Idle Speed Control Unit Location for 107 is behind glove box

Fig. 1 Idle Speed Control Unit 107 Chassis

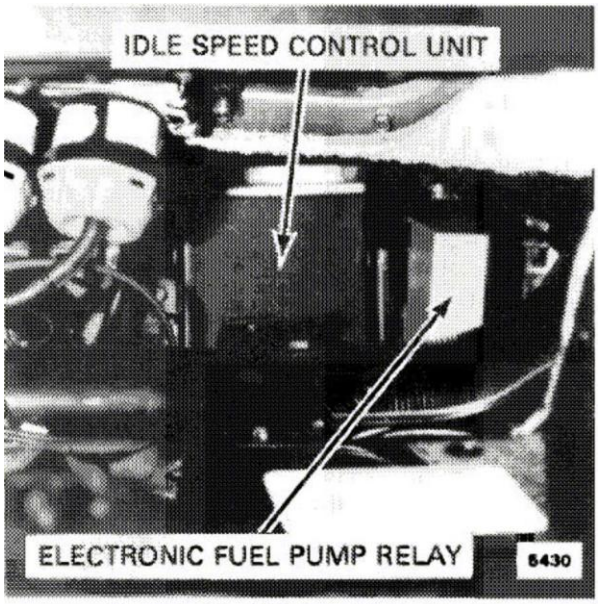


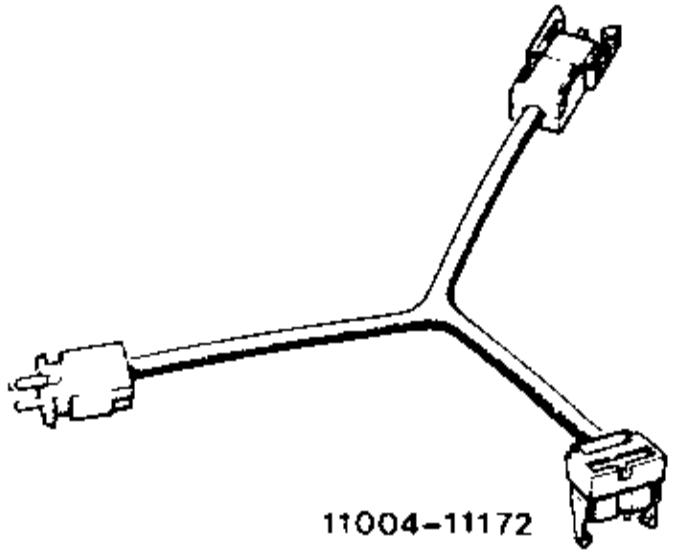
Figure 1 - Behind Glove Box

Test Values

Engine Oil Temperature	Shift Lever Position	Idle rpm
below 16°C (61°F)	"P" or "N"	800–950
below 16°C (61°F)	any driving position	650–750
above 16°C (61°F)	"P" or "N"	600–700
above 16°C (61°F)	any driving position	450–550

Special Tool

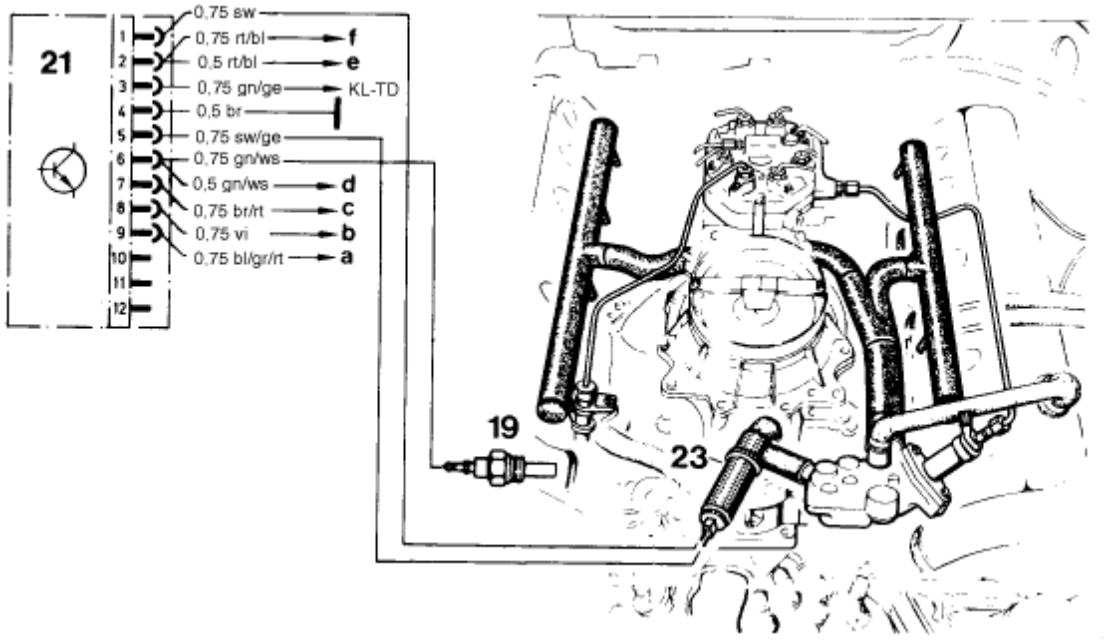
Test Cable - PN 102 589 04 63 00



Conventional Tools

- Digital multimeter (volt-ohm-ammeter) - e.g. Sun Electric DMM-5
- Tachometer - e.g. Sun Electric

Wiring Diagram



19. Temperature switch, 16°C (61°F) oil

21. Control unit, electronic idle speed control

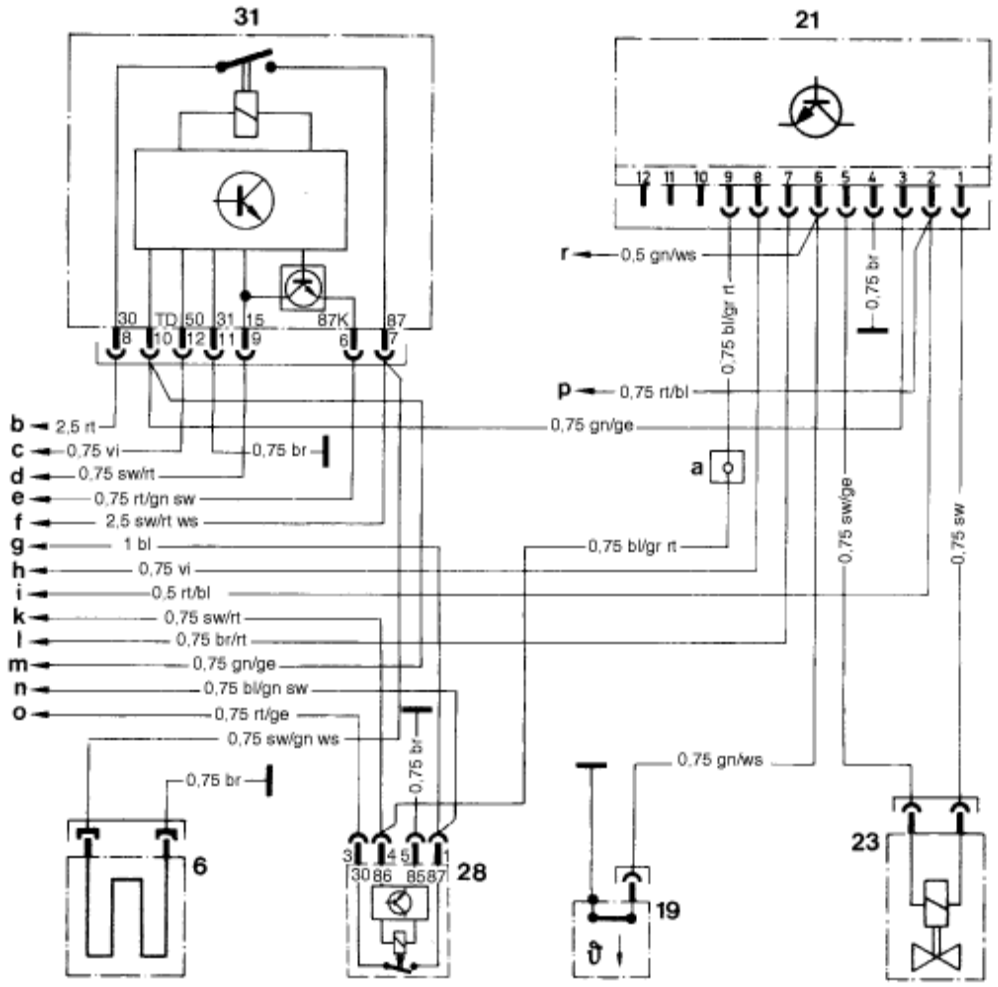
23. Idle speed adjuster

a) to terminal (a), automatic climate control
b) to ignition/starter switch, terminal 50
c) to lambda control unit, terminal 6
d) to lambda control unit, terminal 7
e) to relay, Lambda control with excess voltage protection
f) to temperature switch 42°C (108°F) coolant

Wire Color Code

bl = blue
br = brown
ge = yellow
gn = green
gr = grey
rt = red
sw = black
vi = purple
ws = white

Wiring Diagram, Electronic Idle Speed Control



6. Warm-up compensator

19. Temperature switch, 16°C (61°F) oil

21. Electronic idle speed control unit

23. Idle speed adjuster

28. Time delay relay, ACC

31. Relay, fuel pump

a) Terminal (a), automatic

climate control

b) Model 107: to terminal block engine, terminal 30

Model 126: to terminal block, terminal 30

c) to terminal block engine, terminal 50

d) to fuse box, terminal 15

e) to starter lockout/back-up lamp switch, terminal 7

f) to tail lamp harness, terminal 2

g) to connector, A/C compressor

h) to ignition/starter switch, terminal 50

i) to relay, lambda control unit with excess voltage protection, terminal 2

k) to low pressure switch, A/C compressor

l) to lambda control unit, terminal 6

m) Model 107: to tachometer

Model 126: to terminal block, terminal TD

n) to electronic temperature control unit

o) to fuse box, terminal 15

p) to temperature switch, 42°C (108°F) coolant

r) to lambda control unit, terminal 7

Color Code

bl = blue

br = brown

ge = yellow

gn = green

gr = grey

rt = red

sw = black

vi = purple

ws = white

Test Condition:

- Engine at operating temperature, shift lever in position "P", ACC system turned off and no leaks in air intake system.

1. Check voltage supply to idle speed adjuster

Test Procedure

Turn ignition on, disconnect and reconnect plug on idle speed adjuster.

Idle speed adjuster switches audibly and can be felt operating.	Idle speed adjuster does not switch.

Idle speed is too high:

If approximately 200 rpm above specification, check section "2a" and "2b".

If above 1500 rpm, check green/yellow wire from electronic idle speed control unit via the fuel pump relay to the terminal block, terminal TD (model 126) or the tachometer (model 107).

If idle speed is too low, check section "2c".

Turn ignition on. Disconnect plug at idle speed adjuster and check if battery voltage is present. (see Fig. 1)

Yes	No

Replace idle speed adjuster.

Disconnect plug on control unit (21) and check battery voltage between pins 2 (positive) and 4 (negative). (see Fig. 2)

If no voltage is present, check power supply according to wiring diagram.

If voltage is present, bridge pins 1 and 2 and 4 and 5 simultaneously for a short time (maximum 5 seconds). The idle speed adjuster must switch audibly. (see Fig. 3)

Idle speed adjuster switches	idle speed adjuster does not switch

Replace control unit (21).

Check black and black/yellow wires to idle speed adjuster for continuity and repair if necessary.

End of Test

Fig. 1

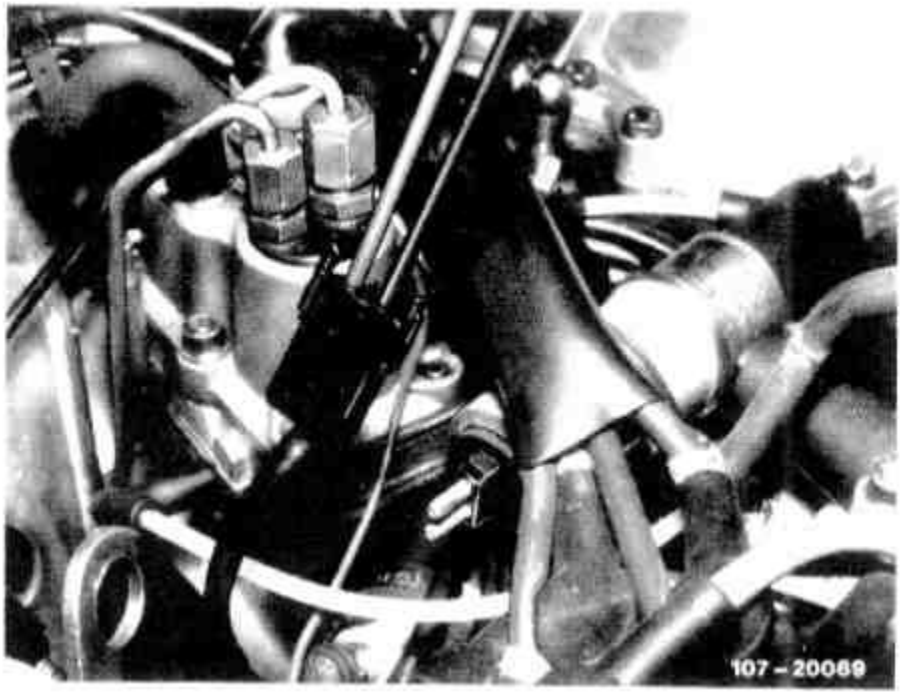
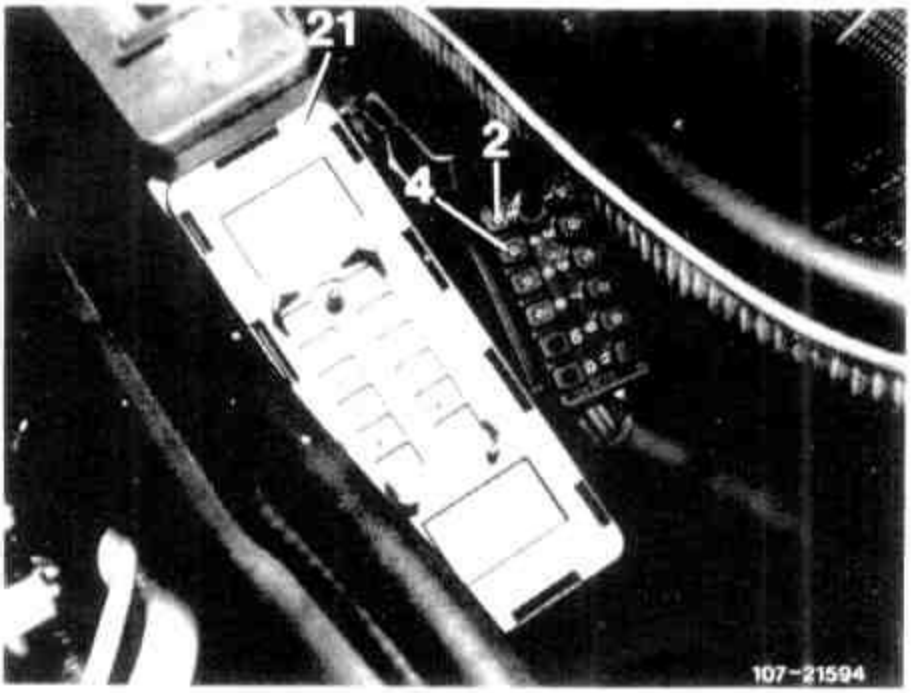


Fig. 2



NOTE:

Idle Speed Control Unit Location for 107 is behind glove box

Fig. 1 Idle Speed Control Unit 107 Chassis

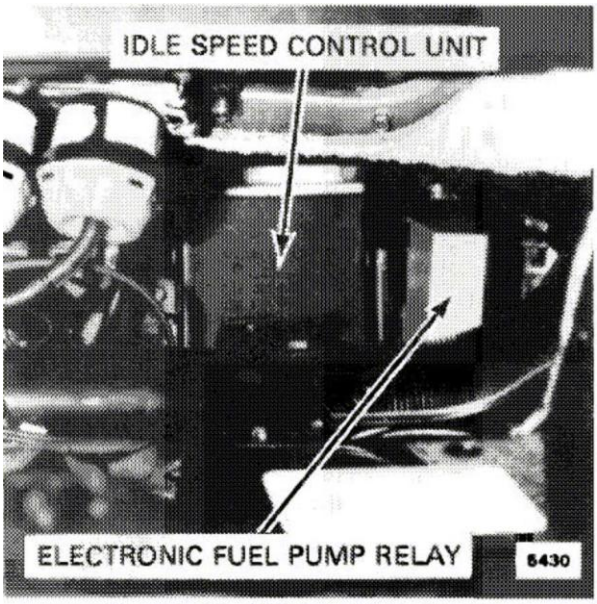
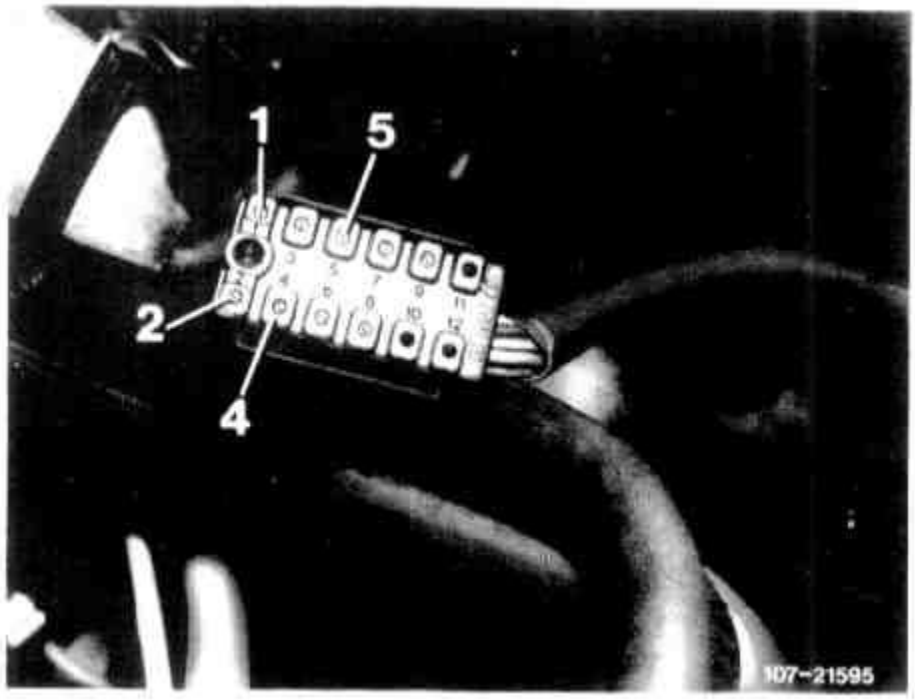


Figure 1 - Behind Glove Box

Fig 3



NOTE: The electronic idle speed control unit cannot be installed in previous model year vehicles.

2. Check operation of electronic idle speed control unit

a. Idle and partial load mode.
b. Fast idle with cold engine.
c. Idle speed with transmission shift lever in position "N" and "D".
d. Idle speed stabilization when turning on A/C compressor.
e. Idle speed with warm engine.

a. Idle And Partial Load Mode

Test Procedure

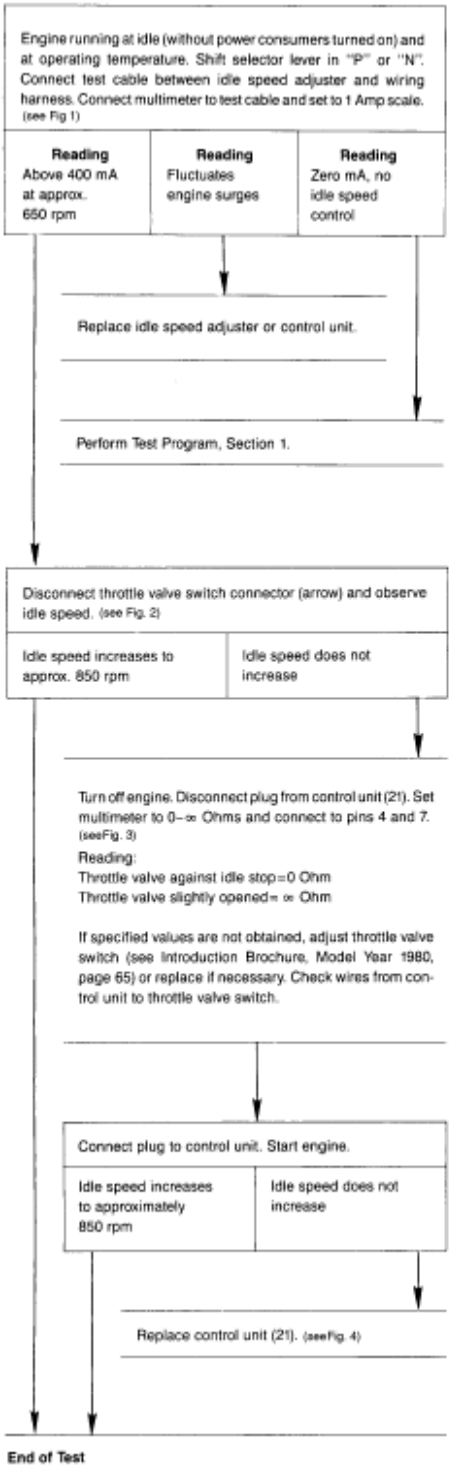


Fig. 1

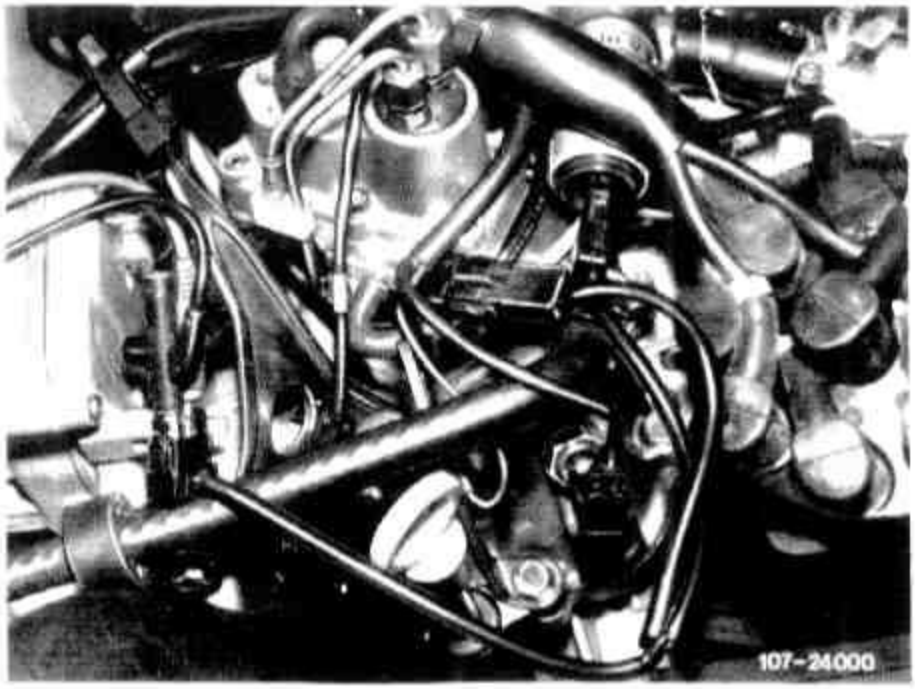


Fig. 2

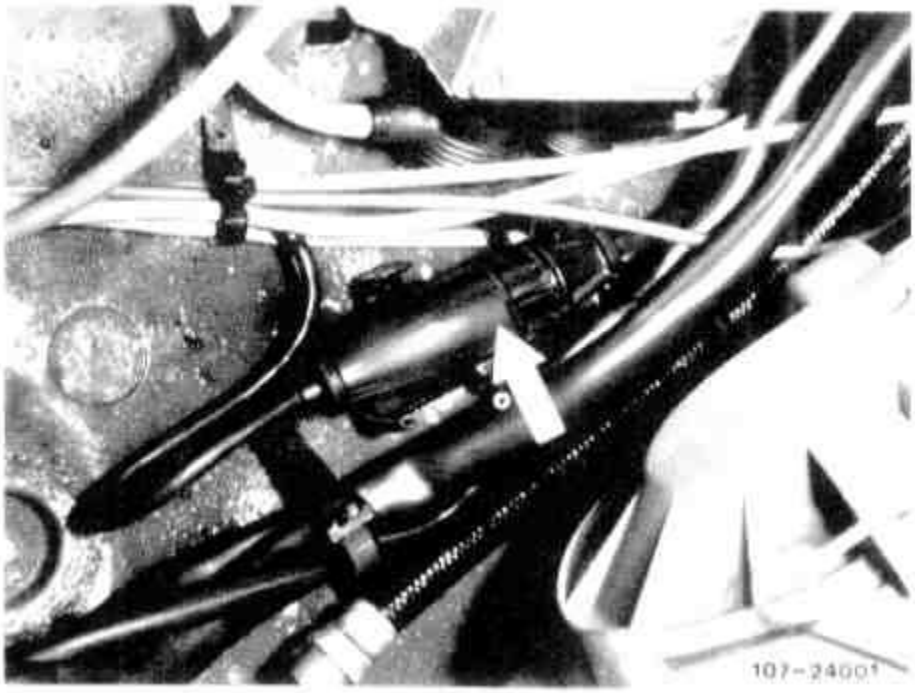
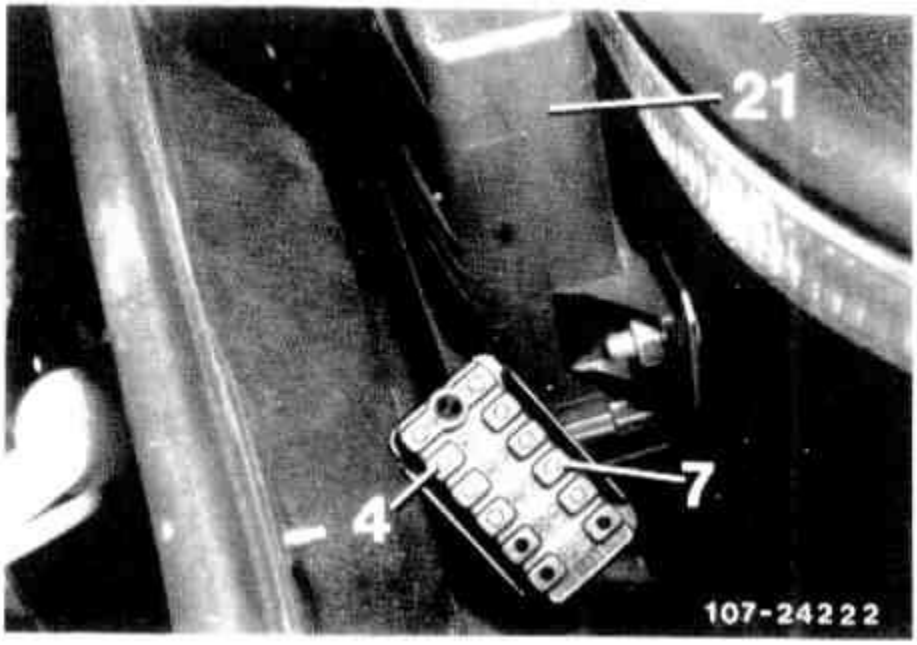


Fig. 3



NOTE:

Idle Speed Control Unit Location for 107 is behind glove box

Fig. 1 Idle Speed Control Unit 107 Chassis

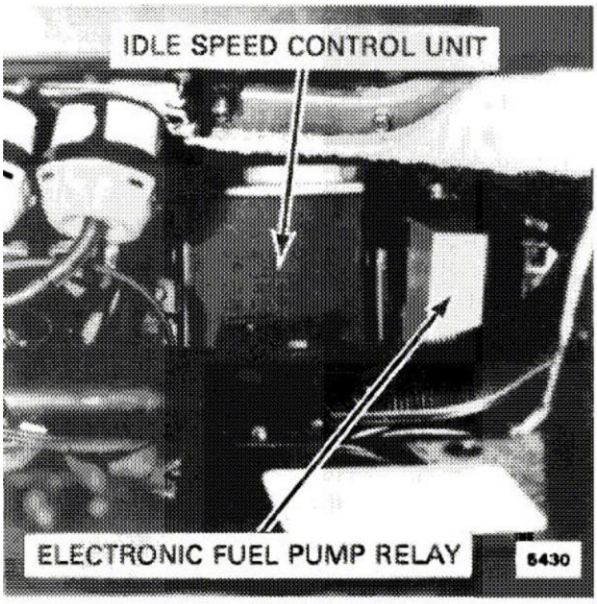
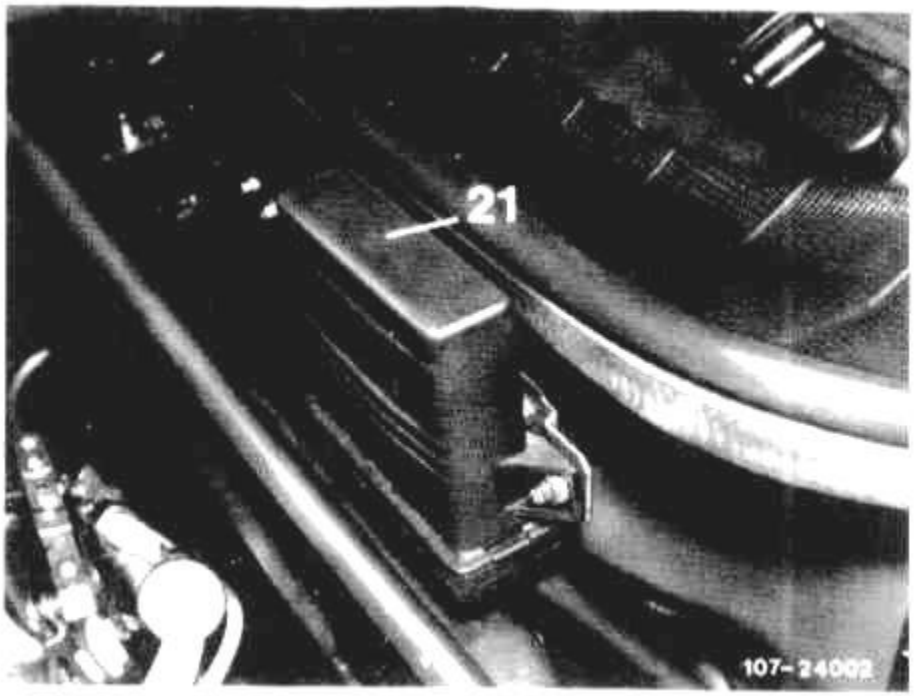


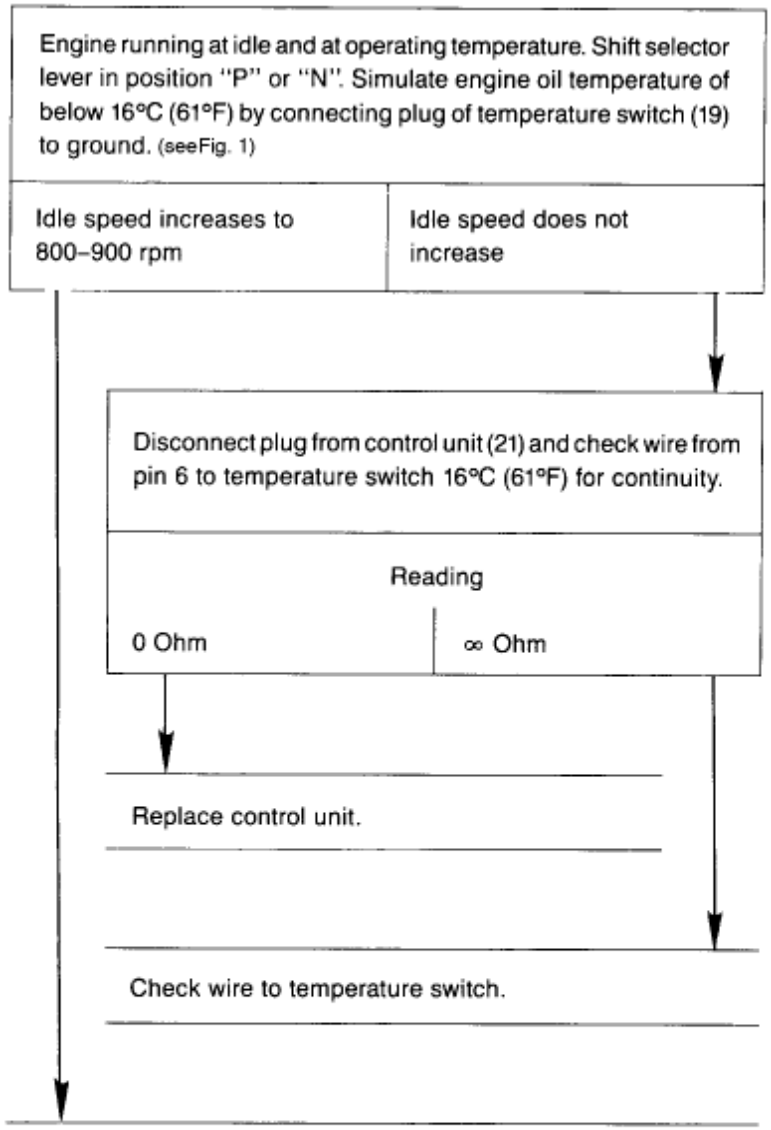
Figure 1 - Behind Glove Box

Fig. 4

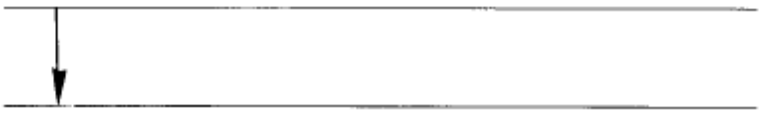


b. Fast Idle With Cold Engine

Test Procedure



Check temperature switch (19) and replace if required. (see Fig. 2 & 3)
Below 16°C (61°F) engine oil temperature: contact closed.
Above 16°C (61°F) engine oil temperature: contact open.



End of Test

Fig. 1

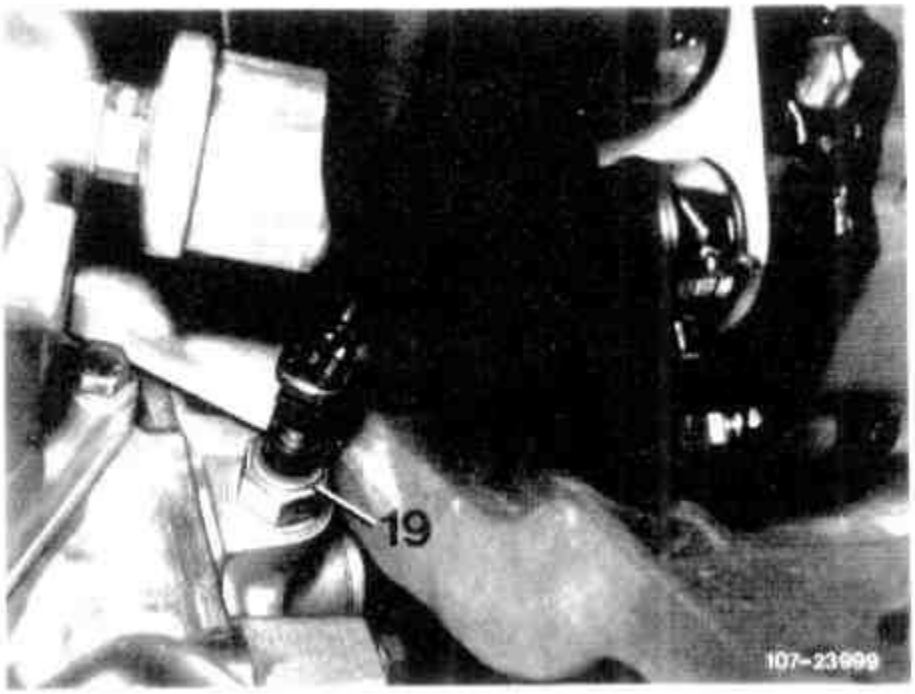

19
107-23999

Fig. 2

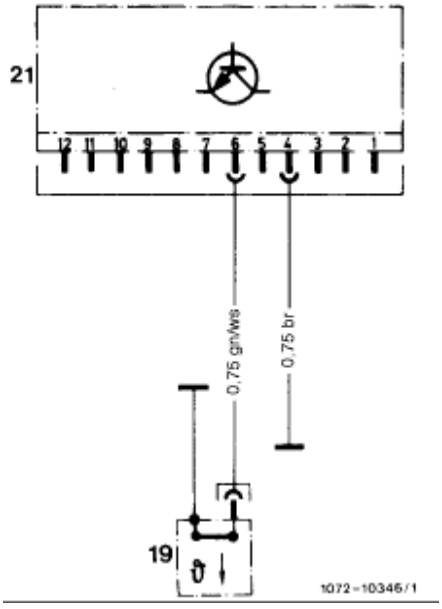

21
12 11 10 9 8 7 6 5 4 3 2 1
0.75 gn/ws
0.75 br
19
1072-10346/1

Fig. 3

107-16798

c. Idle Speed With Transmission Shift Lever In Position "N" and "D"

Test Procedure

Run engine at idle and at operating temperature. Engage a driving position.

Idle speed drops to approx. 500	Idle speed does not drop

Disconnect plug from control unit (21). Turn off engine, turn on ignition. (see Fig. 1)

Connect voltmeter between pins 8 (negative) and 2 (positive). In shift lever position "P" and "N", battery voltage should be present. (see Fig. 2)

Check if pin 8 is connected to ground via the starter lockout/back-up light switch in shift lever positions "P" and "N".

Battery voltage is present	Battery voltage is not present

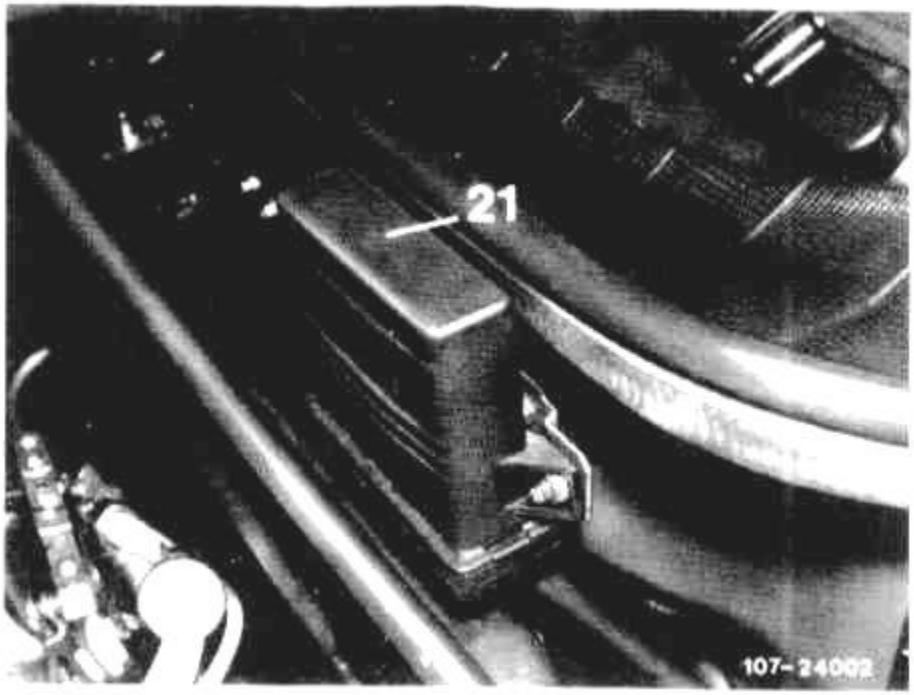
Replace control unit (21).

If no voltage (+) is present at pin 2, check wiring according to wiring diagram.

If no ground connection is made via pin 8, check wiring to starter lockout/back-up light switch.

End of Test

Fig. 4



NOTE:

Idle Speed Control Unit Location for 107 is behind glove box

Fig. 1 Idle Speed Control Unit 107 Chassis

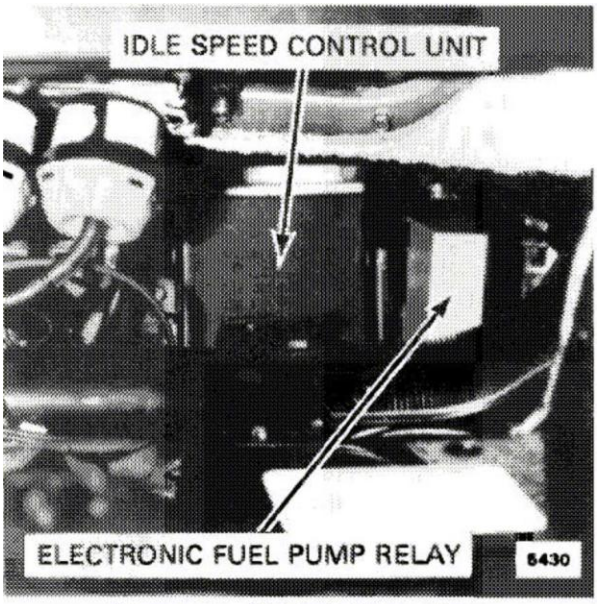
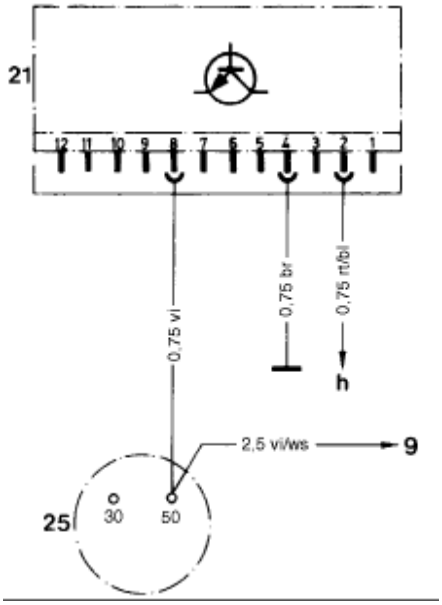


Figure 1 - Behind Glove Box

Fig. 2



d. Idle Speed Stabilization When Turning On A/C Compressor

Test Procedure

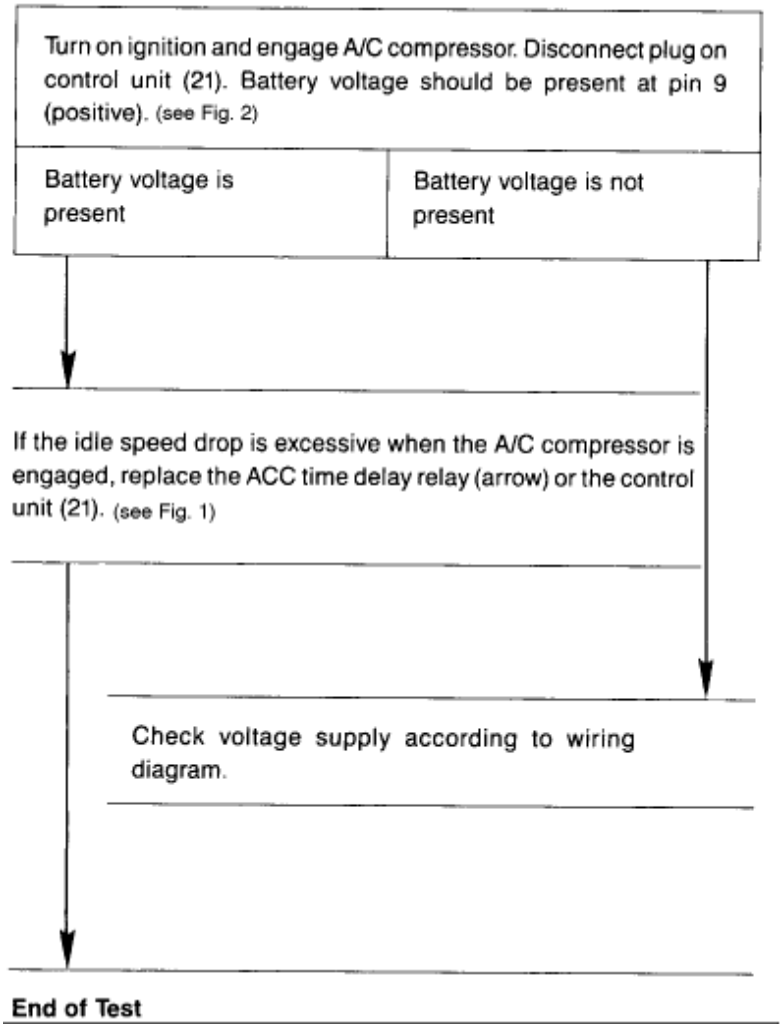


Fig. 1 Idle Speed Control Unit 107 Chassis

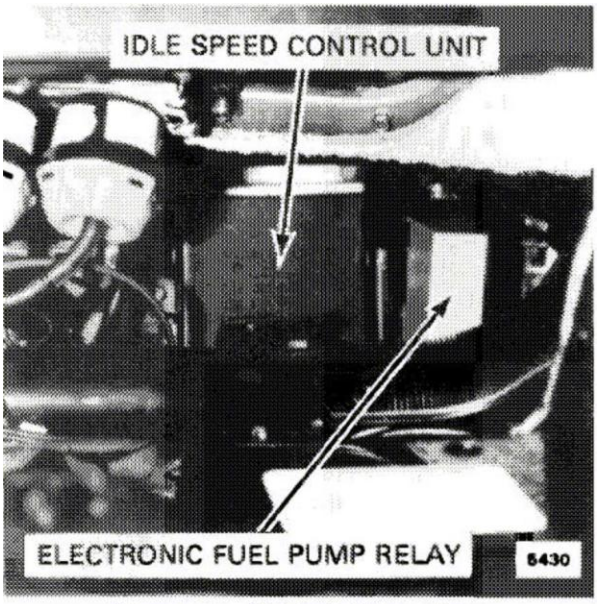
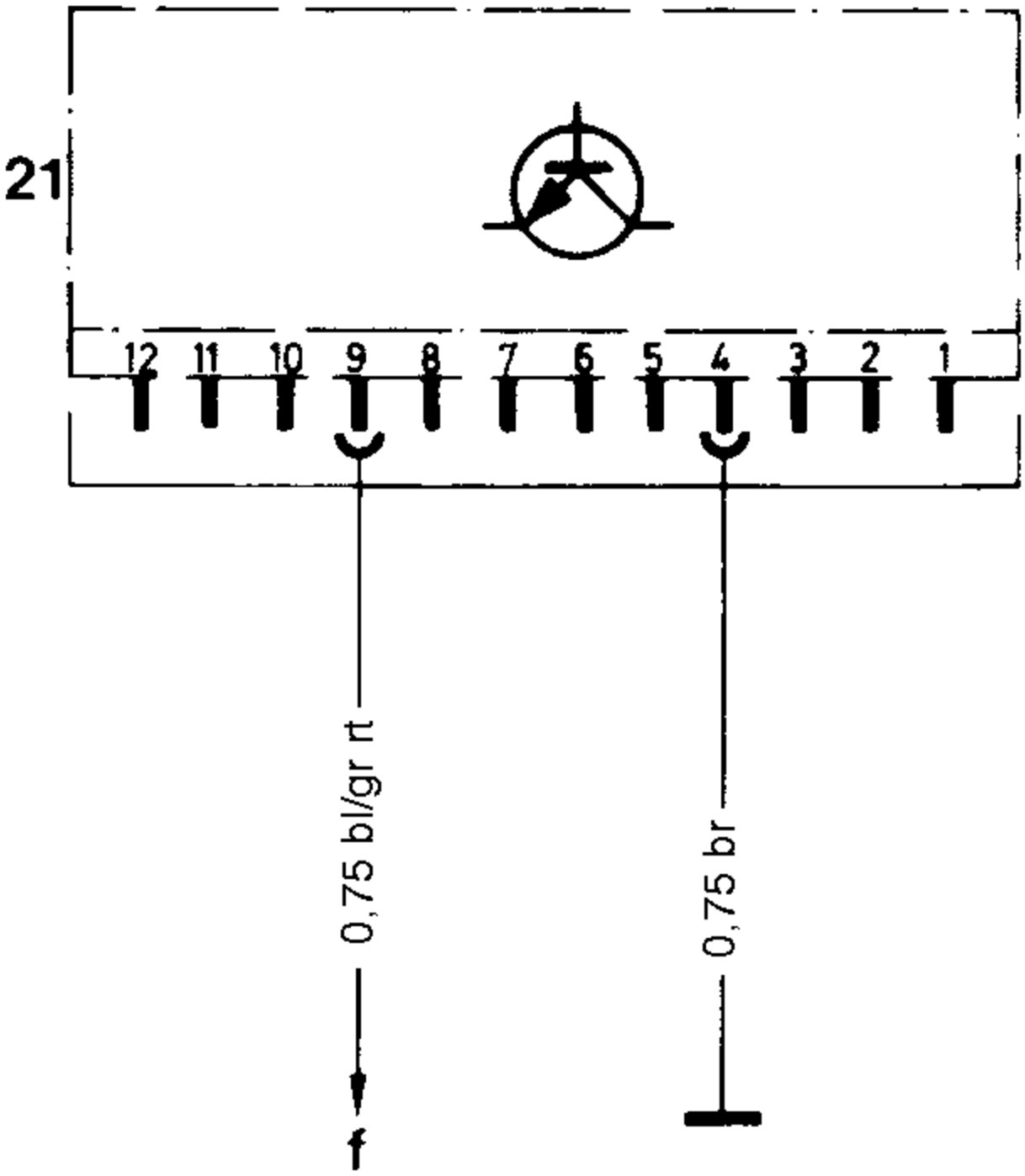


Figure 1 - Behind Glove Box

Fig. 2



e. Idle Speed With Warm Engine

Test Procedure

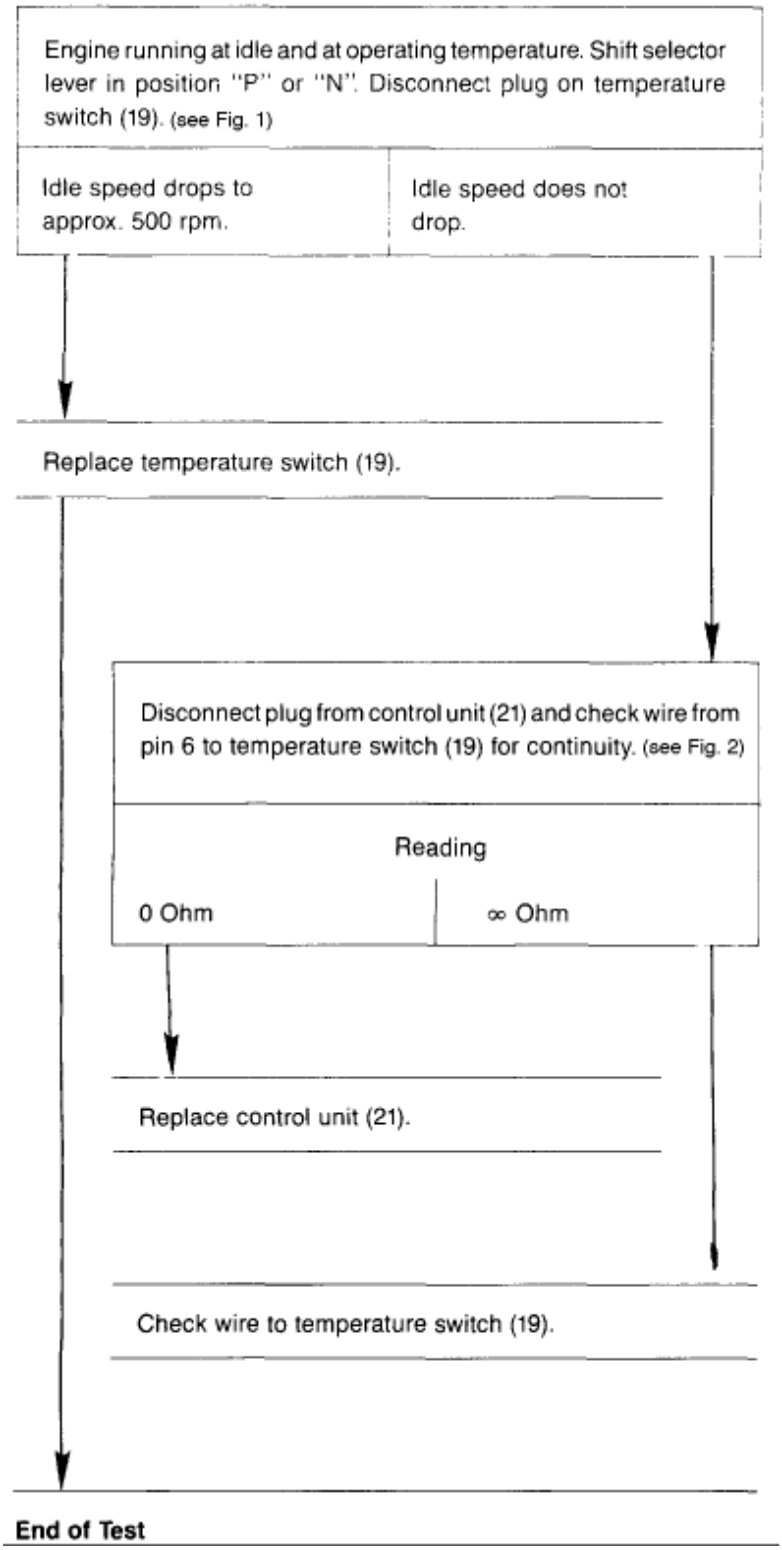

Engine running at idle and at operating temperature. Shift selector lever in position "P" or "N". Disconnect plug on temperature switch (19). (see Fig. 1)
Idle speed drops to approx. 500 rpm.
Idle speed does not drop.
Replace temperature switch (19).
Disconnect plug from control unit (21) and check wire from pin 6 to temperature switch (19) for continuity. (see Fig. 2)
Reading
0 Ohm
∞ Ohm
Replace control unit (21).
Check wire to temperature switch (19).
End of Test

Fig. 1

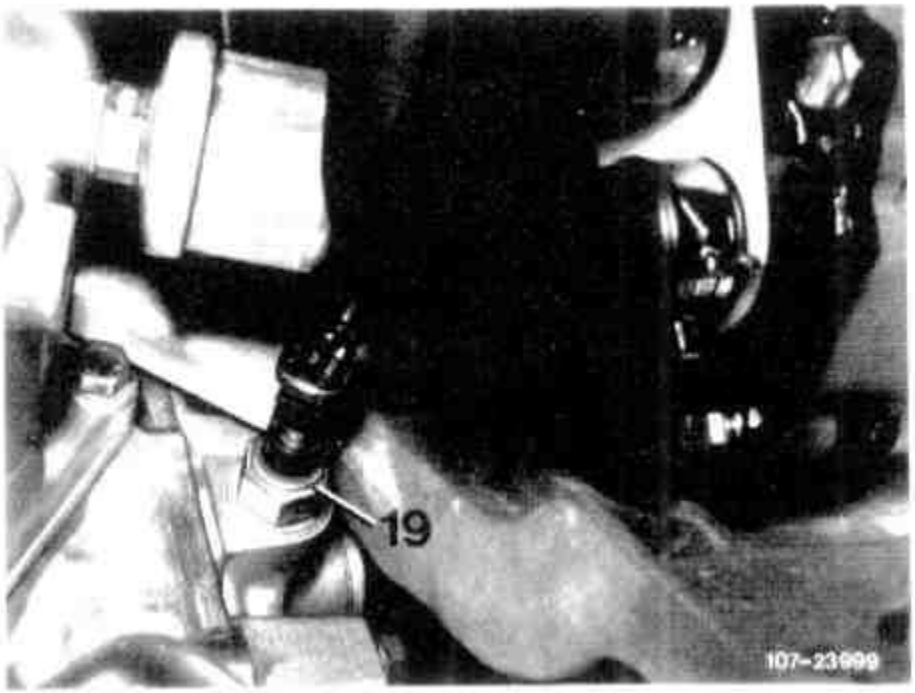
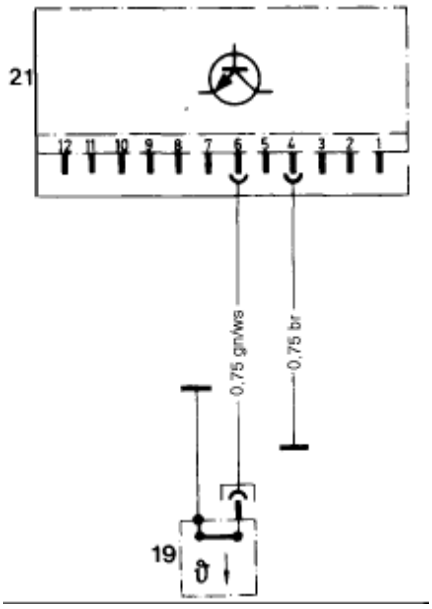



Fig. 2