

Apple® CarPlay Interface (9WT)

Revision: This bulletin replaces bulletin Group 9, #33/16 dated June 15, 2017.

Model Year: **As of 2017**

Concern: **Retrofitting**

Note: The installation of the Apple® CarPlay interface (I-no. 9WT) provides the hardware required in the vehicle for using iPhone® apps even in the vehicle via the Porsche Communication Management (PCM ⇒ *Figure 1*) system.

The following requirements must be met:

- iPhone 5 or higher with iOS 7.1 or higher
- Availability of Apple® CarPlay

You will find information about the available regions at <https://support.apple.com>.

Different work must be carried out and/or additional parts must be ordered, depending on vehicle equipment.



Figure 1

Parts Info: **982.044.900.06** ⇒ Apple® CarPlay interface, set

Depending on vehicle equipment, the following additional parts must be ordered:

Vehicle **WITHOUT** Navigation (I-no. 7Q0).

9A7.035.50.401	1 x	GPS antenna
9P4.979.005	1 x	GPS antenna line
999.513.076.40	10 x	Tie-wrap
955.606.838.00	5 x	Tie-wrap with fixing clip
999.507.195.40	1 x	Expanding spring, 10.7 x 26.4

Vehicle **WITHOUT** Voice control (QH0).

N .910.207.01 ¹	1 x	Internal serration screw, M18 x 1.5 x 26 - self-locking
N .907.991.02 ¹	1 x	Internal serration screw, M18 x 1.5 x 18 - self-locking
9xx.613.xxx.xx	1 x	Steering-column switch (see table)

- ¹ Before ordering: Activate the vehicle identification number (VIN) filter in the Porsche Electronic Parts Catalog (PET) and select the relevant Item No.

Installed steering-column switch	Required steering-column switch
Part No.	Part No.
991.613.043.50	991.613.051.50
970.613.043.50	970.613.051.50
991.613.045.50	991.613.053.50
970.613.045.50	970.613.053.50
970.613.047.50	970.613.055.50
970.613.049.50	970.613.057.50
991.613.011.50	991.613.019.50
970.613.011.50	970.613.019.50
991.613.013.50	991.613.021.50
970.613.013.50	970.613.021.50
970.613.015.50	970.613.023.50
970.613.017.50	970.613.025.50

Alternatively, the following instructions will help you to identify the required steering-column switch.

1. Look for the standard steering-column switch in the Porsche Electronic Parts Catalog (PET). To do this, activate the VIN filter in the PET².
2. Take note of the I-nos.
3. Replace the I-no. 9WC (**Without Rear Seat Entertainment and without Mirrorlink**) with the I-no. 9WT (**Mirrorlink/GAL**).

- ² If the VIN filter in the PET does not work, the standard steering-column switch must be identified based on the I-no. in the vehicle information (PIWIS information system).

Parts list:

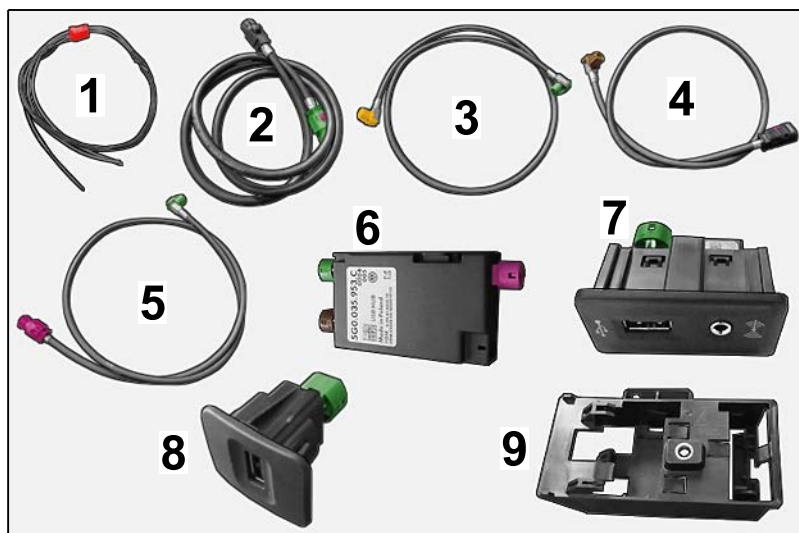


Figure 2

982.044.900.05	1 x	Power supply wire harness with five socket contacts ⇒ <i>Figure 2 -1-</i>
9P1.979.002	1 x	Connecting line (USB interface → connection point in centre console) ⇒ <i>Figure 2 -2-</i>
9P4.979.022	1 x	Connecting line (PCM → USB/iPod control unit) ⇒ <i>Figure 2 -3-</i>
9P1.979.018	1 x	Connecting line (USB/iPod control unit → connection point in centre console) ⇒ <i>Figure 2 -4-</i>
9P1.979.004	1 x	Connecting line (USB/iPod control unit → glove box) ⇒ <i>Figure 2 -5-</i>
9A7.642.953.00	1 x	USB/iPod control unit ⇒ <i>Figure 2 -6-</i>
9A7.642.222.00	1 x	Multimedia interface ⇒ <i>Figure 2 -7-</i>
9P1.035.222	1 x	USB interface ⇒ <i>Figure 2 -8-</i>
9P1.035.925.A	1 x	USB/iPod control unit holder ⇒ <i>Figure 2 -9-</i>
999.073.498.01	1 x	Screw
N 020.904.4	15 x	Tie-wrap (not shown)
955.606.838.00	5 x	Tie-wrap with plug-in socket (not shown)
---	1 x	License key (not shown)

Tools: **9900 - PIWIS Tester 3**

Nr.32 - Multiple-tooth socket-wrench insert

Work Procedure: 1 Preparatory work:

- 1.1 Connect battery charger. ⇒ *Workshop Manual '2X00IN Battery trickle charging'*
 - 1.2 **Only** for vehicles without Navigation (I-no. 7Q0):
Open the convertible top.
 - 1.3 Remove glove compartment. ⇒ *Workshop Manual '681519 Removing and installing glove compartment'*
 - 1.4 Remove PCM. ⇒ *Workshop Manual '911019 Removing and installing PCM display and operator control unit'*
 - 1.5 Remove center console. ⇒ *Workshop Manual '681719 Removing and installing centre console'*
- 2 **Only** for vehicles **without** Navigation (I-no. 7Q0):
- 2.1 Carry out preparatory work for installing GPS antenna and GPS antenna line.
 - 2.1.1 Remove sun visors and sun visor holders. ⇒ *Workshop Manual '682319 Removing and installing sun visor'*
 - 2.1.2 Remove center roof trim panel. ⇒ *Workshop Manual '708319 Removing and installing front roof trim panel'*
 - 2.1.3 Remove front lock. ⇒ *Workshop Manual '610519 Removing and installing front lock'*
 - 2.1.4 Remove front roof trim panels at the sides. ⇒ *Workshop Manual '708319 Removing and installing front roof trim panel'*
 - 2.1.5 Remove A-pillar trim panel at the right. ⇒ *Workshop Manual '705719 Removing and installing A-pillar trim panel'*
 - 2.2 Install GPS antenna.
 - 2.2.1 Attach angled antenna connector
⇒ *Figure 3-1* to the GPS antenna
⇒ *Figure 3-2* until the antenna
connector engages securely.

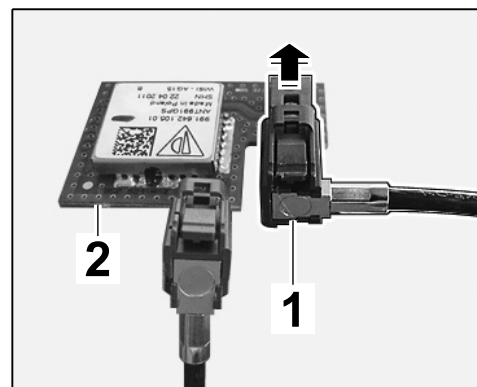


Figure 3

- 2.2.2 Insert GPS antenna ⇒ *Figure 4-1-*
into the mounting ⇒ *Figure 4-a-*
and clip it in ⇒ *Figure 4-b-*.
- 2.3 Route GPS antenna line as follows:
Front roof trim panel → along wire harness
for sun visor → A-pillar → along wire harness
for dashboard (glove compartment) → PCM
installation slot

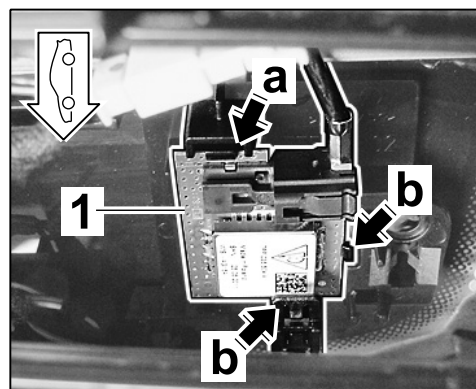


Figure 4

- 2.3.1 Route GPS antenna line ⇒ *Figure 5*
-1- along the standard wire harness
for the sun visor and A-pillar.

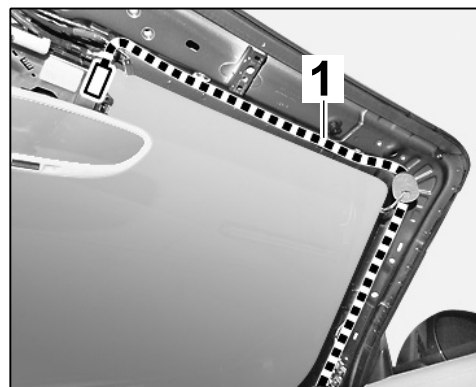


Figure 5

- 2.3.2 Route GPS antenna line ⇒ *Figure 6*
-1- along the wire harness for the
dashboard (glove compartment).

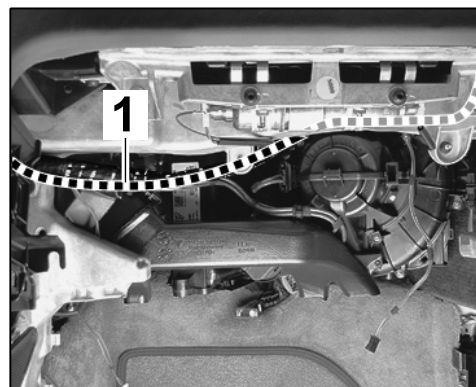


Figure 6

- 2.3.3 Route GPS antenna line \Rightarrow *Figure 7*
-1- to the PCM central connector.

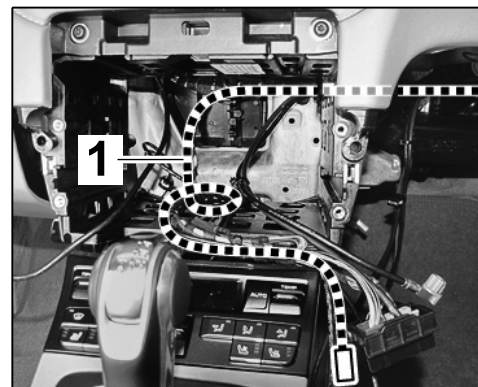


Figure 7

The GPS antenna line \Rightarrow *Figure 8*
-1- must protrude approx. 7 cm
beyond the PCM central connector
 \Rightarrow *Figure 8-2-*.

X – 7 cm

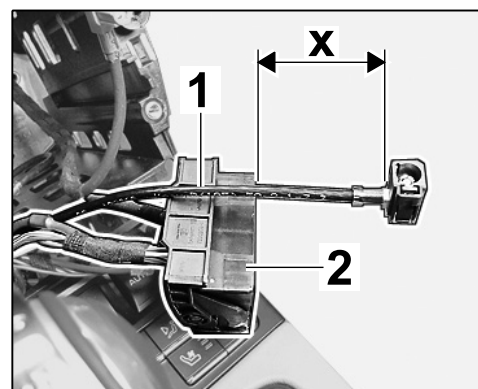


Figure 8

- 2.3.4 Clip three clip-on tie-wraps \Rightarrow *Figure 9-2-* into the A-pillar.
- 2.3.5 Pull GPS antenna line \Rightarrow *Figure 9*
-1- back and fold it to form a loop
close to the A-pillar.
Secure GPS antenna line using the
two upper tie-wraps.
- 2.4 Carry out concluding work for installing GPS
antenna and GPS antenna line.
- 2.4.1 Install A-pillar trim panel at the right.
 \Rightarrow *Workshop Manual '705719*
Removing and installing A-pillar trim
panel'
- 2.4.2 Install front roof trim panels at the sides. \Rightarrow *Workshop Manual '708319 Removing*
and installing front roof trim panel'
- 2.4.3 Install front lock. \Rightarrow *Workshop Manual '610519 Removing and installing front lock'*

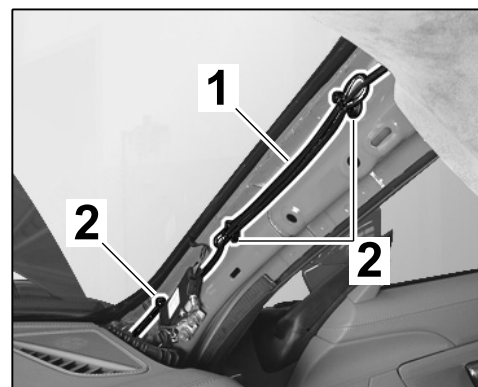


Figure 9

- 2.4.4 Install centre roof trim panel. ⇒ *Workshop Manual '708319 Removing and installing front roof trim panel'*
 - 2.4.5 Install sun visors and sun visor holders. ⇒ *Workshop Manual '682319 Removing and installing sun visor'*
- 3 Install connecting line **9P1.979.002** (USB interface → connection point in center console).

- 3.1 Disconnect connector from 12-volt plug socket and secure it to the center console with adhesive tape ⇒ *Figure 10-1*.
- 3.2 Remove 12-volt plug socket from center console. ⇒ *Workshop Manual '905819 Removing and installing plug socket'*

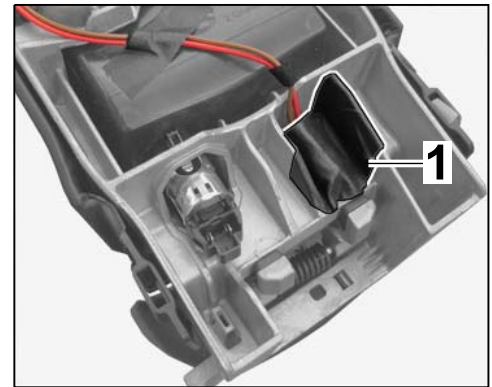


Figure 10

- 3.3 Clip USB interface ⇒ *Figure 11-1* into center console ⇒ *Figure 11-2* (⇒ *Figure 11-a*).

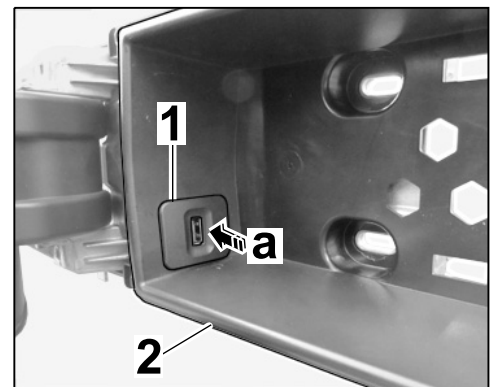


Figure 11

- 3.4 Connect electric plug connection ⇒ *Figure 12-4-* (⇒ *Figure 12-a-*).

Secure connecting line (USB interface → connection point in center console) ⇒ *Figure 12-1-* to the standard wire harness using a tie-wrap ⇒ *Figure 12-2-* and adhesive tape ⇒ *Figure 12-3-*.

It must project ⇒ *Figure 12-A-* by approx. 40 mm on the standard connector ⇒ *Figure 12-5-*.

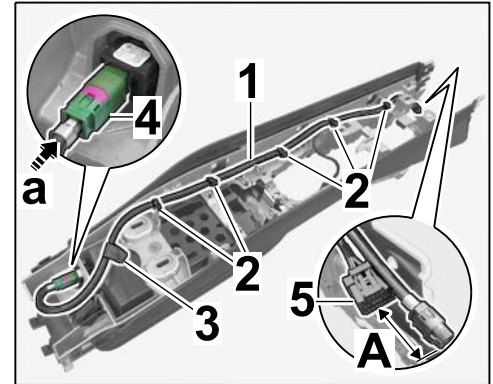


Figure 12

- 4 Install connecting line **9P1.979.004** (USB/iPod control unit → glove box).

- 4.1 Install USB/iPod control unit holder.

- 4.1.1 Unscrew screw ⇒ *Figure 13-1-* from drawer at the top.

- 4.1.2 Insert USB/iPod control unit holder ⇒ *Figure 13-2-* and secure with screw ⇒ *Figure 13-1-*.

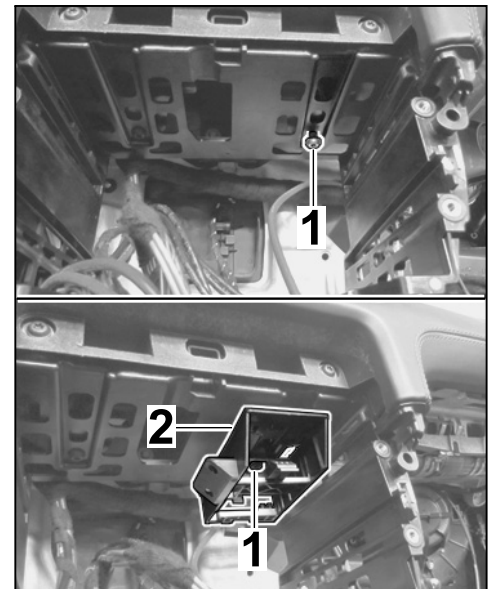


Figure 13

- 4.2 Release USB line ⇒ *Figure 14-3-* as well as RD line ⇒ *Figure 14-1-* and BU line ⇒ *Figure 14-2-* from the standard wire harness for the multimedia interface (PCM → glove box).
- 4.3 Install connecting line **9P1.979.004** (USB/iPod control unit → glove box).

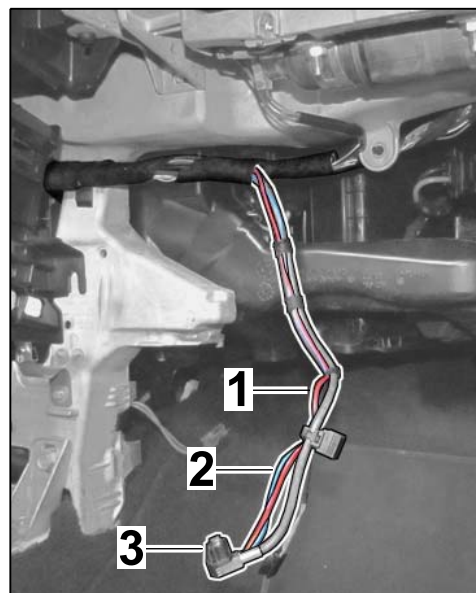


Figure 14

- 4.3.1 Route connecting line ⇒ *Figure 15-1-* from PCM drawer ⇒ *Figure 15-3-* parallel to the standard wire harness for the multimedia interface (PCM → glove box) ⇒ *Figure 15-2-*.

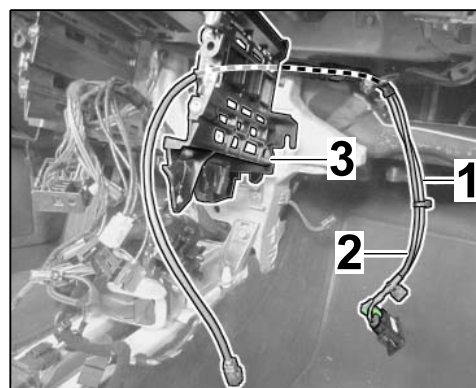


Figure 15

- 4.3.2 Pull back connecting line ⇒ *Figure 16-a-* until the violet connector ⇒ *Figure 16-1-* is at the USB/iPod control unit holder ⇒ *Figure 16-2-*.

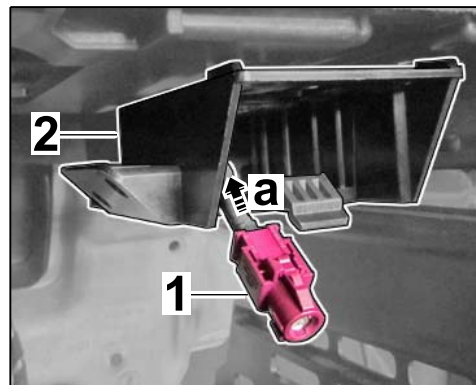


Figure 16

- 4.3.3 Secure the released USB line, RD line, BU line and extra length of the connecting line to the standard wire harness ⇒ *Figure 17-2* using a tie-wrap.

- 1 – Connecting line
- 3 – Ventilation duct
- 4 – Instrument panel bracket

- 4.4 Install power supply wire harness.

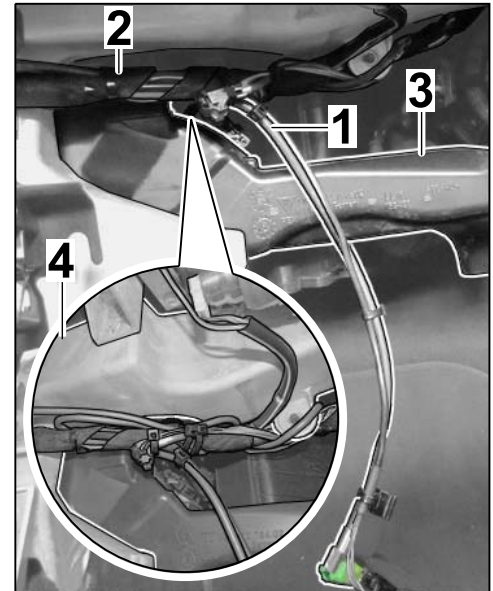


Figure 17

- 4.4.1 Route power supply wire harness ⇒ *Figure 18-1* from USB/iPod control unit holder ⇒ *Figure 18-2* to the PCM central connector.

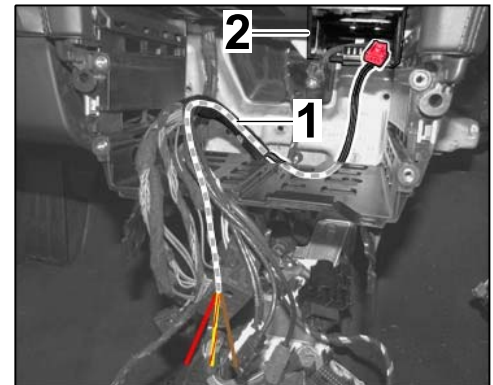


Figure 18

- 4.4.2 Release green plug socket ⇒ *Figure 19-1* (⇒ *Figure 19-a*) and press it out of the PCM central connector ⇒ *Figure 19-2* (⇒ *Figure 19-b*).

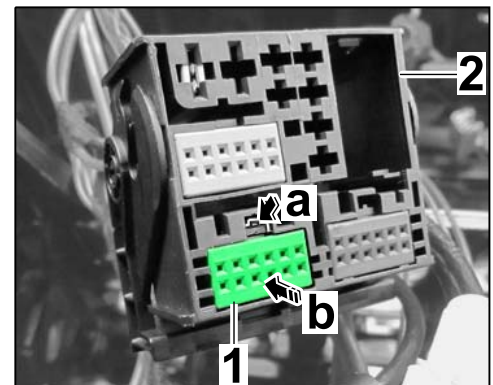


Figure 19

- 4.4.3 Open secondary lock ⇒ *Figure 20 -1-* (⇒ *Figure 20 -arrow-*).

Release socket contacts using a suitable press-out tool and press lines out of the PCM central connector.

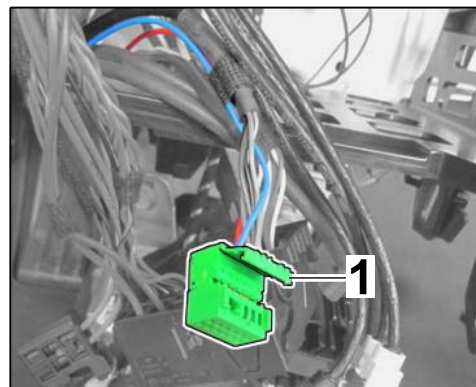


Figure 20

Color of wire	Chamber
RD (USB+)	C3
BU (USB-)	C4

Secure the RD and BU lines you pressed out to the standard wire harness using wrapping tape.

- 4.4.4 Crimp RD line ⇒ *Figure 21 -1-* from power supply wire harness and new socket contact ⇒ *Figure 21 -2-* together.



Information

Ensure socket contact is seated securely.

Insert socket contact into chamber C3.

Close secondary lock ⇒ *Figure 21 -3-*.

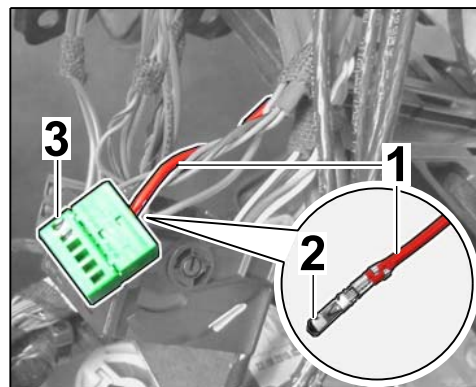


Figure 21

- 4.4.5 Insert green plug socket into the central connector.

- 4.4.6 Release socket contact using a suitable press-out tool ⇒ *Figure 22* -3- and press line out of the PCM central connector ⇒ *Figure 22-a*.

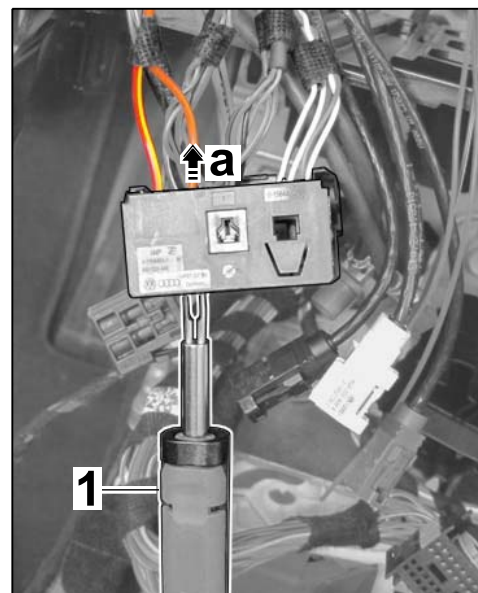


Figure 22

Color of wire	Chamber
BN	D17
RD/YE	D18



Information

Ensure socket contact is seated securely.

- 4.4.7 Crimp pressed-out BN line ⇒ *Figure 23-1-* and BN/WH line ⇒ *Figure 23-2-* from the power supply wire harness together using a new socket contact (double connector) and insert them into chamber D17 on the central connector.



Information

Ensure socket contact is seated securely.

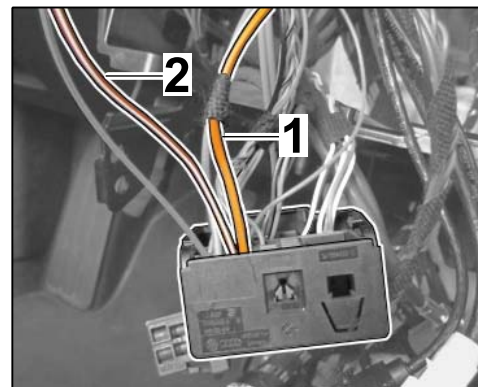


Figure 23

Crimp pressed-out RD/YE line and RD/YE line from the power supply wire harness together using a new socket contact (double connector) and insert them into chamber D18 on the central connector.

- 4.4.8 Secure yellow connector from standard wire harness for the multimedia interface (PCM → glove box) ⇒ *Figure 24-1* to the standard wire harness with wrapping tape.

Secure power supply wire harness to the standard wire harness ⇒ *Figure 24-2* with wrapping tape.

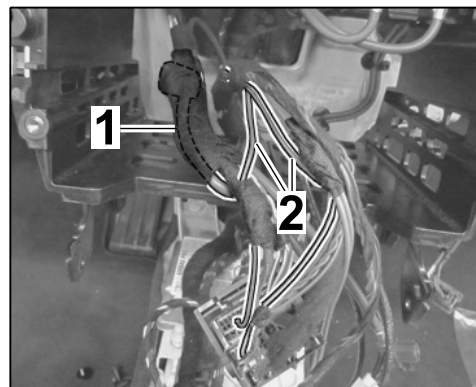


Figure 24

- 4.5 Install USB/iPod control unit.

- 4.5.1 Connect red power supply connector ⇒ *Figure 25-1* and violet connector ⇒ *Figure 25-2* to the USB/iPod control unit ⇒ *Figure 25-3*.

- 4.5.2 Push USB/iPod control unit into the USB/iPod control unit holder ⇒ *Figure 25-4* (⇒ *Figure 25-a*) until the USB/iPod control unit engages securely.

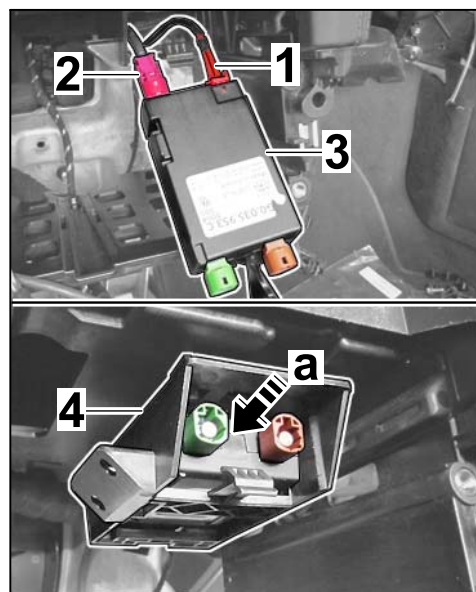


Figure 25

- 4.6 Install connecting line **9P1.979.018**
(USB/iPod control unit → connection point in
center console) ⇒ *Figure 26-1-*.

Insert brown connector ⇒ *Figure 26-2-* into
USB/iPod control unit ⇒ *Figure 26-4-*.

Insert black connector into connection point
in center console ⇒ *Figure 26-3-*.

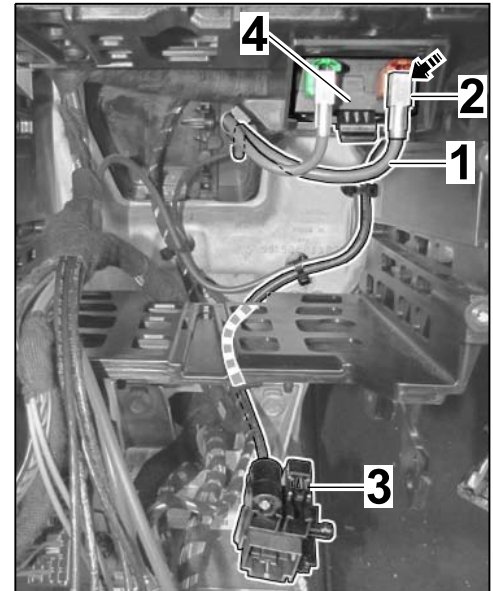


Figure 26

- 4.7 Install connecting line **9P4.979.022** (PCM
→ USB/iPod control unit) ⇒ *Figure 27-1-*.

Insert green connector ⇒ *Figure 27-2-* into
USB/iPod control unit ⇒ *Figure 27-3-*.

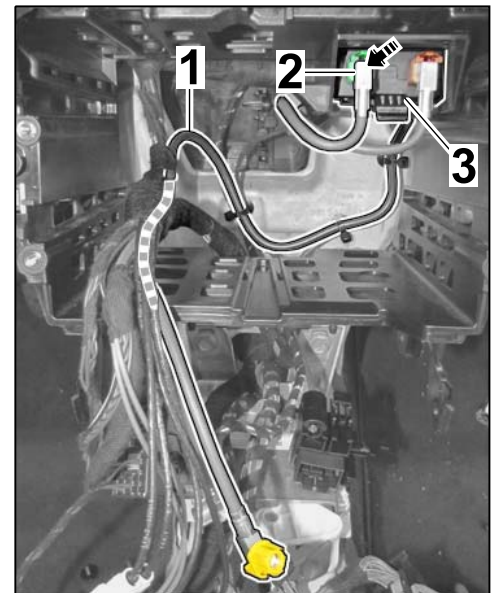


Figure 27

- 4.8 Fit tie-wrap with plug-in socket (955.606.838.00) ⇒ *Figure 28-1*- into instrument panel bracket ⇒ *Figure 28-6*- and USB/iPod control unit holder ⇒ *Figure 28-2*-.

Secure both connecting lines ⇒ *Figure 28-3*, **4**- and power supply wire harness ⇒ *Figure 28-3*- with a tie-wrap.

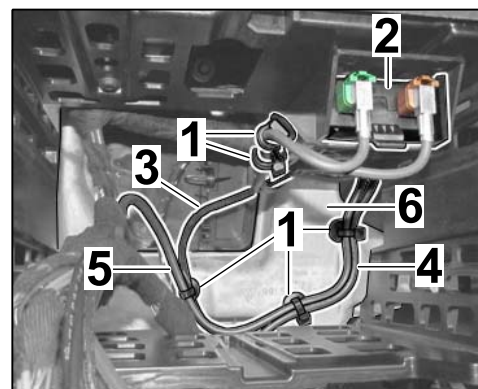


Figure 28

5 Concluding work:

- 5.1 Install center console. ⇒ *Workshop Manual '681719 Removing and installing centre console'*
- 5.2 Install PCM. ⇒ *Workshop Manual '911019 Removing and installing PCM display and operator control unit'*

5.3 Convert USB interface (glove box).

- 5.3.1 Press locking mechanisms ⇒ *Figure 29-1*- down and unclip standard multimedia interface ⇒ *Figure 29-2*- from the trim ⇒ *Figure 29-3*-.
- 5.3.2 Clip new multimedia interface ⇒ *Figure 29-4*- into the trim ⇒ *Figure 29-3*-.

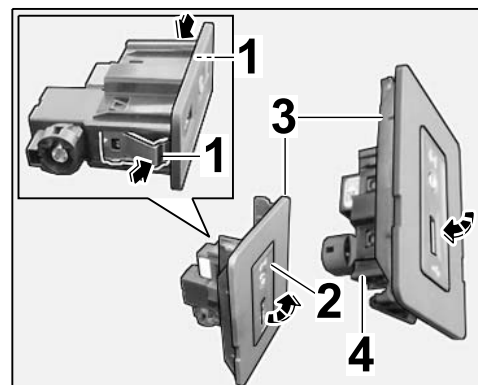


Figure 29

- 5.4 Install glove compartment. ⇒ *Workshop Manual '681519 Removing and installing glove compartment'*

5.5 Close convertible top.

6 **Only** for vehicles **without** Voice control (I-no. QH0): Replace steering-column switch.

- 6.1 Remove steering wheel. ⇒ *Workshop Manual '481019 Removing and installing steering wheel'*
- 6.2 Loosen trim panel (on steering-column switch). ⇒ *Workshop Manual '481319 Removing and installing trim panel on steering-column switch'*
- 6.3 Convert steering-column switch.
- 6.3.1 Remove steering-column switch. ⇒ *Workshop Manual '945019 Removing and installing steering-column switch'*

- 6.3.2 Remove steering wheel electronics control unit from the steering-column switch and fit it on the new steering-column switch. ⇒ *Workshop Manual '916219 Removing and installing control unit for steering wheel electronics'*
- 6.3.3 Install steering-column switch. ⇒ *Workshop Manual '945019 Removing and installing steering-column switch'*
- 6.4 Secure trim panel (on steering-column switch). ⇒ *Workshop Manual '481319 Removing and installing trim panel on steering-column switch'*
- 6.5 Install steering wheel. ⇒ *Workshop Manual '481019 Removing and installing steering wheel'*

NOTICE**Voltage drop**

- Risk of irreparable damage to control unit
 - Risk of damage to control unit
 - Fault entries in the control unit
 - Coding in the control unit is aborted
 - Malfunctions in control unit, even during programming
- ⇒ Switch off the ignition and remove the ignition key before disconnecting the control unit.
- ⇒ Ensure that the power supply is not interrupted during programming.
- ⇒ Connect a battery charger with a current rating of at least Nominal value 90 A to the vehicle battery.

**Information**

The **9900 - PIWIS Tester III** instructions take precedence since the description may be different with later Tester releases.

The procedure described here has been structured in general terms; different text or additions may appear on the **9900 - PIWIS Tester III**.

7 Code Apple® CarPlay.**7.1 Enable Apple® CarPlay.**

- 7.1.1 **9900 - PIWIS Tester 3** must now be connected. Switch on ignition.
- 7.1.2 Select "Diagnostics". **9900 - PIWIS Tester 3** detects the model line. Select **Next** to continue. PIWIS Tester III Diagnostics starts.
- 7.1.3 **Additional menu** must be selected by pressing **•F7"** . Press **•F11"** to confirm the question "Create vehicle analysis log (VAL)?".
- 7.1.4 Select the **Function enable** function. Press **•F12"** to continue.



Information

PIWIS Tester must be connected to the Porsche Partner Network (PPN) via WLAN or data cable!

- 7.1.5 **Enter PPN user.** Touch the PPN password input field and enter the **password**. **Login** must now be selected.
- 7.1.6 Select the **Enable** function. Press •F12" to continue.
- 7.1.7 Touch the license number input field and enter the **licence number**. Press •F12" to continue.
- 7.1.8 Confirm the **Apple CarPlay** function by pressing •F12" .
Wait until the message **Functions have been enabled successfully**. appears.
- 7.1.9 Press •F12" to go to the **Overview** menu.
Select the function **Display enabled functions**. Press •F12" to continue.
Wait until a table containing the enabled functions appears, e.g.:

Control unit	Function	Status
PCM4 (001)	Apple CarPlay	✓
	Voice control	✓
	Sport Chrono	✓
	Bluetooth	✓
	Navigation	✓
	UAS (universal audio interface)	✓

- 7.1.10 Press •F12" to continue.
Press •F11" to return to the **Overview** menu.
- 7.2 Adapt coding.
 - 7.2.1 Press •F11" to return to the list of control units.
Select all control units by pressing •Ctrl A" . Press •F12" to continue.
 - 7.2.2 Switch to the **Codings/adaptations** menu. Press •F12" to continue.
Select **Automatic coding** mode. Press •F12" to continue.
 - 7.2.3 Wait until the message **Coding has been completed successfully** appears.
Press •F12" to continue.
Switch to the **Overview** menu.

- 7.3 Read out the fault memories of all systems, work through any existing faults and erase the fault memories. ⇒ *Workshop Manual '033500 Fault memory for on-board diagnosis'*
- 7.4 Switch off ignition and disconnect **9900 - PIWIS Tester 3**.
- 7.5 Disconnect the battery charger. ⇒ *Workshop Manual '2X00IN Battery trickle charging'*

91 93 23 40:	Installing Apple® CarPlay interface	Labor time: 312 TU
Includes:	Removing and installing center console, PCM and glove box, installing connecting lines	
Without:	Replacing steering-column switch, installing GPS antenna and GPS antenna line	
91 93 23 41:	Installing Apple® CarPlay interface	Labor time: 383 TU
Includes:	Removing and installing center console, PCM and glove box, installing connecting lines, installing GPS antenna and GPS antenna line	
Without:	Replacing steering-column switch	
94 50 19 00:	ONLY for vehicles WITHOUT Voice control (QH0):	
	Removing and installing steering-column switch	Labor time: 66 TU

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