

Adaptive Cruise Control (ACC), Adjusting

Special tools and workshop equipment required

- ◆ Vehicle Diagnostic Tester
- ◆ Wheel Alignment Computer
- ◆ Screwdriver with T-bar VAS272001 -VAS272001-, not shown
- ◆ Setting Device - Basic Set -VAS6430/1- or Setting Device - Basic Set -VAS6430/1A-
- ◆ ACC Reflector Mirror - Audi -VAS6430/3-

A new adjustment is necessary if:

- ◆ The rear axle toe was adjusted.
- ◆ The Distance Regulation Control Module -J428- and/or Distance Regulation Control Module 2 -J850- was removed and installed.
- ◆ The front bumper was removed and installed.
- ◆ The front bumper was loosened or moved.
- ◆ The front bumper is damaged.
- ◆ If the vertical adjustment angle is greater than -1.0° to $+1.0^\circ$.

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

The "Quick Access"

This procedure should be selected for the following activities if only the adjustment will be performed.

- ◆ The Distance Regulation Control Module -J428- and/or Distance Regulation Control Module 2 -J850- was removed and installed.
- ◆ The front bumper was removed and installed.
- ◆ The front bumper was loosened or moved.
- ◆ The front bumper is damaged.
- ◆ If the vertical adjustment angle is greater than -1.0° to $+1.0^\circ$.

The "Complete Alignment"

This procedure should be selected for the following activities if an adjustment and a wheel alignment will be performed.

- ◆ The rear axle toe was adjusted.
- ◆ the vehicle suspension was changed, for example, changing from standard to sport suspension.



Note

- ◆ *Both procedures are programmed into the axle alignment computer. The respective procedure is performed automatically. It is only necessary to select the appropriate program for the procedure that will be performed.*
- ◆ *Before adjusting the ACC, see if the vehicle has an night vision system. If so, the camera for the night vision system must be calibrated first depending on the repair. After that*

can both adaptive cruise control sensors be adjusted. The previously set distance between the camera for the night vision system and the Night Vision Calibration Tool - VAS6430/6- can be used for adjusting the ACC.

If there was a previous axle alignment, the steps under "Calibration procedure without a previous axle alignment" should not be performed.

Preparation Work for Calibrating and Adjusting Driver Assist Systems. Refer to → Chapter „Preparation Work for Calibrating and Adjusting Driver Assist Systems“.

- For vehicles with air suspension, "activate vehicle lift mode". Refer to the Owner's Manual.

Calibration Procedure without Previous Axle Alignment

- Switch off the ignition when the vehicle has come to a stop. Only this way it can be ensured that the is in the straight-ahead position.
- Connect the battery charger for the battery support mode. Refer to → [Electrical Equipment; Rep. Gr.27; Battery; Battery, Charging](#).
- Install quick clamps on the rear wheels.
- Install measuring sensors on the rear wheels.
- Perform a rim run-out compensation on the rear wheels.

Adjustment Procedure with Previous Axle Alignment

- Switch off the ignition when the vehicle has come to a stop. Only this way it can be ensured that the is in the straight-ahead position.
- Switch off the ignition.
- Connect the battery charger for the battery support mode. Refer to → [Electrical Equipment; Rep. Gr.27; Battery; Battery, Charging](#).
- Position the front wheels so they are straight.
- Connect the Vehicle Diagnostic Tester to the vehicle and guide the diagnostic cable through the open window.
- Turn off all vehicle exterior lamps.
- Close all vehicle door.

Calibration Procedure with or without Previous Axle Alignment

- Select the ACC calibration button on the alignment computer.

Follow the Sequence for Adjusting:

- 1 - The Distance Between the Center of the ACC Reflector Mirror - Audi -VAS6430/3- and the Audi rings must be 120 cm ± 2.5 cm.



Note

- ◆ Perform this step if night vision camera was not adjusted earlier.
 - ◆ If a camera adjustment/calibration was performed earlier, then it is not necessary to reposition the Setting Device - Basic Set -VAS6430/1A-.
- 2 - Position the ACC Reflector Mirror - Audi -VAS6430/3- on the Right Side in Front of the Distance Regulation Control Module -J428-,
 - 3 - Adjust the Distance Regulation Control Module - J428-,
 - 4 - Attach the ACC Reflector Mirror, Audi -VAS6430/3- on the opposite side of the calibration beam in front of Distance Regulation Control Module 2 -J850-,
 - 5 - Check the position of the bubble level and of the calibration beam (using the display on the wheel alignment computer) and correct it if necessary,
 - 6 - Adjust the Distance Regulation Control Module 2 - J850-.

**Note**

Before adjusting the ACC, check both "sensors" and their mounts and attachments for damage, external influences and secure fit. Repair any damaged components if necessary. Likewise, check the front bumper cover for damage, cracks and secure fit and service any damaged parts, if necessary.

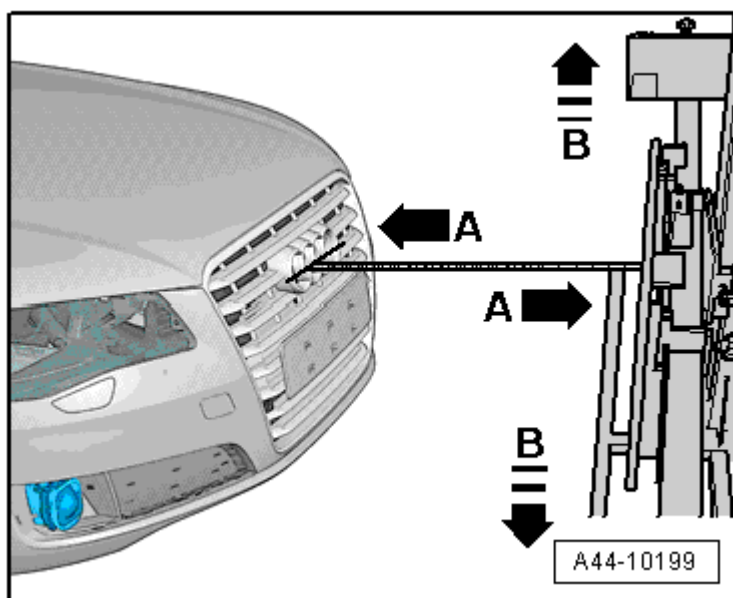
- Remove the right and left air intake grilles. Refer to → Body Exterior; Rep. Gr.63; Front Bumper; Attachments, Removing and Installing.
- Remove any dirt that may be on the sensor lens if necessary.
- Connect the Vehicle Diagnostic Tester to the vehicle. (Guide the diagnostic cable through the door window.)

Process without a Previously Calibrating/Adjusting the Night Vision Camera

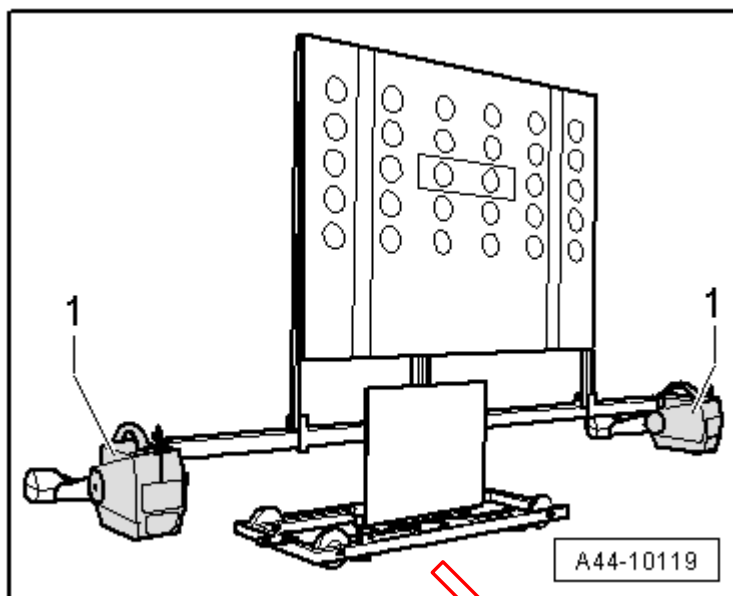
- Position the Setting Device Basic Set -VAS6430/1A- at distance -A- from the center of the ACC Reflector Mirror - Audi -VAS6430/3- up to the Audi rings.

**Note**

- ◆ Distance -A- = 120 cm ± 2.5 cm, measured between the ACC Reflector Mirror - Audi -VAS6430/3- and the surface of the Audi rings.
- ◆ The Setting Device Basic Set - VAS6430/1- must not be moved on the calibration beam.

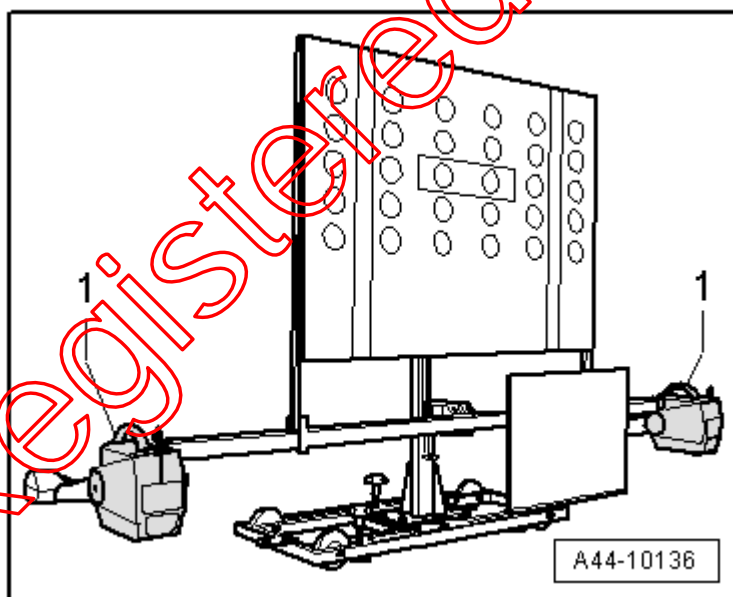


Mount the front wheel measuring sensors -1- onto the Setting Device Basic Set -VAS6430/1-.

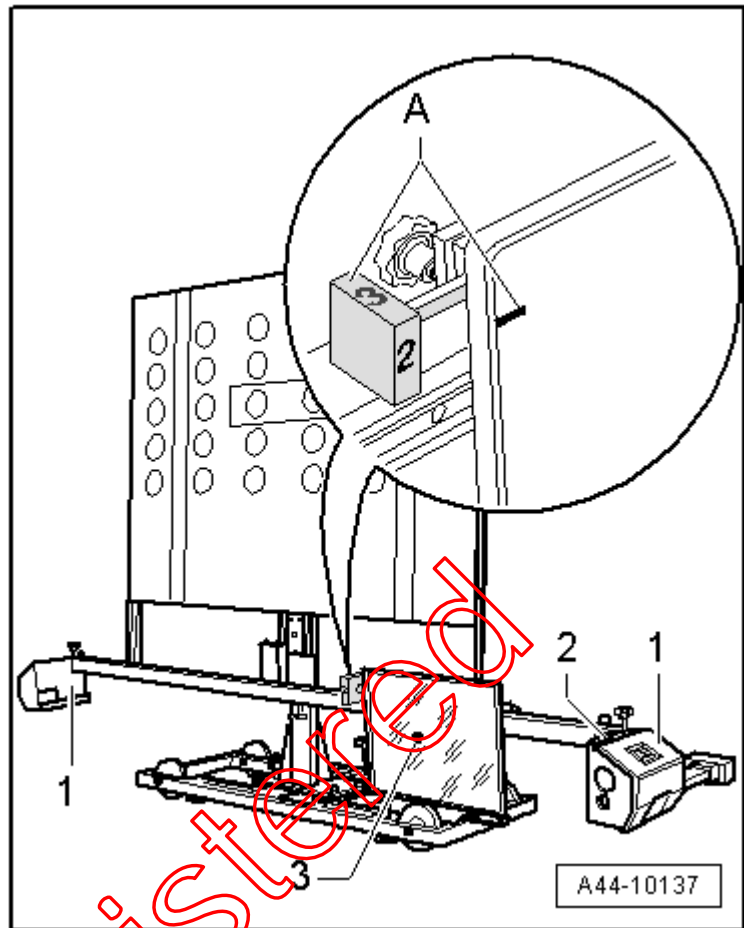


Procedure for All

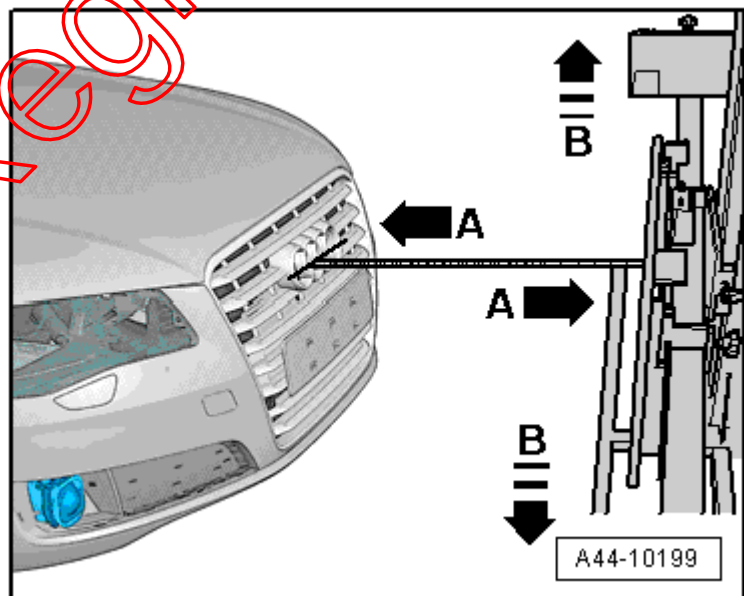
- Install the ACC Reflector Mirror - Audi -VAS6430/3- on the right side next to the vertical slits as shown.



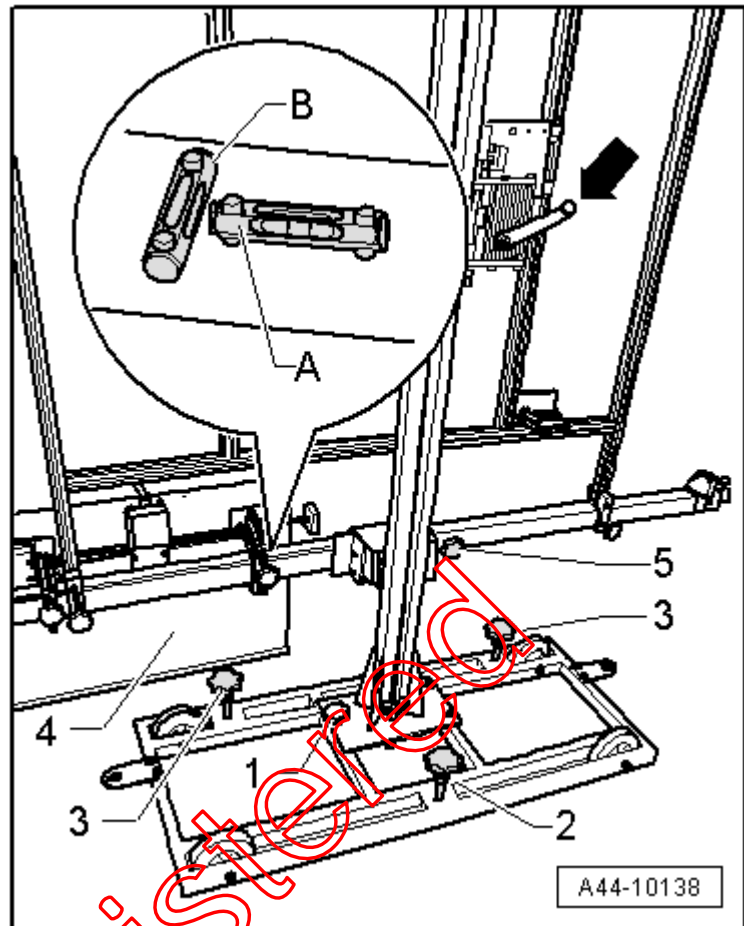
- In area -A-, bring item -2- on rotary knob into alignment with marking on mirror (number 2 on rotary knob must face toward vehicle).



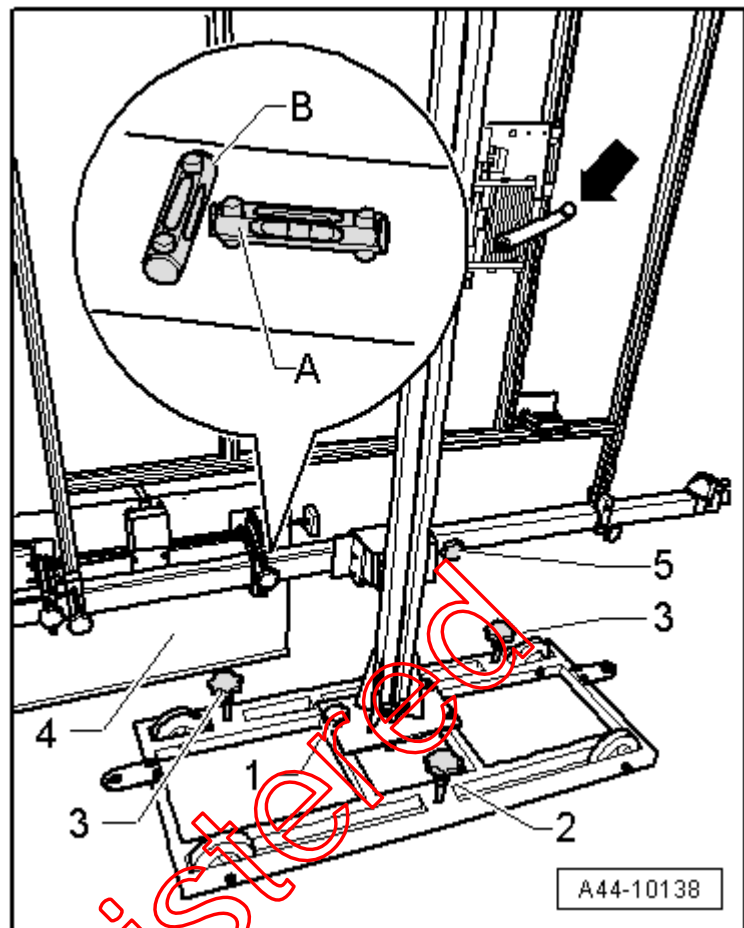
- Align the Setting Device Basic Set - VAS6430/1A- by moving it from side to side in direction of -arrows B-.



- Balance the bubble levels -A and B- on the Setting Device Basic Set - VAS6430/1A- using the adjusting bolts -1, 2, and 3-.



- Adjust the mirror -4- using the crank - arrow- on the Setting Device Basic Set -VAS6430/1A- so the laser beam is vertically centered on the sensor lens. If necessary adjust the mirror -4- from side to side on the calibration beam until the laser beam is horizontally centered on the sensor lens.
- Adjust the same front axle individual toe settings using fine adjustment screw -5-.
- The difference between individual toe values must be less than 6' or they must be the same.



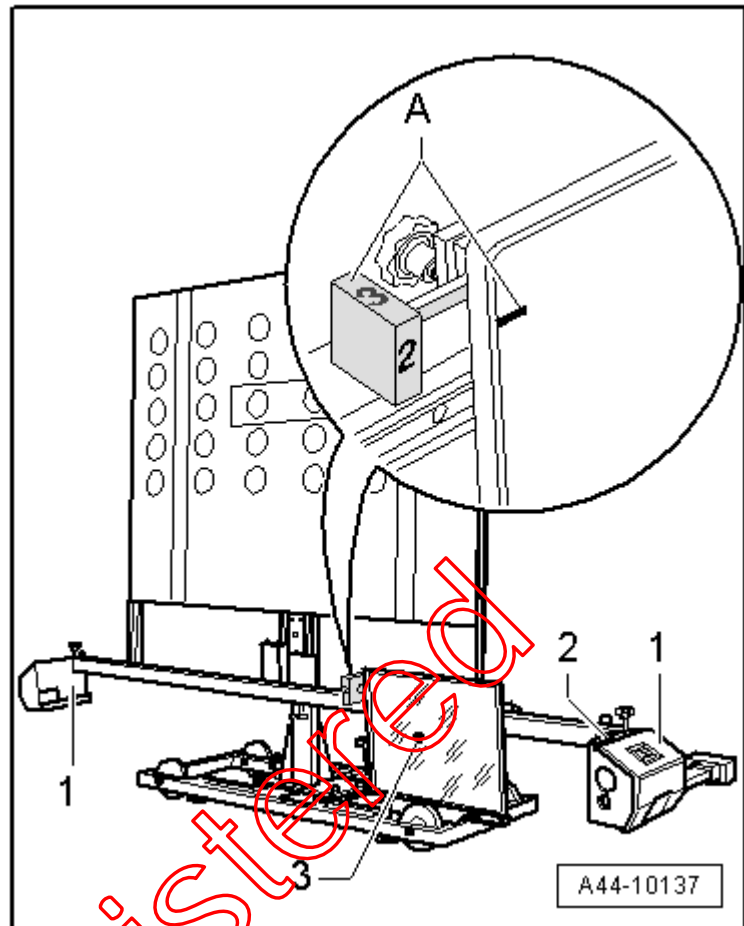
- Bring bubbles -2- on measurement sensor -1- into balance.
- □ow using the laser beam -3- on the Setting Device Basic Set - VAS6430/1A-, check if the laser beam contacts the sensor lens.

**Note**

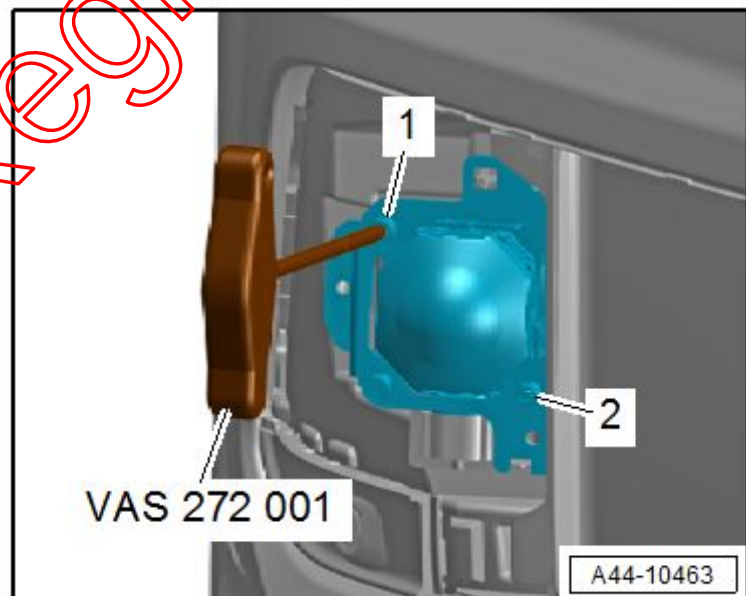
- ◆ *If the laser beam still meets the sensor lens at this step after adjusting the same individual toe values, the Setting Device Basic Set - VAS6430/1A- is aligned correctly positioned.*
- ◆ *If the laser beam does not meet the sensor lens, the Setting Device Basic Set - VAS6430/1A- must be realigned.*
- Connect the Vehicle Diagnostic Tester.
- Switch the ignition on.
- Select and start the Diagnostic operating mode.
- Select the Test plan tab.
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Select the button **Individual tests** and select the following tree structures one after the other:

- ◆ Body
 - ◆ Electrical system
 - ◆ 01 - OBD-capable systems
 - ◆ 13 - Distance Regulation Control Module J428
 - ◆ 13/8B - Distance Regulation Control Module, functions
 - ◆ 13/8B - Adjustment
- Start the selected program and follow the instructions in the display of the Vehicle Diagnostic Tester.



- The fine adjustment of the Distance Regulation Control Module -J428- takes place via the upper bolts -1 and 2- with the Screwdriver with T-bar VAS272001 -VAS272001-.

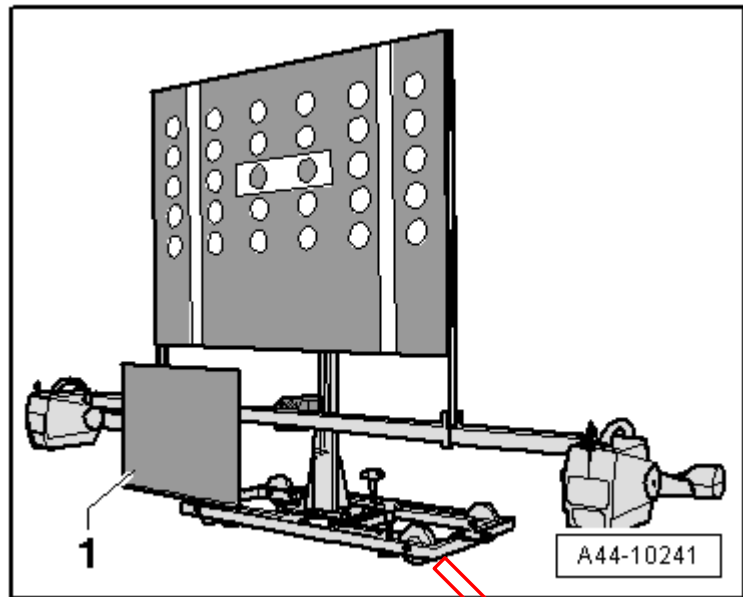


- When the Distance Regulation Control Module -J428- is successfully adjusted perform the procedure on the Distance Regulation Control Module 2 -J850-.

The procedure for adjusting the Distance Regulation Control Module 2 -J850- is identical to adjusting Distance Regulation Control Module -J428-. To do this, move

the ACC Reflector Mirror - Audi - VAS6430/3--1- to the opposite side of the calibration beam. Refer to → **Chapter Adaptive Cruise Control (ACC), Adjusting**“.

- Select the following tree structure for the adjustment:
 - ◆ Body
 - ◆ Electrical system
 - ◆ 01 - OBD-capable systems
 - ◆ 8B - Distance Regulation Control Module 2 J850
 - ◆ 8B - Distance Regulation Control Module, functions
 - ◆ 8B/13 - Adjustment

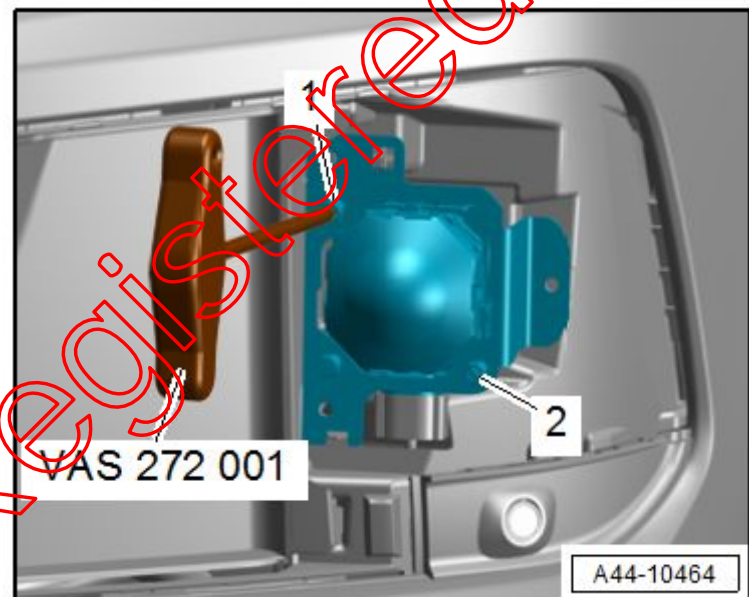


- The fine adjustment of the Distance Regulation Control Module 2 -J850- takes place via the bolts -1 and 2- with the Screwdriver with T-bar VAS272001 -VAS272001-.



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- Switch off the ignition.
- Disconnect the Vehicle Diagnostic Tester from the diagnostic connector.
- Disconnect the battery charger. Refer to → **Electrical Equipment; Rep. Gr.27; Battery; Battery, Charging**.
- Install the air intake grille. Refer to → **Body Exterior; Rep. Gr.63; Front Bumper; Attachments, Removing and Installing**.