



Sprinter: Retrofitting of rear view camera for Cab Chassis, Cargo and Passenger VAN model variants

Technical Bulletin UM906-02

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Mercedes-Benz Vans, LLC

Mercedes-Benz



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This bulletin is not intended to serve as a work instruction, but merely to provide some helpful information for upfitters to take into consideration before retrofitting or modifying a Mercedes-Benz or Freightliner Sprinter.

Prior to making any modification to or installing any equipment in or on a Mercedes-Benz or Freightliner Sprinter, you should review and insure compliance with all applicable laws and regulations, consult with Vans Engineering Support for Upfitter Management for additional and updated information, and read the Body & Equipment Guidelines for Sprinter Model Series 906.

Upfitter Management Vans Contacts:

For information or upfitter inquiries
please submit a request via our website:

www.upfitterportal.com

Sprinter Retrofitting of Rear View Camera

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A) Solution for a rear view camera by Daimler Vans

Important: The rear view camera option can be ordered. A rear view camera improves rearward visibility and enhances safety when reversing and when maneuvering. **We strongly recommend option package Code FR8 and EN7** – to ensure Mercedes-Benz quality and functionality. It is possible to retrofit the factory camera.

Order options by Daimler Vans:

1) Ex-factory rear view camera PREINSTALLED REAR VIEW CAMERA MOUNTED ON TOP OF REAR DOOR OPENING FOR PASSENGER & CARGO MODEL VARIANTS

We recommend order option:

- **FR8** Preinstalled rear view camera
- **EN7** AUDIO 15 - AM/FM Radio, USB, AUX, Bluetooth®, 5.8" Screen

2) Retrofitting the factory camera ORIGINAL FACTORY CAMERA CAN RETROFITTED ON CAP CHASSIS AND CARGO MODEL VARIANTS

We recommend order option:

- **FR7** Prewiring, rear view camera
- **EN7** AUDIO 15 - AM/FM Radio, USB, AUX, Bluetooth®, 5.8" Screen
- **O43** AFTERSALES CODE allows integration of camera (for Cap Chassis only) (coding by authorized dealership required)

B) Retrofit solution for rear view camera using third-party aftermarket solution



Warning: When using an aftermarket retrofit solution, different types of camera can also be used to operate the rear view camera function in the Audio 15. Daimler accepts no responsibility for the correct functioning of other cameras in conjunction with Audio 15.

Order options by Upfitter:

3) Retrofitting of third-party aftermarket camera AFTERSALES RETROFIT SOLUTION FOR REAR VIEW CAMERA

We recommend order option:

- **FR7** Prewiring, rear view camera
- **EN7** AUDIO 15 - AM/FM Radio, USB, AUX, Bluetooth®, 5.8" Screen
- **O43** AFTERSALES CODE allows integration of aftermarket camera (coding by authorized dealership required)

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A 1) Ex-factory rear view camera

The rear view camera with Code FR8 can be ordered ex factory for the Cargo & Passenger Van Sprinter model variants. The camera image is then shown on the display of the Audio 15 radio (Code EN7) when reverse gear is engaged.

The display additionally shows static guiding lines that enable the driver to gauge the distance to the obstacle. These guiding lines correspond to the vehicle's contours.



The red guide line indicates the rearmost point of the vehicle to the driver. When reversing, the driver must stop as soon as the red line reaches the obstacle.

Once reverse gear has been disengaged, the image is switched off after a delay of 15 seconds.



Detachable body parts at vehicle rear - Code O43



If the vehicle is extended at the rear by retrofitting detachable body parts (e.g. a rear step), the red guide line no longer indicates the rearmost point of the vehicle. In this case, it is required to add Code O43 in a Mercedes-Benz or Freightliner workshop. As a result, the guiding lines will be not visible.



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A 2) Retrofitting the factory camera (Cargo/Passenger Van)

To retrofit a rear view camera on open model variants, you can order the **electrical pre-installation for reversing aid (Code FR7)**.

This involves a preinstalling cable harness which terminates in the seat frame. The camera can be connected on this position. If the Audio 15 radio (Code EN7) is specified, the cable harness is already connected to the radio, and the camera's video image can be displayed via the Audio 15 display. In the Cargo Van Model Variant the cable harness terminates in the rear door arch behind the third brake light.

 Vehicles with FR7 are already connected to the Audio 15



Preinstalled Parts on Vehicle Side

Male Plug
A053 545 39 28
Pin
A001 982 10 26

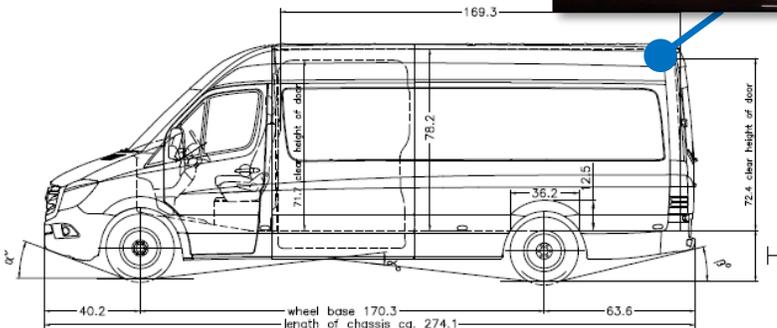
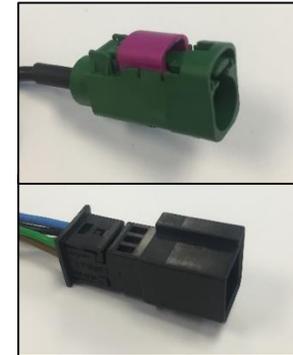
Male Plug
A033 545 5728



Retrofit Parts on Camera Side

Female Plug
A023 545 59 24
Pin
A001 982 10 26

Female Plug
A221 545 01 28
Pin
A032 545 3928



After the camera has been connected, it is merely necessary to add Code FR8 using the Star diagnostic system so the radio recognizes that a camera is connected. The radio receives the signal from the transmission via the CAN bus. If the static guiding lines on the monitor do not correspond to the rearmost point of the vehicle (this will not generally be the case as these are adapted to the factory camera FR8), the lines can also be deleted with Code O43 using the Star diagnostic tool.

If the Audio 15 radio is not installed in your vehicle, the cable harness terminates behind the center console in the area of the radio recess. The radio can be retrofitted, or you can install a separate monitor.

Sprinter Retrofitting of Rear View Camera

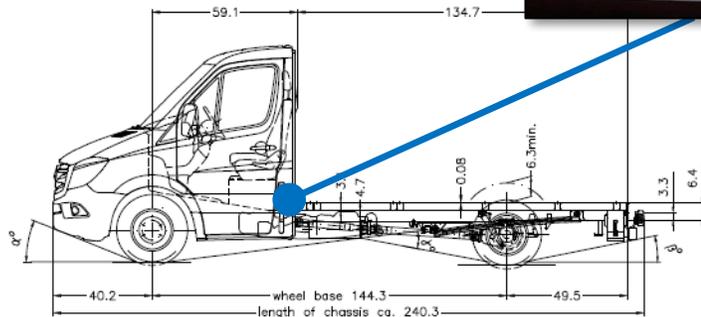
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A 2) Retrofitting the factory camera (Cab Chassis)

To retrofit a rear view camera on open model variants, you can order the **electrical pre-installation for reversing aid (Code FR7)**.

This involves a preinstalling cable harness which terminates in the seat frame. The camera can be connected on this position. If the Audio 15 radio (Code EN7) is specified, the cable harness is already connected to the radio, and the camera's video image can be displayed via the Audio 15 display. In the Cab Chassis Van Model Variant the cable harness terminates under the cab on the cross member.

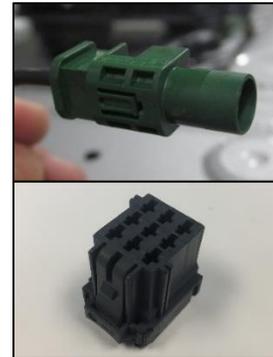
 Vehicles with FR7 are already connected to the Audio 15



Preinstalled Parts on Vehicle Side

Male Plug
A053 545 39 28
Pin
A001 982 10 26

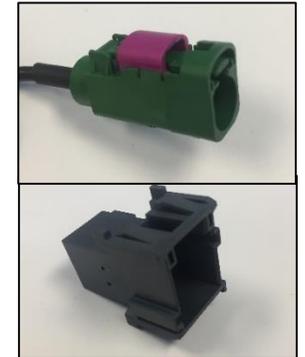
Male Plug
A013 545 61 26



Retrofit Parts on Camera Side

Female Plug
A023 545 59 24
Pin
A001 982 10 26

Female Plug
A026 545 97 28
Pin
A035 545 24 28



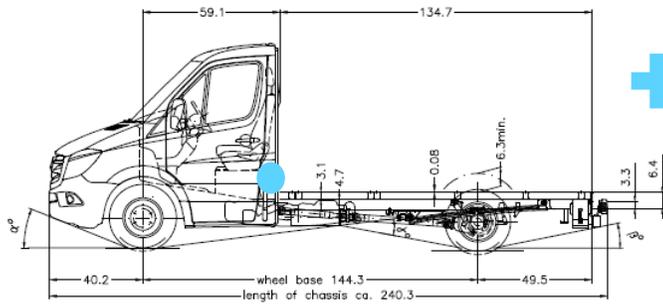
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If the Audio 15 radio is not installed in your vehicle, the cable harness terminates behind the center console in the area of the radio recess. The radio can be retrofitted, or you can install a separate monitor.

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B 3) Retrofitting a different type of camera



Solution 1: Video transmission via FAKRA II Connector

FR-7 Connector to link a camera and Power supply



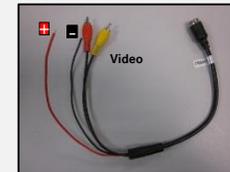
Cab Chassis as well as Passenger VAN:
A 023 545 59 24

Cab Chassis:
A026 545 97 28
Cargo/Passenger:
A 221 545 0128

Solution 2: Aftermarket Solution for External Camera

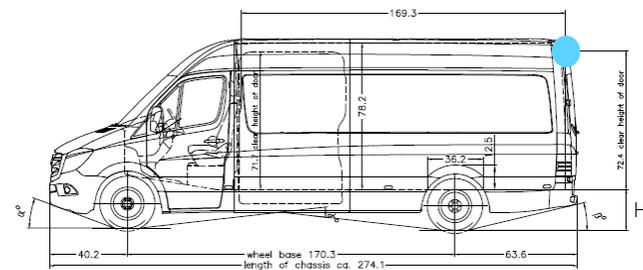


FAKRA II Connector to FR7



Camera Connector with Video Output

Aftermarket Camera



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B 3) Retrofitting a different type of camera

Different types of camera can also be used to operate the rear view camera function in the Audio 15 system if the following requirements are met:

- Video transmission based on the NTSC standard
- 75-ohm coaxial cable with FAKRA II connector and Code-E assignment

We recommend order option:

- **FR7** Prewiring, rear view camera
- **EN7** AUDIO 15 - AM/FM Radio, USB, AUX, Bluetooth®, 5.8" Screen
- **O43** AFTERSALES CODE allows integration of aftermarket camera

Connector for power supply:

The cable harness according to Code FR7 is equipped with the following connector:

- for Cargo Van: 6-Pin Connector A221 545 01 28
- for Cab Chassis: 9-Pin Connector A026 545 97 28

Connector for Power Supply 9 PIN Cab Chassis VAN	
Pin 1	Kl. 15 of Fuse F55/3, Si. 3
Pin 2	GND of W71/1
Pin 3	Reversing Signal of Z38/2
Pin 4	Input Video Release for Display
Pin 5	Micro MIC-
Pin 6	Micro MIC+
Pin 7	Micro Shielding
Pin 8	n. C.
Pin 9	n. C.

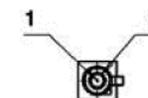
Connector for Power Supply 6 PIN Cargo/Passenger VAN	
Pin 1	Kl. 15 of Fuse F55/3, Si. 3
Pin 2	GND / Micro Shielding of W1/3
Pin 3	Speed Signal (E_V_Signal) for Display
Pin 4	Input Video Release for Display
Pin 5	Micro MIC-
Pin 6	Micro MIC+



Video transmission via FAKRA II connector with Code-E assignment:

The cable harness according to Code FR7 is equipped with the following connector: A053 545 39 28

The cable to the camera must be equipped with the matching connector: A023 545 59 24



Video Transmission via FAKRA II connector	
Pin 1	VIDEO
Pin 2	Ground

If a different type of camera is installed, Code FR8 (rear view camera ex factory) must not be programmed in for the vehicle equipment as the static lines stored in the Audio 15 do not apply to other types of camera. In this case, only Code O43 is added to the vehicle equipment, followed by SCN coding.

Daimler accepts no responsibility for the correct functioning of other cameras in conjunction with Audio 15.