DTC P0A94/550 DC/DC CONVERTER PERFORMANCE

CIRCUIT DESCRIPTION

See the description of boost converter on page 05–691.

If the boost converter detects a circuit malfunction or over–voltage, the boost converter transmits that information to the OVL terminal of the HV control ECU via the boost converter over–voltage signal line.

DTC No.	INF Code	DTC Detection Condition	Trouble Area
P0A94	550	Boost converter over–voltage (OVL) signal detection (circuit malfunction)	• Wire harness or connector • w/ converter inverter assembly

MONITOR DESCRIPTION

If the boost converter detects a circuit malfunction, it transmits a boost converter over–voltage signal to the HV control ECU. Upon receiving this signal, the HV control ECU illuminates the MIL and sets a DTC.

MONITOR STRATEGY

Related DTCs	P0A94 (INF 550): Boost converter/OVL detection circuit malfunction
Required sensor/components	Boost converter
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

Boost converter	Circuit malfunction

COMPONENT OPERATING RANGE

Boost converter	DTC P0A94 (INF 550) is not detected

WIRING DIAGRAM

Refer to DTC P0A78 (INF 282) on page 05–586.

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 listed in the table below is output

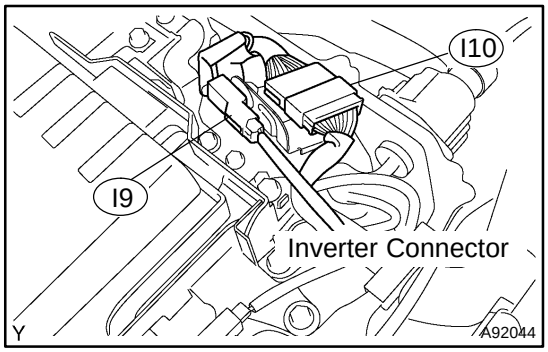
DTC No.	INF Code	Detection Item	See Page
P0A94	545 or 546	DC/DC Converter Malfunction	05–693

YES → **GO TO THE PAGE NUMBER SHOWN IN THE TABLE ABOVE**

NO

2	CHECK CONNECTION CONDITION OF INVERTER CONNECTOR(LOOSENESS AND POOR CONTACT)

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.
(c) Remove the inverter cover (see page 21–23).
(d) Check the connection condition of the I9 and I10 inverter connectors.
OK: Connectors have been connected securely and there is no poor connection.
(e) Reinstall the inverter cover (see page 21–23).
(f) Reinstall the service plug grip (see page 21–116).



NG → **CONNECT SECURELY**

OK

3	READ OUTPUT DTC(HV ECU)

(a) Connect the hand–held tester to the DLC3.
(b) 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.
(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: DTCs P0A78 (INF 282, 286) and P0A7A (INF 324) (inverter circuit malfunction) are output

NO → **REPLACE W/CONVERTER INVERTER ASSY (See page 21–23)**

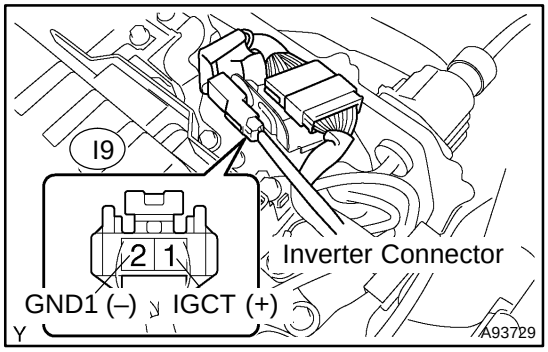
YES

4	INSPECT W/CONVERTER INVERTER ASSY(IGCT VOLTAGE)

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.
(c) Remove the inverter cover (see page 21–23).
(d) 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.
(e) Measure the voltage between the terminals of the inverter connector.
Standard:

Tester Connection	Specified Condition
IGCT (I9–1) – GND1 (I9–2)	8 V or more

(f) Turn the power switch OFF.
(g) Reinstall the inverter cover (see page 21–23).
(h) 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)