



# FEM/BDC

1. Copy key with key

2. Copy key without key

Open the car door, OBD connects the vehicle and equipment, the vehicle maintains voltage above 12v , do not turn off the computer screen during operation.

CGDI

Device activation time remaining 26 days



BMW OBD Key Match



CAS3 Key Match



BMW ISN



FEM/BDC Key Match



CAS4 Key Match



BMW Enable/Disable key



BMW F Series Program



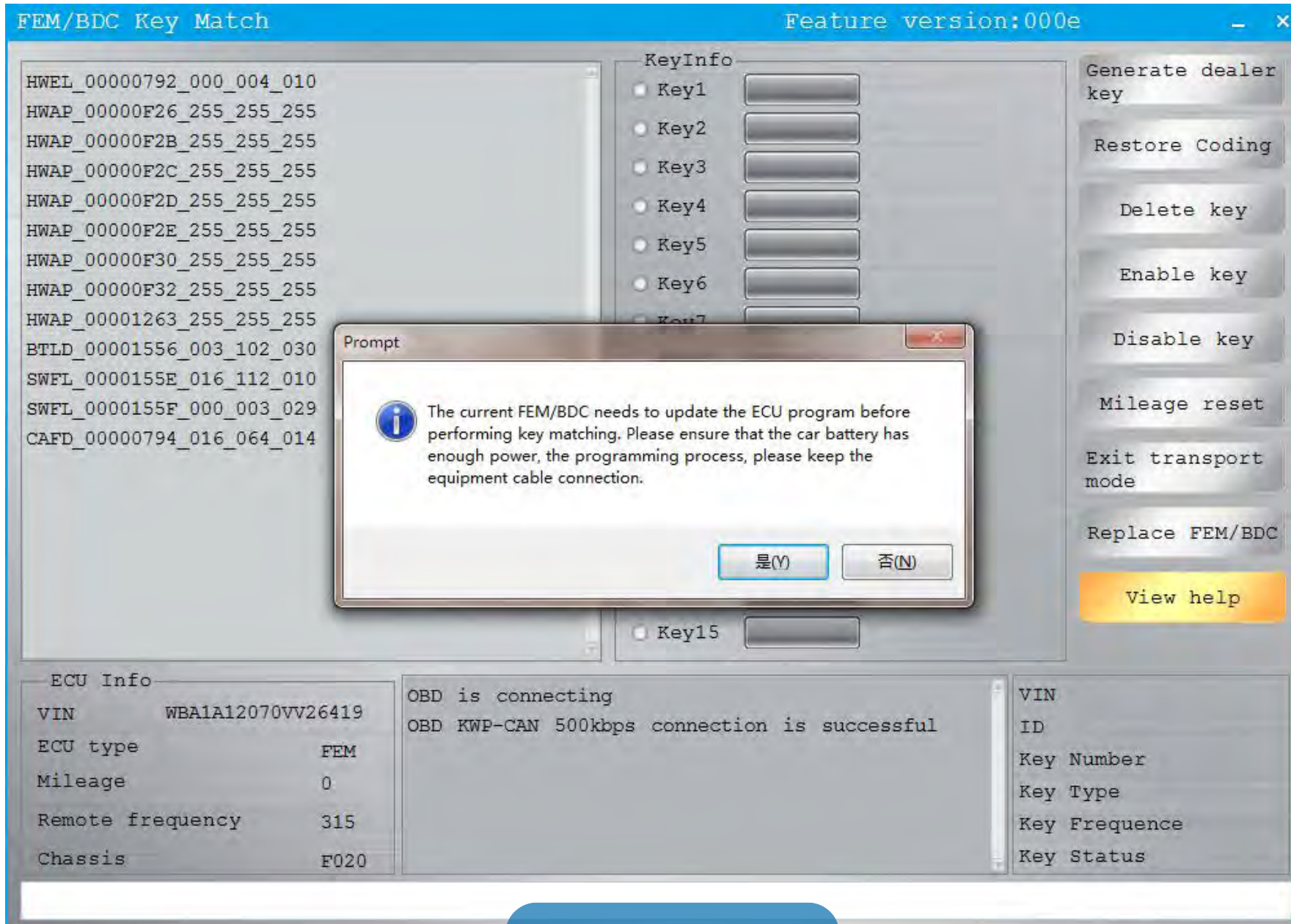
BMW F Series Coding



EGS ISN

Select "FEM/BDC key match" and click enter

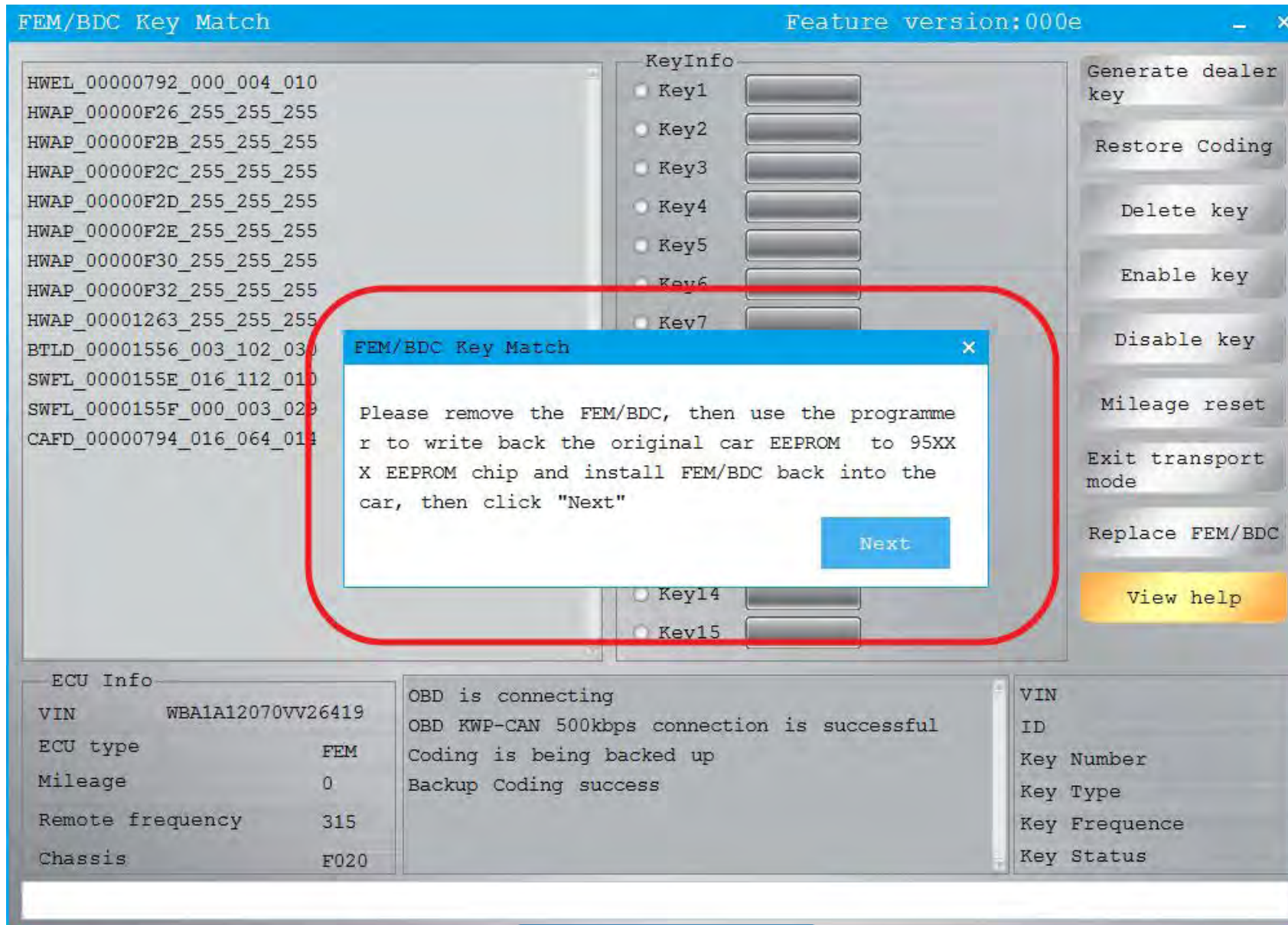




Connect successfully, maintain enough voltage, click "yes"

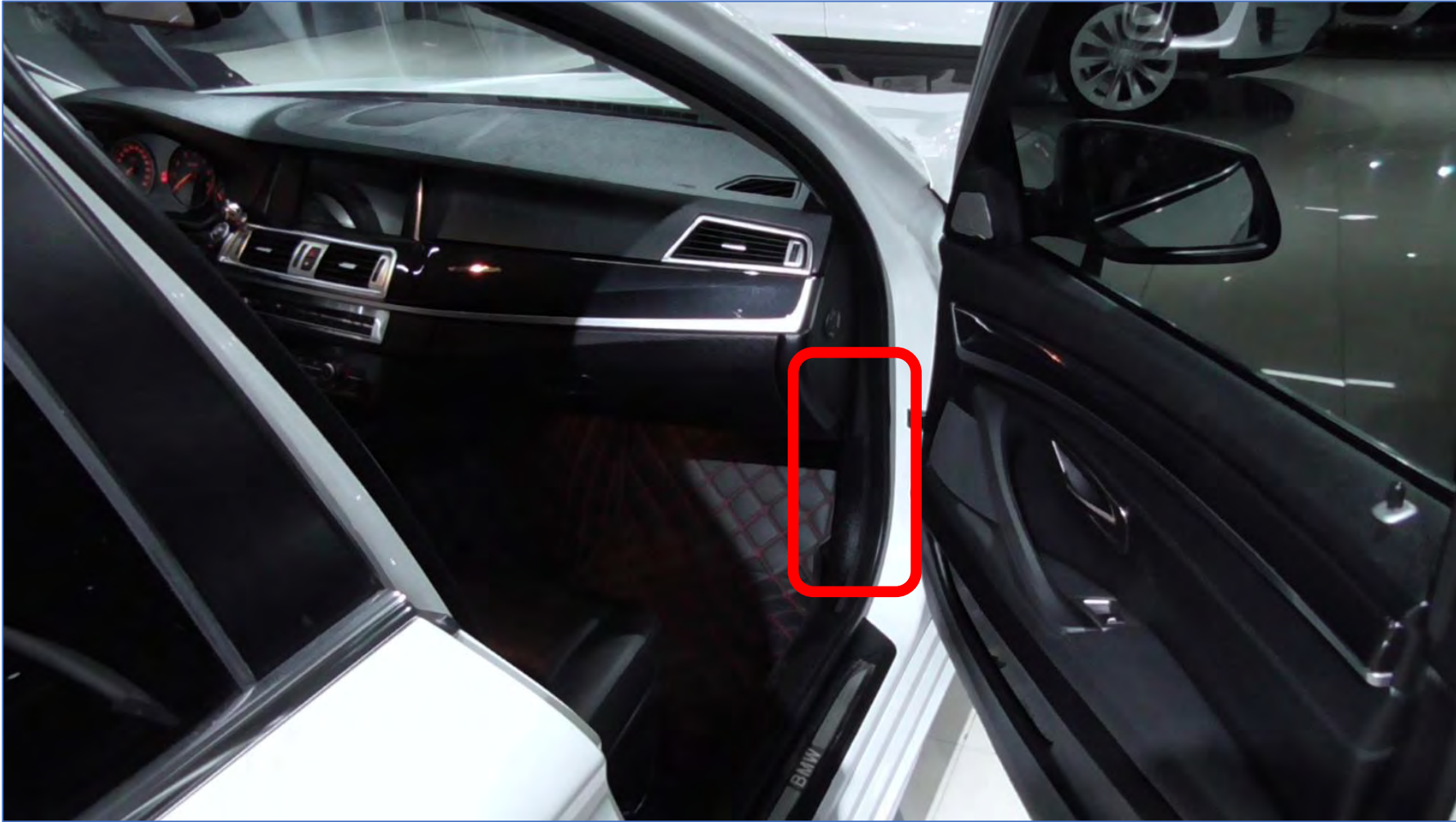






Need to disassemble the module, read EEPROM data, FEM is 95128

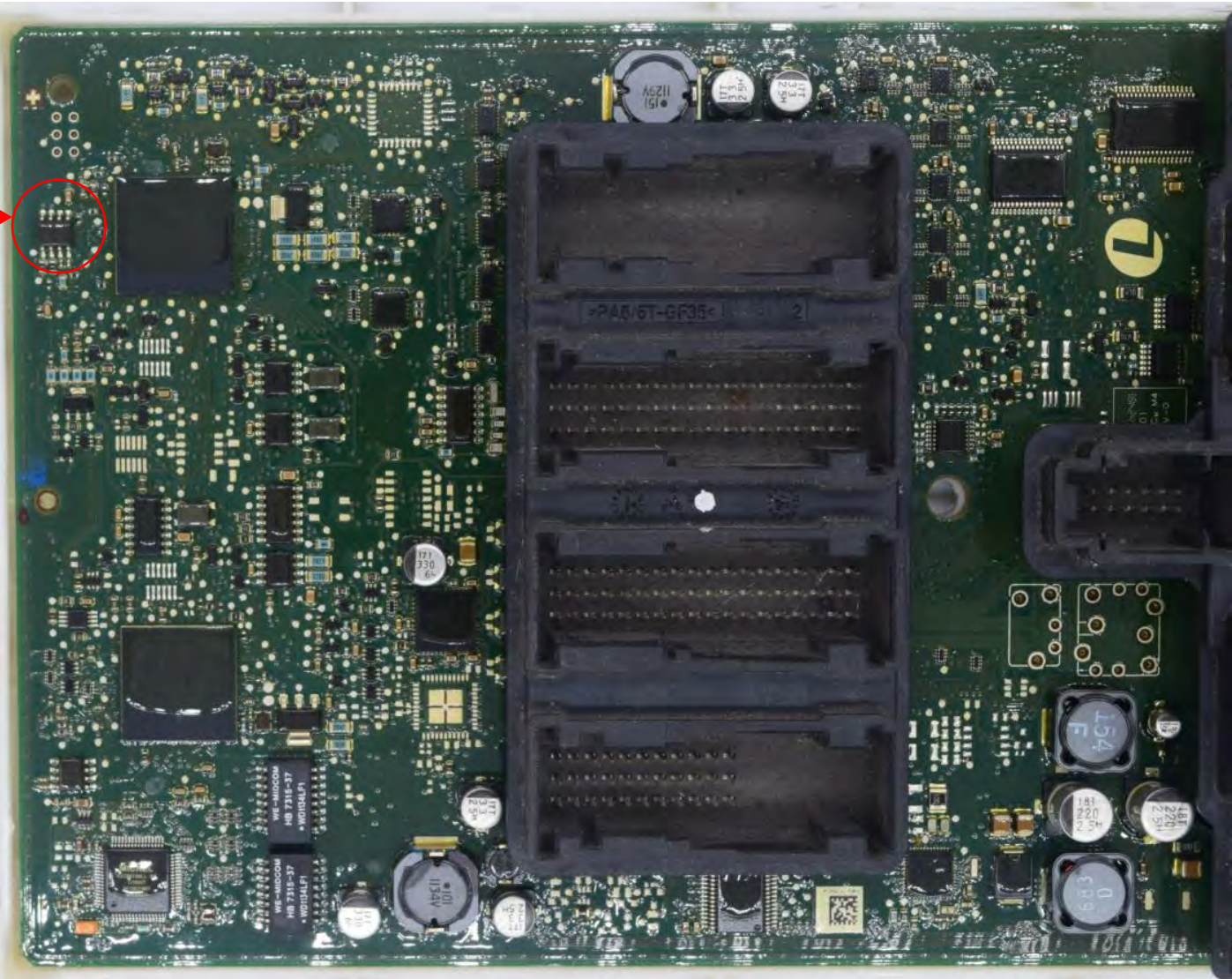




**FEM module installation location**



95128 IC  
position



**Use CG-100 to read  
out 95128 IC data and  
save the data**





Remove the 95128 chip, wash it, and clip it to the ATMEGA adapter

Open Save Read Write Pin Diagram EEPROM Return

```
00000000 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000010 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000020 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000030 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000040 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000050 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000060 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000070 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000080 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000090 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000A0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000B0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000C0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000D0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000E0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000F0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000100 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000110 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000120 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000130 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000140 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000150 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000160 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000170 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000180 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000190 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000001A0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000001B0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000001C0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000001D0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000001E0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000001F0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000200 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000210 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000220 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000230 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000240 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000250 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000260 FF FF FF FF FF FF FF FF FF FF FF FF FF FF
```

Device connecting

Reading data, please wait

Firmware:180317  
Start with the target board  
Detecting chip information  
Reading chip program memory  
Read chip program mem  
Start check data  
Data validation success  
Is off the power supply  
Power off is completed, t

CG100III

Reading succeeded

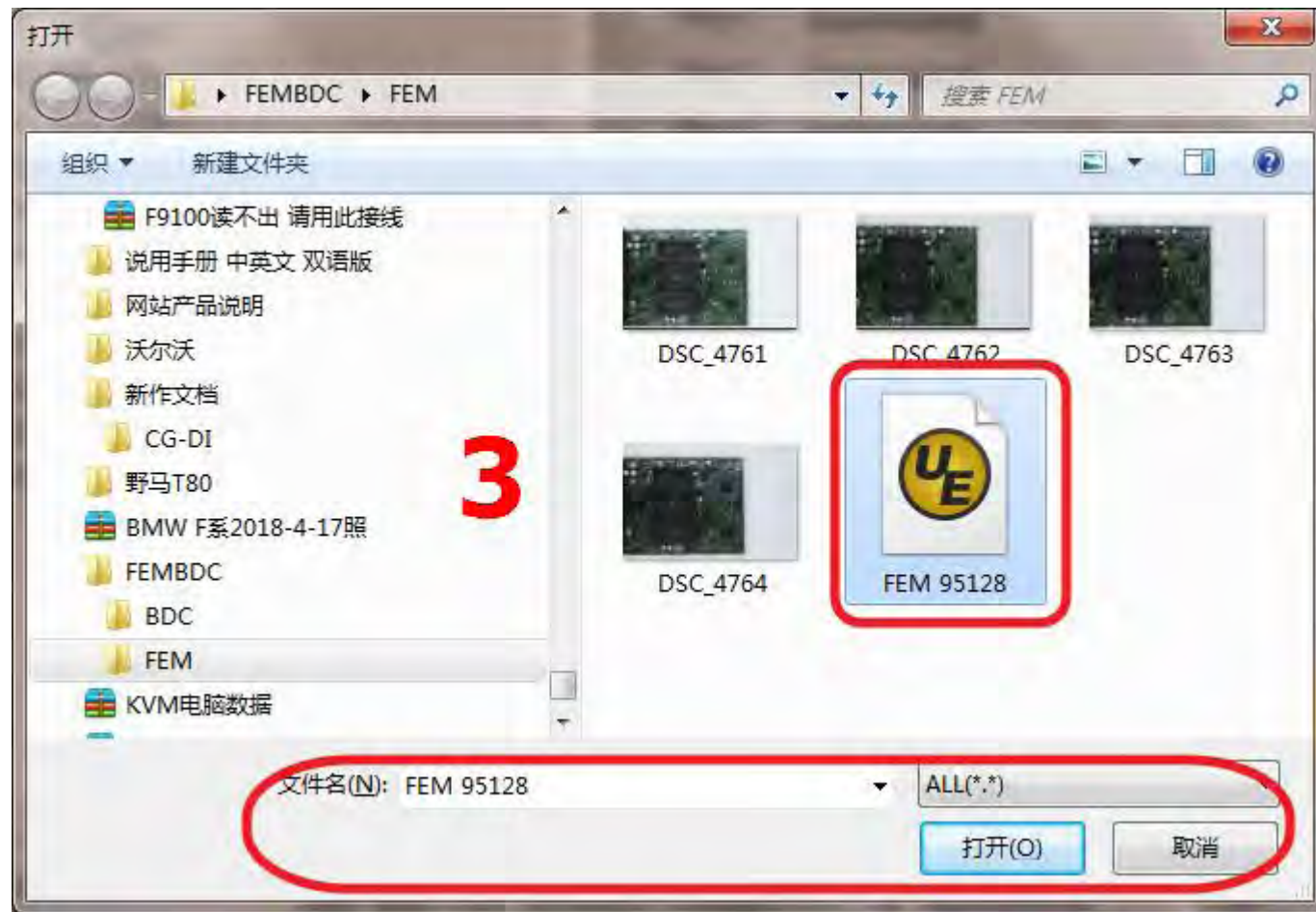
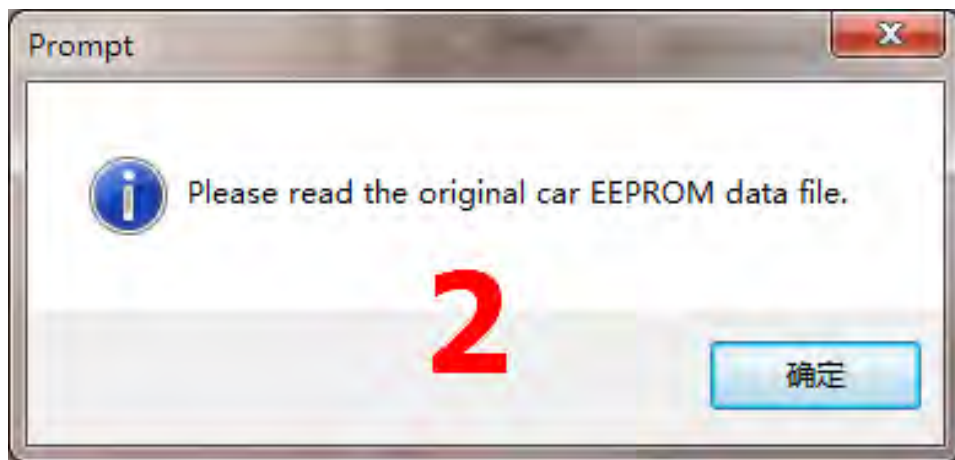
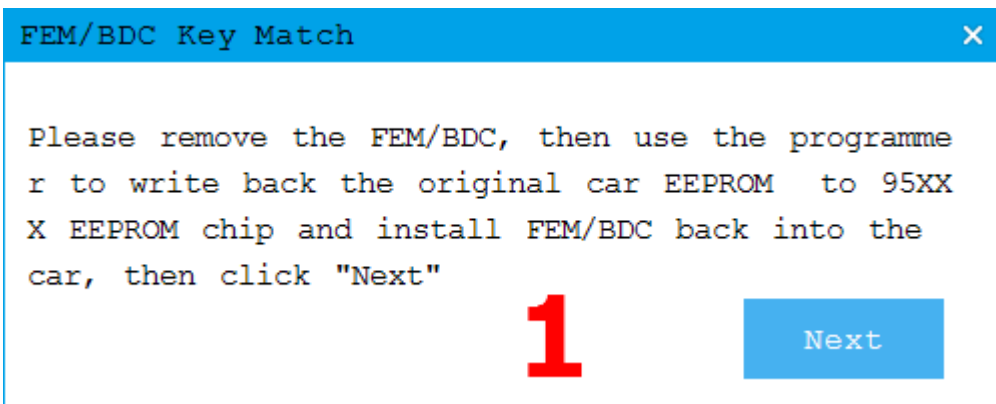
确定

Chip name: 95128  
Device ID: 95128  
Capacity: Eeprom:16384 Bytes

Turn On 12V Turn off 12V

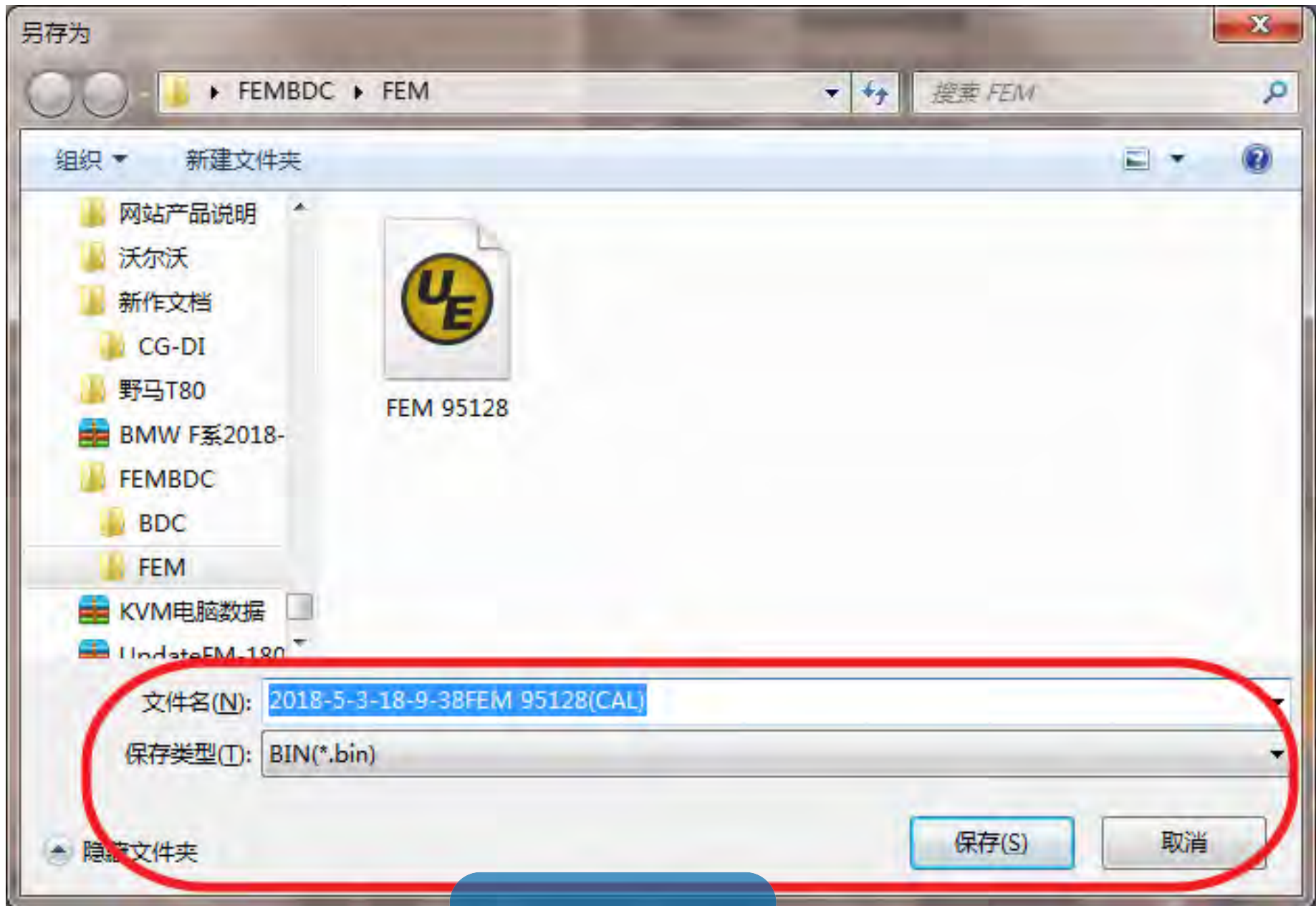
Open the CG-100 to read the data and save it





Go back to [cgdi](http://cgdi.obd2gate.com) and load the data





OBD2GATE

Load successfully, save the new data generated by the system

**FEM/BDC Key Match**

Use the programmer to write the calculated new data to the 95XXX EEPROM chip, then put the FEM/BD C back into the car, then click "Next"

**Next**

Open Save Read Write Pin Diagram EEPROM Return

```

00000000 01 01 FF 00 FF 05 07 05 00 05 FF FF 17 07 04 8F .....
00000010 04 D2 01 00 00 10 00 00 00 01 01 00 04 13 07 29 .....
00000020 8B 00 09 00 00 70 80 80 80 80 81 80 80 87 22 80 .....
00000030 04 0A 06 00 00 15 56 03 65 0A 08 00 00 15 5E 07 .....
00000040 66 0A 08 00 00 15 5F 00 03 1D FF FF FF FF FF FF .....
00000050 FF FF FF FF FF FF FF FF .....
00000060 FF FF FF FF FF FF FF FF .....
00000070 FF FF FF FF FF FF FF FF .....
00000080 FF FF FF FF FF FF FF FF .....
00000090 5F 00 03 1D FF FF FF FF .....
000000A0 FF FF FF FF FF FF FF FF .....
000000B0 FF FF FF FF FF FF FF FF .....
000000C0 FF FF FF FF FF FF FF FF .....
000000D0 FF FF FF FF FF FF FF FF .....
000000E0 FF FF FF FF FF FF FF FF .....
000000F0 FF FF FF FF FF FF FF FF .....
00000100 FF FF FF FF FF FF FF FF .....
00000110 FF FF FF FF FF FF FF FF .....
00000120 FF FF FF FF FF FF FF FF .....
00000130 FF FF FF FF FF FF FF FF .....
00000140 FF FF FF FF FF FF FF FF .....
00000150 FF FF FF FF FF FF FF FF .....
00000160 FF FF FF FF FF FF FF FF .....
00000170 0A 00 00 01 01 01 04 .....
00000180 C4 0D FF FF FF FF FF C4 .....
00000190 FF FF C4 0D 56 13 19 .....
000001A0 FF FF FF FF C4 0D FF .....
000001B0 FF FF FF FF 30 37 81 30 .....
000001C0 FF FF FF FF FF FF C5 41 .....
000001D0 42 00 00 00 08 0B E1 .....
000001E0 8E D8 7B 56 C4 0B FF .....
000001F0 1D 68 16 8A 4D 1D 91 .....
00000200 A8 C3 50 C3 50 61 A8 .....
00000210 A8 61 A8 61 A8 FF FF .....
00000220 FF C3 50 C3 50 FF FF .....
00000230 50 C3 50 FF FF FF FF 95 4E 00 11 00 01 84 A4 79 .....
00000240 A7 F6 01 EC 5C 1C AC E4 FF FF FF FF C4 0D FF FF .....
00000250 FF FF C4 0D FF FF FF FF C4 0D FF FF FF FF C4 0D .....
00000260 FF FF FF FF C4 0D FF FF FF FF C4 0D FF FF FF FF .....
00000270 C4 0D FF FF FF FF C4 0D FF FF FF FF C4 0D FF FF .....

```

Device connecting

The data is being downloaded, please wait

Firmware:180317  
Start with the target board  
Detecting chip information  
Writing chip program memory  
Write chip program memory  
Start check data  
Data validation success  
Is off the power supply  
Power off is completed, the

**CG100III**

Warning icon: Writing succeeded

确定

Chip name: 95128  
Device ID: 95128  
Capacity: Eeprom:16384 Bytes

Turn On 12V Turn off 12V

Write back new data with cg-100, weld back to module, and click next



FEM/BDC Key Match Feature version:000e

HWEL_00000792_000_004_010
HWAP_00000F26_255_255_255
HWAP_00000F2B_255_255_255
HWAP_00000F2C_255_255_255
HWAP_00000F2D_255_255_255
HWAP_00000F2E_255_255_255
HWAP_00000F30_255_255_255
HWAP_00000F32_255_255_255
HWAP_00001263_255_255_255
BTLD_00001556_003_102_030
SWFL_0000155E_016_112_010
SWFL_0000155F_000_003_029
CAFD_00000794_016_064_014

KeyInfo

- Key1
- Key2
- Key3
- Key4
- Key5
- Key6
- Key7
- Key8
- Key9
- Key10
- Key11
- Key12
- Key13
- Key14
- Key15

Generate dealer key

Restore Coding

Delete key

Enable key

Disable key

Mileage reset

Exit transport mode

Replace FEM/BDC

View help

ECU Info	Backup Coding success	VIN
VIN WBA1A12070VV26419	car battery voltage12.01V	ID
ECU type FEM	Prepare the programming ECU	Key Number
Mileage 0	Security authentication is in progress	Key Type
Remote frequency 315	Safety certification through	Key Frequency
Chassis F020	The ECU is being programmed	Key Status

FEM/BDC Key Match Feature version:000e

HWEL_00000792_000_004_010
HWAP_00000F26_255_255_255
HWAP_00000F2B_255_255_255
HWAP_00000F2C_255_255_255
HWAP_00000F2D_255_255_255
HWAP_00000F2E_255_255_255
HWAP_00000F30_255_255_255
HWAP_00000F32_255_255_255
BTLD_00001556_003_102_030
SWFL_0000155E_016_112_010
SWFL_0000155F_000_003_029
CAFD_00000794_016_064_014

KeyInfo

- Key1
- Key2
- Key3
- Key4
- Key5
- Key6
- Key7
- Key8
- Key9
- Key10
- Key11
- Key12
- Key13
- Key14
- Key15

Generate dealer key

Restore Coding

Delete key

Enable key

Disable key

Mileage reset

Exit transport mode

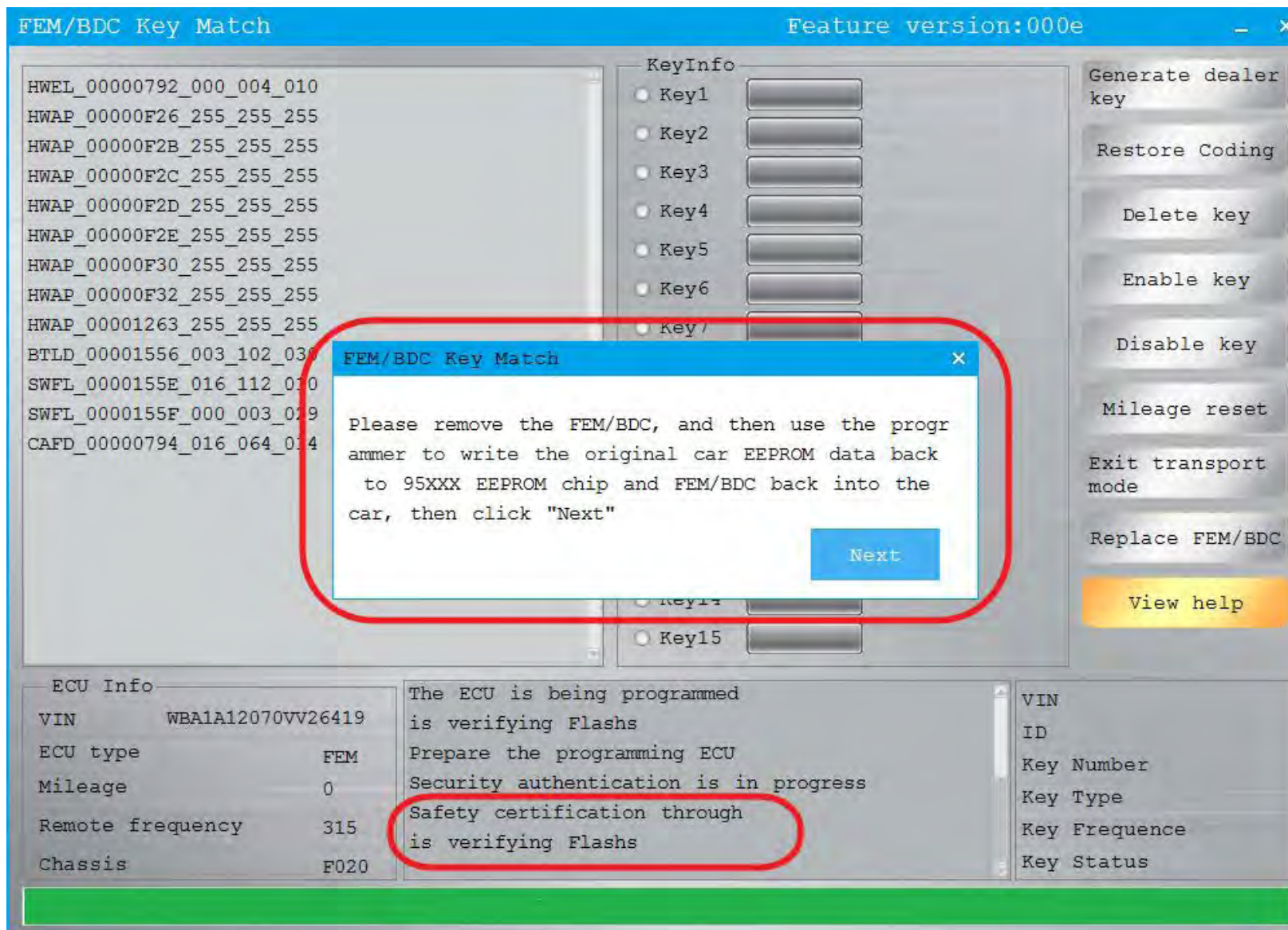
Replace FEM/BDC

View help

ECU Info	Backup Coding success	VIN
VIN WBA1A12070VV26419	car battery voltage12.01V	ID
ECU type FEM	Prepare the programming ECU	Key Number
Mileage 0	Security authentication is in progress	Key Type
Remote frequency 315	Safety certification through	Key Frequency
Chassis F020	The ECU is being programmed	Key Status

Waiting for programming





After programming, write back 95128 original data, put FEM into the car again, and click next

Open Save Read Write Pin Diagram EEPROM Return

```

00000000 01 01 FF 00 FF 05 07 05 00 05 FF FF 17 07 04 8F .....
00000010 04 D2 01 00 00 10 00 00 00 01 01 00 04 13 07 29 .....
00000020 8B 00 09 00 00 00 00 00 00 01 00 00 07 02 00 .....
00000030 04 0A 06 00 00 05 56 03 65 0A 08 00 00 15 5E 07 .....
00000040 66 0A 08 00 00 05 5E 00 03 1D FF FF FF FF FF FF f.....
00000050 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000060 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000070 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000080 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000090 5F 00 03 1D FF FF FF FF FF FF FF FF FF FF FF FF
000000A0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000B0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000C0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000D0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000E0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000000F0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000100 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000110 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000120 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000130 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000140 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000150 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000160 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000170 0A 00 00 01 01 01 00 00 00 00 00 00 00 00 00 00
00000180 C4 0D FF FF FF FF FF FF FF FF FF FF FF FF FF FF
00000190 FF FF C4 0D 56 03 19 00 00 00 00 00 00 00 00
000001A0 FF FF FF FF C4 0D FF FF FF FF FF FF FF FF FF
000001B0 FF FF FF 30 37 31 30 00 00 00 00 00 00 00 00
000001C0 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF
000001D0 42 00 00 00 08 0B E7 00 00 00 00 00 00 00 00
000001E0 8E D8 7B 56 C4 0B FF FF FF FF FF FF FF FF FF
000001F0 1D 68 16 8A 4D CD 91 00 00 00 00 00 00 00 00
00000200 A8 C3 50 C3 50 61 A8 00 00 00 00 00 00 00 00 00
00000210 A8 61 A8 61 A8 FF FF FF FF FF FF FF FF FF
00000220 FF C3 50 C3 50 FF FF FF FF FF FF FF FF FF FF
00000230 50 C3 50 FF FF FF FF FF 95 4E 00 11 00 01 84 A4 79 P.P.....N.....
00000240 A7 F6 01 EC 5C 1C AC E4 FF FF FF FF FF C4 0D FF FF .....
00000250 FF FF C4 0D FF FF FF FF C4 0D FF FF FF FF C4 0D .....
00000260 FF FF FF FF C4 0D FF FF FF FF C4 0D FF FF FF FF .....
00000270 C4 0D FF FF FF FF C4 0D FF FF FF FF C4 0D FF FF .....

```

Device connecting

The data is being downloaded, please wait

Firmware:180317  
Start with the target board  
Detecting chip information  
Writing chip program memory  
Write chip program mem  
Start check data  
Data validation success  
Is off the power supply  
Power off is completed, ti

CG100III

Writing succeeded

确定

Chip name: 95128  
Device ID: 95128  
Capacity: Eeprom:16384 Bytes

Turn On 12V Turn off 12V

Use CG-100 to write back **OBD2GATE** original data



## FEM/BDC Key Match

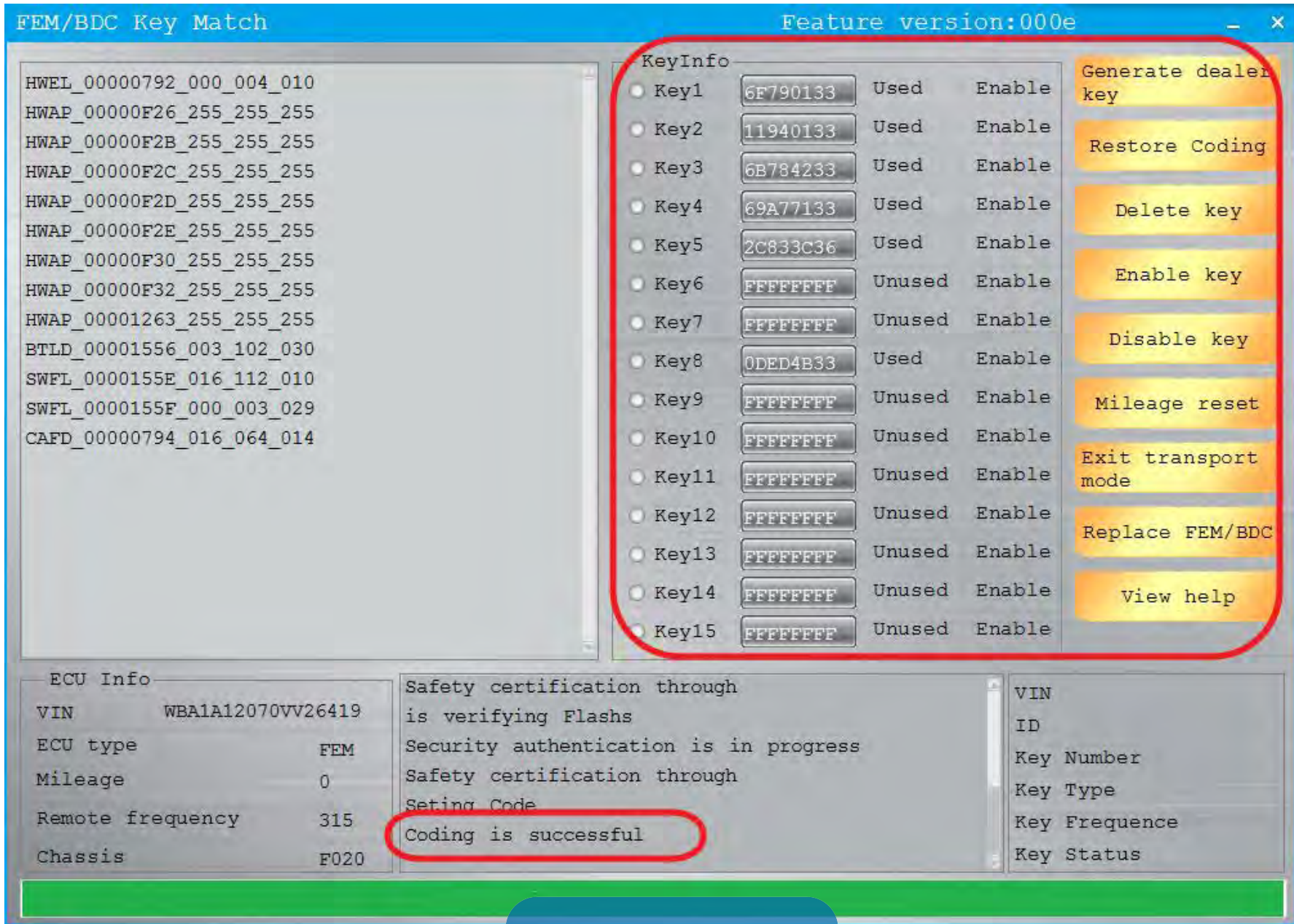


Please remove the FEM/BDC, and then use the programmer to write the original car EEPROM data back to 95XXX EEPROM chip and FEM/BDC back into the car, then click "Next"

Next

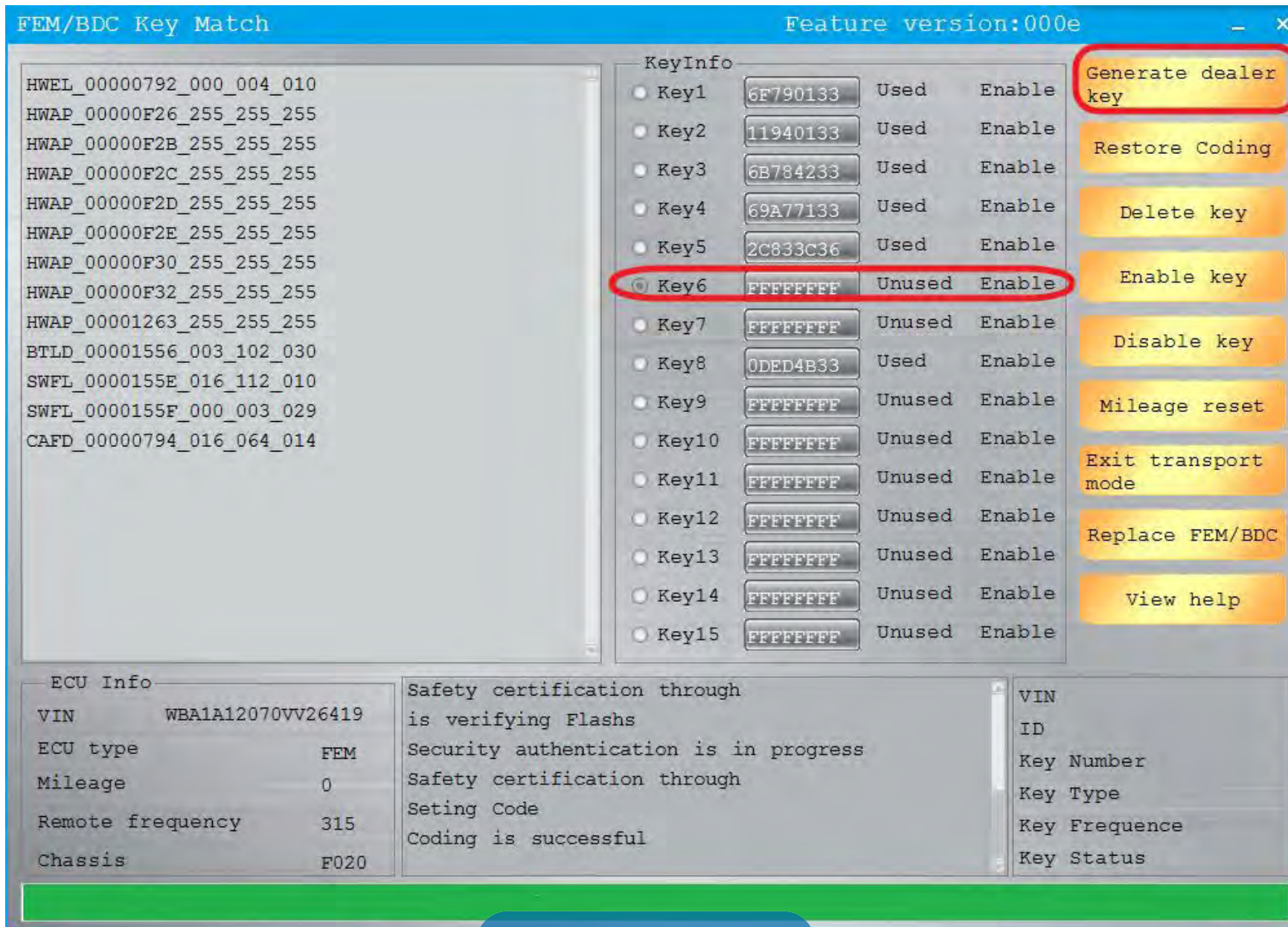
When finished, click "next"





Set code successfully, customers can do any operation

# Copy key with key



choose the unused key, and click "generate the dealer key"



## FEM/BDC Key Match



FEM/BDC key matching need to enter engine ISN,  
please select the way of input ISN code

Read Working Key

With the engine data, the next step is to load the engine data

Manually input known ISN

Next


Read working key, click Next

FEM/BDC Key Match

Keep the original car key near the key sensor area below the steering wheel



Prompt

 password:81E627FE72056F4990CAC4E8977A3450  
ISN:92118CBB8309E7A22AA2280D832125AF  
Key Sync Code:3D5A8A0419D4BFCB  
DME ISN:AF4B06BF9ADD586917F8A2099AF59A64

确定

Read successfully and display information

OBD2GATE.com

FEM/BDC Key Match



Keep the new key near the key sensor area below  
the steering wheel

Next



Match the new key

OBD2GATE  
.com



FEM/BDC Key Match Feature version:000e

KeyInfo	Key	Status	Control
<input type="radio"/> Key1	6F790133	Used	Enable
<input type="radio"/> Key2	11940133	Used	Enable
<input type="radio"/> Key3	6B784233	Used	Enable
<input type="radio"/> Key4	69A77133	Used	Enable
<input type="radio"/> Key5	2C833C36	Used	Enable
<input checked="" type="radio"/> Key6	969A7133	Used	Enable
<input type="radio"/> Key7	FFFFFFFF	Unused	Enable
<input type="radio"/> Key8	0DED4B33	Used	Enable
<input type="radio"/> Key9	FFFFFFFF	Unused	Enable
<input type="radio"/> Key10	FFFFFFFF	Unused	Enable
<input type="radio"/> Key11	FFFFFFFF	Unused	Enable
<input type="radio"/> Key12	FFFFFFFF	Unused	Enable
<input type="radio"/> Key13	FFFFFFFF	Unused	Enable
<input type="radio"/> Key14	FFFFFFFF	Unused	Enable
<input type="radio"/> Key15	FFFFFFFF	Unused	Enable

Generate dealer key  
Restore Coding  
Delete key  
Enable key  
Disable key  
Mileage reset  
Exit transport mode  
Replace FEM/BDC  
View help

ECU Info	Log	Details
VIN: WBA1A12070VV26419	The key is being program	VIN: WBA1A12070VV26419
ECU type: FEM	program key successful	ID: 969A7133
Mileage: 0	The key is being program	Key Number: 05
Remote frequency: 315	program key successful	Key Type: 5
Chassis: F020	The key is being program	Key Frequency: 315
	program key successful	Key Status: blank


  
**The new key matched successfully**

# Copy key without key

**Using CG – 100**  
**Read the engine data**





9S12Das



AtmelDas



AirBag



ECU



BCM



UniProg



AMP

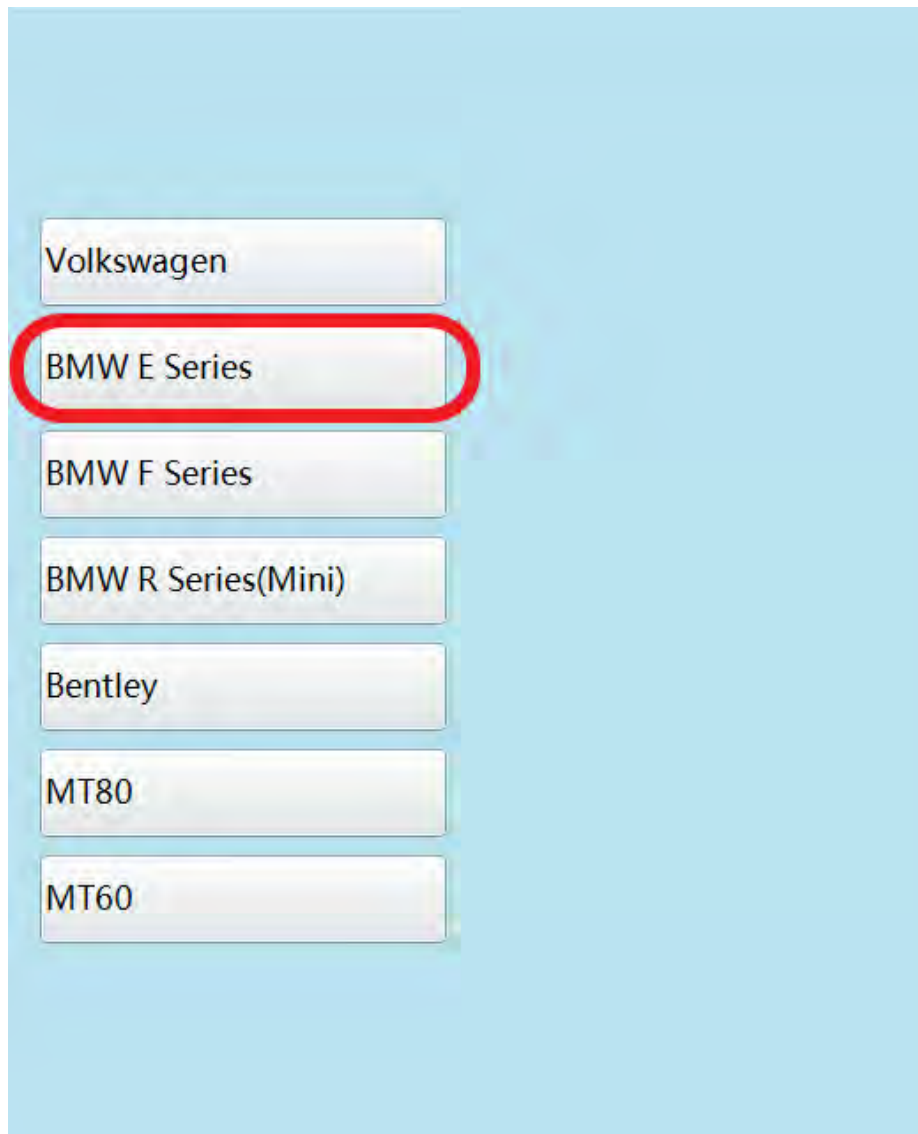


Setting



Other functions

Click to enter "ECU"  
OBD2GATE.com



Click on the engine model **OBDR2GATE** enter the current vehicle



ISN:

VIN:

Please use the new adapter

Fullscreen

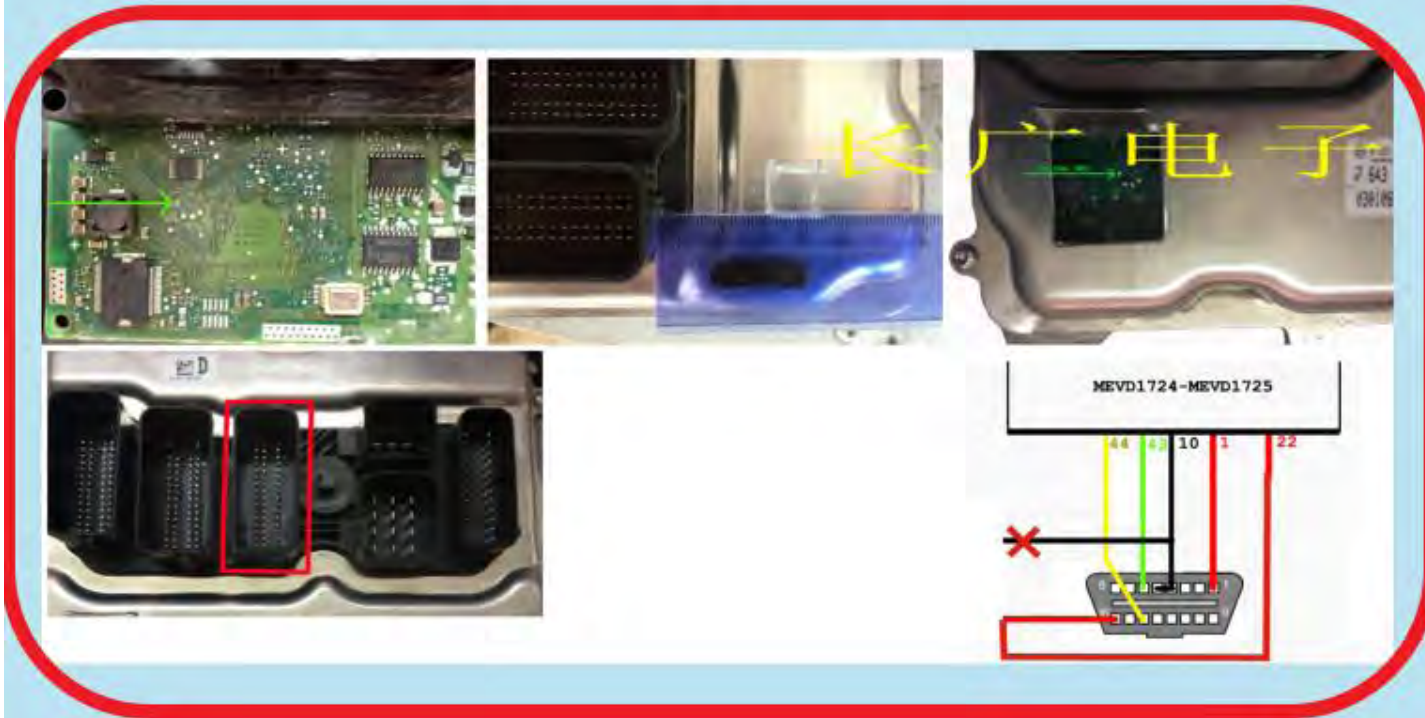
Return

Read EEPROM

Write EEPROM

Read FLASH

Write FLASH



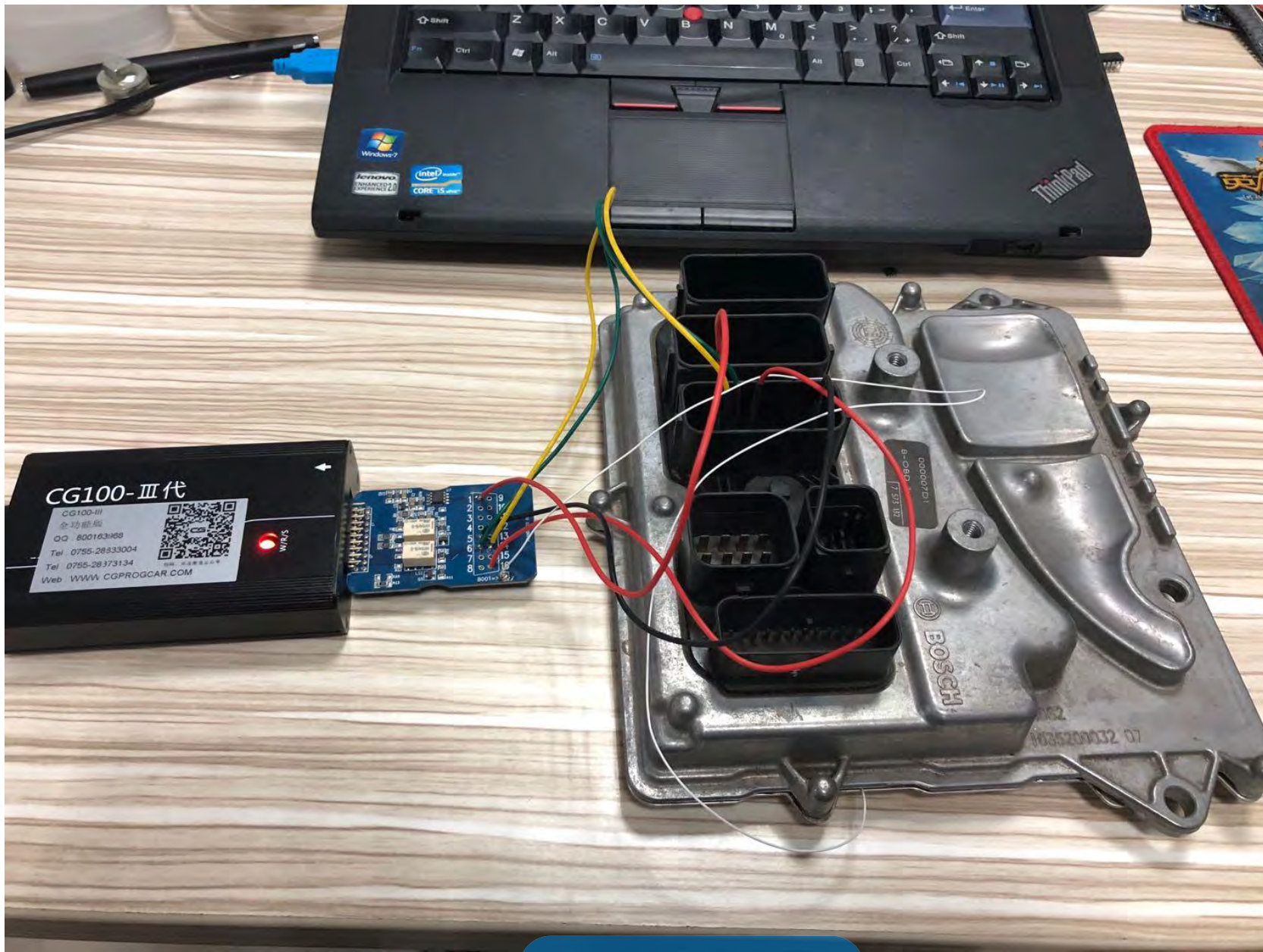
Picture:

CAN Diagram

Wiring Diagram 1

According to the software physical wiring diagram wiring





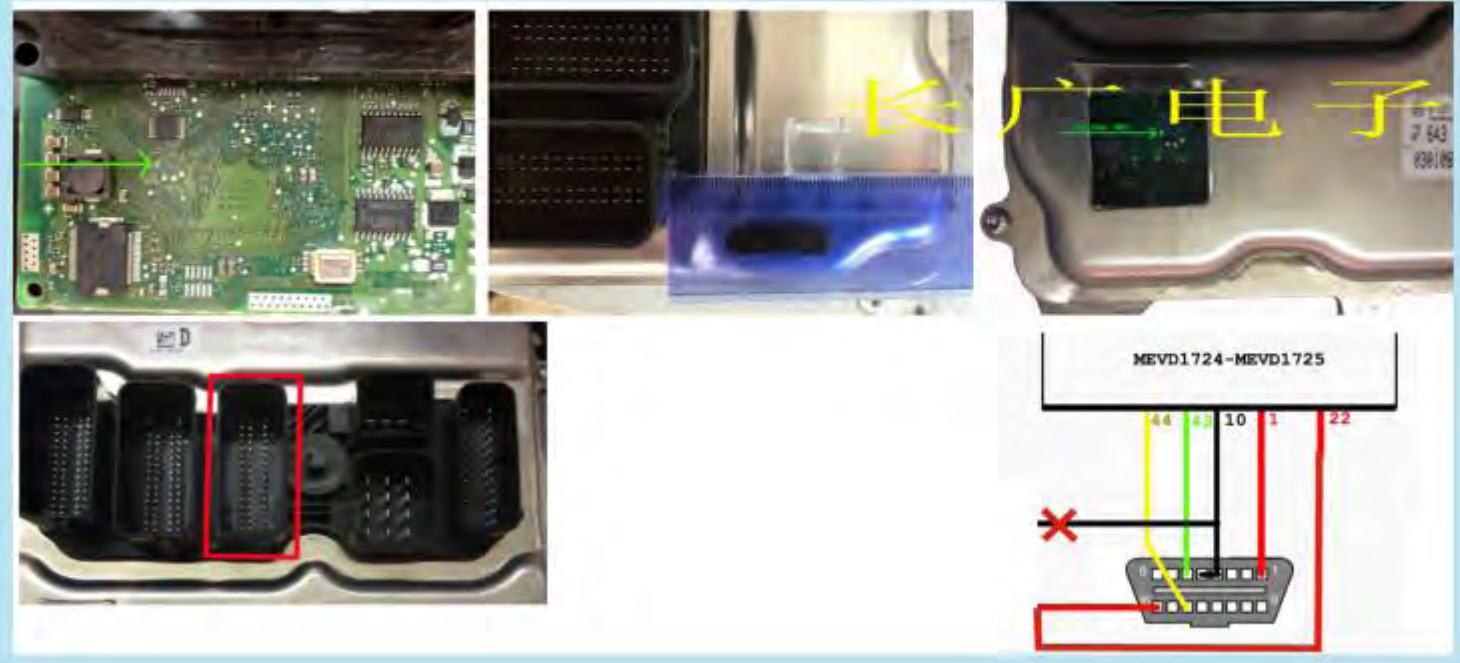
Physical **OBD2GATE** connection  
.com

ISN:   
VIN:

Please use the new adapter

Fullscreen Return

- Read EEPROM
- Write EEPROM
- Read FLASH
- Write FLASH



- Picture:
- CAN Diagram
  - Wiring Diagram 1

Click **OB2GATE** **EEPROM**  
.com



ISN:

VIN:

Please use the new adapter

Fullscreen Return

Read EEPROM

Write EEPROM

Read FLASH

Write FLASH

Picture:

CAN Diagram

Wiring Diagram 1

Device connecting

Reading data, please wait

Start initialize access data memory  
Checking the status of the Flash  
Reading chip data memory  
Reading chip program memory  
Is off the power supply  
Power off is completed, t

CG100III

Reading succeeded

确定

Read successfully and save the data



ISN: AF4B06BF9ADD586917F8A2099AF59A64  
VIN: SCBFN63W1EC094039

Please use the new adapter

Fullscreen Return

- Read EEPROM
- Write EEPROM
- Read FLASH
- Write FLASH



Picture:  
CAN Diagram  
Wiring Diagram 1

FEM/BDC Key Match Feature version:000e

Key	KeyInfo	Status	Enable
Key1	6F790133	Used	Enable
Key2	11940133	Used	Enable
Key3	6B784233	Used	Enable
Key4	69A77133	Used	Enable
Key5	2C833C36	Used	Enable
Key6	969A7133	Used	Enable
<b>Key7</b>	<b>FFFFFFFF</b>	Unused	Enable
Key8	0DED4B33	Used	Enable
Key9	FFFFFFFF	Unused	Enable
Key10	FFFFFFFF	Unused	Enable
Key11	FFFFFFFF	Unused	Enable
Key12	FFFFFFFF	Unused	Enable
Key13	FFFFFFFF	Unused	Enable
Key14	FFFFFFFF	Unused	Enable
Key15	FFFFFFFF	Unused	Enable

Buttons: Generate dealer key, Restore Coding, Delete key, Enable key, Disable key, Mileage reset, Exit transport mode, Replace FEM/BDC, View help

ECU Info		VIN	
VIN	WBA1A12070VV26419	VIN	WBA1A12070VV26419
ECU type	FEM	ID	969A7133
Mileage	0	Key Number	05
Remote frequency	315	Key Type	5
Chassis	F020	Key Frequency	315
		Key Status	blank

Log: The key is being program program key successful

Return to cg-di, select unused key bits, and click "generate dealer keys"

## FEM/BDC Key Match



FEM/BDC key matching need to enter engine ISN,  
please select the way of input ISN code

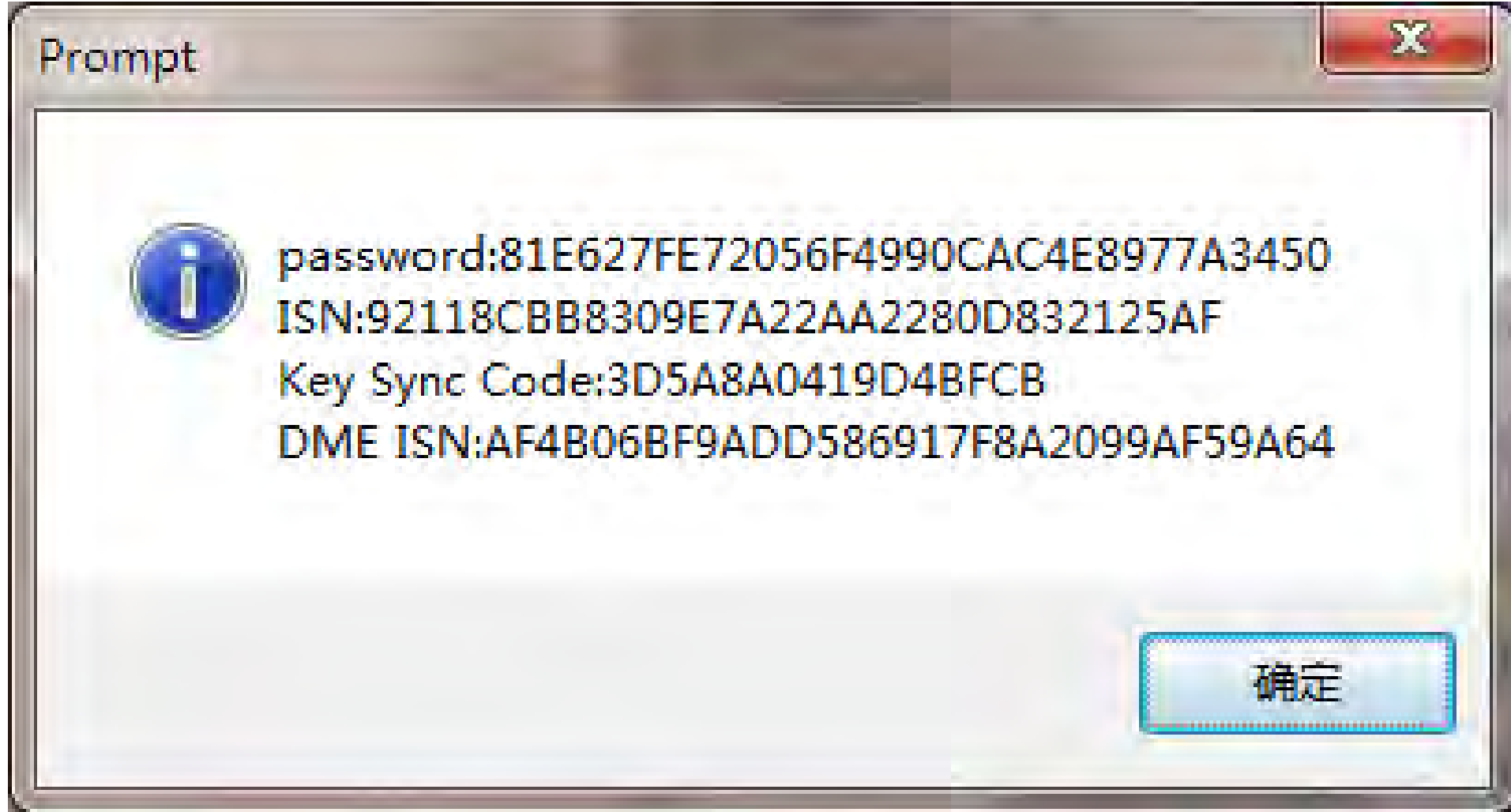
- Read Working Key
- With the engine data, the next step is to load the engine data
- Manually input known ISN

AF4B06BF9ADD586917F8A2099AF59A64

Next

Click on the next item that you select and click next  
(Manually input known ISN)





Check the information and click ok

FEM/BDC Key Match Feature version:000e

KeyInfo	Key	Used	Enable
<input type="radio"/> Key1	6F790133	Used	Enable
<input type="radio"/> Key2	11940133	Used	Enable
<input type="radio"/> Key3	6B784233	Used	Enable
<input type="radio"/> Key4	69A77133	Used	Enable
<input type="radio"/> Key5	2C833C36	Used	Enable
<input type="radio"/> Key6	969A7133	Used	Enable
<input checked="" type="radio"/> Key7	FFFFFFF	Unused	Enable
<input type="radio"/> Key15	FFFFFFF	Unused	Enable

Generate dealer key  
Restore Coding  
Delete key  
Enable key  
Disable key  
Mileage reset  
Exit transport mode  
Replace FEM/BDC  
View help

Keep the new key near the key sensor area below the steering wheel

ECU Info	program key successful	VIN
VIN WBA1A12070VV26419	The key is being program	ID 00000000
ECU type FEM	program key successful	Key Number 03
Mileage 0	The key is being program	Key Type 0
Remote frequency 315	program key successful	Key Frequency 0
Chassis F020	The key is being program	Key Status blank



Place **OBD2GATE** new key.com

FEM/BDC Key Match Feature version:000e

KeyInfo	Key	Status	Action
<input type="radio"/> Key1	6F790133	Used	Enable
<input type="radio"/> Key2	11940133	Used	Enable
<input type="radio"/> Key3	6B784233	Used	Enable
<input type="radio"/> Key4	69A77133	Used	Enable
<input type="radio"/> Key5	2C833C36	Used	Enable
<input type="radio"/> Key6	969A7133	Used	Enable
<input checked="" type="radio"/> Key7	D148EA35	Used	Enable
<input type="radio"/> Key8	0DED4B33	Used	Enable
<input type="radio"/> Key9	FFFFFFFF	Unused	Enable
<input type="radio"/> Key10	FFFFFFFF	Unused	Enable
<input type="radio"/> Key11	FFFFFFFF	Unused	Enable
<input type="radio"/> Key12	FFFFFFFF	Unused	Enable
<input type="radio"/> Key13	FFFFFFFF	Unused	Enable
<input type="radio"/> Key14	FFFFFFFF	Unused	Enable
<input type="radio"/> Key15	FFFFFFFF	Unused	Enable

ECU Info

VIN	WBA1A12070VV26419
ECU type	FEM
Mileage	0
Remote frequency	315
Chassis	F020

program key successful  
 The key is being program  
 program key successful  
 The key is being program  
The key is being program  
 program key successful

VIN WBA1A12070VV26419  
 ID D148EA35  
 Key Number 06  
 Key Type 5  
 Key Frequency 315  
 Key Status blank

Generate dealer key  
 Restore Coding  
 Delete key  
 Enable key  
 Disable key  
 Mileage reset  
 Exit transport mode  
 Replace FEM/BDC  
 View help

**OBD2GATE**  
New key programming success