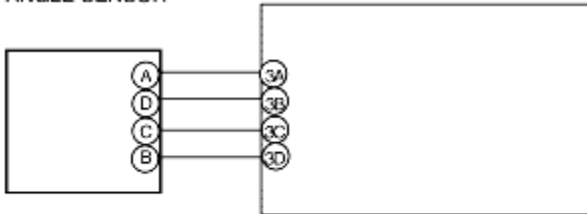






## DTC C1278, C1956

B3E060201038W09

DTC	C1278, C1956	P/S angle sensor
DETECTION CONDITION	<ul style="list-style-type: none"><li>• C1278<ul style="list-style-type: none"><li>- The EHPAS control module detects that the monitor voltage from the P/S angle sensor is <b>more than 4.25 V</b> or <b>less than 0.5 V</b>.</li><li>- The EHPAS control module detects that the two monitor voltages modulate at the same phase a specified amount of phases or more.</li><li>- The EHPAS control module detects that the EHPAS sensor signal dose not change.</li></ul></li><li>• C1956<ul style="list-style-type: none"><li>- The EHPAS control module detects that the power supply voltage of the P/S angle sensor is <b>more than 5.5 V</b>.</li><li>- The EHPAS control module detects that the power supply voltage of the P/S angle sensor is <b>less than 4.5 V</b>.</li></ul></li></ul>	
POSSIBLE CAUSE	<ul style="list-style-type: none"><li>• Short to power supply, open circuit, or short to ground in wiring harness between EHPAS control module terminal 3B and P/S angle sensor D</li><li>• Short to power supply, open circuit, or short to ground in wiring harness between EHPAS control module terminal 3D and P/S angle sensor terminal B</li><li>• Open circuit or short to ground in wiring harness between EHPAS control module terminal 3C and P/S angle sensor terminal C</li><li>• Open circuit in wiring harness between EHPAS control module terminal 3A and P/S angle sensor terminal A</li><li>• Short circuit in wiring harness between P/S angle sensor terminal B and D</li><li>• P/S angle sensor ring has fallen off.</li><li>• Power supply voltage of P/S angle sensor is more than the specified value.</li></ul>	
<div style="text-align: center;"><p>P/S ANGLE SENSOR</p></div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"><div style="text-align: center;"><p>EHPAS CONTROL MODULE HARNESS-SIDE CONNECTOR</p></div><div style="text-align: center;"><p>P/S ANGLE SENSOR HARNESS-SIDE CONNECTOR</p></div></div>		

### Diagnostic procedure

STEP	INSPECTION	ACTION	
1	<b>INSPECT POWER SUPPLY VOLTAGE OF P/S ANGLE SENSOR</b> <ul style="list-style-type: none"> <li>Turn the ignition switch to the ON position (Engine off).</li> <li>Measure the voltage between P/S angle sensor terminal C and ground.</li> <li>Is the voltage <b>4.5-5.5 V</b>?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness between EHPAS control module terminal 3C and P/S angle sensor terminal C, then go to the step 7.
2	<b>INSPECT GROUND CIRCUIT OF P/S ANGLE SENSOR FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>Turn the ignition switch off.</li> <li>Disconnect the EHPAS control module and P/S angle sensor connectors.</li> <li>Inspect for continuity between EHPAS control module terminal 3A and P/S angle sensor terminal A.</li> <li>Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness between EHPAS control module terminal 3A and P/S angle sensor terminal A, then go to the step 7.
3	<b>INSPECT P/S ANGLE SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER</b> <ul style="list-style-type: none"> <li>Turn ignition key to ON (engine OFF).</li> <li>Measure the voltage between the EHPAS control module and body ground at the following: <ul style="list-style-type: none"> <li>Sensor 1: EHPAS control module terminal 3B and body ground</li> <li>Sensor 2: EHPAS control module terminal 3D and body ground</li> </ul> </li> <li>Is voltage <b>B+</b>?</li> </ul>	Yes	Repair or replace the related wiring harnesses between the EHPAS control module and P/S angle sensor, then go to the step 7.
		No	Go to next step.
4	<b>INSPECT P/S ANGLE SENSOR SIGNAL CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>Turn the ignition switch off.</li> <li>Inspect continuity between the EHPAS control module and body ground at the following: <ul style="list-style-type: none"> <li>Sensor 1: EHPAS control module terminal 3B and body ground</li> <li>Sensor 2: EHPAS control module terminal 3D and body ground</li> </ul> </li> <li>Is there continuity?</li> </ul>	Yes	Repair or replace the related wiring harnesses between the EHPAS control module and P/S angle sensor, then go to the step 7.
		No	Go to the next step.
5	<b>INSPECT SENSORS 1 AND 2 OF THE P/S ANGLE SENSOR FOR CONTINUITY</b> <ul style="list-style-type: none"> <li>Turn the ignition switch off.</li> <li>Disconnect the EHPAS control module and P/S angle sensor connectors.</li> <li>Inspect for continuity between P/S angle sensor terminals B and D.</li> <li>Is there continuity?</li> </ul>	Yes	Replace the P/S angle sensor, then go to the step 7. (See <a href="#">STEERING GEAR AND LINKAGE DISASSEMBLY.</a> ) (See <a href="#">STEERING GEAR AND LINKAGE ASSEMBLY.</a> )
		No	Go to the next step.

6	<b>INSPECT PID FOR P/S ANGLE SENSOR RING MALFUNCTION USING WDS OR EQUIVALENT</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch off.</li> <li>• Connect the WDS or equivalent to the DLC-2.</li> <li>• Select the "STEER_RATE" PID.</li> <li>• Verify that the WDS display changes correctly according to steering wheel operation.</li> <li>• Does it change correctly?</li> </ul>	Yes	Go to the next step.
		No	Replace the P/S angle sensor ring (built into the steering gear valve housing), then go to the next step. (See <a href="#">STEERING GEAR AND LINKAGE DISASSEMBLY.</a> ) (See <a href="#">STEERING GEAR AND LINKAGE ASSEMBLY.</a> )
7	<b>VERIFY THAT THE SAME DTC IS NOT PRESENT</b> <ul style="list-style-type: none"> <li>• Reconnect all disconnected connectors.</li> <li>• Clear the DTC from the memory. (See <a href="#">Clearing DTCs Procedure.</a>)</li> <li>• Is the same DTC present?</li> </ul>	Yes	<ul style="list-style-type: none"> <li>• Repeat the inspection from Step 1.</li> <li>• If the malfunction recurs, replace the electric power steering oil pump. (See <a href="#">ELECTRIC POWER STEERING OIL PUMP (LF) REMOVAL/INSTALLATION.</a>)</li> </ul>
		No	Go to the next step.
8	<b>VERIFY THAT NO OTHER DTCS ARE PRESENT</b> <ul style="list-style-type: none"> <li>• Are any other DTCs output?</li> </ul>	Yes	Go to the applicable DTC inspection. (See <a href="#">DTC Table.</a> )
		No	DTC troubleshooting completed.