



HYUNDAI

NEW THINKING.
NEW POSSIBILITIES.

Technical Service Bulletin

GROUP STEERING	NUMBER 17-ST-002
DATE FEBRUARY 2017	MODEL(S) SEE BELOW

SUBJECT: MOTOR DRIVEN POWER STEERING (MDPS)
 COUPLING WARRANTY EXTENSION (TXX7)

Description: The MDPS (motor driven power steering) assembly contains a flexible rubber coupling which may wear over time resulting in a slight “clicking” or “thud” type noise when turning the steering wheel. The warranty coverage for this coupling has been extended to 10 years from the date of original retail delivery or date of first use or 100,000 miles, whichever occurs first. This bulletin describes the service procedure to replace the coupling. Refer to the warranty and service parts information outlined in this bulletin whenever MDPS coupling replacement is required.

★ NOTE

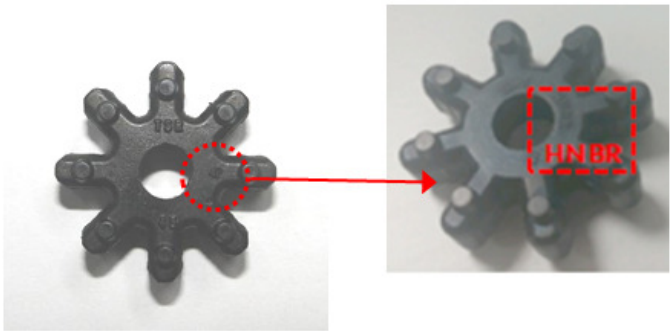
Wear of the coupling does not affect the ability to steer or control the vehicle and is not a safety issue.



Applicable Vehicles:

<i>Model:</i>	<i>Production Range:</i>
2007~2010 Elantra (HD)	ALL
2009~2012 Elantra Touring (FD)	ALL
2011~2015 Elantra (MD)	From Aug. 13, 2010 ~ Feb 19, 2014
2011~2015 Elantra (UD)	From Nov. 03, 2010 ~ May 19, 2014
2011~2014 Sonata (YF/YFa)	ALL
2011~2015 Sonata Hybrid (YF HEV)	ALL

Parts Information:

PART NAME	PART NUMBER	IMAGE	QTY
Flexible Coupling	56315-2K000-FFF	 <p>Note: There are 2 versions of this part number: 1. "HNBR" marking on polyurethane part 2. "4P" marking on revised rubber part <i>Both parts are improved with increased durability, and can be used for procedures in this TSB.</i></p>	1

Warranty Extension Information:

Models	Op Code	Operation	Op Time	Causal Part #	Nature Code	Cause Code
Elantra (HD) Elanta Touring (FD)	56300F23	MDPS Flexible Coupling Replacement	1.7 M/H	56315-2K000-FFF	D61	ZZ4
Sonata (YF/YFa) Sonata Hybrid (YF HEV) Elantra (MD/UD)	56300F24		0.8 M/H			

*** NOTE**

- For Elantra (HD) and Elantra Touring (FD) vehicles, follow the service procedures beginning on page 3.
- For Sonata (YF/YFa), Sonata Hybrid (YF HEV), Elantra (MD/UD), follow the service procedures beginning on page 10.

Service Procedure for Elantra (HD) and Elantra Touring (FD):

**CAUTION**

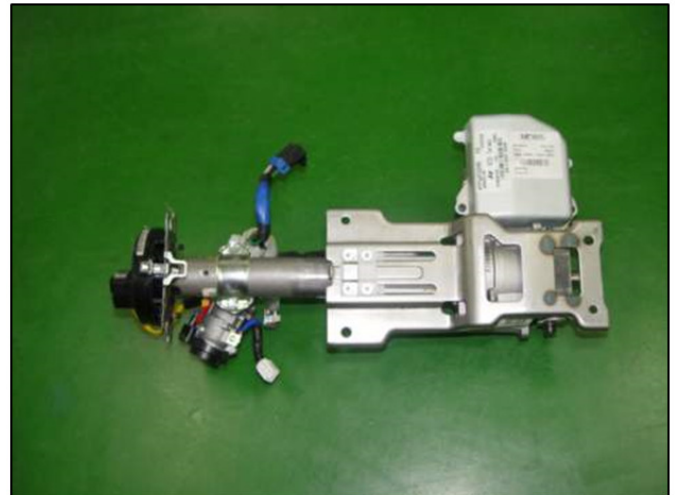
- Take care to not damage any wiring or introduce foreign matter when disassembling the MDPS assembly.
- Ensure all connectors are securely plugged in when reassembling.
- Do not lift the vehicle off the ground when removing the MDPS assembly. Keep the tires on the ground during removal and installation of the MDPS assembly.
- Take care to not disturb the clock spring position (do not rotate it) after removing the steering wheel.

1. Remove MDPS assembly from the vehicle (refer to shop manual for removal procedure).

*** NOTE**

Carefully align the steering wheel to the center position, with the front wheels pointing straight ahead before removing MDPS assembly.

When re-installing MDPS assembly, make sure the steering wheel is aligned to the center position, and that the front wheels are still pointing straight ahead.



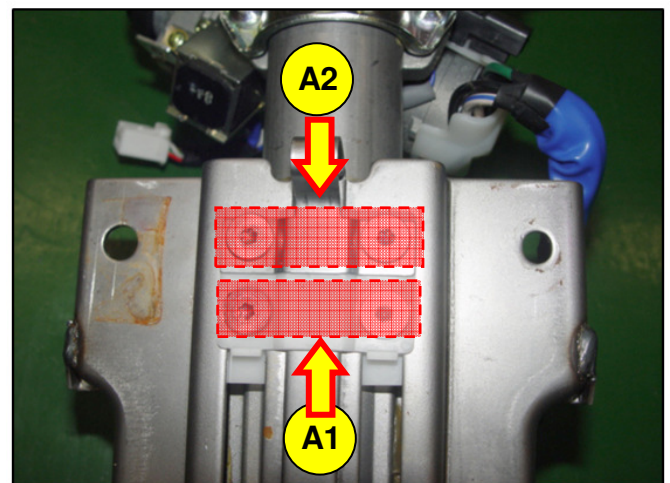
2. Remove the 4 steering column mounting bracket upper bolts (A1, A2).

*** NOTE**

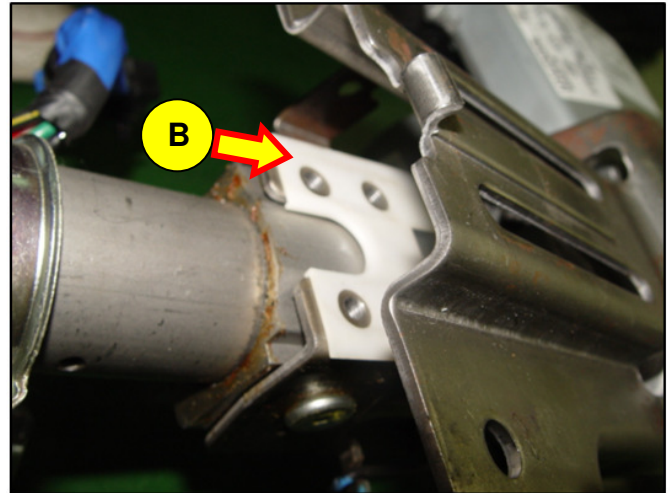
Tightening torque:

A1) 2.2 lb-ft (2.9 Nm, 0.3 kgf.m)

A2) 3.6 lb-ft (4.9 Nm, 0.5 kgf.m)



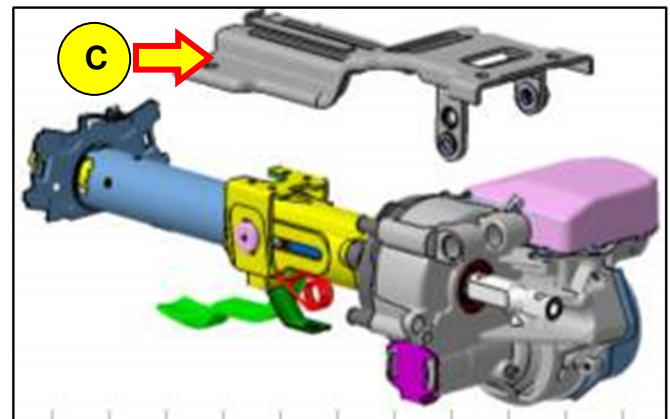
3. Raise the steering column mounting bracket and remove the spacer (B).



4. Remove the steering column bracket (C) from the MDPS assembly by loosening the bracket mounting bolt:

*** NOTE**

There are 3 types of mounting bracket bolts (C). See steps 4a~4c for details on removal.

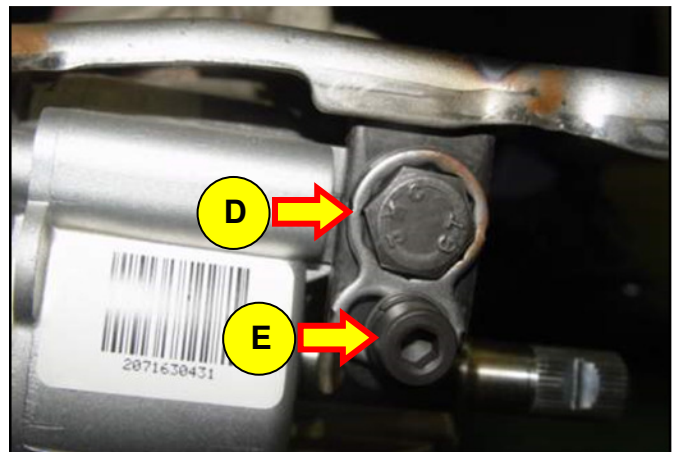


- 4a. **TYPE 1: STOPPER BRACKET (D)**

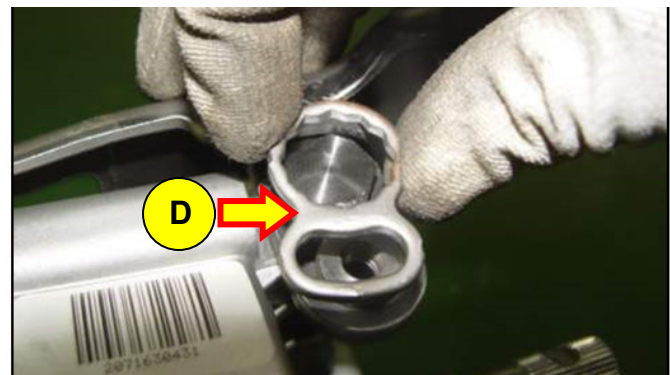
Remove the stopper bolt (E).

*** NOTE**

Tightening torque:
 13.0~14.5 lb-ft (17.7~19.6 Nm, 1.8~2.0 kgf.m)



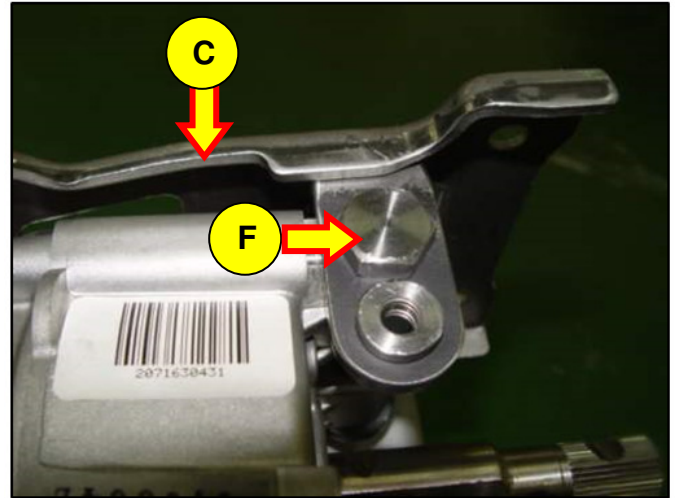
Remove the stopper bracket (D).



Remove the hinge bolt (F), then the column bracket (C) from the MDPS assembly.

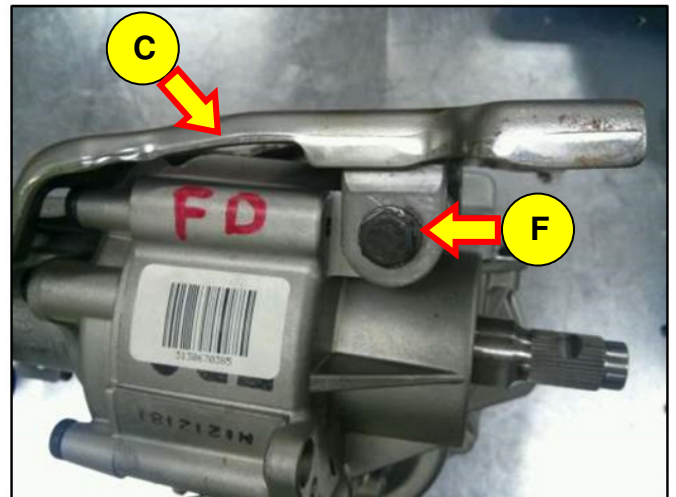
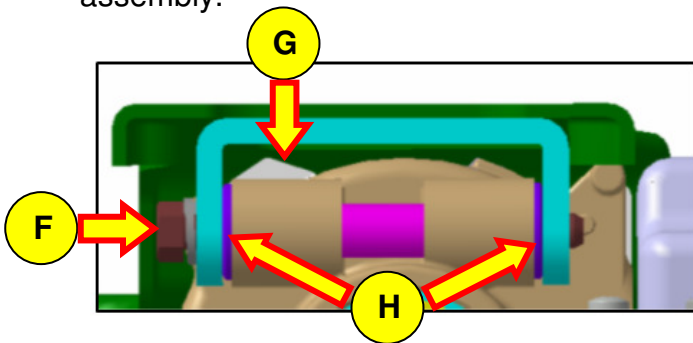
*** NOTE**

Tightening torque:
 7.2~10.1 lb-ft (9.8~13.7 Nm, 1.0~1.4 kgf.m)



4b. TYPE 2: MAIN HOUSING (G) AND PLASTIC BUSHING (H)

Remove the hinge bolt (F), then remove the column bracket (C) from the MDPS assembly.

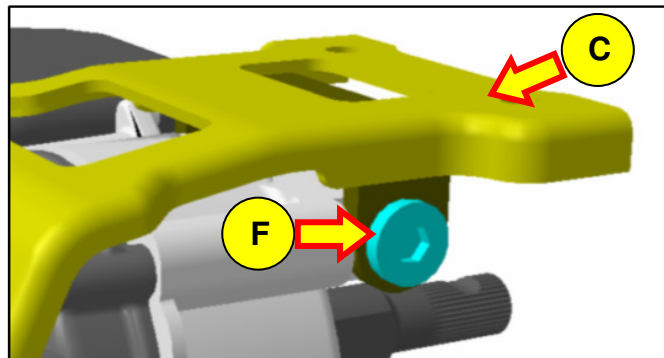
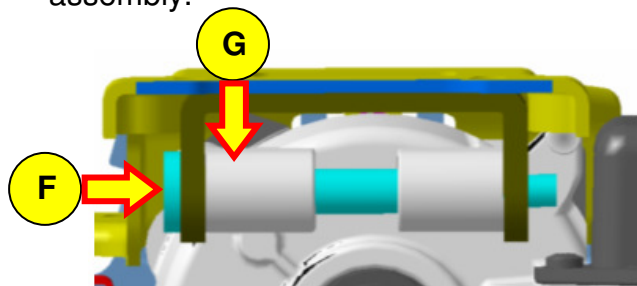


*** NOTE**

Tightening torque:
 13.0~14.5 lb-ft (17.7~19.6 Nm, 1.8~2.0 kgf.m)

4c. TYPE 3: MAIN HOUSING (G) ONLY

Remove the hinge bolt (F) using a hexagonal wrench and then remove the column bracket (C) from the MDPS assembly.



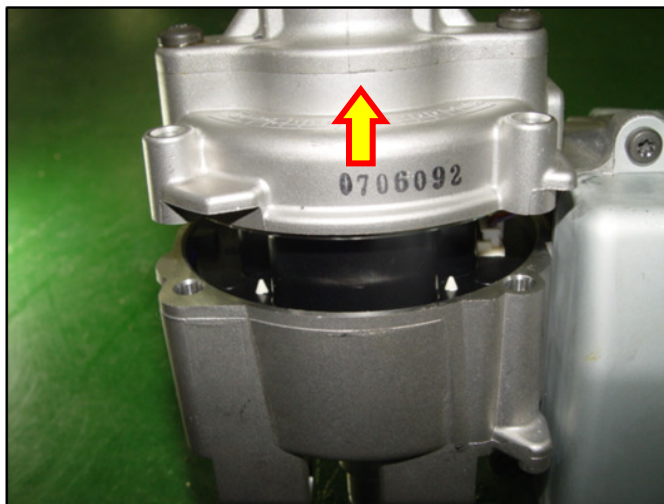
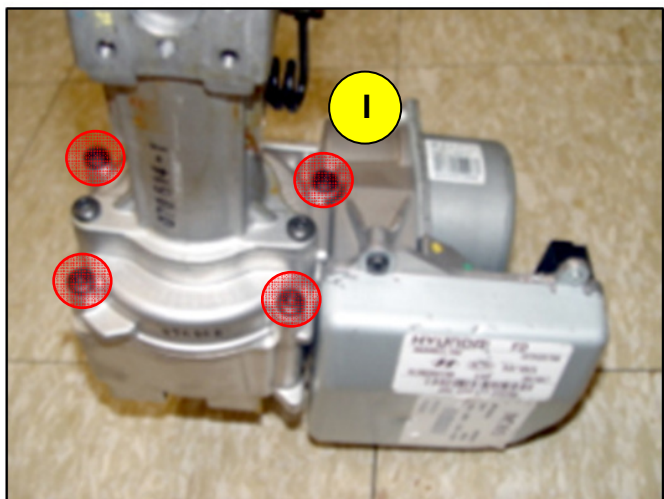
*** NOTE**

Tightening torque:
 7.2~10.1 lb-ft (9.8~13.7 Nm, 1.0~1.4 kgf.m)

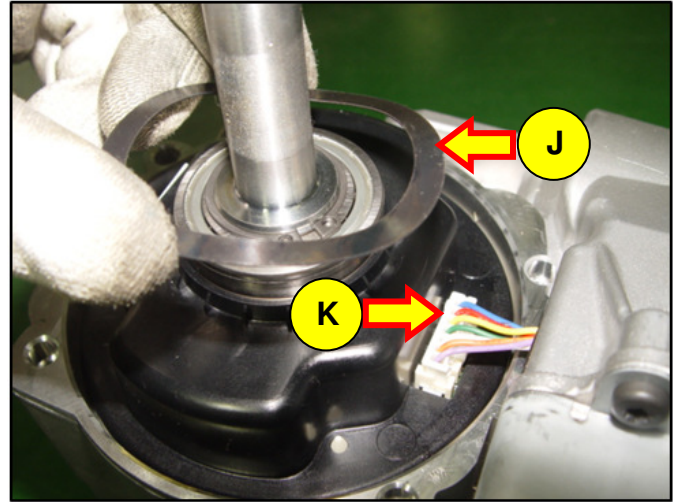
5. Set the MDPS assembly upright, as shown. Remove the four bolts (I), then separate the upper section from the lower.

*** NOTE**

Tightening torque:
 6.5~9.4 lb-ft (8.8~12.7 Nm, 0.9~1.3 kgf.m)



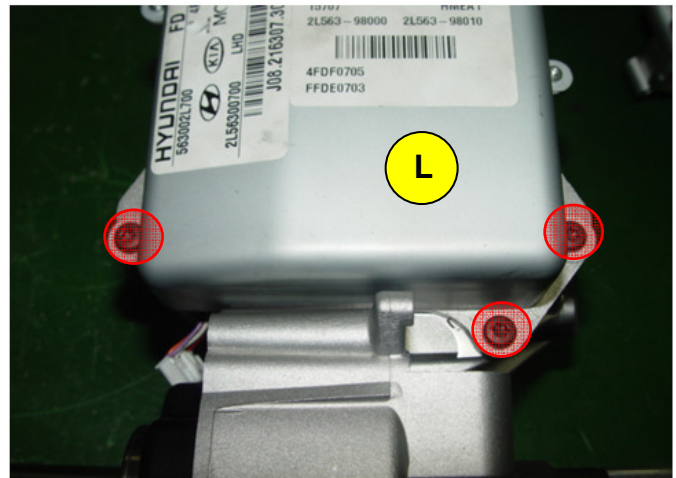
6. Remove the wave washer (J) and disconnect the sensor wiring connector (K).



7. Remove the 3 MDPS ECU mounting bolts (L).

*** NOTE**

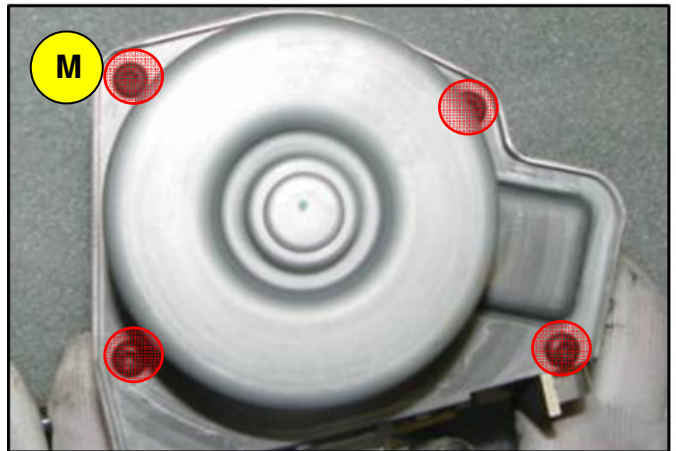
Tightening torque:
3.6~5.1 lb-ft (4.9~6.9 Nm, 0.5~0.7 kgf.m)

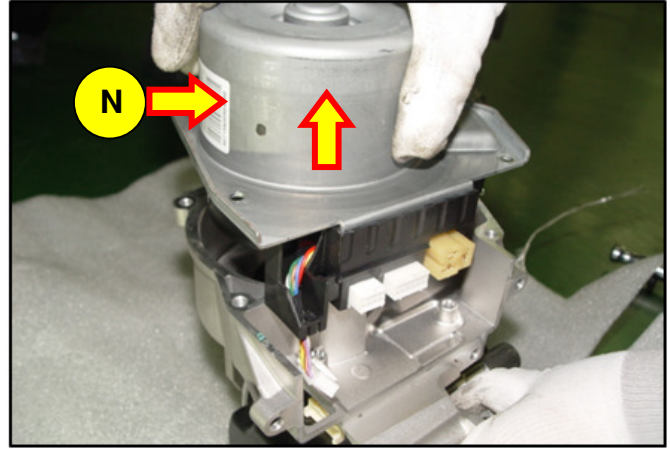


8. Loosen the 4 MDPS motor cover bolts (M) and then carefully lift off the motor cover (N).

*** NOTE**

Tightening torque:
3.6~5.1 lb-ft (4.9~6.9 Nm, 0.5~0.7 kgf.m)

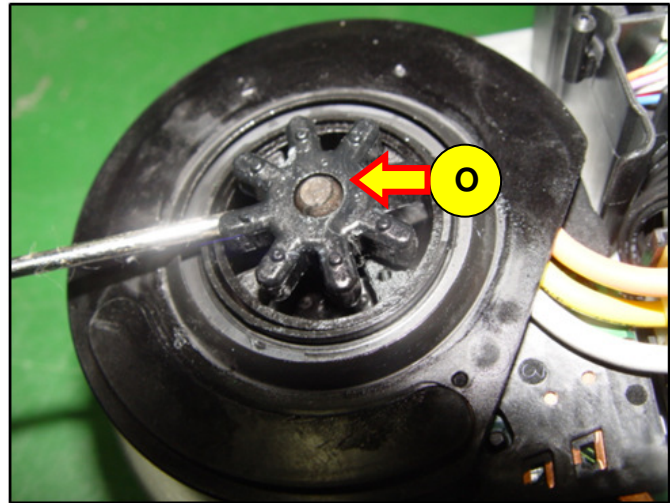




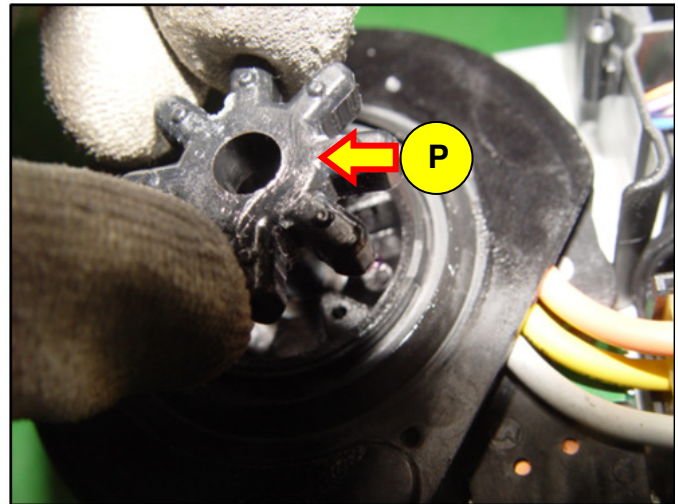
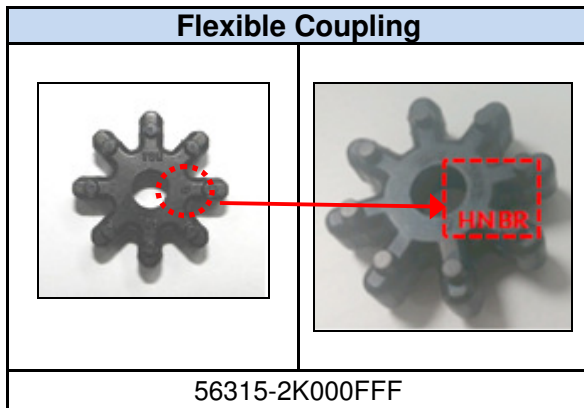
9. Remove the old flexible coupling (O) and clean out any debris.

*** NOTE**

Clean out the coupling seating areas using a compressed air gun. Then remove any residual debris with a brush or clean rags.

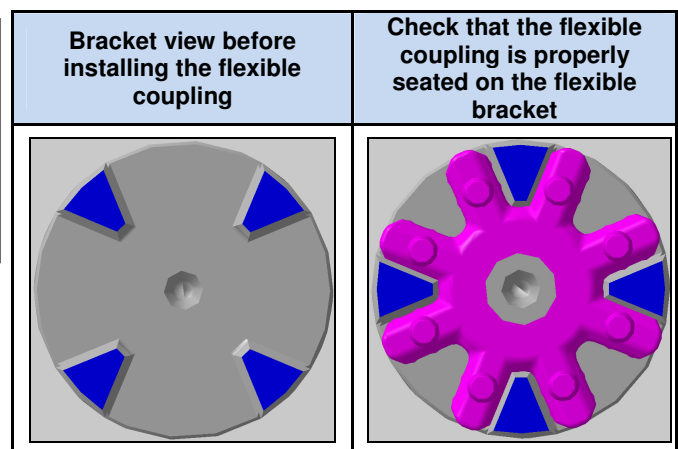


10. Install a new flexible coupling (P).



*** NOTE**

- Before installing the new part, verify that it has the “4P” or the “HNBR” marking.
- Visually check that the coupler is seated properly before reassembling the motor.



11. Reassemble the MDPS assembly in reverse order of disassembly.
12. Install the MDPS assembly back into the vehicle in reverse order of removal.
13. Conduct the ASP (Absolute Steering Position) calibration procedure according to the applicable service manual.
14. Check and clear any DTCs (Diagnostic Trouble Codes) using the GDS and confirm proper operation of the vehicle.

Service Procedure for Sonata (YFa), Sonata Hybrid (YF HEV), and Elantra (MD/UD)

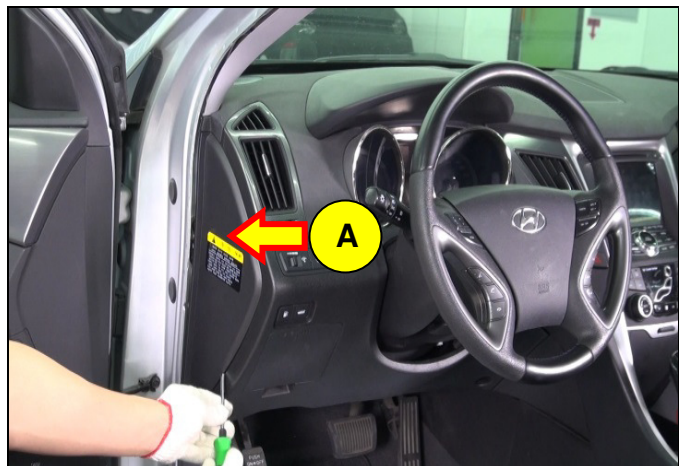
**CAUTION**

- Take care to not damage any wiring or introduce foreign matter when disassembling the MDPS assembly.
- Ensure all connectors are securely plugged in when reassembling.
- Do not lift the vehicle off the ground when removing the MDPS assembly. Keep the tires on the ground during removal and installation of the MDPS assembly.

1. Remove the front door side weather strip.



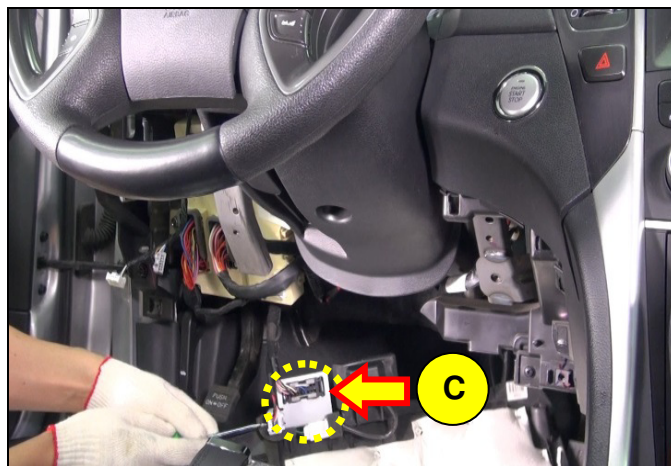
2. Use a plastic trim tool to remove the crash pad side cover (A).



3. Loosen the crash pad lower panel mounting screws, and then remove the lower panel (B).



4. Disconnect the connectors (C) from the lower panel.



5. Remove the steering column upper and lower shroud.



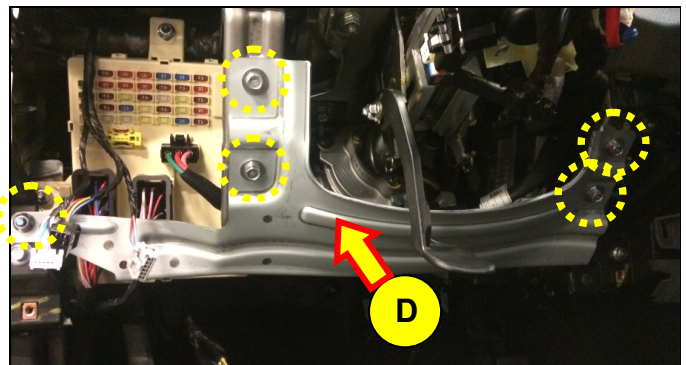
- 5a. On some models, it is required to turn the steering wheel left and right 90 degrees to access the shroud screws behind the steering wheel.



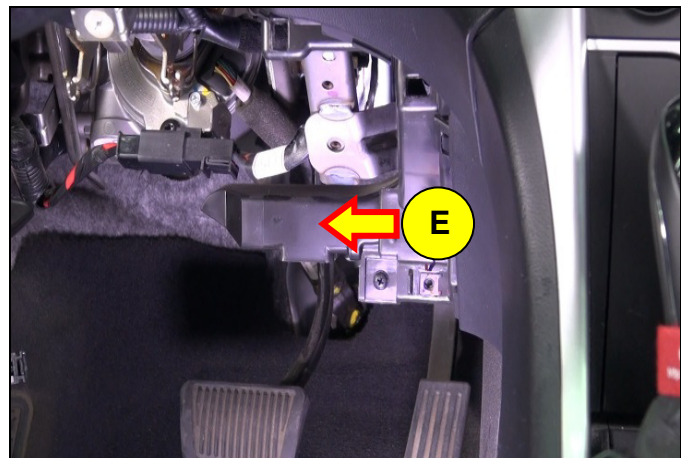
6. Remove the lower dash plate (D).

*** NOTE**

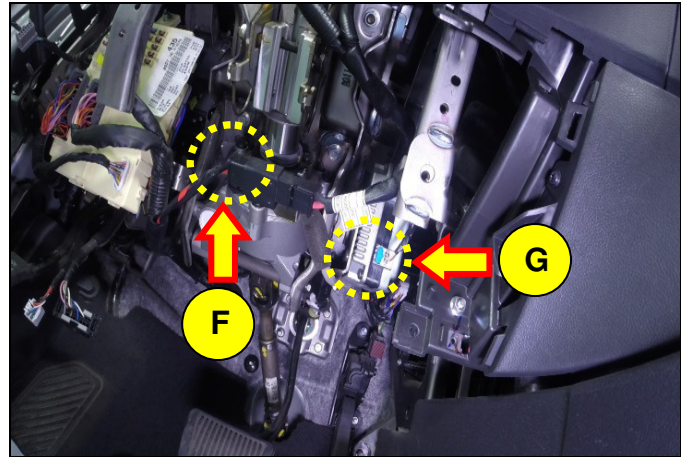
**Tightening torque: 2.8~4.3 lb-ft
(3.9~5.8 Nm, 0.4~0.6 kgf.m)**



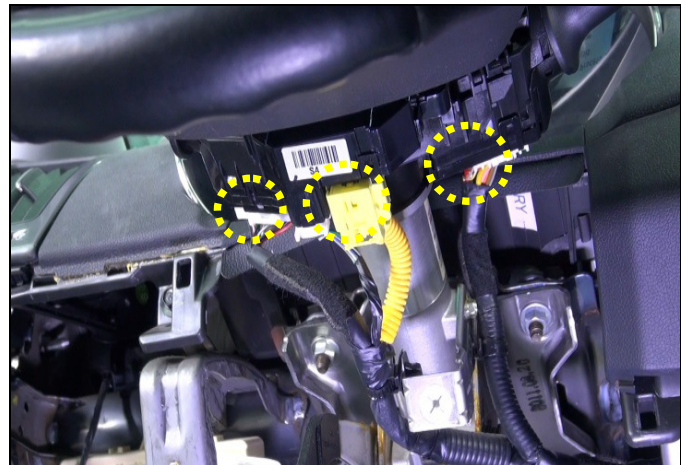
7. Remove the left side lower HVAC duct (E).



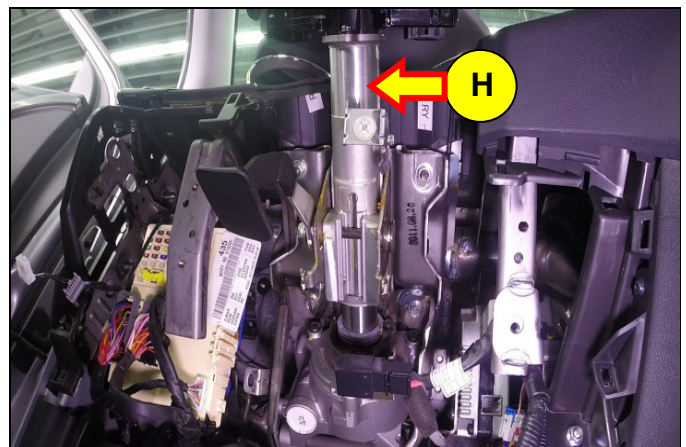
8. Disconnect the connectors (F) and (G).



9. Disconnect all the connectors that are connected to the steering column.



10. Lower the steering column (H) by loosening the mounting bolts and nuts.



*** NOTE**

Tightening torque:
9.4~13.0 lb-ft (12.7~17.7 Nm, 1.3~1.8 kgf.m)

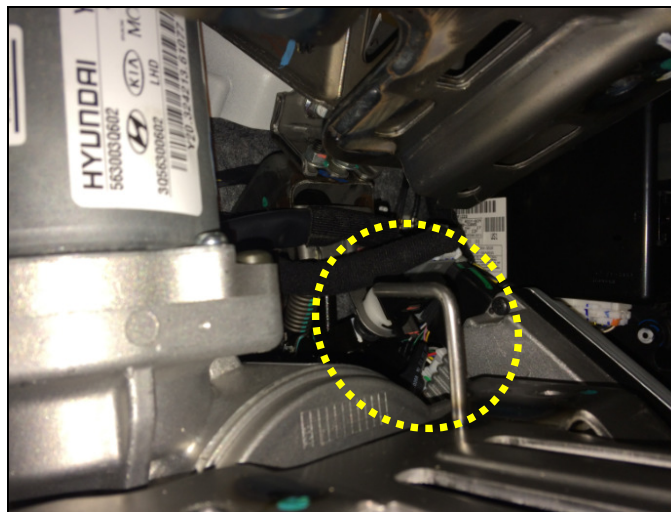
- 10a. Some models have a bolt at the top rear of the MDPS unit securing it to a bracket. Remove bolt to continue process of lowering the MDPS unit.

*** NOTE**

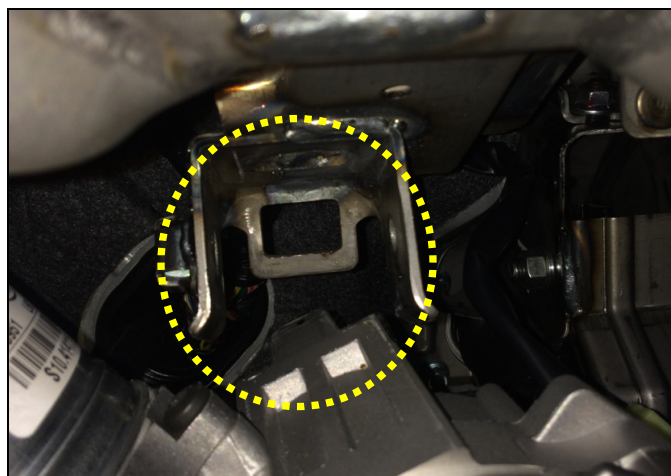
Tightening torque:
32.5~36.2 lb-ft (44.1~49.0 Nm, 4.5~5.0 kgf.m)



- 10b. Some models have an L-shaped hanger or a tab and slot that must be disengaged to allow the MDPS assembly to be released.



L-shaped Hanger



Tab and Slot

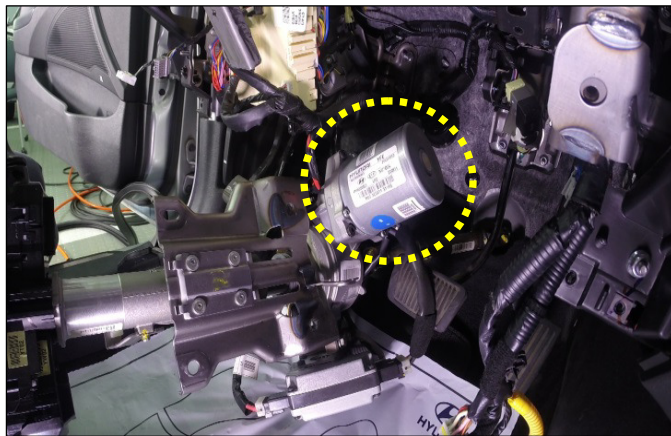
- 10c. Some wire harness anchors must be disengaged to allow MDPS assembly to be released.



11. With the steering intermediate shaft attached, carefully lay the MDPS assembly on the vehicle floor or seat.

Orient the MDPS assembly so that the MDPS motor is accessible.

Remove the MDPS motor by loosening the three (3) Torx bolts.



*** NOTE**

Tightening torque:
 5.8~8.7 lb-ft (7.84~11.76 Nm, 0.8~1.2 kgf.m)

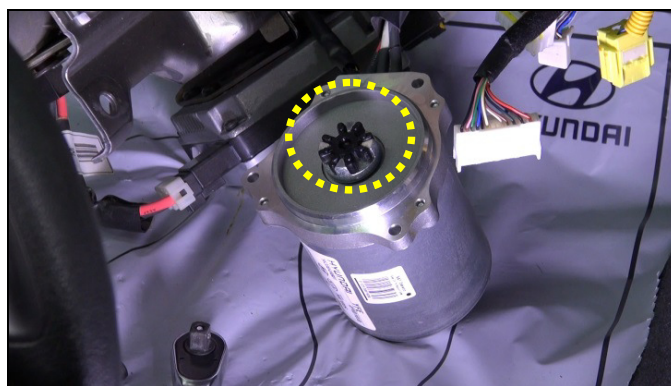


Remove 3 Torx bolts
 (2 of 3 Torx bolts shown in photo above)

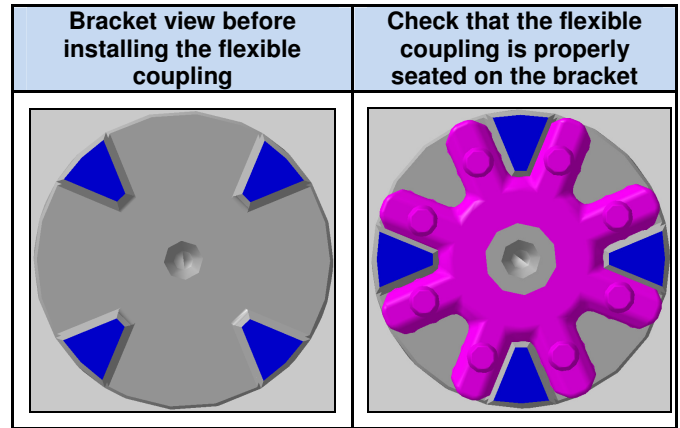
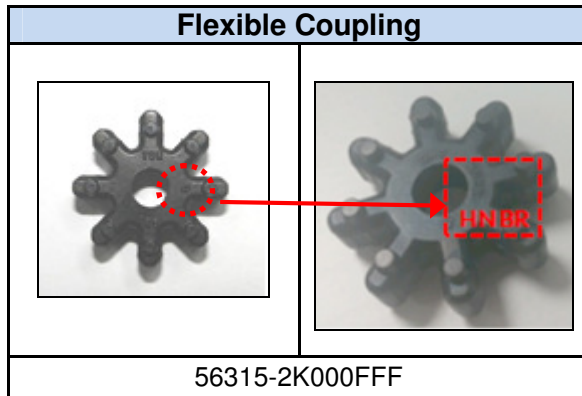
12. Remove the flexible coupler.

*** NOTE**

Clean out the coupling seating areas using a compressed air gun. Then remove any residual debris with a brush or clean rags.



13. Install new flex coupler.



*** NOTES**

- Before installing new part, verify that it has the “4P” or the “HNBR” marking.
- Visually check that the coupler is seated properly before reassembling the motor.

14. Reinstall the removed parts in reverse order.
15. Verify operation of all steering wheel buttons, dash buttons, and multi-function switch.
16. Conduct the ASP (Absolute Steering Position) calibration procedure according to the applicable service manual.
17. Check and clear any DTCs (Diagnostic Trouble Codes) using the GDS and confirm proper operation of the vehicle.