SAAB 1968-69 ENGINE MODIFICATION

Saab V4 (1968-69)

DESCRIPTION

Saab V4 SaFree exhaust emission system is accomplished by; modifications to carburetor, a new distributor ignition setting and by setting idle with a suitable exhaust gas analyzer and tachometer.

OPERATION

Carburetor (Early Models) – Solex 32 PDSIT-4.

Distributor Ignition Timing (Early Models) – Basic setting, using timing light (vacuum line disconnected) is 10° BTDC at 800 RPM.

Carburetor (Late Models) – FoMoCo C8GH-9510-H.

Distributor Ignition Timing (Late Models) – Basic setting, using timing light (vacuum line disconnected) is 6° BTDC at 900 RPM.

NOTE – 1° on crankshaft pulley is equal to approximately .05" of pulley circumference.

MAINTENANCE

Every 3,000 Miles – Clean and adjust spark plugs.

Every 6,000 Miles – 1) Clean and adjust spark plugs. Adjust ignition timing and point dwell. Check air cleaner filter, replace if necessary.

2) Adjust idle speed and check CO level using a suitable exhaust gas analyzer. Check for engine miss at idle and during acceleration.

In addition, the following is recommended for early models (prior to 1969).

1) Check automatic choke (with engine cold). Check engine compression, check and adjust valves.

2) Clean fuel filter, check float level. Check thermostat operation.

Every 12,000 Miles – 1) Replace spark plugs and ignition points.

2) Check ignition coil with suitable coil tester. Check insulation of high tension wires and distributor cap with an ohmmeter.

3) Disassembly and clean carburetor, jets, float chamber and throttle plate.

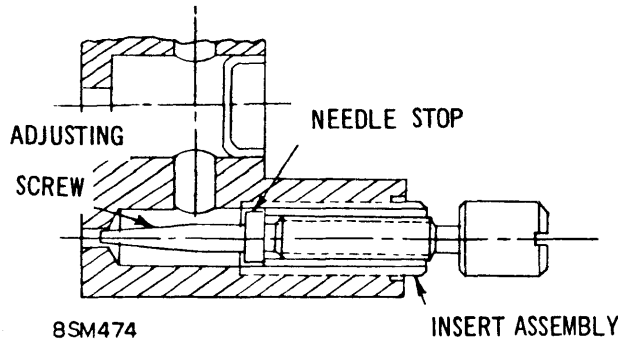
In addition, distributor must be checked on a distributor test machine every 24,000 miles.

Idle Adjustment – Engine must be at normal operating temperature.

1) Attach tachometer and suitable exhaust gas analyzer. Set idle adjustment to 900 RPM with headlights on and in low beam position.

2) Adjust mixture control screw to obtain a reading of 2.0±.25% CO. Turn screw clockwise to obtain a lower CO content and counterclockwise to increase CO. Recheck idle speed and adjust if necessary.

Idle Adjustment Needle Screw (1969 Models) – Idle adjusting needle screw has a limited movement outwards which controls maximum idle air/fuel ratio. This assembly should not be removed from carburetor and needle screw should not be forced beyond its stop.



IDLE ADJUSTMENT NEEDLE SCREW

Fast Idle Adjustment (FoMoCo Carburetor) – 1) Connect tachometer, remove air cleaner. With engine at normal operating temperature, set throttle valve tang on third step of fast idle cam (indicated by mark on cam). *NOTE – Slightest touch of accelerator linkage will actuate throttle arm, returning it to original position.*

2) With throttle in above position, warm engine should now operate at a speed of 1900-2100 RPM. If adjustment is necessary, stop engine and bend throttle arm tang.

Fast Idle Adjustment (Solex Carburetor) – 1) Connect tachometer, remove air cleaner. Connect suitable exhaust gas analyzer, with warm engine, adjust idle to 900 RPM and CO content of 2.0±.05%.

2) Close choke flap until it contacts fast idle cam, hold in this position. Open throttle arm, allowing choke flap to move to first step on cam. Release throttle arm and choke flap.

3) With throttle arm in this position, engine speed should be 1300 RPM. If not, adjust control rod. Lengthening rod increases, shortening rod decreases speed.