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Wednesday, November 16, 2005

2005 NOV 17 A 10:59

OFFICE OF
DEFECTS INVESTIGATION

Mr. Ronald Medford
Acting Associate Administrator for Enforcement
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

05V-527
(9 pages)

RE: Defect Information Report

Dear Mr. Medford:

Pursuant to Part 573 of Title 49 of the Code of Federal Regulations, Hyundai de Puerto Rico is submitting information concerning a recall that is being voluntarily initiated. Specific information as required by Section 573.6 is as follows:

573.6(c)(1)

Manufacturer - Hyundai Motor Company

Distributor - Hyundai de Puerto Rico

573.6(c)(2)

Certain 2005 model year Hyundai Santa Fe vehicles produced beginning August 10, 2004 through November 5, 2005.

573.6(c)(3)

Approximately 134 model year 2005 Hyundai Santa Fe vehicles produced beginning August 10, 2004 through November 5, 2005.

573.6(c)(4)

All of the model year 2005 Hyundai Santa Fe vehicles produced beginning August 10, 2004 through November 5, 2005.

573.6(c)(5)

2005 model year Hyundai Santa Fe vehicles are equipped with an Occupant Classification System (OCS) that meets the passenger advanced airbag suppression and activation requirements of FMVSS 208. During a NHTSA Office of Vehicle Safety Compliance evaluation of a 2005 model year Hyundai Santa Fe, the test indicated that during some seating a 6 year old child may be misclassified as an adult when seated in a position described by S22.2.2.4 as sitting on the edge, spine vertical, hands by the side. The misclassification of a 6 year old child sitting on the edge, spine vertical, hands by the side may allow the right front airbags to deploy in an accident.

This condition affects 2005 model year Hyundai Santa Fe vehicles manufactured from August 10, 2004 through November 5, 2005.

573.6(c)(6)

NHTSA Office of Vehicle Safety Compliance testing of a 2005 model year Hyundai Santa Fe demonstrated the potential for misclassification of a 6 year old child as an adult when sitting on the edge, spine vertical, hands by the side.

Hyundai Motor Company believes that the 2005 model year Santa Fe fully complies with the requirements of FMVSS 208, including those requirements related to airbag suppression. However, NHTSA's testing indicated that the margin of compliance with the requirements of S22.2.2.4 may not be sufficient to prevent the possibility for misclassification for some children during some seatings tests for compliance with S22.2.2.4. As Hyundai has chosen to meet requirements of S22.2.2.4 through the use of humans rather than dummies, and to address NHTSA's test results, Hyundai has decided to make available an increased margin of compliance to better accommodate variations in the human physical characteristics and seatings positions.

Therefore, Hyundai Motor Company has decided to conduct a recall in the Puerto Rico to reprogram the OCS Electronic Control Unit (ECU) to replace the original algorithm with an algorithm that provides an increased margin of compliance with the requirements of S22.2.2.4 for 2005 model year Hyundai Santa Fe vehicles produced beginning August 10, 2004 through November 5, 2004.

Hyundai Motor Company incorporated a running change in production on November 5, 2004 to install a new OCS ECU algorithm that provides an increased classification performance margin for the 6 year old in various seating positions beyond those required by FMVSS 208. This algorithm will also provides an increased classification performance margin for the 6 years old S22.2.2.4 position, sitting on the edge, spine vertical, hands by the sides.

In October 2005, Hyundai Motor Corporation provided notice to the Puerto Rico distributor of Hyundai automobiles that it intended to conduct a recall to resolve this matter. Hyundai is not aware of any customer contact to Hyundai de Puerto Rico or its dealers related to this condition. Hyundai is not aware of any accidents or injuries related to this condition.

573.6(c)(8)

All owners of record of the affected vehicles will be contacted by mail and instructed to bring their vehicles to Hyundai dealers. Hyundai dealers will reprogram the OCS ECU to replace the original algorithm with an updated version that provides more margins for compliance with respect S22.2.2.4.

Hyundai de Puerto Rico anticipates the recall mailing will be initiated on Tuesday December 6, 2005. The owner notification will be completed in one mailing. Hyundai de Puerto Rico anticipates that dealers will be notified by November 28, 2005.

Reprogramming or other service to the OCS ECU of all vehicles affected by this recall would have been covered for 5 years or 60,000 miles under Hyundai's new vehicle's limited warranty. As no owners of these 2005 model year vehicles would have incurred expenses for this warranted repair as a result of this condition, Hyundai believes that it is not necessary, but customers will be instructed to call a Customer Service line for advice concerning to possible reimbursement as provided under section 577.11.

573.6(c)(9)

The Technical Service Bulletin containing the service procedure for reprogramming the OCS ECU will be provided to NHTSA at the time that this notification is send. Other relevant communications will also be forwarded when they are available.

573.6(c)(10)

A draft of the owner notification letter is attached.

573.6(c)(11)

Hyundai has assigned "Campaign 074" as the designation for the campaign.

Sincerely,



Ricardo García
Director, Hyundai de PR

Attachments: (2)

Dealer Notification Letter
Customer Notification Letter

AFFECTED HYUNDAI VEHICLES:

- 2005 SANTA FE



HYUNDAI OF PUERTO RICO
Box 192216
San Juan, PR, 00919-2216

Date : December 2005

CODE
CUSTOMER
ADDRESS1
ADDRESS2
ADDRESS3

DRAFT

RE : IMPORTANT SAFETY RECALL NOTIFICATION
(Occupant Classification System – Recall no. 05V-SSS)

VIN : VIN

Dear Santa Fe Owner:

This notice is sent to you in accordance with the requirements of the **National Traffic and Motor Vehicle Safety Act**.

Federal Law 49 CFR Part 577 requires that any lessor receiving this recall notice must forward a copy of this notice to the lessee within **ten days of receipt**.

Hyundai of Puerto Rico has decided to conduct a motor vehicle safety recall on certain 2005 model year Hyundai Santa Fe vehicles that were produced during the period of August 10, 2004 through November 5, 2004, which fail to conform to the requirements of Federal Motor Vehicle Safety Standard No. 208, "Occupant Crash Protection".

WARNING: Hyundai recommends that children must always be seated in the rear seat, properly wearing the seat belt, and Child Restraints Seats (CRS) must always be properly installed in the rear seat. Children must never be seated in the front seat and Child Restraint Seats must never be installed in the front seat. Should a crash occur and cause the right front airbags to inflate, it could cause severe injury or death for a child seated in the front seat or an infant or child seated in a CRS.

What is the problem?

In certain situations, the Occupant Classification System (OCS) installed in the right front seat of your vehicle may misclassify certain small children seated on the front edge of the seat as an adult. (Note: intended range of recognition as certain small children –height range of 45 to 49 inches and weight range of 46.5 to 56.5 pounds).

The possibility of misclassification of certain small children as an adult may allow the front airbag to deploy in a frontal collision crash or the side impact airbag to deploy in a side collision crash.

When the right front passenger airbags are activated (may inflate in a crash) the "**PASSENGER AIR BAG OFF**" light on the instrument panel is not illuminated. When a CRS or small child occupies the right front seat, the "**PASSENGER AIR BAG OFF**" light on the instrument panel must always be illuminated, indicating that the right front passenger airbags are disabled (may not inflate in a crash).

What will Hyundai do?

To ensure that your vehicle's OCS will properly classify certain small children when seated on the front edge of the seat and will disable the right front airbags, we are asking you to schedule an appointment as soon as possible to take your vehicle to your Hyundai dealer. The dealer will reprogram your vehicle's OCS Electronic Control Units (ECU) to provide an increased margin of recognition of certain small children. This procedure will be performed at no charge to you. The time needed for the actual repair is approximately less than half an hour, but you should plan to leave your vehicle at your Hyundai dealer to have this service performed. Repair times will vary and depend on your dealer's appointment schedule. A dealer list is included for your convenience.

What should you do?

We urge you to call your Hyundai dealer to schedule an appointment to have this work performed as soon as possible. If you have already encountered the problem described above and you have paid for the repairs, please call **Hyundai of Puerto Rico at 1-800-981-0188** for counsel on a possible reimbursement.



Technical Service Bulletin

Model	SANTA FE (SM)
Group	AIR BAG SYSTEM (57)
Number	5-57-P02-SM
Date	NOV. 08, 2005
Area	Puerto Rico

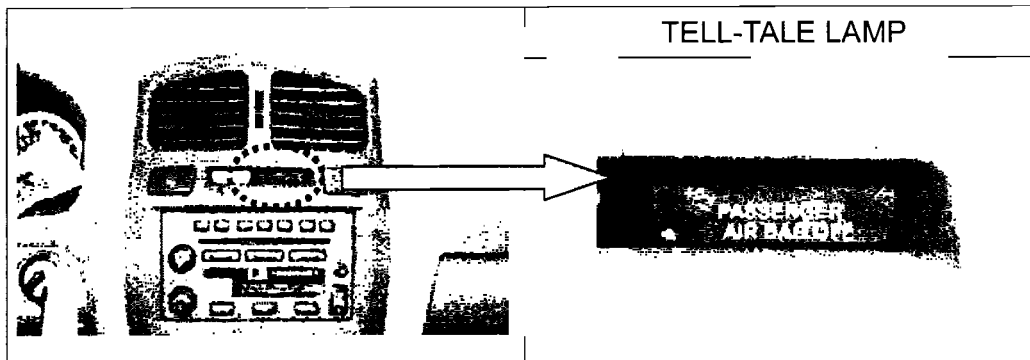
Subject
OCCUPANT CLASSIFICATION SYSTEM REPROGRAMMING (05V-###)

1. DESCRIPTION

The Occupant Classification System(OCS) detects the presence of a passenger in the front passenger seat and automatically illuminates the air bag tell-tale lamp(PASSENGER AIR BAG OFF) in the center fascia panel and turns the right side air bags off for light weight or out of position occupants.

To improve sensing characteristics by OCS for particularly small adults and young children, an updated OCS logic for 2005 SANTA FE model has been made available.

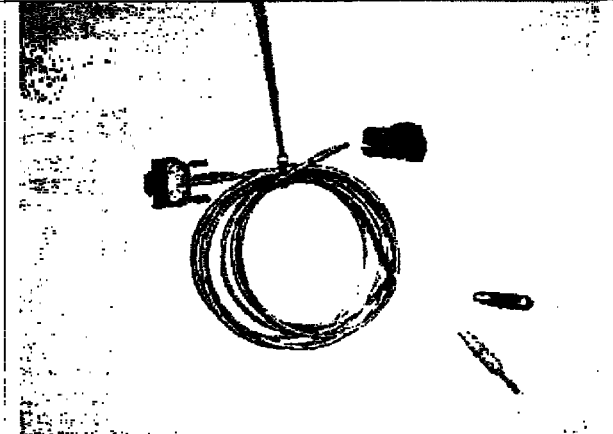
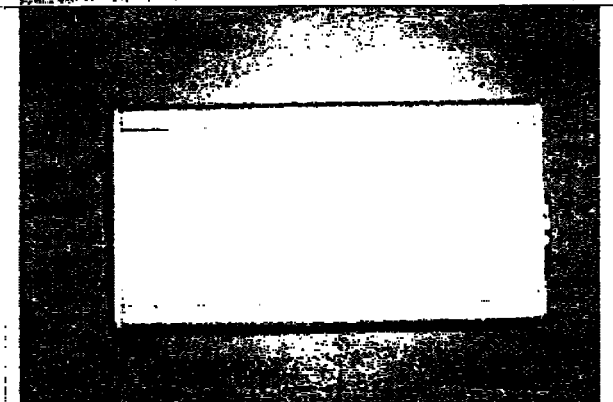
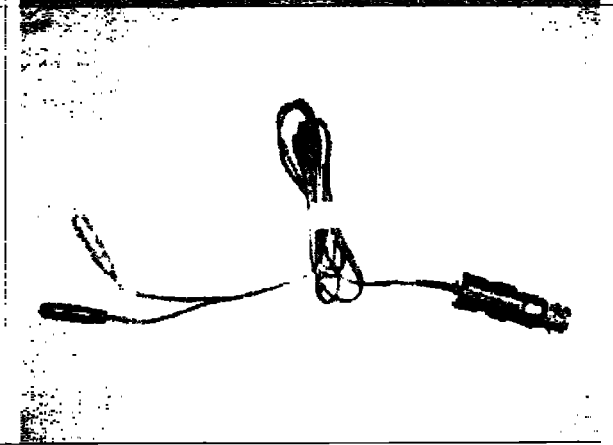
This bulletin provides how to update the OCS logic by using the OCS reprogramming tool.



2. VEHICLES AFFECTED

- Model : 2005 SANTA FE (SM)
- Affected vehicle production date range :
 - Produced from August 10, 2004 to November 5, 2004
- Affected VIN range :
 - Produced from KM8SC13D15U847464 to KM8SC73D35U913502
- Area : Puerto Rico

3. TOOLS REQUIRED

PART NAME	REMARKS
● OCS cable	
● Reprogramming box	
● Cigar jack	

4. SERVICE PROCEDURE

NOTES

- Verify that the vehicle is one of the affected vehicles by identifying the vehicle production date and VIN.
- Be careful not to disconnect any cables connected to the vehicle or tools during reprogramming.

- 1) Open the right front and rear doors.
- 2) Turn the ignition switch OFF.
(Do not turn the ignition switch ON).
- 3) Disconnect the occupant classification (OC) sensor connector under the passenger seat.

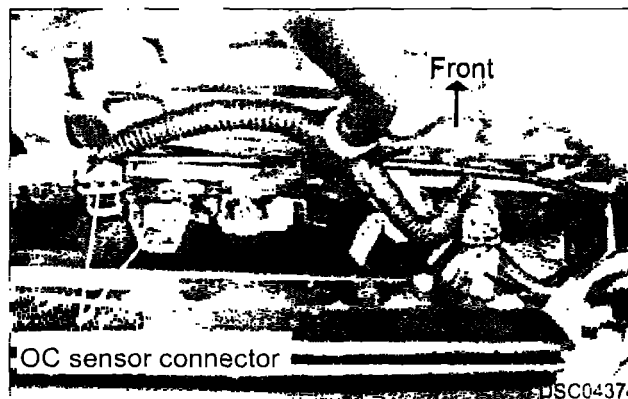
NOTES

- Locate the OC sensor connector under the passenger seat pan and unplug the OC sensor connector with pushing the connector locking tap upward.



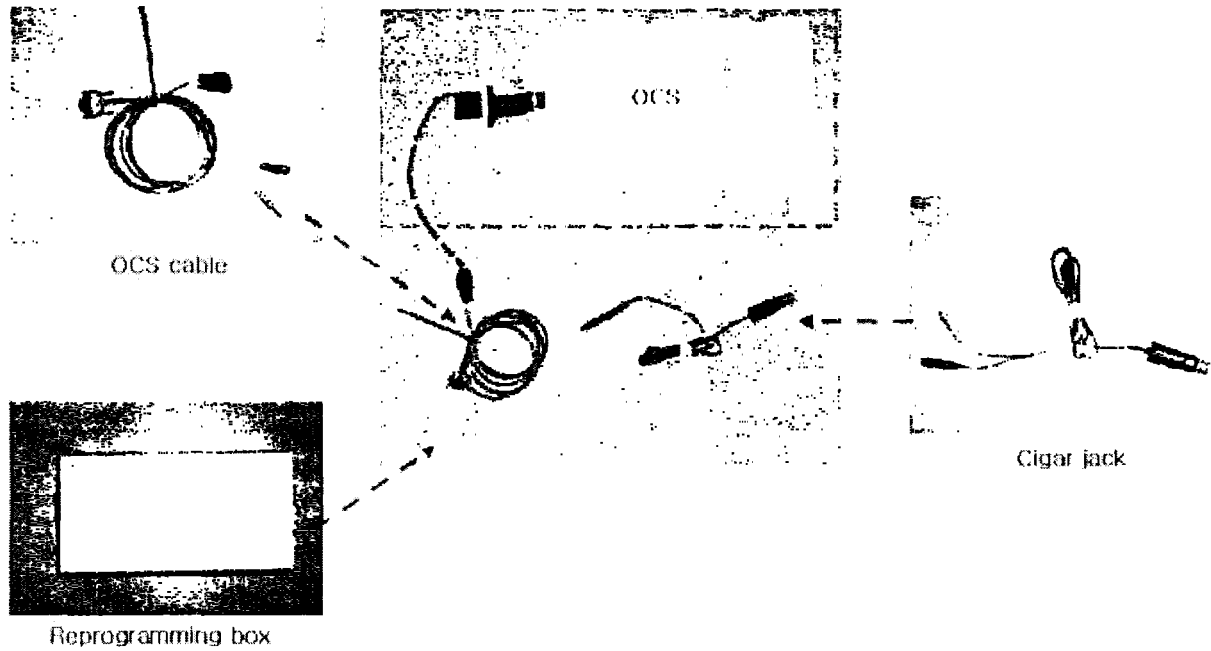
DSC04366

- Passenger seat under view

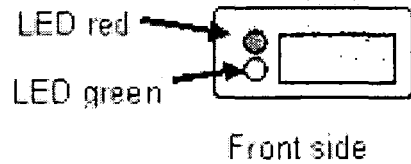


DSC04374

- 4) Connect the OCS (Occupant Classification System) reprogramming tool to the vehicle.
 - Connect the vehicle's OC sensor connector to the OCS cable.
 - Connect the OCS cable to the front side of the reprogramming box (LED side).
 - Connect the reprogramming box to the power supply (12V) using the cigar jack.



- 5) Turn the ignition switch to the "ACC" position.
 The LED lights up to show that power is connected to the box.
 After the initialization phase (about 3 seconds) both LED - red and green – are ON to show that the box is ready to start the reprogramming.

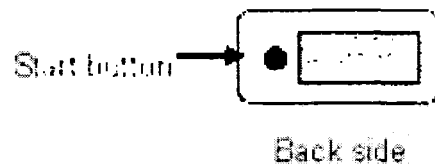


- 6) Press the start button on the back side of the box to start reprogramming.
 The green LED will stay until the connected OC is detected as a target OC (Reprogramming will start).

NOTE

If the red LED blinks 3 times and stays red, reprogramming will not start.

If both LED lights will stay although start button was pressed, the available calibration (Stored in the EEPROM) is invalid. Reprogramming is not possible.



- 7) Wait until the reprogramming is complete.
During reprogramming both LED lights will blink alternately for about 1 minute.
- 8) If the green LED light will blink 3 times and then stay green after reprogramming, reprogramming has been done successfully.
If the red LED light will blink 3 times and then stay red after reprogramming, reprogramming was failed.
- 9) If reprogramming failed, this can have the following reason :
 - a) The connected OC system is not a target OC. In this case the OC functionality of the sensor is the same as before. The sensor calibration did not change.
 - b) The reprogramming of the target OC failed. In this case either the CommSelect byte is reset, so that the sensor is not able to run standard communication, or there is an H/W or Algo parameter error, and the sensor is also not able to run standard communication.
 - c) No OC connected
 - d) Power supply too low.

IN CASE THE REPROGRAMMING FAILED, YOU MAY TRY IT AGAIN.

- 10) Turn the ignition to the OFF position.
Disconnect the reprogramming tools.
Reconnect the occupant classification sensor connector.
- 11) Check for diagnostic trouble codes (DTC) using the Hi-Scan Pro with the system software card. Erase all trouble codes if any.
- 12) Close the door.

6. OPERATION CODE AND TIME

OP CODE	OPERATION	OP TIME	DEFECT CODE		REMARKS
			NATURE	CAUSE	
40B052R1	Occupant classification system reprogramming	0.2M/H	*N94	**C23	

*N94 : Inoperative
**C23 : Improper machining