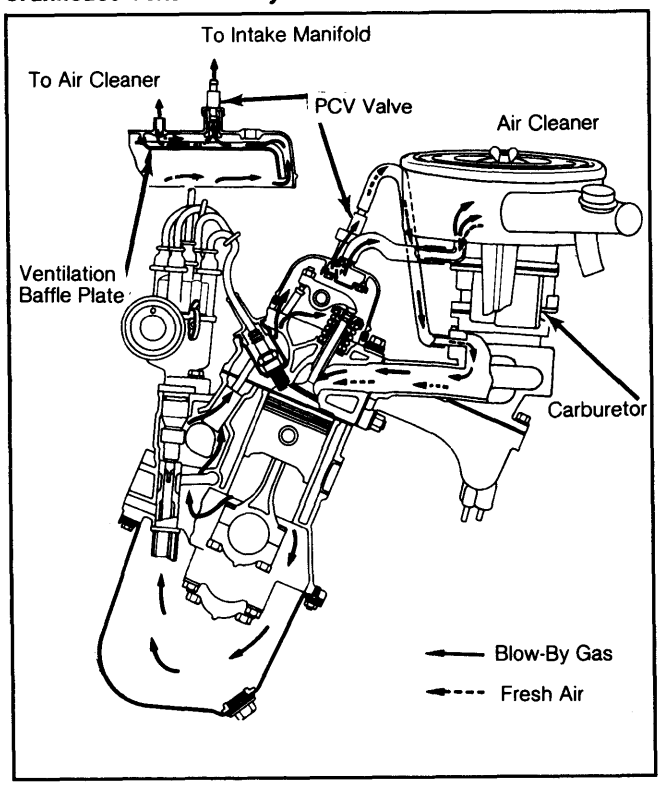

Fig. 7: Supra — 5M-GE Engine Crankcase Ventilation System

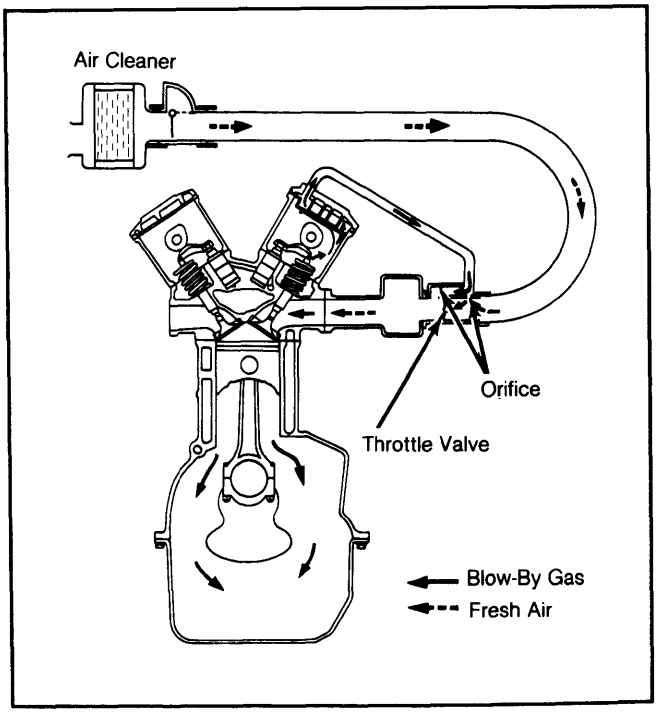

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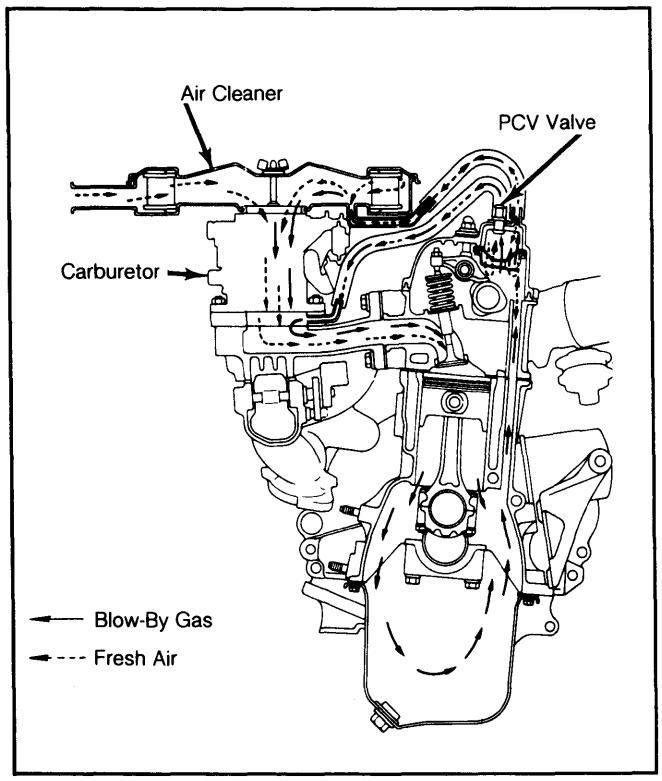
Fig. 8: Tercel — 3A-C Engine Crankcase Ventilation System



VOLKSWAGEN

Jetta, Quantum, Rabbit, Rabbit Pickup, Scirocco & Vanagon

DESCRIPTION

Volkswagen crankcase ventilation system consists of a sealed oil filler cap and a rubber hose connected between cylinder head cover and air cleaner.

OPERATION

Crankcase vapors and blow-by gases from the crankcase flow from cylinder head covers through the rubber hose into the engine air cleaner. From here they are drawn into the engine with the air/fuel mixture and are burned.

MAINTENANCE

Visually inspect rubber hose connected between air cleaner and the cylinder head covers for damage or plugging every 15,000 miles or at least once a year.

Fig. 1: Typical Volkswagen Crankcase Ventilation System