



Commissioning Guide

Commissioning of control units for cab chassis vehicles

Valid for model series 907 (VS30 Sprinter)

as of Model Year 2025

Intended for use by Upfitters on Cab Chassis Vehicles

Last updated 11/2024 Version



Mercedes-Benz



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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.

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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 cab chassis vehicles intended to be sold in the US and Canadian markets. The commissioning of these systems is carried out by an authorized upfitter or Mercedes-Benz dealership after completion of the upfit.

This guide outlines the commissioning process for all variants of the models below:

- 3500XD Cab Chassis
- 4500 Cab Chassis

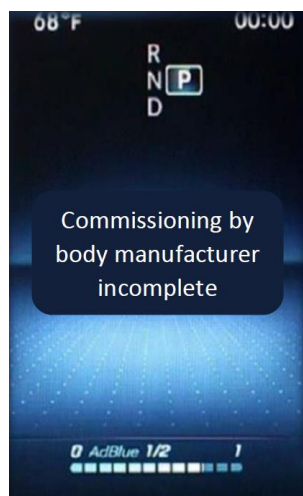
as of Model Year 2025



Mercedes-Benz Sprinter Cab Chassis

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 & O80 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

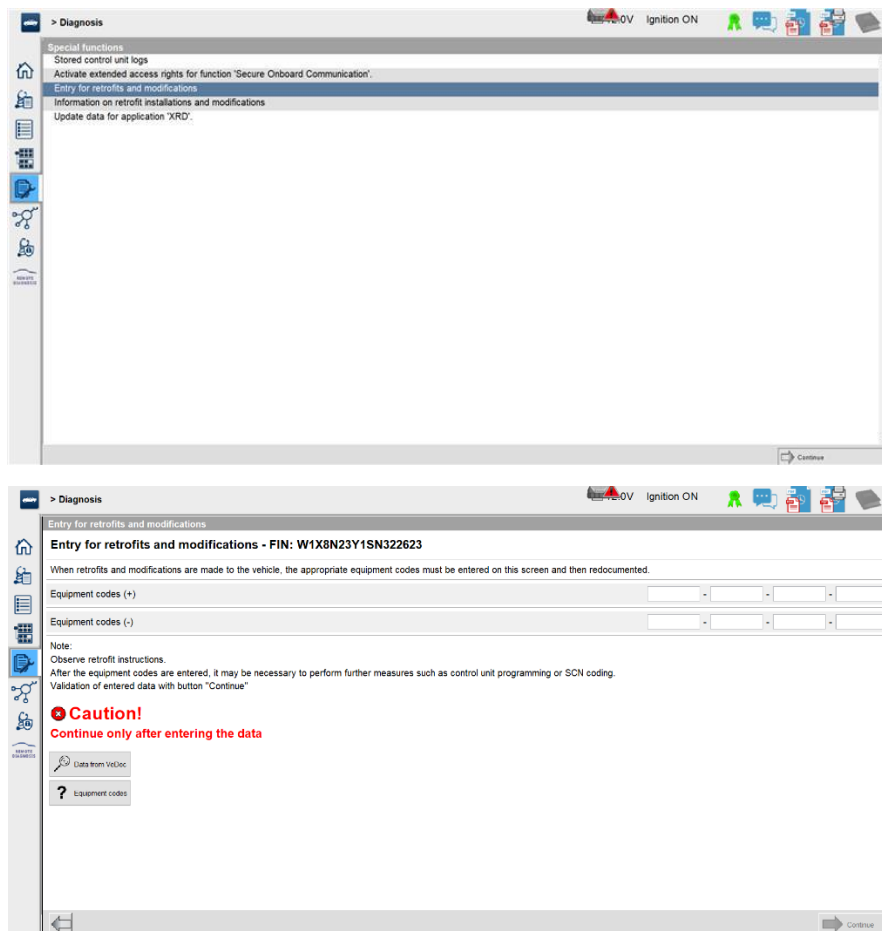
Note: Refer to Body and Equipment Guide (BEG) for details on each option code installation

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)	
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
*O-code 07P or 07Q must be combined with other codes in table for distance to rear axle greater than 1000mm or 2000mm respectively		08R	Rear Blind Spot Radar System, Z Above Ground 1050+/-50mm
		08S	Rear Blind Spot Radar System, Z Above Ground 1150+/-50mm

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.



Example images to navigate in XENTRY to add O-codes

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

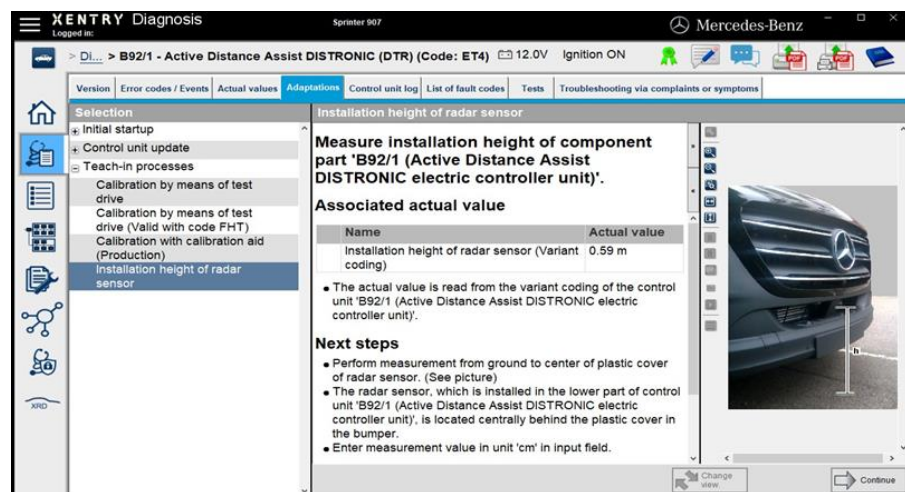
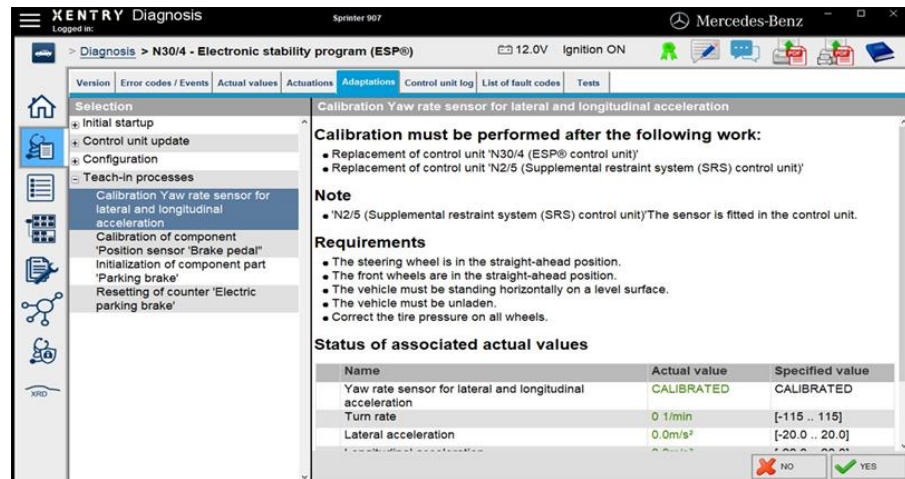
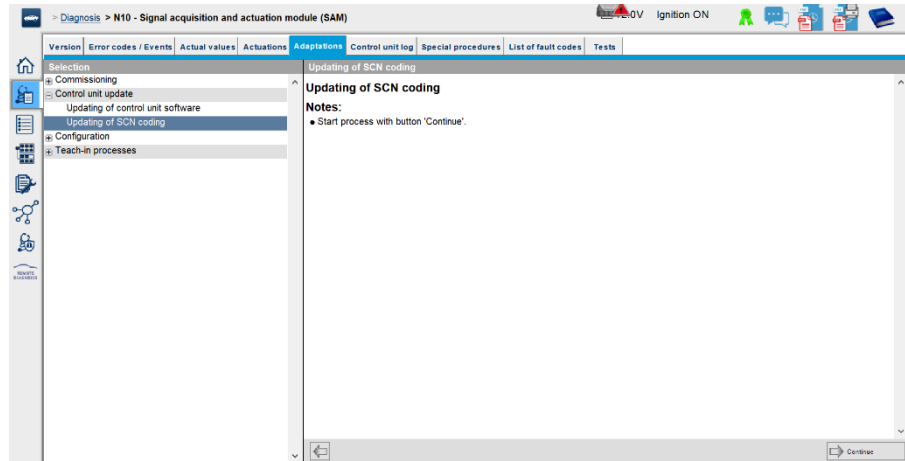


Image shows DISTRONIC example as process is the same for Active Brake Assist

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

Control unit B84/13:
Code & calibration of
multifunction camera

Perform SCN Coding

Perform Calibration

Control unit N112/9
HERMES Check GPS signal and
function "SOS ready"

Depending on vehicle
equipment further control unit
commissioning is required – see
Step 4 on next page

Description/Details

Set up of calibration aid

- Attach calibration aid to pipe of headlamp aimer at a distance of $Y = 170\text{cm}$ ($\pm 1.0\text{cm}$) measured from the setup plane to the center of the crosshairs.
- Set up calibration aid at a distance of $X = 200\text{cm}$ ($\pm 5.0\text{cm}$) from the front axle.
- Then position the calibration aid at the center of the bumper (use the Mercedes star as a guide). Ensure that calibration aid is parallel with the bumper.
- Ensure that calibration aid is not tilted horizontally. The spirit level on the calibration aid can be used for alignment.
- Ensure unobstructed view from camera to calibration aid.
- Special tool: Calibration aid (part number Romess 09840-10) . See WIS document WS82.00-P-0028B

$X = 200\text{cm}$ (Calibration aid - Front axle)
 $Y = 170\text{cm}$ (Height of calibration aid)

Continue with button 'Continue'

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.

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):

Option	Description/Details
<p>Blind Spot Assist (JV1)</p> <p>Control unit B92/21 and B92/24 Code rear radar</p> <p>Perform SCN Coding</p> <p>Control unit N69/1 and N69/2 Code door module</p> <p>Perform SCN Coding</p>	
<p>Reversing camera (FR7)</p> <p>Control unit A26/17 Code MBUX (head unit)</p> <p>Perform SCN Coding</p> <p>Control unit B84/3 Code reversing camera</p> <p>Perform SCN Coding</p> <p>Measure the position of the reversing camera and enter in Xentry</p> <p>Perform Calibration</p>	
	<p>Calibration Body manufacturer</p> <p>Installation position of the camera</p> <p>The installation position of the camera is determined in the following procedure.</p> <p>Step 1: Angle of camera</p> <ul style="list-style-type: none"> Determine the angle of inclination of the camera to the horizontal. Legend: a) <p>Angle of camera (Unit [°]) <input type="text" value="0.0"/></p> <p>NOTE: Installation position of the camera must be entered with respect to X, Y and Z (detailed instructions available in XENTRY)</p>

Depending on Vehicle Systems Ordered (2 of 2)

Option

Description/Details

LED High Performance Headlamps (LG7)

Perform Calibration

Control unit E1/2N9
Implement Software zero-position adjustment

Requirements

- 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.

Status of associated actual values

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

Status of routine: NOT STARTED

Note

NOTE: Only a zero position adjustment is required

PSM (ED5)

Perform SCN Coding

Control unit N26/16
Code PSM

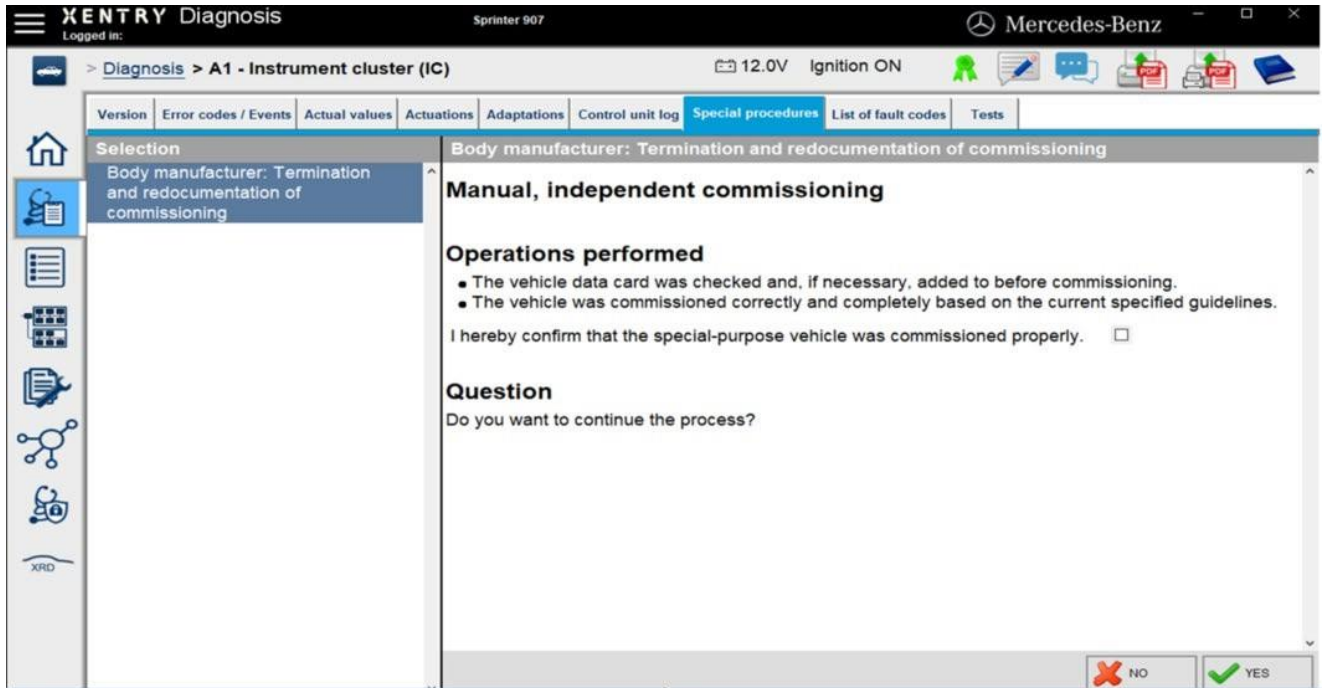
Loading of coding data from a file

- USB stick
- Hard disk

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)	
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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
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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:

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