Volkswagen Golf Service & Repair Manual: Adaptive cruise control

Calibrating adaptive cruise control (ACC), except for e-Golf

Before adjustment of the Adaptive Cruise Control (ACC) system, the sensor, the retainers and securing elements are to be checked for damage, external influence and secure seating. Any damaged parts are to be repaired.

Before adjustment of the Adaptive Cruise Control (ACC) system, the event memory must be read out and faults, if any, rectified.

The “measured misalignment-angle value” of the ACC control unit will indicate whether or not the sensor is out of adjustment.

It is only permissible to adjust the Adaptive Cruise Control (ACC) system with a wheel alignment machine and adjusting devices approved by VW/AUDI.

Correct adjustment is an essential prerequisite for perfect functioning of the Adaptive Cruise Control (ACC) system.

Note

Re-adjustment is required:

Rear axle toe setting has been adjusted.

The adaptive cruise control unit -J428- has been removed and reinstalled,

The front bumper support has been removed and installed.

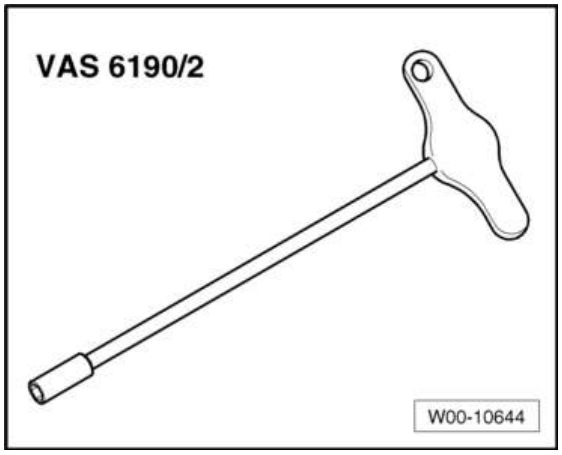
The front bumper support has become loose or has been moved.

The misalignment angle is greater than –0.8° to +0.8°.

The vehicle has been brought into the service position.

Special tools and workshop equipment required

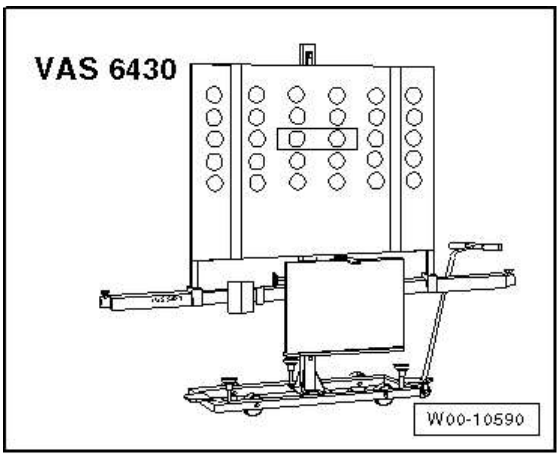
Setting tool -VAS 6190/2-



Setting device -VAS 6430- or setting device, basic kit -VAS 6430/1-

ACC reflector mirror -VAS 6430/3-

Wheel alignment computer



A new generation of adaptive cruise control units has been introduced. In regard to calibration, they differ only in appearance. Otherwise, the procedure is the same.

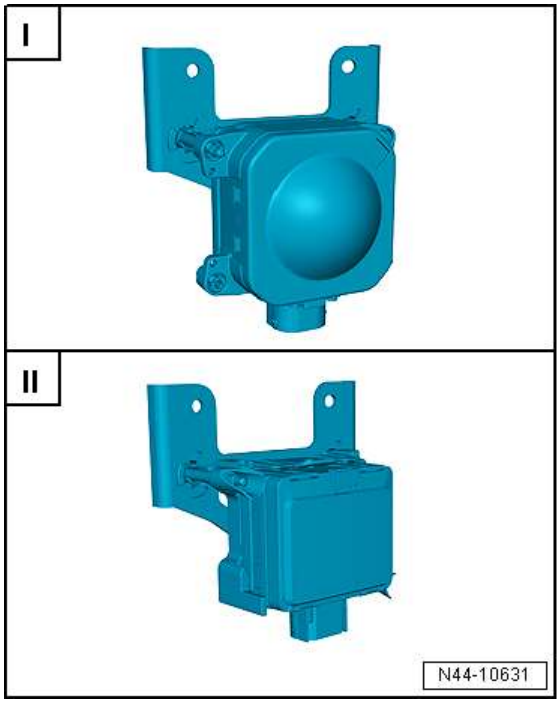
I. - Previous control unit

II. - New control unit

Note

Before driving vehicle onto wheel alignment platform, make sure there is sufficient space between vehicle and setting device -VAS 6430-. The distance between setting device -VAS 6430/3- and the sensor must be 120 cm ± 2.5 cm.

If available space is not adequate, move vehicle backwards onto alignment platform as required to achieve space required.



If position of ACC reflector mirror -VAS 6430/3- on alignment beam is changed, setting of ACC setting device -VAS 6430- must always be checked (e.g. spirit levels, individual toe values on adjusting beam, etc.).

Before starting adjustment, read out event memory and rectify any faults.

Adjustment procedure described here is based on setting device -VAS 6430-.

The following setting sequence is to be adhered to:

1 - Establish a distance of 120 cm ± 2.5 cm between the ACC reflective mirror -VAS 6430/3- fitted in the middle and the sensor in the radiator grille.

2 - Install ACC reflector mirror -VAS 6430/3- centred on alignment beam.

3 - Adjust adaptive cruise control unit -J428-.

If wheel alignment has just been carried out, the steps described under “Setting without preceding wheel alignment” do not have to be carried out.

Setting without preceding wheel alignment

– Press button to select ACC calibration in wheel alignment computer.
– Note testing preconditions for wheel alignment → Chapter.
– Drive car onto wheel alignment platform.
– Connect battery charger → Vehicle electrics; Rep. gr.27.
– Connect → Vehicle diagnostic tester. (Route diagnostic cable through open window.)

Note

During the setting procedure, make sure that all the car doors remain closed and that the car's exterior lighting is switched off.

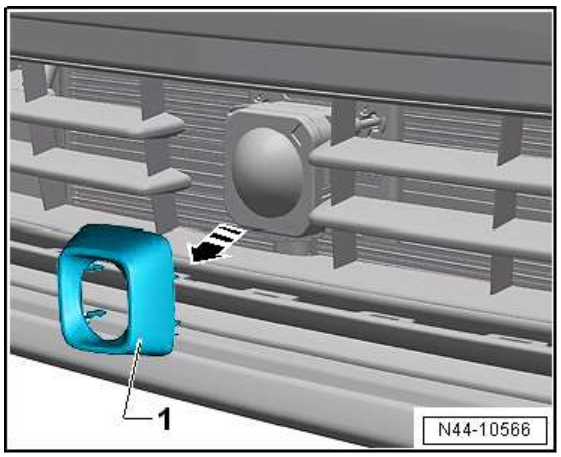
– Move front wheels to straight-ahead position.
– Mount quick-release clamps on rear wheels.
– Mount measurement transducers on rear wheels.
– Carry out wheel run-out compensation at rear wheels.

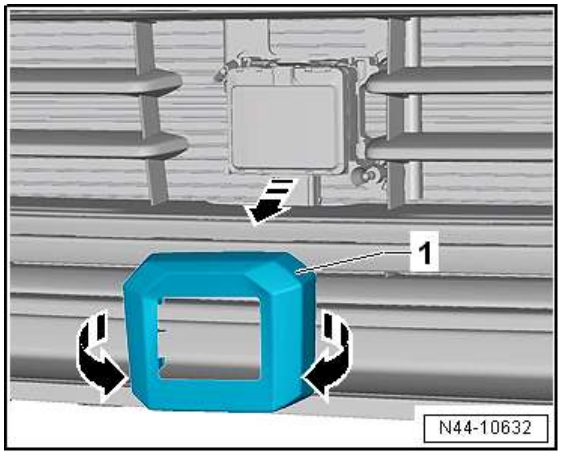
Setting with or without preceding wheel alignment

Previous control unit

– Remove trim -1-.

New control unit



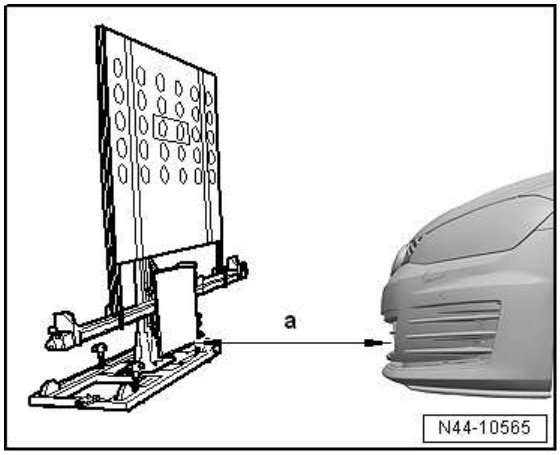


– Remove trim -1-.

– Remove trim -1-.

Continuation for both control units

– Remove dirt, if there is any, from the sensor lens.



– Position ACC setting device -VAS 6430/3- centrally and parallel at a distance -a- from centrally fitted ACC reflector mirror -VAS 6430/3- to adaptive cruise control unit -J428-.

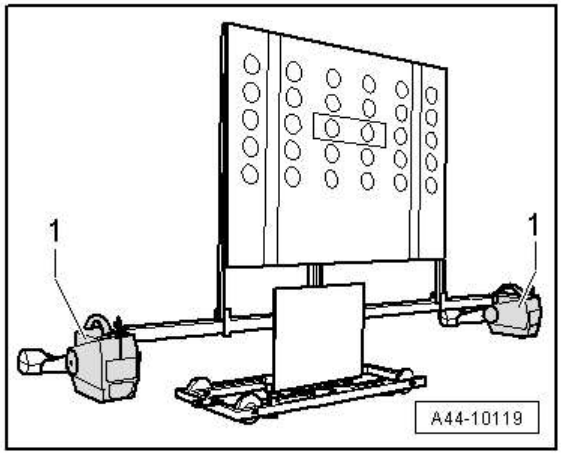
a - 120 cm ± 2.5 cm

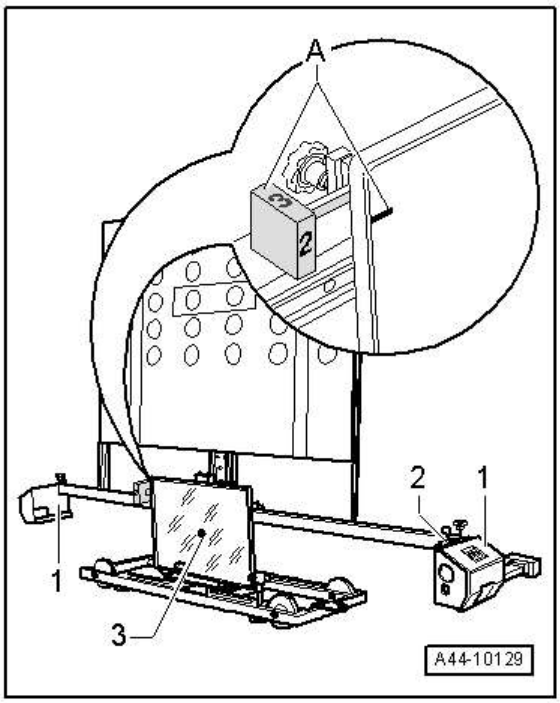
Note

ACC setting device -VAS 6430- is not allowed to be moved on alignment beam.

Sequence of steps for all

– Mount measurement transducers -1- of front wheels on alignment beam.



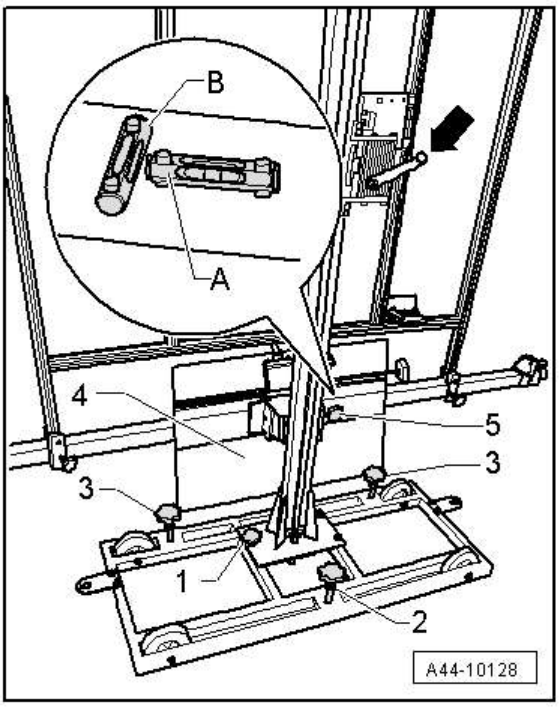


– In the area -A-, move position -2- on rotary knob so that it coincides with marking on mirror (the number 2 on the rotary knob must point towards the vehicle).

– Use adjusting screws -1-, -2- and -3- to bring spirit levels -A- and -B- to - VAS 6430/3- horizontal.

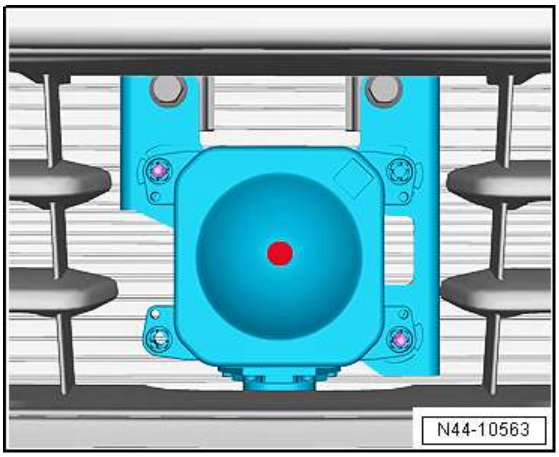
– Adjust mirror -4- by means of crank handle -arrow- in such a way that the laser beam contacts the centre of the sensor lens.

Previous control unit



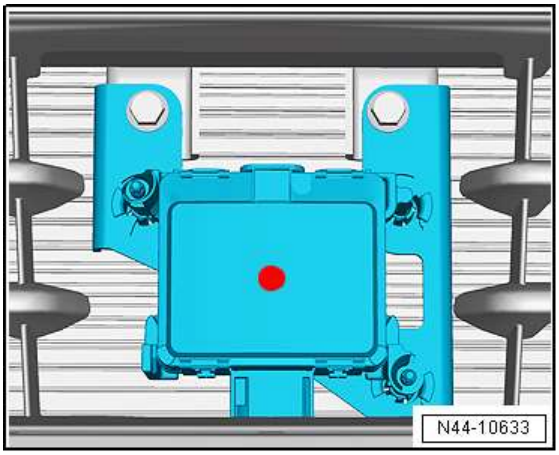
– Position the mirror on side of the alignment beam so that the laser beam contacts the centre of the sensor lens.

New control unit

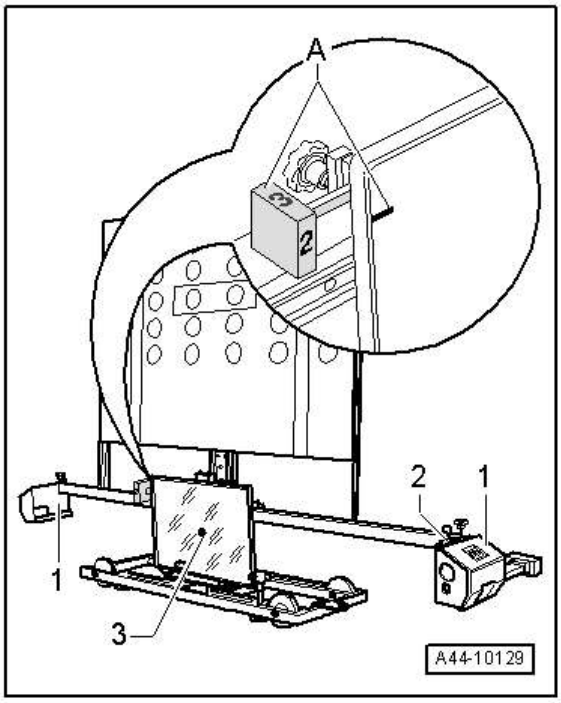


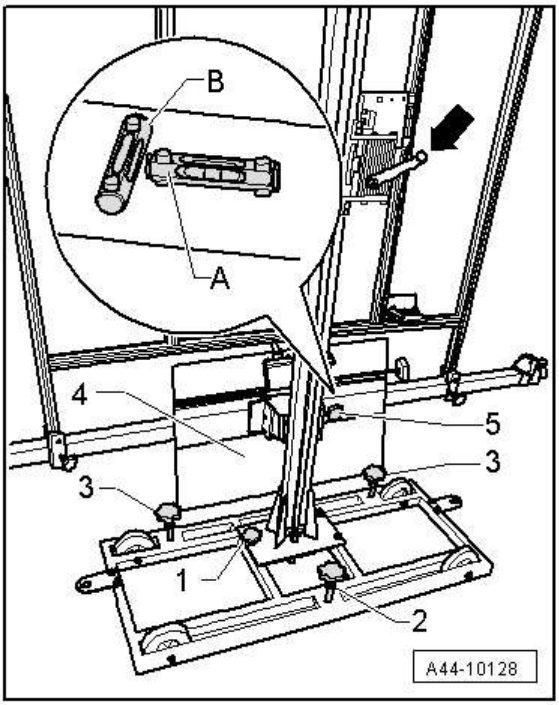
– Position the mirror on side of the alignment beam so that the laser beam contacts the centre of the sensor lens.

Continuation for both control units



– Use adjusting screw -1- to level spirit levels -2-.





– Turn fine adjuster screw -5- until display on wheel alignment computer is within tolerance.

– Use adjusting screw -1- to level spirit levels -2-.

– Now, use laser beam -3- of -VAS 6430/3- to check again whether spirit levels are horizontal and laser beam hits centre of sensor lens.

Note

The alignment of - VAS 6430/3- must be repeated if the laser beam does not coincide with the sensor lens.

– Press → Vehicle diagnostic testerGoTo button and select Select function/component function.

Selection on → Vehicle diagnostic tester for setting adaptive cruise control unit -J428-:

– On the screen, click the following buttons one after the other:

Running gear (Rep. Gr. 01; 40 - 49)

13 - Proximity control

01 - System capable of self-diagnosis

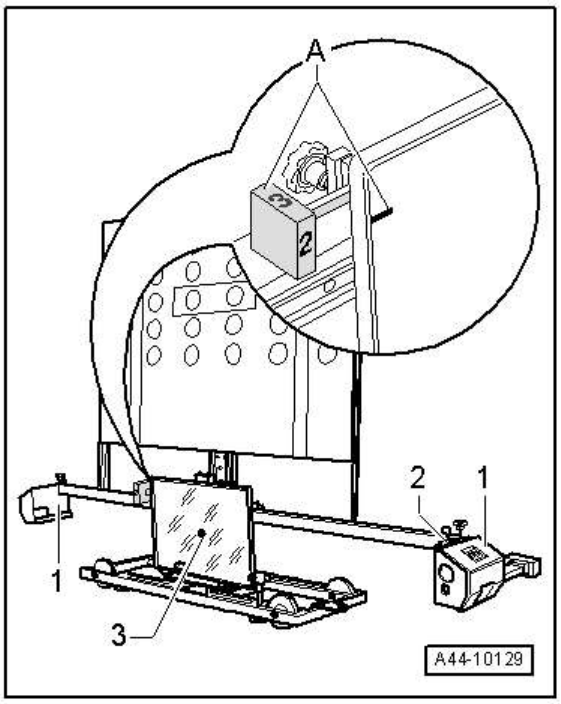
13 - Proximity control

13 - Proximity control, functions

13 - Calibration

Follow instructions on screen to set the control unit.

Designation of adjusting screws of adaptive cruise control unit -J428-

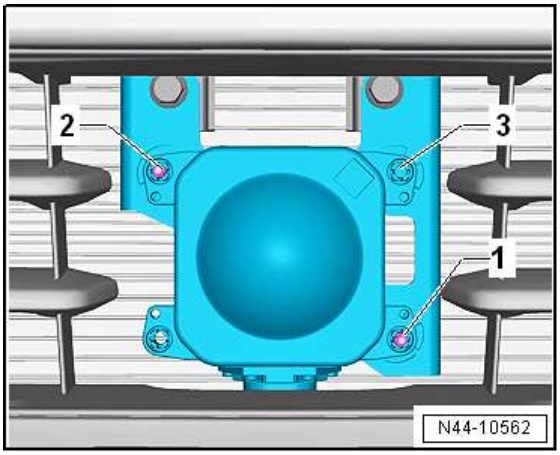


Previous control unit

1 - Setting screw 1

2 - Setting screw 2

3 - Must not be rotated - serves only as point of rotation



New control unit

1 - Setting screw 1

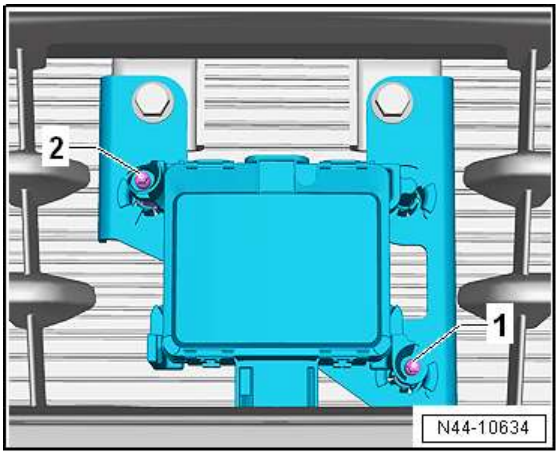
2 - Setting screw 2

3 - Must not be rotated - serves only as point of rotation

Continuation for both control units

WARNING

The ACC setting is not accepted until “Final control diagnosis is completed” is displayed in the → Vehicle diagnostic tester.



Determining flat spots on tyres

Front camera for driver assist systems

What is a flat spot? The terms flat area and flats are also used for the term flat spot. Flat spots caused by storage or handl ...

Calibrating front camera for driver assist systems Note The following situations can cause the camera function to be impaired by sustained poor visibility o ...

Other materials:

Front camera for driver assist systems

Calibrating front camera for driver assist systems Note The following situations can cause the camera function to be impaired by sustained poor visibility of the lane marker lines: The field of view of the camera is soiled or i ...

Overview of fitting locations - front control motors, air conditioning system with electric/manual controls, RHD vehicles

1 - Temperature flap control motor -V68- Checking: with vehicle diagnostic tester Removing and installing → Chapter. Renewing: initiate basic setting using vehicle diagnostic tester. 2 -&nb ...

Repairs to wiring with cross sections up to 0.35 mm2

Special tools and workshop equipment required Crimping pliers, complete -VAS 1978/1 A- Head adapter 0.35 mmI - 2.5 mmI -VAS 1978/1-1- For repairs to ...