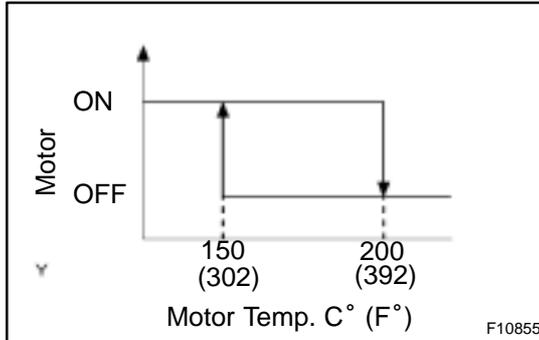


## CIRCUIT INSPECTION

<b>DTC</b>	<b>C1521/21 – C1523/23</b>	<b>Power Steering Motor Malfunction</b>
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## CIRCUIT DESCRIPTION



Motor temp. sensor is built in the vane pump assembly with motor and detects the motor brush holder temperature. If the motor brush holder temperature has become higher than 200°C (390°F) continuously for longer than 0.1 second, the system stops for a time and returns if the temperature has become lower than 150°C (302°F) for longer than 1 second.

DTC No.	DTC Detection Condition	Trouble Area
C1521/21	Condition 1., 2. or 3. continues: 1. Motor temp. 200°C (390°F) or more for 0.1 sec. or more 2. Motor average current for 96 sec. is 40 A or more 3. Motor average current for 248 sec. is 33 A or more	<ul style="list-style-type: none"> <li>• Motor temp. sensor (built in vane pump assembly with motor)</li> <li>• Vane pump assembly with motor</li> </ul>
C1522/22	Condition below continues for 1 sec. or more: Motor temp. 250°C (482°F) or more	<ul style="list-style-type: none"> <li>• Motor temp. sensor (built in vane pump assembly with motor)</li> <li>• Vane pump assembly with motor</li> </ul>
C1523/23	Condition below continues for 0.1 sec. or more: Motor current 100A or more	<ul style="list-style-type: none"> <li>• Power steering motor (built in vane pump assembly with motor)</li> <li>• Vane pump assembly with motor</li> </ul>

Fail safe function:

**C1521/21:**

If vane pump assembly with motor detects the malfunction of the overheating of the motor, vane pump assembly with motor stops the motor from operating.

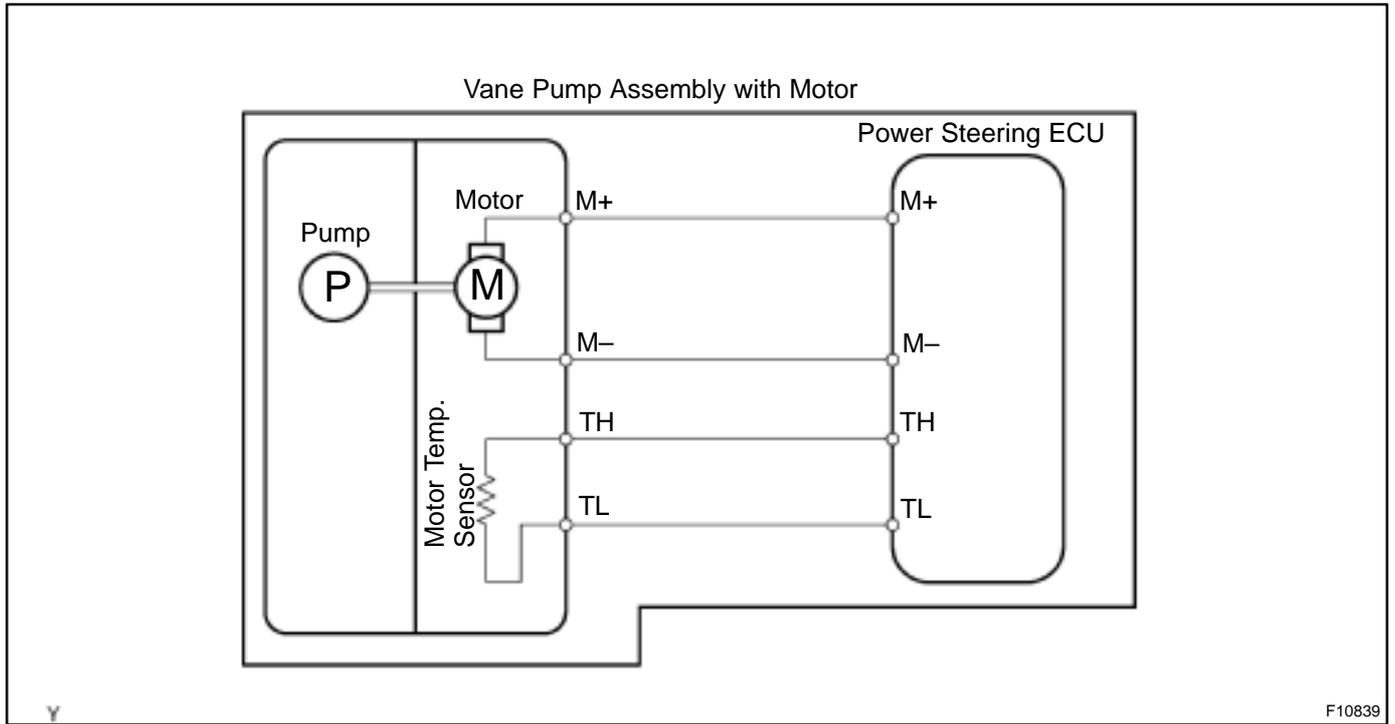
**C1522/22:**

If there is short circuit in motor temperature sensor circuit, the vane pump assembly with motor prohibits the motor from operating.

**C1523/23:**

If vane pump assembly with motor detects the malfunction of over current to the vane pump assembly with motor, vane pump assembly with motor stops EHPS system.

**WIRING DIAGRAM**



**INSPECTION PROCEDURE**

1	Check operation of P/S warning light.
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**PREPARATION:**

- (a) Turn the ignition switch OFF.
- (b) Turn the ignition switch ON.

**CHECK:**

After the ignition switch is turned on and P/S warning light turns on for two second, then it goes off.

YES	No problem.
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NO

2	Is DTC output?
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Check DTC on page [DI-202](#).

YES	Repair circuit indicated by code output.
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NO

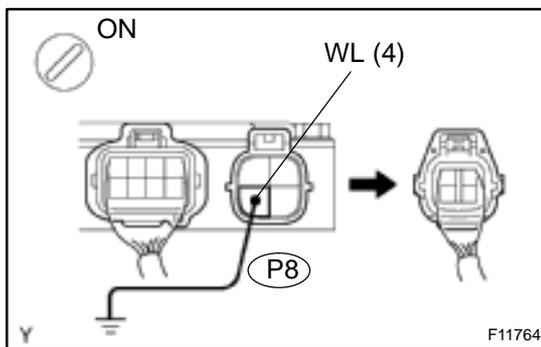
3 Is normal code displayed?

YES

Check and replace vane pump assembly with motor.

NO

4 Check P/S warning light.



**PREPARATION:**

- Disconnect the P8 connector from the vane pump assembly with motor.
- Connect terminal WL (P8-4) of the vane pump assembly with motor and body ground.
- Turn the ignition switch ON.

**CHECK:**

Check the P/S warning light goes off.

**OK:**

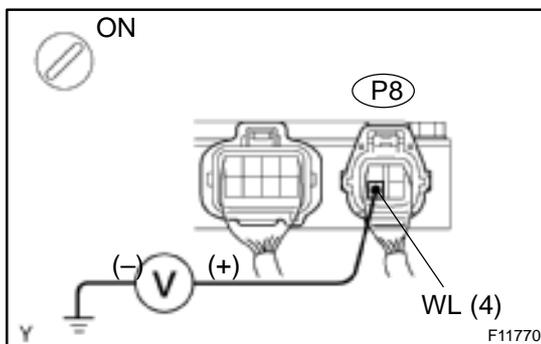
Voltage: 10 – 14 V

NO

Check and replace bulb or combination meter assembly.

YES

5 Check voltage between terminal WL (P8-4) of vane pump assembly with motor connector and body ground.



**PREPARATION:**

Turn the ignition switch ON.

**CHECK:**

Measure the voltage between terminal WL (P8-4) of the vane pump assembly with motor connector and body ground.

**OK:**

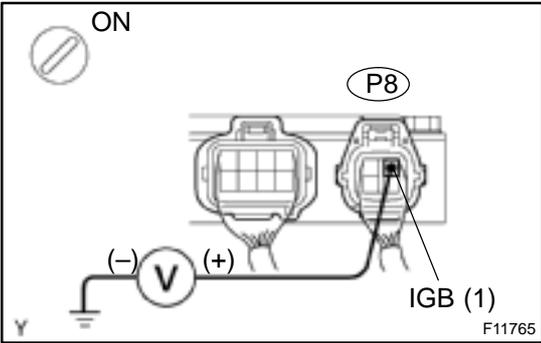
Voltage: 10 – 14 V

NG

Check and repair harness or connector.

YES

**6 Check voltage between terminal IGB (P8-1) of vane pump assembly with motor connector and body ground.**



**CHECK:**  
Measure the voltage between terminal IGB (P8-1) of the vane pump assembly with motor connector and body ground.

**OK:**  
**Voltage: 10 – 14 V**

**NG** → **Check DTC C1552/52 (See page DI-218).**

**OK**

**Check and replace vane pump assembly with motor.**