	GROUP <b>Electrical</b>	MODEL <b>2017MY~ Optima Hybrid (JF HEV) Optima Plug-in Hybrid (JF PHEV) Niro (DE HEV)</b>
	NUMBER <b>PS520</b>	DATE <b>October 2017</b>



## TECHNICAL OPERATIONS

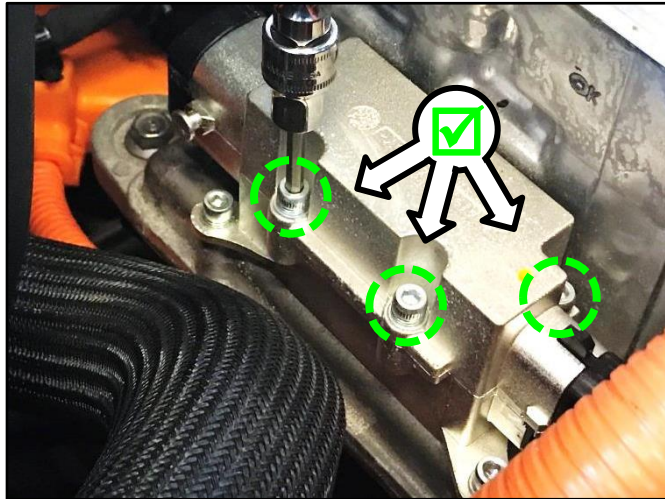
**SUBJECT:**       HYBRID POWER CONTROL UNIT 30A DC FUSE

The 2017MY~ Optima Hybrid (JF HEV), Optima Plug-in Hybrid (JF PHEV), and Niro (DE HEV) vehicles are equipped with a replaceable 30A fuse for the eCompressor. This fuse is easily accessible under a cover between the power cable connector and inverter cable, as shown below. However, the housing for the fuse is internally bolted to the HPCU assembly and is only available as part of the HPCU assembly. Forcibly removing the fuse housing assembly will result in damaging the internal HPCU terminals which will require replacement of the entire HPCU assembly and is not covered under Warranty.

Follow the procedure below to inspect and/or replace the fuse, or refer to the “Hybrid Control System → Hybrid Control System → DC Fuse → Repair procedures” chapter in the applicable Shop Manual on KGIS.

** DANGER**

**When performing this procedure, follow all EV battery safety precaution procedures found in the “General Information → General Safety Information and Caution” chapter in the Shop Manual on KGIS and wear all required Personal Protection Equipment (PPE). Failure to follow the safety instructions may result in serious electrical injuries.**

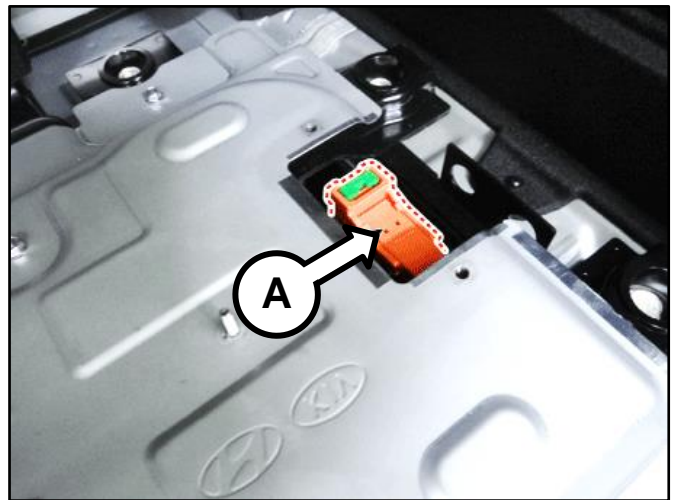


## Inspection/Replacement Procedure:

1. Remove the Hybrid Control System Safety Plug (A) by referring to the “Hybrid Control System → High Voltage Shut-off Procedures” chapter in the applicable Shop Manual on KGIS.

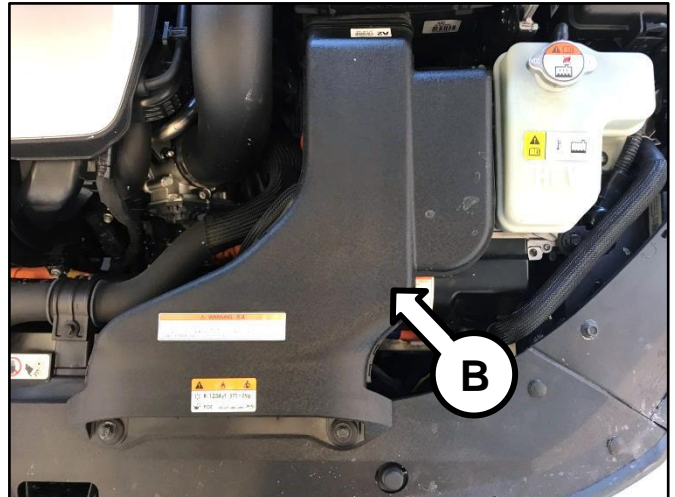
**⚠ DANGER**

Failure to follow the High Voltage Shut-off Procedure may result in serious electrical injuries.

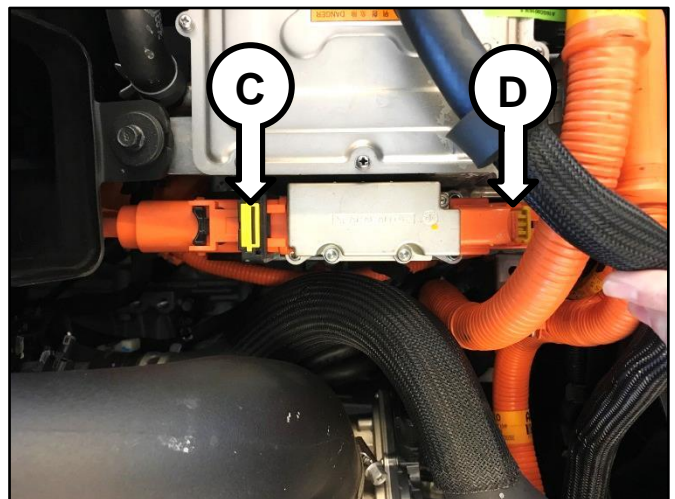


Optima Plug-in Hybrid (JF PHEV) shown. Location of Safety Plug may be different on other vehicles.

2. Open the hood and remove the air intake duct (B) (if applicable).



3. Disconnect the power cable (C) and inverter cable (D).

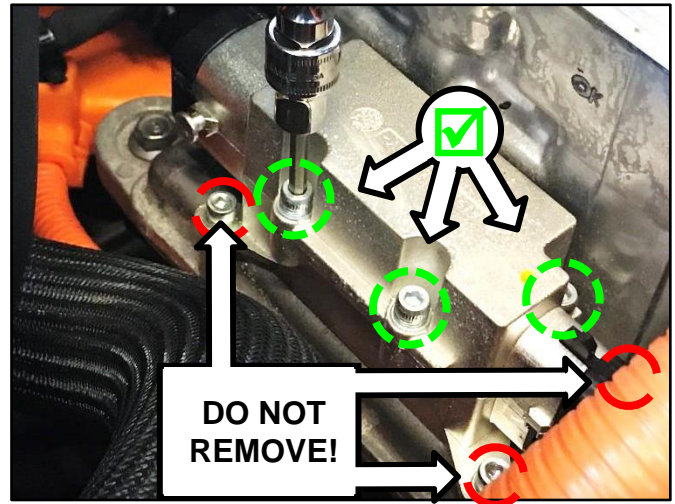


- Remove the upper three (3) cover retaining bolts marked (☑) in the photo to the right and remove the cover. DO NOT remove the lower fuse housing bolts.

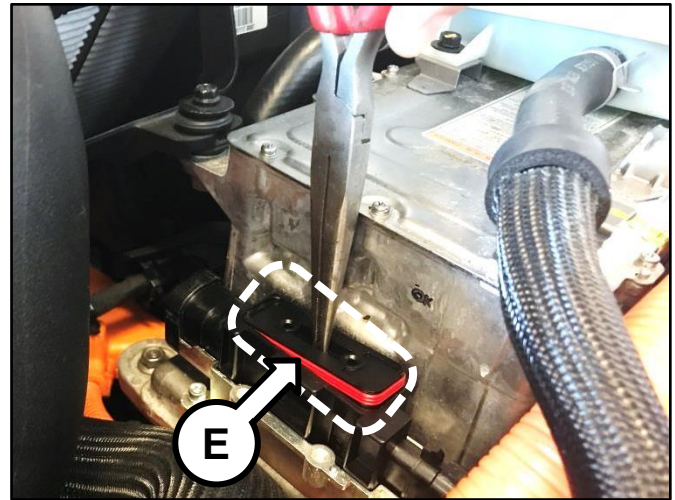
**\* NOTICE**

**Removal of the three lower fuse housing bolts and forcibly removing the housing assembly will result in a damaged HPCU assembly!**

**Tightening torque for cover bolts (☑):  
43.2 – 60 in.lb (4.9 – 6.9 N.m,  
0.5 – 0.7 kgf.m)**



- With pliers, remove the plastic cover (E).

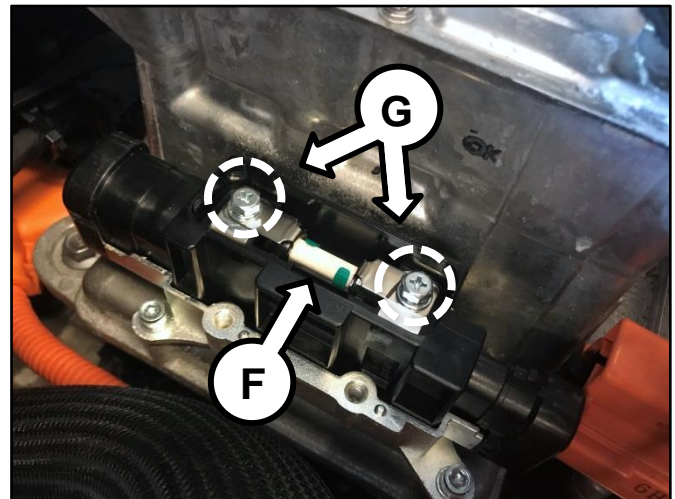


- To inspect the fuse, check the continuity between ends of the fuse (F).

**Continuity Specification:  
Less than 1Ω (at 68°F, 20°C)**

To replace the fuse, remove the two (2) fuse retaining bolts (G) and remove the old fuse (F), then install the new fuse.

**Tightening torque for fuse bolts (G):  
82.8 – 92.4 in.lb (9.3 – 10.4 N.m,  
0.95 – 1.06 kgf.m)**



- Reinstall all removed components in the reverse order of removal.
- Confirm proper operation of the eCompressor.