



Commissioning guide

**Manual commissioning of control units for open model designations
(FHS, FHL and FHT with AL-KO chassis / not for code F50)**

Valid for model series 907/910
as of production month 04/2024 (YoM2024)

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Mercedes-Benz



Company
Stuttgart, Germany
www.mercedes-benz.de

Important note:

This guide is provided for assistance and instructional purposes only. It does not replace the mandatory training that is required to obtain the necessary specialist knowledge for proper commissioning. The represented content in the pictures included in this guide is provided for example purposes only and may change as a result of updates and further developments.

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01 Introduction

With the introduction of new and legally required driver assistance systems as part of the GSRII, it has become necessary to commission vehicles that are supplied incomplete.

This guide outlines the commissioning process for:

- Cab (FHS), BM 907.1XX and BM 910.1XX
- Cab (FHL), BM 907.2XX
- Traction head (FHT) in combination with AL-KO-chassis, BM 910.0X0

with manufacturing date as of 01.04.2024



Chassis (schematic for all open model designations)

As the final body state – e.g. the width of the body, the overhang dimension, and the position of the sensors – is still not available at the time of delivery, not all control units can be configured at the factory. Instead, these must be adapted to the actual state of the vehicle according to the bodybuilder manufacturer's final body as part of the commissioning process.

To ensure that the control units are configured correctly and that the individual electrical and electronic systems function free of errors, two key steps must be carried out during commissioning.

Firstly, the body state of the vehicle must be reported via the Bodybuilder Portal – see section 02. The control units to be commissioned must then be determined according to the respective body, with commissioning subsequently carried out via XENTRY along with any necessary supplementary tests and calibrations. Detailed information on the commissioning scope of the individual control units can also be found in section 03.

! NOTE !

It is the responsibility of the bodybuilder manufacturer to ensure that the modified vehicle is fully completed and commissioned.

As a prerequisite for the bodybuilder manufacturer carrying this out, they must have successfully completed the corresponding training courses at Mercedes-Benz and procured the Mercedes-Benz diagnosis tool XENTRY Diagnosis Kit.

In addition, the bodybuilder manufacturer commits to comply with and fully implement the Mercedes-Benz specifications.

Alternatively, the bodybuilder manufacturer can commission an MB workshop for the operational implementation of the control unit commissioning.

The workshop commissions the control units for which this service has been ordered by the bodybuilder manufacturer.

02 Commissioning procedure for open model designations

Step 1: Reporting the body state via the bodybuilder manufacturer portal

To ensure that proper commissioning of the control units can be carried out, it is absolutely essential to report the final body state of the vehicle via the reporting screen in the Bodybuilder Portal. Once the report has been submitted, a system-generated report of O codes is added to the vehicle data card in VeDoc. These O-codes are essential information to input for the actual commissioning in the following step, as these are used as a basis to determine which parameters must be set in the respective control units.

The final body state must be reported via the Bodybuilder Portal.

<https://bb-portal.mercedes-benz-vans.com>



- After logging into the bodybuilder portal, select the order details button
- Select the order number for your vehicle to navigate to the order overview
- Select the "Report data for commissioning" button
- Fill in the data for the commissioning

O-code for the configuration of the control units	Condition
O1N	Reversing camera activation without guide lines
OB2	Blind Spot Assist activation
O71	Trailer hitch, third-party accessory
O04	Parameterization for rear-end door present
OA5	Parameterization for left side door present
OA6	Parameterization for right side door present
OC4	Traffic Sign Assist display for M1SA <3.5T approval
O49	Rear speaker retrofitted

O-code for the body width	
O94	Width of bodybuilder manufacturer body outer edge 2150mm +/- 50mm
O95	Width of bodybuilder manufacturer body outer edge 2250mm +/- 50mm
O96	Width of bodybuilder manufacturer body outer edge 2350mm +/- 50mm
O9K	Width of bodybuilder manufacturer body outer edge 2450mm +/- 50mm

O-code for the vehicle overhang	
O97	Rear overhang of bodybuilder manufacturer body 1700mm +/- 100mm
O98	Rear overhang of bodybuilder manufacturer body 1900mm +/- 100mm
O99	Rear overhang of bodybuilder manufacturer body 2100mm +/- 100mm
OA1	Rear overhang of bodybuilder manufacturer body 2300mm +/- 100mm
OA2	Rear overhang of bodybuilder manufacturer body 2500mm +/- 100mm

O-code for the position of the sensor for the Blind Spot Assist in X and Z			
07K	REAR BLIND SPOT RADAR SYSTEM, X TO REAR AXLE 100+/-100MM	08K	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 350+/-50MM
07L	REAR BLIND SPOT RADAR SYSTEM, X TO REAR AXLE 300+/-100MM	08L	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 450+/-50MM
07M	REAR BLIND SPOT RADAR SYSTEM, X TO REAR AXLE 500+/-100MM	08M	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 550+/-50MM
07N	REAR BLIND SPOT RADAR SYSTEM, X TO REAR AXLE 700+/-100MM	08N	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 650+/-50MM
07O	REAR BLIND SPOT RADAR SYSTEM, X TO REAR AXLE 900+/-100MM	08O	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 750+/-50MM
07P	REAR BLIND SPOT RADAR SYSTEM, ADDITIONAL X TO REAR AXLE +1000MM	08P	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 850+/-50MM
07Q	REAR BLIND SPOT RADAR SYSTEM, ADDITIONAL X TO REAR AXLE +2000MM	08Q	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 950+/-50MM
		08R	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 1050+/-50MM
		08S	REAR BLIND SPOT RADAR SYSTEM, Z ABOVE GROUND 1150+/-50MM

O-Code for the position of the digital rearcamera in X and Z (Code FR7)			
OX1	RVC DISTANCE, CENTER FRONT AXLE TO 5.900MM	OZ1	RVC HIGH OBOVE GROUND TO 700MM
OX2	RVC DISTANCE, CENTER FRONT AXLE FROM 5.901MM	OZ2	RVC HIGH OBOVE GROUND 701MM TO 1.000MM
		OZ3	RVC HIGH OBOVE GROUND 1.001MM TO 1.500MM
		OZ4	RVC HIGH OBOVE GROUND 1.501MM TO 2.000MM
		OZ5	RVC HIGH OBOVE GROUND 2.001MM TO 2.500MM
		OZ6	RVC HIGH OBOVE GROUND 2.501MM TO 3.000MM
		OZ7	RVC HIGH OBOVE GROUND 3.001MM TO 3.500MM
		OZ8	RVC HIGH OBOVE GROUND 3.501MM TO 4.000MM

! NOTE !

Complete and correct reporting of the vehicle specifications via the reporting screen in the Bodybuilder Portal forms the basis for correct commissioning. It is the bodybuilder manufacturer's responsibility to ensure that the reporting is correct.

Step 2: Commissioning of the individual control units

Once the body state has been reported via the Bodybuilder Portal, the control units can be commissioned.

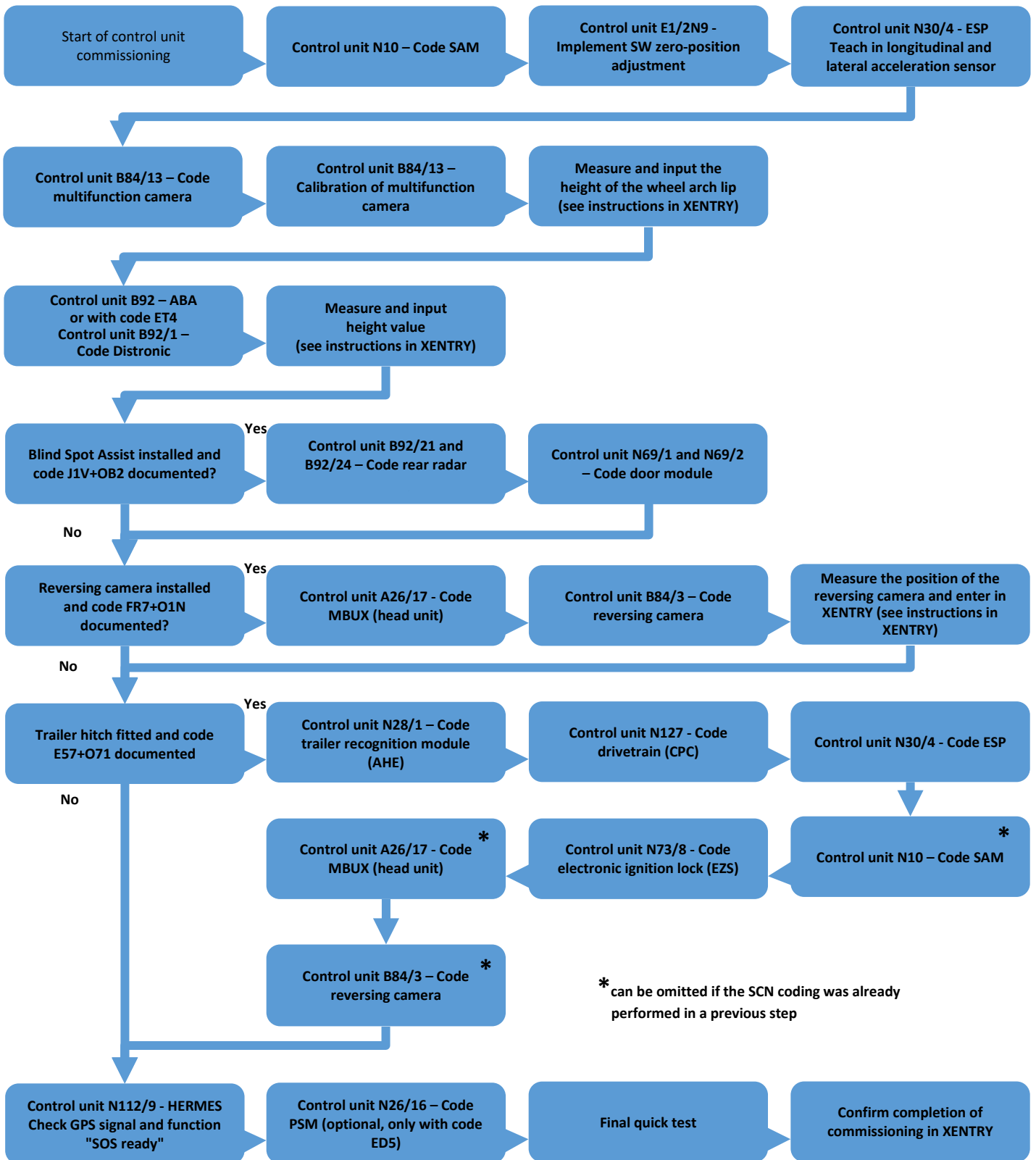
The SCN coding of the corresponding control units is an essential part of the commissioning process. During the SCN coding of a control unit, the diagnostic system checks all documented vehicle features (codes) in the vehicle data card and sets the documented parameters from the Mercedes-Benz documentation system on the basis of the codes. For some control units, additional supplementary tests, calibrations or verifications may be necessary – for details, see section 3.

The commissioning scope and the number of control units depends on the equipment scope of the vehicle. The following diagram shows the procedure for commissioning the required control units. A final quick test must be performed at the end of the commissioning process. This test must not result in any errors. Afterward, the complete implementation of the commissioning process must be confirmed in XENTRY – see section 4.

! NOTE !

In the event of conversion work that requires a letter of compatibility (LoC) (e.g. the retrofitting of coarse-studded tires), additional steps may be required during the commissioning process. These are outlined in the respective LoC.

Process sequence:



03 Testing and commissioning scopes for the individual control units

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A prerequisite for the commissioning of the individual control units is the reporting of the body state via the Bodybuilder Portal (see section 2 step 1)

3.1. Electronic Stability Program (N30/4 - ESP)

Installed for:

Installed as standard in all vehicles

Required steps

- Perform calibration

Additionally for code O71 = TRAILER HITCH, THIRD-PARTY ACCESSORY

- Perform SCN coding

Details:

After the vehicle body work has been completed, the sensor for turn rate, longitudinal and lateral acceleration must be calibrated. (See figure.)

SCN coding of the ESP must also be performed when retrofitting a trailer hitch (code E57+O71).

The screenshot shows the XENTRY Diagnosis interface for a Mercedes-Benz Sprinter 907. The main window displays the 'Adaptations' tab for the 'N30/4 - Electronic stability program (ESP®)'. The selected adaptation is 'Calibration Yaw rate sensor for lateral and longitudinal acceleration'. The interface includes a sidebar with navigation icons and a top navigation bar with tabs for 'Version', 'Error codes / Events', 'Actual values', 'Actuations', 'Adaptations', 'Control unit log', 'List of fault codes', and 'Tests'. The main content area contains the following information:

Calibration Yaw rate sensor for lateral and longitudinal acceleration

Calibration must be performed after the following work:

- Replacement of control unit 'N30/4 (ESP® control unit)'
- Replacement of control unit 'N2/5 (Supplemental restraint system (SRS) control unit)'

Note

- 'N2/5 (Supplemental restraint system (SRS) control unit)'The sensor is fitted in the control unit.

Requirements

- The steering wheel is in the straight-ahead position.
- The front wheels are in the straight-ahead position.
- The vehicle must be standing horizontally on a level surface.
- The vehicle must be unladen.
- Correct the tire pressure on all wheels.

Status of associated actual values

Name	Actual value	Specified value
Yaw rate sensor for lateral and longitudinal acceleration	CALIBRATED	CALIBRATED
Turn rate	0 1/min	[-115 .. 115]
Lateral acceleration	0.0m/s²	[-20.0 .. 20.0]

At the bottom right of the table, there are two buttons: 'NO' (with a red 'X' icon) and 'YES' (with a green checkmark icon).

Screenshot from XENTRY provided for illustrative purposes; please always observe the current information in XENTRY

3.2. Active Brake Assist (B92 – ABA) and Active Distance Assist DISTRONIC (B92/1 - DTR)

Installed for:

Code BA3 - ACTIVE BRAKE ASSIST (installed as standard in all vehicles)

Code ET4 - ACTIVE DISTANCE ASSIST DISTRONIC (optional in combination with BA3)

Required steps for code BA3 – ACTIVE BRAKE ASSIST

- Perform SCN coding of "B92 Active Brake Assist (ABA)"
- Perform height measurement only when prompted by XENTRY

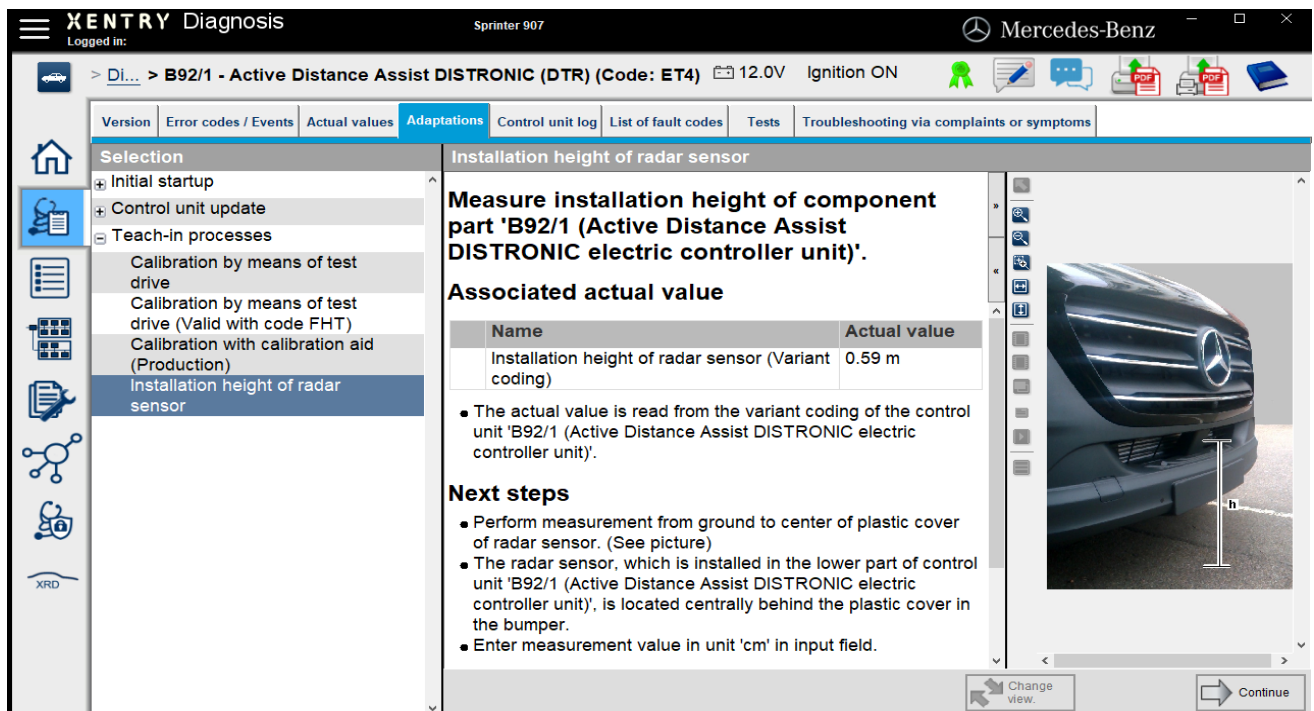
Required steps for code ET4 ACTIVE DISTANCE ASSIST DISTRONIC

- Perform SCN coding of "B92/1 Active Distance Assist DISTRONIC (DTR)"
- Perform height measurement only when prompted by XENTRY

Details:

SCN coding of the control units must be performed. Following the SCN coding, if requested by XENTRY, the height value of the radar sensor must be measured and entered into XENTRY.

If a height measurement is required by XENTRY, enter the height value.



The screenshot shows the XENTRY Diagnosis software interface for a Mercedes-Benz Sprinter 907. The 'Adaptations' tab is selected, showing the 'Installation height of radar sensor' section. The interface includes a navigation menu on the left, a top status bar, and a main content area with a table of actual values and a list of next steps. A photograph on the right shows the front of the vehicle with a vertical line indicating the measurement height 'h' from the ground to the center of the radar sensor's plastic cover.

Name	Actual value
Installation height of radar sensor (Variant coding)	0.59 m

Next steps

- Perform measurement from ground to center of plastic cover of radar sensor. (See picture)
- The radar sensor, which is installed in the lower part of control unit 'B92/1 (Active Distance Assist DISTRONIC electric controller unit)', is located centrally behind the plastic cover in the bumper.
- Enter measurement value in unit 'cm' in input field.

Screenshot from XENTRY provided for illustrative purposes; please always observe the current information in XENTRY. For vehicles with code BA3, figure is identical (B92 Active Brake Assist (ABA)).

3.3. Blind Spot Assist (B92/21, B92/24 – IRS-HRA and IRS-HLA)

Installed for:

Code J1V - PRE-INSTALLATION FOR BLIND SPOT ASSIST, BODYBUILDER MANUFACTURER (installed as standard in all vehicles)

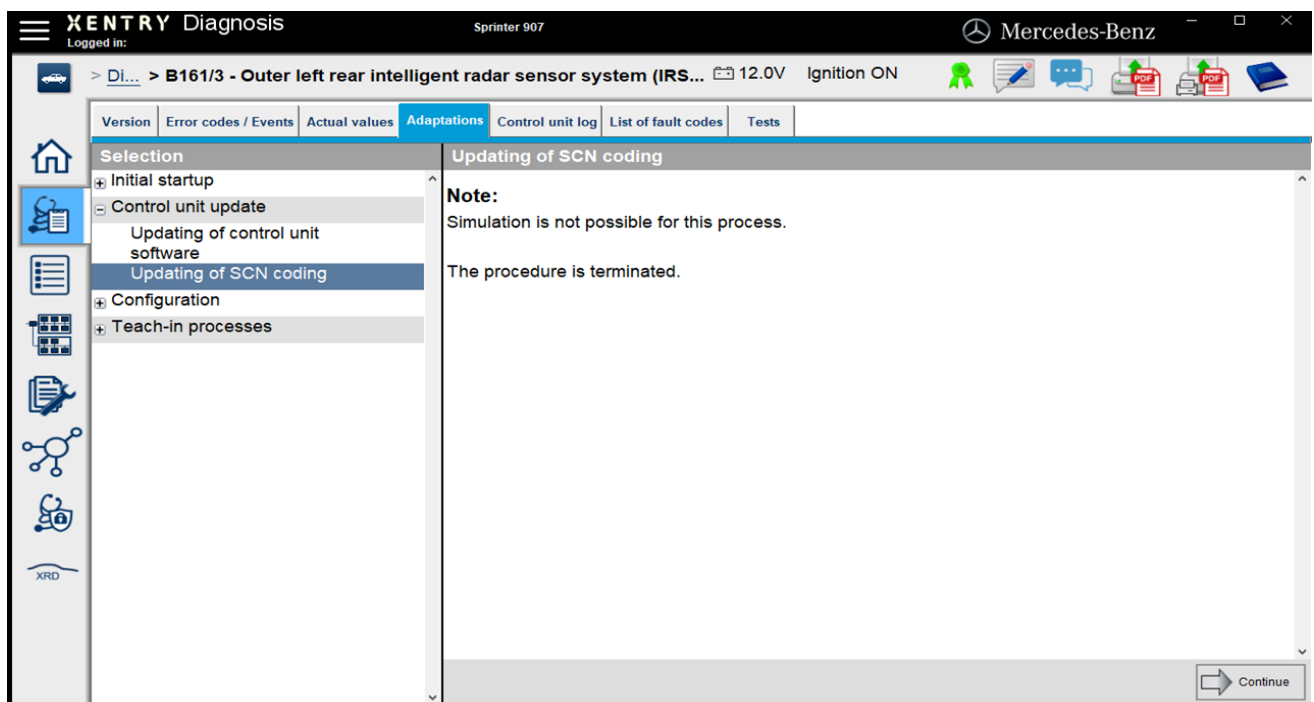
Code J1V can be optionally deselected for camper vans with code X2R (OBLIGATION FOR CAMPER VAN CONVERSION BY BODYBUILDER MANUFACTURER).

Required steps

- Perform SCN coding

Details:

SCN coding of the intelligent radar sensor system at rear right and rear left must be carried out.



Screenshot from XENTRY provided for illustrative purposes; please always observe the current information in XENTRY

3.4. Multifunction camera (B84/13 – MFK)

Installed for:

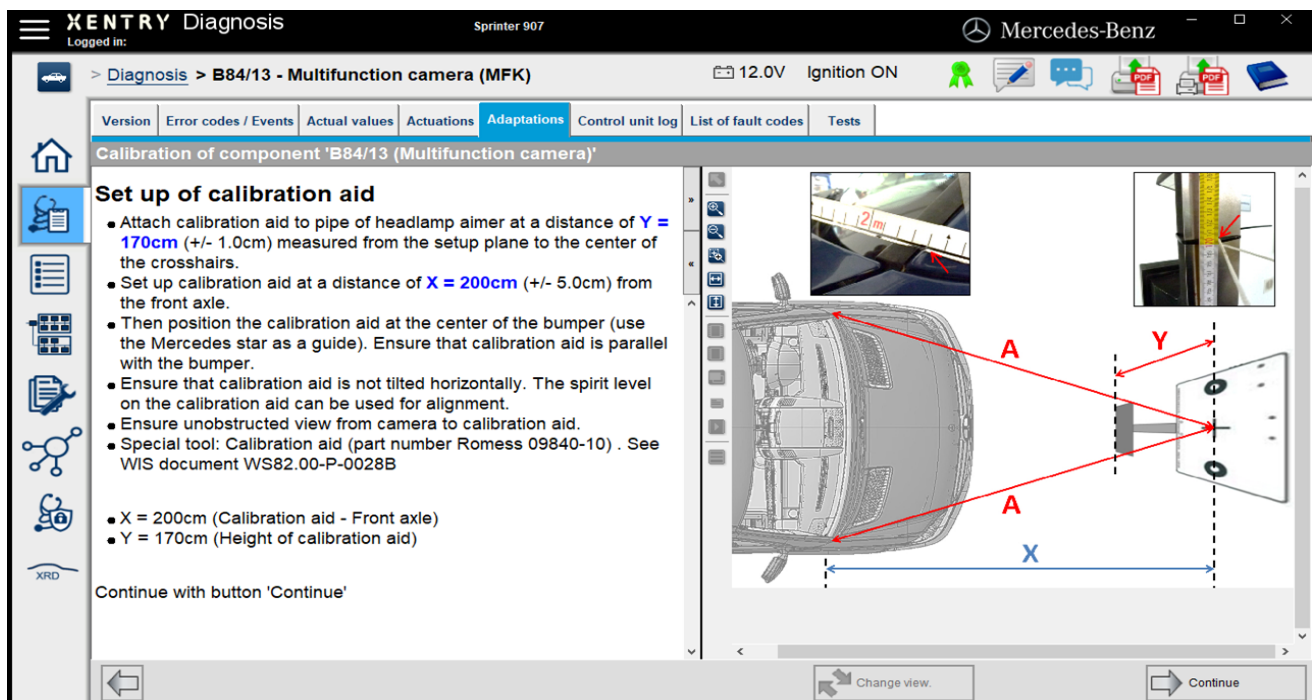
Installed as standard in all vehicles.

Required steps

- Perform SCN coding
- Perform calibration

Details:

SCN coding must be performed for all vehicles. Once the SCN coding has been carried out, the camera must be calibrated. A calibration aid is required for this purpose, which must be positioned relative to the vehicle as per the specifications in XENTRY. (See fig.)



Screenshot from XENTRY provided for illustrative purposes; please always observe the current information in XENTRY

3.5. Reversing camera (B84/3 – RFK)

Installed for:

Code FR7 - PRE-INSTALLATION OF ELECTRICS FOR REVERSING AID

Required steps

SCN coding of the following control units must be performed in the following sequence:

1. MBUX multimedia system (A26/17 - head unit)
2. Reversing camera (B84/3 – RFK)
3. Report installation position in X, Y and Z in XENTRY (Note: O-code for installation position for basic calibration, the exact values must also be entered in XENTRY)
4. enter the installation position (angle) in XENTRY

Details:

As per the specifications in the XENTRY screen, the installation position of the camera must be entered with respect to X (distance from the center of the front axle), Y (position deviation from the center of the vehicle) and Z (height above ground contact area).

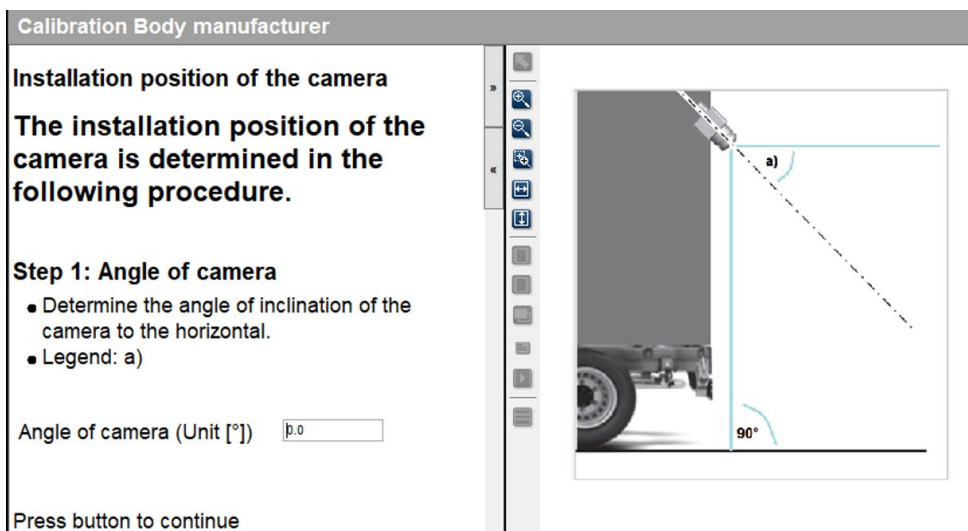
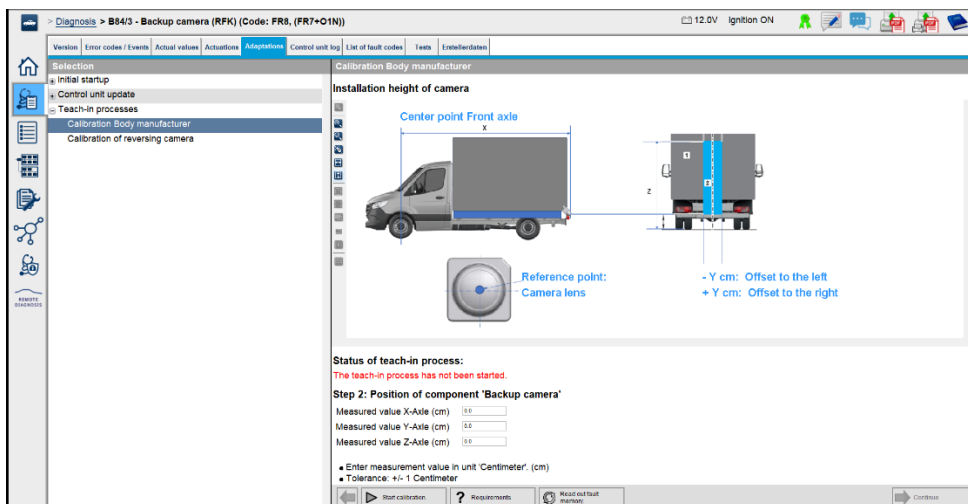


Illustration of the XENTRY screen for reporting the installation position will follow.

3.6. Signal acquisition and actuation module (N10 – SAM)

Installed for:

Installed as standard in all vehicles

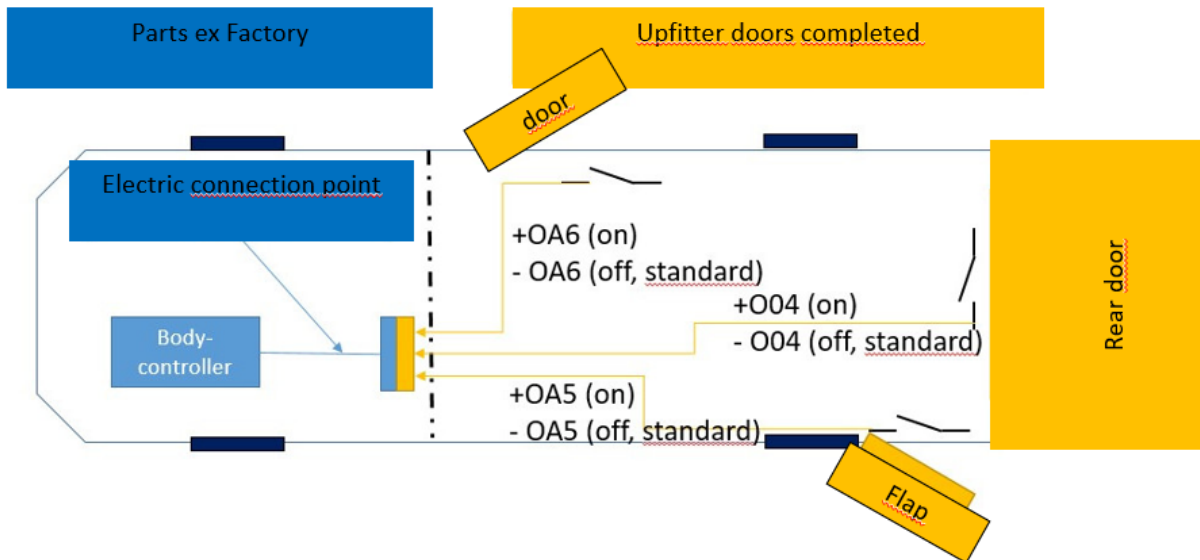
Required steps

- Perform SCN coding

Details:

SCN coding of the control unit must be performed.

On vehicles with code *EA5 - Pre-installation of central locking system for bodybuilder doors*, the door control signal must be activated in advance with the respective O-code (see section 02, step 1) in the Bodybuilder Portal. The door control signals can be activated as per the following diagram:



3.7. MBUX multimedia system (A26/17 - head unit)

Installed for:

Installed as standard in all vehicles

Additional steps for code FR7 - PRE-INSTALLATION OF ELECTRICS FOR REVERSING AID

and/or

Additional steps for code O49 - RETROFITTED REAR SPEAKER

and/or

Additional steps for code O71 - TRAILER HITCH, THIRD-PARTY ACCESSORY

- Perform SCN coding

Details:

SCN coding must be performed.

3.8. Headlamp control unit (E1/2N9, E2/2N9 – SG-LEDSW-L/R)

Installed for:

Code LG7 - LED HIGH PERFORMANCE HEADLAMPS

Required steps

- Perform zero-position adjustment

Details:

A zero-position adjustment of the headlamps must be performed (see figure). Ensure that the prerequisites in XENTRY are observed for this.

The screenshot shows the XENTRY Diagnosis interface for a Mercedes-Benz Sprinter 907. The main window is titled 'E1/2n9 - Left headlamp (SG-LEDSW-L) (Code: LG7)'. The 'Adaptations' tab is selected, and the 'Zero position adjustment' routine is chosen from the left-hand menu. The requirements for this routine are listed as follows:

- The vehicle must be at a standstill.
- The vehicle must be unladen.
- The vehicle must be on a level surface.
- The actual values of the level sensors must be in the valid range.

The 'Status of associated actual values' table is displayed below the requirements:

Name	Actual value	Specified value
Signal voltage of component 'B22/8 (Left front level sensor)'	2.5V	[0.0 .. 0.0]
Signal voltage of component 'B22/7 (Left rear level sensor)'	2.6V	[0.0 .. 0.0]
Currently stored zero position for the front axle	0.0V	
Currently stored zero position for the rear axle	0.0V	
Zero position adjustment	NOT PERFORMED	COMPLETED

The status of the routine is 'NOT STARTED'. A 'Continue' button is visible at the bottom right of the interface.

Screenshot from XENTRY provided for illustrative purposes; please always observe the current information in XENTRY

3.9. Telematics services communication module (HERMES N112/9)

Installed for:

Installed as standard in all vehicles

Required steps

- Always carry out test

Details:

If GPS antennas from third-party manufacturers are installed by the bodybuilder manufacturer or the ex-factory-installed GPS antenna is offset, the reception of the GPS signal must be ensured.

The entry "SOS ready" must appear in the vehicle display.

3.10. Trailer recognition control unit (N28/1 – Trailer recognition)

Installed for:

Code E57 - ELECTRICS FOR TRAILER SOCKET

Additional steps for code O71 - TRAILER HITCH, THIRD-PARTY ACCESSORY

- Perform SCN coding

Details:

SCN coding of N28/1 – Trailer recognition must be performed.

SCN coding of the following additional control units must then be performed.

- Drivetrain control unit (N127 - CPC)
- Electronic Stability Program (N30/4 - ESP)
- Signal acquisition and actuation module (N10 - SAM)
- Electronic ignition lock (N73/8 - EZS)
- MBUX multimedia system (A26/17 - head unit)
- Reversing camera (B84/3 - RFK)

3.11. MOIS calibration (moving off information system)

Installed with:

Code JF7 - moving off information ASSISTANT

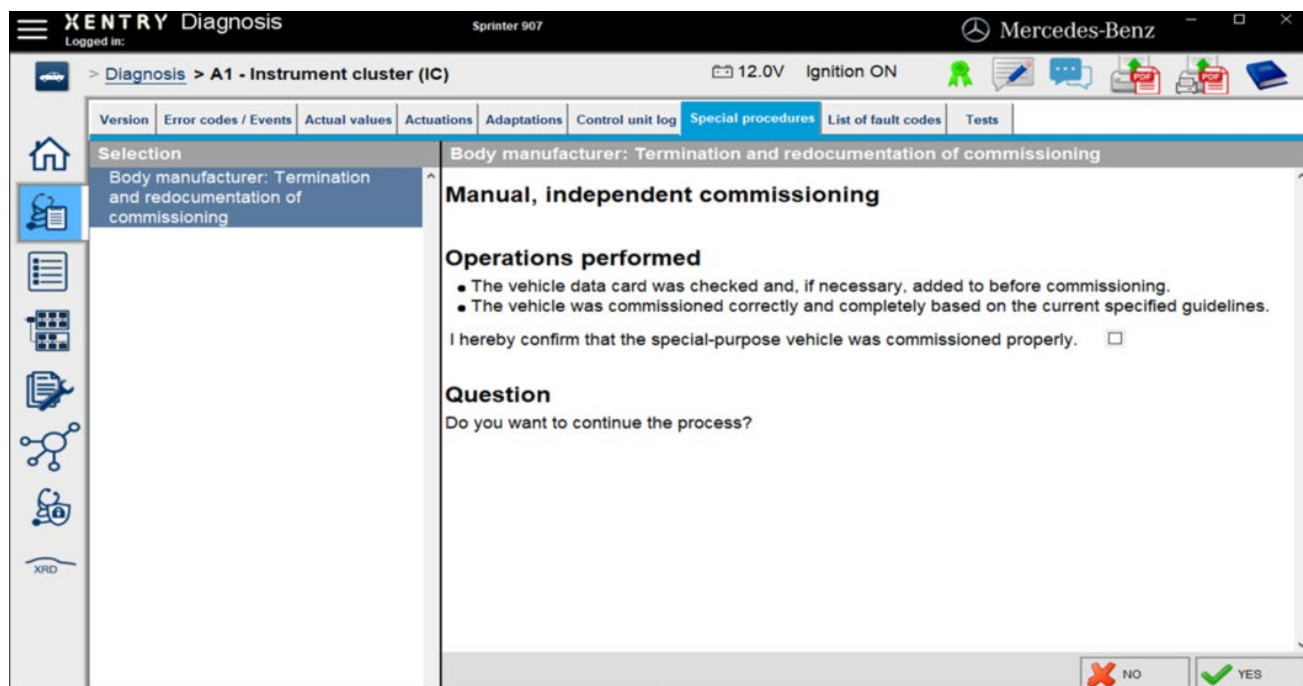
Additional steps for code JF7 - MOVING OFF INFORMATION ASSISTANT

- Calibration takes place automatically
- Only if the warning light is permanently yellow, a calibration drive <10km/h straight ahead must be carried out until the warning light goes out

04 Confirmation of successful commissioning

After commissioning has been fully completed as per the process sequence specified in section 2, the following steps must be performed

1. Perform quick test
2. In control unit "A1 - Instrument cluster (IC)", under the special procedures tab, confirm the commissioning



Screenshot from XENTRY provided for illustrative purposes; please always observe the current information in XENTRY

Change documentation for the commissioning guide

Version	Date	Chapter	Change scope
1a	11.03.2024	All	New creation of commissioning guide for YoM24
1b	15.03.2024	Introduction	Note on commissioning MB workshop adapted
1c	25.07.2024	Cap. 2	Door control unit added, rear view camera angle added
1d	08.10.2024	Cap. 2 / Cap. 3.11	Cap. 2: O-Code position rear view camera / Cap. 3.11 Calibration MOIS

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