

BMW - A001

TUTORIAL

www.aurodiag.com

Trademarks

Auro[™] and OtoSys[™] are trademarks of Shenzhen HC Tech CO., Ltd., registered in China, the United States and other countries. All other marks are trademarks or registered trademarks of their respective holders.

Copyright Information

No part of this manual may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Auro.

Disclaimer of Warranties and Limitation of Liabilities

All information, specifications and illustrations in this manual are based on the latest information available at the time of printing.

Auro reserves the right to make changes at any time without notice. While information of this manual has been carefully checked for accuracy, no guarantee is given for the completeness and correctness of the contents, including but not limited to the product specifications, functions, and illustrations.

Auro DOES NOT promote or encourage ANY illegal activities, all contents provided by Auro is meant for VEHICLE MAINTENANCE only.

Any action you take upon the information from this manual is strictly at your own risk, Auro will not be liable for any direct damages or for any special, incidental, or indirect damages or for any economic consequential damages (including lost profits).

For Services and Support:



www.aurodiag.com

support@aurodiag.com

For technical assistance in all other markets, please contact your local selling agent.

Safety Information

For your own safety and the safety of others, and to prevent damage to the device and vehicles upon which it is used, it is important that the safety instructions presented throughout the product user manual be read and understood by all persons operating or coming into contact with the device.

There are various procedures, techniques, tools, and parts for servicing vehicles, as well as in the skill of the person doing the work. Because of the vast number of test applications and variations in the products that can be tested with this equipment, we cannot possibly anticipate or provide advice or safety messages to cover every circumstance. It is the automotive technician's responsibility to be knowledgeable of the system being tested. It is crucial to use proper service methods and test procedures. It is endanger your safety, the safety of others in the work area, the device being used, or the vehicle being tested.

Before using the device, always refer to and follow the safety messages and applicable test procedures provided by the manufacturer of the vehicle or equipment being tested. Use the device only as described in this manual. Read, understand, and follow all safety messages and instructions in this manual.

Safety Messages

Safety messages are provided to help prevent personal injury and equipment damage. All safety messages are introduced by a signal word indicating the hazard level.

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

Safety Instructions

The safety messages herein cover situations Auro is aware of. Auro cannot know, evaluate or advise you as to all of the possible hazards. You must be certain that any condition or service procedure encountered does not jeopardize your personal safety.

A DANGER

When an engine is operating, keep the service area WELL VENTILATED or attach a building exhaust removal system to the engine exhaust system. Engines produce carbon mooxide, an odorless, poisonous gas that causes slower reaction time and can lead to serious personal injury or loss of life.

SAFETY WARNINGS

- Always perform automotive testing in a safe environment.
- Wear safety eye protection that meets ANSI standards.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Operate the vehicle in a well ventilated work area, for exhaust gases are poisonous.
- Put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission) and make sure the parking brake is engaged.
- Put blocks in front of the drive wheels and never leave the vehicle unattended while testing.
- Be extra cautious when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.
- Keep a fire extinguisher suitable for gasoline, chemical, and electrical fires nearby.
- Do not connect or disconnect any test equipment while the ignition is on or the engine is running.
- Keep the test equipment dry, clean, free from oil, water or grease. Use a mild detergent on a clean cloth to clean the outside of the equipment as necessary.
- Do not drive the vehicle and operate the test equipment at the same time. Any distraction may cause an accident.
- Refer to the service manual for the vehicle being serviced and adhere to all diagnostic procedures and precautions. Failure to do so may result in personal injury or damage to the test equipment.
- To avoid damaging the test equipment or generating false data, make sure the vehicle battery is fully charged and the connection to the vehicle DLC is clean and secure.
- Do not place the test equipment on the distributor of the vehicle. Strong electromagnetic interference can damage the equipment.



CONTENTS

	TRADEMARKS	i
	COPYRIGHT INFORMATION	i
	DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITIES	i
	FOR SERVICES AND SUPPORT:	i
	SAFETY INFORMATION	ii
	SAFETY MESSAGES	ii
	SAFETY INSTRUCTIONS	ii
IN	TRODUCTION	1
	Key Learning via Smart Mode	2
	Key Learning via Expert Mode	16
AF	PENDIX	34
	DISASSEMBLE THE ECU MODULE	34
	CONNECT THE TEST WIRE HARNESS AND OBD CABLE	35
	DISASSEMBLE THE EEPROM CHIP	37

Introduction

This manual introduces how to conduct BMW key learning with Auro OtoSys IM600 Smart Mode and Expert Mode.

Two options are available when accessing the IMMO function:

- Smart Mode the IM600 tablet will read the vehicle information and analyze the IMMO part information automatically.
- Expert Mode user can make selections step by step to locate the IMMO part.

> Procedures before getting started:

- 1. Connect the OtoFlash to the vehicle's DLC via the main cable for both communication and power source.
- 2. Connect the OtoFlash to the tablet via BT pairing, or USB connection.
- 3. Connect the IM600 tablet to the included programmer UP400 via USB cable.
- 4. Dismount the ECU module from the vehicle, refer to Appendix on page 34.
- 5. Connect the ECU module to the Emergency coil stretched out from COM7.
- Connect one end of the included OBD cable to the IM600 tablet, while the other end needs to be connected to the wire harness stretched out from COM8 on the ECU module. The wire harness is not included, you could DIY, refer to Appendix on *page 35*.
- 7. Make sure the user has access to WiFi service in case you need to send the operation data.

Illustrations used in this manual are samples, and the actual testing screens may vary by vehicle. Observe the menu titles and on-screen instructions to make correct selections and operations.



Key Learning via Smart Mode

1. Turn on the IM600 tablet, tap **OtoSys** on the main interface screen, then **IMMO**. A vehicle menu displays and a disclaimer prompts up. Tap **Accept** to continue.



Figure 1 Sample Main Interface



Figure 2 Sample OtoSys Interface



2. Connect the IM600 tablet to WiFi in case you need to send the operation data, then go back to the vehicle menu.



Figure 3 Sample Connect WiFi Screen

3. Tap BMW on the vehicle menu, then tap Smart Mode on the Mode Select interface.

⊘NOTE

You can click on the icon near the top-right corner to record the operation data. If you encounter any difficulties, click on the icon again to send us the data and problems, so that our engineers could help.



Figure 4 Sample Vehicle Menu



€	<u>ج</u>	¢ 6	2	間	6
VIN:		Moc	le		12.03V
Smart Mode]	Expert Mode	0	ECU Renew	0
BMW V1.05.07 Car:					ESC
5 ጽ		d 🖾 🔂		2 74	💬 🗇 🍞 70% 🛢 5:59

Figure 5 Sample Mode Select Screen

4. Make sure the engine is off, tap **OK** on the information interface. The IM600 tablet starts to read vehicle information automatically.

⊘NOTE

The ECU module is detected automatically under the Smart Mode. Check the ECU module in ECU information at the bottom of the vehicle information interface.

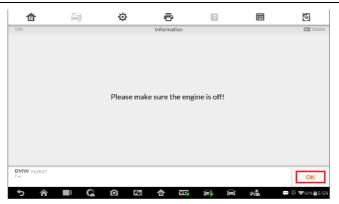


Figure 6 Sample Information Screen

₫	â)	Φ	ē	?		đ
VIN:123456789012345	i67		Vehicle Information			12.03V
O Vehicle	le Information				Veh	iicle details
Date: 2018/02/08		Time: 06:00:0	2			
Model series: F020		Type/Descript	ion: 1A31			
Ociometer(km): 0		VIN: 1234567	8901234567			
Integration Level(shipme	ent)	Integration Le	vel(current)	Integral	tion Level(last)	
F020-12-03-520		F020-13-03-5	02	F020-1	3-03-502	
Time criterion: 1111		Paint code: 0A	61	Uphoist	ery code: BEL2	
E Wort:		A080				
H0-Wort:						
⊖ ECU i	nformation					
Control unit name		Hardware ver	slon	Softwa	re version	
BMW V1.05.07 Car: Bmw/F20/F20					ок	ESC
5 🏫	D	0	🚖 🚾	📦 😭	μ.	@ \$69%≣6:0

Figure 7 Sample Vehicle Information Screen

•	a)	Φ	ē	?		đ
VIN:123456	78901234567		Vehicle Information			12.03V
Ð	Vehicle Information				Vehi	cle details
Θ	ECU information					
Control unit		HWAP 0000 HWAP 0000 HWAP 0000 HWAP 0000 HWAP 0000 HWAP 0000	Prilon 0729.000.04.010 0729.000.04.010 0729.000.04.010 0729.057.255.255 0720.255.255.255 0720.255.255.255 0720.255.255.255 0730.255.255.255 0730.255.255.255	BTLD SWFL SWFL	rare version 00001556 003.101.010 00001556 011.102.020 .0000155F 000.003.079 000000794 011.033.012	
BMW vto Card Browth 2		0 20			ок	ESC @ ❤6%\$≣6:00

Figure 8 Sample Vehicle Information Screen

5. Tap **OK** on the vehicle information interface, the IM600 tablet starts to backup coding files automatically.



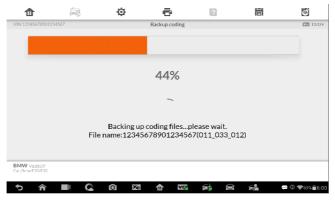


Figure 9 Sample Backup Coding Files Screen

6. After coding files backup, disassemble the EEPROM chip and connect it to the programmer for backing up and modifying EEPROM data. Tap **OK** when operation over.

⊘NOTE

- Tap **Diagram** on the information interface for the EEPROM chip location. For more details about disassembling the EEPROM chip, please refer to Appendix on page 37.
- Turn off the +12V power first.

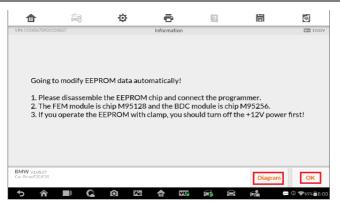
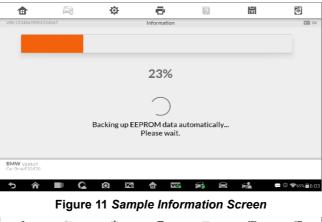


Figure 10 Sample Information Screen





a	â.	¢	ē	?		õ
VIN:12345678901234			Information			DB OV
			100%			
	Writi	ng the modi	fied EEPROM da Please wait.	ta automatica	ally	
BMW V105.07 Car: Dmw/E20/E20						
5 እ	G	Ô Xa		ri: 😭	б г а	 © \$ 69% ≣ 6:03

Figure 12 Sample Information Screen

7. Install the EEPROM chip back to the ECU module after modifying EEPROM data. Tap **OK** when operation over. Programing starts automatically.



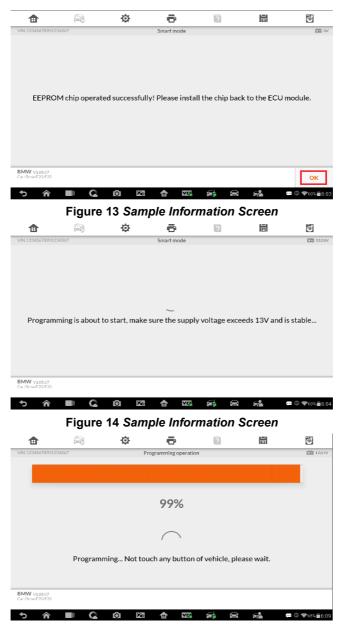


Figure 15 Sample Programming Screen



8. After programming, disassemble the EEPROM chip and connect it to the programmer for restoring the EEPROM data.

NOTE

- Tap **Diagram** on the information interface for the EEPROM chip location. For more details about disassembling the EEPROM chip, please refer to Appendix on page 37.
- Turn off the +12V power first.

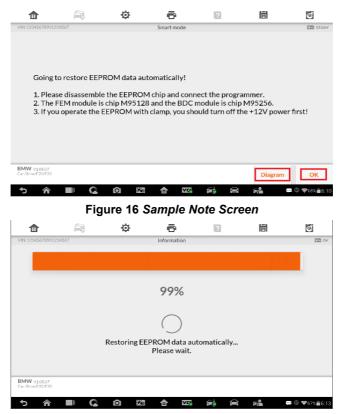


Figure 17 Sample Information Screen



9. Install the EEPROM chip back to the ECU module after restoring EEPROM data. Tap **OK** when operation over.

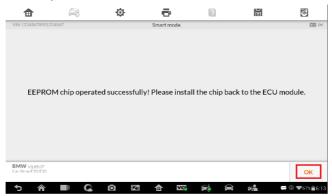


Figure 18 Sample Information Screen

10. Restoring coding files starts automatically after installation the EEPROM chip back. Pay attention to the notes displayed on the interface. Tap **OK** to proceed.

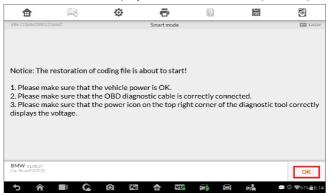


Figure 19 Sample Note Screen



₫	A)	¢	F e	5	?	間	ø
VIN:1234567890123	4567		Restor	e coding			12.03V
			44	1%			
			C	\supset			
		Rest	toring coding	filesplease	wait.		
BMW V105.07 Car: 8mw/F20/F20							
ୀ ଜ		a	26 🔂		i 🛱	я н	💬 🗇 🎔 67% 🖥 6:14

Figure 20 Sample Information Screen

11. Key learning starts automatically after restoring coding files. Pay attention to the operation guide. Tap **OK** to proceed.



Figure 21 Sample Information Screen





Figure 22 Sample Operation Guide Screen

12. Tap **Read password** on the Key Learning interface. Proceed as information displayed. Tap **OK** on the key password information interface, go back to the Key Learning interface.

NOTE

The ISN code is needed if you have no working keys with key learning.

123456789012	<u>ج</u>	Φ	ē	?	l	1 2.03V
	number		Key Learning Key ID		Key ID st	
	Key1		78835D36		Used	I
	Key2		BDD63D34		Used	I
	Key3		FFFFFFF		Free	
	Key4		FFFFFFF		Free	
	Key5		FFFFFFF		Free	
BMW V105.07 Car: 0mw/F20/F20				ad Word	√rite key Erase key	Close
ጎ ଜ	–	Ô Xe	🛨 🚾	F	a s	🚥 🌐 🎔 66% 🖥 6:17

Figure 23 Sample Key Learning Screen



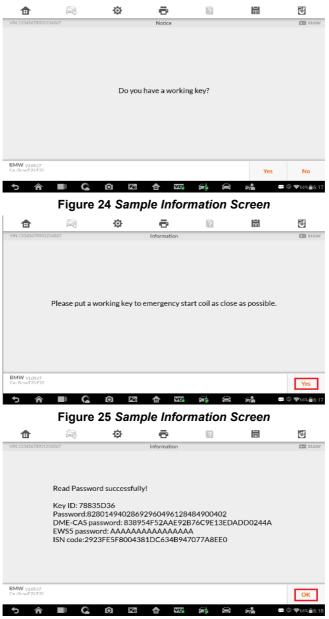


Figure 26 Sample Key Information Screen



13. Select a free key to write. Tap **Write key**. Proceed as information displayed. Tap **OK** when operation over.

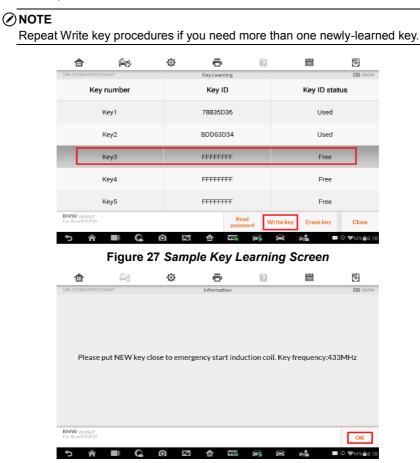


Figure 28 Sample Information Screen





Figure 29 Sample Connection Screen

 Tap **OK** on the Write key success interface, go back to the Key Learning interface. The key ID status of the selected key becomes "Used". Key learning via Smart Mode completes.

NOTE

If keys are lost, select the corresponding keys on the interface, tap **Erase key** to delete the lost keys.



Figure 30 Sample Information Screen



₫	ít)	¢	ē	?	1		đ
VIN:123456789012			Key Learning				12.03V
Key	number		Key ID			Key ID stat	us
	Key1		78835D36			Used	
	Key2		BDD63D34			Used	
	КеуЗ		7FA09232			Used]
	Key4		FFFFFFF			Free	
	Key5		FFFFFFF			Free	
BMW V1.05.07 Car: Brow/F20/F20				Read	Write key	Erase key	Close
5 🏠	D	0	🚖 🚾		(II		@ \$€6%≣6:20

Figure 31 Sample Key Learning Screen

Key Learning via Expert Mode

1. Turn on the IM600 tablet, tap **OtoSys** on the main interface screen, then **IMMO**. A vehicle menu displays and a disclaimer prompts up. Tap **Accept** to continue.



Figure 32 Sample Main Interface



Figure 33 Sample OtoSys Interface

2. Connect the IM600 tablet to WiFi in case you need to send the operation data, then go back to the vehicle menu.

Ø	🕻 Wi-I	Fi							Ø	+	:
	WIRE	LESS & NETWORK	s							~	
	Ŧ	Wi-Fi	ON							T	-
	*	вт	ON		Saved					¢	
	5	Ethernet									
	٩	Data usage									-
		More									_
	DEVIC	E									
	•	Sound									-
	¢	Display									-
	4	Storage									_
	Ê	Battery									
Þ		^ ■	6 0	20	♠	VĘ	i=i	6		(i) \$\overline\$629	2:01

Figure 34 Sample Connect WiFi Screen

3. Tap **BMW** on the vehicle menu, then tap **Expert Mode** on the Mode Select interface. Pay attention to the Notice interface, tap **OK** to proceed.

⊘NOTE

You can click on the icon near the top-right corner to record the operation data. If you encounter any difficulties, click on the icon again to send us the data and problems, so that our engineers could help.



Figure 35 Sample Vehicle Menu

€	ít)	¢	ē	?		đ
VIN:			Mode			DD OV
Smart Mode	0	Expert Mod	de	0	ECU Renew	0
BMW V105.07 Car:						ESC
5 🏠				6	2 54	😐 🛈 😤95% 🗎 3:0

Figure 36 Sample Mode Select Screen



Figure 37 Sample Information Screen



4. Tap **FEM/BDC** on the Expert mode interface to the FEM/BDC Function Select interface.



Figure 38 Sample Expert Mode Function Select Screen

5. Tap **Vehicle information** to check the vehicle information. Tap **ESC** to the FEM/BDC Function Select interface.

⊘NOTE

Check the ECU module in ECU information at the bottom of the vehicle information interface.

♠	ŝ	¢	ē	?		đ
VIN:123456789012			FEM/BDC			D 12.03V
Keyless pov	wer on	ECU re	eset	V	ersion detect	
Vehicle info	ormation	Coding	goperation	E	EPROM operat	ion
Programmi	ng operation	Vehicle	e frequency	ĸ	(ey status	
Key learnin	g	Key un	block/block	R	ead codes	
BMW V1.05.07 Car: Drrw/F20/F20						ESC

Figure 39 Sample FEM/BDC Function Select Screen

1001		formation	Vehicle	1234567	1234567890
Vehicle details				ehicle Information	⊖ ve
			Time: 03:05:40		2018/02/08
			Type/Description: 1A:	0	el series: FO20
		57	VIN: 1234567890123		meter(km): 0
st)	Integration Level(last))	Integration Level(curr	shipment)	ration Level(s
	F020-13-03-502		F020-13-03-502		-12-03-520
12	Upholstery code: BEL2		Paint code: 0A61	11	criterion: 111
			A080		ort:
					Vort:
				CU information	ΘEC
	Software version		Hardware version	2	rol unit name
ESC 🕶 ଓ ବେହନ୍ତ୍ର	F. 2 M.				W vt.os.oz Briveri-20/F20
= © ♥94× Creen	n e n formation Scr i ii	cle Infor			Brrw/F20/F20
= © ♥94× Creen	formation Scr	cle Infor	mple Vel අ	igure 40 Sa	Fi
= © ≑⊶: creen ፩	formation Scr	cle Infor	mple Vel අ	igure 40 Sa	Elewer 20/+ 20 Fi Fi 1:1234567890
۲ و بینون (Creen آن ۲ ۲	formation Scr	cle Infor	mple Vel අ	igure 40 Sa	Element 25/1-25
Creen	formation Scr	cle Infor	mple Vel අ	ehicle Information	Extract 2014-201 Fi
Creen	formation Scr 回 間	1010 5.255 5.255	mple Vel 야 vehicle	ehicle Information	Entrank 2014-20 Fi Entrank 2
ت و می Creen و	formation Scr	cle Infor	mple Vel අ	igure 40 Sa	Elewer 20/+ 20 Fi Fi 1:1234567890

Figure 41 Sample ECU Information Screen

6. Tap **Coding operation > Backup coding** to back up coding files. Save the file after backup successful. Tap **OK > ESC**, go back to the FEM/BDC Function Select interface.



₫	<u>ج</u>	¢	ē	?		đ
VIN:123456789012	VIN:12345678901234567		FEM/BDC			12.03V
Keyless power on		ECU re	eset		Version detect	
Vehicle info	rmation	Codin	g operation		EEPROM operatio	on
Programming operation		Vehicl	Vehicle frequency		Key status	
Key learning		Key ur	Key unblock/block		Read codes	
BMW V1.05.07 Car: Bmw/F20/F20						ESC
5 እ		0	✿ ᢦ₽	F	e 💤 🖷	@ \$95%∎3:0

Figure 42 Sample FEM/BDC Function Select Screen

a	Ét)	¢	ē	?		đ
VIN:123456789012			Coding operation			12.13V
Backup cod	ing	Restor	re coding		Repair coding	
BMW V1.05.07 Car: Brow/F20/F20					Help	ESC
<u>ን</u> ሰ		Ó ×	🛨 🔤	î چَ	2 🐔 😁	@ \$\$94≈∎3:09

Figure 43 Sample Coding Operations Screen



Figure 44 Sample Backup Coding Screen



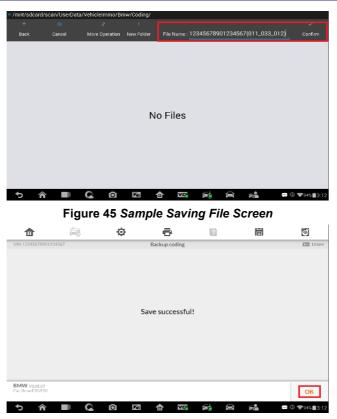


Figure 46 Sample Information Screen

 Tap EEPROM operation on the FEM/DBC Function Select interface. The Model Selection interface displays, M95128 is corresponding to FEM module, and M95256 is corresponding to BDC module. Take FEM module as an example here, tap M95128. The M95128 Function Select interface displays.

NOTE

- Tap **Diagram** for the EEPROM chip position.
- Turn off the +12V power first, then disassemble the EEPROM chip and connect it to the programmer.



8. Tap **Read operation** on the M95128 Function Select interface. Save the EEPROM data displayed.

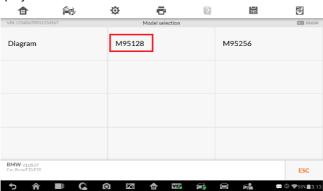


Figure 47 Sample Model Selection Screen

₫	íc)	¢	ē	?		đ
VIN:123456789012			ST->M95128			12.06V
Read opera	ition	Modify	data file	,	Write operation	
BMW V105.07 Car: Derw/F20/F20					Help	ESC
চ ল	- G	0 **		6	a 🙈 🚥	@ \$93%∎3:14

Figure 48 Sample M95128 Function Select Screen

₫	á)	ф	ē	?		đ
VIN:123456789012	234567		EEPROM data:			DD DV
	000000000:	0101FF6	00FF05050	50118FF	FF1707268F	
	00000010:	04D2010	000010000	0000101	0004120615	
	00000020:	8B00096	000000000	0000001	0000079200	
	00000030:	0407066	000015560	3650A08	0000155E04	
	00000040:	671E086	0000155F0	0031D01	FFFFFFFFF	
	00000050:	FFFFFF	FFFFFFFFF	FFFFFFF	FFFFFFFFF	
	00000060:	FFFFFF	FFFFFFFF	FFFFFFF	FFFFFFFFF	
	00000070:	FFFFFF	FFFFFFFF	FFFFFF	FF01FFFFFF	
	00000080:	FFFFFF	FFFFFFFF	FFFFFFF	FF08000015	
	00000090:	5F00031	DFFFFFFF	FFFFFFF	FFFFFFFFF	
	000000A0:	FFFFFF	FFFFFFFF	FFFFFFF	FFFFFFFFF	
	000000B0:	FFFFFF	FFFFFFFF	F612B11	E9FFFFFFFF	
	000000C0:	FFFFFF	FFFFFFFF	FFFFFFF	FFFFFFFFF	
	000000D0:	FFFFFF	FFFFFFFF	FFFFFFF	FFFFFFFFF	
	000000E0:	FFFFFF	FFFFFFFF	FFFFFFF	FFFFFFFFF	
BMW V1.05.07 Car: Derw/F20/F20					Save	Cancel
5 ሰ	B	0 25			2	@ 🍞 93% 🛢 3:18

Figure 49 Sample EEPROM Data Screen

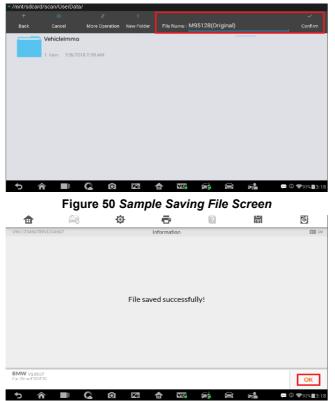


Figure 51 Sample Information Screen



9. Tap **Modify data file** after Reading operation. Select the source (original) file to modify.

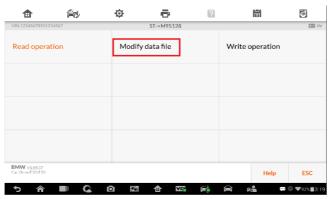


Figure 52 Sample M95128 Function Select Screen

♠	a	¢	ē	?	間	ĕ
VIN:123456789012	34567		Information			DD DV
			\frown			
			\mathcal{I}			
	F	Please select t	he source file t	o be modified.	•	
BMW V105.07						
Car: Bmw/E20/E20						
ን 渝	D	Ô Xo		r	5	😐 🛈 🕸 92% 🛢 3:19

Figure 53 Sample Information Screen



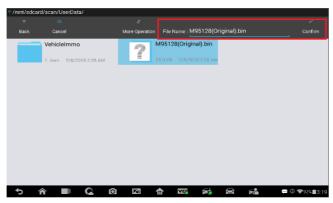


Figure 54 Sample Selecting File Screen

10. Save the modified EEPROM data. Go back to the M95128 Function Select interface.



Figure 55 Sample Saving Data Screen

11. Tap **Write operation**. Select the modified EEPROM data to write. After writing successfully, turn off the +12V power, install the EEPROM chip back to the FEM module. Go back to the FEM/BDC Function Select interface.





Figure 56 Sample Selecting File Screen



Figure 57 Sample Information Screen

12. Tap **Programming operation > ECU preprocessing**. Make sure the three operations listed have been taken, tap **Yes** and proceed.



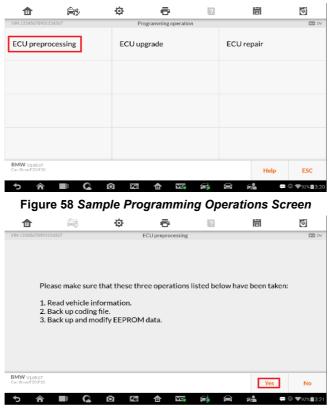


Figure 59 Sample Information Screen

13. Pay attention to the Note interface, tap **OK** to proceed. Go back to the FEM/BDC Function Select interface after programming successful.



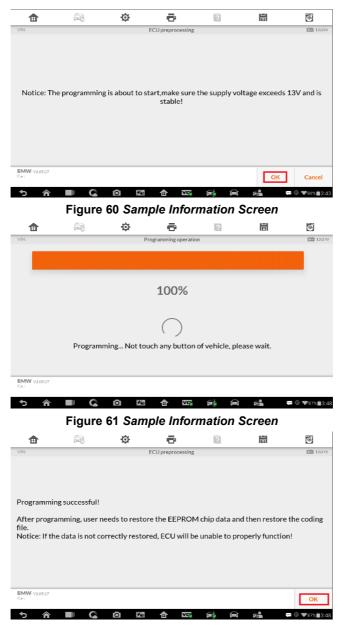


Figure 62 Sample Information Screen



14. Tap EEPROM operation. Turn off the +12V power, disassemble the EEPROM chip. Tap M95128 > Write operation. Select the original file to write. After written successfully, go back to the FEM/BDC Function Select interface, turn off the +12V power, install the EEPROM chip back to the FEM module.

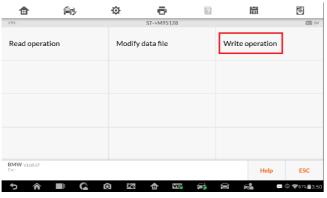


Figure 63 Sample M95128 Function Select Screen



Figure 64 Sample Selecting File Screen





Figure 65 Sample Information Screen

15. Tap Coding operation on the FEM/BDC Function Select interface.

₫	<u>ج</u>	¢	ē	?		đ	
VIN:			FEM/BDC			DD OV	
Keyless power on		ECU re	set	Ve	Version detect		
Vehicle info	rmation	Coding	operation	E	PROM operat	ion	
Programmir	Programming operation		frequency	К	Key status		
Key learning	Key learning		Key unblock/block		Read codes		
BMW V105.07 Car:						ESC	
<u>ን</u>	Ē.	Ô 🐜		i	F(2)	😐 🛈 🏶86% 🛢 3:52	

Figure 66 Sample FEM/BDC Function Select Screen

16. Tap **Restore coding** on the Coding operation Function Select interface. Select the initial coding file to restore. Go back to the FEM/BDC Function Select interface after restoration.



♠	<u>ج</u>	Φ	ē	?		đ
VIN:			Coding operation			DB OV
Backup codir	Ig	Restor	re coding	F	Repair coding	
BMW V1.05.07 Car:					Help	ESC
5 🏫	G	0	🛨 🔤	F. (@ \$86%∎3:52

Figure 67 Sample Coding Operations Screen

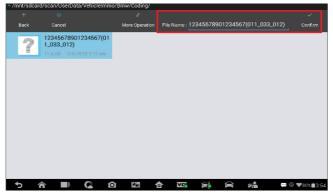


Figure 68 Sample Selecting File Screen



Figure 69 Sample Information Screen



17. Tap **Key learning** on the FEM/BDC Function Select interface. The Key learning procedures of Expert Mode is the same as that of Smart Mode. Please refer to *step 11 to step 14* of Key Learning via Smart Mode.



Appendix

Disassemble the ECU Module

The FEM/BDC module is located at the A-pillar of the front passenger side.

> Procedures to disassemble the ECU module from the vehicle:

- 1. Unclip the front door sill cover strip at the passenger side.
- 2. Remove the bottom right instrument trim panel and disconnect plug connections behind it.
- 3. Remove the side trim panel at the passenger side.
- 4. Remove the cover at the lower part of the module.
- 5. Unlock the positive battery cable connector.
- 6. Disconnect the plug connections to the module.
- 7. Release the bolt from the module.
- 8. Remove the module from the vehicle.



Connect the Test Wire Harness and OBD Cable

Details to connect the test wire harness and OBD cable are shown below. Make sure wires are connected to the right pins.

- > Procedures to connect the test wire harness and OBD cable:
 - 1. Connect cables to corresponding pins according to the number shown in the figure.
 - 2. Connect another side of the wire harness of these cables to the OBD female adapter.
 - 3. Connector the emergency coil to the corresponding pins according to the numbers.

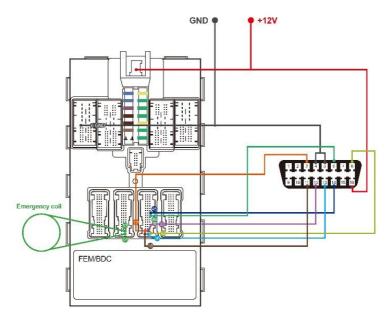


Figure 70 Sample Overall Connection

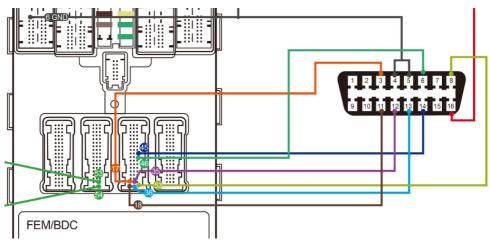


Figure 71 Sample Corresponding Numbers

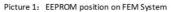


Disassemble the EEPROM Chip

- > Procedures to disassemble the EEPROM chip are shown below:
 - 1. Find the chip in the ECU module.
 - 2. Disassemble the EEPROM chip and figure out the pin 1, the bevel side on the right, viewed from the cross section.
 - 3. Assemble the chip in the clamp, match the pin 1 of the chip with that on the clamp.









Picture 2: EEPROM position on BDC System

