FIAT ENGINE MODIFICATION

Fiat
124 Sedan & Wagon (1968-73)
124 Coupe & Spider (1968-73)
128 Sedan, Wagon & Coupe (1972-73)

NOTE – All 850 models have engines of less than 50 cubic inches so do not require exhaust emission control.

DESCRIPTION

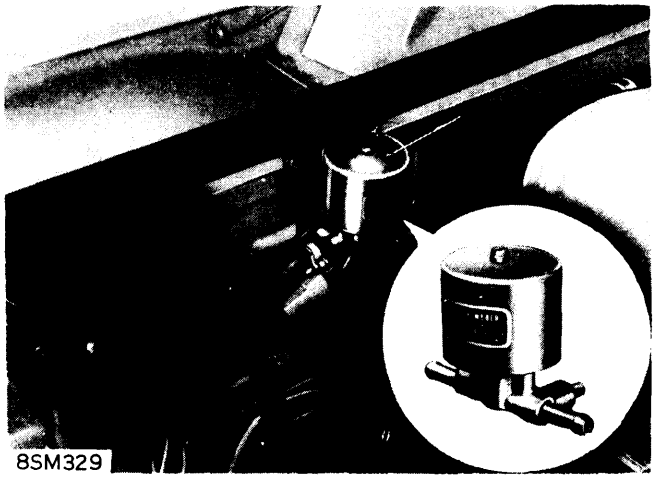
Fiat exhaust emission control is obtained by the use of a specially designed carburetor, a modified intake manifold, a specially calibrated centrifugal spark advance curve and a fast idling device to limit intake manifold vacuum during deceleration.

OPERATION

Carburetor – A Weber dual barrel carburetor, with vacuum operated secondary is used on all models. Carburetor is also equipped with a second vacuum diaphragm unit which prevents throttle from closing completely when fast idling device is operating. A vacuum device, in parallel with fast idling unit, is used to match mixture supplied by choke, to requirements of engine during warm-up period.

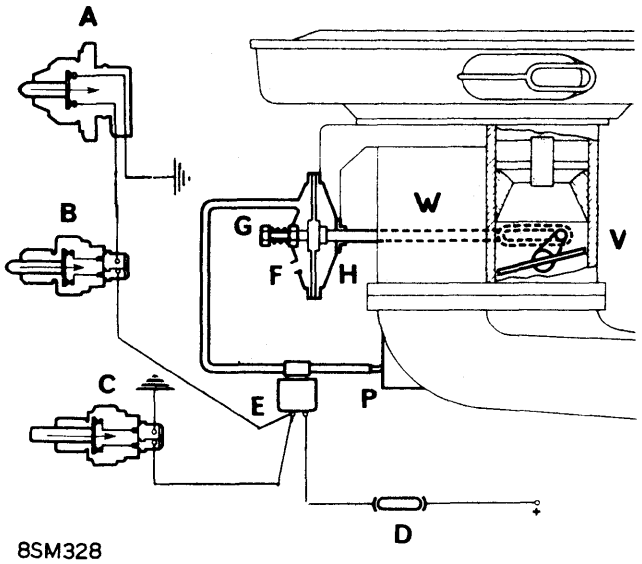
Intake Manifold & Cylinder Head – Intake manifold is water heater and is designed to insure a good mixture distribution. Cylinder head has been modified to obtain the necessary water passages.

Ignition Coil – A stronger coil has been installed to increase energy of spark, insuring better ignition.



SOLENOID VALVE

Fast Idling System – *See illustration.* Switch "A", on transmission, is closed when third or fourth gears are engaged. Switch "B", installed close to clutch pedal, is closed when pedal is released. When both switches are closed (in third or fourth gear with clutch pedal released) solenoid valve "E" is energized and vacuum from intake manifold actuates fast idling diaphragm unit "H", on carburetor. When transmission is in any gear other than third or fourth, or if clutch pedal is depressed, fast idling device is inoperative. As a result, when vehicle is standing still with engine idling, switch "A" is open. However, a pushbutton switch "C", mounted on firewall or sidewall of engine compartment depending on car model, allows solenoid valve "E" to be energized in order to adjust fast idling speed. Adjustment is obtained through adjustment screw "G" on vacuum diaphragm unit. This system is fused through windshield wiper circuit, thus, if wiper circuit is inoperative, emission device will not function.

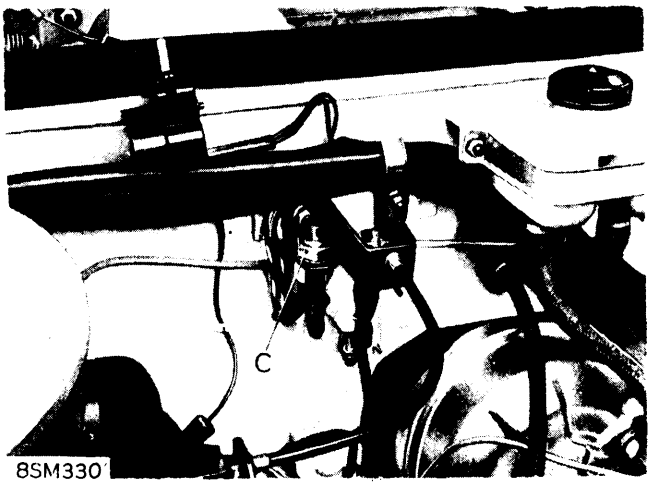


FAST IDLE SYSTEM SCHEMATIC

MAINTENANCE

Engine – Maintenance operation on the following items must be performed every 6,000 miles to maintain acceptable levels of exhaust emissions: Valve tappet clearance, air cleaner, carburetor, ignition distributor and spark plugs.

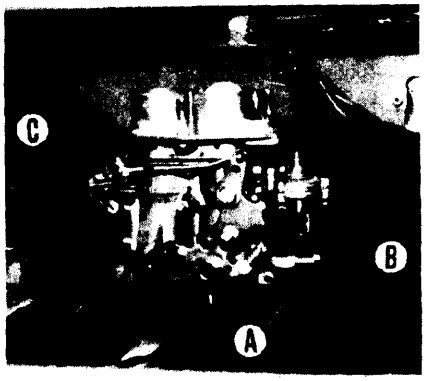
Ignition Timing – Set timing to TDC (except 124 Coupe & Spider) or 5° BTDC (124 Coupe & Spider) using a suitable timing light and tachometer with engine idling 800-900 RPM.



FAST IDLE BUTTON

FIAT ENGINE MODIFICATION (Cont.)

Carburetor Adjustment – With engine at normal operating temperature, adjust idle speed to 800-900 RPM with idle mixture adjusted to give a CO reading of 2±.5% (except 124 Sedan & Wagon) or 3±.5% (124 Sedan & Wagon) using a suitable CO meter and tachometer. Now, check and adjust if necessary, fast idling speed as follows. Depress and hold fast idling pushbutton switch and accelerate engine to approximately 2,500 RPM. Allow engine to decelerate to fast idling speed and check that speed is 1600±50 RPM. If fast idling speed is not within specifications, adjust fast idling adjusting screw and repeat test. After proper fast idling speed has been obtained, release pushbbutton switch and check that engine slows to normal idle speed within 1-3 seconds.



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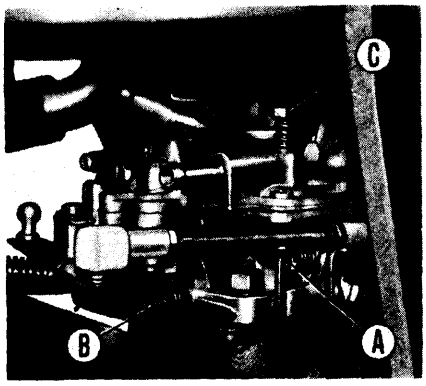
(128 Similar)



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A – Idle Speed Adjusting Screw
B – Mixture Adjusting Screw
C – Fast Idling Adjusting Screw

CARBURETOR ADJUSTING SCREWS