

Every 15 000 km (10 000 miles)

USA-version model 1972
Engine M 115

Test equipment

Stroboscope, revolution counter

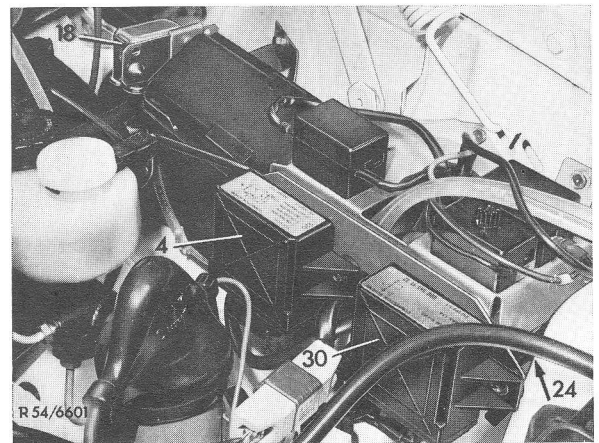
The following checks are to be performed with engine at operating temperature:

- Connect stroboscope and*revolution counter
Start engine and run at idle speed.

Check ignition change-over with rpm switch (4)

- Check ignition timing at idle speed. Slowly increase engine speed. At approximately 2 400 rpm, the ignition retard must be cancelled.

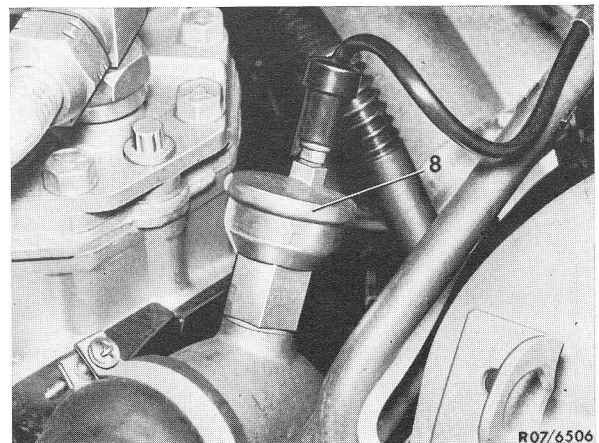
(Ignition firing point is advanced by approximately 10°). Below 2 200 rpm, the ignition retard will be in effect.



Check ignition change-over with 100°C (212°F) temperature switch (8)

- Run engine at idle speed.

Connect the 100°C (212°F) temperature switch (8) to ground. This will cause the ignition timing to advance by about 10° and at the same time switch on auxiliary fan.



USA-version model 1972
Engine M 130.923

Every 15 000 km (10 000 miles)

Test equipment

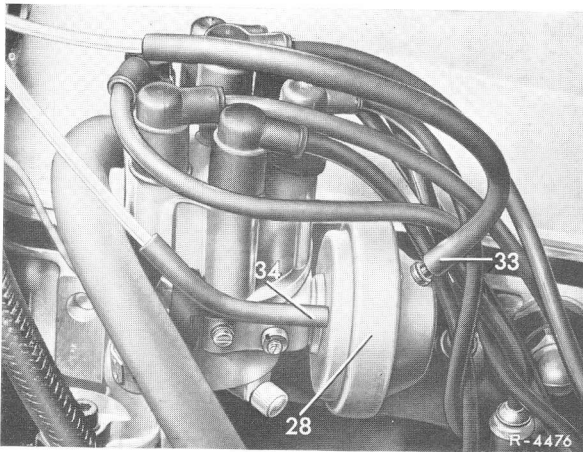
Stroboscope, revolution counter

The following checks are to be performed with engine at operating temperature:

- Connect stroboscope and revolution counter. Start engine and run at idle speed.

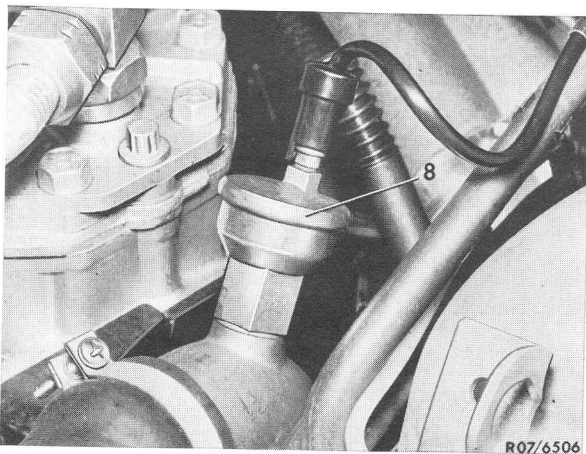
Check ignition change-over with rpm switch.

- Check ignition timing at idle speed. Slowly increase engine speed.
- Above approximately 2400 rpm, the distributor vacuum control (28) must advance the ignition; under approximately 2 200 rpm ignition must be retarded.



Check ignition change-over with 100°C (212°F) temperature switch (8)

- Remove plug from 100°C (212°F) temperature switch and connect to ground. This should advance ignition.



Every 15 000 km (10 000 miles)

USA-version
Model year 1972 Engine M 130.980

Test equipment

Stroboscope, revolution counter

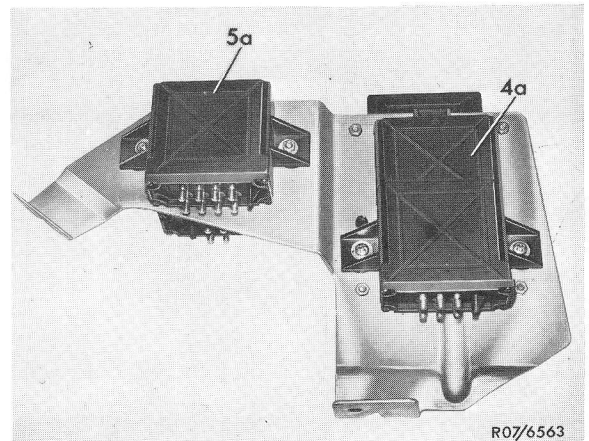
The following checks are to be performed with engine at operating temperature:

- Connect stroboscope and revolution counter, start engine and run at idling speed.

Check ignition change-over with rpm switch (4a)

- Check firing point at idling speed, slowly increase engine speed. Ignition retard should be cancelled above approx. 2 500 rpm. This will adjust the firing point by 20° in direction advance.

Below 2 200 rpm the ignition should be adjusted again in direction retard.



Check ignition change-over with 100°C (212°F) temperature switch (8)

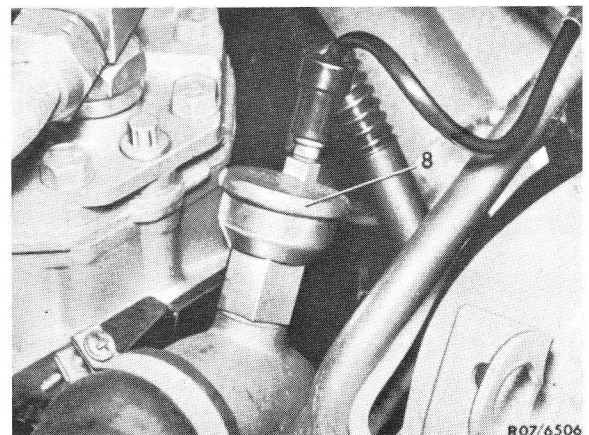
- Pull plug from 100°C (212°F) temperature switch and connect to ground. Ignition retard should be cancelled and the auxiliary fan switched on.

Check ignition change-over when shifting 4th gear

For this test, the vehicle should be driven on a dynamometer or on the road.

When changing from 3rd to 4th gear the ignition retard should be cancelled.

When changing back from 4th to 3rd gear below 2 500 rpm the vacuum box on ignition distributor should be set to ignition retard.



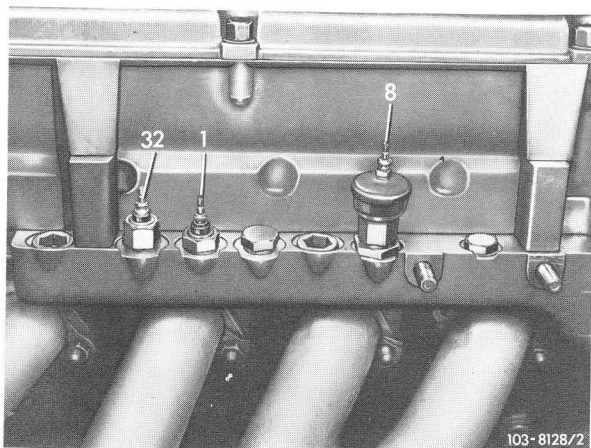
Every 15 000 km (10 000 miles)

USA-version

Model year 1973 **Engine M 110**

Model year 1974 **Engine M 110** Federal Emission Control System

The following checks are to be performed with engine at operating temperature:



Test No. 1

Disconnect the plug of the line to 17°C (62°F) temperature switch (7) in oil filter housing and connect to ground.

Result

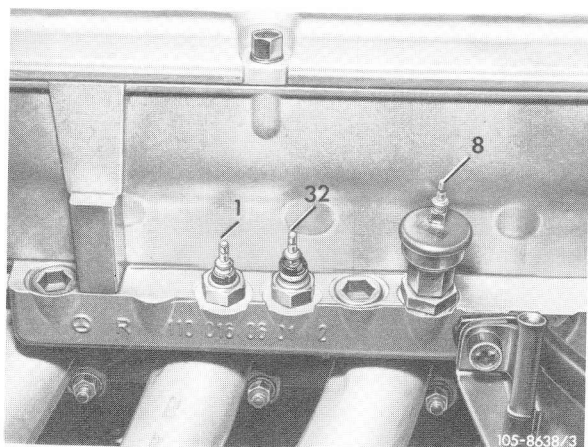
Engine speed should increase (ignition retard is cancelled).

Test No. 2

Unplug 100°C (212°F) temperature switch (8) and connect to ground.

Result

Engine speed should increase (ignition retard is cancelled). Auxiliary fan should run.



Test No. 3

Turn on air conditioner.

Result

Engine speed should not drop (ignition retard is cancelled).

Test No. 4

Remove vacuum line from top of switch-over valve (12). Remove blue vacuum line from vacuum switch (13).

Result

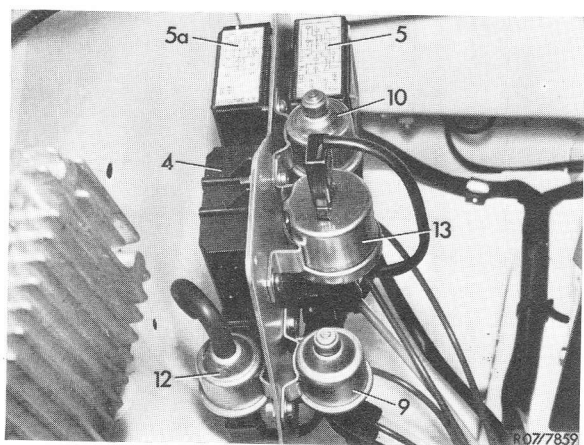
Engine speed should increase (ignition retard is cancelled).

Test No. 5

Disconnect plug from connection at the relay support and ground male terminal 2 (wire color brown/white).

Result

Engine speed should increase (ignition retard is cancelled).



Every 15 000 km (10 000 miles)

USA-version
Model year 1973 **Engine M 115**

Test equipment

Revolution counter, stroboscope

The following checks are to be performed with engine at operating temperature:

- Connect stroboscope and revolution counter start engine and run at idling speed.

Check firing point without vacuum adjustment.

- Pull vacuum lines (A and B) from ignition distributor. Check firing point at 4 500 rpm. Nominal value 42–48° BTDC.

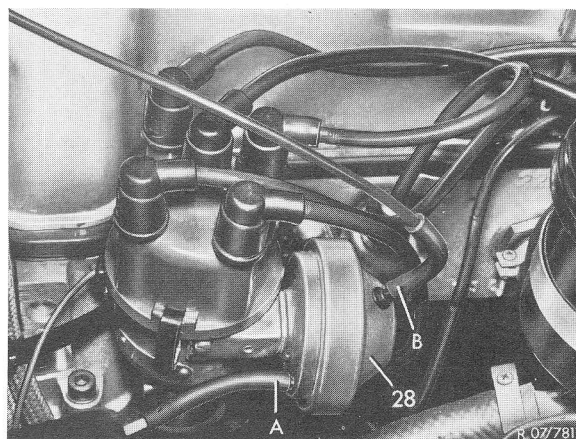
Check firing point with vacuum adjustment in direction retard.

- Plug white vacuum line (A) to ignition distributor. Check firing point at 4 500 rpm. Nominal value 32–42° BTDC.

Check firing point with vacuum adjustment in direction advance.

- Plug red vacuum line (B) to ignition distributor. Pull-off white vacuum line.

Check firing point at 4 500 rpm. Nominal value 48–58° BTDC.

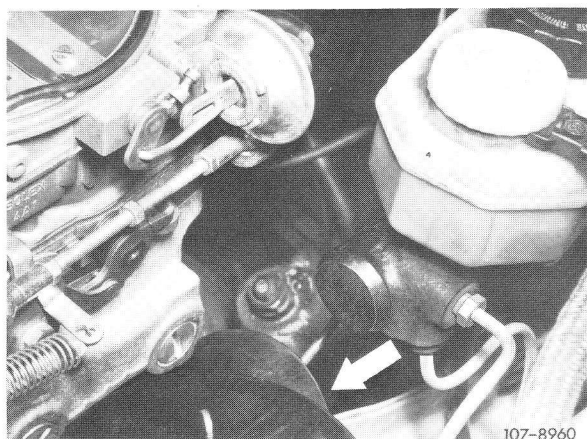


USA-version

Every 15 000 km (10 000 miles)

Model year 1974 **Engine M 110** California Emission Control System

The following checks are to be performed with engine at operating temperature:

**Test No. 1**

Disconnect the plug of line to 17°C (62°F) temperature switch in oil filter housing (arrow) and connect to ground.

Result

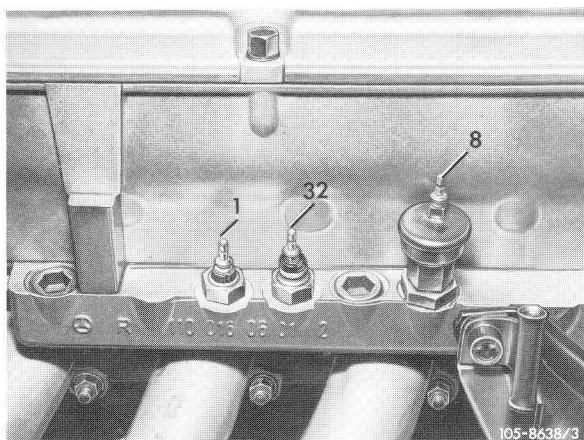
Engine speed should increase (ignition retard is cancelled).

Test No. 2

Unplug 100°C (212°F) temperature switch (8) and connect to ground.

Result

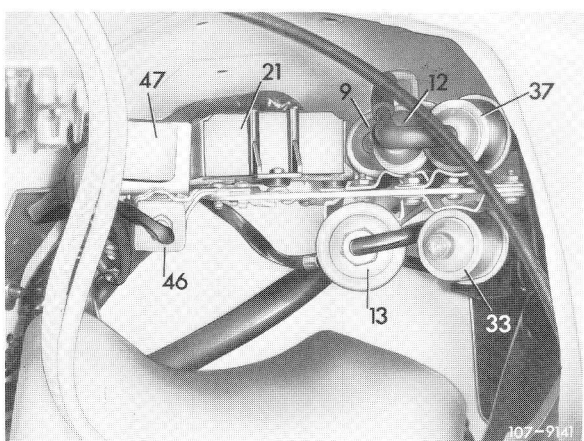
Engine speed should increase (ignition retard is cancelled). Auxiliary fan should run.

**Test No. 3**

Turn on air conditioner.

Result

Engine speed should not drop (ignition retard is cancelled).

**Test No. 4**

Remove vacuum line on top of switch-over valve (12). Remove blue vacuum line on vacuum switch (13).

Result

Engine speed should increase (ignition retard is cancelled).

Every 15 000 km (10 000 miles)

USA-version
Model year 1974 **Engine M 115**

Test equipment

Revolution counter

The following checks are to be performed with engine at operating temperature:

Run engine to operating temperature at idle.

Test No. 1

Disconnect the plug of line to the 25°C (77°F) temperature switch (14) in oil filter housing and connect to ground.

Result

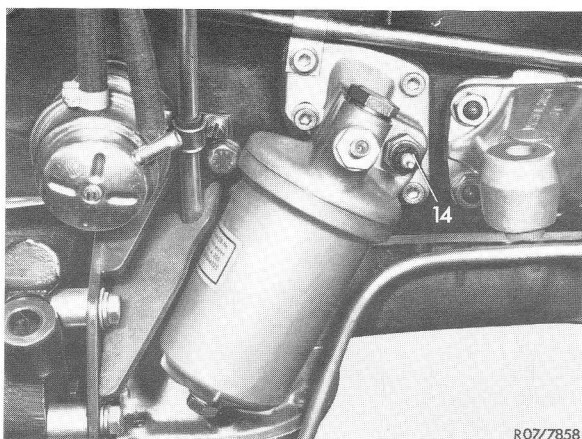
Engine rpm should increase (ignition vacuum advance is effective).

Test No. 2

Increase engine speed to approximately 2 500 rpm and then remove the red vacuum line at the distributor.

Result

Engine rpm should drop slightly (ignition vacuum advance is cancelled).



R07/7858

Every 15 000 km (10 000 miles)

USA-version

Model year 1974 **Engine M 117** Federal Emission Control System
Engine M 117 California Emission Control System

The following checks are to be performed with engine at operating temperature:

Run engine to operating temperature at idle.

Test No. 1

Unplug 100°C (212°F) temperature switch (8) and connect to ground.

Result

Engine speed should increase (ignition retard is cancelled). On model 116 the auxiliary fan should operate.

Test No. 2

Switch on air conditioning.

Result

Engine speed should increase slightly (ignition retard is cancelled).

