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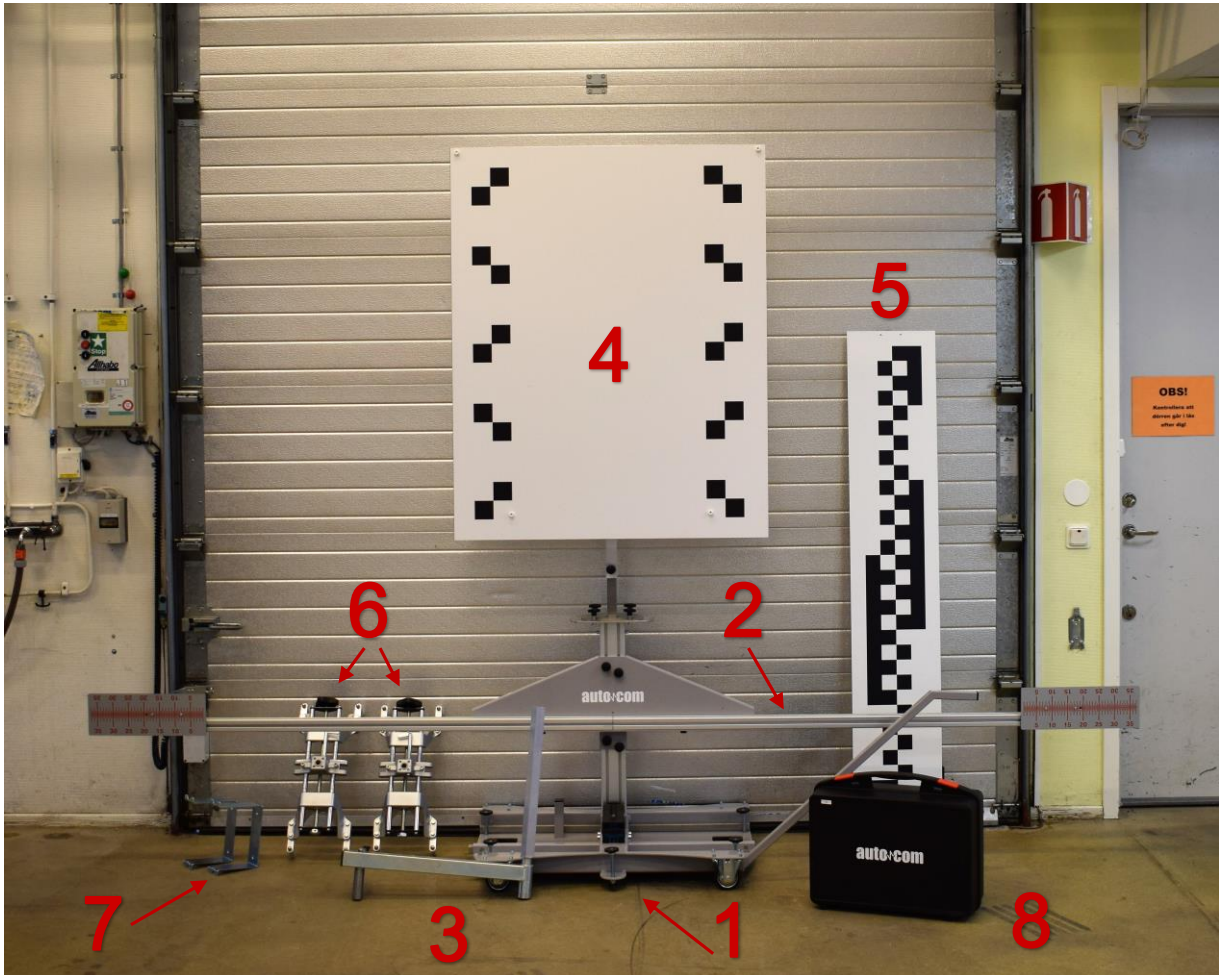
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1. ASCT [ASSISTANCE SYSTEM CALIBRATION TOOL]

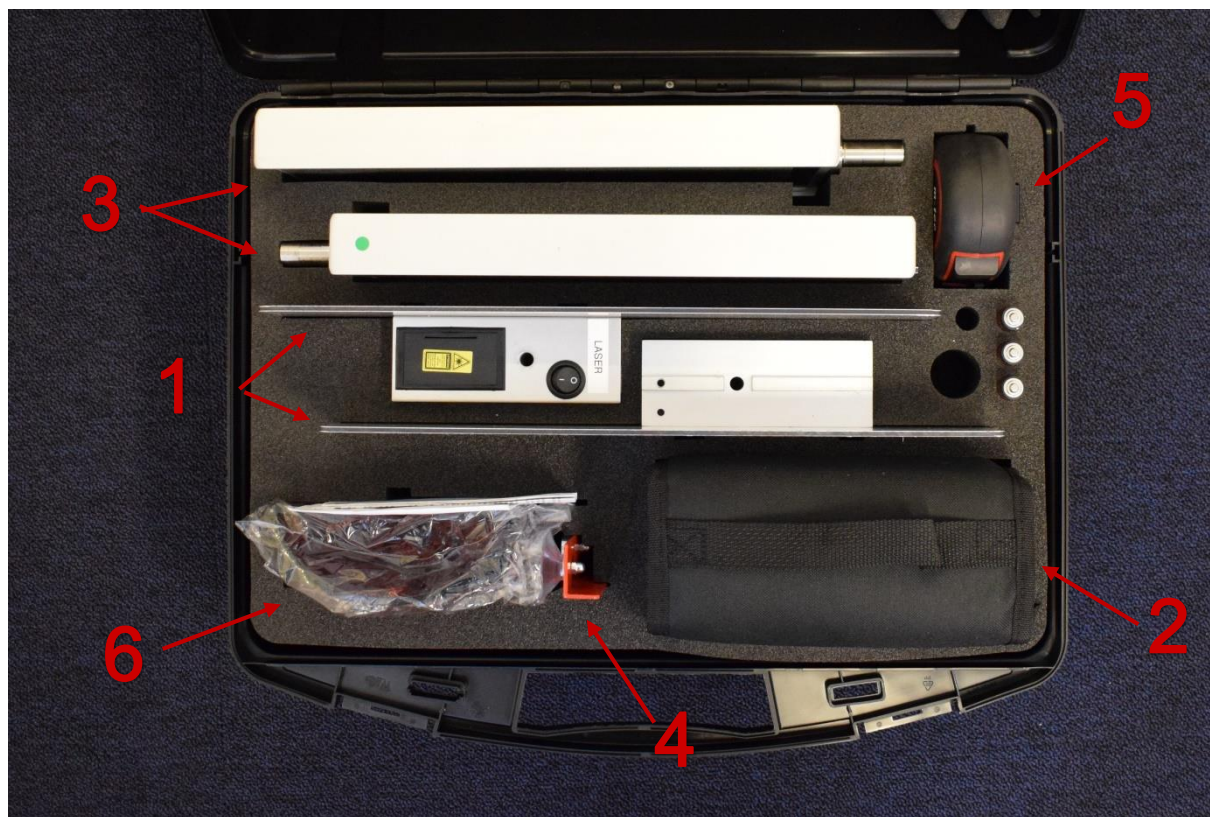


The tool is manufactured by WMS Wagner GmbH

The ADAS calibration kit consists of the following parts:

1. Carriage
2. 2 adjustment bars (L / R)
3. Swivel arm for target MAN / Scania
4. Volvo / Renault target with height adjustment
5. Scania / MAN target
6. 2 wheel clamps
7. 2 Wall mounted holders for wheel clamps
8. Suitcase for accessories





Contents in the suitcase:

1. 2 scales with laser [L / R]
2. Centre laser
3. 2 scales with mirrors
4. Auxiliary holder for tape measure
5. Tape measure
6. Safety glasses



2. EXAMPLE OF A MAN TGX E6

Required equipment:

Vehicle equipped with lane assist

Autocom TRUCKS software.

ADAS calibration tool

ADAS target for Scania / MAN

➤ Position the vehicle

Position unloaded vehicle on level ground.

Gearbox in neutral position.

If additional axes are present, lower them.

Bring air suspension to normal driving level.

Inflate the air supply until it inflates

Parking brake applied.

Ignition on, engine off.

Check the position of the camera.

➤ Connect Autocom diagnosis tool.

Start the computer and open Autocom TRUCKS software.

Select the vehicle.

In the "Plug position" menu item, locate the OBD socket and plug in the Autocom diagnosis tool.

If necessary, attach vehicle with a suitable charger.



➤ Perform scan before starting ADAS calibration

Select Brand/Model/Year then start ISS and save the complete scan.

If relevant errors are active in the air suspension system, the driving level is established in a different way [e.g. with jack, so the chassis is in level.] and / or repair the system.

Adjust the tire pressure if necessary.

➤ Structure of the ADAS calibration tool

Connect to LGS2 [found in "Multifunction> Lane departure warning system>Driver assistance system>].

In the menu item "Test", the current calibration data can be called up.

In the menu item "Calibration" you find the camera calibration.

- The help text describes how the target shall be set with regard to distance and other dimensions.

Insert the centre laser into the centre holder on the carriage, switch the laser ON and place the ADAS calibration tool carriage roughly in the centre of the vehicle front. Closer to the vehicle than too far away.

Attach the swivel arm with MAN / SCANIA Target, turn the swivel arm towards the vehicle and lock the position. The correct distance and height can be found in the help text.

How to mount both adjustment bars and both laser scales.

- The adjusting bars are to be installed by the 3 threaded connections.
- The laser scales shall be mounted by the threaded connection and shall be fitted in the groove of the adjustment beams.

Switch OFF the centre laser.

Install the tape measure auxiliary holder on the windscreen close to the camera to determine the distance from the camera to the target in accordance to the help text.

Attach the wheel clamps to the rims of the rear axle [drive axle] and insert scales, mirror side, towards the ADAS calibration tool.



Rim clamping position for steel and alloy rims.



Adjust the height of the adjustment bar at the level of the centre of the axle (laser point must be on both sides of the mirror scales to meet).

How to establish parallelism of the target to the rear axle.

- Both lasers must hit both mirror scales
- The laser point reflected back over the mirror must hit both laser scales on the adjustment bar.
- By turning the trolley with the auxiliary rod, set the adjusting bar so that both are adjusted by the mirror reflected laser points reach the same value on the laser scale.

ATTENTION! Do not align the trolley with the adjusting bar!

Use the handle for the intended purpose.

How to establish centre alignment of the target to the rear axle.

- Turn the mirror scales of the wheel clamps to the measuring scales.
- By moving the trolley in parallel (on the rollers) the laser point on both scales of the bring the wheel sensor to the same value.

The trolley has 5 adjustment screws for fine adjustment on uneven ground.



➤ Calibration procedur

Start the camera calibration in the Autocom TRUCKS software.

Follow the steps of the calibration function.

- After calibration step 1 has been carried out successfully, the target for the 2nd calibration step to adjust.
 - Unlock the locking arm.
 - Turn swivel arm 180 °
 - Engage the locking of the swivel arm.
 - unlock the locking of the target.
 - Turn target by 180 °.
 - Lock the locking of the target.

- Carry out calibration step 2.

After the calibration has been completed, the new calibration data are displayed in the pop-up window.

➤ Perform scan after ADAS calibration

Select Brand/Models/Year then start ISS and save the completed scan.

➤ Calibration process is now finished

The vehicle can now be handed over to the customer.

3. EXAMPLE OF A NEW VOLVO FH

Required equipment

Vehicle equipped with lane assist

Autocom TRUCKS software.

ADAS calibration tool calibration tool

ADAS calibration target for VOLVO / Renault

➤ Position the vehicle

Place the vehicle on a flat, level surface.

The chassis must be in the driving position.

Switch on the ignition.

Wheels are straight ahead.

The field of view of the camera must be clean and intact.

The target must be placed correctly.

Camera properly mounted.

Tire pressure in order.

➤ Connect Autocom diagnose tool

Start the computer and open Autocom TRUCKS software.

Select the vehicle.

In the "Plug position" menu item, locate the OBD socket and plug in the Autocom diagnosis tool.

If necessary, attach vehicle with a suitable charger.

➤ Perform scan before starting ADAS calibration

Select Brand/Models/Year then start ISS and save the completed scan.

If relevant errors are active in the air suspension system, the driving level is established in a different way [e.g. with jack, so the chassis is in level.] and / or repair the system.

Adjust the tire pressure if necessary.

➤ Structure of the ADAS calibration tool

Connect to LPOS [found in "Multifunction> Lane Position Object Sensor>].

In the menu item "Test", the current calibration data can be called up.

In the menu item "Calibration" you find the camera calibration.

- The help text describes how the target shall be set with regard to distance and other dimensions.
- Insert the centre laser into the centre holder on the carriage, switch the laser ON and place the ADAS calibration tool carriage roughly in the centre of the vehicle front. Closer to the vehicle than too far away.

Attach the arm with VOLVO / Renault Target. The correct distance and height can be found in the help text.

How to mount both adjustment bars and both laser scales.

- The adjusting bars are to be installed by the 3 threaded connections.
- The laser scales shall be mounted by the threaded connection and shall be fitted in the groove of the adjustment beams.

Switch off the centre laser.

Install the tape measure auxiliary holder on the windscreen close to the camera to determine the distance from the camera to the target in accordance to the help text.

Attach the wheel clamps to the rims of the rear axle [drive axle] and insert scales, mirror side, towards the ADAS calibration tool.



Rim clamping position for steel and alloy rims.



Adjust the height of the adjustment bar at the level of the centre of the axle (laser point must be on both sides of the mirror scales to meet).

How to establish parallelism of the target to the rear axle.

- Both lasers must hit both mirror scales
- The laser point reflected back over the mirror must hit both laser scales on the adjustment bar.
- By turning the trolley with the auxiliary rod, set the adjusting bar so that both are adjusted by the mirror reflected laser points reach the same value on the laser scale.

ATTENTION! Do not align the trolley with the adjusting bar!

Use the handle for the intended purpose.

How to establish centre alignment of the target to the rear axle.

- Turn the mirror scales of the wheel sensors to the measuring scales.
- By moving the trolley in parallel (on the rollers) the laser point on both scales of the bring the wheel sensor to the same value.

The trolley has 5 adjustment screws for fine adjustment on uneven ground.



➤ Calibration procedur

Start the camera calibration in the Autocom TRUCKS software.

Follow the steps of the calibration function.

- After calibration step 1 has been successfully completed, the calibration is completed by a calibration run.
 - Drive the vehicle in traffic.
 - Expected travel time approx. 15 - 25 minutes.
 - The lane markings on the roadway must be on both sides of the vehicle to be available.
 - Driving speed > 55 km / h.
 - The road has to be relatively straight.
 - Drive the vehicle until the warning light goes out.

After the calibration has been completed, the new calibration data are displayed in the pop-up window.

➤ Perform scan after ADAS calibration

Select Brand/Models/Year then start ISS and save the completed scan.

➤ Calibration process is now finished

The vehicle can now be handed over to the customer.

