

# ArtiPad I

## BENZ\BMW ONLINE PROGRAMMING

# PROGRAMMING/CODING/INITIALIZATION

**Programming** : When a new ECU is replaced the empty eeprom needs to be reprogrammed to enable the new ECU to work properly. Generally this can't be reversed.

**Coding** : When a new ECU is replaced the software inside eeprom needs to be activated or matched. Generally you can do this many times.

**Initialization** : Resets the initial memory values of the ECU to the actuator.

## **Notice:**

Always run coding first. If coding does not work then you must run programming. After the programming has finished you must run the coding. After you do them both initialized car as required.

# Precautions for Coding and Programming

- Turn off the engine before programming. Turn on the ignition only. After the programming is finished turn off the ignition for 30 seconds then turn back on again.
- Ensure that voltage is stabilised above 12.6V, using a good quality battery support unit.
- Ensure adequate power supply of the ArtiPad I. Ensure the connection between the ArtiPad I and the VCI is stable with USB. Do not unplug the USB cable whilst programming.
- Shut down all the in-vehicle electrical equipment, like air conditioning lights, wipers and radio.
- Read carefully each step tips. Strictly follow all the prompts. Do not sit in the car whilst programming and do not turn on any electrical equipment.

# What situation you should coding or programming

- 1. Replacing a new ECU. (Coding first, if ECU is still not working then run the coding after the programming.)
- 2. Updating ECU's. Some ECU's have bugs so it will cause some errors that can be difficult to repair. (BMW 2889 DME intake valve, carbon deposition and some of F series machine oil lamps can not be zero)
- 3. If the software is damaged in the ECU(Hardware normal) using the programming can make it fix the issue.
- 4. Usually you just need coding when replacing a second-hand ECU.(Some modules can't use second-hand ECU)

# What to do if the programming freezes

You can't read or clear fault codes (including using original equipment) if the programming freezes. But the hardware is not damaged and you can still go into the menu.

Remove the battery for 10 mins and run programming again.

If you tried all above but still not working please contact us.

# For programming BENZ

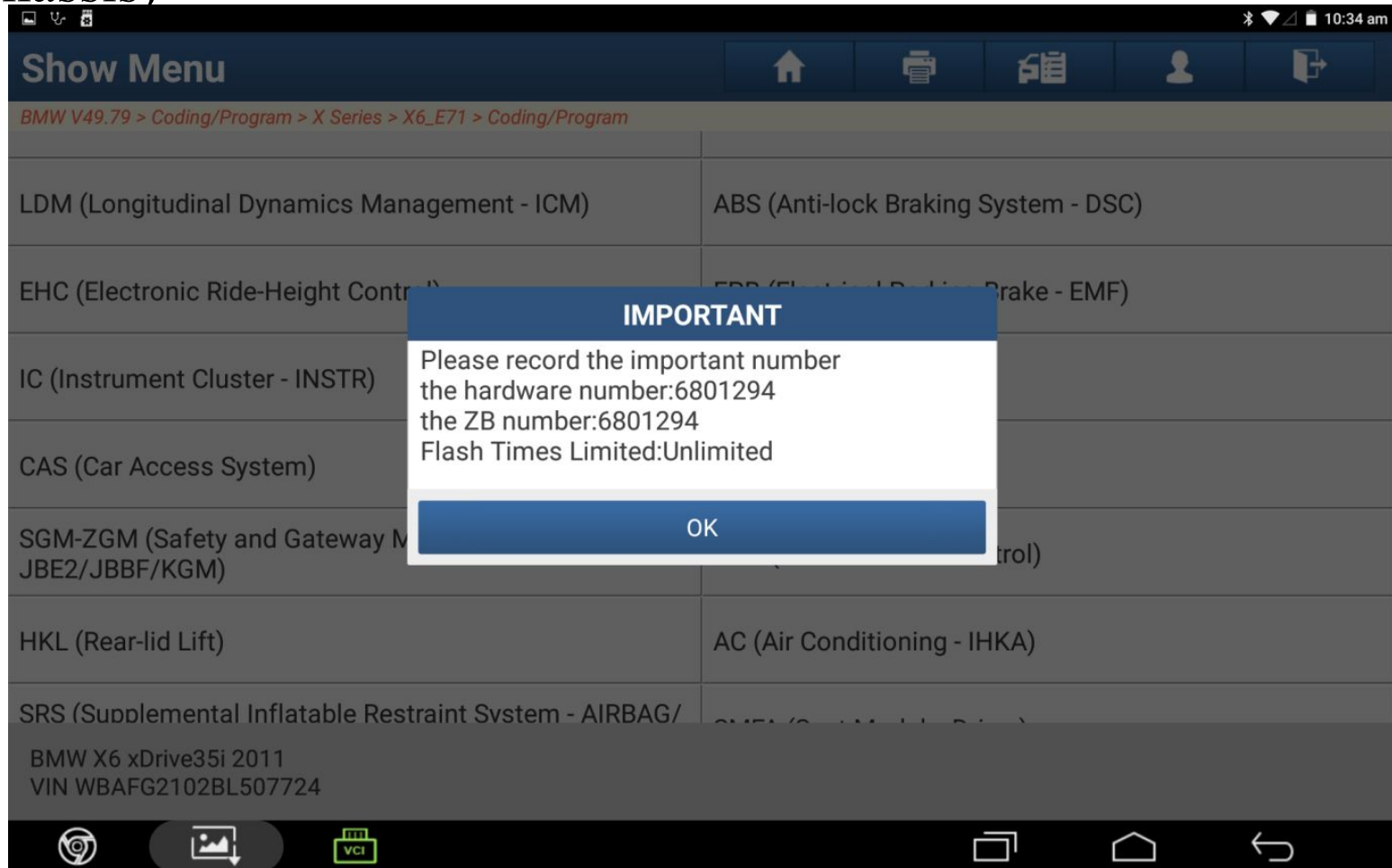
1. Please unplug the electric fans in order to keep the voltage steady before programming. This is because the fans will turn on while programming.

# Notice for BMW

1. Please use the supplied programming cable and ethernet cable to program the BMW F series.

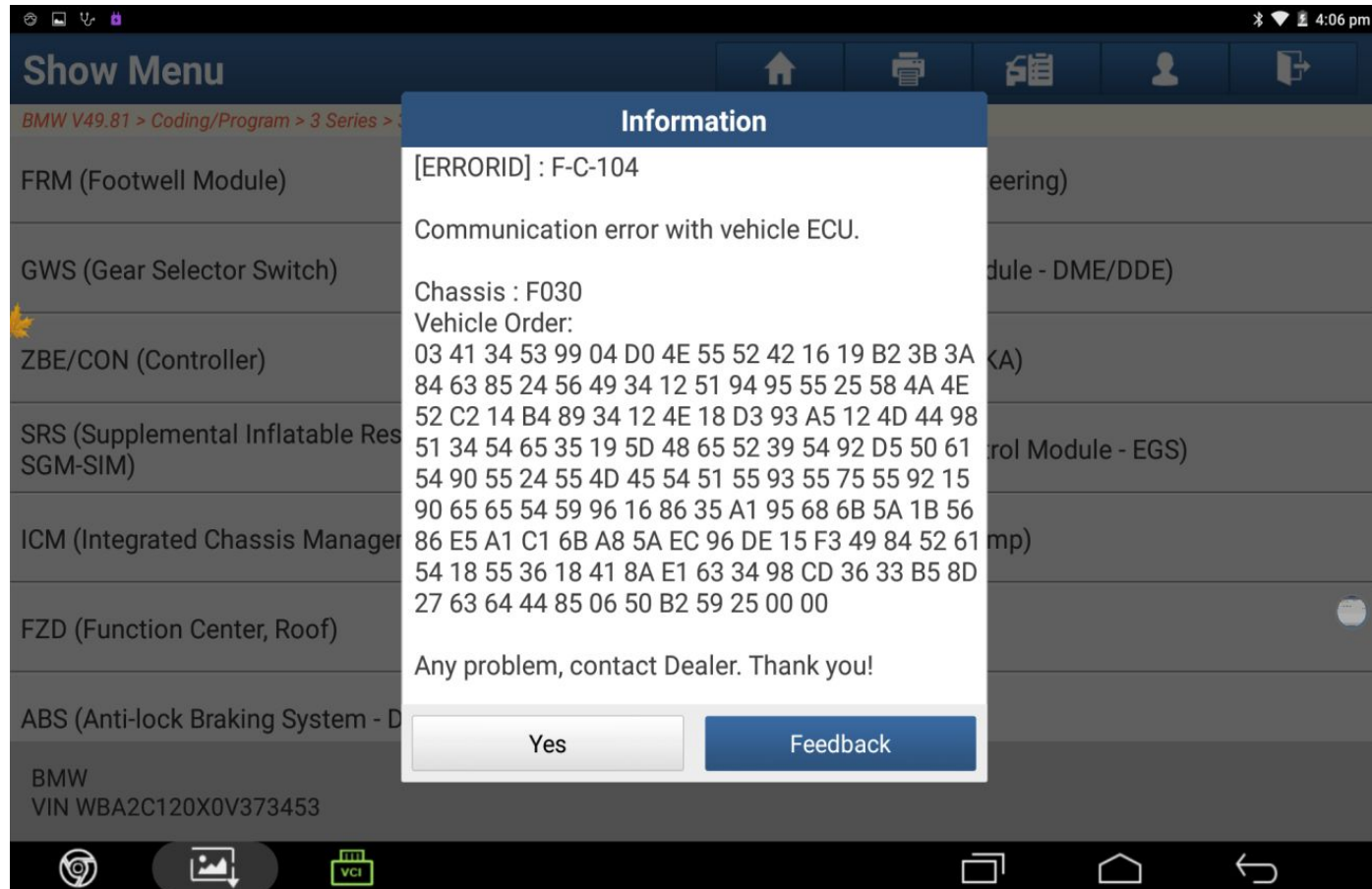


2. Please take a record of the data on the screen whilst programming. It will be useful if the programming fails.(E series chassis)





3. Please upload diagnostic feedback to us if the programming is interrupted and contact us in good time.



4. You must choose an option below when programming.

10:48 am

## Select Data Stream

BMW V49.79 > Coding/Program > X Series > X3\_F25 > Coding/Program

<input type="checkbox"/> Car Access System (CAS) has been replaced	<input type="checkbox"/> Central Gateway (ZGW) and Car Access System (CAS) haven't been replaced
<input checked="" type="checkbox"/> Central Gateway (ZGW) has been replaced	

1 / 3

BMW  
VIN WBAKS420800J45629

Select All Unselect Confirm

## 5. You must choose all files marked by “\*” when programming.

**Please Choose**

BMW V49.79 > Coding/Program > X Series > X3\_F25 > Coding/Program

Please Choose

Select the file to be refreshed, the (\*) is the required refresh file, the CAFD won't be included in the selection. Do not select the other documents if unnecessary.

- 1.\*BTLD-000019EE-005-000-001 <Selected (Select again to cancel the selection)>
- 2.\*SWFL-000019EF-005-004-001 <Selected (Select again to cancel the selection)>
- 3.\*SWFL-000019F0-005-004-001 <Selected (Select again to cancel the selection)>
- 4.\*SWFL-000019F1-105-006-001 <Selected (Select again to cancel the selection)>
- 5.\*CAFD-00001162-005-002-000 <Selected (Select again to cancel the selection)>

Selected option: 1 2 3 4 5

**NEXT**

BMW  
VIN WBAKS420800J45629

6. If none of files have an “\*” mark then this car does not need programming, it just needs coding.

The screenshot shows a mobile application interface for BMW diagnostics. At the top, a status bar displays various icons and the time 4:19 pm. Below this is a blue header bar with the text "Please Choose" and five navigation icons: a home icon, a printer icon, a list icon, a user icon, and a share icon. A yellow breadcrumb trail reads "BMW V49.81 > Coding/Program > 7 Series > 7\_F01/F02/F03/F04 > Coding/Program". The main content area has a grey header with "Please Choose" and a section titled "FZD (Function Center, Roof)". Below this is a text instruction: "Select the file to be refreshed, the (\*) is the required refresh file, the CAFD won't be included in the selection. Do not select the other documents if unnecessary." A list of four file names follows: "1.BTLD-00000A6B-001-000-000", "2.SWFL-00000555-001-038-001", "3.CAFD-00000552-001-034-001", and "4.CAFD-00000553-001-045-001". Below the list is a "Selected option:" label and a blue button labeled "NEXT". At the bottom, a grey bar displays "BMW" and "VIN WBA2C120X0V373453". The very bottom is a black navigation bar with icons for a camera, image gallery, VCI (Vehicle Communication Interface) module, and other navigation controls.

BMW V49.81 > Coding/Program > 7 Series > 7\_F01/F02/F03/F04 > Coding/Program

Please Choose

FZD (Function Center, Roof)

Select the file to be refreshed, the (\*) is the required refresh file, the CAFD won't be included in the selection. Do not select the other documents if unnecessary.

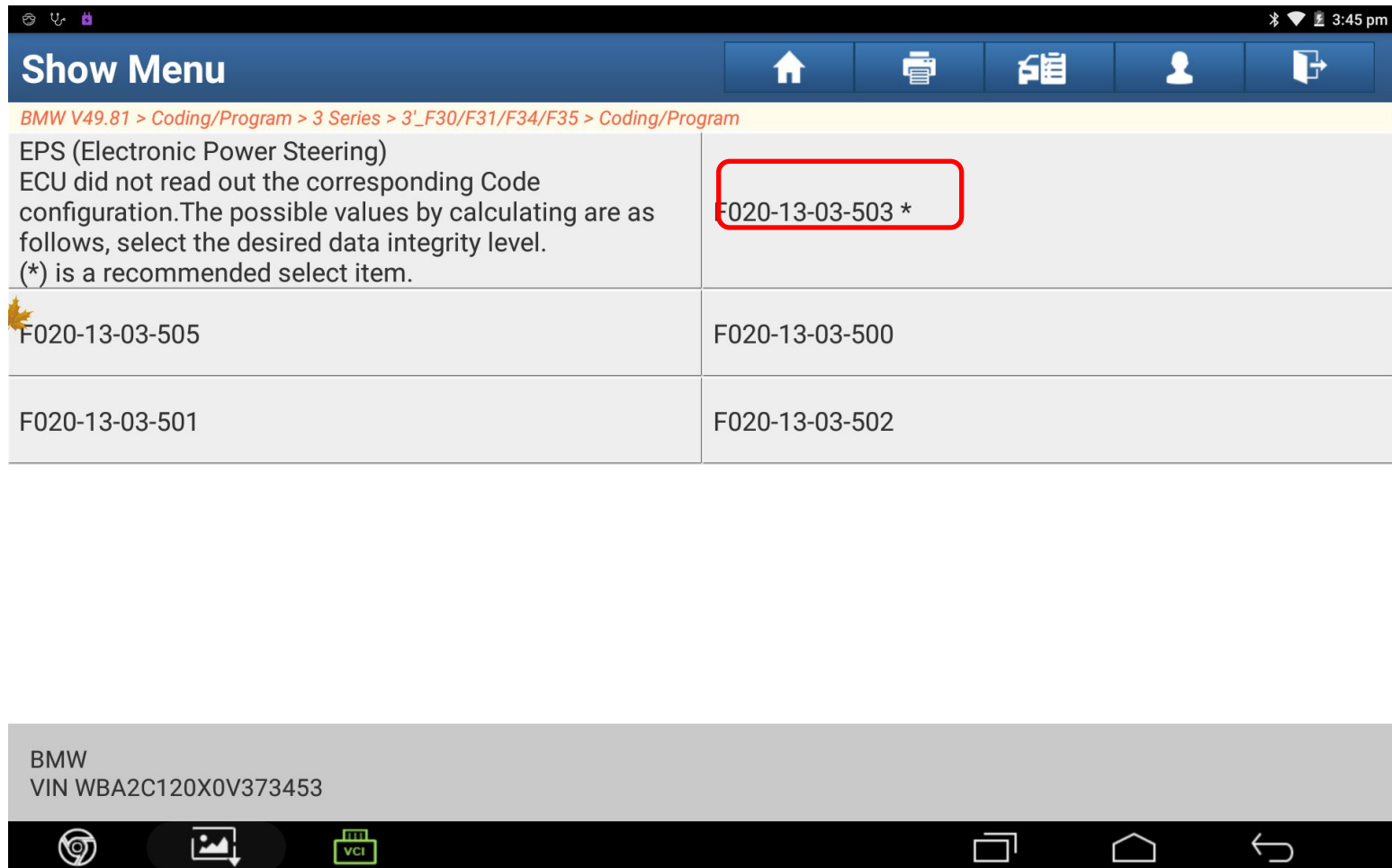
- 1.BTLD-00000A6B-001-000-000
- 2.SWFL-00000555-001-038-001
- 3.CAFD-00000552-001-034-001
- 4.CAFD-00000553-001-045-001

Selected option:

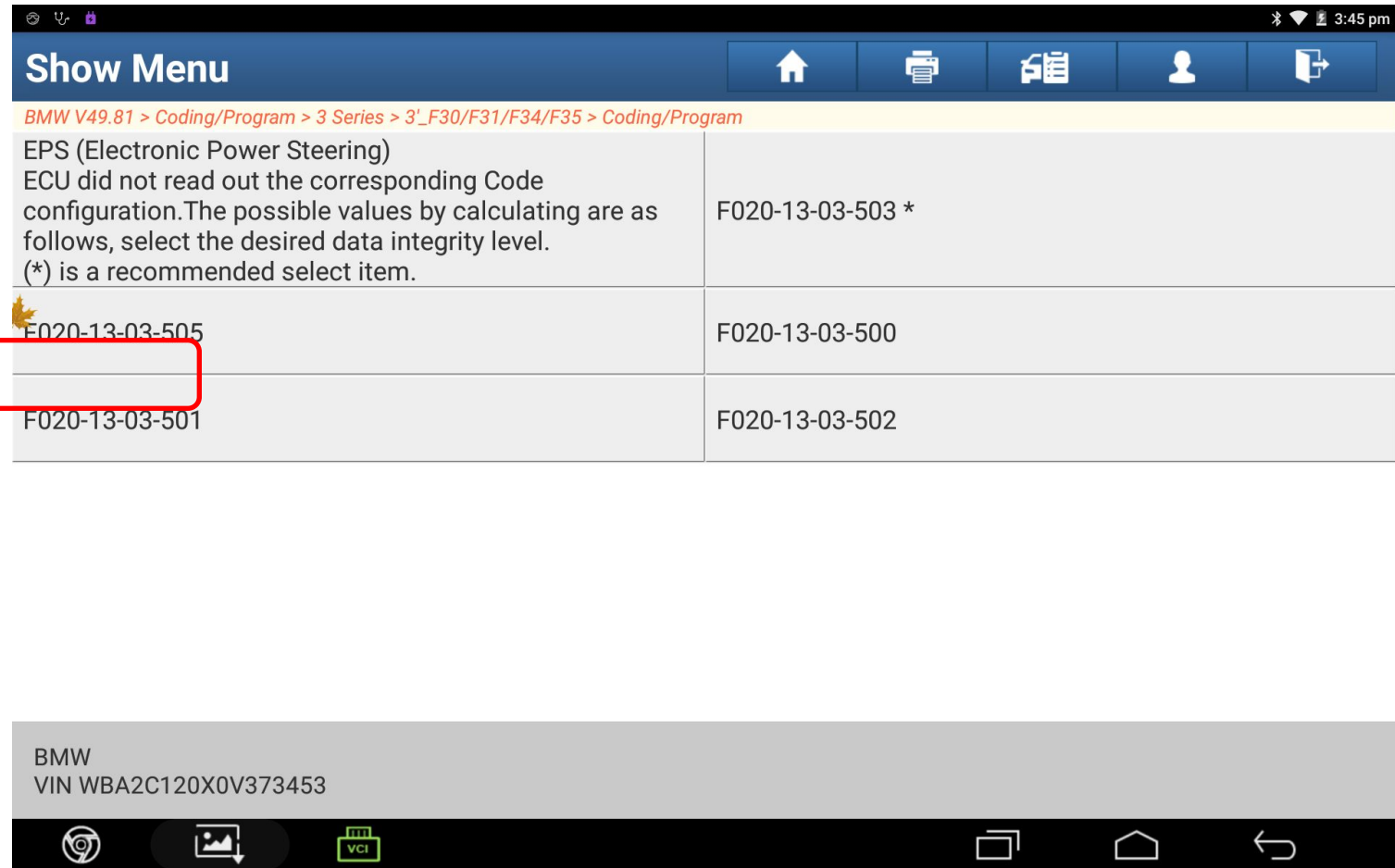
NEXT

BMW  
VIN WBA2C120X0V373453

7. When coding the software will prompt you to pick a configuration manually if it does not recognise any configuration inside. You should choose all files marked by (\*).



8. If you cannot find any files with an (\*) mark , then please choose the newest version. **F020-13-07-505 this one in picture.**



9. After you have finished programming and coding please read the fault codes one more time. Follow the fault code to adjust special functions.

e.g. When FRM programming has been done you should initialize the electric windows. If you do not find any fault codes and each warning light is normal then programming has been successful. If any warning lights are on but no fault codes are present then you should road test the vehicle then then lights will turn off.

# Second-hand ECU Programming

- You should clear all data to program BENZ second-hand ECU when related to anti-theft system. Like engine, gearbox, ISM, ELV in BENZ 221.
- ABS/ESP in BENZ second-hand ECU you should write VIN before programming.
- The second-hand BENZ airbag programming need unlock it first, then write VIN, programming at last like 204.
- We can only copy data for gearbox or CAS which carry on some anti-theft data instead of programming them.
- Coding is fine for some second-hand ECU don't contain any anti-theft data.



# BENZ Second-hand Engine ECU Programming

Data Stream

MERCEDES V48.81 > Automatically Search

Name	Value	Unit	
270 Drive authorization INITIALIZED	YES		
272 Drive authorization PERSONALIZED	NO		
273 Drive authorization ACTIVATED	NO		
275 Drive authorization Start enable	NO		

(1 / 1)

Mercedes  
VIN WDDNG5EB5AA300370

Graph Report Record Help

Show Menu

MERCEDES V48.81 > Automatically Search

Version Information Read Fault Code

Clear Fault Memory

Actuation Test

Initial startup

Control unit Programming

SCN CODING

Mercedes  
VIN WDDNG5EB5AA300370

**Control unit Programming**

New control unit software versions are available for the following control units:

MB object number: 0034467740  
Current control unit software version:  
0094489240,2729033000  
No newer control module software was found.

OK

No need to program.

# **BMW/BENZ Coding Programming Examples**

# **BMW X5(E71) Replace FRM Online Programming**



# BMW Programming Procedure

- Use the USB cable to connect the ArtiPad with the F Series adapter and connect to the network cable. Then plug connector to OBD and turn on the ignition (do not start the engine).
- Choose “online programming”
- Confirm module and chassis
- Choose “coding/programming” confirm chassis model again
- Choose “programming”
- Confirm module with vehicle configuration data to see if changed or not (like CAS and FRM)
- Choose system you want to program (like FRM)
- Download programming file from server
- Start programming
- Finish programming then coding
- After programming and coding please make a quick test of the car. Then follow the fault codes to initialize special functions.

# BMW FRM Damage Situations

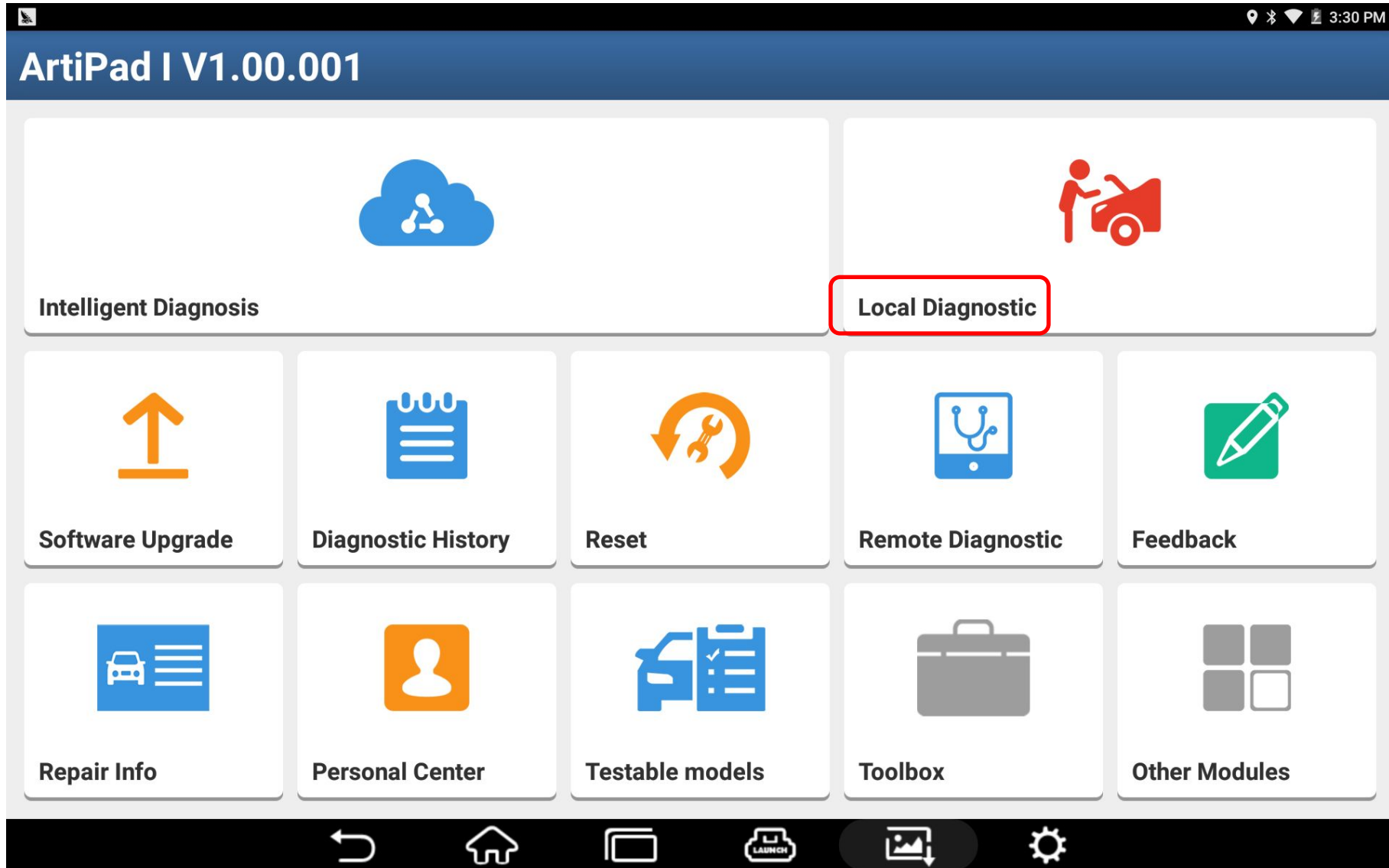
- \* FRM modules can easily be damaged if the battery voltage has been unstable. ALWAYS USE A BATTERY SUPPORT UNIT
- \* Damage after the programming:
- Lights abnormal such as headlights and tail lamps always bright or the switch doesn't work
- Electric power windows not working.

## **Solution:**

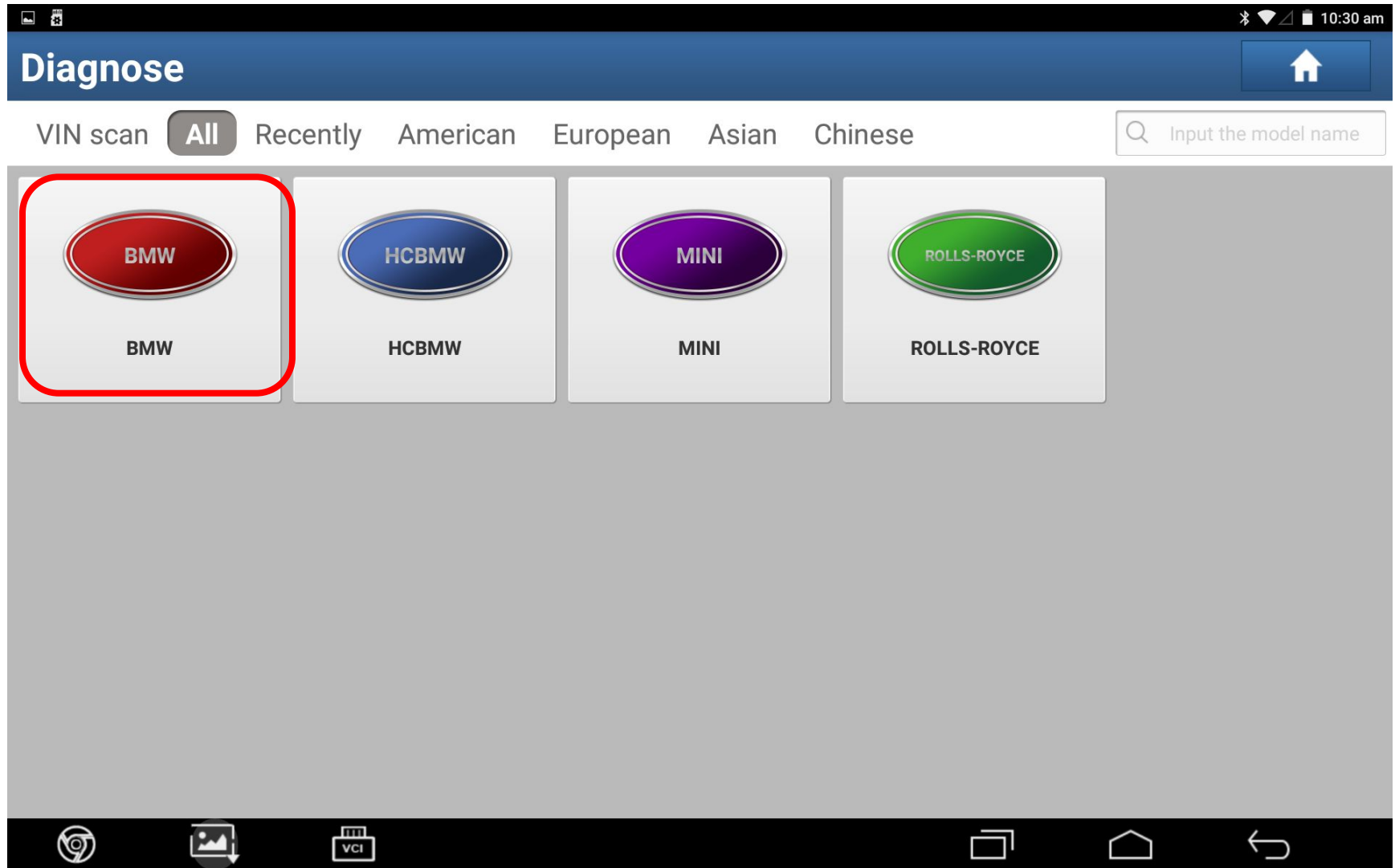
**1. Write the FRM data before coding.**

**2. Replace new FRM and do the programming and coding.**


# BMW X6(E71)FRM Online programming








# BMW X6(E71)FRM Online programming



# BMW X6(E71)FRM Online programming

10:31 am

**Show Menu**

BMW V49.79 > Menu

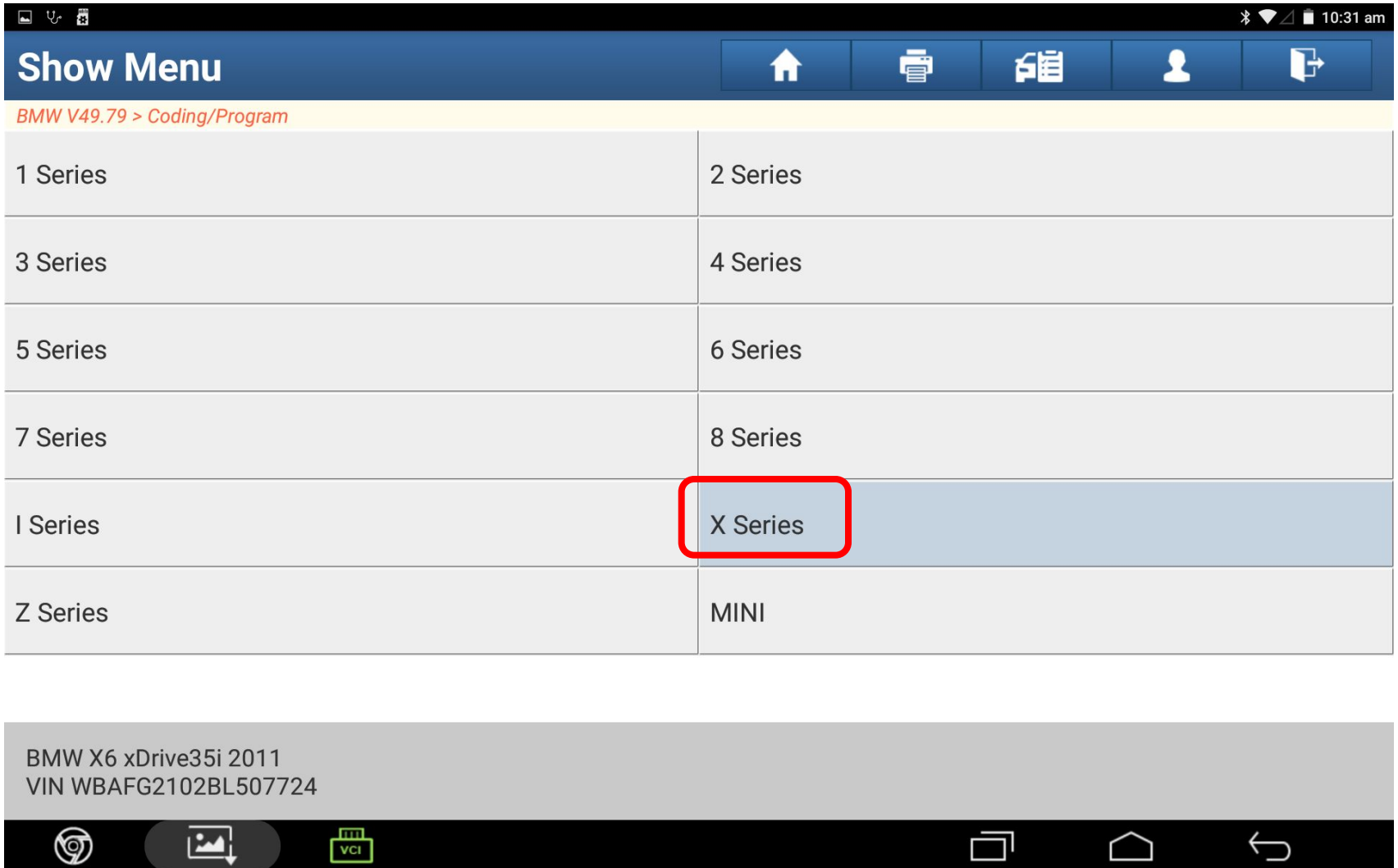
Automatically Search	Manually Select
<b>Coding/Program</b>	Special Function
Function help	

BMW X6 xDrive35i 2011  
VIN WBAFG2102BL507724





# BMW X6(E71)FRM Online programming



10:31 am

**Show Menu**

BMW V49.79 > Coding/Program

1 Series	2 Series
3 Series	4 Series
5 Series	6 Series
7 Series	8 Series
I Series	<b>X Series</b>
Z Series	MINI

BMW X6 xDrive35i 2011  
VIN WBAFG2102BL507724

VCI

# BMW X6(E71)FRM Online programming



**Show Menu**

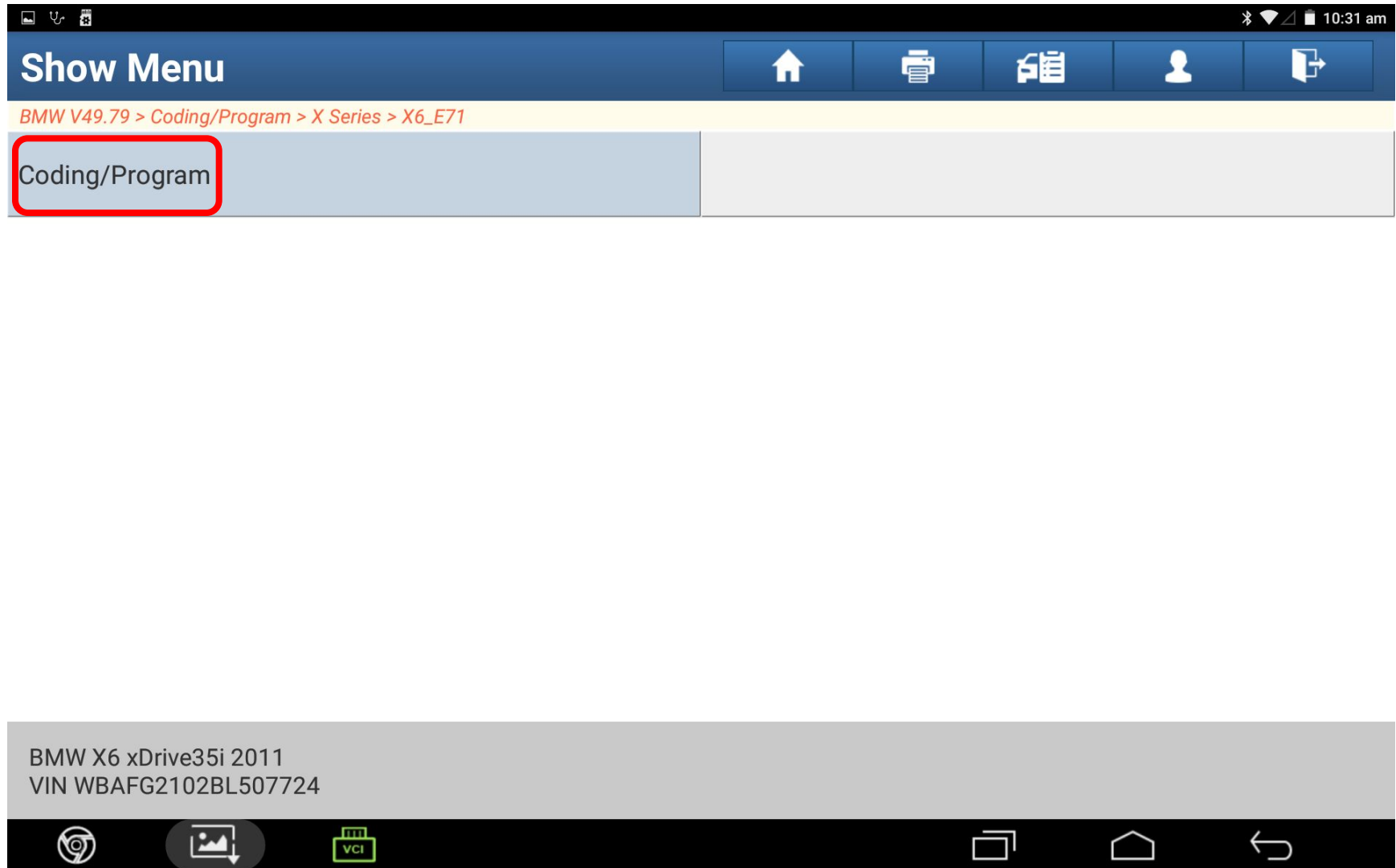
BMW V49.79 > Coding/Program > X Series

X1_E84	X3_E83
X5_E53	X5_E70
<b>X6_E71</b>	X6_E72
X3_F25	X4_F26
X5_F15/F85	X6_F16/F86

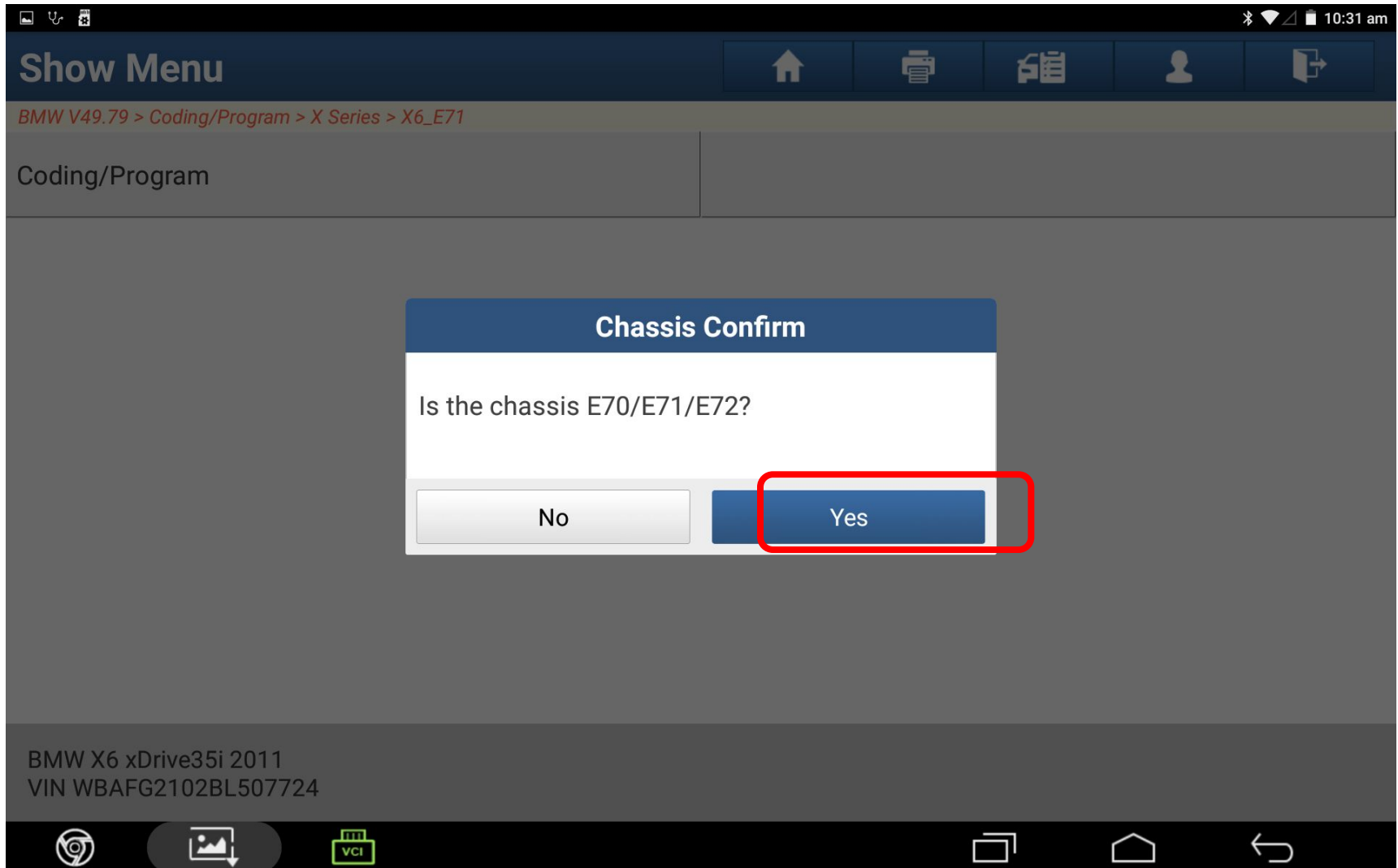
BMW X6 xDrive35i 2011  
VIN WBAFG2102BL507724



# BMW X6(E71)FRM Online programming



# BMW X6(E71)FRM Online programming



# BMW X6(E71)FRM Online programming

10:31 am

## Select Data Stream

BMW V49.79 > Coding/Program > X Series > X6\_E71 > Coding/Program

<input type="checkbox"/> Car Access System(CAS) is just replaced	<input type="checkbox"/> Footwell Module(FRM) is just replaced
<input checked="" type="checkbox"/> CAS and FRM not replaced	

**Programming and  
coding required**

1 / 3

BMW X6 xDrive35i 2011  
VIN WBAFG2102BL507724

Select All Unselect Confirm

VCI

# BMW X6(E71)FRM Online programming

10:33 am

Vehicle Order











BMW V49.79 > Coding/Program > X Series > X6\_E71 > Coding/Program

Vehicle Information	Configuration
CHASSIS:	E71
Vehicle identification number:	WBAFG2102BL507724
Factory data status:	E070-10-12-503
Current Data Status:	E070-15-11-500
Target data status:	E070-15-11-500
Mileage(km [mls]):	134340(83474)

NEXT

BMW X6 xDrive35i 2011  
VIN WBAFG2102BL507724























# BMW X6(E71)FRM Online programming







10:33 am

**Show Menu**

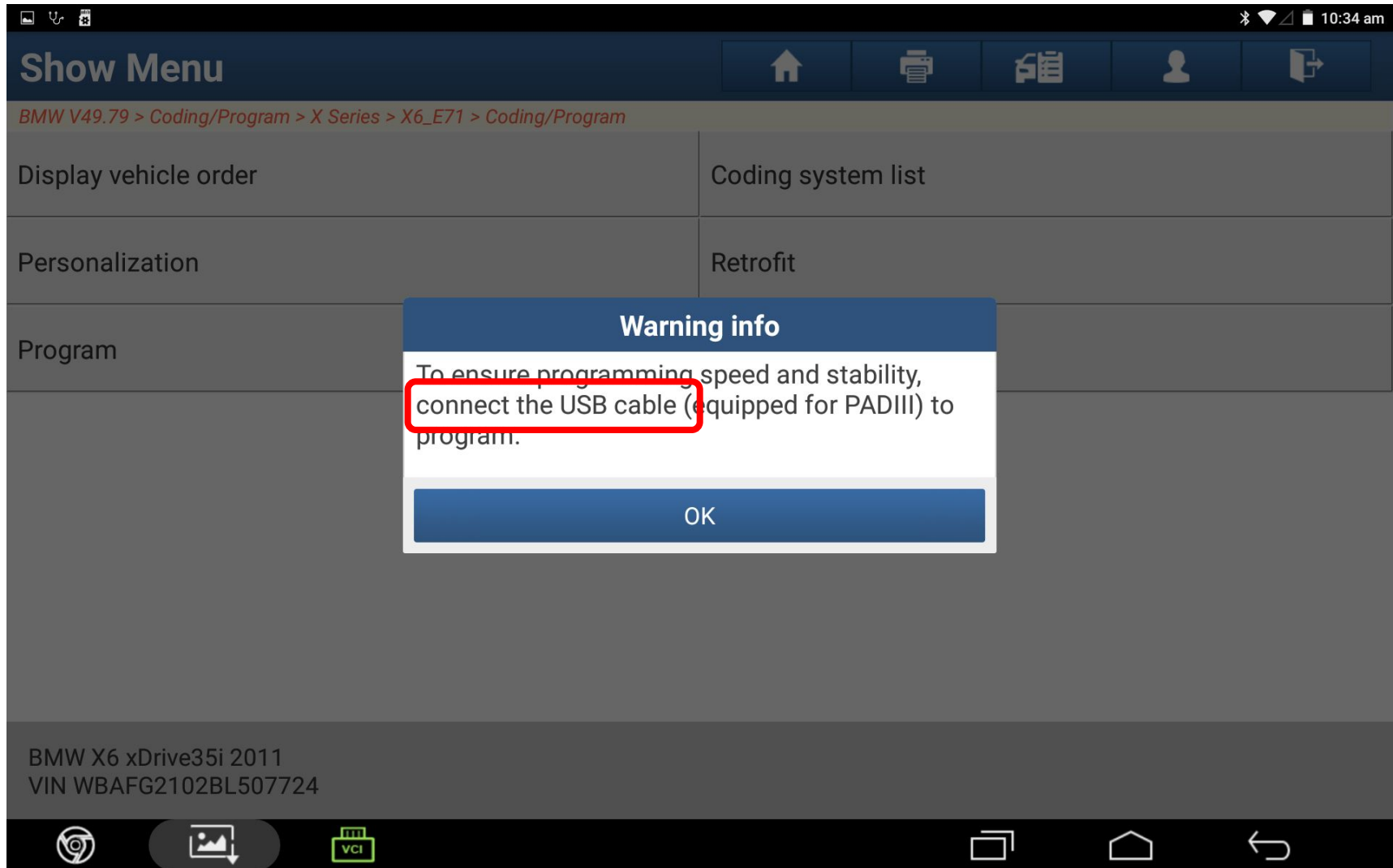
BMW V49.79 > Coding/Program > X Series > X6\_E71 > Coding/Program

Display vehicle order	Coding system list
Personalization	Retrofit
<b>Program</b>	

BMW X6 xDrive35i 2011  
VIN WBAFG2102BL507724










# BMW X6(E71)FRM Online programming





# BMW X6(E71)FRM Online programming

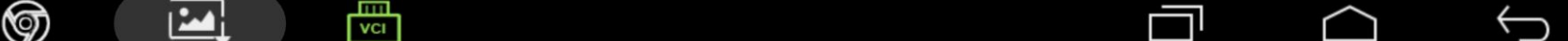


**Show Menu**

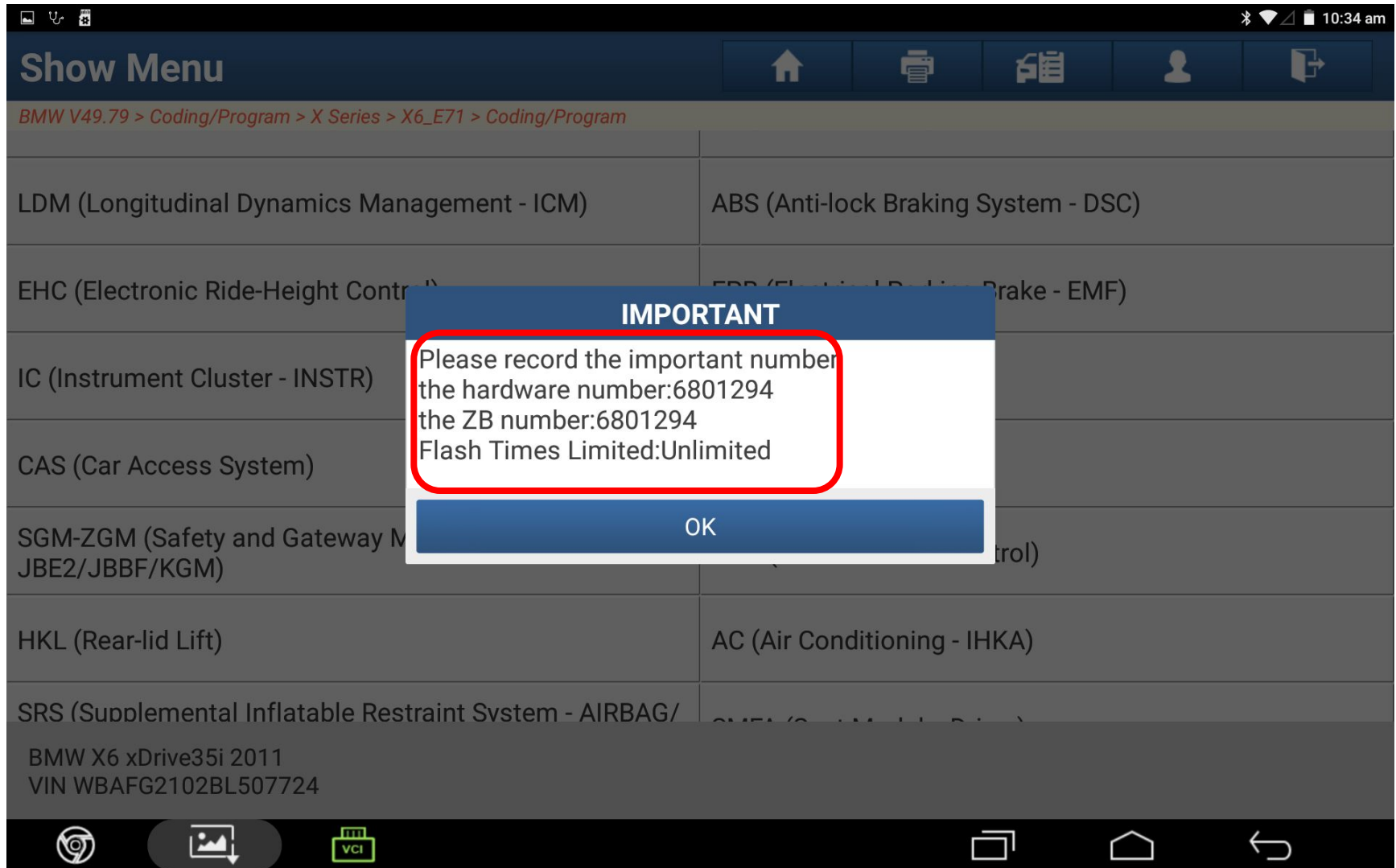
BMW V49.79 > Coding/Program > X Series > X6\_E71 > Coding/Program

ECM (Engine Control Module - DME/DDE)	EKPS (Electronic Fuel pump)
GWS (Gear Selector Switch)	TCM (Transmission Control Module - EGS/DKG/SMG)
FZD (Function Center, Roof)	AL (Active Steering)
LDM (Longitudinal Dynamics Management - ICM)	ABS (Anti-lock Braking System - DSC)
EHC (Electronic Ride-Height Control)	EPB (Electrical Parking Brake - EMF)
IC (Instrument Cluster - INSTR)	RLS (Rain/Light Sensor)
CAS (Car Access System)	<b>FRM (Footwell Module)</b>

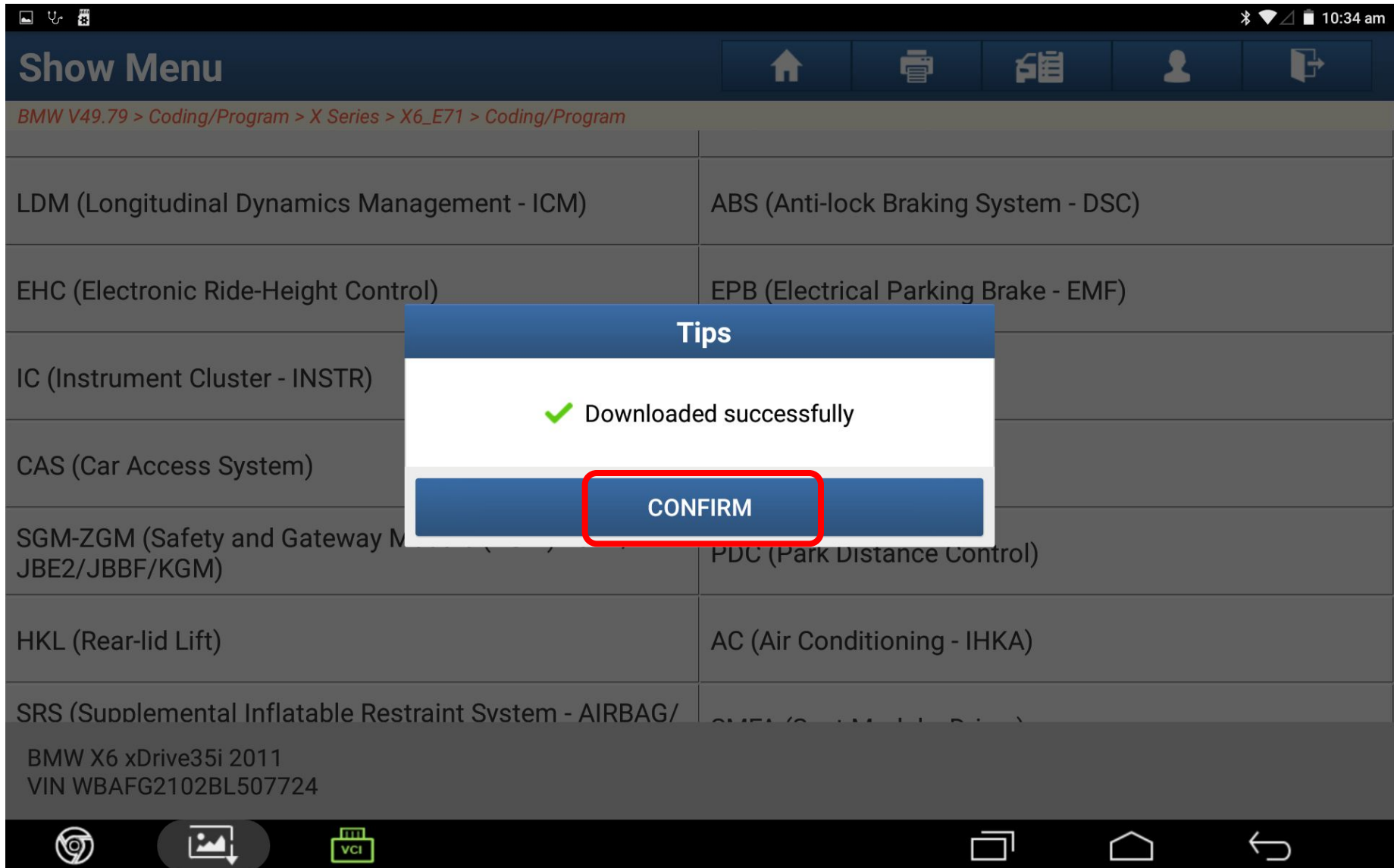
BMW X6 xDrive35i 2011  
VIN WBAFG2102BL507724



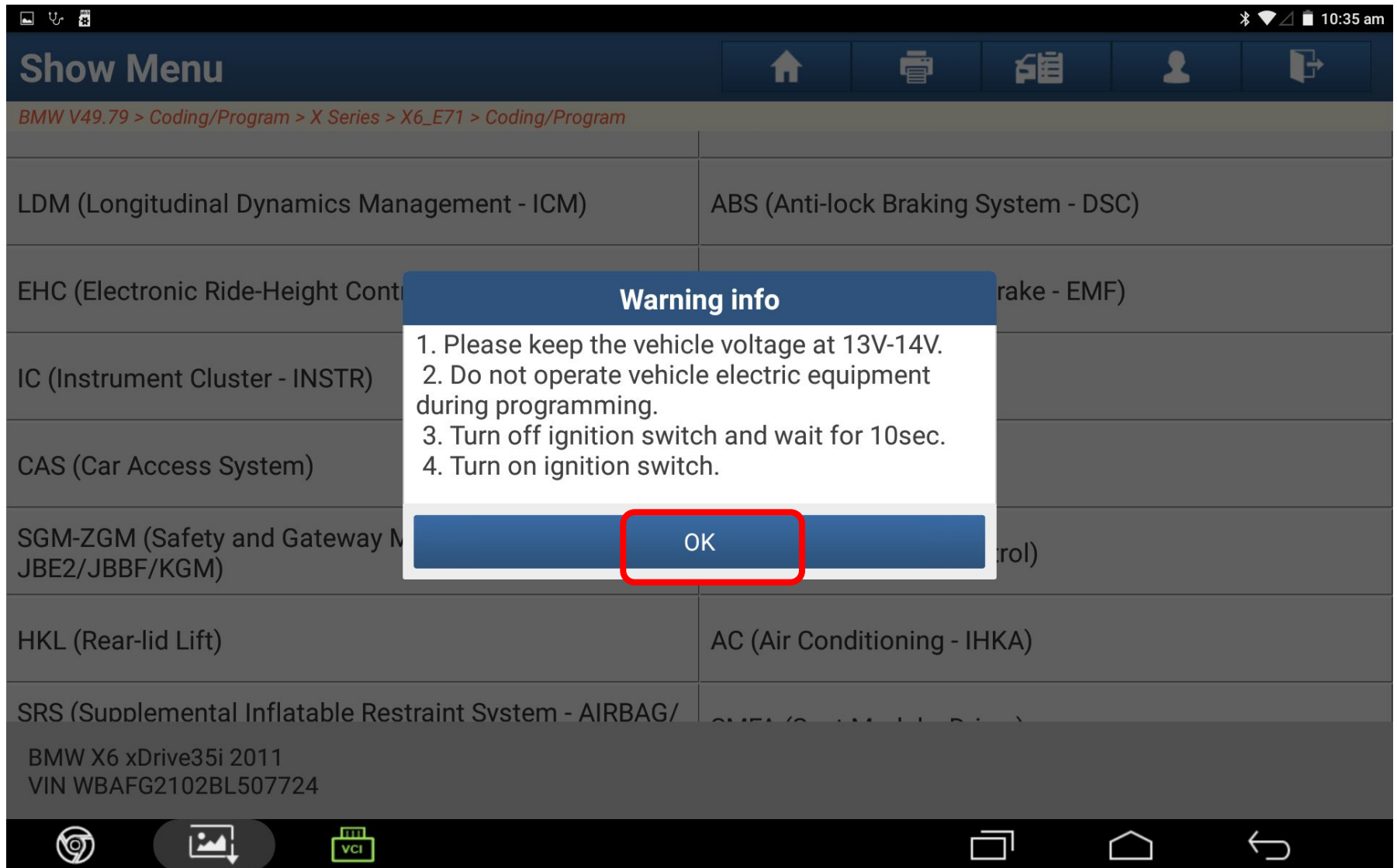
# BMW X6(E71)FRM Online programming



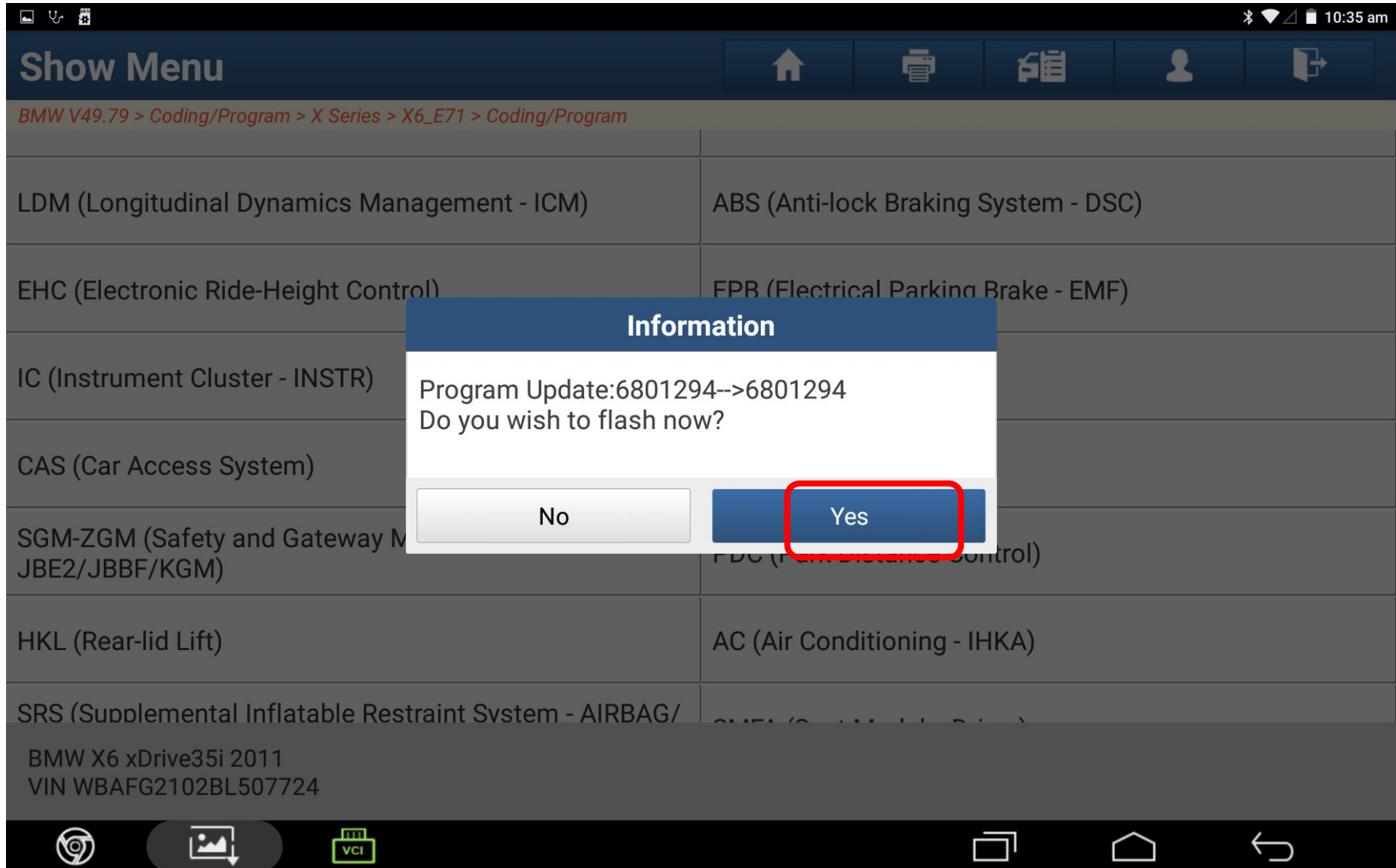
# BMW X6(E71)FRM Online programming



# BMW X6(E71)FRM Online programming



# BMW X6(E71)FRM Online programming



# BMW X6(E71)FRM Online programming

10:35 am

Show Menu

BMW V49.79 > Coding/Program > X Series > X6\_E71 > Coding/Program

LDM (Longitudinal Dynamics Management - ICM)	ABS (Anti-lock Braking System - DSC)
EHC (Electronic Ride-Height Control - EHC)	EMF (Electronic Motor Function - EMF)
IC (Instrument Cluster - INSTR)	
CAS (Car Access System)	
SGM-ZGM (Safety and Gateway Module - SGM-ZGM)	9% 9/100
HKL (Rear-lid Lift)	AC (Air Conditioning - IHKA)
SRS (Supplemental Inflatable Restraint System - AIRBAG/	

BMW X6 xDrive35i 2011  
VIN WBAFG2102BL507724

Total programming progress

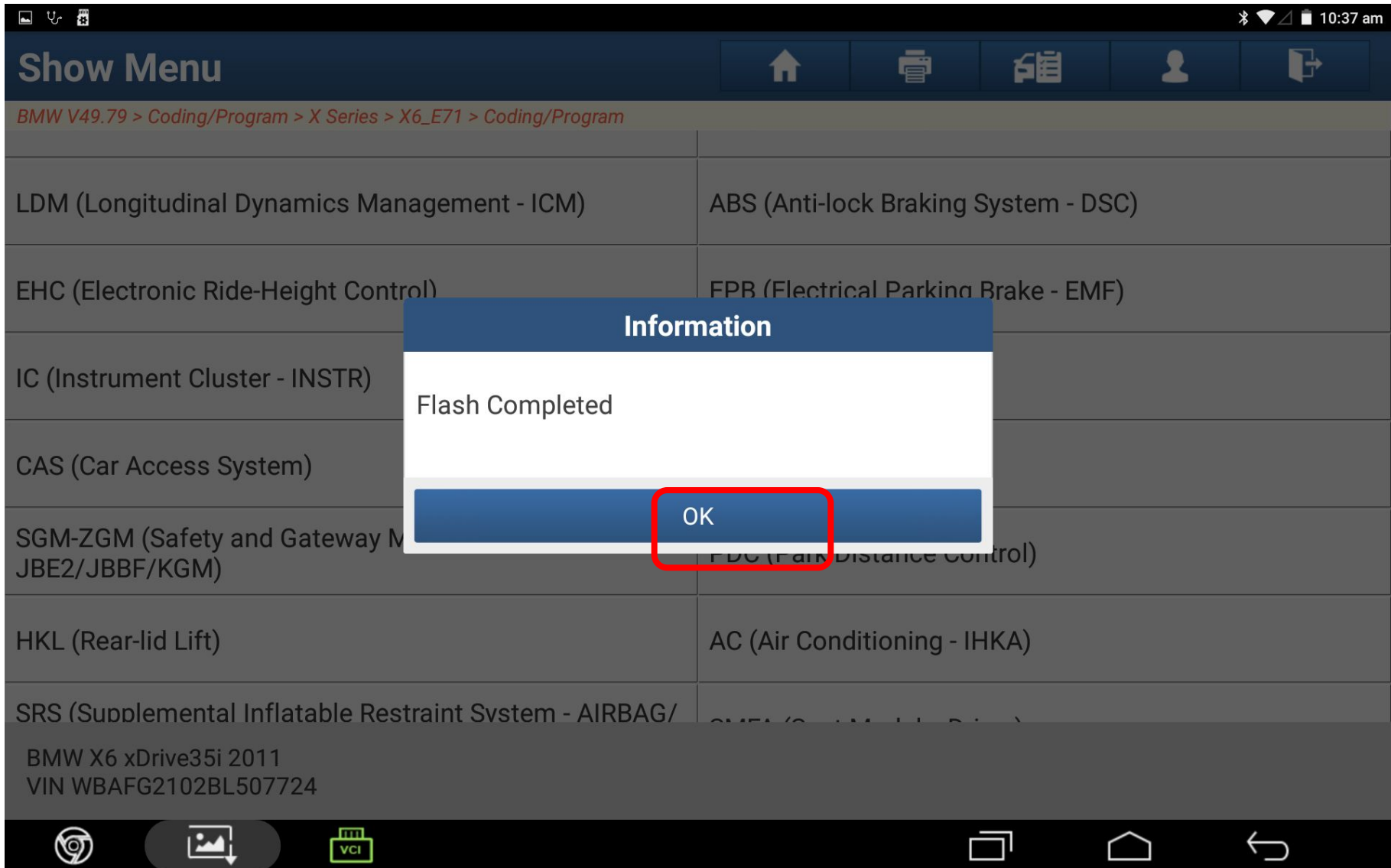
FRM (Footwell Module)

Remaining programming time:01 m 26 s

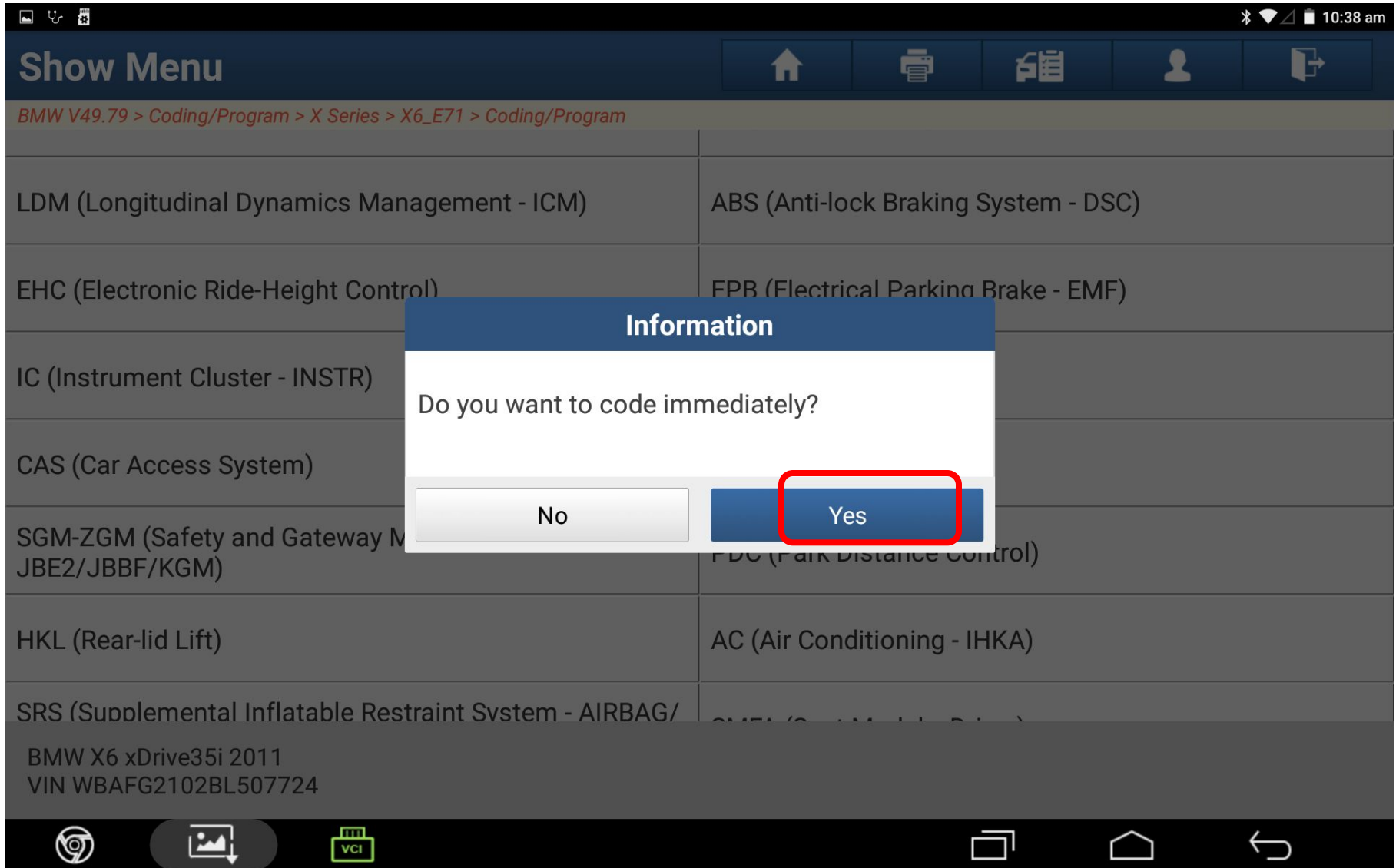
9%

9/100

# BMW X6(E71)FRM Online programming

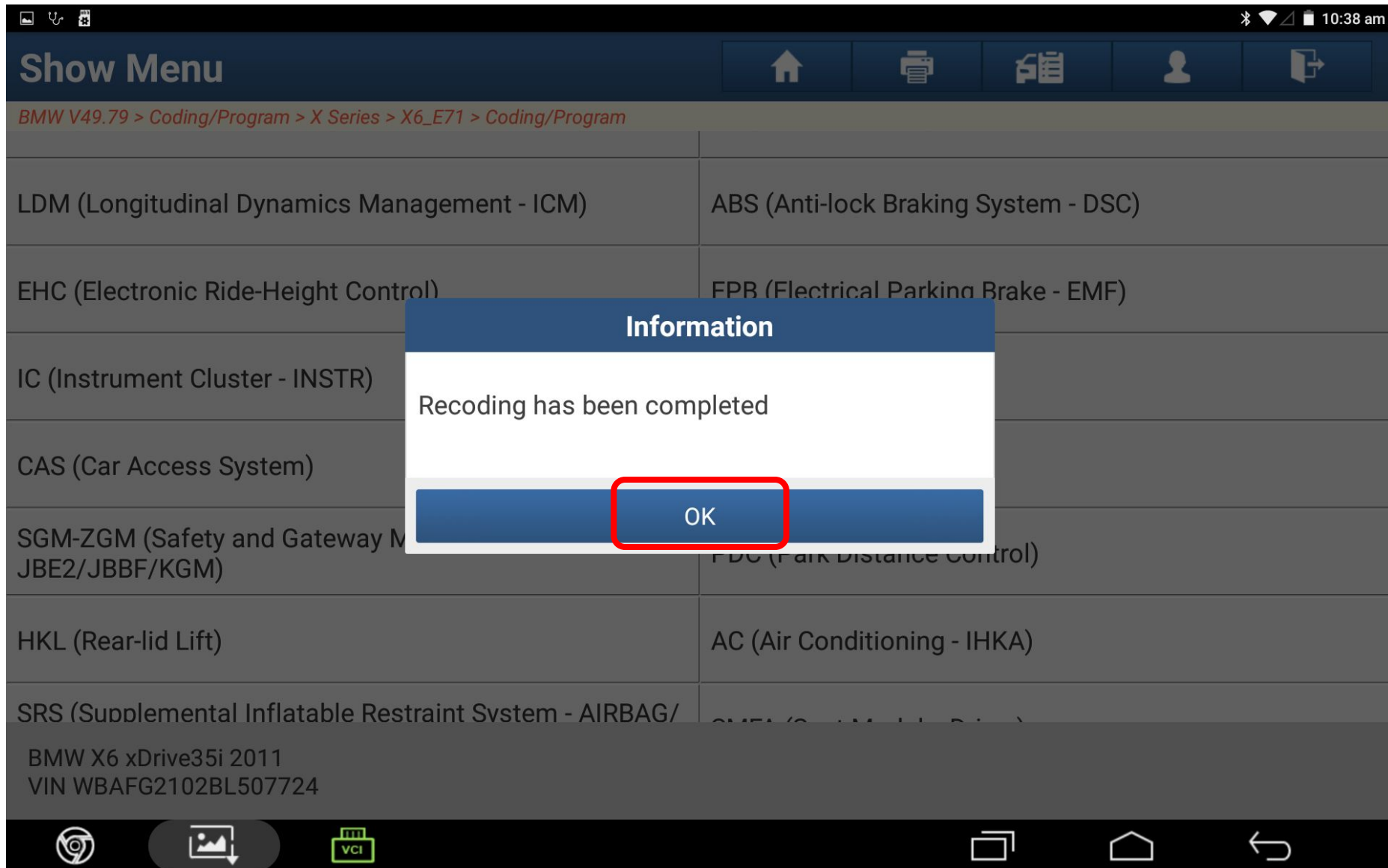


# BMW X6(E71)FRM Online programming





# BMW X6(E71)FRM Online programming



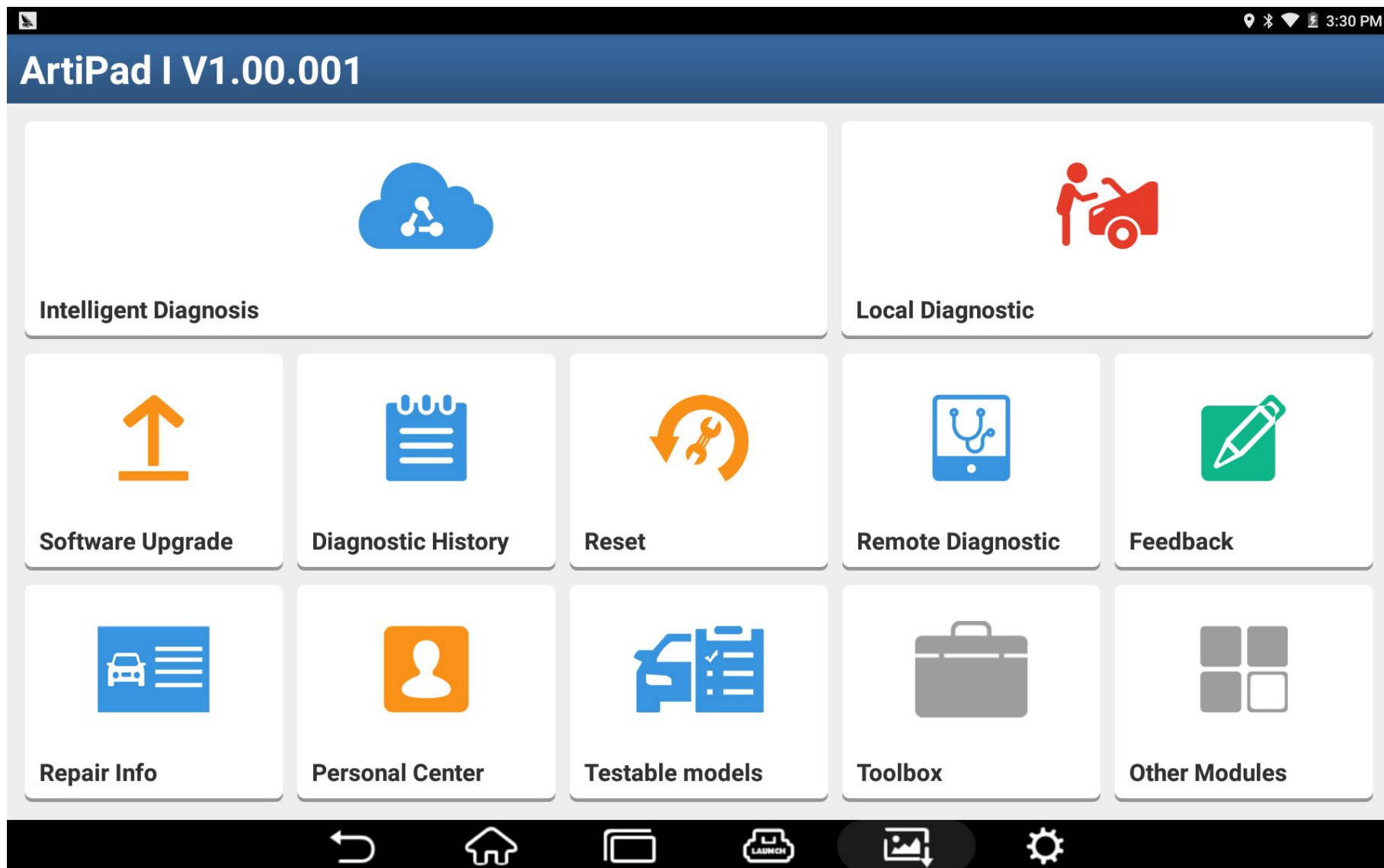
# **BENZ 722.9 Gearbox online programming**



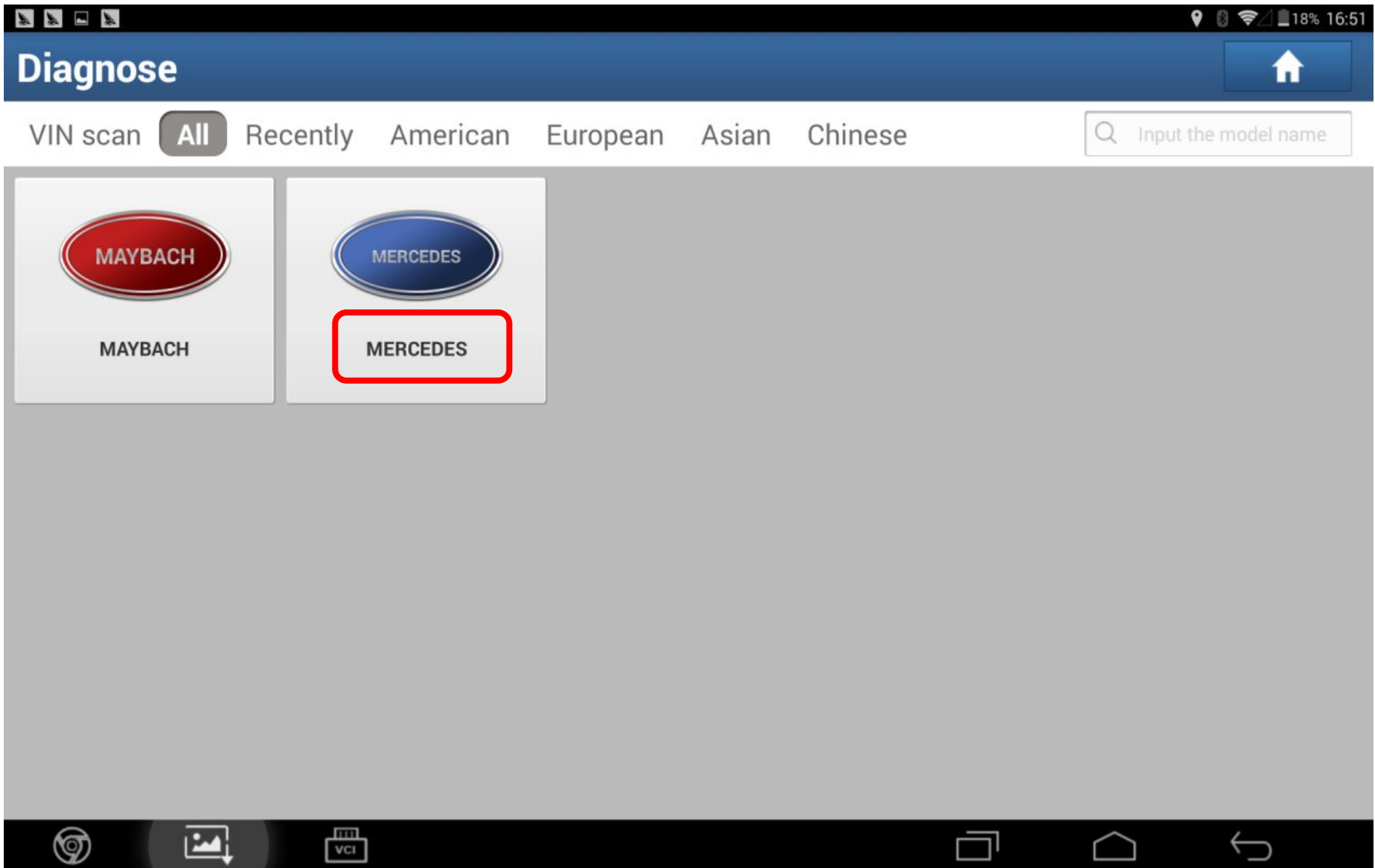
# BENZ Online Programming Procedure

- Use the USB cable to connect the ArtiPad with the F Series adapter and connect to the network cable. Then plug connector to OBD and turn on the ignition (do not start the engine).
- Choose “online programming”
- Confirm module and chassis
- Choose “coding/programming”, confirm chassis model again
- Choose module
- Choose “Control unit programming”
- Download files
- Start programming
- Coding after programming ( Coding variants )
- Online SCN coding if abnormal
- After programming and coding, please make a quick test for car. Then follow the fault code to initialize special function.

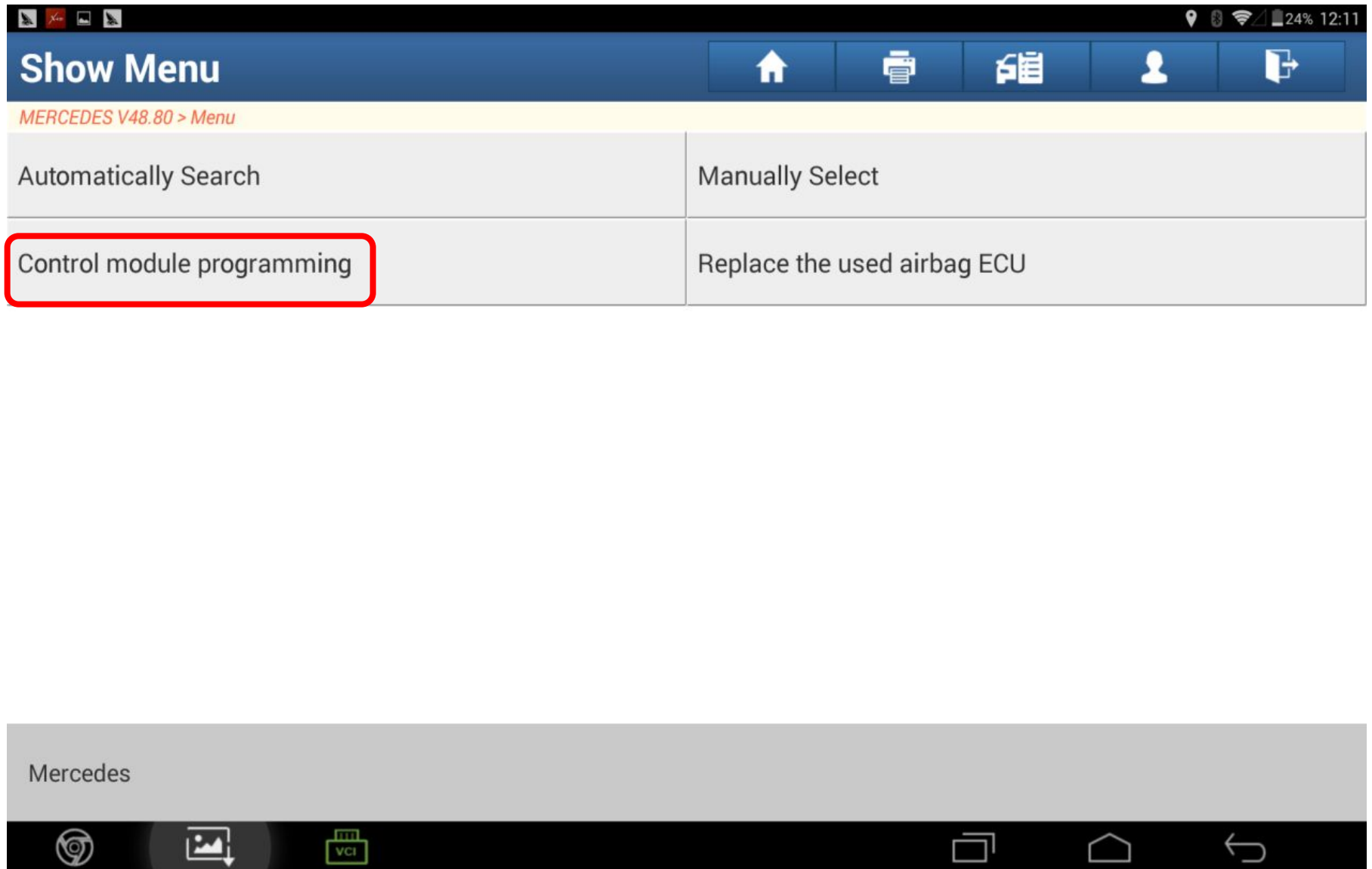
# BENZ 722.9 Gearbox Online Programming



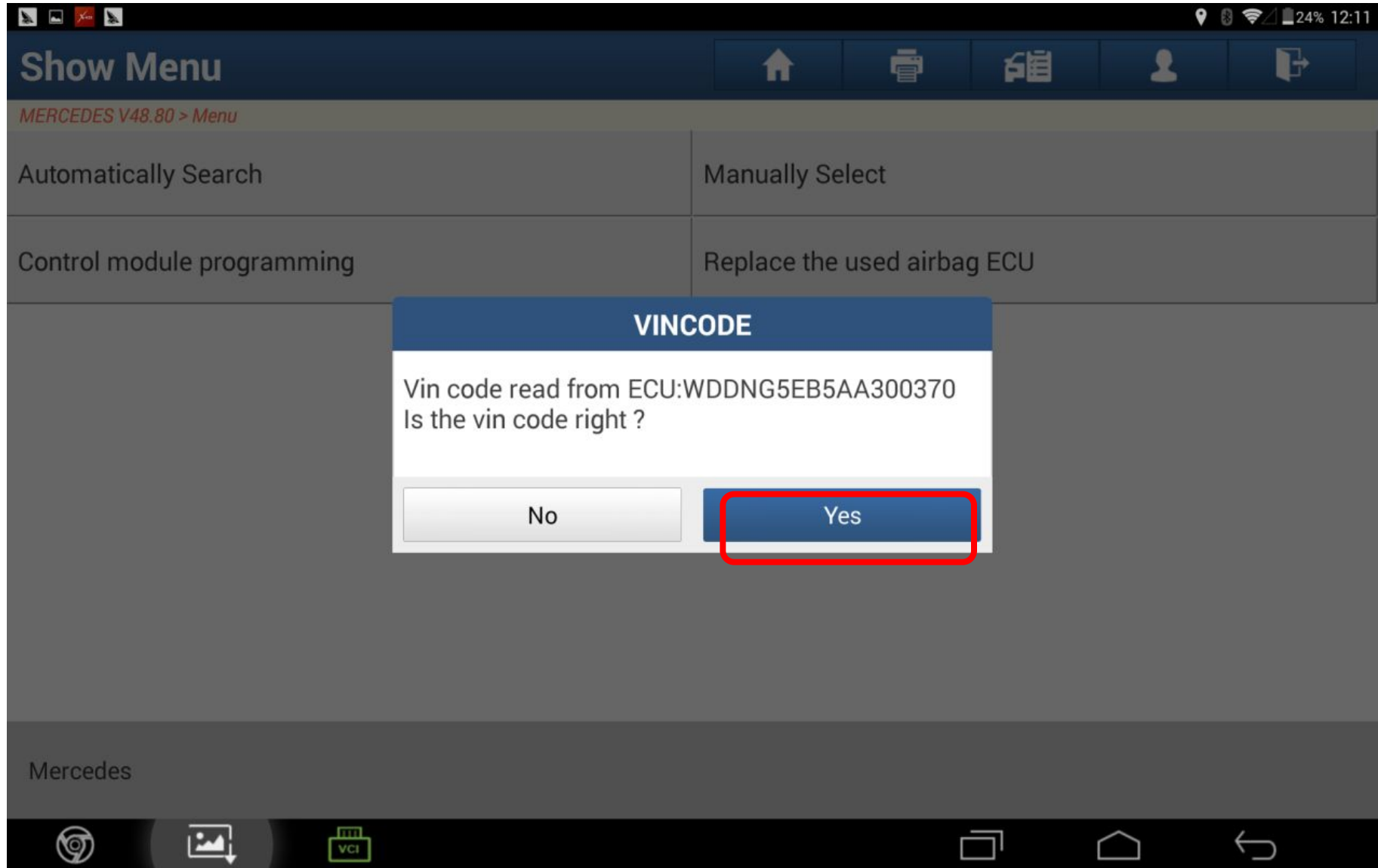
# BENZ 722.9 Gearbox Online Programming



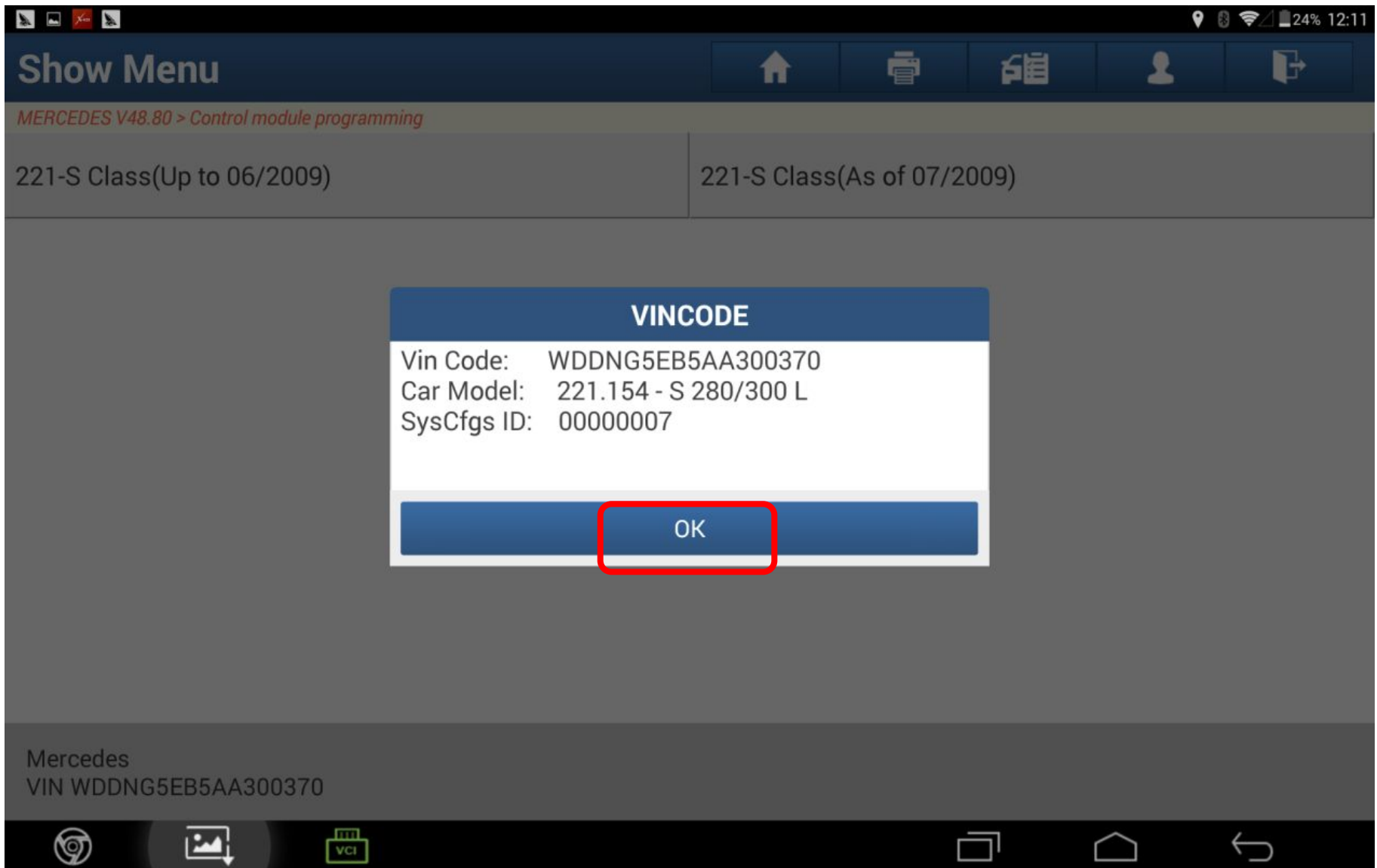
# BENZ 722.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming





# BENZ 722.9 Gearbox Online Programming

## Show Menu

MERCEDES V48.80 > Control module programming

ECM - Engine Control Module(ME9.7)(Chassis CAN bus)	FSCU - Fuel pump(Drive train CAN bus)
TCM - Transmission Control Module(Drive train CAN bus)	ISM - Intelligent servo module(Drive train CAN bus)
DTR - Distronic(Vehicle dynamics CAN bus)	SGR - Radar sensors control unit(Chassis CAN bus)
ABR - Adaptive Brake(Chassis CAN bus)	EPB - Electric parking brake(Front end CAN bus)
Suspension(Chassis CAN bus)	TPMS - Tire Pressure Monitoring System(Interior CAN bus)
EHPS/EPS(electric power steering pump)	KG - Keyless GO(Interior CAN bus)
SRS - Supplemental Inflatable Restraint System(Chassis CAN bus)	SAM_DR - Driver signal acquisition and actuation module(Interior CAN bus)

Mercedes  
VIN WDDNG5EB5AA300370

# BENZ 722.9 Gearbox Online Programming

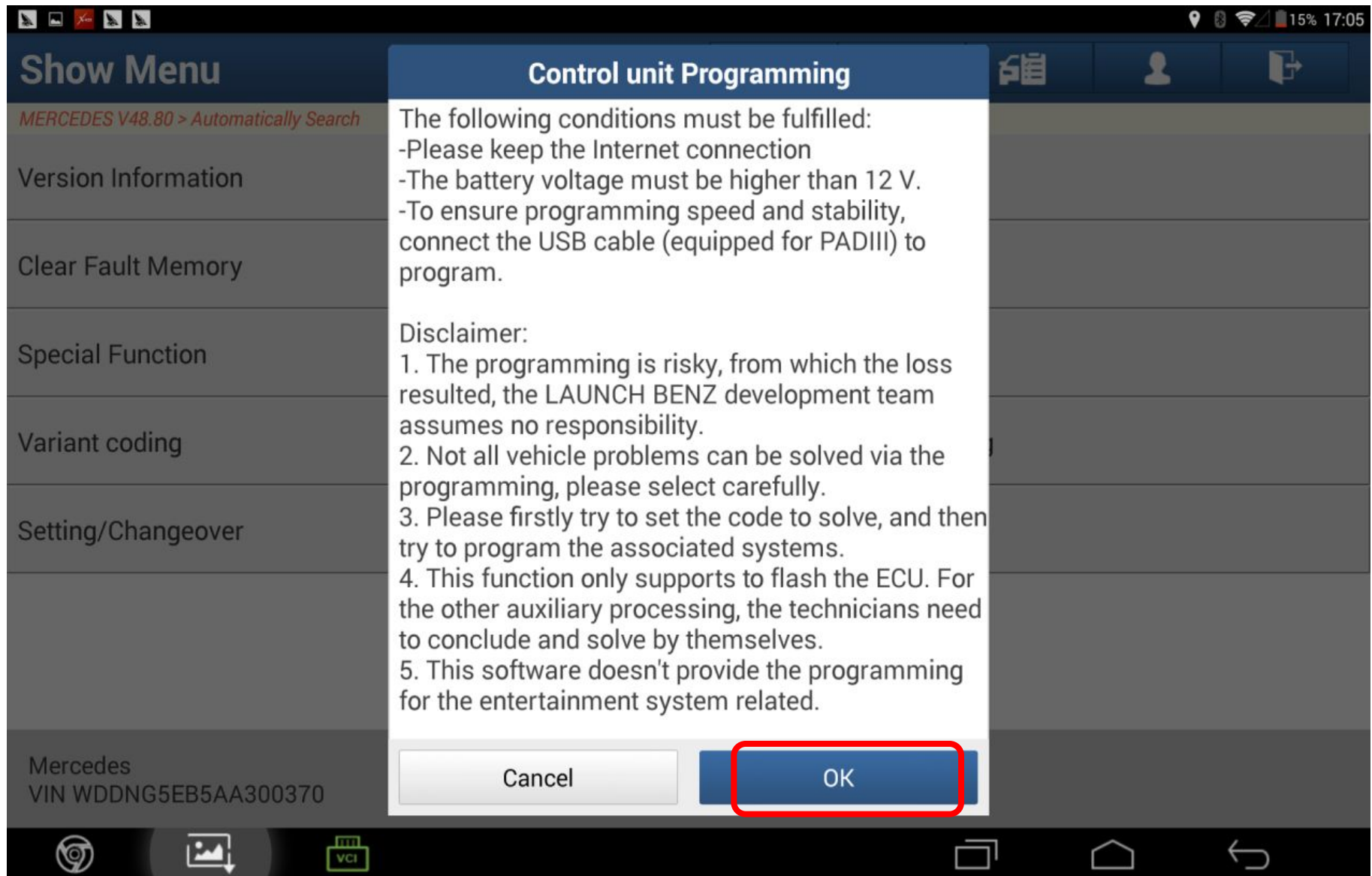
**Show Menu**

MERCEDES V48.80 > Automatically Search

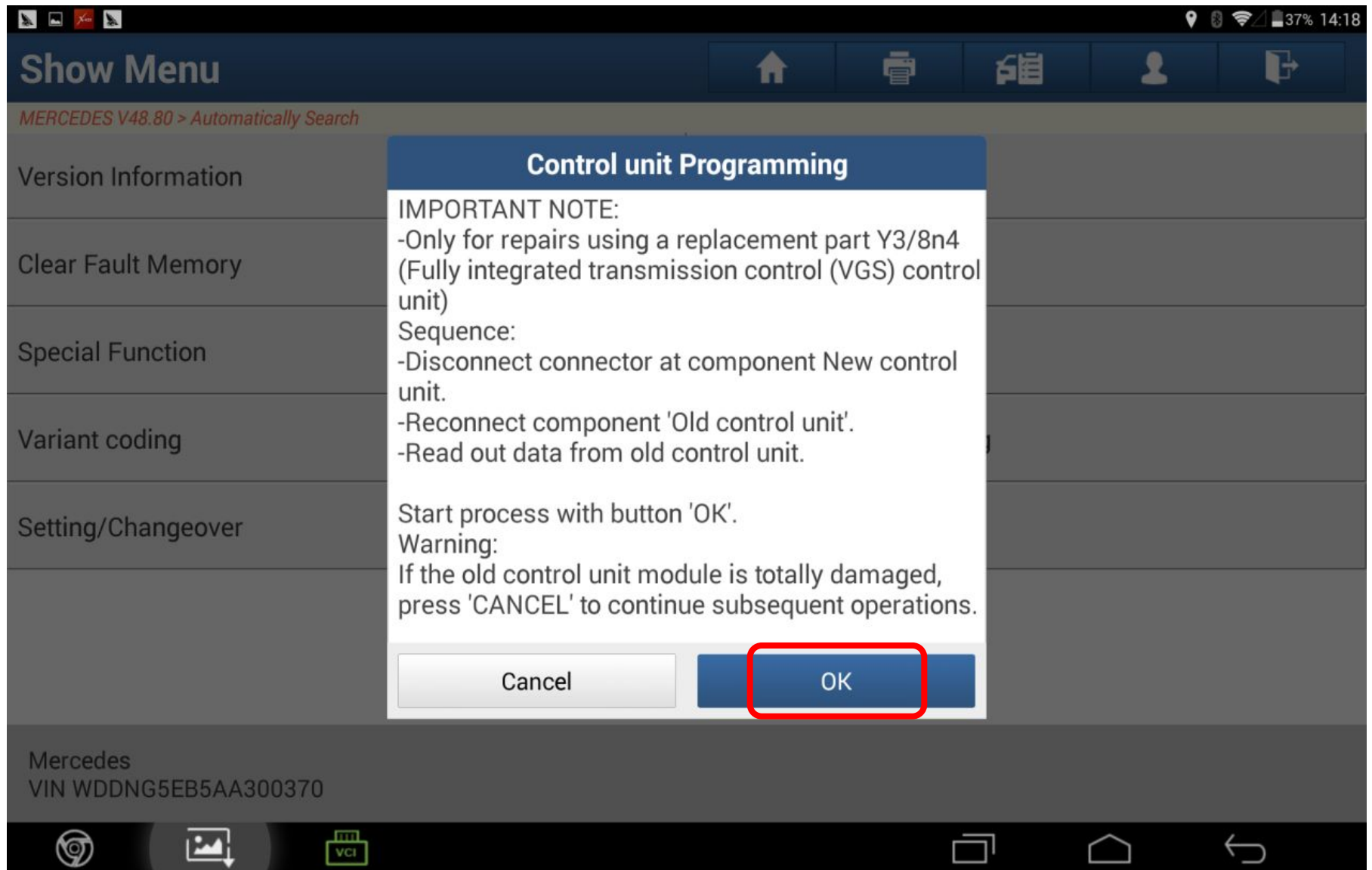
Version Information	Read Fault Code
Clear Fault Memory	Read Data Stream
Actuation Test	Special Function
Initial startup	Variant coding
<b>Control unit Programming</b>	Setting/Changeover
SCN CODING	

Mercedes  
VIN WDDNG5EB5AA300370

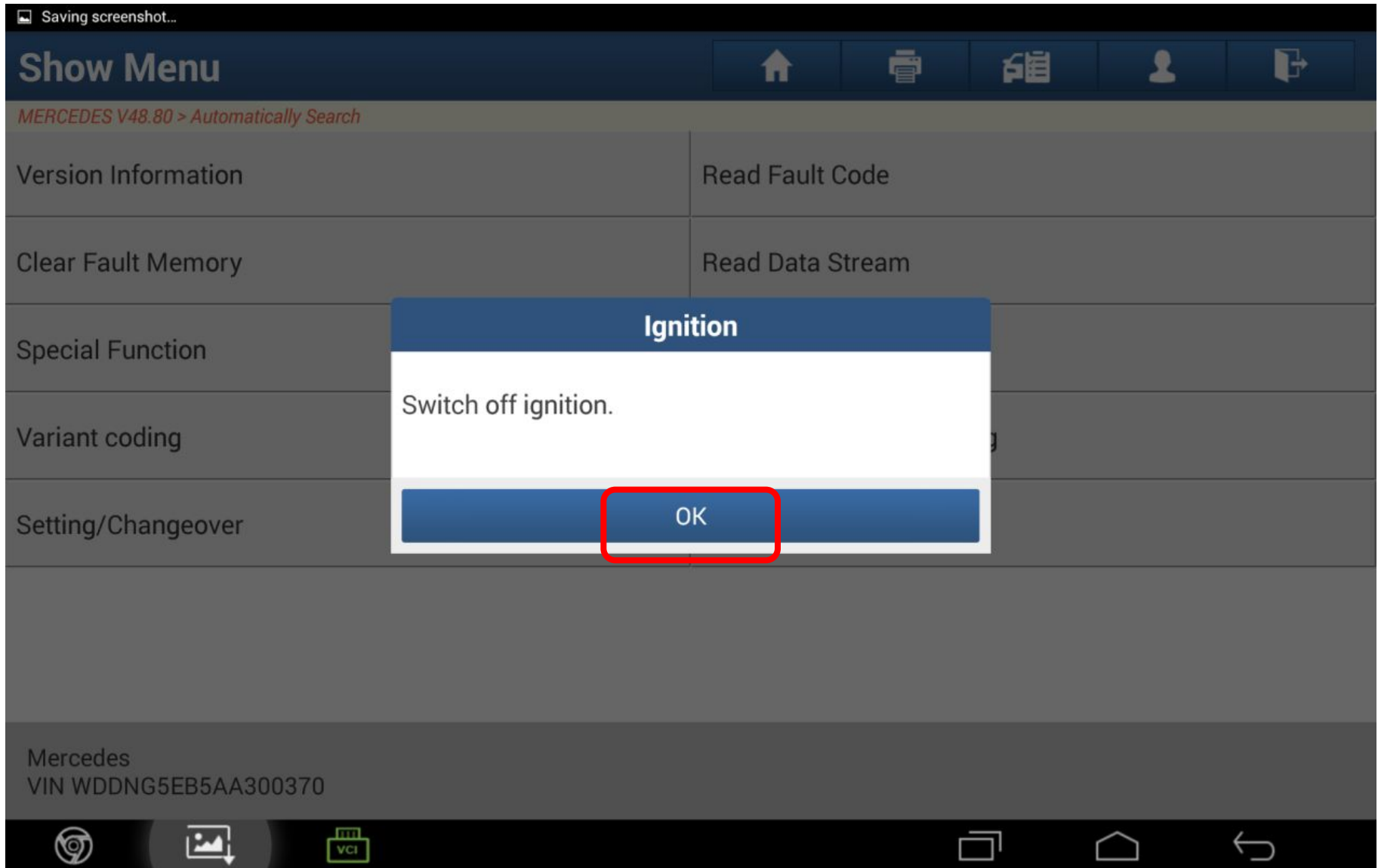
# BENZ 722.9 Gearbox Online Programming



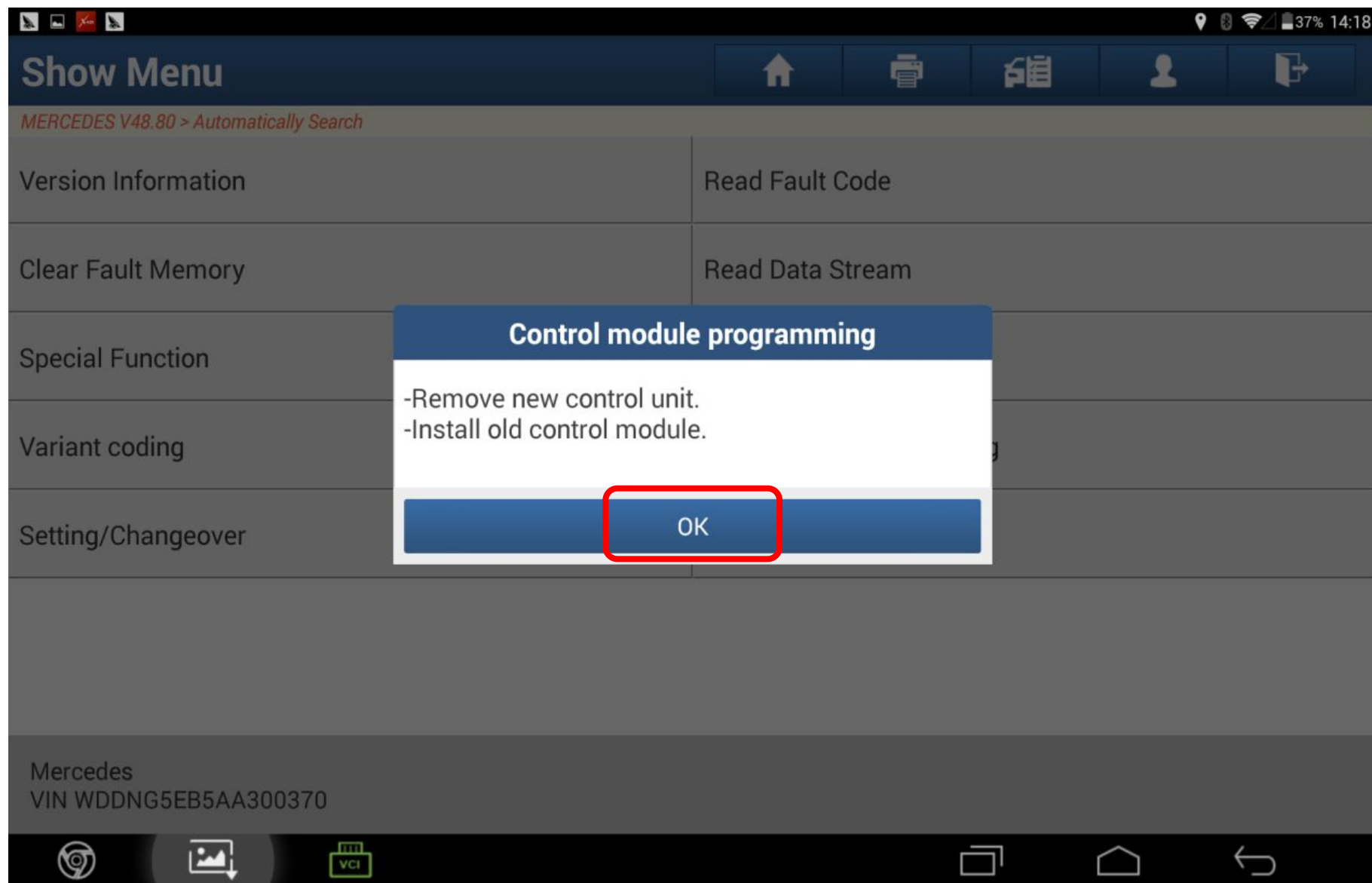
# BENZ 722.9 Gearbox Online Programming



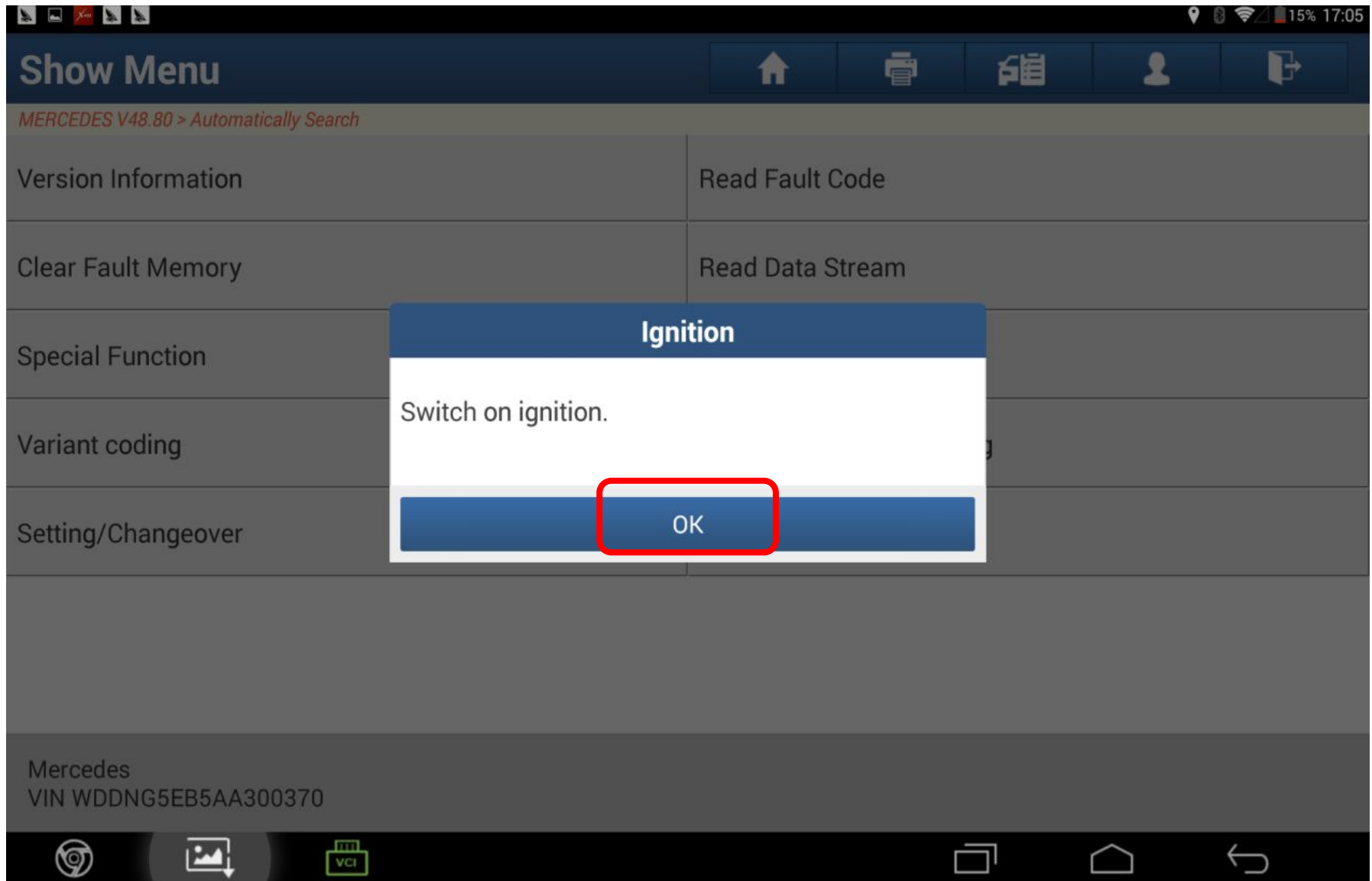
# BENZ 722.9 Gearbox Online Programming



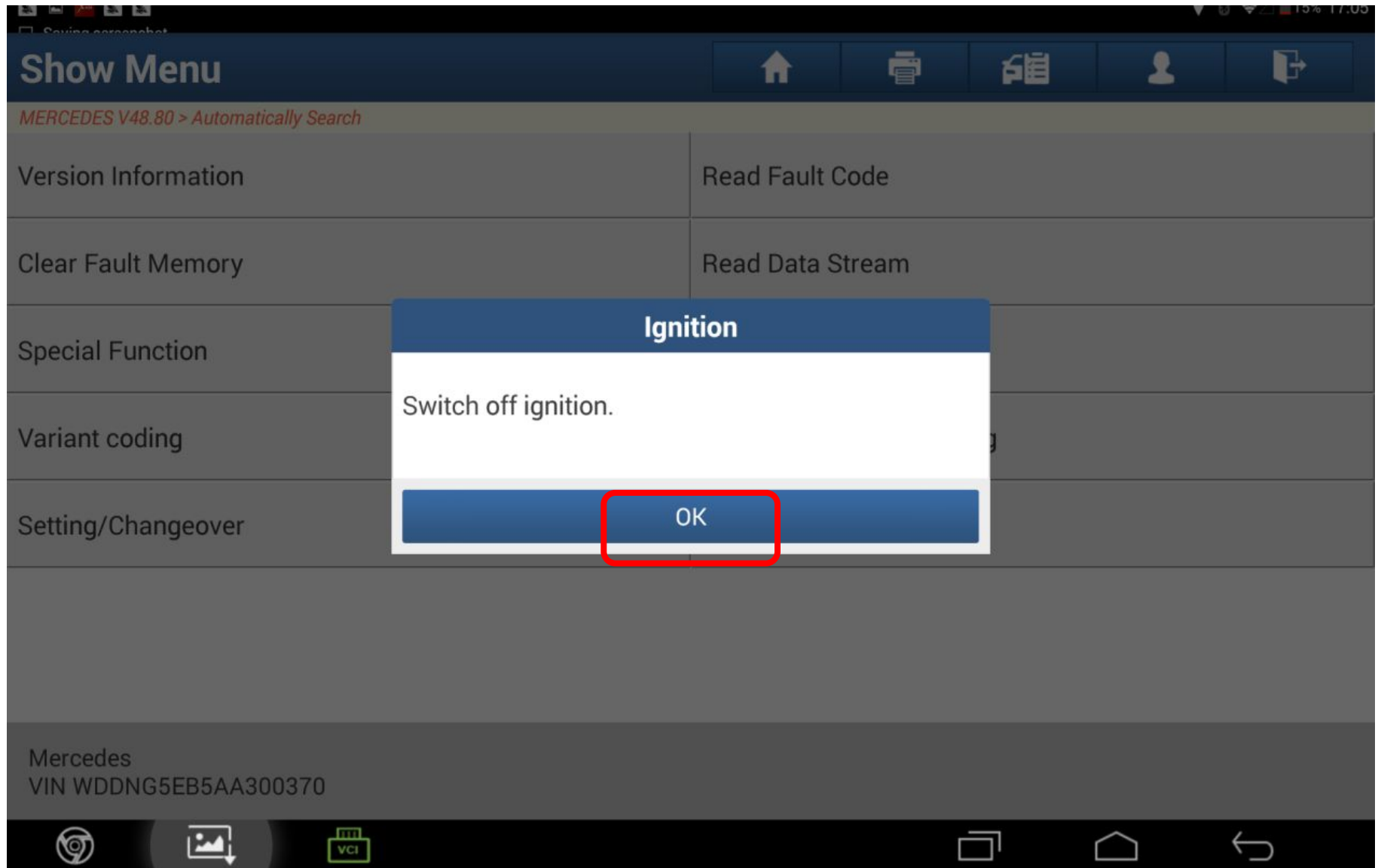
# BENZ 7a22.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming

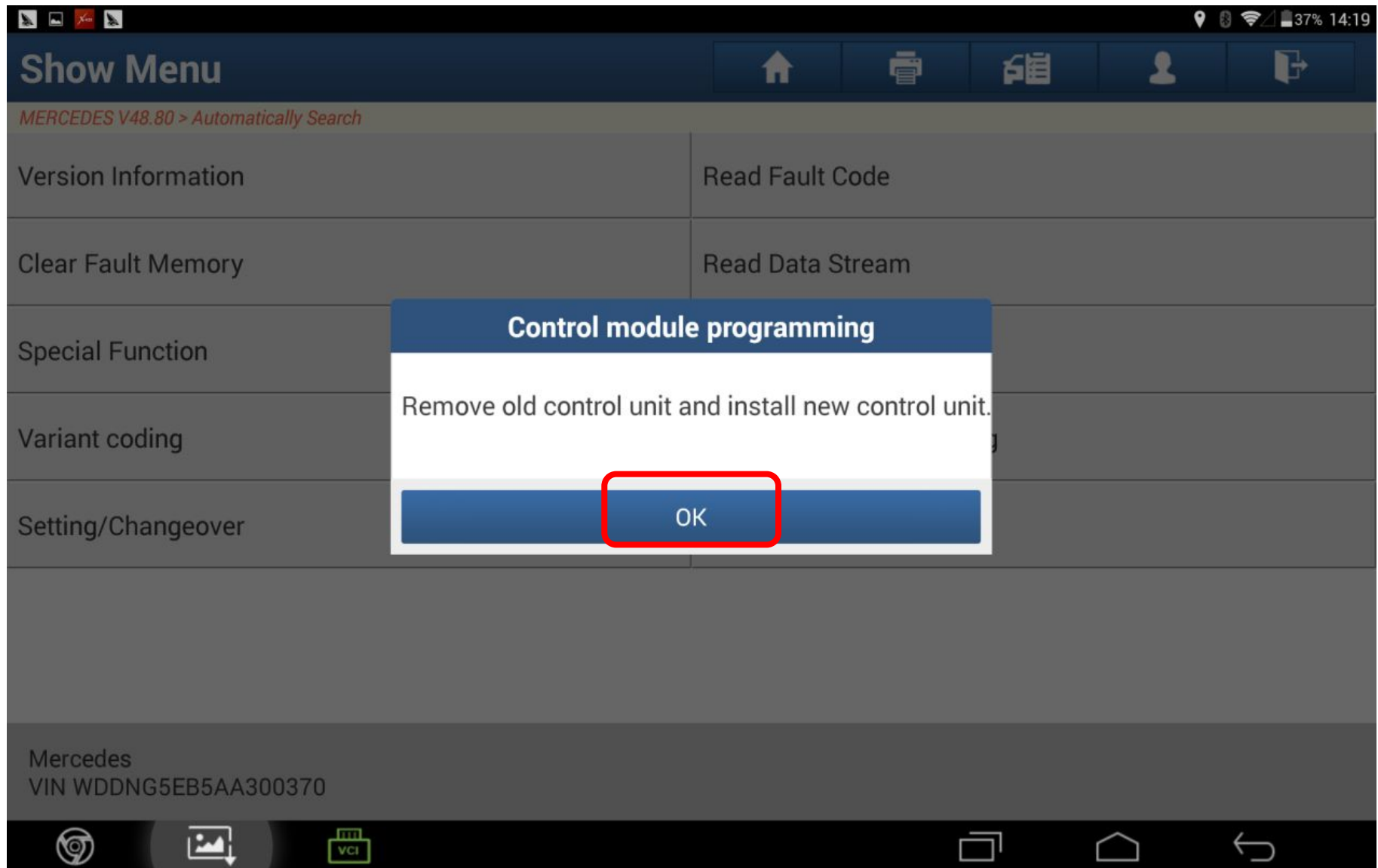


# BENZ 722.9 Gearbox Online Programming

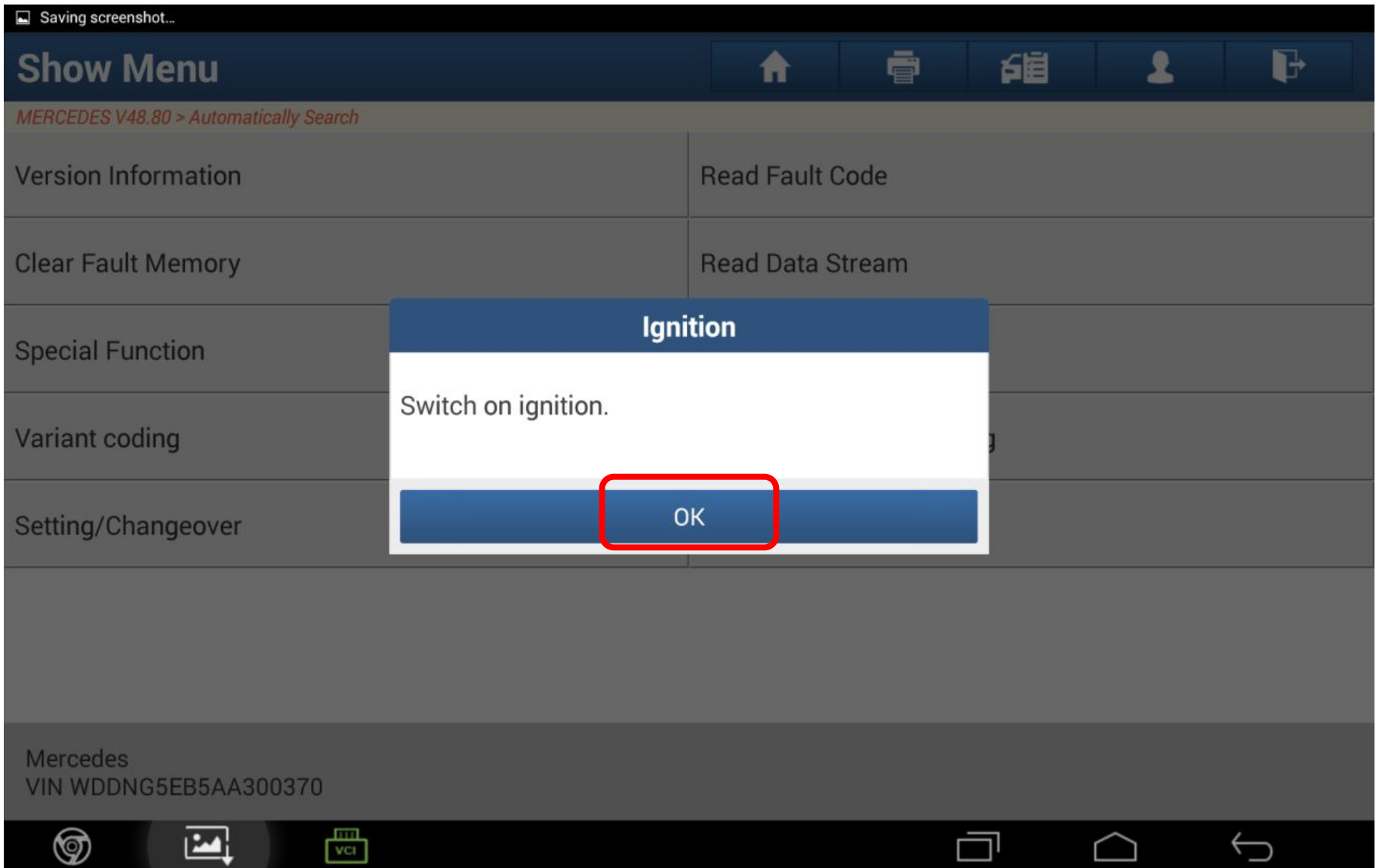




# BENZ 722.9 Gearbox Online Programming








# BENZ 722.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming

Active Test









MERCEDES V48.80 > Automatically Search

Name	Value	Unit
EHS part number	2202702306	
The EHS number engraved on the bottom side of the valve electrical connector		
For example:EHS part number	220 270 XX 06	

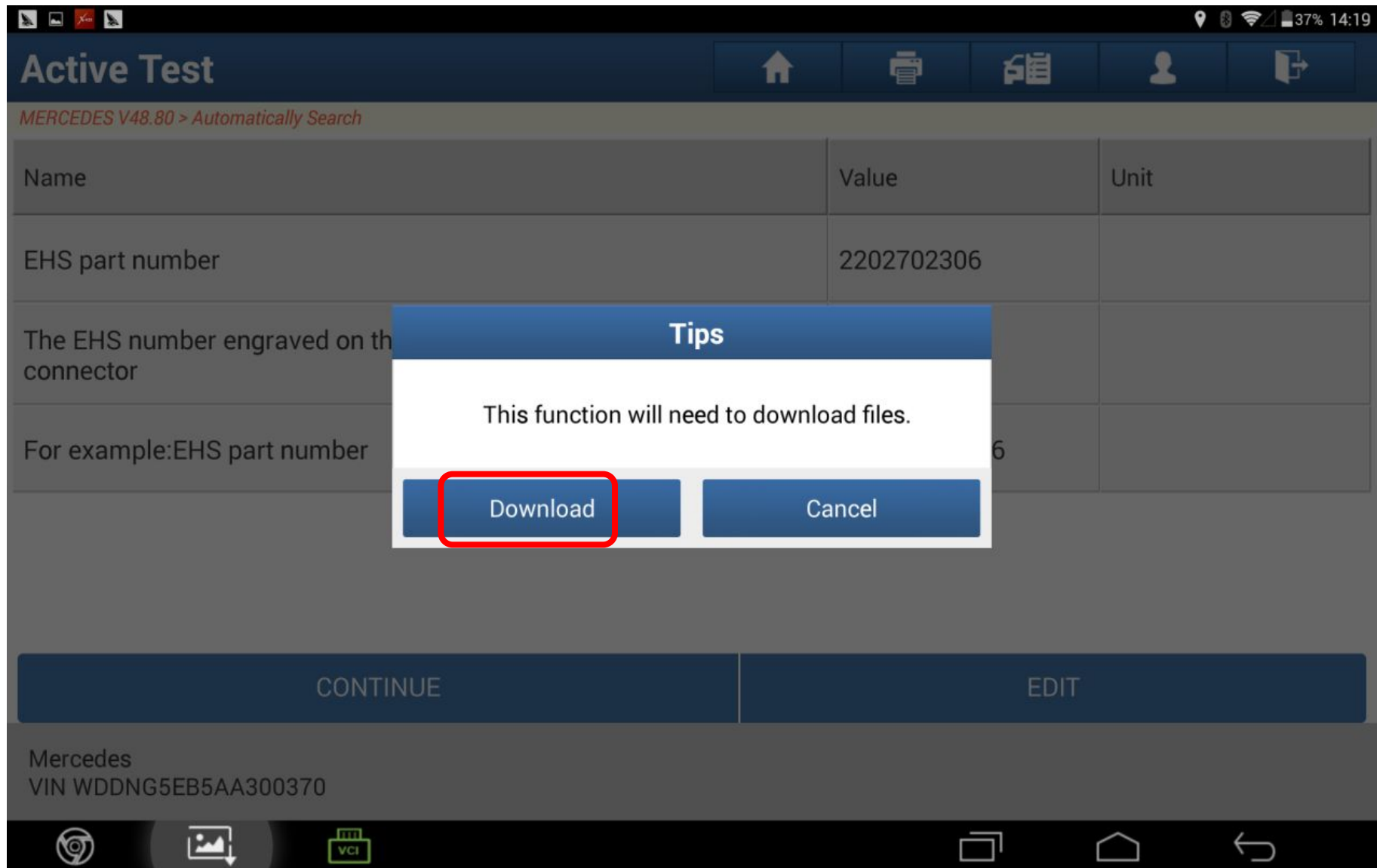
CONTINUE

EDIT

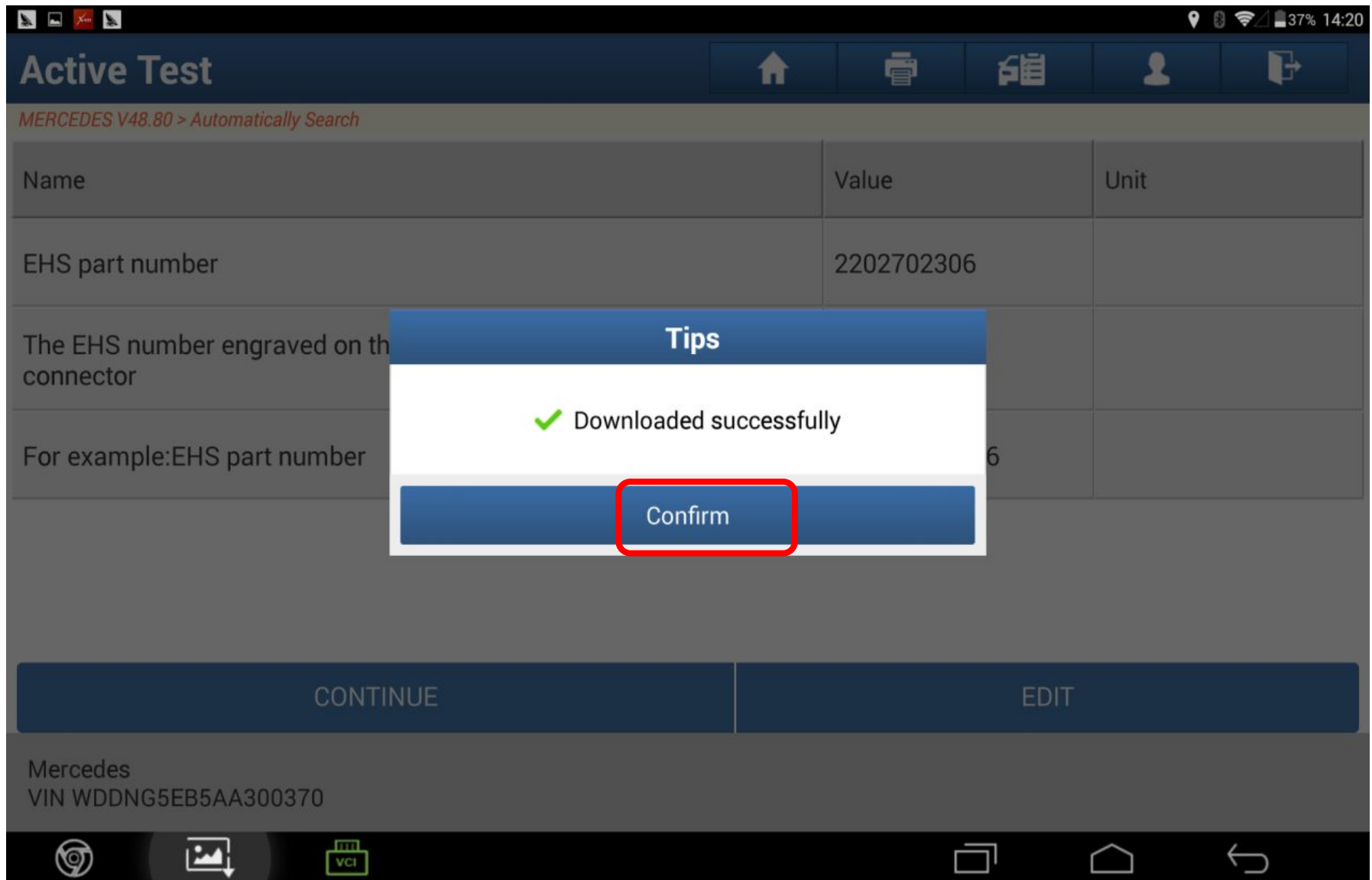
Mercedes  
VIN WDDNG5EB5AA300370



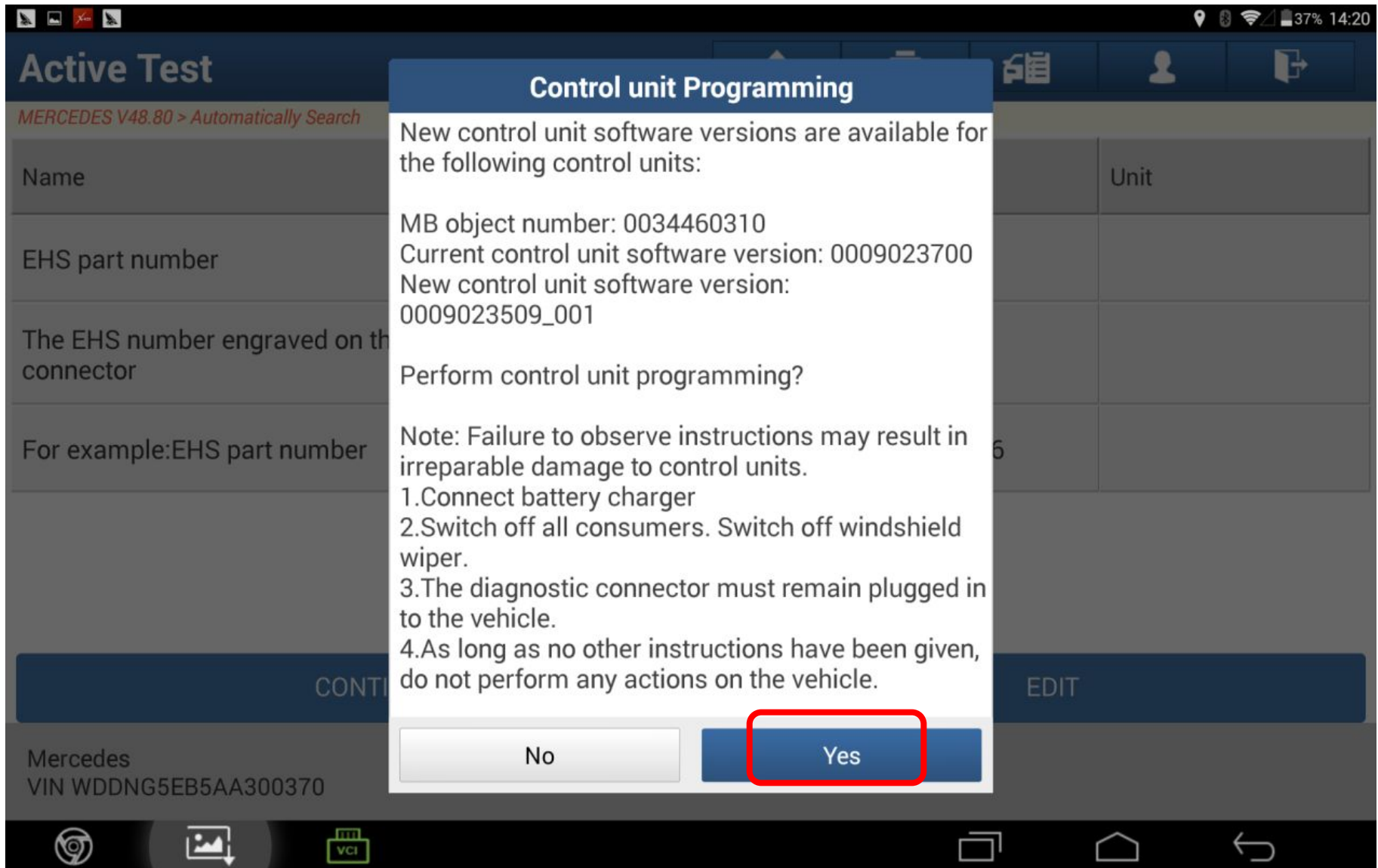
# BENZ 722.9 Gearbox Online Programming



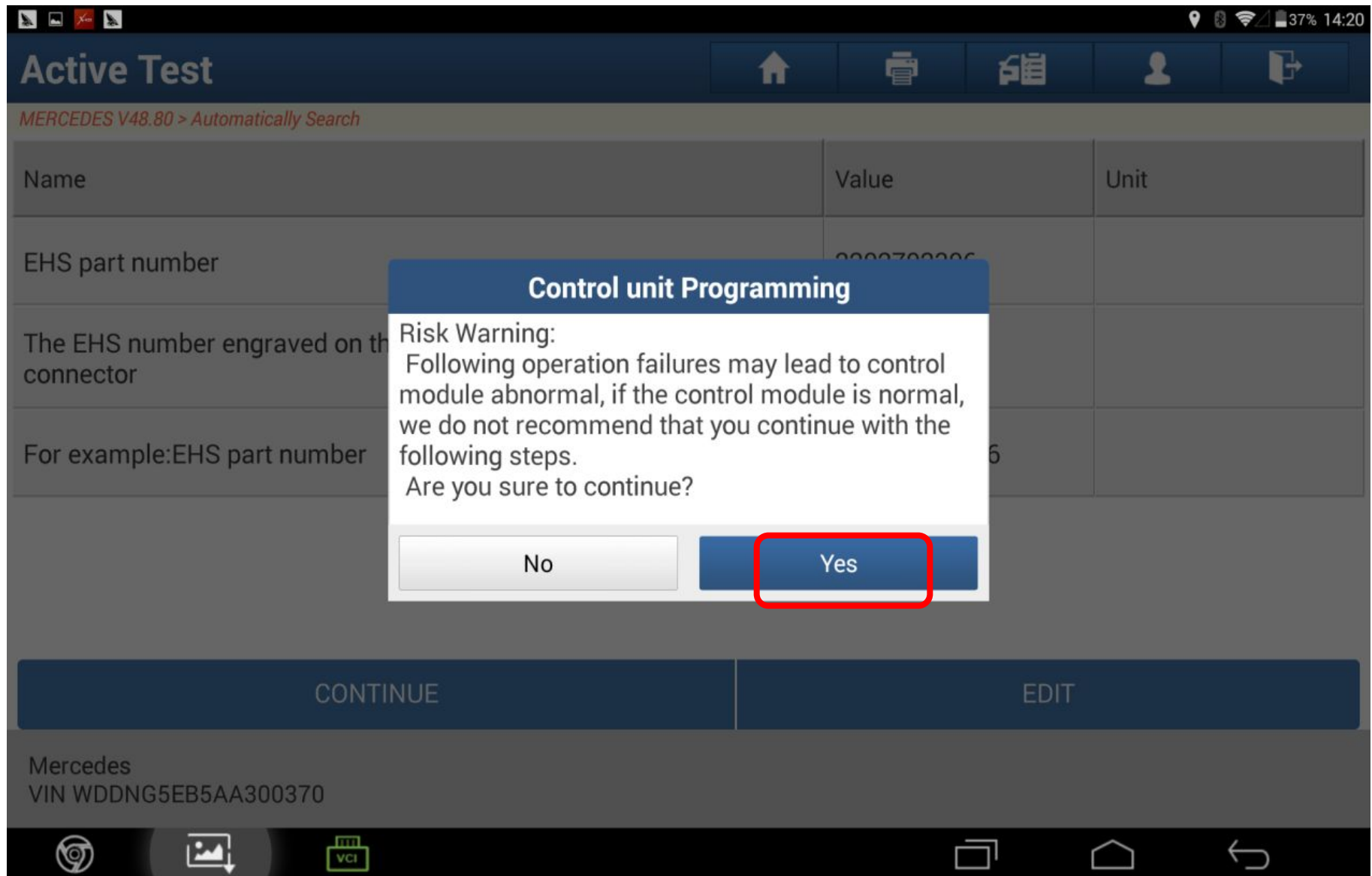
# BENZ 722.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming



## Control unit Programming



MERCEDES V48.80 > Automatically Search

Control unit information

Control unit:ETC

0009023509\_001 <

remaining time: 7 min , 56 s

Progress: >>>>+++++ 8 %

Note: Failure to observe instructions may result in irreparable damage to control units.

1. Connect battery charger.
2. Switch off all consumers.
3. The diagnostic connector must remain plugged in to the vehicle.
4. If possible, do not perform any procedures on the vehicle during control unit programming.

Mercedes  
VIN WDDNG5EB5AA300370

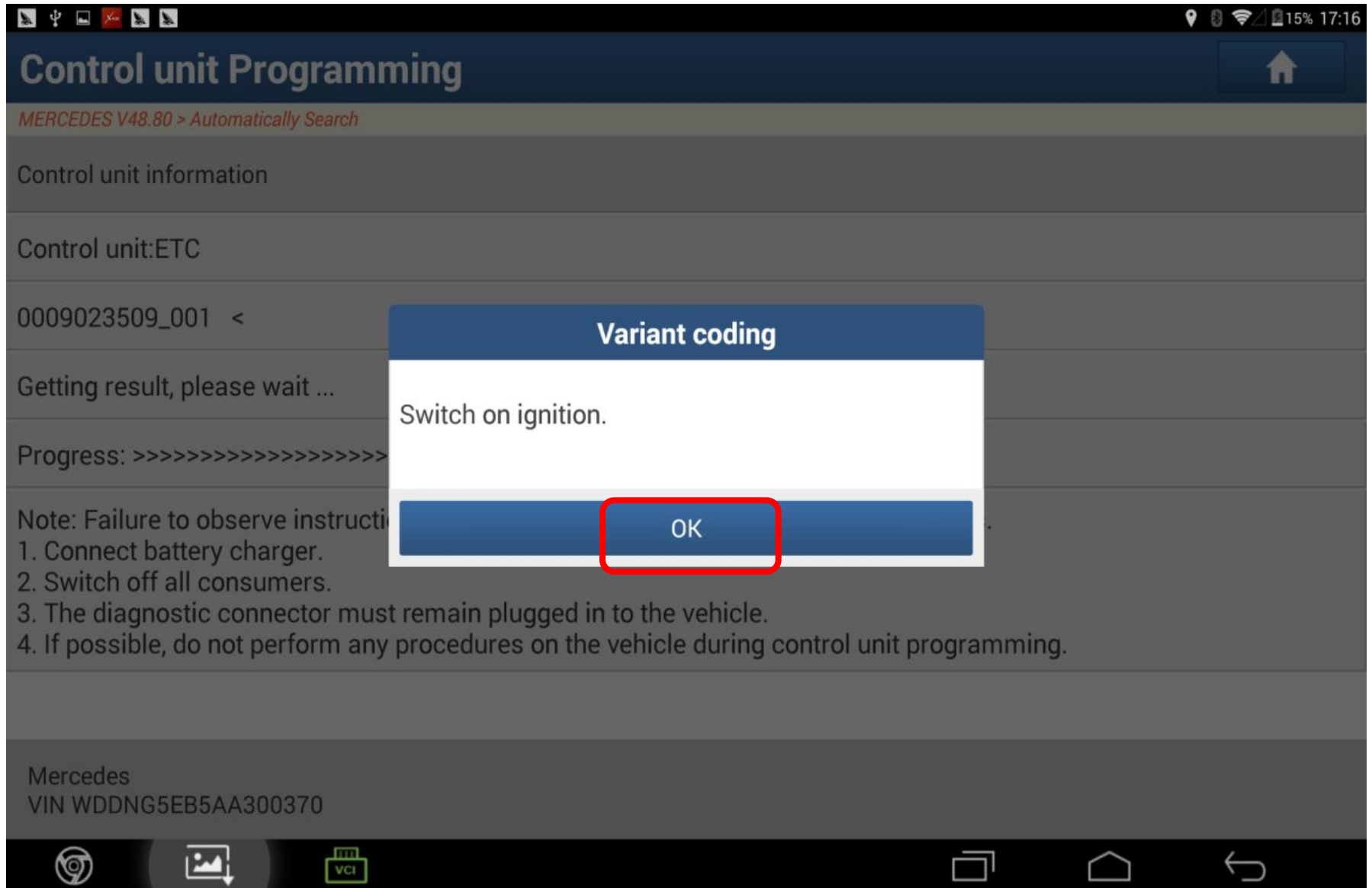




The screenshot displays the XENTRY Diagnostic Software interface. At the top, the title bar reads "Control unit Programming". Below it, the breadcrumb path "MERCEDES V48.80 > Automatically Search" is visible. The main content area shows "Control unit information" with the "Control unit:ETC" selected. The part number "0009023509\_001" is displayed with a back arrow. A modal dialog box titled "Control module programming" is centered on the screen, containing the message "Control unit programming was completed successfully." and an "OK" button, which is highlighted with a red rectangle. Below the dialog, a "Note: Failure to observe instructions" section lists four steps: 1. Connect battery charger. 2. Switch off all consumers. 3. The diagnostic connector must remain plugged in to the vehicle. 4. If possible, do not perform any procedures on the vehicle during control unit programming. At the bottom, the vehicle information "Mercedes" and "VIN WDDNG5EB5AA300370" is shown. The bottom navigation bar includes icons for a compass, image gallery, VCI (highlighted in green), and other system functions.

[illegible]

# BENZ 722.9 Gearbox Online Programming



[illegible]

[illegible]

If an error occurs, please execute."SCN CODING"Functionalities

OK

Note: Failure to observe instructi

1. Connect battery charger.
2. Switch off all consumers.
3. The diagnostic connector must remain plugged in to the vehicle.
4. If possible, do not perform any procedures on the vehicle during control unit programming.

Mercedes

VIN WDDNG5EB5AA300370

# BENZ 722.9 Gearbox Online Programming

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Show Menu

MERCEDES V48.80 > Automatically Search

Version Information	Read Fault Code
Clear Fault Memory	Read Data Stream
Special Function	Initial startup
Variant coding	Control unit Programming
Setting/Changeover	SCN CODING

Mercedes  
VIN WDDNG5EB5AA300370

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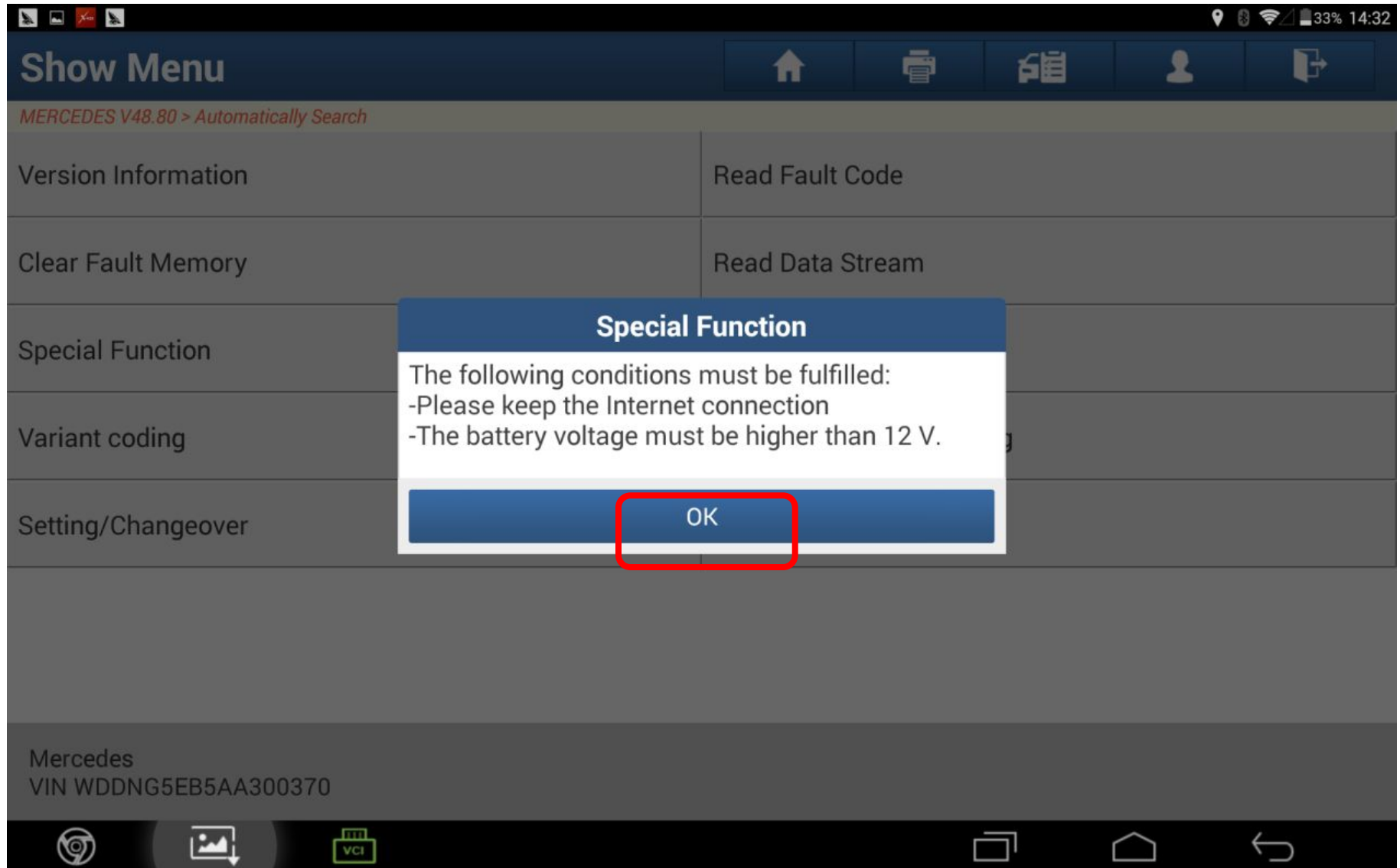
📶  
VCI

📄

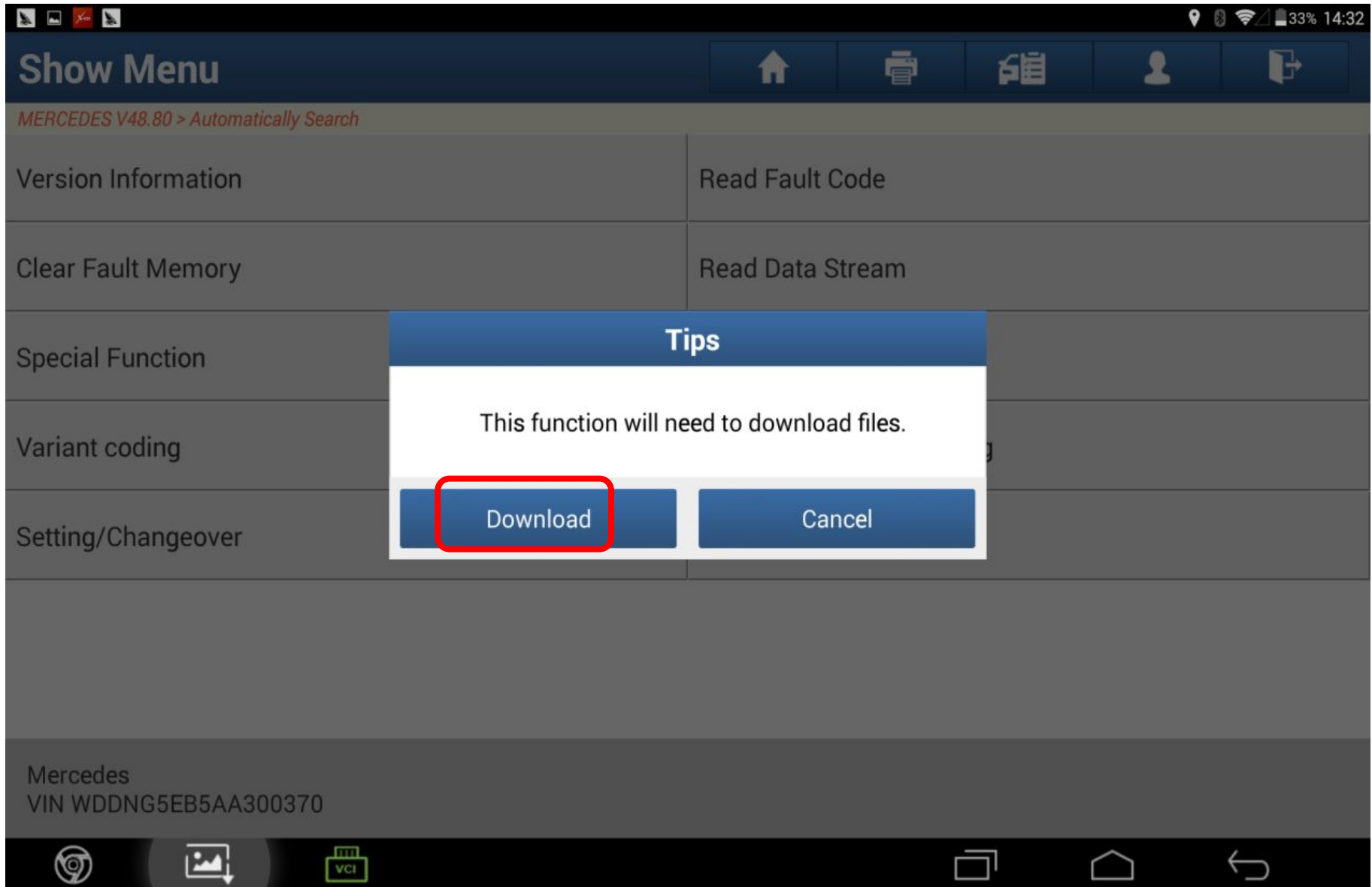
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# BENZ 722.9 Gearbox Online Programming

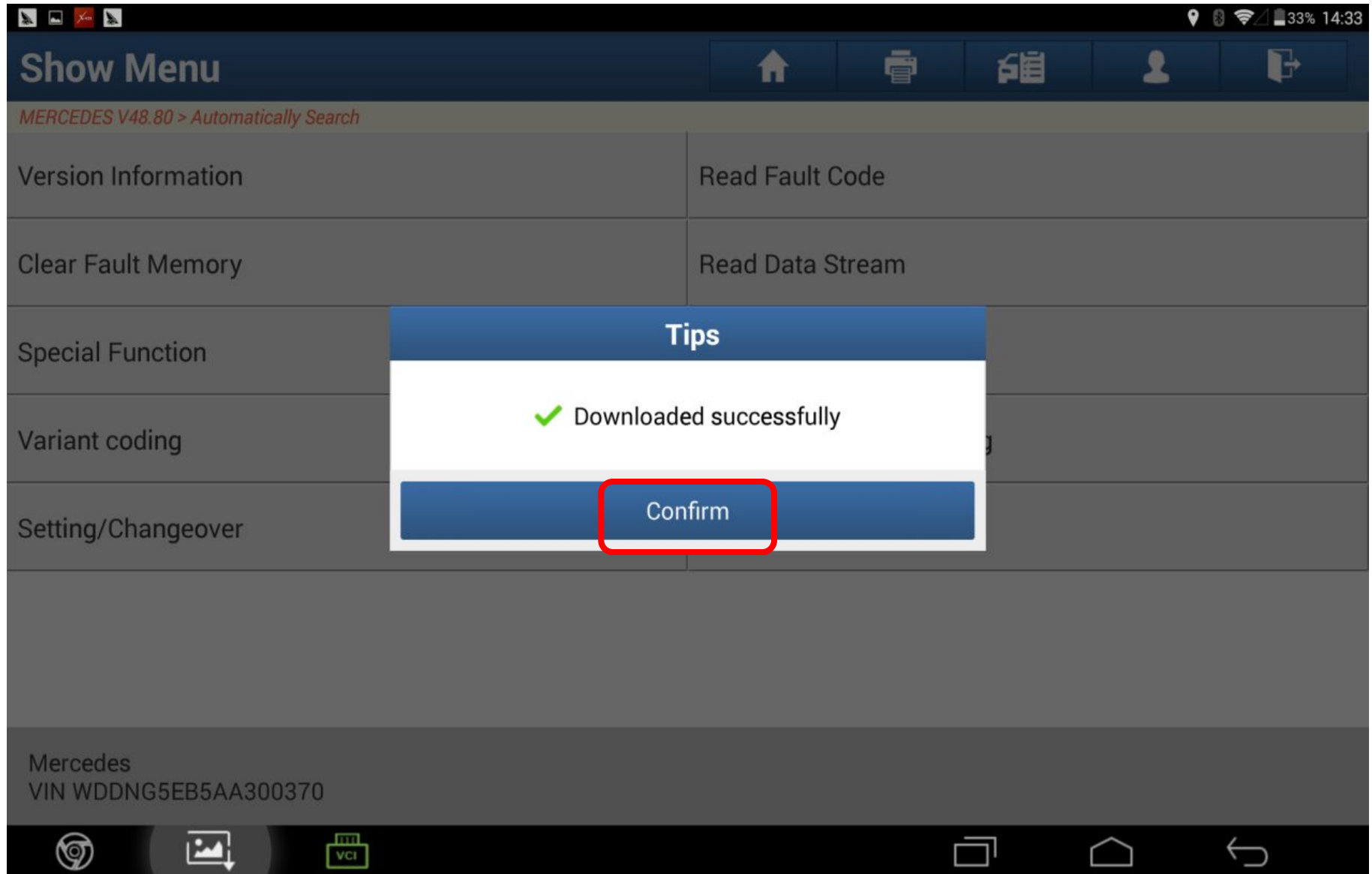


# BENZ 722.9 Gearbox Online Programming

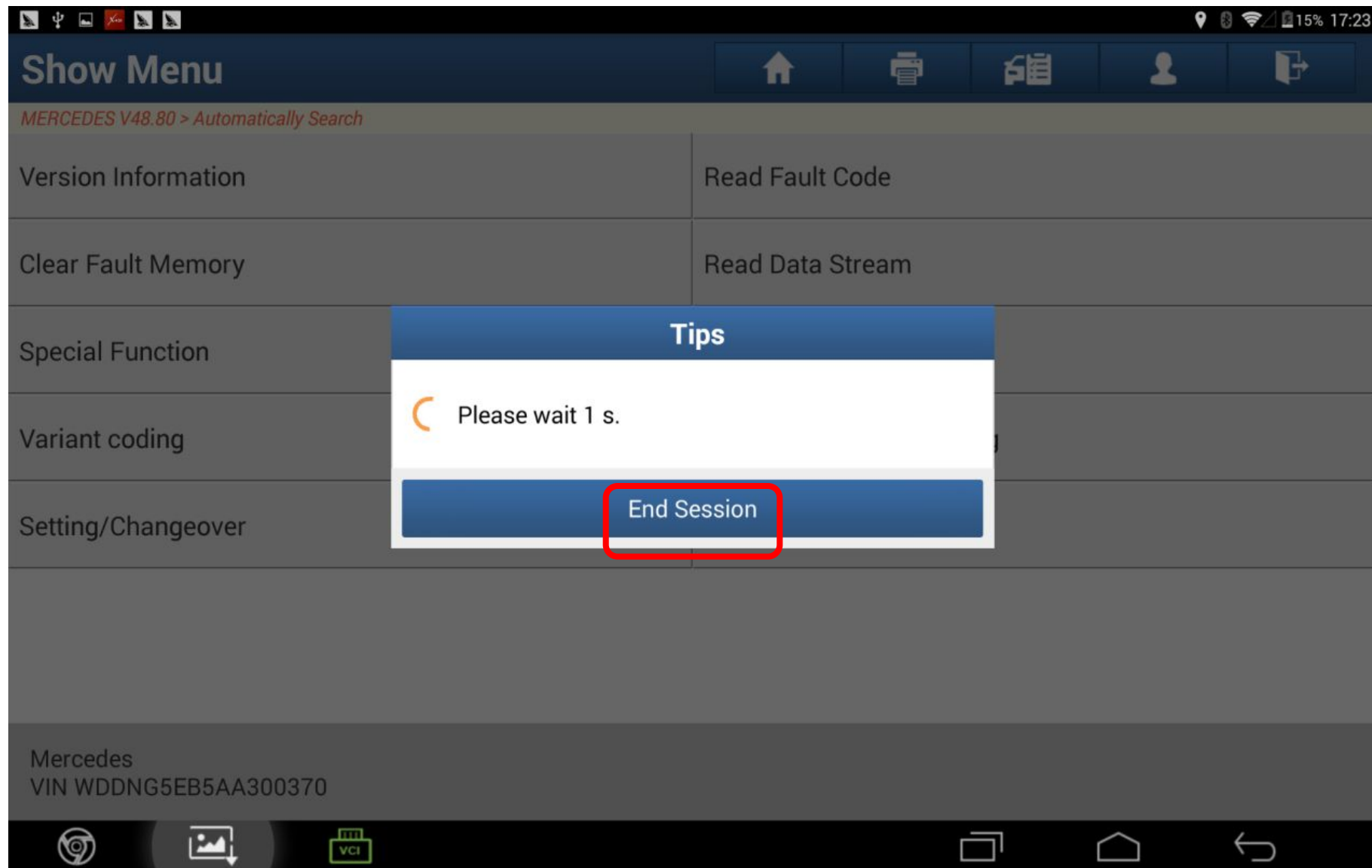




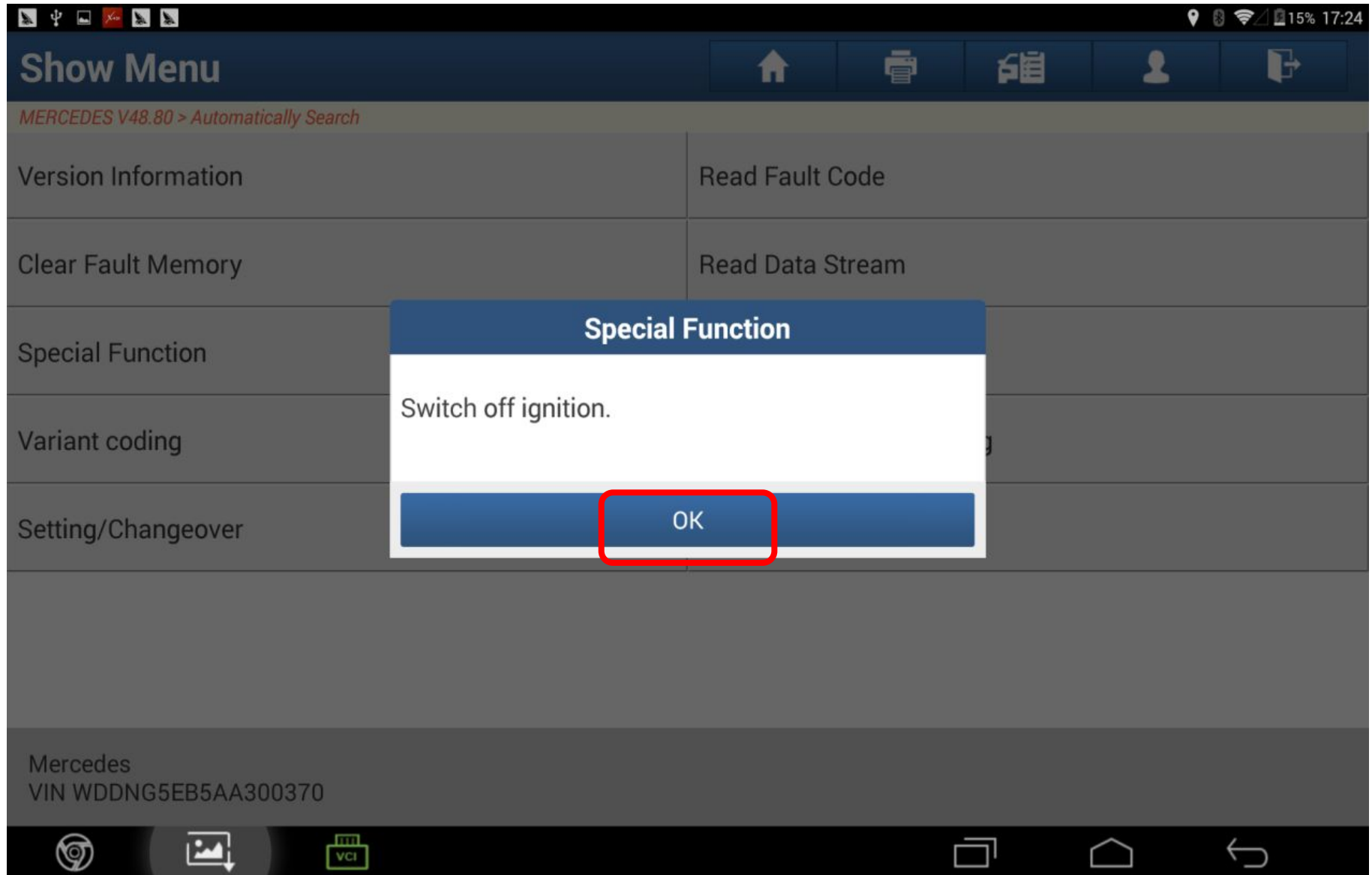
# BENZ 722.9 Gearbox Online Programming



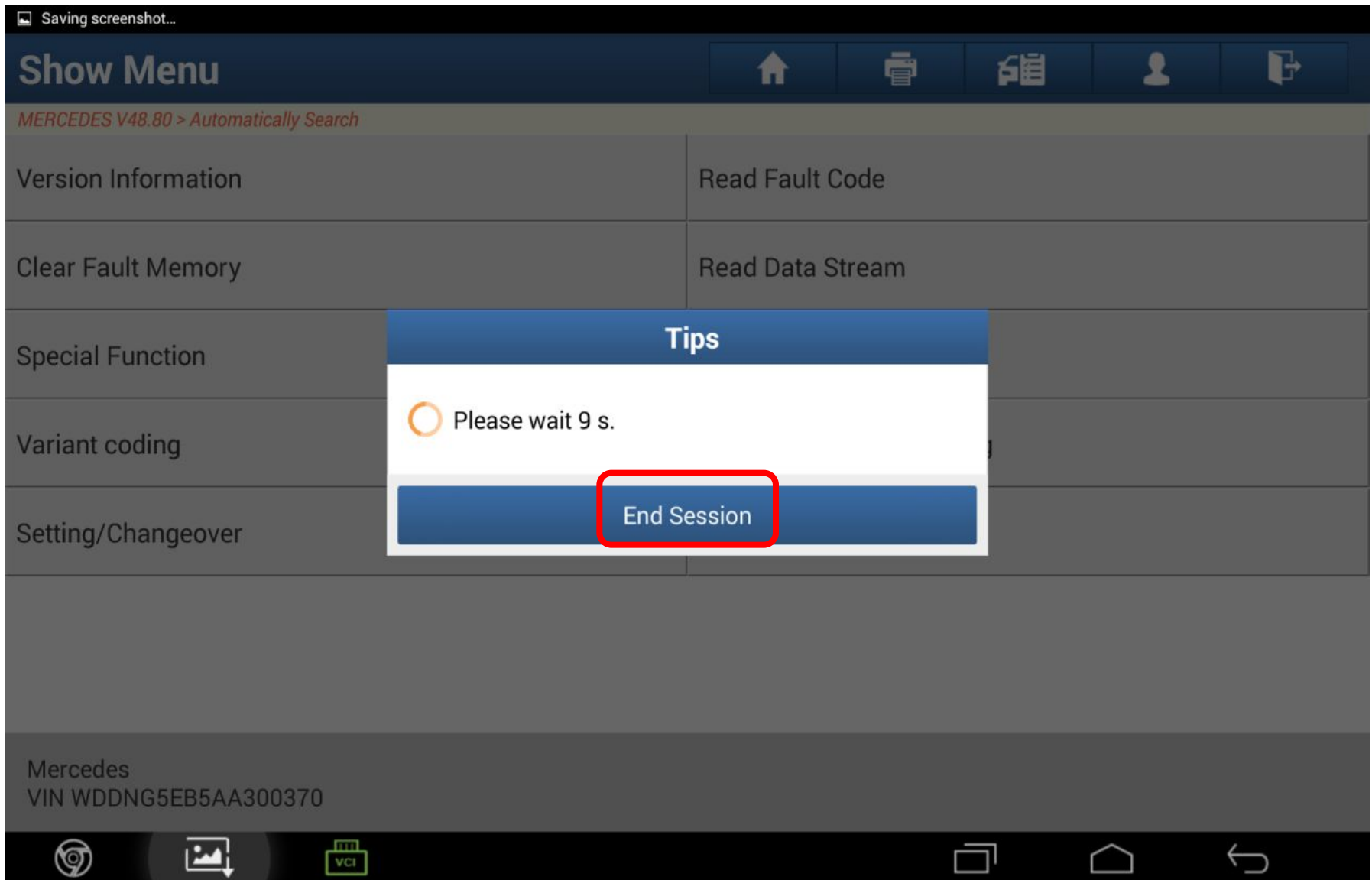
# BENZ 722.9 Gearbox Online Programming



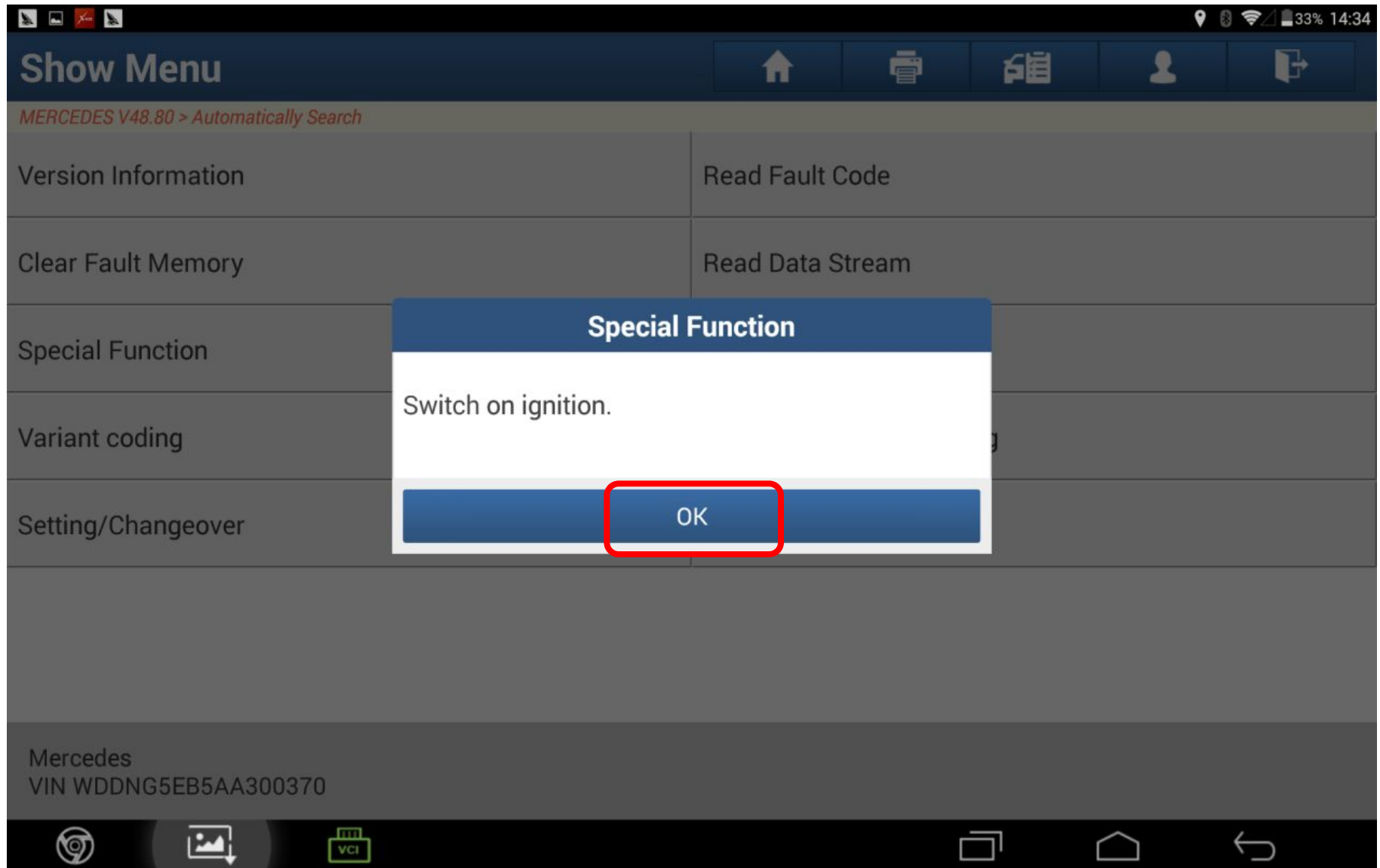
# BENZ 722.9 Gearbox Online Programming



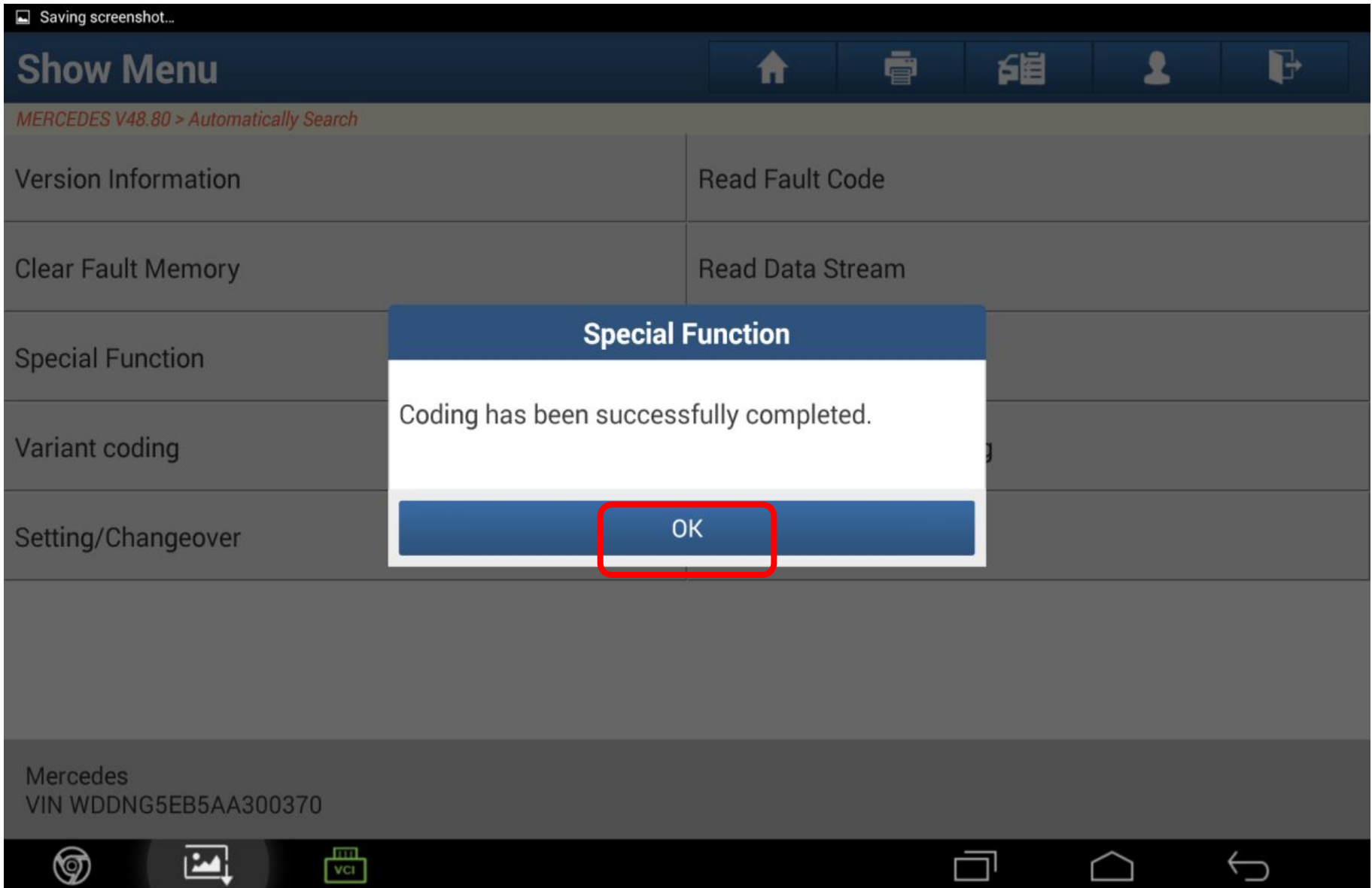
# BENZ 722.9 Gearbox Online Programming



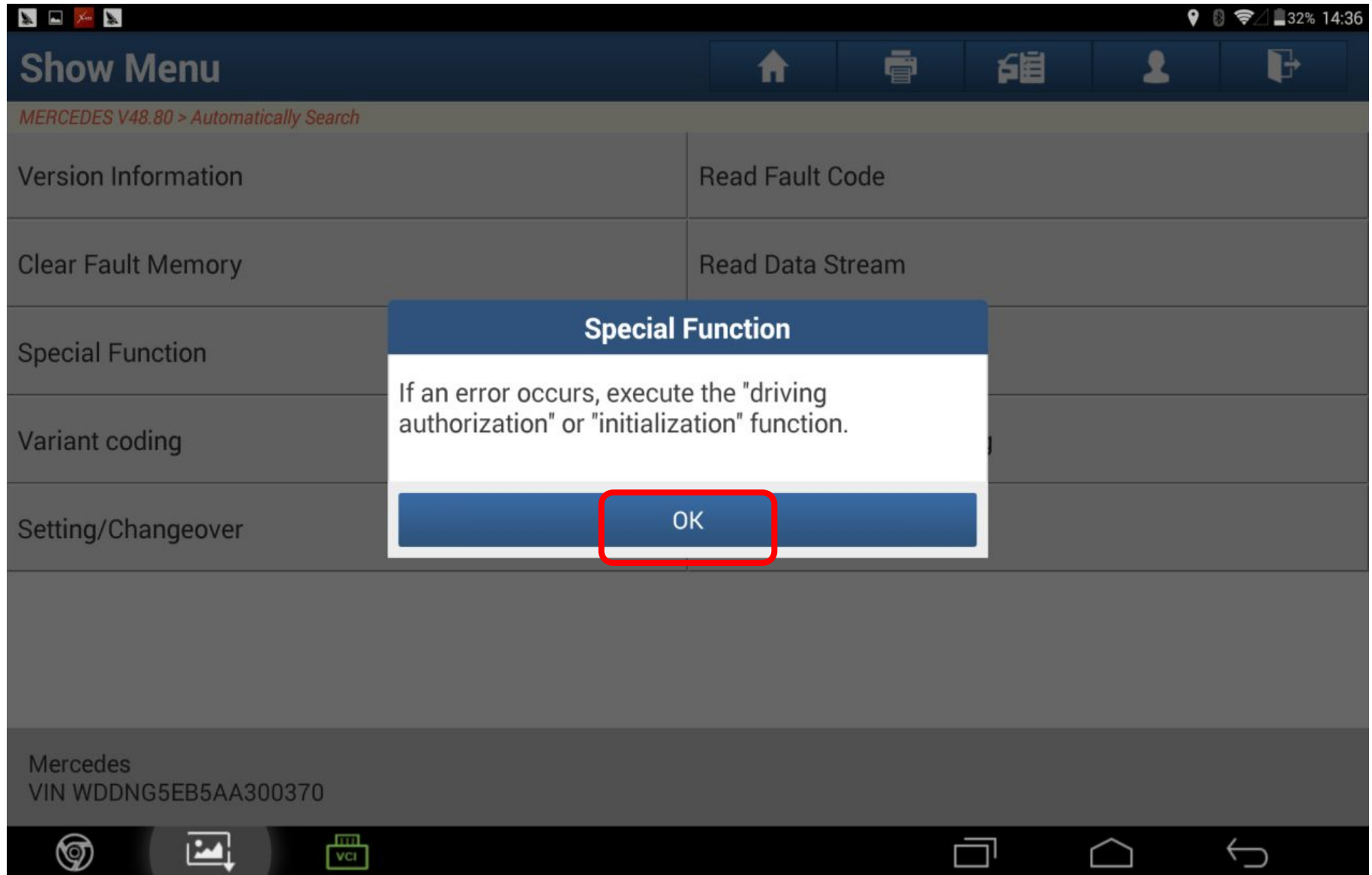
# BENZ 722.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming



# BENZ 722.9 Gearbox Online Programming





# Diagnostic Connections

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