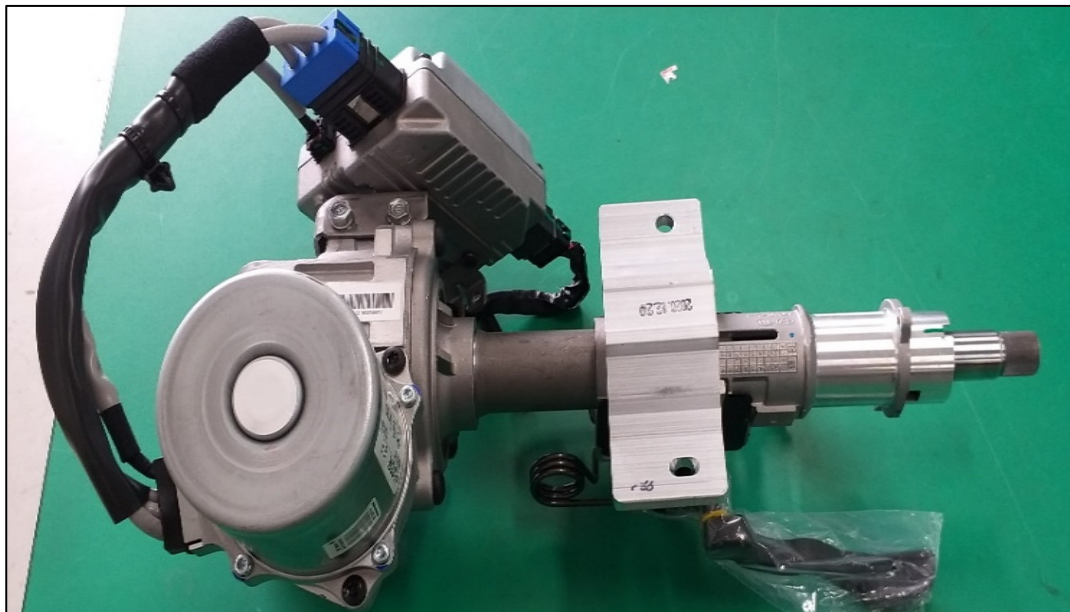



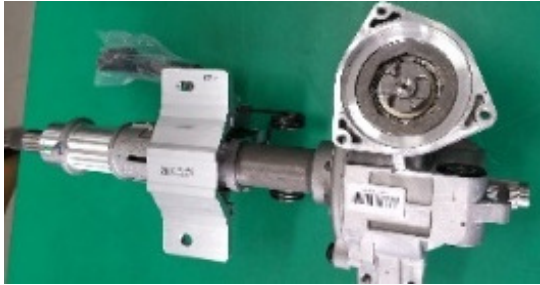
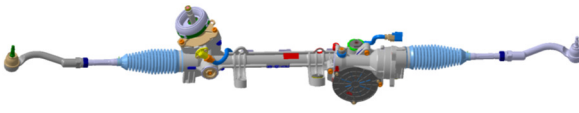

 HYUNDAI Technical Service Bulletin	GROUP STEERING	NUMBER 22-ST-001H
	DATE JANUARY, 2022	MODEL(S) Sonata (LFA) Sonata Hybrid (LF HEV) Sonata Plug-In Hybrid (LF PHEV)
SUBJECT: 2015-2017MY SONATA (LFA) AND SONATA HYBRID/PLUG-IN HYBRID (LF HEV/PHEV) MDPS (WARRANTY EXTENSION TXXO)		

Description: The warranty coverage for certain 2015-2017MY Sonata (LFA) and Sonata HEV/PHEV (LF HEV/PHEV) vehicles exhibiting reduced power steering assist and/or motor driven power steering (MDPS) warning lamp has been extended to 15 years or 150,000 miles from the date of original retail delivery or date of first use, whichever occurs first. Refer to the warranty, service parts information, and diagnostic information outlined in this bulletin.



- Applicable Vehicles:**
- Certain 2015-2017MY Sonata (LFA) vehicles produced from January 30, 2014 to June 19, 2017.
 - Certain 2015-2017MY Sonata HEV/PHEV (LF HEV/PHEV) vehicles produced from September 17, 2014 to December 27, 2017.

Parts Information:

Models	Image	Part Information
Sonata (LFA) 2.4L and Sonata HEV/PHEV (LF HEV/PHEV) vehicles equipped with column-mounted MDPS (C-MDPS)		Torque sensor cable: 56397-C1100FFF
		C-MDPS ECU: 56340-C2500 (LFA) 56340-E6500 (LF (P)HEV)
		C-MDPS Motor: 56330-C1500
		Steering Column & Housing Assembly: 56390-C1500 (NON-SMART KEY TYPE) <i>NOTE: Not applicable to Sonata Hybrid / Plug-In models</i> 56390-C1700 (SMART KEY TYPE)
Sonata (LFA) 2.0T vehicles equipped with rack-mounted MDPS (R-MDPS)		Short gear assembly: 57770-C2000 (15MY) 57770-C2050 (16, 17MY)
		Power pack: 56320-C2000 (15MY) 56320-C2050 (16, 17MY)

Warranty Information:

Models	Op. Code	Operation	Op. Time	Causal	Nature	Cause
Sonata (LFA) 2.4L vehicles equipped with column- mounted MDPS (C-MDPS)	10D119R0	C-MDPS DIAGNOSTIC INSPECTION	0.3 M/H	56340- C2500	I3A	ZZ3
	10D119R1	C-MDPS DIAGNOSIS INSPECTION AND TORQUE SENSOR CABLE REPLACEMENT	0.5 M/H	56397- C1100 FFF		
	10D119R2	C-MDPS DIAGNOSIS INSPECTION, TORQUE SENSOR CABLE REPLACEMENT AND COLUMN & HOUSING REPLACEMENT (NON- SMART KEY TYPE)	1.9 M/H	56390- C1500		
	10D119R3	C-MDPS DIAGNOSIS INSPECTION, TORQUE SENSOR CABLE REPLACEMENT AND COLUMN & HOUSING REPLACEMENT (SMART KEY TYPE)	1.7 M/H	56390- C1700		
	10D119R4	C-MDPS DIAGNOSTIC INSPECTION AND C-MDPS ECU REPLACEMENT	1.1 M/H	56340- C2500		
	10D119R5	C-MDPS DIAGNOSTIC INSPECTION AND C-MDPS MOTOR REPLACEMENT	1.2 M/H	56330- C1500		
Sonata Hybrid / Plug-In (LF HEV / PHEV) equipped with column- mounted MDPS (C-MDPS)	10D119R6	C-MDPS DIAGNOSTIC INSPECTION	0.3 M/H	56340- E6500	I3A	ZZ3
	10D119R7	C-MDPS DIAGNOSIS INSPECTION AND TORQUE SENSOR CABLE REPLACEMENT	0.5 M/H	56397- C1100 FFF		
	10D119R8	C-MDPS DIAGNOSIS INSPECTION, TORQUE SENSOR CABLE REPLACEMENT AND COLUMN & HOUSING REPLACEMENT (SMART KEY TYPE)	1.7 M/H	56397- C1700		
	10D119R9	C-MDPS DIAGNOSTIC INSPECTION AND C-MDPS ECU REPLACEMENT	1.1 M/H	56340- E6500		
	10D119RA	C-MDPS DIAGNOSTIC INSPECTION AND C-MDPS MOTOR REPLACEMENT	1.2 M/H	56330- C1500		

Models	Op. Code	Operation	Op. Time	Causal	Nature	Cause
Sonata (LFA) 2.0T vehicles equipped with rack-mounted MDPS (R- MDPS)	10D119RB	R-MDPS DIAGNOSTIC INSPECTION	0.3 M/H	57770- C2050	I3A	ZZ3
	10D119RD	R-MDPS DIAGNOSTIC INSPECTION, STEERING SHORT GEAR ASSEMBLY REPLACEMENT, AND TOE-IN ADJUST	1.9 M/H	57770- C2050		
	10D119RE	R-MDPS DIAGNOSTIC INSPECTION, STEERING POWER PACK REPLACEMENT, AND TOE-IN ADJUST	1.9 M/H	56320- C2050		

NOTE 1: Submit Claim on Campaign Claim Entry Screen

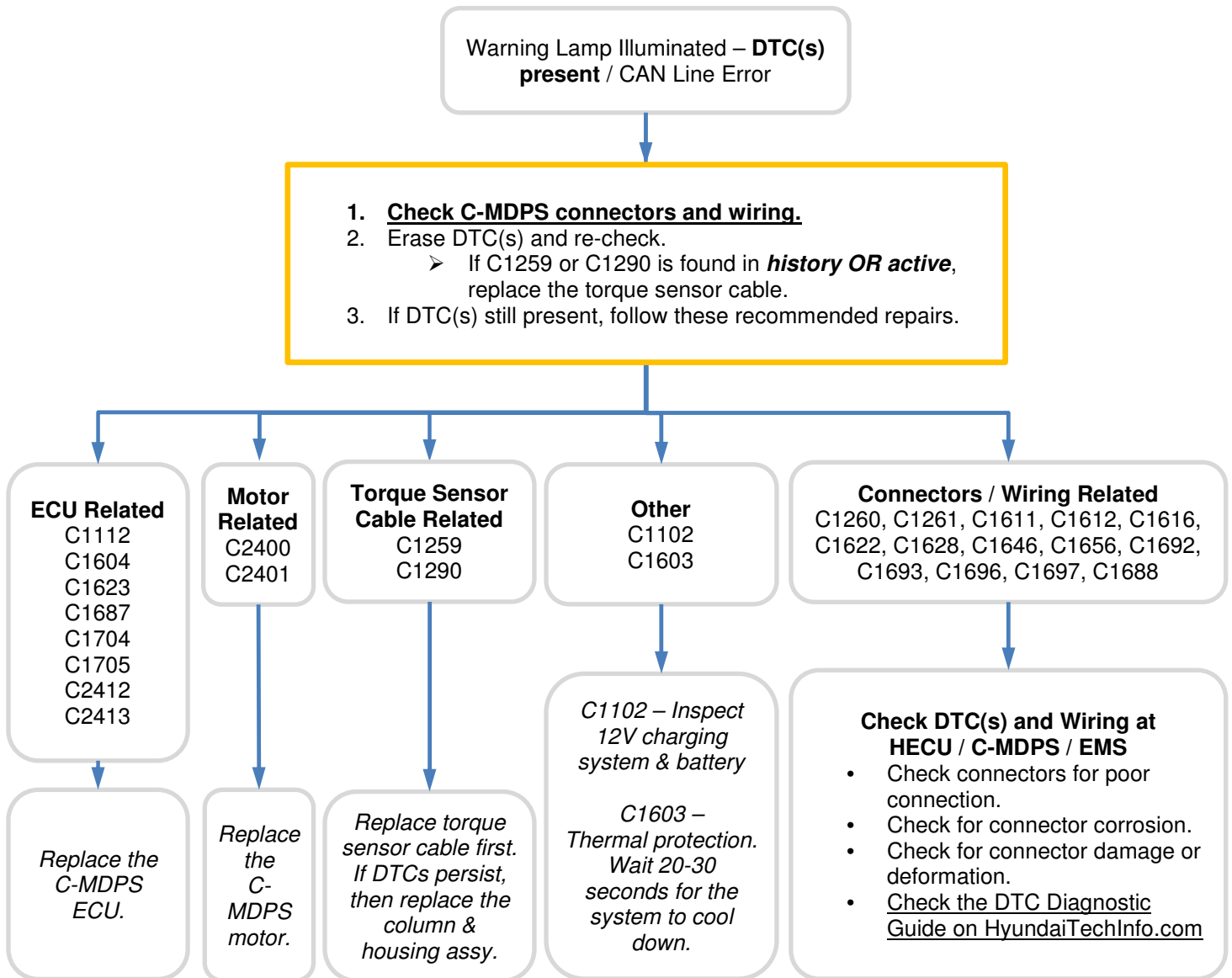
NOTE 2: If a part that is not covered by this warranty extension is found in need of replacement while performing Warranty Extension TXXO and the affected part is still under warranty, submit a separate claim using the same Repair Order. If the affected part is out of warranty, submit a Prior Approval Request for goodwill consideration prior to performing the work.

Service Procedure: Overview

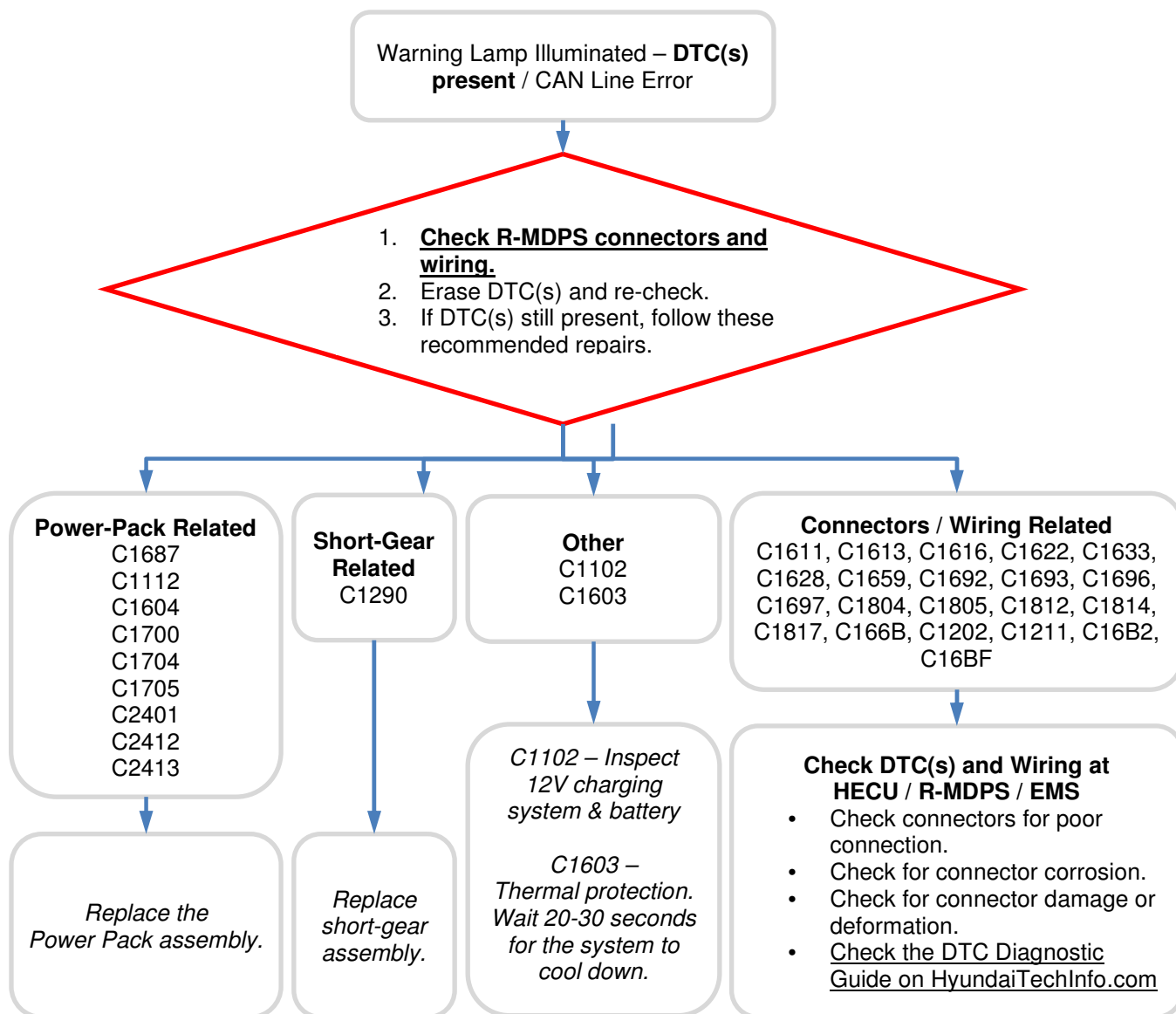
NOTICE

- Perform the C-MDPS diagnostic inspection using the GDS/GDS-M.
- Always refer to the applicable model shop manual for detailed information regarding the failure code diagnosis and component replacement procedures.
 - Note that some codes may be found in systems other than EPS (electric power steering) in GDS. They may be found in the Brake/ABS/ESC system. Check all systems for the failure codes.
 - Reduced power steering assist concerns should have current or historical DTCs stored. If no DTCs are detected, refer to the applicable shop manual section or contact Techline for further assistance.

C-MDPS Diagnostic Trouble Code (DTC) Repair Flowchart:



R-MDPS Diagnostic Trouble Code (DTC) Repair Flowchart:



Service Procedure: C-MDPS/R-MDPS Diagnostic Inspection

1. Locate the OBD2 port on the driver's side dash panel. Connect GDS to vehicle via VCI.



2. Select the vehicle type, then check all systems for diagnostic trouble codes (DTCs).



3. If any DTCs are found, follow the procedures described in the warning lamp repair flowcharts above.

If no DTCs are found, no further repair is required and the service procedure is complete.

Service Procedure: Torque Sensor Cable Replacement

1. If applicable, record the customer's radio presets and turn the ignition switch OFF.

Disconnect the negative (-) 12V battery terminal and wait at least 30 seconds.

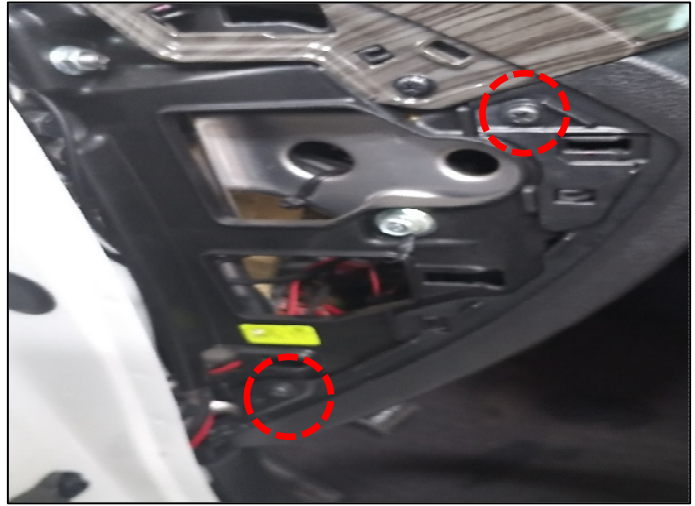
Open the driver's front door and pull back the weather stripping.



2. Remove the dash side cover.



3. Remove the 2 screws.



4. Remove the cover to access the bolt on the lower dash. Remove the bolt.



5. Unfasten the retaining hook on the side of the dash.



6. Remove the lower cover assembly and disconnect the associated wiring harnesses.

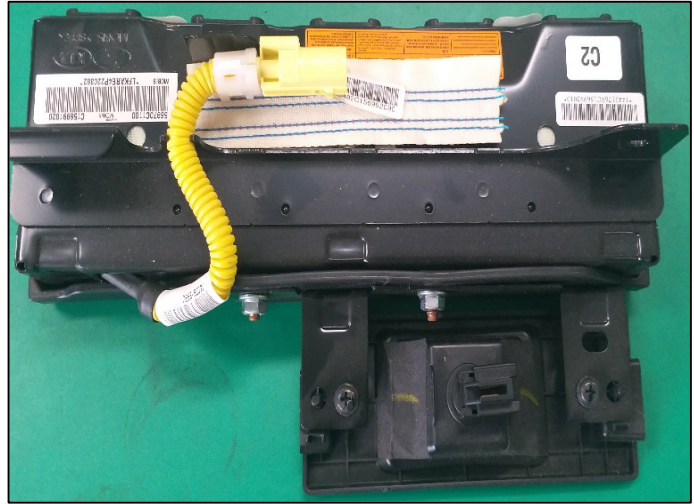


7. Remove the mounting bolts for the driver's knee air bag.

Tightening Torque:
8 ~ 12 N.m. (0.8 ~ 1.2 kgf.m, 5.9 ~ 8.8 lbf-ft)



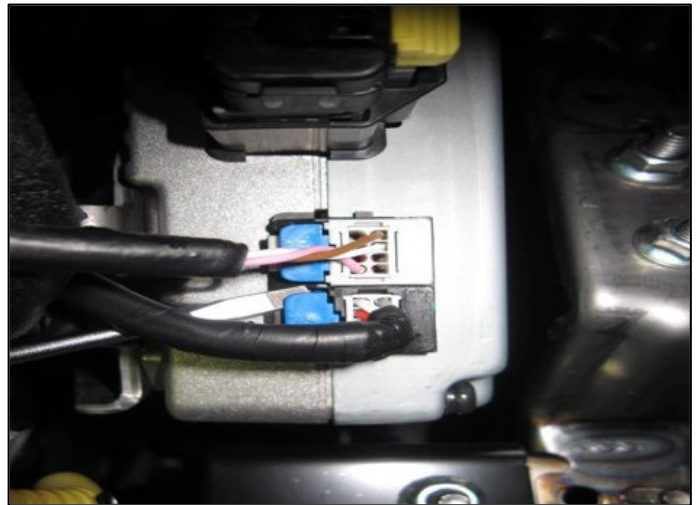
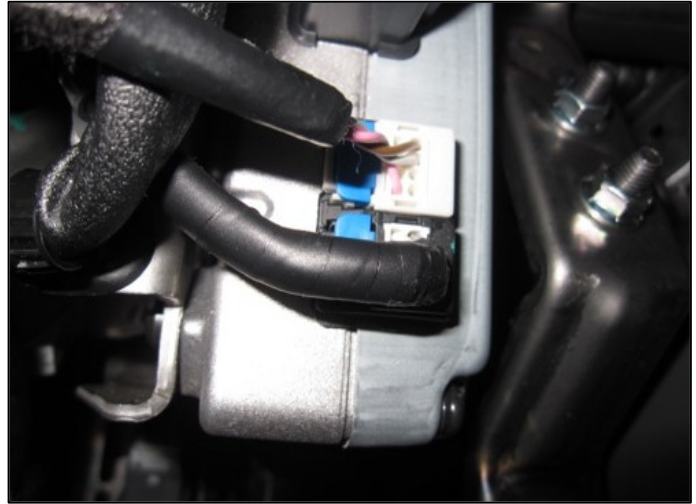
8. Disconnect the knee air bag connector and remove the air bag assembly.



9. Remove the cable protection cover on the torque sensor cable and disconnect the connector.



10. Remove the ECU side connector double lock and connector using the flat screwdriver.



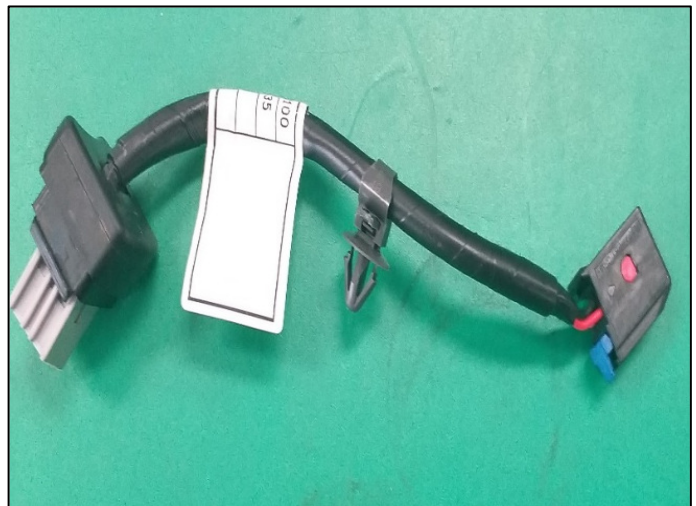
11. Remove the torque sensor cable fixing clip using the long-nose pliers.



12. Remove the torque sensor cable and replace it with a new one.

NOTICE

1. Install in reverse order of removal.
2. Conduct self-diagnosis after installation.
3. If the diagnosis is normal, finish the operation.
4. If there is a problem after replacing the cable, replace column & housing.
5. Restore the customer's radio presets.

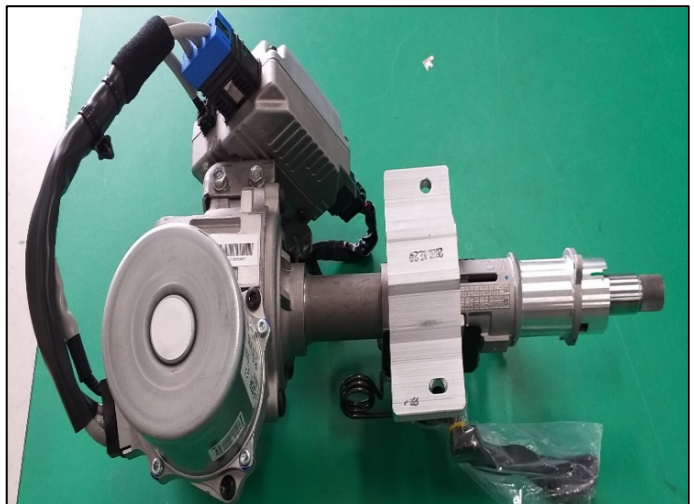


Service Procedure: C-MDPS Column & Housing Replacement

1. If applicable, record the customer's radio presets and turn the ignition switch OFF.

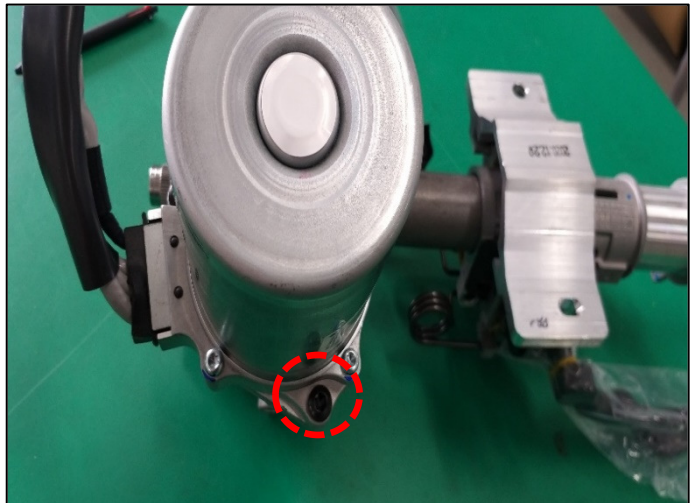
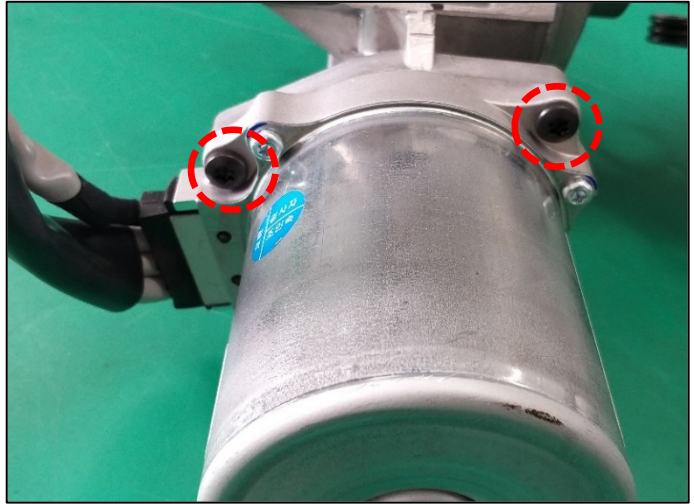
Disconnect the negative (-) 12V battery terminal and wait at least 30 seconds.

Remove the MDPS assembly per appropriate service manual procedures.

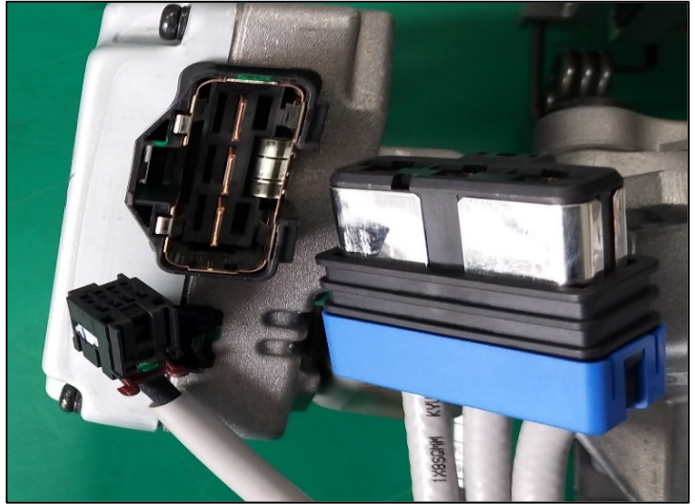


2. Remove the C-MDPS motor mounting screws.

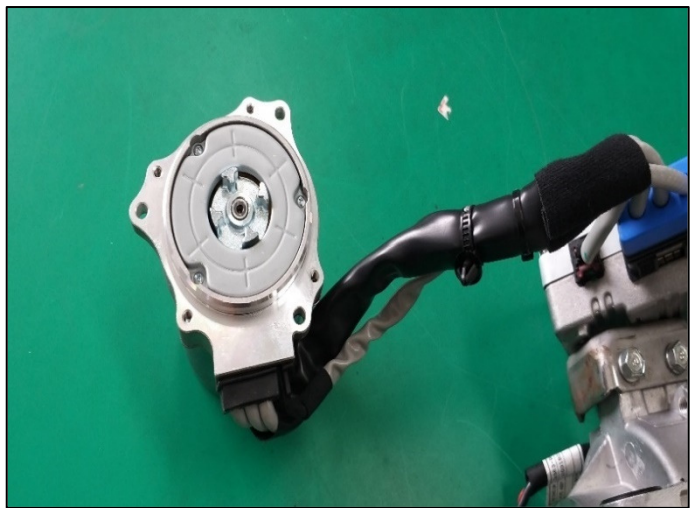
Tightening Torque:
8 ~ 12 N.m. (0.8 ~ 1.2 kgf.m, 5.9 ~ 8.8 lbf-ft)



3. Remove the MDPS ECU connector.

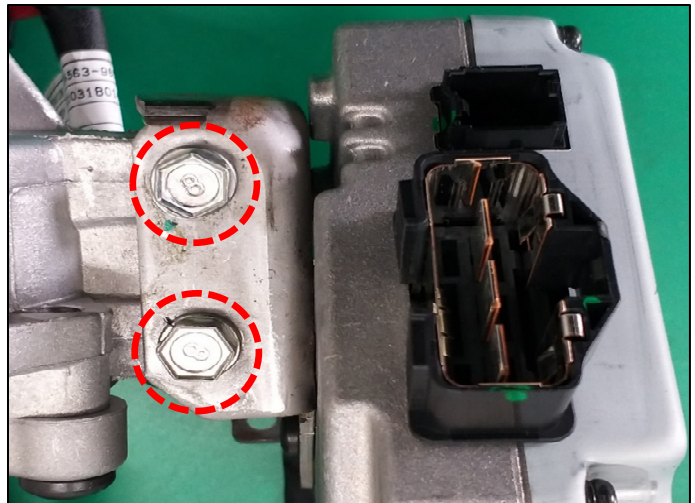


4. Remove the MDPS motor assembly.



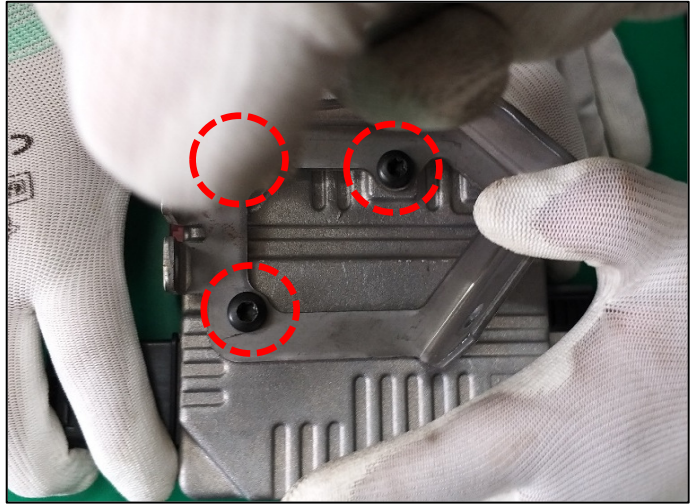
5. Remove the MDPS ECU mounting bolts.

Tightening Torque:
20 ~ 24 N.m. (2 ~ 2.5 kgf.m, 14.8 ~ 17.7 lbf-ft)

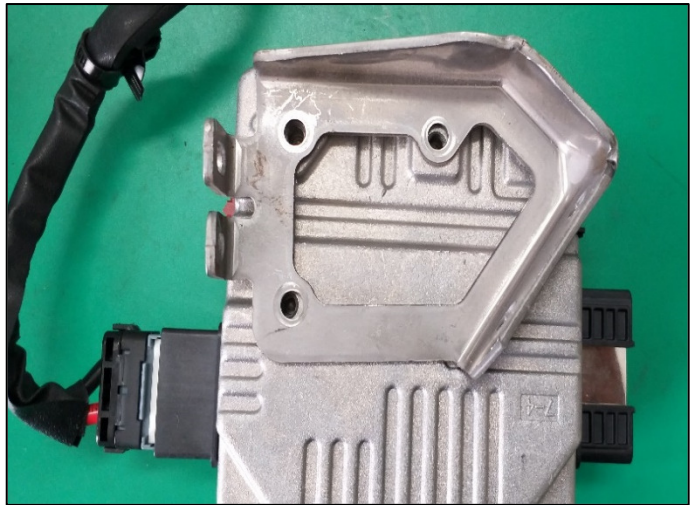


6. Remove the MDPS ECU mounting screws.

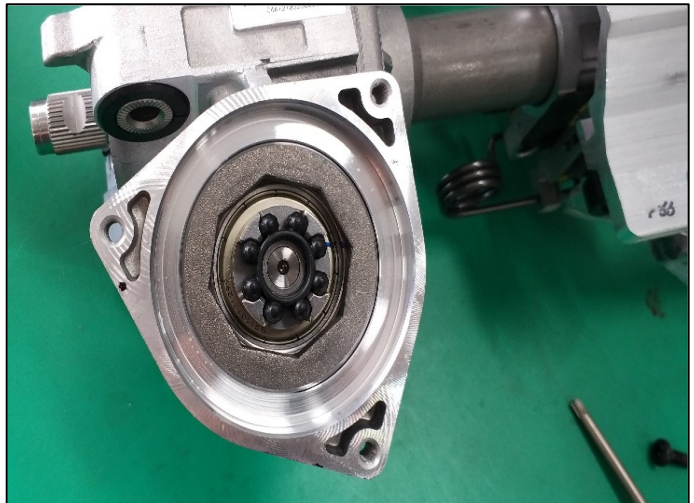
Tightening Torque:
8 ~ 10 N.m. (0.8 ~ 1 kgf.m, 5.9 ~ 7.4 lbf-ft)



7. Remove the MDPS ECU.

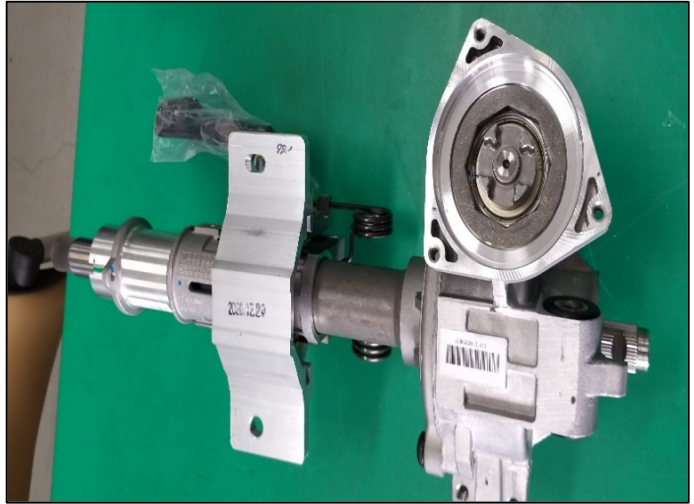


8. Remove the MDPS rubber coupling.



9. Install the removed MDPS ECU, motor, and coupling to the new column & housing assembly.

Install the MDPS assembly into the vehicle in reverse order of removal.

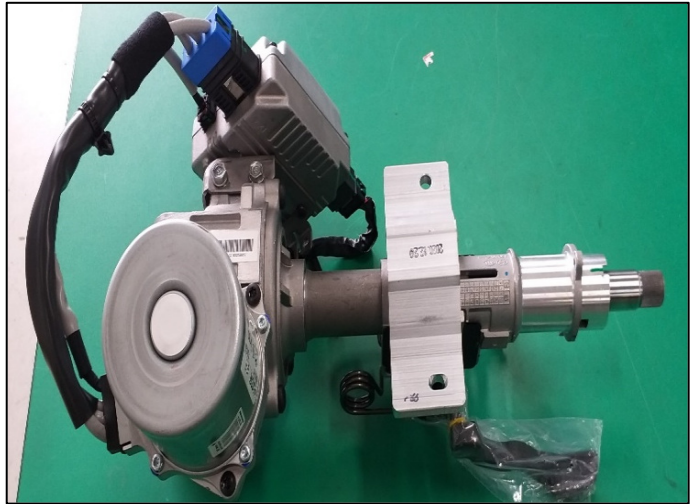


Service Procedure: C-MDPS ECU Replacement

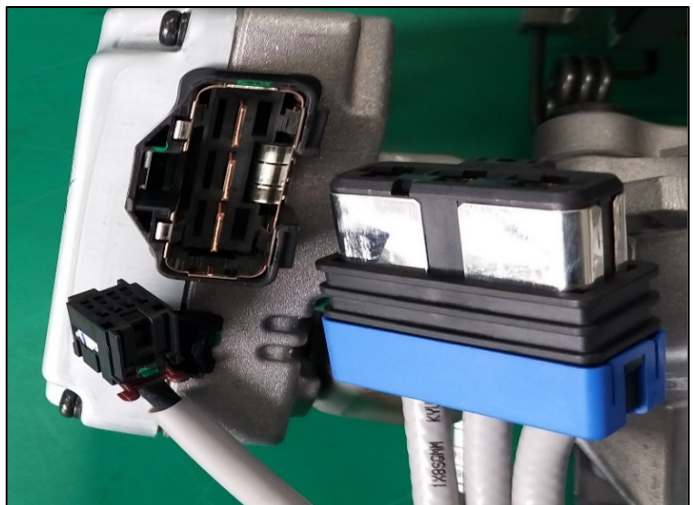
1. If applicable, record the customer's radio presets and turn the ignition switch OFF.

Disconnect the negative (-) 12V battery terminal and wait at least 30 seconds.

Remove the MDPS assembly per appropriate service manual procedures.

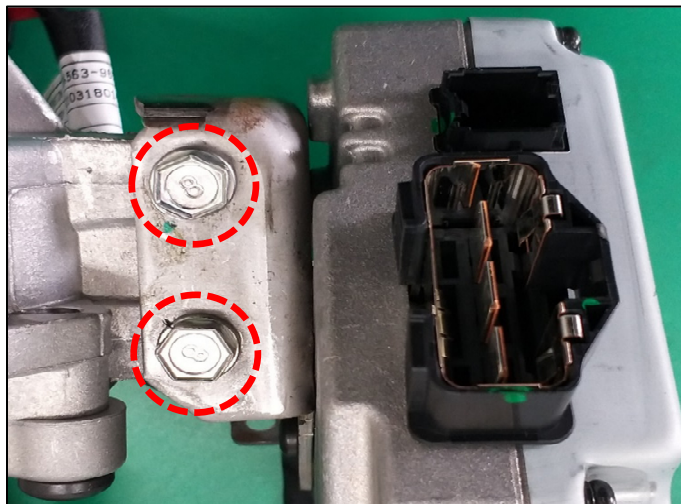


2. Remove the MDPS ECU connector.



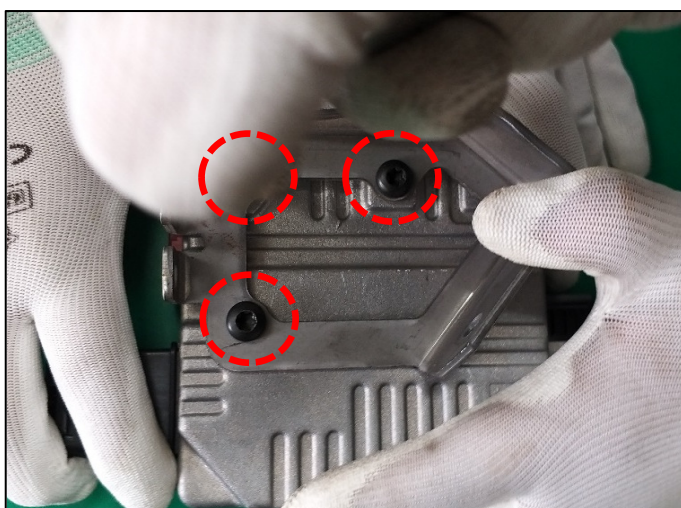
3. Remove the MDPS ECU mounting bolts.

Tightening Torque:
20 ~ 24 N.m. (2 ~ 2.5 kgf.m, 14.8 ~ 17.7 lbf-ft)



4. Remove the MDPS ECU mounting screws.

Tightening Torque:
8 ~ 10 N.m. (0.8 ~ 1 kgf.m, 5.9 ~ 7.4 lbf-ft)



5. Remove the MDPS ECU.

Install the new MDPS ECU in reverse order of removal.

Restore the customer's radio presets.

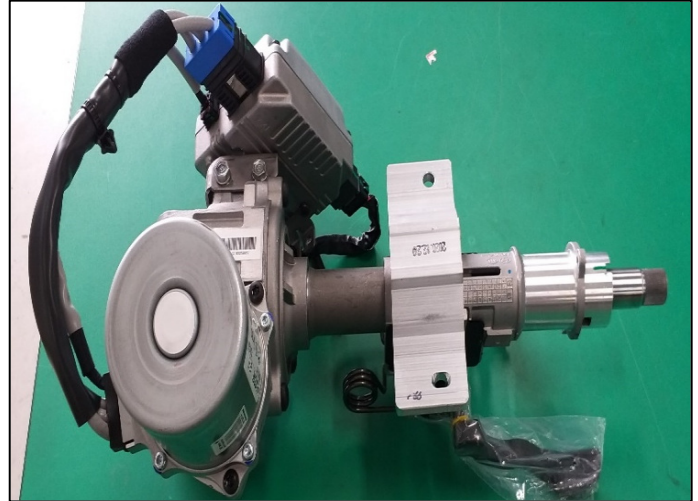


Service Procedure: C-MDPS Motor Replacement

1. If applicable, record the customer's radio presets and turn the ignition switch OFF.

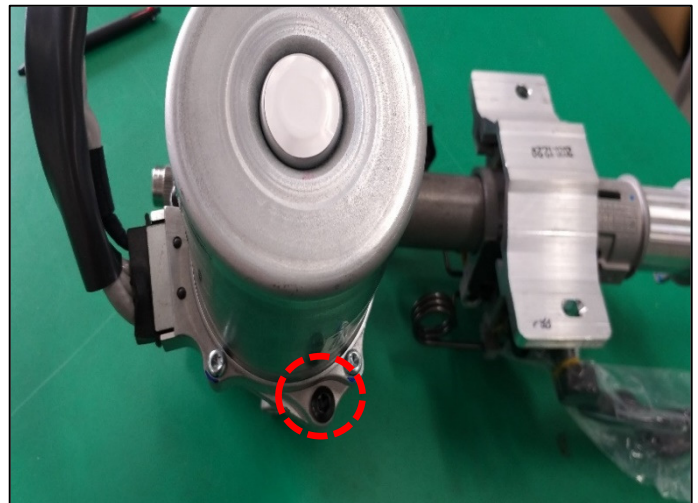
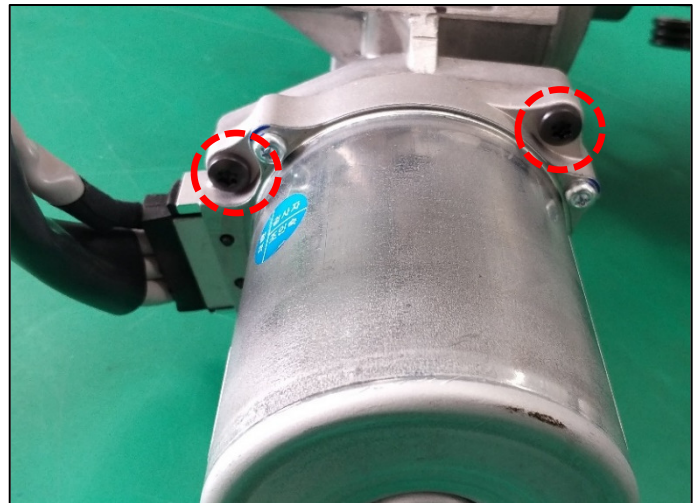
Disconnect the negative (-) 12V battery terminal and wait at least 30 seconds.

Remove the MDPS assembly per appropriate service manual procedures.



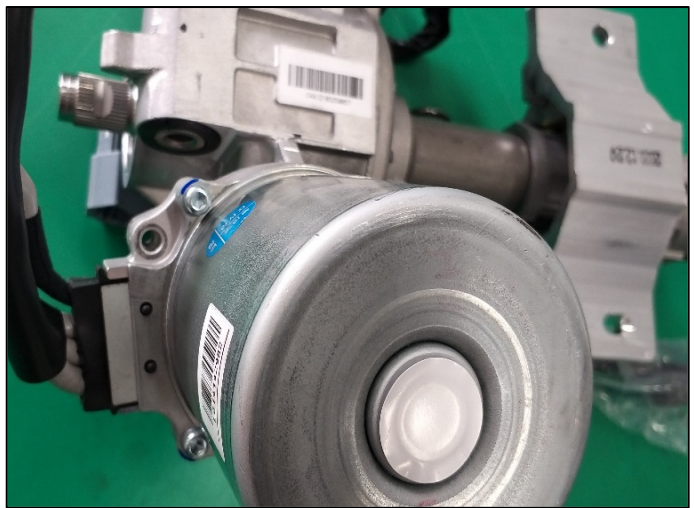
2. Remove the C-MDPS motor mounting screws.

Tightening Torque:
8 ~ 12 N.m. (0.8 ~ 1.2 kgf.m, 5.9 ~ 8.8 lbf-ft)

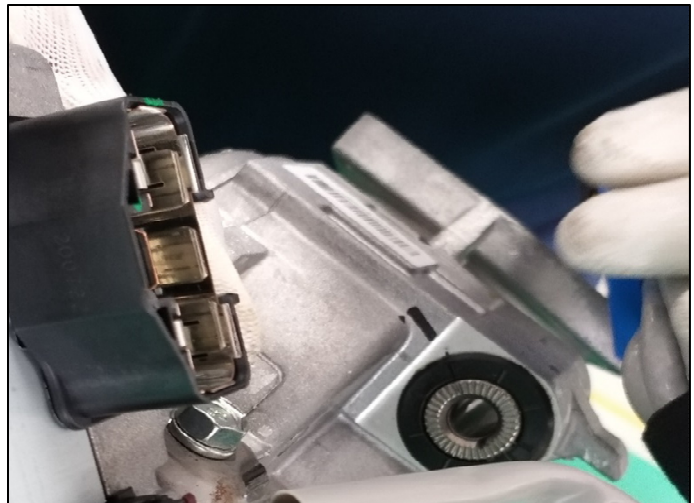




3. Remove the motor from the assembly.



4. Disconnect the power connector.



5. Remove the motor assembly.

Install the new motor assembly in reverse order of removal.

Restore the customer's radio presets.



Service Procedure: R-MDPS Power Pack Replacement and Short Gear Assembly Replacement

NOTICE

For service procedures on R-MDPS LFa Sonata vehicles, refer to TSB #21-ST-001H and the applicable Service Manual.