

WC54 - Replacing Hydraulic Valves for Camshaft Control (Workshop Campaign)

Vehicle Type: **Cayenne (92A)/Cayenne S Hybrid (92A)**

Model Year: **As of 2011 up to 2012**

Subject: **Hydraulic valve for camshaft control**

Information: This is to inform you of a voluntary Workshop Campaign on the above-mentioned vehicles.

Because of the previous attachment method, the electric plug connection on the hydraulic valves for camshaft control can become strained to such an extent that the function of the hydraulic valves can no longer be guaranteed over the service life of the vehicle.

Action Required: Replace the hydraulic valves for camshaft control and rework the relevant electric plug connections on the affected vehicles.

Affected vehicles: The VIN(s) can be checked by using PIWIS Vehicle Information link to verify if the campaign affects the vehicle. This campaign is scope specific to the VIN! Failure to verify in PIWIS may result in an improper repair. This campaign affects 1,502 vehicles in North America.

Parts Info: **NOTE:** Do not order parts. All parts, **WITH THE EXCEPTION OF THE COMMERCIALLY AVAILABLE FABRIC TAPE**, will be automatically allocated to your dealership.

000.043.303.30	⇒ Repair kit for plug connection for camshaft controller comprising:	1
	Wires with connectors	2
	Insulated cable connection	4
	Shrink-fit hose	4
000.043.110.16	⇒ Actuator for camshaft controller	2
N .912.111.01	⇒ Bolt, M5 x 12	2

Materials: ... ⇒ Tie-wrap, length approx. 250 mm e.g. N .020.902.2 2 *

... ⇒ Fabric tape, approx. 15 mm wide (commercially available) Length: 1,000 mm*

* The WWS Warranty system will automatically add into the "Miscellaneous item" section (sublet) of the claim after the claim has been submitted.

Tools: **Nr.155-1 - Repair kit for wire harnesses**
Nr.90 Pos.2 - Torque wrench

Work Procedure: See Attachment "A".

Claim Submission: See Attachment "B".

Attachment "A": **Work Procedure**

Replace hydraulic valves for camshaft control and the relevant electric plug connections on cylinders 1-3 and cylinders 4-6.



Information

For the **Cayenne S Hybrid**, the tasks specified below may only be carried out by an employee who is **at least** qualified as an **electrically instructed person (eip)**. Employees **without the corresponding qualification** must **not** carry out these tasks.

The work must be done under the instruction and supervision of a **high voltage technician (HVT)**.

The **high-voltage electrical system** must **not be disconnected**.

Observe general warning notes for working on the high-voltage vehicle electrical system ⇒ *Workshop Manual '2X00IN General warning notes for working on the high-voltage electrical system'*.

- 1 Disconnect the battery ⇒ *Workshop Manual '2X00IN Work instructions after disconnecting the battery'*.
- 2 **Remove both hydraulic valves for camshaft control** as described in the **Workshop Manual** ⇒ *Workshop Manual '153719 Removing and installing hydraulic valve for camshaft control - section on "Removing"*.

3 Replace electric plug connection on hydraulic valve for camshaft control, cylinders 1-3.

3.1 Remove tie-wrap ⇒ *Figure 1 -item 1-* on the main wire harness ⇒ *Figure 1 -item 2-* to allow better access to the hydraulic valve wires ⇒ *Figure 1 -item 3-*.

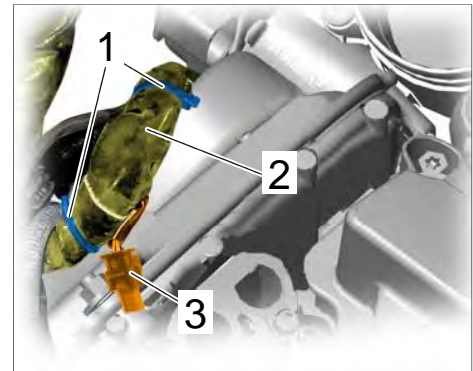


Figure 1

3.2 Pull back sleeve ⇒ *Figure 2 -item 1-* on the main wire harness ⇒ *Figure 2 -item 2-* (⇒ *Figure 2 -arrow-*) and expose the main wire harness wires.

3.3 Remove binding tape ⇒ *Figure 2 -item 3-* from around the main wire harness ⇒ *Figure 2 -item 2-*.

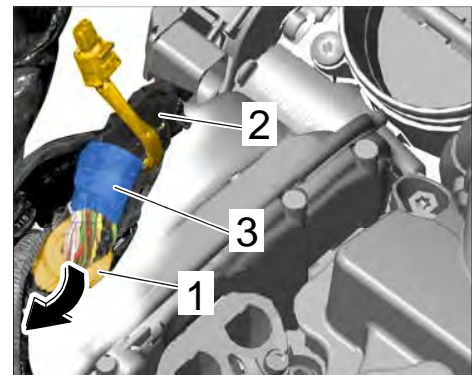


Figure 2



Information

- Select a place for the joint where there is enough space to join the individual wires.
- Mark the electric wires if necessary.

3.4 Cut the wires for the hydraulic valve connector ⇒ *Figure 3 -item 1-* at an **offset** position in the marked area. Leave an offset of 20 mm so that the connection points will not be lying on top of each other. Then detach and remove the sleeve on the wire ⇒ *Figure 3 -item 2-*. The sleeve will be re-used during installation.

3.5 Shorten the wires on the connector from the repair kit in accordance with the lengths of the wires on the connector you have just cut off.

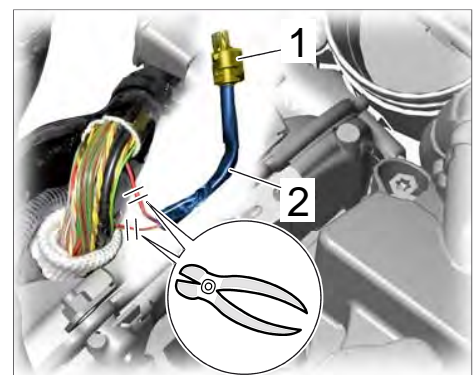


Figure 3

**Information**

Extra care must be used in the individual work steps for stripping insulation from, crimping, and shrinking/insulating the electric wires.

The procedure for stripping insulation from, crimping, and shrinking/insulating the electric wires must be complied with and observed. The procedures are described in detail in the **NR.155-1 - repair kit for wire harnesses**.

- 3.6 Crimp insulated cable connection ⇒ *Figure 4 -item 1-* using the **crimping pliers** from the **Nr.155-1 Pos.1 - cable repair kit** to the main wire harness wires ⇒ *Figure 4 -item 2-*.
- 3.7 Slide the sleeve ⇒ *Figure 4 -item 4-* you removed from the old wire harness onto the wires of the new connector.
- 3.8 Slide shrink-fit hoses ⇒ *Figure 4 -item 3-* onto the connector wires.
- 3.9 Crimp connector wires to the insulated cable connections ⇒ *Figure 4 -item 1-* using **crimping pliers**. Check the crimp connection carefully.

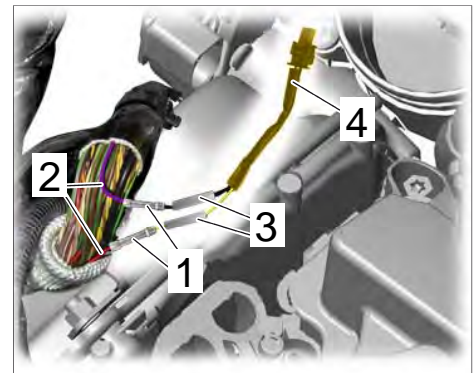


Figure 4

Cable assignment:

Black wire of the connector to **red/lilac** wire of the main wire harness.

Yellow wire of the connector to **red/green** wire of the main wire harness.

CAUTION
Hot components

- **Risk of burns**
- ⇒ **Let hot components cool down.**
- ⇒ **Wear personal protective gear.**

- 3.10 Slide shrink-fit hoses ⇒ *Figure 4 -item 3-* over the crimp connection and carefully shrink them using the **hot-air blower and attached reflector**.

- 3.11 Wrap fabric tape ⇒ *Figure 5 -item 1-* around the main wire harness ⇒ *Figure 5 -item 2-* and connector wires ⇒ *Figure 5 -item 3-* again.

Make sure that the crimps are **offset with respect to each other** so that they are not lying on top of each other.

- 3.12 Pull sleeve ⇒ *Figure 5 -item 4-* back to its original position on the main wire harness ⇒ *Figure 5 -item 2-*.

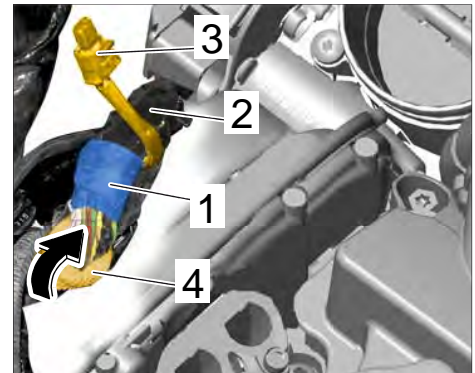


Figure 5

- 3.13 Secure individual wires routed next to the main wire harness ⇒ *Figure 6 -item 2-* with tie-wraps ⇒ *Figure 6 -item 1-*. Cut off the extra length at the ends of the tie-wraps with side cutters.

- 3.14 Route connector ⇒ *Figure 6 -item 3-* forward to the hydraulic valve for camshaft control.

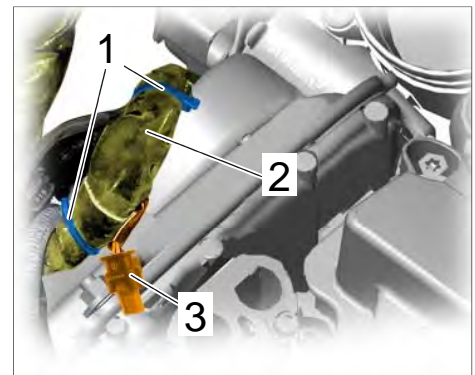


Figure 6

4 **Replace electric plug connection on hydraulic valve for camshaft control, cylinders 4-6.**

- 4.1 Remove binding tape ⇒ *Figure 7 -item 1-* from around the wire harness ⇒ *Figure 7 -item 2-* and disconnect the wires to the hydraulic valve connector ⇒ *Figure 7 -item 3-* from the main wire harness.

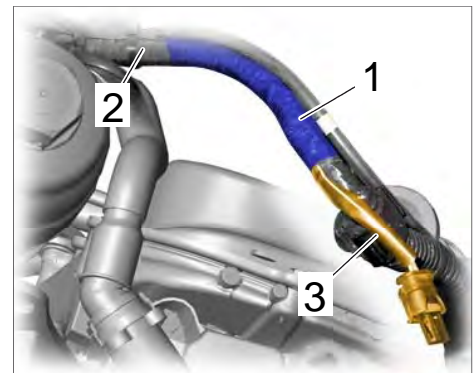


Figure 7

**Information**

- Select a place for the joint where there is enough space to join the individual wires.
- Mark the electric wires if necessary.

4.2 Cut the wires for the hydraulic valve connector ⇒ *Figure 8 -item1-* at an **offset** position in the marked area. Leave an offset of 20 mm so that the connection points will not be lying on top of each other. Then detach and remove the sleeve on the wire ⇒ *Figure 8 -item2-*. The sleeve will be re-used during installation.

4.3 Shorten the wires on the connector from the repair kit according to the length of the wires on the connector you have just cut off.

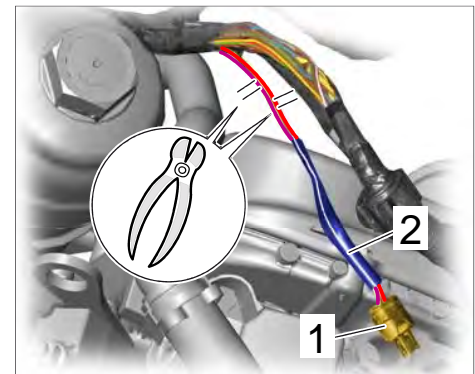


Figure 8

4.4 Crimp insulated cable connection ⇒ *Figure 9 -item 1-* using the **crimping pliers** from the **Nr.155-1 Pos.1 - cable repair kit** to the main wire harness wires ⇒ *Figure 9 -item 2-*.

4.5 Slide the sleeve ⇒ *Figure 9 -item 4-* you removed from the old wire harness onto the wires of the new connector.

4.6 Slide shrink-fit hoses ⇒ *Figure 9 -item 3-* onto the connector wires.

4.7 Crimp connector wires to the insulated cable connections ⇒ *Figure 9 -item 1-* using **crimping pliers**. Check the crimp connection carefully.

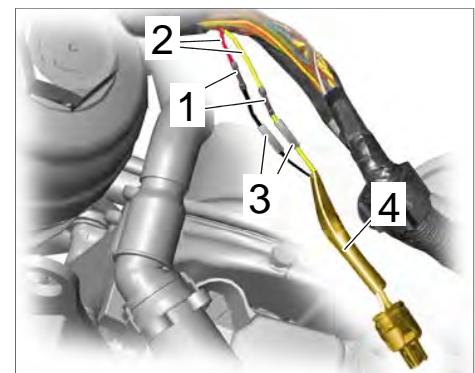


Figure 9

Cable assignment:

Black wire of the connector to **red/lilac** wire of the main wire harness.

Yellow wire of the connector to **yellow/lilac** wire of the main wire harness.

4.8 Slide shrink-fit hoses ⇒ *Figure 9 -item 3-* over the crimp connection and carefully shrink them using the **hot-air blower and attached reflector**.

4.9 Wrap fabric tape ⇒ *Figure 10 -item 1-* around the main wire harness ⇒ *Figure 10 -item 2-* and connector wires ⇒ *Figure 10 -item 3-* again.
 Make sure that the crimps are **offset with respect to each other** so that they are not lying on top of each other.

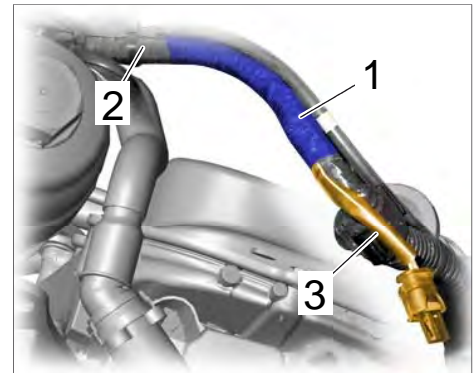


Figure 10

5 **New** hydraulic valves for camshaft control, Part No. **000.043.110.16**, with new bolts, Part No. **N.912.111.01** can now be installed ⇒ *Workshop Manual '153719 Removing and installing hydraulic valve for camshaft control - section on "Installing"*.

6 Connect the battery ⇒ *Workshop Manual '2X00IN Work instructions after disconnecting the battery'*.

7 Enter the workshop campaign in the Warranty and Maintenance booklet.

Attachment "B": **Claim Submission** - Workshop Campaign WC54
 Warranty claims should be submitted via WWS/PQIS.
 Open campaigns may be checked by using either the PIWIS Vehicle Information system or through PQIS Job Creation.
 Labor, parts, and sublet will be automatically inserted when Technician is selected in WWS/PQIS. If necessary, the required part numbers will need to be manually entered into warranty system by the dealer administrator.

Scope 1:

Working time:		
Replacing hydraulic valves for camshaft control		Labor time: 70 TU
Includes:	Disconnecting and connecting battery	
	Removing and installing engine cover	
	Reworking electric plug connections	
Parts required:		
000.043.303.30	Repair kit for plug connection for camshaft controller	1
000.043.110.16	Actuator for camshaft controller	2
N.912.111.01	Bolt, M5 x 12	2
WC540000001*	Accessories*	1*
		(For warranty invoicing only)

* The WWS Warranty system will automatically add into the "Miscellaneous item" section (sublet) of the claim after the claim has been submitted.

⇒ **Damage Code WC54 066 000 2**

- References:
- ⇒ *Workshop Manual '2X00IN Work instructions after disconnecting the battery'*
 - ⇒ *Workshop Manual '108319 Removing and installing engine cover (design cover)'*
 - ⇒ *Workshop Manual '153719 Removing and installing hydraulic valve for camshaft control'*

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