

## Starter Signal Circuit

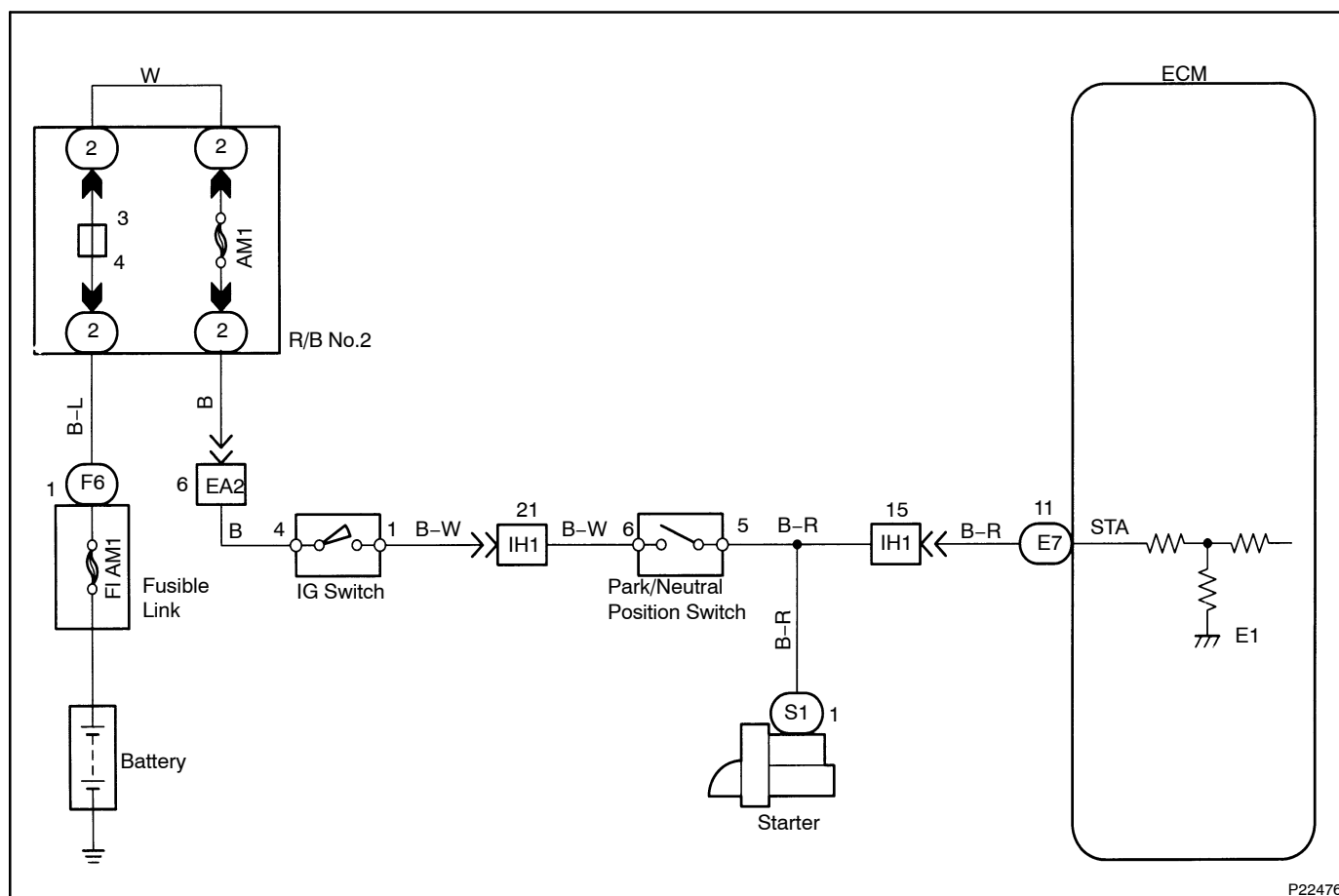
### CIRCUIT DESCRIPTION

When the engine is cranked, the intake air flow is slow, so fuel vaporization is poor. A rich mixture is therefore necessary in order to achieve good startability. While the engine is being cranked, the battery positive voltage is applied to terminal STA of the ECM. The starter signal is mainly used to increase the fuel injection volume for the starting injection control and after-start injection control.

HINT:

In this circuit, diagnosis can only be made in the check mode.

### WIRING DIAGRAM



P22476

## INSPECTION PROCEDURE

**HINT:**

This diagnostic chart is based on the premise that the engine is cranked normally. If the engine is not cranked, proceed to the matrix chart of problem symptoms on page [DI-19](#).

**TOYOTA hand-held tester**

|   |                                                           |
|---|-----------------------------------------------------------|
| 1 | Connect the TOYOTA hand-held tester and check STA signal. |
|---|-----------------------------------------------------------|

**PREPARATION:**

- (a) Remove the fuse cover on the instrument panel.
- (b) Connect the TOYOTA hand-held tester to the DLC3.
- (c) Turn ignition switch ON and push the TOYOTA hand-held tester main switch ON.

**CHECK:**

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

**OK:**

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

**OK**

Proceed to next circuit inspection shown on matrix chart (See page [DI-19](#)).

**NG**

|   |                                                                                                                         |
|---|-------------------------------------------------------------------------------------------------------------------------|
| 2 | Check for open in harness and connector between ECM and park/neutral position switch (See page <a href="#">IN-27</a> ). |
|---|-------------------------------------------------------------------------------------------------------------------------|

**NG**

Repair or replace harness or connector.

**OK**

Check and replace ECM (See page [IN-27](#)).

**OBDII scan tool (excluding TOYOTA hand – held tester)**

|          |                                                                             |
|----------|-----------------------------------------------------------------------------|
| <b>1</b> | <b>Check voltage between terminal STA of ECM connector and body ground.</b> |
|----------|-----------------------------------------------------------------------------|

**PREPARATION:**

Remove instrument panel speaker No.1 Panel (See page [SF-64](#)).

**CHECK:**

Measure voltage between terminal STA of ECM connector and body ground, during engine cranking.

**OK:**

**Voltage: 6 V or more**

**OK**

**Proceed to next circuit inspection shown on matrix chart (See page [DI-19](#)).**

**OK**

|          |                                                                                                                    |
|----------|--------------------------------------------------------------------------------------------------------------------|
| <b>2</b> | <b>Check for open in harness and connector between ECM and starter relay<br/>(See page <a href="#">IN-27</a>).</b> |
|----------|--------------------------------------------------------------------------------------------------------------------|

**NG**

**Repair or replace harness or connector.**

**OK**

**Check and replace ECM (See page [IN-27](#)).**