

# ENGINE IMMOBILISER SYSTEM

## TROUBLESHOOTING

BE10V-01

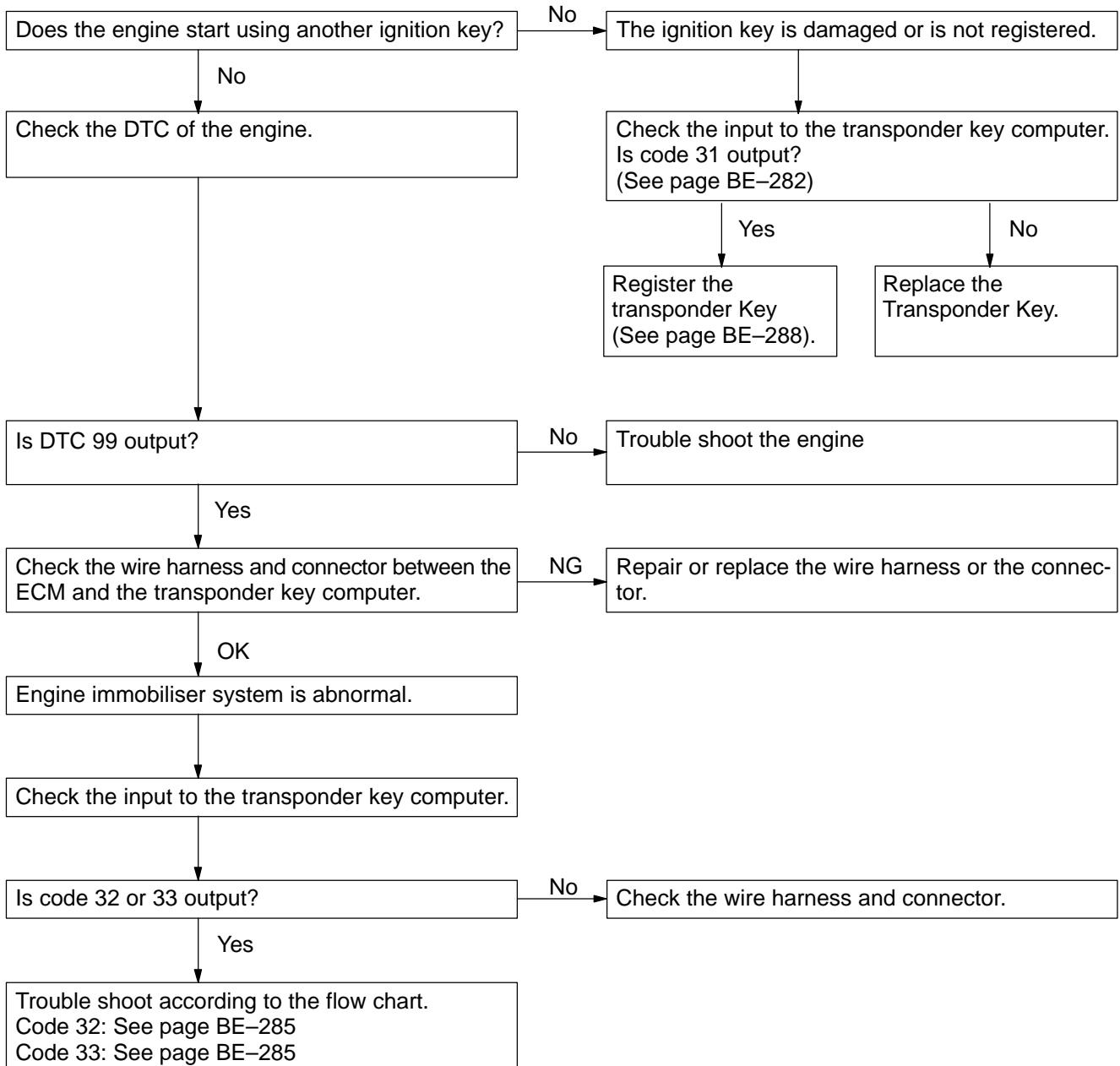
**HINT:**

If a malfunction occurs in the engine immobiliser system, either of the following symptoms occurs:

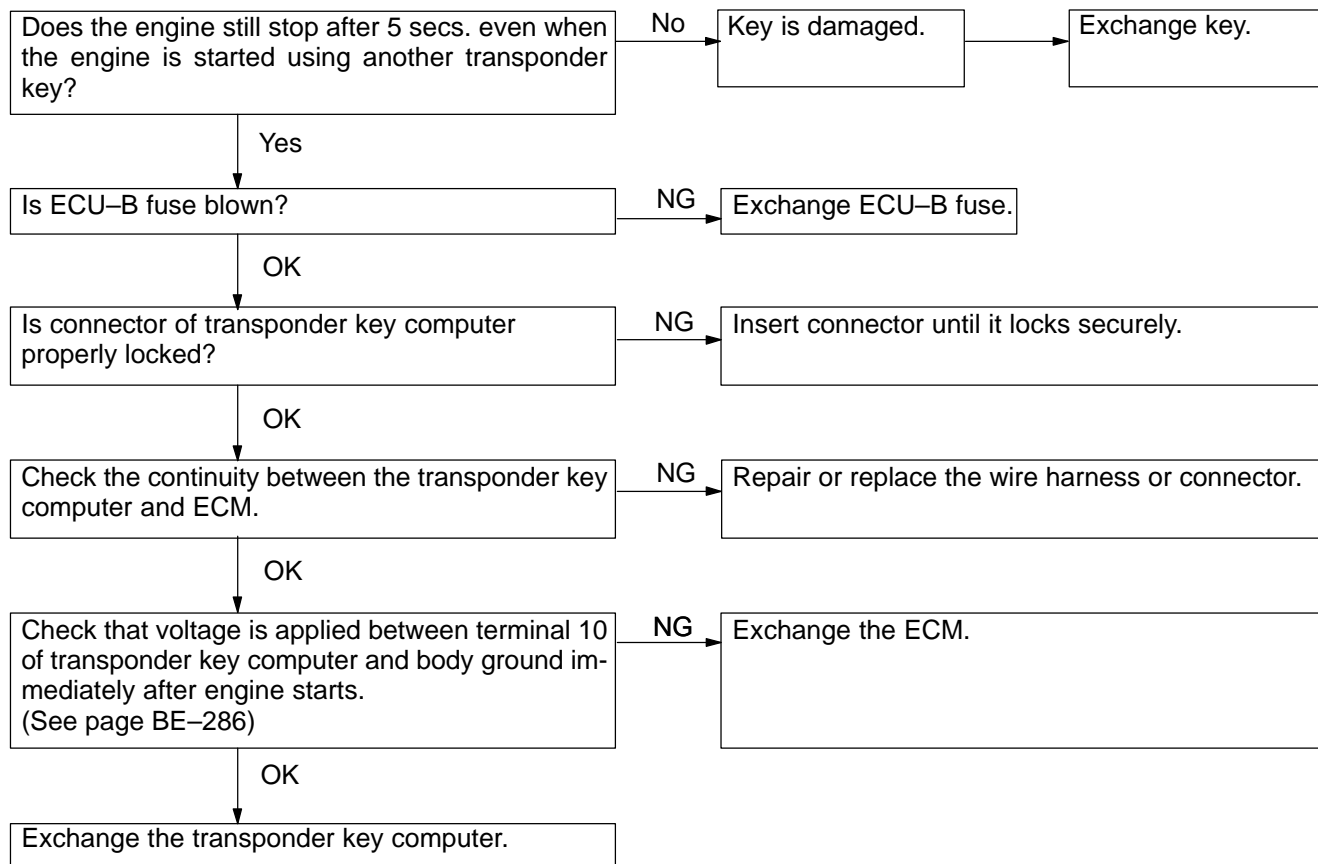
1. Cranking occurs, but the engine does not start.
2. The engine starts, but stops after 5 seconds.

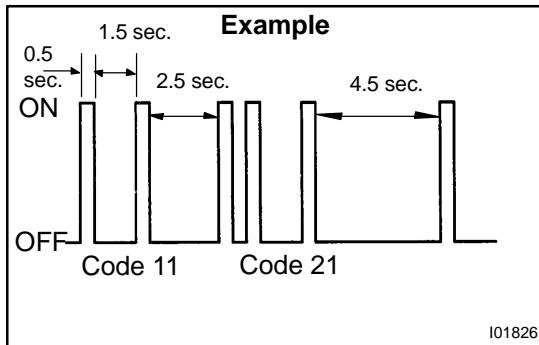
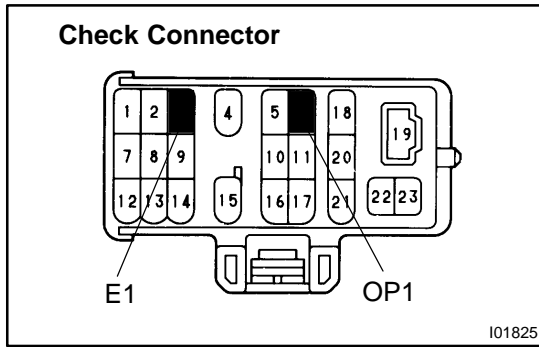
If either of these symptoms occurs, do troubleshooting to the following flow chart.

**1. CRANKING OCCURS, BUT THE ENGINE DOES NOT START**



## 2. ENGINE STARTS, BUT STOPS AFTER 5 SECONDS





**3. TRANSPONDER KEY ECU INPUT CONDITION DISPLAY**

(a) Connect the positive (+) lead from the volt meter (Analog Type) to OP3 of the check connector and the negative (-) lead to E1 of the check connector.

(b) Insert the ignition key in the cylinder.  
 (c) Read the code from the movement of the tester needle  
 If no code is output, turn the ignition switch on. If a code is now output, check if the EFI fuse is blown.

**HINT:**

- The code can be read using a luminous diode (Recommend activation current 10 – 20 mA) instead of a tester.
- A digital tester can also be used.

**Display condition:**

- When there are multiple codes, they are output in order starting from the lowest code.
- After all the codes are output, Lo is displayed for 4.5 sec., then all the code are output again starting from the lowest code.
- If the situation changes during code output, Lo is output for 4.5 seconds after output of the current code ceases, then the codes are output again starting from the lowest code.

E.g. While 11 (out of 11 and 21) is being output, conditions change and 12 is added. So after 11 is output, Lo is output for 4.5 sec., then 11, 12 and 21 are output.

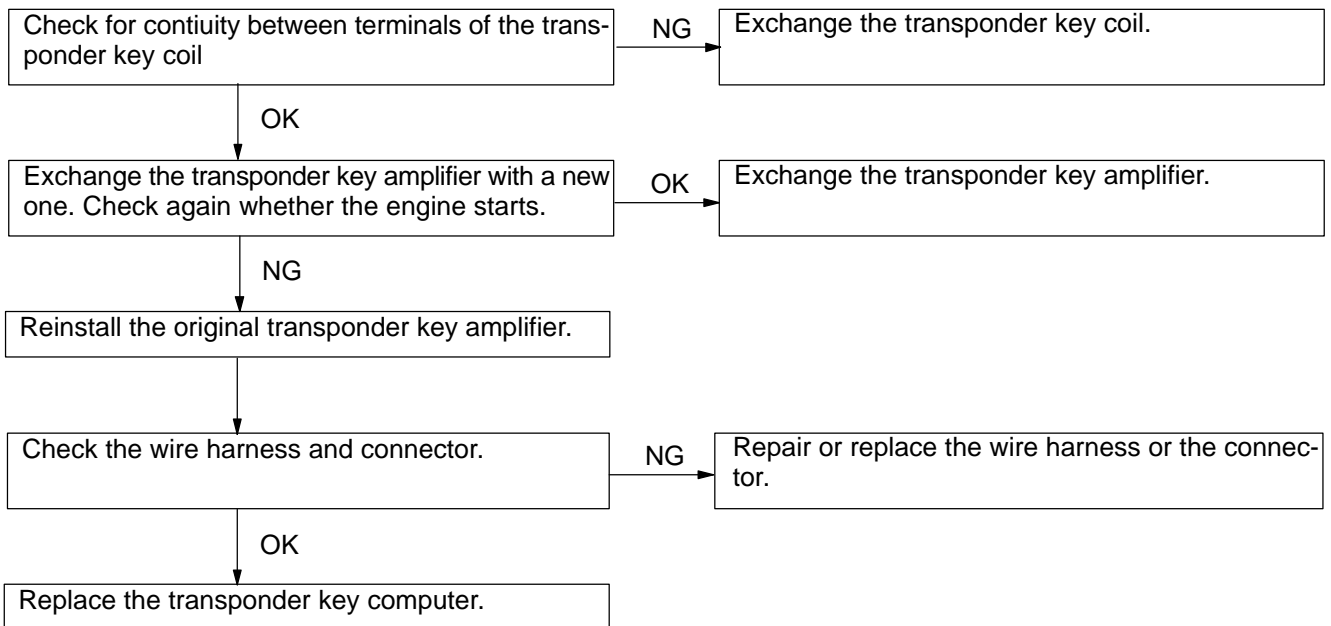
**Code list**

Code	Output condition
11	Key unlock warning switch ON (Ignition key inserted)
12	Any door is open. (Door courtesy switch ON)
13	Ignition switch at ON position
21	Master key is inserted in key and the immobiliser system is OFF.
22	Sub key is inserted in key cylinder and immobiliser system is OFF.
31	Key code recorded in transponder key computer differs from code of key inserted in key cylinder.
32	Transponder key code cannot be read.
33	Key code cannot be read because format of chip inside key is wrong.
34	Transponder key computer has no memory space to register key code.

**Malfunction list**

Symptom	Cause
No code is output.	4. EFI Fuse 5. Wire harness or connector 6. Transponder key computer
Even when key is inserted in key cylinder, Code 11 is not output.	1. Key unlock warning switch 2. Wire harness or connector 3. Transponder key computer
Code 12 is not output when the door is open.	1. Door courtesy switch 2. Wire harness or connector 3. Transponder key computer
Code 13 is not output when ignition switch ON.	1. IGN Fuse 2. Wire harness or connector 3. Transponder key computer
Code 31 is not output when key is inserted in key cylinder.	Key code is not registered.
Code 32 is output.	1. Transponder key coil 2. Transponder key amplifier 3. Wire harness or connector 4. Transponder key computer
Code 33 is output.	1. Transponder key amplifier 2. Transponder key computer
Code 34 is output	Transponder key computer has no memory space to register key code.

If code 32 is output, troubleshoot according to this flow chart.



If code 33 is output, troubleshoot according to this flow chart.

