



HYUNDAI

Technical Service Bulletin

GROUP	NUMBER
CAMPAIGN	20-01-003H
DATE	MODEL(S)
January, 2020	2016-2017MY SONATA HYBRID

SUBJECT: 2016-2017MY SONATA HEV MAIN RELAY / POWER RELAY ASSEMBLY / HIGH VOLTAGE CABLE ASSEMBLY REPLACEMENT (SERVICE CAMPAIGN T4M)

★ IMPORTANT

*** Dealer Stock and Retail Vehicles ***

Dealers must perform this Service Campaign on all affected vehicles prior to customer retail delivery and whenever an affected vehicle is in the shop for any maintenance or repair.

When a vehicle arrives at the service department, access Hyundai Motor America's "Warranty Vehicle Information" screen via WEBDCS to identify open Campaigns.

Description: 2016 – 2017 model year Sonata LF HEV vehicles contain a Power Relay Assembly ("PRA"). The PRA is equipped with a main relay and High Voltage Cable, which in some instances may have a loose connection. If the vehicle continues to operate in this condition, a loose connection could cause a no start condition or a Check Engine and Hybrid Warning Light On with either or both of these DTCs stored:

- DTC P1B77 – High Voltage Battery Precharging Fault
- DTC P1990 – Oil Pump Unit Input High Voltage Wiring Line Open


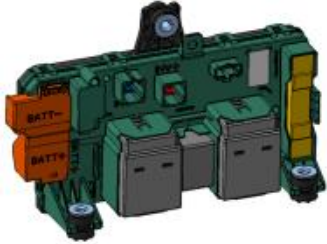

This bulletin describes the procedure to inspect the PRA, High Voltage Cable, and main relays and replace them if necessary.



Applicable Vehicles: Certain 2016-2017MY Sonata Hybrid (LF HEV) vehicles

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

Parts Information:

Part Name	Part Number / Figure	Qty	Note
MAIN RELAY	 <p>37583-A8000QQH</p>	1	<p>Only required based on vehicle inspection results. Refer to Service Procedure.</p> <p>Note: The main relays are packaged as a set of two.</p>
POWER RELAY ASSEMBLY	 <p>37514-G0000QQH</p>	1	<p>Includes new main relays preinstalled.</p> <p>Only required based on vehicle inspection results. Refer to Service Procedure.</p>
HIGH VOLTAGE CABLE	 <p>91875-E6000QQH</p>	1	<p>Only required based on vehicle inspection results. Refer to Service Procedure.</p>

Warranty Information:

Model	Op Code	Operation	Op Time	Causal Part	Nature Code	Cause Code
Sonata Hybrid (LF HEV)	90C058R0	PRA INSPECTION AND MAIN RELAY REPLACEMENT	0.6 M/H	37583-A8000	I3A	ZZ3
	90C058R1	PRA INSPECTION AND PRA REPLACEMENT	0.6 M/H	37514-G0000		
	90C058R2	PRA INSPECTION AND PRA AND HIGH VOLTAGE CABLE REPLACEMENT	3.2 M/H	91875-E6010		

IMPORTANT:

NOTE 1: Submit Claim on Campaign Claim Entry Screen.

NOTE 2: If a part is found in need of replacement while performing Service Campaign T4M 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 the repair.

⚠ DANGER

The vehicle contains a high voltage battery and associated components. Follow all applicable electrical system precautions outlined in the Shop Manual before performing the procedure.

Shop Manual > General Information > General Safety Information and Caution

Service Procedure:

1. Follow the High Voltage Shut-off Procedure in the Shop Manual before performing any work.

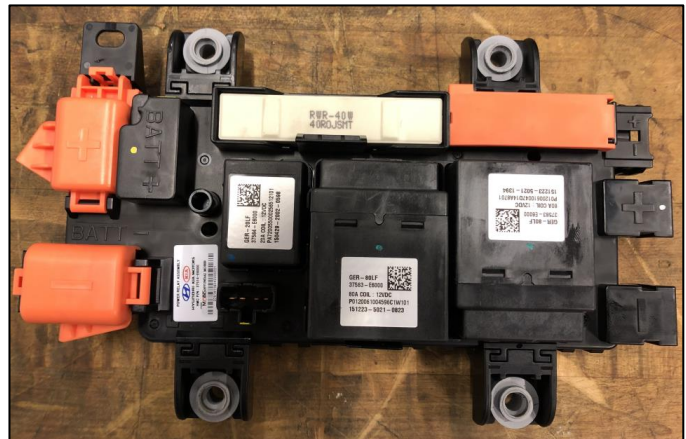
Shop Manual > General Information > High Voltage Shut-off Procedure

⚠ WARNING

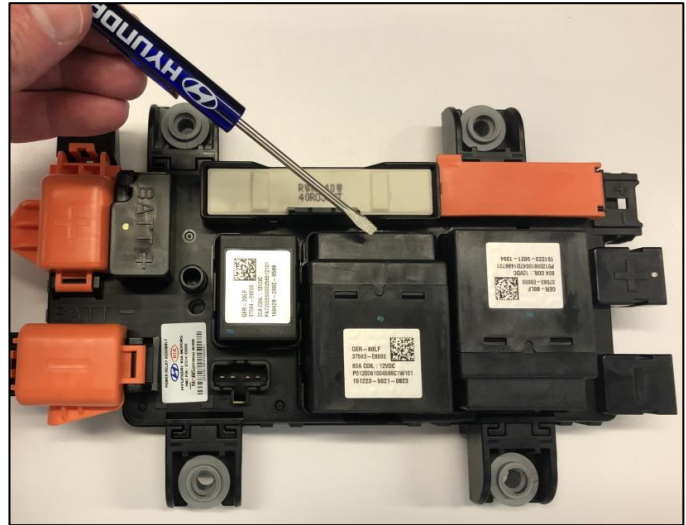
Follow the high voltage Shut-off procedure before performing the inspection or any repairs.

2. The Power Relay Assembly (“PRA”) and main relays will be inspected. Remove the PRA assembly according to the Shop Manual.

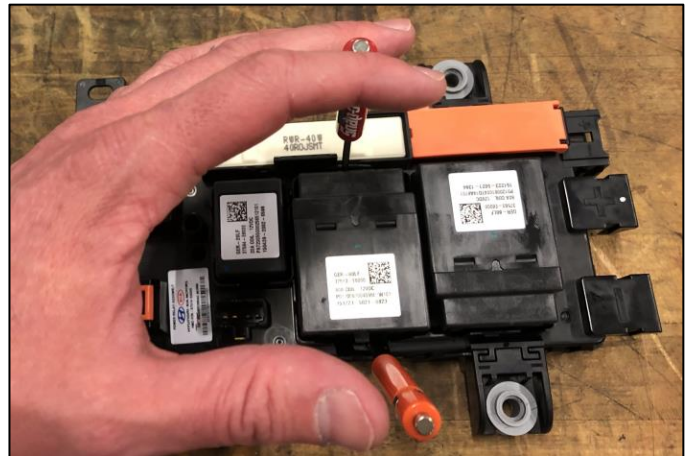
Hybrid control system > High Voltage Battery System > Power Relay Assembly (PRA)



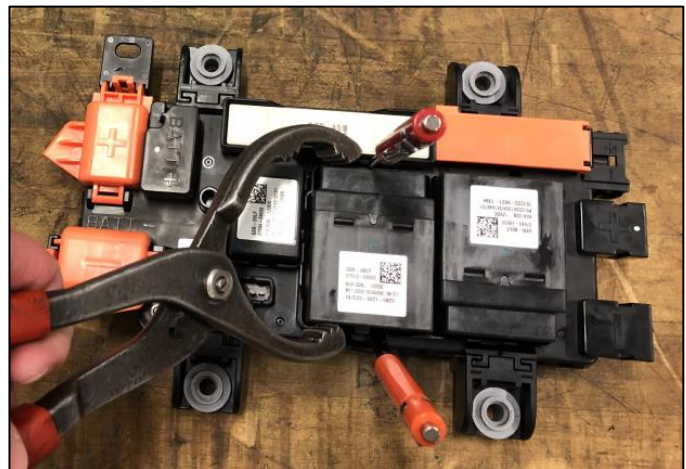
3. Spread the main relay hooks at the top and bottom of the relay using a flat head screwdriver.



4. Insert screwdrivers between the PRA housing and main relay to hold and disengage the top and bottom hooks.



5. With the screwdrivers inserted remove the main relays with Oil Filter Pliers, Water Pump Pliers, or a similar tool.



6. Inspect the PRA and main relays.

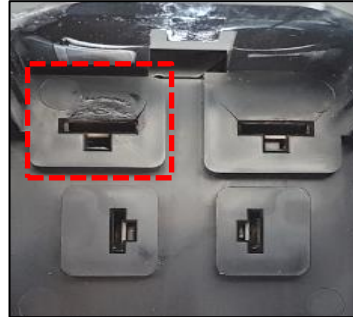
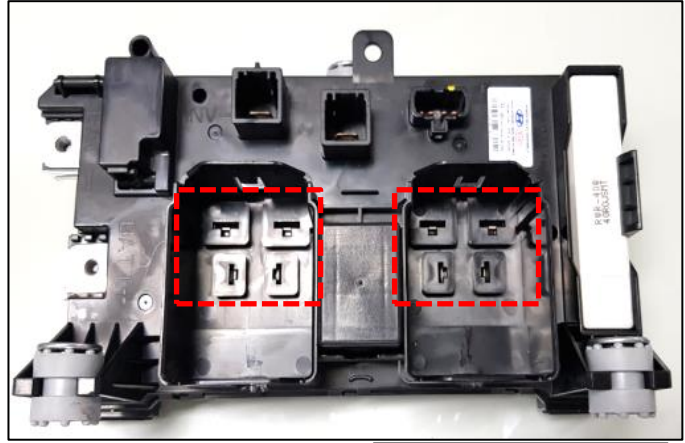
If either the PRA OR main relays are damaged: Replace the PRA according to the Shop Manual. The new PRA comes with new main relays preinstalled. Use **Labor Op Code: 90C058R1**

Hybrid Control System > High Voltage Battery System > Power Relay Assembly (PRA)

NOTICE

The specific location(s) and extent of damage can vary. If any damage is present, replace the PRA.

If the PRA AND main relays are NOT damaged: Proceed to step 7.



7. Inspect the PRA Inverter Power Terminals and High Voltage Cable connectors.

If either the terminals or connectors are damaged, replace the High Voltage Cable and the PRA if it was not replaced in step 6. Use **Labor Op Code: 90C058R2**

Shop Manual:
Hybrid Control System > Power Cable

NOTICE

The specific location(s) and extent of damage can vary. If any damage is present, replace the High Voltage Cable and the PRA.

If the PRA, the High Voltage Cable connectors, and main relays are NOT damaged: Replace both main relays according to the Shop Manual. Use **Labor Op Code: 90C058R0**

Hybrid Control System > High Voltage
Battery Control System > Main Relay

8. Reinstall all removed parts in the reverse order of removal.

Check for DTCs and perform the appropriate diagnostic service. Ensure no warning lights are present.

