DTC	P0A78/586	DRIVE MOTOR "A" INVERTER PERFORMANCE

CIRCUIT DESCRIPTION

Refer to DTC P0A78 (INF 266) on page 05–562.

DTC No.	INF Code	DTC Detection Condition	Trouble Area
P0A78	586	Inverter voltage (VH) sensor performance problem	• Wire harness or connector • w/ converter inverter assembly

MONITOR DESCRIPTION

The HV control ECU monitors the inverter voltage (VH) sensor signal. If the HV control ECU detects a fault in the sensor signal, the HV control ECU interprets this as a VH sensor failure. The HV control ECU then illuminates the MIL and sets a DTC.

MONITOR STRATEGY

Related DTCs	P0A78 (INF 586): Motor inverter/Voltage (VH) sensor deviation
Required sensor/components	Motor inverter, battery ECU
Frequency of operation	Continuous
Duration	TOYOTA's intellectual property
MIL operation	Immediately
Sequence of operation	None

TYPICAL ENABLING CONDITIONS

The monitor will run whenever the following DTCs are not present	TOYOTA's intellectual property
Other conditions belong to TOYOTA's intellectual property	–

TYPICAL MALFUNCTION THRESHOLDS

Motor inverter	Abnormal

COMPONENT OPERATING RANGE

Motor inverter	DTC P0A78 (INF 586) is not detected

WIRING DIAGRAM

Refer to DTC P0A78 (INF 266) on page 05–562.

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(HV ECU)

(a) Connect the hand–held tester to the DLC3.

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

(c) Turn the hand–held tester ON.

(d) On the hand–held tester, enter the following menus: DIAGNOSIS / ENHANCED OBD II / HV ECU / DTC INFO / TROUBLE CODES.

(e) Read DTCs.

Result: DTC P0A78 (INF 586) and other DTCs are output

HINT:

If any other codes besides P0A78 (INF 586) are output, perform troubleshooting for those DTCs first.

> YES \ **GO TO RELEVANT DTC CHART**
> **(See page 05–440)**

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 21–116).

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.

HV Control ECU Connector

A65744

Wire Harness Side:

Inverter Connector

Front View

A92041
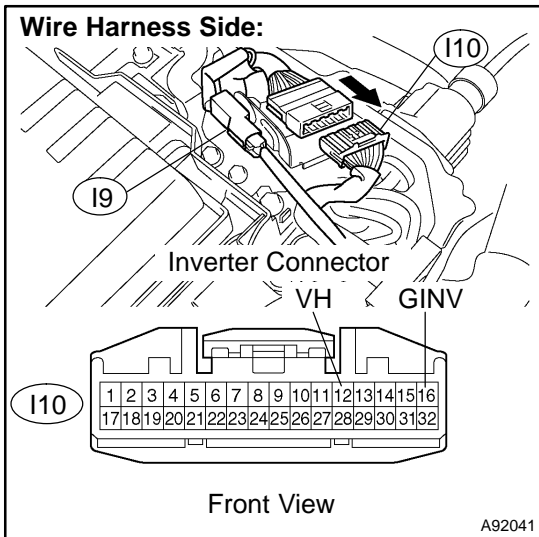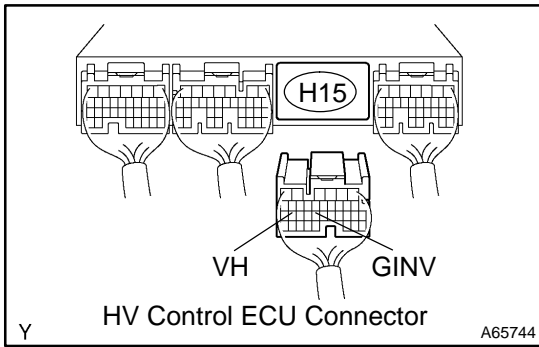
(c) Disconnect the H15 HV control ECU connector.

(d) Remove the inverter cover (see page 21–23).

(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 terminals of the HV control ECU connector and body ground.

Standard:

Tester Connection	Specified Condition
VH (H15–26) – Body ground	Below 1 V
GINV (H15–23) – 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
VH (H15–26) – VH (I10–12)	Below 1 Ω
GINV (H15–23) – GINV (I10–16)	Below 1 Ω

Standard (Check for short):

Tester Connection	Specified Condition
VH (H15–26) or VH (I10–12) – Body ground	10 kΩ or higher
GINV (H15–23) or GINV (I10–16) – 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 21–23).

(m) Reinstall the service plug grip (see page 21–116).

NG ▷ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE W/CONVERTER INVERTER ASSY (See page 21–23)