

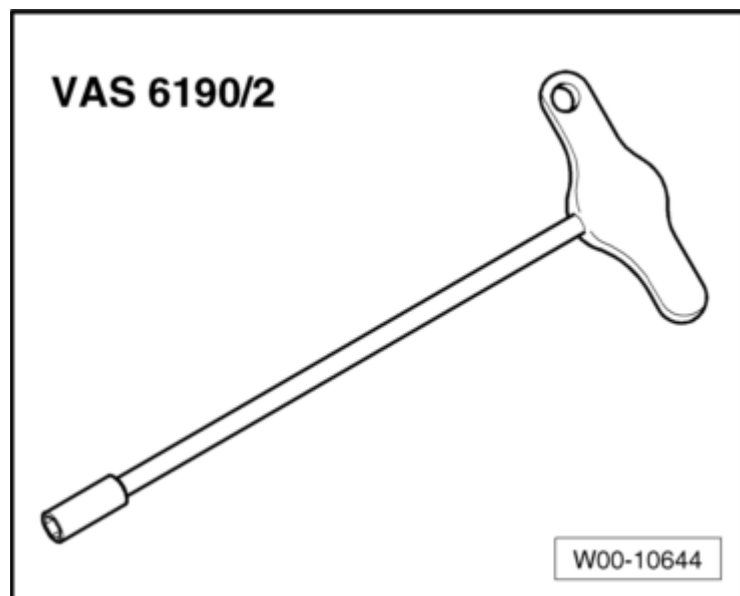
Calibrating adaptive cruise control

Re-adjustment is required:

- ◆ If the rear axle toe setting has been changed.
- ◆ If the adaptive cruise control unit -J428- and/or control unit 2 for adaptive cruise control -J850- have been removed and installed.
- ◆ If the front bumper has been removed and installed.
- ◆ If the front bumper has been detached or moved.
- ◆ If the front bumper is damaged.
- ◆ If misalignment angle is greater than $- 0.8^\circ$ to $+ 0.8^\circ$.
- ◆ If there is excessive vertical misalignment of the adaptive cruise control sensors (system is deactivated due to loss of sensor vision). System operation is impaired by a recurring sensor vision problem which cannot be attributed to a dirty sensor or adverse weather conditions (such as heavy rain, snow or ice, etc.).

Special tools and workshop equipment required

- ◆ Diagnostic tester with appropriate diagnosis lead
- ◆ Wheel alignment computer
- ◆ Adjusting tool -VAS 6190/2-



- ◆ Setting device -VAS 6430- or setting device, basic set -VAS 6430/1-
- ◆ ACC reflective mirror, Audi -VAS 6430/3-

There are two options for adjusting the sensors for adaptive cruise control:

“Quick-start”

This procedure (adjustment only) should be selected in the following cases:

- ◆ If the adaptive cruise control unit -J428- and/or control unit 2 for adaptive cruise

control -J850- have been removed and installed.

- ◆ If the front bumper has been removed and installed.
- ◆ If the front bumper has been detached or moved.
- ◆ If the front bumper is damaged.
- ◆ If misalignment angle is greater than -0.8° to $+0.8^\circ$.
- ◆ If there is excessive vertical misalignment of the sensors for adaptive cruise control.

“Full wheel alignment”

This procedure (adjustment and wheel alignment) should be selected in the following cases:

- ◆ If the rear axle toe setting has been changed.
- ◆ The running gear of the vehicle is modified in any way – e.g. conversion from standard running gear to sports running gear.



Note

The two procedures are programmed on the wheel alignment computer. Each procedure runs automatically. All you have to do is select the relevant program.



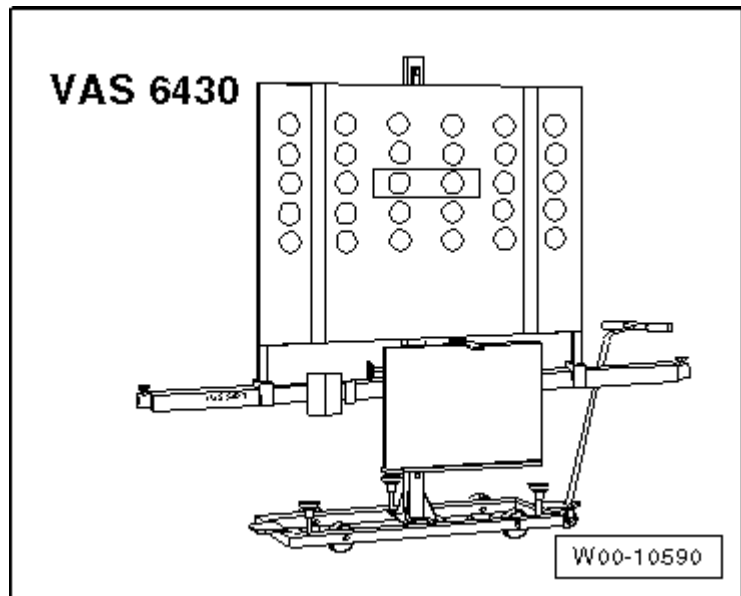
Note

Before performing ACC adjustment, check whether the vehicle is equipped with a night vision system. If so, it may be necessary to calibrate the camera for the night vision system first (depending on the repair work involved). The two adaptive cruise control sensors can be adjusted afterwards. Having set the distance between the camera for the night vision system and the calibration unit for night vision system -VAS 6430/6-, this setting can be used to perform the ACC adjustment.

The steps listed under “Adjustment procedure (when wheel alignment has not been previously checked)” are only required if no wheel alignment check has already been performed.

Please note preparations required before calibration/adjustment of driver assist systems → Chapter.

Adjustment procedure (when wheel alignment has not been previously checked)



- Attach quick-release clamps to rear wheels.
- Attach wheel alignment sensors to rear wheels.
- Carry out wheel rim runout compensation for rear wheels.

Adjustment procedure (when wheel alignment has been previously checked)

- Connect battery charger for backup power supply → [Electrical system; Rep. gr.27; Battery; Charging battery.](#)
- Set front wheels to straight-ahead position.
- Connect up diagnostic tester to vehicle and run diagnostic cable out through open window.
- Switch off exterior lights on vehicle.
- Close all vehicle doors.

Adjustment procedure (irrespective of previous wheel alignment check)

- Press button to select ACC adjustment procedure in wheel alignment computer.

Always follow the adjustment procedure below:

- 1 - Set up equipment with ACC reflective mirror, Audi -VAS 6430/3- in centre position at a distance of 120 cm ± 2.5 cm from Audi rings.**



Note

- ◆ *This step is necessary if you have not already adjusted/calibrated the camera for the night vision system.*
- ◆ *If the camera for the night vision system has already been adjusted/calibrated, it is not necessary to re-position the setting device -VAS 6430-.*

- 2 - Position ACC reflective mirror, Audi -VAS 6430/3- on right side in front of adaptive cruise control unit -J428-.**
- 3 - Adjust adaptive cruise control unit -J428-.**
- 4 - Attach ACC reflective mirror, Audi -VAS 6430/3- on opposite side of cross bar in front of control unit 2 for adaptive cruise control -J850-.**

5 - Check position of spirit levels and cross bar (refer to display on wheel alignment computer) and correct if necessary.

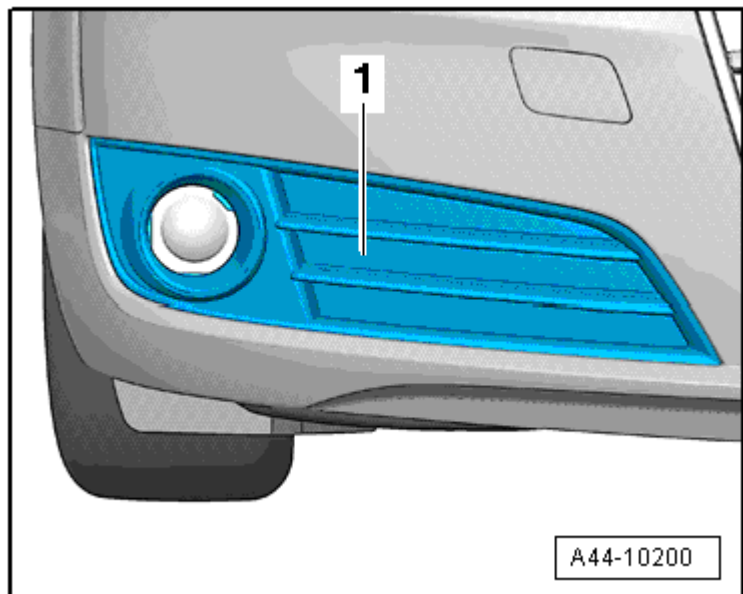
6 - Adjust control unit 2 for adaptive cruise control -J850-.



Note

Before performing ACC adjustment, check that the two sensors for adaptive cruise control and their brackets and fasteners are properly secured and inspect them for signs of impacts and/or extraneous damage. Service any damaged components as necessary. Similarly, check that the front bumper cover is securely attached and inspect for damage and cracks. Service any damaged components as necessary.

- Detach air intake grille -1- (both sides) → **General body repairs, exterior; Rep. gr.63; Bumper (front); Removing and installing attachments.**
- Remove any dirt from sensor lens.
- Connect diagnostic tester to vehicle (run diagnostic cable out through open window).



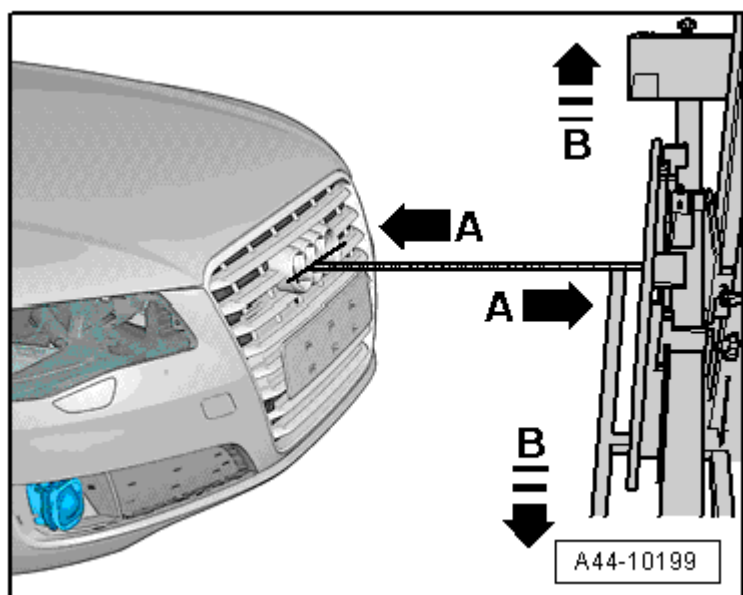
Procedure if camera for night vision system has not already been calibrated/adjusted

- Position setting device -VAS 6430- so that distance -A- is attained between reflective mirror, Audi -VAS 6430/3- (in centre position) and Audi rings.

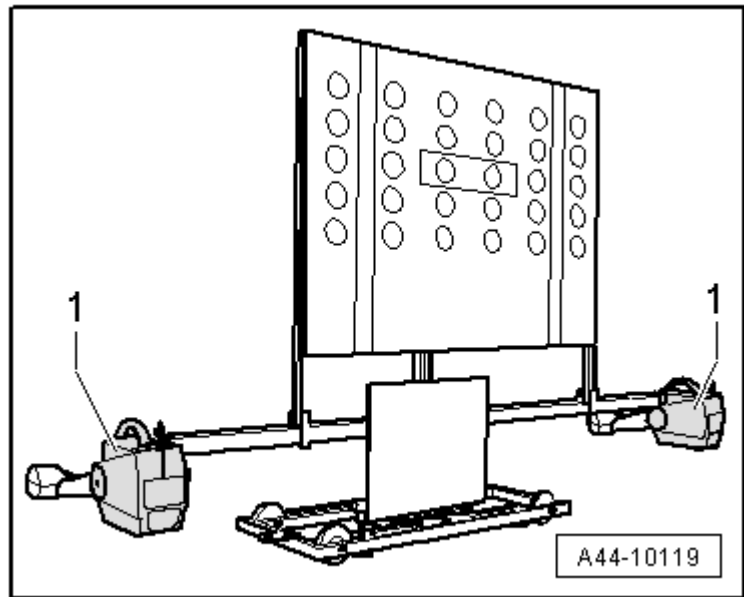


Note

- ◆ *Distance -A- = 120 cm ± 2.5 cm, measured from ACC reflective mirror, Audi -VAS 6430/3- to surface of Audi rings.*
- ◆ *Setting device -VAS 6430- must not be moved on alignment beam.*

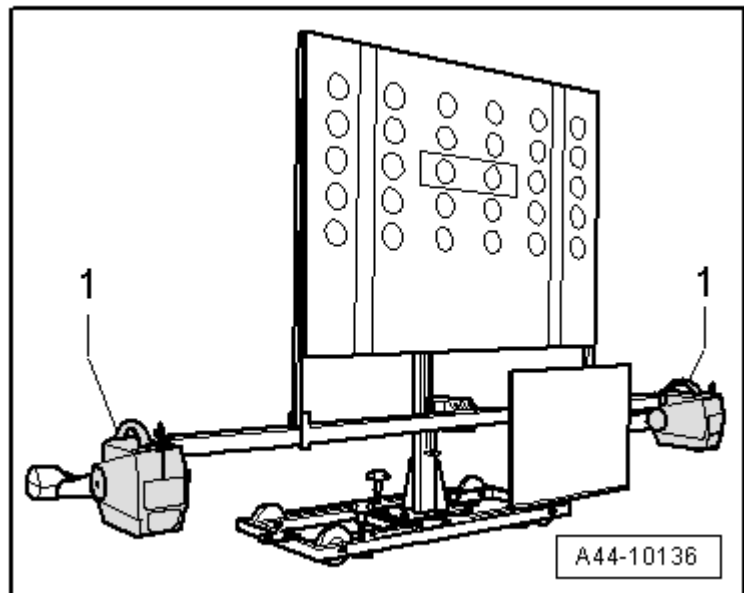


- Attach front wheel alignment sensors -1- to -VAS 6430-.

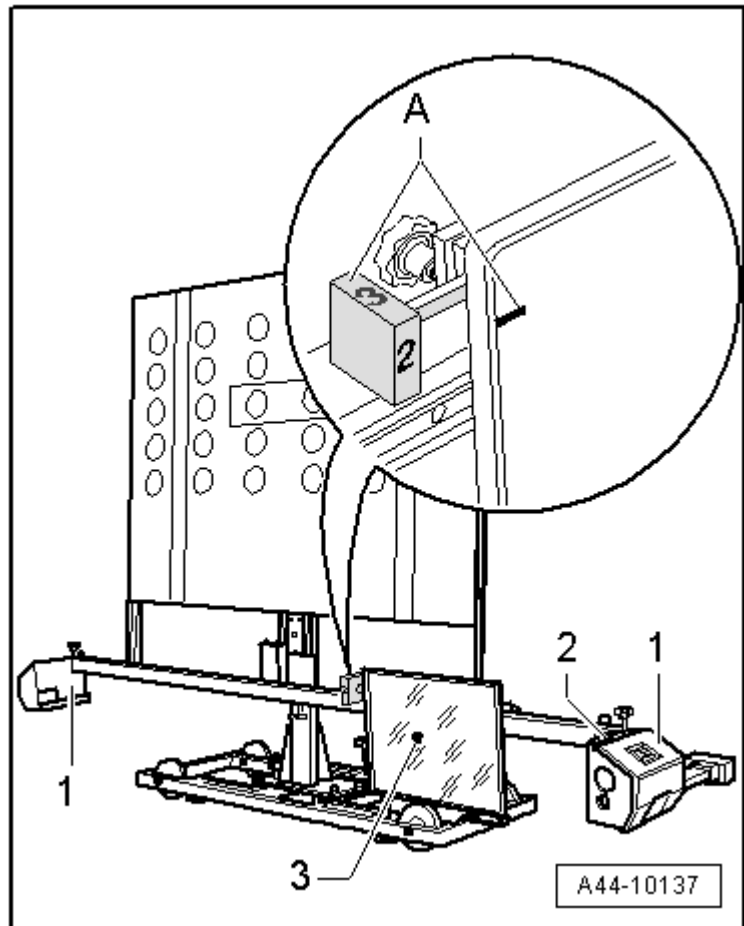


Procedure (all situations)

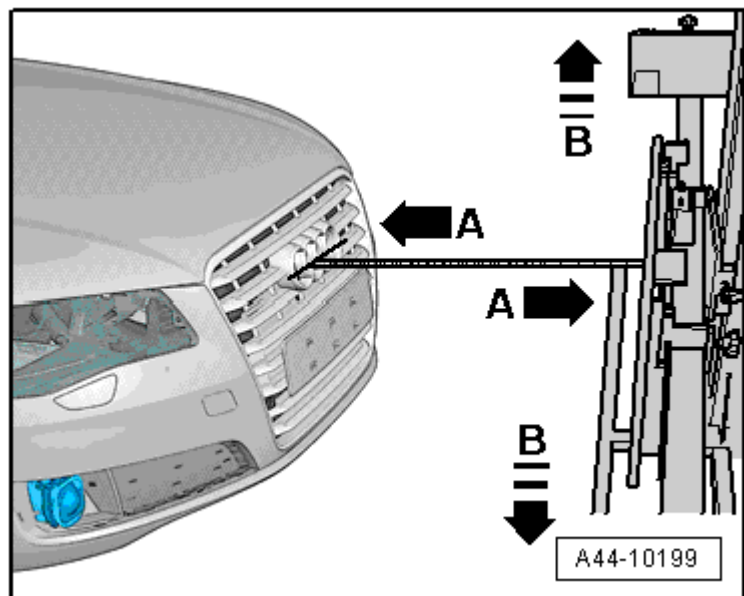
- Fit ACC reflective mirror, Audi -VAS 6430/3- on right side next to vertical slide, as shown in illustration.



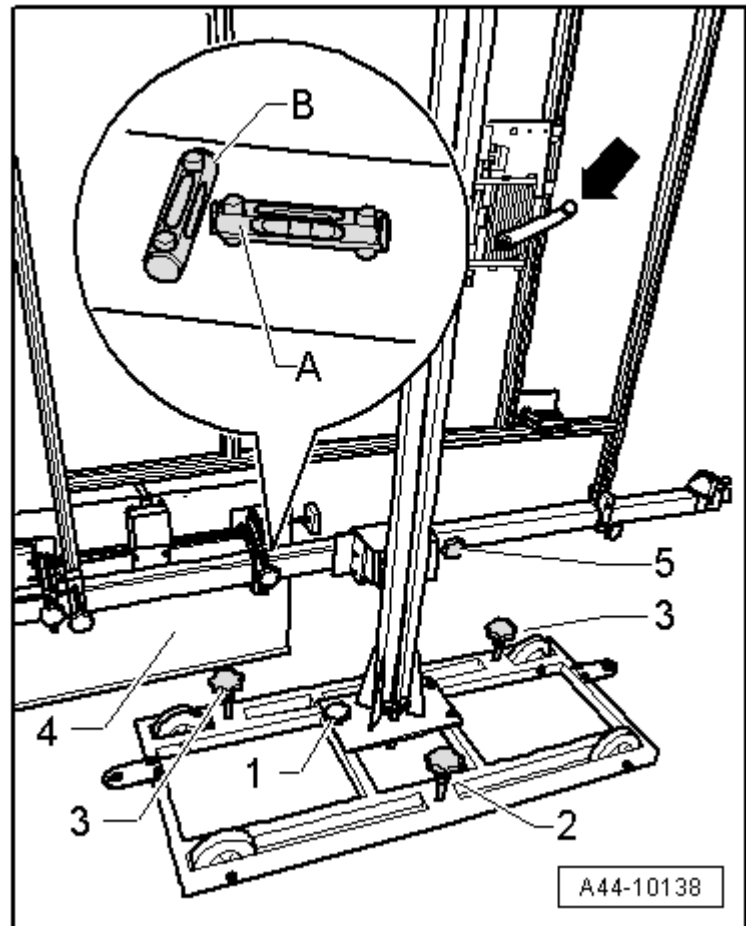
- In area -A-, align number -2- on rotary knob with mark on mirror (number 2 on rotary knob must face vehicle).



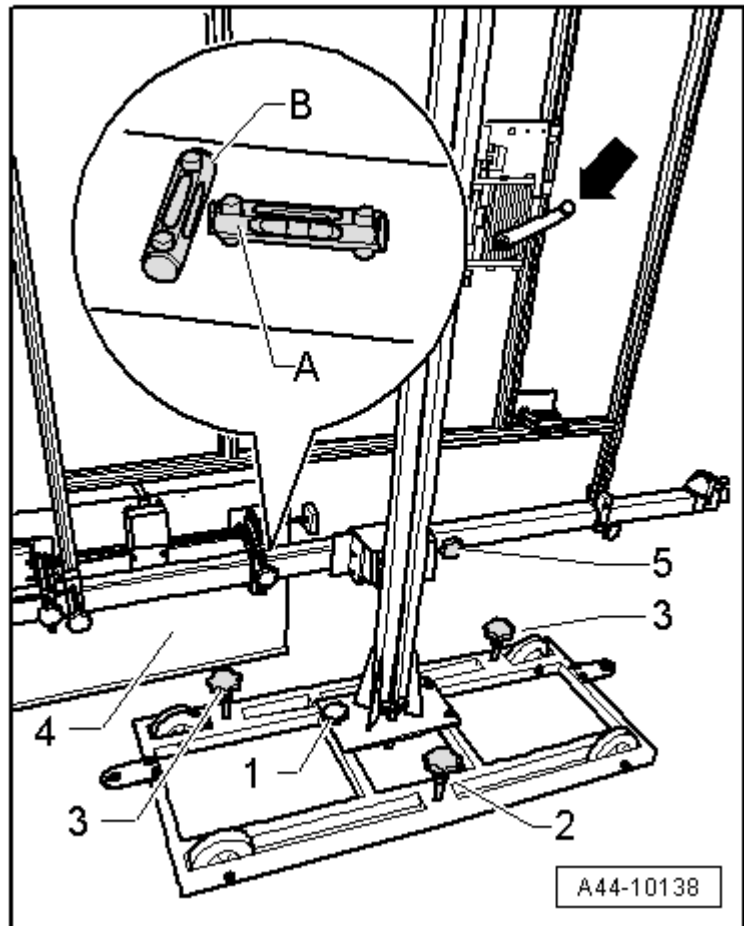
- Set up setting device -VAS 6430- by moving it from side to side -arrows B-.



- Use adjusting screws -1-, -2- and -3- to bring spirit levels -A- and -B- on -VAS 6430- into horizontal position.



- Using crank handle -arrow- on -VAS 6430-, set mirror -4- so that laser beam coincides with centre of sensor lens in vertical plane. If necessary, reposition mirror -4- laterally on cross bar so that laser beam coincides with centre of sensor lens in horizontal plane.
- Set identical individual front axle toe values with fine adjustment screw -5-.
- Difference between individual toe values must be less than 6' or equal.



- Balance out spirit levels -2- on wheel alignment sensors -1-.
- Then check again that laser beam -3- from -VAS 6430- coincides with sensor lens.



Note

- ♦ *-VAS 6430- is correctly aligned if the laser beam still coincides with the sensor lens at this stage, after the identical toe values have been set.*
- ♦ *The alignment of -VAS 6430- must be repeated if the laser beam does not coincide with the sensor lens.*
- Switch on ignition.

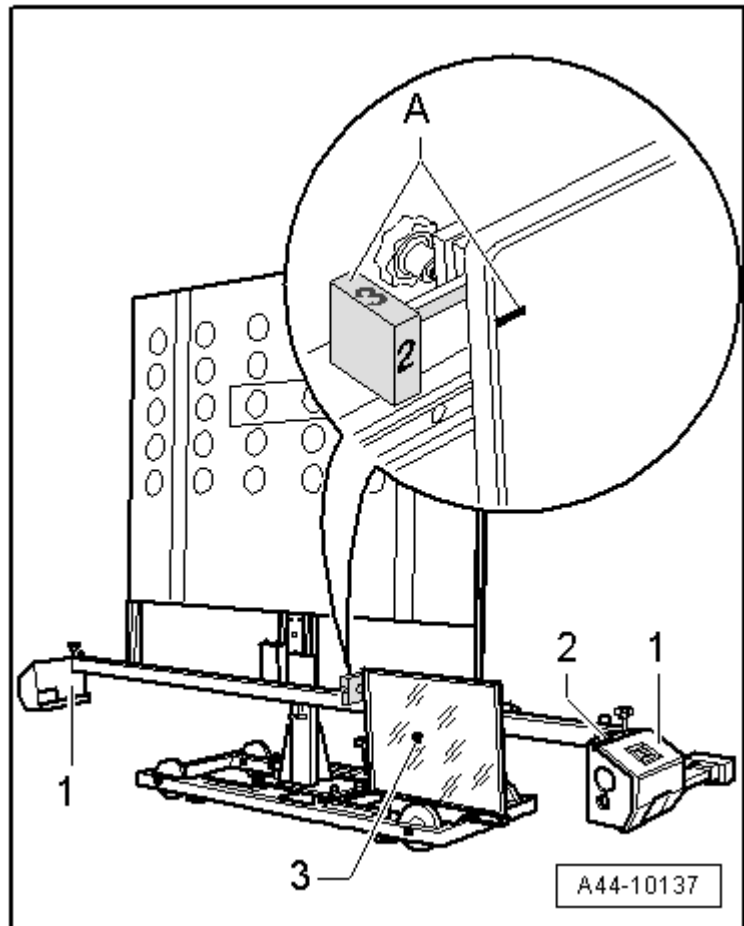
VAS PC

- Connect up → **Vehicle diagnostic tester.**
- Select **Guided Fault Finding** mode.
- Press the **Go to** button, select the option “Function/component selection” and then select the following menu items:

- ◆ Body (Rep. gr. 01; 27; 50-97)
- ◆ Electrical system (Rep. gr. 01; 27; 50-97)
- ◆ 01 - Self-diagnosis compatible systems
- ◆ 84 - Control unit for night vision system J853
- ◆ 84 - Control unit for night vision system, functions
- ◆ Calibrate J853

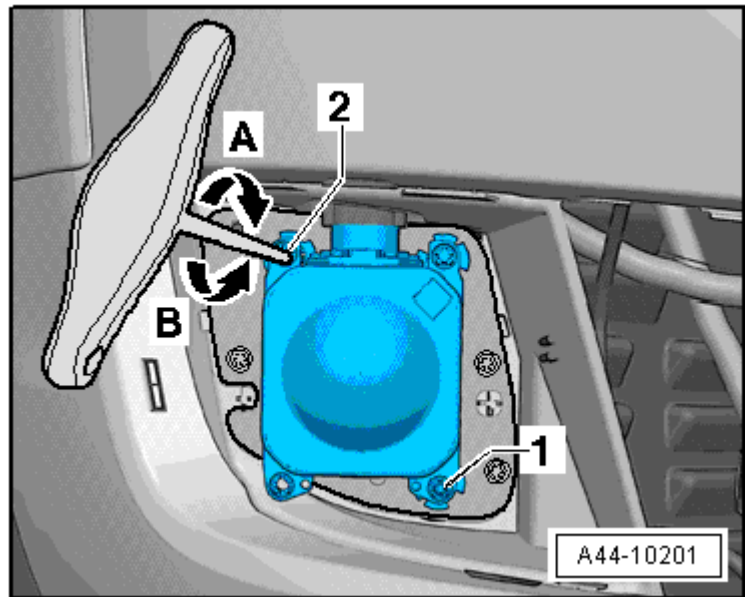
ODIS - Offboard Diagnostic Information System

- Connect up → **Vehicle diagnostic tester.**
- Select **Diagnosis** mode and start the diagnosis.
- Select **Test plan** tab.
- Press **Select own test** button and then select the following menu items:
 - ◆ Body (Rep. gr. 01; 27; 50-97)
 - ◆ Electrical system (Rep. gr. 01; 27; 50-97)
 - ◆ 01 - Self-diagnosis compatible systems
 - ◆ 84 - Control unit for night vision system J853
 - ◆ 84 - Control unit for night vision system, functions
 - ◆ Calibrate J853



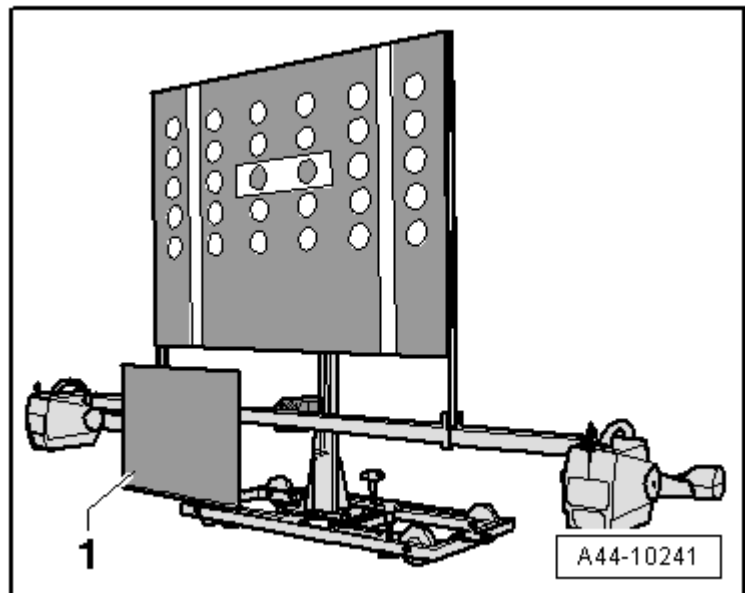
All types of vehicle diagnostic tester (continued):

- Continue to follow the instructions on the vehicle diagnostic tester display.
- For fine adjustment of adaptive cruise control unit -J428- in "Guided Functions", use screws -1- (bottom) and -2- (top).



When adjustment of adaptive cruise control unit -J428- has been successfully completed, perform adjustment of control unit 2 for adaptive cruise control -J850-.

The procedures for adjusting control unit 2 for adaptive cruise control unit -J850- and adaptive cruise control unit -J428- are basically the same. ACC reflective mirror, Audi -VAS 6430/3--1- has to be refitted on opposite side of cross bar → **Chapter**.



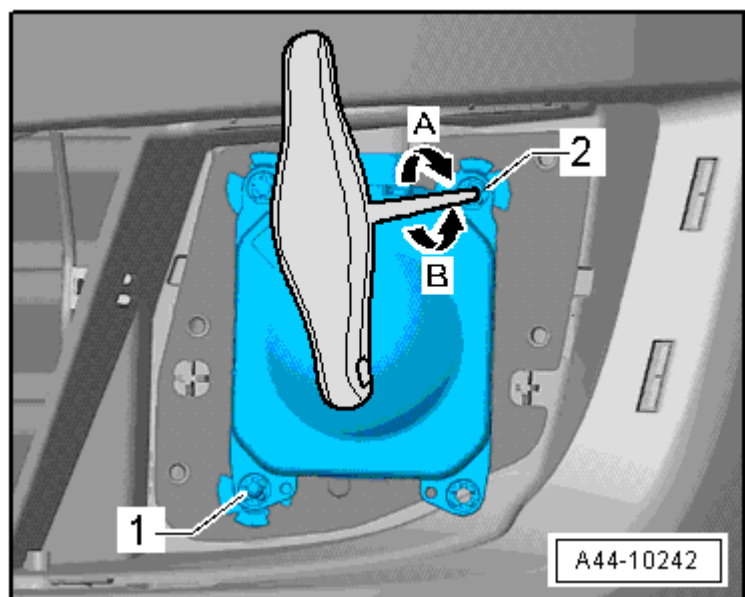
- For fine adjustment of control unit 2 for adaptive cruise control -J850- in "Guided Functions", use screws -1- (bottom) and -2- (top).



WARNING

ACC adjustment is not completed until diagnostic tester displays "Final control element diagnosis ended".

- Switch off ignition.
- Disconnect diagnostic cable from diagnostic connection.
- Disconnect battery charger → **Electrical system; Rep. gr.27; Battery; Charging battery.**



- Install air intake grille → General body repairs, exterior; Rep. gr.63; Bumper (front); Removing and installing attachments.