



GROUP
TRANS

MODEL
See Affected Models
Table on pg 1 & 5

NUMBER
043 [Rev 2] 02/25/2013

DATE
May 2012

TECHNICAL SERVICE BULLETIN

SUBJECT: 6-SPEED AUTOMATIC TRANSAXLE OIL TEMPERATURE
SENSOR DTC P0711, P0712 & P0713

*NOTICE

This bulletin has been revised to include additional information. New/revised sections of this bulletin are indicated by a black bar in the margin area.

This bulletin provides information related to replacing the transaxle oil temperature sensor on 6-speed automatic transaxles with DTC P0711, P0712 and/or P0713. Replace the oil temperature sensor if current or history code is present; Do not replace the transaxle. To reduce vehicle repair time, this procedure can be performed with the transaxle installed in the vehicle. Photos shown are on-bench to increase the clarity and understanding of this procedure. This is a generic procedure and does not account for minor variations between models.

DTC P0711, P0712, and P0713 can be set due to a faulty PCM, an open circuit, or a bad transaxle oil temperature sensor. When either of these codes is set, the default value for the transaxle oil temperature sensor is 176°F (80° C). Prior to replacing the temperature sensor, perform a component and wire harness inspection as shown in the KGIS DTC diagnostics. Only proceed with sensor R&R after confirming proper connections, circuits, and PCM simulation checks.

AFFECTED MODELS:

Model	Model Year
Sorento (XMa)	2011>
Sedona (VQ)	2011>
Sportage (SL)	2011>
Optima (TF/QF) (excluding HEV)	2011>
Forte (TD)	2011>
Rio (UB)	2012>
Soul (AM)	2012>



Transaxle oil temperature sensor

*NOTICE

This procedure is to be performed **AFTER** performing the DTC diagnostics as shown on the KGIS website. The technician must perform both Wire-Harness and Component inspections prior to performing this TSB.

File Under: <Transmission>

Circulate To: General Manager Service Manager Parts Manager
 Service Advisor(s) Technician(s) Body Shop Manager Fleet Repair

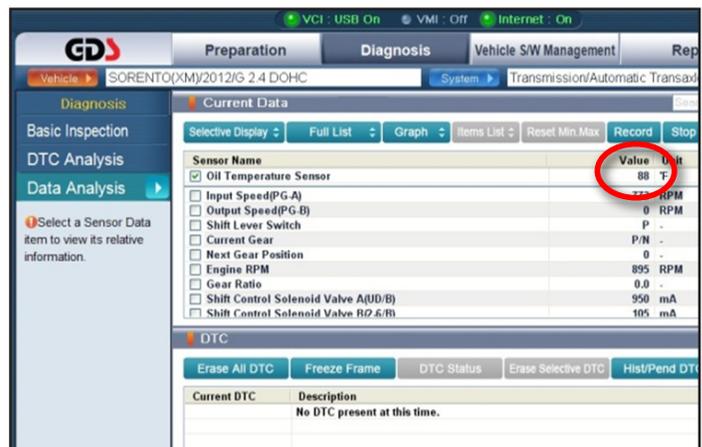
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1. Connect the GDS to the vehicle. Turn the ignition on with engine OFF. Navigate to the A/T menu and check for DTCs. **Record any DTC and freeze frame data if available on back of RO.** Delete the DTC.



2. From the GDS, select:
 - Data Analysis
 - Oil Temperature Sensor

Drive the vehicle and monitor the oil temperature sensor. Record observations on the RO.



3. Check the wiring harness between the TCM and transaxle visually for a damaged wire or connector.
4. Refer to the DTC recorded in Step 1 and follow the repair procedure shown below:

DTC	Description	Repair Procedure
P0711	Rationality	Replace Temperature Sensor
P0712	Circuit Low	
P0713	Circuit High	

5. Record the customer's audio presets. Disconnect the battery. Remove the lower splash shield.

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6. Drain the ATF. Replace the transaxle drain plug gasket (P/N: 21513 11000) upon installation. Do not lose the transaxle drain plug, as it will be re-used.

Tightening torque: 25.3 ~ 32.6 ft-lbs (34.3 ~ 44.1 Nm)

7. Disconnect the breather tube from the valve body cover. Remove the hose clamp and disconnect the breather tube from the nipple.

***NOTICE**

For plastic cover: Use caution not to damage the nipple during hose removal. A damaged nipple will require valve body cover replacement.



8. Remove the valve body cover. Detailed removal/installation steps vary depending on model. The valve body cover can be removed from all models listed in this TSB without removing the transaxle from the vehicle.

**Tightening torque:
7.2 ~ 8.7 ft-lbs (9.8 ~ 11.8 Nm)**



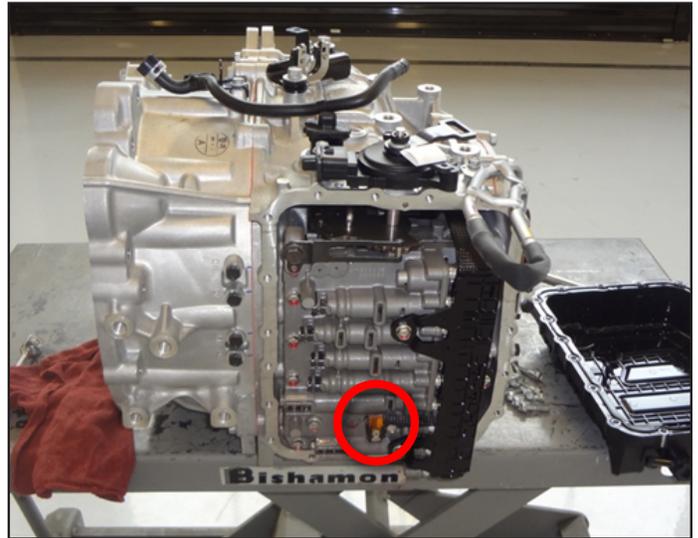
***NOTICE**

For plastic cover, do not lose the rubber gasket: Reuse rubber gaskets on plastic valve body covers.

Metal cover uses liquid sealant: UM010 CH046 or equivalent: Clean mating surfaces on cover/transaxle. Apply liquid gasket at application points at the valve body cover with a 2.5 mm (0.0984 in.) bead.

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9. Locate the transaxle temperature sensor.



10. Use a flat-head screwdriver to disconnect the wire harness from the transaxle temperature sensor.

***NOTICE**

Use caution not to damage the wire harness. Damage to the wire harness will require replacement and transaxle removal to replace the ribbon cable.



11. Remove the transaxle temperature sensor after removing the bolt. Replace with a new sensor and re-connect the harness to the sensor.

Tightening torque:

7.2 ~ 8.7 ft-lbs (9.8 ~ 11.8 Nm)



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12. Install components in the reverse order of removal. Connect the battery cable and re-program audio presets. Re-fill the transaxle using five (5) quarts of genuine Kia ATF. Perform a fluid level check with the fluid at operating temperature of 122 ~ 140 °F (50 ~ 60 °C).
13. Road-test the vehicle to verify proper operation; check for fluid leaks after road-testing.

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PARTS INFORMATION:

Part Number	Part Name	Qty	Valve Body Cover Material	Remarks
UM010 CH046	Kia RTV gasket maker	1	Used on Steel Cover Only	--
21513 11000	Transaxle Drain Plug - Gasket	1	ALL	--
UM090 CH042	ATF SP - IV	5	ALL	Source through Kia Chemicals
46386 3B000	Oil Temp Sensor	1	ALL	--

Note: Reuse transaxle drain plug. Reuse rubber gaskets on plastic valve body covers. Reuse copper gasket on steel valve body cover eyebolt.

WARRANTY CLAIM INFORMATION:

Claim Type	Causal P/N	Qty.	N Code	C Code	Repair Description	Labor Op Code	Replacement Part No.	Qty
W	46386 3B000	1	N69	C15	ATM-Sensor-oil temperature R&R	46386R00 46386RQ0	21513 11000	1
							UM090 CH042	5
							UM010 CH046	1 (steel cover only)

Note: Refer to WebLTS for specific Labor Time per model.