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## Technical Service Bulletin

GROUP

**HYBRID  
CONTROL**

NUMBER

**14-HC-001**

DATE

**JULY 2014**

MODEL

**SONATA (YF HEV)**

**SUBJECT:**

HYBRID ELECTRIC WATER PUMP DTC P0C73, P0A93 & U1116

**Description:** This bulletin provides diagnostic information and related service procedure for the Sonata Hybrid electric water pump (EWP) with the following symptoms and/or DTC:

### Warning light:

- Check Engine light on
- No "EV Ready" mode or "Ready" light blinks on and off
- Charging warning light on, hybrid battery low
- "Wrench" symbol (Service Indicator symbol) blinks on and off
- Warning in the instrument cluster display: "Hybrid System Warning! Safely stop and Do Not Drive" and/or alarm sound

### Drivability Symptoms:

- Vehicle will not start or move in EV mode
- Poor acceleration from a stop in EV mode
- Vehicle jerks when decelerating to a stop.

### DTC List:

DTC	Description	Inspect
P0C73	Motor Electronics Coolant Pump 'A' Control	Electric Water Pump
P0A93	Inverter 'A' Cooling System Performance	Electric Water Pump
U1116	Lost Communication with Motor Electronics	CAN Line

### Applicable Vehicles:

2011~ Sonata Hybrid (YF HEV)

### Parts Information:

Model	Part	Section	PNC	Part Number
2011~ Sonata HEV	Electric water pump	25-251A	36900	36910-3D0** (See Parts Catalog)

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**Warranty Information**

Model	Op Code	Operation	Op Time	Causal P/N	Nature Code	Cause Code
2011~ Sonata Hybrid (YF HEV)	36910R1H	Electric water pump (EWP)	0.6	36910-3D0** (See Parts Catalog)	N09	C15
	36910RQ0	GDS operation	0.3			

**Service Procedure:**

- Depress the brake pedal and press the Start/Stop button to select “EV Ready”. Attach a GDS, and select **VIN, MCU** menu and **DTC**. Record any DTC. Delete the DTC.
- Select **Current Data** and the parameters shown below.

Drive the vehicle until the engine coolant is fully warm and record the data or ask an assistant to monitor the GDS.

Accelerate the vehicle to about 30 mph and brake moderately to a stop.

If the results are not as shown on the table below, the electric water pump may not be functioning correctly.

- If not as shown, go to Step 3 and replace the EWP.
- If as shown, delete the DTC and drive the vehicle for two key-on/key-off drive cycles. If the DTC and/or condition occur again, go to Step 3 and replace the EWP.

GDS Parameter	Result
Enable Flag for Electric Water Pump (EWP) Operation	ON
Electric Water Pump (EWP) Operation Status	ON
MCU Warning Flag	OFF
Electric Water Pump (EWP) Speed	2000~3300 rpm
MCU Temperature	Below 194°F (91°C)
MCU (GCU) Temperature	Below 199°F (93°C)
Generator HSG Temperature	Below 320°F (160°C)

- Open the rear trunk and open the cover to the safety plug.

Put on insulation gloves and pull up on the black tab and pull out the safety plug.



**WARNING**

Failure to perform this procedure may result in accidental injury or death.



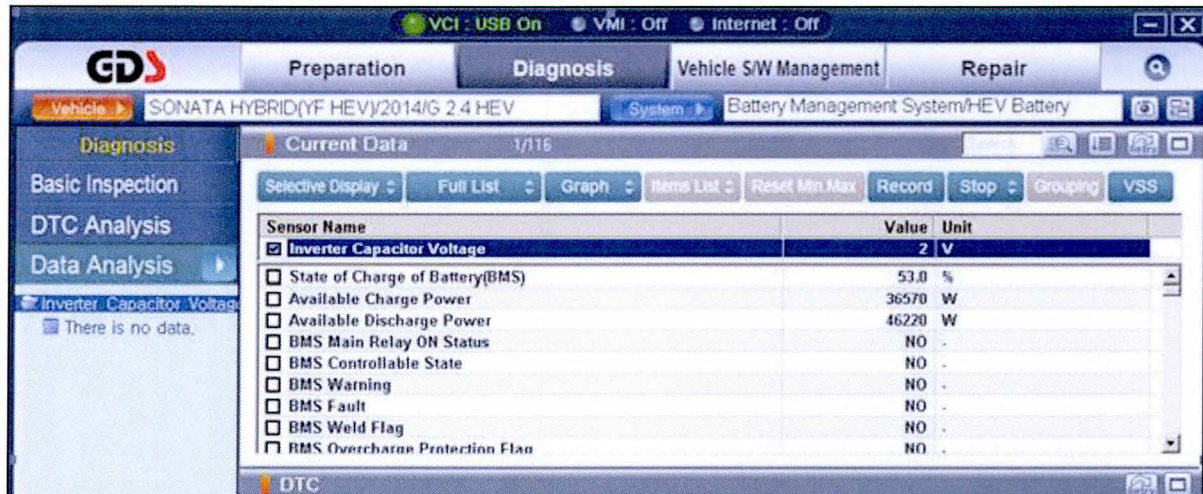


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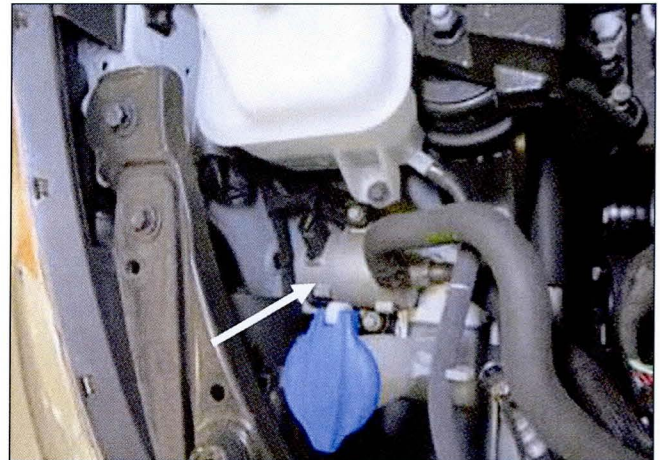
- Without depressing the brake pedal, push the Start-Stop button 2 times to power the cluster.

Attach a GDS and select **BMS** menu, **Current Data** and **Inverter Capacitor Voltage**. Confirm the **Inverter Capacitor Voltage** is less than 30V.

- If less than 30V, the system voltage is safe for the technician. Turn off the ignition and disconnect the negative battery cable in the trunk. Go to Step 5.
- If more than 30V, wait until the voltage is within specification before performing any repairs.



- Replace the electric water pump (EWP). Refer to the procedure in the Sonata Hybrid Shop Manual, Hybrid Motor System, Hybrid Motor Cooling System, Electric Water Pump (EWP), Repair Procedures.



- Reassemble all parts in the reverse order of disassembly.
- Fill the radiator with coolant and check for leaks.  
Use a GDS to bleed air from the hybrid motor cooling system. Refer to the procedure in the Sonata Hybrid Shop Manual, Hybrid Motor System, Hybrid Motor Cooling System and Coolant.
- Attach a GDS and delete any DTC.
- Clear the DTC in the BlueLink system according to instructions in TSB 12-BE-005-2.
- Drive the vehicle to confirm proper operation of the vehicle and cooling system.