

1981 Crankcase Ventilation

TOYOTA

All Gasoline Models

DESCRIPTION

Toyota 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.

NOTE — Diesel models do not use a PCV 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 the valve spring and valve is pulled toward intake manifold side by vacuum. This causes air to pass through the restricted passage between valve and housing. During normal engine operation, valve remains in a position where spring pressure and intake manifold vacuum balance. Amount of air flow then depends on position of valve.

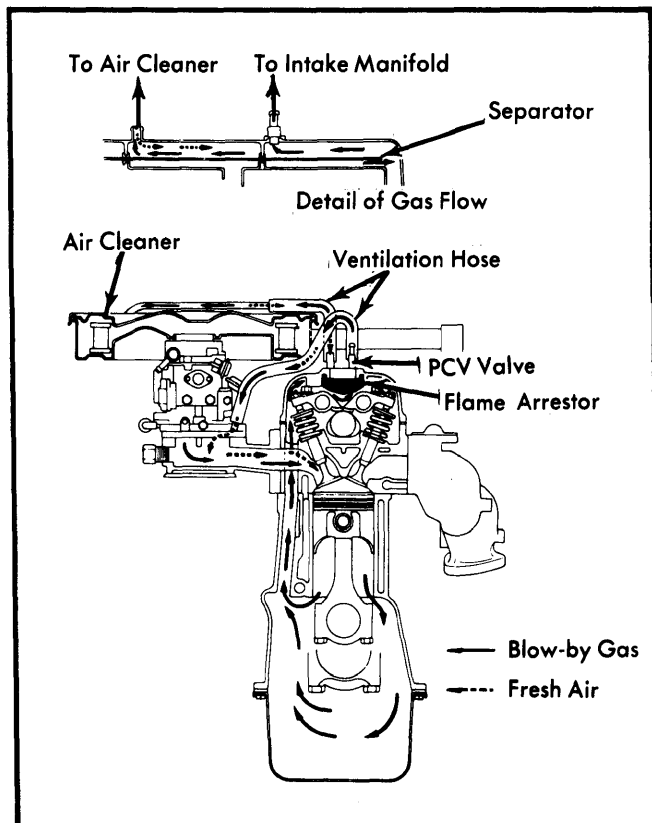


Fig. 1 Crankcase Ventilation System
(Celica, Corona & Pickup — 22R Engine)

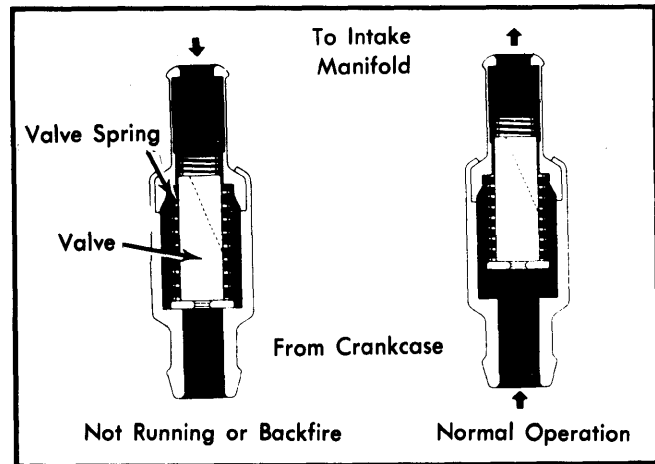


Fig. 2 Showing Operation of PCV Valve

TESTING

Ventilation Valve — 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.

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, and 60,000 miles for California vehicles, clean and inspect system and replace PCV valve.

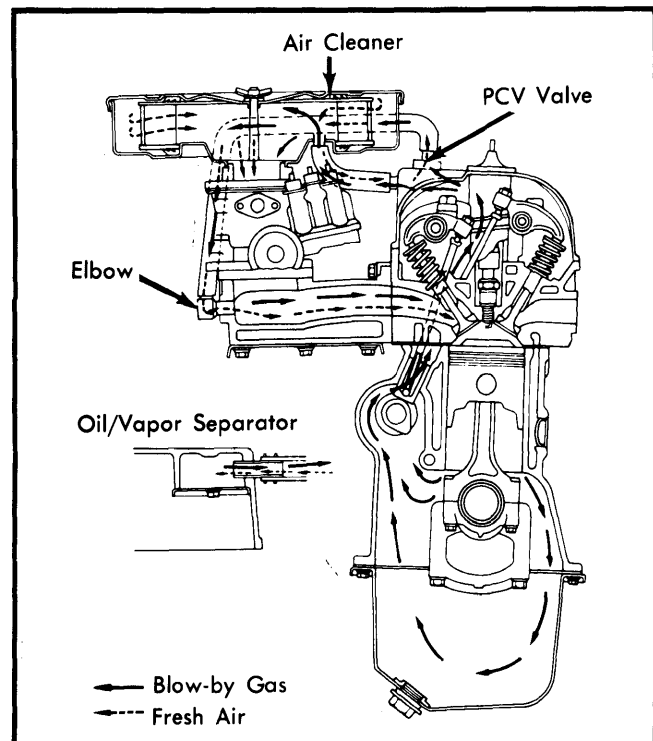


Fig. 3 Crankcase Ventilation System
(Corolla — 3T-C Engine)

TOYOTA (Cont.)

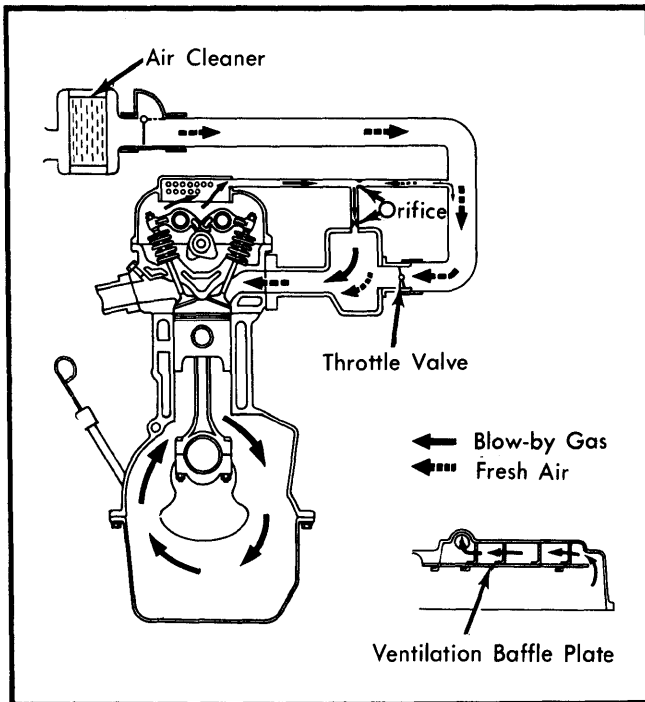


Fig. 4 Crankcase Ventilation System (Cressida & Supra - 5M-E Engine)

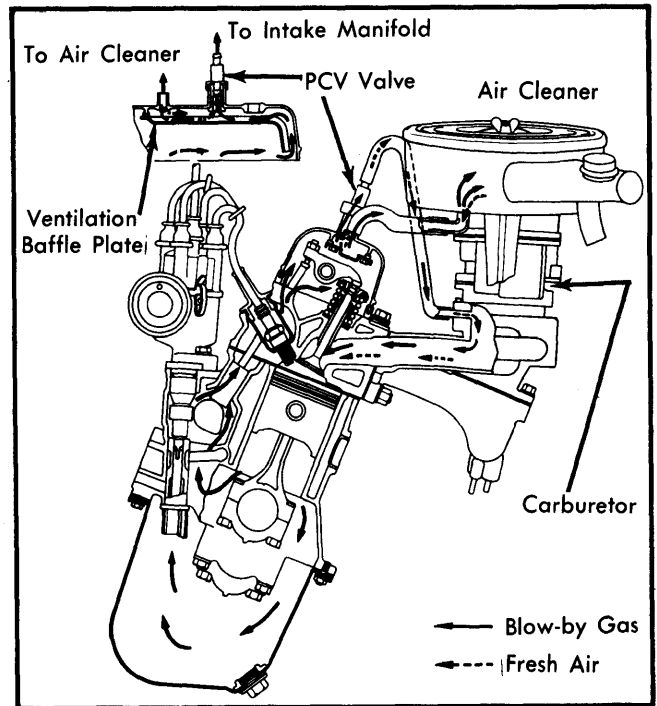


Fig. 6 Crankcase Ventilation System (Starlet - 4K-C Engine)

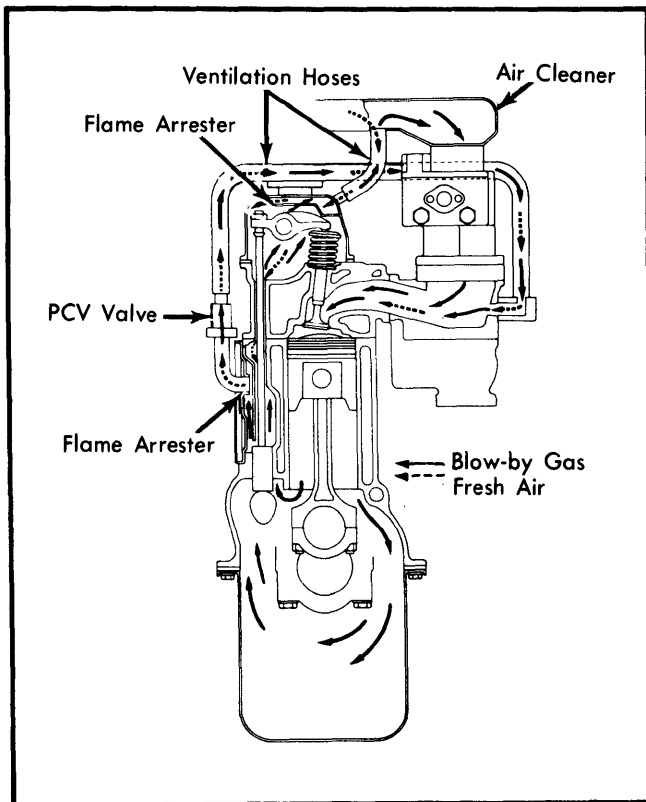


Fig. 5 Crankcase Ventilation System (Land Cruiser - 2F Engine)

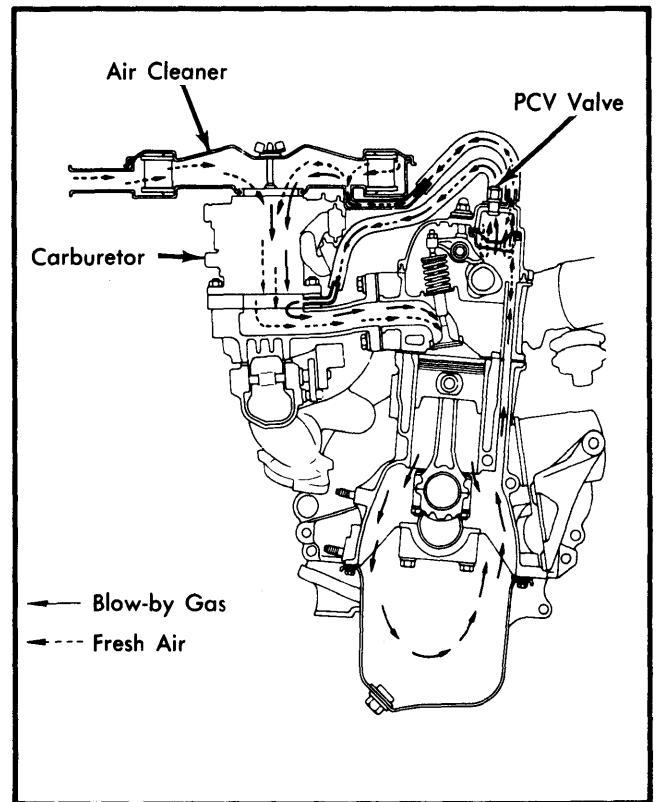


Fig. 7 Crankcase Ventilation System (Tercel - 3A-C Engine)