

RENAULT AIR INJECTION

R12 (1973)
R15 (1973)
R17 (1973)

DESCRIPTION

R12 and R15 models use Air Injection Reaction system and a special carburetor for emission control. R17 model uses fuel injection only for emission control. A.I.R. system consists of an air pump, filter, pressure regulator valve, air shut off flap, air control valve, anti-backfire valve and manifold air injectors. Carburetors are Weber 32 DIR 37 (manual transmissions) and 32 DIR 38 (automatic transmissions). Both carburetors are equipped with manual choke and an idle shut off solenoid on primary barrel.

OPERATION

A.I.R. SYSTEM

Filter — Filter is a throw away type pleated paper filter located in a hose on intake side of pump.

Air Pump — Air pump is a two vane rotary pump which draws air through filter. When engine speed increases, volume of air from pump also increases.

Pressure Regulator Valve — Located on discharge line of pump and limits air pressure to a maximum of 4.27 psi at 3000 RPM.

Air Shut Off Flap — Operated by choke cable. Flap prevents air from flowing to intake manifold when choke is in operation. With engine running and choke operational, air exits by pressure regulator valve.

Air Control Valve — Located on top of anti-backfire valve. Valve remains closed at starting and idling. As engine speed increases, air pressure increases causing diaphragm to pull plunger upward. This allows air to enter intake manifold.

Anti-Backfire Valve — Located under air control valve. Operated by vacuum from intake manifold, valve allows air to enter intake manifold upon deceleration. Additional air leans air/fuel ratio which reduces level of emissions during deceleration.

One-Way Valve — Located on air manifold supply line. Valve prevents exhaust gases from flowing back into pump, causing damage to pump.

Manifold & Air Injectors — Directs air in exhaust ports to exhaust valve heads.

Carburetor — Both carburetors (32 DIR 37 & 32 DIR 38) are equipped with a fuel shut off valve on the idle jet of primary barrel. This electrically actuated valve cuts off idle fuel circuit when ignition is turned off.

MAINTENANCE

A.I.R. SYSTEM

Filter & Pump — Replace paper filter every 12,000 miles. Pump does not require any maintenance. If it does not operate properly, replace pump assembly.

Pressure Regulator Valve — If valve not working, replace.

Air Shut-Off Flap — If flap not working, replace.

Air Control Valve — If valve not working, replace.

Anti-Backfire Valve — If valve not working, replace.

One-Way Valve — If valve not working, replace.

CHECKS & ADJUSTMENTS

A.I.R. SYSTEM

Air Pressure — Remove air shut off flap and install a suitable pressure gauge adaptor in its place, connect air pressure gauge. Run engine at 3000 RPM, maximum pressure should be 4.27 psi.

Anti-Backfire Valve — Disconnect hose between valve and intake manifold. Accelerate engine and release pedal. When engine is decelerating, air is blown for approximately five seconds through outlet side of valve. If time is incorrect, replace valve.

One-Way Valve — Remove valve and blow through it in direction of air flow, there should be no restriction, blow in opposite direction, there should be no air flow. If incorrect operation is found, replace valve.

Air Shut-Off Flap — Choke cable must be adjusted properly before adjustment can be made on air shut-off flap. With choke cable adjusted, pull choke control knob all the way out and move air shut-off flap actuating lever as far as it will go toward pressure regulator valve side. Then tighten set screw securing cable to air shut-off flap actuating lever.

CARBURETOR

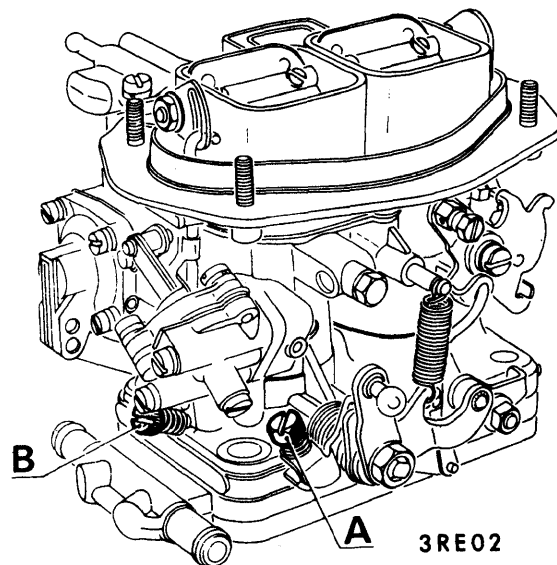
Adjusting Idle Speed/CO — Adjustments must be performed with precision since level of exhaust emissions and performance of vehicle depend on their accuracy. *NOTE* — Adjustments must be made using a infra-red type CO analyzer and a tachometer. Set warm air intake system to "summer" position and push choke all the way in. With vehicle in neutral (manual transmission) or drive (automatic transmission), proceed as follows:

Exhaust Emission Systems

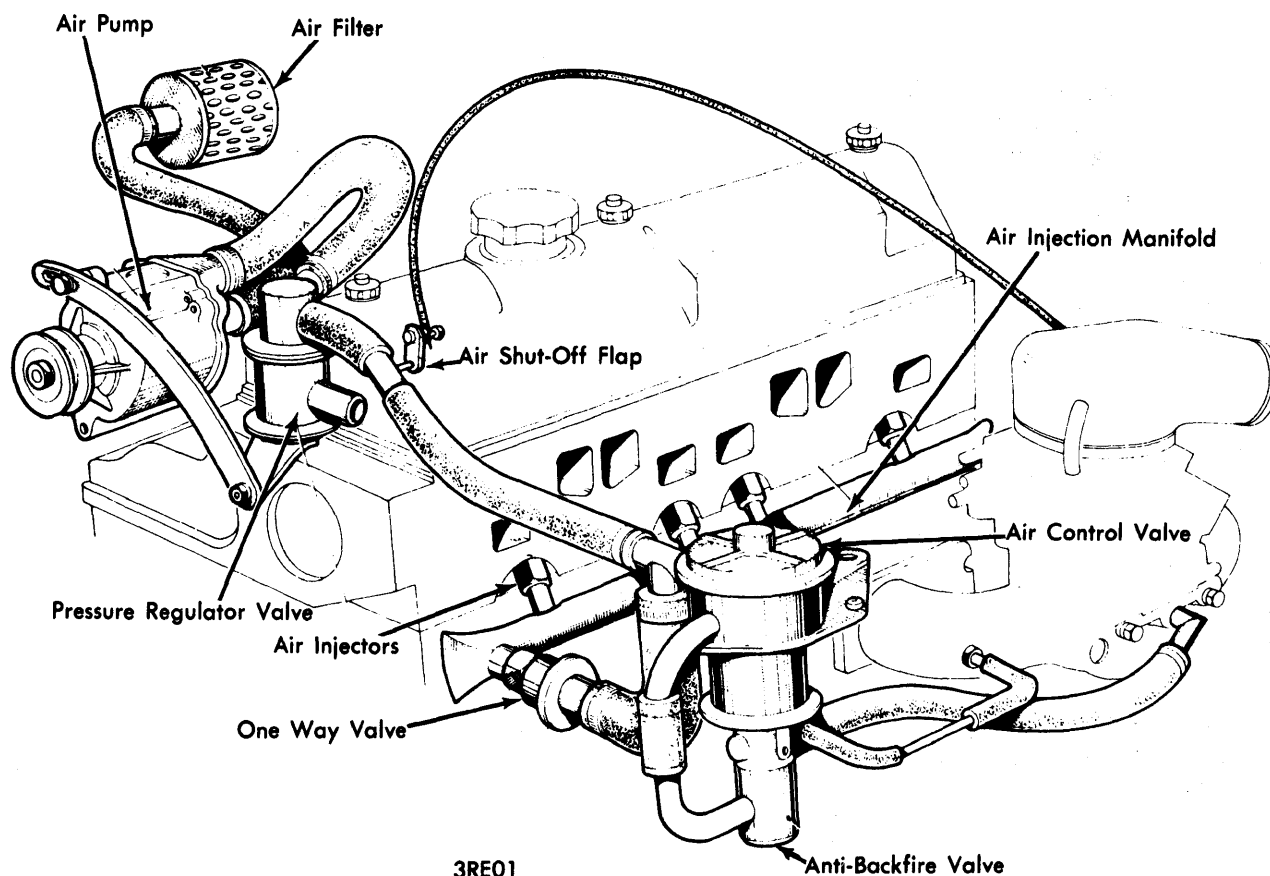
RENAULT AIR INJECTION (Cont.)

- 1) Compress hose between air shut off flap and air control valve with a clamp. Do not disconnect hose.
- 2) Turn mixture screw **B** to obtain a $4 \pm .5\%$ CO level.
- 3) Turn throttle screw **A** to obtain engine idle of 750 ± 25 RPM, (manual transmission) or 600 ± 25 RPM (automatic transmission).
- 4) Check adjustments by removing clamp. CO should be $2 \pm .5\%$ CO and idle should be 850 ± 25 RPM (man. trans.) and 650 ± 25 RPM (auto. trans.).
- 5) If CO and idle are not within specifications, repeat adjustment procedure.

Fuel Cut-Off Valve — Run engine at idle, disconnect solenoid feed wire. Engine should stop, if not replace valve.



**3RE02
CARBURETOR IDLE SPEED/CO ADJUSTMENTS**



3RE01

A.I.R. SYSTEM