

Workshop Manual Audi A5 Coupé 2008 ➤

System description - wiper and washer systems

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List of Workshop Manual Repair Groups

Repair Group

01 - Self-diagnosis, electrical checks

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Technical information should always be available to the foremen and mechanics, because their careful and constant adherence to the instructions is essential to ensure vehicle road-worthiness and safety. In addition, the normal basic safety precautions for working on motor vehicles must, as a matter of course, be observed.

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01 – Self-diagnosis, electrical checks

1 General notes on wiper and washer systems

1.1 General notes and technical data

Wiper systems only work when terminal 15 is energised.

The rain sensor is activated by setting the intermittent wiper switch -E22- to the position "intermittent wipe".

The pauses during intermittent wiping depend on the road speed.

1.2 Components used

Component:	Comments:
Rain and light sensor -G397-	Not standard equipment
Washer fluid level sender -G33-	Only fitted in vehicles with on-board computer or driver information system
Wiper motor control unit -J400-	
Headlight washer system pump -V11-	Only fitted in vehicles with headlight washer system
Rear window wiper motor -V12-	Only fitted in Avant vehicles
Washer pump -V5-	Dual pump fitted in vehicles with rear window wiper; mono pump fitted in vehicles without rear window wiper
Control unit in dash panel insert -J285-	
Onboard supply control unit -J519-	
Steering column electronics control unit -J527-	
Bonnet contact switch -F266-	
Intermittent wiper switch -E22-	
Left washer jet heater element -Z20-	
Right washer jet heater element -Z21-	

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2 Windscreen wiping without rain sensor

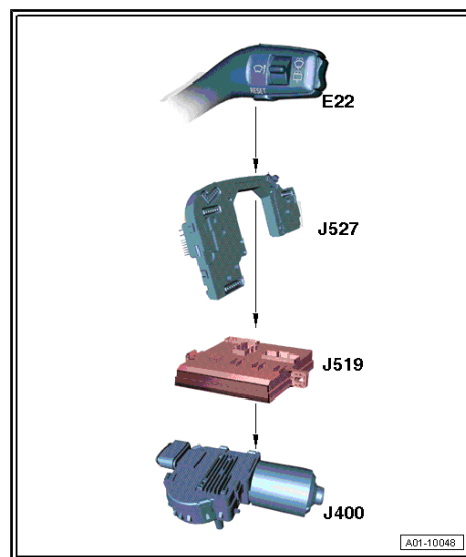
2.1 General notes and components used

- ◆ Wiper motor control unit -J400-
- ◆ Onboard supply control unit -J519-
- ◆ Steering column electronics control unit -J527-
- ◆ Bonnet contact switch -F266-
- ◆ Intermittent wiper switch -E22-

2.2 Description

Sequence for windscreen wiping:

- The steering column electronics control unit -J527- reads in the position of the intermittent wiper switch -E22-. The switch can be set to the following positions: »intermittent wipe«, »slow or fast wipe«, »brief wipe«.
- The steering column electronics control unit -J527- transmits the "windscreen wiping" information across the convenience data bus to the onboard supply control unit -J519- .
- The onboard supply control unit -J519- (master control unit) passes on the information - windscreen wiping - to the wiper motor control unit -J400- (LIN slave control unit).
- The wiper motor control unit -J400- activates the wipers.



2.3 Notes for service

Before renewing the wiper blades, you must first move the windscreen wipers to the service position via the Car menu in the MMI (see Owner's Manual).

When the bonnet is opened, the windscreen wipers are stopped immediately. Even if the bonnet contact is defective, the wipers will still function while the car is moving (emergency wipe).

If the windscreen wiper is turned off using the intermittent wiper switch -E22- with the ignition on, the wiper will move back to position 0.

3 Windscreen wiping with rain sensor

3.1 General notes and components used

- ◆ Rain and light sensor -G397-
- ◆ Wiper motor control unit -J400-
- ◆ Onboard supply control unit -J519-
- ◆ Steering column electronics control unit -J527-
- ◆ Bonnet contact switch -F266-
- ◆ Intermittent wiper switch -E22-

3.2 Description

The sensitivity level of the rain sensor can be adjusted when the wiper is turned to "intermittent wipe".

- ◆ Intermittent level 1 = lowest level of sensitivity of rain sensor
- ◆ Intermittent level 4 = highest level of sensitivity of rain sensor

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Conditions:

- ◆ The system must be turned to "intermittent wipe".
- ◆ The rain and light sensor -G397- must detect moisture on the windscreen.

Sequence:

- The rain and light sensor -G397- measures the level of moisture on the windscreen.
- The onboard supply control unit -J519- (master control unit) passes on this information to the wiper motor control unit -J400-.
- The wiper motor control unit -J400- actuates the wiper motor with the speed calculated for the wiper (7 different speeds can be actuated).
- The onboard supply control unit -J519- turns on the dipped headlights when the automatic headlight control function is activated.

3.3 Notes for service

Should the rain and light sensor -G397- be defective, the wiper will function like a normal wiper turned to "intermittent wipe".

The rain and light sensor -G397- must be coded in the onboard supply control unit -J519-.

The rain and light sensor -G397- cannot be deactivated. If the rain and light sensor -G397- is disconnected, the automatic headlight control feature cannot function; the wiper will then operate with the normal "intermittent wipe".

When the bonnet is opened, the windscreen wipers are stopped immediately. The position of the bonnet is read into the onboard supply control unit -F266- directly via the bonnet contact switch -J519-.

3.4 Notes on the windscreen

If the windscreen is replaced (different type), the rain and light sensor -G397- must be re-coded.



Repairs to the windscreen in the sensitive area around the rain and light sensor -G397- are not recommended.

When the windscreen is renewed, it is not necessary to renew the rain and light sensor -G397- .

If the windscreen is dirty (dirt, insects, salt marks) or misted up (condensation), the rain and light sensor -G397- might recognise this as rain drops and activate the wiper. Wax and high-gloss drying aids or a coated windscreen might also disrupt the function of the rain and light sensor -G397- .

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4 Headlight washer system (HWS)

4.1 General notes and components used

The headlight washer system will only be activated automatically if the headlights and the windscreen wiper are turned on.

The headlight washer system is fitted in all vehicles with xenon headlights. An additional component is the headlight washer system pump -V11- .

4.2 Description

Conditions for switching on the headlight washer system:

- ◆ Dipped beam is on
- ◆ The windscreen washer must be activated using the intermittent wiper switch -E22- .

The headlight washer system is always switched on the first time the wiper switch is operated (if the dipped headlights are on).

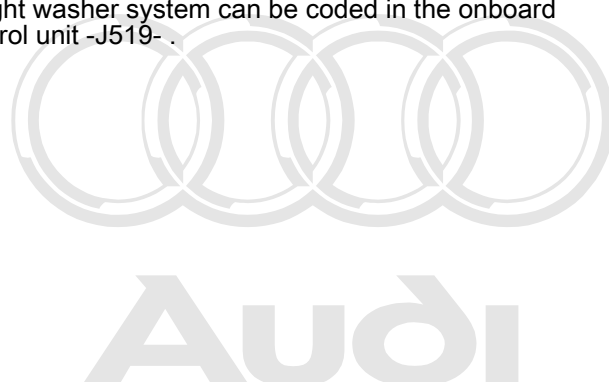
From then on, the headlight washer system is switched on every time you hold the wipe/wash switch for at least 2 seconds.

The onboard supply control unit -J519- activates the headlight washer system pump -V11- .

As the system also sprays fluid when the headlight washer jets come out and retract, the system does not only reach certain points, but washes the complete headlight. The washer jets come out of the bumper automatically (under water pressure). The pressure drops when the jets spray washer fluid, and the jets retract back into the bumper.

4.3 Notes for service

- ◆ When the washer fluid is low, the headlight washer system cannot be operated (only windscreen and rear window washers).
- ◆ You can check whether the headlight washer system is working via a final control diagnosis in the onboard supply control unit -J519- .
- ◆ The headlight washer system can be coded in the onboard supply control unit -J519- .



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5 Windscreen washing

5.1 General notes and components used

- ◆ Wiper motor control unit -J400-
- ◆ Headlight washer system pump -V11-
- ◆ Washer pump -V5-
- ◆ Onboard supply control unit -J519-
- ◆ Steering column electronics control unit -J527-
- ◆ Intermittent wiper switch -E22-

5.2 Description

When the windscreen washer is activated using the intermittent wiper switch -E22- , the following sequence will be triggered:

- The information - windscreen washing - is transmitted by the steering column electronics control unit -- via the convenience CAN bus to the onboard supply control unit -J527- .
- The onboard supply control unit -J519- (master control unit) transmits the information - windscreen washing - to the wiper motor control unit -J400- (LIN slave control unit). The wiper is activated.
- The onboard supply control unit -J519- triggers the washer pump -V5- , which then sprays washer fluid onto the wind-screen.
- If the headlights are switched on, the headlight washer system pump -V11- is triggered by the onboard supply control unit -J519- , and the headlights are washed (see headlight washer system).

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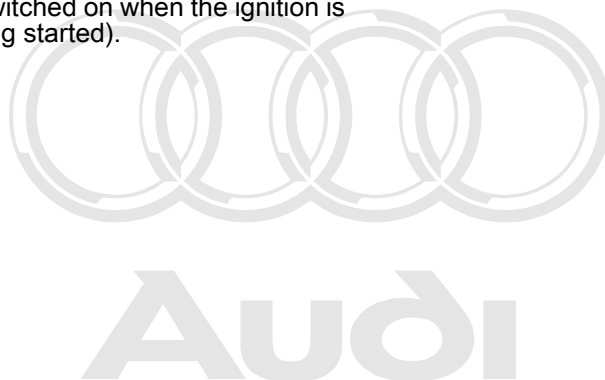
5.3 Notes for service

This function can be tested via a final control diagnosis in the onboard supply control unit -J519- .

6 Washer jet heating

There are two heater elements for the washer jets (left washer jet heater element -Z20- and right washer jet heater element - Z21-). The heater elements are supplied with power via terminal 75 and are protected by a fuse.

The heater elements are always switched on when the ignition is on (except when the engine is being started).



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