DIB1Z–01

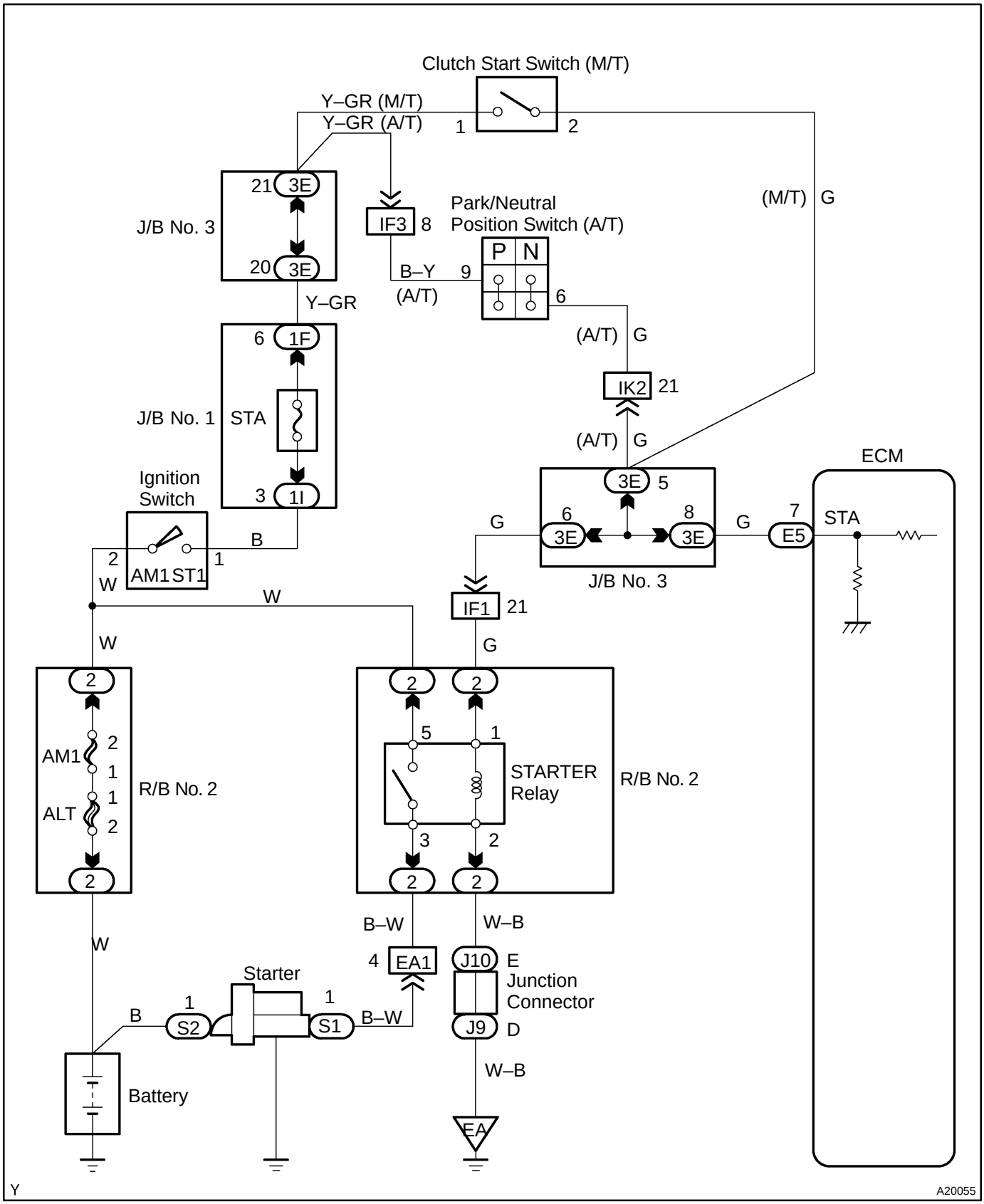
| DTC | P0617 | Starter Relay Circuit High |
|---|---|---|

## CIRCUIT DESCRIPTION

While the engine is being cranked, the battery positive voltage is applied to terminal STA of the ECM.

| DTC No. | DTC Detection Condition | Trouble Area |
|---|---|---|
| P0617 | When all conditions (a), (b) and (c) are satisfied with battery (+B) voltage 10.5 V or more<br>(a) Vehicle speed ≧ 20 km/h (6 mph)<br>(b) Engine revolution ≧ 1,000 rpm<br>(c) STA signal ON | • Short in park/neutral position (PNP) switch (A/T) or clutch start switch (M/T) circuit<br>• Park/neutral position (PNP) switch (A/T)<br>• Clutch start switch (M/T)<br>• Ignition switch<br>• ECM |

## WIRING DIAGRAM



## INSPECTION PROCEDURE

HINT:

Read freeze frame data using the hand–held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air–fuel ratio was lean or rich, etc. at the time of the malfunction.

### Hand–held tester:

| | |
|---|---|
| 1 | **Connect hand–held tester, and check STA signal.** |

**PREPARATION:**

(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main switch ON.
(c) Select the item ”DIAGNOSIS/ENHANCED OBD II/DATA LIST/ALL/STARTER SIG”.

**CHECK:**

Read the STA signal on the hand–held tester while the starter operates.

**OK:**

| Ignition Switch Position | ON | START |
|---|---|---|
| STA Signal | OFF | ON |

OK → **Check and replace ECM (See page IN–28)**

NG

| | |
|---|---|
| 2 | **Check ignition switch (See page BE–14).** |

NG → **Replace ignition switch (Go to next step after the replacement).**

OK

| | |
|---|---|
| 3 | **Connect hand–held tester, and check STA signal.** |

**PREPARATION:**

(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main switch ON.
(c) Select the item ”DIAGNOSIS/ENHANCED OBD II/DATA LIST/ALL/STARTER SIG”.

**CHECK:**

Read the STA signal on the hand–held tester while the starter operates.

**OK:**

| Ignition Switch Position | ON | START |
|---|---|---|
| STA Signal | OFF | ON |

| | |
|---|---|
| OK | **System OK.** |

**NG**

| | |
|---|---|
| 4 | **Check park/neutral position (PNP) switch (A/T) (See page DI–482) or clutch start switch (M/T) (See page CL–2).** |

| | |
|---|---|
| NG | **Replace park/neutral position switch or clutch start switch (Go to next step after the replacement).** |

**OK**

| | |
|---|---|
| 5 | **Connect hand–held tester, and check STA signal.** |

**PREPARATION:**

(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main switch ON.
(c) Select the item ”DIAGNOSIS/ENHANCED OBD II/DATA LIST/ALL/STARTER SIG”.

**CHECK:**

Read the STA signal on the hand–held tester while the starter operates.

**OK:**

| Ignition Switch Position | ON | START |
|---|---|---|
| STA Signal | OFF | ON |

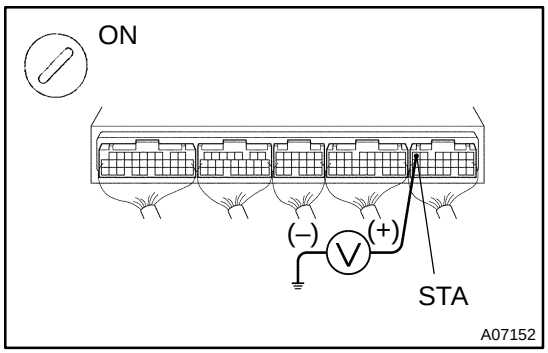
| | |
|---|---|
| OK | **System OK.** |

**NG**

**Check for short in harness and connector between ECM and park/neutral position (PNP) switch (A/T) (See page DI–482) or clutch start switch (M/T) (See page IN–28)**

## OBD II scan tool (excluding hand–held tester):

| | |
|---|---|
| 1 | **Check voltage between terminal STA of ECM connector and body ground.** |




**PREPARATION:**
Remove the glove compartment (See page SF–63).
**CHECK:**
Measure the voltage between terminal STA of the ECM connector and the body ground, during the engine cranking (ignition switch START position) and does not engine cranking (ignition switch position ON).
**OK:**

**Voltage:**
**6 V or more (ignition switch START position)**
**0 V (ignition switch ON position)**

| | |
|---|---|
| OK | **Check and replace ECM (See page IN–28)** |

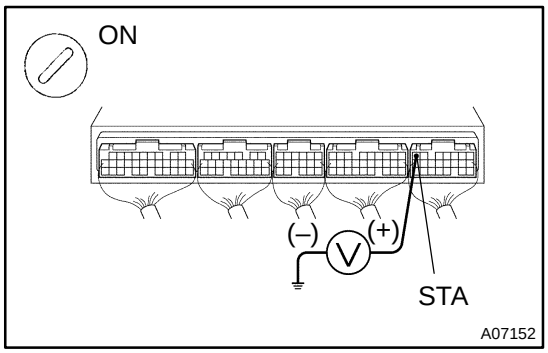
NG

| | |
|---|---|
| 2 | **Check ignition switch (See page BE–14).** |

| | |
|---|---|
| NG | **Replace ignition switch (Go to next step after the replacement).** |

OK

| | |
|---|---|
| 3 | **Check voltage between terminal STA of ECM connector and body ground.** |




**PREPARATION:**
Remove the glove compartment (See page SF–63).
**CHECK:**
Measure the voltage between terminal STA of the ECM connector and the body ground, during the engine cranking (ignition switch START position) and does not engine cranking (ignition switch position ON).
**OK:**

**Voltage:**
**6 V or more (ignition switch START position)**
**0 V (ignition switch ON position)**

| | |
|---|---|
| OK | System OK. |

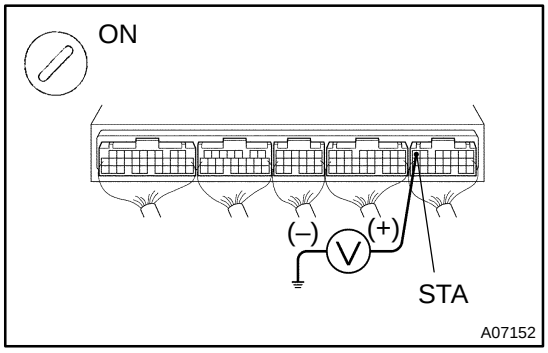
NG

| | |
|---|---|
| 4 | Check park/neutral position (PNP) switch (A/T) (See page DI–482) or clutch start switch (M/T) (See page CL–2). |

| | |
|---|---|
| NG | Replace park/neutral position switch or clutch start switch (Go to next step after the replacement). |

OK

| | |
|---|---|
| 5 | Check voltage between terminal STA of ECM connector and body ground. |




**PREPARATION:**
Remove the glove compartment (See page SF–63).
**CHECK:**
Measure the voltage between terminal STA of the ECM connector and the body ground, during the engine cranking (ignition switch START position) and does not engine cranking (ignition switch position ON).
**OK:**

**Voltage:**
**6 V or more (ignition switch START position)**
**0 V (ignition switch ON position)**

| | |
|---|---|
| OK | System OK. |

NG

Check for short in harness and connector between ECM and park/neutral position (PNP) switch (A/T) (See page DI–482) or clutch start switch (M/T) (See page IN–28)