# DTC P0A92/521 HYBRID GENERATOR PERFORMANCE

## CIRCUIT DESCRIPTION

See the description of the MG1/MG2 on page 05–463.

| DTC No. | INF Code | DTC Detection Condition | Trouble Area |
|---|---|---|---|
| P0A92 | 521 | MG1 system malfunction | • Hybrid vehicle generator<br>• w/ converter inverter assembly |

## INSPECTION PROCEDURE

**CAUTION:**

- **Before inspecting the high–voltage system, take safety precautions to prevent electrical shocks, such as wearing insulated gloves and removing the service plug grip. After removing the service plug grip, put it in your pocket to prevent other technicians from reconnecting it while you are servicing the high–voltage system.**
- **After disconnecting the service plug grip, wait at least for 5 minutes before touching any of the high–voltage connectors or terminals.**

HINT:

At least 5 minutes is required to discharge the high–voltage condenser inside the inverter.

**1 READ OUTPUT DTC(HYBRID CONTROL)**

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the power switch ON (IG).
(c) Turn the intelligent tester II ON.
(d) On the intelligent tester II, enter the following menus: Powertrain / Hybrid Control / DTC.
(e) Read DTCs.

**Result: DTC P0A92 (INF 521) and other DTCs are output**

HINT:

If any other codes besides P0A92 (INF 521) are output, perform troubleshooting for those DTCs first.

**YES** → **GO TO RELEVANT DTC CHART (See page 05–268)**

**NO**

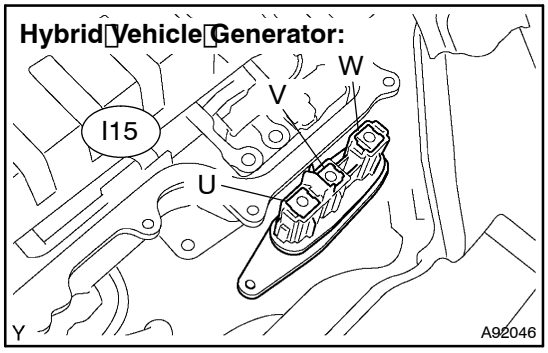
**2 INSPECT HYBRID VEHICLE GENERATOR ASSY**

**CAUTION:**
**Wear insulated gloves before performing the following operation.**

(a) Turn the power switch OFF.
(b) Remove the service plug grip (see page 21–120).

**NOTICE:**
**Turning the power switch ON (READY) with the service plug grip removed could cause malfunction. Therefore, never turn the power switch ON (READY) in this state.**

(c) Remove the inverter cover (see page 21–25).




(d) Disconnect the three–phase alternating current cable for the hybrid vehicle generator from the inverter.

(e) Using milliohm meter, measure the resistance between the three–phase alternating current cable terminals of the hybrid vehicle generator.

**NOTICE:**

**If the generator temperature is too high, the resistance varies considerably, which hinders determining malfunction. Therefore, measure the resistance at a minimum 8 hours after the vehicle has been stopped.**

**Standard:**

| Tester Connection | Specified Condition* |
|---|---|
| U (I15–1) – V (I15–2) | Below 109 mΩ at 20°C |
| V (I15–2) – W (I15–3) | Below 109 mΩ at 20°C |
| W (I15–3) – U (I15–1) | Below 109 mΩ at 20°C |

*: Apply the formula given below to correct the resistance.

R20 = Rt ÷ [1 + 0.00393 × (T – 20)]

R20: Resistance converted to 20°C (mΩ)

Rt: Resistance between measured lines (mΩ)

T: Ambient air temperature during measurement (°C)

(f) Calculate the difference between the maximum and minimum resistance between terminals U – V, V – W, and W – U.

**Standard: Below 2 mΩ**

(g) Using a megohmmeter, check the insulation resistance between the three–phase alternating current cable terminals of the hybrid vehicle generator and the body ground.

**Standard:**

| Tester Connection | Specified Condition |
|---|---|
| U (I15–1) – Body ground | 10 MΩ or higher |
| V (I15–2) – Body ground | 10 MΩ or higher |
| W (I15–3) – Body ground | 10 MΩ or higher |

(h) Reconnect the three–phase alternating current cable for the hybrid vehicle generator.

(i) Reinstall the inverter cover (see page 21–25).

(j) Reinstall the service plug grip (see page 21–120).

**NG** → **REPLACE HYBRID VEHICLE GENERATOR ASSY**

**OK**

**REPLACE W/CONVERTER INVERTER ASSY (See page 21–25)**