

Porsche Communication Management PCM2.1 (I No. P16)

Vehicle Type: **Cayman S**

Model Year: **As of 2006**

Situation: **Installation Instructions**

Information: The Porsche Communication Management system (PCM). With an integrated CD-ROM drive for audio CDs, 5.8-inch screen with a 16:9 split setting for sharp image display and an external DVD navigation unit. The satellite-guided GPS navigation system with a separate antenna determines your location and works out the route as well as possible alternative routes using TMC (Traffic Message Channel) in countries in which this service is supported. The integrated radio has an FM double tuner with RDS diversity and provides 20 UKW as well as 20 MW memory locations. The MP3-capable CD drive in the PCM system can be used permanently as a purely audio CD drive thanks to the separate DVD navigation drive. The PCM system comes with a DVD containing the extensive map material.

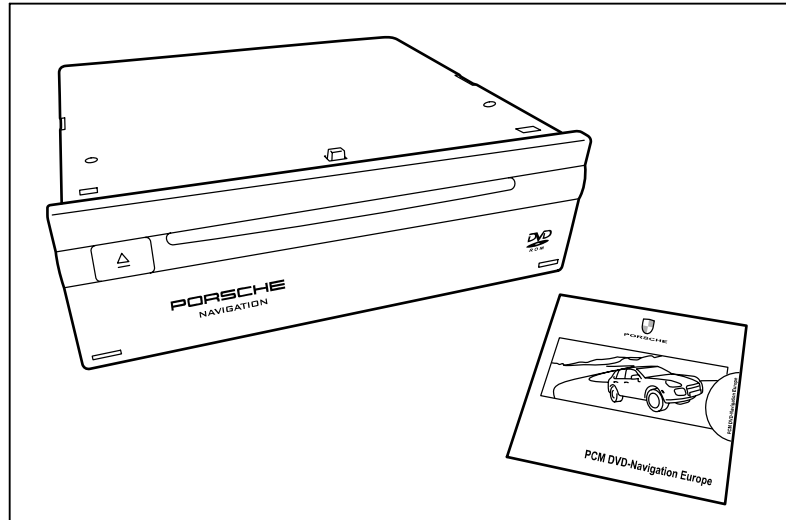
Antenna diversity is not a component of retrofitting the PCM including navigation module.

Before ordering parts (navigation module **and** optical waveguide), always check and consider the existing vehicle equipment!

For PCM2.1 units retrofitted to vehicles with a previously installed CDR23/24:

Once the PCM unit is installed in these vehicles, there will be a fault 8017 stored in the PCM Gateway. The fault is stored because vehicles built with CDR23/24 do not have the diversity antenna system, and vehicles that came from the factory with PCM do have the diversity system. Note that customers will probably never see any warning light or other indication that this code is stored, but technicians completing this retrofit will see the fault code stored afterwards and might therefore become concerned.

The retrofit kit can only be returned if the software package is sealed.



Parts Info: **987.044.900.72** ⇒ PCM 2.1 including navigation module

Only for vehicles without BOSE Surround sound system (I No. 680):

997.622.707.00 1 x ⇒ Optical waveguide, without CD changer

997.622.715.00 1 x ⇒ Optical waveguide, with CD changer

Only for vehicles with BOSE Surround sound system (I No. 680):

997.622.710.00 1 x ⇒ Optical waveguide, without CD changer

997.622.713.00 1 x ⇒ Optical waveguide, with CD changer

Socket-wrench insert a/f 10/13 mm
Philips screwdriver (medium)
Flat screwdriver (medium)
Torx wrench T20/T25/T30
PIWIS Tester P 9718
Plastic wedge
Shop light
Side cutters, needle-nose pliers
Battery charger
Torque wrench, signal-transmitting with ratchet NR.90
Allen key, a/f 5 mm
Hot-air gun
Repair kit for wire harnesses NR.155-1
Disassembly tool P 9570/1

Work Procedure: 1 Preparatory work.

- 1.1 Remove battery. ⇒ *Workshop Manual '270619 Removing and installing battery'*
- 1.2 Remove luggage compartment cover. ⇒ *Workshop Manual '703019 Removing and installing luggage compartment cover'*
- 1.3 Remove covers at the left and right close to the cowl panel. ⇒ *Workshop Manual '852219 Removing and installing cover'*
- 1.4 Remove cowl panel cover. ⇒ *Workshop Manual '508719 Removing and installing cover'*
- 1.5 **Only** for vehicles with a telephone:
Remove radio antenna (telephone) from cowl panel cover. ⇒ *Workshop Manual '914719 Removing and installing radio antenna'*
- 2 Install GPS antenna. ⇒ *Workshop Manual '911319 Removing and installing GPS antenna'*
 - 2.1 Insert speed nut (999.507.441.02) in cowl panel.
 - 2.2 Position GPS antenna and secure with a tapping screw (999.073.210.00).
- 3 **Only** for vehicles with a telephone:
Fit radio antenna (telephone) on cowl panel cover. ⇒ *Workshop Manual '914719 Removing and installing radio antenna'*
- 4 Install PCM display and operator control unit.

- 4.1 Remove "CD player" car radio. ⇒ *Workshop Manual '912419 Removing and installing "CD player" car radio - section on "Removing"*
- 4.2 Install PCM display and operator control unit. ⇒ *Workshop Manual '911019 Removing and installing PCM display and operator control unit - section on "Installing"*
- 5 Route GPS antenna line.
 - 5.1 **Only** for vehicles with carbon canister:
Loosen carbon canister. ⇒ *Workshop Manual '202519 Removing and installing carbon canister'*
 - 5.2 Open the locking mechanism for the plug socket and remove plug socket from the GPS antenna cable.
 - 5.3 Loosen trim panel for luggage compartment pan on the front panel.
 - 5.4 Punch rubber grommet ⇒ *Figure 4 -A-* from the front panel.
 - 5.5 Route and secure GPS antenna cable ⇒ *Figure 4 -H-* as follows:
Navigation unit installation position → through rubber grommet → along wire harness → right plenum panel
 - 5.6 Fit plug socket to GPS antenna cable and close locking mechanism.

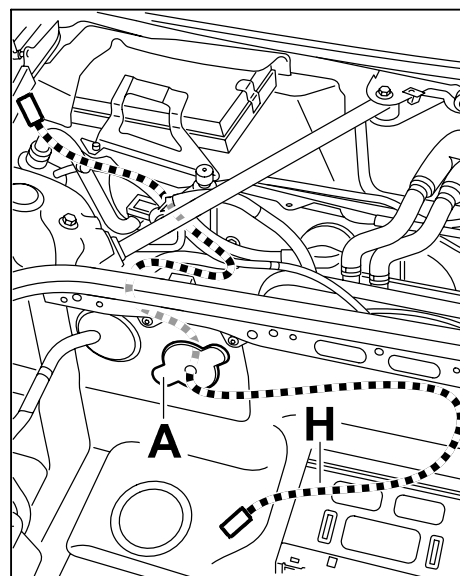


Figure 4



ATTENTION

The optical waveguide can become damaged due to incorrect installation or if the requirements for handling optical waveguides are not followed.

⇒ Observe the requirements for working with optical waveguides ⇒ *Workshop Manual '9772IN Optical waveguide - MOST bus'*

- 6 Route the optical waveguide.

- 6.1 **Only** for vehicles with Tire Pressure Monitoring control unit:
Remove fastening screws on Tire Pressure Monitoring control unit and lay control unit to one side.
⇒ *Workshop Manual '443419 Removing and installing Tire Pressure Monitoring control unit - section on "Removing"*
- 6.2 Remove connection point holder.
- 6.2.1 **Only** for vehicles with optical waveguide component (CD changer and/or amplifier) in front luggage compartment:
Disconnect optical waveguide connection point
⇒ *Figure 5-B-*.
- 6.2.2 Remove connection point holder ⇒ *Figure 5-A-* from plenum panel using needle-nose pliers.

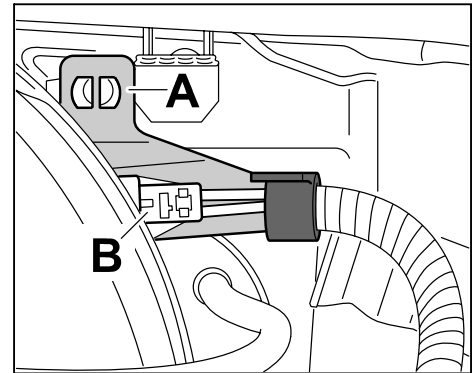


Figure 5

- 6.3 **Only** for vehicles with optical waveguide components in the front luggage compartment:
Pull off protection cap ⇒ *Figure 6-A-* on optical waveguide.

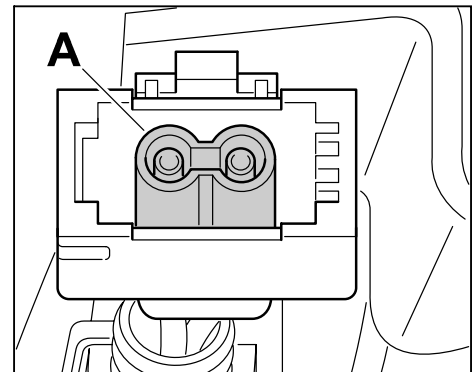


Figure 6

- 6.4 Route optical waveguide from optical waveguide connection point ⇒ *Figure 7-A-* along the front panel to the navigation unit installation position ⇒ *Figure 7-B-* and possibly to the amplifier ⇒ *Figure 7-C-* or CD changer and secure at this position.
- 6.5 Secure connection point holder to the front panel and join optical waveguide connection point.
- 6.6 **Only** for vehicles with optical waveguide component:
Permanently secure standard optical waveguide. This remains functionless in the vehicle.
- 6.7 **Only** for vehicles with Tire Pressure Monitoring control unit:
Insert Tire Pressure Monitoring control unit and tighten fastening screws. ⇒ *Workshop Manual '443419 Removing and installing Tire Pressure Monitoring control unit - section on "Installing"*

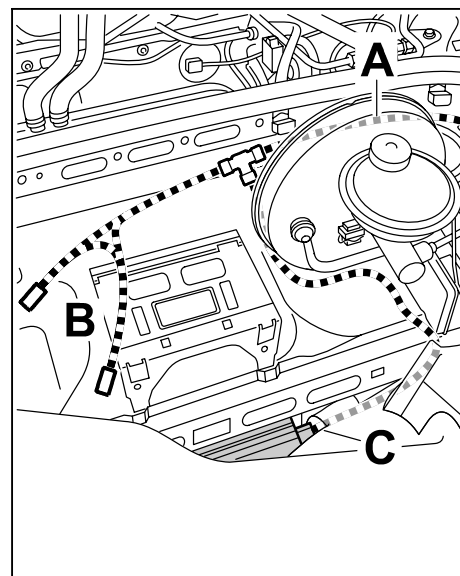


Figure 7



WARNING

Risk of short circuit and fire due to work on vehicle electrical system.

- ⇒ When working on the electrical system, the battery must always be disconnected and covered.
- ⇒ Always route the electrical leads without tension and so that no chafing occurs. Secure to existing harnesses/components with tie-wraps/electrical tape.

- 7 Connect electric wires.
 - 7.1 Preparatory work.
 - 7.2 Cut electric wire to size in accordance with the component arrangement.
 - 7.3 Connect RD/GN 1.0² wire (terminal 30) from retrofit kit to RD/GN 0.5² wire (terminal 30) for CD changer.
 - 7.3.1 Cut RD/GN 0.5² wire approx. 10 cm behind the connector for the CD changer wire.
 - 7.3.2 Strip both ends of RD/GN 0.5² wire from the CD changer and end of RD/GN 1.0² wire from the retrofit kit.
 - 7.3.3 Slide shrink-fit hose over RD/GN 0.5² wire from the CD changer.

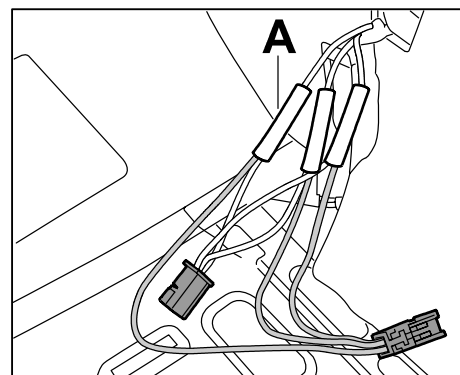


Figure 8

- 7.3.4 Crimp both RD/GN 0.5² wires and RD/GN 1.0² wire together as a splice using a cable connection.
- 7.3.5 Slide shrink-fit hose over the cable connection and shrink the hose with a hot-air gun. ⇒ *Figure 8-A-*
- 7.4 Connect WH/RD 0.35² wire (Wake Up) to WH/RD 0.35² wire (Wake Up) from CD changer as described in Step 8.3.
- 7.5 Connect BN 0.5² wire (terminal 31) to BN 0.5² wire (terminal 31) from CD changer as described in Step 8.3.
- 7.6 Wrap electrical tape around wire harness.

8 Complete the vehicle.

- 8.1 In the front luggage compartment:
Guide optical waveguide and antenna cable through the trim panel for the luggage compartment pan and secure trim panel for luggage compartment pan at the front panel.



Note

The navigation unit is located next to or on the CD changer, depending on the equipment I No.

- 8.2 Secure navigation unit. ⇒ *Workshop Manual '911219 Removing and installing navigation unit'*
- 8.2.1 Fit retaining clips (997.642.342.01) into the retaining frame and slide the navigation unit into the retaining frame until the navigation unit engages securely.
- 8.2.2 Insert electric connectors, optical waveguide and antenna cable until the connectors engage securely.
- 8.2.3 Position the navigation unit with retaining frame on the body, slide it into the holder, and check for secure fit.
- 8.3 Seal rubber grommet with adhesive compound.
- 8.4 **Only** for vehicles with carbon canister:
Secure carbon canister. ⇒ *Workshop Manual '202519 Removing and installing carbon canister - section on "Installing"*
- 8.5 Install luggage compartment cover. ⇒ *Workshop Manual '703019 Removing and installing luggage compartment cover - section on "Installing"*
- 8.6 Install cowl panel cover. ⇒ *Workshop Manual '508719 Removing and installing cover - section on "Installing"*
- 8.7 Install covers at the left and right close to the cowl panel. ⇒ *Workshop Manual '852219 Removing and installing cover - section on "Installing"*
- 8.8 Install battery. ⇒ *Workshop Manual '270619 Removing and installing battery - section on "Installing"*

8.9 Connect battery charger.



WARNING

Sudden voltage interruption of the power supply to the control module.

- **Destruction of the control module.**
- ⇒ **During programming, it is essential to guarantee the power supply for the PIWIS Tester. It is essential to connect a battery charger with a current rating of at least 40 A to the vehicle battery.**
- ⇒ **Prior to disconnecting the control module, switch off the ignition and remove the ignition key.**



Note

The PIWIS Tester 9718 instructions take precedence and in the event of a discrepancy these are the instructions that must be followed. Deviations may occur with later software versions.

The procedure described here has been structured in general terms; different text or additions may appear in the PIWIS Tester 9718 .

9 Activate control units following installation.

9.1 PIWIS Tester P 9718 must be switched on and connected to the vehicle.

9.2 In the start-up screen of the PIWIS Offline Client, call up the "Diagnostics" menu and select the vehicle type.

9.3 Select the "Special functions" menu item.

9.4 Select the "Vehicle handover" test step and confirm your selection by pressing •F8" .

10 Code PCM 2.1 and navigation unit using the PIWIS Tester P 9718 . ⇒ *Workshop Manual '911019 Removing and installing PCM display and operator control unit - section on "Programming"*

10.1 Select and code vehicle and "Instrument cluster" control unit.

10.2 Select and code vehicle and "Gateway" control unit.

10.3 Select and code "PCM2.1 MMI" control unit.

10.4 Select and code "PCM gateway" control unit.

10.5 Select and code "Navigation" control unit. ⇒ *Workshop Manual '911219 Removing and installing navigation unit - section on "Coding"*

10.6 After programming is complete, read out the fault memory of all systems, correct any existing faults, and erase the fault memory.

11 Disconnect battery charger, clip in battery cover and close lid.

12 Perform function test during test drive.

Working Time: 91 12 23 00: Installing navigation module including PCM2.1 Labor time: **230 TU**

Includes: Installing GPS antenna, navigation unit and corresponding wires, coding control units, reading out fault memories and erasing them if necessary.

Without: Test drive, waiting times for satellite reception during calibration. Performing function test during test drive. Loosening and securing carbon canister.

- References:
- ⇒ *Workshop Manual '202519 Removing and installing carbon canister'*
 - ⇒ *Workshop Manual '270619 Removing and installing battery'*
 - ⇒ *Workshop Manual '443419 Removing and installing Tire Pressure Monitoring control unit'*
 - ⇒ *Workshop Manual '508719 Removing and installing cover'*
 - ⇒ *Workshop Manual '852219 Removing and installing cover'*
 - ⇒ *Workshop Manual '911019 Removing and installing PCM display and operator control unit'*
 - ⇒ *Workshop Manual '911219 Removing and installing navigation unit'*
 - ⇒ *Workshop Manual '911319 Removing and installing GPS antenna'*
 - ⇒ *Workshop Manual '912419 Removing and installing "CD player" car radio'*
 - ⇒ *Workshop Manual '914719 Removing and installing radio antenna'*

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