

Nissan Service Regeneration

Tested Model: NISSAN TERRA 2024

Function Description:

1. This function forces the ECM (Engine Control Module) to enter the service regeneration mode through the diagnostic tool, and uses post-injection fuel to generate high temperature inside the DOC (Diesel Oxidation Catalyst), which oxidizes the accumulated soot particles inside the DPF (Diesel Particulate Filter) into CO₂ and discharges them, thereby restoring the gas flow capacity of the filter.
2. When the DPF warning light on the instrument cluster is illuminated or flashing, the DPF differential pressure signal is abnormally high, or the vehicle experiences power loss/torque limitation, this function must be executed with the vehicle parked so as to clear the warnings and torque limitations caused by severe clogging.
3. When the vehicle displays DPF-clogging-related DTCs and peripheral issues (such as sensor faults or exhaust leaks) have been ruled out, use this function to perform a forced regeneration and clear excessive soot accumulation.

Supported Products: Launch PRO or PAD series comprehensive diagnostic equipment

Attention:

1. Before performing the function, park the vehicle on a level ground in a well-ventilated area free of flammable materials (performing regeneration outdoors on a non-flammable surface is recommended), and ensure that there are no objects near the exhaust pipe or around the vehicle. Keep away from the exhaust pipe outlet during regeneration; do not work under the vehicle or near the exhaust system. Check the exhaust pipe for leaks or blockages before performing regeneration.
2. Ensure that the engine is started and idling, the coolant has reached normal operating temperature, the transmission is in N or P gear, the parking brake is engaged, and all doors and the engine hood are closed. Ensure that the vehicle has sufficient fuel before performing regeneration. Turn off all electrical loads (such as A/C) during regeneration. To prevent engine overheating, ensure that the engine oil

- level is between the minimum and middle marks on the dipstick.
3. Do not disconnect the diagnostic tool, move the vehicle, press the brake pedal, or operate the gear shifter during any regeneration operation. Abnormal interruption of the regeneration process may lead to serious consequences.
 4. The service regeneration procedure takes at least 30 minutes (coolant heating time will extend the total duration). In an emergency, the regeneration function can be stopped by briefly pressing the vehicle start button twice within 3 seconds. Turn off the ignition and wait for 1 minute before restarting.

Procedure:

1. On an X431 PAD 5, follow the steps shown in Figure 1 to Figure 3. Choose [Local Diagnose], choose [Nissan], and then click [OK] to enter the Nissan vehicle model menu interface (Figure 4).

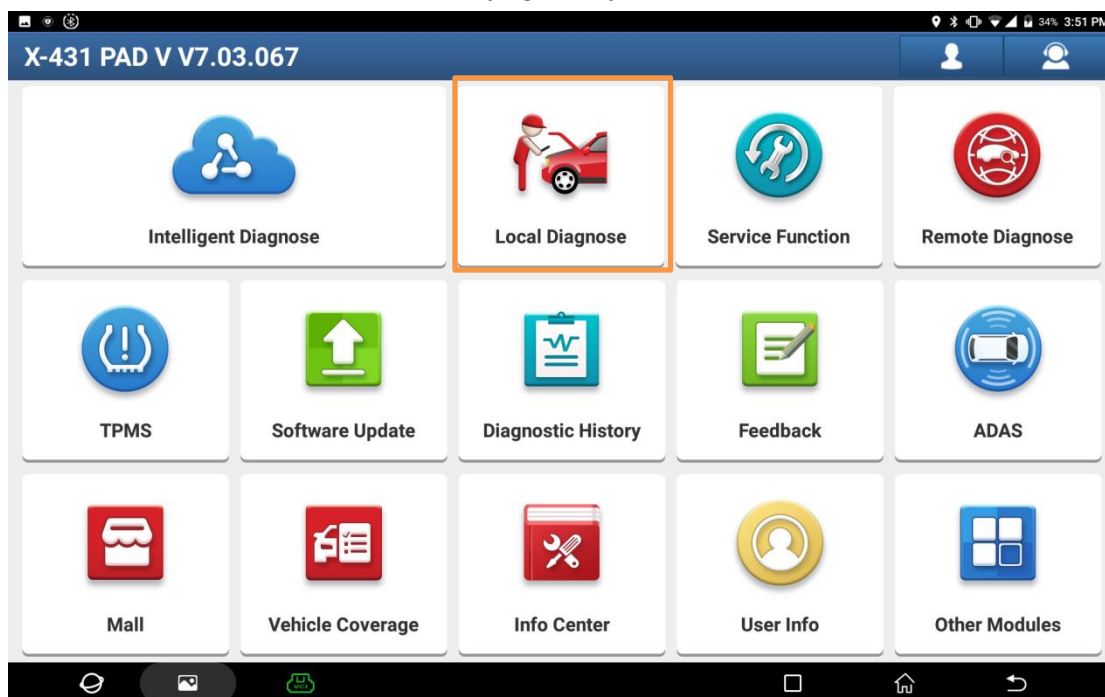


Figure 1

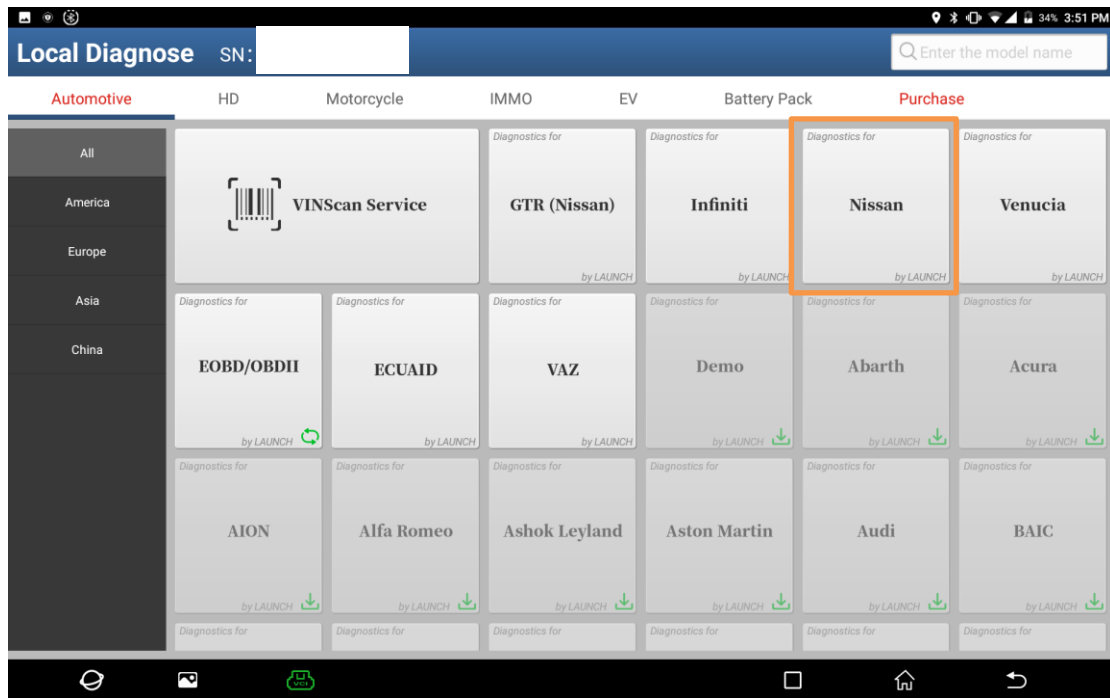


Figure 2

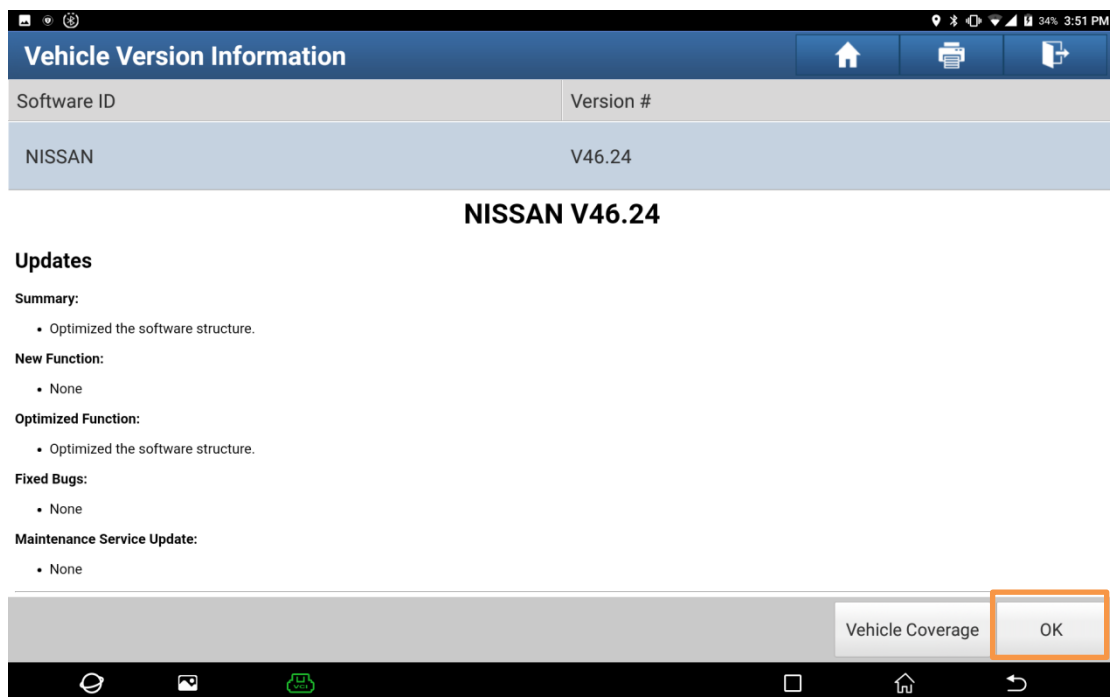


Figure 3

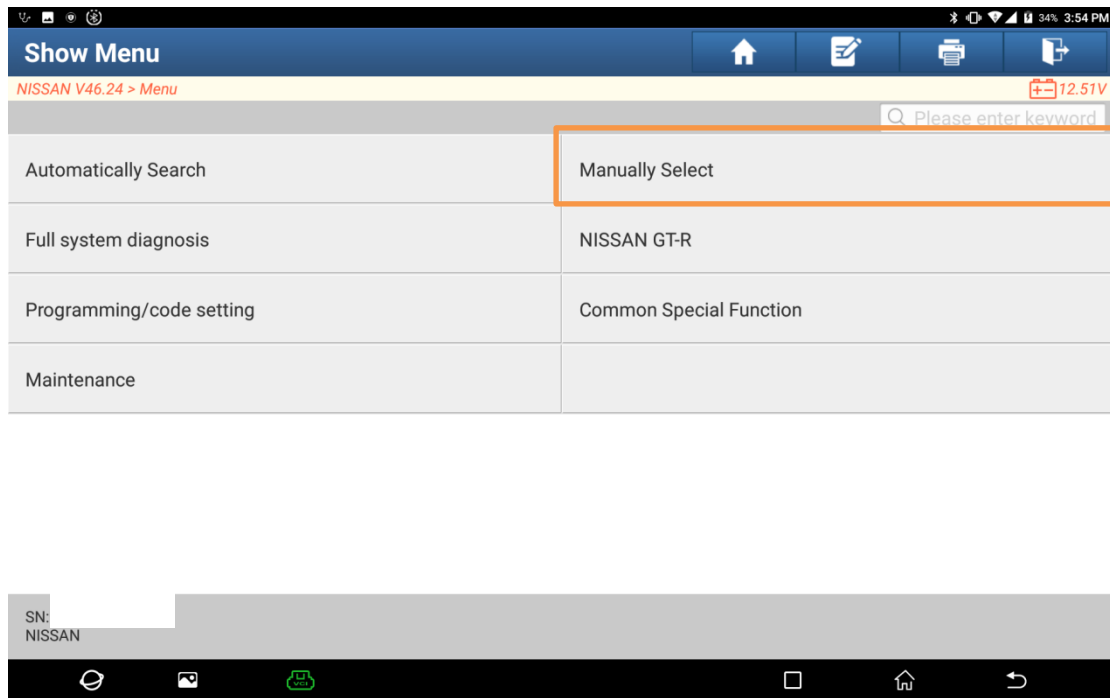


Figure 4

- Click [Manually Select], and choose [Middle and Near East] > [Qatar] > [TERRA] > [D23] > [10/2024] to enter the vehicle model system interface (Figure 5).

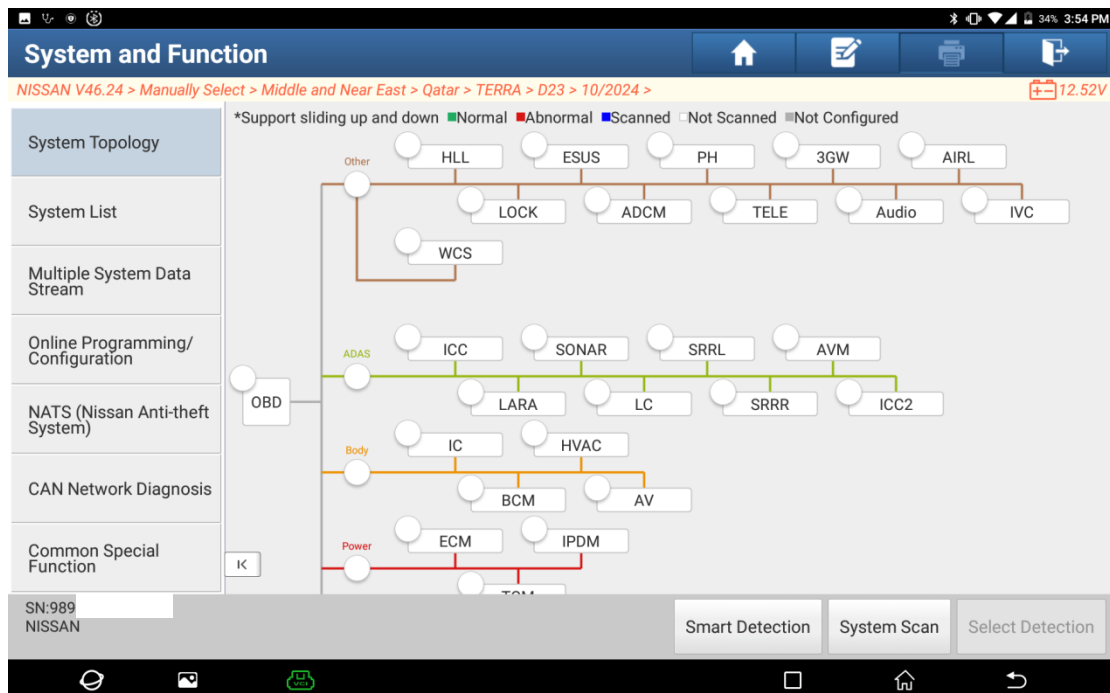


Figure 5

3. On the vehicle model system interface (Figure 6), click [Smart Detection].

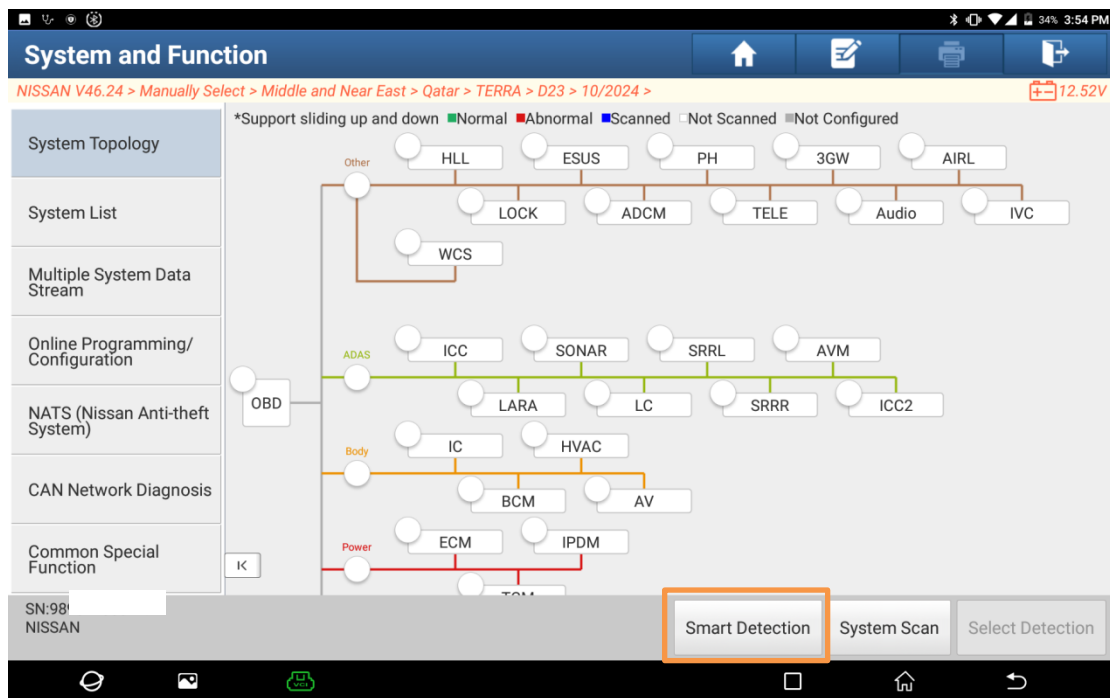


Figure 6

4. After the detection is completed, click [ECM] on the system topology (Figure 7) to display ECM DTC information (Figure 8). If fault information similar to that in Figure 8 is read, and peripheral issues (such as sensor faults or exhaust leaks) have been ruled out, it indicates that the service regeneration function needs to be executed.

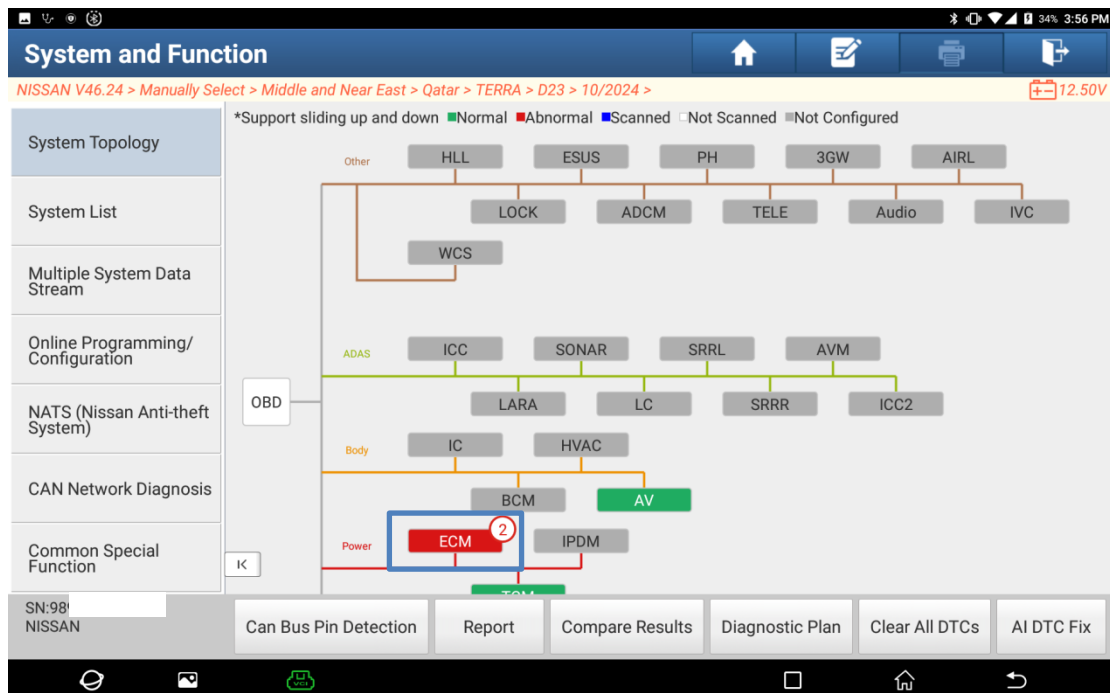


Figure 7

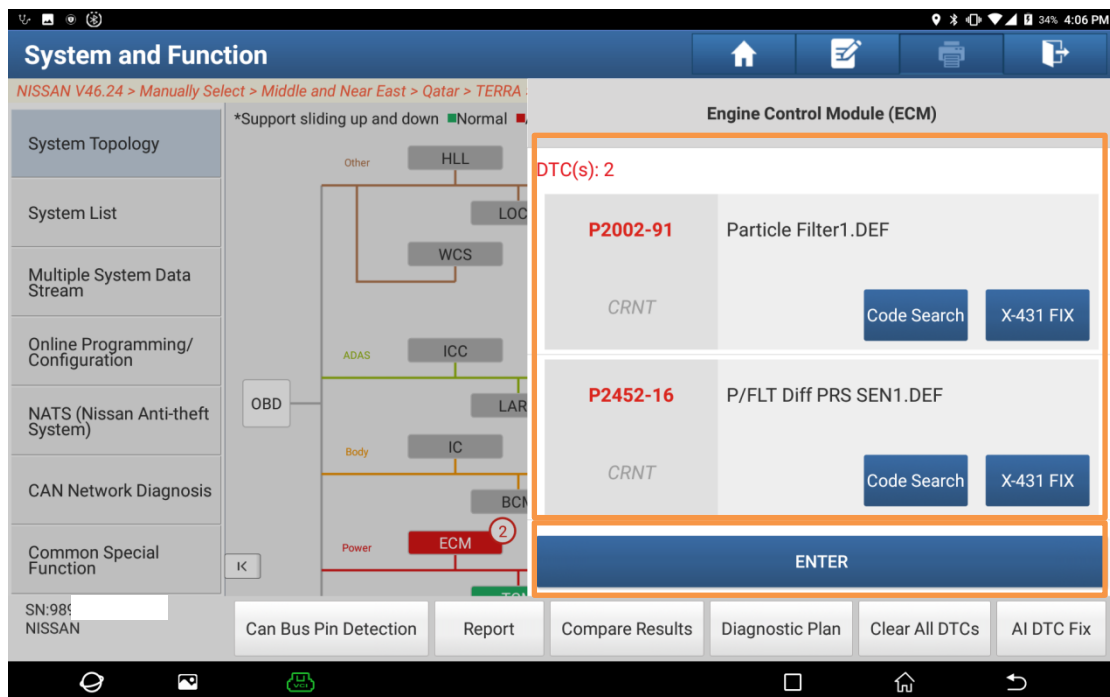


Figure 8

5. Click [ENTER] to enter the ECM menu interface (Figure 9).

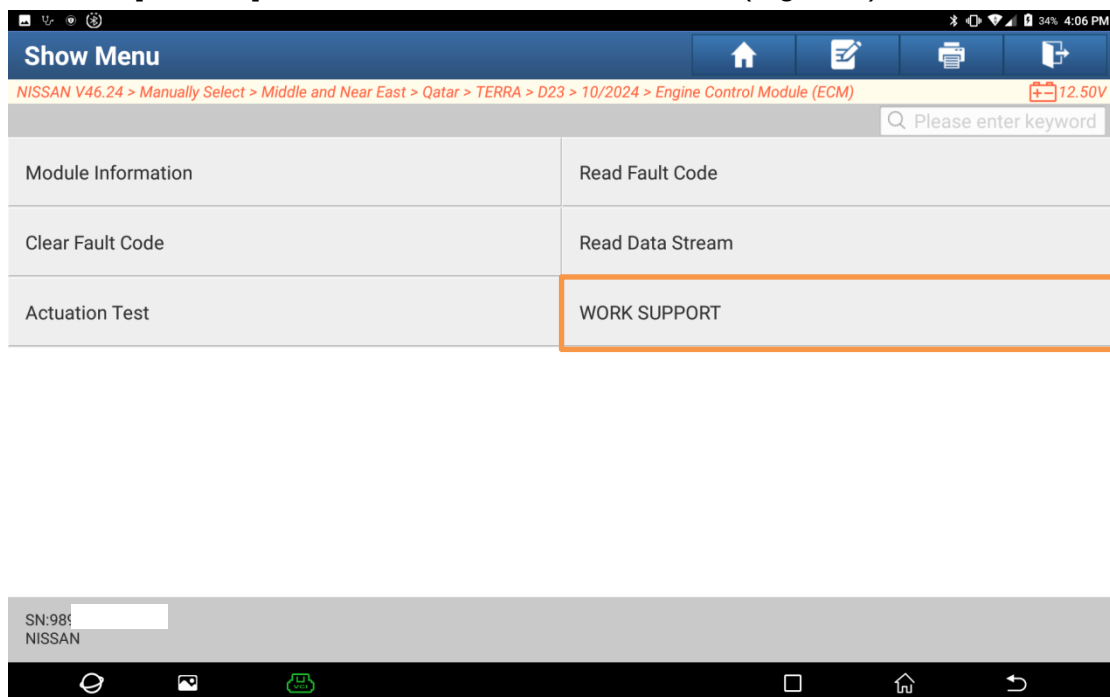


Figure 9

6. Click [WORK SUPPORT] to enter the [WORK SUPPORT] menu interface (Figure 10).

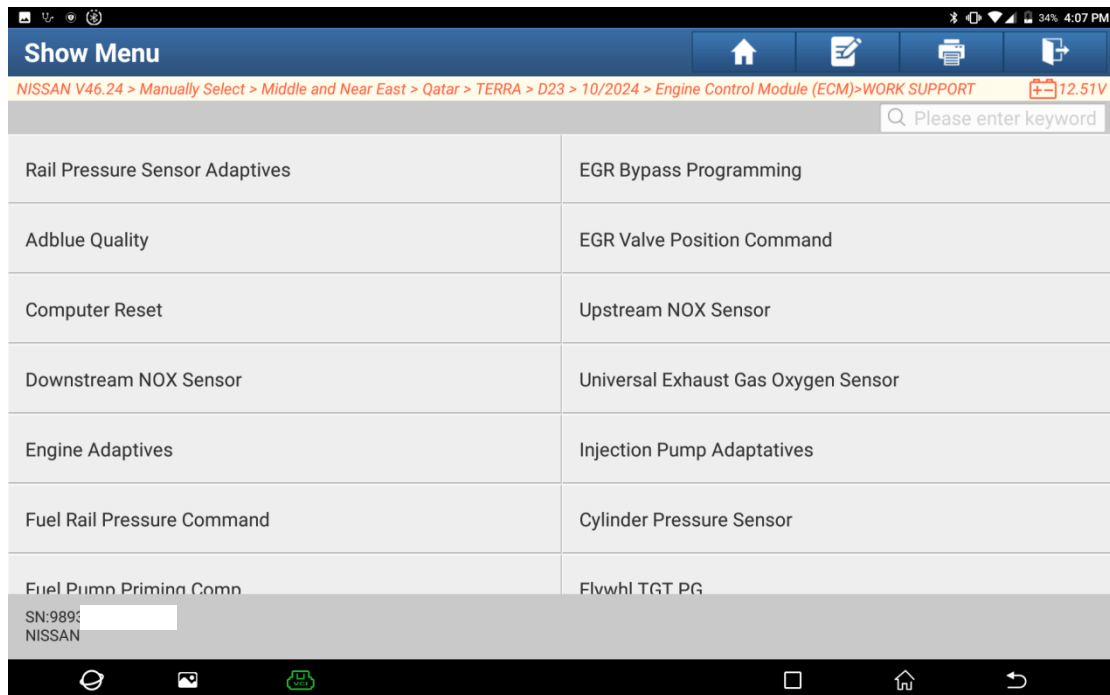


Figure 10

7. On the [WORK SUPPORT] menu interface, click [Service Regeneration] (Figure 11).

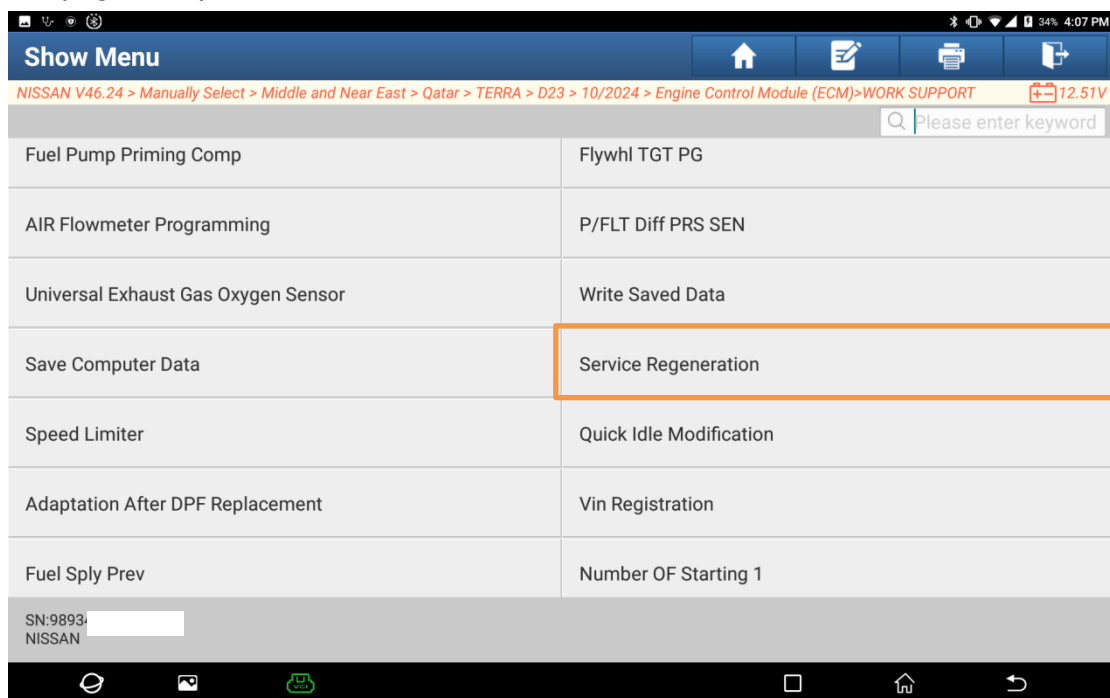


Figure 11

8. Carefully read the pop-up prompt information in Figure 12. Ensure that the engine is started and idling, and then click [OK] to proceed to the next step.

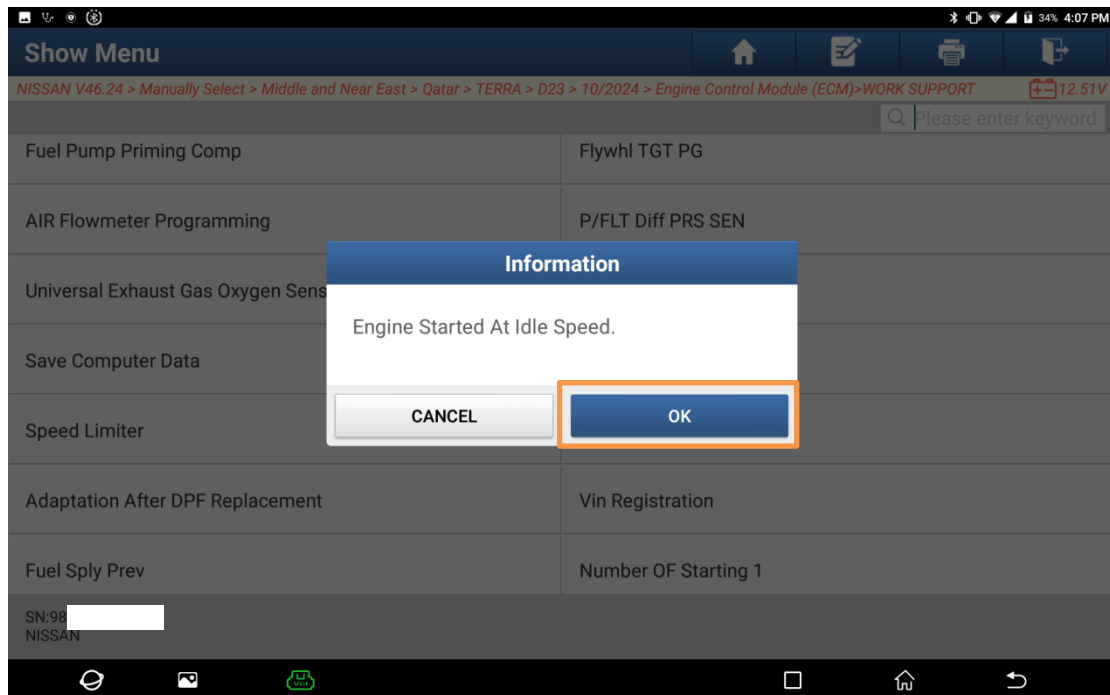


Figure 12

9. Carefully read the pop-up prompt information in Figure 13. Park the vehicle on a level ground in a well-ventilated area free of combustible materials (e.g., an outdoor, non-flammable surface). Verify that the vehicle's exhaust system components can withstand temperatures exceeding 400°C, ensure that there are no objects near the exhaust pipe or around the vehicle, and check the exhaust pipe for abnormalities such as leaks or blockages. Click [OK] to proceed to the next step.

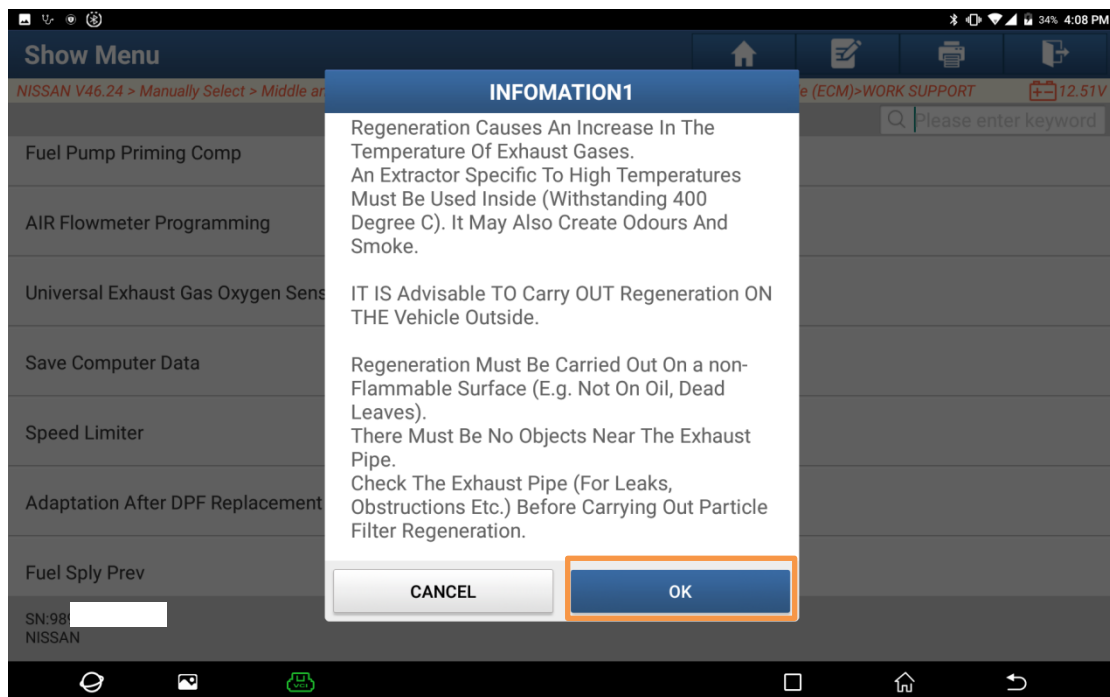


Figure 13

10. Carefully read the pop-up prompt information in Figure 14. This function increases the fast idle speed through an oscillation method. When switching from the heating phase to the regeneration phase, the engine sound will change. Click [OK] to proceed to the next step.

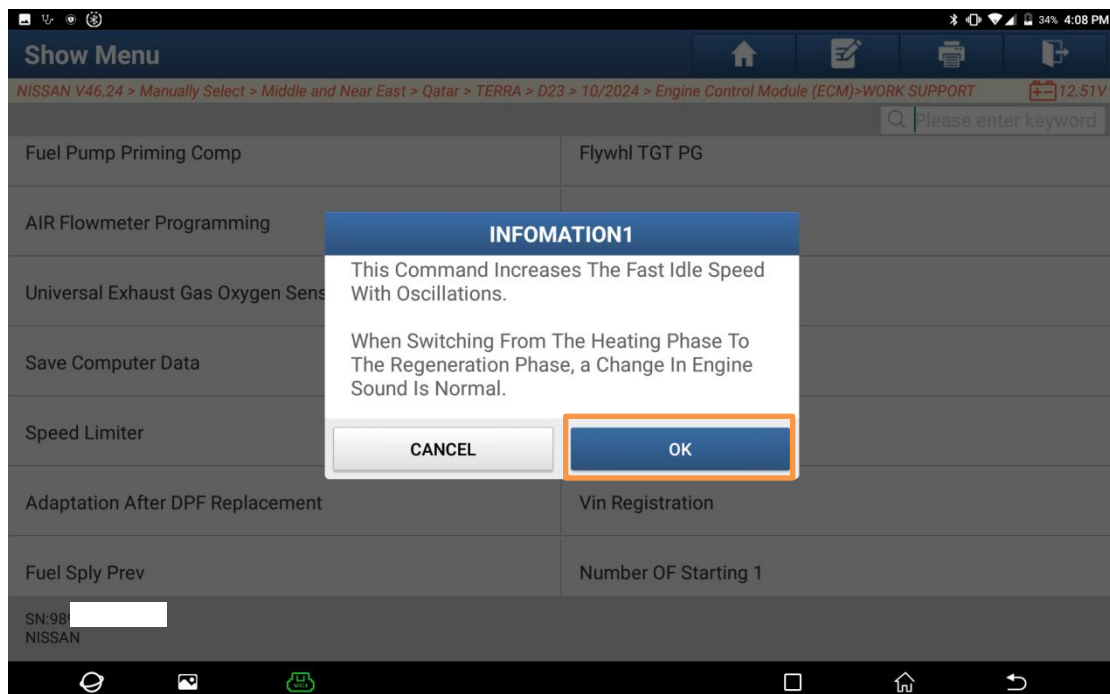


Figure 14

11. Carefully read the pop-up prompt information in Figure 15. This function lasts for at least 30 minutes. Coolant heating time will increase the regeneration duration. Click [OK] to proceed to the next step.

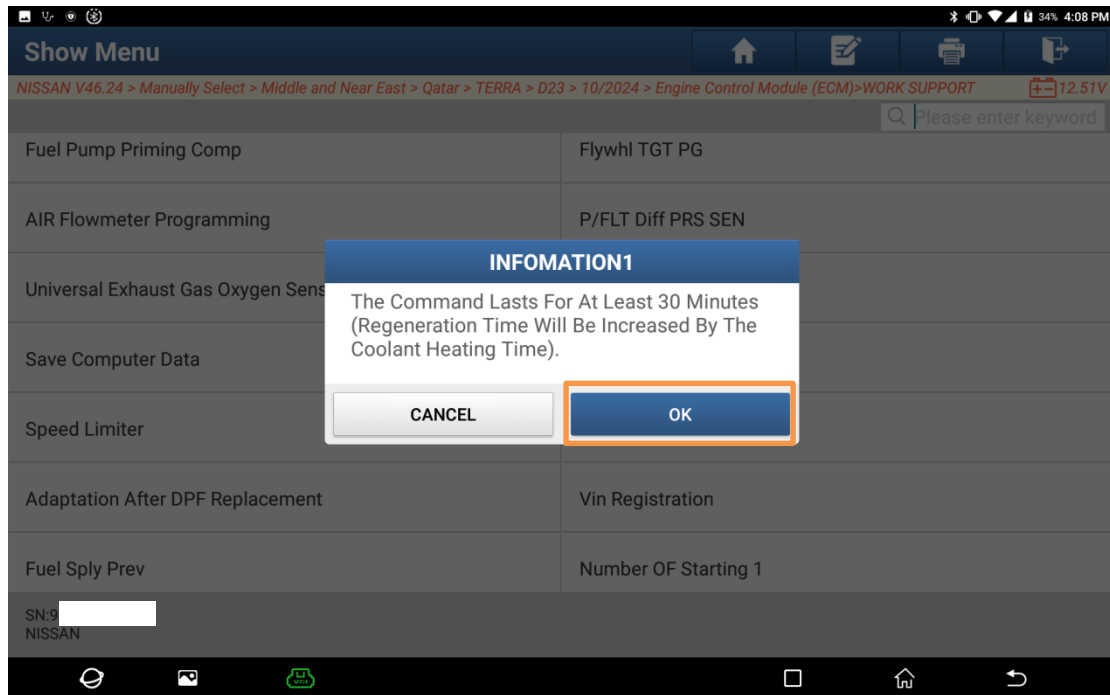


Figure 15

12. Carefully read the pop-up prompt information in Figure 16. Before executing the function, ensure that the engine oil level is between the minimum and middle marks to avoid the risk of engine overspeeding. During regeneration, ensure that all electrical loads in the vehicle (such as the A/C) are turned off. Click [OK] to proceed to the next step.

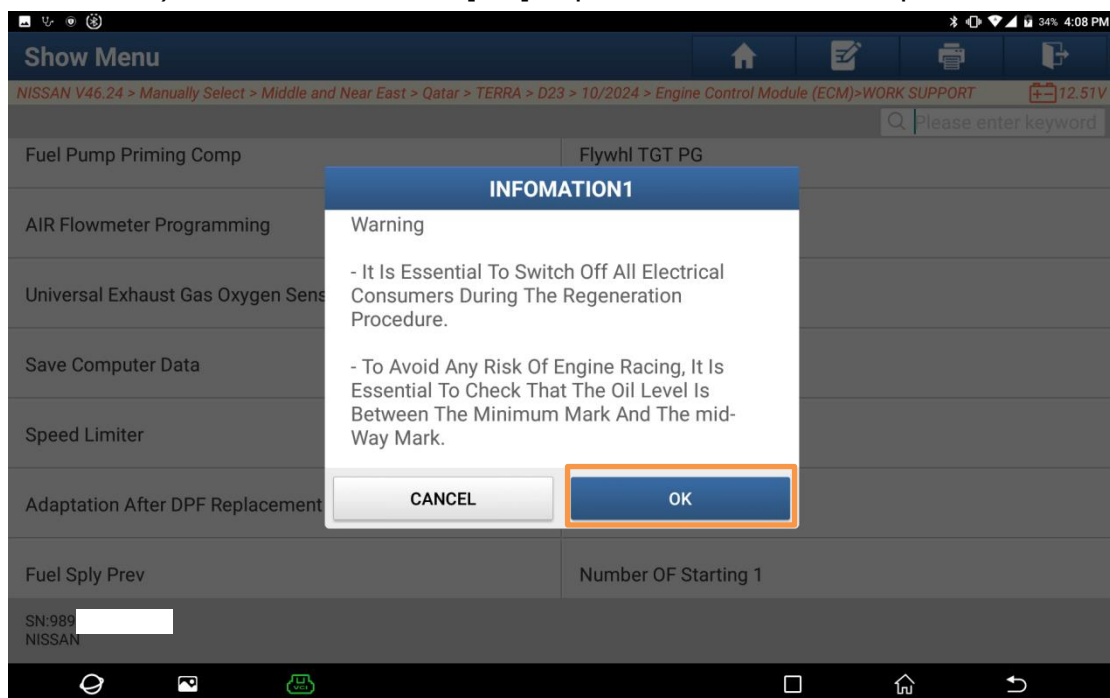


Figure 16

13. Carefully read the pop-up prompt information in Figure 17. Do not disconnect the diagnostic tool, move the vehicle, or press the brake pedal during the entire regeneration cycle to avoid serious consequences. To interrupt the function midway, you can terminate the regeneration process by briefly pressing the vehicle start button twice within 3 seconds, then turn off the ignition, wait for 1 minute, and restart. Click [OK] to enter the interface shown in Figure 18.

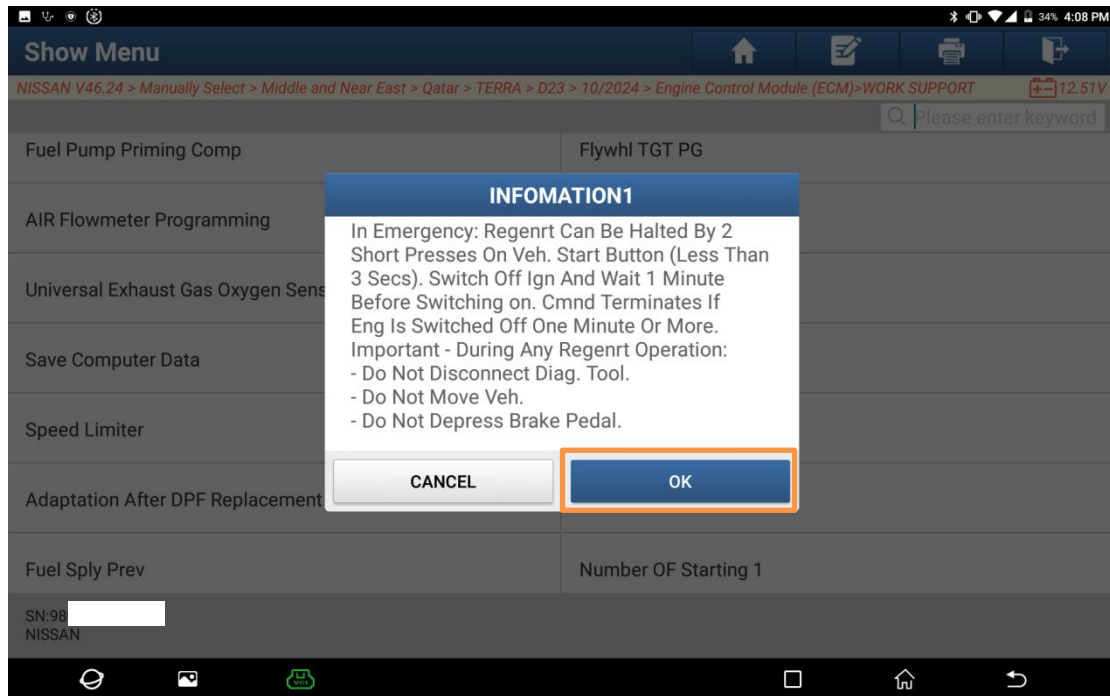


Figure 17

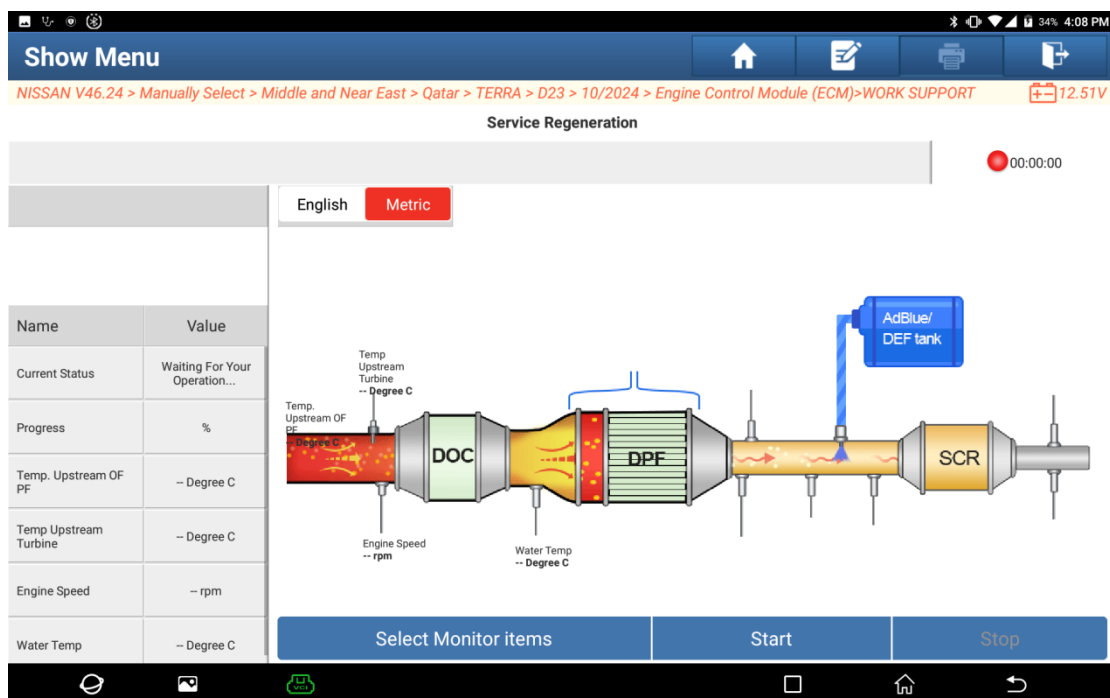


Figure 18

14. To view the changes in the ECM data streams during the service regeneration function, click the [Select Monitor Items] button as shown in Figure 19 to enter the interface shown in Figure 20. If there is no need to view data stream changes, skip steps 14-16 and proceed to step 17.

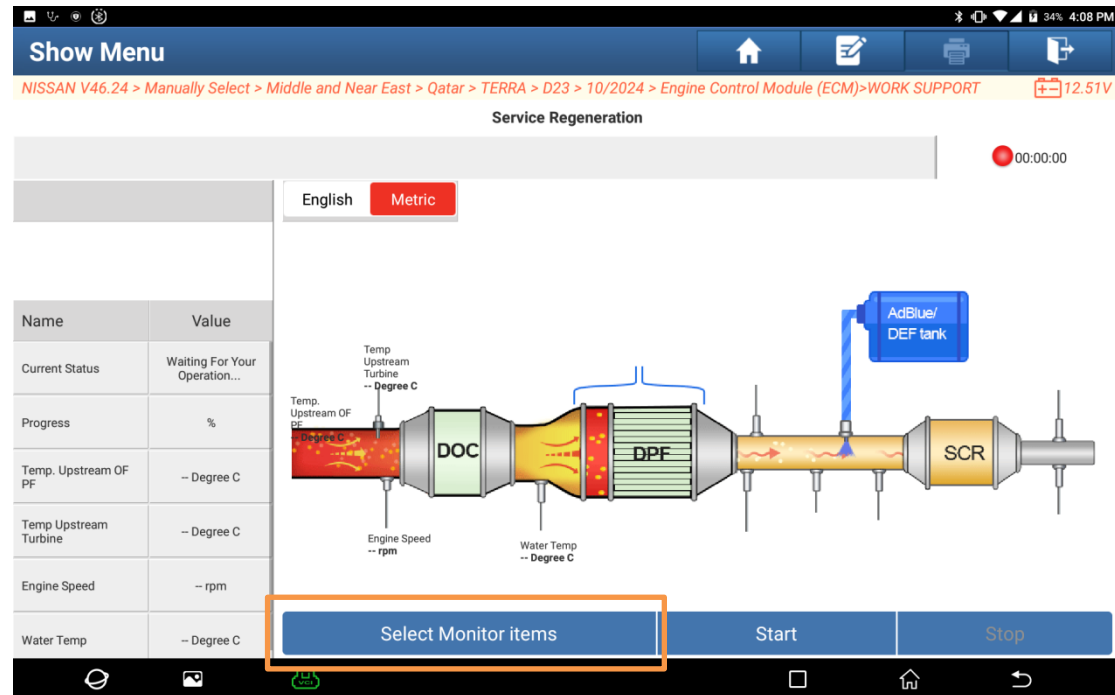


Figure 19

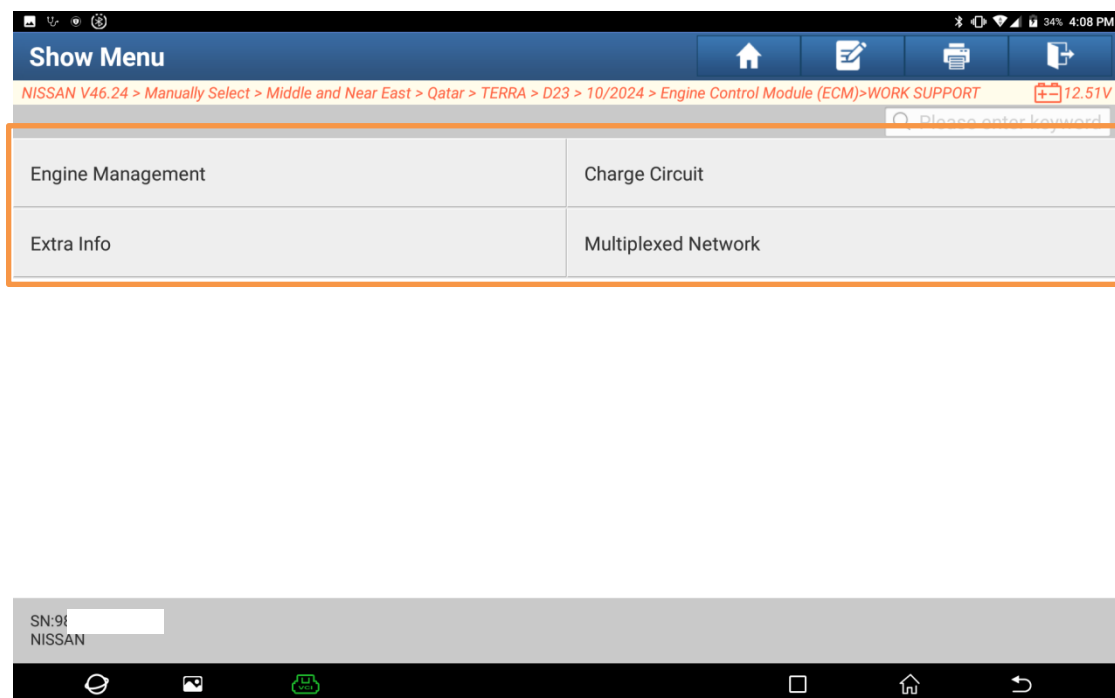


Figure 20

15. On the [Select Monitor Items] menu interface (i.e., the interface in Figure 20), click the [Engine Management], [Charge Circuit], [Extra Info], and [Multiplexed Network] buttons to enter the respective data stream monitor item selection interfaces. Based on actual needs, find the required data stream items on the interface and click to select them. Operation examples are shown in Figures 21 and 22. If a data stream item is selected incorrectly, click the corresponding column again to deselect it. After selecting the data stream monitor items, click [Confirmed] to return to the [Select Monitor Items] menu interface (i.e., the interface in Figure 20).

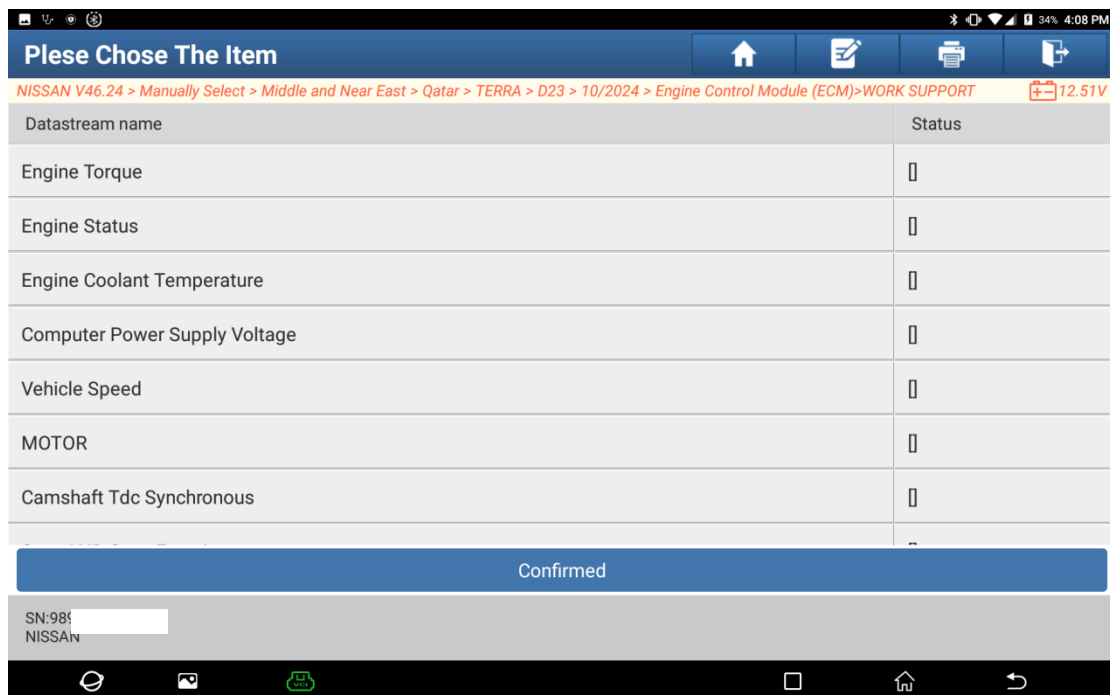


Figure 21



Figure 22

16. On the [Select Monitor Items] menu interface (i.e., the interface in Figure 20), click the back icon in the bottom right corner as shown in Figure 23 to return to the function interface shown in Figure 24.

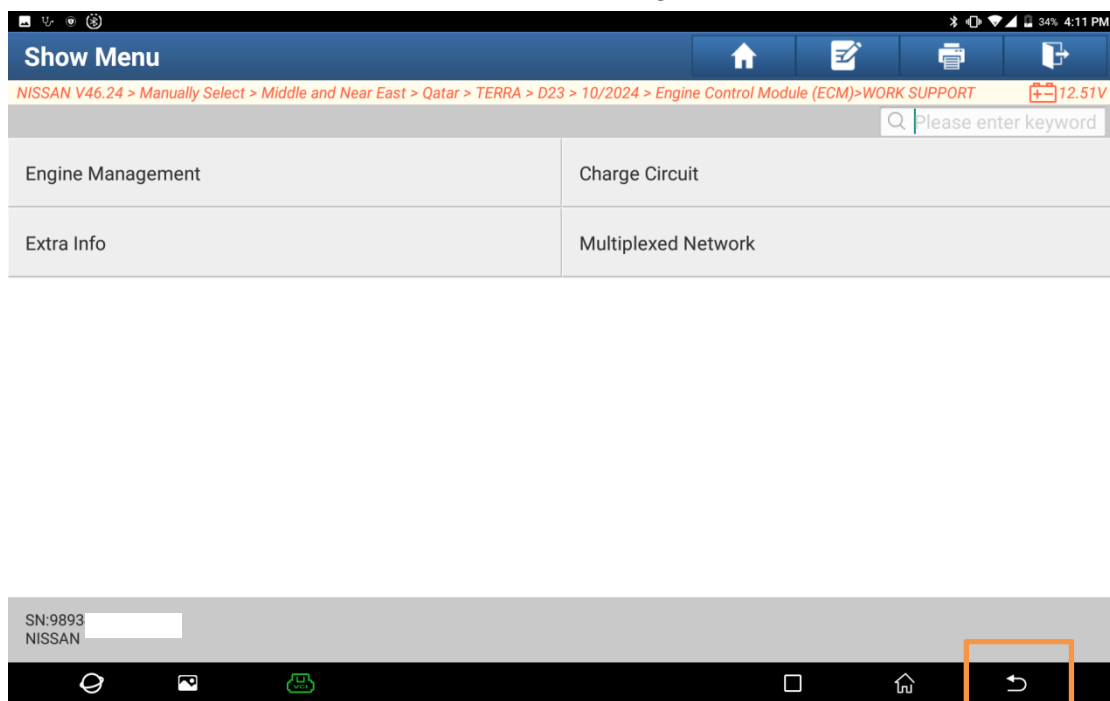


Figure 23

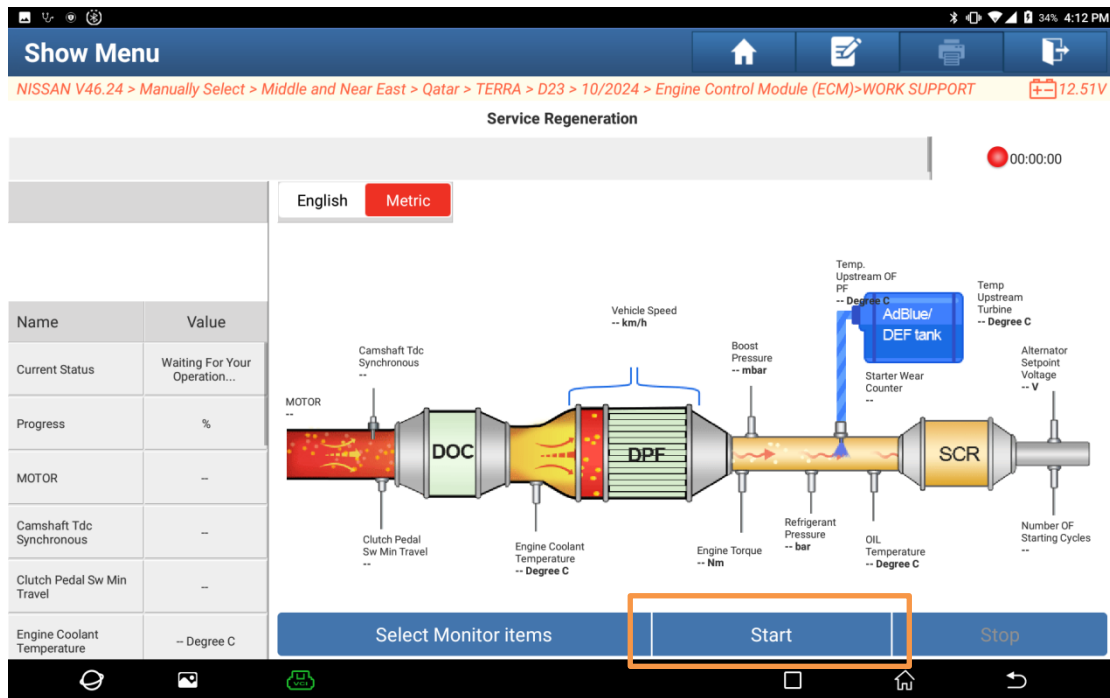


Figure 24

17. Before executing the service regeneration function, ensure that the vehicle motor is running (i.e., the engine is running) and the soot amount in the CSF is less than 80g. Then click the [Start] button on the interface shown in Figure 24; the display will be as shown in Figure 25.

Note: If the motor is not running (i.e., the engine is not running), clicking the [Start] button will display a prompt interface as shown in Figure 26. Click [OK], start the engine first, and then restart the operation from step 7. If the soot amount in the CSF is greater than 80g, clicking the [Start] button will display a prompt interface as shown in Figure 27. Click [OK], perform physical cleaning on the CSF, and then restart the operation from step 7.

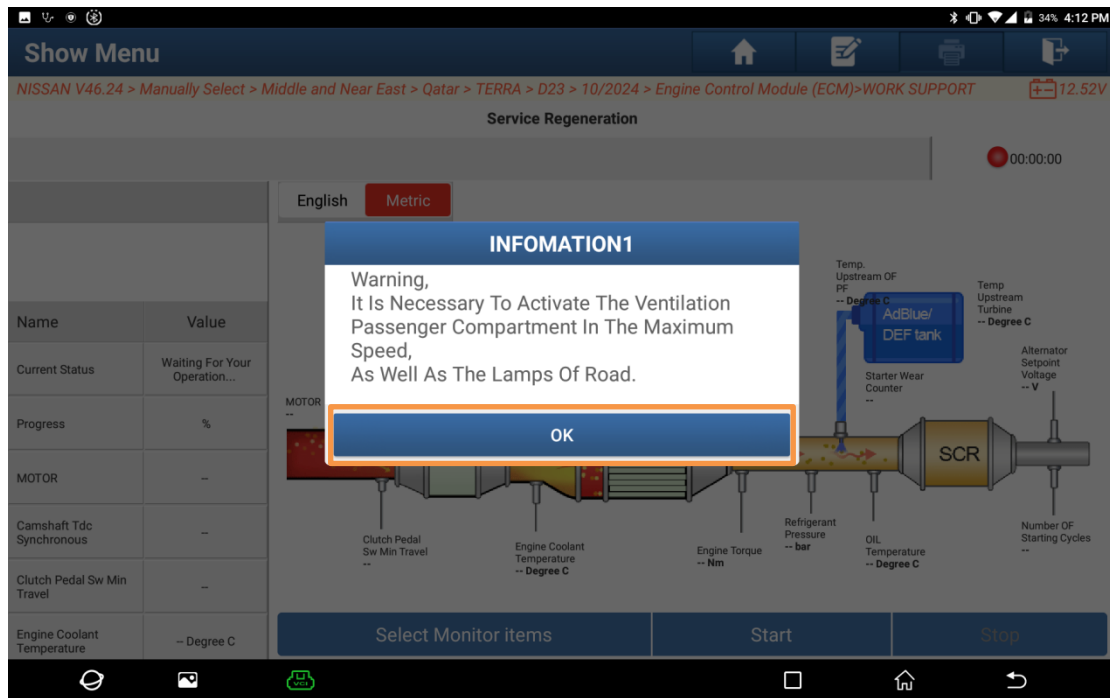


Figure 25

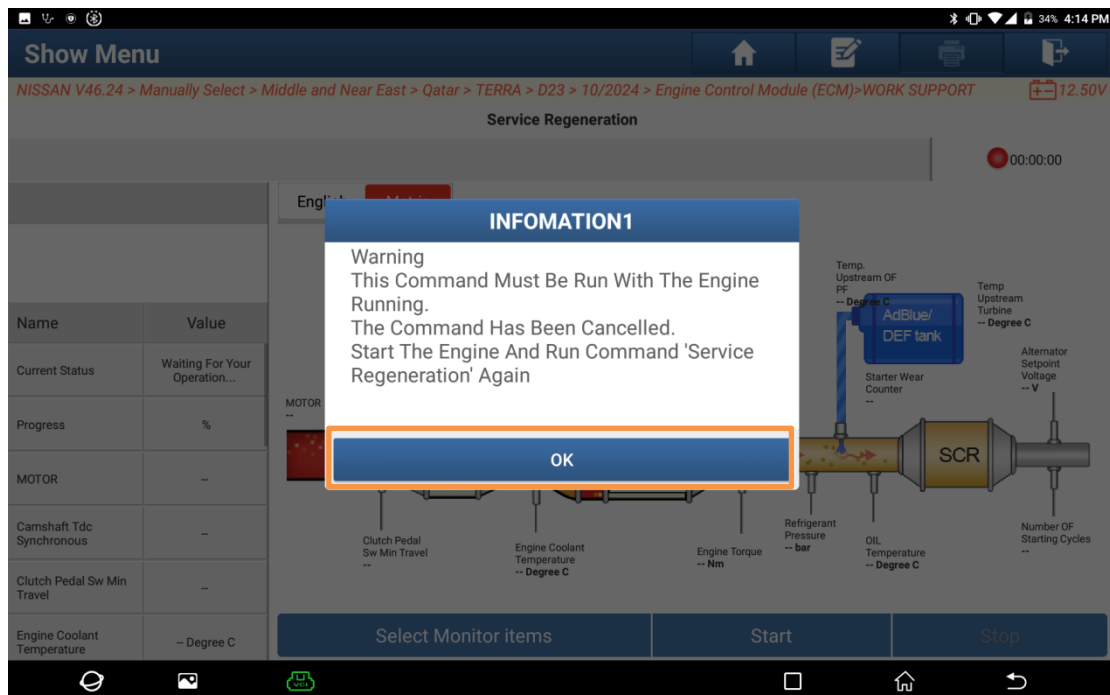


Figure 26

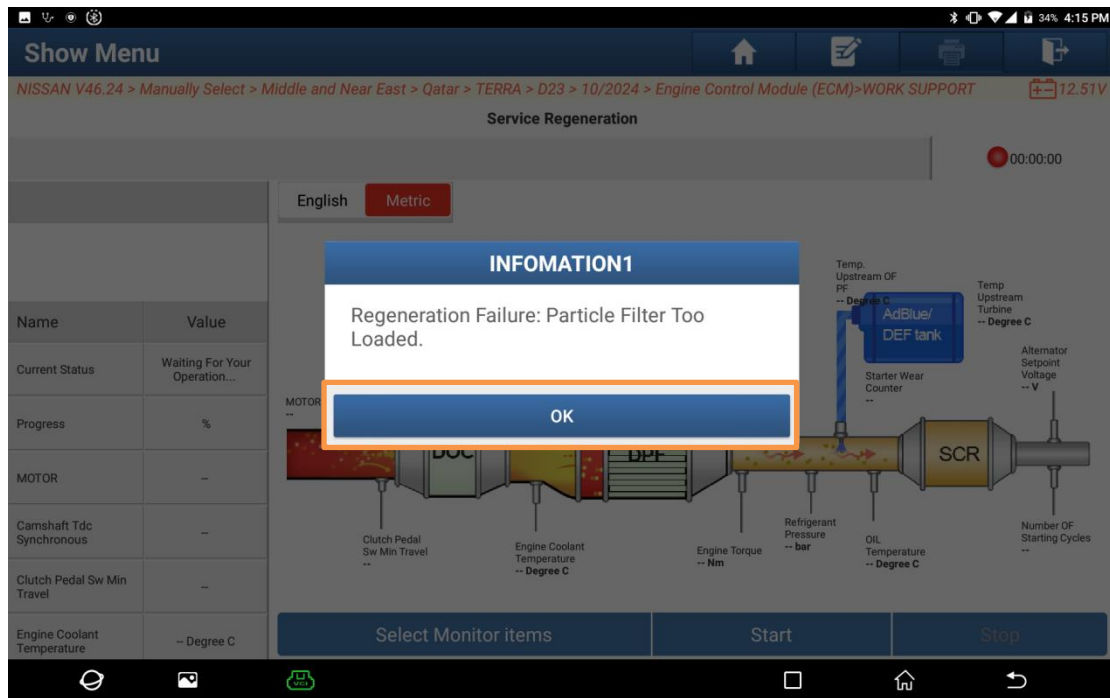


Figure 27

18. Carefully read the pop-up prompt information. Turn the passenger compartment ventilation to the maximum speed and turn on the headlights. Click [OK] to enter the interface shown in Figure 28. During the execution of the service regeneration function, you can view the changes in the selected data stream items on the animation interface in Figure 28, or slide in the bottom left corner of the interface in Figure 28 to view various data stream values. If you wish to view data stream values in other units of measurement, you can click [English] or [Metric] to switch.

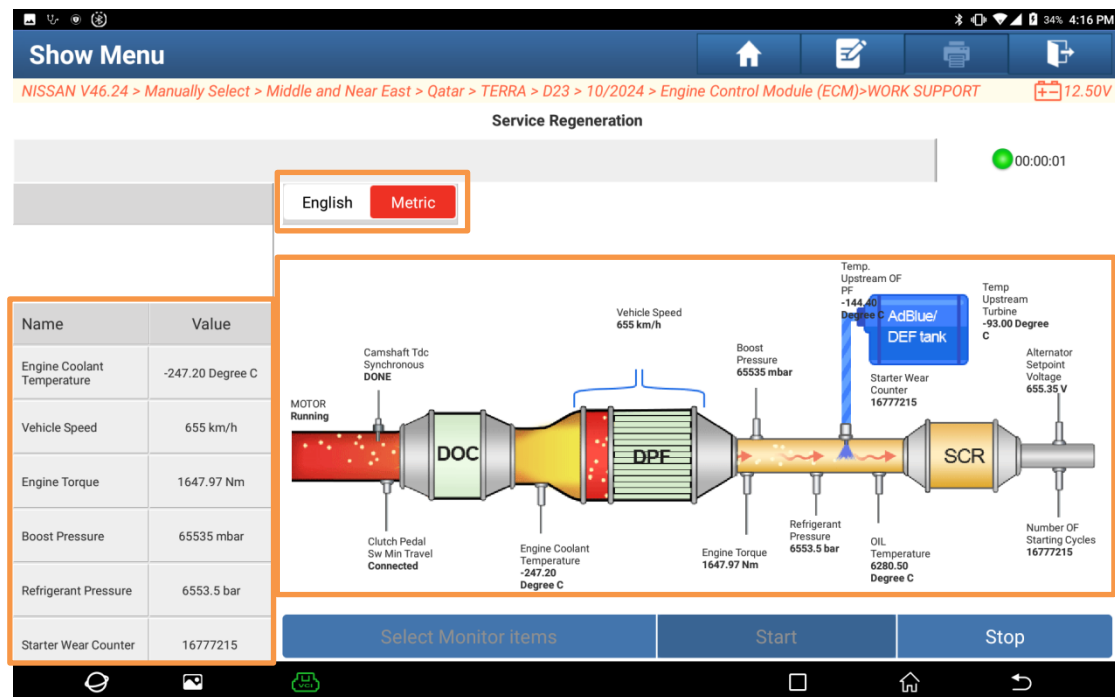


Figure 28

19. In the bottom left corner of the interface in Figure 28, you can view the current execution status and progress of the service regeneration function, as shown in Figure 29. After the function executes automatically for a period of time, a prompt message “Particle Filter Regeneration Successful” will pop up, as shown in Figure 30, indicating that the regeneration function has been completed. Carefully read the pop-up prompt information. Ensure that the engine oil level is not too high. If the instrument panel displays a message requiring engine oil service, perform the service. Click [OK] to return to the [WORK SUPPORT] menu interface.

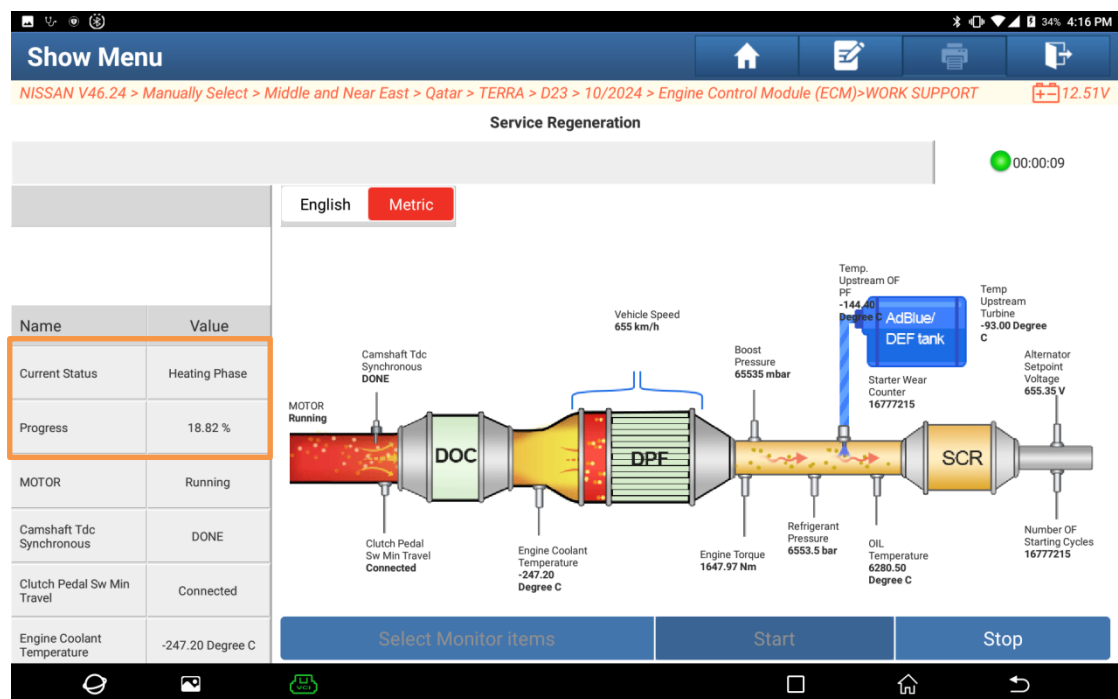


Figure 29

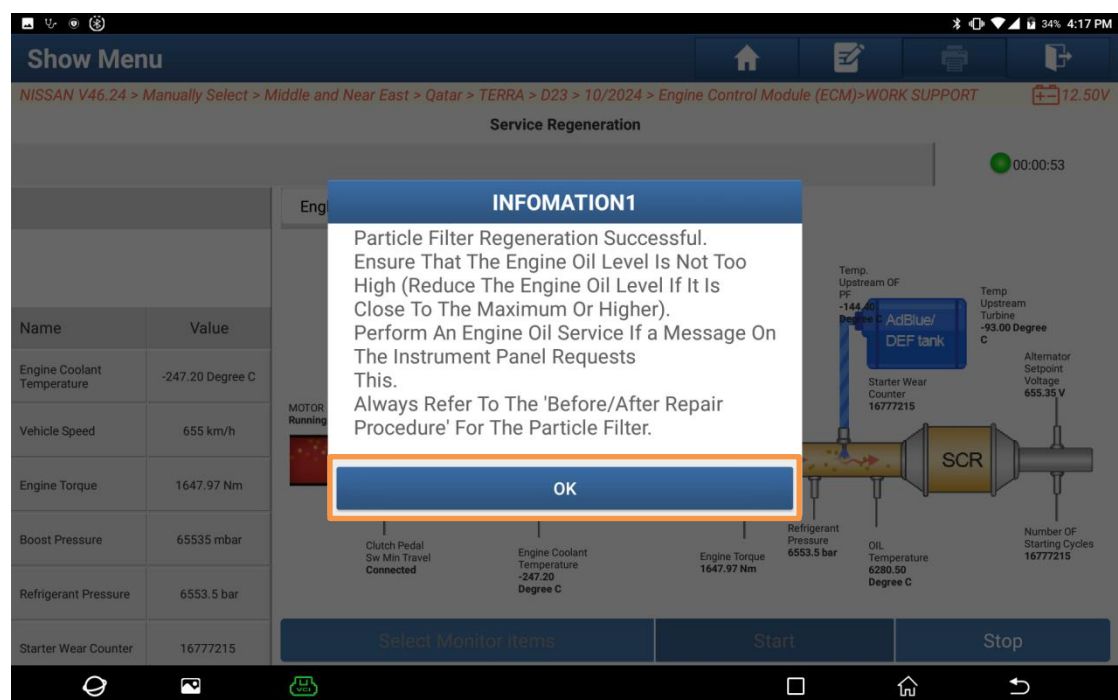


Figure 30

20. Exit to the ECM menu interface, click [Clear Fault Code] (Figure 31), click [Yes], and then click [OK] to clear the DTC information.

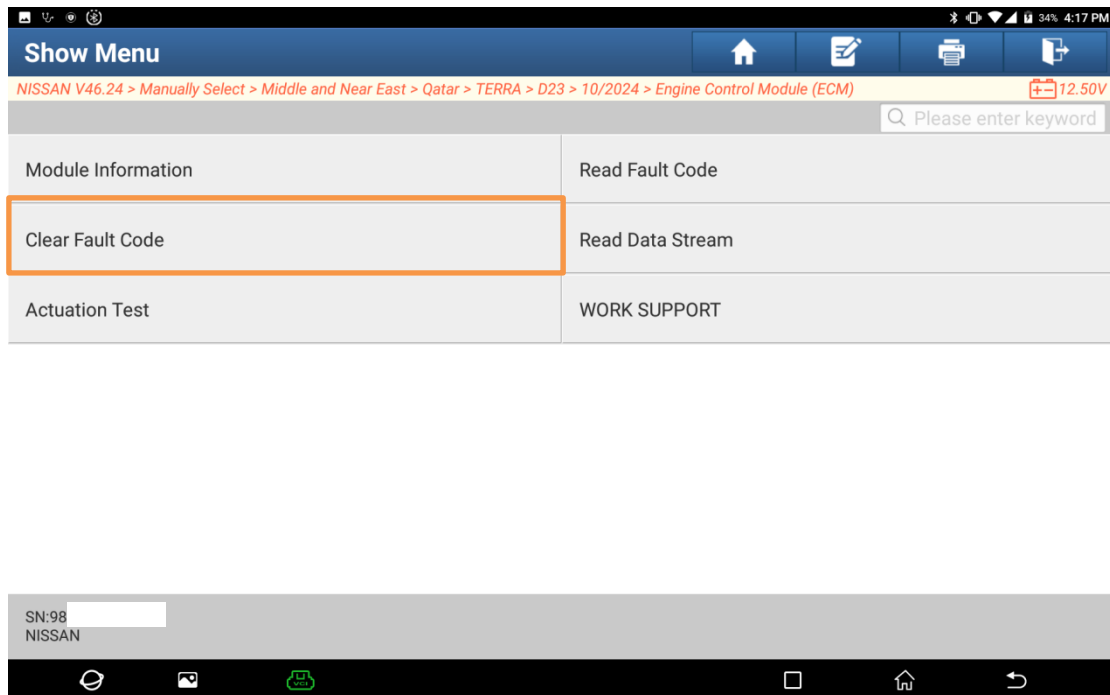


Figure 31

21. On the ECM menu interface, click [Read Fault Code] (Figure 32) to read the ECM DTC information. No DTC is displayed (Figure 33), indicating that the service regeneration function is executed successfully. The service regeneration special function operations are now completed.

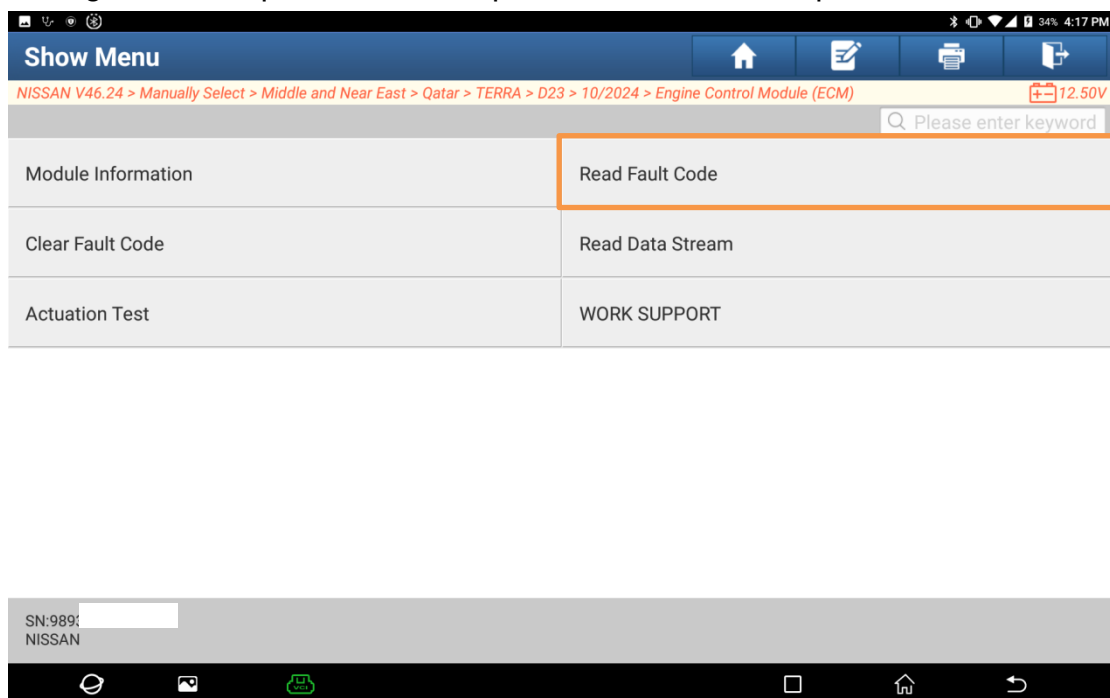


Figure 32

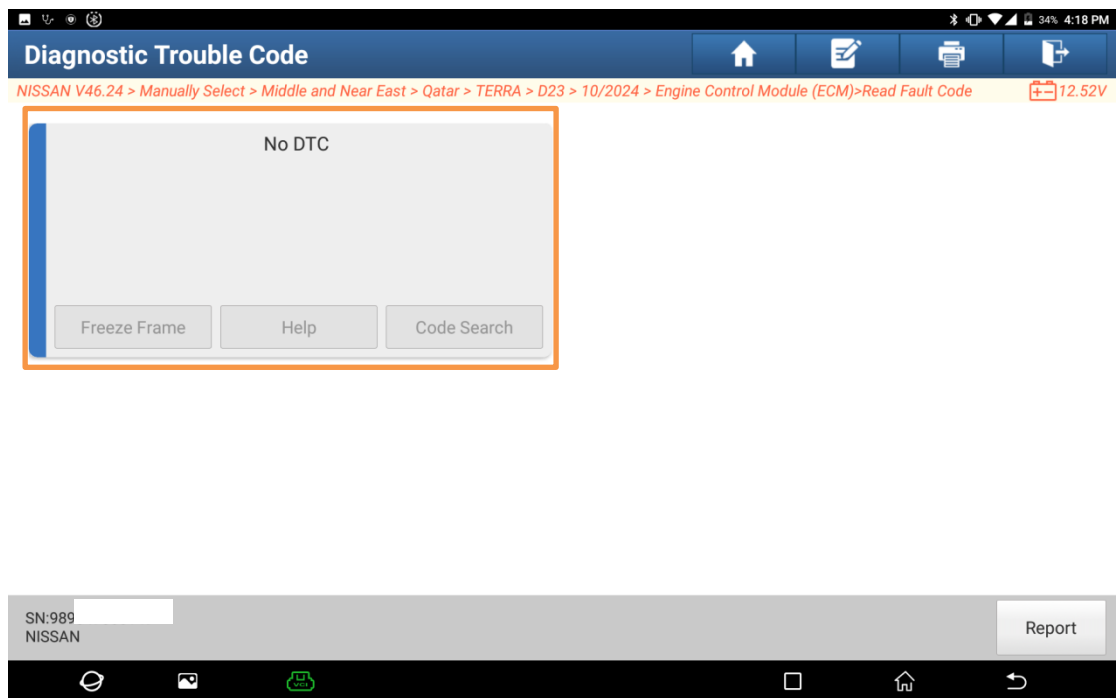


Figure 33

Statement:

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