

## DATA LIST / ACTIVE TEST

### 1. DATA LIST

#### HINT:

Using the intelligent tester DATA LIST allows switch, sensor, actuator and other item values to be read without removing any parts. Reading the DATA LIST early in troubleshooting is one way to shorten labor time.

- (a) Connect the intelligent tester to the Controller Area Network Vehicle Interface Module (CAN VIM). Then connect the CAN VIM to the DLC3.
- (b) Turn the ignition switch ON.
- (c) Read the DATA LIST according to the display on the tester.

#### Transponder key ECU:

| Item            | Measurement Item/ Display (Range)                         | Normal Condition                                                                                | Diagnostic Note |
|-----------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------|
| KEY SW          | Unlock warning switch signal/ ON or OFF                   | OFF: Key is in ignition key cylinder<br>ON: No key is in ignition key cylinder                  | -               |
| IG SW           | Ignition switch signal/ON or OFF                          | OFF: Ignition switch is OFF or in the ACC position<br>ON: Ignition switch is in the ON position | -               |
| IMMOBILISER     | immobiliser system status/ SET or UNSET                   | UNSET: Without key<br>SET: Ignition switch ON                                                   | -               |
| RESPONSE        | Transponder chip data/ NG or OK                           | NG: Data error<br>OK: Data OK                                                                   | -               |
| FRAME           | Transponder chip data/ NG or OK                           | NG: Data error<br>OK: Data OK                                                                   | -               |
| SERIAL NUMBER   | Transponder chip data/ NG or OK                           | NG: Data error<br>OK: Data OK                                                                   | -               |
| ENCRYPT CODE    | Transponder chip data/ NG or OK                           | NG: Data error<br>OK: Data OK                                                                   | -               |
| STATUS          | Transponder chip data/ NG or OK                           | NG: Data error<br>OK: Data OK                                                                   | -               |
| BCC             | Transponder chip data/ NG or OK                           | NG: Incorrect data sending<br>OK: Correct data sending                                          | -               |
| SUB KEY         | Sub-key code signal/ NOMATCH or MATCH                     | NOMATCH: Unmatched sub-key code is sent<br>MATCH: Sub-key code is sent                          | -               |
| MASTER KEY      | Master key code signal/ NOMATCH or MATCH                  | NOMATCH: Unmatched master key code is sent<br>MATCH: Master key code is sent                    | -               |
| REGIST SUB CODE | Number of registered sub-key/ min. 0, max. 15             | Number of registered sub-key                                                                    | -               |
| REGIST MAS CODE | Number of registered master key/ min. 0, max. 15          | Number of registered master key                                                                 | -               |
| REG CODE SPACE  | Memory space for key codes registration/ NOT FULL or FULL | NOT FULL: Possible to register more key codes<br>FULL: Cannot register any more key codes       | -               |
| +B              | Power source/ BREAK or NORMAL                             | BREAK: Power source open<br>Normal: Power source normal                                         | -               |
| ANTENNA COIL    | Transponder key amplifier coil condition/ NORMAL or FAIL  | Normal: Antenna coil is normal<br>FAIL: Antenna coil is malfunctioning                          | -               |
| G-CODE SUPPORT  | SUPPORT or NOT SUP                                        | -                                                                                               | *1              |
| G-CODE DECISION | YES or NO                                                 | -                                                                                               | *2              |

**\*1: Diagnostic Note**

- If the engine does not start using the registered key while the display on the intelligent tester shows "SUPPORT", there may be a problem with the ECM and the transponder key ECU.
- If the engine does not start using the registered key while the display on the intelligent tester shows "NON SUP", there may be a problem with the transponder key ECU.

**\*2: Diagnostic Note**

- YES indicates that the registration of the ECU communication ID for the ECM and the transponder key ECU has been completed.
- NO indicates that the registration of the ECU communication ID for the ECM and the transponder key ECU has not been completed.

**2. ACTIVE TEST****HINT:**

Performing the intelligent tester ACTIVE TEST allows relay, VSV, actuator and other items to be operated without removing any parts. Performing the ACTIVE TEST early in troubleshooting is one way to shorten labor time. The DATA LIST can be displayed during the ACTIVE TEST.

- Connect the intelligent tester (with CAN VIM) to the DLC3.
- Turn the ignition switch ON.
- Perform the ACTIVE TEST according to the display on the tester.

**Transponder key ECU:**

| Item           | Tester Details                 | Diagnostic Note |
|----------------|--------------------------------|-----------------|
| SECURITY INDIC | Turn security indicator ON/OFF | -               |