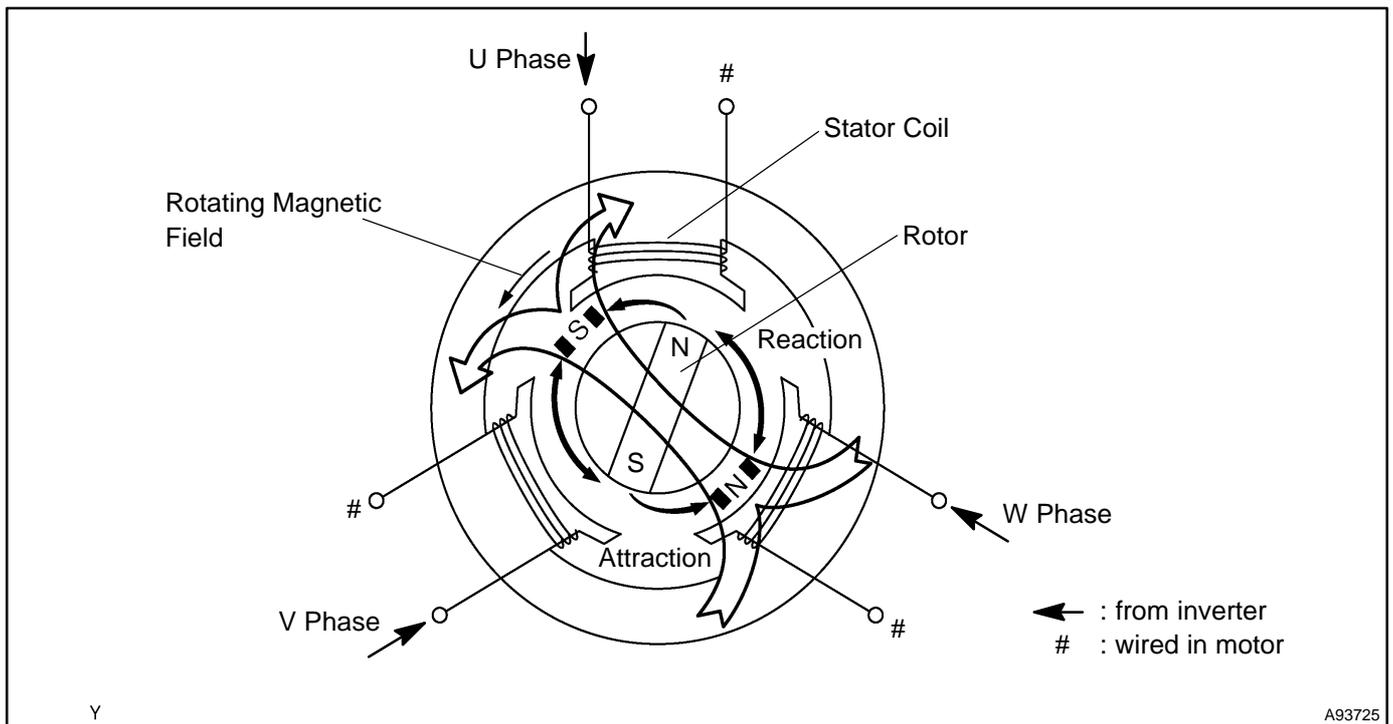


DTC	P0A90/251	DRIVE MOTOR "A" PERFORMANCE
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CIRCUIT DESCRIPTION

When three-phase alternating current flows through the three-phase windings of the stator coil, a rotating magnetic field is generated in the motor. The system controls the rotating magnetic field in accordance with the rotating position and speed of the rotor. As a result, the permanent magnets provided on the rotor are pulled in the rotating direction, which cause the generation of torque.

The generated torque is practically proportionate to the amount of current. Therefore, the system controls the speed of the motor by regulating the frequency of the alternating current. Furthermore, the system properly controls the rotating magnetic field and the angle of the rotor magnets in order to generate high torque in an efficient manner, even at high speeds.



DTC No.	INF Code	DTC Detection Condition	Trouble Area
P0A90	251	MG2 magnetic force deterioration or same phase short circuit	• Hybrid vehicle motor

MONITOR DESCRIPTION

The HV control ECU monitors the hybrid vehicle motor (MG2). If the HV control ECU detects a reduction in the magnetic force of the MG2 or an in-phase short, it interprets this as a MG2 failure. The HV control ECU then illuminates the MIL and sets a DTC.

MONITOR STRATEGY

Related DTCs	P0A90 (INF 251): Hybrid vehicle motor/Magnetic force deterioration, same phase short circuit
Required sensor/components	Hybrid vehicle motor, inverter, motor resolver
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

Hybrid vehicle motor	Magnetic force deterioration, or same phase short
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COMPONENT OPERATING RANGE

Hybrid vehicle motor	DTC P0A90 (INF 251) is not detected
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INSPECTION PROCEDURE

1	READ OUTPUT DTC(HV ECU)
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- (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 P0A90 (INF 251) and other DTCs are output

HINT:

If any other codes besides P0A90 (INF 251) are output, perform troubleshooting for those DTCs first.

YES

GO TO RELEVANT DTC CHART
(See page [05-440](#))

NO

REPLACE HYBRID VEHICLE MOTOR ASSY
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