

24-113

Electronic Engine Power Control (EPC) (E-Gas), checking

E-Gas system, function

For E-Gas, the throttle valve is not operated by a cable from the accelerator pedal. There is no mechanical connection between the accelerator pedal and the throttle valve.

The position of the accelerator pedal is communicated to the Engine Control Module (ECM) via two sensors for accelerator pedal position (variable resistances; stored in one housing) that are connected with the accelerator pedal.

The accelerator pedal position (driver's intention) is a main input unit for the ECM.

Operation of the throttle valve occurs via an electric motor (throttle valve actuator) in the throttle valve control module. This is true across the entire engine speed and engine load spectrum.

The throttle valve is operated by the throttle valve actuator according to the instructions of the ECM.

With ignition switched on and engine off, the

ECM activates the throttle valve actuator precisely according to the sensor for accelerator pedal position. This means, if the accelerator pedal is depressed half way, the throttle valve actuator opens the throttle valve to the same degree; i.e. throttle valve would be opened half way.

With engine running (under load), the ECM can open or close the throttle valve independently of the sensor for accelerator pedal position.

This means, for example, that the throttle valve could be fully opened even though the accelerator pedal has only been depressed half way. This has the advantage of preventing torque losses at the throttle valve.

In addition to this, it results in significantly better values relative to emissions and consumption under certain load conditions.

The required engine torque can be achieved by the Engine Control Module (ECM) via the optimal combination of throttle valve diameter and boost pressure.

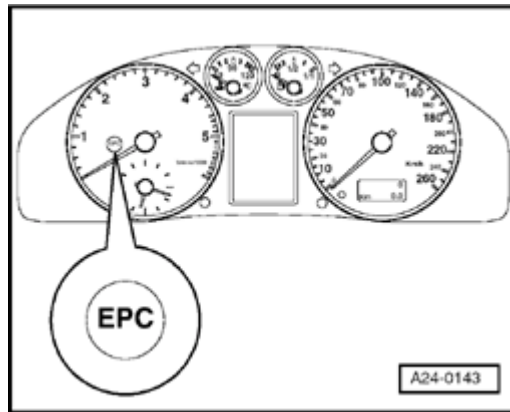
It would be incorrect to think that "E-Gas" consists of only one or two component. E-Gas is much more of a system containing all components that contribute to recognizing, controlling and monitoring the position of the throttle valve, e.g. sensor for accelerator pedal position, throttle valve control module, EPC warning lamp, Engine Control Module (ECM).

Electronic Power Control (EPC) warning lamp in instrument cluster

Note:

The Electronic Power Control (EPC) warning lamp -K132- is also called the fault light for power accelerator activation.

"EPC" is an abbreviation and stands for Electronic Power Control (E-gas).



Installation location of EPC warning lamp

Engine Control Module (ECM) checks all components that are important for function of the E-Gas system after ignition is switched on.

The Engine Control Module (ECM) switches on the EPC warning lamp after ignition is switched on. Shortly after engine is started, the EPC warning lamp will go out. This requires, first of all, that the Engine Control Module (ECM) does not detect a malfunction in the E-gas system and, secondly, that activation of the lamp by the Engine Control Module (ECM) is OK.

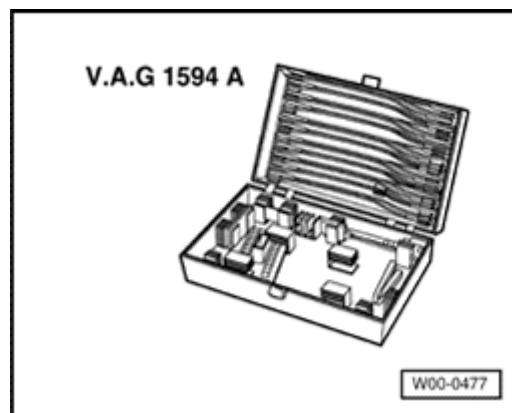
If malfunctions are recognized in the E-Gas system during operation of the engine, the ECM switches on the EPC warning lamp in instrument cluster. (These malfunctions are listed in the DTC table). An entry is made in DTC memory at the same time.

Electronic Power Control (EPC) warning lamp -K132-, checking

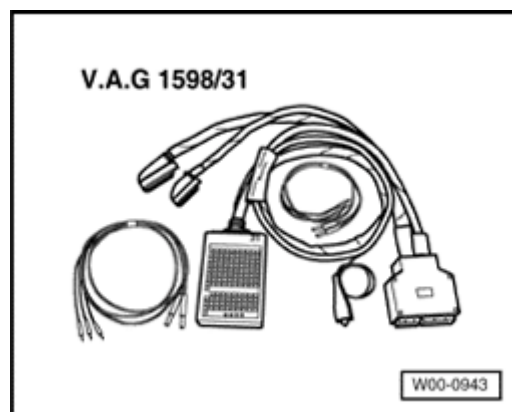
Note:

The fault light for power accelerator activation - K132- is also called the EPC warning lamp.

Special tools and equipment



◆ VAG1594A



◆ VAG1598/31

Function test of warning lamp

- Switch ignition on.
 - ◆ The EPC warning lamp must light up for approximately 3 seconds if there are no malfunctions stored in DTC memory that relate to the E-gas system

A- Fault light for power accelerator activation -K132- does not light up

- Connect VAG1598/31 test box at wiring harness to Engine Control Module (ECM), do not connect ECM ⇒ [Page 24-19](#) .
- Bridge terminals 1 and 48 at test box using wires from VAG1594A adapter test kit.
- Switch ignition on.
 - ◆ Warning lamp must light up.

If warning lamp does not light up:

- Switch ignition off.
- Remove instrument cluster:

⇒ [Repair Manual, Electrical Equipment, Repair Group 90, Instrument cluster, removing and installing](#)

- Check following wire connection for open circuit and short circuit to B+:

Test box	Instrument cluster
VAG1598/31	
Socket	Terminal
48	⇒ <i>Electrical Wiring Diagrams, Troubleshooting & Component Locations</i>

- Repair open circuit or short circuit if necessary.

If wire connection is OK:

- Replace Engine Control Module (ECM) ⇒ [Page 24-23](#)

B- Fault light for power accelerator activation -K132- lights up constantly

- Check DTC memory of Engine Control Module (ECM) ⇒ [Page 01-16](#) .

If no DTCs are stored:

- Connect VAG1598/31 test box at wiring harness to Engine Control Module (ECM), do not connect ECM ⇒ [Page 24-19](#) .

- Remove instrument cluster:

⇒ [Repair Manual, Electrical Equipment, Repair Group 90, Instrument cluster, removing and installing](#)

- Check following wire connection for short circuit to Ground (GND):

Test box	Instrument cluster
VAG1598/31	
Socket	Terminal
48	⇒ <i>Electrical Wiring Diagrams,</i>

<i>Troubleshooting & Component Locations</i>
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- Repair short circuit if necessary.

If wire connection is OK:

- Replace Engine Control Module (ECM) ⇒ [Page 24-23](#)

Throttle valve control module -J338-, checking

The following components are located in the housing for the throttle valve control module:

- ◆ Throttle drive (power accelerator actuation) - G186-. (This is an electric motor that is activated by the ECM. This electric motor opens the throttle valve against spring pressure.)
- ◆ Angle sensor -1- for throttle drive (power accelerator actuation) -G187-
- ◆ Angle sensor -2- for throttle drive (power accelerator actuation) -G188-

Note:

- ◆ *The housing for the throttle valve control module must not be opened.*
- ◆ *The angle sensors are designed as potentiometers (variable resistances). They communicate the position of the throttle valve to the Engine Control Module (ECM) fully independent of each other.*
- ◆ *The potentiometers cannot be mechanically*

adjusted. Adjustment is performed in basic setting (function 04) using the VAS5051 tester or the VAG1551 Scan Tool (ST).

Throttle valve control module, adapting

The adaptation teaches the Engine Control Module (ECM) various positions of the throttle valve when the ignition is on and the engine is stopped. These positions are stored in the control module. The return communication regarding the position of the throttle valve occurs via the two angle sensors for throttle drive.

An adaptation must always be performed when the throttle valve control module -J338- or the Engine Control Module (ECM) are removed and installed (or replaced) or if voltage supply to the Engine Control Module (ECM) is interrupted.

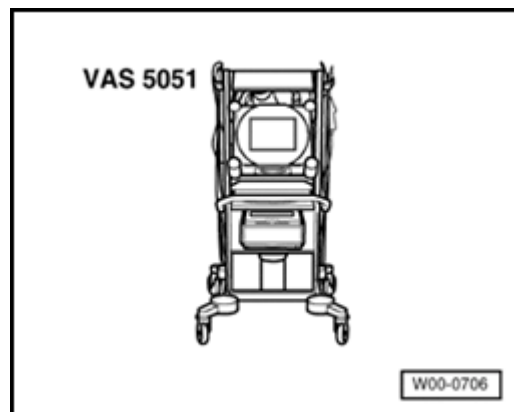
The learning process (adaptation) occurs:

- ◆ automatically if the ignition is switched on for at least 10 seconds without operating starter and accelerator pedal and the Engine Control Module (ECM) recognizes "adaptation required". (There will be no notification of whether adaptation was successful or not however). Adaptation required is recognized if stored voltage values from the angle sensors do not match actual measured voltage values within a certain tolerance range.

- ◆ via initiation of basic setting (function 04) display group 060 with ignition on.

Note:

Engine will not start during automatic adaptation.

Special tools and equipment

◆ VAS5051 with VAG5051/1

or

◆ VAG1551 with VAG1551/3A

Requirements

- No DTCs in DTC memory, check DTC memory ⇒ [Page 01-16](#) .
- Engine not running, ignition switched on.
- Accelerator pedal not depressed.
- Coolant temperature 10 to 95 ° C.
- Intake air temperature 10 to 90 ° C.
- Supply voltage for Engine Control Module (ECM) more than 12.7 volts; checking ⇒ [Page 28-36](#) .

Procedure

- Connect VAS5051 tester or VAG1551 scan tool and select control module for engine electronics using "address word" 01 ⇒ [Page 01-10](#) . Ignition must remain switched on.

Rapid data transfer HELP
Select function XX



When indicated on display

- Press buttons -0- and -4- to select "Initiate basic setting" and press -Q- button to confirm input.

Basic Setting Q
Enter display group number XXX



When indicated on display

- Press buttons -0-, -6- and -0- to select "display group number 060" and press -Q- button to confirm input.

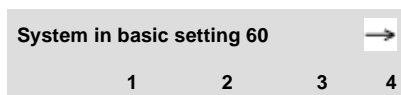
After pressing Q-button, throttle valve actuator will be switched on without current.

In this condition, the throttle valve will be drawn into an emergency position by a mechanical spring, which is located in the throttle valve control module. The values supplied by the two angle sensors in this emergency position are stored by the Engine Control Module (ECM).

Next, the throttle valve is opened by a certain value. If this value is reached, the throttle valve actuator is once again de-energized. Now, the mechanical spring must close the throttle valve to the previously learned emergency position within a specified time (spring test).

Then, the throttle valve is closed by the throttle valve actuator; the values supplied by the angle sensors in the throttle valve control unit are stored by the Engine Control Module (ECM).

If Engine Control Module (ECM) should de-energize throttle valve actuator during driving operation, this is expressed by an increased, surging idle speed (RPM). The engine accepts gas only after great delay.



When indicated on display

- Check specified values for throttle valve control module in display fields 3 and 4.

24-125

	Display fields			
	1	2	3	4
Display group 060: Adaptation of throttle valve control module				
Display	xx %	xx %	x	---
Indicated	Throttle valve angle (angle sensor 1)	Throttle valve angle (angle sensor 2)	Adaptation step counter	Adaptation condition
Functional range			0 to 8	ADP in progress ADP OK ERROR
Specified value	3 to 93 %	97 to 3 %	8	ADP OK
Note			After adaptation, the adaptation step counter reaches the number 8 (it is OK for numbers to be skipped).	If "ERROR." is displayed: Check DTC memory ⇒ Page 01-16 . If specified value is not obtained: ⇒ Note, ⇒ Page 24-126

Note:

The abbreviation "ADP" in display field 4 stands for "Adaptation".

Note:

The control module can abort adaptation for the following reasons:

- ◆ *Throttle valve cannot be closed completely (e.g. contamination).*
- ◆ *Battery voltage is too low.*
- ◆ *Throttle valve control module or wire connection is faulty.*
- ◆ *Engine is started during adaptation or accelerator pedal is operated.*
- ◆ *Tension of throttle valve housing (check bolts).*

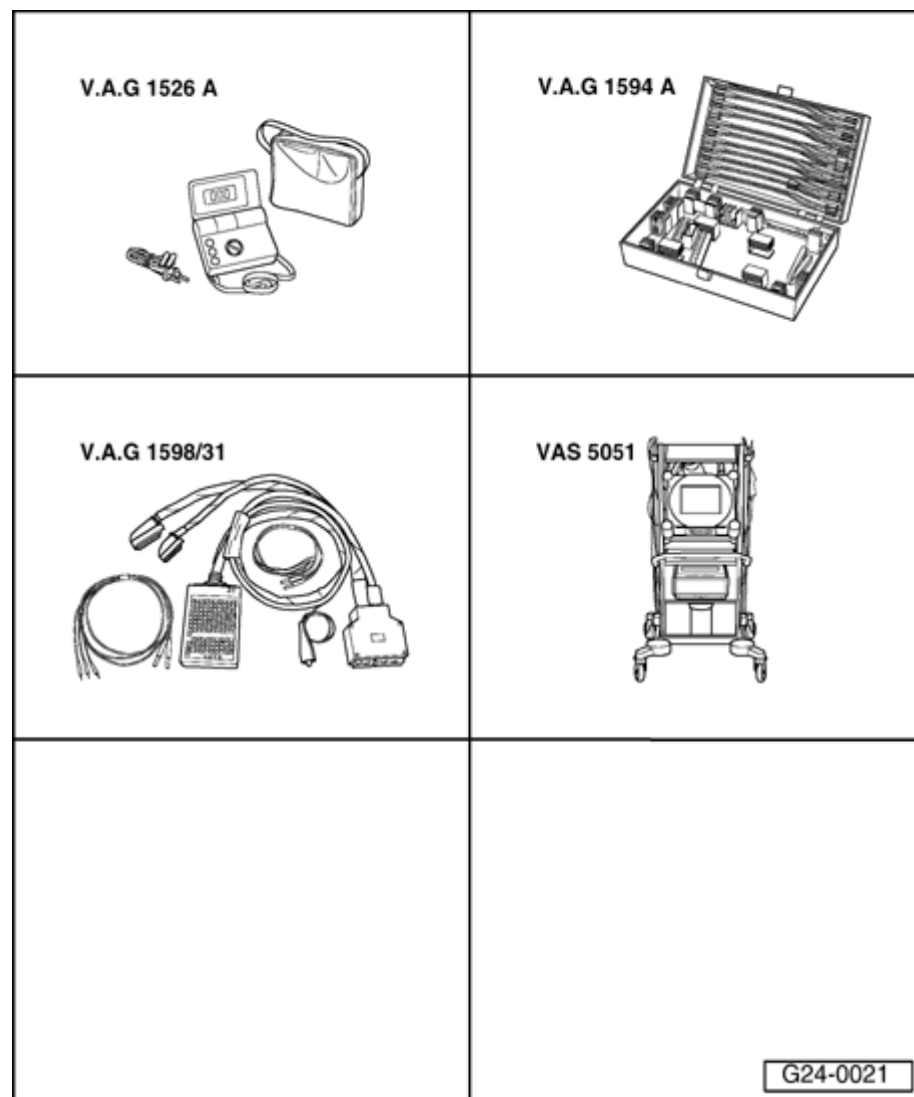
After termination, tester displays "Function is unknown or cannot be performed at the moment". The next time the ignition is switched on (several seconds), adaptation will be automatically repeated.

- End basic adjustment of the engine by pressing the → key.



Select function XX

24-127



Angle sensor -1- for throttle drive, checking

Special tools and equipment

- ◆ VAG1526A
- ◆ VAG1594A
- ◆ VAG1598/31
- ◆ VAS5051 with VAG5051/1
- or
- ◆ VAG1551 with VAG1551/3A

Angle sensor 1 for throttle drive (power accelerator actuation) -G187- and angle sensor 1 for throttle drive (power accelerator actuation) - G188- inform the Engine Control Module (ECM) about the position of the throttle valve. Both angle sensors are located in the throttle valve control module.

Test sequence

- Connect VAS5051 tester or VAG1551 scan tool and select control module for engine electronics using "address word" 01 ⇒ [Page 01-10](#) . Ignition must remain switched on.

Rapid data transfer HELP
Select function XX



When indicated on display

- Press buttons -0- and -8- to select "Read Measuring Value Block" and press -Q- button to confirm input.

Read measuring value block Q
Enter display group number XXX



When indicated on display

- Press buttons -0-, -6- and -2- to select "display group number 062" and press -Q- button to confirm input.

Read Measuring Value Block 62 →
1 2 3 4



Indicated on display

- Check specified values for E-gas potentiometer voltages in display fields 1 and 2.

24-129

	Display fields			
	1	2	3	4
Display group 062: E-Gas potentiometer voltages				
Display	xx %	xx %	xx %	xx %
Indicated	Throttle valve angle (angle sensor 1)	Throttle valve angle (angle sensor 2)	Sensor 1 for Pedal position	Sensor 2 for Pedal position
Specified value	3 to 93 %	97 to 3 %	12 to 97 %	4 to 49 %

Note:

Engine Control Module (ECM) calculates the voltage values of the angle sensors in percent relative to 5 volts and displays these percentage values. (5 volts supply voltage represents 100 %).

- Observe display field 1 and 2.
- Slowly depress accelerator pedal completely.

Percent indication in display field 1 must rise uniformly. In the process, the tolerance range of 3 to 93% is not completely utilized.

Percent indication in display field 2 must decrease uniformly. The tolerance range 97 to 3 % is not used completely during this.

Note:

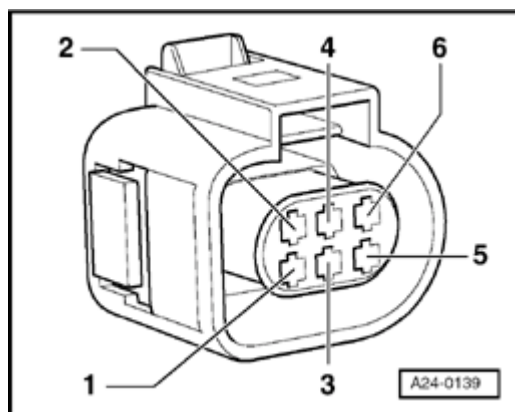
- ◆ *The reason why the value indicated in display field 1 climbs, while the value indicated in display field 2 decreases, has to do with the fact that the potentiometers (angle sensors) in the throttle valve control unit run in opposite directions.*
- ◆ *This means that the voltage tap of angle sensor 1 runs from 0 to 5 volts. (The more the throttle valve is opened, the larger the voltage; percent indication climbs).*
- ◆ *The voltage tap of angle sensor 2 runs from 5 to 0 volts. (The more the throttle valve is opened, the lower the voltage; the percentage decreases).*

If indications do not resemble description:

- Check voltage supply and wire connections of throttle valve control module ⇒ [Page 24-131](#) . Pay particular attention to harness connectors that could be loose or corroded.
- Check accelerator pedal position sensor ⇒ [Page 24-133](#) .

Check voltage supply throttle valve control module

- Pull connector -2- off throttle valve control module.
- Switch ignition on.



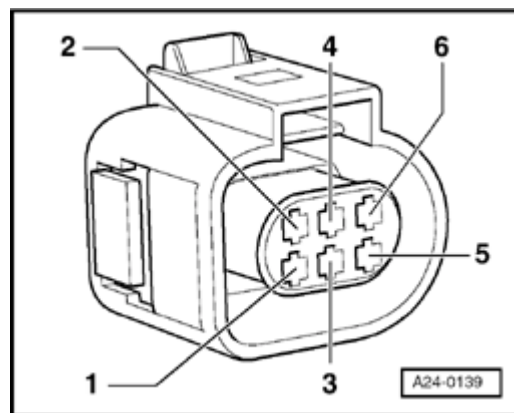
A

- Connect multimeter for voltage measurement as follows:

Harness connector	Specified value
Terminal	
2 + Ground (GND)	about 5 V
2 + 6	about 5 V

If specified values are not obtained:

- Check wire connections from Engine Control Module (ECM) to throttle valve control module ⇒ [Page 24-132](#) .



Checking wire connections

A

- Pull connector -2- off throttle valve control module.
- Connect VAG1598/31 test box at wiring harness to Engine Control Module (ECM), do not connect ECM ⇒ [Page 24-19](#) .
- Check following wire connections for open circuit and short circuit to Ground (GND) and B+:

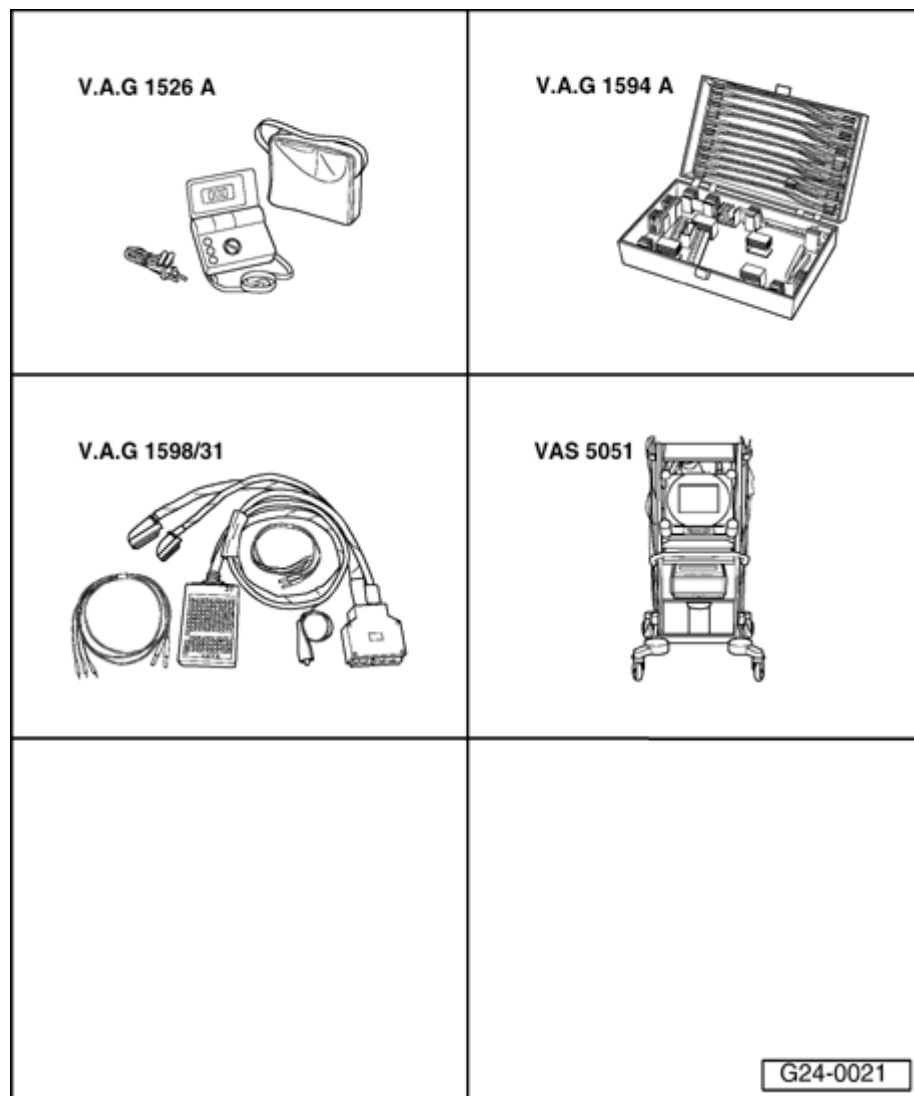
Harness connector	VAG1598/31 test box
Terminal	Socket
1	92
2	83
3	117
4	84
5	118
6	91

- Repair open circuit or short circuit if necessary.

If no malfunctions are found in wires:

- Replace throttle valve control module.

24-133



Throttle Position (TP) sensor, checking

Special tools and equipment

- ◆ VAG1526A
- ◆ VAG1594A
- ◆ VAG1598/31
- ◆ VAS5051 with VAG5051/1
- or
- ◆ VAG1551 with VAG1551/3A

Both the Throttle Position (TP) sensor -G79- and the Sender -2- for accelerator pedal position -G185- are located at the accelerator pedal and communicate the driver's intentions to the ECM completely independently of each other. Both sensors are stored in one housing.

Test sequence

- Connect VAS5051 tester or VAG1551 scan tool and select control module for engine electronics using "address word" 01 ⇒ [Page 01-10](#) . Ignition must remain switched on.

Rapid data transfer HELP
Select function XX



When indicated on display

- Press buttons -0- and -8- to select "Read Measuring Value Block" and press -Q- button to confirm input.

Read measuring value block Q
Enter display group number XXX



When indicated on display

- Press buttons -0-, -6- and -2- to select "display group number 062" and press -Q- button to confirm input.

Read Measuring Value Block 62 →
1 2 3 4



Indicated on display

- Check specified values for E-gas potentiometer voltages in display fields 3 and 4.

24-135

	Display fields			
	1	2	3	4
Display group 062: E-Gas potentiometer voltages				
Display	xx %	xx %	xx %	xx %
Indicated	Throttle valve angle (angle sensor 1)	Throttle valve angle (angle sensor 2)	Sensor 1 for Pedal position	Sensor 2 for Pedal position
Specified value	3 to 93 %	97 to 3 %	12 to 97 %	4 to 49 %

Note:

Engine Control Module (ECM) calculates the voltage values of the angle sensors in percent relative to 5 volts and displays these percentage values. (5 volts supply voltage represents 100 %).

- Observe display field 3 and 4.
- Slowly depress accelerator pedal completely.

Percent indication in display field 3 must rise uniformly. The tolerance range 12 to 97% is not used completely during this.

Percent indication in display field 4 must also rise uniformly. In the process, the tolerance range of 4 to 49% is not completely utilized.

Note:

The indicated value in display field 3 must always be about twice as large as the value in display field 4.

If indications do not resemble description:

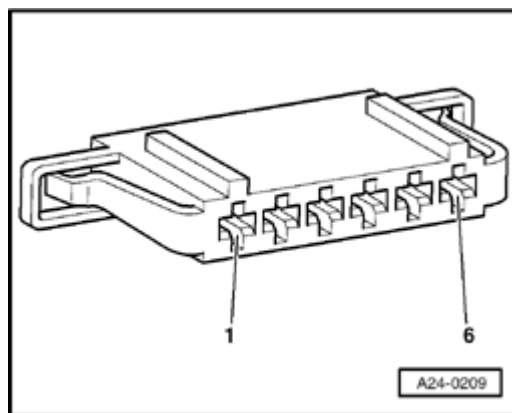
- Check voltage supply and wire connections of sensor for accelerator pedal position ⇒ [Page 24-137](#) .

Checking voltage supply of Throttle Position (TP) sensor

- Remove driver-side storage compartment.

⇒ [Repair Manual, Body Interior, Repair Group 68; Instrument panel; Driver-side storage compartment, removing](#)

- Disconnect harness connector for accelerator pedal position sensor.
- Switch ignition on.



A

- Connect multimeter for voltage measurement as follows:

Harness connector	Specified value
Terminal	
1 + Ground (GND)	about 5 V
1 + 5	about 5 V
2 + Ground (GND)	about 5 V
2 + 3	about 5 V

If specified values are obtained:

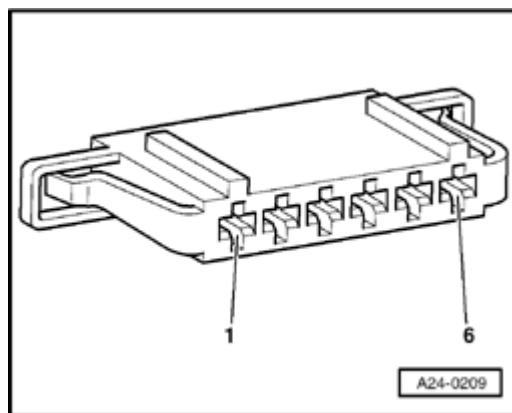
- Also check signal wires.

If specified values are not obtained:

- Check wire connections from Engine Control Module (ECM) to sensors for accelerator pedal position.

Checking wire connections

- Connect VAG1598/31 test box at wiring harness to Engine Control Module (ECM), do not connect ECM ⇒ [Page 24-19](#) .



A

- Check following wire connection for open circuit and short circuit to Ground (GND) and B+:

Harness connector	VAG1598/31 test box
Terminal	Socket
1	72
2	73
3	36
4	35
5	33
6	34

- Repair open circuit or short circuit if necessary.

If no malfunctions are found in wires:

- Replace accelerator pedal position sensor.

⇒ [Repair Manual, Fuel Supply System, Repair Group 20](#)

Kick down function, adapting

If the sensor for accelerator pedal position or the Engine Control Module (ECM) is replaced on a vehicle with automatic transmission, the kick down function must be adapted.

Special tools and equipment

- ◆ VAS5051 with VAG5051/1

or

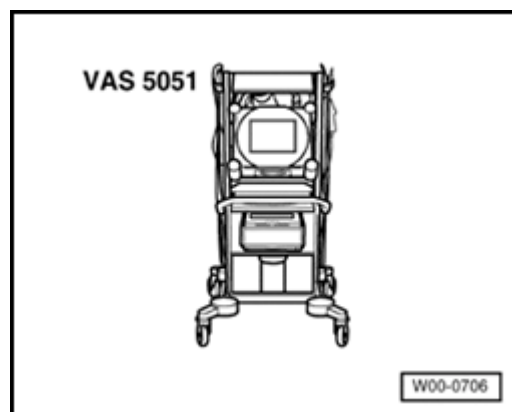
- ◆ VAG1551 with VAG1551/3A

Requirements

- No DTCs in DTC memory, check DTC memory ⇒ [Page 01-16](#) .
- Engine not running, ignition switched on.

Procedure

- Connect VAS5051 tester or VAG1551 scan tool and select control module for engine electronics using "address word" 01 ⇒ [Page 01-10](#) . Ignition must remain switched on.



Rapid data transfer HELP
Select function XX

⏪ When indicated on display

- Press buttons -0- and -4- to select "Initiate basic setting" and press -Q- button to confirm input.

Basic Setting Q
Enter display group number XXX

⏪ When indicated on display

- Press buttons -0-, -6- and -3- to select "display group number 063" and press -Q- button to confirm input.

System in basic setting 63 →
1 2 3 4

⏪ When indicated on display

Note:

There will be a prompt: "Operate kickdown".

- Depress accelerator pedal completely, past kick down point, and hold down.

Note:

During adaptation of the kick down point, the VAG1551 will display "Kick down ADP in progress". After successful adaptation of the kick down point, the VAG1551 will display "Kick down ADP OK".

- Check specified value in display field 4:

24-141

	Display fields			
	1	2	3	4
Display group 063: Kick down function, adapting				
Display	xx %	xx %	Kick down	---
Indicated	Sensor 1 for Pedal position	Sensor 2 for Pedal position	Kick down	Adaptation condition
Functional range			Kick down	operate ADP in progress ADP OK ERROR
Specified value	12 to 97 %	4 to 49 %	Kick down	ADP OK
Note				If "ERROR." is displayed: Check DTC memory ⇒ Page 01-16 .

Note:

- ◆ The abbreviation "ADP" in display field 4 stands for Adaptation.
- ◆ "ERROR" can be indicated, for example, if the accelerator pedal is not immediately pressed in response to a request by the tester or if the accelerator pedal is released while adaptation is running despite the fact that adaptation is not yet

complete. In both cases, "Basic Setting" must be exited and the adaptation must be performed again ⇒ [Page 24-139](#).

If specified value "ADP OK" is obtained:

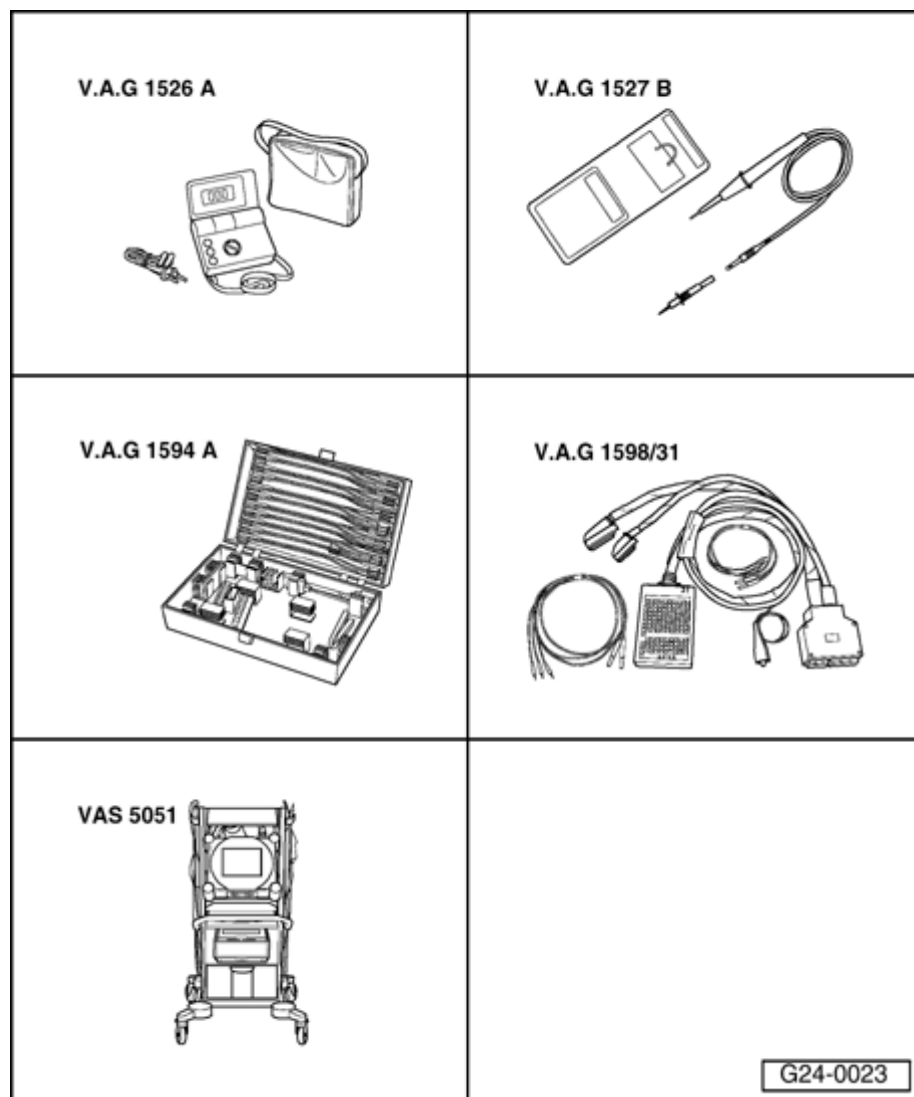
- Press → button.

Rapid data transfer HELP
Select function XX



Indicated on display (function selection):

24-143



Brake light switch and brake pedal switch, checking

Special tools and equipment

- ◆ VAG1526A
- ◆ VAG1527B
- ◆ VAG1594A
- ◆ VAG1598/31
- ◆ VAS5051 with VAG5051/1
- or
- ◆ VAG1551 with VAG1551/3A

Note:

For safety reasons, the instruction from the accelerator pedal sensor (potentiometer) to the ECM to open the throttle valve is suppressed when brake is being operated. This requires the brake light switch signal and also the brake pedal switch signal in the control module. If brake pedal is operated with accelerator pedal constantly depressed, engine is immediately regulated down to idle speed. A faulty switch can lead to undesired regulation.

Test sequence

- Connect VAS5051 tester or VAG1551 scan tool and select control module for engine electronics using "address word" 01 ⇒ [Page 01-10](#) . Ignition must remain switched on.

Rapid data transfer HELP
Select function XX



When indicated on display

- Press buttons -0- and -8- to select "Read Measuring Value Block" and press -Q- button to confirm input.

Read measuring value block Q
Enter display group number XXX



When indicated on display

- Press buttons -0-, -6- and -6- to select "display group number 066" and press -Q- button to confirm input.



Indicated on display

- Check brake light/brake pedal switch in display field 2.

	Display fields			
	1	2	3	4
Display group 066: Signals to Engine Control Module (ECM)				
Display	xxx km/h	XXXX	xxx km/h	XXXX
Indicated	ACTUAL speed	Switch positions	SPECIFIED speed	Switch positions
Functional range		XX00 XX11		
Specified value		XX00 (with brake pedal not operated) XX11 (with brake pedal operated)		
Note		Value:X = no significance. Switch points slightly offset		

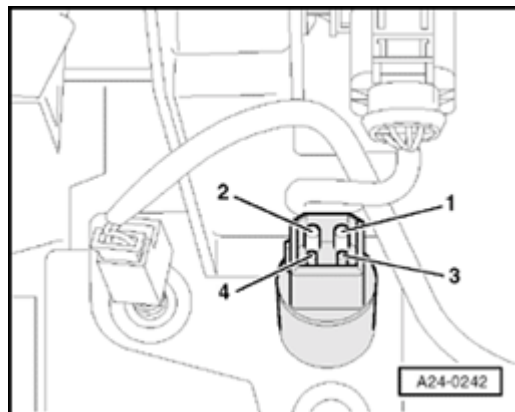
If indications do not resemble description:

Check switch

- Remove driver-side storage compartment.

⇒ [Repair Manual, Body Interior, Repair Group 68; Instrument panel; Driver-side storage compartment, removing](#)

- Disconnect harness connector at brake light switch and brake pedal switch.



A

- Connect multimeter between terminal 1 and 2 for resistance measurement.
 - ◆ Specification: $\infty \Omega$ (no continuity)
- Depress accelerator pedal.
 - ◆ Specification: approx. 0Ω
- Connect multimeter between terminal 3 and 4 for resistance measurement.
 - ◆ Specification: approx. 0Ω
- Depress accelerator pedal.
 - ◆ Specification: $\infty \Omega$ (no continuity)

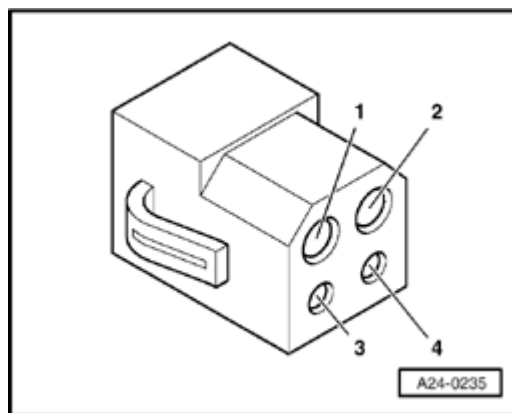
If specified values are not obtained:

- Replace brake light switch / brake pedal switch.

If specified values are obtained:

- Check voltage supply

Checking voltage supply



A

- Connect VAG1527B voltage tester as follows:

Harness connector	Measure to
Terminal	
1	Chassis Ground (GND)

- ◆ LED must light up.

Harness connector	Measure to
Terminal	
3	Chassis Ground (GND)

- Switch ignition on.

- ◆ LED must light up.

If LED does not light up:

- Check wire connection from terminal 1 or 3 of connector for open circuit and short circuit to Ground (GND):

⇒ *Electrical Wiring Diagrams, Troubleshooting & Component Locations*

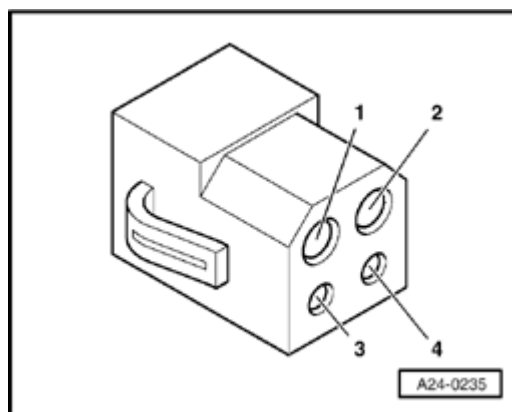
- Repair open circuit or short circuit if necessary.

If LED lights up:

- Checking activation.

Checking activation

- Connect VAG1598/31 test box at wiring harness to Engine Control Module (ECM), do not connect ECM ⇒ [Page 24-19](#) .



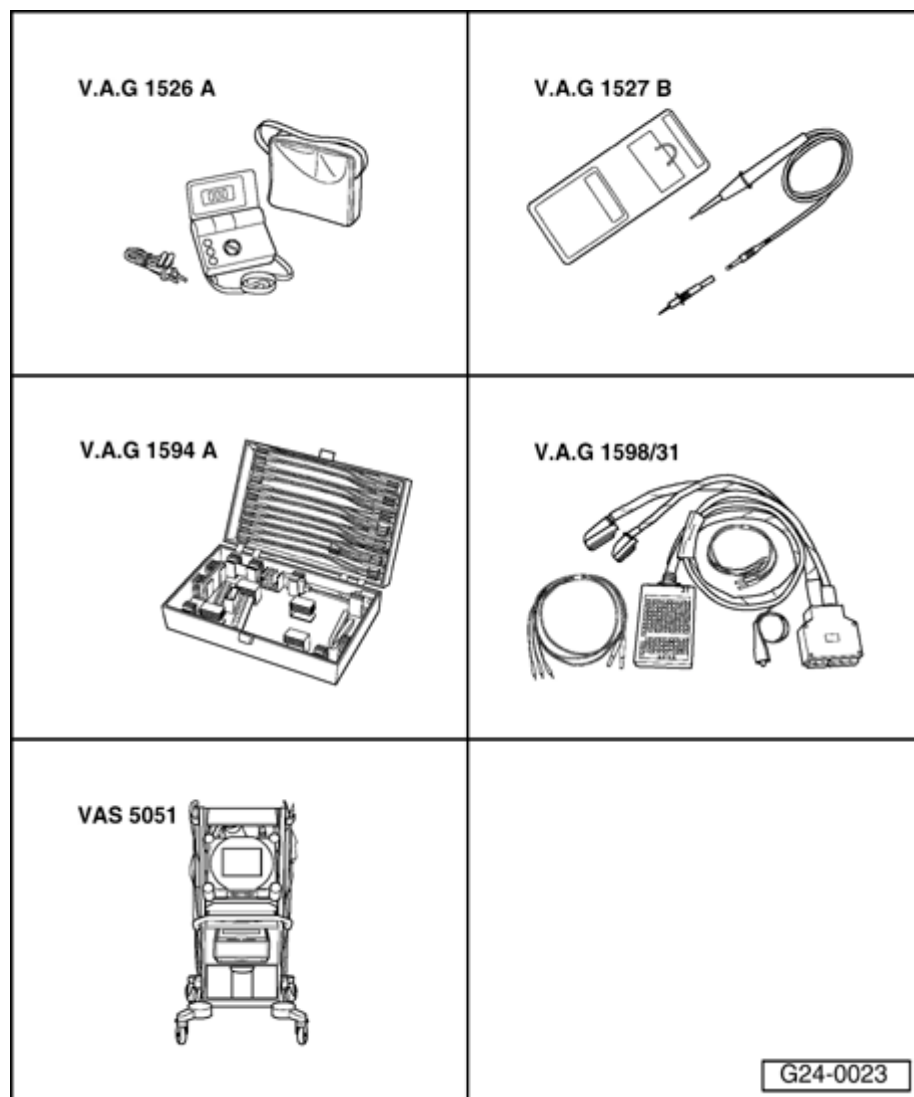
A

- Check following wire connections for open circuit and short circuit to Ground (GND) and B+:

Harness connector	VAG1598/31 test box
Terminal	Socket
2	56
4	55

- Repair open circuit or short circuit if necessary.

24-149



Clutch vacuum vent valve switch -F36-, checking

Special tools and equipment

- ◆ VAG1526A
- ◆ VAG1527B
- ◆ VAG1594A
- ◆ VAG1598/31
- ◆ VAS5051 with VAG5051/1
- or
- ◆ VAG1551 with VAG1551/3A

Note:

This signal helps prevent excessive RPM oscillations and tip-in shocks when clutch is disengaged and is required for the cruise control system.

Test sequence

- Connect VAS5051 tester or VAG1551 scan tool and select control module for engine electronics using "address word" 01 ⇒ [Page 01-10](#) . Ignition must remain switched on.

Rapid data transfer HELP
Select function XX



When indicated on display

- Press buttons -0- and -8- to select "Read Measuring Value Block" and press -Q- button to confirm input.

Read measuring value block Q
Enter display group number XXX



When indicated on display

- Press buttons -0-, -6- and -6- to select "display group number 066" and press -Q- button to confirm input.

Read Measuring Value Block 66 →
1 2 3 4



Indicated on display

- Check Clutch Pedal Position (CPP) switch in display field 2.

24-151

	Display fields			
	1	2	3	4
Display group 066: Signals to Engine Control Module (ECM)				
Display	xxx km/h	XXXX	xxx km/h	XXXX
Indicated	ACTUAL speed	Switch positions	SPECIFIED speed	Switch positions
Functional range		XX00 XX11		
Specified value		X0XX (at clutch pedal not operated) X1XX (at clutch pedal operated)		
Note		Value:X = no significance		

If indications do not resemble description:

Check switch

- Remove driver-side storage compartment.

⇒ [Repair Manual, Body Interior, Repair Group 68; Instrument panel; Driver-side storage compartment, removing](#)

- Disconnect harness connector at Clutch Pedal Position (CPP) switch.
- Connect multimeter between terminal 1 and 2 for resistance measurement.

◆ Specification: approx. $0\ \Omega$

- Depress clutch pedal.

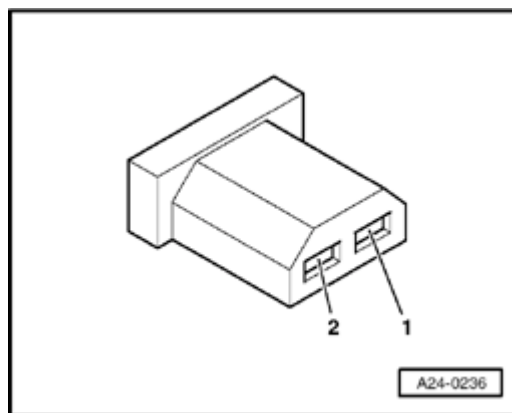
◆ Specification: $\infty\ \Omega$ (no continuity)

If specified value is not obtained:

- Replace Clutch Pedal Position (CPP) switch.

If specified value is obtained:

- Check voltage supply



Checking voltage supply

A

- Connect VAG1527B voltage tester as follows:

Harness connector	Measure to
Terminal	
1	Chassis Ground (GND)

- Switch ignition on.
 - ◆ LED must light up.

If LED does not light up:

- Check wire connection from terminal 1 of connector to fuse for open circuit:

⇒ *Electrical Wiring Diagrams, Troubleshooting & Component Locations*

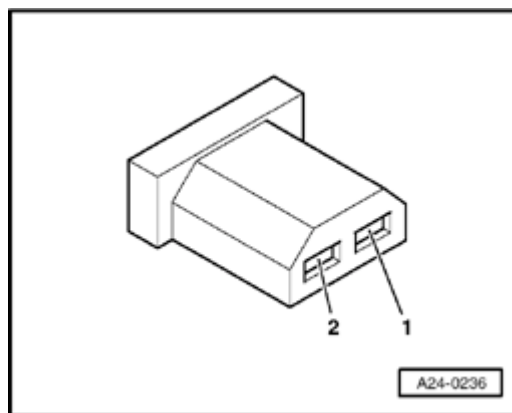
- Repair open circuit if necessary.

If LED lights up:

- Checking activation.

Checking activation

- Connect VAG1598/31 test box at wiring harness to Engine Control Module (ECM), do not connect ECM ⇒ [Page 24-19](#) .



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- Check following wire connection for open circuit and short circuit to Ground (GND) and B+:

Harness connector	VAG1598/31 test box
Terminal	Socket
2	39

- Repair open circuit or short circuit if necessary.