

→ **For Auto Locksmit Association and POLICE only !!!** ←

Lexus GS Smart Key, IS Smart Key : Key Programming (15 min/fast)
LS460 : Unlock + Reset Immo + Reset Smart module + Key Programming (fast)
LX570 : Unlock + Reset Immo + Reset Smart module + Key Programming (fast)
Land Cruiser 200 : Unlock + Reset Immo + Reset Smart module + Key Programming
RX350(2009->) : Unlock + Reset Immo + Reset Smart module + Key Programming (fast)
GX460(2010->) : Unlock + Reset Immo + Reset Smart module + Key Programming (fast)
ES350(2010->) : Unlock + Reset Immo + Reset Smart module + Key Programming (fast)
All Toyota with Smart Key (RAV4, Corolla, e.t.c) : Key Programming (15 min)
All old models from 2002 with metallic keys : Key Programming (fast)
Version: *Toyota-Lexus.Prog v 8.0*

Functions of the *Toyota-Lexus.Prog*

- Key programming for the old cars (with metallic keys) and for the new SMART system
- Connection to the CAN bus of the vehicle for disarming the alarm and unlocking the central lock of the car
- Preparing the vehicles **LEXUS LS460, LX570, Land Cruiser 200, Prado (2010->), GX460 (2010->), RX350(2009->)** for the further programming the SMART keys (Immobilizer Reset)
- **Fast engine start** with transponder from the key

Description of the *Toyota-Lexus.Prog*

Programmer is designed in the Hand-Held housing which has:

- color LCD display with backlight
- Keyboard
- Special jack for connection the different cables for programming the car modules.
- Jack for power supply (9 -15v, **positive** pin in center). Device can be powered from the 9-15v battery.
- USB connector for connecting to the personal computer for further updates.



*Programmer can be connected to the CAN Bus inside the vehicle and when you press "START" button it sends a signal to the car to disarm the alarm and to unlock the central lock. For the different **Toyota/Lexus** models you have different connection to the CAN Bus of the vehicle.*



Programmer should be connected to the OBD socket of the car to get the power supply.



Before you Begin

Connect programmer OBD cable to the vehicle OBD socket.

Toyota-Lexus.Prog will get power supply from the OBD socket and will be turned "ON" automatically.


On the display will appears the next picture:



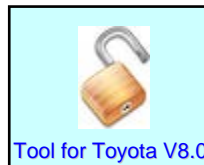
This picture will be shown unless you enter the correct pin code of the device.

Toyota-Lexus.Prog is delivered with the PIN code – **0000**.
We are strongly recommend you to change PIN code after first using of the device.

Entering the PIN code : Enter Pin code from the keyboard and press button "ENTER"

In the case of the **error**, press button  and enter **PIN** again.

If **PIN** is **OK**, you will see next screen within 3 seconds.



SW version

IMPORTANT → After 5 wrong attempts of the entering PIN code device will be locked for a 30 min.

MENU contents:

1. OBD Key programmer

2. Add/Erase Keys with Master Key -----

1. Read Master Key [Antenna]
2. Program Master Key [Clip adapter]
3. Add Keys [OBD+Master Key]
4. Erase Keys [OBD+Master Key]

3. Fast Prog [Direct to EEPROM Emergency Key Prog] ----

1. Read Emergency Key [Antenna]
2. Program Emergency key [Clip adapter]

4. Direct Reset -----

1. Smart Reset [Clip adapter]
2. Immo Reset [1-Wire cable]

5. Unlocker -----

1. LS460
2. LX570
3. GX460

6. Key detect

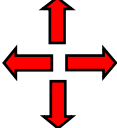
4. RX350 (2009->)
5. LC200
6. PRADO (2010->)

7. Settings -----


1. Change PIN – Code
2. Check PIN [On/Off]
3. Speaker [On/OFF]
4. LCD contrast
5. **Display Update Code**
6. About

Browsing the menu of the device is possible with the keyboard of the programmer (for example for selecting the menu "ABOUT" it's enough to press buttons 7-6).

Arrows buttons


Arrows buttons  are using for menu browsing

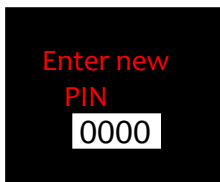
Entering the next menu function is with button "" (also can be done with a button "ENTER")

Going back to the previous position is with button ""

Settings

7.1 Changing the PIN code

- Go to the menu 7 -1 "Change PIN – code"
- Enter a new PIN code
- Confirm with a button "ENTER"
- Exit from this menu without changing the PIN code can be done with  button





7.2 Check PIN [On/Off]

- Turning PIN code On/Off

7.3 Speaker [On/Off]

- Switching On/Off all sounds of the device

7.4 LCD contrast

- Adjusting Display Contrast (button  - make the display lighter, button  - darker)

7.5 Display Update Code

- Displays the Update Code of the Device

7.6 About

- Displays current software version

Toyota / Lexus Key programming procedure

SMART KEY SYSTEM (2006 ->)

Lexus GS300, GS430, GS450h,
ES350, IS220d, IS250
LS460, LX570, RX350 (2009->)
GX460

Toyota Land Cruiser 200, Prado (2010->)
RAV4, Yaris , Corolla Smart key

➔ menu 1. OBD Key programmer

1. Open the driver's door
2. Connect programmer to the OBD II diagnostic socket and choose menu **1. OBD Key Programming - Start**. You will hear a short "BEEP"
3. After successful starting of the procedure of the erasing old keys, you will hear a long "BEEP".
4. Display of the programmer will shows the key programming process and the "Security" indicator in the car will go off.
5. After **15 min** waiting time the procedure for old keys erasing will be finished and programmer will make a sound from **Low** to **High** tonality and on the display will be written "DONE".



*For Lexus LS460, LX570, GX460, RX350 (2009->), Land Cruiser 200, Prado (2010->) it's **NOT POSSIBLE** to use 15 min reset procedure via OBD II because of not known Authorization method. Use menu 2. Add / Erase Keys with Master Key for this models. Allows KEY programming of additional keys when an Master key is available. Master Key can be added in this menu too.*

6. **ATTENTION, Important !!!** You must be sure that you have only one SMART key inside the car.
7. Now for the next **30 seconds** you must touch the START button with the LOGO of the key and inside the car you will hear the **first confirmation** short sound signal.
8. Put the key onto the front passenger's seat.
9. Inside the car you will hear the **second confirmation** short sound signal.
If you not heard the second sound then it means that the key is not accepted.
10. Take away the key from the car.
11. Start programming the next key from the step 6.
12. After you finished the programing of all keys then you must wait for the blinking of the "Security" LED of the car and then you can try to start the engine - remote control should work too.



If after finishing the erasing of the old keys you was not in time to start the procedure for programming, then close and open driver's door, start key programming procedure from the menu Key Programming, wait for the long "BEEP" and keep on programming from the point 6.

- **If key programming was **unsuccessful**, you will hear sound with **High** to **Low** tonality**

Cars from 2002 year with metallic key

Toyota Land Cruiser 100 ,Prado, 4Runner, Camry (2004...), Corolla (2007...)

Lexus LX470, RX300-350-400h

1. Insert the key into the ignition lock.
 2. Connect programmer to the OBD II diagnostic socket and choose menu **3.OBD Key Programmer – Start**. You will hear short sound “BEEP.”
 3. After 5 sec the programmer will make a sound with changing tonality from **High to Low**. Display of the programmer will show the key programming process and “Security” indicator in the car will light constantly.
 4. Take out the key from the ignition lock and insert it back **(don't turn ignition on !!!)**.
 5. Now insert another key into the ignition lock **(don't turn ignition on !!!)** and wait until “Security” indicator will go to OFF state and then again to ON state.
Repeat this procedure for each additional key.
 6. With the last key you must **turn Ignition ON and OFF 5 times** in the period of 15 seconds.
- **If programming was unsuccessful , you will hear sound with High to Low tonality**

Keys Part numbers for ordering (SMART system):

before 05/2008 – Key Type 1

89904 - 30270 – Lexus (315 Mhz)
89904 - 50830 – Lexus (315Mhz)

89904 - 30310 – Lexus (433.92 Mhz)
89904 - 30320 – Lexus (433.92 Mhz with button “Panic”)

Land Cruiser 200 (USA) – 314.35 Mhz
89904 - 60200 – Toyota (with button “Panic”)

Lexus LX570 (USA) – 314.35 Mhz
89904 – 60230
89904 – 60240 (with button “Trunk”)

after 05/2008 – Key Type 2

89904 - 60430 – Toyota Land Cruiser 200 (433.92 Mhz)

Lexus LX570 (USA) – 314.35 Mhz
89904 – 60051
89904 – 60061 (with button “Trunk”)

Land Cruiser 200 (USA) – 314.35 Mhz
89904 - 60420 – Toyota (with button “Panic”)

For the new modification of the Smart module from 01/2009 – Key Type 3

RX350 (2009) и GX460 (Prado) 2010

89904 – 48241 – 433.92 Mhz

89904 – 0E031 – 314.35 Mhz
89904 – 48181 – 314.35 Mhz

89904 – 60590 – 314.35 Mhz
89904 – 48191 – 314.35 Mhz

➤ Key Types can be detected in the menu **6. Key detect** of the programmer

Place the key onto the Yellow circle of the programmer. This is the Antenna for reading the key data.

See tables on the left for types of the Keys

*) In some cases you should move the key over yellow circle to find a place where the Key reading is better.

***) The old metallic keys can be read too, but you can see only data from the Key, not the Key identification.

Add / Erase keys using Master Key *

*) This method works only if 2 or more keys was in the car before.

 Allows KEY programming of additional keys when an existing working key is available.

 Allows KEY programming of additional keys when all keys are lost.

Some Toyota/Lexus cars has an **Immobilizer protection mode** that prevents the erasing of the Immobilizer and Steering Lock via direct cable connection to the internal communication bus.

Only Smart module can erase this modules, but it's needed to send Authorization code for unlocking this mode. This confidential algorithm is known only in Toyota/Lexus online center.

In this case an erasing of the Immobilizer and Steering Lock can be made with a working key that can be added into the Smart module with a **direct key programming by Clip Adapter**. This is only way for non-dealer services.



!!! Restriction: In the SMART module should be at less 2 active keys for this method.

Menu for this procedure:

2. Add/Erase Keys with Master Key -----	1. Read Master Key [Antenna]
	2. Program Master Key [Clip adapter]
	3. Add Keys [OBD+Master Key]
	4. Erase Keys [OBD+Master Key]

STEPS

- Read and Store Master Key in the menu **2-1. Read Master Key [Antenna]**

Place the key that will be a **Master_key** onto the Yellow circle "RF-ID Antenna"



To Store a Master Key into the device memory **press and hold the "ENTER" button**. After storing the key a message "DONE" appears.

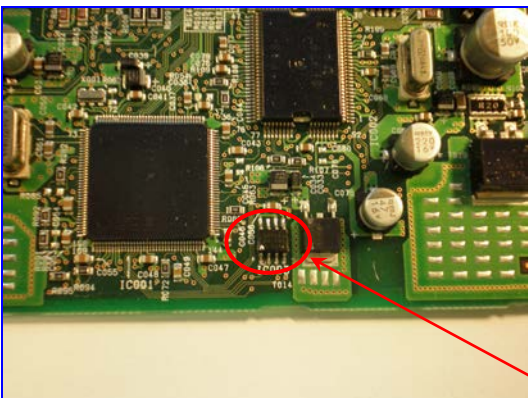
- Program Temporary Master Key into the Smart Modul in the menu **2-2. Program Master Key [Clip adapter]**



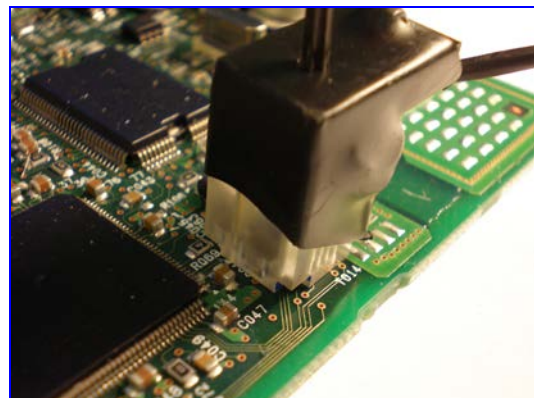
Use a Clip adapter for direct connection to the eeprom chip on the Smart module

Smart module for the GX460 (2010) and RX 350 (2009)

Connecting the clip adapter to the SMART



Chip



- Programming a new keys using a Master_key in the menu **2-3. Add Keys [OBD+Master Key]**

 Use OBD cable to connect to the vehicle diagnostic socket

1. Open the driver's door
2. Connect programmer to the vehicle diagnostic plug and choose menu **2-3. Add Keys [OBD+Master Key]**
3. After successful starting of the procedure you will see the next message:

Touch the ENGINE START SWITCH with the registered key

Touch the ENGINE START SWITCH with the MASTER_KEY, that was programmed in the menu 2-2.

4. **Important !!!** You must be sure that you have only one SMART key inside the car.
5. Now for the next **30 seconds** you must touch the ENGINE START SWITCH with the new key and inside the car you will hear the **first confirmation** short sound signal.
6. Put the key onto the front passenger's seat.
7. Inside the car you will hear the **confirmation - second short sound signal**.
If you not heard the second sound signal - it means that the key is not accepted.
8. Take away the key from the car.
9. Start programming the next key from the step 5.
10. After you finished the programing of all keys then you must wait for the blinking of the "Security" indicator of the car and then you can try to start the engine.

- Erasing all keys except Master_key in the menu **2- 4. Erase Keys [OBD+Master Key]**

 Use OBD cable to connect to the vehicle diagnostic socket

1. Open the driver's door
2. Connect programmer to the vehicle diagnostic plug and choose menu **2-4. Erase Keys [OBD+Master Key]**
3. After successful starting of the procedure you will see the next message:

Touch the ENGINE START SWITCH with a key that will be a Master Key

Touch the ENGINE START SWITCH with the key, that you want to keep in the SMART module.


All other keys will be erased.


Fast engine start **

***) Programming the transponder ID from the key only, Keyless and Remote buttons will not works.

It's possible to add 1 or 2 keys directly into the Smart module and start the Engine by the direct programming of the EEPROM with this keys data. Original keys continue to works.

 *Buttons and Keyless of the added keys will not work, because it's only a programming of the transponder ID from the key.*

 *This is needed for those who don't has right keys right now for programming (another RF frequency, another type of the key or previous method **Add_Keys_with_Master_Key** not works) but want to drive the car or start the engine.*

 *After this procedure it is possible to program full functional keys via OBD with the main programming procedure: **Add Keys with Master Key (menu 2.)** or **Reset the Immo and Smart modules by Direct Reset (menu 4.)** and then using **OBD Key Programmer (menu 1.)***

!!!!!! Attantion: You must disconnect all plugs from the SMART module during this operation !!!!!

-> **Enter menu 3 3. Fast Prog [Direct - to - EEPROM Key Programmer]**

-> **Choose position 3-1. Read Emergency Key [Antenna]**

- Place the key onto the **Yellow circle** of the programmer. This is an RF-ID Antenna for reading the key data.

Key types can be : Smart Type1, Smart Type2 or Smart Type3

- See Keys Part numbers (for SMART system) for detecting the types of the Keys for your car.

- Press and hold the "Enter" button to store selected key into the memory of the key programmer.

If you cannot detect the year of your car – store into the key programmer Key_Type1 and Key_Type2 (Key_Type3)

Two keys will be written into the Smart module and you can check one by one which key will start the engine.

Key_Type1 can start the car before 05/2008.

Key_Type2 or Key_Type3 can start the car from 05/2008.

-> **Connect the clip adapter to the SMART module chip as it shown on the picture.**

You must put the clip adapter over the chip and the red dot must be oriented to the first pin of the small SMD chip marked IC003.

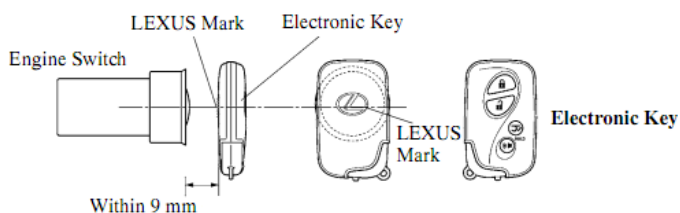
-> **Enter sub-menu 3-2. Program Emergency Key [Clip adapter]**

Press ENTER to start Emergency Key programming procedure.

Key(s) will be written into the Smart module.

Connect Smart module back into the car and try to start the engine.

**Hold the key against the engine switch as shown on the illustration while depressing the brake pedal.
Press Engine Switch to start Engine**



Preparing the modules of the vehicle for key programming procedure (Reset Smart, Reset Immo) *

*) This is Direct Reset procedure for clearing Smart module, ECU Immobilizer Box and Electronic Steering Lock to the virgin state. This procedure can be used when another way of the key programming was unsuccessful (in the menu 2.)



Some new Toyota/Lexus cars has an **Immobilizer protection mode** that prevents the clearing Immobilizer and Steering Lock via direct cable connection to their communication bus. In this case need to take out the ELV and ECU Immobilizer Box from the vehicle, disassembly them and make clearing the data in the special chip programmer (this cannot be done with our device)

Step_1: Reset Smart Module

->Take out Smart Module - (!!! Attantion, disconnect all plugs from the module !!!)

-> Remove the module from the plastic box

-> **!!!!!!Clean the pins of the chip of the covering resin (Very Important !!!!)**



-> Enter menu 4

4. Direct Reset ----- **1. Smart Reset [Clip adapter]**
2. Immo Reset [1-Wire cable]

-> Choose position **1. Smart Reset**

-> **Connect the clip adapter for resetting the SMART module as it shown on the picture. You have to put the clip over the chip as the red dot must be oriented to the first pin of the small SMD chip marked IC003.**

- To confirm the command press ENTER

- If the command is performed successfully then on the display will be written **"OK"**

- If you connect the clip adapter incorrectly then on the display will be written **"Communication Error"**

In this case you should **check conditions below:**

- orientation of the clip
- clean the pins one more time
- press firmly onto the clip for a good contact
- rightness of the chosen menu
- e.t.c...

Step_2: Reset Immobilizer Modules (Immo BOX and ELV)

!!!!!! Attention, important : You must disconnect all plugs from the SMART module during this procedure !!!!!

- Connect to the programmer **white 1-Wire cable** with a **black needle** (see picture below)

4. Direct Reset ----- **1. Smart Reset [Clip adapter]**
2. Immo Reset [1-Wire cable]

- Choose position **2. Immo Reset [1-Wire cable]**

- For connection via SMART module connector find the wire that goes to the pin number 10 of the big connector (see picture below)

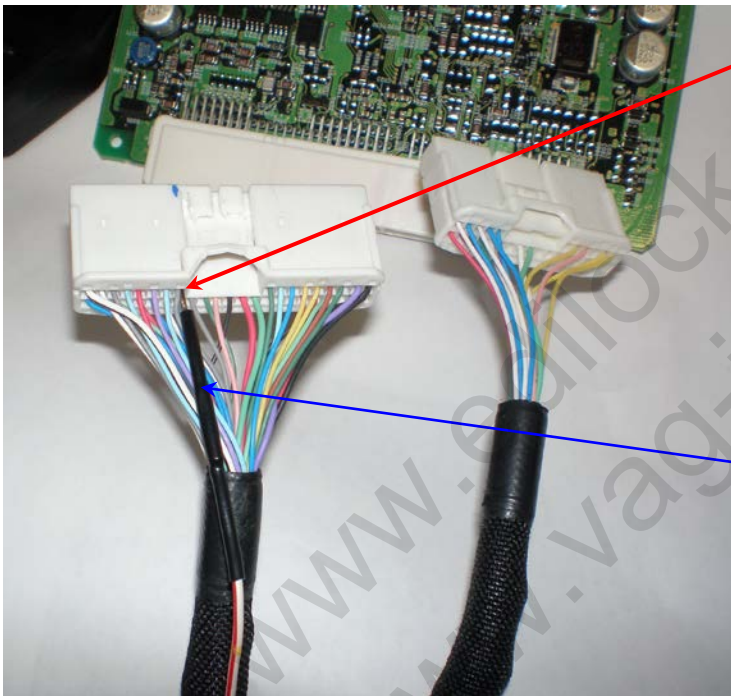
For LS460 – this wire has **orange** color

For Land Cruiser 200, Lexus LX570 – this wire has **gray** color

For GS, IS – this wire has **light-green** color

- Connect black needle to this wire

Pin 10 of the plug



The OBD cable should be inserted into the OBD socket of the vehicle for powering the device.

- To confirm the command press ENTER

- If the command is performed successfully then on the display will be written **“OK”**

- If you connected the cable incorrectly then on the display will be written **“Communication Error”**
In this case you must check the pin number in the big connector of the SMART module or connection contact.

*After you have successfully prepared the **SMART module and Immobilizer system** of the car, connect SMART module back and perform key programming in the menu :*
1. OBD Key Programmer.

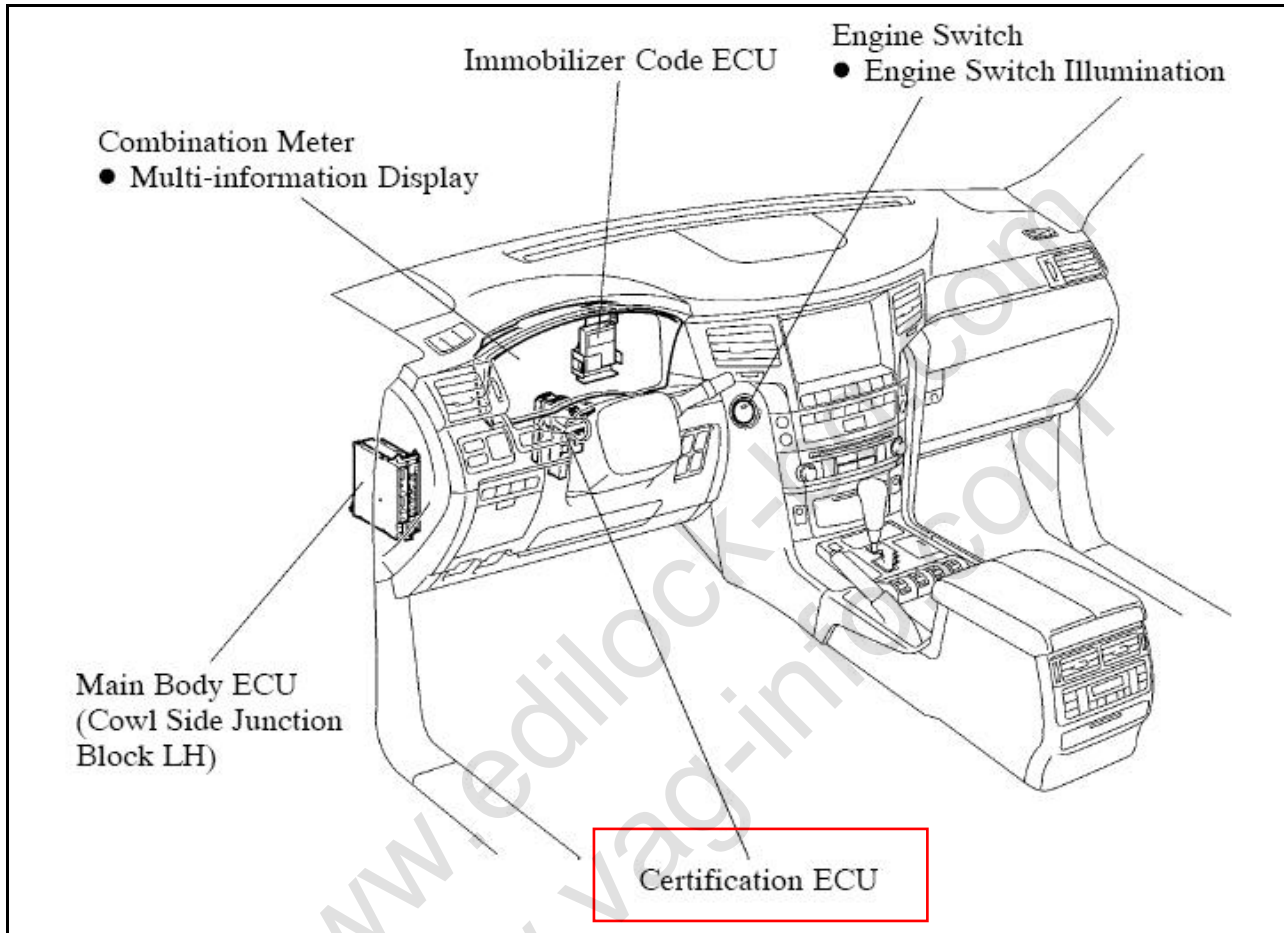
 *Connect OBD II cable of the programmer to the diagnostic socket of the car.*

Location of the Smart in the LX570 and Land Cruiser 200

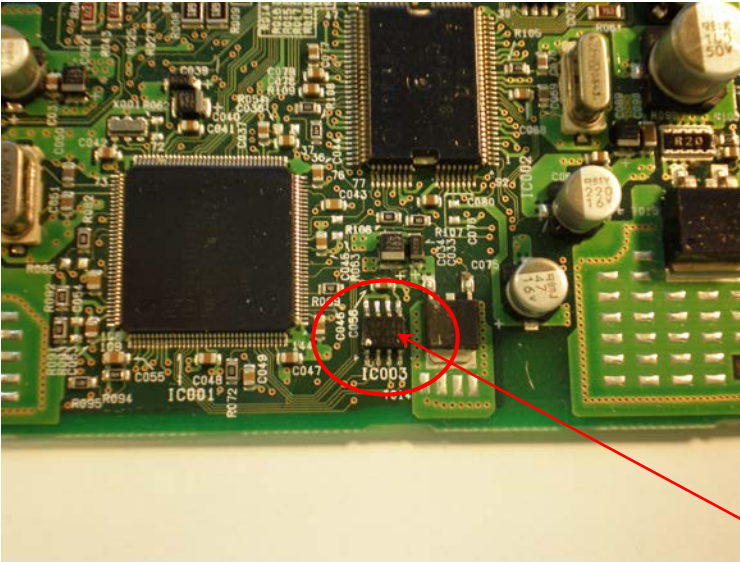


Smart module is placed under the steering wheel and has very short wires.
For taking off this module you need to remove it from the plastic box at first.
After that you need to disconnect the connectors of the module.

Take care while removing the module from the plastic box because it's possible to damage micro-components of the module.

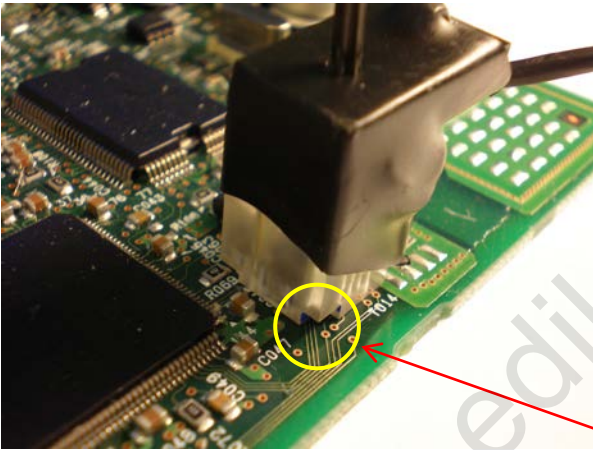


Smart module for the GX460 (2010) and RX 350 (2009)



Chip for Smart Reset operation

Connecting the clip adapter for resetting the chip of the SMART module (Smart Reset)



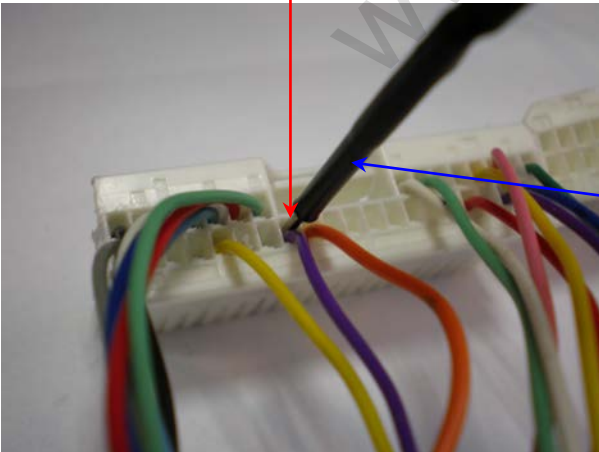
Pin 1



Connect to the programmer **white single cable** with a **black needle** for **Immo Reset** GX460 и RX350

!!!!!! Attantion: You must disconnect all plugs from the SMART module during this operation !!!!!

Find this wire - **pin 29** in the big connector for the SMART module (36 pins totally) and connect the needle to this wire.



Unlocking the central lock and disarming the alarm of the Lexus LS460

- You must connect the cable according the picture below (to the low speed CAN bus of the LS460)
- Enter menu 5

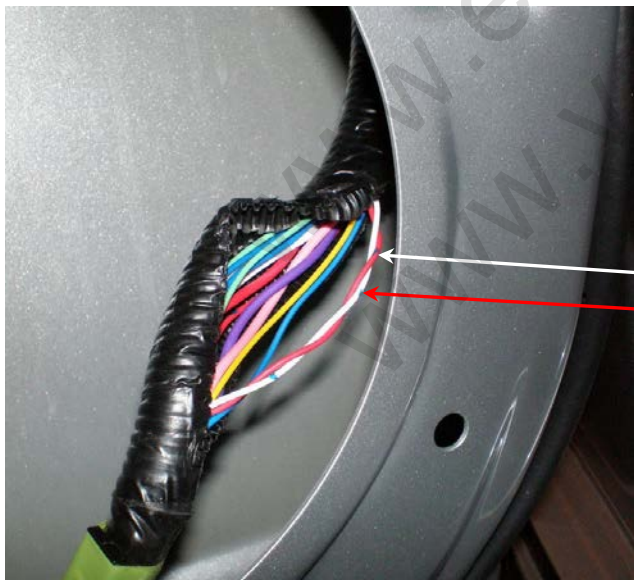
- 5. Unlocker -----**
1. LS460
 2. LX570
 3. GX460 (2010->)
 4. RX350 (2009->)
 5. LC200
 6. PRADO (2010->)

- Choose position **1. LS460**
- To confirm the command press ENTER
- If the command is performed successfully then on the display will be written **“OK”**
- If you connected the cable incorrectly then on the display will be written **“Communication Error”**
In this case you must check the color of the wires in the car and color of the needles on the cable of the programmer.

For connecting to the wiring of the back door, you must find thin **red** and **white** wires **braided together - this is a CAN BUS.**

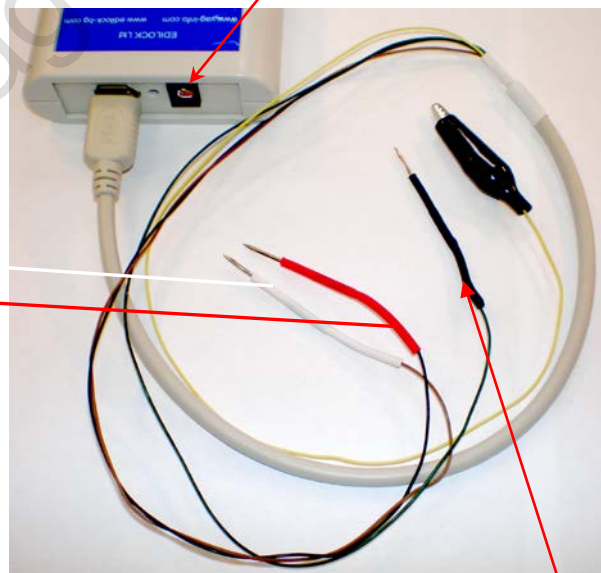
To the **white wire** of the CAN BUS you must connect the **red needle** and to the **red wire** of the CAN BUS you must connect the **white needle** of the cable.

The cable with the black “crocodile” clip must be connected to the any metal part of the vehicle body (ground).



Connecting to the wiring of the rear left door (Lexus LS460)

Jack for external power supply +12v



Cable for connecting to the CAN BUS

!!!! This cable also has Black needle for Resetting the Immobilizer



Programmer should be connected to the power supply during this operation !!!!

Power supply you can take from the additional battery (9-15v) or from the cigarette lighter socket of the car.

*) White needle of the cable is CAN_High, Red needle – CAN_Low

Unlocking the central lock and disarming the alarm of the Lexus LX570 and LC200

Connecting to the CAN BUS for Lexus LX570 and Land Cruiser 200

For connecting to the wiring of the car in the back part of the vehicle, in the area of the rear right stop light you need to find the **thin red and white** wires **braided together - this is a CAN BUS.**

To the **red wire** of the CAN BUS you must connect the **red needle** and to the **white wire** of the CAN BUS you must connect the **white needle** of the cable.

The cable with the black "crocodile" clip must be connected to the any metal part of the vehicle body (ground).

- You must connect the cable according the picture (to the low speed CAN bus of the LX570)

- Enter menu 5

5. Unlocker -----

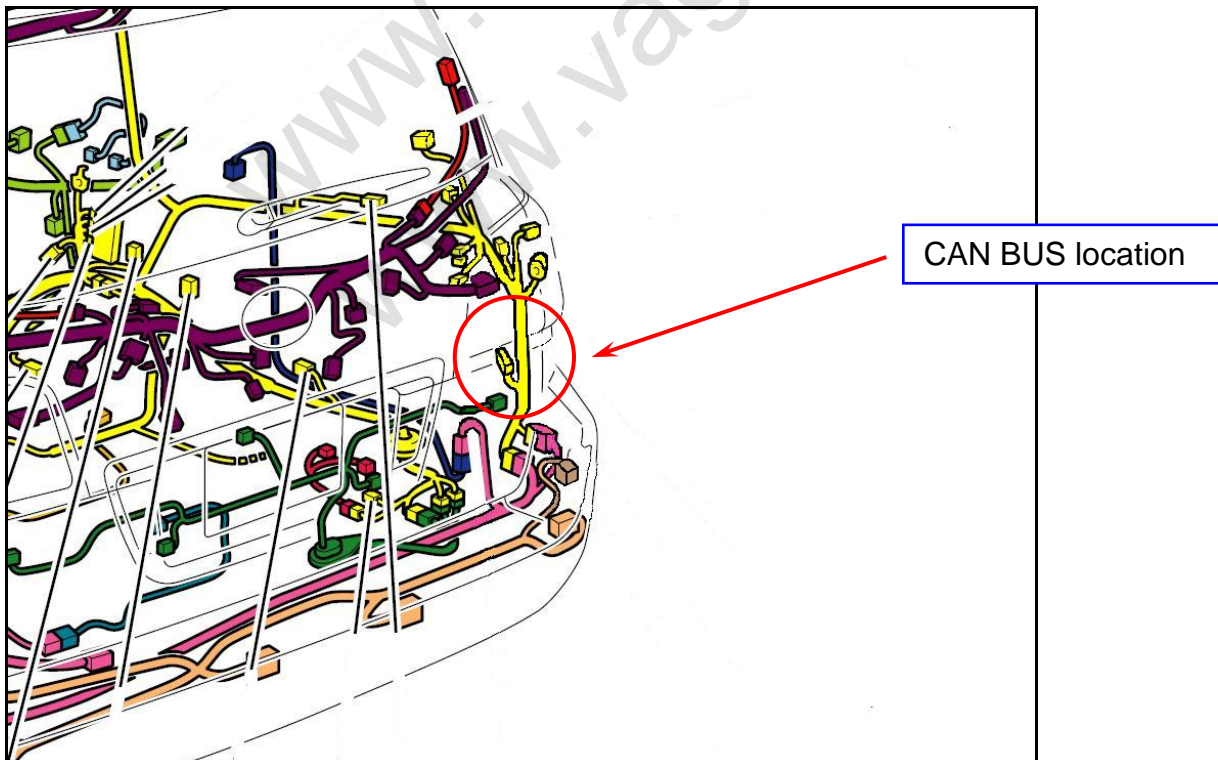
1. LS460
2. LX570
3. GX460 (2010->)
4. RX350 (2009->)
5. LC200
6. PRADO (2010->)

- Choose position **2. LX570**

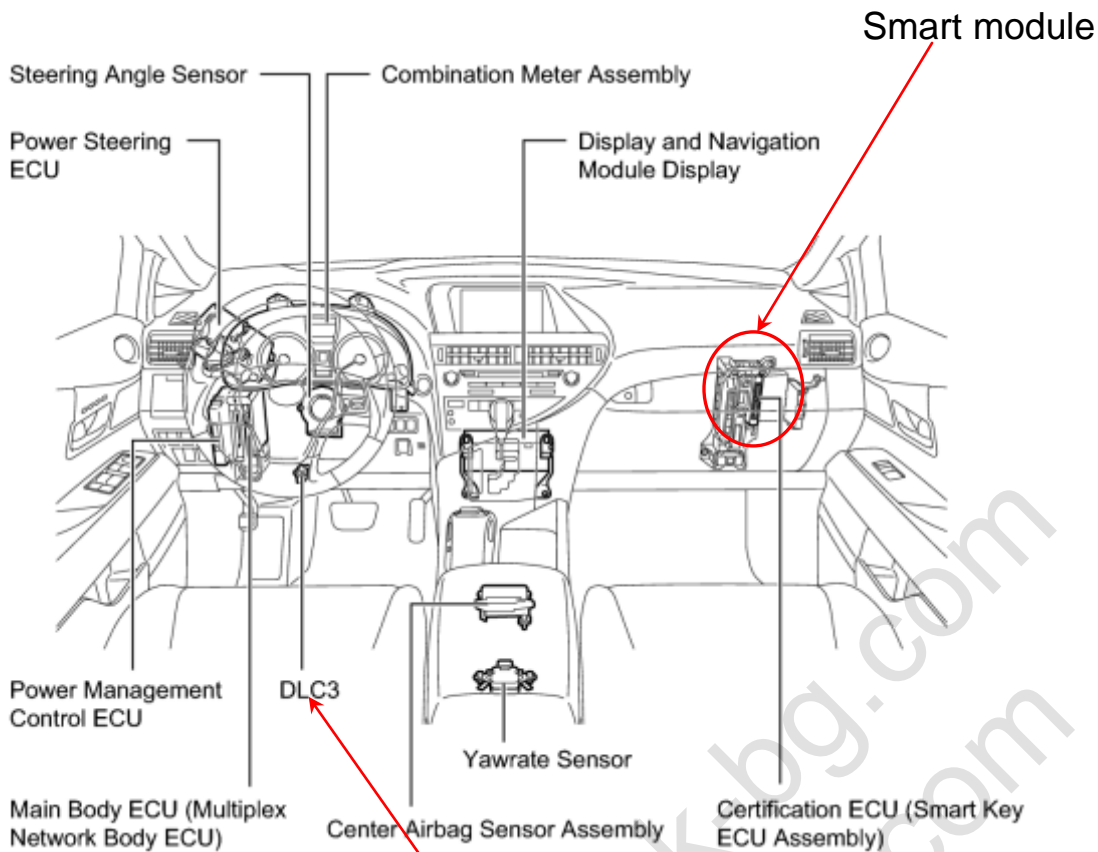
- To confirm the command press ENTER

- If the command is performed successfully then on the display will be written **"OK"**

- If you connect the cable incorrectly then on the display will be written **"Communication Error"**
In this case you must check the color of the wires in the car and color of the needles of the cable of the programmer.



RX350 (2009)

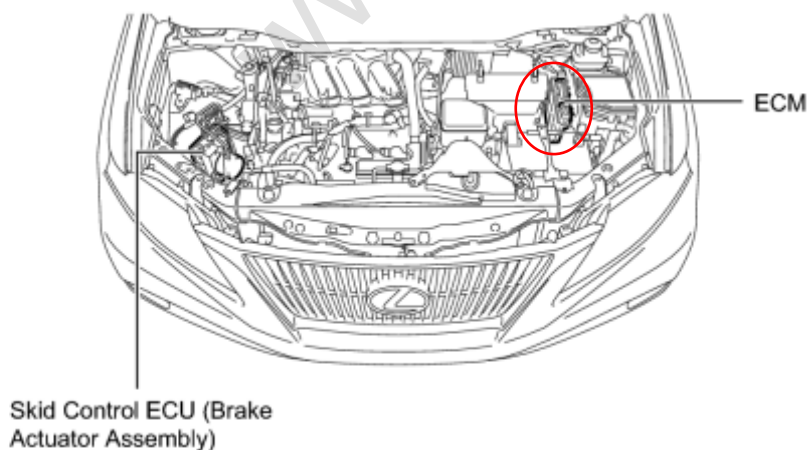


CAN BUS can be accessed in the diagnostic connector inside the vehicle on the 6 (CAN_High) and 14 (CAN_Low) pins.

Access to the CAS BUS for disarming the alarm and unlocking the central lock can be done under the hood via wiring of the Engine Control Module (ECM). Braided together wires has colors **green** and **blue** and connected to the 10 (CAN_High) and 11 (CAN_Low) pins of the ECM connector (60-pin black, the big one).

*) For the **RX450H** **green** and **blue** and connected to the 12 (CAN_High) and 25 (CAN_Low) pins of the ECM

 Hood need to be opened before this procedure with a special tools.



GX460 (Prado 2010)

ECU Integration Box

Certification ECU

Driving Support ECU



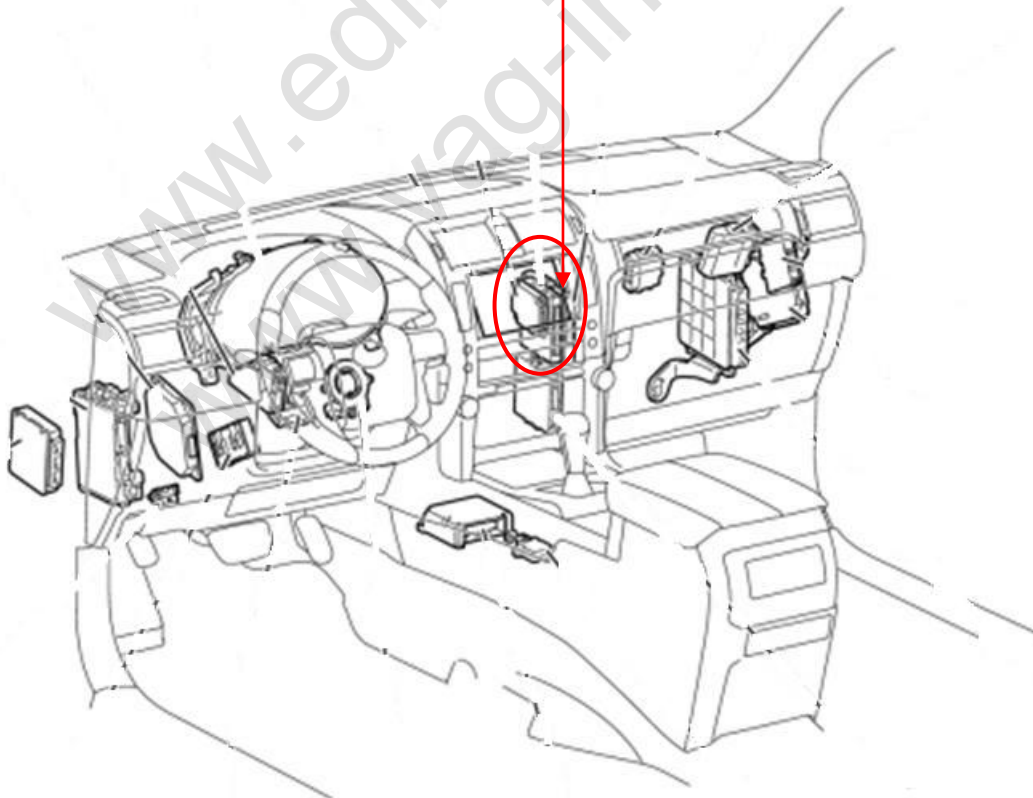
Power Management Control ECU

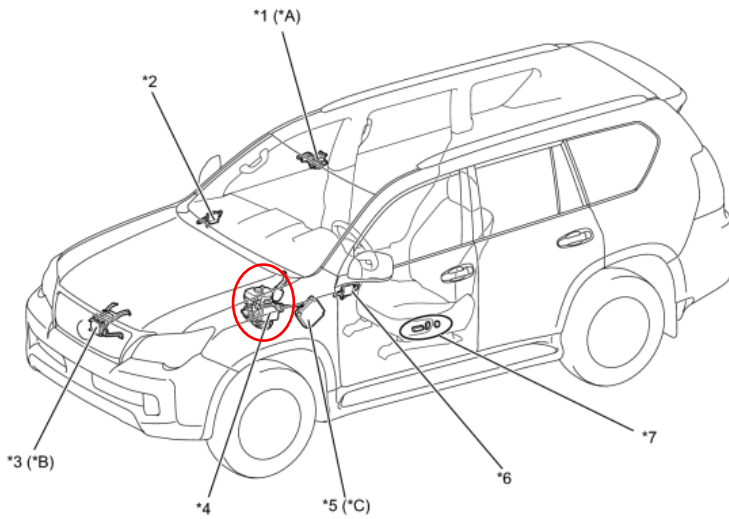
Air Conditioning Unit (Blower Assembly)

Air Conditioning Amplifier

Front

Smart module (GX460)





Access to the CAS BUS for disarming the alarm and unlocking the central lock can be done under the hood via wiring of the Skid Control ECU (Position 4) also called Brake Actuator Assembly.

 Hood need to be opened before this procedure with a special tools.

CAN BUS is connected to the 11 (CAN_High) and 25 (CAN_Low) pins of the connector. Braided together wires has colors black and white.

CAN BUS also can be accessed in the diagnostic connector inside the vehicle on the 6 (CAN_High) and 14 (CAN_Low) pins.

Quick Guide for Smart-Key programming

