

Pin 7, plug I (ground) and pin 8 (plus).

Ignition on

Press AC button

Set the air-distribution slide switch to up/down.

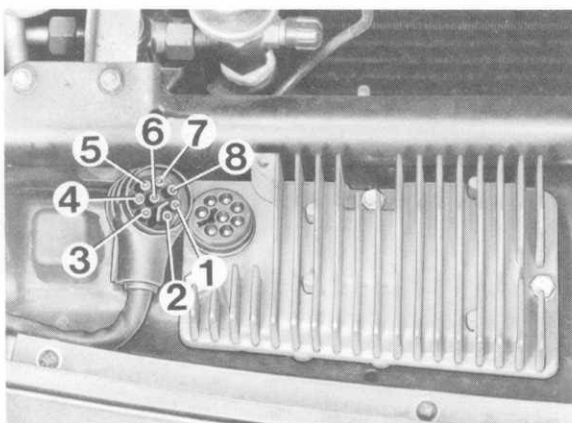
Reading: approx. 7 V

If both fans refuse to operate when the AC button is pressed while the ignition is on, the output stage is defective.



Function-testing the output stage

- 1.) Plugs I and II must be connected to the control unit.
- 2.) Checking voltage supply.



Connect voltmeter to pin 3 (ground) and pin 4 (plus) of the fan output-stage plug connector.

Reading: battery voltage

- 3.) Connect voltmeter to pin 3 (ground) and pin 2 (plus).

Ignition on

Reading: battery voltage

- 4.) Function-testing the control signal of the output stage.

Reconnect output-stage plug connector. Remove cover from plug I of control unit.



Engine temperature $< 79^{\circ}\text{C}$ (175°F)

Measure the voltage with an analog voltmeter with an external resistance (R_i) 100 kOhm.

Pin 7, plug I (ground) and pin 6 (plus).

Ignition on

Press AC button

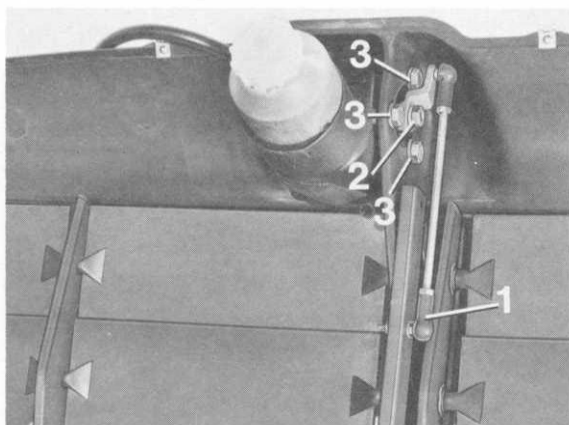
Set the air-distribution slide switch to up/down.

Reading: approx. 7 V

Function-testing the flap positioning motor

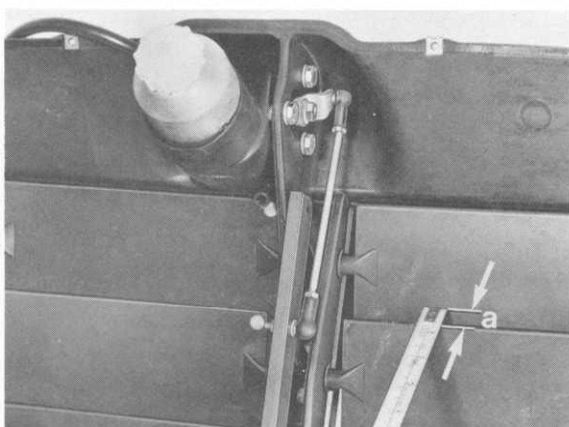
With a length of cable, connect pin 7 (ground) of plug I to pin 5 (0%) of plug I (approx. 2 - 4 seconds).

The flap positioning motor moves to the 0% position.



Connect pin 7, plug I and pin 2, plug II (approx. 2 - 4 seconds).

The flap positioning motor moves to the 30% position.



Connect pin 7, plug I and pin 1 (100%) (approx. 2 - 4 seconds).

The flap positioning motor moves to the 100% position.



If the flap positioning motor fails to assume one of the positions stated, use an ohmmeter to check the conductivity of the control unit - flap positioning motor wire harness.

If the wire harness is OK the flap positioning motor is defective.

Function-testing the individual senders with an ohmmeter.

1.) Temperature sender, cooling water

A resistance of between 1000 ohm and 4000 ohm, depending on engine temperature, should be measurable between pin 1 of plug II and pin 7 of plug I.

Reading:

60°C = 3862 ohm ± 150 ohm
85°C = 1582 ohm ± 54 ohm
100°C = 967 ohm ± 36 ohm

2.) Pressure sender, Frigen

Pin 4, plug II and pin 7, plug I.
Resistance is between 20 ohm and 150 ohm, depending on Frigen pressure.

Reading.

1.5 bar = 22 ohm ± 4 ohm
5 bar = 53 ohm ± 4 ohm
10 bar = 92 ohm ± 5 ohm
15 bar = 125 ohm ± 5 ohm

3.) Engine-compartment lid switch

Pin 6, plug II and pin 7, plug I

Engine-compartment lid closed

Reading: ∞ ohm

Engine-compartment lid open

Reading: 0 ohm - 20 ohm

4.) Temperature switch intake/automatic transmission

Pin 3, plug II and pin 7, plug I

Intake temperature > 87.5°C

Reading: 0 ohm

Intake temperature < 82.5°C

Reading: ∞ ohm

Temperature switch, automatic transmission

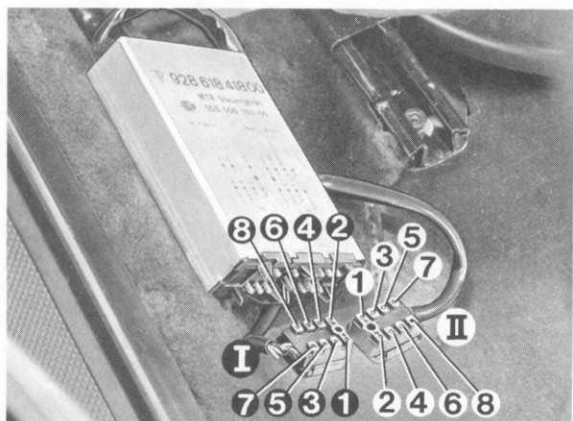
> 110°C reading: 0 ohm

< 105°C reading: ∞ ohm

If the values stated are not reached, the sender in question is defective.

TROUBLESHOOTING

Disconnect plug I and plug II from control unit.



Function test of AC button

Connect voltmeter to pin 7 (ground) of plug I and pin 5 (plus) of plug II

Ignition on

Press AC button

Set the air-distribution slide switch to up/down.

Reading: battery voltage

1.) Test voltage supply

Connect voltmeter to pin 2 (plus) and pin 7 (minus) of plug I

Reading: battery voltage

2.) Connect voltmeter to pin 4 (plus) and pin 7 (ground) of plug I

Ignition on

Reading: battery voltage

Ignition off

Reading: 0 V