



GROUP
ELE

MODEL
2017MY
Niro (DE HEV)

NUMBER
135 (Rev 1, 2/15/2018)

DATE
October 2017

TECHNICAL SERVICE BULLETIN

SUBJECT: SERVICE ACTION: INSPECTION AND/OR
REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)

★ 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 the procedure to inspect and, if necessary, replace the hybrid drive motor on some Niro (DE HEV) vehicles produced from January 1, 2017 through July 10, 2017, which may exhibit a hybrid drive motor warning light malfunction and concerns with the EV mode driving. To correct this concern, follow the procedure as outlined in this bulletin. Before conducting this procedure, verify that the vehicle is included in the affected vehicle production date range and in the attached VIN list.



★ NOTICE

A Service Action is a repair program without customer notification that is performed during the warranty period. Any dealer requesting to perform this repair outside the warranty period will require DPSM approval.

Repair status for a VIN is provided on WebDCS (Service → Warranty Coverage → Warranty Coverage Inquiry → Campaign Information). Not completed Recall / Service Action reports are available on WebDCS (Consumer Affairs → Not Completed Recall → Recall VIN → Select Report), which includes a list of affected vehicles.

This issue number is **SA304**.

File Under: <Electrical>

Circulate To: General Manager Service Manager Parts Manager
 Service Advisors Technicians Body Shop Manager Fleet Repair

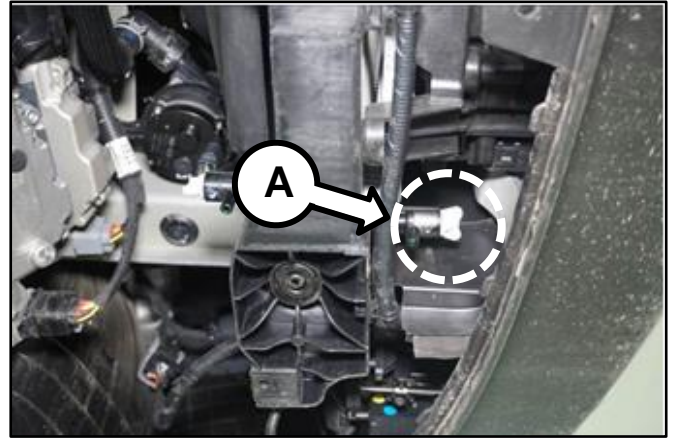
SERVICE ACTION: INSPECTION AND/OR REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)

Motor Inspection Procedure:

1. Drain the Hybrid motor coolant by referring to the “Hybrid motor system → Hybrid motor cooling system → Coolant → Repairing procedure” chapter in the applicable workshop manual. Hybrid motor coolant drain is located on the front side of the radiator (A).

WARNING

Do not loosen the radiator drain plug or open the radiator cap when the engine is hot.

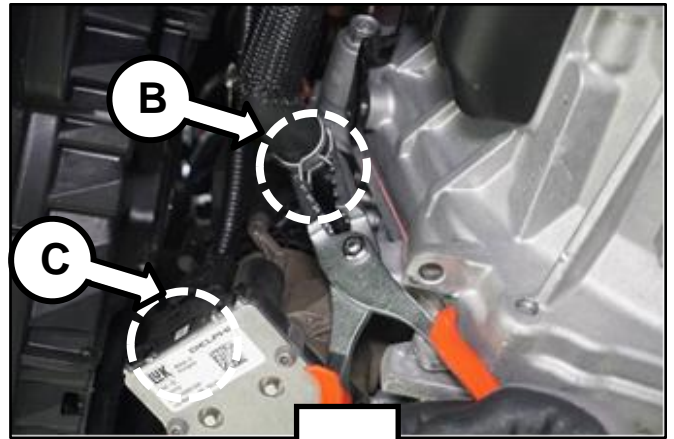


2. Remove the inlet hose by releasing the hybrid drive motor inlet hose clamp (B). Do not allow coolant onto the engine clutch actuator assembly, as this may damage the actuator (C).

Leave a shallow drain pan in place on the floor to continue to catch additional coolant that will drain out in step 6.

WARNING

Remove inlet hose carefully to avoid being burned by hot fluid.



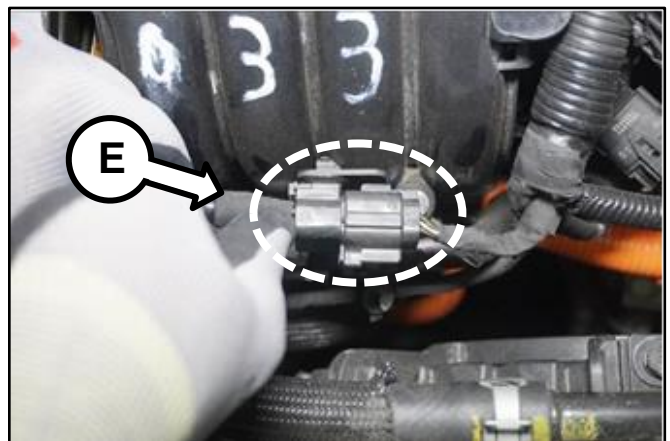
SUBJECT:

SERVICE ACTION: INSPECTION AND/OR REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)

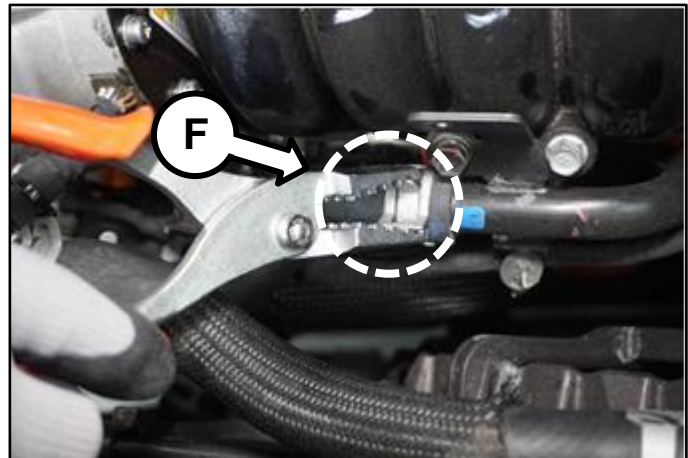
3. Lower the vehicle and remove the air cleaner (D).



4. Remove the hybrid starter generator (HSG) temperature sensor connector (E).



5. Release and move the HSG inlet hose clamp (F) and remove the HSG hose.



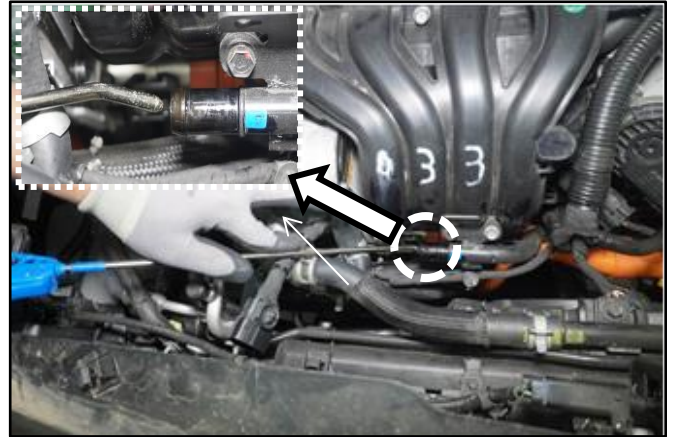
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SERVICE ACTION: INSPECTION AND/OR REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)

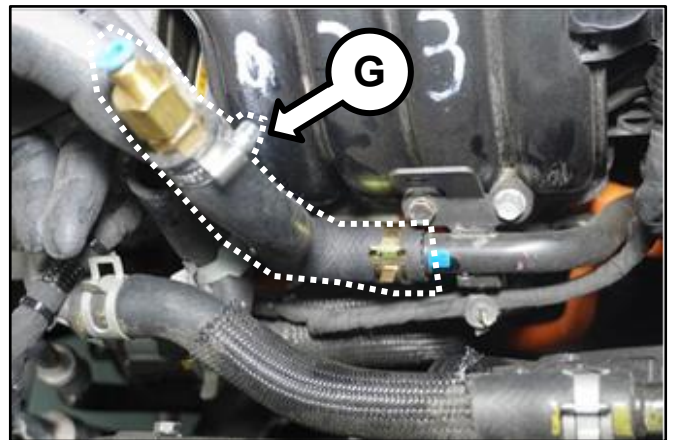
6. Drain the remaining traction motor coolant completely, by using an air gun as shown, into the drain pan left under the vehicle from step 2.

* NOTICE

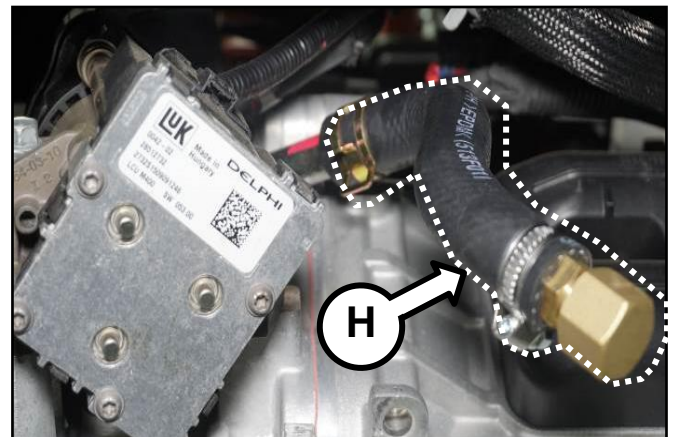
Be careful and avoid getting coolant on adjacent parts when using the air gun.



7. Connect the Pressure Test Adapter Hose (G) to the HSG inlet pipe.



8. Raise the vehicle on a lift and connect the Capped Test Adapter Hose (H) to the hybrid drive motor inlet pipe.



SUBJECT:

SERVICE ACTION: INSPECTION AND/OR REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)

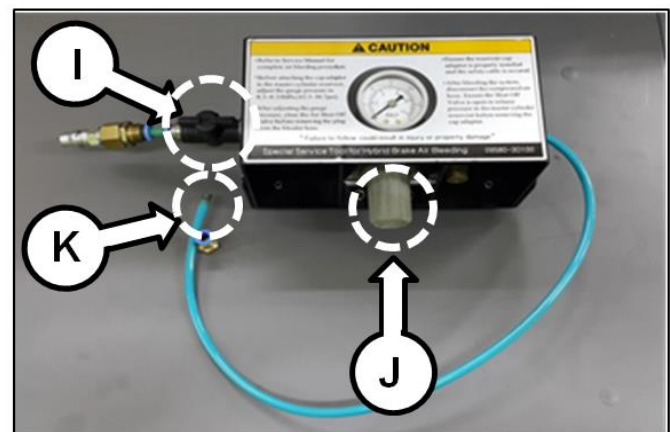
9. Lower the vehicle and set up the air bleeding tool to confirm no leaks, and then perform the 3-bar air leak test as follows:

* NOTICE

Click the link below for a short video on setup details and operating the air bleeding tool.

[Air Bleeding Tool Video](#)

1. Close the valve (I), place the cap on the outlet hose (K), and install the air hose.
2. Open the valve (I).
3. Pull the pressure valve adjuster outwards (J) and adjust the pressure to 3 bars and push back in.
4. Close the valve (I) and remove the air hose. Pressure should remain at three (3) bars (confirm air bleeding tool is not leaking). If OK, proceed to step 7, if NG, then fix the leak before proceeding.
5. Open the valve (I) slowly and remove the pressure.
6. Close the valve (I).
7. Remove the cap (K) and install the air hose.
8. Install the output hose end into HSG inlet adaptor.
9. Attach the air hose and open the valve (I) and ensure 3 bars pressure.
10. Close valve (I), remove air hose and test for leaks.
 - Keep the pressure valve closed and monitor for one (1) minute and check to ensure the pressure remains at three (3) bars.



SUBJECT:

SERVICE ACTION: INSPECTION AND/OR REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)

10. If the traction motor assembly tests OK, then reassemble all the parts in the reverse order, go to step 11. If test result is NG, then go to traction motor replacement procedure below.
11. Refill the coolant and operate the Electric Water Pump (EWP) using KDS by referring to “Hybrid motor system → Hybrid motor cooling system → Coolant → repairing procedure” section in the applicable workshop manual.

* NOTICE

Fill the coolant system with the recovered coolant. If needed for top-off, add 50/50 coolant or a mixture appropriate for the area.

12. Verify proper vehicle operation and make sure no coolant leaks are present.

Traction Motor Replacement Procedure

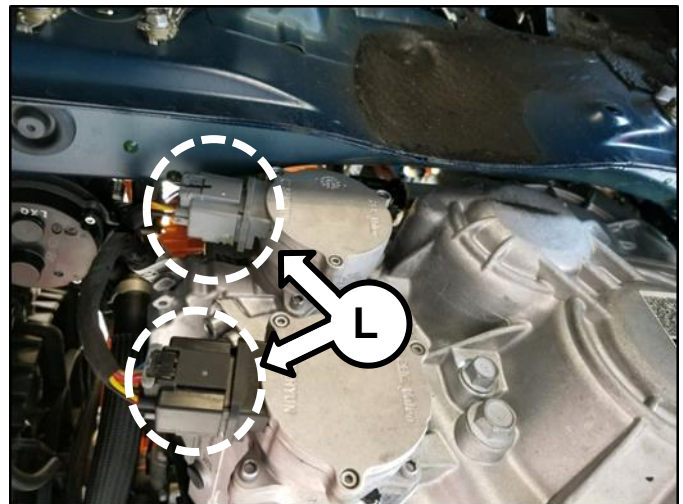
DANGER

When performing this procedure, follow all EV battery safety procedures found in the Service Materials → Service Info → EV Battery System → General Safety Information and Caution” chapter in the Shop Manual, and wear all required Personal Protection Equipment (PPE).

1. Replace the Hybrid drive motor by referring to “Hybrid motor system → Hybrid motor assembly → Hybrid drive motor assembly → repairing procedure” section in the applicable workshop manual.

CAUTION

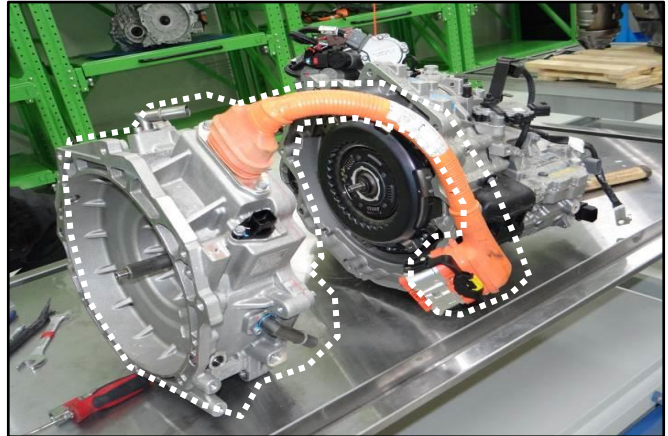
When removing/installing the traction motor/DCT assembly, the DCT clutch actuators/connectors can be damaged from interference with the LH frame rail. Avoid damage by carefully guiding the components past the rail during removal/installation.



SUBJECT:

SERVICE ACTION: INSPECTION AND/OR REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)

NOTE: When mating the traction motor/DCT assembly to the engine assembly, it may be necessary to rotate the crank pulley bolt to align the traction motor input splines with the engine's clutch.



2. Perform these four (4) KDS calibrations in specific order as indicated below:

Systems	Components	Unfold All
■ Engine Control		
■ HEV Motor Control System		
■ HCU/Low DC-DC Converter		
■ System Identification		
■ Engine Test On		
■ Engine Test Off		
■ LDC Activation Test		
■ Compression pressure test of engine cylinder		
■ Engine Clutch/Motor Resolver Adaptation		#3
■ HCU Variant Coding		
■ Stabilization of the engine clutch hardware transfer torque		#4
■ Removal of air from engine clutch hydraulic pressure line		#2
■ Initialization of the engine clutch inspection line learning and diagnostic information		#1
■ Stabilization of Hydraulic Oil Flow of Engine Clutch		



3. Clear DTCs and confirm normal operation and check that the hybrid coolant level is still OK. Confirm that no DTC reoccurred.

SUBJECT: SERVICE ACTION: INSPECTION AND/OR REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)


AFFECTED VEHICLE RANGE:

Model	Production Date Range
Niro (DE HEV)	01/01/2017 through 07/10/2017

REQUIRED TOOLS:

Part Number	Part Name	Figure	Comments
09580 3D100	Air Bleeding Tool		Located in the Kia Tool Cabinet Drawer 7
1K373 G5100QQ	Leak Test Adapter Hose		Auto-shipped to Dealer For replacement, contact Snap-on Business Solutions at (888) 542-1011

REQUIRED PARTS:

Model	Part Name	Part Number		Figure
		Previous	New	
DE HEV	Hybrid Drive Motor	36500-2BDC0	36500 2BDC0QQK	

SUBJECT:

SERVICE ACTION: INSPECTION AND/OR REPLACEMENT OF HYBRID DRIVE MOTOR (SA304)

WARRANTY INFORMATION:

N Code: N99 C Code: C99

Model	Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
DE HEV	V	36500 2BDC0	0	(SA304) Inspect Drive Motor for Leaks	170071R0	0.9 M/H	N/A	0
			0	(SA304) Inspect Drive Motor for Leaks and Replace Drive Motor	170071R1	5.1 M/H	36500 2BDC0QQK	1

NOTE: Use sublet code 'X1' with a maximum amount of \$17.00 reimbursement for topping off coolant.

Use sublet code 'X2' for applicable rental car expense for up to 5 days.

* NOTICE

VIN inquiry data for this repair is provided for tracking purposes only. Kia retailers should reference SA304 when accessing the WebDCS system.