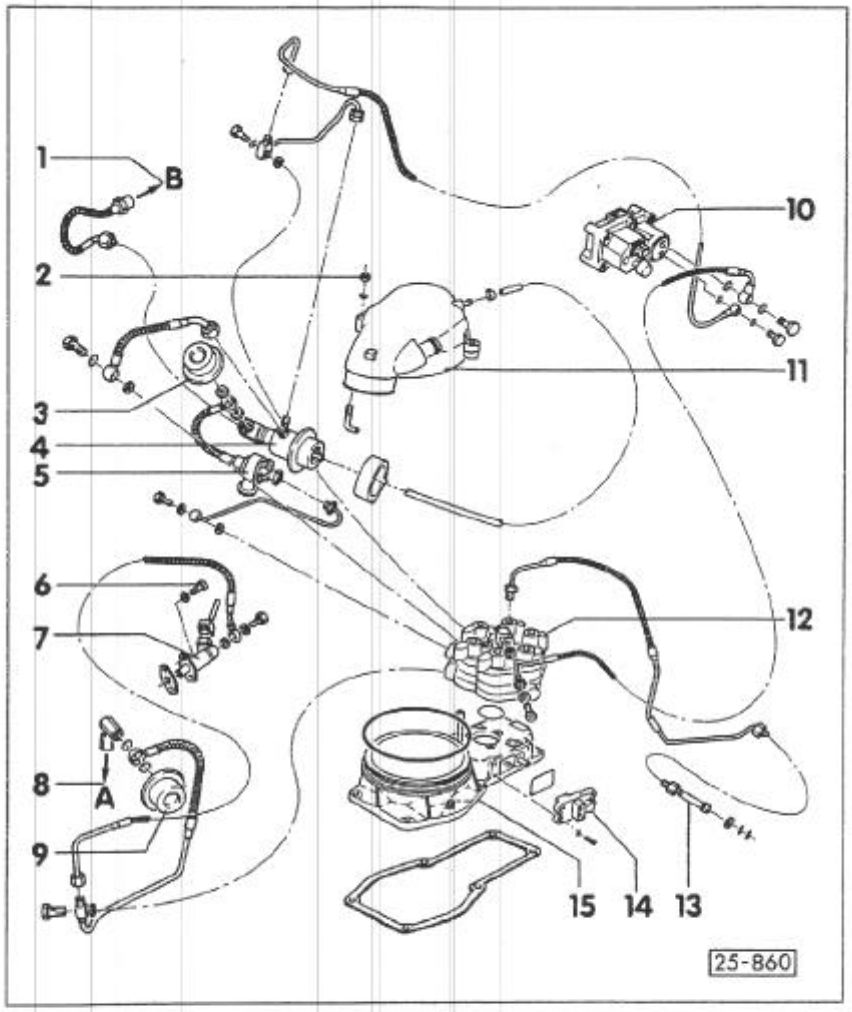
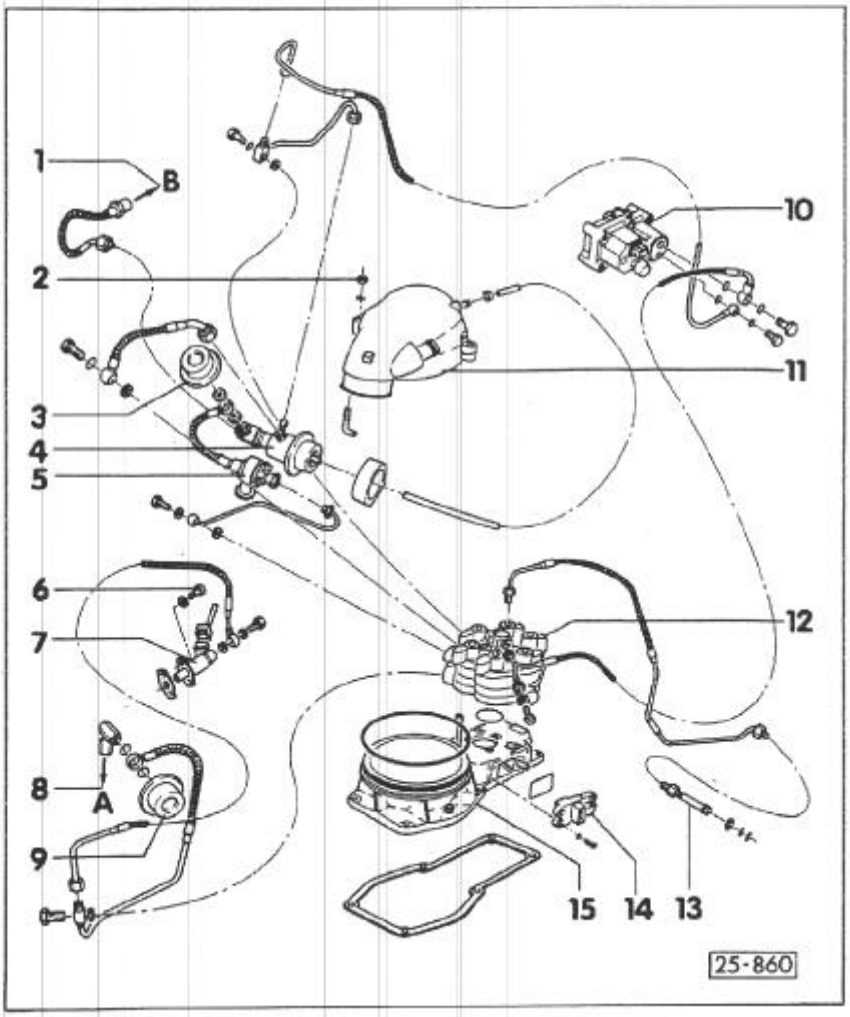


SERVICING K-JETRONIC INJECTION SYSTEM

Notes:

- Always renew gaskets and sealing rings during repairs.
- Hoses are secured with either screw or spring type clips.
- Always renew spring type clips.
- For satisfactory operation of electrical components a voltage of at least 11.5 is required.



1- Return

2- 10 Nm

3- Noise damper

4- Diaphragm pressure regulator

5- Frequency valve for Lambda control (control valve) - N7
- Checking operation - see final control element diagnosis - Repair Group 01

6- 10 Nm

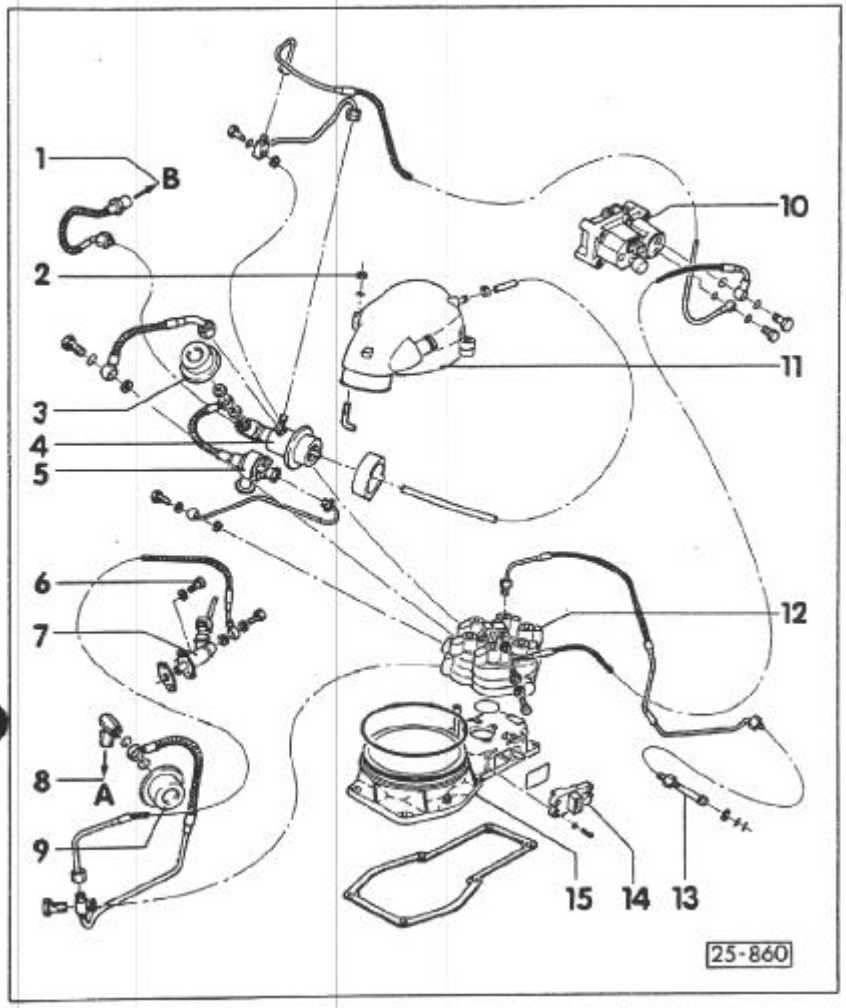
7- Cold start valve -N17
- Checking operation - see final control element diagnosis - Repair Group 01
- Checking - page 25-28
- Injection time - page 25-5

8- Supply

9- Noise damper

10- Warm-up valve
- Checking - page 25-35, by measuring control pressure -cold/warm-.

11- Air intake elbow



12- Fuel metering distributor
- Removing and installing - page 25-20
- Checking adjusting lever and control plunger - page 25-22
- Renewing stop screw sealing ring - page 25-26

13- Injector
- Checking - see comparison of injected quantity - page 25-40
- Checking breaking pressure with: Injector tester V.A.G 1349 and adapter V.A.G 1349/1 - specifications - page 25-5
- Checking air-shrouded injectors and inserts for leaks - page 25-43

14- Sender for consumption indicator - G58

15- Air flow meter
- Removing and installing - page 25-21
- Checking adjusting lever - page 25-22
- Checking and adjusting rest position and free travel of meter plate - page 25-23

Engine code letters		1B	2B
Production	From to	02.88	
Idling speed *) • Idling speed 800 ± 50 rpm for 1B engine or 720 ± 50 rpm for 2B engine results from correct control current adjustment with idling adjustment screw Specified reading	mA	430 ± 10	
CO content *)	% vol.	1.5 ± 0.5	
Engine speed limitation • Cut-out speed	rpm	6700	
Control pressure Engine cold: • Plug disconnected from warm-up valve at an ambient temperature of: 20° 25° 30°	 bar bar bar	 1.5 ... 2.0 1.8 ... 2.3 2.1 ... 2.6	
Engine warm: • Engine oil temperature 50 ... 70° C	bar	3.4 ... 3.8	

*) Observe test and adjusting conditions - page 25-9

Engine code letters		1B	2B
System pressure	bar	5.6 ... 6.4	
Holding pressure			
• After 10 minutes	at least bar	3.0	
• After 20 minutes	at least bar	2.8	
Cut-out pressure			
• After 5 seconds	max. bar	3.4	
Injectors			
• Breaking pressure	bar	3.7 ... 4.8	
• Injection capacity tolerance within one set			
Idling measurement (knurled nut of setting appliance turned down 15 mm)	max. ml	3.0	
• Remote control operated 20 seconds			
Full throttle measurement (knurled nut of setting appliance turned down 30 mm)	max. ml	8.0	
• Remote control operated 20 seconds			
Cold start valve			
• Injection time at starting temperature of			
-30° C	seconds	10	
0° C	seconds	3	
20° C	seconds	1	
35° C	seconds	0	

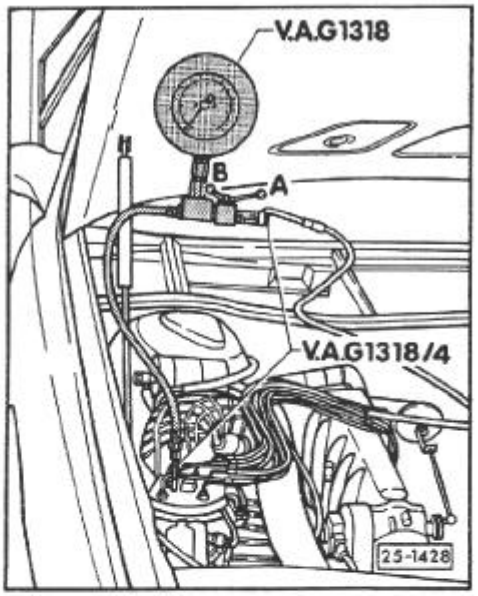
SAFETY MEASURES

To prevent injury to persons and/or damage to the ignition and injection systems the following should be noted:

- Do not touch ignition leads when engine is running or turning at starter speed.
- Disconnect and connect ignition and injection system wiring - including test leads - only with the ignition switched off.
- When engine is to be turned at starter speed without starting e.g. when checking compression, detach plug from ignition coil power stage.

RULES FOR CLEANLINESS

- Thoroughly clean connections and the adjacent areas before disonnecting.
- Place parts on a clean surface and cover them up with foil or paper. Do not use fluffy cloths!
- Opened components should be covered carefully or sealed if repair cannot be completed immediately.
- Use only clean parts.
  - Unpack parts immediately prior to installation.
  - Do not use parts which have been lying about unpacked (e.g. in toolbox etc.).
- When system is open:
  - Do not use compressed air if avoidable.
  - Avoid moving vehicle when possible.



CONNECTING PRESSURE GAUGE V.A.G 1318 WITH ADAPTER V.A.G 1318/4

- Always use new O-rings.

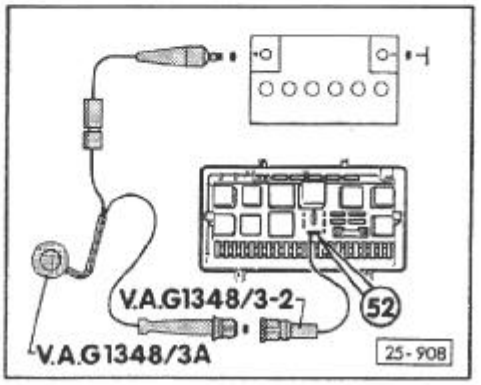
- Connect pressure tester with adapter between fuel metering distributor and control pressure line of warm-up valve (large connection).

- Cut-off lever position:

  A - open
  B - closed

Important

In order to protect against fuel spray, cover connections with cleaning rag when disconnecting fuel lines.



CONNECTING REMOVE CONTROL V.A.G 1348/3A WITH ADAPTER LEAD V.A.G 1348/3-2

- Fuse No. 13 OK.

- Pull fuel pump relay -J 17 out of relay plate (relay position 10).

- Connect plug of adapter lead to contact -52-.

- Connect clip terminal to battery (+) or to B+ on alternator.

CHECKING AND ADJUSTING IDLING SPEED OR IDLE STABILIZATION AND CO CONTENT

Test and adjusting conditions:

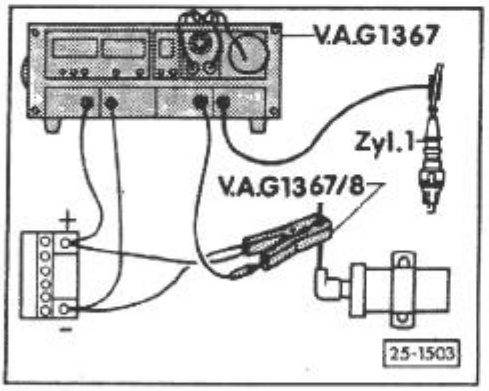
- Engine oil temperature at least 80° C.
- Radiator fan must not be running.
- Electrical components switched off.
- Air conditioner switched off.
- Temperature sensor -N10 OK.
- Exhaust system must not be leaking.
- Throttle valve switch OK.
- If injector lines were loosened or renewed, engine must be revved up to 3000 rpm several times and run at idle for at least 2 minutes before checking.
- Throttle valve in idling position.

Vehicles with automatic gearbox
- Throttle cable adjustment OK, checking - Repair Group 20.

Note:

Idle stabilization or idling speed and CO content must be checked and adjusted together

Checking and adjusting control current (idling speed) and CO content



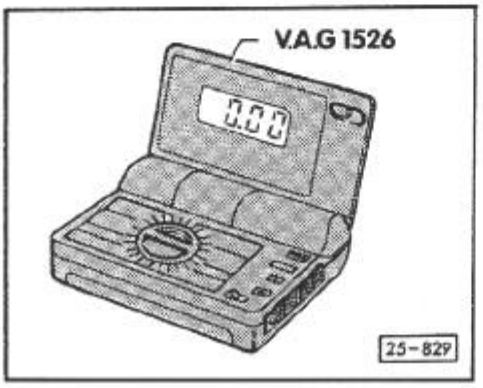
- Connect tester V.A.G 1367 for speed measurement according to operating instructions.

Note:

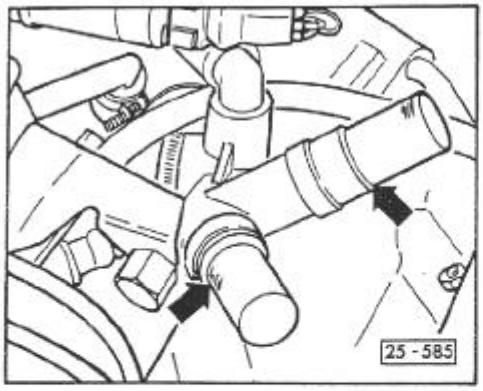
Connect tester lead 1 with clamp V.A.G 1367/8 to ignition lead 4 as shown.

or

Connect tester lead 1 to terminal 1 of coil.
Cover on coil must be removed to do this.



- Connect multimeter V.A.G 1526 for current measurement (mA) to valve for idle stabilization -N71 using additional lead V.A.G 1315 A/2 and leads from V.A.G 1594.
- Connect tester for CO content (e.g. V.A.G 1367 A) to exhaust tailpipe.



- Pull crankcase ventilation hoses off at cylinder head cover and seal.

- Run engine at idling speed.

  Specified readings:

  Control current = 430 ± 10 mA
  CO content = 1.5 ± 0.5 vol. %

- If necessary correct the setting by turning the adjusting screws alternately.

Sealing plug for CO screw must be removed for this adjustment.

- Switch ignition off.

- Centre punch plug in CO screw hole.

- Drill plug approx. 3.5 ... 4.0 deep with a 2.5 mm drill.

- Remove metal particles.

- Screw in a 3.0 mm tapping screw.

- Pull plug out with pliers.

- Start engine and let it idle.

> Important
>
> During CO adjustment, do not press down or lift up the adjusting screw with key.
> Do not operate the throttle with adjusting key in position (danger of bending).
> Remove key immediately after each adjustment and rev engine up briefly.

- Adjust control current and CO content by turning adjusting screws alternatley.

A correct control current setting will result in an idling speed of 800 ± 50 rpm on the 1B engine and 720 ± 50 rpm on the 2B engine.

- If the specified readings are not obtained or if there is a constant control current of 470 mA which cannot be altered by turning the idle adjusting screw:
  Check idle stabilization - page 25-14.

Note:

After the adjustment, hoses for crankcase ventilation system must be reconnected. If control current and CO content now change, this is not due to incorrect adjustment, but results from enrichment from crankcase caused by oil dilution through mainly short-distance driving. Petrol content in oil can be reduced by a brisk, long-distance drive and control current/ CO content will return to normal. This can also be done at short notice with an oil change.

IDLE STABILIZATION

Function:

The control unit for idle stabilization -J142- receives information from:

- Speed sender -G22
- Idle switch -F60
- Temperature sensor -N10
- Speed signal from FEI control unit -J88 for electronic ignition system

In addition the control unit receives information from the coding inputs:

On control unit	On relay socket
A	10
B	1

Coding input A: to earth, idling speed at /20 rpm
A: not in use, idling speed 800 rpm
B: to earth, influences exhaust
B: not in use, influences load change

The coding (see current flow diagram) must not be changed.

On vehicles with air conditioning, the control unit for idle stabilization receives additional information from the operating and display unit for A/C -E87 and from the magnetic clutch for A/C - N25.

Control unit for idle stabilization evaluates this information and controls idling speed via idle stabilization valve depending on information received.

If speed information is not received, control unit switches to emergency operation in which the control current of idle stabilization valve is held at a constant value of approx. 470 mA, regardless of idling speed.

When air conditioner compressor is switched on, control current is increased by 50 ... 60 mA.

Checking idle stabilization

- Speedometer and rev counter in dash panel insert OK
- Battery voltage at least 11 volts
- Engine oil temperature at least 80° C
- Radiator fan must have run once before checking
- Temperature sensor -N 10 OK
- Throttle valve in idling position
- All electrical components switched off
  (Radiator fan must not run during checking or adjustment)
- Air conditioner OK
- Air conditioner switched off
- Pressure gauge not connected

Note:

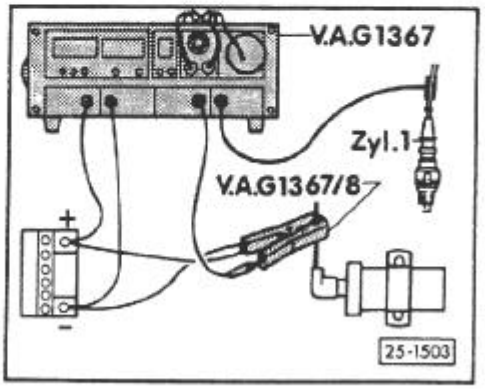
Multimeter V.A.G 1526 with leads from V.A.G 1594 is to be used for checking.

Important

Multimeter must be connected before ignition is switched on, since leads between idle stabilization valve and control unit may not be interrupted. All test values refer to multimeter V.A.G 1526.

- If injector lines have been loosened or exchanged, engine must be revved up to 3000 rpm several times and allowed to run at idle for at least 2 minutes before checking.

- Switch off ignition.



- Connect tester V.A.G 1367 for idling speed measurement according to operating instructions.

Note:

Connect tester lead 1 to ignition lead 4 with clamp V.A.G 1367/8 as shown.

or

Connect tester lead 1 to terminal 1 on coil. The coil cover must be removed to to this.

- Connect test lead V.A.G 1315 A/2 to valve for idle stabilization.

- Connect multimeter with leads from V.A.G 1594 and V.A.G 1315A/2 and switch to 2 A DC measurement.

- Switch ignition on.

  Specified reading: 440 ... 500 mA

- If reading is correct, start engine and let it idle.

- If 0 mA is indicated, switch ignition off and then switch it on again after approx. 5 seconds.

- Check resistance between the two contacts on idle stabilization valve.

  Specified reading: 2 ... 10 Ω

- If reading is not correct, renew valve for idle stabilization.

- If reading is correct, check routing of wiring between plug on idle stabilization valve and relay socket of control unit for idle stabilization with the aid of current flow diagram.

- If no fault is found in wiring, check activation of control unit for idle stabilization - Repair Group 01.

- If all readings given in the test steps are OK, renew control unit for idle stabilization and repeat test.

- Start engine and let it idle.

  Specified reading: 430 ± 10 mA fluctuating slightly at idling speed

  800 ± 50 rpm with manual gearbox

  720 ± 50 rpm with automatic gearbox

- If a constant current reading of 470 mA is shown, turn idle adjusting screw in throttle housing in both directions with a screwdriver.

- If current reading does not change when screw is turned, check activation of control unit for idle stabilization, test step 4 - Repair Group 01.

- If the reading given on test step 4 is OK, renew FEI control unit -J88 and repeat test.

- If the current reading changes when the idle adjusting screw is turned, a control current of 430 ± 30 mA must be set again with idle adjusting screw. The idling speed should then be

  720 ± 50 rpm with automatic gearbox

  800 ± 50 rpm with manual gearbox

Notes on fault finding

- If the idling speed is above 790 ... 840 rpm, check if the battery voltage is below 10 volts.
- If idling speed is uneven, check idle stabilization - page 25-14.
- If idling speed is above 1000 rpm, check idle switch - page 25-29 or check activation of control unit for idle stabilization - Repair Group 01.
- If idling speed is above 840 rpm with A/C switched off, check activation of control unit for idle stabilization - Repair Group 01.

REMOVING AND INSTALLING FUEL METERING DISTRIBUTOR

- To reduce the pressure, loosen control pressure line at the warm-up valve (large connection).

> Caution!
>
> Danger of fuel spraying when control pressure line is loosened - Place a cleaning rag on connection.

- Clean fuel lines in connection area and detach.
- Remove screws and take fuel metering distributor off.
- Renew O ring between fuel metering distributor and air flow meter.

After installing the fuel metering distributor, check rest position and free travel of flow meter plate - page 25-23.

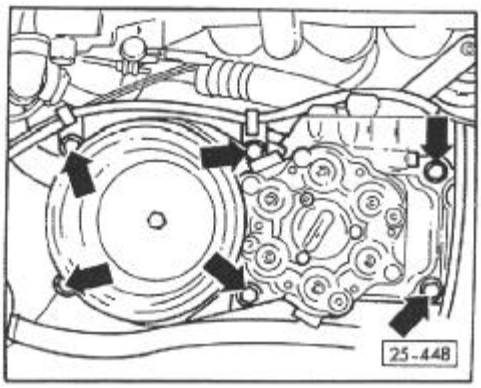
REMOVING AND INSTALLING AIR FLOW METER

- To reduce pressure, loosen control pressure line at warm-up valve (large connection).

> Caution!
>
> Danger of fuel spraying when control pressure line is loosened - Place a cleaning rag on the connection.

- Clean fuel lines in connection area and detach.

- Remove air intake elbow.



- Take air flow meter complete with fuel metering distributor off air cleaner housing.

- Detach fuel metering distributor from air flow meter.

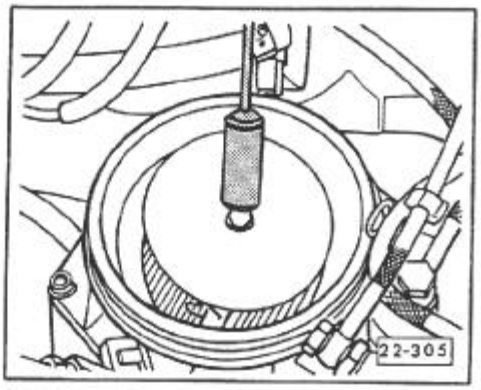
- Renew O ring between air flow meter and fuel metering distributor and gasket between air flow meter and air cleaner housing.

After installing the air flow meter: Check rest position and free travel of flow meter plate - page 25-23.

CHECKING ADJUSTING LEVER AND CONTROL PLUNGER

- Operate starter or remote control V.A.G 1349/3A for approx. 10 seconds to reduce the control pressure.

- Lift adjusting lever via air-flow meter plate - lever must have uniform resistance over entire distance.



- During rapid downward movement, no resistance should be felt. If necessary, renew air flow meter.

- If throttle lever can only be moved upward with difficulty, but can be easily moved downward, control plunger is sticking - renew fuel metering distributor.

- If adjusting lever can only be moved up and down with difficulty, air flow meter must be renewed.

CHECKING AND ADJUSTING REST POSITION AND FREE TRAVEL OF FLOW METER PLATE

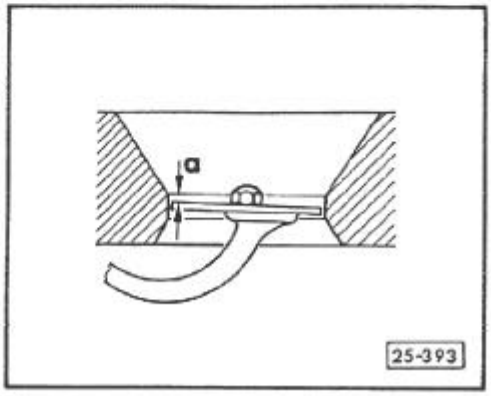
> Caution!
>
> The stickers or the dimensions
>
> 1.9 + 0.2 mm or
> 1.9 + 0.5 mm
> are no longer valid.

- Minimum engine oil temperature 50° C.

- Operate starter or remote control V.A.G 1348/3A for approx. 10 seconds.

- Connecting remote control - page 25-8.

- Remove air intake elbow.



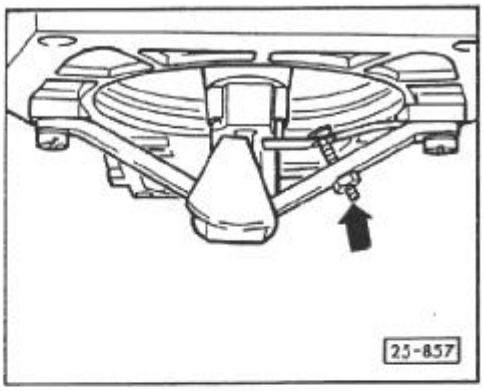
Checking rest position

- The upper edge of plate must be dimension -a- below edge of venturi cone:

  a = 1.9 + 1.1 mm

Adjusting rest position

- Remove air cleaner cover and element.



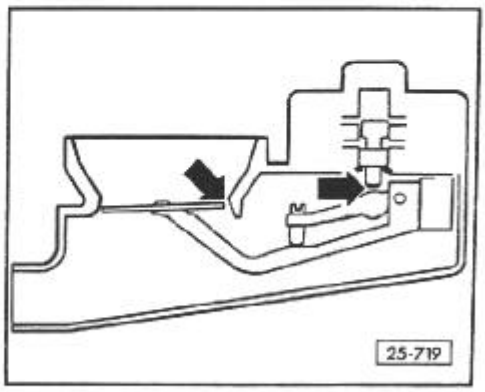
- Adjust position of air-flow meter plate with adjusting screw -arrow- so that upper edge of air-flow meter plate is distance -a- below venturi cone edge.

  a = 1.9 + 1.1 mm

Checking free travel of flow meter plate

Free travel is play between control plunger and throttle lever (right arrow), measured on side of flow meter plate next to metering distributor (left arrow).

- Operate starter or remote control V.A.G 1348/3A for approx. 10 seconds.



- Slightly lift air-flow meter plate until resistance is felt.

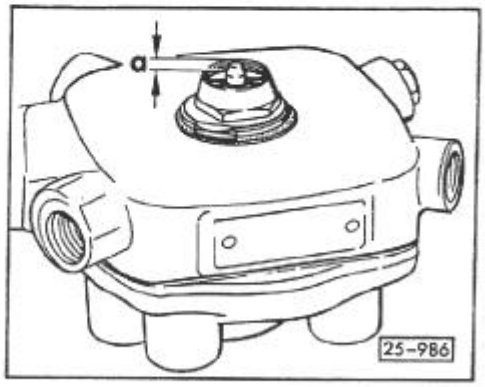
Free travel:

o Min. - play can be felt

o Max. - up to venturi cone edge = 2.1 mm

If free travel is not OK:

o Adjust free travel on fuel metering distributor - page 25-125



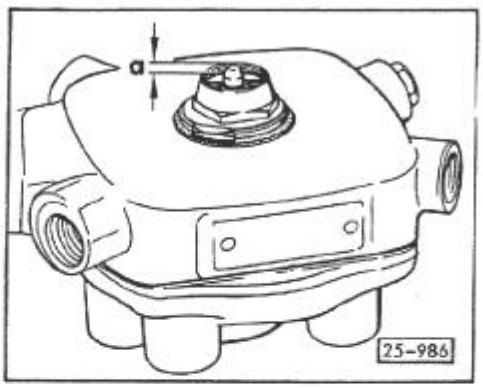
Adjusting free travel on fuel metering distributor

Use special tool VW 674/2

- Adjust free travel of air-flow meter plate with limit screw for control plunger.
  (Change distance "a")
  - Screwing in = free travel greater
  - Screwing out = free travel smaller
  - 1/4 turn = approx. 1.3 mm on air-flow meter plate
- After adjusting free travel, check control current (idling speed) and CO content, adjust if necessary.

Renewing stop screw sealing ring

- Remove fuel metering distributor - page 25-20

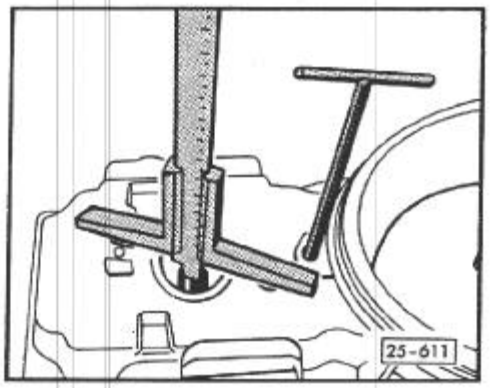


- Before screwing out the stop screw for the control plunger:
  - Mark position of screw with a scriber.
  - Measure and note distance -a- between stop screw and edge of hexagon nut.
- Remove screw with VW 674/2.
- Examine sealing ring for damage and renew if necessary (small diameter of sealing ring towards control plunger)
- Turn stop screw in to distance noted -a-.
- Install fuel metering distributor - page 25-20.

BASIC SETTING OF ADJUSTING LEVER

Note:

The basic setting of the adjusting lever is only required when the fuel metering distributor or air flow meter have been renewed.



- Check distance between contact surface for fuel metering distributor on the air flow meter and the roller on the adjusting lever. Adjust if necessary with the CO adjusting screw.

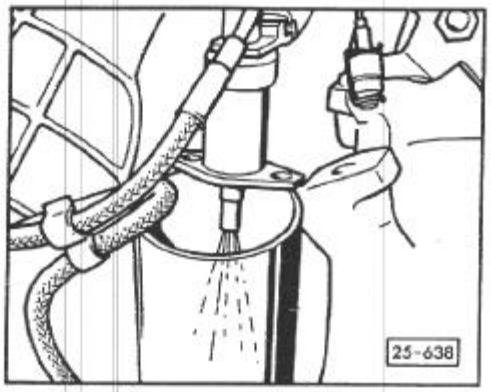
  Specified setting: 21.3 + 0.1 mm*

  *) This figure loses its validity after the CO content has been adjusted to specified setting.

CHECKING COLD START VALVE -N17

Note:

Check activation of cold start valve - Repair Group 01.



- Remove cold start valve and hold in a measuring glass.

Note:

The cold start valve is only activated for approx. 10 seconds. This is to prevent flooding of engine. To repeat the check the final control element diagnosis must be repeated

- Carry out final control element diagnosis - Repair Group 01. During the activation of the cold start valve it must spray in a uniform cone shape.

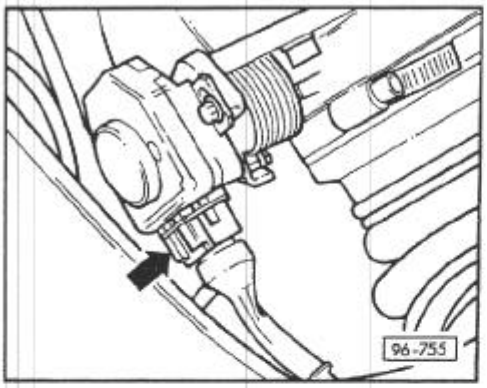
- Dry jet of cold start valve.

- The valve must not drip within one minute. The outside of the valve must also not become moist.

CHECKING AND ADJUSTING THROTTLE VALVE SWITCH

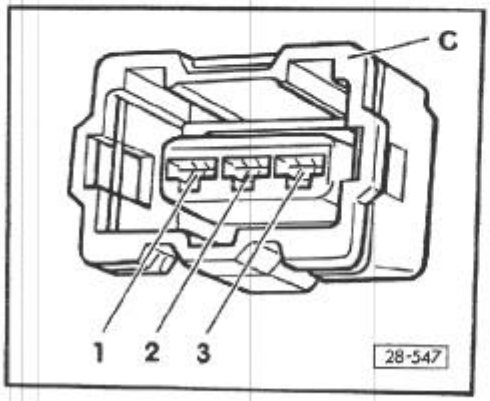
Note:

Checking and adjustment is the same on engines with and without damper on throttle valve housing.



Checking voltage supply for idle switch -F60H and full throttle switch -F81

- Pull plug for idle and full throttle switches off throttle housing.



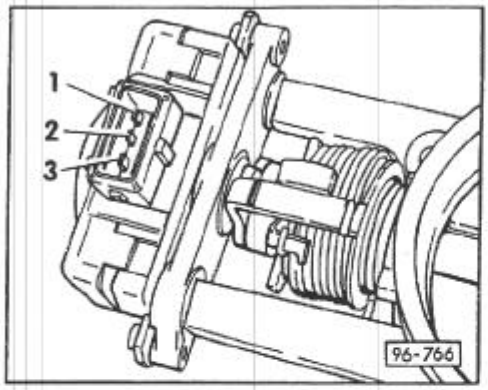
- Connect multimeter V.A.G 1526 with leads from V.A.G 1594 between contact 2 in detached plug (C) and earth to measure the voltage.
- Switch ignition on.

  Specified reading: approx. battery voltage

If reading is not correct, locate and eliminate break in wiring with the aid of current flow diagram.

Checking and adjusting idle switch -F60

- Throttle valve basic setting OK.
- Ignition switched off.



- Connect multimeter V.A.G 1526 between contacts 1 and 2 with leads from V.A.G 1594 to measure the resistance.

  Specified reading: 0 Ω
- Open throttle slowly until idle switch operates.

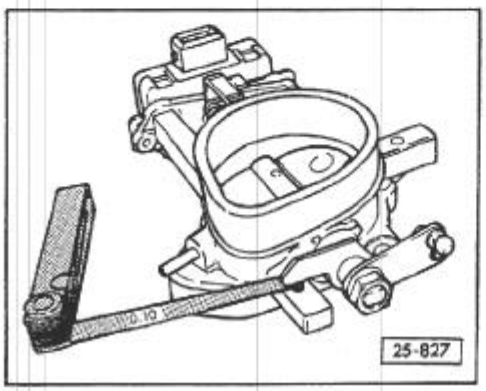
  Specified reading: ∞ Ω
- In this position there must be a gap between throttle valve stop and lever of

  approx. 0.1 mm

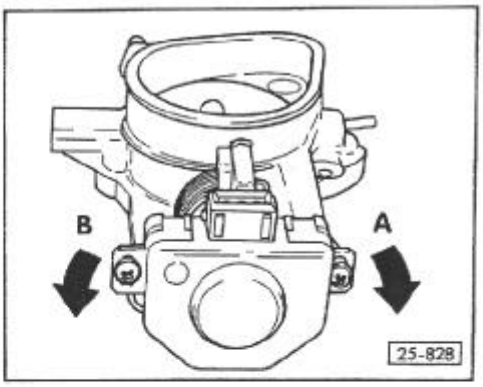
If the setting is not correct, adjust idle switch.

Note:

To adjust the idle switch the throttle valve housing must be removed.



- Clamp a 0.1 mm feeler blade between throttle valve stop and adjusting screw.



- Loosen screws securing idle switch.

- Turn switch to the right (A) and then in the opposite direction (B) until the multimeter indicates 0 Ω.

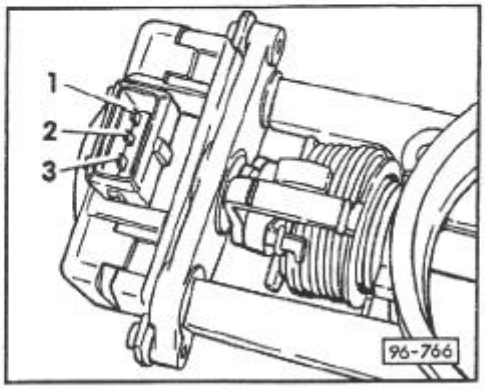
- Tighten screws again.

- Repeat measurement.

If the readings are not correct, renew idle switch.

If the readings are correct, check the full throttle switch.

Checking full throttle switch -F81



- Connect multimeter V.A.G 1526 between contacts 2 and 3 with leads from V.A.G 1594 to measure resistance.

  Specified reading: ∞ Ω

- Operate switch with throttle lever.

  Specified reading: approx. 0 Ω

If the readings are not correct, adjust the idle switch.

Note:

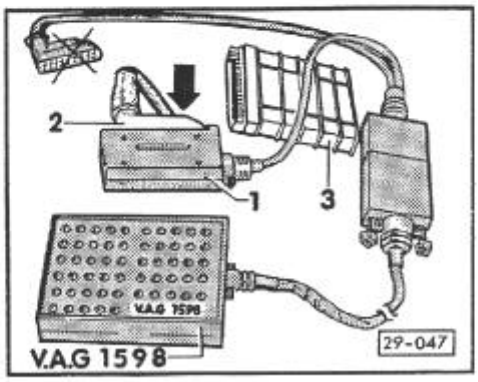
The full throttle switch cannot be adjusted.
When the idle switch has been adjusted the setting of the full throttle switch is automatically correct.

- Repeat measurement.

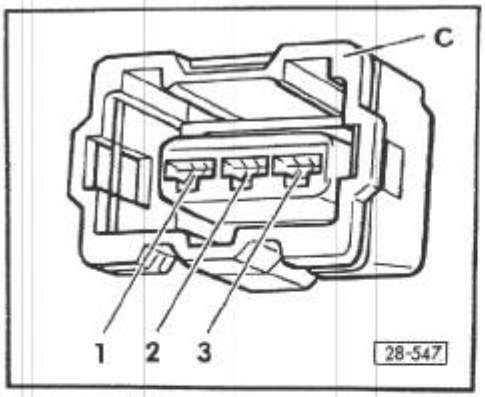
If the readings are again not correct, renew the full throttle switch.

If the readings are correct, check wiring between plug socket and plug on tester as follows:

- Remove FEI control unit and pull plug off with the ignition switched off.
  (The control unit is behind the A pillar trim in front right footwell)



- Connect test box V.A.G 1598 to detached plug of FEI control unit -2- with adapter lead V.A.G 1598/7 -1-. The numbers of the contacts in plug are identical to the numbers in the test box. Fuses OK - see current flow diagram.



- With multimeter V.A.G 1526 and leads from V.A.G 1594 check continuity between contacts in socket (C) on throttle valve housing and the contacts in the test box.

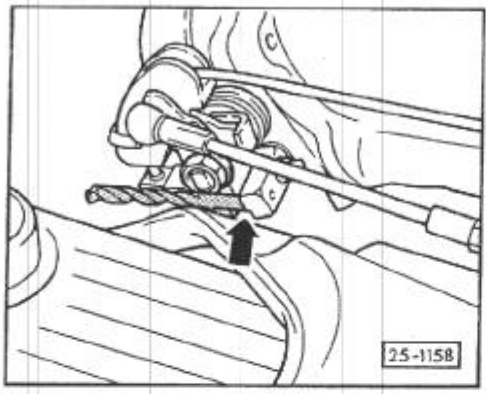
Socket (C)	Test box
1	20
3	26

Specified readings: max. 1.0 Ω

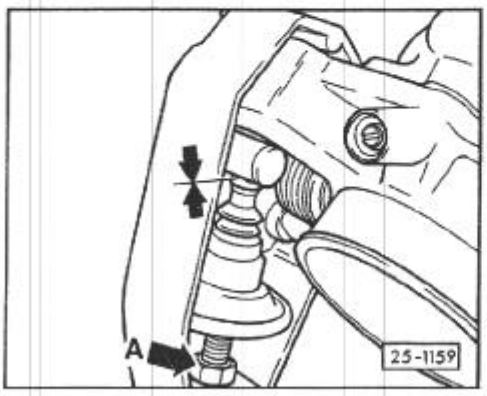
If the readings are not correct, locate and eliminate break in wiring with the aid of current flow diagram.

If readings are correct, renew FEI control unit.

CHECKING AND ADJUSTING THROTTLE DAMPER ON THROTTLE VALVE HOUSING



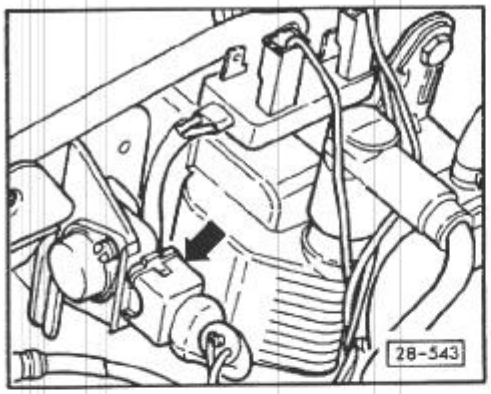
- Remove hose between charge air cooler and throttle valve housing.
- Open throttle.
- Clamp a 5 mm drill between stop and throttle lever -arrow-.



- Damper must just be lifted off the throttle valve shaft roller.

Otherwise:

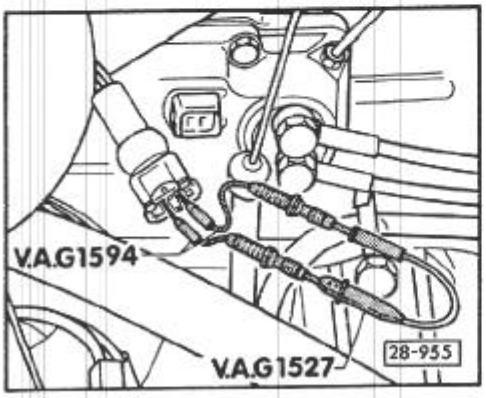
- Loosen lock nut -a- and turn damper until it no longer touches the roller.



CHECKING WARM-UP VALVE -N9

Check voltage supply.

- Engine cold / ambient temperature approx. 20 ... 30° C
- Pull plug off power stage of ignition coil.
- Pull plug off warm-up valve -N9.
- Connect diode test lamp V.A.G 1527 to plug with leads from V.A.G 1594.
- Operate starter. Test lamp must light up, otherwise locate and eliminate break in wiring with the aid of current flow diagram.



Checking control pressure - engine cold

- Engine cold / ambient temperature approx. 20 ... 30° C
- Plug pulled off warm-up valve -N9.
- Connect plug to power stage of coil.
- Connect pressure gauge V.A.G 1318 with adapter V.A.G 1318/4 - see page 25-8.
- Open valve on pressure gauge (lever in flow direction)
- Start engine and let it idle.
- The control pressure must be up to the specified reading immediately after starting.

Specified reading:

Temperature	Pressure in bar
20° C	1.5 ... 3.0
25° C	1.8 ... 2.3
30° C	2.1 ... 2.6

Checking control pressure - engine warm

- Valve on pressure gauge open
- Engine idling

- Attach plug to warm-up valve
- After 2.5 ... 5.0 minutes the control pressure must be up to specified level.

Specified pressure: 3.4 ... 3.8 bar

CHECKING SYSTEM PRESSURE

The system pressure should not be checked until fuel feed rate and fuel filter have been checked - see Repair Group 20.

- Plug connected to warm-up valve.

- Connect pressure gauge V.A.G 1318 with adapter V.A.G 1318/4 - see page 25-8.
- Close valve on pressure gauge (lever at right angles to flow direction).
- Start engine, let it idle and read system pressure on gauge.

Specified pressure: 5.6 ... 6.3 bar

If reading is not correct, the following defects may be present:

System pressure too low:

- Fuel line pinched, blocked or leaking
- Fuel filter blocked.
- Pressure accumulator leaking
- Fuel pump feed rate too low, checking - Repair Group 20.
- Fuel metering distributor defective.
- Diaphragm pressure regulator defective.

System pressure too high

- Return line blocked or pinched.
- Fuel metering distributor defective.

CHECKING HOLDING PRESSURE

- Engine oil temperature at least 50° C.
- System pressure OK

- Connect gauge V.A.G 1318 with adapter V.A.G 1318/4 - see page 25-8.

- Open valve on pressure gauge (lever in flow direction).

- Start engine and let it idle until a pressure of

  3.4 ... 3.8 bar

  is indicated.

- Switch ignition off.

- Watch pressure drop on gauge.

  Specified reading:
  - After 10 minutes at least 3.0 bar
  - After 20 minutes at least 2.8 bar

If readings are not correct:

- Check fuel pump non-return valve and lines to fuel metering distributor for leaks - Repair Group 20.

- Check cold start valve, injectors, fuel metering distributor and line connections for leaks.

CHECKING INJECTION CAPACITY

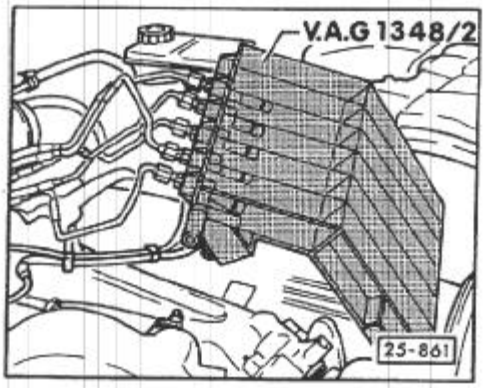
- Fuse No. 13 OK.

- Connect remote control V.A.G 1348/3A - see page 25-8.

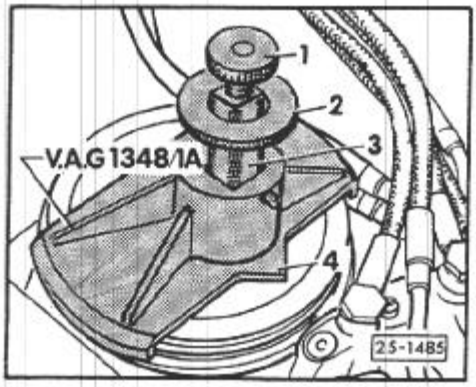
Checking spray pattern and leakage

- Remove air duct for injector cooling.

- Remove retaining strip for injectors.



- Pull injectors out of seats and insert them in the openings in the measuring appliance V.A.G 1348/2. Route fuel lines free of kinks, unclip lines if necessary.

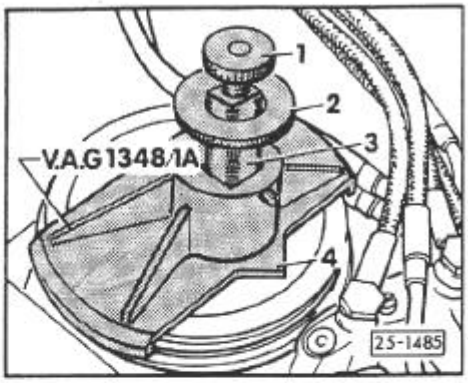


- Turn adjusting screw -1- and knurled nut -2- of appliance V.A.G 1348/1A to the upper end position. Pull slide -3- upward. Place setting appliance on air flow meter so that the tip -4- points towards the fuel metering distributor.

- Push slide -3- in to stop.

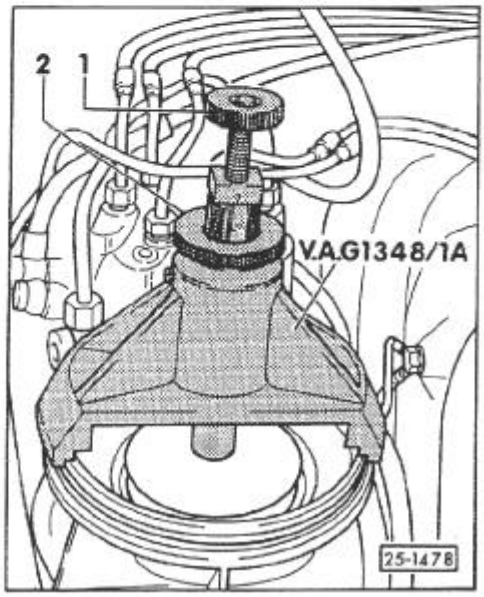
- Hold air flow meter plate in rest position by hand.

- Turn adjusting screw -1- in until magnetic foot contacts the securing screw of meter plate.



- Pull slide -3- of setting appliance up fully.
- Operate remote control switch.

  Injectors must spray in a uniform cone shape.
- Return air flow meter plate to rest position.
- Dry injector nozzles.
- Operate remote control approx. 2 minutes.
- Injectors must not drip during these 2 minutes.
- Empty measuring appliance V.A.G 1348/2 (injectors can remain in position).



Checking injection tolerance - idle

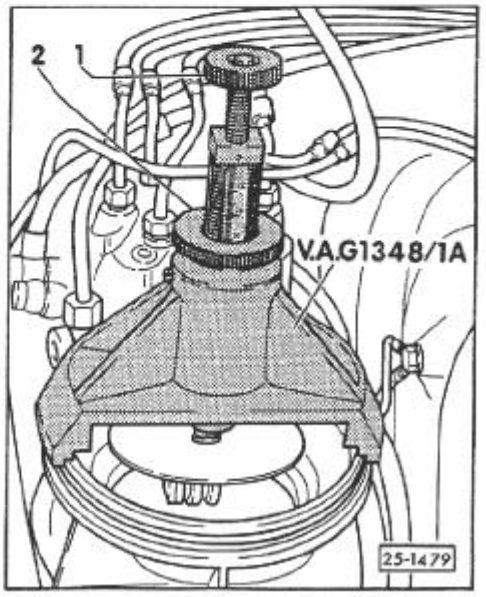
- Turn knurled nut -2- down 15 mm.
- Operate remote control for 20 seconds.
- Compare amount of fuel injected by each injector. (hold measuring appliance horizontal).
- Permissible deviation between all injectors

  max 3.0 ml

- If the deviation is larger, interchange injectors (the ones with the largest and smallest amount injected).
- Empty measuring appliance.
- Repeat injection tolerance check.

• If the different injection amount moves with the injector, the injector is defective and must be renewed).

• If the different injection amount is still at the same cylinder, the injector line is faulty (pinched) or the fuel metering distributor defective.



Checking injection tolerance - full throttle

- Empty measuring appliance.
- Turn knurled nut -2- down 30 mm.
- Operate remote control for 20 seconds.

• Permissible deviation between all injectors

  max. 8.0 ml

CHECKING AIR-SHROUDED INJECTORS AND INSERTS FOR LEAKS

- Disconnect hose to air-shrouded injectors at T piece or at intake manifold.
- Reduce compressed air pressure to 1 bar with pressure reducer.
- Remove injector cooling air duct.
- Spray injectors and inserts with non-flammable leak-finding spray.
- Pressurize hose to air-shrouded injectors with compressed air pistol.

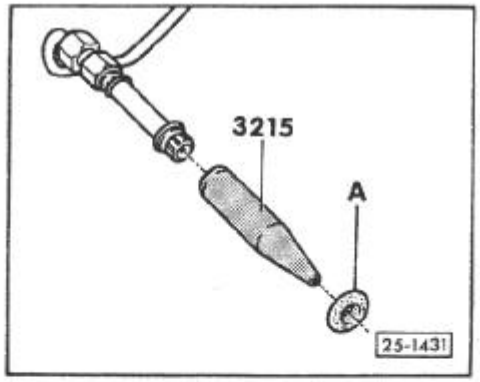
If bubbles appear between cylinder head and insert
- see page 25-44.

If bubbles appear between insert and injector, proceed as follows:

- Remove retaining strip for injectors.
- Pull injector out of seat.

> Caution!
>
> Ensure that the fuel lines are not kinked.

- Remove upper and lower O rings from injector.



- Moisten large O ring -A- (green) with petrol and slide it on to special tool 3215.
- Place special tool 3215 on injector and push O ring along until it engages in the rear groove on injector.
- Install small O ring in the front groove on injector.

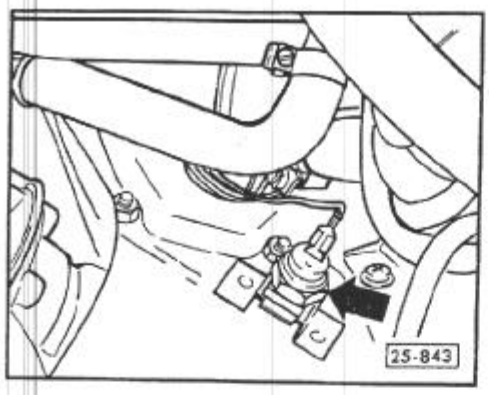
Bubbles between cylinder head and insert

- Remove retaining strip for injectors.
- Pull injector out of seat.

> Caution!
>
> Ensure that the fuel lines are not kinked.

- Unscrew insert with special tool 3135.
- Clean threads of insert and coat with locking compound AMV 154 100.
- Screw insert in by hand and tighten to 20 Nm.

CHECKING OPERATION OF COOLING FAN FOR INJECTORS



- Pull wire off thermoswitch and earth it.

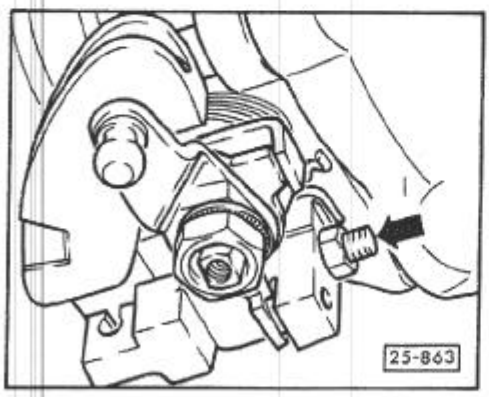
If the injector cooling fan does not run, locate and eliminate break in wiring with the aid of the current flow diagram.

If the injector cooling fan runs, renew thermoswitch.

THROTTLE VALVE BASIC STEEING

Note:

Limit screw is set at factory and must not be moved. If screw is accidentally turned, adjust as described below.



- Unscrew limit screw -arrow- until gap is present between screw and stop.

- Screw in limit screw until it touches stop.

Nota:

In order to exactly determine contact point of limit screw, place a piece of thin paper between limit screw and stop. Determine contact point by constantly sliding paper back and forth while screwing in limit screw.

- Screw in additional 1/2 turn from this point.

- Check idle stabilization or idling speed and CO content and adjust it neccessary.