## 07.3–165 Checking fuel pump relay with electronic rpm regulation (breakaway)

**Breakaway speeds**

| Engine | MB-part no. | Breakaway speed 1/min | Speed signal |
|---|---|---|---|
| **Without decel shutoff** | | | |
| **Standard version and (AUS) (J) (S) (USA) starting model year 1981** | | | |
| 110.984<br>110.986<br>110.987 | 001 545 07 05<br>001 545 14 05 | 6650 ± 50 | – |
| **With decel shutoff** | | | |
| **Standard version** | | | |
| 110.988 | 001 545 42 05 | 6650 ± 50 | Mechanical tachometer |
| 110.989<br>110.990 | 001 545 43 05 | | Electronic tachometer |

**Conventional testers**

Voltmeter, revolution counter

## Layout fuel pump relay

### Model 107

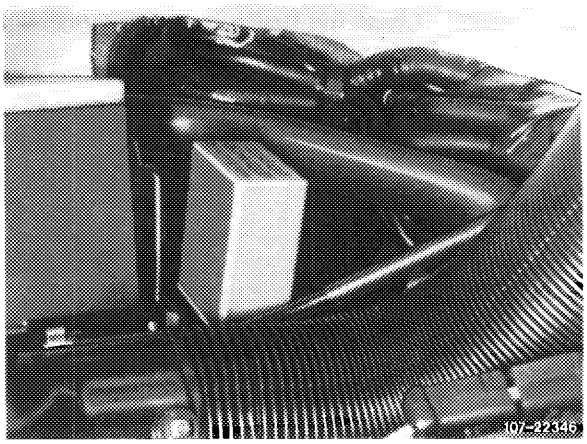
#### Lefthand steering

At the right inside vehicle behind glove box. For repairs, remove glove box.

#### Righthand steering

Model 107

At the right inside vehicle above pedals.

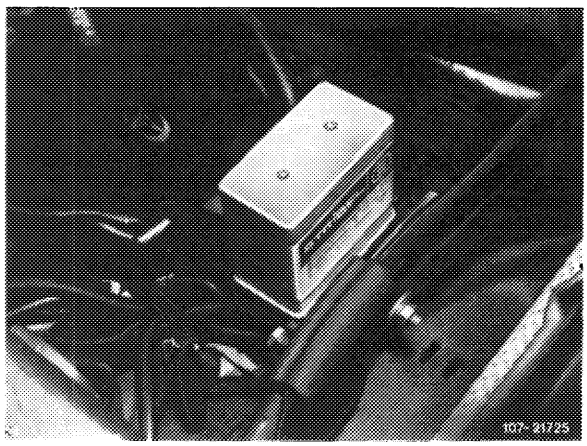



### Model 123

#### Lefthand steering

At the left on wheel house.

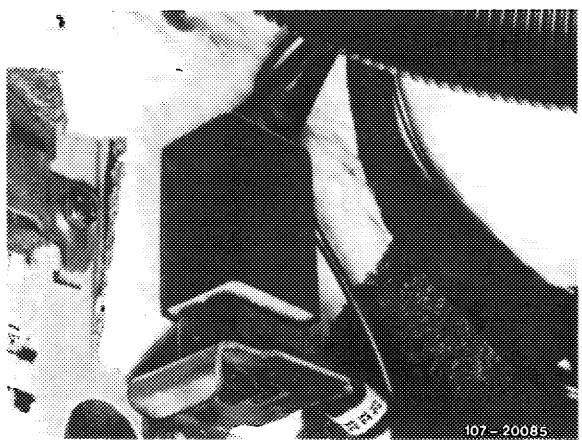
Model 123




#### Righthand steering

At the left inside vehicle behind side panelling. Remove cover for repairs.

Model 123

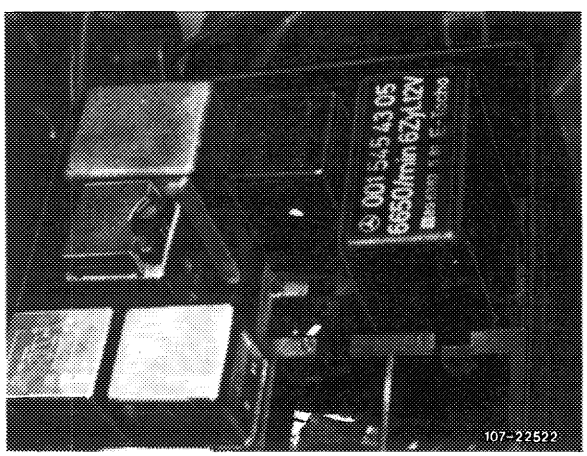



### Model 126

#### Lefthand and righthand steering

At the left in fuse box.

Model 126

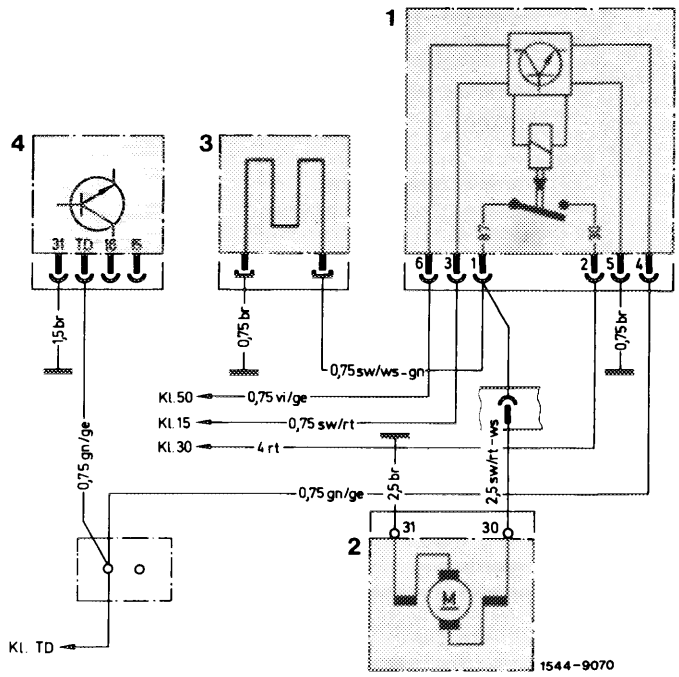


## A. Prior to September 1981

### Testing

### Test condition

Battery charged to min. 60 %.

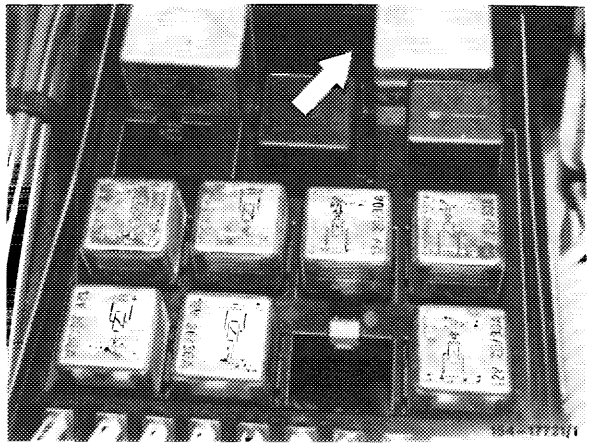



1 Fuel pump relay
2 Fuel pump
3 Warm-up compensator
4 TSZ (transistorized coil ignition) switching unit

**Testing activation of fuel pump relay**

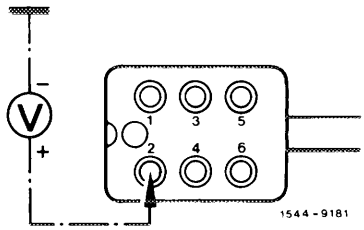
Remove fuel pump relay.
Connect negative cable (black) of voltmeter to vehicle ground). Measure voltage with positive cable (red) of voltmeter on jack 2 (terminal 30) of coupler.

| | |
|---|---|
| approx. 12 Volts | 0 Volt |



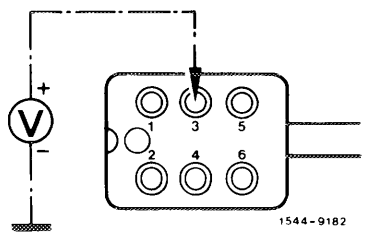
Test line (terminal 30, red) to cable connector engine harness for interruption.

Remove interruption.




Switch-on ignition.
Measure voltage by means of positive cable of voltmeter on jack 3 (terminal 15) of coupler.

| | |
|---|---|
| approx. 12 Volts | 0 Volt |

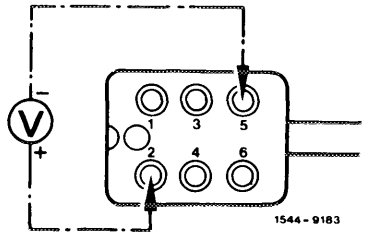



Test line (terminal 15, black/red) to ignition starting switch for interruption.

Remove interruption.

Connect positive cable (red) of voltmeter to jack 2 (terminal 30) and negative cable (black) of voltmeter to jack 5 (terminal 31) of coupler and measure voltage.

| approx. 12 Volts | 0 Volt |
|---|---|



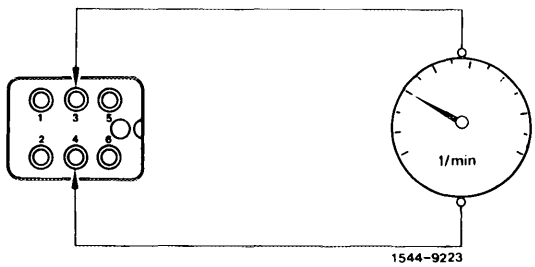

Test line (terminal 31, brown) to grounding point for interruption.

Remove interruption.

Connect revolution counter to jack 3 (terminal 15) and jack 4 (terminal TD) of coupler.

Operate starter.

| approx. 200/min | 0/min |
|---|---|




Test line (terminal TD, green/yellow) to TSZ (transistorized coil ignition) switching unit for interruption.

Replace switching unit, if line is in order.

**Testing operation of fuel pump relay**

Connect negative cable (black) of voltmeter to vehicle ground. Plug fuel pump relay on coupler in such a manner that the voltage can be measured at connection 1 (terminal 87) of fuel pump relay by means of positive cable (red) of voltmeter. For this purpose, operate starter.

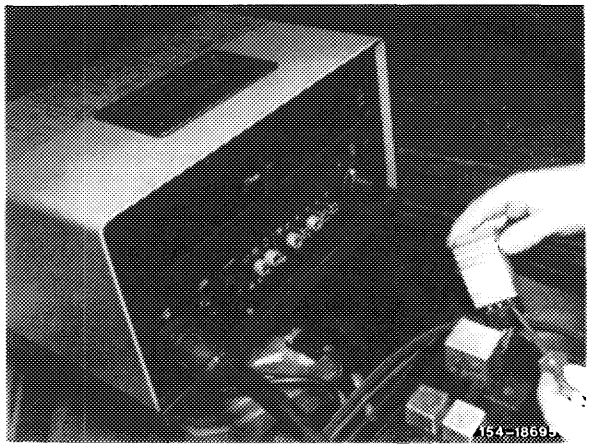
| approx. 12 Volts | 0 Volt |
|---|---|

Replace fuel pump relay.

Run engine at idle.

| Engine running. | Engine not running |
|---|---|

Replace fuel pump relay.

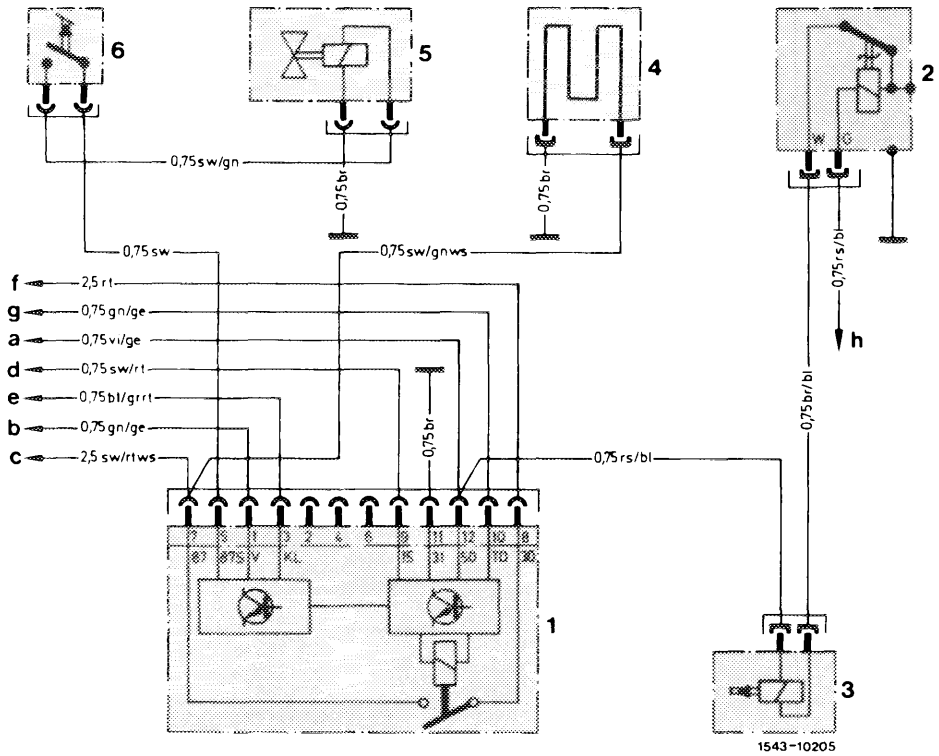


If engine is not regulated (breakaway) when attaining max. speed of engine, replace fuel pump relay.

The respective breakaway speed is punched into fuel pump relay.

End of test

## B. Starting September 1981

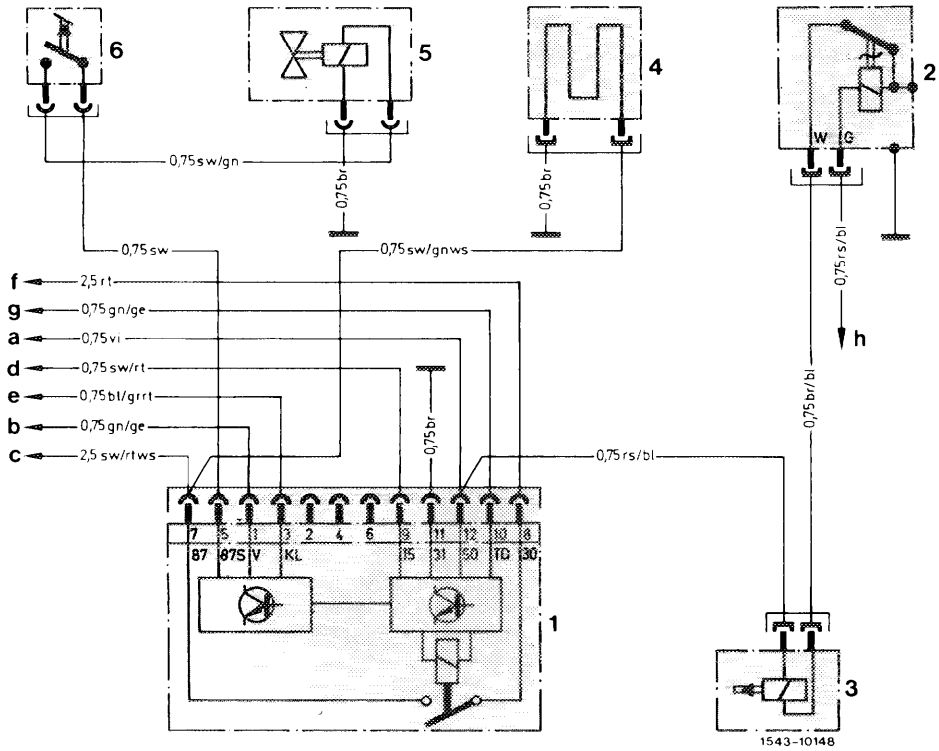



Wiring diagram model 123

1 Fuel pump relay
2 Thermo time switch
3 Cold starting valve
4 Warm-up compensator
5 Switchover valve
6 Microswitch

a To output starter lockout and backup lamp switch
b Transmitter mechanical tachometer
c Fuel pump
d Fuse 12 terminal 15 access
e Refrigerant compressor
f Cable connector engine terminal 30
g Cable connector terminal TD
h Cable connector engine terminal 50

Color code
bl = blue
br = brown
ge = yellow
gn = green
gr = gray
rs = pink
rt = red
sw = black
vi = purple
ws = white




Wiring diagram model 107, 126

1 Fuel pump relay
2 Thermo time switch
3 Cold starting valve
4 Warm-up regulator
5 Switchover valve
6 Microswitch

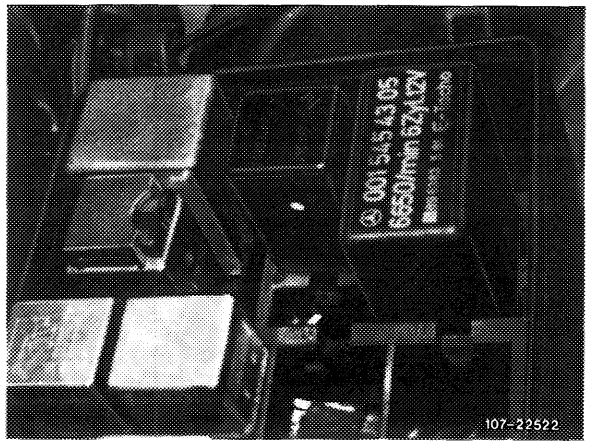
a Cable connector engine terminal 50
b Transmitter electronic tachometer
c Fuel pump
d Fuse 14 terminal 15 access
e Refrigerant compressor
f Cable connector terminal 30
g Cable connector terminal TD
h Cable connector terminal 50

Color code
bl = blue
br = brown
ge = yellow
gn = green
gr = gray
rs = pink
rt = red
sw = black
vi = purple
ws = white

**Testing activation of fuel pump relay**

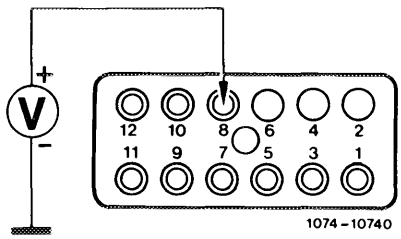
Remove fuel pump.
Connect negative cable (black) of voltmeter to vehicle ground. Measure voltage by means of positive cable (red) of voltmeter on jack 8 (terminal 30) of coupler.

| approx. 12 Volts | 0 Volt |
|---|---|



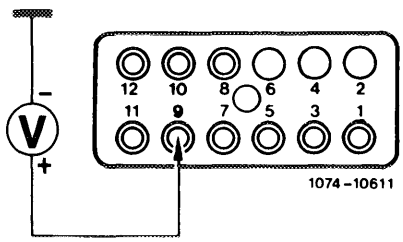

Test line (terminal 30, red) to cable connector engine harness for interruption.

Remove interruption.




Switch-on ignition.
Measure voltage by means of positive cable (red) of voltmeter on jack 9 (terminal 15) of coupler.

| approx. 12 Volts | 0 Volt |
|---|---|

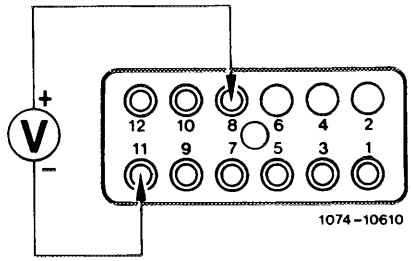



Test line (terminal 15, black/red) to fuse box for interruption.

Remove interruption.

Connect positive cable (red) of voltmeter to jack 8 (terminal 30) and negative cable (black) of voltmeter to jack 11 (terminal 31) of coupler and measure voltage.

| approx. 12 Volts | 0 Volt |
|---|---|



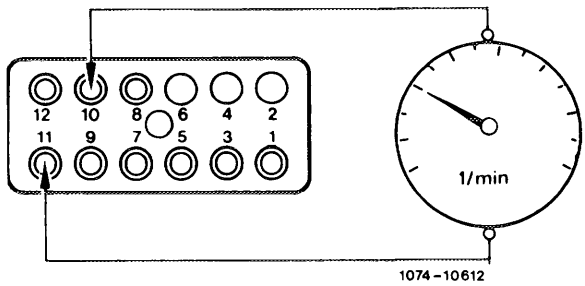

Test line (terminal 31, brown) to ground connection point for interruption.

Remove interruption.

Connect revolution counter to jack 10 (terminal TD) and jack 11 (terminal 31) of coupler.

Operate starter.

| approx. 200/min | 0/min |
|---|---|




Test line (terminal TD, green/yellow) to TSZ (transistorized coil ignition) switching unit for interruption.

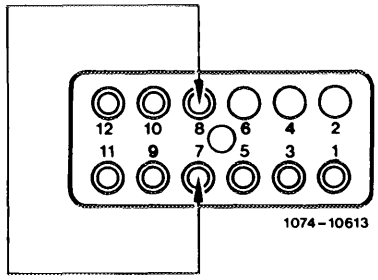
Replace switching unit if line is in order.

**Testing operation of fuel pump relay**

Bridge jack 7 (terminal 87) and 8 (terminal 30).
Fuel pump should now be heard starting.

Fuel pump running.

| Yes | No |
|---|---|




Test line (terminal 87, black/red/white) to fuel pump for interruption.

Remove interruption.

Fuel pump running.

| Yes | No |
|---|---|

Renew fuel pump.

Fuel pump running.

| Yes | No |
|---|---|

Renew fuel pump

End of test

If engine is not regulated (breakaway) when engine max. speed is attained, replace fuel pump relay.

The respective breakaway speed is punched into fuel pump relay.