	GROUP **CHA**	MODEL **Multiple Models**
	NUMBER **074 (Rev 2, 04/29/2019)**	DATE **August 2016**

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 is issued to provide information about the replacement of the flexible coupling in the MDPS motor of some vehicles which might experience a “knock” noise originating from the MDPS, when moving the steering wheel to right or left when the vehicle is stopped. This is caused by premature wear of the flexible coupling in the MDPS motor. If any “knock” noise from the MDPS occurs, replace the affected flexible coupling only with an improved one, following the Replacement Procedure below.

Please note that Replacement Procedures 1, 2 and 3, as shown below, vary depending on the model. Calibration Procedures only apply to Replacement Procedures 1 and 3. For reference, there are 2 types of torque sensors to detect revolution and torque in the MDPS system. One is the optical type which detects when light is transmitted and the other is the magnetic type which detects changes in polarity.

Procedure	Model/Year	Applicable Production Range	Replacement Part
1	Forte (TD) / 2012~2013	From Jun. 1, 2011 ~ Mar. 18, 2013	
2	Soul (AM) / 2010~2013	From Jan. 8, 2009 ~ Oct. 2, 2013	
	Forte (YD) / 2014	From Nov. 7, 2012 ~ Apr. 26, 2014	
3	Cadenza (VG) / 2014	From Feb. 1, 2013 ~ Apr. 19, 2014	

File Under: <Chassis>

Circulate To: ☒ **General Manager** ☒ **Service Manager** ☒ **Parts Manager**

☒ **Service Advisor(s)** ☒ **Technician(s)** ☒ **Body Shop Manager** ☒ **Fleet Repair**

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

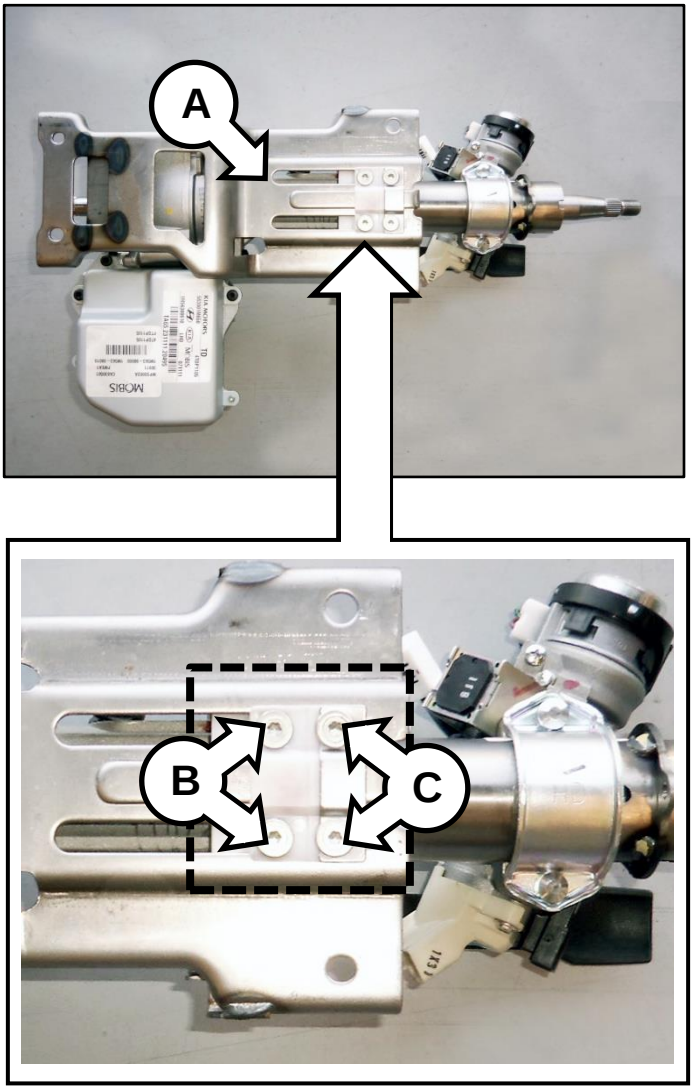
1. Remove the MDPS unit by referring to the applicable procedure on KGIS.

✱ NOTICE

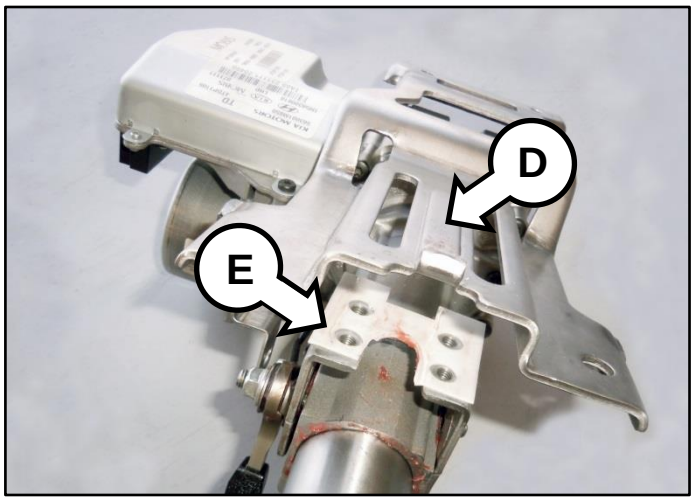
Before removing the MDPS unit, make sure to align the steering wheel to the center position.

2. 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

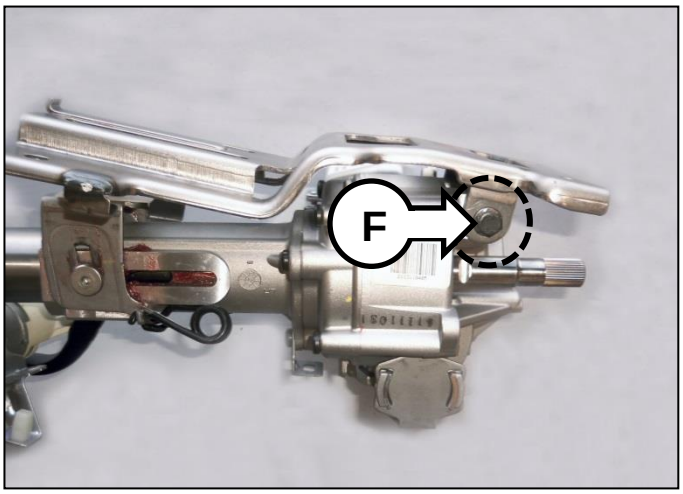


3. Lift the steering column guide bracket (D) and remove the plastic spacer (E). Retain all parts as they will be reused.

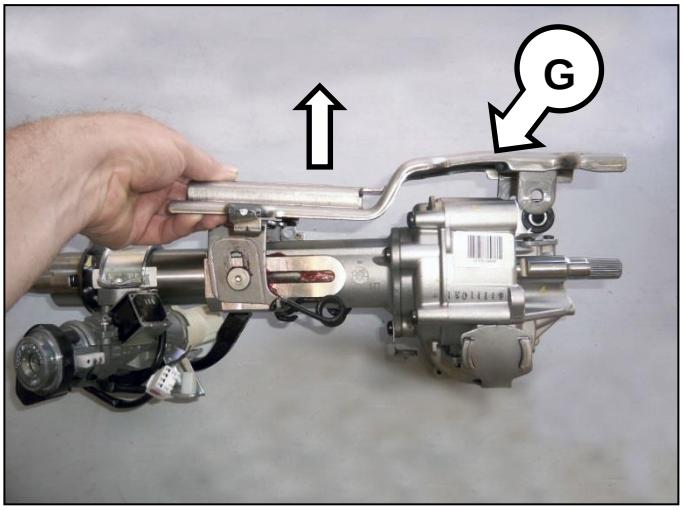


4. Remove the steering column guide bracket hinge bolt (F)

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

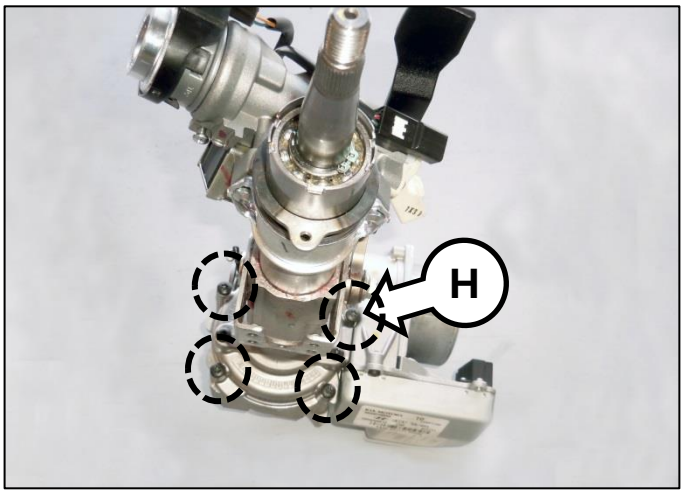


5. Remove the steering column guide bracket (G) from the steering column.

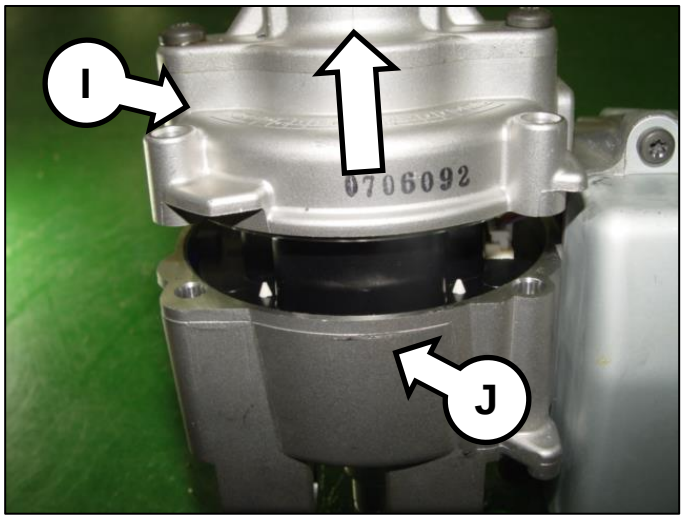


6. Hold the MDPS upright and loosen four Torx® head screws (H) securing the column to the motor housing.

   Tightening torque:
   6.5 – 9.4 lb.ft (8.8 – 12.7 Nm)



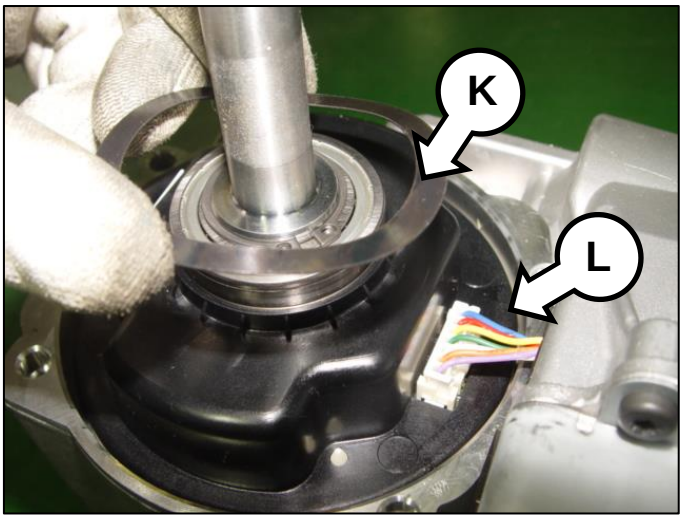
7. Separate the upper half (I) of the motor housing from the lower half (J).



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

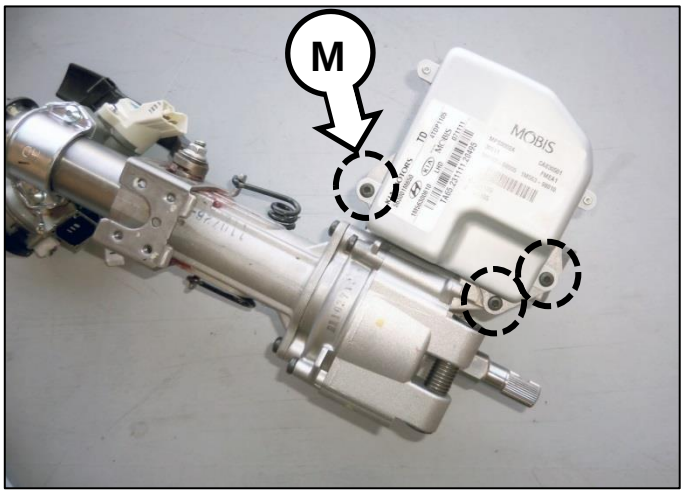
⚠ CAUTION

To avoid damage, use caution when removing the connector.



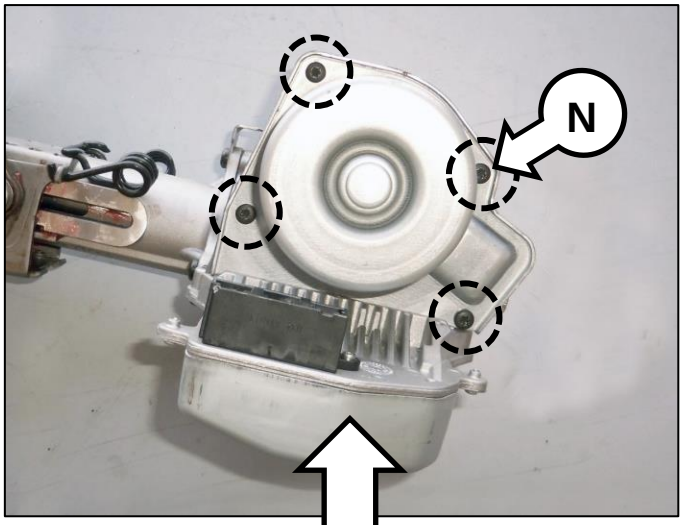
9. Remove the 3 Torx® head screws (M) securing the MDPS ECU cover.

Tightening torque:
3.6 – 5.1 lb.ft (4.9 – 6.9 Nm)



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

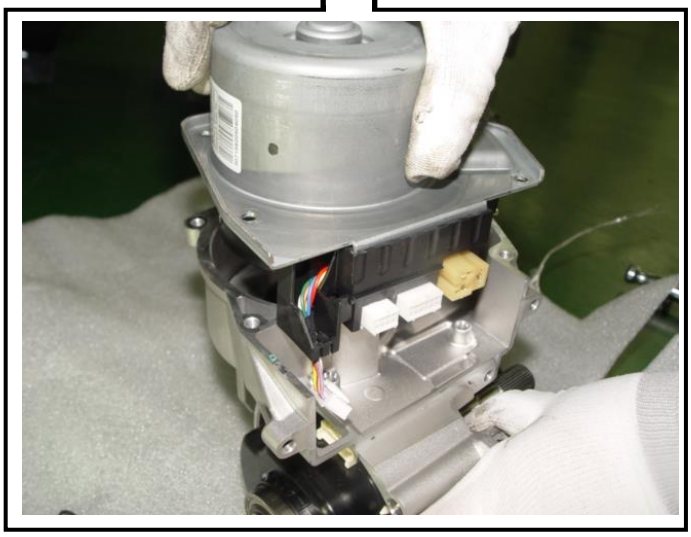
Tightening torque:
3.6 – 5.1 lb.ft (4.9 – 6.9 Nm)



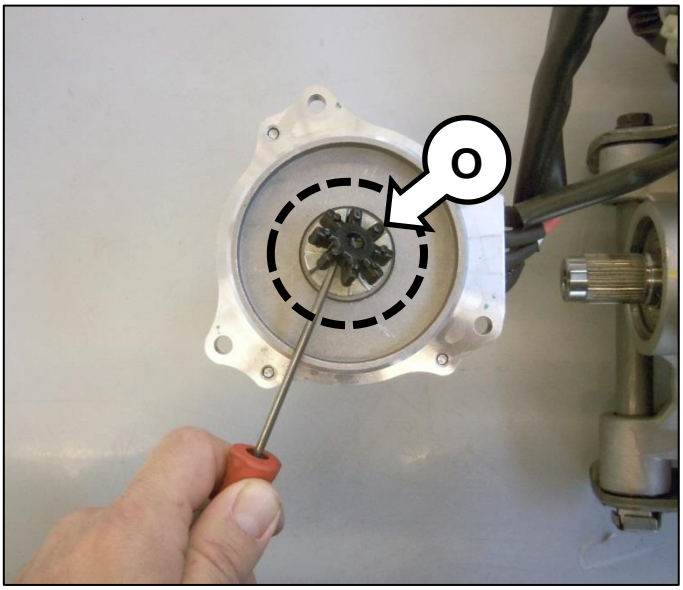
11. Remove the MDPS motor cover.

⚠ CAUTION

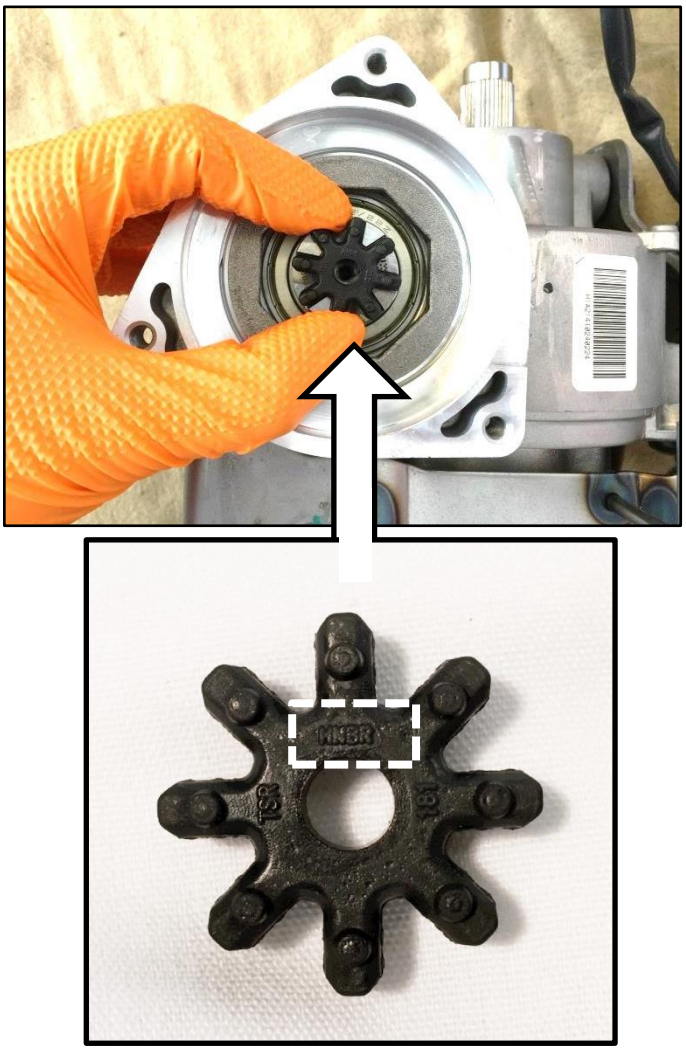
To avoid damage, use caution when removing the connector and the wiring harness.



12. 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.



13. Install the new improved flexible coupling onto the steering column.



★ NOTICE

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

The position of the flexible coupling is not specific and can be installed facing upward or downward.

14. Reinstall all removed components by reversing the order of removal. Perform the **Calibration Procedure found on page 13.**

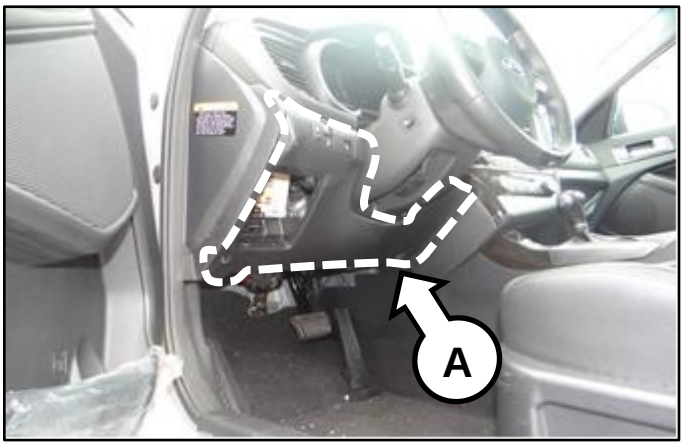
★ NOTICE

Before reinstalling the MDPS unit, make sure the front wheels are pointing straight ahead.

Replacement Procedure 2: This procedure applies to Soul (AM), and Forte (YD) models.

NOTE: Images shown are for general information and not representative of each model's actual configuration.

1. Remove the crash pad lower panel (A) by referring to "Body (Interior and Exterior) → Interior → Crash Pad → Repair procedures" on KGIS.

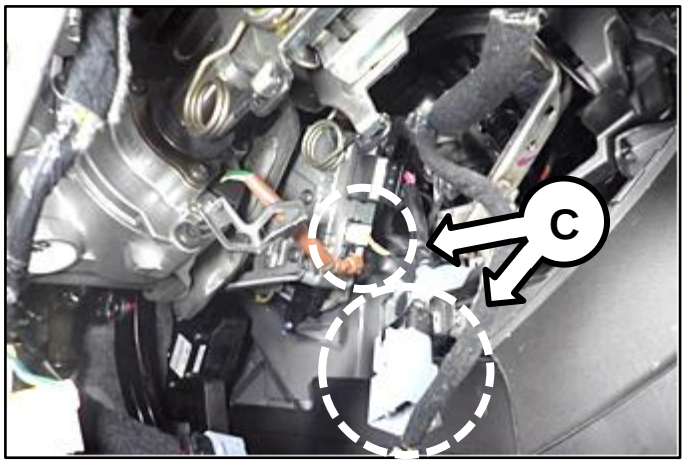


2. Loosen three (3) steering column shroud retaining screws (B) and then remove the steering column upper and lower shrouds.

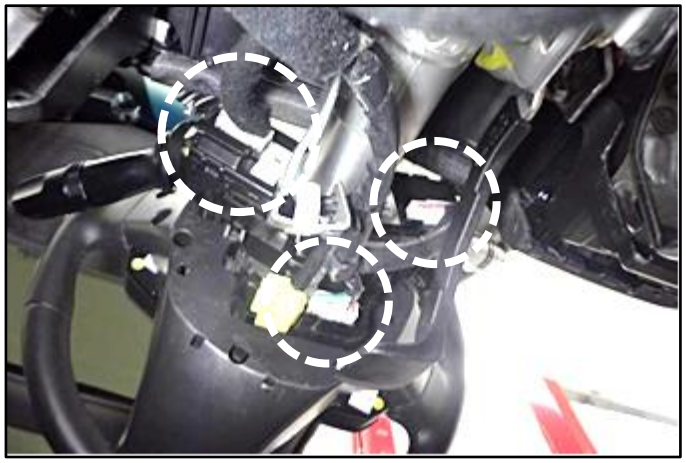
✶ NOTICE

When loosening the steering wheel column shroud fixing screws, turn the steering wheel 90° to the left/right from aligned position.

3. Disconnect the MDPS electrical connectors (C).

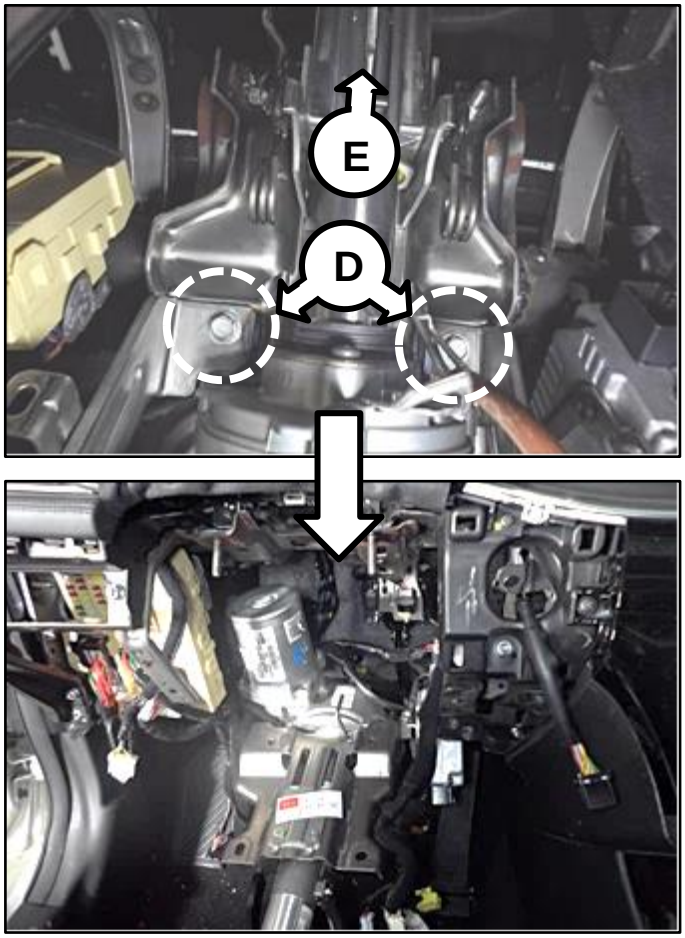


4. Disconnect the multifunction switch, wiper and washer switch, airbag, and heated steering wheel electrical connectors.



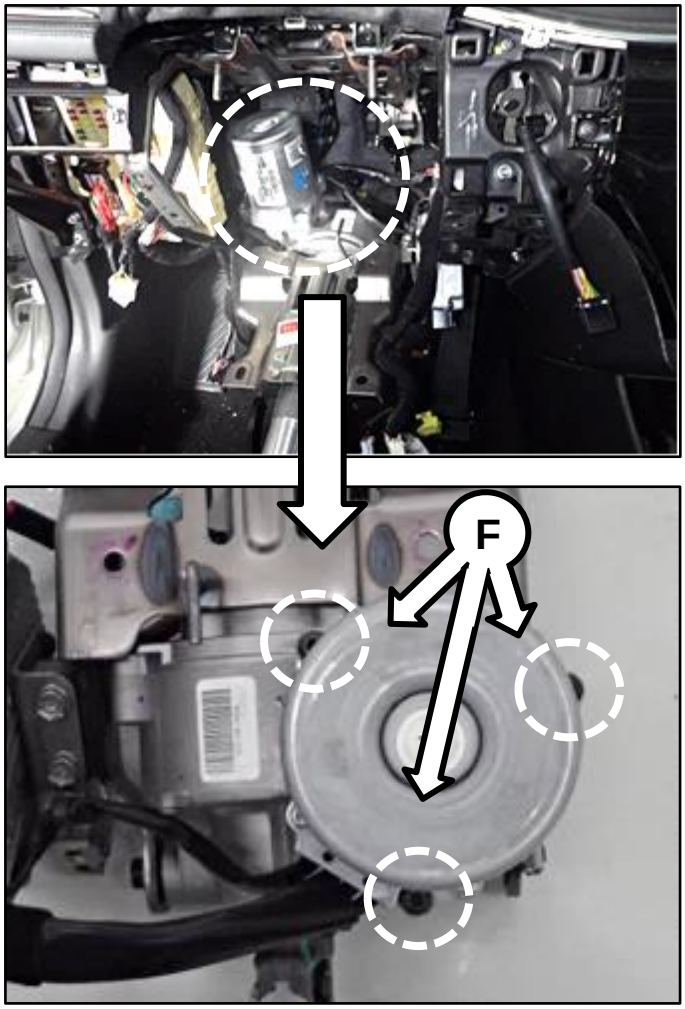
5. Loosen both steering column retaining bolts (D) and rear bolt (E) and lower the steering column assembly.

Tightening torque:
9.4 – 13.0 lb.ft (12.7 – 17.7 Nm)

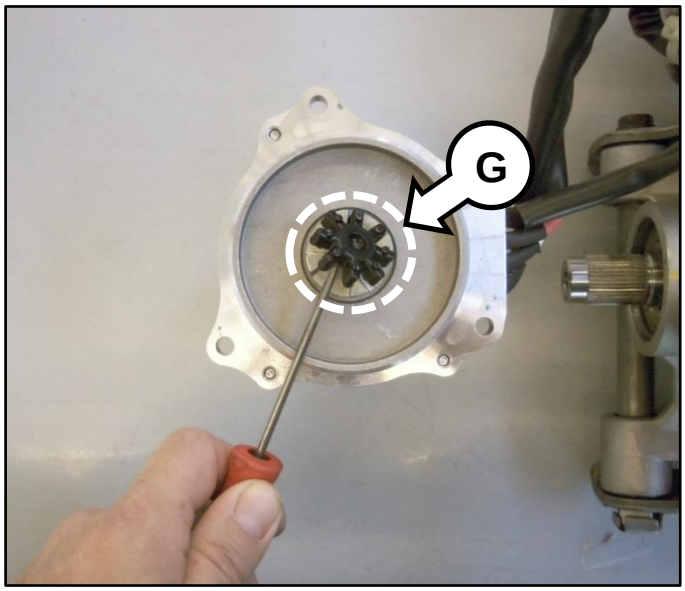


6. Loosen the three MDPS motor retaining bolts (F) and lift the MDPS motor and set it to the side.

Tightening torque:
5.8~8.7 lb.ft (7.8~11. 8 Nm)



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

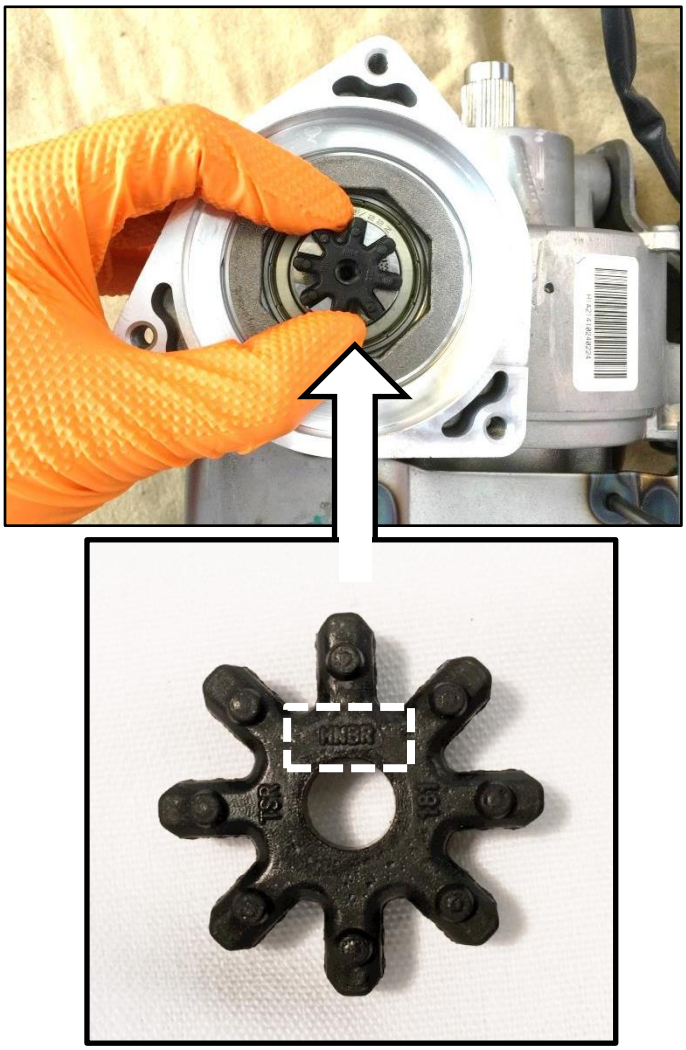


8. Install the new improved flexible coupling onto the steering column.

★ NOTICE

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

The position of the flexible coupling is not specific and can be installed facing upward or downward.



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

Replacement Procedure 3: This procedure applies to Cadenza (VG) models.

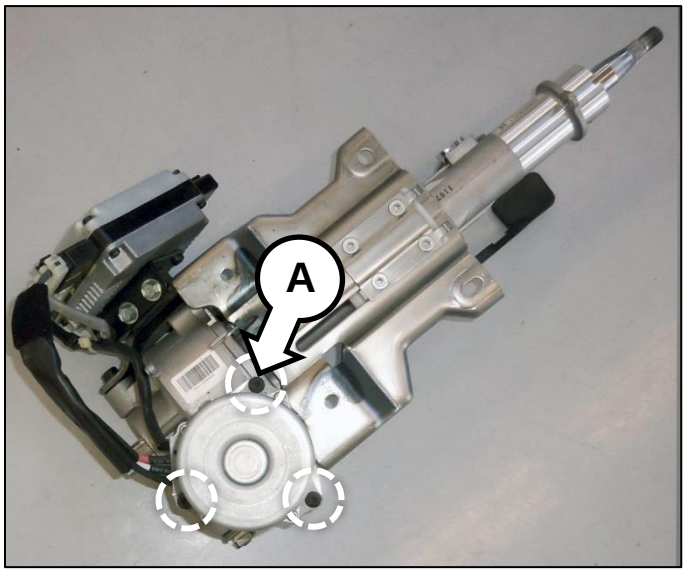
NOTE: Images shown are for general information and not representative of each model's actual configuration.

✶ NOTICE

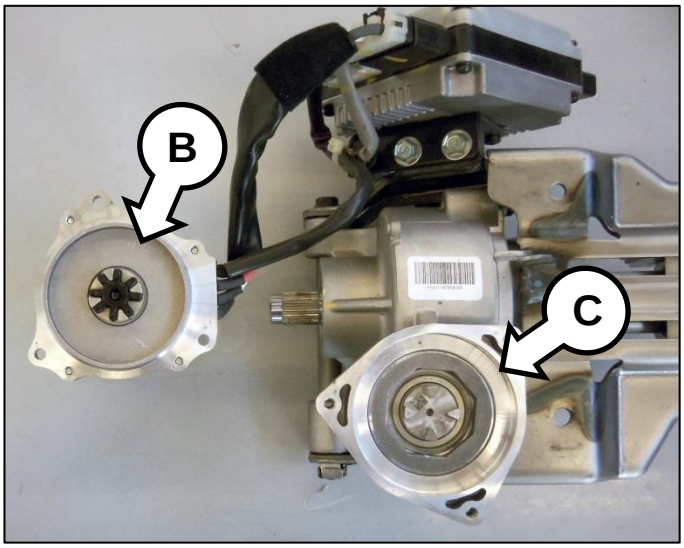
Before removing the MDPS unit, make sure to align the steering wheel to the center position and verify the steering wheel tilt lever is in the locked position.

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

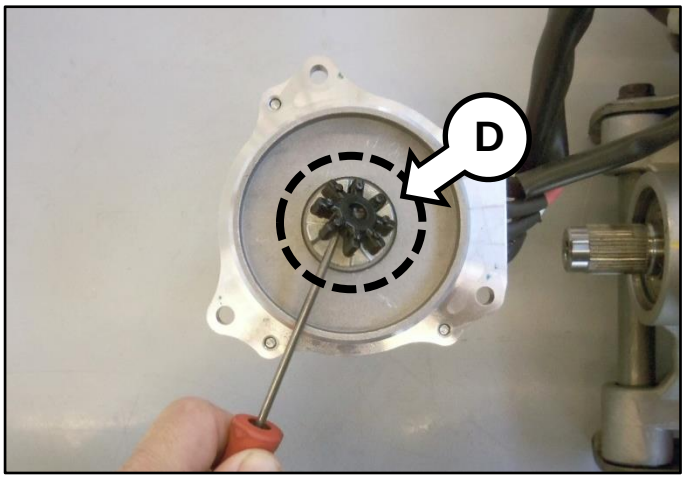
2. Remove 3 bolts (A) securing the MPDS motor to the housing.



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



4. 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.

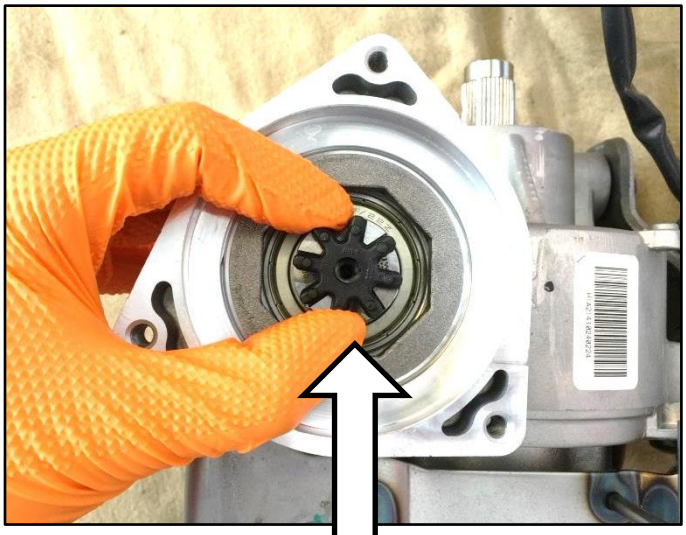


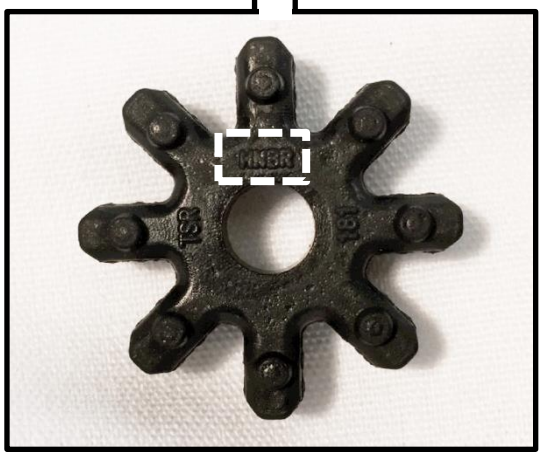
5. Install the new improved flexible coupling onto the steering column.

✶ NOTICE

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

The position of the flexible coupling is not specific and can be installed facing upward or downward.





✶ 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. Perform **Calibration Procedure**.

Calibration Procedure used after procedure 1 and 3 ONLY – Forte (TD) & Cadenza (VG):

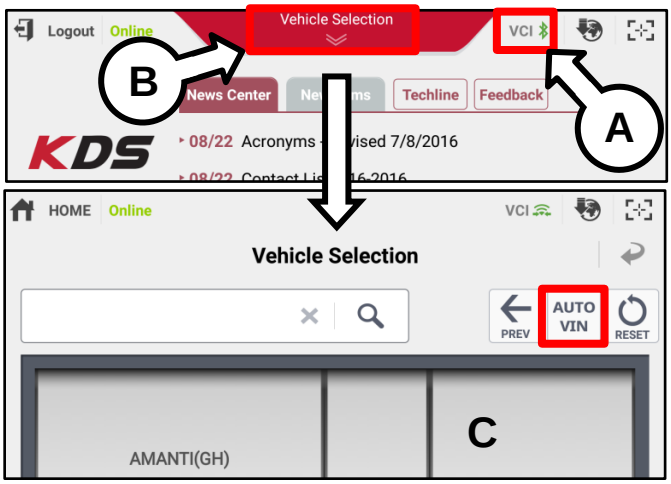
1. Connect the VCI-II to the OBD-II connector, located under the driver's side of the instrument panel.

★ NOTICE

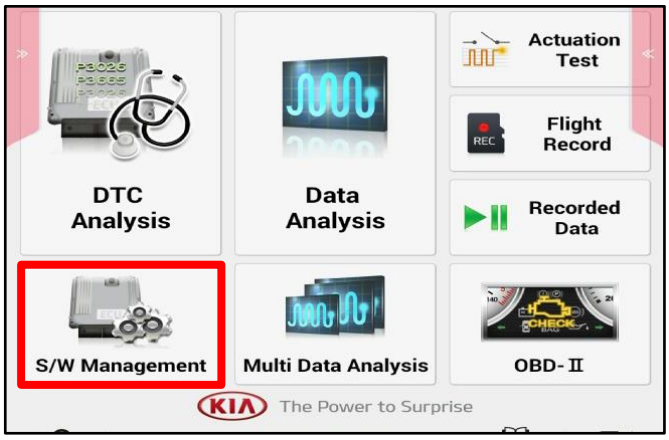
The ECU upgrade function on KDS operates wirelessly. It is not necessary to perform the upgrade via USB cable.

2. With the ignition ON, turn ON the KDS tablet. Select **KDS** from the home screen.

3. Confirm communication with VCI (A) and then configure the vehicle (B) using the **AUTO VIN** (C) feature.

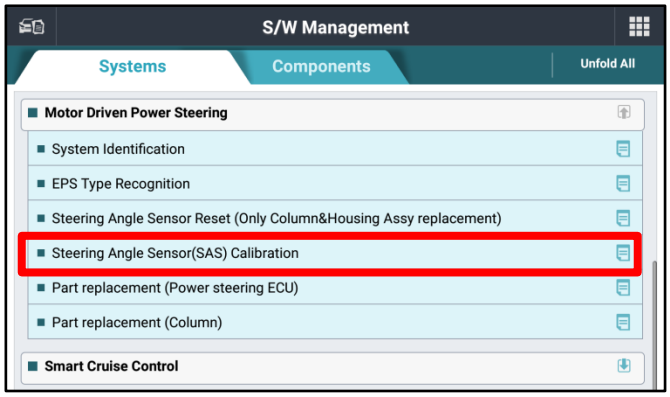


4. Select **S/W Management**.

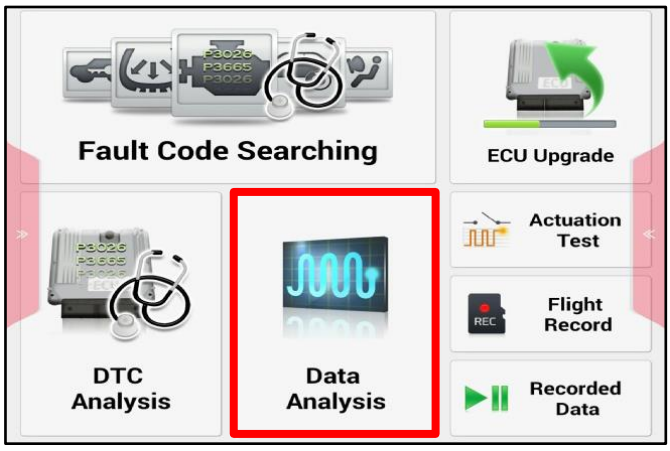


SUBJECT: MDPS FLEXIBLE COUPLING REPLACEMENT

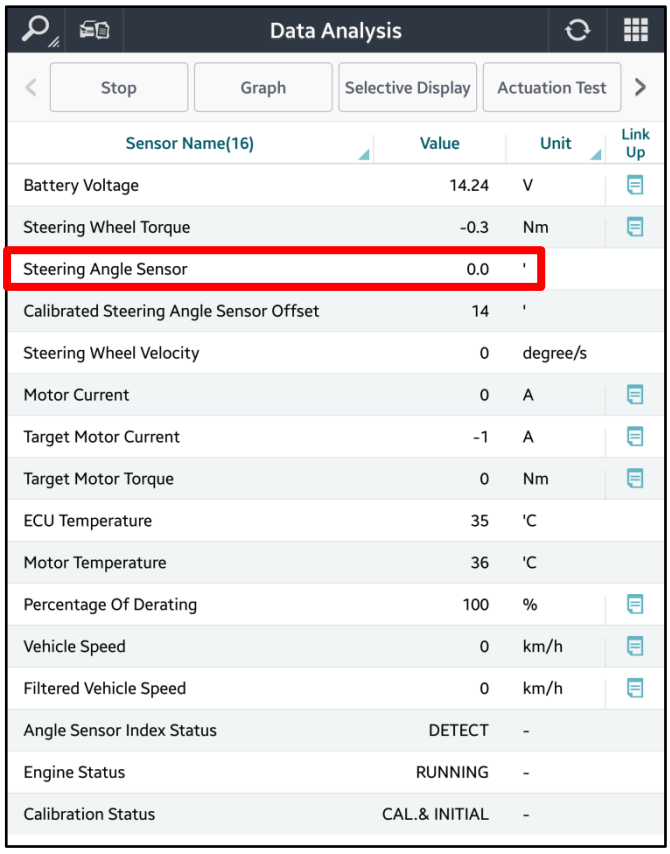
5. Select **Motor Driven Power Steering → Steering Angle Sensor (SAS) Calibration** and follow the instructions on the KDS.



6. Once the SAS calibration is completed, return to the KDS home screen and select **Data Analysis**.



7. Select **EPS** and then with the steering wheel centered, verify the Steering Angle Sensor is at 0.0 ± 5.0 degrees.



Sensor Name(16)	Value	Unit	Link Up
Battery Voltage	14.24	V	
Steering Wheel Torque	-0.3	Nm	
Steering Angle Sensor	0.0	'	
Calibrated Steering Angle Sensor Offset	14	'	
Steering Wheel Velocity	0	degree/s	
Motor Current	0	A	
Target Motor Current	-1	A	
Target Motor Torque	0	Nm	
ECU Temperature	35	'C	
Motor Temperature	36	'C	
Percentage Of Derating	100	%	
Vehicle Speed	0	km/h	
Filtered Vehicle Speed	0	km/h	
Angle Sensor Index Status	DETECT	-	
Engine Status	RUNNING	-	
Calibration Status	CAL.& INITIAL	-	

SUBJECT: MDPS FLEXIBLE COUPLING REPLACEMENT

AFFECTED VEHICLE PRODUCTION RANGE:

Model	Applicable Production Range
Forte (TD)	June 1, 2011 through March 18, 2013
Forte (YD)	November 7, 2012 through April 26, 2014
Soul (AM)	January 8, 2009 through October 2, 2013
Cadenza (VG)	February 1, 2013 through April 19, 2014

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)	W	56310 2K625	0	MDPS Flexible Coupling Replacement	56315F00	0.8 M/H	56315 2K000FFF	1
Forte (TD)		56310 1M550			56315F02	1.6 M/H		
Cadenza (VG)		56310 3R561				1.0 M/H		
Forte (YD)		56310 A7410				0.8 M/H		

✶ NOTICE

The repair procedure to replace the flexible coupling of the MDPS Soul (AM) and Forte (YD) has been modified from the original repair procedure outlined in KGIS and previously in TSB CHA044 (removal of certain parts as currently shown in the service procedure on KGIS is not necessary to complete the replacement of the flexible coupling). As a result, the labor time for the repairs for these models (includes inspection) have been adjusted.