

Data bus diagnosis interface

The data bus diagnosis interface J533

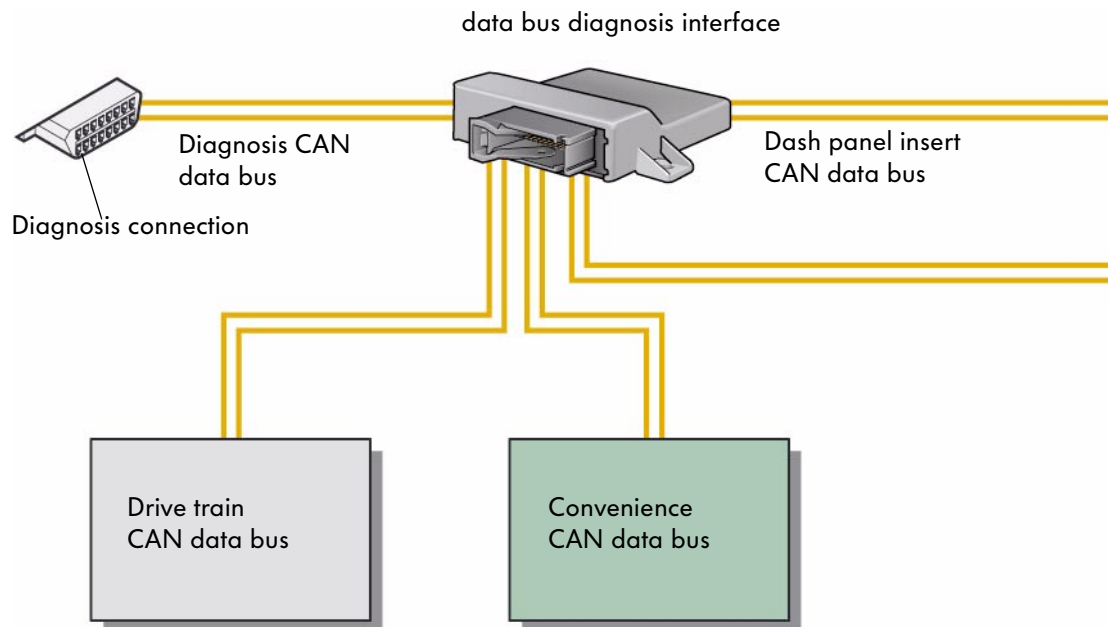
Description

Due to the high level of network functions, a great deal of data is transferred. To assure the effective exchange of data, several data bus systems are necessary that transfer data between each other.

The data bus diagnosis interface connects these data buses together as a gateway interface and makes data transfer possible. This function that was perviously integrated in the dash panel insert or onboard power supply control unit, is now an independent control unit.

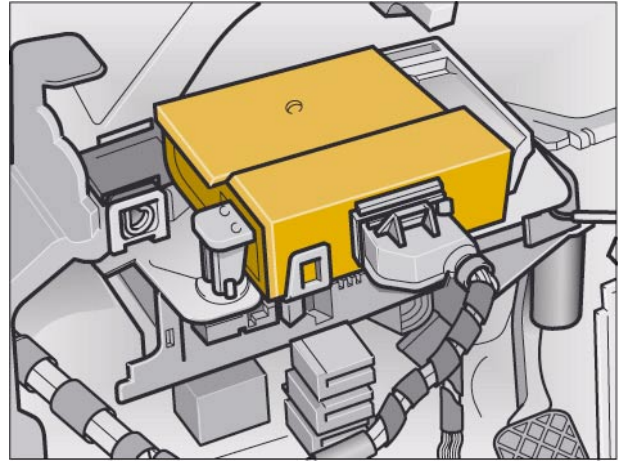


Data transfer



Fitting location

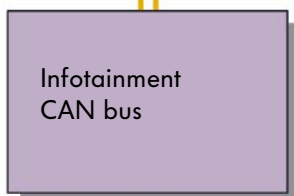
The data bus diagnosis interface can be found on the left next to the dash panel above the fuse box.



S307_014



Dash panel insert



S307_015

data bus diagnosis interface

Master functions

The data bus diagnosis interface J533 manages the master functions for terminal 15 run-on on the drive train CAN data bus and control of the sleep and wake-up modes for the data bus systems.

Terminal 15 run-on

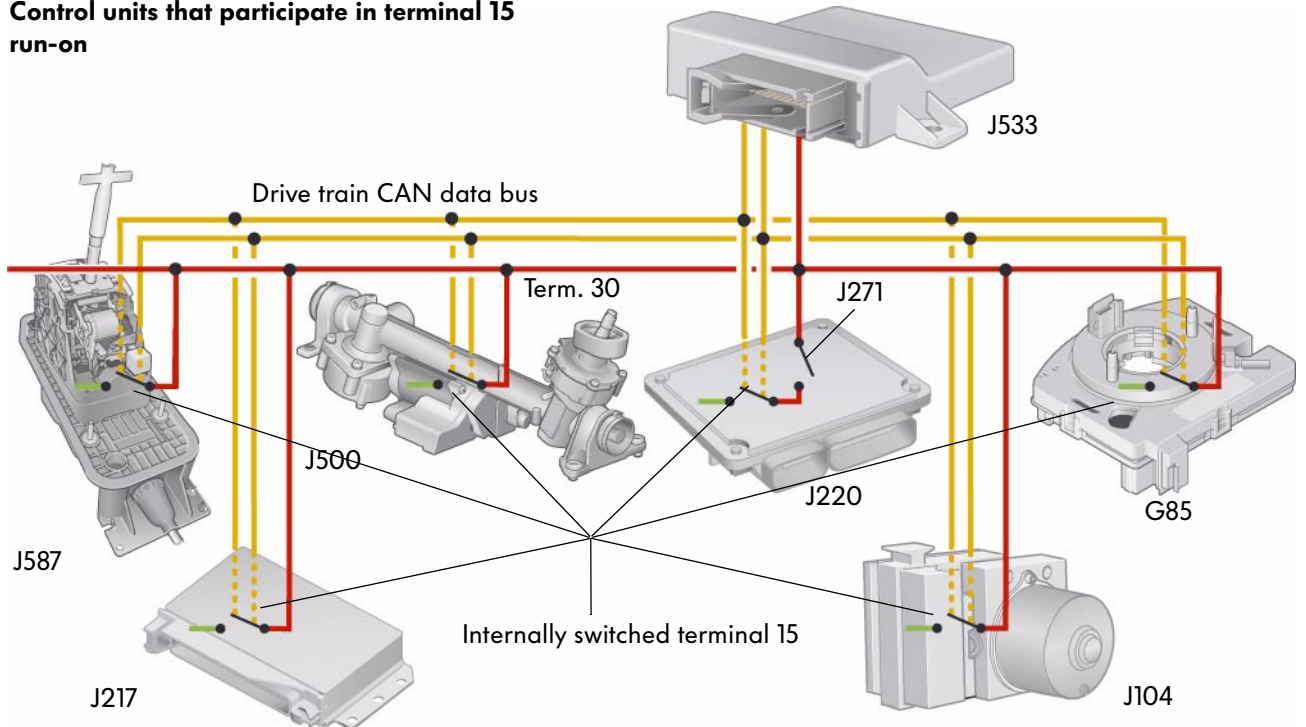
Certain control units in the CAN data bus need to exchange information even when terminal 15 is off. For this reason, a message is sent to the CAN data bus for actuation of the run-on mode. The control units make a connection from terminal 30 to terminal 15 internally, which allows them to communicate further. In this way, the power steering control unit J500, for example, can communicate with the other control units.

The run-on mode can last between ten seconds and fifteen minutes. The run-on period depends on the data that is to be sent.

To finish the run-on period, the data bus diagnosis interface initiates the sleep command.



Control units that participate in terminal 15 run-on



S307_047

Key

G85	Steering angle sender	J500	Power steering control unit
J104	ABS with EDL control unit	J587	Selector lever sensors control unit
J217	Automatic gearbox control unit	J533	data bus diagnosis interface
J220	Motronic control unit		
J271	Motronic power supply relay		

Sleep and wake-up modes of the data bus systems

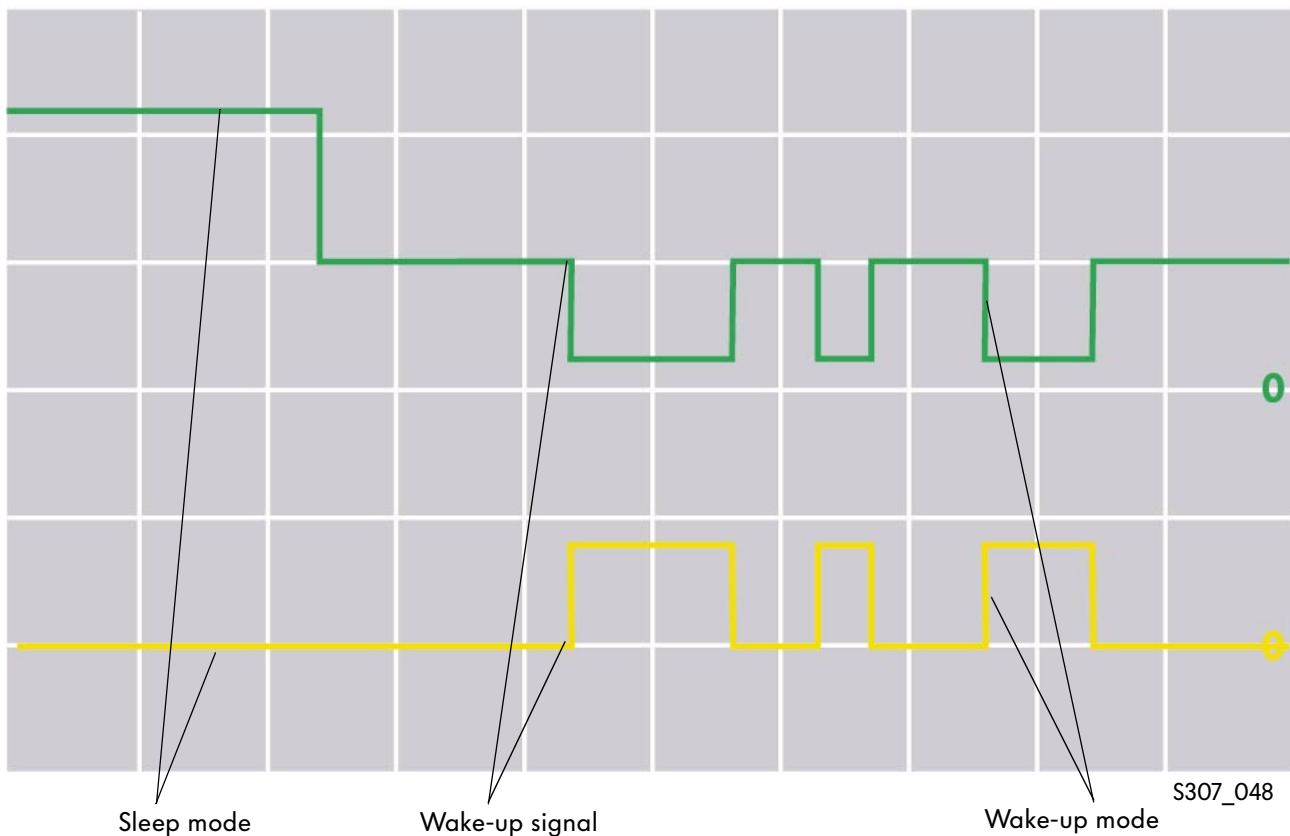
When all of the control units of the convenience and infotainment CAN data bus have announced their readiness for stand-by, a control unit will give the signal to 'sleep'. The voltage level of the low signal is 12 V and 0 V for the high signal.

Furthermore, it also gives the wake-up signal when the data bus has to be activated, for example, when the doors are unlocked.

The data bus diagnosis interface monitors the sleep function.

If the drive train CAN data bus does not go into sleep mode, the convenience and infotainment CAN data buses do not go into sleep mode either.

If the convenience CAN data bus does not go into sleep mode, the infotainment CAN data bus does not go into sleep mode either.



Onboard power supply control unit

The onboard power supply control unit J519

Fitting location

The onboard power supply control unit can be found underneath the dash panel where it forms a unit with the relay carrier.



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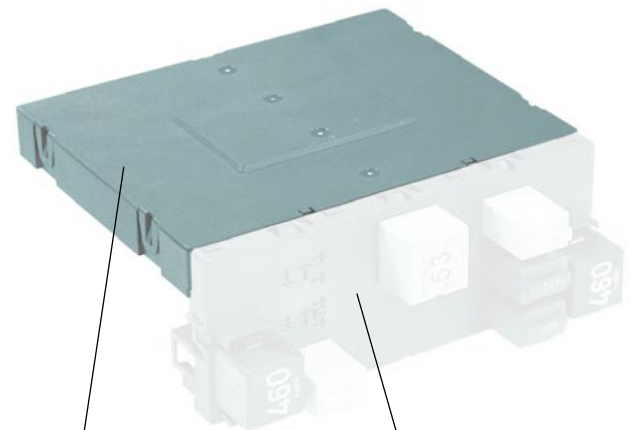


Variants

The onboard power supply control unit is available on the Midline and Highline variants.

The Highline variant is installed in vehicles with fog lamps and/or Xenon lights. All other vehicles are installed with the Midline variant.

Retrofitting of fog lamps is only possible when the onboard power supply control unit of the Midline variant is exchanged with the onboard power supply control unit of the Highline variant.



S307_017

Onboard power supply control unit

Relay carrier on onboard power supply control unit



The following figures are approximate and may differ depending on country variations and software.

Tasks:

The onboard power supply control unit actuates and controls the following functions:

- Electric load management
- Functional readiness
The onboard power supply control unit activates the function of the electric sliding/tilting sunroof.
- Exterior light control
- Turn signal control
- Windscreen wipers
Conveyance of data bus signals to wiper motor control unit
- Rear window wiper
- Heated rear window
Actuation of the heated rear window is via the onboard power supply control unit when the heated rear window button is pressed and if the alternator provides enough voltage.
- Interior light control
Terminal 30G, via which voltage is supplied to the interior lights, is activated by the onboard power supply control unit.
- Backlight
The backlight for the footwell is actuated by the onboard power supply control unit via a pulse width modulated signal depending on the position of the dimmer switch for switches and instruments.
- Terminal actuation
The onboard power supply control unit controls terminal 75x via an X contact relief relay.
Terminal 15 is actuated via the voltage supply relay for term. 15 in the electrics box and on the onboard power supply control unit relay carrier.
Terminal 50 is actuated via the power supply relay for terminal 50 in the electrics box.
- Dimmer, instrument backlight
Term. 58d has a dimming function and supplies the dimmer switches and instruments with voltage.
- Fuel pump readiness
When the driver's door is opened, the electrical fuel pump is supplied with power by the onboard power supply control unit. As soon as the engine has started, power is supplied by the engine control unit.
- Alternator readiness
The alternator is made ready by the onboard power supply control unit.



Onboard power supply control unit

Electrical load management

The electrical load management assures that there is always enough energy in the battery to turn the engine over.

To enable this, the electrical consumers of the convenience system are deactivated. The standard of technical safety remains.

To switch off the consumers, the onboard power supply control unit evaluates the engine speed, the battery voltage and the alternator load via the DF signal (dynamo field).

From this information and from information about which consumers are switched on with short activation periods, the onboard power supply control unit carries out an evaluation of the onboard power supply load state.

Based on this evaluation, the onboard power supply control unit can increase engine speed via the engine control unit. The deactivation of convenience consumers is still possible in the same way.

For load management, three different operating modes are recognised.

Operating mode 1

Terminal 15 on and alternator active

Measures:

At a battery voltage below 12.7 Volt, the onboard power supply control unit demands an increase in the engine idling speed.

At a battery voltage below 12.2 Volt, the following consumers are switched off:

- Heated seats
- Heated windscreen
- Heated exterior mirrors
- Steering wheel heating
- Footwell lighting
- Inner door handle lights
- Reduction and deactivation of Climatronic
- Warning and deactivation of infotainment



Operating mode 2

Terminal 15 on and
alternator inactive

Measures:

At a battery voltage below 12.2 Volt, the following consumers are switched off:

- Reduction and deactivation of air conditioning
- Footwell lighting
- Inner door handle lights
- Entry/exit lights
- Leaving home
- Warning and deactivation of infotainment

Operating mode 3

Terminal 15 off and
alternator inactive

Measures:

At a battery voltage below 11.8 Volt, the following consumers are switched off:

- Interior lights
- Footwell lighting
- Inner door handle lights
- Entry/exit lights
- Leaving home
- Infotainment, e.g. radio



The differences in deactivation in the various operating modes is in the order of individual consumer deactivation.

Furthermore, in operating mode 3, several consumers can be deactivated at once.

Deactivation is cancelled when the conditions for deactivation are no longer met.



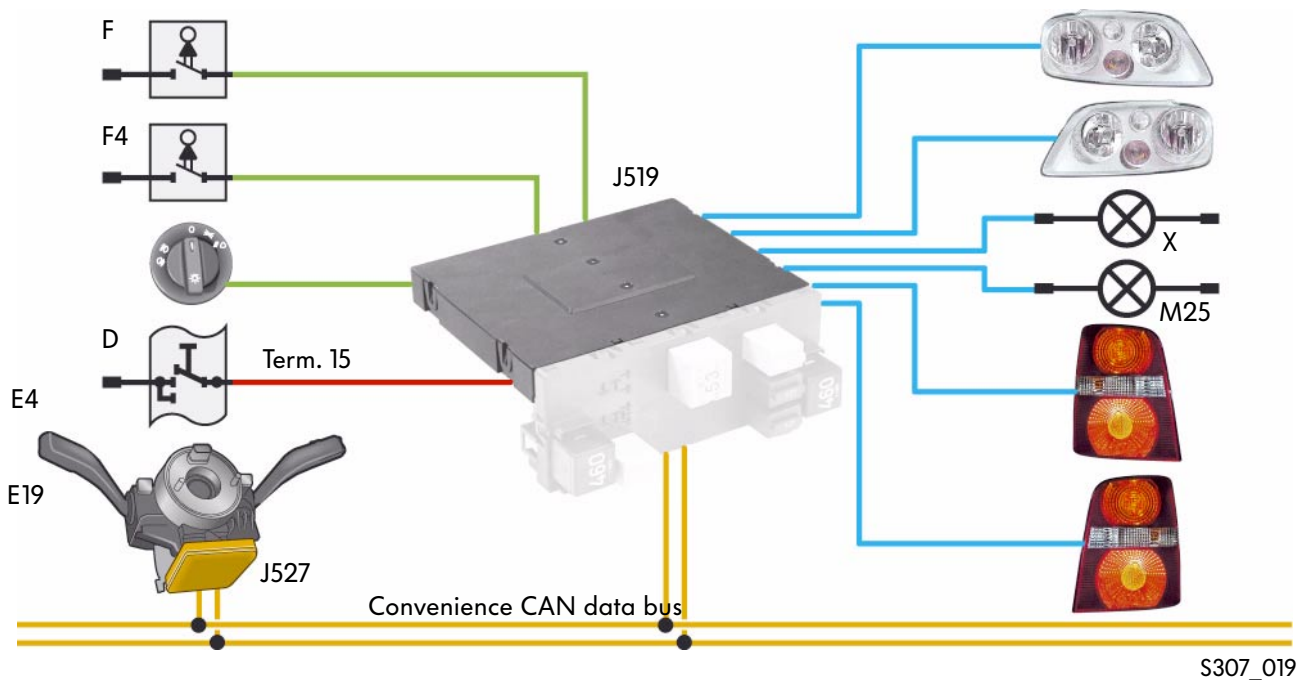
When deactivation takes place, this will be shown in the dash panel insert. In addition, an entry will be made in the onboard power supply control unit fault memory.

Onboard power supply control unit

Exterior light control

The onboard power supply control unit evaluates the signals directly from the light switch. Information about actuation of the turn signals, main beam and headlight flashing is sent via the steering column electronics control unit J527 to the convenience CAN data bus.

Functional diagram



Key

D Ignition/starter switch terminal 15
 E1 Light switch
 E4 Manual dipped beam and flash switch
 E19 Parking light switch

F Brake light switch
 F4 Reverse light switch
 J519 Onboard power supply control unit
 J527 Steering column electronics control unit
 M25 High level brake light bulb
 X Number plate light

S307_019

Turn signal control

If the turn signal switch E2 is pressed once briefly, vehicle direction is indicated by three flashes of the lights. If the switch is pressed again briefly, the three flash sequences are repeated. This is referred to as the lane change function.

Pictorial representation



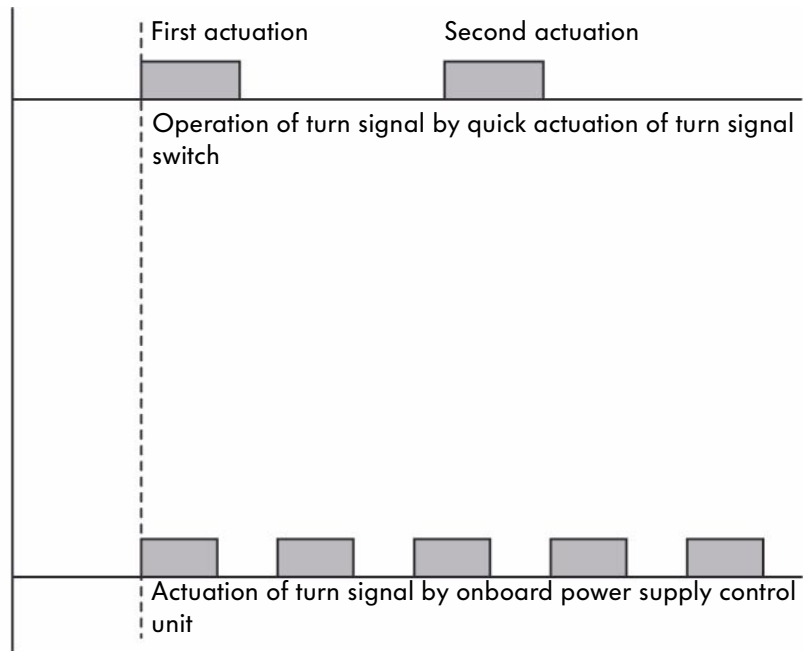
E2



M5 or M7



M6 or M8



S307_018

Key

- E2 Turn signal switch
- M5 Turn signal bulb, front left
- M6 Turn signal bulb, rear left
- M7 Turn signal bulb, front right
- M8 Turn signal bulb, rear right



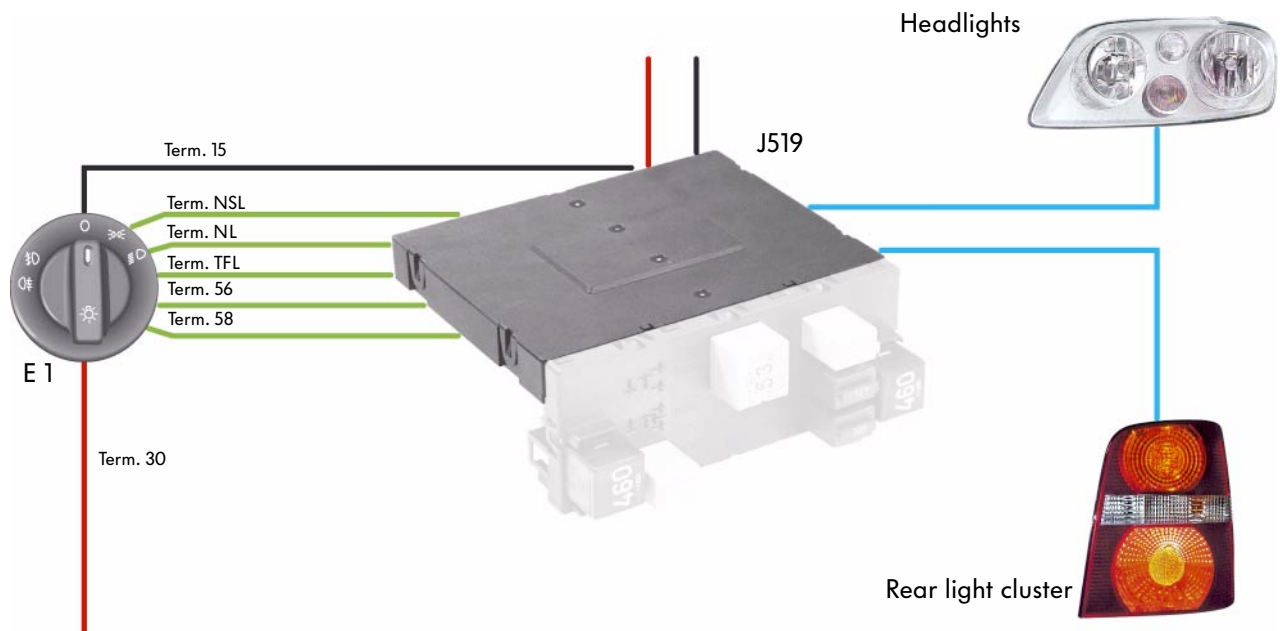
Onboard power supply control unit

Monitoring of light switch positions

Light switch E1 is supplied with power directly from the battery. Therefore, it sends a fixed plausible signal in every position to the onboard power supply control unit. By way of independent signal input, the onboard power supply control unit can detect whether ignition is switched on or not. If the fixed plausible signal is changed by a fault, such as an open circuit in the wiring, it will change to implausible. The onboard power supply control unit will switch to emergency light control.



Signal sequence



Key

E1	Light switch
J519	Onboard power supply control unit
Term. 56	Driving lights
Term. 58	Side lights
Term. TFL	Daylight driving lights
	Function must be coded in onboard power supply control unit
	Coding differs in each country.
NSL	Rear fog lamp
NL	Fog lights

S307_020

Emergency light control

If the onboard power supply control unit detects a fault with the ignition switched on, the side lights and the dipped beam lights are switched on.

Example of light switch plausibility with ignition switched on

Switch position	Terminal 58	Terminal 56	Terminal TFL	Signal
Off	0 V	0 V	12 V	Plausible
Side lights on	12 V	0 V	0 V	Plausible
Driving lights on	0 V	12 V	0 V	Plausible
Off	0 V	12 V	12 V	Implausible fault detection
Off	0 V	0 V	0 V	Implausible fault detection
Off	12 V	12 V	0 V	Implausible fault detection
Off	12 V	12 V	12 V	Implausible fault detection



In the case of all faults, an entry is made in the fault memory.

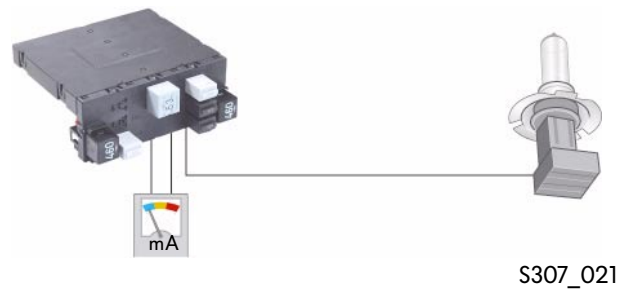
Onboard power supply control unit

Bulb monitoring

The function of the bulbs is monitored constantly. This monitoring takes place when the ignition is off (cold monitoring) and when the ignition is switched on (warm monitoring).

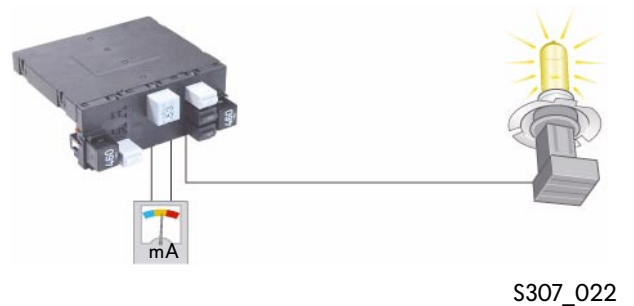
Cold monitoring

The individual bulbs are supplied with a minimal charge four times for 500 ms when the ignition is switched on. This level of voltage enables the onboard power supply control unit to detect whether any of the bulbs are blown.



Warm monitoring

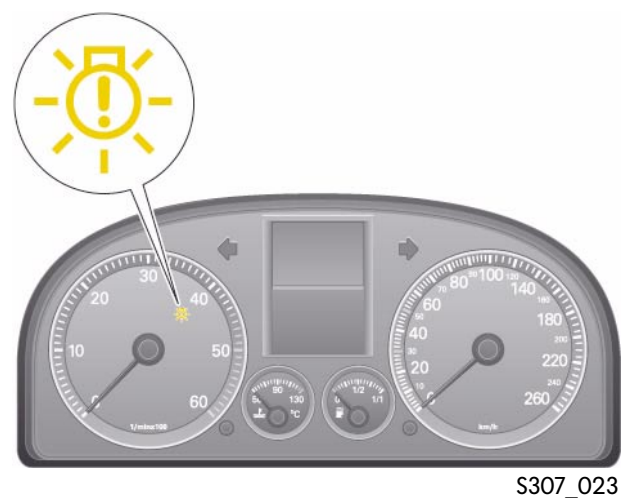
The actuation of the individual bulbs is via semi-conductor components that are housed in the onboard power supply control unit. They can detect overloads, short circuits or open circuits.



Fault detection

With both types of monitoring, once a fault is detected an entry is made in the fault memory and a fault warning is also displayed in the dash panel insert.

A new bulb will be detected by the monitoring system once installed, the fault will be erased and the display cancelled.



Additional bulb functions

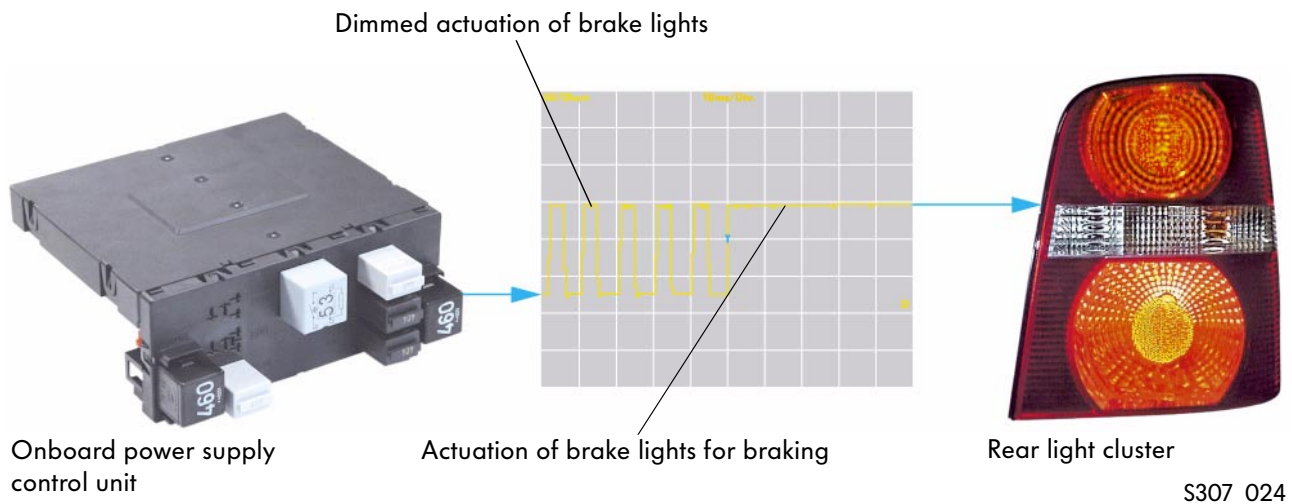
Various bulbs are dimmed to take on additional functions. If their proper function is needed, this is given priority.

Bulb	Additional function
Dipped beam, left and right	Dimmed daylight driving lights, left and right

Bulb	Additional function
Brake light, left and right	Dimmed rear lights, left and right approx. 18 %
Rear fog lamp left and right country-specific	Dimmed rear lights, left and right approx. 12 %



Additional function: Brake light as rear light



Please observe the country-specific variations in the rear fog light function.

Windscreen wiper system

Wiper motor actuation

Windscreen wiper motor actuation

The wiper system consists of a twin motor opposing action system without a mechanical connection between the wiper arms.

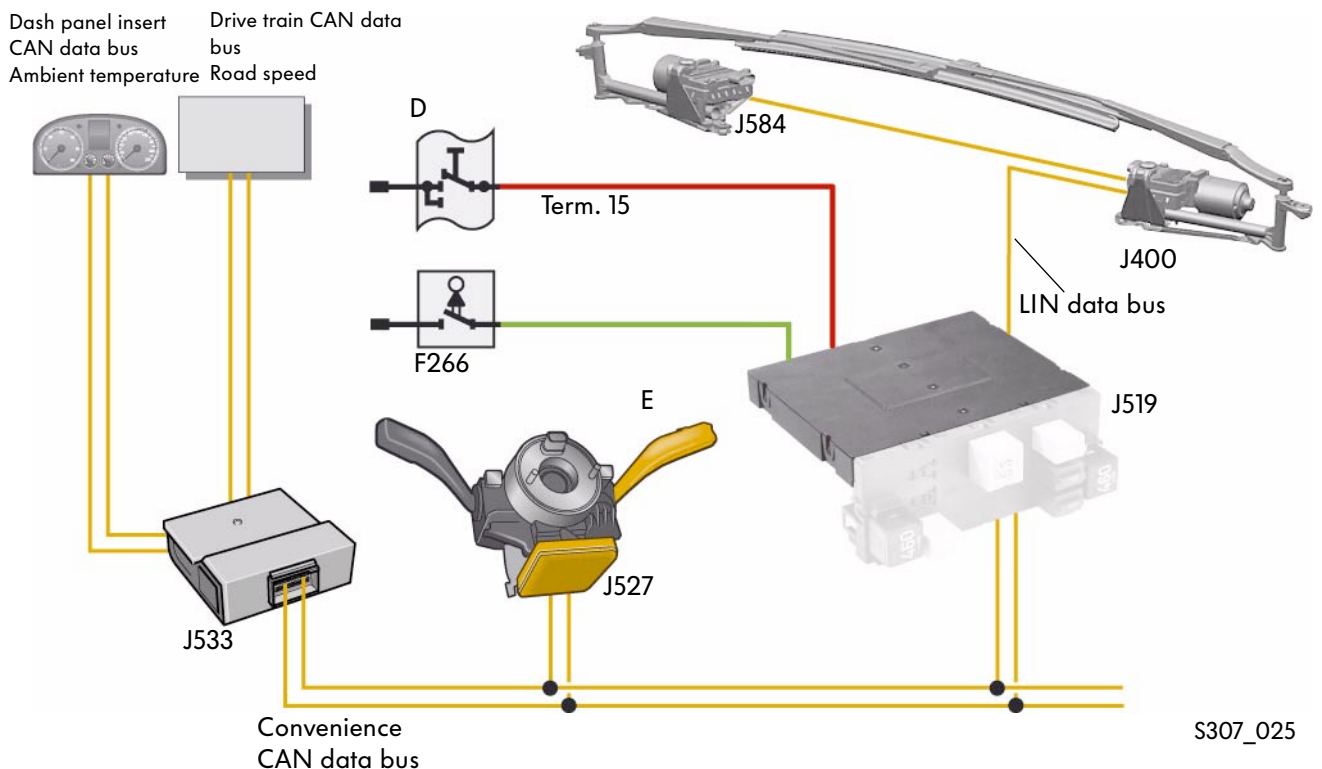
The switch position of wiper switch E is sent directly to the steering column electronics control unit J527 and then via the convenience CAN data bus to the onboard power supply control unit J519.

Information about the selected wiper stage is sent from the onboard power supply control unit via the LIN data bus to the wiper motor control unit J400 and from there to the wiper control unit, front passenger side J584.

Both control units are located directly on the wiper motors.

The wiper motor control unit J400 manages control of the wiper motion and regulates the wiper control unit, front passenger side J584.

Actuation of wiper motors



Key

- D Ignition/starter switch
- E Wiper switch
- F266 Bonnet contact switch
- J400 Wiper motor control unit
- J519 Onboard power supply control unit

- J527 Steering column electronics control unit
- J533 data bus diagnosis interface
- J584 Wiper control unit, front passenger side

S307_025

Wiper functions

The wiper system features the following functions:

- Service and winter position
- Alternating rest position
- Speed dependent wiper stage reset
- Speed dependent intermittent delay
- Bonnet contact
- Synchronisation function
- Tip wiping stage 2
- Prewash
- Follow up wash after wash/wipe function
- Trickle wipe
- Anti-blocking function
- Wiper control for rear window



Service and winter position

If within 10 seconds after switching off the ignition, and with the vehicle stationary, the wiper switch is switched to the tip wiping position, the wipers move to the upper arc position. This function cannot be selected when the bonnet is open.



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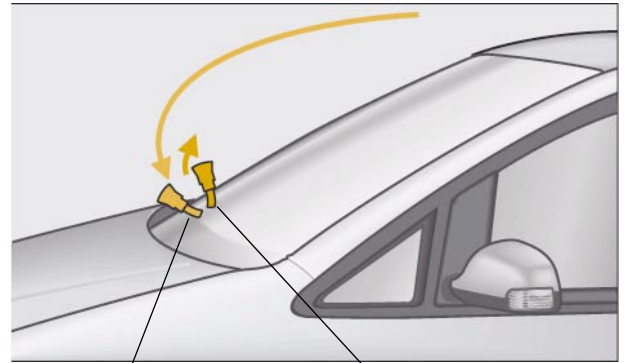
Service and winter position

Windscreen wiper system

Alternating rest position

In order to prevent a permanent deformation of the wiper blades, the wiper arms move upwards slightly every second time they are switched off. In this way, the position of the wiper blades is changed.

In addition, the rest position can also be altered by switching the ignition off several times.



S307_027

Rest position after switching off first time

Rest position after switching off second time



Speed dependent wiper stage reset

If the road speed drops below 4 km/h, the selected wiper speed will be reduced by one stage. When road speeds increases above 8 km/h, the wiper speed is reset to the selected stage.

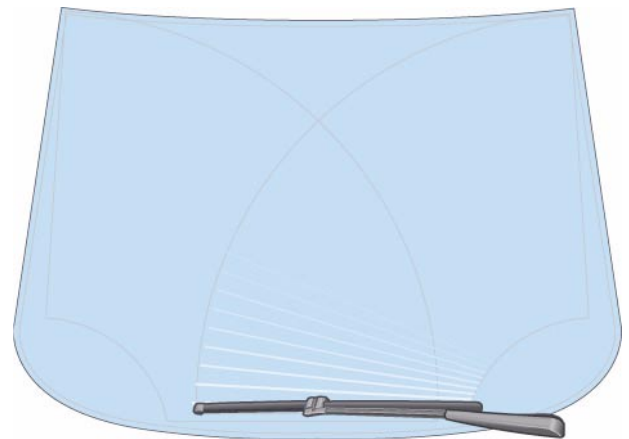
Resetting:

Stage 2 to stage 1

- Terminal 15 on
- Wiper switch at stage 2
- Road speed \leq 4 km/h

Stage 1 to intermittent operation stage

- Terminal 15 on
- Wiper switch at stage 1
- Road speed \leq 4 km/h
(Intermittent delay 4 s)



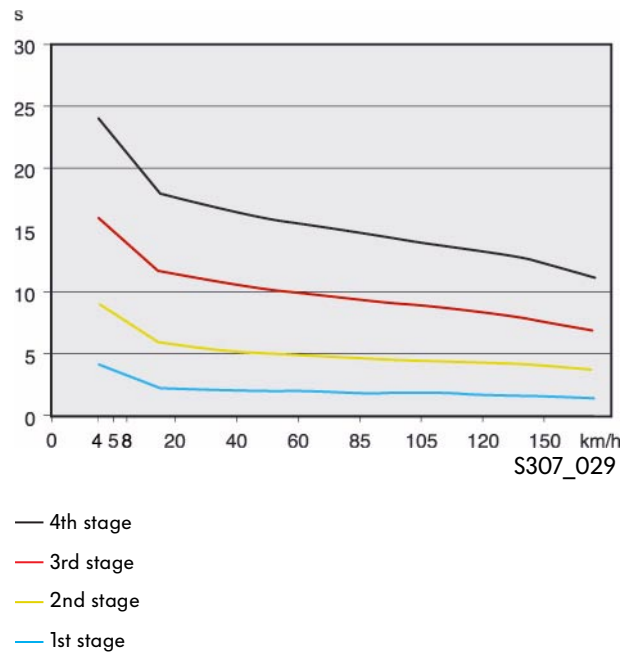
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For reasons of clarity, only the driver's wiper is shown.

Speed dependent intermittent delay

The speed of the four adjustable intermittent phases is dependent on the road speed of the vehicle.

The delays between the individual wiper movements vary from 1.28 seconds in stage 1 at approx. 150 km/h to 24 seconds in stage 4 at approx. 4 km/h.



Bonnet contact switch F266

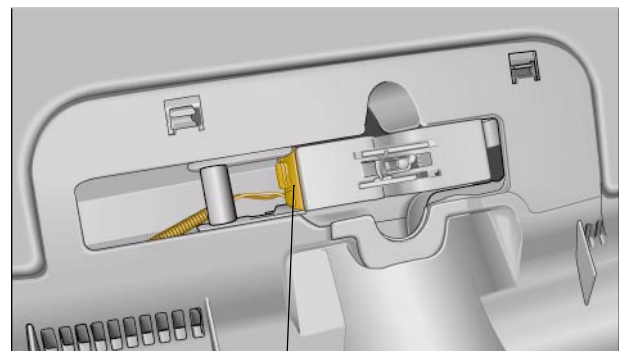
If when the vehicle is stationary the bonnet is opened, the wiper motor control unit J400 switches the wipers off.

If the bonnet was not closed correctly and opens at a speed of 2 km/h to 16 km/h, the wiper motor control unit J400 switches the wipers off in the same way.

The isolation function can be cancelled again by operation of the wiper switch.

At speeds greater than 16 km/h, the isolation function is not active.

The signal is sent from the bonnet contact switch directly to the onboard power supply control unit and is then sent on further via the LIN data bus to the wiper motor control unit.



Bonnet contact switch

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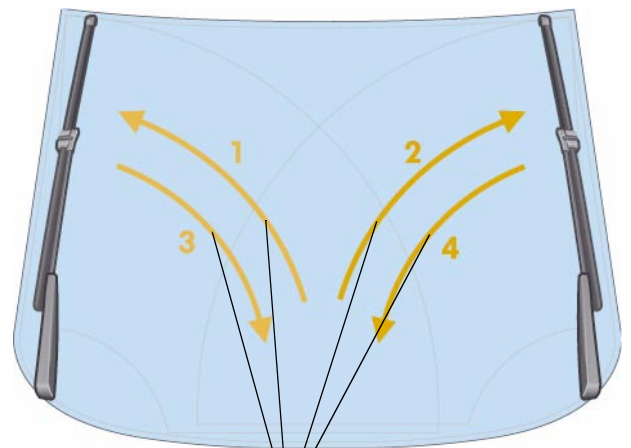


Windscreen wiper system

Synchronisation function

If the windscreen wipers are not in their rest position when the ignition is switched off, these will be moved automatically to the rest position when the ignition is switched on and when the wiper switch E4 is actuated.

This is either a parallel or individual movement. A system with an unsynchronised rest position is set straight with this procedure.



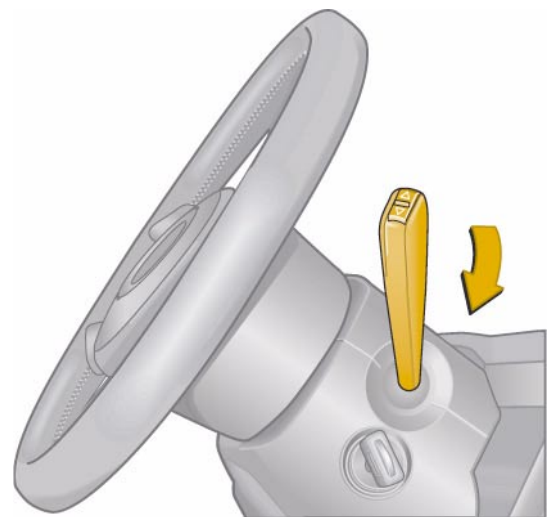
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Wiper paths during synchronisation



Tip wiping stage 2

If the tip wiping function is actuated for longer than two seconds, the wiper is switched to the second stage.



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Prewash

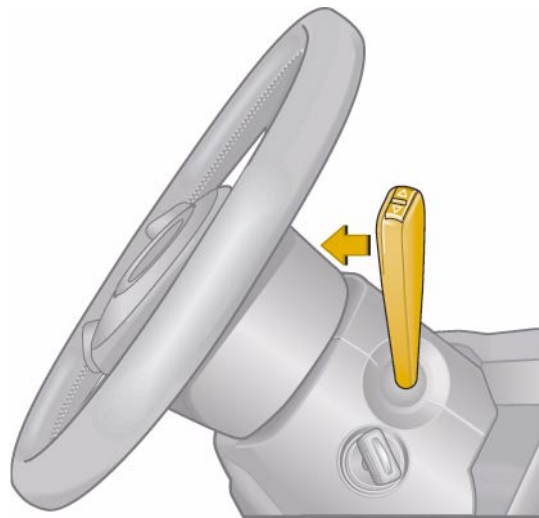
When the wash/wipe function is actuated at speeds less than 120 km/h, the wiper will begin to operate after a prewash period of approx. 0.8 seconds, during which only the washer pump is active.

Follow up wash after wash/wipe function

If the wash/wipe function is actuated for longer than 0.5 seconds, the follow up wiping function is actuated three times. If actuation time is less, follow up wiping is actuated twice.

Trickle wiping

If the road speed of the vehicle is greater than 2 km/h, the wiper function is actuated once more 5 seconds after the last follow up wash (follow up wiping cycle).



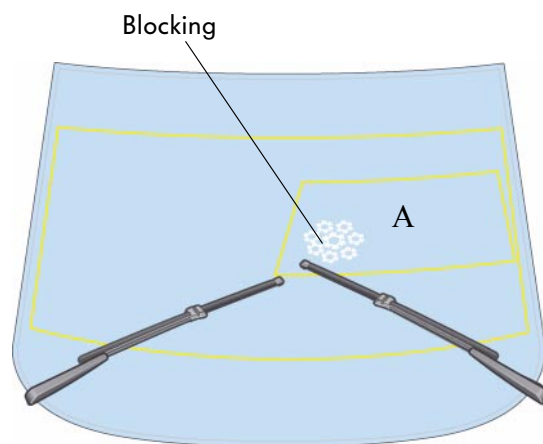
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Anti-blocking function

The wiper system detects if the wipers are blocked by the amount of current that is drawn. If there is a blockage in area A, it will attempt to remove this a total of five times. If it is unable to move the blockage, the wipers will remain in the rest position. The blockage will have to be removed manually.

If the wiper blades are frozen to the bottom part of the windscreen, the wipers will attempt to break free a total of five times. After the fifth attempt, there will be no wiper motion.



S307_034

Rear window wiper system

Rear window wiper control

Rear window wiper actuation features three operating modes:

- Reverse wiping
- Rear intermittent wiping
- Rear window wash/wipe operation

Reverse wiping

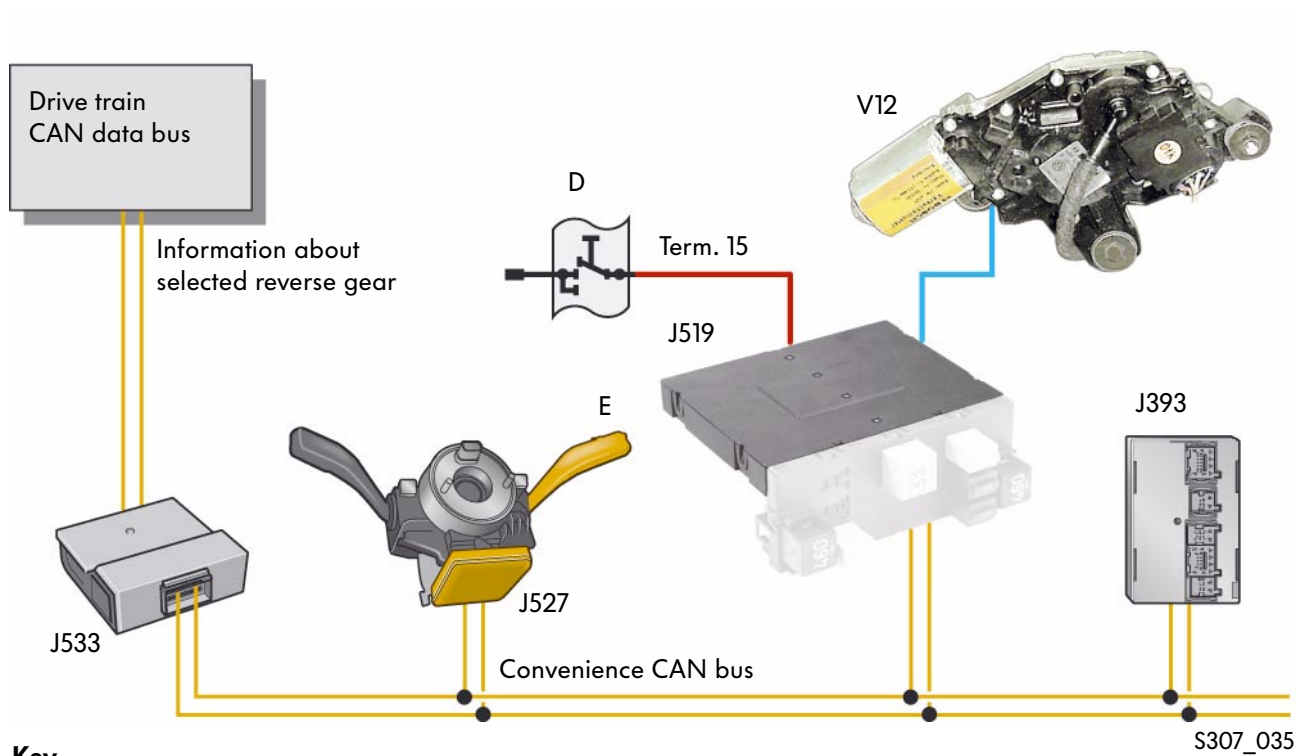
The reverse wiping function actuates the rear window wiper to clear the screen if, when the front windscreen wiper is switched on, reverse gear is selected.

Intermittent stage	One wipe
Stage 1 or 2	Rear intermittent wipe

Conditions for activation:

- Ignition switched on
- Windscreen wiper is in intermittent stage 1 or stage 2
Recognition of the selected stage is via the convenience CAN data bus.
The signal comes from the steering column electronics control unit.
- Reverse gear or R selected
Recognition is via the reverse light switch or via the gear selector position, the automatic gearbox control unit, the drive train CAN data bus, the data bus diagnosis interface and the convenience CAN data bus.
- Tailgate closed
Recognition is via the convenience system central control unit.

Signal pattern of rear window wiper



Key

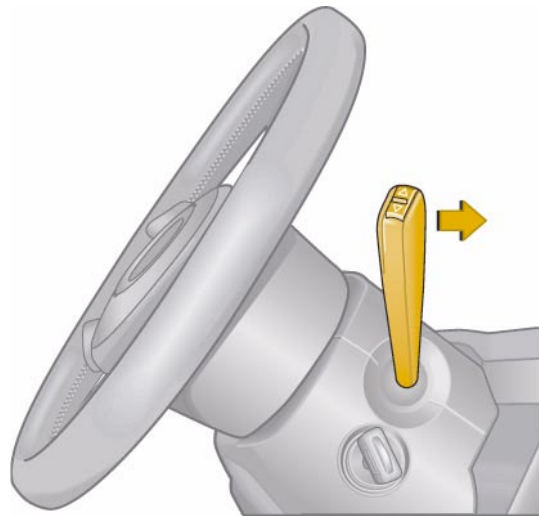
D	Ignition/starter switch	J527	Steering column electronics control unit
E	Wiper switch	J533	data bus diagnosis interface
J393	Convenience system central control unit	V12	Rear window wiper motor
J519	Onboard power supply control unit		

Rear intermittent wiping

If the rear intermittent wiper stage is selected, the rear window wiper operates in delayed stages.

Conditions for activation:

- Ignition switched on
- Rear window intermittent wiper stage on:
Recognition is via the wiper switch, the steering column electronics control unit and the convenience CAN data bus.
- Tailgate closed
Recognition is via the convenience system central control unit.



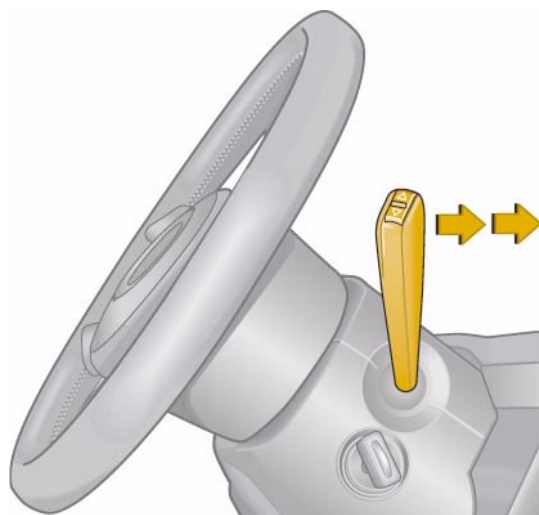
S307_036

Rear window wash/wipe operation

In rear window wash/wipe operation, the double washer pump delivers washer water to the rear window and the rear window is cleared.

Conditions for activation:

- Ignition switched on
- Rear window wash/wipe operation stage on:
Recognition is via the wiper switch, the steering column electronics control unit and the convenience CAN data bus.
- Tailgate closed:
Recognition is via the convenience system central control unit.



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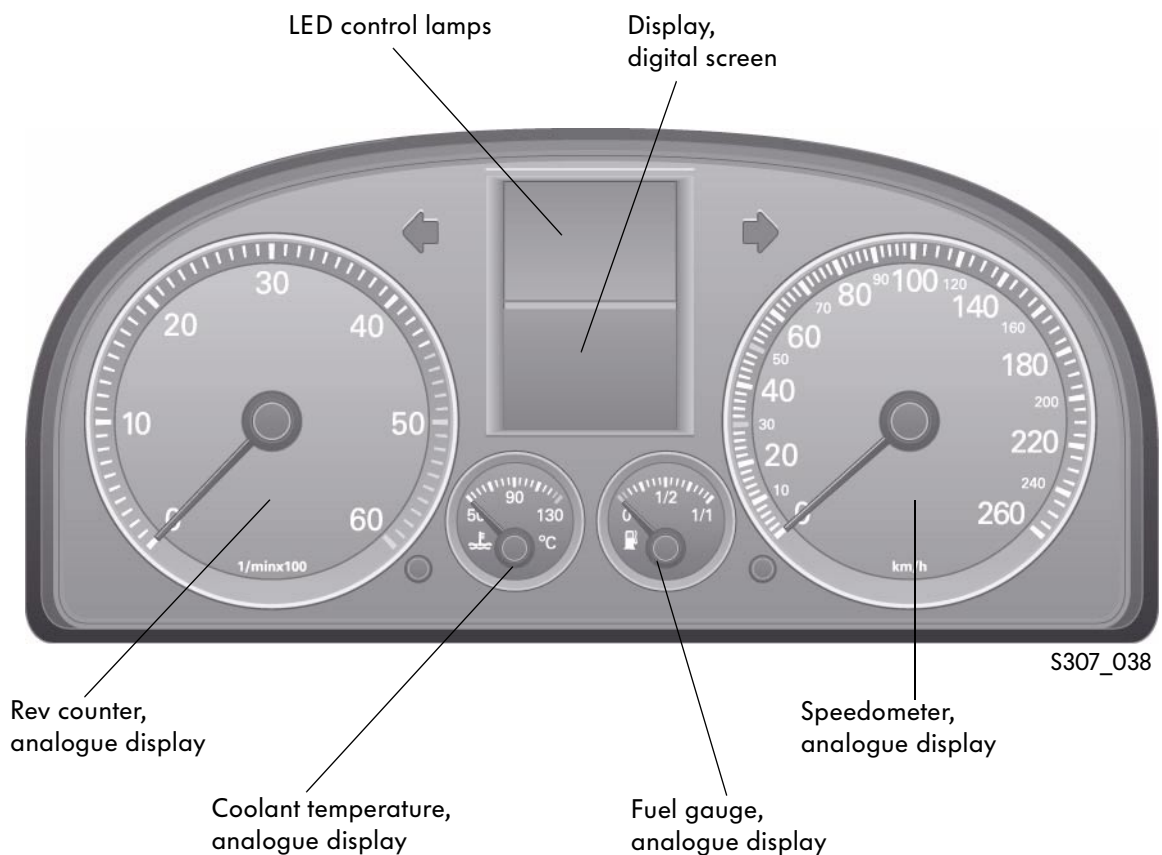
Dash panel insert

Control unit with display unit in dash panel J285

Control lamps and displays

The control unit with display unit in the dash panel insert actuates the display, the analogue display instruments and the control lamps.

Dash panel insert



The coolant temperature display on vehicles with map controlled cooling is at a constant 90 °C at coolant temperatures between 75 °C and 107 °C. The display on vehicles without map controlled cooling is at a constant 90 °C at coolant temperatures between 75 °C and 115 °C. This way, a continually changing figure in the display is avoided.

Display

The following variants are designed for the display:

Lowline with displays for

- Clock
- Mileage reader
- Trip counter
- Selector lever position

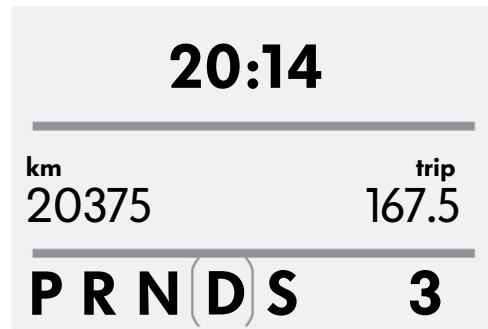
Midline with additional displays to Lowline variant

- Ambient temperature
- Multi-function display or
- Warning messages instead of multi-function display and ambient temperature

Highline with additional displays to Midline variant

- Sender display
- Warning symbols instead of multi-function display and ambient temperature

Lowline variant



S307_039

Midline variant



S307_040

Highline variant

















S307_041


















Dash panel insert

Equipment with control lamps

Symbol	Control lamp	Lowline	Midline	Highline	Warning message or warning
	Airbag	X	X	X	Airbag fault Airbag belt tensioner deactivated
	ABS	X	X	X	ABS
	Brake pad wear	X	X	Pictogram	Check brake pad
	Low brake fluid level	X	X	X	Stop - Brake fluid - See manual
	Preglow period (diesel engines)	X	X	X	
	Dynamic oil pressure warning	Turn signal	Turn signal	Turn signal pictogram	Stop - Oil pressure - Engine off - See manual
EPC	Electronic power control EPC	X	X	X	
	Electronic power steering	X	X	X	
	Electric brake pressure distribution	X	X	X	Warning buzzer (3 times)
	Parking brake system	X	X	X	Handbrake applied
	ESP TCS	X	X	X	
	Left turn signal	X	X	X	Acoustic check
	Right turn signal	X	X	X	Acoustic check
	Trailer turn signals	X	X	X	
	Main beam headlights	X	X	X	



Symbol	Control lamp	Lowline	Midline	Highline	Warning message or warning
	Cruise control system	X	X	X	
	Bulb failure	X	X	X	e.g. Front left dipped beam light defective
	Tailgate door open	X	X	Pictogram	e.g. Tailgate open
	Fuel reserve	X	X	Pictogram	Please fill up - Warning buzzer (once)
	Low coolant level or overheating	X	X	Pictogram	Stop - Check coolant See manual - Warning buzzer (3 times)
	Alternator	X	X	X	
	Engine check EOBD	X	X	X	Engine fault - Workshop - Exhaust gas - Workshop
	Bonnet open	X	X	Pictogram	Door warning! Bonnet! Warning buzzer (once) if $v > 6$ km/h
	Rear fog light	X	X	X	
	Oil level	X	X	Pictogram	Check oil level Oil sensor - Workshop
	Tyre pressure monitor	X	X	X	Warning buzzer (once)
	Shift lock	X	X	X	
	Seatbelt	X	X	X	Please apply seatbelt - Gong
	Low washer water	X	X	Pictogram	Replenish washer water - Warning buzzer (once)
	Immobiliser	Turn signal	Turn signal	Turn signal	Immobiliser active - Warning buzzer (once)



Immobiliser

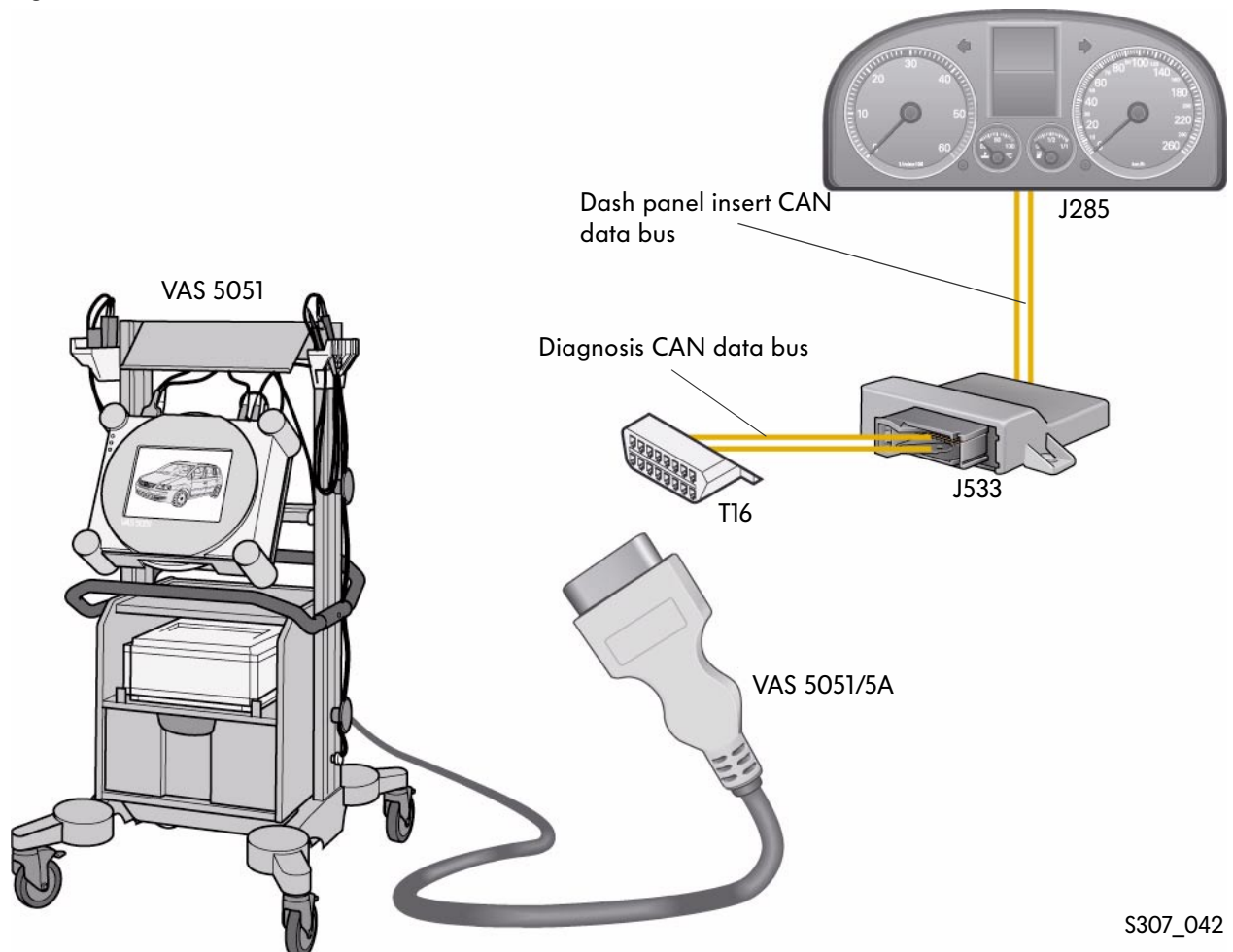
The fourth generation immobiliser

Control unit

The immobiliser control unit J362 can be found in the dash panel insert, as with immobilisers of the third generation.

The diagnosis connection is made via address word 25. Communication is only possible via the diagnosis CAN data bus with vehicle diagnosis, testing and information system VAS 5051.

Diagnosis



Key

J285	Control unit with display unit in dash panel insert
J533	data bus diagnosis interface
VAS 5051	Vehicle diagnosis, testing and information system
VAS 5051/5A	Diagnosis lead 3 m
T16	Diagnosis connection

S307_042

Changes compared to the third generation immobiliser

Brand identification

The immobiliser components of all Group brands are different.

Adaption of components from other Group brands in Volkswagen vehicles is not possible.

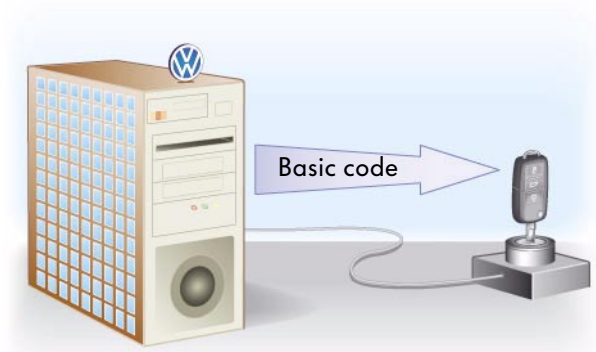


S307_043

Preprogrammed key

The vehicle keys are preprogrammed by the manufacturer with a basic code.

This basic code includes a specific manufacturer code. Matching the key to a vehicle is only possible if it has the correct manufacturer code.



S307_044



Immobiliser

Matching

Enabling the matching function is done via the vehicle diagnosis, testing and information system VAS 5051.

The personal identification number (PIN) for matching is currently available via the dealer online access system (HOLZ).

In future, matching will be carried out via an online connection.

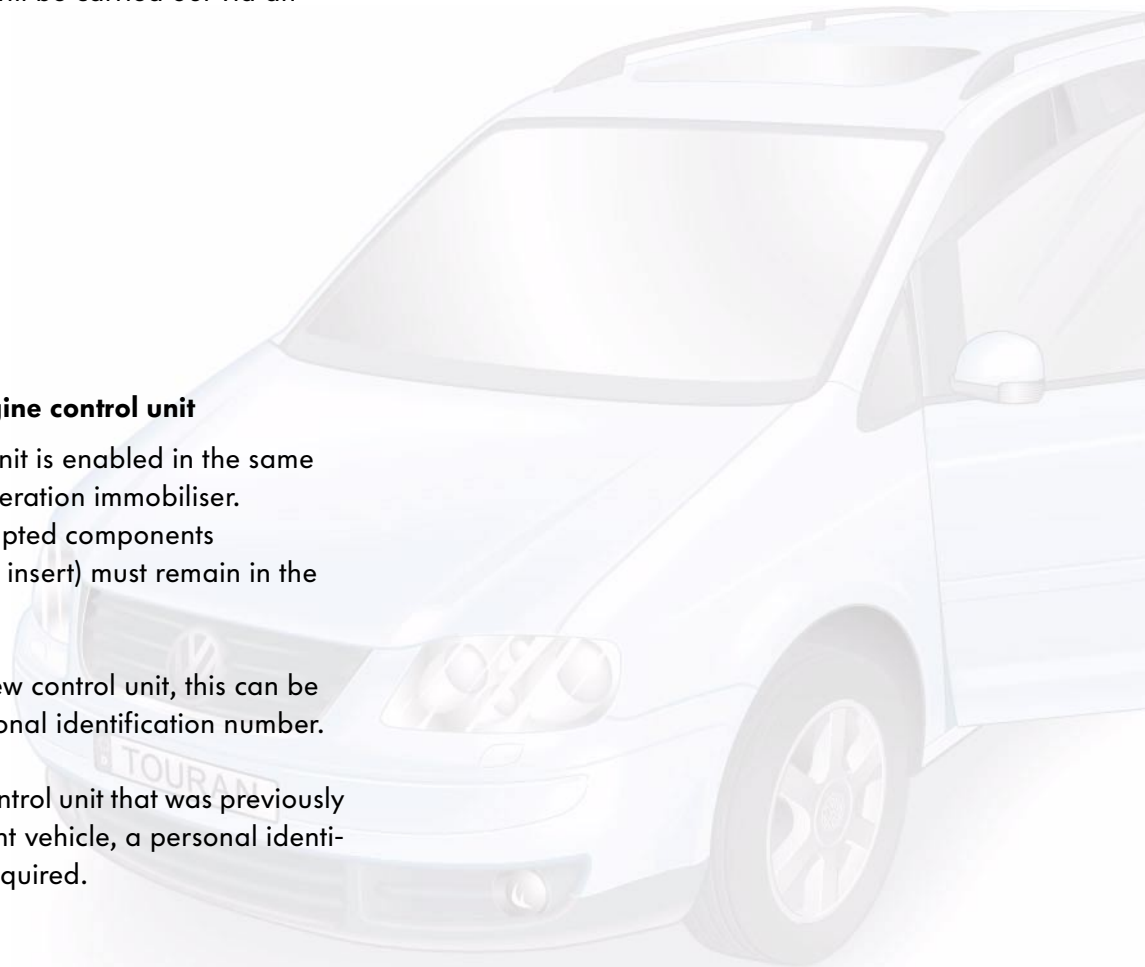
Exchanging the engine control unit

The engine control unit is enabled in the same way as the third generation immobiliser.

Two of the three adapted components (key and dash panel insert) must remain in the vehicle.

For adaption of a new control unit, this can be done without a personal identification number.

For adaption of a control unit that was previously installed in a different vehicle, a personal identification number is required.



Exchanging the dash panel insert

Adaption is carried out in the same way as for the third generation immobiliser.

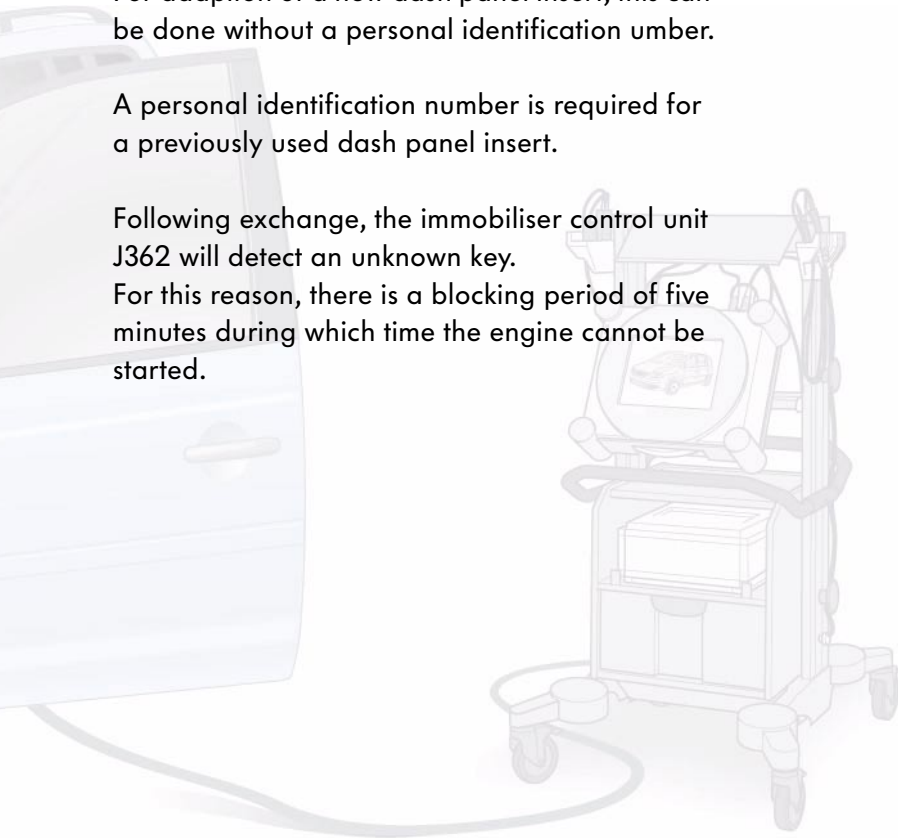
Likewise, two of the three adapted components (key and engine control unit) must remain in the vehicle.

For adaption of a new dash panel insert, this can be done without a personal identification number.

A personal identification number is required for a previously used dash panel insert.

Following exchange, the immobiliser control unit J362 will detect an unknown key.

For this reason, there is a blocking period of five minutes during which time the engine cannot be started.



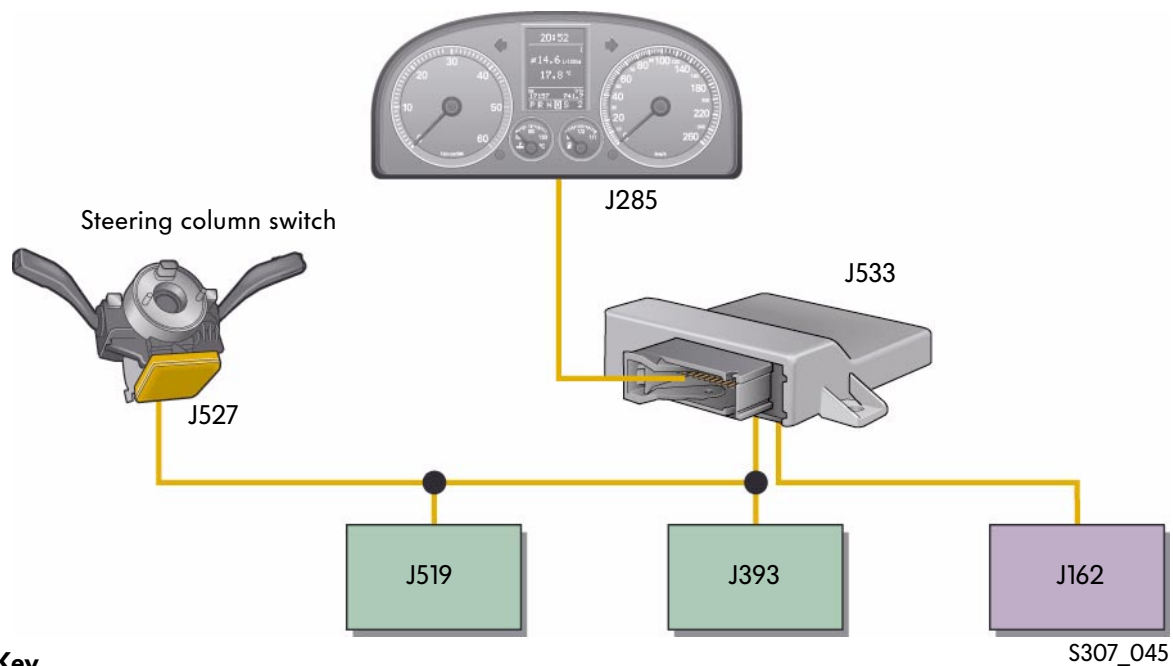
With the exchange of more than one component, all three items must be renewed as less than two of the matched components are left in the vehicle.

Convenience and infotainment settings

Personalisation

The user based settings for different unit functions in the convenience and infotainment system are made via an operating unit and a display.

Operation is via a control lever on the steering wheel. Selection from the menu is made via the display in the dash panel insert. The settings selected are stored in the control unit, which is responsible for the control of each function. Transfer of the necessary information between the control unit with display unit in dash panel insert and the other control units is managed by the CAN data bus.



Key

- J162 Heater control unit
- J285 Control unit with display unit in dash panel insert
- J393 Convenience system central control unit
- J519 Onboard power supply control unit
- J527 Steering column electronics control unit
- J533 data bus diagnosis interface



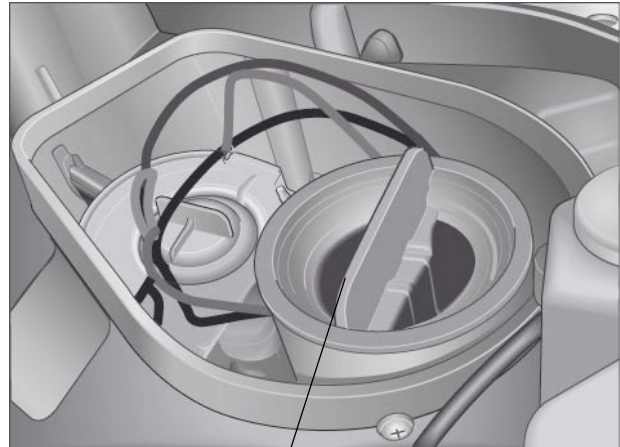
For precise details on operation, please refer to the operating instructions.

Headlights

One touch attachment

The H7 bulbs are connected to the reflector by means of a one touch attachment. The old means of attachment with clip and electrical connector has been discontinued.

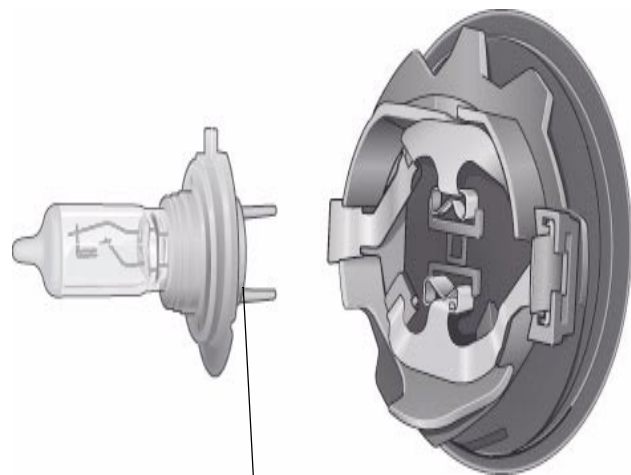
By means of one touch, the attachment of the bulbs can be released with a twisting action.



S307_064

Release from attachment by twisting to left

Thereafter, the bulb is pulled out of the attachment.



S307_060

Pull bulb out of attachment



The functional description of the Bi-Xenon headlights that are installed can be found in SSP 251 "The Passat 2001".

The procedure for renewing a bulb can be found in ELSA.



Service

Diagnosis

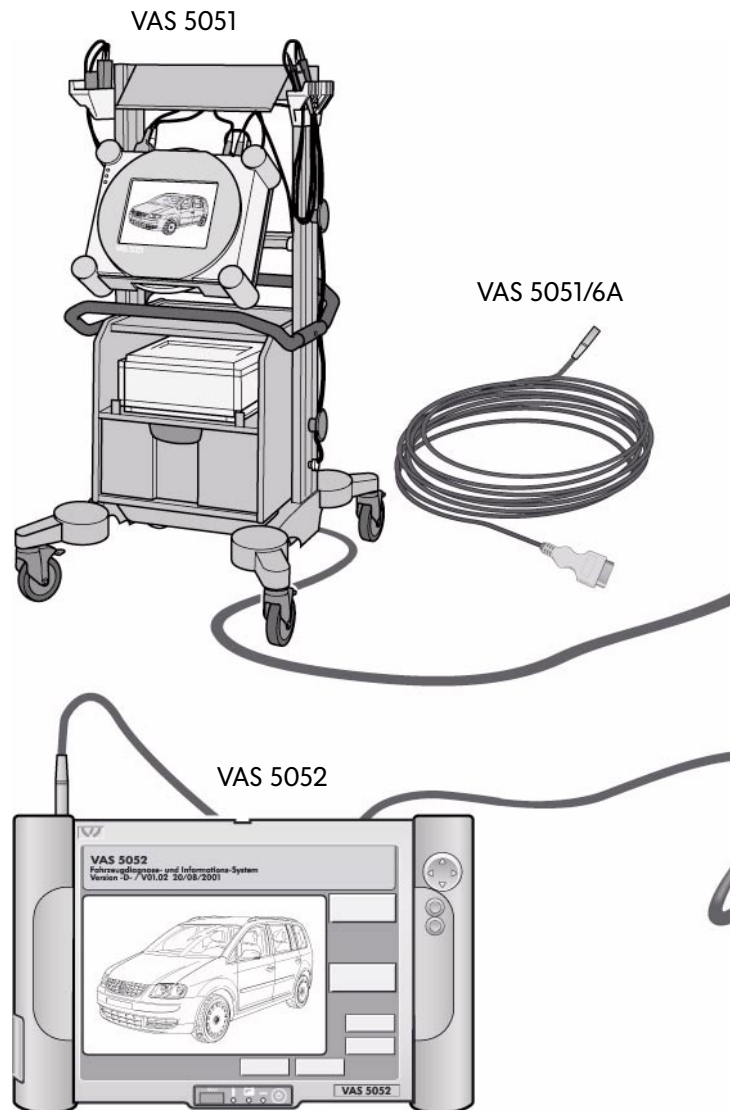
The transfer of data necessary for diagnosis to vehicle diagnosis, testing and information system VAS 5051 or vehicle diagnosis and service information system VAS 5052 is via the diagnosis CAN data bus.

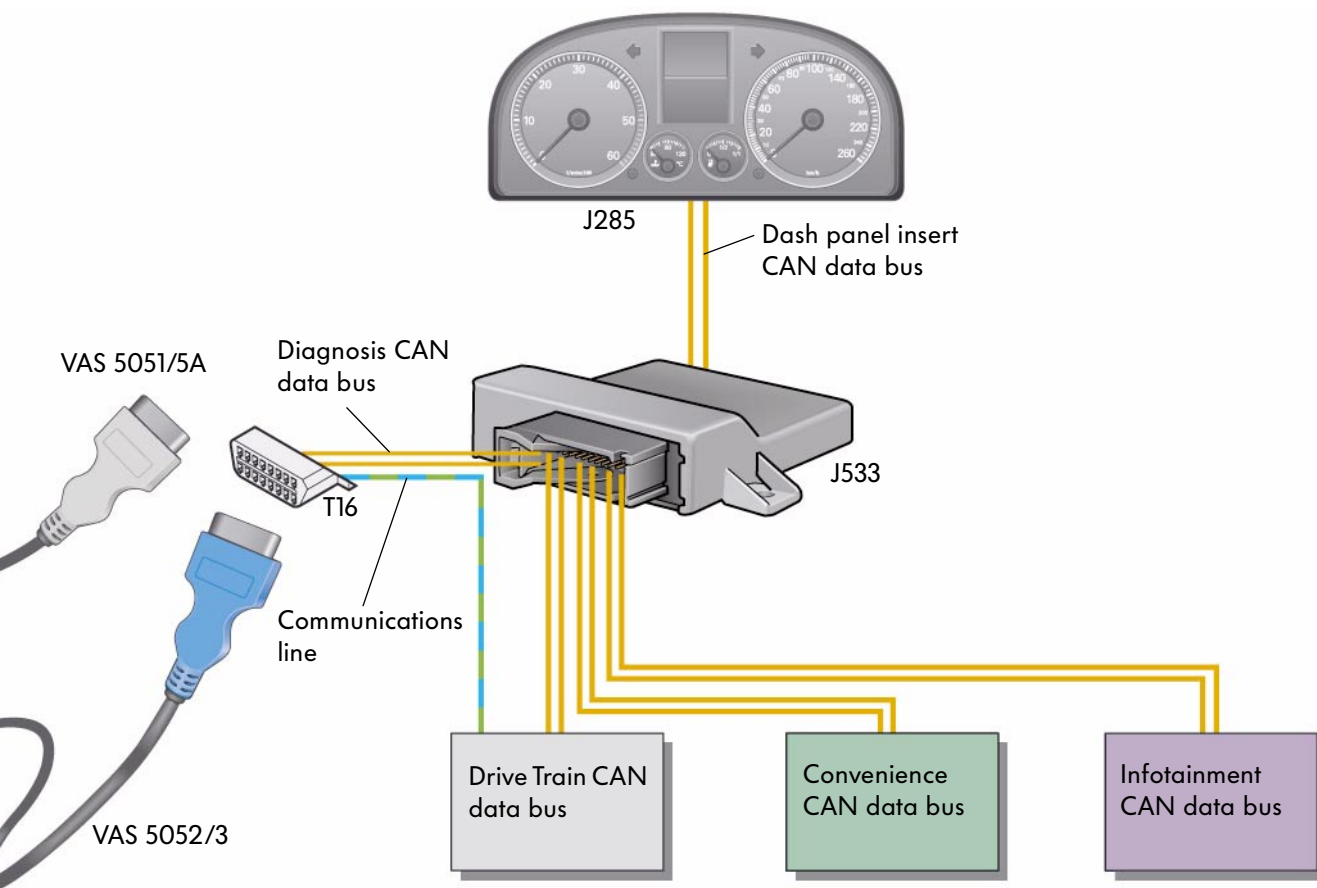
Data transfer to VAS 5051 is only possible via diagnosis leads VAS 5051/5A or VAS 5051/6A.

For vehicle diagnosis and service information system 5052, diagnosis lead VAS 5052/3 should be used.

These diagnosis leads are suitable for the transfer of data via the diagnosis CAN data bus.

The COM lead used until now is still required for diagnosis of the engine and gearbox control units in OBD mode. Therefore, diagnosis with other diagnosis leads is only possible in the engine control unit and automatic gearbox control unit.





S307_051

Key

- J285 Control unit with display unit in dash panel insert
- J533 data bus diagnosis interface
- T16 Diagnosis connection
- VAS 5051 Vehicle diagnosis, testing and information system
- VAS 5051/5A Diagnosis lead 3 m
- VAS 5051/6A Diagnosis lead 5 m
- VAS 5052 Vehicle diagnosis and service information system
- VAS 5052/3 Diagnosis lead 3 m



Test yourself

1. Which data bus systems are used in the Volkswagen Touran?

- a) The CAN data bus and the LIN data bus.
- b) The MOSFET data bus, the LIN data bus and the MOST bus.
- c) The D2B data bus, the A data bus and the CAN data bus.

2. Where can the data bus diagnosis interface be found?

- a) In the dash panel insert.
- b) Under the centre console next to the airbag control unit.
- c) Under the dash panel above the relay carrier.

3. Which control units belong to the dash panel insert CAN data bus?

- a) The onboard power supply control unit, the automatic gearbox control unit and the trailer detector control unit.
- b) The control unit with display unit in dash panel insert and the data bus diagnosis interface.
- c) The Motronic control unit and the diagnosis connection.

4. The LIN data bus transfers data at a rate of

- a) 1 kbit/s to 20 kbit/s.
- b) 100 kbit/s to 500 kbit/s.
- c) 21 Mbit/s.



5. Which functions are controlled by the onboard power supply control unit?

- a) Turn signal control, heated rear window, fuel pump readiness.
- b) Windscreen and rear window wipers, central locking, instrument illumination.
- c) Load management, alternator readiness, starter isolator.

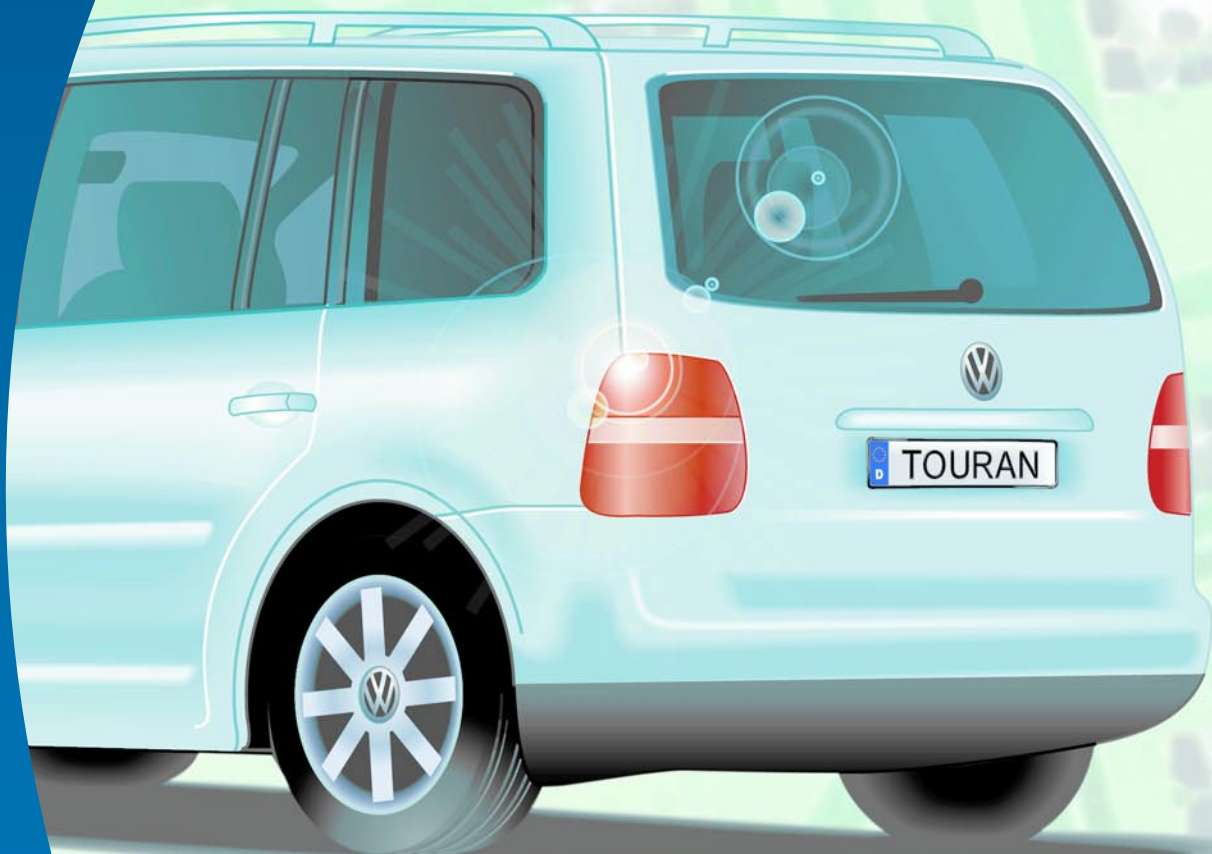
6. What is the main role of the load management system?

- a) To ensure that there is always enough electrical power to turn the engine over.
- b) With electronic charge indication, it warns the driver when the vehicle is overcharged.
- c) It prevents overloading of the engine by irregular operation.

7. What must be observed when operating the vehicle diagnosis, testing and information system VAS 5051 on the Touran?

- a) For diagnosis, only diagnosis leads VAS 5051/5A and VAS 5051/6A should be used.
- b) Diagnosis can be carried out in all areas using V.A.G 1551 or V.A.G 1552.
- c) Diagnosis is only possible using VAS 9119.





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