

**HYUNDAI**NEW THINKING.
NEW POSSIBILITIES.**Technical Service Bulletin**

GROUP	NUMBER
AUTOMATIC TRANSMISSION	13-AT-007
DATE	MODEL
APRIL 2013	ALL

SUBJECT: AUTOMATIC TRANSMISSION STALL TEST PROCEDURE*This TSB supersedes TSB 12-AT-005 to add 2013 models***Description:** To diagnose a transaxle for “slipping” or the following Diagnostic Trouble Codes, follow the Service Procedure shown below.

- If the vehicle does not pass the stall test, replace the transmission.
- If the vehicle passes the stall test:
 - First dealer visit: Delete any DTC and return the vehicle to the customer for evaluation.
 - Second dealer visit for same DTC: Replace the transmission.

DTC	DESCRIPTION
P0731	Gear 1 incorrect ratio
P0732	Gear 2 incorrect ratio
P0733	Gear 3 incorrect ratio
P0734	Gear 4 incorrect ratio
P0735	Gear 5 incorrect ratio
P0736	Reverse incorrect ratio
P0729	Gear 6 incorrect ratio
P076F	Gear 7 incorrect ratio
P0730	Gear 8 incorrect ratio

Applicable Vehicles: ALL**WARRANTY INFORMATION:** Normal warranty applies

SERVICE PROCEDURE - Stall Test Procedure without A/T Tester:

1. Check the automatic transaxle fluid level according to the following TSB. Add ATF, if necessary, to bring the level within the “HOT” range.

TSB	MODELS	GEARS	ATF
12-AT-004-1	2012~ Genesis Sedan (BH) and Equus (VI) 2013~ Genesis Coupe (BK)	8	00232-19052
13-AT-006	2010~ Tucson (LM) & 2010~12 Santa Fe (CM), 2011~ Sonata (YF)/(YF HEV), Elantra (MD/UD) & Azera (TG), 2012~ Accent (RB) & Azera (HG) 2013~ Veloster Turbo (FS), Elantra Coupe (JK), Elantra GT (GD) & Santa Fe (AN/NC)	6	00232-19045
09-AT-001	2009~11 Genesis Sedan (BH) V8, 2010~12 Genesis Coupe (BK) V6, 2011 Equus (VI)	6	00232-19015
08-AT-005	2009~11 Genesis Sedan (BH) 3.8L	6	00232-19016
07-40-004	2007~12 Veracruz (EN)	6	00232-19023
09-AT-003	2010~12 Genesis Coupe (BK) 2.0L	5	00232-19024
06-40-016	4-speed and 5-speed vehicles (except Genesis Coupe 2.0L)	4 & 5	00232-19012

2. Apply the parking brake and place blocks in front of and behind both front wheels.



Do not let anybody stand in front of or behind the vehicle.

3. Start the engine and move the shift lever to “R”.
4. Press and hold the brake pedal, then fully depress the accelerator and record the engine speed.



Do not hold the throttle fully open for more than 3 seconds. Release the throttle and allow the engine to idle in “N” for 15 seconds.

5. Confirm the stall speed is within the specifications shown in the related shop manual (approximately 2000~2900 rpm at sea level, depending on model). If the stall speed is higher than specification or the engine revs to the redline, one or more clutches may be slipping.
6. Move the shift lever to “D”, and then repeat Steps 4~5. Go to Step 7.
7. Move the shift lever to the “Sport Mode” position (if installed) and repeat Steps 4~5 in “Gear 1”.

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Move the shift lever forward to select "Gear 2" and perform Steps 4~5.



Choose the correct transmission and perform the stall test.

8. **8-SPEED ATM:** Perform a stall test in the following gears:
- 2012~ Genesis Sedan (BH) and Equus (VI)
 - 2013~ Genesis Coupe (BK)

SHIFT LEVER POSITION	BRAKE		CLUTCH			
	8LR	27	UD	6	4&OD	35R
REVERSE	X					X
DRIVE	X		X			
SPORT MODE "1"	X		X			
SPORT MODE "2"		X	X			
DRIVE IN SPORT MODE "6"				X	X	

Test 4&OD and 6 clutches: Drive in Sport Mode 6th gear and confirm the clutches do not slip or rev to redline at full throttle.

6-SPEED ATM: Perform a stall test in the following gears.

- 2010~ Tucson (LM) & Santa Fe (CM)
- 2011~ Sonata (YF)/(YF HEV), Elantra (UD/MD) and Azera (TG)
- 2012~ Accent (RB) & Azera (HG)
- 2013~ Veloster Turbo (FS), Elantra Coupe (JK), Elantra GT (GD) & Santa Fe (AN/NC)

9.

SHIFT LEVER POSITION	BRAKE			CLUTCH	
	LR	UD	26	35R	OD
REVERSE	X			X	
DRIVE	X	X			
SPORT MODE "1"	X	X			
SPORT MODE "2"		X	X		
DRIVE IN SPORT MODE "4"		X			X

Test OD clutch: Drive in Sport Mode 4th gear and confirm the clutch does not slip or rev to redline at full throttle.

10. **6-SPEED ATM:** 2007~ Veracruz (EN) Perform a stall test in the following gears:

SHIFT LEVER POSITION	BRAKE		CLUTCH			
	B1	B2	C1	C2	C3	1-WAY
REVERSE		X			X	
DRIVE			X			X
SPORT MODE "1"			X			X
SPORT MODE "2"	X		X			
DRIVE IN SPORT MODE "4"			X	X		

Test C2 clutch: Drive in Sport Mode 4th gear and confirm the clutch does not slip or rev to redline at full throttle.

11. **6-SPEED ATM:** 2009~11 Genesis Sedan (BH) 3.8L. Perform a stall test in the following gears:

SHIFT LEVER POSITION	BRAKE				CLUTCH			
	B1	B2	B3	B4	C1	C2	C3	C4
REVERSE	X			X			X	
DRIVE					X			Engine braking
SPORT MODE "1"				X	X			Engine braking
SPORT MODE "2"		X	X		X			Engine braking
DRIVE IN SPORT MODE "4"					X	X		Engine braking

Test C2 Clutch: Drive in Sport Mode "4" and confirm the "C2" clutch does not slip or rev to redline at full throttle.

Test C4 Clutch: Drive in Sport mode "1" and confirm engine braking when decelerating.

12. **6-SPEED ATM:** Perform a stall test in the following gears.

- 2009~11 Genesis Sedan (BH) 4.6L,
- 2010~12 Genesis Coupe (BK) 3.8L
- 2011 Equus (VI) 4.6L.

SHIFT LEVER POSITION	BRAKE		CLUTCH		
	C	D	A	B	E
REVERSE		X		X	
DRIVE		X	X		
SPORT MODE "1"		X	X		
SPORT MODE "2"	X		X		
DRIVE IN SPORT MODE "4"			X		X

Test "E" Clutch: Drive in Sports Mode "4" and confirm the "E" clutch does not slip or rev to redline at full throttle.

13. **5-SPEED ATM:** 2010~12 Genesis Coupe 2.0L. Perform a stall test in the following gears.

SHIFT LEVER POSITION	BRAKE				CLUTCH		
	REV.	FRONT	L/C	FWD	INPUT	H&LR	DIRECT
REVERSE	X	X				X	
DRIVE				X			
SPORT MODE "1"			X	X		X	
SPORT MODE "2"			X	X			X
DRIVE IN SPORT MODE "4"					X	X	X

Test Input Clutch: Drive in Sports Mode "4" and confirm the Input clutch does not slip or rev to redline at full throttle.

14. **5-SPEED ATM WITH SPORT MODE** – Except 2010~12 Genesis Coupe (BK) 2.0L: Perform a stall test in the following gears.

SHIFT LEVER POSITION	BRAKE		CLUTCH			
	2-4	LR	UD	OD	REVERSE	RED
REVERSE		X			X	X
DRIVE		X	X			X
SPORT MODE "1"		X	X			X
SPORT MODE "2"	X		X			X
DRIVE IN SPORT MODE "3"			X	X		X

Test OD clutch: Drive Sports Mode "3" and confirm the "OD" clutch does not slip or rev to redline at full throttle.

15. **4-SPEED ATM WITH PRND321 SHIFT PATTERN.** Perform a stall test in the following gears:
- 2001~10 Elantra Sedan
 - 2009~12 Elantra Touring.

SHIFT LEVER POSITION	BRAKE		UD	OD	REV	1-WAY
	2nd	LR				
REVERSE		X			X	
“D”		X	X			
“1” or “L”		X	X			
DRIVE IN “2”	X		X			
DISCONNECT SOLENOID CONNECTOR AT TRANSAXLE			X	X		

Test 2-4 Brake: Drive in “2” above 30 mph and confirm the 2-4 brake does not slip or rev to redline at full throttle.

Test OD Clutch: Drive in “3” above 60 mph and confirm the OD clutch does not slip or rev to redline at full throttle.

16. **4-SPEED ATM WITH PRND2L SHIFT PATTERN:** Perform a stall test in the following gears.
- 1999~05 Sonata
 - 1997~01 Tiburon
 - 1992~95 Elantra

SHIFT LEVER POSITION	BRAKE		CLUTCH		
	LR	2ND	UD	OD	REVERSE
REVERSE	X				X
“D”	X		X		
“2”		X	X		
DRIVE IN “3”				X	
DISCONNECT SOLENOID CONNECTOR AT TRANSAXLE			X	X	

Test OD Clutch: Drive in “3” above 60 mph and confirm the OD clutch does not slip or rev to redline at full throttle.

17. **4-SPEED ATM WITH PRDL SHIFT PATTERN:** 1995~99 Accent. Perform a stall test in the following gears.

SHIFT LEVER POSITION	BRAKE	CLUTCH			
	L&R	FRONT	REAR	END	1-WAY
REVERSE	X	X			
DRIVE			X		X
"L"	X		X		
DRIVE IN 4TH GEAR		X		X	

Test End Clutch: Drive in 4th gear above 60 mph and confirm the end clutch does not slip or rev to redline at full throttle.