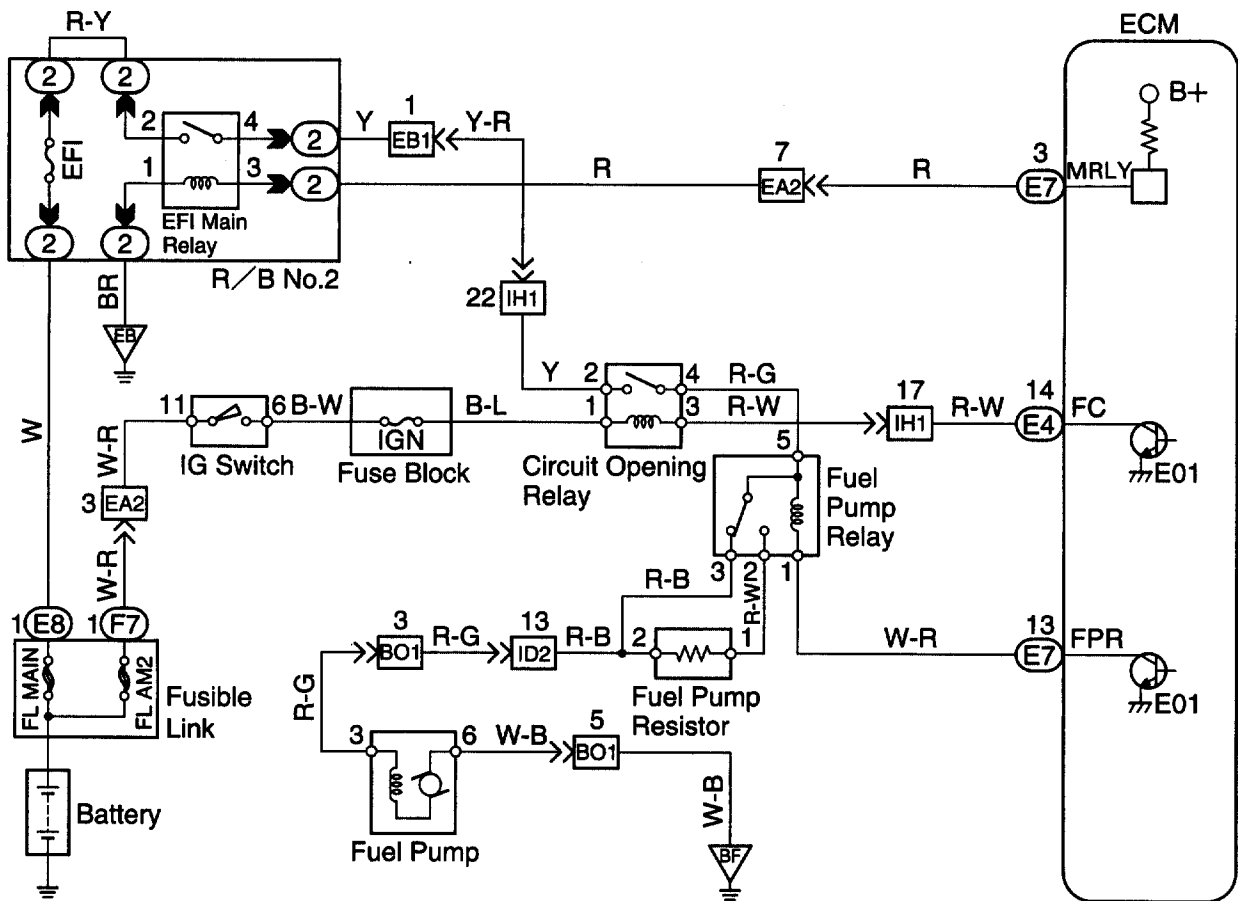
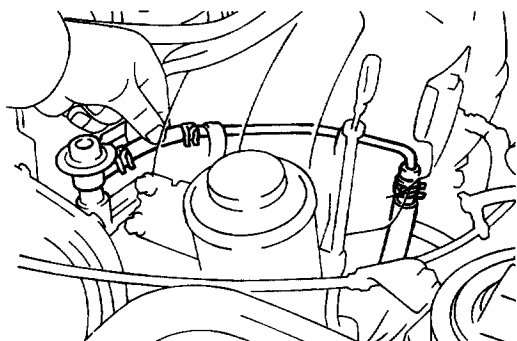
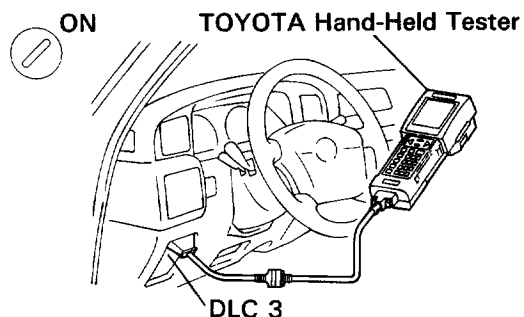


WIRING DIAGRAM



INSPECTION PROCEDURE

Toyota hand-held tester

1 Connect the TOYOTA hand-held tester and check operation of fuel pump.

BE6653
P22892
P09401

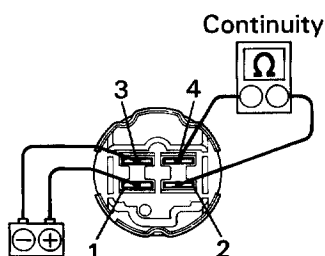
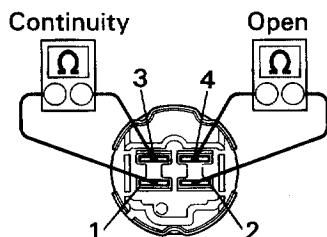
NG

- P** (1) Connect the TOYOTA hand-held tester to the DLC3.
(2) Turn ignition switch ON and TOYOTA hand-held tester main switch ON.
(3) Use ACTIVE TEST mode to operate the fuel pump.

C Check for fuel pressure in the fuel return hose when it is pinched off.

OK There is pressure in the fuel return hose.

HINT: At this time, you will hear a fuel flowing noise.

OKGo to step **4**.**2 Check circuit opening relay.**

P22906
P22907

OK

P Remove circuit opening relay (See page [EG-168](#)).

C Check continuity between terminals of circuit, opening relay shown below.

OK	Terminals 2 and 4	Open
	Terminals 1 and 3	Continuity (Reference value 72 Ω)

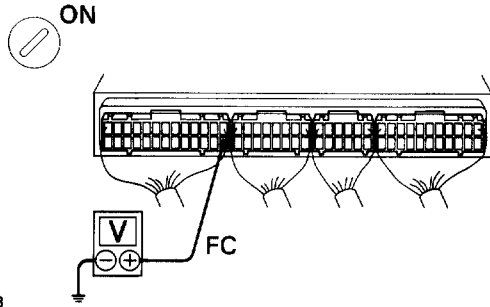
- C** (1) Apply battery positive voltage between terminals 1 and 3
(2) Check continuity between terminals 2 and 4.

OK	Terminals 2 and 4	Continuity
-----------	-------------------	------------

NG

Replace circuit opening relay.

3 Check voltage between terminal FC of ECM connector and body ground.



NG

- P** (1) Remove instrument panel speaker No. 1 panel (See page EG-173).
(2) Turn ignition switch ON.

C Measure voltage between terminal FC of ECM and body ground.

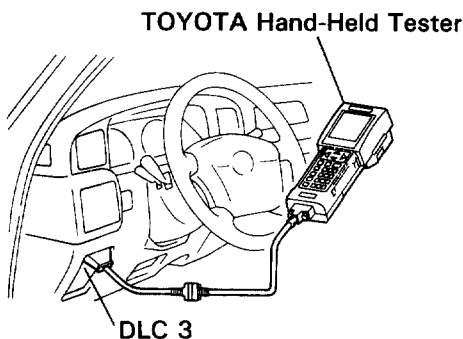
OK Voltage: 9 ~ 14 V

OK

Go to step **5** .

Check for open and short in harness and connector between terminal FC of ECM and circuit opening relay, circuit opening relay and fuse block (See page IN-26).

4 Connect the TOYOTA hand-held tester and check operation of fuel pump relay.



- P** (1) Connect the TOYOTA hand-held tester to the DLC3.
(2) Start the engine.
(3) Turn TOYOTA hand-held tester main switch ON.
(4) Select the ACTIVE TEST mode on the TOYOTA hand-held tester.

C Check operation of fuel pump relay when it is switched ON and OFF by the TOYOTA hand-held tester.

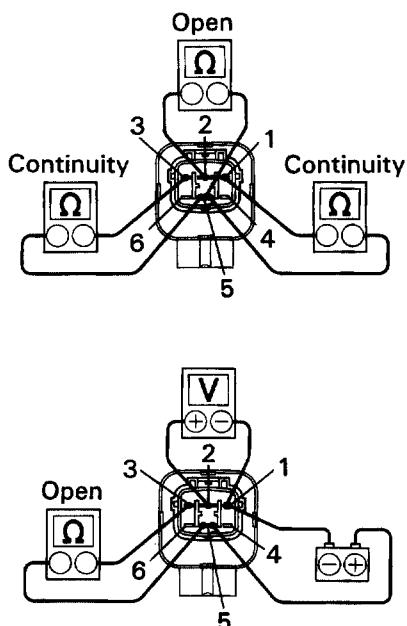
OK Operating noise can be heard from the relay.

NG

OK

Go to step **8** .

5 Check operation of fuel pump relay.

P22680
P22681

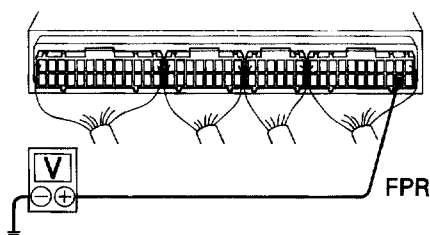
OK

- P** (1) Disconnect fuel pump relay connector.
(2) Remove fuel pump relay.
- C** Check continuity between terminals of fuel pump relay.
- OK**
- | | |
|-------------------|--------------------------------------|
| Terminals 3 and 5 | Continuity |
| Terminals 2 and 5 | Open |
| Terminals 1 and 5 | Continuity
(Reference value 80 Ω) |
- C** (1) Apply battery voltage between terminals 1 and 5.
(2) Measure voltage between terminals 1 and 2.
- OK**
- | | |
|-------------------|-----------------|
| Terminals 1 and 2 | Battery voltage |
|-------------------|-----------------|

NG

Replace fuel pump relay.

6 Check voltage between terminal FPR of ECM connector and body ground.



P22682

NG

- P** (1) Remove instrument panel speaker No. 1 panel
(See page [EG-173](#)).
(2) Start the engine.
- C** Measure voltage between terminal FPR of ECM and body ground while racing the engine.
- OK**
- | Time after engine started | Voltage |
|---------------------------|----------|
| 60 seconds or more | 0 ~ 3 V |
| Less than 60 seconds | 9 ~ 14 V |

OK

Check and replace ECM (See page [IN-31](#)).

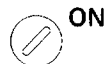
7 Check for open and short in harness and connector between terminal FPR of ECM connector and fuel pump relay (See page [IN-26](#)).

OK

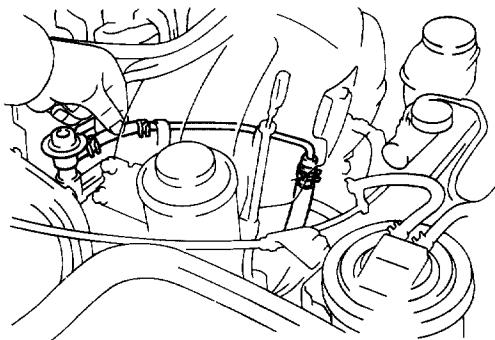
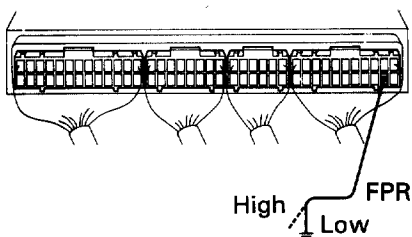
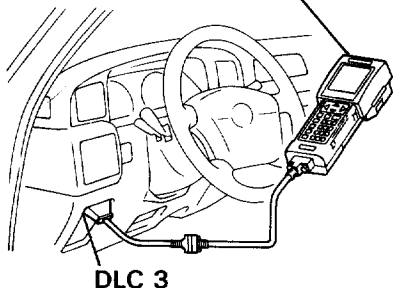
NG

Repair or replace harness or connector.

8 Check operation of fuel pump.



TOYOTA Hand-Held Tester



- P** (1) Remove instrument panel speaker No. 1 panel (See page [EG-173](#)).
 (2) Turn ignition switch ON.
 (3) Use ACTIVE TEST mode to operate the fuel pump.

C Check operation of fuel pump, when it is operated by the TOYOTA hand-held tester and terminal FPR of ECM is grounded and is not grounded.

OK There is pressure in the inlet hose.

HINT: At this time, you will hear a fuel flowing noise.

FPR is grounded (Low speed)	FPR is not grounded (High speed)	
NG	NG	Go to step 9
NG	OK	Go to step 10
OK	NG	Repair or replace harness or connector between fuel pump relay and fuel pump.

BE6653
 P22892
 P22900
 P09401

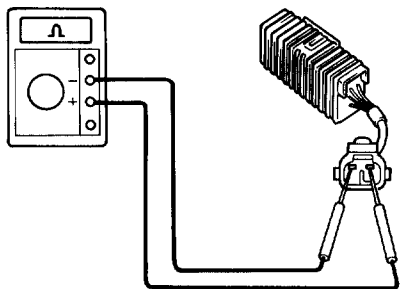
9 Check fuel pump (See page [EG-137](#)).

OK

NG

Repair or replace fuel pump.

Check for open or short in harness and connector between EFI main relay and circuit opening relay, circuit opening relay and fuel pump relay, fuel pump relay and fuel pump, fuel pump and body ground (See page [IN-26](#)).

10 Check fuel pump resistor.

P Disconnect the fuel pump resistor connector.

C Measure resistance between terminals.

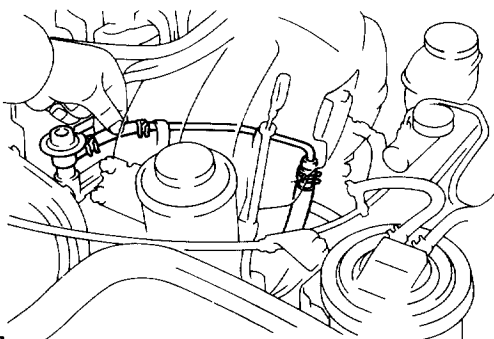
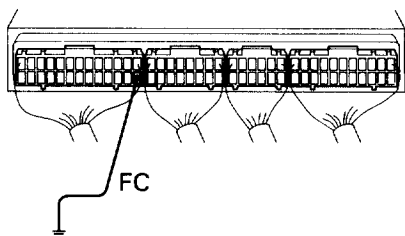
OK Resistance: 0.70 ~ 0.76 Ω at 20°C (68°F)

P09136

OK**NG****Replace fuel pump resistor.**

Check for open and short in harness and connector between fuel pump relay and fuel pump resistor, fuel pump resistor and fuel pump (See page [IN-26](#)).

1 Check fuel pump operation.



BE6653
P22178
P09401

NG

- P** (1) Remove instrument panel speaker No. 1 panel (See page [EG-173](#)).
(2) Turn ignition switch ON.

- C** (1) Connect between terminal FC of ECM and body ground.
(2) Check for fuel pressure in the fuel inlet hose when it is pinched off.

OK There is pressure in the fuel inlet hose.

HINT: At this time, you will hear a fuel flowing noise.

OK

Go to step **4** .

2 Check circuit opening relay (See page [EG-337](#), step [2]).

OK

NG

Replace circuit opening relay.

3 Check voltage between terminal FC of ECM connector and body ground (See page [EG-338](#), step [3]).

OK

NG

Check for open and short in harness and connector between terminal FC of ECM and circuit opening relay, circuit opening relay and fuse block (See page [IN-26](#)).

4 Check operation of fuel pump relay (See page EG-339, step [5]).**OK****NG**

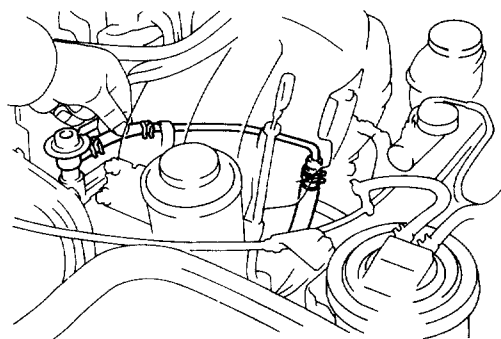
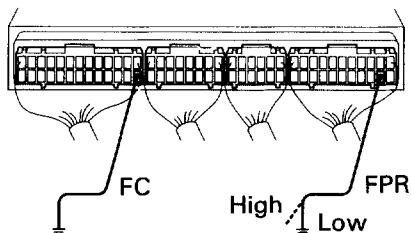
Replace fuel pump relay.

5 Check voltage between terminal FPR of ECM and body ground (See page EG-339, step [6]).**NG****OK**

Check and replace ECM (See page IN-31).

6 Check for open and short in harness and connector between terminal FC of ECM connector and fuel pump relay (See page IN-26).**OK****NG**

Repair or replace harness or connector.

7 Check operation of fuel pump.

- P** (1) Remove instrument panel speaker No. 1 panel (See page EG-173).
 (2) Turn ignition switch ON.

- C** (1) Connect terminal FC of ECM and body ground.
 (2) Check operation of fuel pump when terminal FPR of ECM is grounded and is not grounded.

OK There is pressure in the inlet hose.

HINT: At this time, you will hear a fuel flowing noise.

FPR is grounded (Low speed)	FPR is not grounded (High speed)	
NG	NG	Go to step 8
NG	OK	Go to step 10
OK	NG	Repair or replace harness or connector between fuel pump relay and fuel pump.

8 Check fuel pump (See page [EG-137](#)).**OK****NG****Repair or replace fuel pump.**

Check for open or short in harness and connector between EFI main relay and circuit opening relay, circuit opening relay and fuel pump relay, fuel pump relay and fuel pump, fuel pump and body ground (See page [IN-26](#)).

9 Check fuel pump resistor (See page [EG-341](#), step [10]).**OK****NG****Replace fuel pump resistor.**

Check for open or short in harness and connector between fuel pump relay and fuel pump resistor, fuel pump resistor and fuel pump (See page [IN-26](#)).