Installation and Conversion Instructions

Apple® CarPlay Interface (9WT)

Revision:	This bulletin replaces bulletin Group 9, #43/16 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 PET[2] .
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:
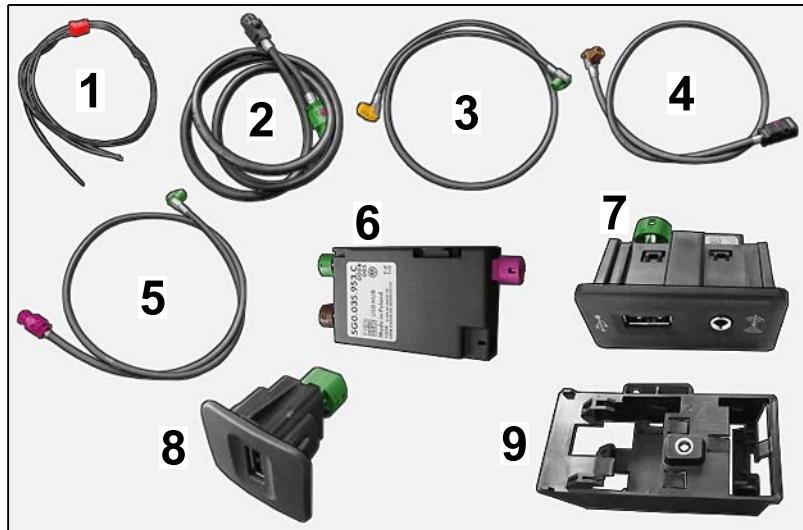
Figure 2

982.044.900.05	1 x	Power supply wire harness with five socket contacts ⇒ *Figure 2* -**1**-
9P1.979.002	1 x	Connecting line (USB interface → connection point in centre console) ⇒ *Figure 2* -**2**-
9P4.979.022	1 x	Connecting line (PCM → USB/iPod control unit) ⇒ *Figure 2* -**3**-
9P1.979.018	1 x	Connecting line (USB/iPod control unit → connection point in centre console) ⇒ *Figure 2* -**4**-
9P1.979.004	1 x	Connecting line (USB/iPod control unit → glove box) ⇒ *Figure 2* -**5**-
9A7.642.953.00	1 x	USB/iPod control unit ⇒ *Figure 2* -**6**-
9A7.642.222.00	1 x	Multimedia interface ⇒ *Figure 2* -**7**-
9P1.035.222	1 x	USB interface ⇒ *Figure 2* -**8**-
9P1.035.925.A	1 x	USB/iPod control unit holder ⇒ *Figure 2* -**9**-
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 Remove glove compartment. ⇒ *Workshop Manual '681519 Removing and installing glove compartment'*

1.3 Remove PCM. ⇒ *Workshop Manual '911019 Removing and installing PCM display and operator control unit'*

1.4 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 right sun visors. ⇒ *Workshop Manual '682319 Removing and installing sun visor'*

2.1.2 Remove holder for sun visor at the left and right. ⇒ *Workshop Manual '708419 Removing and installing headliner'*

2.1.3 Remove front roof trim panel. ⇒ *Workshop Manual '708319 Removing and installing front roof trim panel'*

2.1.4 Remove A-pillar trim panel at the right. ⇒ *Workshop Manual '705719 Removing and installing A-pillar trim panel'*

2.1.5 Unscrew and remove fastening screws in the roof console area ⇒ *Figure 3* **-arrows-**.

Figure 3

2.1.6 Carefully pull the headliner ⇒ *Figure 4* **-1-** down ⇒ *Figure 4* **-arrow-**.

2.2 Install GPS antenna.
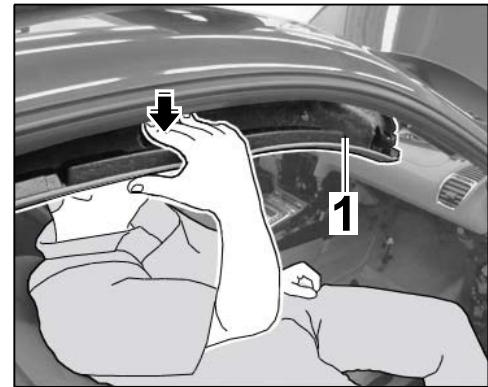
Figure 4

2.2.1 Attach angled antenna connector ⇒ *Figure 3* **-1-** to the GPS antenna ⇒ *Figure 3* **-2-** until the antenna connector engages securely.
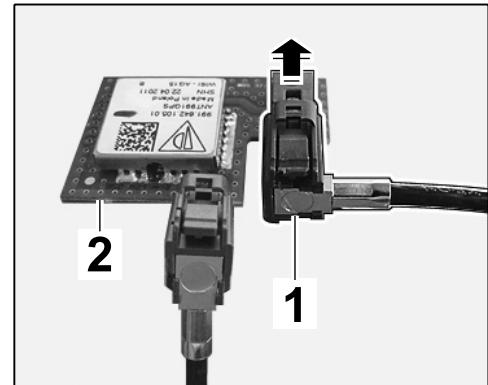

Figure 3

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
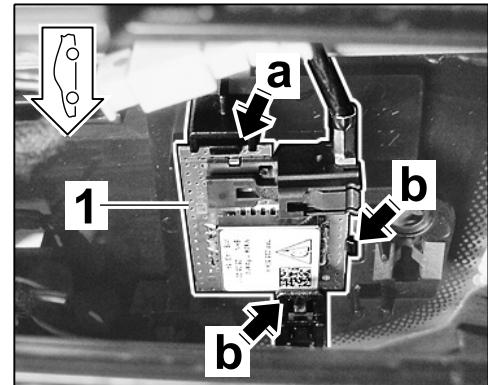
Figure 4

ℹ️ Information

Make sure that the roof cover does not buckle.

2.3.1   Carefully pull down the headliner and route antenna line ⟹ *Figure 5* **-1-** along the standard wire harness for the sun visor and A-pillar.
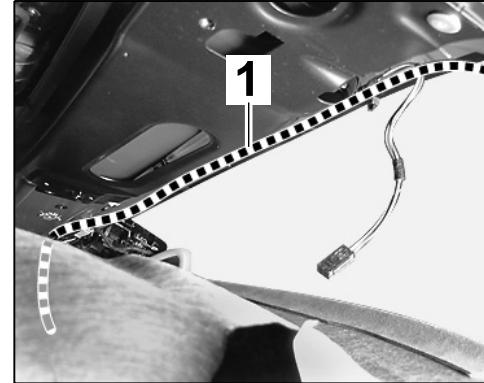

Figure 5

If there is no standard wire harness, secure the antenna line ⟹ *Figure 6* **-1-** to the roof using a tie-wrap and punched-hole clip ⟹ *Figure 6* **-2-**.
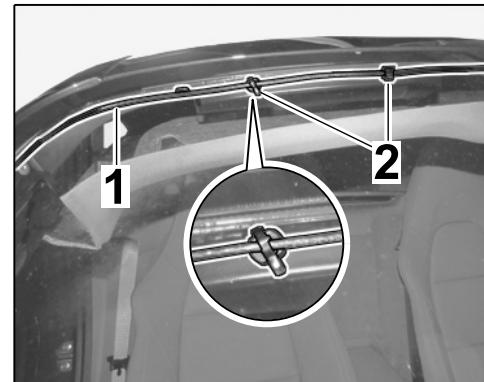

Figure 6

2.3.2   Route GPS antenna line ⟹ *Figure 7* **-1-** along the wire harness for the dashboard (glove compartment).
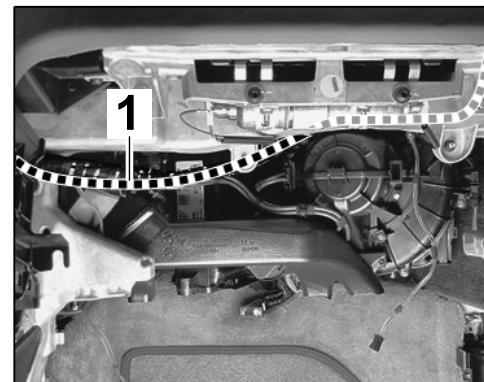

Figure 7

2.3.3 Route GPS antenna line ⇒ *Figure 8* **-1-** to the PCM central connector.
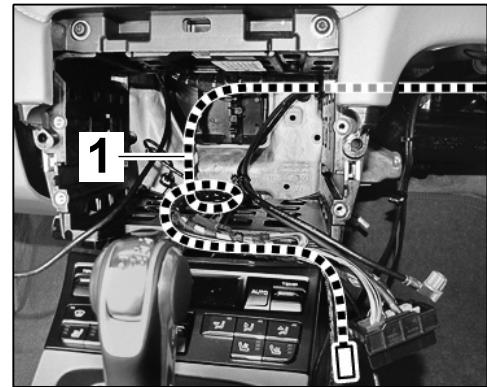
Figure 8

2.3.4 The GPS antenna line ⇒ *Figure 9* **-1-** must protrude approx. 7 cm beyond the PCM central connector ⇒ *Figure 9* **-2-**.

    X – 7 cm
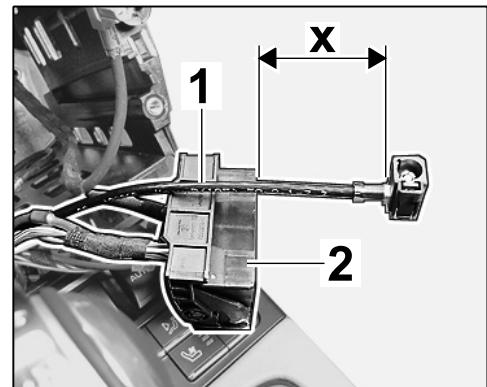
Figure 9

2.3.5 Clip three clip-on tie-wraps ⇒ *Figure 10* **-2-** into the A-pillar.

    Pull GPS antenna line ⇒ *Figure 10* **-1-** back and fold it to form a loop close to the A-pillar. Secure GPS antenna line with the two upper tie-wraps.

2.4 Carry out concluding work for installing GPS antenna and GPS antenna line.

2.4.1 Screw in fastening screws in the roof console area.

Figure 10

2.4.2 Install A-pillar trim panel at the right. ⇒ *Workshop Manual '705719 Removing and installing A-pillar trim panel'*

2.4.3 Install front roof trim panel. ⇒ *Workshop Manual '708319 Removing and installing front roof trim panel'*
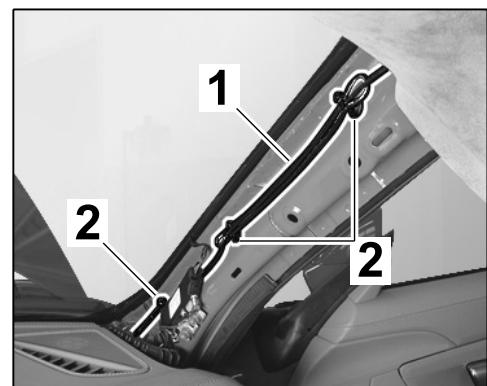
2.4.4   Install right sun visors. ⇒ *Workshop Manual '682319 Removing and installing sun visor'*

2.4.5   Install sun visor holder at the left and right.

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 11* **-1-**.

3.2   Remove 12-volt plug socket from center console. ⇒ *Workshop Manual '905819 Removing and installing plug socket'*
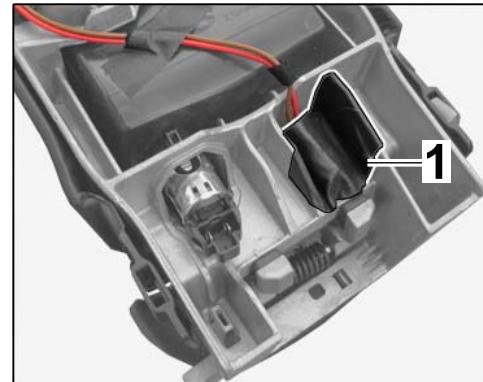

Figure 11

3.3   Clip USB interface ⇒ *Figure 12* **-1-** into center console ⇒ *Figure 12* **-2-** (⇒ *Figure 12* **-a-**).


Figure 12

Tequipment
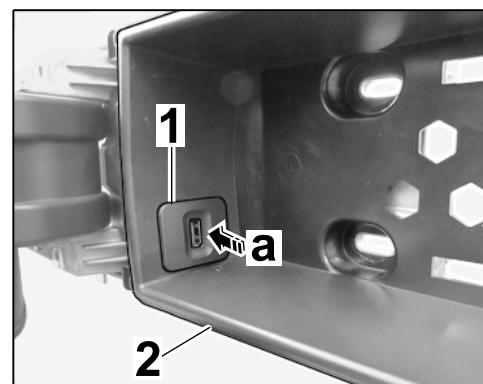
3.4 Connect electric plug connection ⇒ *Figure 13* **-4-** (⇒ *Figure 13* **-a-**).

Secure connecting line (USB interface → connection point in center console) ⇒ *Figure 13* **-1-** to the standard wire harness using a tie-wrap ⇒ *Figure 13* **-2-** and adhesive tape ⇒ *Figure 13* **-3-**.

It must project ⇒ *Figure 13* **-A-** by approx. 40 mm on the standard connector ⇒ *Figure 13* **-5-**.
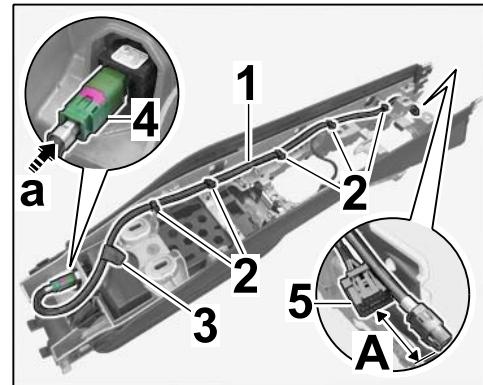
4 Install connecting line **9P1.979.004** (USB/iPod control unit → glove box).

4.1 Install USB/iPod control unit holder.

4.1.1 Unscrew screw ⇒ *Figure 14* **-1-** from drawer at the top.

4.1.2 Insert USB/iPod control unit holder ⇒ *Figure 14* **-2-** and secure with screw ⇒ *Figure 14* **-1-**.
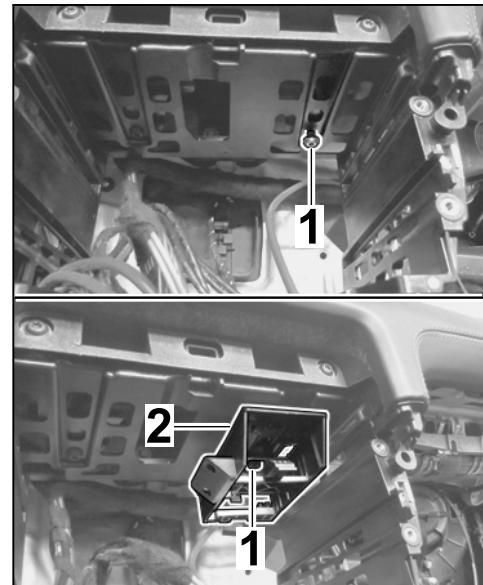

Figure 13

Figure 14

4.2 Release USB line ⇒ *Figure 15* **-3-** as well as RD line ⇒ *Figure 15* **-1-** and BU line ⇒ *Figure 15* **-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).
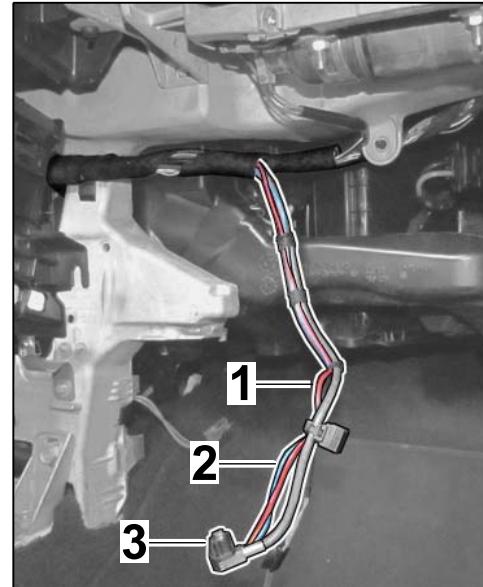
Figure 15

4.3.1 Route connecting line ⇒ *Figure 16* **-1-** from PCM drawer ⇒ *Figure 16* **-3-** parallel to the standard wire harness for the multimedia interface (PCM → glove box) ⇒ *Figure 16* **-2-**.
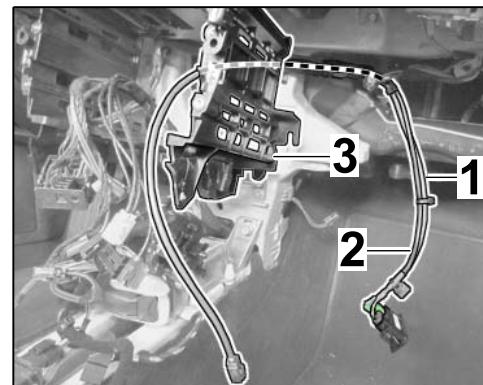
Figure 16

4.3.2 Pull back connecting line ⇒ *Figure 17* **-a-** until the violet connector ⇒ *Figure 17* **-1-** is at the USB/iPod control unit holder ⇒ *Figure 17* **-2-**.

Figure 17

Tequipment
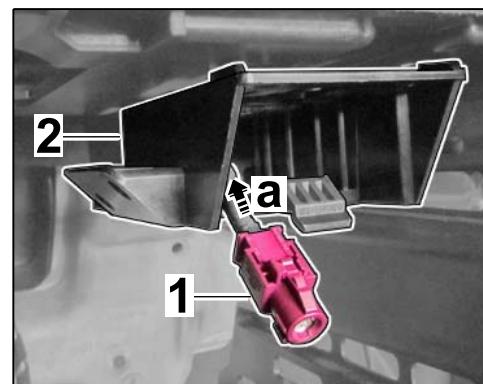
4.3.3   Secure the released USB line, RD line, BU line and extra length of the connecting line to the standard wire harness ⇒ *Figure 18* **-2-** using a tie-wrap.

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

4.4   Install power supply wire harness.
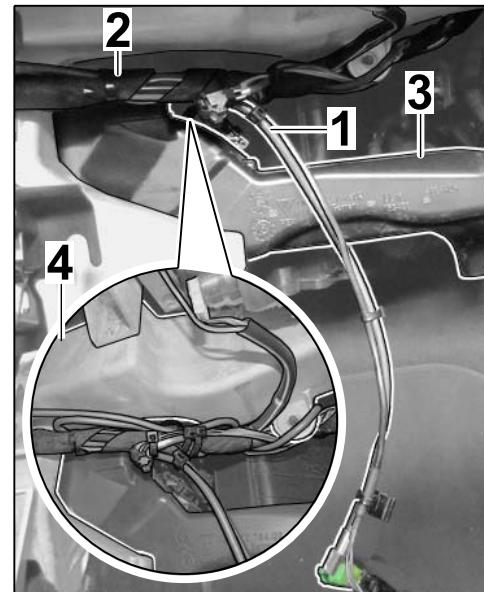
Figure 18

4.4.1   Route power supply wire harness ⇒ *Figure 19* **-1-** from USB/iPod control unit holder ⇒ *Figure 19* **-2-** to the PCM central connector.
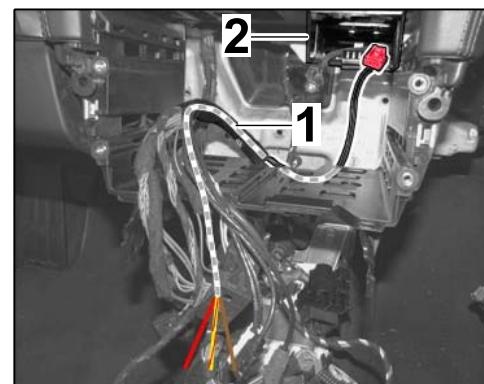

Figure 19

4.4.2   Release green plug socket ⇒ *Figure 20* **-1-** (⇒ *Figure 20* **-a-**) and press it out of the PCM central connector ⇒ *Figure 20* **-2-** (⇒ *Figure 20* **-b-**).
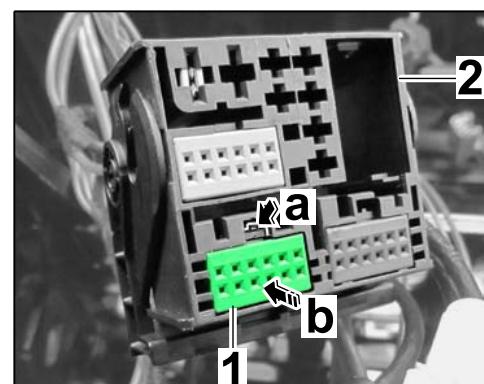

Figure 20

4.4.3   Open secondary lock ⟹ *Figure 21* **-1-** (⟹ *Figure 21* **-arrow-**).

Release socket contacts using a suitable press-out tool and press lines out of the PCM central connector.
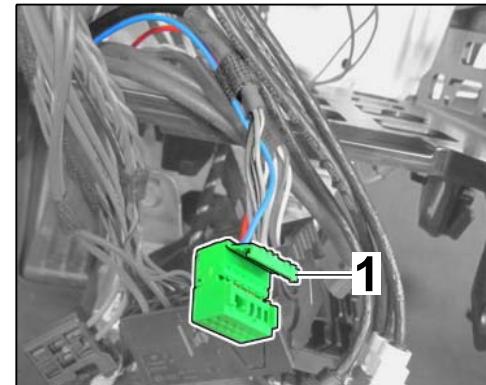
Figure 21

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 22* **-1-** from power supply wire harness and new socket contact ⟹ *Figure 22* **-2-** together.

ⓘ Information

Ensure socket contact is seated securely.

Insert socket contact into chamber C3.
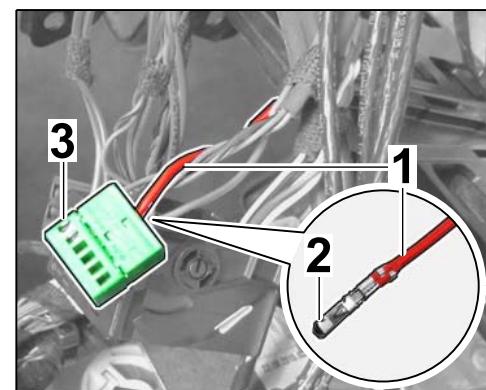
Close secondary lock ⟹ *Figure 22* **-3-**.

Figure 22

4.4.5   Insert green plug socket into the central connector.

4.4.6 Release socket contacts using a suitable press-out tool ⇒ *Figure 23* **-3-** and press lines out of the PCM central connector ⇒ *Figure 23* **-a-**.
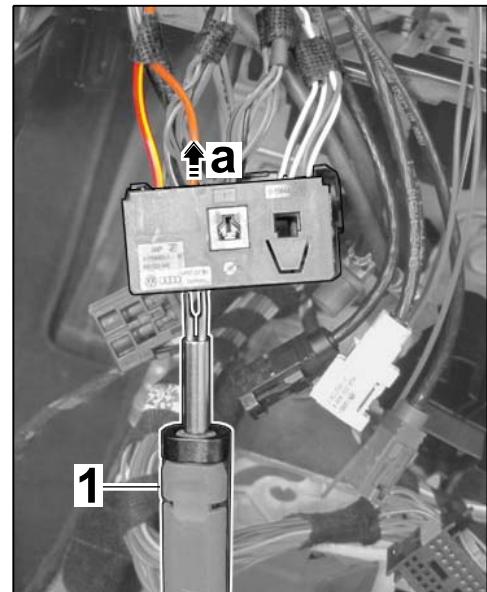

Figure 23

Color of wire	Chamber
BN	D17
RD/YE	D18

ℹ Information

Ensure socket contact is seated securely.

4.4.7 Crimp pressed-out BN line ⇒ *Figure 24* **-1-** and BN/WH line ⇒ *Figure 24* **-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.

ℹ Information

Ensure socket contact is seated securely.
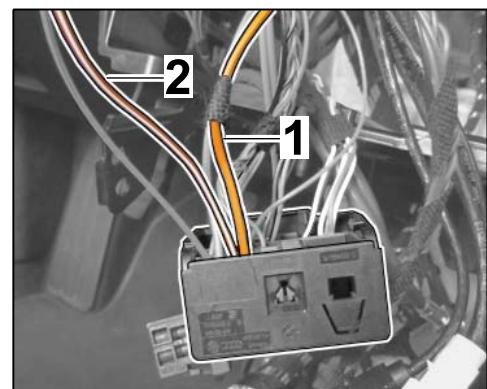
Figure 24

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 25* **-1-** to the standard wire harness with wrapping tape.

Secure power supply wire harness to the standard wire harness ⇒ *Figure 25* **-2-** with wrapping tape.
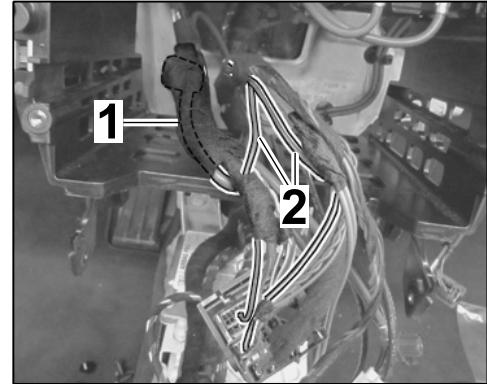
Figure 25

4.5   Install USB/iPod control unit.

4.5.1   Connect red power supply connector ⇒ *Figure 26* **-1-** and violet connector ⇒ *Figure 26* **-2-** to the USB/iPod control unit ⇒ *Figure 26* **-3-**.

4.5.2   Push USB/iPod control unit into the USB/iPod control unit holder ⇒ *Figure 26* **-4-** (⇒ *Figure 26* **-a-**) until the USB/iPod control unit engages securely.
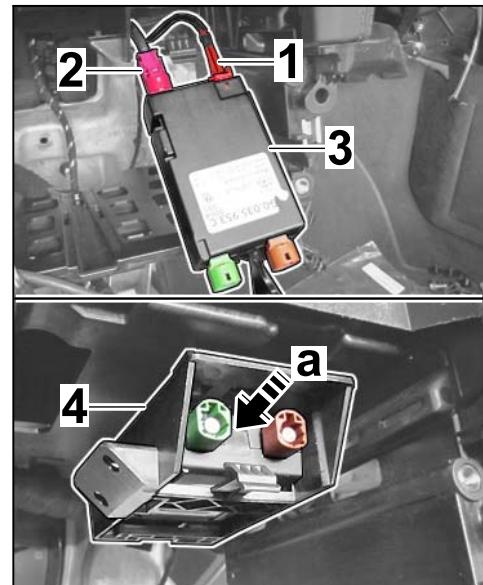
Figure 26

4.6   Install connecting line **9P1.979.018** (USB/iPod control unit → connection point in center console) ⇒ *Figure 27* **-1-**.

Insert brown connector ⇒ *Figure 27* **-2-** into USB/iPod control unit ⇒ *Figure 27* **-4-**.

Insert black connector into connection point in center console ⇒ *Figure 27* **-3-**.
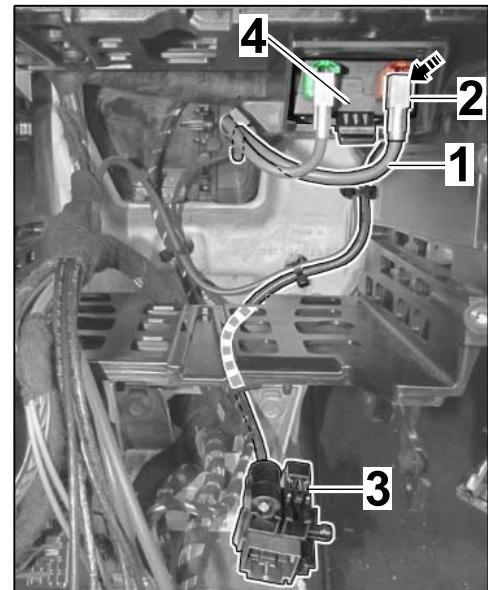
Figure 27

4.7   Install connecting line **9P4.979.022** (PCM → USB/iPod control unit) ⇒ *Figure 28* **-1-**.

Insert green connector ⇒ *Figure 28* **-2-** into USB/iPod control unit ⇒ *Figure 28* **-3-**.
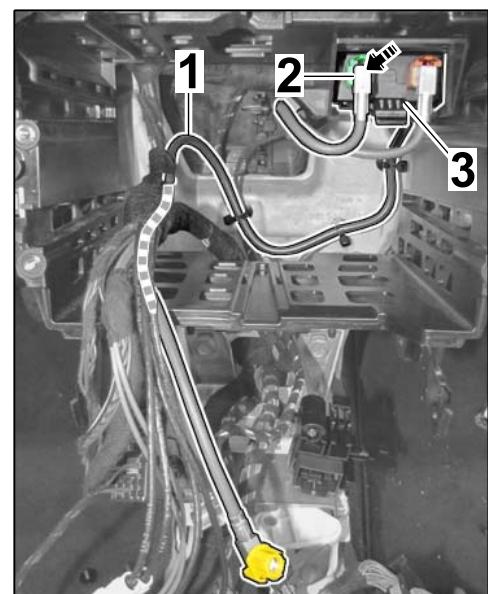
Figure 28

4.8 Fit tie-wrap with plug-in socket (955.606.838.00) ⇒ *Figure 29* **-1-** into instrument panel bracket ⇒ *Figure 29* **-6-** and USB/iPod control unit holder ⇒ *Figure 29* **-2-**.

Secure both connecting lines ⇒ *Figure 29* **-3**, **4-** and power supply wire harness ⇒ *Figure 29* **-3-** with a tie-wrap.


Figure 29

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 30* **-1-** down and unclip standard multimedia interface ⇒ *Figure 30* **-2-** from the trim ⇒ *Figure 30* **-3-**.

5.3.2 Clip new multimedia interface ⇒ *Figure 30* **-4-** into the trim ⇒ *Figure 30* **-3-**.

Figure 30

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

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'*
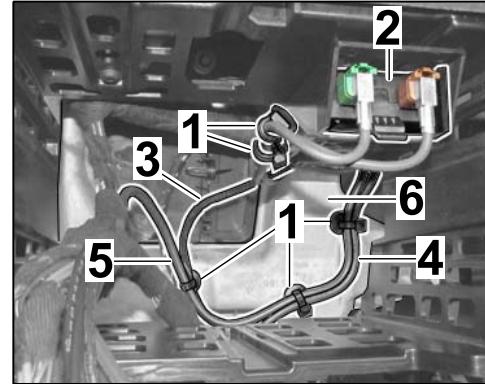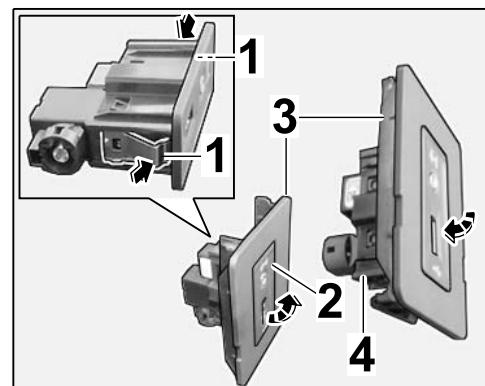
6.3.3	Install steering-column switch. ⇒ *Workshop Manual '945019 Removing and installing steering-column switch'*
6.4	Secure trim panel (on steering-column switch). ⇒ *Workshop Manual '481319 Removing and installing trim panel on steering-column switch'*
6.5	Install steering wheel. ⇒ *Workshop Manual '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.**

i **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.

i **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**