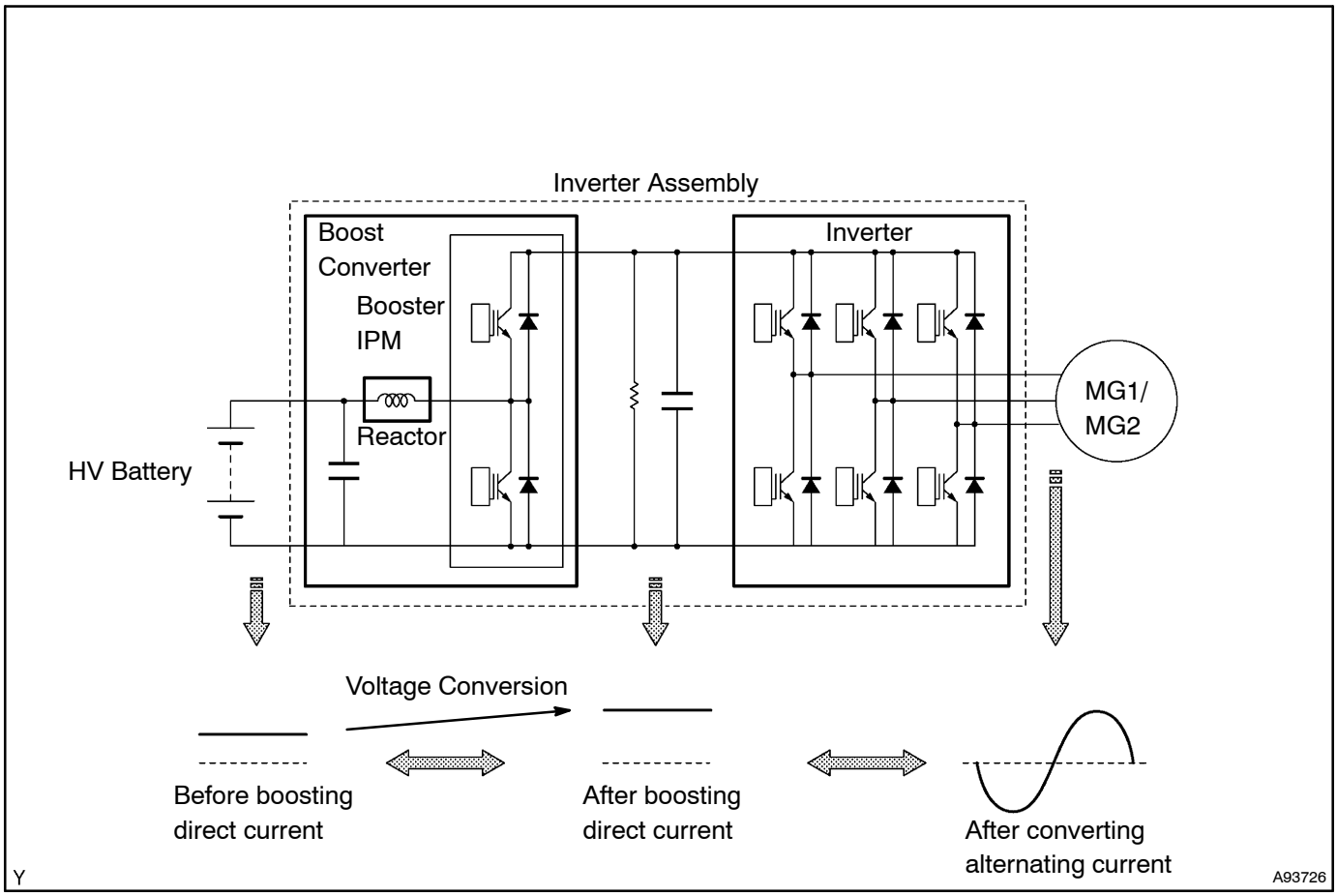
DTC P0A94/442 DC/DC CONVERTER PERFORMANCE

CIRCUIT DESCRIPTION

The boost converter contains a booster IPM (Intelligent Power Module), which includes an IGBT (Insulated Gate Bipolar Transistor) and a reactor. The HV control ECU actuates the IGBT, which controls the current in the reactor.

The boost converter boosts the high–voltage direct current rated at 201.6 V to an approximate direct current voltage of 500 V. The inverter converts the voltage that has been boosted by the boost converter into alternating current, which is used for driving the MG1/MG2. When the MG1/MG2 operates as a generator, the alternating current of approximately 500 V from the MG1/MG2 is converted into direct current by the inverter. Then, the boost converter drops this voltage to a direct current voltage rated at 201.6 V in order to charge the HV battery.



The HV control ECU uses a voltage sensor that is built into the boost converter to detect the high voltage (VL) before it is boosted. Also, it uses a voltage sensor that is built into the inverter to detect the high voltage (VH) after it has been boosted.

Based on the voltage before and after it has been boosted, the HV control ECU boosts it to a target voltage by controlling the operation of the boost converter.

DTC No.	INF Code	DTC Detection Condition	Trouble Area
P0A94	442	Abnormal voltage execution value	• w/ converter inverter assembly

INSPECTION PROCEDURE

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 P0A94 (INF 442) and other DTCs are output

HINT:
If any other codes besides P0A94 (INF 442) are output, perform troubleshooting for those DTCs first.

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

NO

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