ENGINE IMMOBILISER SYSTEM

REGISTRATION

730EO−02

1. DESCRIPTION OF CODE REGISTRATION

HINT:

The key has 2 codes: the key code (immobiliser code) and the wireless code. Both of these types need to be registered. Refer to page 73−14 for the wireless code registration procedures.

(a) When adding master keys and sub−keys (Additional registration).

    (1) Register the key code (immobiliser code) in the transponder key ECU.

Target ECU	See step
Transponder key ECU	3.

(b) When replacing the transponder key ECU (New registration).

    (1) Register the key code (immobiliser code) in the transponder key ECU.

Target ECU	See step
Transponder key ECU	2.

    (2) Register the ECU COMMUNICATION ID between the ECM and the transponder key ECU.

Target ECU	See step
ECM	5.

(c) When replacing the ECM.

    (1) Register the ECU COMMUNICATION ID between the ECM and the transponder key ECU.

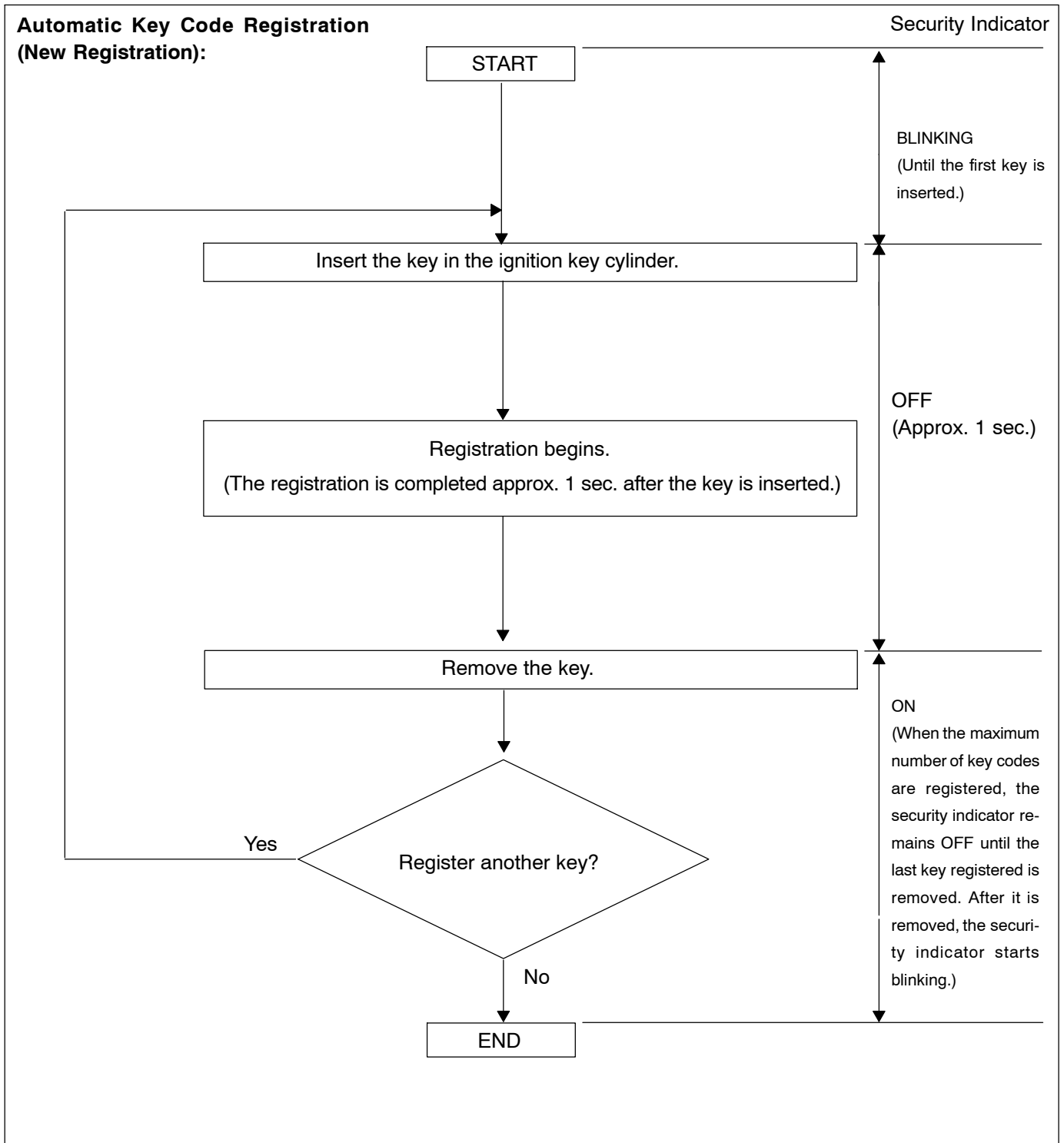| Target ECU	See step
Transponder key ECU	5.

2.   KEY REGISTRATION IN AUTOMATIC REGISTRATION (NEW REGISTRATION)

(a)   The new registration of the key codes (immobiliser codes) is made automatically.

HINT:

•   When you install a new transponder key ECU, the key codes (immobiliser codes) must be registered.

•   A new transponder key ECU starts in the automatic key code registration mode. In this mode, a maximum of 4 key codes for 3 master keys and 1 sub–key can be registered. Since the transponder key ECU can distinguish types of keys, the registration order is not specified.

Automatic Key Code Registration (New Registration):

Security Indicator

```
                    ┌──────────┐
                    │  START   │
                    └────┬─────┘
                         │              BLINKING
                         │              (Until the first key is
                         │              inserted.)
                         ▼
        ┌────────────────────────────────────────┐
        │  Insert the key in the ignition key cylinder.  │
        └────────────────┬───────────────────────┘
                         │
                         │
                         │              OFF
                         ▼              (Approx. 1 sec.)
        ┌────────────────────────────────────────┐
        │  Registration begins.                   │
        │  (The registration is completed approx. │
        │   1 sec. after the key is inserted.)    │
        └────────────────┬───────────────────────┘
                         │
                         ▼
        ┌────────────────────────────────────────┐
        │  Remove the key.                        │
        └────────────────┬───────────────────────┘
                         │              ON
                         ▼              (When the maximum
            ◇ Register another key? ◇   number of key codes
      Yes ◇                        ◇    are registered, the
          ◇                        ◇    security indicator re-
                         │              mains OFF until the
                         │ No           last key registered is
                         ▼              removed. After it is
                    ┌──────────┐        removed, the securi-
                    │   END    │        ty indicator starts
                    └──────────┘        blinking.)
```

HINT:
*   When no key is inserted in the ignition key cylinder in the automatic key code registration mode, the security indicator remains on.
*   When the immobiliser system is operating normally and the key is pulled out, the security indicator blinks.

NOTICE:
If the key code registration has failed in the automatic key code registration mode, code 2−1 will be output from the security indicator. Trying to re−register an already registered key will cause code 2−2 to be output when the key is inserted. The output details are shown below.

Security Indicator:

Normal
(Immobiliser system is operating normally.)

0.2 sec.

ON

OFF

1.8 sec.

Code 2−1

0.25 sec.   1 sec.

ON

OFF

0.25 sec.

0.5 sec.

Code 2−2

0.25 sec.   1 sec.

ON

OFF

0.25 sec.

0.5 sec.

(b)   Finish the automatic key code registration mode.
      The automatic key code registration mode can be forced to end when at least 1 key code (immobiliser code) for the master key has been registered.
      (1)   Turn the ignition switch ON/OFF alternately 5 times within 10 seconds using the already registered master key.

3. REGISTRATION OF ADDITIONAL KEY (ADDITIONAL REGISTRATION)

(a) Register an additional key by using the hand–held tester.

HINT:

* A maximum of 5 master key codes and 3 sub–key codes can be registered.
* Registration mode will end if each step is not completed within the specified time.
* When the ignition cylinder or the key cylinder set is replaced, remove the transmitter module from the original master key. Then install this transmitter module to a new key and use it as master key. If necessary, use this master key to register other keys.

NOTICE:

When only the ignition key cylinder has been replaced, you can lock or unlock doors by wireless operation using the new key with built–in transmitter but not by inserting it in the door key cylinder. Therefore, keep the original key for door lock/unlock operation in order to avoid troubles caused by a dead transmitter battery in the new key.
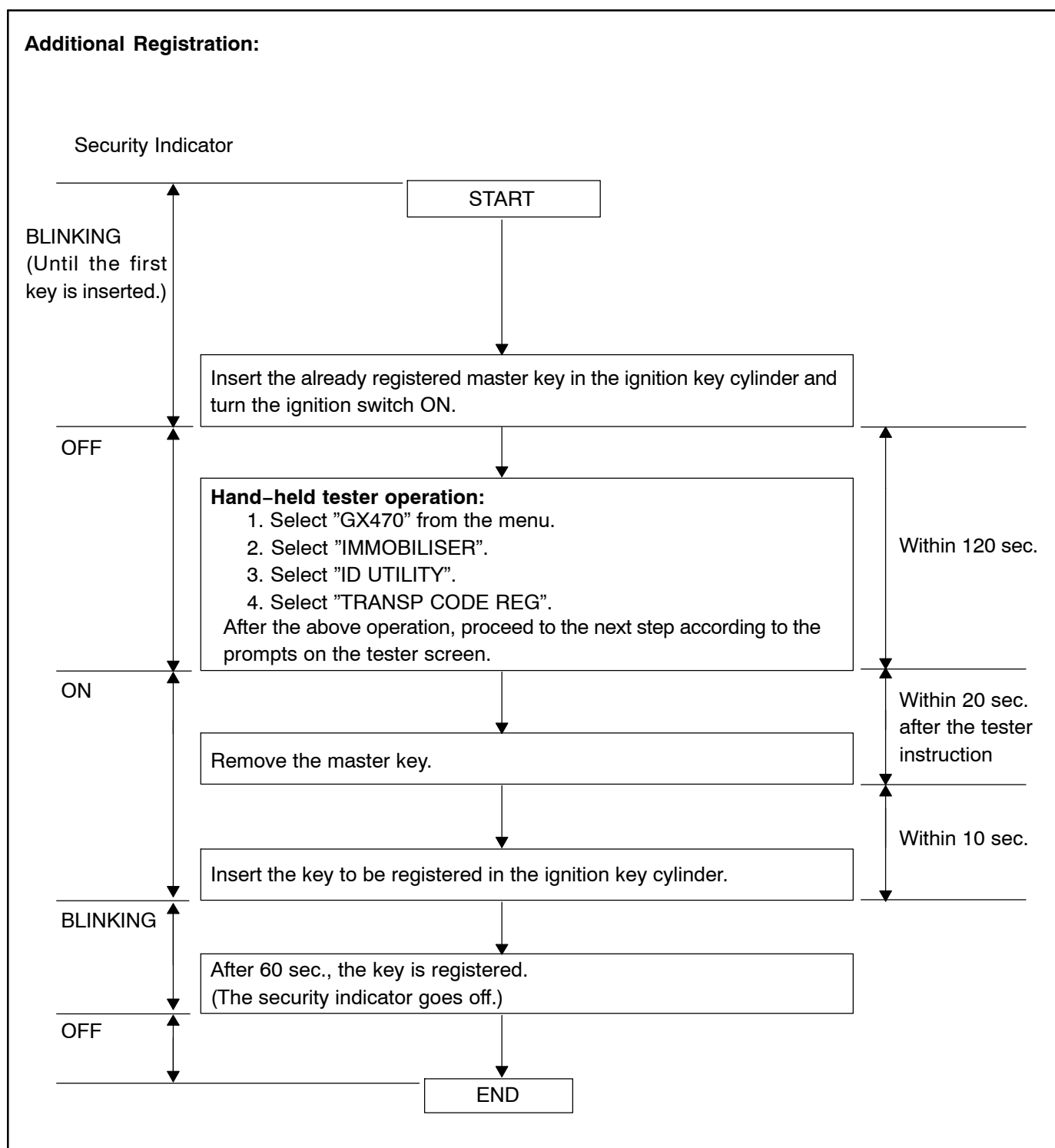
Additional Registration:

Security Indicator

BLINKING
(Until the first key is inserted.)

OFF

ON

BLINKING

OFF

START

Insert the already registered master key in the ignition key cylinder and turn the ignition switch ON.

Hand−held tester operation:
1. Select "GX470" from the menu.
2. Select "IMMOBILISER".
3. Select "ID UTILITY".
4. Select "TRANSP CODE REG".
After the above operation, proceed to the next step according to the prompts on the tester screen.

Remove the master key.

Insert the key to be registered in the ignition key cylinder.

After 60 sec., the key is registered.
(The security indicator goes off.)

END

Within 120 sec.

Within 20 sec. after the tester instruction

Within 10 sec.

HINT:
• A brief outline of procedures for key code registration is shown on this page. For detailed information, please refer to the prompts on the screen of the hand−held tester.
• When the immobiliser system is operating normally and the key is pulled out, the security indicator blinks.
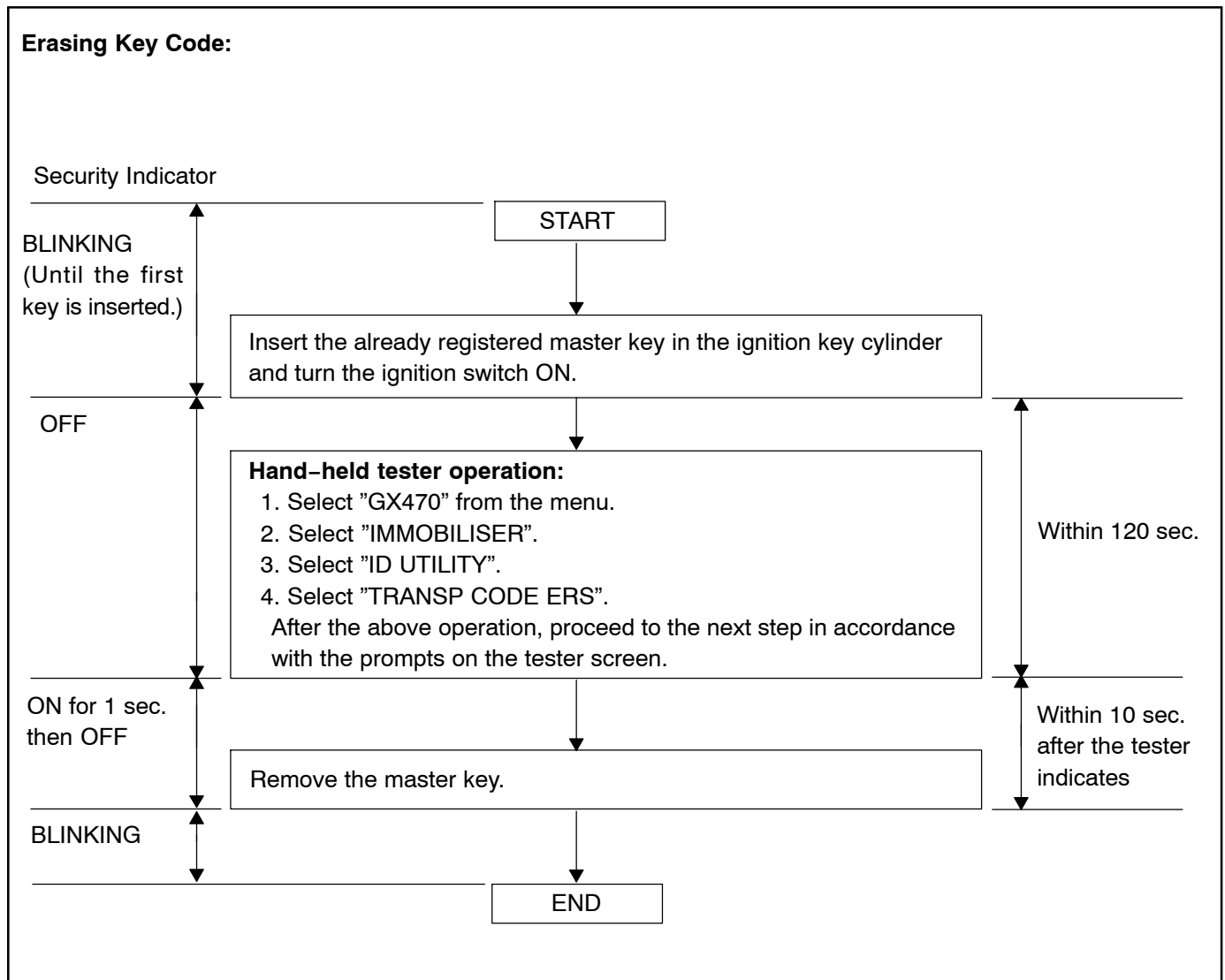
NOTICE:
If the key code registration has failed in the automatic key code registration mode, code 2−1 will be output from the security indicator. Trying to re−register an already registered key will cause code 2−2 to be output when the key is inserted. The output details are shown in step 2 (New Registration).

4.   ERASURE OF KEY CODE

(a)   Erase key codes by using the hand–held tester.

HINT:
- All key codes are erased except for the master key which is used for erasing the key codes.
  In order to use a key for which the code has been erased, it is necessary to register the key code again.
- Registration operation will be cancelled if each step is not completed within the specified time.

Erasing Key Code:

Security Indicator

Security Indicator		
BLINKING (Until the first key is inserted.)	START	
	Insert the already registered master key in the ignition key cylinder and turn the ignition switch ON.	
OFF	**Hand–held tester operation:** 1. Select "GX470" from the menu. 2. Select "IMMOBILISER". 3. Select "ID UTILITY". 4. Select "TRANSP CODE ERS". After the above operation, proceed to the next step in accordance with the prompts on the tester screen.	Within 120 sec.
ON for 1 sec. then OFF	Remove the master key.	Within 10 sec. after the tester indicates
BLINKING	END	

HINT:
- A brief outline of procedures for key code registration is shown on this page. For detailed information, please refer to the prompts on the screen of the hand–held tester.
- When the immobiliser system is operating normally and the key is pulled out, the security indicator blinks.

5. ECU COMMUNICATION ID REGISTRATION

NOTICE:
- **The ECU communication ID should be registered when the transponder key ECU and/or the ECM is replaced, in order to match the ECM COMMUNICATION ID.**
- **The engine cannot be started unless the ECM COMMUNICATION ID matches.**

(a) Register the ECU communication ID.

    (1) After the transponder key ECU and/or the ECM is replaced, turn the ignition switch ON (the engine is not running).

    (2) Short the Tc and CG terminals of the DLC3 and leave it as is for 30 minutes.

    (3) Check that the engine starts.