

Volkswagen Audi MQB Platform Engine

Operation instruction of ECU replacement function

Function introduction: MQB engine ECU replacement, advantages: 1. Replacement can be done even if the original engine is completely damaged and without reading from original engine ECU; 2. X431G3 can also operate the replacement for vehicles that are unable to perform the function of online replacement via special test since the data is modified by devices of the third party.

Condition requirements:

Equipment requirements: PRO and other Android devices of X431 products, X431G3 Immobilizer programmer;

Software requirements: Audi V28.70 and above.

Description of replacement conditions

1. Anti-theft data of external engine ECU;
2. The instrument Anti-theft data of target vehicle, with a key which can start the vehicle in hand.

Steps:

1. First determine the type of engine that needs to be replaced, which can be determined by the label on engine ECU;
2. Read the anti-theft data of external engine ECU through BENCH mode;
3. Determine the instrument type. If it is JCIMQB, you need to enter the online anti-theft to read instrument data, while NEC35XX MQB instrument directly enters the replacement to obtain original anti-theft data and read it;
4. Enter **【MQB Instrument】** -» **【Replacement Of Parts】** , load or enter relevant Anti-theft data, and execute the replacement process;
5. Clear DTCs to start engine.

Detailed steps:

1. The location of the engine ECU of this vehicle is shown in Figure 1 (no need to read original engine ECU, it is directly connected to the external engine ECU to read operations);



Figure 1

2. Enter Audi software, **【Local Diagnose】** -» **【Special Function】** -» **【Anti-Theft Function】** -» **【Engine】** -» **【BENCH Mode】** , and the menu is shown in Figure 2;



Figure 2

3. Select **【MED17.5.25 TC1782】** according to the type displayed on the label of external engine, and enter the function as shown in Figure 3;



Figure 3

4. Click the **【Wire Connection Diagram】** menu to display the connection diagram of this engine, as shown in Figure 4. Connect the Anti-theft programmer to external engine ECU according to the wiring diagram, as shown in Figure 5;

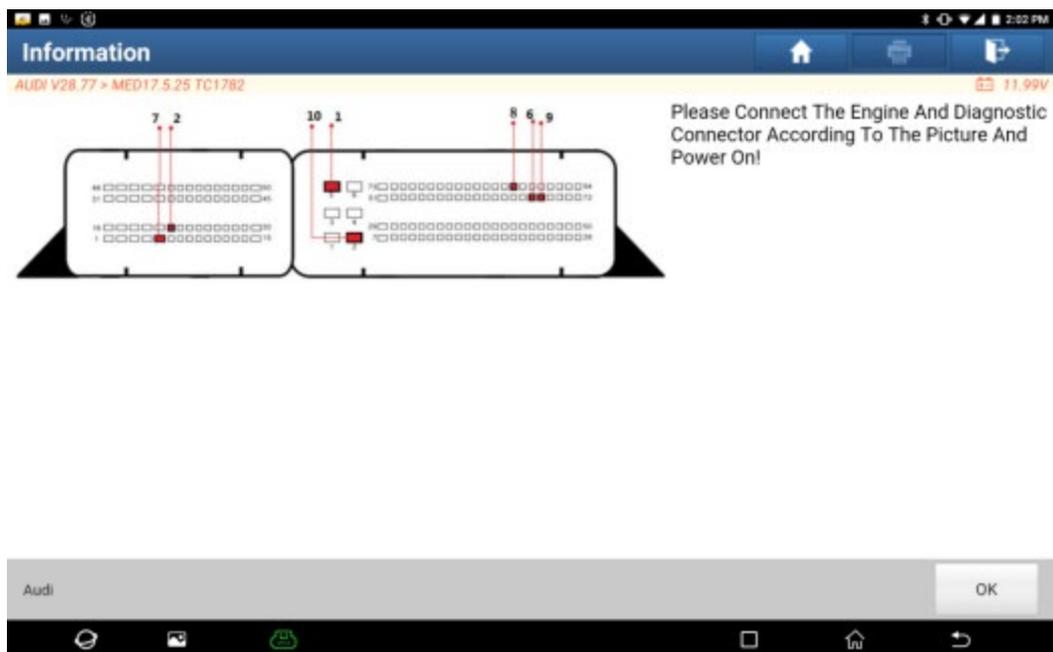


Figure 4



Figure 5

5. Click **【Read Chip ID】** to check if the wiring diagram is correct, and then perform **【Backup EEPROM Data】** and **【Backup FLASH Data】** respectively. The process of reading FLASH data is shown in Figure 6. Note: You need to wait for 3 to 4 minutes to complete reading since the FLASH data of engine is large, please be

patient;

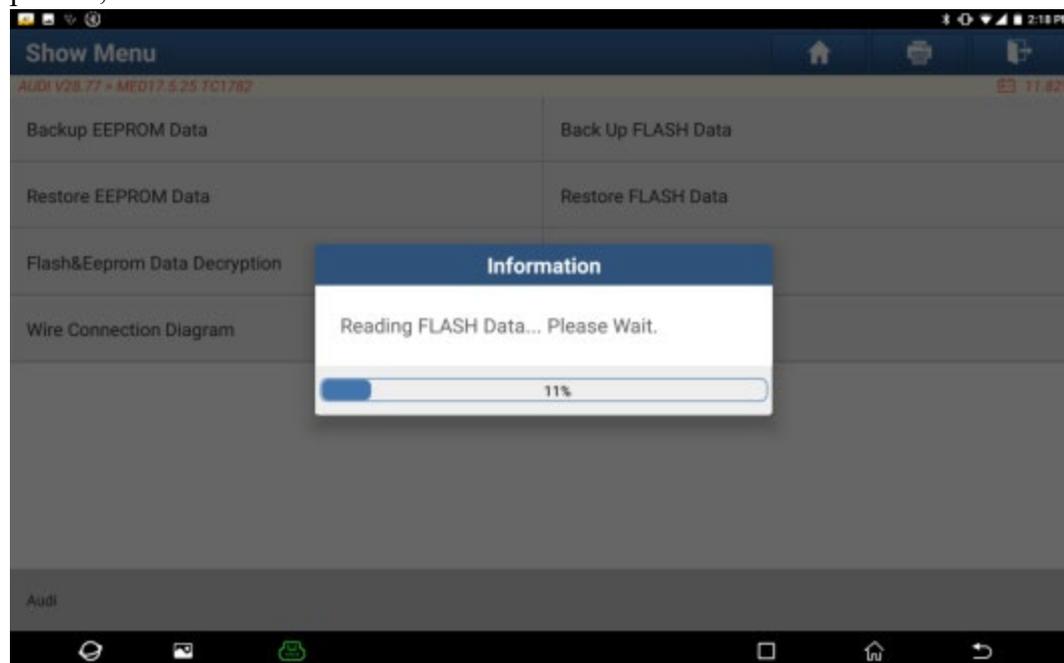


Figure 6

6. After the EEPROM and FLASH data of engine and ECU are all read, use the **【FLASH&Eeprom Data Decryption】** function to decrypt the Anti-theft data of engine ECU, and respectively load the FLASH data and EEPROM data that are read just now, as shown in Figure 7, and then click the Decode button;

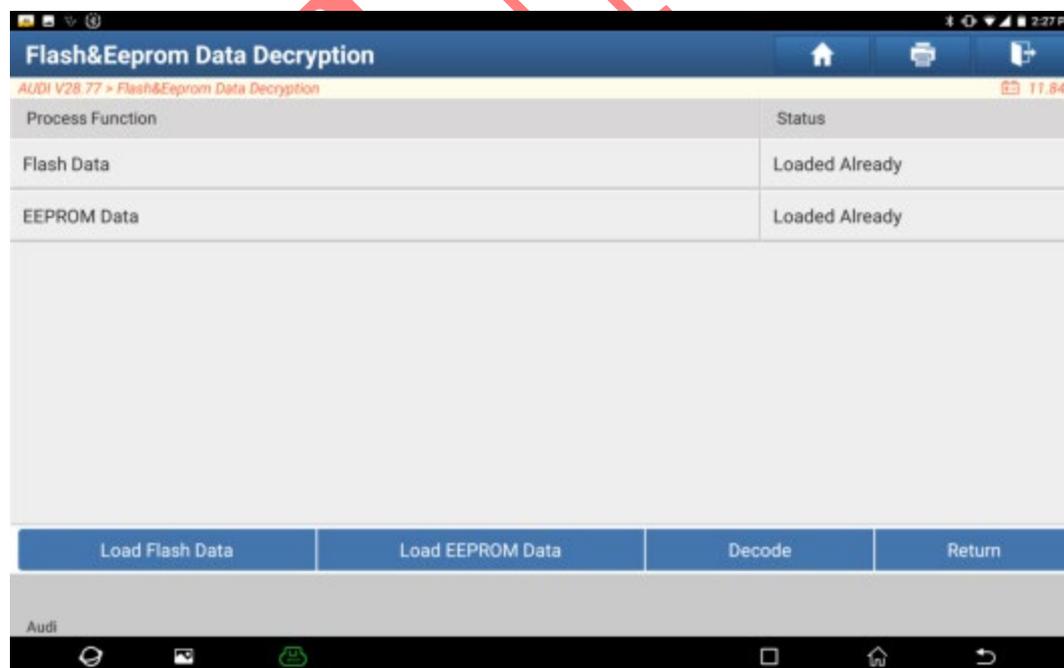


Figure 7

7. The data decrypted by engine ECU is saved as the replacement data. In this step, no need to manually input engine relevant Anti-theft data when replacing, as shown in

Figure 8;

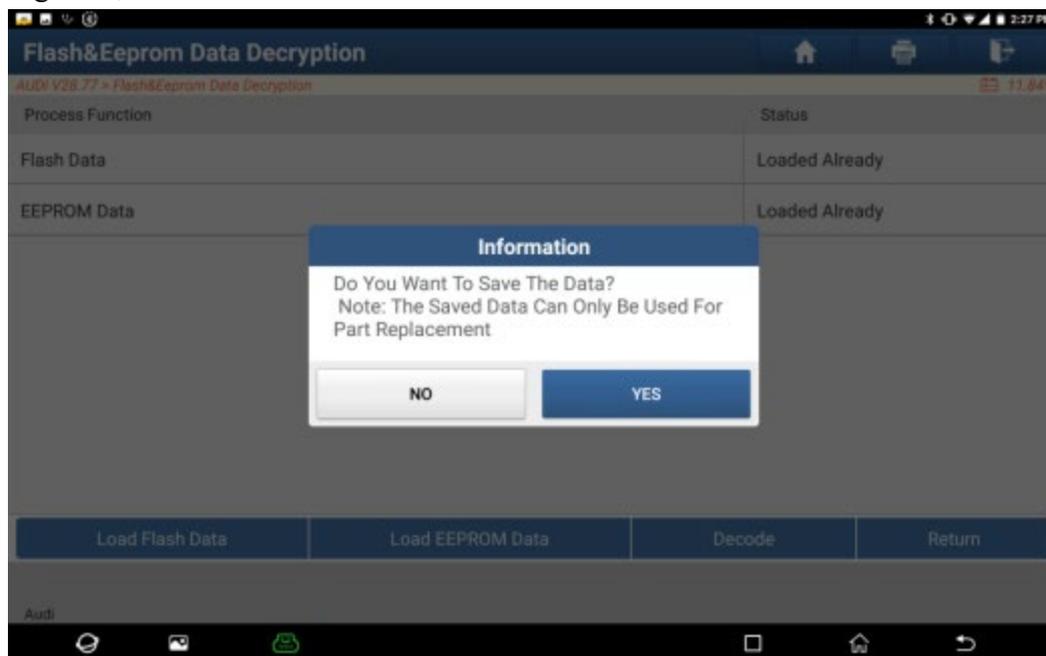


Figure 8

8. The external engine ECU Anti-theft data is shown in Figure 9, which can be saved by screenshot;

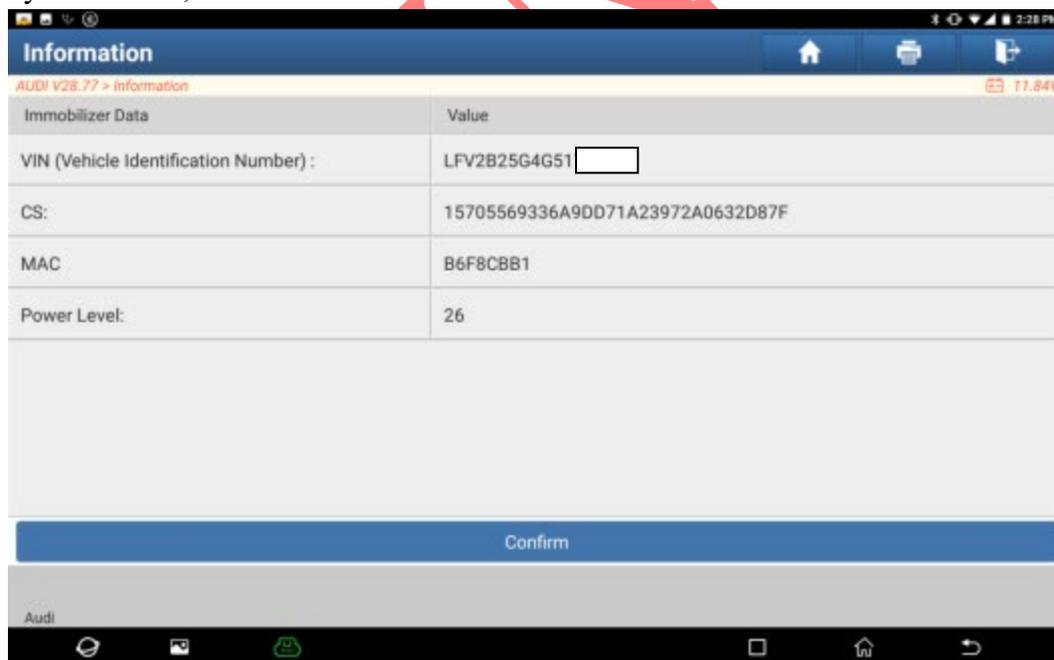


Figure 9

9. Exit engine function and enter **【MQB Instrument】** -> **【Replacement Of Parts】** -> **【Engine】** , as shown in Figure 10;

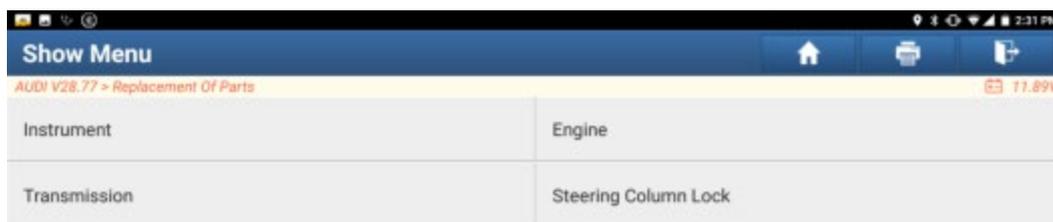


Figure 10

10. After entering the function, click **【Edit1】** to directly load the Anti-theft data parsed by previous BENCH mode, as shown in Figure 11.

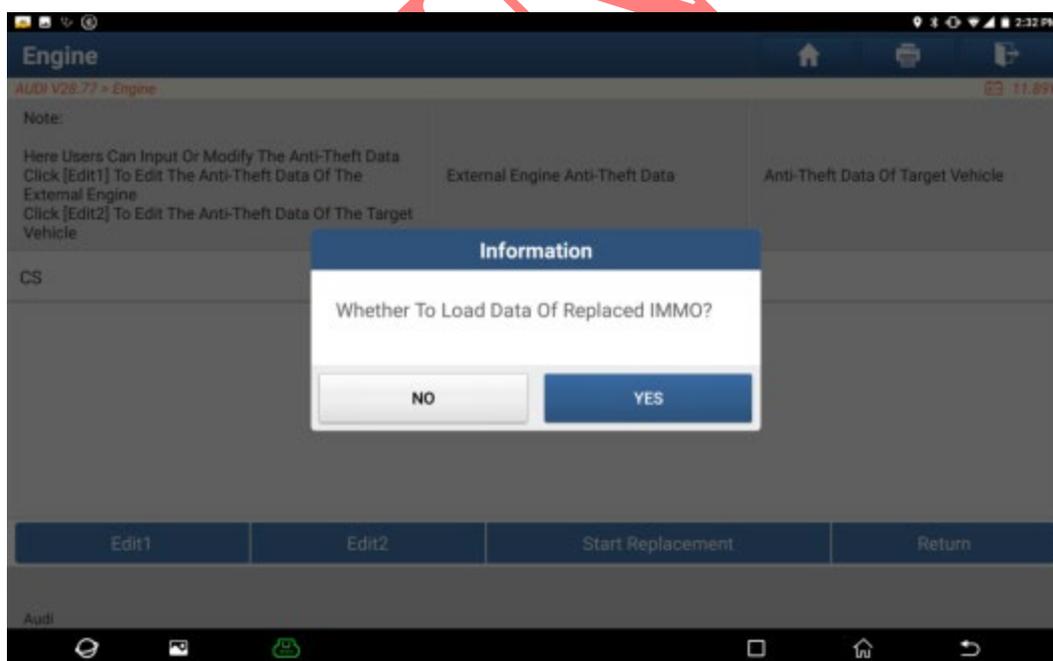


Figure 11

11. Click **【Edit2】** to obtain the key from original vehicle, as shown in Figure 12, insert the key into vehicle and illuminate the instrument;

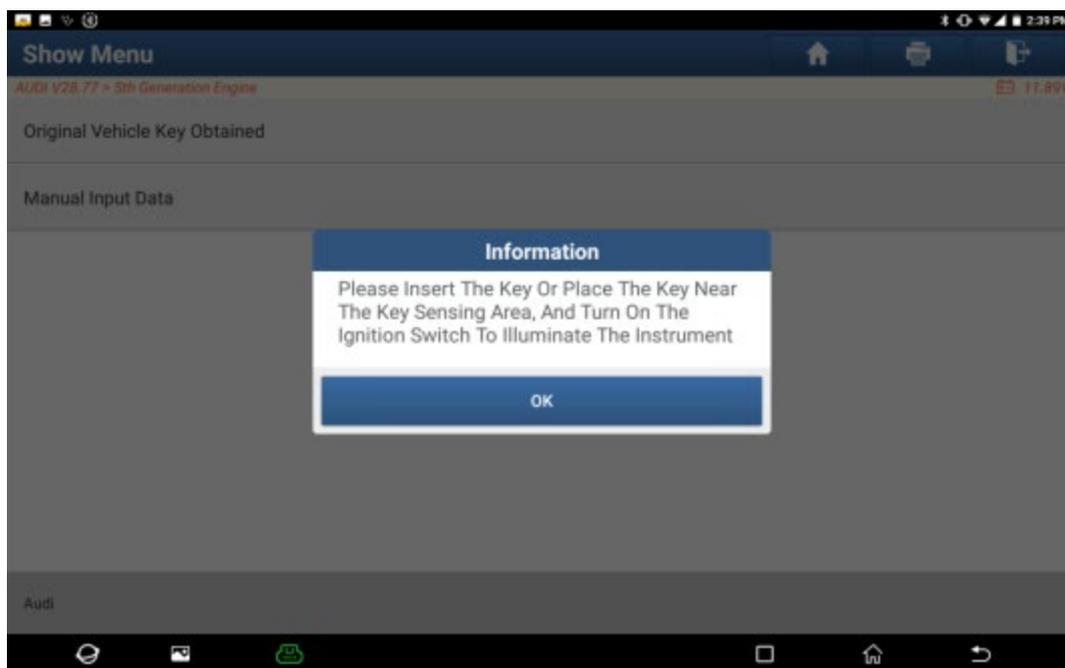


Figure 12

12. After reading the instrument data, you need to place the key into the Immobilizer Programmer, as shown in Figure 13 and Figure 14;

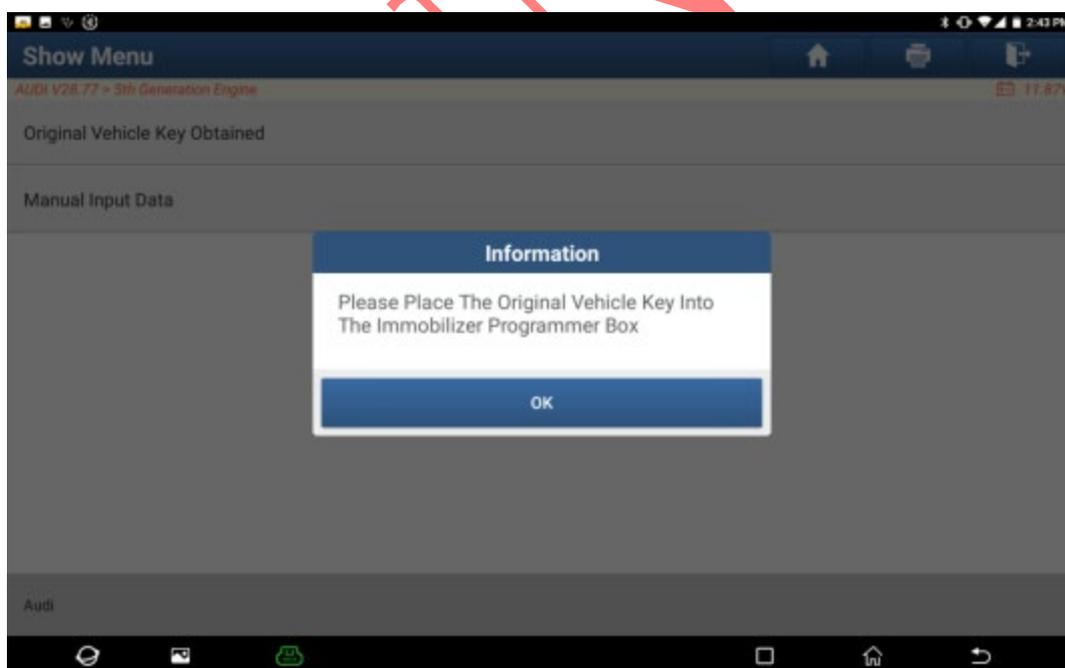


Figure 13



Figure 14

13. At this time, both of external engine ECU data and original vehicle data are successfully read, as shown in Figure 15. Click **【Start Replacement】**, the process is successfully performed, and the external engine has synchronized with the original vehicle anti-theft data, as shown in Figure 16;

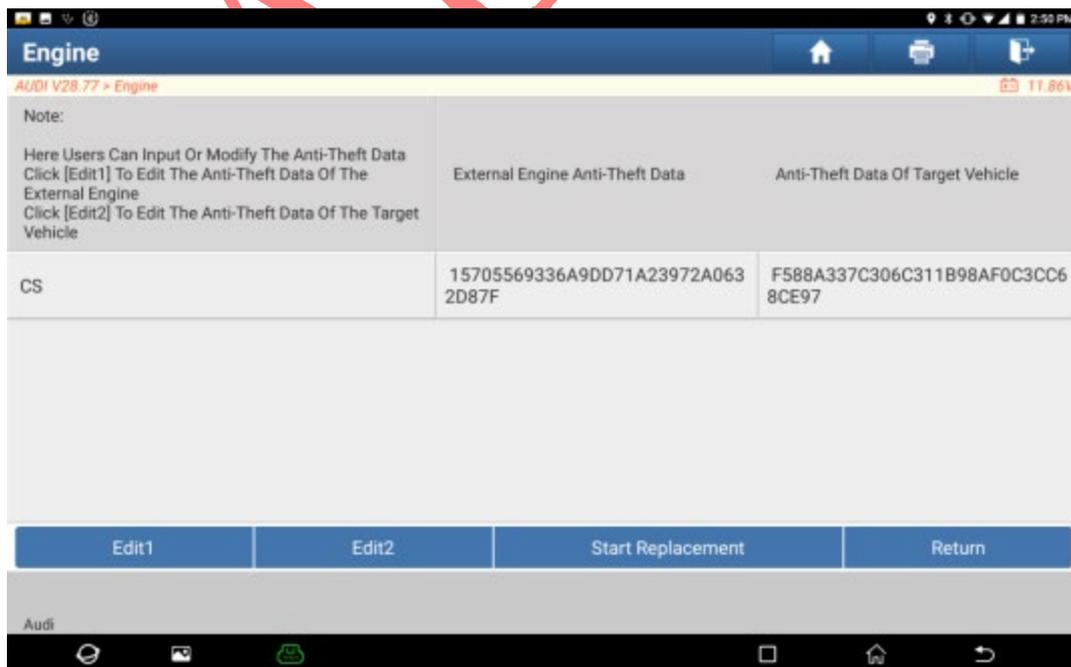


Figure 15

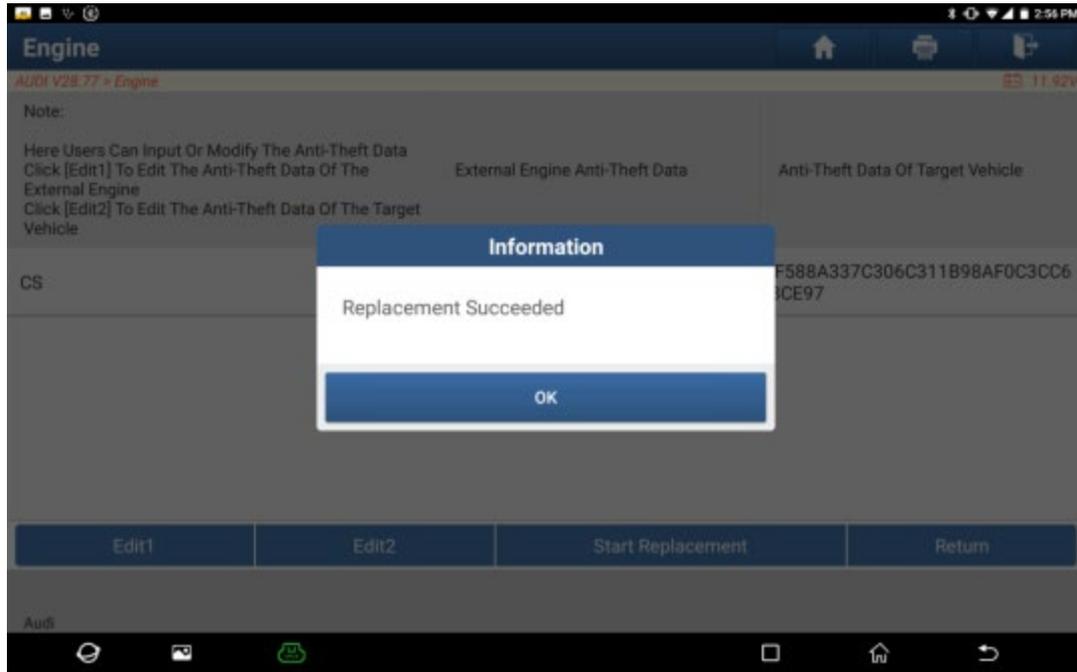


Figure 16

14. The programming function is needed if the external engine ECU software part number is different from the one of original engine ECU, and the software part number can be modified by manual programming.
15. Finally, you can start the engine by encoding and clearing DTCs.

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