

Macan (95B) 16/22 ENU 9163 9

PORSCHE Front and Rear Cameras

Revision: This bulletin replaces bulletin Group 9 16/22, dated November 16, 2022.

Model Year: As of 2023

Restrictions: **ONLY** approved for vehicles with "Dashcam pre-fitting (QK3)". Use from production date 36 / 2022 (week / year).

Information:



Information



Figure 1

Note: The Porsche front camera (dashcam) is attached to the windshield to the **LEFT** of the interior mirror / rain sensor (viewed in direction of travel \Rightarrow *Figure 1*).

The rear camera is installed at a specified position on the inside of the top center of the rear window (viewed in direction of travel).

Both cameras are connected to the vehicle electrical system.

They are ideal for making video recordings of driving situations and while parking. They are configured and operated using a corresponding smartphone app.

Recorded videos are stored on the supplied SD card and previous recordings are overwritten.

If the dashcam detects a shake/vibration or if the radar sensor is triggered, the recorded video is stored separately and not overwritten. Recordings can be downloaded directly from the SD card or via the app.



Important information for customers/customer service advisors:

• Ask customers to download and install the "Porsche Dashcam App" from the App Store (Apple or Google Play) on their device (smartphone/tablet) in advance.

For vehicle handover:

- Recommendation: If the vehicle is present, connect the Porsche front camera WiFi to the vehicle WiFi (see also vehicle operating instructions ⇒ Porsche Connect).
- Together with the customer, check whether a firmware update via "Porsche Dashcam App" is necessary. Perform the firmware update together if necessary.
- Together with the customer, choose the "Region/State/Country" by selecting the relevant flag and format the SD card.

Further information for customers:

- The customer is responsible for choosing the right "Region/State/Country"!
- After crossing a national border: Update the "Region/State/Country" (see also conditions of use for this topic)!

Parts Info:	s Info: 9Y0.044.951		\Rightarrow PORSCHE front and rear cameras, set	
	Always order at the same	time:		
	9Y0.044.955.A ¹	1 x	\Rightarrow Front camera mounting plate with wiring harness, –Rest of world , –Rest of World (RoW)– 360 mm/ 14.17 in, ASSY	
	9Y0.044.956.C	1 x	\Rightarrow Rear camera wiring harness, ASSY	

¹ Order according to market / country!

Parts List:



Figure 2

Parts included with PORSCHE front and rear cameras (9Y0.044.951 \Rightarrow Figure 2-1-7-), set:

	1 x	3M privacy film (front & rear camera) \Rightarrow Figure 2 -1-
	1 x	Front camera ⇒ <i>Figure 2</i> -2-
	1 x	Micro SD memory card (32 GB, plugged into front camera) ⇒ <i>Figure 2</i> -3-
	1 x	Rear camera \Rightarrow Figure 2 -4-
	1 x	PORSCHE dashcam operating instructions \Rightarrow Figure 2-5-
	6 x	Protective foam roll (Ø approx. 29 x 74) <i>⇒ Figure 2</i> -6-
	12 x	Tie·wrap, 145 x 3.6 x 1.1 <i>⇒ Figure 2-</i> 7-
9Y0.044.955.A ¹	1 x	Front camera mounting plate with wiring harness –Rest of World (RoW)– 360 mm/ 14.17 in <i>⇒ Figure 2</i> -8-
9Y0.044.956.C	1 x	Rear camera wiring harness, $\overrightarrow{ASSY} \Rightarrow Figure 2 - 9$ -

Repair Kit:

Order "Adhesive pad" repair kit **ONLY** when replacing the windshield / rear window.

9Y0.044.931	1 x	"Adhesive pad" repair kit contains:
	1 x	Adhesive pad for front camera mounting plate (grey) on backing sheet

\cap	Macan (95B)	Installation and Conversion Instructions		
<u> </u>	9163 ENU 16/22			
		1 xAdhesive pad for rear camera (grey)1 x3M privacy film (front & rear camera) \Rightarrow Figure 2 -1-		
Technica details:	 Video recordi Lens with pola Audio recordi Global positio Vibration sens Radar sensor Windshield br Rear camera 	in Quad High Definition (QHD) zation filter to reduce reflections and improve colors and contrasts (can be deactivated) ng system (GPS) - sensor r or video recording when an object is approaching the vehicle cket for fixed mounting on the vehicle permanently installed on the rear window		
Materials	S: 	 1 x Wrapping / insulating tape (commercially available) 1 x Cleaning cloth (commercially available) 1 x Isopropanol (commercially available) 		
Tool:	P90999 - PIWIS Tablet, smartphon Round file Ø at lea Grease pencil / ch Flashlight Plastic squeegee	ster 4 or PC with Internet access 5 mm/ 0.2 in, utility knife, scraper k		
Assembl	y: 1 Preparatory v 1.1 Conne 1.2 Front	rk t battery charger. \Rightarrow <i>Workshop Manual '2X00IN Battery trickle charge'</i> of / rear-view mirror area (interior \Rightarrow <i>Figure 3</i>)		

1

2

- 1.2.1 Remove front roof console. ⇒ Workshop Manual '708319 Removing and installing front roof console'
 - 1 Roof console
 - 2 Rear-view mirror cover
- 1.2.2 Remove (interior) rear-view mirror cover. ⇒ Workshop Manual '682719 Removing and installing interior rear-view mirror'
- 1.3 Rear lid area (\Rightarrow *Figure 4*)



- 1 Rear lid lower trim panel
- 2 Window frame trim panel



Figure 4

1.3.2 Remove plug / plug connection with retaining clip (\Rightarrow Figure 5 -Magnifier-) from window frame

trim panel.

- **1** Window frame trim panel
- **2** Power supply plug
- **3** Video signal plug
- 4 Plug connection
- 1.3.3 Remove rear lid window frame trim panel (⇒ *Figure 5*-1-). ⇒ Workshop Manual '709219 Removing and installing tailgate trim panel'
- 2 Installing front camera

Macan (95B)

ENU 16/22



Figure 5

i Information

Due to legal requirements, there are two different positions for the front camera depending on the country / market (see also work step from 2.1.2 and following).

• Position in Rest of World (RoW) = ... -RoW

Please note when positioning the front camera!

Overview of installation position (\Rightarrow *Figure 6*)

- 1 Rain sensor
- 2 Installation position of front camera
- **3** Electric wiring harness
- 4 Power supply
- **5** Rear camera connection (video signal)
- 2.1 Position front camera (dashcam) on windshield to the **LEFT** of interior mirror / rain sensor



Figure 6

Tequipment

9163

- 2.1.1 Install mounting plate with wiring harness on front camera base until locking mechanism engages. \Rightarrow Figure 7
 - 1 Mounting plate with wiring harness
 - 2 Front camera base



Figure 7

- 2.1.2 Trace outline of rain sensor on outside of windshield using grease pencil / chalk. \Rightarrow Figure 8-1-
 - 1 Outline of rain sensor
 - Outline of front camera base
 - 3 Interior mirror
 - 4 Front camera

X-RoW – 286 mm/ 11.3 in

Z-RoW – 26 mm/ 1.02 in

2.1.3 Copy dimensions X– and Z– on outside of windshield according to country/market. ⇒ Figure 8 - Top-

Rest of World (RoW):

Dimension X-RoW = distance from lower edge of outline of front camera base to edge of roof: Length 286 mm/ 11.3 in



Figure 8

Dimension Z-RoW = distance from inner edge of outline of front camera base to inner edge of outline of rain sensor (circle): **Length 26 mm**/ 1.02 in



Information

Observe the following points during positioning/alignment:

- Sufficient distance between front camera and interior mirror base: at least 5 mm/ 0.2 in!
- Get another person standing in front of the vehicle to check and confirm the horizontal alignment of the camera with the PORSCHE logo!
- 2.1.4 Position front camera with mounting plate in the vehicle at the marking on the windshield. \Rightarrow *Figure 8*-**Arrow**-
- 2.1.5 Have another person trace and shade in the outline of the mounting plate on the outside of the windshield using a grease pencil / chalk.
- 2.1.6 Clean the inside of the windshield in the bonding area for the mounting plate (shaded area) to remove any dust and grease.
- 2.2 Install front camera (dashcam) on the windshield

NOTICE

Adhesive films not prepared/installed correctly

- Damage to adhesive films
- Inadequate adhesion of adhesive films
- ⇒ Carefully clean the areas on which you intend to stick the film to ensure that all traces of oil, grease and silicone are completely removed.
- \Rightarrow Do not touch the bonding surfaces.
- ⇒ Object (adhesive film, vehicle, etc.) and ambient temperature: Minimum temperature 15°C / 59°F.

Macan (95B) Installation and Conversion Instructions 16/22 ENU 9163 2.2.1 Peel backing sheet off 3M privacy film. ⇒ Figure 9-A-1 - 3M privacy film 2 - Marked bonding surface 2 3 - Interior mirror base 2.2.2 Position 3M privacy film on marked bonding surface on windshield. \Rightarrow Figure 9-B-2.2.3 Carefully affix 3M privacy film using a plastic squeegee, starting from the center and moving towards the 1 edge. Figure 9 2.2.4 Peel protective film off front camera mounting plate. \Rightarrow *Figure 10*-**Top**-1 - Protective film 2 - Front camera 3 - 3M privacy film 4 - Interior mirror i Information Observe the following points during positioning/alignment: Sufficient distance between front camera and interior mirror base: at least 5 mm/ Δ 0.2 in! Get another person standing in front of the vehicle to check Figure 10 and confirm the horizontal alignment of the camera with the PORSCHE logo!

Align front camera with mounting plate symmetrically over the 3M privacy film. \Rightarrow *Figure 10*-**Bottom**-

2.2.5 Press front camera with mounting plate firmly onto 3M privacy film on windshield.



Information

Route electric wire harness along existing wiring, if installed.

Make sure that safety components (airbags, etc.) are still working correctly!

2.3 Route and connect electric wiring harness

Line routing \Rightarrow *Figure 11*:

- 1 PORSCHE front camera
- Front camera mounting plate with wiring harness
- **3** Power supply pre-fitting
- 4 Rear camera pre-fitting
- Blue Not applicable for NAR
- Green Camera position for Rest of World (RoW)
- Front camera → left (viewed in direction of travel) past the driver assistance systems control unit (if installed) → under headliner frame → power supply pre-fitting → rear camera pre-fitting
- 2.3.1 Expose power supply pre-fitting and rear camera pre-fitting plug connections in the roof console area. \Rightarrow Figure 12
 - **1** Power supply pre-fitting
 - 2 Rear camera pre-fitting



Figure 11



Figure 12

Tequipment

Installation and Conversion Instructions

16/22 ENU 9163

Macan (95B)

3

9

- 2.3.2 Guide front camera (dashcam) wiring harness to the left past the driver assistance systems control unit (if installed) under the headliner frame to the roof console. \Rightarrow Figure 13
 - 1 Front camera wiring harness
 - 2 Headliner frame
 - **3** Protective foam roll
 - Driver assistance systems control unit
- 2.3.3 Slide protective foam roll (\Rightarrow *Figure* 13-3-) over plug connections.

Slide further protective foam roll onto the lines if necessary. \Rightarrow Figure 14

- 2.3.4 Connect power supply pre-fitting plug (roof console at the left in direction of travel). \Rightarrow Figure 14 -1-
 - 1 Power supply plug connection
 - 2 Rear camera plug connection
 - **3** Protective foam roll
 - 4 Cable tie





- 2.3.6 Connect rear camera pre-fitting plug and re-fit it in the holder. \Rightarrow *Figure 14*-2-
- 2.4 Make groove for mounting plate wire harness rear-view mirror (interior) cover.
 - 2.4.1 Install rear-view mirror cover provisionally on the roof console.



Figure 14

- 2.4.2 Check routing of front camera wiring harness from mounting plate to roof and mark position of wiring harness on outside of antenna cover according to market/country (example RoW: \Rightarrow Figure 15-3-).
 - 1 Rear-view mirror (interior) cover
 - **2** Not applicable for NAR
 - **3** Only Rest of World (RoW)
 - Groove diameter approx.5 mm/ 0.2 in





- 2.4.3 Remove (interior) rear-view mirror cover from roof console and check that there is a locking lug / mounting bar near the marking on the inside.
- 2.4.4 Make a groove (approx. 5 mm/ 0.2 in) on the side of the locking lug / mounting bar for the mounting plate wiring harness (example D: \Rightarrow *Figure 15*-2-).
- 2.4.5 Install rear-view mirror cover (interior). ⇒ Workshop Manual '682719 Removing and installing interior rear-view mirror'
- 2.5 Secure installed wiring harness in vehicle with cable ties to existing wiring / components ensuring no abrasion or tensile stress. \Rightarrow *Figure 14*
- 3 Installing rear camera

Overview of installation position of rear camera: \Rightarrow Figure 16

- 1 Installation position of rear camera
- 2 Electric wiring harness
- **3** Rear camera pre-fitting
- 3.1 Positioning rear camera on rear window.



Figure 16

3.1.1 Copying dimensions to rear window

- 1 - Rear window spray nozzle
- 2 - Rear wiper motor shaft
- 3 – Rear window edge
 - (bottom)
- Outline of rear camera 4 base
- Х - 485 mm/ 19.1 in
- Ζ - 83 mm/ 3.27 in

Dimension Z = distance from

axis of symmetry of spray nozzle (center) and wiper motor shaft /



Figure 17

rear camera base (lower right corner): Length 83 mm/ 3.27 in

Dimension X = distance from lower rear window edge to rear camera base (lower right corner): Length 485 mm/ 19.1 in

Dimension X1 = approximate height of rear camera base (lower edge to upper edge): Length 50 mm/ 1.97 in

Dimension Z1 = distance from axis of symmetry of spray nozzle (center) and wiper motor shaft / rear camera base (top right corner): Length 86 mm/ 3.38 in



Information

Observe the following points during positioning / alignment of the rear camera:

- Have a second person behind the vehicle check and confirm the horizontal alignment of the camera to the upper edge of the tailgate / spoiler!
- If necessary, correct the horizontal position by slightly turning the rear camera.
- 3.1.2 Position rear camera in the vehicle at marking on rear window.
- 3.1.3 Do NOT close the tailgate. Have a second person trace and shade mounting plate outline on outside of rear window using grease pencil / chalk (\Rightarrow Figure 17-4-).

3.2 Fixing privacy film

- 3.2.1 Clean bonding area for rear camera (marking) on inside of rear window to remove any dust and grease.
- 3.2.2 Peel backing sheet off 3M privacy film (rear camera).
- 3.2.3 Position and fix 3M privacy film on marked bonding surface on windshield inside (\Rightarrow Figure 17-4-).
- 3.2.4 Carefully affix 3M privacy film using a plastic squeegee, starting from the center and moving towards the edge.

- 3.3 Installing rear camera on rear window
 - 3.3.1 Insert wiring harness plug into rear camera (\Rightarrow *Figure 18*) and position line in cable duct.
 - 1 Plug with wiring harness
 - 2 Rear camera
 - 3 Cable duct
 - 4 Protective film
 - 3.3.2 Peel protective film (\Rightarrow *Figure 18* -4-) off the rear camera base.
 - 3.3.3 Align rear camera symmetrically over the 3M privacy film on the inside of the rear window, install it and press it firmly onto the rear window. \Rightarrow Figure 19
 - 1 Rear camera
 - **2** Plug with wiring harness
- 3.4 Routing electric wiring harness



Figure 18



Figure 19



- 1 Rear camera
- 2 Wiring harness
- **3** Power supply
- 4 Video signal
- **5** Window frame trim panel (right side)
- Rear camera → rear window frame (top)
 → along existing cable (rear window frame, right) down → power supply pre-fitting / rear camera video signal pre-fitting
- 3.4.1 Lay rear camera pre-fitting wiring harness (below the rear window).



Figure 20

9

- 3.4.2 Secure installed wiring harness in vehicle with cable ties to existing wiring / components ensuring no abrasion or tensile stress. \Rightarrow *Figure 21*
 - 1 Rear camera
 - **2** Wiring harness
 - **3** Cable tie
- 3.4.3 Install the boot lid window frame trim. ⇒ Workshop Manual '709219 Removing and installing tailgate trim panel'



Figure 21

- 3.5 Install window frame trim panel, center. \Rightarrow Workshop Manual '709219 Removing and installing tailgate trim panel'
 - 3.5.1 Temporarily install center window frame trim (boot lid) in the area of the rear camera on the boot lid.

Check that there is sufficient space for the rear camera wiring harness. \Rightarrow Figure 22

- 1 Rear camera
- 2 Wiring harness
- **3** Window frame trim panel
- 3.5.2 If not: Mark line routing on trim panel (\Rightarrow *Figure 22*-Arrow-).
- 3.5.3 Remove trim from boot lid window frame and cut a groove for the wiring harness at the marking.



Figure 22

3.5.4 Install the center window frame trim and attach the plug / connector holder to the trim (see Fig. 5 and \Rightarrow *Figure 23*).

- 3.6 Connect electric wiring harness \Rightarrow Figure 23
 - 1 Window frame trim panel
 - 2 Protective foam roll
 - **3** Power supply
 - 4 Video signal
 - 3.6.1 Slide protective foam roll (\Rightarrow *Figure* 23-2-) over electric wiring harness and clamp / fix wiring harness behind the window frame trim.
 - 3.6.2 Dismantle video signal connector from holder (\Rightarrow *Figure 23*-4-).

Establish the connection to the video signal pre-fitting and mount it in the plug-in connection holder.

Install the plug-in connection holder to the window frame trim (\Rightarrow *Figure 23*-1-).



Figure 23

- 3.6.3 Establish the connection to the pre-equipment power supply and mount the holder on the window frame trim.
- 4 Interior finishing work
 - 4.1 Install rear lid lower trim panel. ⇒ Workshop Manual '708719 Removing and installing rear lid trim panel'
 - 4.2 Install front roof console. ⇒ Workshop Manual '708319 Removing and installing front roof console'

Tequipment

Installation and Conversion Instructions

6

3

Coding: Coding PORSCHE front and rear cameras in dealer mode 5

5.1 Preparatory work

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- 1 - PORSCHE front camera
 - Micro SD memory card (32 GB)
- 3 - Mounting plate
- 4 - Power button
- WiFi status LED display 5
- PRESS (release button) 6
- 5.1.1 Remove micro SD memory card $(32 \text{ GB}, \Rightarrow Figure 24 - 2-)$ from front camera card slot.



Figure 24

- 5.1.2 With ignition switched on, push front camera (dashcam \Rightarrow Figure 24 -1-) onto the mounting plate on the windshield (\Rightarrow Figure 24 -3-).
- 5.1.3 Press power button (\Rightarrow Figure 24 - 4-) for 10 seconds until you hear the second double-beep.
- 5.1.4 The front camera (dashcam) starts in Dealer mode: WiFi LED (\Rightarrow Figure 24-5-) lights up "yellow".
- 5.2 Connect front camera (dashcam) to device (tablet, smartphone or PC)



Information

The "Dealer mode" network ID name ends with a "D". A password is NOT required!

The language setting can be changed by following the menu prompts after opening the first page.

- 5.2.1 Search available networks for Dealer mode WiFi.
- 5.2.2 Open Dealer mode on the device (tablet, smartphone or PC) using any browser. To do this, enter "192.168.1.1/diagnostics" line in the browser's address bar.
- 5.2.3 Displays in "Dealer mode" main menu:

Options: (\Rightarrow Figure 25)

- 1 Browser's address line
- 2 "Options" menu item



Figure 25

Diagnosis: (\Rightarrow Figure 26)

- 1 Browser's address line
- 2 "Diagnostics" menu item
- 5.3 Basic settings for front camera (dashcam) in the "Options" (\Rightarrow Figure 27) menu item



Figure 26

Macan (95B) 16/22 ENU 9163 9

- 5.3.1 Change the default language "English" to the desired language:
 - 1 Default language "English"
 - 2 German

Example: German (\Rightarrow *Figure 27*)

• Up to 19 different languages can be selected.



Figure 27



Information

If the relevant country is **NOT** displayed in the drop-down menu: Please select "Global".

- 5.3.2 Select country (\Rightarrow *Figure 28*).
 - 1 Serial number of front and rear cameras
 - 2 Country
 - 3 Great Britain
 - Up to 48 countries are currently available for selection.
 - The Country selection screen includes, for example: Units of measurement, frequencies and also legal regulations of the respective country.



Figure 28

• Macan: ⇒ Choose Region / State / Country by selecting the appropriate flag.

- 5.3.3 Select camera channel (\Rightarrow Figure 29).
 - 1 Channel
 - 2 Front + Rear
 - **TEQUIPMENT:** ⇒ "Front + rear" is preset.



Figure 29



Information

Check which vehicle electrical system battery is installed in the vehicle if necessary by entering the vehicle identification number (VIN) in the Porsche Central Service System (PCSS).

Background: The front camera shuts down if the correct battery voltage (switch-off threshold) is not reached over a period of 5 minutes.

- Switch-off threshold for lead-acid battery (PbAcid) = 11 V
- Switch-off threshold for lithium-ion battery (LiFePO) = 13 V

5.3.4 Select battery type (\Rightarrow *Figure 30*)

- 1 Battery
- 2 PbAcid
- Select the electrical system battery installed in the vehicle.
- Macan: ⇒ Lead-acid battery (PbAcid)



Figure 30

- 5.3.5 Select Park mode (\Rightarrow Figure 31)
 - 1 Park mode
 - **2** Off
 - Depending on the approval for the respective vehicle.
 - **Macan:** \Rightarrow Select "On".



Figure 31

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arking Mode

5.3.6 Select the time limit (\Rightarrow *Figure 32*)

- 1 Time limit until radar / video is switched off
- **2** 1 hour
- Turn off radar / video monitoring in Park mode (battery management). After the selected time limit, fast activation of the monitoring system ONLY occurs if the vehicle shakes/vibrates!
- Macan: ⇒ Skip. Leave the default setting.
- 5.4 End Dealer mode (WiFi LED is still yellow)
 - 5.4.1 Close browser and switch off ignition.

Figure 32

1hour

LTE 10:50 192.168.1.1

ront +

PbAc

Fertig

- 5.4.2 Pull front camera (dashcam) off mounting plate by pressing "PRESS" (release button).
- 5.4.3 Insert micro SD memory card (32 GB) in front camera (dashcam).
- 5.4.4 Install the front camera (dashcam) in the mounting plate.
- 5.5 The settings configured in **Step 5.3** are set when the ignition is switched on again.
- 5.6 Formatting micro SD memory card (32 GB)
 - 5.6.1 Switch on ignition.
 - 5.6.2 Press the power button quickly 6 times in a row within 3 seconds.

Announcements from front camera loudspeaker: "Formatting in progress." and "Formatting completed."

Diagnostics: 6 Diagnostics – ONLY if required!

In the "Diagnostics" menu, information can be displayed, function tests can be run and results can be stored.



1

Macan (95B) 16/22 ENU 9163

9

- 6.1 Information about the model name, hardware and software version, radar and more (⇒ Figure 33).
 - 1 Model name
 - 2 Hardware version
 - 3 Software version



Figure 33

- 6.2 Display of live images from front camera, connection status, memory card status, GPS and radar status and more (\Rightarrow *Figure 34*).
 - 1 Front camera live image
 - 2 Rear camera status
 - **3** Micro SD memory card contents
 - 4 GPS status
 - **5** GPS coordinates



Figure 34

Macan (95B) ENU 16/22 9163

- 6.3 Display of radar status, test options for LED lights, loudspeaker and microphone $(\Rightarrow$ Figure 35)
 - 1 - Radar status
 - 2 - LED Lights test
 - 3 - Loudspeaker test
 - 4 - Microphone test
- 6.4 The fault report can be stored on the micro SD memory card (32 GB). To do this, use micro SD memory card in Dealer mode and select "Diagnostics" menu item in the front camera.

Assembly: Concluding work 7

7.1 Read the error memories of all systems, correct any existing errors and clear the error memory. ⇒ Workshop Manual 'OXO3IN Diag-



Figure 35

nostics maintenance: Diagnostic system and maintenance inter...'

- 7.2 Disconnect battery charger. ⇒ Workshop Manual '2X00IN Work instructions after disconnecting the battery'.
- 7.3 Vehicle handover to customer



Information

Please pass all this information on to the customer.

Also give the customer the PORSCHE dashcam operating instructions.

Also give the first 3 pages of these Installation and Conversion Instructions to the customer.

- 7.3.1 Download the app from the App Store to the customer's device (smartphone / tablet).
- 7.3.2 If the vehicle is present, connect the Porsche front & rear camera WiFi to the vehicle WiFi (see also vehicle operating instructions \Rightarrow Porsche Connect).
- 7.3.3 Select and set Region / State / Country (flag) in the app on the customer's smartphone / tablet.
- 7.3.4 Have the customer update firmware using the app.
- 7.3.5 Format micro SD memory card (32 GB).

Installation and Conversion Instructions	Macan (95	\mathbf{O}	
	16/22 ENU	9163	9

91 63 23 40:	-PORSCHE	Labor time: 240 TU	
	Includes:	Install PORSCHE front camera (dashcam) on the windshield, route and connect electrics;	
		Install PORSCHE rear camera on the rear window, route and connect electrics;	
		Format coding of the PORSCHE front and rear cameras in dealer mode and in the micro SD memory card, Read error memory, correct faults and delete them.	

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