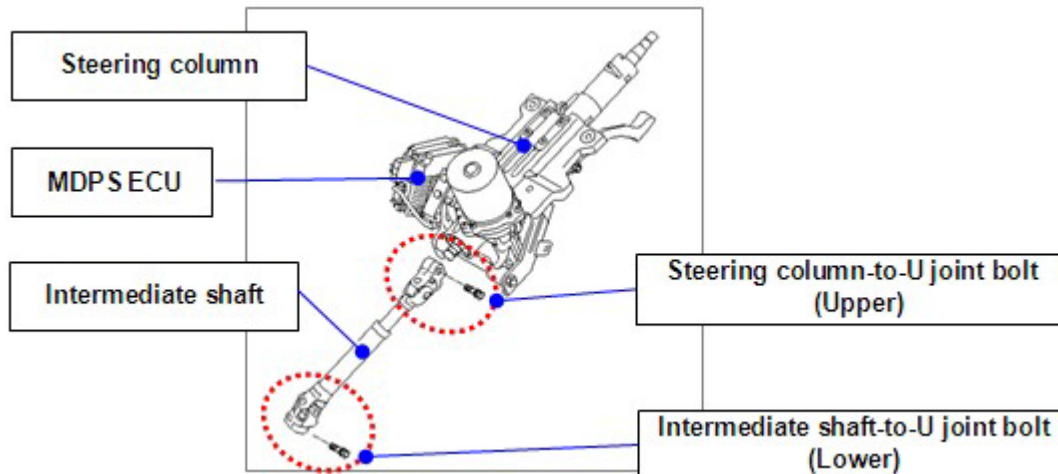
 TSB	Model	Sonata(YF)(2011)
	Group	Steering System(61)
	TSB No.	HRE10-61-P120-YF
Subject STEERING COLUMN INTERMEDIATE SHAFT CONNECTIONS INSPECTION	Published	10/7/2010
	Area & Distributor	GUAM (A31AA), PUERTO RICO (B35AA), PUERTO RICO (B35AB), PUERTO RICO (B35AC)

1. Description

This bulletin provides the procedure for inspecting to ensure that the steering column and the upper intermediate shaft universal joint (U joint), and the steering pinion splined shaft and the lower intermediate shaft U joint are properly connected and that both attaching bolts are tightened to the specified torque. Additionally, a procedure is provided to update the MDPS software.



2. Applicable Vehicles

- Model: 2011MY Sonata (YF) 2.4L
- Applicable production date range: From February 20, 2010 to June 30, 2010
- Applicable VIN range: From 5NPEB4AC2BH021759 to 5NPEC4AC9BH102805

3. Parts Information

- Parts required

PART	FIGURE	REMARKS
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<p>White paint pen Examples: - Markal Pro-Line HP 96960 - White - Other white touch up paint pens such as 00284-02011JR (YF Sonata White Pearl)</p>		<p>Mark the steering shaft U-joint pinch bolt heads (upper and lower) after inspection. For information on local parts availability for Markal paint pens visit: http://www.markal.com</p>
<p>Steering column intermediate shaft P/N: 56400-3Q000</p>		<p>Inspect the threads in the upper and lower Ujoints for damage.</p>
<p>Bolt, upper intermediate shaft universal joint. P/N: 56415-3W000</p>		<p>Inspect for damage and torque to spec: 39.8~47.0 lb-ft</p>
<p>Bolt, lower intermediate shaft universal joint. P/N: 56415-1C000</p>		<p>Inspect for damage and torque to spec: 23.9~27.5 lb-ft</p>

4. Operation Code And Time

OP CODE	OPERATION	OP TIME
10BA28R0	STEERING COLUMN INSPECTION AND MDPS ECU UPDATE	0.4 M/H

NOTE: If the steering intermediate shaft and U-joint pinch bolts are replaced, submit an additional claim under normal warranty.

5. Service Procedure

1. STEERING COLUMN INSPECTION PROCEDURE - STEERING COLUMN TO UJOINT (UPPER END OF STEERING INTERMEDIATE SHAFT)

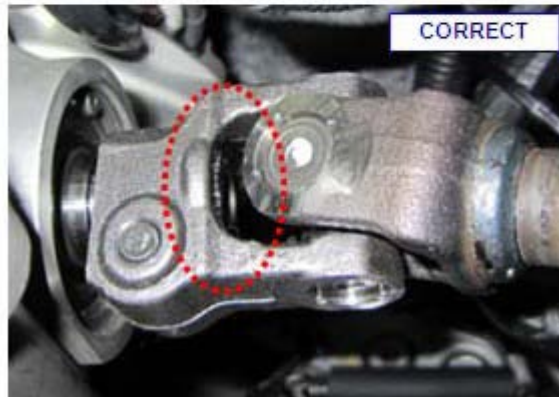
1. Inspect all 4 U-joint bearing caps.
Turn the steering wheel to visually access them. Ensure they are properly fixed in the yoke by the four indentations. If the caps are loose, replace the steering intermediate shaft assembly.

NOTE: If the shaft is replaced, submit a claim (in addition to the campaign claim) under normal warranty.



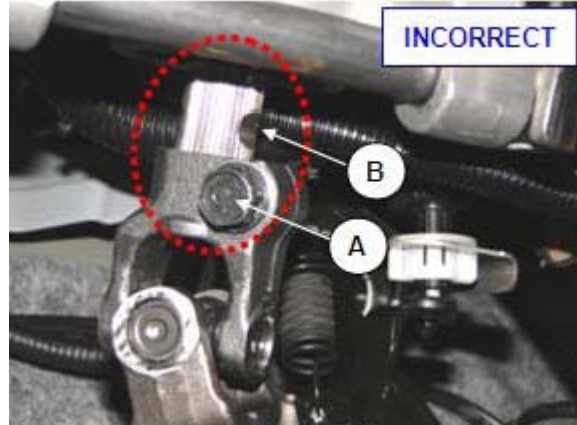
2. Visually check that the steering column and the U joint are properly connected as shown in the picture on the right.

NOTE: Look to verify that the end of the steering shaft protrudes about 1/8" into the void of the U-joint (see image). It is not seated properly if it does not protrude slightly.



3. If the steering column and the U joint are improperly connected as shown in the picture on the right, re-connect the U joint to the steering column according to the steps below. If properly connected, go to step 8.

NOTE: The steering column-to-U joint bolt (A) must be fastened through the groove (B) in the end of the steering column.



4. Remove the steering column-to-U joint bolt.



5. Inspect the bolt for damage/stripping/cross-threading. Inspect the corresponding threads in the U-joint. Replace both if damage is found.

NOTE: If the bolt and intermediate shaft are replaced, submit a claim (in addition to the campaign claim) under normal warranty.



6. Pull the U joint up until the bolt hole in the U joint is aligned with the groove in the end of the steering column.



7. Insert the steering column-to-U joint bolt into the bolt hole and check that the bolt passes through the groove.



8. Torque the steering column-to-U joint bolt to 39.8–47.0 lb-ft, (53.9–63.7 N-m, 5.5–6.5 kgf-m) with a torque wrench.



9. Mark the bolt head with a whitepaint pen to complete inspection procedure.



2. STEERING COLUMN INSPECTION PROCEDURE - STEERING PINION SPLINED SHAFT TO U-JOINT (LOWER END OF STEERING INTERMEDIATE SHAFT)

1. Pull back carpet to access lower end of steering intermediate shaft.
2. Inspect all 4 U-joint bearing caps. Turn the steering wheel to visually access them. Ensure they are properly fixed in the yoke by the four indentations. If the caps are loose, replace the steering intermediate shaft assembly.

NOTE: If the shaft is replaced, submit a claim (in addition to the campaign claim) under normal warranty.



3. Visually check that the steering pinion splined shaft and the U joint are properly connected as shown in the picture on the right.

NOTE: Look to verify that the end of the splined shaft protrudes about 1/4" into the void of the U-joint (see image). It is not seated properly if it does not protrude slightly.



4. If the splined shaft and the U joint are improperly connected as shown in the picture on the right, re-connect the U joint to the steering column according to the below steps. If properly connected, go to step 9.

NOTE: The steering pinion splined shaft-to-U joint bolt must be fastened through the groove in the end of the splined shaft.



5. Remove the steering column-to-U joint bolt.



6. Inspect the bolt for damage/stripping/cross-threading. Inspect the corresponding threads in the U-joint. Replace both if damage is found.

NOTE: If the bolt and intermediate shaft are replaced, submit a claim (in addition to the campaign claim) under normal warranty.



7. Push the U joint onto the splined shaft until the bolt hole in the Ujoint is aligned with the groove in the splined shaft.

8. Insert the bolt into the bolt hole and check that the bolt passes through the groove.

9. Torque the steering pinion splined shaft-to-U joint bolt to 23.9~27.5lb-ft, (32.4~37.3 N-m, 3.3~3.8 kgfm) with a torque wrench.



10. Mark the bolt head with a white paint pen to complete the inspection procedure.



3. SERVICE PROCEDURE - MDPS SOFTWARE UPDATE

NOTE: To verify the vehicle is affected, be sure to check the version of the MDPS ECU ROM ID with reference to the table below before attempting to update the MDPS ECU.

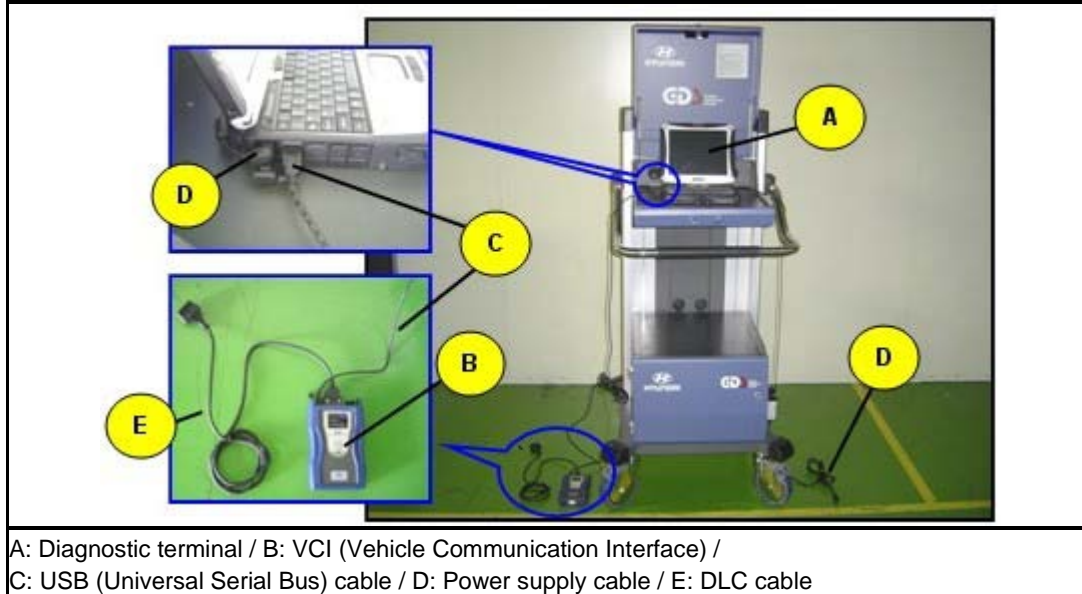
MDPS ECU ROM ID TABLE

MODEL	STEERING COLUMN P/NO.	ROM ID	
		PREVIOUS	NEW
2011 Sonata (YFA 2.4L)	563103Q200	4YFH0911	4YFJ1008
	563103Q400	4YFH0912	

CAUTION During MDPS ECU update:

1. Make sure the vehicle's battery has reasonable charge by connecting a power supply to the vehicle's battery.
2. Turn off all lamps (do not leave head lamp switch in auto mode) and all accessories (including heater, A/C, blower, radio, seat warmer, defroster, etc.) to prevent battery discharge during the update.
3. Perform update with the ignition switch in the ON position.
4. Be careful not to disconnect any cables connected to the vehicle or scan tool during update.
5. Do not start the engine during update.
6. Do not turn off the ignition switch during update.

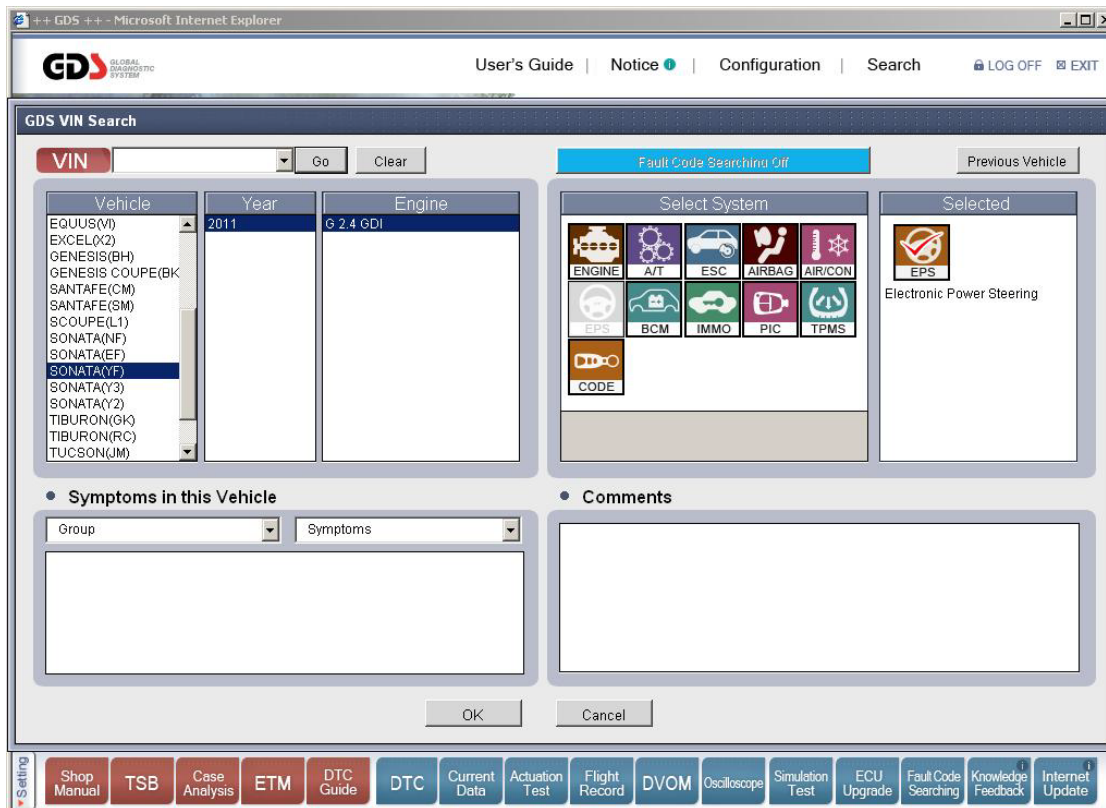
■ **GDS Installation Procedure**



1. Connect a power supply to the vehicle's battery to ensure adequate voltage during the update.
2. Connect the power supply cable to the diagnostic terminal.
NOTE: If attempting to perform the update with the power supply cable disconnected from the diagnostic terminal, make certain that the diagnostic terminal is charged enough for the update.
If not, the update may fail in progress. Therefore, it is strongly recommended to connect the power supply cable to the diagnostic terminal during the update procedure.
3. Connect the USB cable between the VCI and the diagnostic terminal.
NOTE: When performing the update using the GDS, wireless communication between the VCI and the diagnostic terminal is NOT available. Therefore, be sure to connect the USB cable between the VCI and the diagnostic terminal.
4. Connect the 16-pin DLC cable from the VCI into the vehicle's 16-pin connector under the driver side instrument panel.
5. Turn on the VCI and diagnostic terminal with the ignition key in the ON position. If equipped with button engine start system, push the engine start button twice WITHOUT depressing the brake pedal.
CAUTION: Do not start the engine.

- AUTOMATIC UPDATE PROCEDURE

1. Choose VIN or ECU Update on the initial screen.
2. Enter the vehicle information by pressing the VIN Auto Detect button, entering the vehicle's VIN or selecting the vehicle model, model year, engine/fuel type and EPS as the system and then click OK.



3. Select ECU Update on the initial screen after entering the vehicle information.
4. Select Auto Mode then EPS in the left ECU Update column.
5. Read Preparation and click OK.
6. The GDS will read the vehicle's ROM ID.
7. After the Current ROM ID is displayed, select the Update Event, "**207.YFA MDPS UPDATE.**"
8. After clicking the Update button, read Information then click OK.
9. The vehicle battery voltage is checked to make sure it is at least 12 volts to ensure reliable update results. Click OK if the results indicate Voltage is OK.
CAUTION: If voltage is below 12 volts, click Cancel and then connect a power supply to the vehicle's battery to ensure adequate battery charge state for reliable update results.
10. Update will begin and the progress of the update will appear on the bar graph. Progress bar will update every few seconds. Check to ensure proper update progress. Update will occur until 100 is reached on the bar graph.
11. Turn the ignition key OFF for 10 seconds, place it back in the ON position and then click OK to continue according to Information displayed on the screen.
12. Click OK on the final screen, which indicates update is complete.
13. Check if any incidental Diagnostic Trouble Codes (DTC) have been created by the update and clear the DTC(s) present.
14. Start the engine to confirm proper operation of the vehicle.

- MANUAL UPDATE PROCEDURE

CAUTION: Manual update should be performed only when automatic update fails.

CAUTION: If automatic update fails, turn the ignition key OFF for about 10 seconds, place it back in the ON position to reset the control unit before performing manual update.

1. Within the ECU Update screen, select Manual Mode in the left column, then select Update Event #207. Select the appropriate control unit part number with reference to the ROM ID Information Table and click OK.



2. Enter the appropriate password from the table below then click OK.

MENU	PASSWORD
YFA MDPS : 56310-3Q200/400	3400

3. The vehicle battery voltage is checked to make sure it is at least 12 volts to ensure reliable update results. Click OK if the results indicate Voltage is OK.
CAUTION: If voltage is below 12 volts, click Cancel and then connect a power supply to the vehicle's battery to ensure adequate battery charge state for reliable update results.
4. Update will begin and the progress of the update will appear on the bar graph. Progress bar will update every few seconds. Check to ensure proper update progress. Update will occur until 100 is reached on the bar graph.
5. Turn the ignition key OFF for 10 seconds, place it back in the ON position and then click OK to continue according to Information displayed on the screen.
6. Click OK on the final screen, which indicates update is complete.
7. Check if any incidental Diagnostic Trouble Codes (DTC) have been created by the update and clear the DTC (s) present.
8. Start the engine to confirm proper operation of the vehicle.