DTC	P0A94/558	DC/DC CONVERTER PERFORMANCE

DTC	P0A94/559	DC/DC CONVERTER PERFORMANCE

DTC	P0A94/560	DC/DC CONVERTER PERFORMANCE

CIRCUIT DESCRIPTION

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

Upon receiving a boost converter gate shutdown signal from the HV control ECU, the boost converter forcefully stops the operation of the boost converter by turning OFF the power transistors that are actuating the boost converter.

The HV control ECU monitors the boost converter gate shutdown signal line and detects malfunction.

DTC No.	INF Code	DTC Detection Condition	Trouble Area
P0A94	558	GND short in boost converter gate shutdown (CSDN) signal circuit	• Wire harness or connector • w/ converter inverter assembly
P0A94	559	Open or +B short in boost converter gate shutdown (CSDN) signal circuit	• Wire harness or connector • w/ converter inverter assembly
P0A94	560	Open in boost converter gate shutdown (CSDN) signal circuit	• Wire harness or connector • w/ converter inverter assembly

MONITOR DESCRIPTION

The HV control ECU monitors the boost converter gate shutdown (CSDN) signal line. If the HV control ECU detects an open or short malfunction of the CSDN signal circuit, the HV control ECU illuminates the MIL and sets a DTC.

MONITOR STRATEGY

Related DTCs	P0A94 (INF 558/559/560): Boost converter/Converter gate shutdown signal 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	–

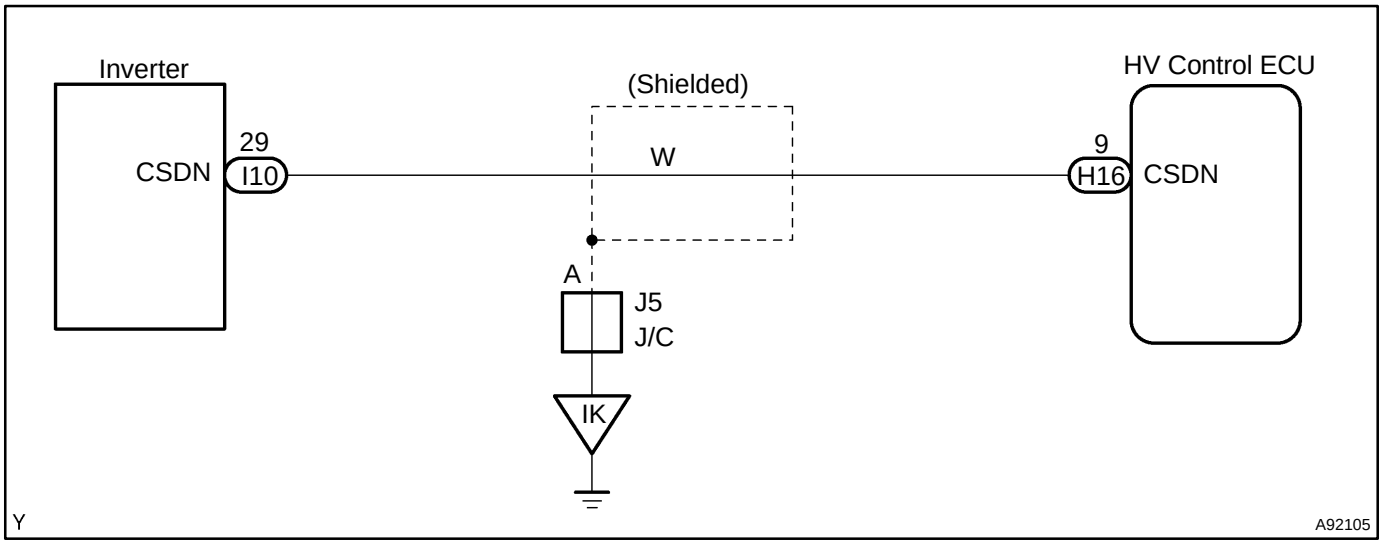
TYPICAL MALFUNCTION THRESHOLDS

Boost converter gate shutdown signal circuit	Open or short

COMPONENT OPERATING RANGE

Boost converter	DTC P0A94 (INF 558/559/560) is not detected

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:

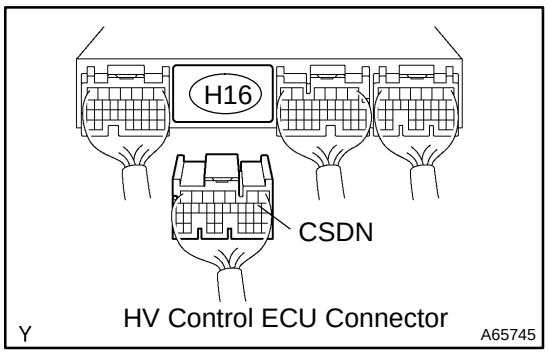
Wear insulated gloves before performing the following operation.

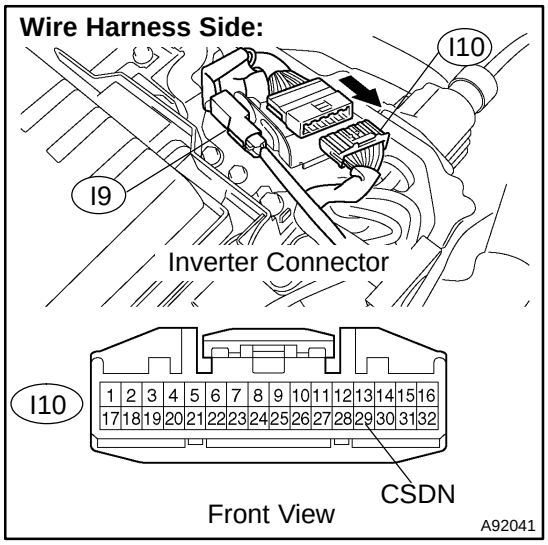
(a) Turn the power switch OFF.

(b) Remove the service plug grip (see page 21–116).

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) Disconnect the H16 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 terminal of the HV control ECU connector and body ground.

Standard:

Tester Connection	Specified Condition
CSDN (H16–9) – 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
CSDN (H16–9) – CSDN (I10–29)	Below 1 Ω

Standard (Check for short):

Tester Connection	Specified Condition
CSDN (H16–9) or CSDN (I10–29) – 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)