GROUP	MODEL
СНА	Multiple Models (see table below)
NUMBER	DATE
044 (Rev 1, 06/11/2014)	May 2014

TECHNICAL SERVICE BULLETIN

SUBJECT:

MDPS FLEXIBLE COUPLING REPLACEMENT

***** NOTICE

This bulletin has been revised to include additional information. New/revised sections of this bulletin are indicated by a black bar in the margin area.

This bulletin provides information related to the replacement of the flexible coupling in the MDPS motor of some of vehicles, which may experience a "clicking" noise emanating from the MDPS when turning the steering wheel left or right, while stopped. This condition may be caused by premature wear of the flexible coupling in the MDPS. To correct this concern, replace the flexible coupling as outlined in this TSB. Refer to the table below for production dates and a breakdown of replacement procedures by model.

Procedure	Model/Year	Model/Year Applicable Production Range	
1	Forte (TD) / 2012~2013	From Jan. 05, 2012 ~ Mar. 31, 2013	
	Soul (AM) / 2010~2013	From Sep. 01, 2009 ~ Aug. 15, 2013	
	Optima (TF) / 2011~2014	From Aug. 17, 2010 ~ Dec. 18, 2013	205
2	Optima (QF) / 2011~2014	From Aug. 12, 2011 ~ Dec. 18, 2013	
	Cadenza (VG) / 2014	From Feb. 01, 2013 ~ Apr. 19, 2014	
	Forte (YD) / 2014	From Jan. 7, 2013 ~ Dec. 18, 2013	

File Under: <CHASSIS>

Circulate To:Image: General ManagerImage: Service ManagerImage: Parts ManagerImage: Service Advisor(s)Image: Technician(s)Image: Body Shop ManagerImage: Fleet Repair

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Replacement Procedure 1: This procedure applies to Forte (TD) models.

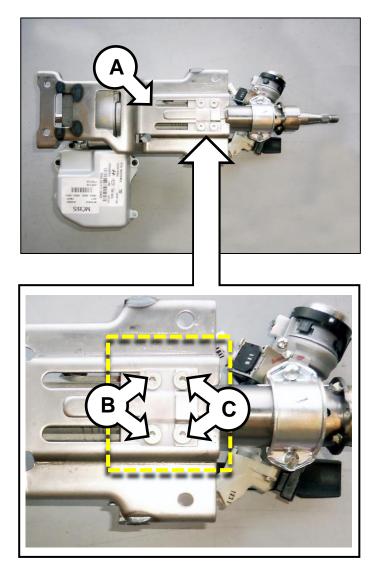
1. Remove the MDPS unit by referring to the applicable procedure on KGIS.

* NOTICE

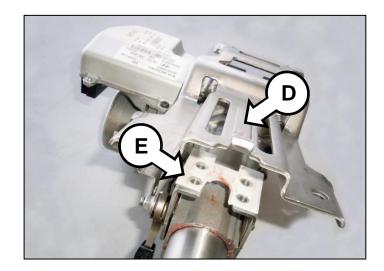
Before removing the MDPS unit, make sure to align the steering wheel to the center position.

 Locate the steering column guide bracket (A) and remove four (4) Torx[®] head screws (B/C) securing it to the steering column.

> Tightening torque: B: 3.6 lb-ft (4.9 Nm) C: 2.2 lb-ft (2.9 Nm)



 Lift the steering column guide bracket (D) and remove the plastic spacer (E). Retain all parts as they will be reused.



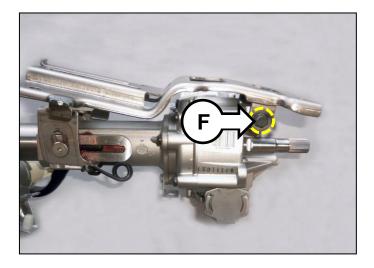
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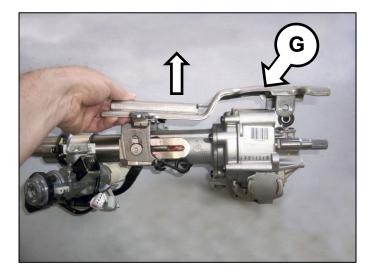
MDPS FLEXIBLE COUPLING REPLACEMENT

4. Remove the steering column guide bracket hinge bolt (F).

Tightening torque: 13~14.5lb-ft (17.7~19.6 Nm)

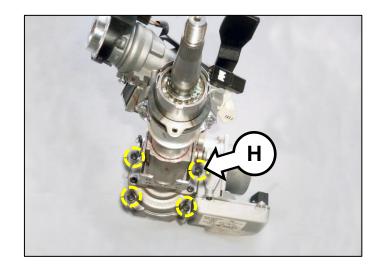


5. Remove the steering column guide bracket (G) from the steering column.



 Hold the MDPS upright and loosen four Torx[®] head screws (H) securing the column to the motor housing.

> Tightening torque: 6.5~9.4lb-ft (8.8~12.7 Nm)

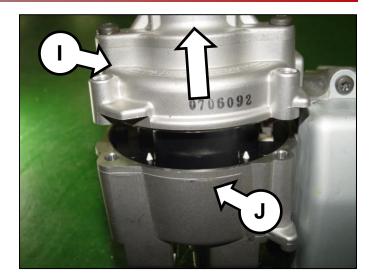


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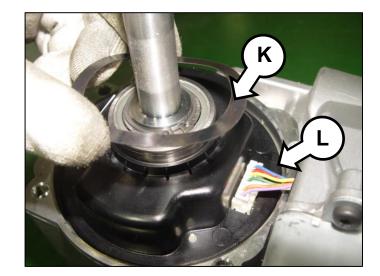
MDPS FLEXIBLE COUPLING REPLACEMENT

7. Separate the upper half (I) of the motor housing from the lower half (J).



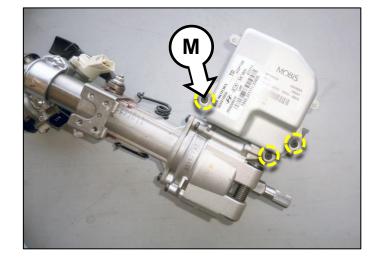
8. Remove the washer-gasket (K) and connector (L) from lower portion of the MDPS.

To avoid damage, use caution when removing the connector.



 Remove three (3) Torx[®] head screws (M) securing the MDPS ECU cover.

Tightening torque: 3.6~5.1lb-ft (4.9~6.9Nm)



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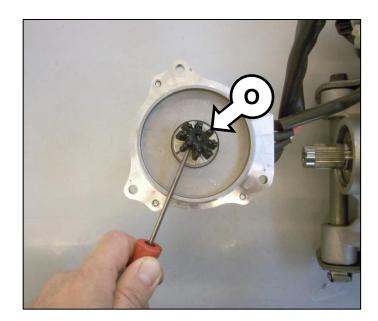
10. Remove four (4) Torx[®] head screws (N) securing the MDPS motor cover.

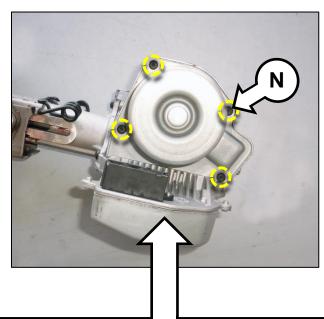
Tightening torque: 3.6~5.1lb-ft (4.9~6.9Nm)

11. Remove the MDPS motor cover.

To avoid damage, use caution when removing the connector and the wiring harness.

 Remove the original flexible coupling (O) from the housing. In addition, use an air gun to remove any foreign matter from the motor and/or the housing.







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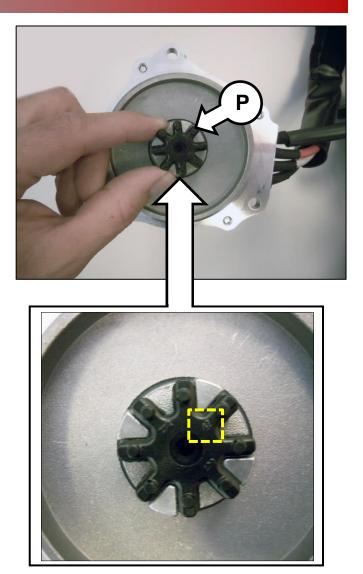
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 Replace the original flexible coupling with the new part (P). Refer to the graphic below to properly align the flexible coupling with the motor housing.

***** NOTICE

Before installing the new part, make sure it has "4P" embossed on the surface.



14. Reinstall all removed components by reversing the order of removal.

* NOTICE

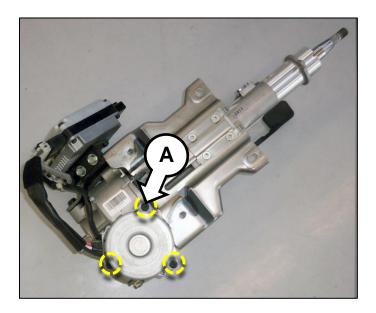
Before re-installing the MDPS unit, make sure the front wheels are pointing straight ahead.

Replacement Procedure 2: This procedure applies to Soul (AM), Optima (QF/TF), Cadenza (VG) and Forte (YD) models.

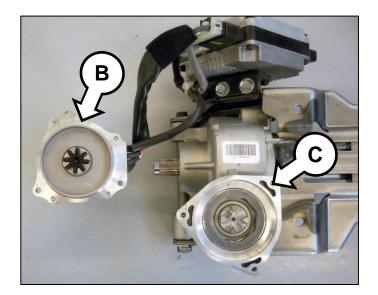


Before removing the MDPS unit, make sure to align the steering wheel to the center position.

- 1. Remove the MDPS unit by referring to the applicable procedure on KGIS.
- 2. Remove 3 bolts (A) securing the MDPS motor to the housing.



3. Separate the MDPS motor (B) from the housing (C), as shown.

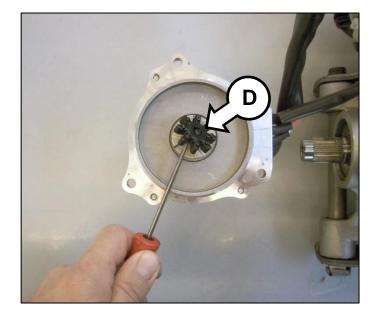


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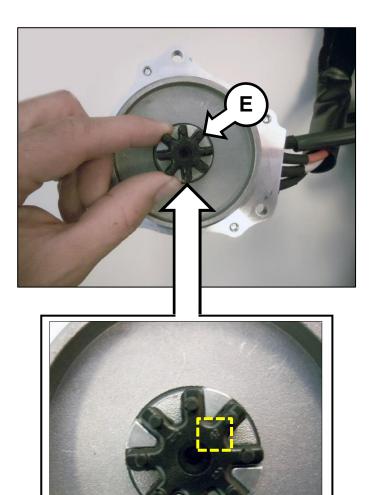
 Remove the original flexible coupling (D) from the motor. In addition, use an air gun to remove any foreign matter from the motor and/or the housing.



5. Install the new flexible coupling (E) onto the MDPS motor, as shown.

***** NOTICE

Before installing the new flexible coupling, make sure it has "4P" embossed on the surface.



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***** NOTICE

Before re-installing the MDPS unit, make sure the steering wheel is aligned to the center position, with the front wheels pointing straight ahead.

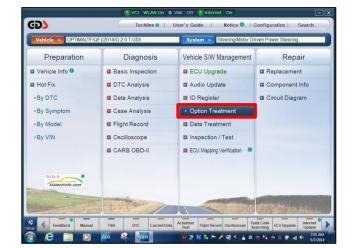
6. Reinstall all removed components by reversing the order of removal.

Calibration Procedure:

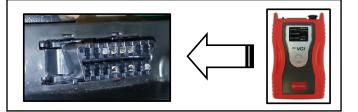
- 1. Connect the power supply cable to the GDS.
- 2. Connect the USB cable between the VCI and the GDS.
- 3. Connect the Main 16-pin DLC cable (GHDM 241000) to the VCI.
- 4. Connect the Main 16-pin DLC cable (GHDM 241000) to the OBD-II connector, located under the driver's side of the instrument panel.
- 5. Select **EPS** and click on **OK**.



6. Select **Option Treatment** under the Vehicle S/W Management tab.



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7. Select ASP Calibration.

	💽 VCI : WLAN On 💿 VMI : Off 🔮 Internet : On							
GD	Preparation	Diagnosis	Vehicle S/W Managemen	Repair	0			
Vehicle > OPTIMA(TR	F/QF)/2014/G 2.0 T-GDI	S	stem 🕨 Steering/Motor Dr	ven Power Steering	i 🕀			
Vehicle S/W Management	Vehicle S/W Manageme	nt						
ECU Upgrade	ID Register							
Audio Update	System Ident	tification						
ID Register								
Option Treatment	Data Treatment							
This item is not supporte								
	ASP Calibrat	ion						
	Seps Type Re	cognition						
< +								
Data Treatment								
Inspection / Test								
ECU Mapping Verification								
Setup FeedBack N	anual TSB DTC	Current Data Actua	Ion Flight Record Oscilloscope	Fault Code Searching ECU Upgrade	Internet Update			
💿 🤗 🚞	D 605 😪 🛛	GDS 🕌	2 K N P 🖌 Q 4 L	a a si é i i i a	40 7:51 AM 5/7/2014			

8. Click **OK** to continue with ASP calibration.

VCI : WLAN On 🔹 VMI : Off 💽 Internet : On						
GD) Preparatio	n Diagnosis	Vehicle S/W Management	Repair O			
Vehicle > OPTIMA(TF/QF)/2014/G 2.0 T	-GDI	stem) Steering/Motor Driven				
Vehicle S/WK 2 ASP Calibration ECU Upgr ID Registe Option Treats IB This item is	function when you repl If you're ready, press	tr Initialing ASP Calibration. Perform this one EPB ECU or do work related to EPS. OR(button.				
Data Treatr Inspection / Verse EDU Mapping Verification I entry FreedBack Manual TSB	DTC CurrentData Actu	OK Cancel	II Code triching ECU Upgrade Upgrade 1752 AM			

9. Start the engine and center the steering wheel. Then, click on **OK**.

	VCI	WLAN ON SVMITC	m gintemet on		
GD	Preparation	Diagnosis	Vehicle S/W Management	Repair	0
Vehicle D OPTIMA(1	F/QF)/2014/G 2.0 T-GDI	Sy	Steering/Motor Driven	Power Steering	0
nicle S/W M 🚊 ASP Call	bration			0	1
ECU Upgr Audio Upd D Registe Spion Treat This Item is		The second se	rindulng ASP Calibration, Perform this E PPS ECU or do work related to EPS. Kij button		
Data Treatr			OK Cancel		
nspection /					
CU Mapping Verification					
FeedBack	Manual TSB DTC	Current Data Actuat	on Flight Record Oscilloscope Sea	It Code Irching ECU Upgrade	ternet Ipdate
) <i>e</i> 🚞	D 00 😪 🛛	GDS X	9 K N P & Q 4 L = 1		7:52 AM 5/7/2014

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10. Turn the ignition **OFF** and wait 15 seconds. Then, turn the ignition **ON** and click on **OK**.



11. Access **Current Data** and verify the Steering Angle Sensor value is at 0.0 \pm 5.0 degrees.

GD	Preparation	Diagnosis	Vehicle S/W Management	Repair	
	F/QF)/2014/G 2.0 T-GDI	Sy	stem 🕨 Steering/Motor Drive	n Power Steering	0
	Current Data			Swarch 🔛	
Basic Inspection	Selective Display \$ Full	List Craph C	items List : Reset Min Max Re	cord Stop 😂 Groupi	ng VSS
DTC Analysis	Sensor Name		v	alue Unit	
Data Analysis	Battery Voltage			12.25 V	
OSelect a Sensor Data	Steering Angle Sensor			3.6	
item to view its relative	Steering Wheel Velocity Moto Current Target Motor Current Current Current Current Current Moto Temperature Percentage Of Denating Vehicle Speed Filtered Vehicle Speed Culturation Cultur			0 degree's 0 A 0 A 0 Nm 15 °C 15 °C 0 % 0 MPH 0 MPH 70P - TIAL -	
Case Analysis					
Flight Record					
Oscilloscope					
CARB OBD-II	1				
FeedBack	Manual TSB DTC	Current Data Actual	on Flight Record Oscilloscope	ault Code ECU Upgrade	Internet Update

MDPS FLEXIBLE COUPLING REPLACEMENT

AFFECTED VEHICLE PRODUCTION RANGE:

Model/Year	Applicable Production Range
Forte (TD) / 2012~2013	From Jan. 05, 2012 ~ Mar.31, 2013
Soul (AM) / 2010~2013	From Sep. 01, 2009 ~ Aug. 15, 2013
Optima (TF) / 2011~2014	From Aug. 17, 2010 ~ Dec.18, 2013
Cadenza (VG) / 2014	From Feb. 01, 2013 ~ Apr.19, 2014
Forte (YD) / 2014	From Jan. 7, 2013 ~ Dec.18, 2013
Optima (QF) / 2011~2014	From Aug. 12, 2011 ~ Dec.18, 2013

PART INFORMATION:

Part Name	Part No.	Qty.	Replacement Part
Flexible Coupling	56315 2K000FFF	1	

WARRANTY INFORMATION: N CODE = N29 C CODE = C63

Model	Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	QTY.		
Soul (AM)		56310 2K625	0				1.3 M/H			
Optima (QF)		56310 2T301			56315F00	1.5 M/H				
Forte (TD)		56310 1M550		0	50	(CHA 044) MDPS Flexible		1.6 M/H	56315	
Optima (TF)	W	56310 2T305			Coupling Replace	56245502	1.3 M/H	2K000FFF	1	
Cadenza (VG)		56310 3R561				56315F02	1.5 M/H			
Forte (YD)		56310 A7410				1.3 M/H				