

Calibrating night vision system

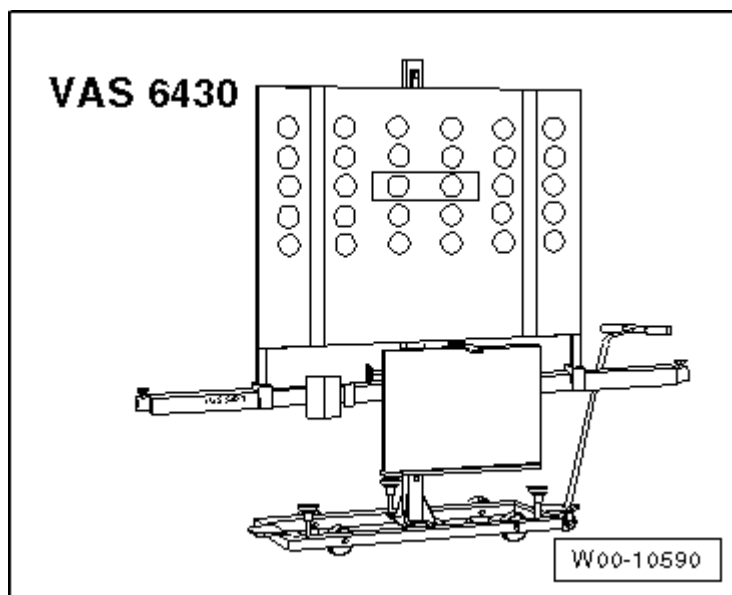
Special tools and workshop equipment required

- ◆ Setting device, basic set -VAS 6430/1- or setting device -VAS 6430-
- ◆ Calibration unit for night vision system -VAS 6430/6-
- ◆ Linear laser -VAS 6350/3- (can be taken from calibration unit -VAS 6350-)
- ◆ Vehicle diagnostic tester
- ◆ Wheel alignment computer



Note

- ◆ Check that the camera for night vision system -R212- is correctly seated in the bracket and that the camera vision is unobstructed (visual inspection).
- ◆ Check whether the protection window on the camera for night vision system -R212- has been damaged by a stone chip and renew if necessary
→ [Communication; Rep. gr.91; Night vision system; Removing and installing camera for night vision system.](#)
- ◆ If the vehicle is equipped with adaptive cruise control and night vision system, the night vision system must be adjusted/calibrated before the adaptive cruise control.
- ◆ If the ACC reflective mirror, Audi -VAS 6430/3- is attached to the cross bar of the setting device, basic set -VAS 6430/1- or setting device -VAS 6430-, it must be removed.



There are two options for performing the calibration/adjustment:

“Quick-start”

This procedure (calibration/adjustment only) should be selected if:

- ◆ The fault “No or incorrect basic setting / adaption” is registered in the event memory.
- ◆ The camera has been removed or renewed.
- ◆ The bumper or radiator grille has been removed or renewed.

“Full wheel alignment”

This procedure (calibration/adjustment and wheel alignment) should be selected if:

- ♦ Adjustments have been made to the rear suspension geometry.
- ♦ The running gear of the vehicle has been modified in any way.

**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.

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

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

- Select calibration procedure for night vision system on wheel alignment computer.
- Attach wheel alignment sensors according to instructions on wheel alignment computer.

Calibration/adjustment procedure (when wheel alignment has been previously checked)

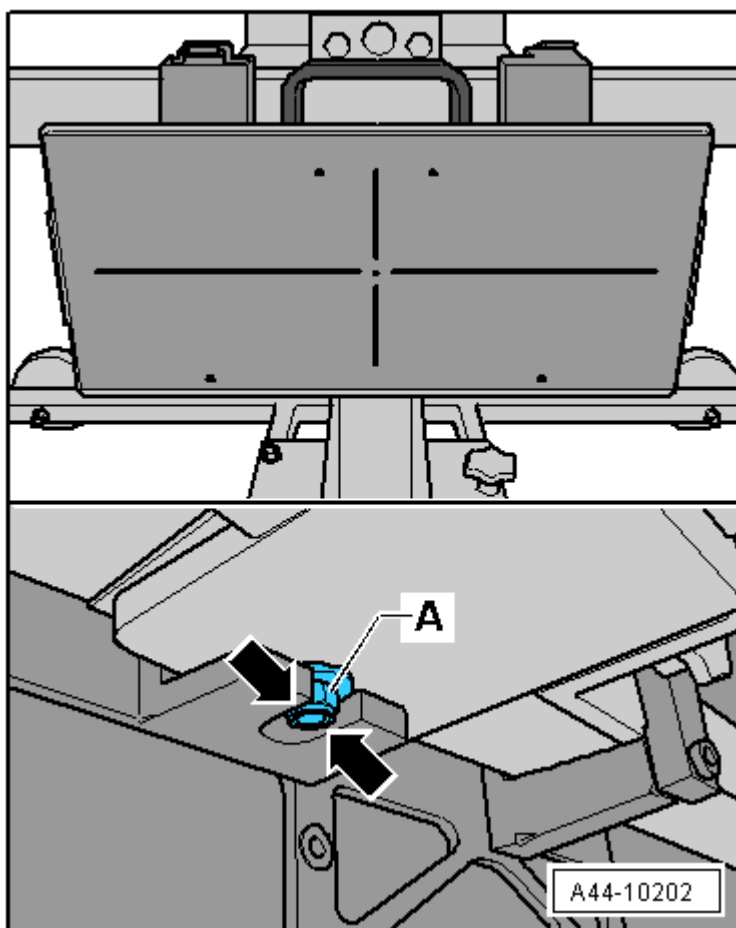
- Connect battery charger → **Electrical system; Rep. gr.27; Battery; Charging battery.**
- Set front wheels to straight-ahead position.
- Connect up vehicle diagnostic tester to vehicle and run diagnostic cable out through open window.
- Switch off exterior lights on vehicle.
- Close all vehicle doors.

Procedure for all vehicles:

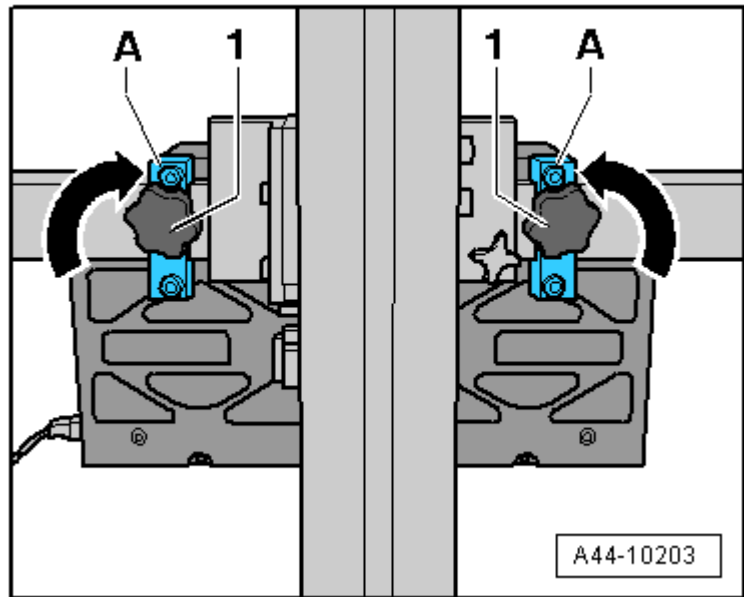
- Connect up vehicle diagnostic tester to vehicle and run diagnostic cable out through open window.



- Place calibration unit for night vision system on centre of cross bar on setting device, basic set -VAS 6430/1-.
- When sliding calibration unit for night vision system onto cross bar, recess -arrows- must surround nut or bolt -A-.



- Swivel clamps -A- into place (left and right).
- Hand-tighten clamping bolts -1- (left and right).

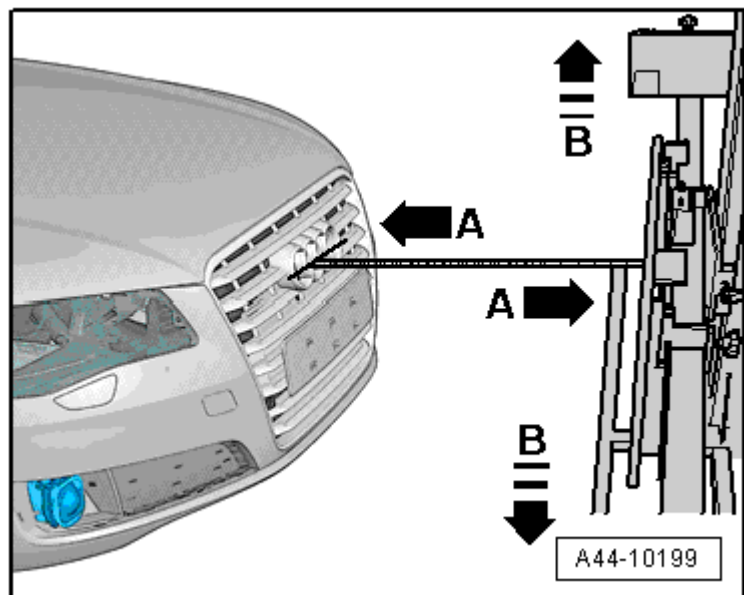


- Position setting device, basic set - VAS 6430/1- with calibration unit for night vision system in front of vehicle.
- Position calibration unit for night vision system -VAS 6430/6- at distance -A- from camera for night vision system.

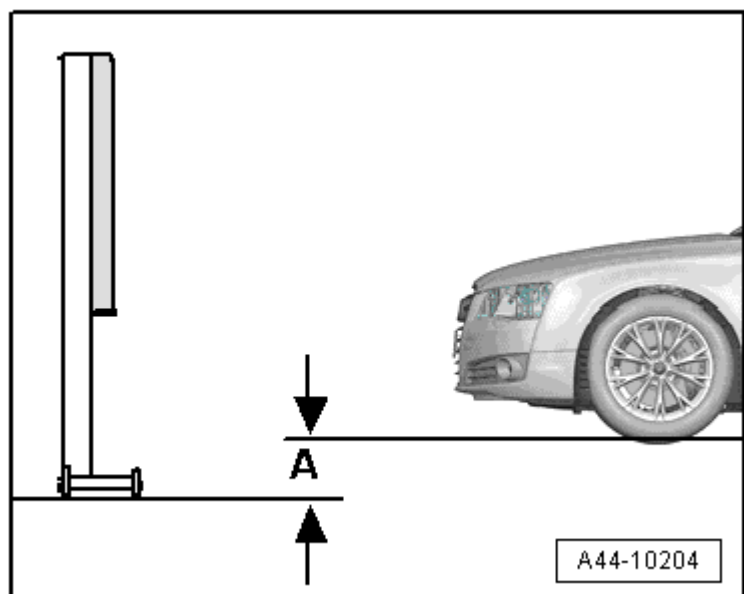
**Note**

Distance -A- = $120\text{ cm} \pm 2.5\text{ cm}$, measured from calibration unit for night vision system -VAS 6430/6- to lens of camera for night vision system -R212-.

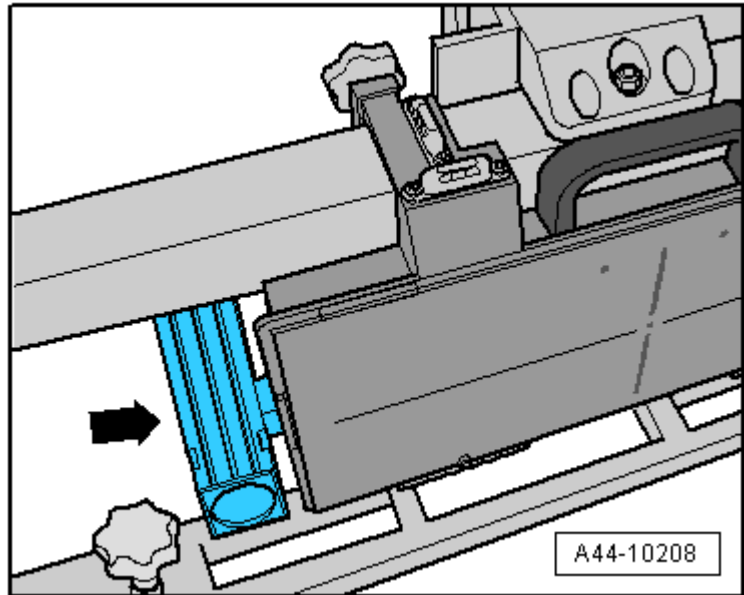
- Attach front wheel alignment sensors to cross bar.



- For the next steps, the lifting platform must be set to the lowest available position -A-.

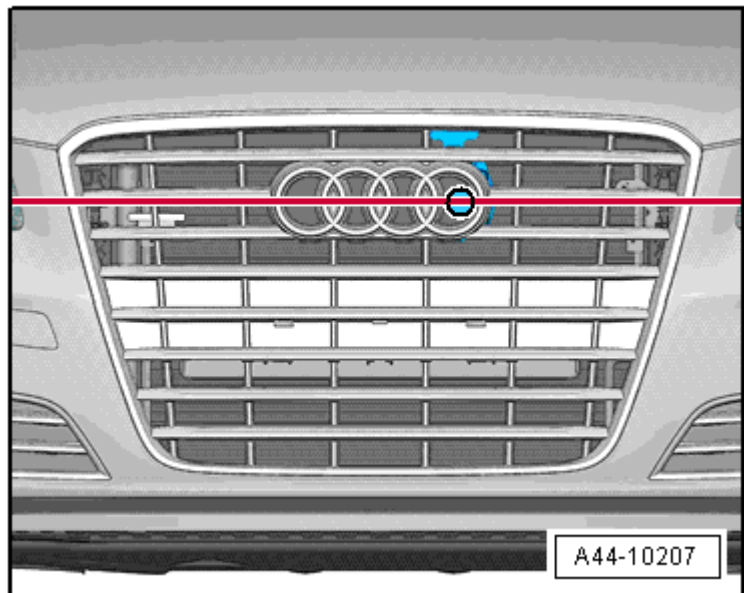


- Insert linear laser -VAS 6350/3--arrow - into guide on calibration unit for night vision system and secure.
- Switch on linear laser -VAS 6350/3-. A laser beam will be directed at the vehicle.



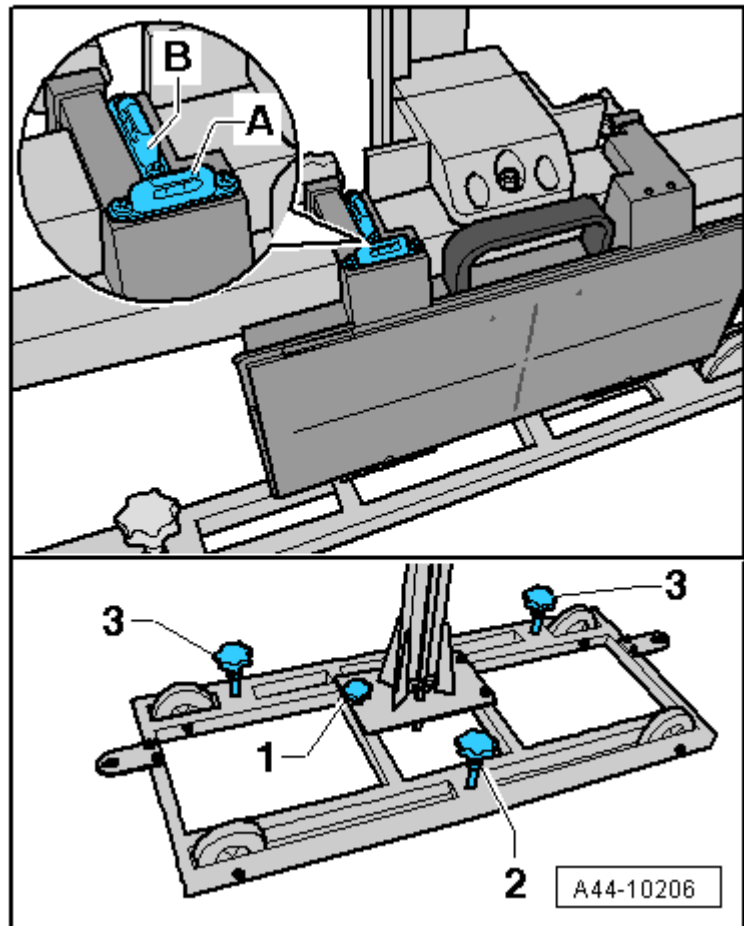
- Use crank on rear side of calibration unit to align laser beam with centre of camera lens in horizontal plane.

The specified height has now been attained and the linear laser -VAS 6350/3- can be switched off.

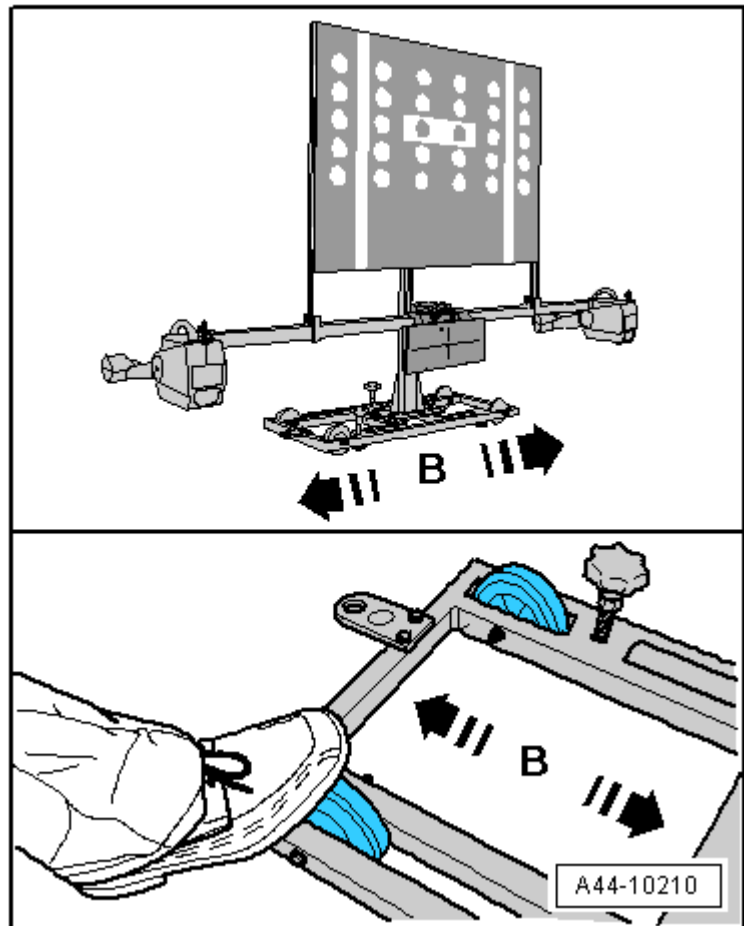


- Set spirit level -A- to horizontal position with adjuster screw -1-.

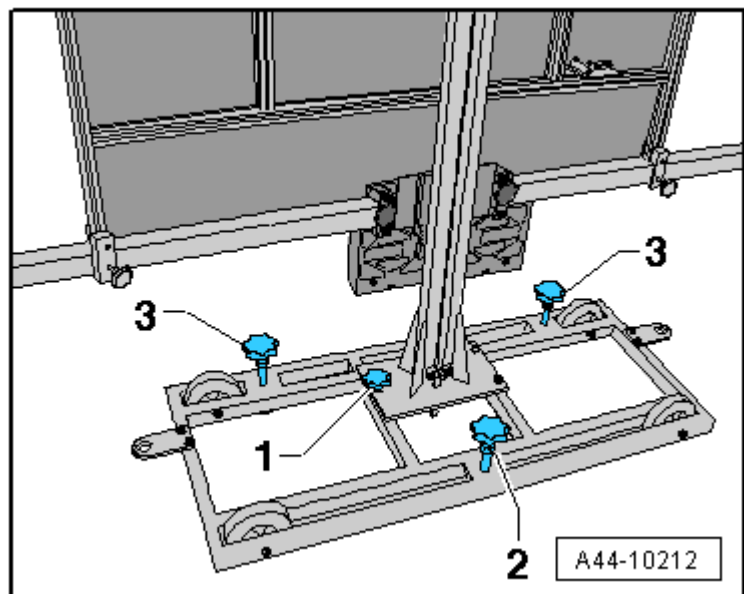
The spirit level -A- has to be adjusted at this point to compensate for any floor irregularities.



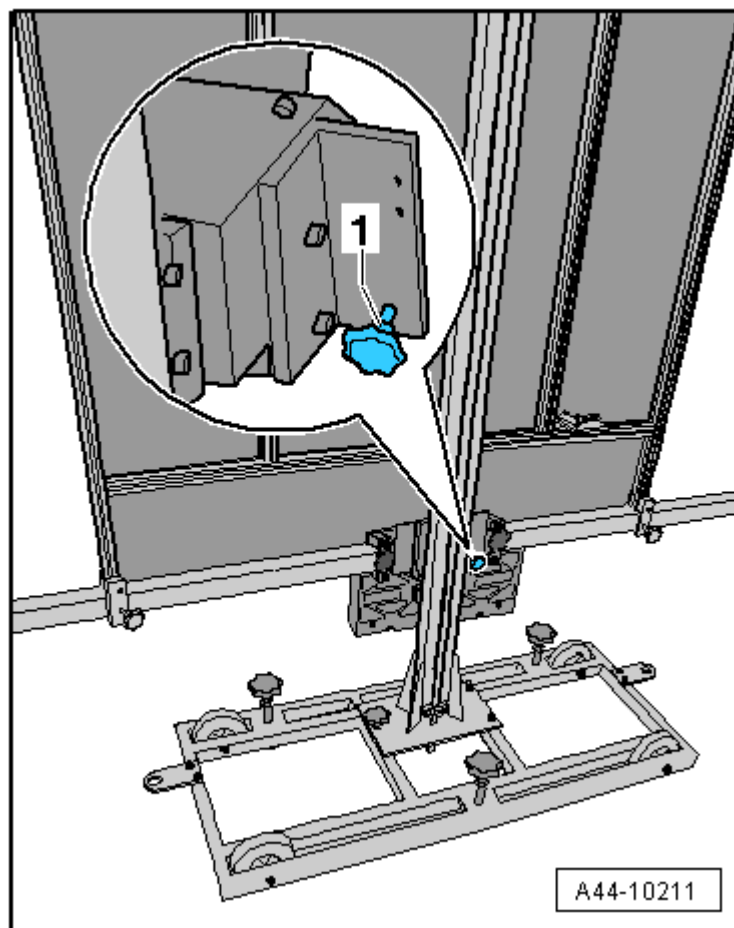
- Move -VAS 6430- sideways -arrow B- until display on wheel alignment computer is within tolerance.



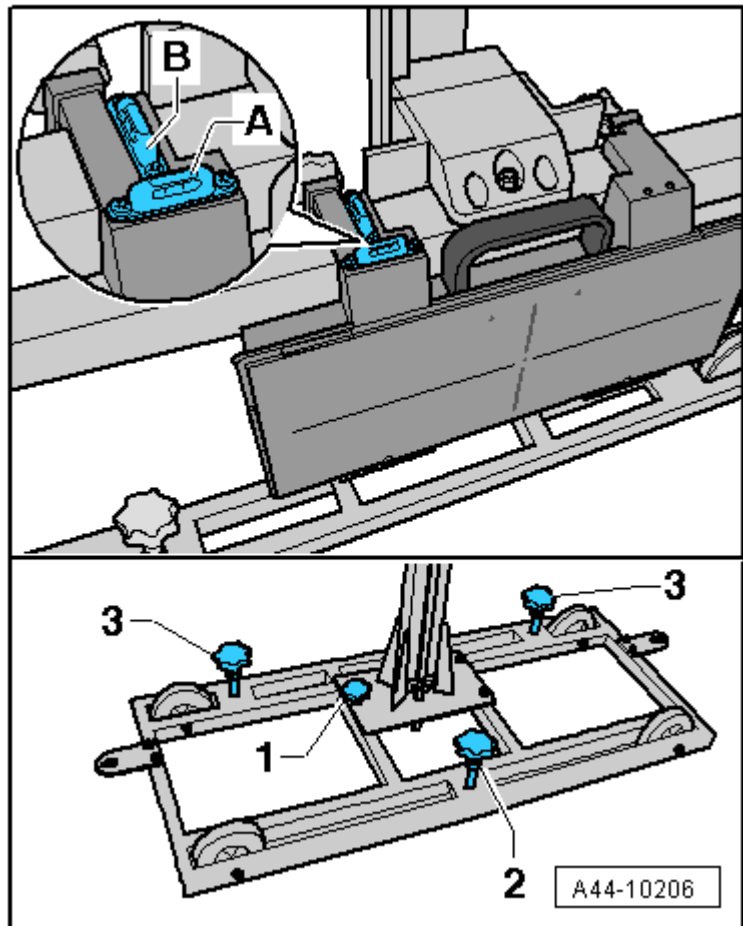
- Secure by tightening bolts -2- and -3-- VAS 6430- lightly. (This will prevent the -VAS 6430- from rolling away).



- Turn fine adjustment screw -1- on cross bar until display on wheel alignment computer is within tolerance.

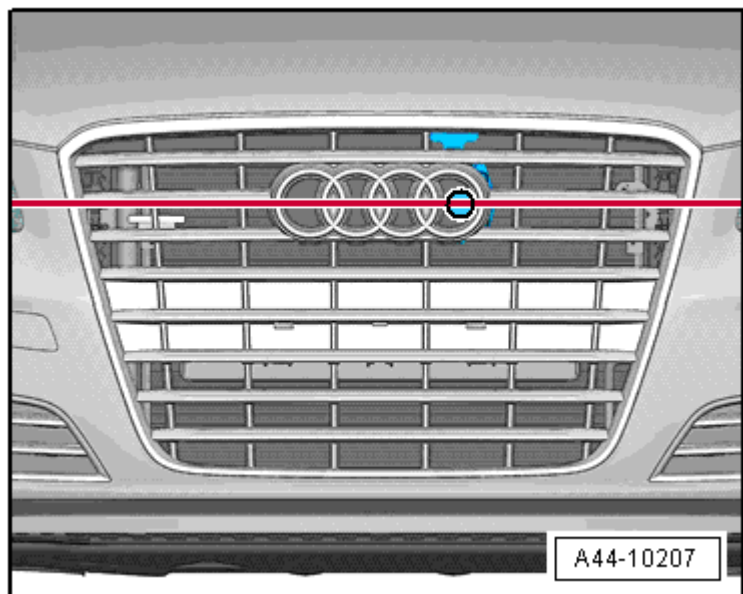


- Set spirit level -A- to horizontal position with adjuster screw -1-.
- Set spirit level -B- to horizontal position with adjuster screw -2-.



- Switch on linear laser -VAS 6350/3- again, check specified height and correct if necessary. A laser beam will be directed at the vehicle.
- Use crank on rear side of calibration unit to align laser beam with centre of camera lens in horizontal plane.

The specified height has now been attained and the linear laser -VAS 6350/3- can be switched off.



- Connect power cable -A- of calibration unit for night vision system to mains.
- Switch on calibration unit for night vision system at switch -B-.



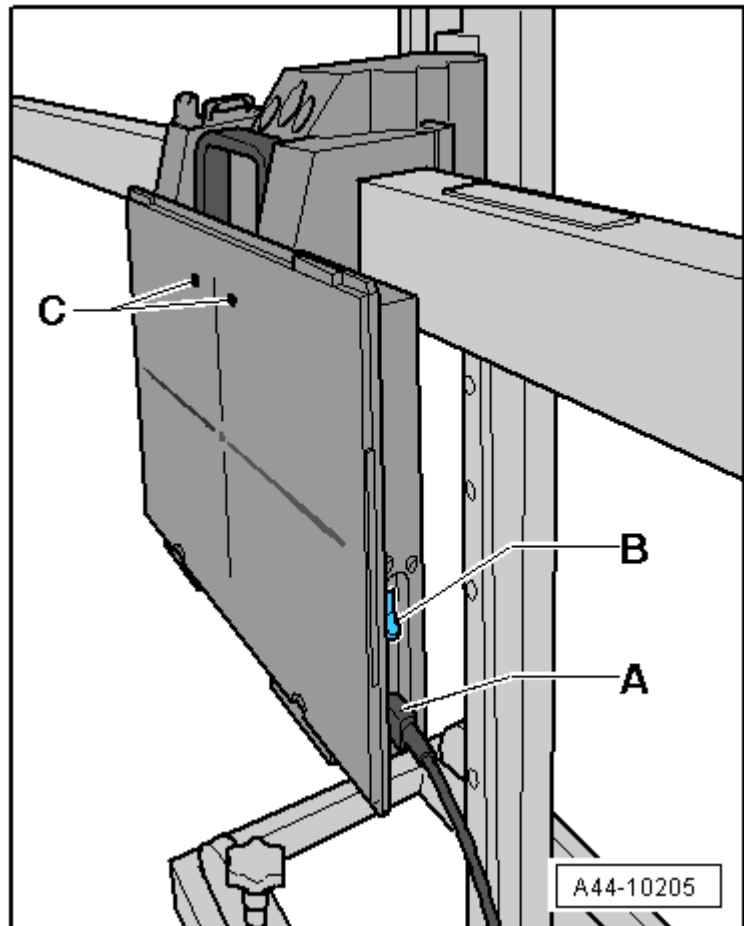
Note

An internal initialisation routine runs on the calibration unit for night vision system when you switch it on. If the routine is completed successfully without errors, both LEDs -C- flash simultaneously and an acoustic tone can be heard at the same time. The calibration unit for night vision system then goes into standby mode (the green LED will flash slowly to indicate this status).



Note

Check the spirit levels (visual inspection) and re-adjust if necessary.



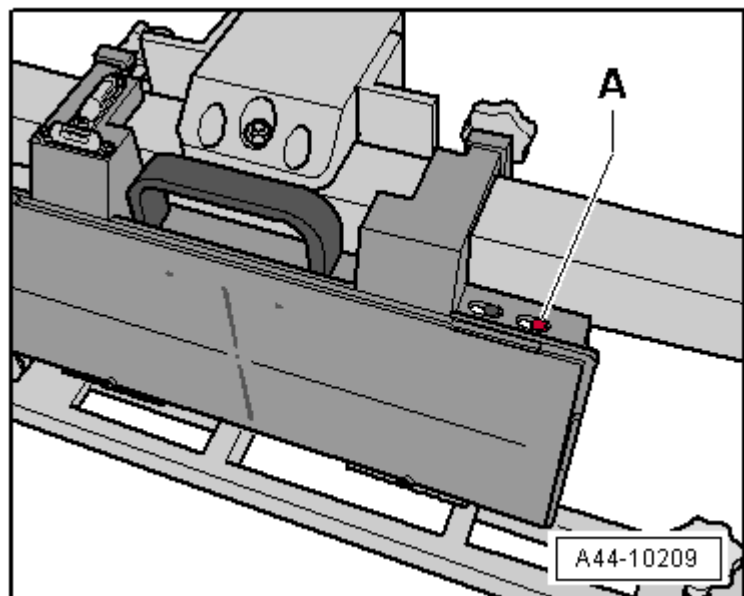
- Press button -A- to activate the heating function.

An acoustic signal confirms that the heating function has been activated. The heater element is then in the warm-up phase.

When the specified temperature is reached, the green LED lights up permanently.

The control unit automatically switches off the heater elements after about 20 minutes. A periodic acoustic signal will be given about 1 minute before this happens.

The automatic timer can be reset to 20 minutes at any time by briefly pressing button -A-. An acoustic signal confirms that the timer has been reset.



Concluding work is carried out via
→ **Vehicle diagnostic tester.**

- Connect vehicle diagnostic tester and start Guided Fault Finding for the vehicle in question.

Wait until the vehicle diagnostic tester has interrogated all control units in the vehicle.

- Press the **Go to** button and select the option "Function/component selection".
- Select the relevant program in **Guided Functions**.

Follow adjustment/calibration instructions on screen of diagnostic tester.

Mechanical alignment of the camera for night vision system -R212- around its roll axis is achieved by turning the adjuster screw with a hexagon key (minimum length approx. 120 mm).

- To do so, open bonnet and detach lock carrier cover -1- → [General body repairs, exterior; Rep. gr.63; Bumper \(front\); Exploded view - bumper cover](#).
- Apply hexagon key -2- and adjust in accordance with specifications in "Guided Fault Finding".



Note

Ensure that no objects or persons are between the camera for night vision system -R212- and the calibration unit for night vision system during the adjustment procedure.

Adjustment of the pitch and yaw angles for the camera for night vision system -R212- is fully electronic: start the appropriate program on → [Vehicle diagnostic tester](#) in **Guided Functions** mode.

