DTC	P0A78/304	DRIVE MOTOR "A" INVERTER PERFORMANCE

DTC	P0A78/305	DRIVE MOTOR "A" INVERTER PERFORMANCE

DTC	P0A78/507	DRIVE MOTOR "A" INVERTER PERFORMANCE

CIRCUIT DESCRIPTION

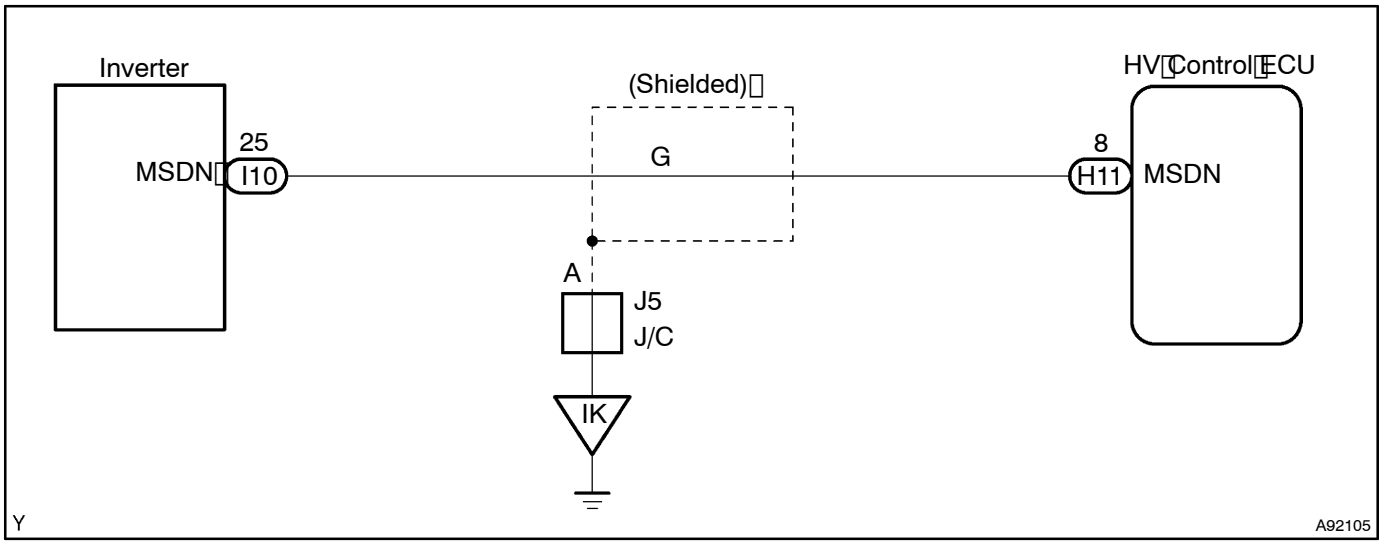
See the description of the inverter on page 05–365.

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 line and detects malfunction.

DTC No.	INF Code	DTC Detection Condition	Trouble Area
P0A78	304	Open or +B short in motor gate shutdown (MSDN) signal circuit	• Wire harness or connector • w/ converter inverter assembly
P0A78	305	GND short in motor gate shutdown (MSDN) signal circuit	• Wire harness or connector • w/ converter inverter assembly
P0A78	507	Open in motor gate shutdown (MSDN) signal circuit	• Wire harness or connector • w/ converter inverter assembly

WIRING DIAGRAM



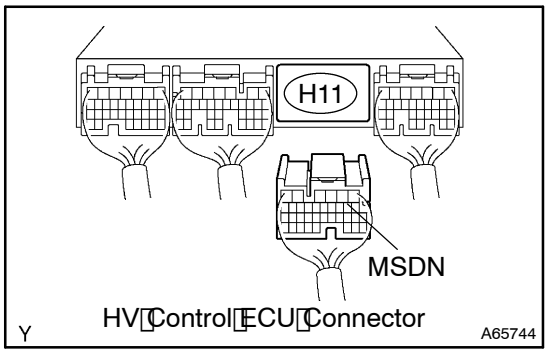
INSPECTION PROCEDURE

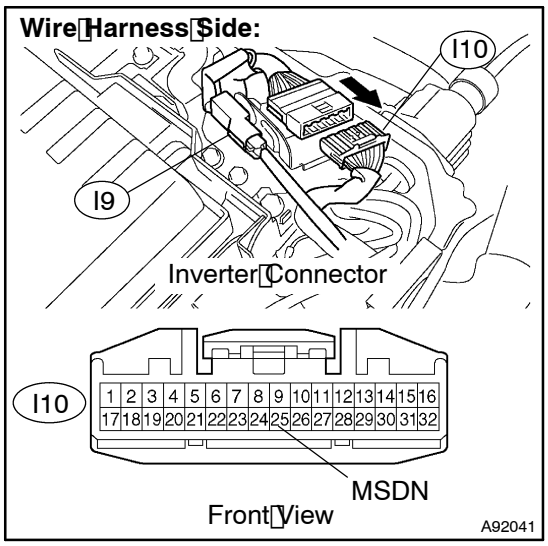
CAUTION:

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