Patrol -5.6 VT Supercharger



WARNING !

This kit only uses the original non-modified vehicles

安装手册

PATROL 5 .6L 2016+

.6 VT supercharger: PATROL 5 You'll be working very soon

First, check the goods for damage or shortage, and the installation personnel need to have the technology, time and experience to complete the installation.

Use only premium gasoline fuel, 95 octane or better. The vehicle purchases premium fuel prior to installation to prevent possible engine knock or any damage due to running the supercharged engine using lower octane fuel.

When installing the supercharger, always check any hidden or actual OBD code, and check for any system, component or problems, (if there is any problem, please complete the

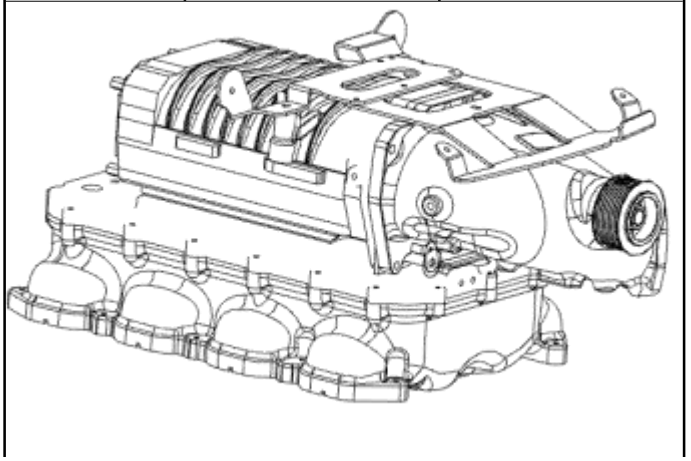
problem and install the supercharger).

Note: This installation manual is only applicable to vehicles in the original factory state

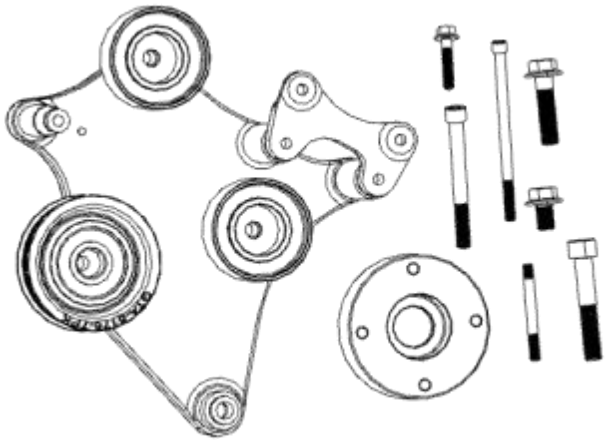
合Group Parts List (Annex Table)

order Number	content	code	count measure
1	The VT supercharger assembly	AN 3FT 1G 01AB	1
2	accessory bag A	*AN 3FT 1G 02AB*	1
3	accessory bag B	AN 3FT 1G 03AB	1
4	accessory bag C	AN 3FT 1G 04AB	1
5	accessory bag D	AN 3FT 1G 05AB	1

order number	content	quantity
1	Supercharger assembly	1



order number	content	quantity
9	Outer hexagonal M 10 * 1.5 * 15	2
10	Outer Φ 75 plastic idler wheel	1
11	Inert wheel cushion cover	1
12	Outer hexagonal M 10 * 1.5 * 40	1
13	The original car idler wheel with high cushion cover	1
14	Inner M 10 * 1.25 * 60	1
15	Fan plus, high aluminum cover	1
16	M 6X 1.0X56	4
17	Fan speed sensor with raised screws	1



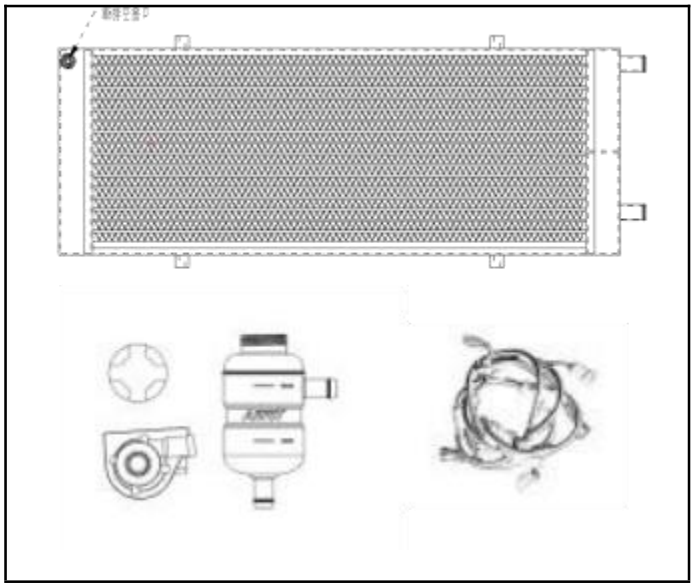
order number	content	quantity
1	Idler support secondary support	1
2	Outer hexagonal M 6 * 1.0 * 25	2
3	Inert wheel bracket	1
4	Aluminum set	2
5	Inner hexagon bolt M8 * 1.25 * 75	2
6	Aluminum set	1
7	Outer hexagonal M 6 *	1

Attachment (AN

Attachment Package C (AN3FN5B03AB)

order number	content	quantity
1	Tule 4.0 water tank	1
2	Outer hexagonal M 8 * 1.25 * 10	1

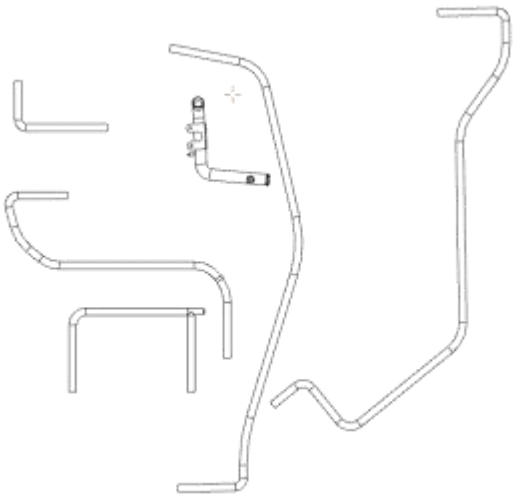
3	Inner Φ 8 waterproof gasket	1
4	Tule 4.0 kettle	1
5	Kettle cover	1
6	water pump	1
7	Water pump wiring harness	1

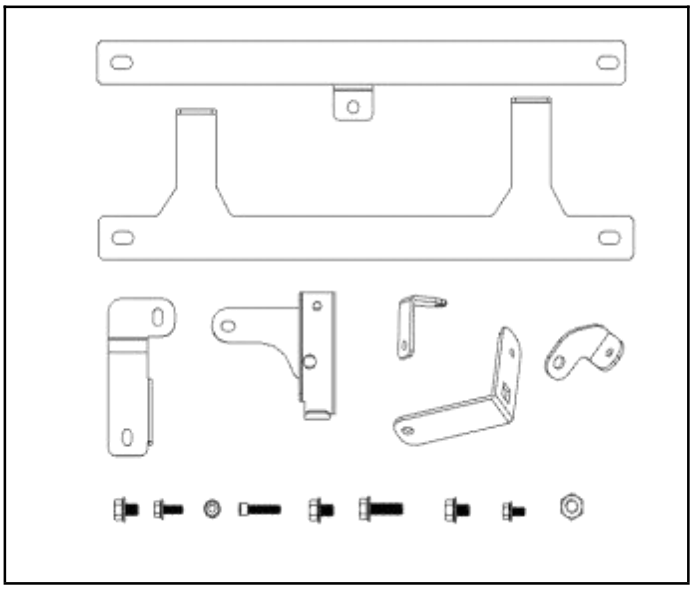


16	Original car water pipe, fixed bracket A	1
17	Original car water pipe, fixed bracket B	1
18	Outer hexagonal M 8 * 1.25 * 10	1
19	Outer hexagonal M 6 * 1.0 * 10	2
20	M 6 nut	2

Attachment Package E (AN3FN5B04AB)

order number	content	quantity
1	Tule 4.0 water tank bracket A	1
2	Tule 4.0 water tank bracket B	1
3	Outer hexagonal M 8 * 1.25 * 10	4
4	Outer hexagonal M 8 * 1.25 * 10	2
5	Outer hexagonal M 6 * 1.0 * 15	1
6	M 6 nut	1
7	Tule 4.0 kettle bracket	1
8	Outer hexagonal M 6 * 1.0 * 10	4
9	Tule 4.0 water pump bracket	1
10	Outer hexagonal M 6 * 1.0 * 15	2
11	Inner hexagon M 6 * 1.0 * 25	1
12	Carbon canister solenoid valve bracket	1
13	Outer hexagonal M 8 * 1.25 * 10	1
14	Outer hexagonal M 8 * 1.25 * 25	1
15	M 8 nut	1



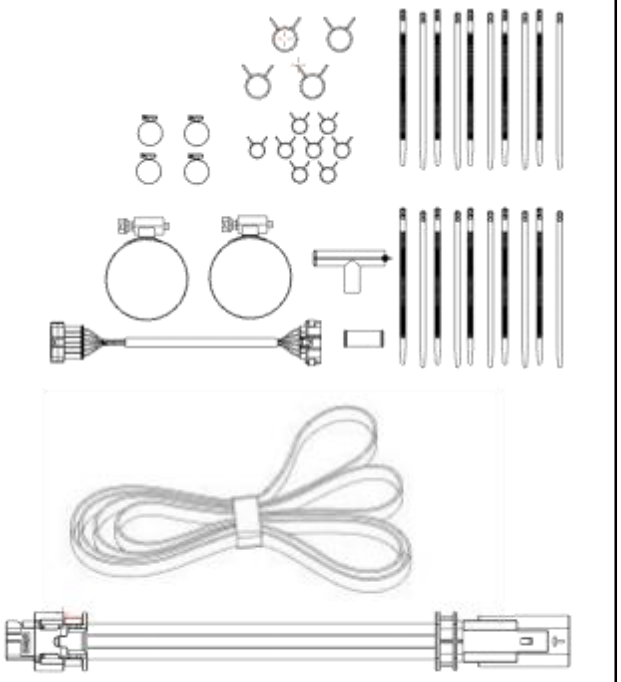


Attachment Package G (AN3FN5B05AB)

order number	content	quantity
1	Tule 4.0 water pipe A	1
2	Tule 4.0 Water pipe B	1
3	Custom water pipe C	1
4	Custom water pipe D	1
5	Custom water pipe E	1
6	27 Carbon canister solenoid valve hose	2
7	State six tuda exhaust gas pipe	1
8	Gates inside the Φ 8 water pipe	4
9	Engine water pipe	1
10	Internal Φ 35 45 degrees, silicone tube	1

Attachment Package G (AN3FN5B06AB)

order number	content	quantity
1	7PK 3290 belt	1
2	Throttle plus line length 15CM	1
3	External Φ 16 water pipe passes through	1
4	Outer Φ 16 water pipe has three connections	1
5	24 spring clamp	8
6	27 spring clamp	5
7	10-16 clamp	4
8	32-44 clamp	2
9	ribbon	20
10	Long-line of the inlet pressure sensor	1

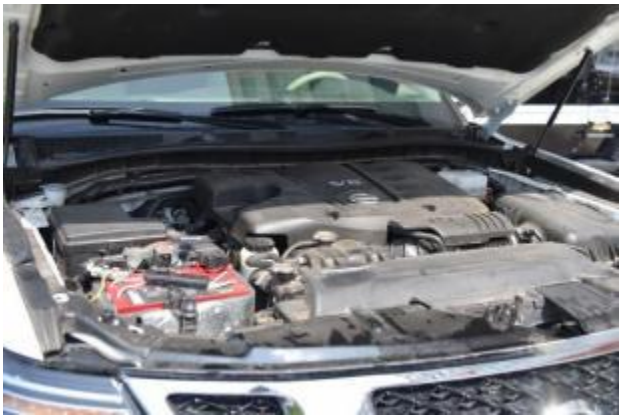


Attachment Package G (AN3FN5B07AB)

order number	content	quantity
1	VT a bicycle commuter's allowance A	1
2	VT a bicycle commuter's allowance B	1
3	Fill gasoline reminder stickers	1
4	Supercharger daily note car paste	1
5	Belt to car stickers	1
6	protocol	1
7	Anti-grinding twist cover	1
8	Anti-abrasive bellows	1



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1 . Check whether the engine is running normally with a no-fault code to ensure that the engine is not modified







3. Disconnect the negative battery electrode and wrap it with insulated articles to prevent accidental contact



5. Remove the two fixing screws of the decorative plate

7. Disconnect the

8. Disconnect the air

2. Protect the leaf plate and the middle net to avoid scraping



4. Release the antifreeze from the water tank



6. Remove the decorative cover plate



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9 . Disconnect the



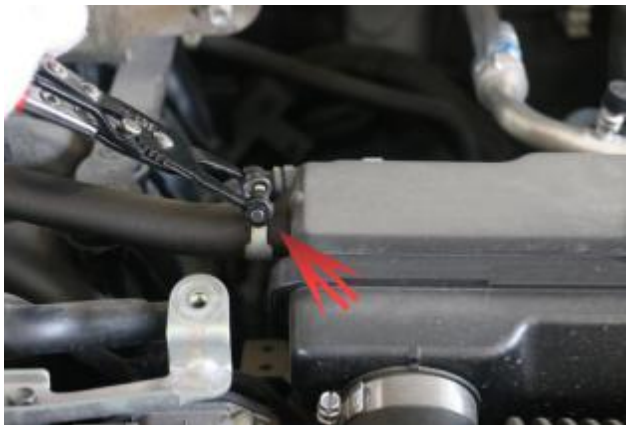
10. Remove the 3 bellows fixing screws



11. Remove the top cover of the bellows



15. Remove the bellows to the throttle intake hose



13. Cuck the exhaust pipe and remove the exhaust pipe



12. Loosen the throttle intake hose clamp



14. Remove the carbon tank solenoid hose from the intake hose



16. Disconnect the carbon tank solenoid valve plug 7



17. Use the tool to remove the wiring harness fixed clip



18. Remove the carbon tank solenoid with water pipe clamp and pull out the hose



19. Disconnect the throttle plug



20. Remove the four throttle fixing screws



21. Remove the exhaust gas hose on the fixed card buckle



22. Remove the left exhaust pipe with water pipe pliers and pull out the exhaust pipe



23. Remove the two fixing screws for the heating water pipe



24. Remove the left exhaust pipe with water pipe pliers and pull out the exhaust pipe

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25. Remove the fixing bracket for the left rear wire harness of the intake manifold



27. Remove the intake manifold



29. Remove the auxiliary kettle and connect the water pipe to the water tank



31. Use the water pipe clamp to clamp the kettle to the engine water pipe and pull out the water pipe



26. Remove the 10 fixing screws of the intake manifold



28. Seal 8 air intakes with tape to avoid missing foreign objects



30. Remove the two fixing screws of the auxiliary kettle



32. Remove the auxiliary kettle

Patrol -5.6 VT Superchargers



33. Remove the water pipe clamp with the water pipe clamp and remove the water pipe



35. Remove the engine to the water pipe on the water tank



37. Remove the original factory belt



39. Remove the fixing screw on the right side of the wind coil as shown by the arrow



34. Remove the water pipe clamp with the water pipe clamp and remove the water pipe



36. Pull the tensioner in the direction indicated by the arrow



38. Remove the fixing screw on the right side of the wind coil as shown by the arrow



40. Release the four fan fixing screws



41. Remove the wind ring and the coupler fan blade



42. Use cardboard to protect the water tank to avoid breaking it



43. Remove the middle net fixed card clip shown by the arrow



44. Remove the front middle net



45. Remove the right air guide plate



46. Remove the fixing screws of the transmission oil condenser drying tank to take them out

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47. Remove the supercharger and the original car intake manifold

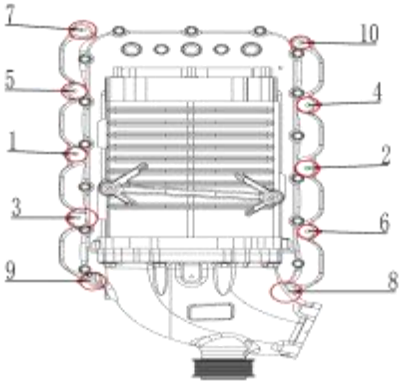


49. Installation position of the original vehicle intake pressure sensor

(This vehicle has no intake pressure sensor that needs to be sealed with kit parts due to different years)



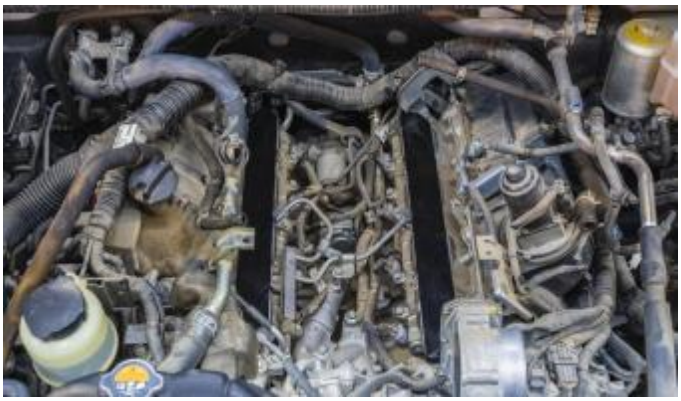
51. Cooperate to lift the supercharger to the engine



53. Lock the 10 screws in numerical order



48. Remove the original vehicle intake manifold sealing ring and install it in the supercharger sealing ring slot

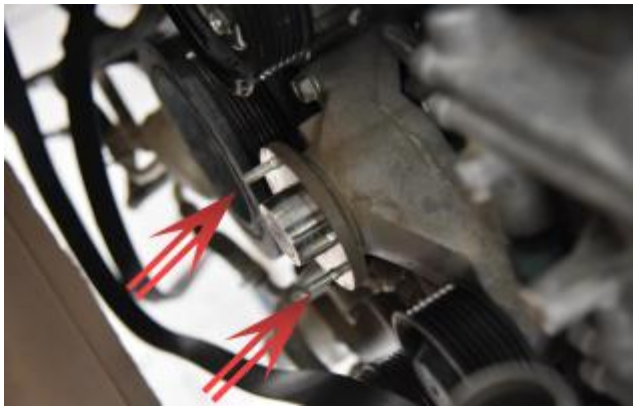


50. Remove the tape on both sides and check each cylinder

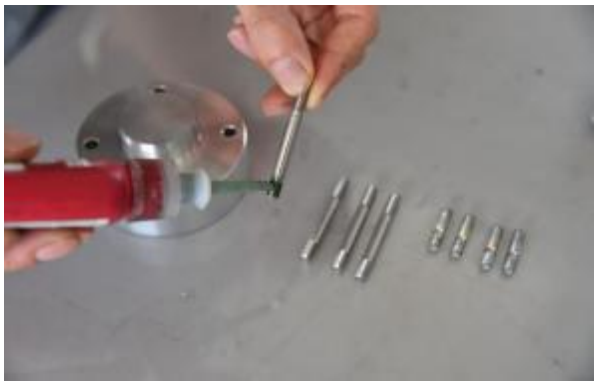
No foreign matter!!!!!!!!!!!!



52. Release the fixed tie of the engine cable above the original firewall and gently lift it upward so that the engine cable is located above the supercharger to put the supercharger in flat



54. Take out the four fixing screws of the coupler fan blade pump head



55. Remove the four extension screws of the coupler fan
(Apply anaerobic glue) and raise the pad



57. Place the coupler fan blade and raise the pad in parallel



59. Schematic diagram of the idler wheel and the fixed bracket



61. Assemble the idler wheels and pads as shown
Set on the panel



56. Lock the two nuts and caps to l

ock the extended screw rod tightly to the pump head as shown



58. Install the coupler fan blade sensor fixing bracket and raise the accessories



60. Install the idler panel auxiliary bracket



62. Install the belt and place the belt according to the original car winding method first (refer to the belt winding diagram on page 20)

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63. Circle the belt around the transition wheel as shown



69. Install the water tank to the engine water pipe



65. Install the throttle sealing ring (the original sealing ring is available)



67. Install the wind ring and the coupler fan blades



70. Install the filling kettle

64., pull the tensioner and hang the belt (it is easier to install the pump belt)



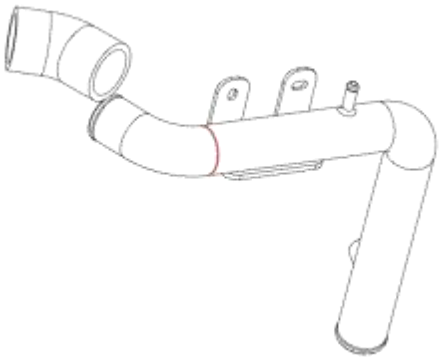
66. Install the throttle door (pay attention to the throttle direction)



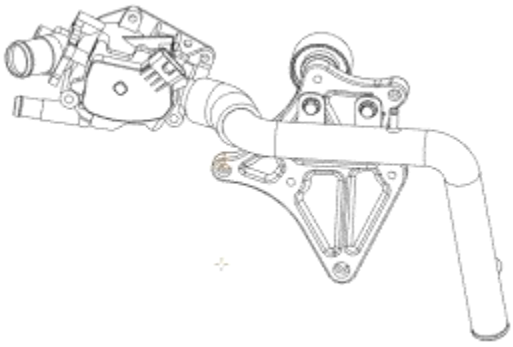
68. Lock the right and left two fixing screws of the wind ring



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71. Schematic diagram of the sewer pipe parts from engine to water tank



73. Install retaining pipes as shown



75. Assemble the carbon tank solenoid valve bracket





77. Install the throttle loose hot water pipe (replace the original water pipe clamp with the kit)

72. Install the original car water temperature sensor on the replacement water pipe



74. Plug in the electronic thermostat plug



76. Install the carbon tank solenoid valve at the position shown in the figure (the side hose of the carbon tank solenoid valve is installed under the pump head behind the throttle door)



78. Install Φ 10, exhaust gas pipe (original clamp available)



79. Install two heating water pipe fixing supports



81. Install the bellows to the throttle intake hose



83. Install the upper cover of the air intake bellows



85. Schematic diagram of the lengthened exhaust gas pipe



80. Install the throttle valve and the long throttle line



82. Install the intake air bellows base



84. Plug in the air flowmeter



86. Install the exhaust gas pipe (the original exhaust gas pipe on the left can be used only to remove the kit and lengthen the exhaust gas pipe docking)



87. Schematic diagram of the cooling water tank and the fixing bracket



89. Installation position of the cooling water tank



91. Assembly of the water pump and the bracket



93. Installation is complete



88. Assembly of the bracket and the water tank



94. Remove the two fixing screws pointed out by the arrow



90. Schematic diagram of the kettle water pump and the fixing bracket



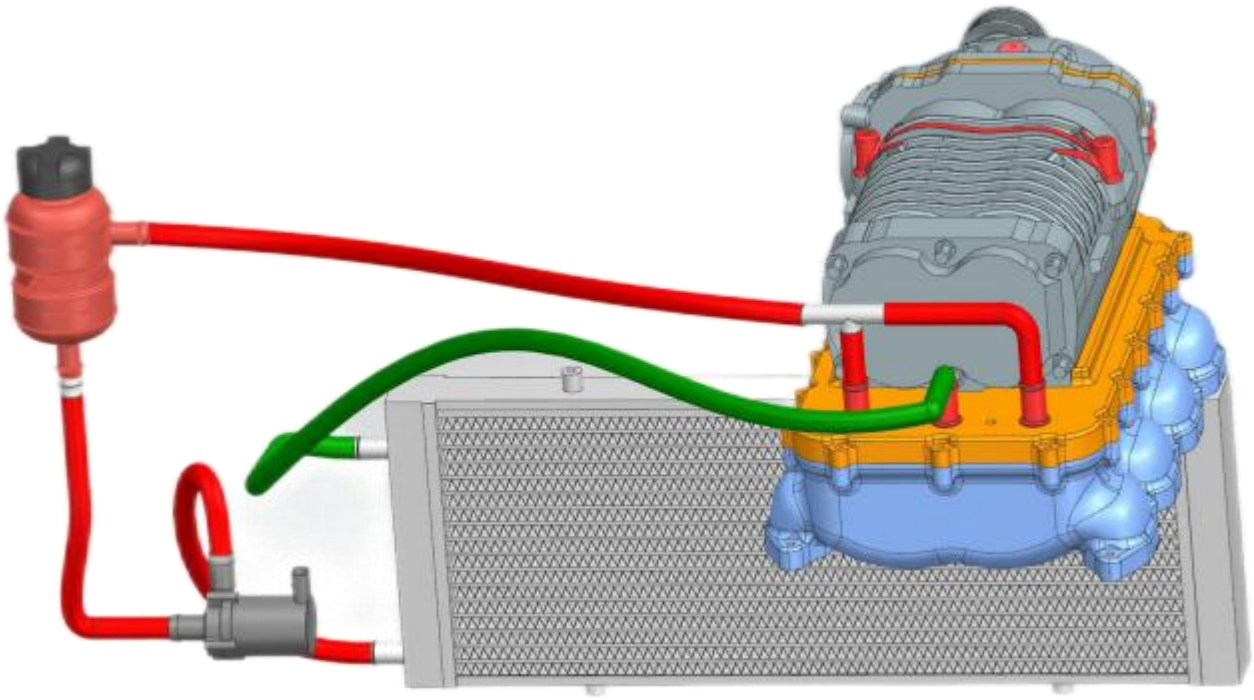
92. The arrow points to the water pump, with two installation fixed points



95. Install the kettle fixing bracket



96. Install the cooling kettle



97. Direction diagram of the loose hot water pipe





98. Install water pump power supply line 99



100. Cross the water pump wire harness under the decorative plate above the water tank



101. Remove the fuse indicated by the arrow



102. Install water pump supply plug (insured to power ACC here)



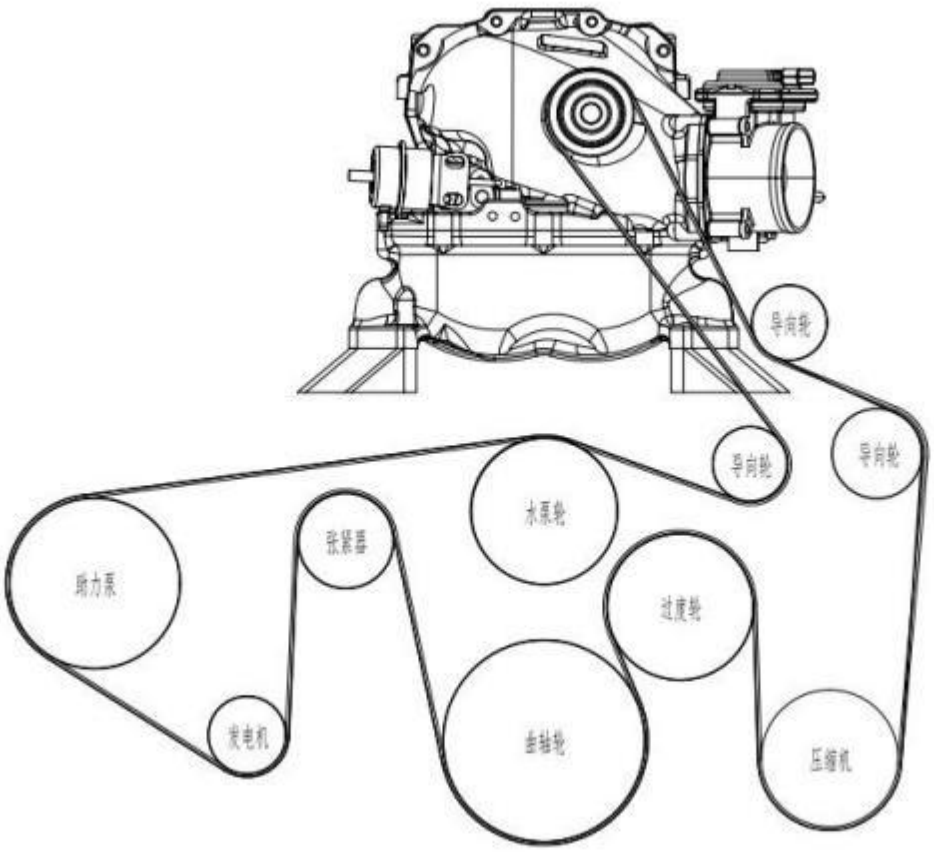
103. Fill the antifreeze in the cooling kettle (please fill the original quality antifreeze for about 4L)



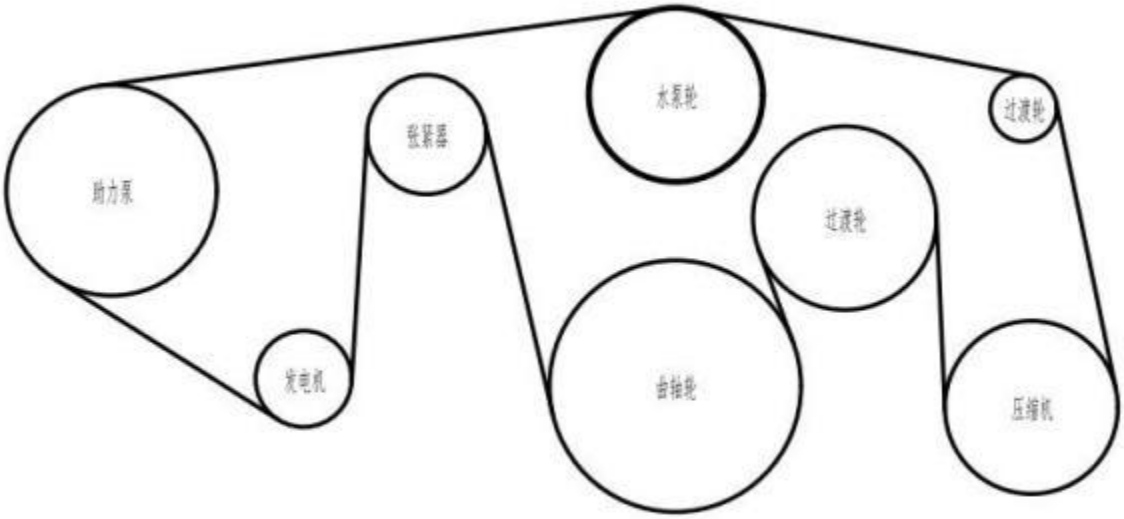
104. Install the front middle net



105. Hardware installation is completed



106., Mechanical boost belt direction diagram



107. Direction diagram of the original car belt

Computer brush and write notes

1, determine that the battery voltage is not lower than 11.8V, it is recommended to idle in for half an hour after installation, so that you can run in the equipment and ensure that the battery voltage can meet the standard, the charger is best to connect the charger for reading and writing.

2 to ensure that the OBD 2 interface no parallel or series other the original plant equipment, such as large navigation protocol box, remote start protocol line, OBD instrument similar through the original CAN line work equipment, inspection method can be observed from the OBD plug rear with obvious parallel or series wiring harness, if any, brush must remove all in the process, brush after back, does not affect any original function.

3. Ensure that the connection of the plug is stable, and ensure that the laptop battery can last for more than two hours. It is recommended to directly connect to the charger. Make sure that the notebook is not set up automatic standby, if not sure, to keep the computer operation at any time, to ensure that it will not standby or shut down during the reading and writing process, otherwise, the vehicle ECU will be damaged!! !

4 brush, if any fault code clearance, some models and may idle too high or too low, transient idle

instability, etc., don't try so hard, the car to hot car and idle for a while, and then restart will be good, this most, are throttle dirty, suggested that the installation process at the same time in the process of cleaning throttle.

5 test, under various working conditions, the engine without fault light on, no stop, the end of the test, the car can be delivered.

The PCM read and write program is installed



1. First, set the computer antivirus software (real-time scanning) to turn off



2. Create a new folder to be named the PCM software



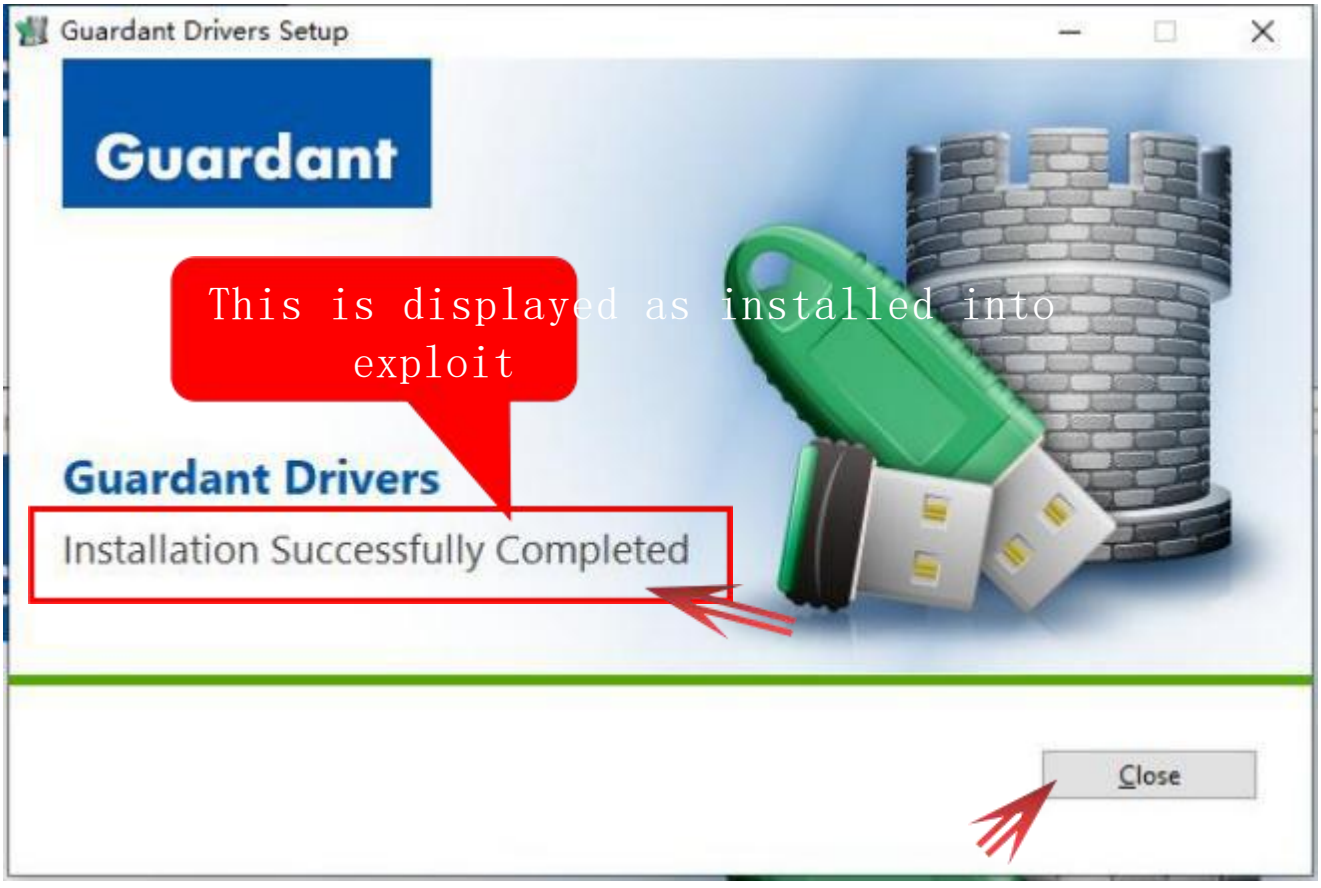


3. Create a new original car file folder in the PCM software


pcmflash1.95.zip (评估版本)
文件(F) 命令(C) 工具(S) 收藏夹(O) 选项(N) 帮助(H)
添加 解压到 测试 查看 删除 查找 向导 信息 扫描病毒 注释 自解压格式
pcmflash1.95.zip - ZIP 压缩文件, 解包大小为 32,991,192 字节
名称 大小 压缩后大小 类型 修改时间 CRC32
.. 文件夹
openport2_setup_1... 5,575,478 5,576,333 WinRAR ZIP 压缩文件 2018/11/13 11:57 AA938960
GrdDrivers.exe 11,240,472 10,978,849 应用程序 2019/3/7 19:43 A1A1B0B2
openport2_setup_1... 5,597,304 5,575,290 应用程序 2018/6/16 0:32 BE22F1B7
pcmflash1.95.exe 10,577,938 10,555,242 应用程序 2019/3/7 19:43 F8C0FD28
1
2
3

6. Double-click to open the first installation dongle driver. After opening, unlock this interface and click (InstaII) to install this app.

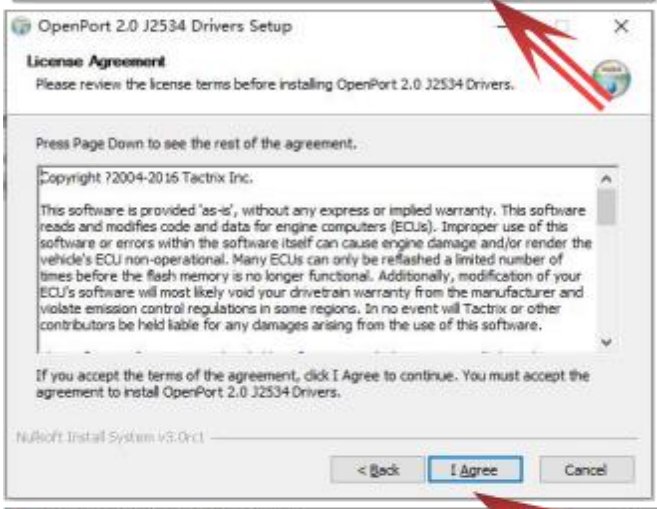




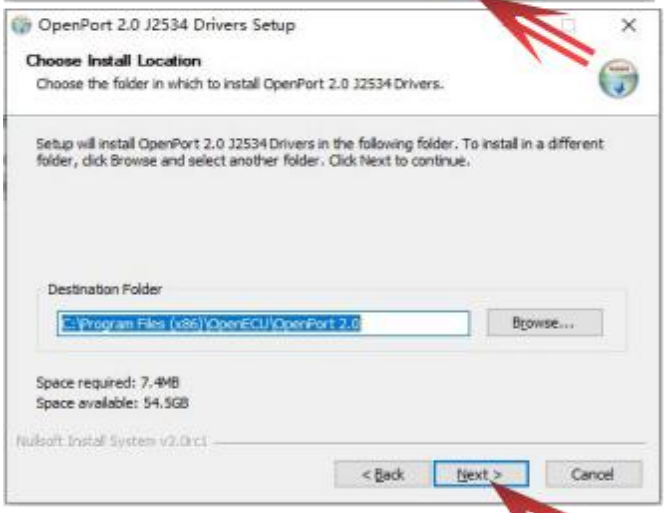
After the installation completes, click (CIose) to close the page.



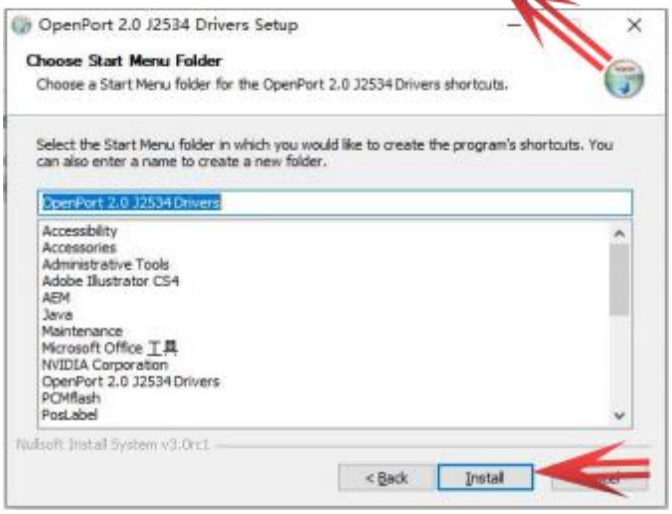
7. Double-click the second application of the compressed file, install the OBD driver, click on this page, and click (Next) for the next step.



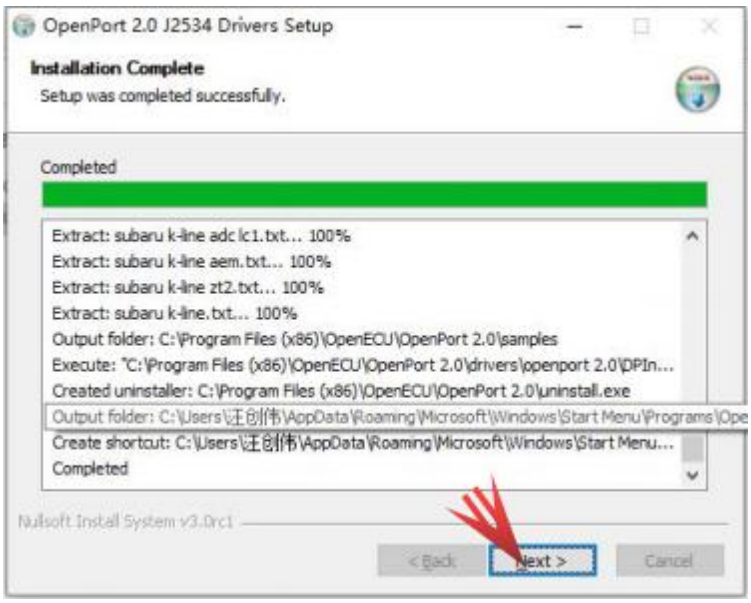
8. Click on (I Agree) for the next step.



9. Click (Next) to go to the next step.

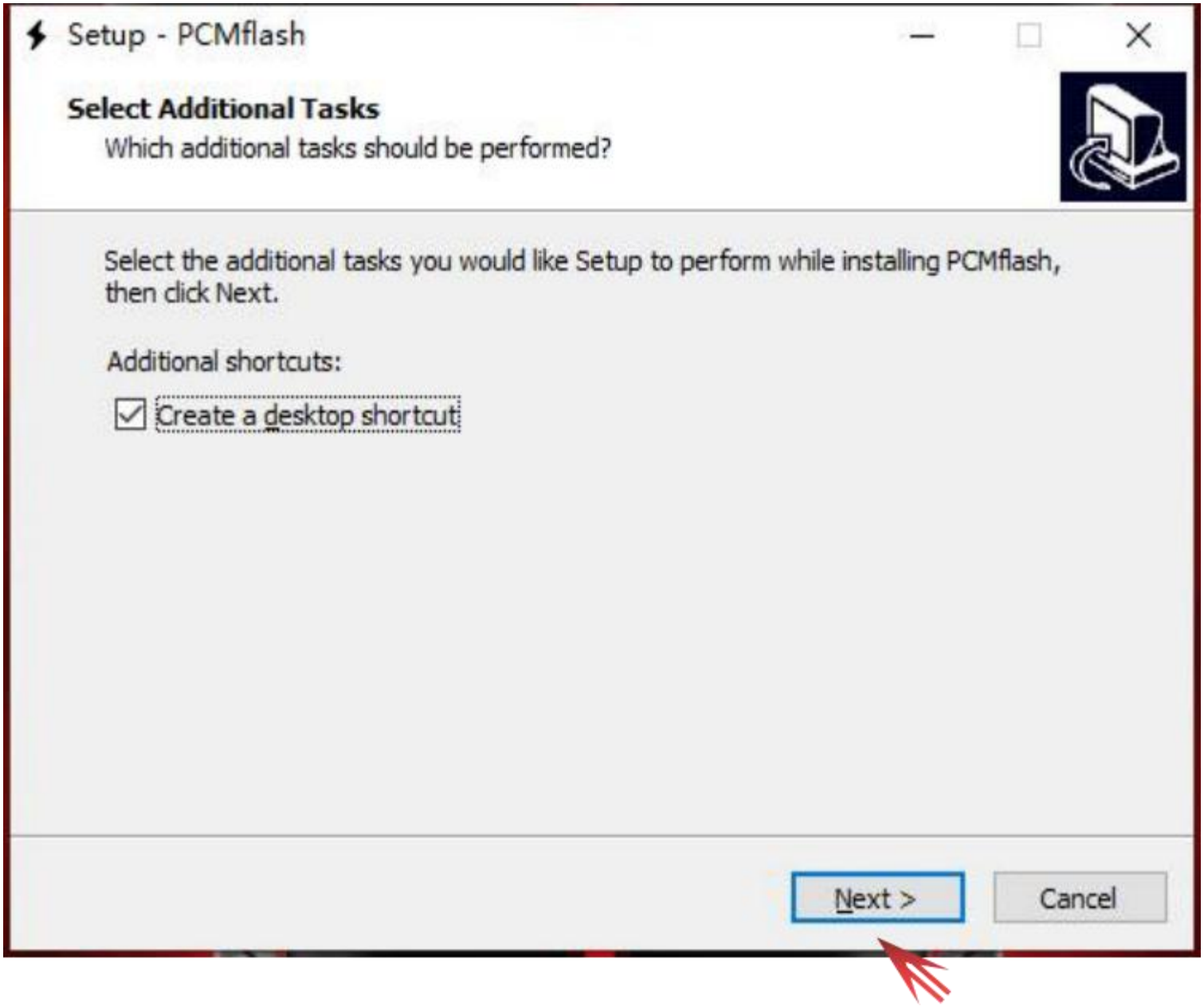


10. Click (Install) to agree to install the app.

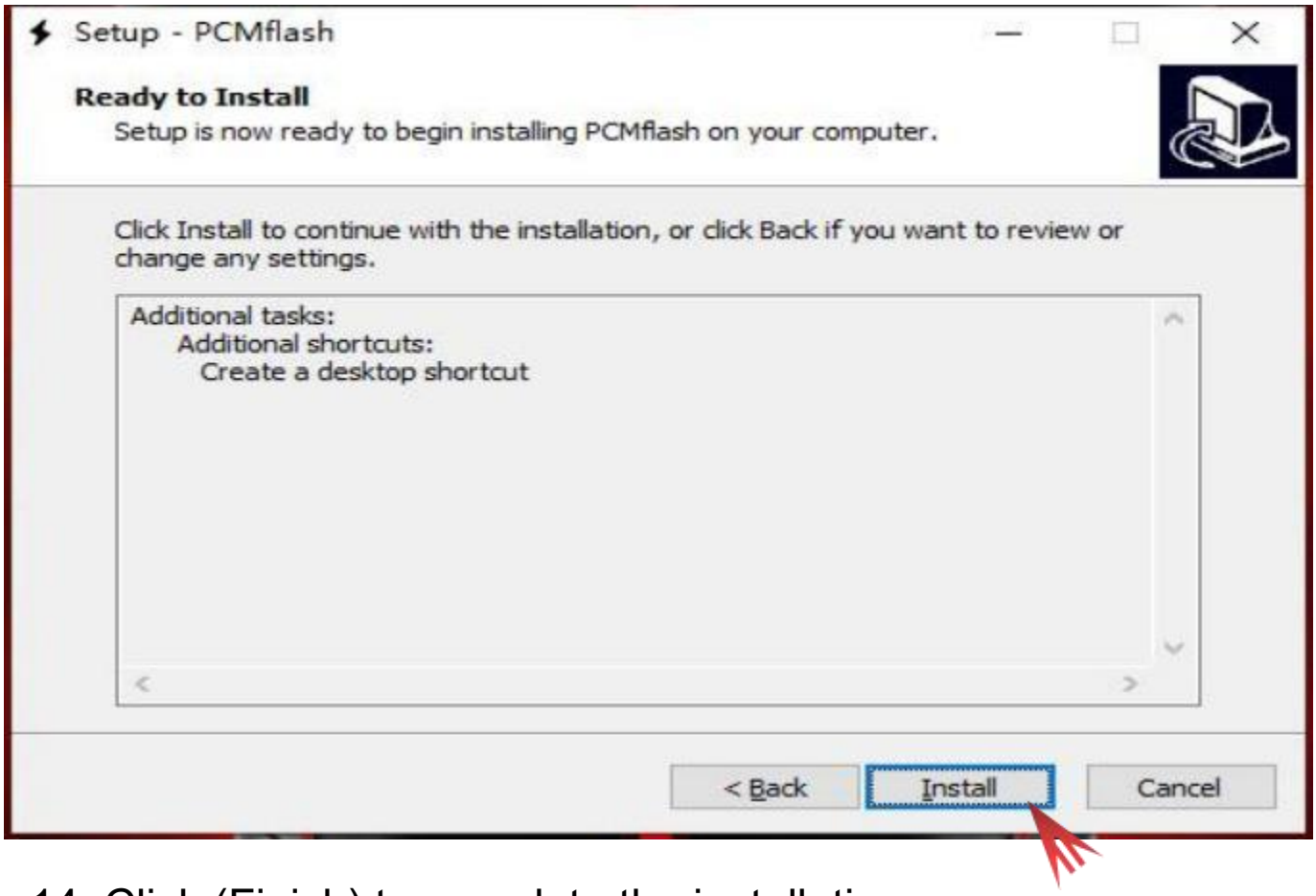


11. Click (Next) to take the next step for the installation.

12. Double-click the third application of the compressed file, install the PCM software, jump out of this page after opening, and click (Next) to take the next step.


Setup - PCMflash
Select Additional Tasks
Which additional tasks should be performed?
Select the additional tasks you would like Setup to perform while installing PCMflash, then click Next.
Additional shortcuts:
Create a desktop shortcut
Next >
Cancel

13. Click (Install) to install the app.



14. Click (Finish) to complete the installation.



Program read and write steps



1. Before a similar device, remove the brush and recover, which does not affect the original function. Otherwise it may cause damage to the ECU!!!

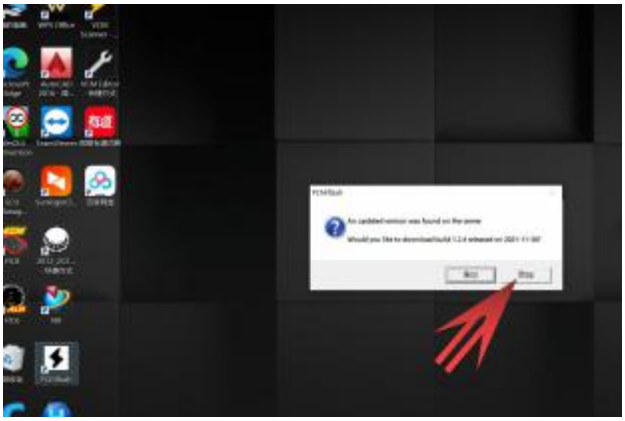


2. Set the computer anti-virus software (real-time scan) to the off state

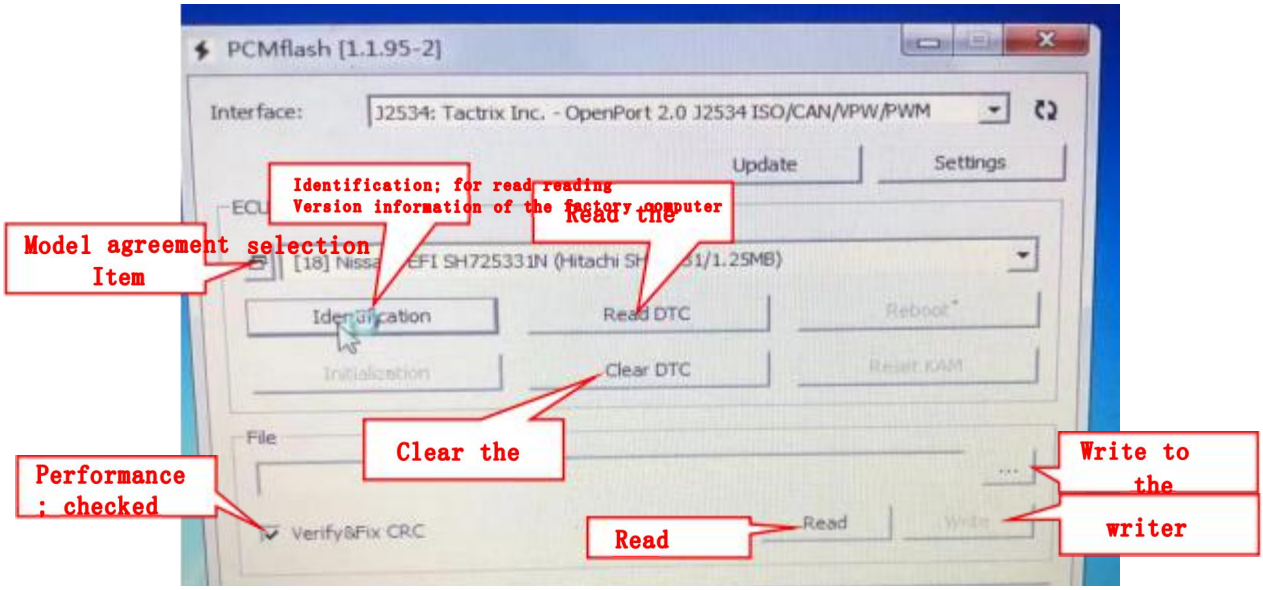


3. Connect the device to the original car OBD interface, connect the USB port of the computer, and insert port. Ensure that the connection is t confirm that the OBD has no series or

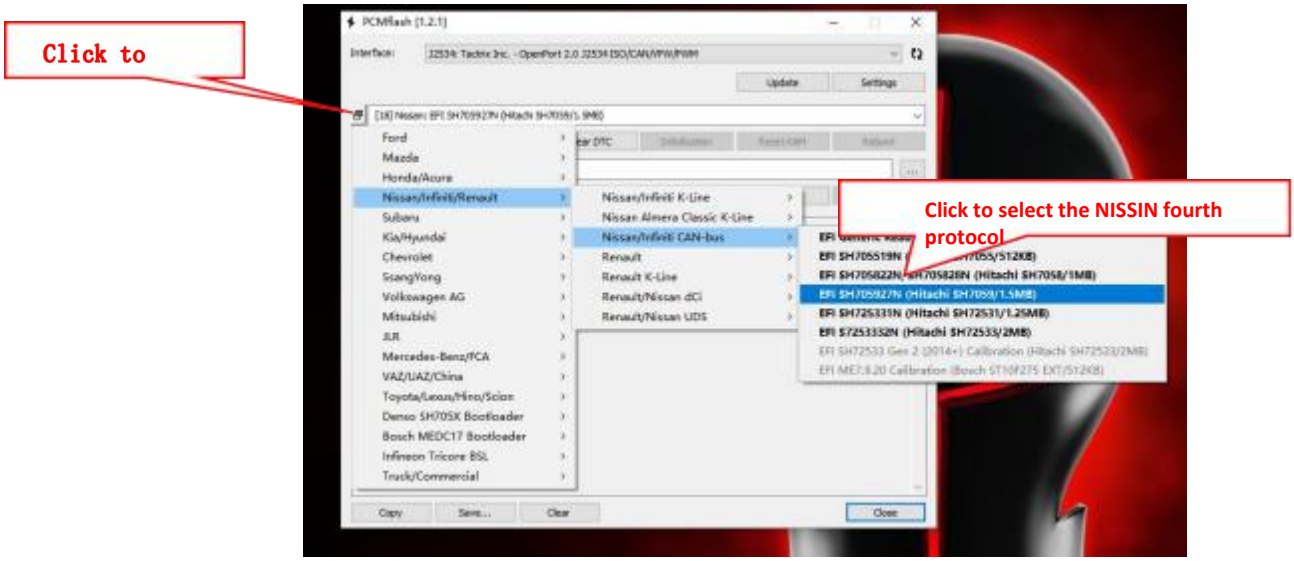




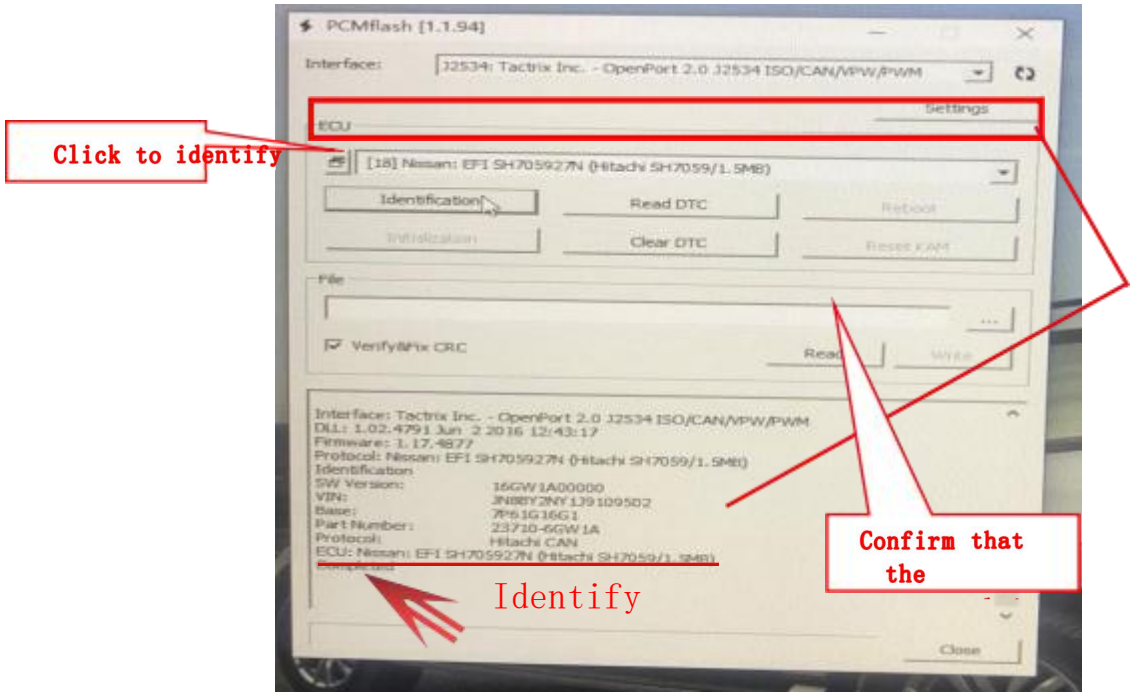
4. Double-click to open the PCMflash software diagram5. Select in the next software upgrade prompt27treetopChoose "No" (N)



6. PCMflash interface definition



7. Select the car model and follow the picture operation



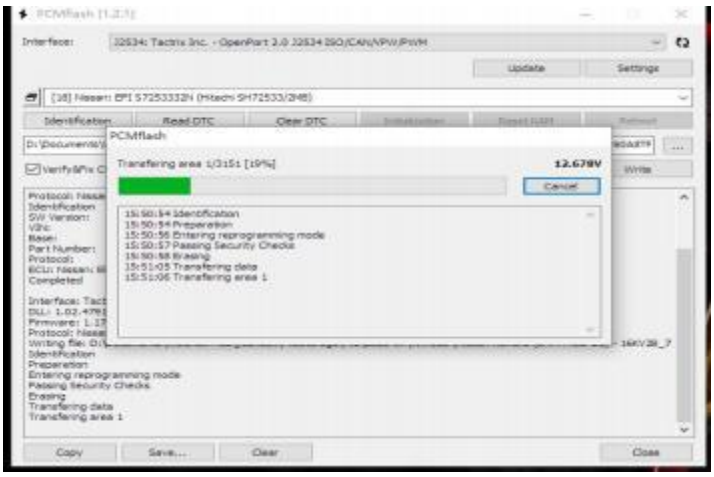
8. Pay attention to

confirm the information and then click to read

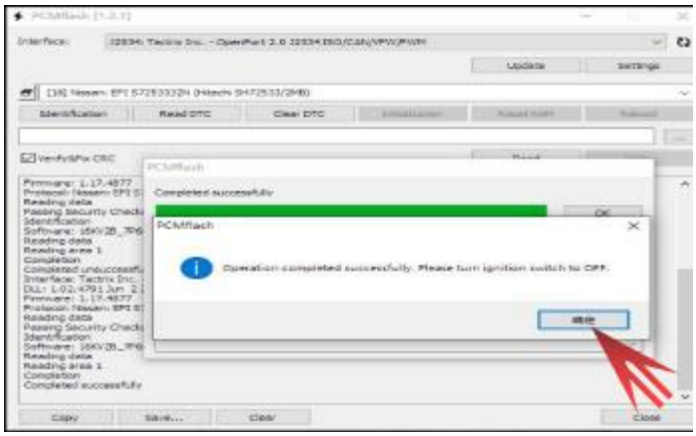
After clicking on Identificatio n, the two agreement numbers are the same,.



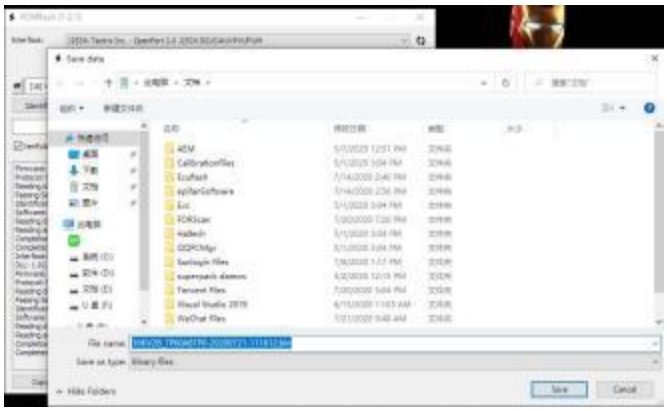
12. Click OK to start reading



12. Do not move the computer and data cable during the program reading

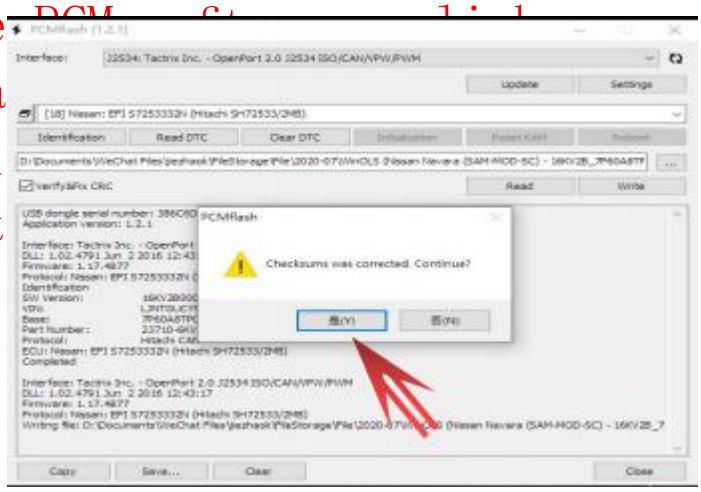


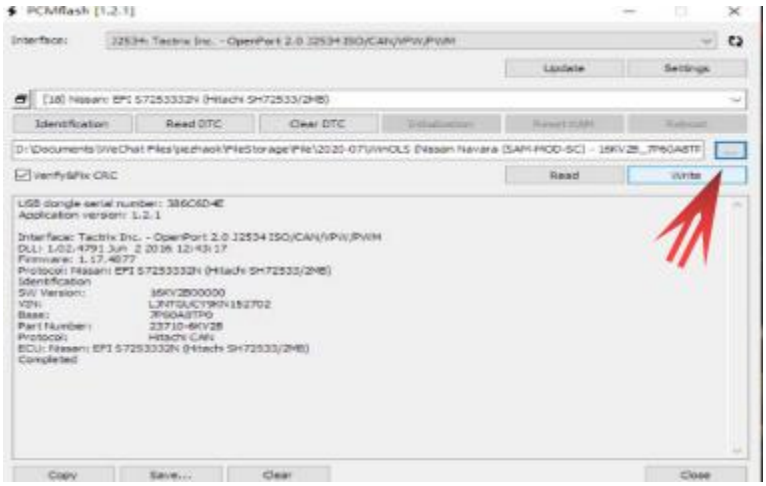
12. Close the key door first and click OK



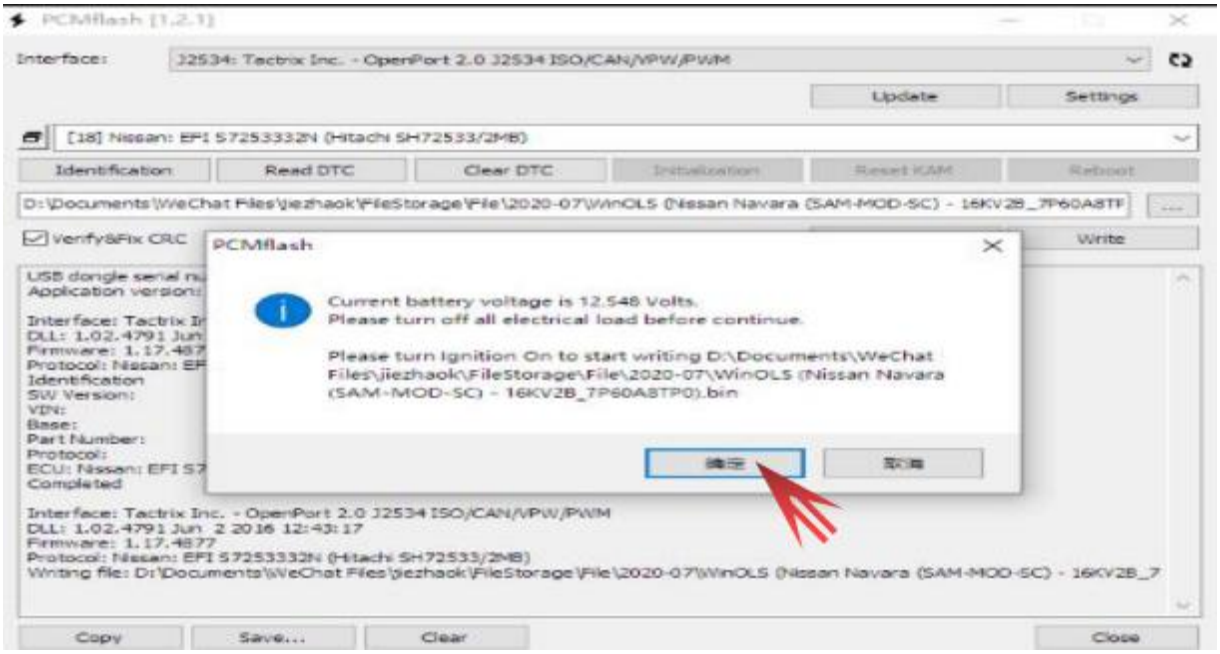
12. Click Save. Please select the save path and send the original car file to the technical support

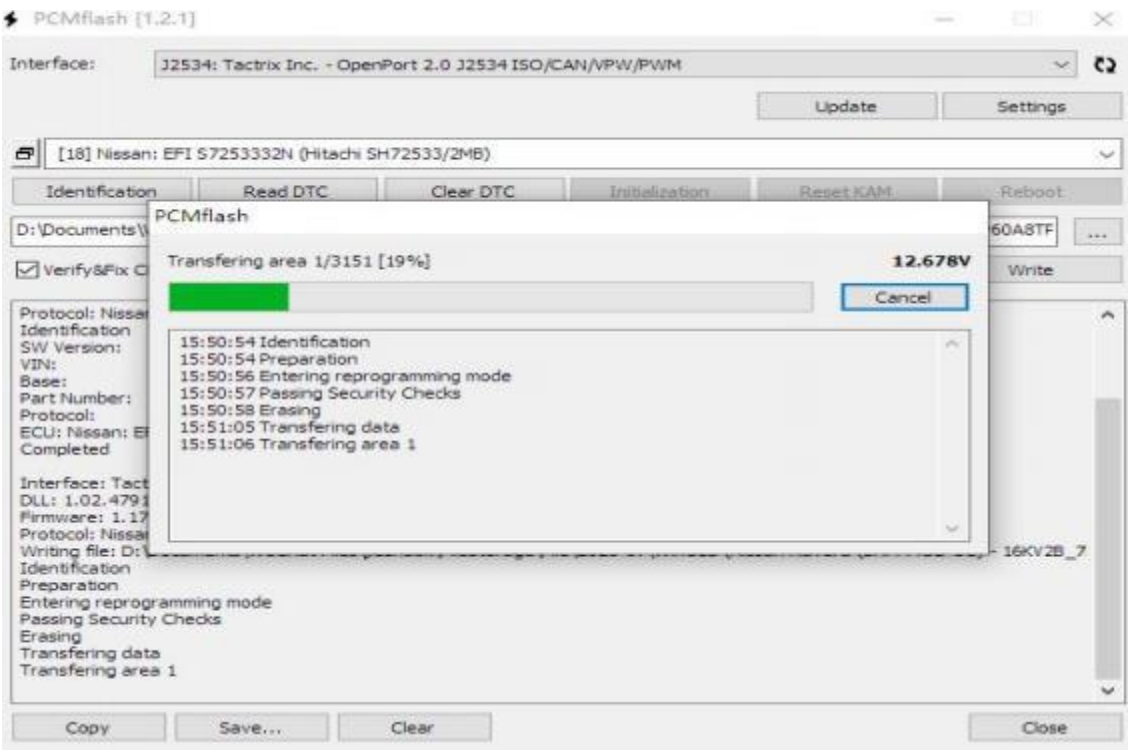
Step 7: After receiving the modified file, please download and save and remember the save path of the file, open the [illegible] Wr ite, the three points a[illegible] select the new modified fi[illegible] Wr ite [write] to jump out click to continue



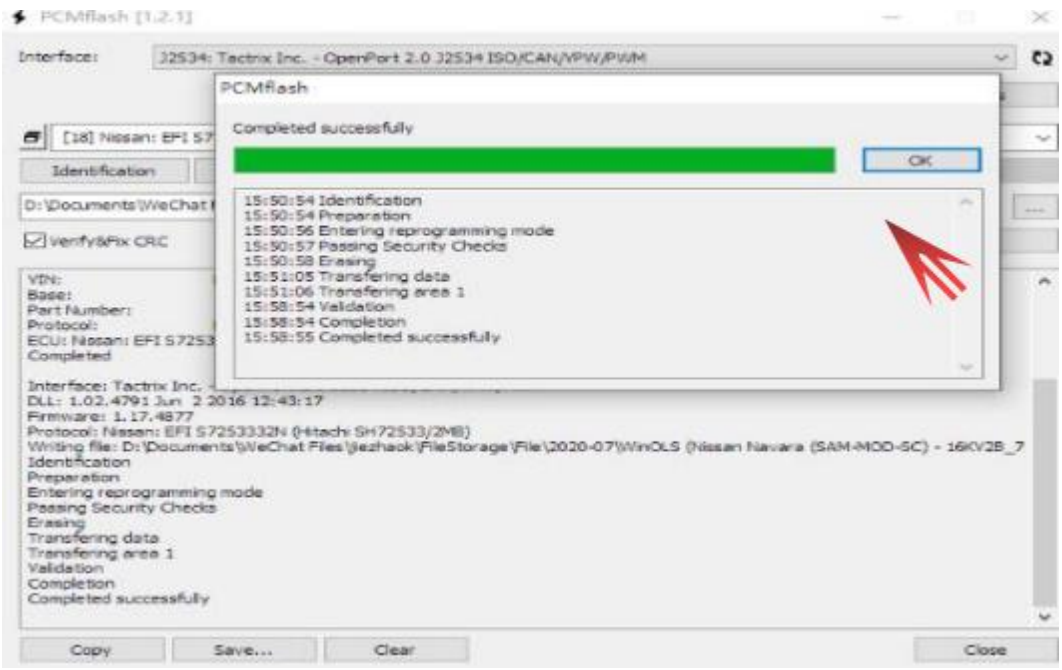

PCMflash [1.2.1]
Interface:
Update
Settings
Identification
Read DTC
Clear DTC
Verify&Fix CRC
Read
Write
Copy
Save...
Clear
Close

Step 8: again confirm the information [the current battery voltage is 12.546V, please close all electrical equipment before start] click sure, start to write, during this period, do not operate the vehicle, write the upper right corner for the current battery voltage, if below 12V please immediately connect the battery charger, every minute during the write move the turn signal, prevent the vehicle automatic dormancy.

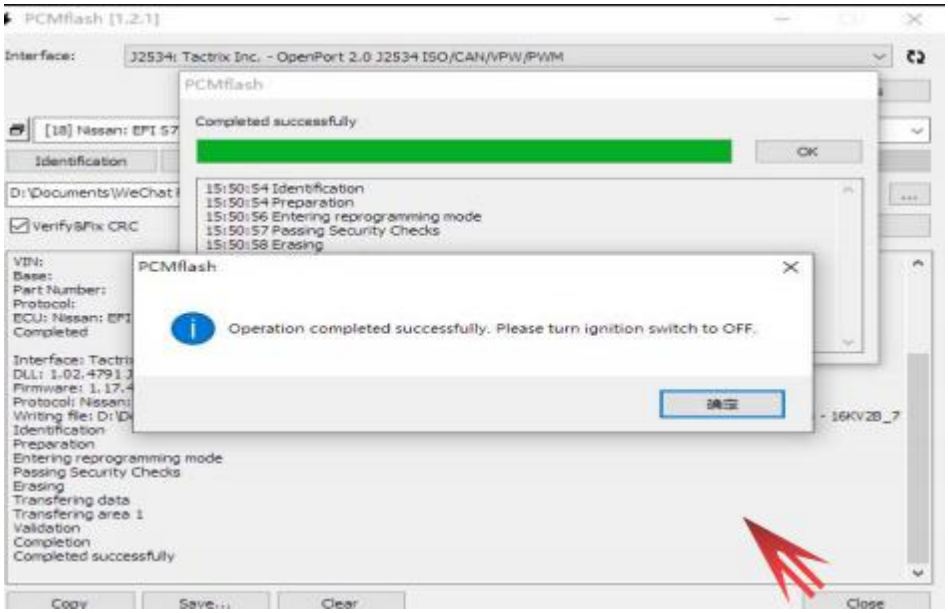




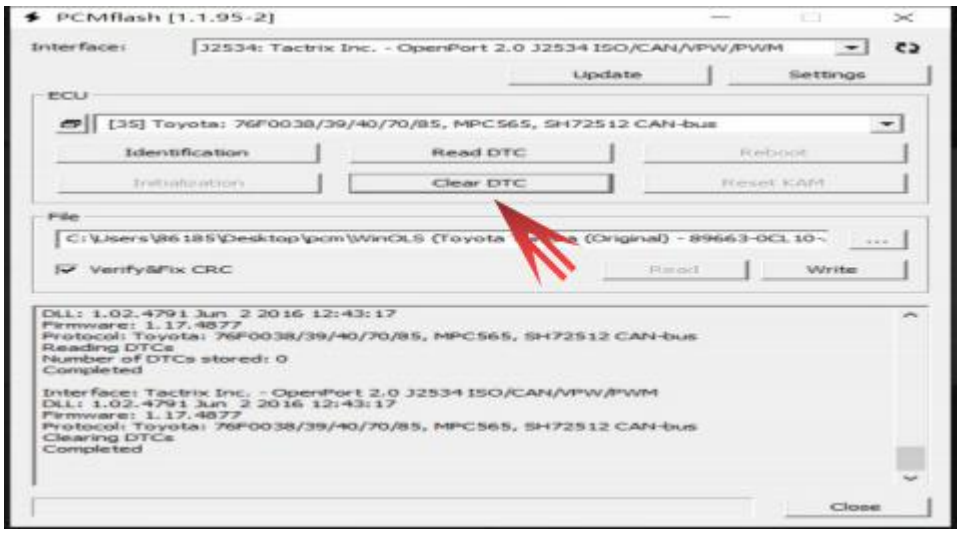
11. Do not move the computer during the program writing
And the data line



Step 9: Write successfully, click OK, pop up [successful operation, please close the key]



Step 9: Close the key door first and then click OK



19. Open the key door again and click (CLear DTC) to clear the fault code

Close the key door removal equipment 31

three.check up

1. Check all pipes for friction and collision after the installation
2. Check whether the antifreeze of the water tank and the supercharger belt are installed in place
3. Turn off the engine immediately after starting for 3-5 seconds, and check whether the belt installation is in place again
4. Check the oil leakage, and run in for about 30 minutes
5. It is recommended to use no. 95 and above gasoline, which has better engine protection and better power
6. After running-in, connect the turbine pressure gauge for road testing, and the turbine pressure should be controlled at 0.45bar. If the adjusted pressure exceeds 0.45bar, the company will not be responsible for it