Э нүрлоаг			chnical Servic	Group TRA	Group TRANSAXLE		
				07-	40-012		
ject				Date			
A		EMPERATURE SE	NSOR - DIAGNOSTIC	OCTO	BER, 2007		
TROUBLE CODES P			11, P0712 & P0713	Model 2007	~ ELANTRA		
This (Ava	TSB req ilable at	uires Kent-Moore 800-345-2233).	e J-36850-A Transmissi	on Assembly Lu	be		
DES	CRIPTIO	N:					
Incor	rect oper	ation of the oil tem	perature sensor may res	ult in the followin	g symptoms		
•	' "Check I	Engine" Light illum	inated				
•	Diagnos	tic Trouble Codes	as shown below:				
	DTC	DES	CRIPTION	2007 ELANTRA SHOP MANUAL			
	P0711	A/T temperature se	ensor - rationality check	AT-41			
	P0712	A/T temperature se	ensor - short circuit	AT-47			
	P0713	A/T temperature se	ensor - open circuit	AT-50			
REP/ 1. U:	active AIR PRO sing a Hi- Diagnosti sing a Hi- nd "Fluid	 Instead, follow CEDURE: Scan Pro or GDS, c Trouble Codes". Scan Pro or GDS, Temperature Sens 	the repair procedure s select the "Automatic Tr Record the DTC and de select: "Automatic Trans	hown below. ansaxle" menu a escription. saxle", "Current D perature readout.	nd Data"		
2. U a c	ontinuity	of the wiring harne	ess is good if the GDS or	Scan tool reads a	as		
2. U a c s	ontinuity hown bel If so, go	of the wiring harne ow: to Step 4.	sor". Check the fluid temp ess is good if the GDS or	Scan tool reads a	as		
2. U a c s •	ontinuity hown bel If so, go If not, go	of the wiring harne ow: to Step 4.) to Step 3.	sor". Check the fluid temp ess is good if the GDS or	Scan tool reads a	as		
2. U 2. U c s •	ontinuity hown bel If so, go If not, go ATF TEN	of the wiring harne ow: to Step 4. to Step 3. /PERATURE	GDS or Scan tool rea	Scan tool reads a	as		
2. U a c s •	ontinuity hown bel If so, go If not, go ATF TEN AT	of the wiring harne ow: to Step 4. to Step 3. /PERATURE	GDS or Scan tool rea Same as outside tempera Not stuck at 80°C (176°F	Scan tool reads a dout ature)	as		

- NOTE: This test confirms the wiring harness does not have an open or short circuit. It does not confirm the proper functioning of the fluid temperature sensor under all conditions of heat and vibration or an intermittent open/ short condition.
- 3. If Step 2 shows improper continuity, the harness or fluid temperature sensor may have an open or short to ground. Perform the following:
 - Visually check the wiring harness between the PCM and transaxle for a damaged wire or a short circuit to ground.
 - Disconnect the connectors at the transaxle and the PCM and check for a bent pin or a pin not fully inserted into the connector. Check the pin tension using the J-35616-C Pin Tension Tester.
 - Follow the procedure in the 2007 Elantra Shop Manual, Pages AT-41~42 and check the power supply to the harness connector.
 - If a harness open/short is found, repair or replace the ECM control harness between the PCM and transaxle, P/N 91410-2H***. Go to Step 28.
 - If no harness open/short is found, go to Step 4.
- 4. Refer to the DTC recorded in Step 1 and follow the repair procedure shown below:

DTC	2007 ELANTRA SHOP MANUAL REPAIR PROCEDURE
P0711, A/T temperature sensor - rationality check	Replace fluid temperature sensor.
P0712, A/T temperature sensor circuit - low	Replace fluid temperature sensor.
P0713, A/T temperature sensor circuit - low	Replace fluid temperature sensor.
P0700 (TCU request for MIL on)	Delete code

FLUID TEMPERATURE SENSOR REPLACEMENT PROCEDURE:

5. Drain the ATF.

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- Remove all except 2 bolts to the oil pan. Loosen the remaining 2 bolts 1/8~1/4 inch.
- 7. Use a rubber hammer to tap the oil pan at the corner until the pan separates from the case.



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8. Remove the 3 bolts that retain the oil filter and remove the oil filter.



9. Remove the 14 mm nut and remove the manual valve lever.



10. Press the tab and disconnect the fluid temperature sensor from the solenoid connector.



- 11. Remove the bolts that secure the valve body and carefully lower the valve body.
- CAUTION: The accumulators and springs may fall out of the transaxle case.
- 12. Carefully lay the valve body on a clean **paper** towel.
- CAUTION: Do not use a shop rag. Cloth rags contain lint that may cause a valve to stick in the valve body.
- 13. Remove the C-clip from the solenoid connector and remove the fluid temperature sensor.
- 14. Install a new temperature sensor and insert the c-clip.







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15. Apply assembly lube and install two o-rings in the locations shown.

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NOTE: The o-rings are available in 45010-23A01, ATA overhaul seal kit.



- Apply Kent-Moore Assembly Lube, P/N J-36850-A (available at 800-345-2233) to the accumulator and bore in the case.
- CAUTION: Other assembly lube products may not hold the accumulators in place during assembly.
- NOTE: An assistant may be required to hold the accumulators in place until the valve body is installed in the case.
- 17. Install the yellow springs in the location shown.









18. Install the 2 white springs in the location shown:





19. Install the valve body and torque the bolts to specification.

Torque: 7~8 lb-ft (100~120 kgf.cm)

Bolt	Qty.	Length	Color
A	17	6x30 mm	Brass
В	1	6x35 mm	Silver
С	1	6x40 mm	Black
D	1	6x55 mm	Brass
E	1	6x60 mm	Silver

20. Confirm the manual valve is inserted into the slot.





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21. Install the manual valve lever to the manual valve and torque the nut to specification.

Torque: 7~8 lb-ft (100~120 kgf.cm)

- 22. Reconnect the fluid temperature sensor connector to the solenoid harness connector.
- 23. Install the o-ring on the oil filter.



- 24. Install three magnets on the oil filter.
- 25. Install the oil filter with 3 bolts and torque to specification.

Torque: 7~8 lb-ft, 100~120 kgf.cm)



26. Apply Permatex Ultra Gray Sealer or Hyundai Ultra Gray Gasket Sealer, P/N 00231-13800 to the oil pan and reinstall the cover. Tighten the bolts to specification.

Torque: 6-7 lb.ft (80-100 kgf.cm).

- 27. Add approximately 4.5 quarts of Hyundai SPIII ATF and check the level with the engine idling in Neutral or Park. Recheck the ATF level when the ATF is at normal operating temperature (75-100°C, 168-212°F).
- 28. Clear the codes and test drive the vehicle for two driving cycles (two key-on to keyoff driving cycles, including 1-2-3-4 upshifts and 4-3-2-1 downshifts). If the DTC returns, perform the following repairs:

DTC	REPAIR PROCEDURE		
P0711, A/T temperature sensor - rationality check	 Exchange known-good PCM. 		
P0712, A/T temperature sensor - short circuit	• Repair or replace ECM control		
P0713, A/T temperature sensor - open circuit	narness.		
P0700, TCU request for MIL on	Delete code		

PARTS INFORMATION:

MODEL PART NUMBER		PART NAME	QTY
	46307-23010	Temperature sensor harness	1
	45010-23A01	ATA overhaul seal kit	1
2007- Flantra	46392-23000	Spring, small yellow	1
2007~ Liantia	46393-23000	Spring, big yellow	3
	46394-23000	Spring, small white	1
	46395-23000	Spring, big white	1

WARRTY INFORMATION:

MODEL	OPERATION	OP CODE	OP TIME	CAUSAL P/N	OP QTY	NATURE CODE	CAUSE CODE
2007~ Elantra	Replace oil temperature sensor	46386R00	1.7	46307-23000	1	N69	C15
	Hi-Scan Operation *	46386RP0	0.3				
	GDS Operation *	46386RQ0	0.3				

NOTE: *Only one (1) Diagnostic labor operation (Hi-Scan or GDS) allowed per R.O.