



# Commissioning Guide

Commissioning of control units for “incomplete” vehicles

Valid for model series 907 (VS30 Sprinter)

***as of Model Year 2025***

Intended for use by Upfitters on “Incomplete Vehicles”

Last updated 1/2025 Version

Mercedes-Benz

Mercedes Benz USA LLC
1 Mercedes Benz Drive,
Sandy Springs,
Georgia,
30328

Important note:

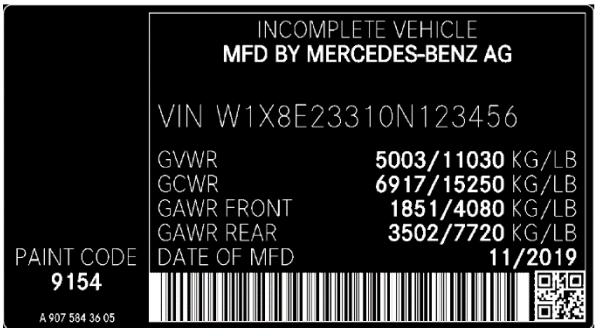
This guide is provided for assistance and instructional purposes only. The represented content in the pictures included in this guide is provided for example purposes only and may change as a result of updates and further developments.

# Contents

# 01 Introduction

The introduction of new and updated driver assistance systems (e.g. Active Brake Assist, Moving Off Information System, Active Lane Keeping Assist, etc.) requires a commissioning process for all Model Year 2025 and newer “incomplete” vehicles intended to be sold in the US and Canadian markets. An incomplete vehicle has a label in the driver door frame labelled as below. The commissioning of these systems is carried out by an authorized upfitter or Mercedes-Benz dealership after completion of the upfit.

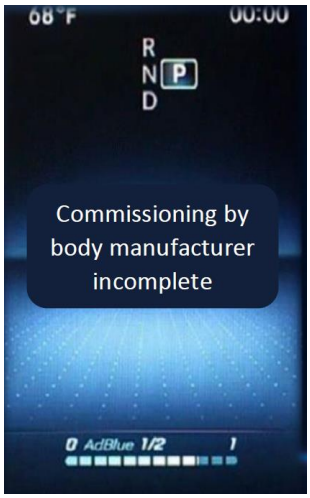
**as of Model Year 2025**




**Incomplete Vehicle Label on Driver Side Door Frame**

As the vehicle’s final upfitted condition (e.g. width of the body, overhang dimension, and the position of the sensors) cannot be known at the time of manufacture, not all control units can be configured at the factory. As part of the commissioning process, the vehicle data card and control units must be updated by an authorized upfitter or Mercedes-Benz dealership to reflect the actual state of the vehicle, in accordance with the upfitter’s final body.

The message “Commissioning by body manufacturer incomplete” is displayed in the instrument cluster until this process is completed and confirmed.



To ensure the control units are configured correctly and that individual electrical and electronic systems function as intended, three key steps must be carried out by an authorized upfitter or Mercedes-Benz dealership during commissioning.

1. Determine O-codes based on upfit dimensions and special equipment on the van systems.
2. Update vehicle data card with the respective O-code (via XENTRY kit, XENTRY pass-through or at an authorized Mercedes-Benz dealership).
3. Determine systems / control modules that require commissioning.
4. Perform commissioning steps required for every vehicle in the prescribed order (via XENTRY kit, XENTRY pass-through or at an authorized Mercedes-Benz dealership).
5. Perform commissioning steps depending on vehicle options (DISTRONIC, Reverse camera etc.) in the prescribed order (via XENTRY kit, XENTRY pass-through or at an authorized Mercedes-Benz dealership).
6. Confirm commissioning to remove message from instrument cluster.

**! NOTE !**

It is the upfitter's responsibility to ensure that the modified vehicle is fully completed and commissioned. In addition, the upfitter commits to complying with and fully implementing the Mercedes-Benz Body and Equipment Guideline (BEG) specifications.

As a prerequisite for an upfitter's commitment to commission the vehicles in accordance with the foregoing, the upfitter must have access to a Mercedes-Benz diagnosis tool XENTRY Diagnosis Kit as well as to a special Calibration Aid for the Multifunction Camera.

Alternatively, an upfitter can contact an authorized Mercedes-Benz dealership for the operational implementation of the control unit commissioning based on the information provided by the upfitter. As a prerequisite for the dealer carrying this out, the upfitter must complete the **Vehicle Commissioning Request** form found in **section 4** and hand it over to the dealer.

The dealer will commission the control units for which this service has been requested based on the information provided by the upfitter.

# 02 Determining O-codes and systems that need commissioning

## Step 1: Identify O-codes and update vehicle data card

O-codes need to be updated in the vehicle's 'data card' to alert the vehicle of the specific control units that will need to be commissioned/adapted, based on the specific upfit being performed. It is essential that these are updated into the vehicle data card to ensure the appropriate commissioning of the specific control units. This can be done via XENTRY kit, XENTRY pass-through or at an authorized Mercedes-Benz dealership – see images in the next page.

Please refer to the tables below to identify the relevant O-codes for the vehicle (there may be multiple O-codes needed per vehicle). **Note that upfitters need to convert measurements to metric measurements to identify the appropriate O-code**:

| 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 |

**Note:** At time of publication O-codes O9K & O8O are not available via Xentry and requires creation of an XSS ticket to request adding them to the vehicle data card. This should be resolved in the coming month.

| O-code for the activation of pre-installation option (dependent on vehicle as ordered configuration) | |
|---|---|
| Option code - System | O-code to activate feature |
| FR7 - Ultrasonic reversing aid electrics pre-installation | O1N - Reversing camera activation without guidelines |
| J1V - Pre-installation for Blind Spot Assist | OB2 - Blind Spot Assist activation |
| EA5 - Pre-installation, central locking system for bodybuilder doors | O04 - Parameterization for rear-end door present |
| EA5 - Pre-installation, central locking system for bodybuilder doors | OA5- Parameterization for left side door present |
| EA5 - Pre-installation, central locking system for bodybuilder doors | OA6 - Parameterization for right side door present |
| EP7 - Basic electric fitting for rear loudspeakers | O49 - Rear speaker retrofitted |

**Note:** Refer to Body and Equipment Guide (BEG) for details on each option code installation

| O-code for the position of the sensor for the Blind Spot Assist in X and Z (Relevant for Option Code J1V) | | | |
|---|---|---|---|
| O-code for sensor vs center of rear axle (X-Axis) | | O-code for sensor vs Ground (Z-Axis) | |
| O7K | Rear Blind Spot Radar System, X To Rear Axle 100+/-100mm | O8K | Rear Blind Spot Radar System, Z Above Ground 350+/-50mm |
| O7L | Rear Blind Spot Radar System, X To Rear Axle 300+/-100mm | O8L | Rear Blind Spot Radar System, Z Above Ground 450+/-50mm |
| O7M | Rear Blind Spot Radar System, X To Rear Axle 500+/-100mm | O8M | Rear Blind Spot Radar System, Z Above Ground 550+/-50mm |
| O7N | Rear Blind Spot Radar System, X To Rear Axle 700+/-100mm | O8N | Rear Blind Spot Radar System, Z Above Ground 650+/-50mm |
| O7O | Rear Blind Spot Radar System, X To Rear Axle 900+/-100mm | O8O | Rear Blind Spot Radar System, Z Above Ground 750+/-50mm |
| O7P* | Rear Blind Spot Radar System, Additional X To Rear Axle +1000mm | O8P | Rear Blind Spot Radar System, Z Above Ground 850+/-50mm |
| O7Q* | Rear Blind Spot Radar System, Additional X To Rear Axle +2000mm | O8Q | Rear Blind Spot Radar System, Z Above Ground 950+/-50mm |
| ***O-code O7P or O7Q must be combined with other codes in table for distance to rear axle greater than 1000mm or 2000mm respectively** | | O8R | Rear Blind Spot Radar System, Z Above Ground 1050+/-50mm |
| | | O8S | Rear Blind Spot Radar System, Z Above Ground 1150+/-50mm |

| O-code for the position of reverse backup camera in X and Z (Relevant for Option Code FR7) | | | |
|---|---|---|---|
| O-code for sensor vs center of rear axle (X-Axis) | | O-code for sensor vs Ground (Z-Axis) | |
| OX1 | Camera Distance from Center Front Axle Up To 5,900 mm | OZ1 | Camera Height Above Ground Up To 700 mm |
| OX2 | Camera Distance from Center Front Axle Greater Than 5,900 mm | OZ2 | Camera Height Above Ground From 701 mm To 1,000 mm |
| | | OZ3 | Camera Height Above Ground From 1,001 mm To 1,500 mm |
| | | OZ4 | Camera Height Above Ground From 1,501 mm To 2,000 mm |
| | | OZ5 | Camera Height Above Ground From 2,001 mm To 2,500 mm |
| | | OZ6 | Camera Height Above Ground From 2,501 mm To 3,000 mm |
| | | OZ7 | Camera Height Above Ground From 3,001 mm To 3,500 mm |
| | | OZ8 | Camera Height Above Ground From 3,501 mm To 4,000 mm |

**Note:** Refer to Body and Equipment Guide on direction for conducting measurements

**! NOTE !**

Complete and accurate reporting of the vehicle specifications via O-codes forms the basis for correct commissioning. It is the upfitter's responsibility to ensure that reporting is accurate.

## Step 2: Identifying systems and modules requiring commissioning

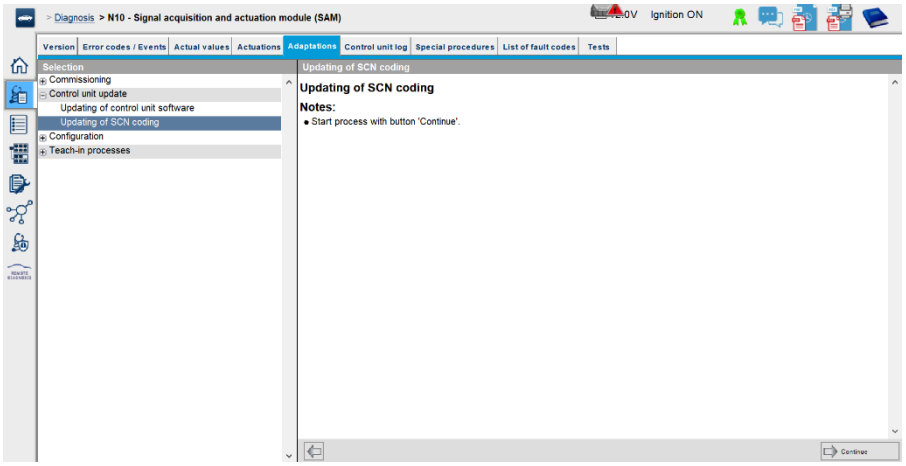
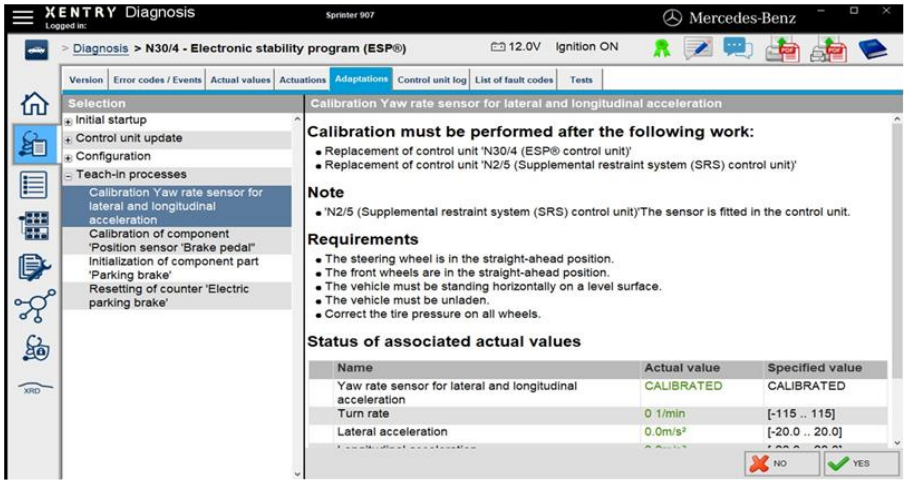
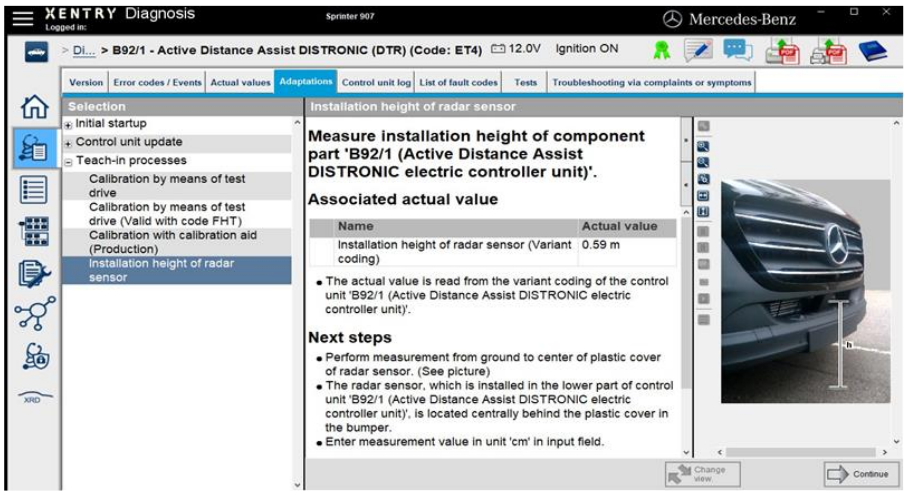
Once O-codes have been reported to the vehicle data card, SCN coding of the corresponding control units is the next part of the commissioning process. During the SCN coding of a control unit, the diagnostic system checks all documented vehicle features (codes) in the vehicle data card and sets the documented parameters from the Mercedes-Benz documentation system based on vehicle codes. **For some control units, additional supplementary tests, calibrations, or verifications may be necessary – observe the instructions in Xentry as well as notes besides each step below carefully**.

The commissioning scope and the number of control units depends on the equipment scope of the vehicle. The following diagrams illustrates the procedures for commissioning the required control units. There are two process flows: one that needs to be done on every vehicle and the second depends on the options/systems included in the vehicle (check vehicle Monroney label, spec sheet or invoice to identify these).

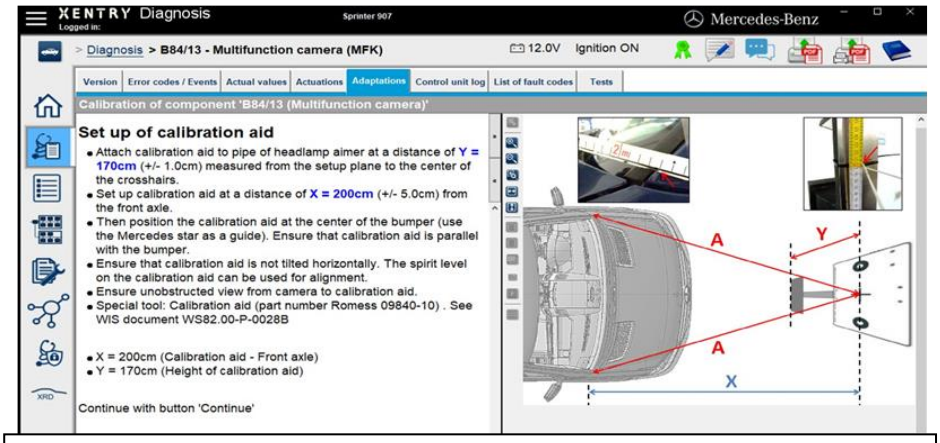
A final quick test must be performed at the end of the commissioning process. This test should not result in any errors. Once completed, the implementation of the commissioning process must be confirmed in XENTRY – see section 3.

## Step 3: Control Unit Commissioning for every vehicle

### For Every Vehicle (1 of 2)

| Process Steps | Description/Details |
|---|---|
| Start of control unit commissioning | |
| **Control unit N10:** Code SAM | |
| Perform SCN Coding |  |
| **Control unit N30/4:** ESP Teach in longitudinal and lateral acceleration sensor | |
| Perform Calibration |  |
| **Control unit B92** Active Brake Assist (BA2) or DISTRONIC (ET4) | |
| Perform SCN Coding |  |
| Continued on next page | **Image shows DISTRONIC example as process is the same for Active Brake Assist**<br>**NOTE:** Following the SCN coding, if requested by XENTRY, the height value of the radar sensor must be measured and entered into XENTRY. |

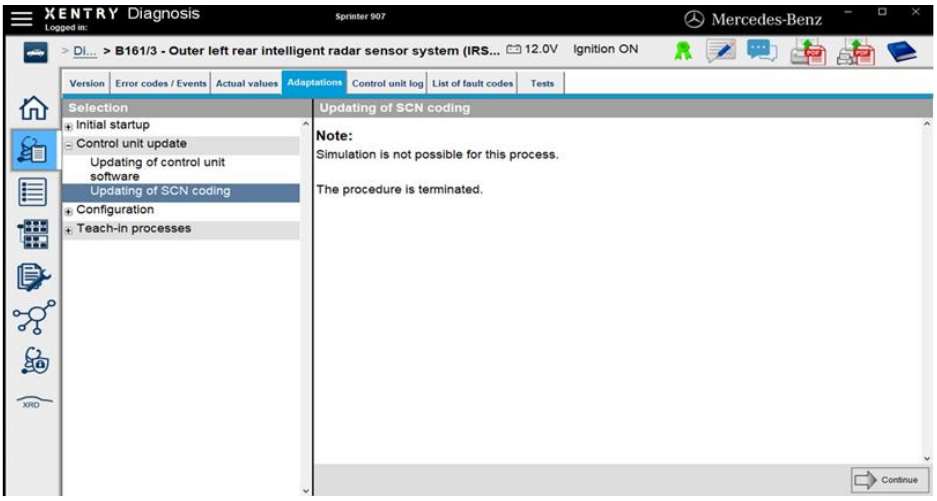
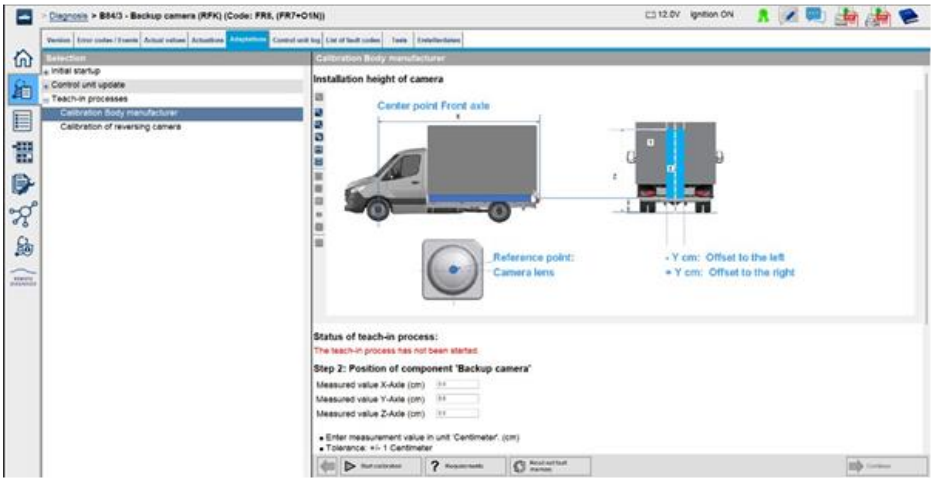
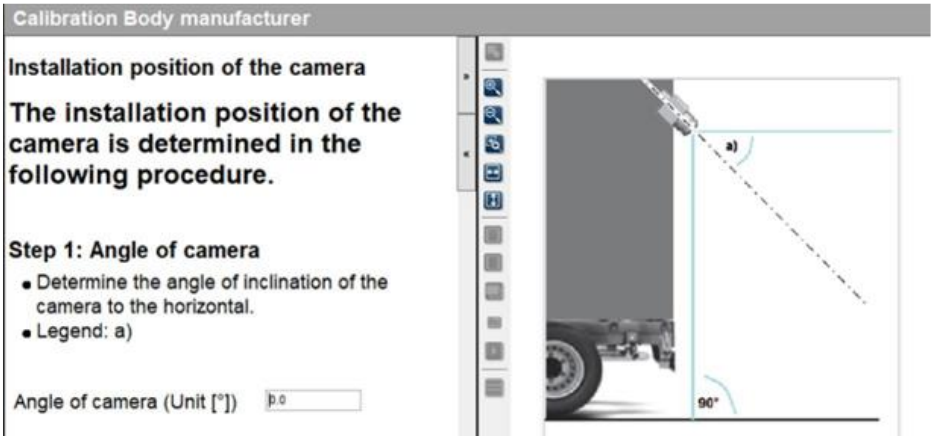
## For Every Vehicle (2 of 2)

| Process Steps | Description/Details |
|---|---|
| **Control unit B84/13:** Code & calibration of multifunction camera<br>↓<br>Perform SCN Coding<br>↓<br>Perform Calibration<br>↓<br>**Control unit N112/9** HERMES Check GPS signal and function "SOS ready"<br><br>Depending on vehicle equipment further control unit commissioning is required – see Step 4 on next page |  <br>**NOTE:** 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.<br><br>  <br>  <br>**NOTE:** If GPS antennas from third-party manufacturers are installed by the upfitter or the ex-factory-installed GPS antenna is offset, the reception of the GPS signal must be ensured. Ensure "SOS NOT READY" is not on the MBUX screen /instrument cluster. |

## Step 4: Control unit commissioning depending on vehicle systems ordered

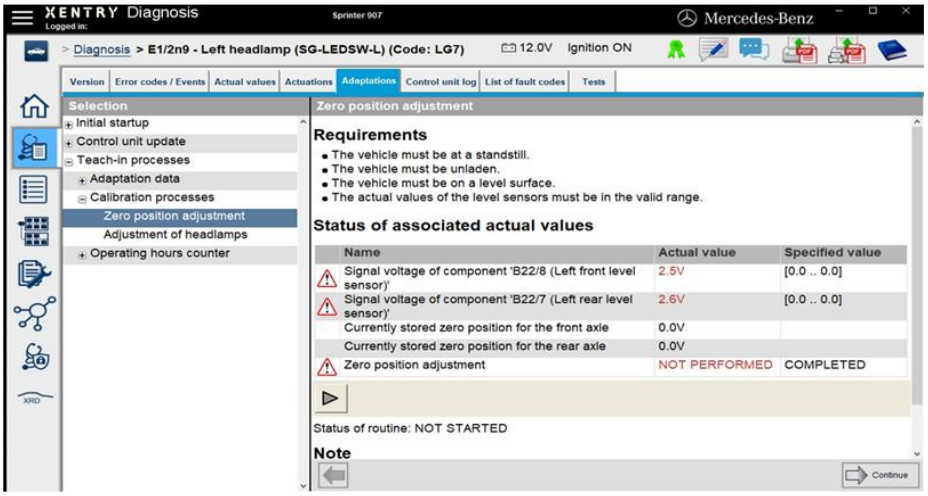
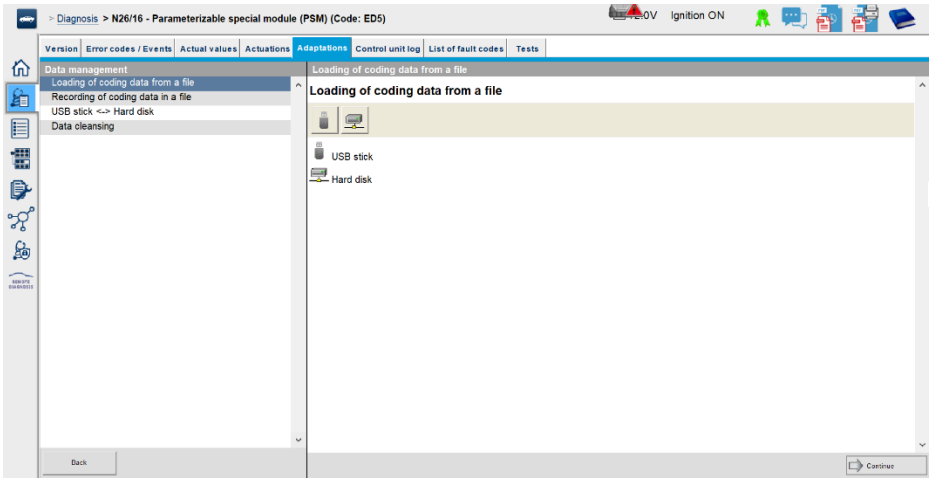
If vehicle is equipped with Blind Spot Assist, Reverse Camera, LED headlamps and/or PSM, one or more modules will need to be commissioned (check vehicle Monroney label, spec sheet or invoice to identify these):

**Depending on Vehicle Systems Ordered**

| Option | Description/Details |
|---|---|
| **Blind Spot Assist (JV1)**<br>Control unit B92/21 and B92/24<br>Code rear radar<br>Perform SCN Coding<br>Control unit N69/1 and N69/2<br>Code door module<br>Perform SCN Coding |  |
| **Reversing camera (FR7)**<br>Control unit A26/17<br>Code MBUX (head unit)<br>Perform SCN Coding<br>Control unit B84/3<br>Code reversing camera<br>Perform SCN Coding<br>Measure the position of the reversing camera and enter in Xentry<br>Perform Calibration |  <br>  |

**NOTE:** Installation position of the camera must be entered with respect to X, Y and Z (detailed instructions available in XENTRY)

## Depending on Vehicle Systems Ordered (2 of 2)

| Option | Description/Details |
|---|---|
| **LED High Performance Headlamps (LG7)**<br>Perform Calibration<br>Control unit E1/2N9 Implement Software zero-position adjustment |  <br>**NOTE:** Only a zero position adjustment is required |
| **PSM (ED5)**<br>Perform SCN Coding<br>Control unit N26/16 Code PSM |  |

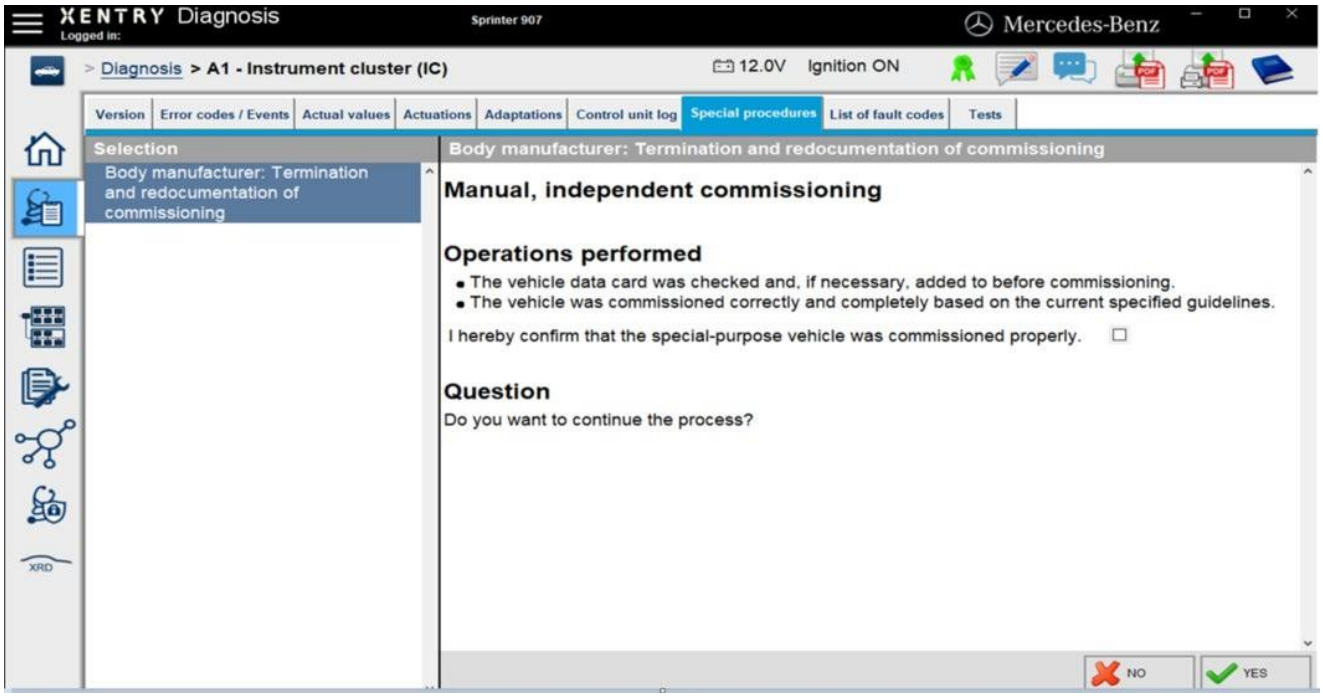
# 03 Confirmation of successful commissioning

After commissioning has been fully completed as per the process sequence specified in section 1&2, the following steps must be performed:

1. Perform “Quick Test”; address any faults as required

2. Confirm the commissioning process and confirm that reporting has been completed accurately and in its entirety; Control unit "A1 - Instrument cluster (IC)", under the “Special Procedures” tab.

3. Confirm message “Commissioning by body manufacturer incomplete” no longer present in instrument cluster.




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

# 04 Vehicle Commissioning Request form

If choosing to perform commissioning at a Mercedes-Benz authorized Dealer, it is the upfitter's responsibility to fill out the commissioning request form accurately and provide to dealer before commissioning.

| Vehicle Identification Number (VIN) | |
|---|---|

| O-code for the body width | | Check desired O-code | Document Actual Dimension |
|---|---|---|---|
| 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 | | Check desired O-code | Document Actual Dimension |
|---|---|---|---|
| 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 activation of pre-installation option (dependent on vehicle as ordered configuration)** | | |
|---|---|---|
| Vehicle Option code - System | O-code to activate feature | Check desired O-code |
| FR7 - Ultrasonic reversing aid electrics pre-installation | O1N - Reversing camera activation without guidelines | |
| J1V - Pre-installation for Blind Spot Assist | OB2 - Blind Spot Assist activation | |
| EA5 - Pre-installation, central locking system for bodybuilder doors | O04 - Parameterization for rear-end door present | |
| EA5 - Pre-installation, central locking system for bodybuilder doors | OA5- Parameterization for left side door present | |
| EA5 - Pre-installation, central locking system for bodybuilder doors | OA6 - Parameterization for right side door present | |
| EP7 - Basic electric fitting for rear loudspeakers | O49 - Rear speaker retrofitted | |

**Note: Refer to Body and Equipment Guide (BEG) for details on each option code installation**

| **O-code for the position of the sensor for the Blind Spot Assist in X and Z (Relevant for Option Code J1V)** | | | | | |
|---|---|---|---|---|---|
| O-code for sensor vs center of rear axle (X-Axis) | | Check desired O-code | O-code for sensor vs Ground (Z-Axis) | | Check desired O-code |
| O7K | Rear Blind Spot Radar System, X To Rear Axle 100 +/-100mm | | O8K | Rear Blind Spot Radar System, Z Above Ground 350 +/-50mm | |
| O7L | Rear Blind Spot Radar System, X To Rear Axle 300 +/-100mm | | O8L | Rear Blind Spot Radar System, Z Above Ground 450 +/-50mm | |
| O7M | Rear Blind Spot Radar System, X To Rear Axle 500 +/-100mm | | O8M | Rear Blind Spot Radar System, Z Above Ground 550 +/-50mm | |
| O7N | Rear Blind Spot Radar System, X To Rear Axle 700 +/-100mm | | O8N | Rear Blind Spot Radar System, Z Above Ground 650 +/-50mm | |
| O7O | Rear Blind Spot Radar System, X To Rear Axle 900 +/-100mm | | O8O | Rear Blind Spot Radar System, Z Above Ground 750 +/-50mm | |
| O7P* | Rear Blind Spot Radar System, Additional X To Rear Axle +1000mm | | O8P | Rear Blind Spot Radar System, Z Above Ground 850 +/-50mm | |
| O7Q* | Rear Blind Spot Radar System, Additional X To Rear Axle +2000mm | | O8Q | Rear Blind Spot Radar System, Z Above Ground 950 +/-50mm | |
| ***O-code O7P or O7Q must be combined with other codes in table for distance to rear axle greater than 1000mm or 2000mm respectively** | | | O8R | Rear Blind Spot Radar System, Z Above Ground 1050 +/-50mm | |
| | | | O8S | Rear Blind Spot Radar System, Z Above Ground 1150 +/-50mm | |

**Note: Refer to Body and Equipment Guide on direction for conducting measurements**

| Option Code – Active Brake Assist (BA3) or DISTRONIC (ET4) | |
|---|---|
| Radar Sensor Height Measurement (cm) | cm |

**Note:** Perform measurement from ground to center of plastic cover of radar sensor

| Option Code – Reverse Camera (FR7) | |
|---|---|
| Position of Backup Camera X (distance from center of front axle to camera) (cm) | cm |
| Position of Backup Camera Y (position deviation from center of the vehicle) (cm) | cm |
| Position of Backup Camera Z (height above road level) (cm) | cm |
| Angle of camera (inclination to horizontal) (degrees) | ° |

**Note: Refer to Body and Equipment Guide on direction for conducting measurements**

I have read and understood the Body and Equipment Guidelines (BEG), all BEG addendums, and confirm my vehicles conform to the guidelines stated therein. All measurements have been conducted in accordance with the guidelines.

| | | |
|---|---|---|
| Upfitter Name | | |
| Signature | | Date: |