

TK Prog Master V5.0

Smart key solution (Quick start guide)



❖ **Purpose of the device**

➤ TK-Prog Master v5.0 is an engineering USB-attached device for smart key registration and ECU repairing within keyless Smart Access System Toyota/Lexus/ Subaru (MY2006-2016).

➤ Recovering the ECU after incorrect programming.

❖ **Works with the keys chip ID**

94, D4, 98, 88, A8, 39, F1, 9F, 78.

❖ **Supported model**

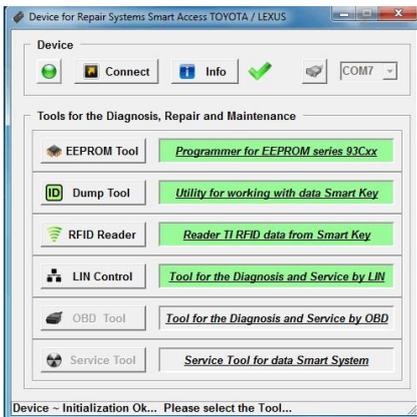
Lexus: LX, GX, RX, LS, GS, IS;

Toyota: LC200, LC Prado (MY2014), RAV4, Venza and Camry (till MY2012), Corolla, Highlander;

Subaru: Impreza, Forester, Legacy, Outback, Tribeca.

❖ **Connection and overview**

Plug TK-Prog Master v5.0 into USB socket and install standard USB-to-COM drivers. Launch the TKP software. First of all you have to select COM-port number (can be checked in Windows device manager) and press “Connect” button. If everything is correct main menu entries become active.

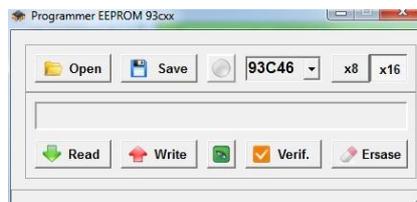


EEPROM tool is general purpose programming tool for 93C46, 93C56, 93C66, 93C76, 93C86 microchips. It is usually used for backup and restore of EEPROM chip in Certification unit, but you could use it for any in-circuit

EEPROM programming task. Red wire on clip-connector must be linked up with first pin on EEPROM chip. Please pay attention: Smart ECU for Japanese domestic market has micro SMD EEPROM chip which require special clip tool.



All functions are standard: read, write, erase and verify. Also you can see EEPROM content in HEX mode (no editing available here).



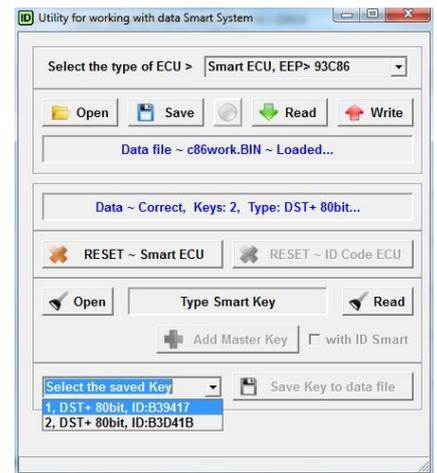
Dump tool is used for Smart ECU and ID Code Box memory editing for the purpose Master key registration and ECU reset. Master key allows to launch the engine, but remote door blocking function does not work. Car start is possible only if the smart-key is no farther than one centimeter from the start button. Remote doors blocking can be activated by OBD programming tool as well as permanent smart-key registration.

Dump Tool also allows to reset Smart ECU and ID Code Box: all key information will be erased and ECUs will behave like-new. To perform this procedure, select ECU type in Dump tool main window. Load EEPROM dump from file or directly from ECU (red wire on clip-connector must be linked up with first pin on EEPROM chip). If the dump is OK, you should

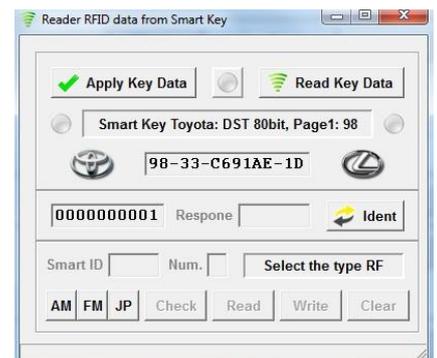
see message “Data ~ correct...” Press “Reset Smart ECU” or “Reset ID Code ECU” (depends on initial ECU selection). Now you can save modified dump file and write it down to ECU (“Save” and “Write” buttons respectively).

❖ **Master key registering procedure**

Open Dump Tool submenu and select ECU type from the list. Load Smart ECU dump from file (if you have read it before) or directly from ECU EEPROM (you have to use clip-connector). “Load” button for first case and “Read” for second. If the dump is correct, you should see message like on the picture below.



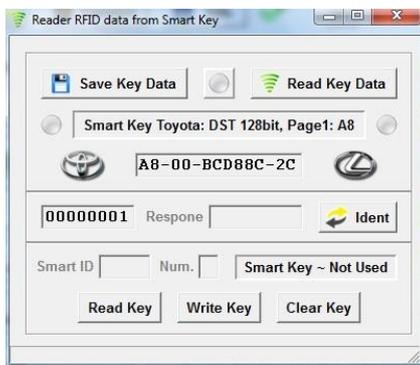
Now you should load Master key data from file (by pressing “Open” button) or from Smart-key itself (“Read” button). Place the key on TK-Prog top surface and press “Read Key Data” in next window.



As Smart-key is read properly you will see its Type and ID. Press “Apply Key Data” and “Add Master Key” button in Dump Tool window becomes active. Press it and key information will be added into Smart ECU dump. Now you can save modified dump file and write it down to Smart ECU (“Save” and “Write” buttons respectively).

❖ **RFID Tool**

RFID Reader tool could be used for reading, programming and clearing of Texas Instruments RFID transponders. Place the key on TK-Prog top surface and press “Read Key Data”.



If reading was successful you will see Smart key type, ID and data. You can save all key data in a file (“Save Key Data” button).

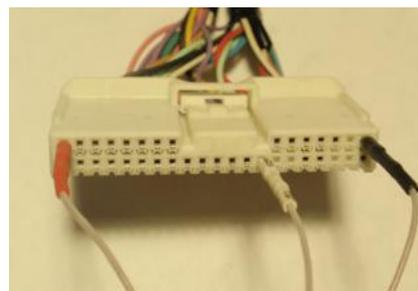
❖ **Used Smart keys clearing**

If you have used Smart keys (registered on some other cars) you can clear it to be able to register on your car. In this case place the key on TK-Prog surface and read it as described above. Select modulation type: AM, FM, or JP (only for DST 40/80bit) and press “Clear key” button. Read the key again and if clearing procedure completes successfully message “Smart Key ~ Not Used” (only for DST 128bit) will appear. Please pay attention: every time you press “Read” button on the brand-new or cleared key, the LED on

the key case lights up (but only if modulation type selected properly).

❖ **LIN Control functions**

LIN Control Tool is used for Smart Access System Diagnostics, malfunction detection and synchronization via LIN-bus directly plugged into Smart ECU connector by needle pins (usually onboard vehicle). Connecting diagram for LIN is shown below.



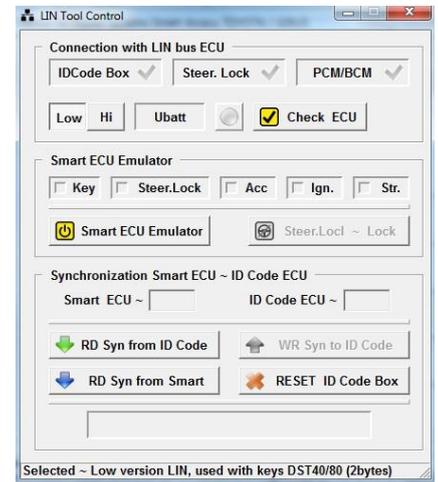
Toyota LC Prado, Lexus LX, GX460



Toyota LC200, Camry, RAV4, Venza (till MY2014); Lexus IS, GS, LS460, LX570

For diagnostics purpose you should leave Smart ECU linked-in and plug needle pins of TK-Prog from rear side of ECU connector.

Press “Check ECU” button and you will see check-sign on respective ECU that are online.



❖ **Smart ECU emulation**

For Smart ECU emulation, disconnect it from a vehicle and press “Smart ECU Emulator” button. This will allow you to start the engine without any key and block/unblock steering latch.

❖ **Smart ECU and ID Code Box synchronization by LIN-bus**

This function allows reading and modifying of synchronization code within Smart ECU and ID Code ECU memory. It may be useful when you need to synchronize ECUs from different cars. To perform synchronization procedure: plug TK-Prog into Smart ECU connector from rear side (ECU remains linked-in) and press “RD Syn from Smart” button. Turn ignition on by “Start” button on a vehicle. The sync code will be displayed. Disconnect Smart ECU and press “RD Syn from ID Code” – it will be displayed in respective field. Now enter new sync code (typically as read from Smart ECU) in that field and press “WR Syn to ID Code”.

Also you could reset ID Code Box without ECU dismount to make it behave like-new, and program it by dealer diagnostic equipment.