DTC	P0A78/508	DRIVE MOTOR "A" INVERTER PERFORMANCE

CIRCUIT DESCRIPTION

See the description of the inverter on page 05–365.
Upon receiving a motor gate shutdown signal from the HV control ECU, the inverter forcefully stops the operation of the MG2 by turning OFF the power transistors that are actuating the MG2.
The HV control ECU monitors the motor gate shutdown signal and detects malfunction.

DTC No.	INF Code	DTC Detection Condition	Trouble Area
P0A78	508	Motor gate shutdown (MSDN) signal malfunction	• Wire harness or connector • HV control ECU

WIRING DIAGRAM

Refer to DTC P0A78 (INF 304) on page 05–410.

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)

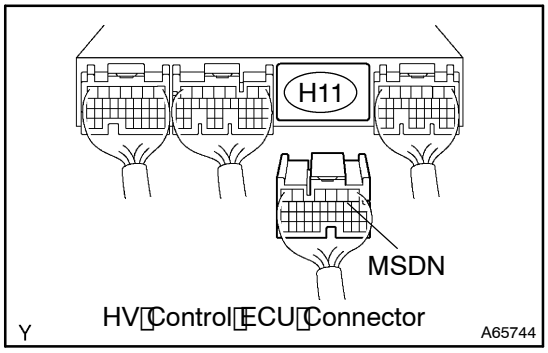
(a) Connect the intelligent tester II to the DLC3.
(b) Turn the power switch ON (IG).
(c) Turn the intelligent tester II ON.
(d) On the intelligent tester II, enter the following menus: Powertrain / Hybrid Control / DTC.
(e) Read DTCs.
Result: DTC P0A78 (INF 508) and other DTCs are output

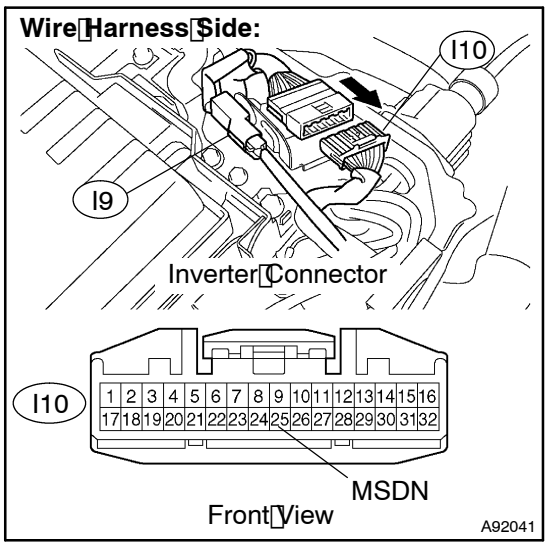
HINT:
If any other codes besides P0A78 (INF 508) are output, perform troubleshooting for those DTCs first.

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

NO

2	CHECK HARNESS AND CONNECTOR(HYBRID VEHICLE CONTROL ECU – INVERTER)





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) Disconnect the H11 HV control ECU connector.

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

(e) Disconnect the I10 inverter connector.

(f) Turn the power switch ON (IG).

HINT:
DTCs for the interlock switch system are output when turning the power switch ON (IG) with both service plug grip and inverter cover removed.

(g) Measure the voltage between the terminal of the H11 HV control ECU connector and body ground.

Standard:

Tester Connection	Specified Condition
MSDN (H11–8) – Body ground	Below 1 V

(h) Turn the power switch OFF.

(i) Check the resistance between the wire harness side connectors.

Standard (Check for open):

Tester Connection	Specified Condition
MSDN (H11–8) – MSDN (I10–25)	Below 1 Ω

Standard (Check for short):

Tester Connection	Specified Condition
MSDN (H11–8) or MSDN (I10–25) – Body ground	10 kΩ or higher

(j) Reconnect the inverter connector.

(k) Reconnect the HV control ECU connector.

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

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

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK →

REPLACE HYBRID VEHICLE CONTROL ECU (See page 21–128)