



HYUNDAI Technical Service Bulletin

Group	TRANSAXLE
Number	03-40-007-1
Date	MARCH, 2004
Model	1996-00 ELANTRA, 1997-01 TIBURON, 1996-04 ACCENT

Subject **ATA SOLENOID DIAGNOSTIC TROUBLE CODES - P0740, P0741, P0742, P0743, P0745, P0747, P0748, P0750, P0752, P0753, P0755, P0757, P0758, P0760, P0765**

DESCRIPTION:

This TSB supersedes TSB# 03-40-007 to revise repair information.

Incorrect operation of the transaxle solenoids for the 1996-00 Elantra, 1997-01 Tiburon and 1996-04 Accent may result in the following symptoms:

- Erratic shift or slipping
- Transaxle held in 3rd gear Fail-safe
- Diagnostic Trouble Codes - P0740, P0741, P0742, P0743, P0745, P0747, P0748, P0750, P0752, P0753, P0755, P0757, P0758, P0760, P0765 (see DTC Information on page 6 of this bulletin)
- MIL illuminated

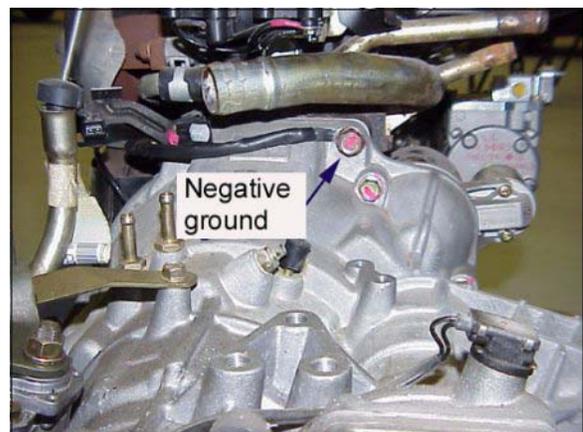
NOTE: Do NOT replace the transaxle for solenoid codes listed as “Open/short” in the “DTC Information” section. Instead, follow the repair procedure shown below.

REPAIR PROCEDURE:

1. Using a Hi-Scan Pro, check for codes in the “Automatic Transaxle” and “Engine” menus. **Record the DTC and description.**
2. Clean the connection between the battery cables and the battery posts.
3. Clean the connection between the negative battery cable and the transaxle case. Reinstall the cable.

NOTE: This procedure is necessary because the solenoids ground through the transaxle case and negative battery cable.

NOTE: A high resistance ground usually causes two or more DCCSV or PCSV DTC (P0742, P0743, P0745, P0747, P0748 or P0765).



4. Clean the connection between the negative battery cable and the body ground bolt located next to the battery. Apply conductive grease to the connection before reinstalling the bolt.

NOTE: This procedure is necessary because the TCM grounds through the body ground.



5. Measure the voltage drop between the negative battery cable and the transaxle case:
- Start the engine and turn on the headlights.
 - Use a digital voltmeter to measure the voltage drop between the negative battery terminal and the transaxle case (use VDC setting). If the voltage drop is:

More than 0.1 volts: Replace the negative battery cable

Less than 0.1 volts: Go to Step 6

6. Disconnect the connectors at the solenoids and TCM. Check for bent pins or pins not fully inserted in the connector. Repair as necessary.

NOTE: Clean connector pins with a contact cleaner listed below, or equivalent:

- NAPA Electronic Cleaner, P/N 765-1843
- MOPAR MP-50 Electrical Contact Cleaner, P/N 04549626
- Permatex Electrical Contact Cleaner, P/N 24379 or equivalent

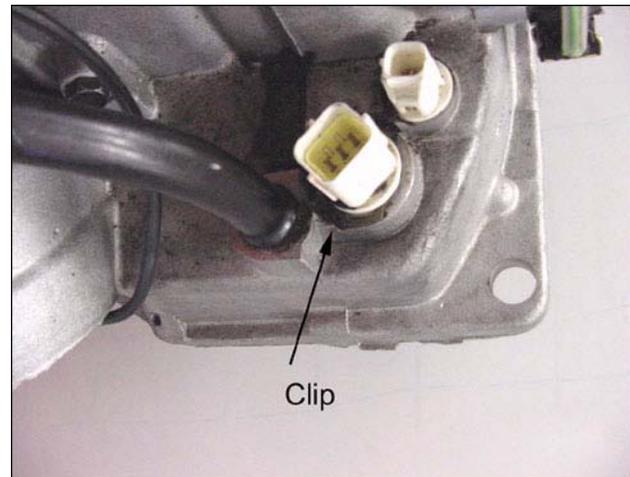
7. Refer to the DTC recorded in Step 1. To correct the following DTC, perform the related repair:

DTC	REPAIR
<ul style="list-style-type: none"> • P0742, P0743, P0745, P0747, P0748, P0750, P0752, P0753, P0755, P0757, P0758, P0760, P0765 • P0740, P0741 or P0742 together with P0743 	<ul style="list-style-type: none"> • Replace the solenoid assembly
<ul style="list-style-type: none"> • P0740 (Damper clutch control system problem), only • P0741 (Damper clutch stuck off), only • P0742 (Damper clutch stuck on), only 	<ul style="list-style-type: none"> • If other solenoid DTC found: Replace the solenoid assembly • If other solenoid DTC <u>NOT</u> found: Replace the transaxle
<ul style="list-style-type: none"> • P1529 - TCM MIL request signal 	<ul style="list-style-type: none"> • Delete code

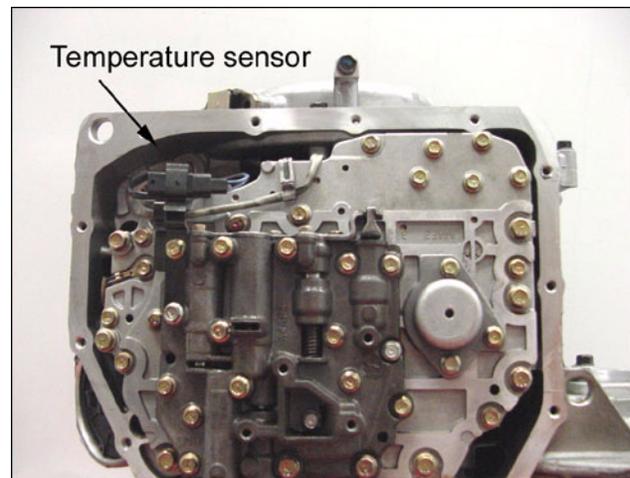


SOLENOID ASSEMBLY REPLACEMENT:

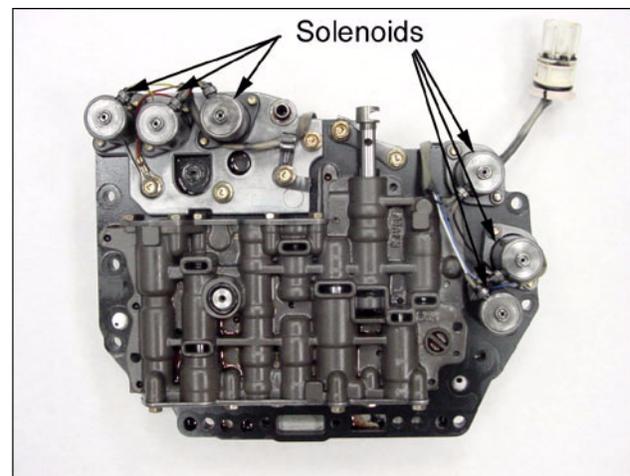
8. Using a screwdriver, remove the clip and push the solenoid connector into the transaxle case. (On earlier models, use two screwdrivers to push the tabs of the solenoid connector inward, then push the connector into the transaxle case).



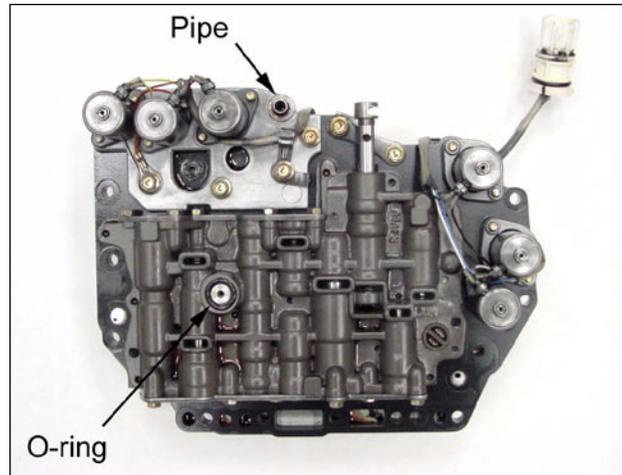
9. Remove the oil temperature sensor from the bracket. Remove the oil filter. Remove ten 10 mm bolts and remove the valve body.



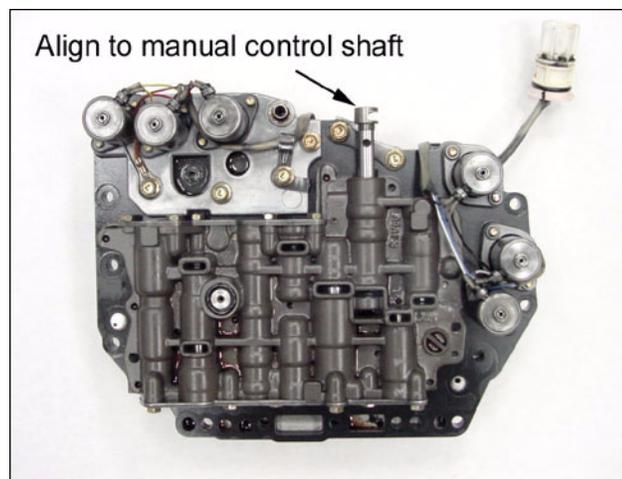
10. Remove the solenoids and carefully reinstall the new solenoids in the same location. Tighten the bolts to 3-4 lb-ft (40-60 kg.cm).



11. Confirm the o-ring is installed on the top center of the valve body and the valve body pipe is installed on the top of the valve body.



12. Carefully align the manual valve on the valve body to the manual control shaft and reinstall the valve body. Install the bolts and torque to 7-9 lb.ft (100-120 kg.cm).



13. Reinstall the temperature sensor to the bracket.
14. Push the solenoid connector through the hole in the case. Reinstall the clip on the solenoid connector.
15. Reinstall the oil filter and tighten the bolts to 4-5 lb.ft (50-70 kg.cm)
16. Install a new pan gasket and reinstall the oil pan. Tighten the bolts to 7-9 lb.ft (100-120 kg.cm).



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17. Add SPIII ATF (approximately 4 1/2 quarts for Accent, 5 quarts for Elantra/Tiburon) and check the level with the engine idling in Neutral. Confirm the ATF is at the correct level when the ATF is at normal operating temperature (70-100°C, 159-212°F).
18. Clear the codes and test drive the vehicle for two driving cycles (two key-on to key-off driving cycles, including 1-2-3-4 upshifts and 4-3-2-1 downshifts). If the DTCs return, perform the following repairs:

DTC	REPAIR
<ul style="list-style-type: none"> • P0742, P0743, P0745, P0747, P0748, P0750, P0752, P0753, P0755, P0757, P0758, P0760, P0765 • P0740, P0741 or P0742 together with P0743 	<ul style="list-style-type: none"> • Replace the TCM. If the DTCs return, replace the harness between the TCM and solenoids: Elantra, Tiburon & 1996-99 Accent: P/N 912XX-XXXXX 2000-04 Accent: P/N 914XX-XXXXX
<ul style="list-style-type: none"> • P0740 (Damper clutch control system problem), only • P0741 (Damper clutch stuck off), only • P0742 (Damper clutch stuck on), only 	<ul style="list-style-type: none"> • Replace the TCM
<ul style="list-style-type: none"> • P1529 - TCM MIL request signal 	<ul style="list-style-type: none"> • Delete code

PARTS INFORMATION:

MODEL	PART NUMBER	EFF. DATE	PART NAME
2000-2004 Accent	46313-22700	990901-	Solenoid valve assy
1996-1999 Accent	46313-28001	950713-990901	Solenoid valve assy
1996-2000 Elantra	46313-28001	950713-990601	Solenoid valve assy
	46313-22700	990601-	
1997-2001 Tiburon	46313-28001	950713-990601	Solenoid valve assy
	46313-22700	990601-	

WARRANTY INFORMATION - (SOLENOID VALVE ASSEMBLY REPLACEMENT):

MODEL	OP CODE	OPERATION	OP. TIME	OP. QTY	NATURE CODE	CAUSE CODE
2000-2004 Accent	45775R00	Replace solenoid valve assy	1.3 M/H	1	See LTS	See LTS
1996-1999 Accent			1.2 M/H			
1996-2000 Elantra			1.2 M/H			
1997-2001 Tiburon			1.2 M/H			
All	45775RP0	Scan tool operation	0.3 M/H	1		

DTC INFORMATION:

For your reference, the algorithms the TCM uses to set solenoid codes are listed below.

NOTE: Do NOT replace the transaxle for those codes listed as “Open/short”. Refer to the tables for additional information.

TCM DTC - 2000-04 ACCENT, 1999-00 ELANTRA (produced after 6/1/99):

COMPONENT	TCM DTC	MALFUNCTION CRITERIA	MONITOR TIME	DRIVING CYCLES	MIL	COMMENT
SCSV-A	P0750	Open/short	0.3 sec.	2	Yes	Electrical
SCSV-B	P0755					
SCSV-C	P0760					
PCSV-A	P0745					
PCSV-B	P0765					
DCCSV	P0743					
DCCSV	P0740	Solenoid duty 100% or TCC Slip < 5 rpm when commanded off	4 sec.			Hydraulic or damper clutch
	P0741	Solenoid duty 100% when commanded on	4 sec.			
	P0742	TCC Slip < 5 rpm when commanded off	10 sec.			