HYUNDAI Technical Service Bulletin

Group	ENGINE ELECTRICAL
Number	05-36-010
Date	OCTOBER, 2005
Model	2001-2004 XG300/350, 2003-2004 SANTA FE 3.5L

Subject

DIAGNOSING DTC P1159

(VARIABLE INTAKE TARGET POSITION)

CIRCULATE TO:	[ ] GENERAL MANAGER	[X] PARTS MANAGER	[X] TECHNICIAN
[X] SERVICE ADVISOR	[X] SERVICE MANAGER	[X] WARRANTY MGR	[ ] SALES MANAGER

DESCRIPTION:

The 3.0L and 3.5L engines in the XG300, XG350 and Santa Fe incorporate a Variable Induction System (VIS). The VIS is a secondary set of throttle plates in the upper intake plenum used to increase low end torque while maintaining high rpm performance. The Powertrain Control Module (PCM) uses a Variable Intake Motor (VIM) to control the opening and closing of the additional throttle plates called the Intake Control Valve (ICV). At low rpm the (ICV) is closed and, as rpm increases, it is opened a specified amount for optimum airflow.

A VIS system condition is not likely to affect drivability, however, a diagnostic trouble code (DTC) may set. The DTC for the VIS system is P1159 (Variable Intake Target Position). The PCM controls the desired valve position and when the feedback of the valve position does not correlate with the requested position this code is set. This DTC will not turn the check engine lamp on, however the code will remain in memory.

NOTE: P1159 has been changed to P2015 for the 2005MY.
Please refer to DTC P2015 in the 2005 Shop Manual for further diagnostic information on P1159. (XG350: page FL-555) (Santa Fe: page FL-633)

DTC DETECTING CONDITION:

ITEM	DETECTING CONDITION	POSSIBLE CAUSE
DTC Strategy	Target position monitoring	• Poor connection • Open or short to battery in harness • VIS Motor or VIS Motor Rotation Sensor • PCM
Enable Condition	Engine speed ≥ 3750 rpm	
Threshold Value	Unable to obtain target value	
Diagnosis Time	Unable to obtain target position 4 times	
MIL On Condition	N/A	

The VIM is not available as a separate unit from the upper plenum if replacement is needed, therefore the entire plenum assembly must be replaced.

MODEL	PRODUCTION DATE	PART NUMBER
XG300	07/01/2000 - 10/01/2002	29220-39500
XG350	10/01/2002 - current	29220-39675
Santa Fe 3.5L	01/15/2003 - current	29220-39675

NOTE: With the intake plenum removed, inspect the gear on the VIM to see if it has stripped. Carefully inspect the throttle plate retaining screws that attach the plates to the VIS shaft. If any of the screws are missing (2 screws per throttle plate) inspect for engine damage.

Once the intake replacement is completed (see appropriate Shop Manual for the vehicle you are working on) the Electronic Throttle Position System (ETS) should be re-initialized by turing the ignition key On and Off within 1 second. Then, wait 30 seconds before starting the vehicle. Refer to TSB 05-36-002 for the complete ETS initialization procedure.

WARRANTY INFORMATION:

Normal warranty procedures apply.