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.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Model/Year</th>
<th>Applicable Production Range</th>
<th>Replacement Part</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forte (YD) / 2014</td>
<td>From Nov. 7, 2012 ~ Apr. 26, 2014</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Cadenza (VG) / 2014</td>
<td>From Feb. 1, 2013 ~ Apr. 19, 2014</td>
<td></td>
</tr>
</tbody>
</table>
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.


* 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.
SUBJECT: MDPS FLEXIBLE COUPLING REPLACEMENT

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.

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.
SUBJECT: MDPS FLEXIBLE COUPLING REPLACEMENT

AFFECTED VEHICLE PRODUCTION RANGE:

<table>
<thead>
<tr>
<th>Model</th>
<th>Applicable Production Range</th>
</tr>
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<tbody>
<tr>
<td>Forte (TD)</td>
<td>June 1, 2011 through March 18, 2013</td>
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<tr>
<td>Forte (YD)</td>
<td>November 7, 2012 through April 26, 2014</td>
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<tr>
<td>Soul (AM)</td>
<td>January 8, 2009 through October 2, 2013</td>
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<tr>
<td>Cadenza (VG)</td>
<td>February 1, 2013 through April 19, 2014</td>
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PART INFORMATION:

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<th>Part Name</th>
<th>Part No.</th>
<th>Qty.</th>
<th>Replacement Part</th>
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<td>Flexible Coupling</td>
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WARRANTY INFORMATION:

N Code: N29  C Code: C63

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<th>Model</th>
<th>Claim Type</th>
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<th>Qty.</th>
<th>Repair Description</th>
<th>Labor Op Code</th>
<th>Op Time</th>
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★ 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.