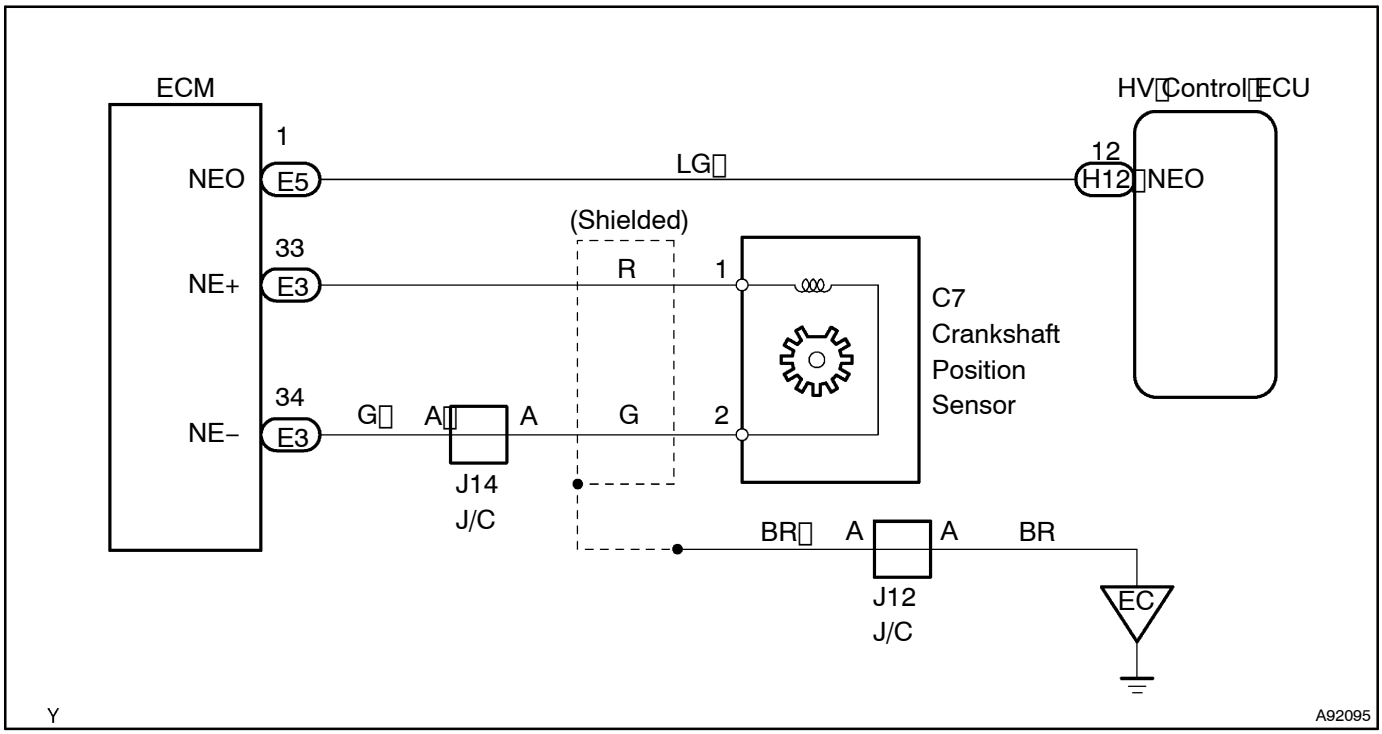
DTC P0A0F/238 ENGINE FAILED TO START

CIRCUIT DESCRIPTION

The HV control ECU detects this DTC and effects fail–safe control if the engine or transaxle gear has seized up, or foreign objects have been caught in either of them.

DTC No.	INF Code	DTC Detection Condition	Trouble Area
P0A0F	238	Engine does not start even though cranking it (transaxle input malfunction [engine system])	• Engine assembly • HV transaxle assembly (shaft or gear) • Transmission input damper • Wire harness or connector • HV control ECU

WIRING DIAGRAM



INSPECTION PROCEDURE

1	READ OUTPUT DTC(ENGINE)

(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 / Engine and ECT / DTC.
(e) Read DTCs.
Result: DTCs are output

YES → **GO TO RELEVANT DTC CHART (See page 05–39)**

NO

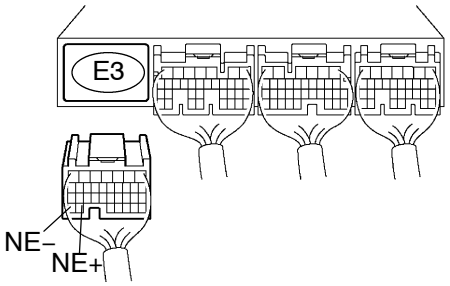
2	CHECK CRANKSHAFT PULLEY REVOLUTION

(a) Turn the power switch OFF.
(b) Jack up the vehicle.
(c) Manually turn the crankshaft pulley to check if the crankshaft rotates.
OK: The crankshaft rotates

NG → **Go to step 11**

OK

3	CHECK HARNESS AND CONNECTOR(ECM – CRANKSHAFT POSITION SENSOR)



(a) Disconnect the E3 ECM connector.
(b) Disconnect the C7 crankshaft position sensor connector.
(c) Check the resistance between the wire harness side connectors.

Standard (Check for open):

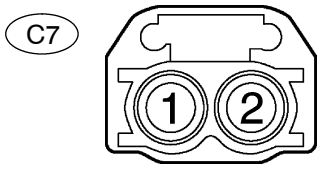
Tester Connection	Specified Condition
NE+ (E3–33) – Crankshaft position sensor (C7–1)	Below 1 Ω
NE– (E3–34) – Crankshaft position sensor (C7–2)	Below 1 Ω

Standard (Check for short):

Tester Connection	Specified Condition
NE+ (E3–33) or Crankshaft position sensor (C7–1) – Body ground	10 kΩ or higher
NE– (E3–34) or Crankshaft position sensor (C7–2) – Body ground	10 kΩ or higher

(d) Reconnect the crankshaft position sensor connector.
(e) Reconnect the ECM connector.

Wire Harness Side:
Crankshaft Position Sensor Connector

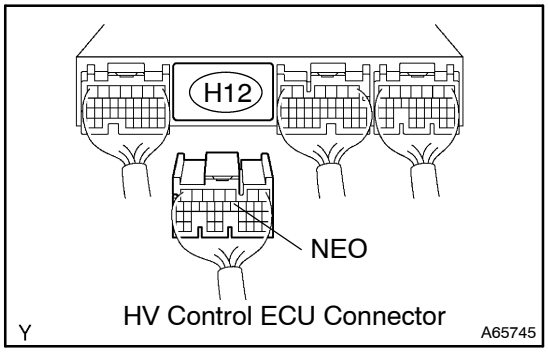


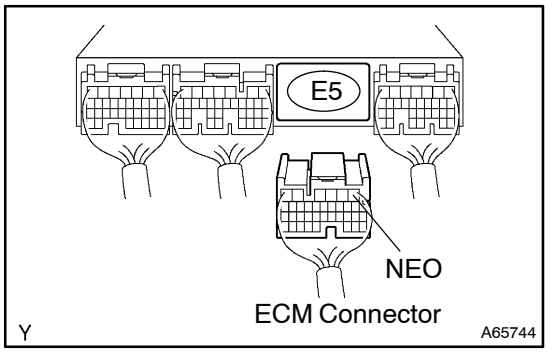
Front View
A92031

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

4 CHECK HARNESS AND CONNECTOR(HYBRID VEHICLE CONTROL ECU – ECM)





(a) Disconnect the H12 HV control ECU connector.
(b) Disconnect the E5 ECM connector.
(c) Check the resistance between the wire harness side connectors.

Standard (Check for open):

Tester Connection	Specified Condition
NEO (H12–12) – NEO (E5–1)	Below 1 Ω

Standard (Check for short):

Tester Connection	Specified Condition
NEO (H12–12) or NEO (E5–1) –Body ground	10 kΩ or higher

(d) Reconnect the ECM connector.
(e) Reconnect the HV control ECU connector.

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

5 CHECK AND CLEAR 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) Check and record the DTCs, the freeze frame data, and the information.
(f) Clear the DTCs of Hybrid Control.

GO

6 CHECK READY LAMP ON

(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 / Data List.
(e) Read the Generator (MG1) Rev and Engine Spd values.
(f) Turn the power switch ON (READY).

OK: READY lamp turns ON

HINT:
If the READY lamp does not turn ON, and the reading on the intelligent tester II shows DTC P0A90 (INF 239) (HV transaxle input malfunction [shaft damaged]), or the MG1 turns but the engine does not crank, replace the hybrid vehicle transaxle assembly.

NG → REPLACE HYBRID VEHICLE TRANSAXLE ASSY (See page 22–11)

OK

7 CHECK ENGINE REV–UP

(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 / Data List.
(e) Read the Generator (MG1) Rev and Engine Spd values.
(f) With the READY lamp turned ON, depress the accelerator pedal for 10 seconds while the shift position is in the P position.

OK: The engine revs up

HINT:
If the engine does not rev up, and the reading on the intelligent tester II shows DTC P0A90 (INF 239) (HV transaxle input malfunction [shaft damaged]), or the MG1 turns but the engine does not crank, replace the hybrid vehicle transaxle assembly.

NG → REPLACE HYBRID VEHICLE TRANSAXLE ASSY (See page 22–11)

OK

8 CHECK CREEP MOVEMENT

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the power switch ON (READY).
(c) Jack up the vehicle.
(d) Depress the brake pedal, move the selector lever to the D position, and release the brake pedal.

OK: The wheels turn (creep movement)

HINT:
If the wheels do not turn, and the reading on the intelligent tester II shows DTC P0A90 (INF 602) (HV transaxle output malfunction), replace the hybrid vehicle transaxle assembly.

NG → REPLACE HYBRID VEHICLE TRANSAXLE ASSY (See page 22–11)

OK

9	CHECK ENGINE ACCELERATION SPEED

(a) Connect the intelligent tester II to the DLC3.
(b) While driving at the vehicle speed of more than 10 km/h (6 mph), fully depress the accelerator pedal to raise the engine speed.
OK: The engine speed increases smoothly

HINT:
If the engine over–revs or the reading on the intelligent tester II shows DTC P0A90 (INF 241) (HV transaxle input malfunction [torque limiter slipping]), replace the transmission input damper.

NG → **REPLACE TRANSMISSION INPUT DAMPER ASSY**

OK

10	CHECK CAUSE OF INCREASE IN REVOLUTION RESISTANCE

(a) Investigate what has caused the revolution resistance of the transaxle and engine to become greater.
(1) Check the engine lubrication system and transaxle lubrication system.
(2) Check the engine coolant and transaxle coolant.
(3) Check for any breakdowns in engine itself and transaxle itself.
Result: There is no fault

NO → **REPAIR MALFUNCTION PARTS AND COMPONENTS**

YES

PERFORM SIMULATION TEST. IF SYMPTOM IS NOT REPRODUCED, REPLACE ENGINE, HV TRANSAXLE AND HV CONTROL ECU

11	CHECK FRONT TIRE REVOLUTION

(a) Turn the power switch ON (IG).
(b) Depress the brake pedal, move the selector lever to the N position.
(c) Jack up the vehicle.
(d) Manually turn the crankshaft pulley to check if the front tires rotate.
OK: The front tires rotate

NG → **REPAIR OR REPLACE ENGINE ASSY**

OK

REPAIR OR REPLACE HYBRID VEHICLE TRANSAXLE ASSY