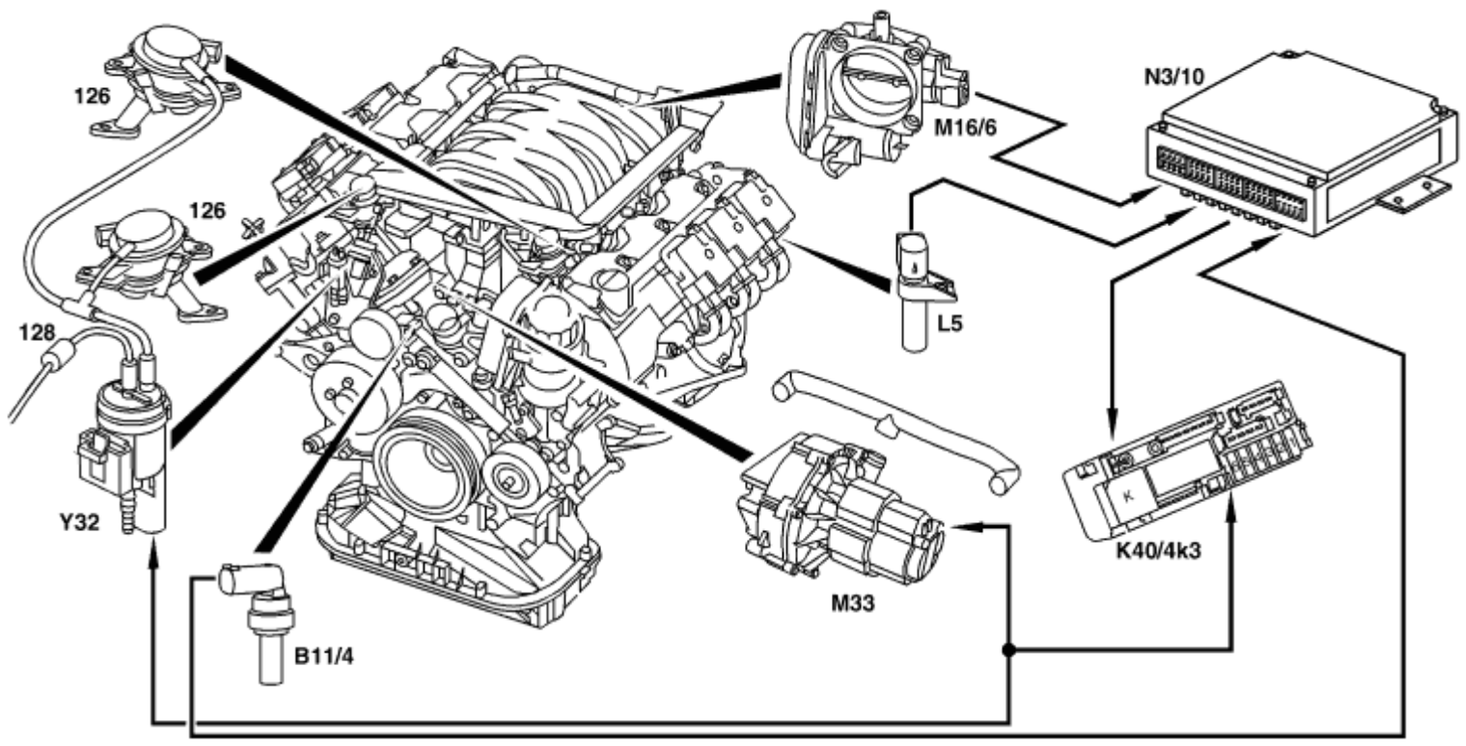
GF14.30-P-3012A	Secondary air injection function	23.10.96

ENGINE 112.942 /970, 113.942 /965 in MODEL 163



P14.30-0249-09

Shown on ENGINE 112

126 Secondary air injection shutoff valve (combination valve: with integrated non-return valve)
128 Check valve (vacuum)
B11/4 Coolant temperature sensor
K40/4K3 Secondary air injection relay, model 202, 208, 210 (model 163: F1k28; model 215, 220: K40/7kN model 203: N10/1kO; model 230: K40/4kN)
L5 Crankshaft position sensor
M16/6 Throttle valve actuator
M33 AIR pump
N3/10 ME-SFI [ME] control unit
Y32 Air pump switchover valve

The secondary air injection heats up the catalytic converter more rapidly to its operating temperature and thus improves the emission levels in the warming-up phase.

Function
The electric air pump (M33) is actuated through the secondary air injection relay. The current consumption of the electric air pump (M33) is as much as 35 A.

Air injection relay and air pump switchover valve (Y32) are actuated by the motor electronics control unit simultaneously for maximum
90 seconds after engine start, if:
- Coolant temperature > 10 °C and < 60 °C
- Engine speed < 3000 rpm
- Throttle valve not fully opened.

After an actuation, the air injection remains blocked until the coolant temperature has risen to more than approx. +60 °C and then drops again to below 40 °C.
The pump draws in air through a maintenance-free filter and pumps it to the air shutoff valve. The valve at the same time prevents exhaust gases from flowing back to the air pump (check valve for injected air discontinued).

The air pump switchover valve is supplied with vacuum from the intake manifold through a check valve. The air pump switchover valve, when actuated, switches the intake manifold pressure through to the air shutoff valve (126). The aspiration shutof valves open and the air supplied by the air pump is forced through drillings in the cylinder heads to the exhaust side.
The injected air reacts with the hot exhaust gases in the outlet port. An oxidation of carbon monoxides (CO) and hydrocarbon (HC) takes place and results in an additional increase in the exhaust temperature.

ME-SFI control unit position/task/design/function		GF07.61-P-5000F
Air pump, location/task/design/function		GF14.30-P-3100F
Crankshaft position sensor, location/task/design/function		GF07.04-P-4116F
Coolant temperature sensor, location/task/design/function		GF07.04-P-5026A
Air shutoff valve, location/task/function		GF14.30-P-4028F
EA/CC/ISC actuator, location/task/design/function		GF30.22-P-4010F
Lambda control function		GF07.61-P-4022F
Air pump switchover valve, location/task/design/function		GF14.30-P-3103A
Secondary air injection relay, location/task/design/function		GF14.30-P-3101F
Three-way catalytic converter location/task/design/function		GF49.10-P-3002F