Write Valve Timing Offset Data

Tested Model: Nissan NV350 URVAN E26 2025

Function Description:

1. This function is used to write valve timing offset data to the ECM (Engine Control Module) and update the stored valve timing compensation value. It compensates for assembly errors and phase deviations resulting from the replacement, programming, or repair of the ECM and valve timing-related components, enabling the ECM to perform control based on the actual phase relationship between the crankshaft and camshaft.
2. This function can be executed to write offset data when resetting is required following the replacement or programming of the ECM, or after replacing valve timing-related components. For vehicles experiencing hard starting, unstable idling, power loss, abnormal acceleration, or faults related to the valve timing system, this function can be used to rewrite offset data (provided that mechanical timing installation is correct and basic operating conditions are normal), to help restore proper valve timing control and narrow down the scope of troubleshooting.
3. After the write operation is completed, perform the relevant learning or confirmation procedures as specified in the vehicle's service requirements. If the write operation fails or related faults persist, troubleshoot by checking DTCs, mechanical timing, camshaft adjusters, VVT system, engine oil pressure, wiring harness and other related items. After repair, read DTCs again to verify whether related faults have been eliminated.

Supported Equipment: Launch PRO or PAD series comprehensive diagnostic equipment

Attention:

1. Before executing this function, ensure that battery voltage, engine coolant temperature, and engine status meet the required conditions. Verify that mechanical timing and related components are correctly installed according to the service manual and that there are no faults interfering with the function execution or valve timing control. Address any issues such as relevant DTCs, sensor or actuator malfunctions, or

abnormal oil pressure before proceeding. This function is not a substitute for mechanical timing inspection and adjustment.

2. Do not turn off the ignition, disconnect the diagnostic tool, or cut off vehicle power during the execution process. Follow the prompts on the diagnostic tool to complete the operations and prevent data write failure.
3. After the write operation is completed, read the valve timing offset data and vehicle DTCs again to verify the results and the status of the valve timing system.
4. If the function fails to execute or the relevant faults persist after writing, please check the vehicle status and the conditions required for function execution. Conduct further troubleshooting based on the DTCs and relevant systems. Re-execute the function after resolving the faults.
5. The 10-digit valve timing offset data required for this function can be found on the QR code label of the electronic throttle control actuator (the location may vary depending on the vehicle model).

Procedure:

1. On an X-431 PAD 5, follow the steps shown in Figure 1 to Figure 3: Choose [Local Diagnose], choose [NISSAN], and then tap "OK" to enter the Nissan vehicle model menu interface (Figure 4).

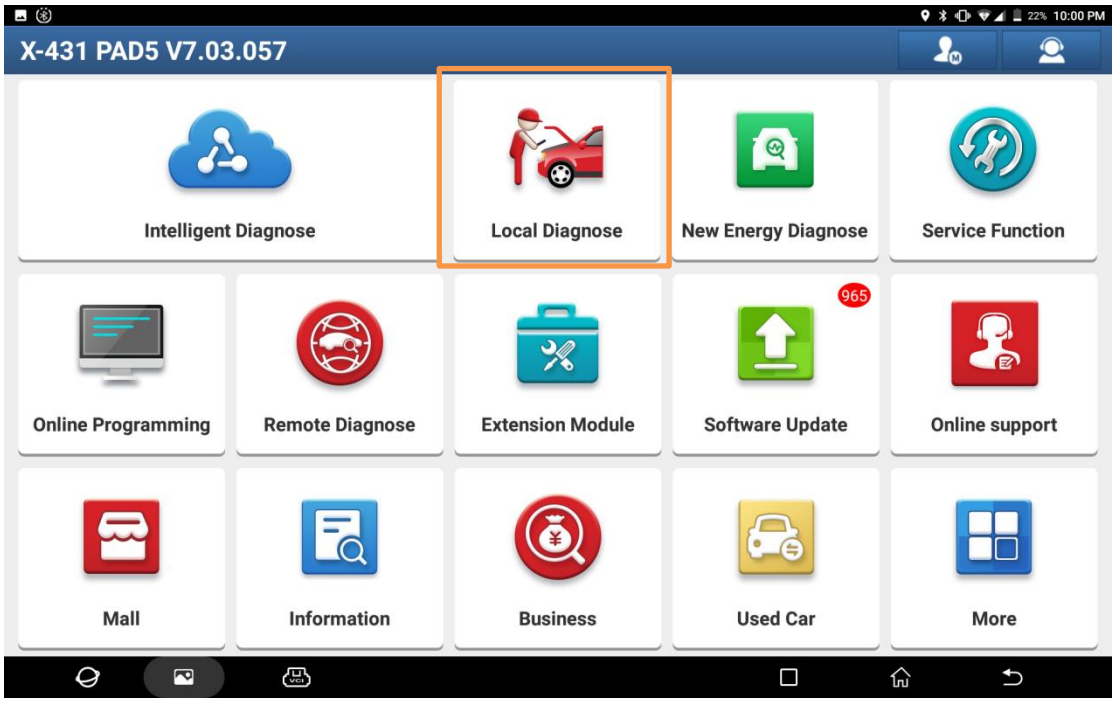


Figure 1

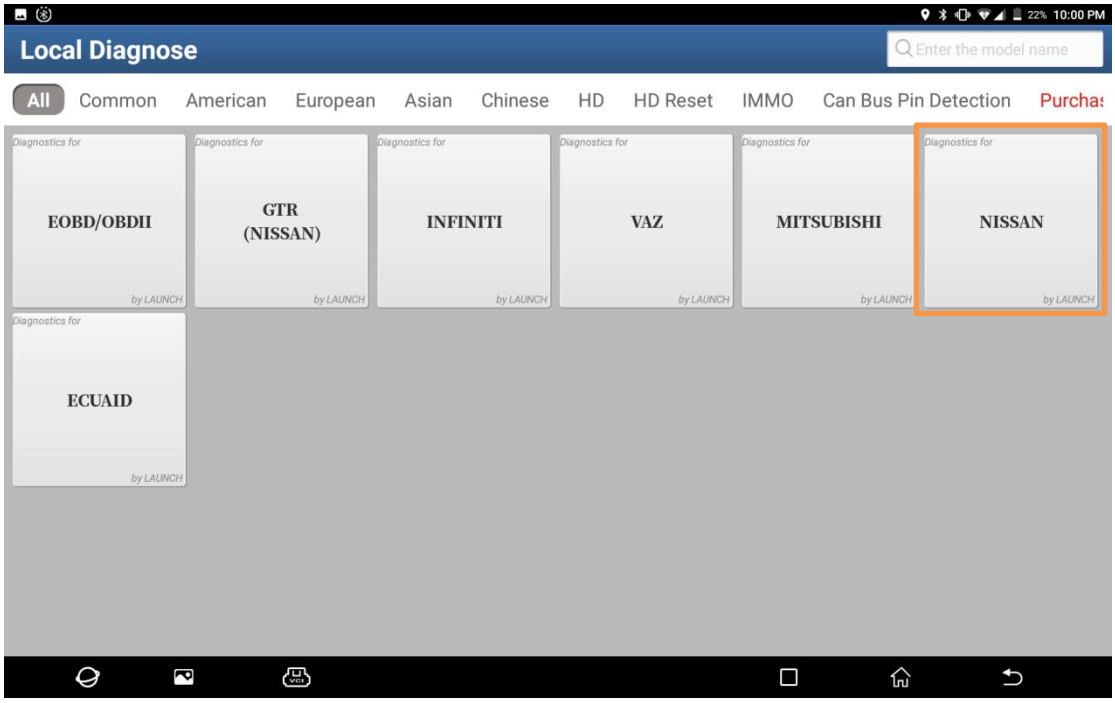


Figure 2

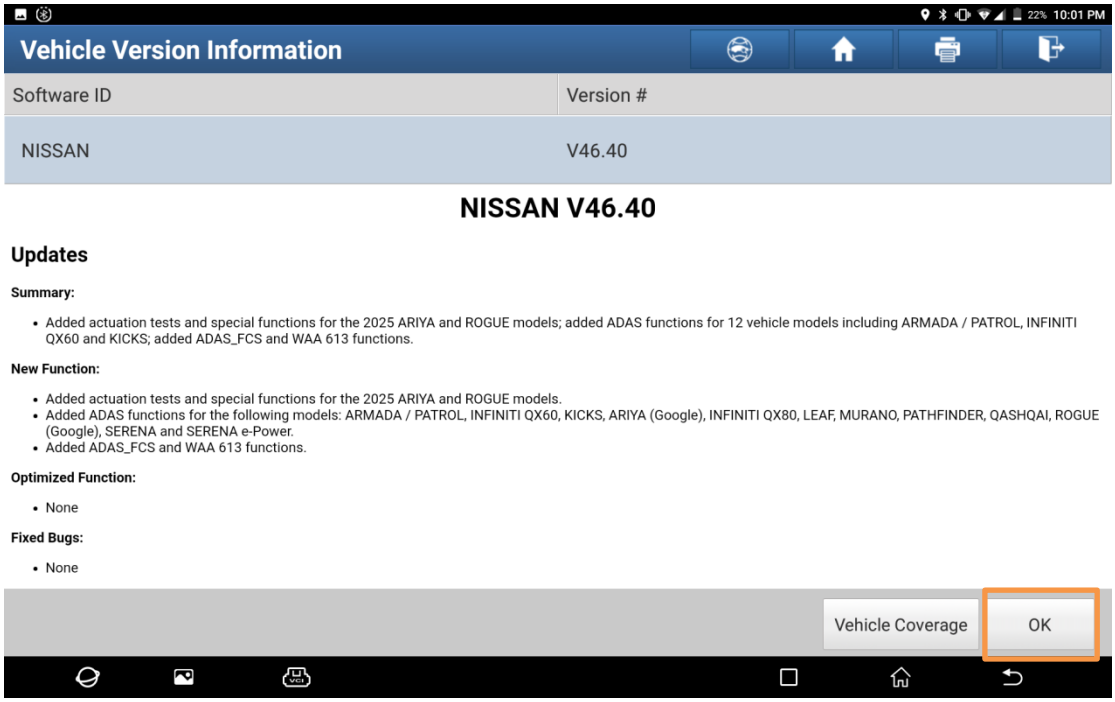


Figure 3

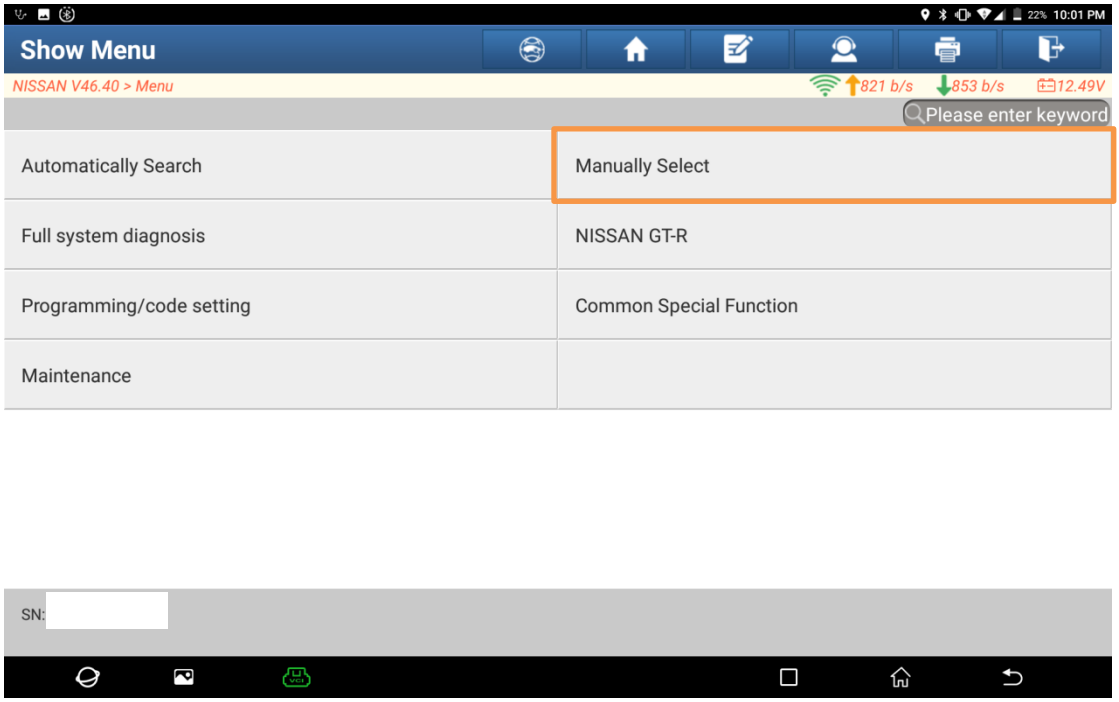


Figure 4

2. Tap [Manually Select], and choose [Middle and Near East] > [Oman] > [NV350 URVAN] > [E26] > [02/2025] to enter the vehicle model system interface (Figure 5).

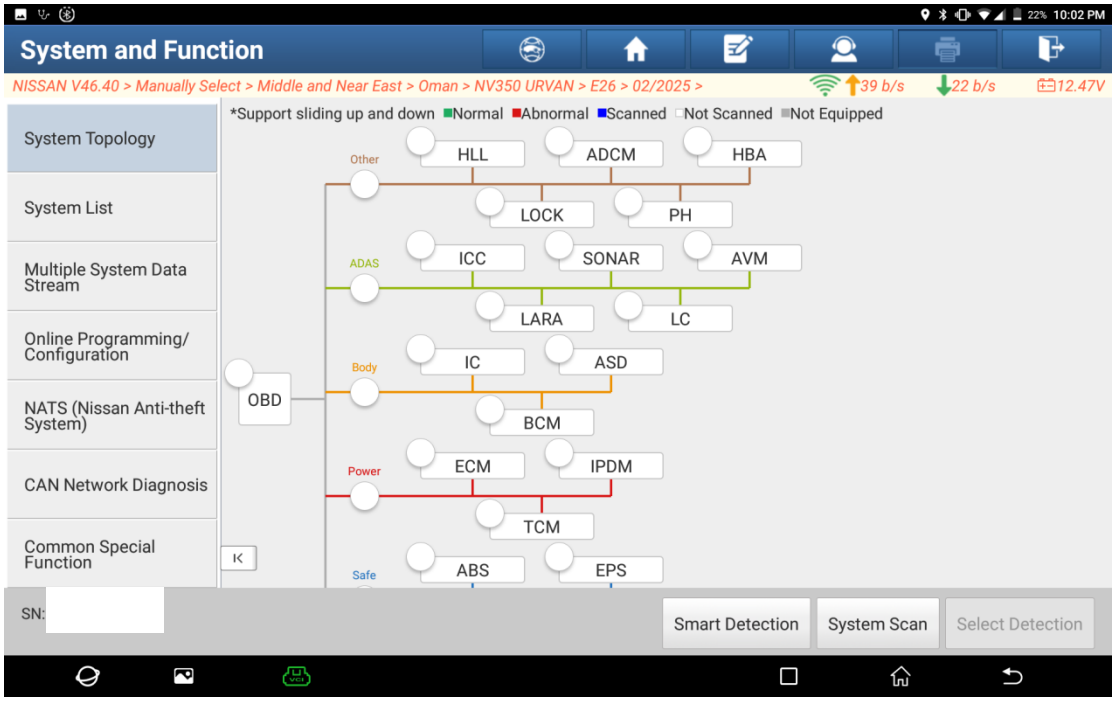


Figure 5

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

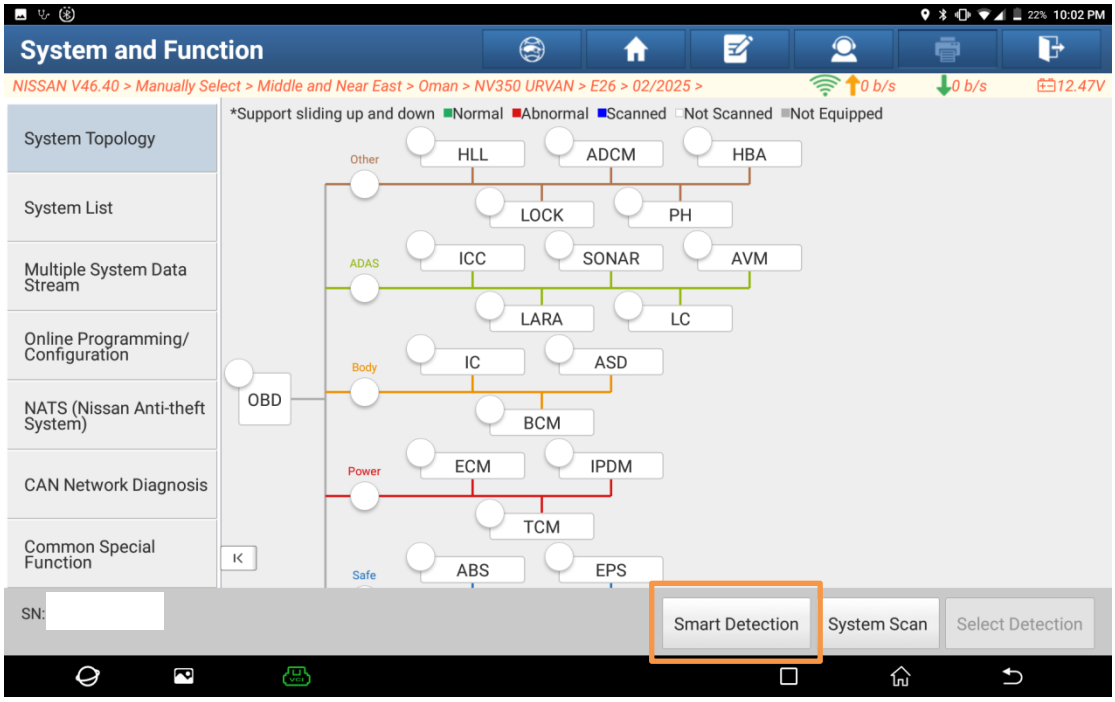


Figure 6

4. After the detection is completed, tap [ECM] on the system topology (Figure 7) to display ECM DTC information (Figure 8). This function should be performed when resetting throttle timing offset data after replacing or programming the ECM, or after replacing components related to throttle timing. It should also be performed if the diagnostic tool reads DTCs related to throttle timing offset data (Figure 8). Tap "ENTER" (Figure 8) to enter the ECM menu interface.

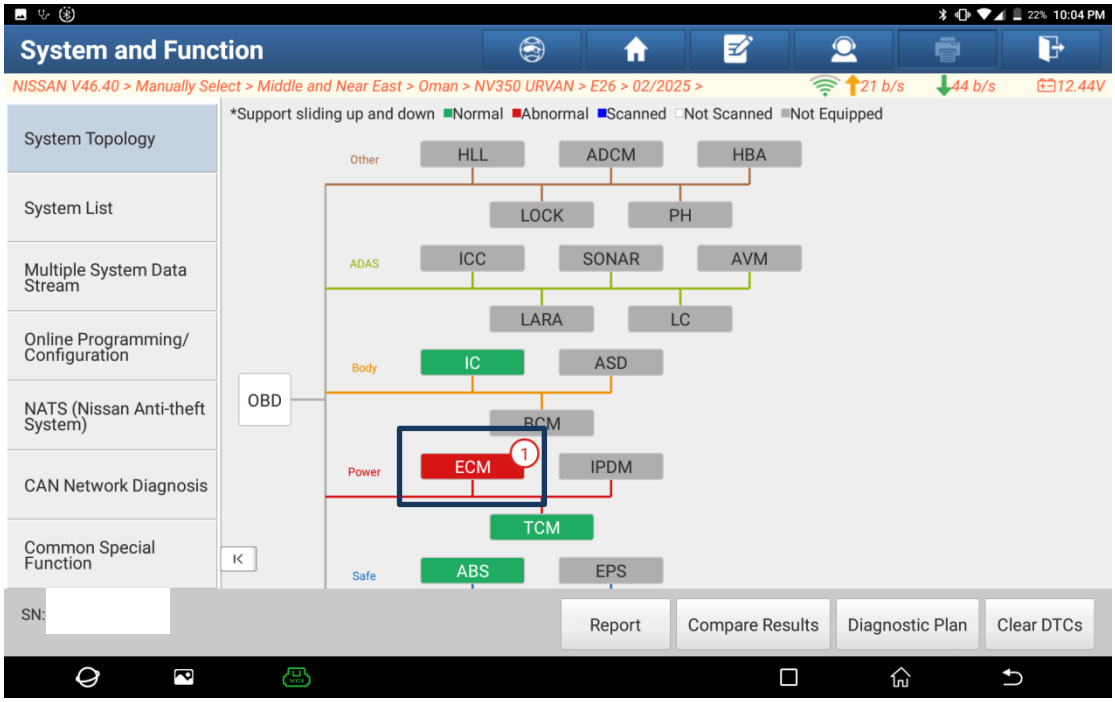


Figure 7

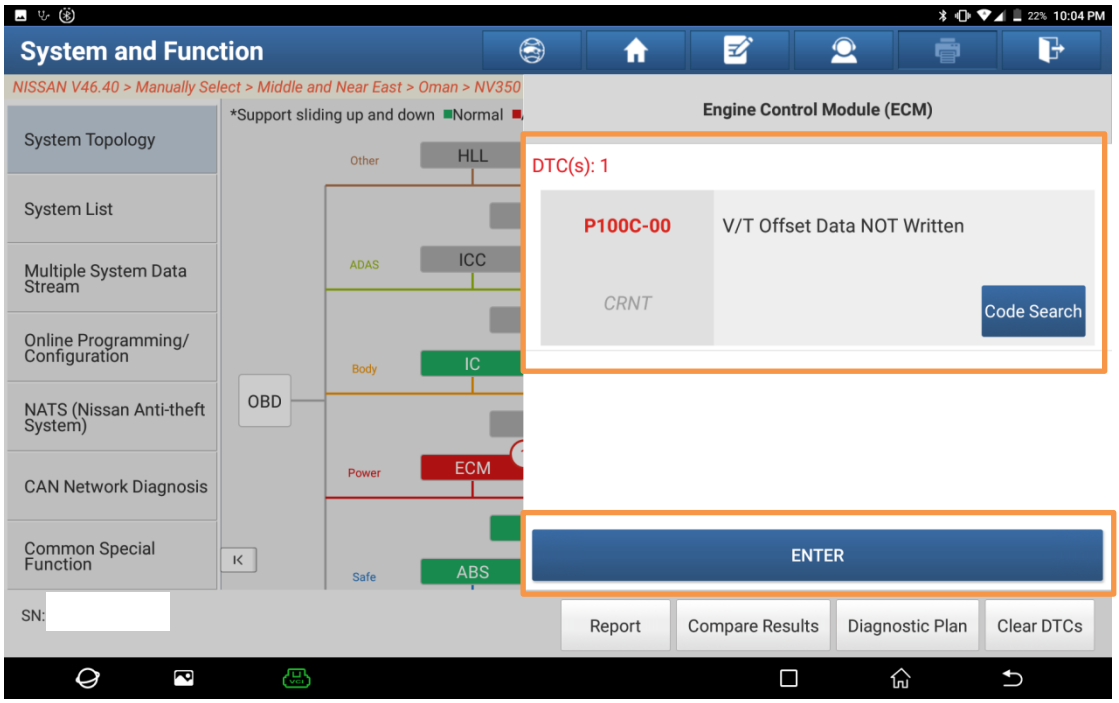


Figure 8

5. On the ECM menu interface, choose [WORK SUPPORT] to enter the [WORK SUPPORT] menu interface (Figure 9).

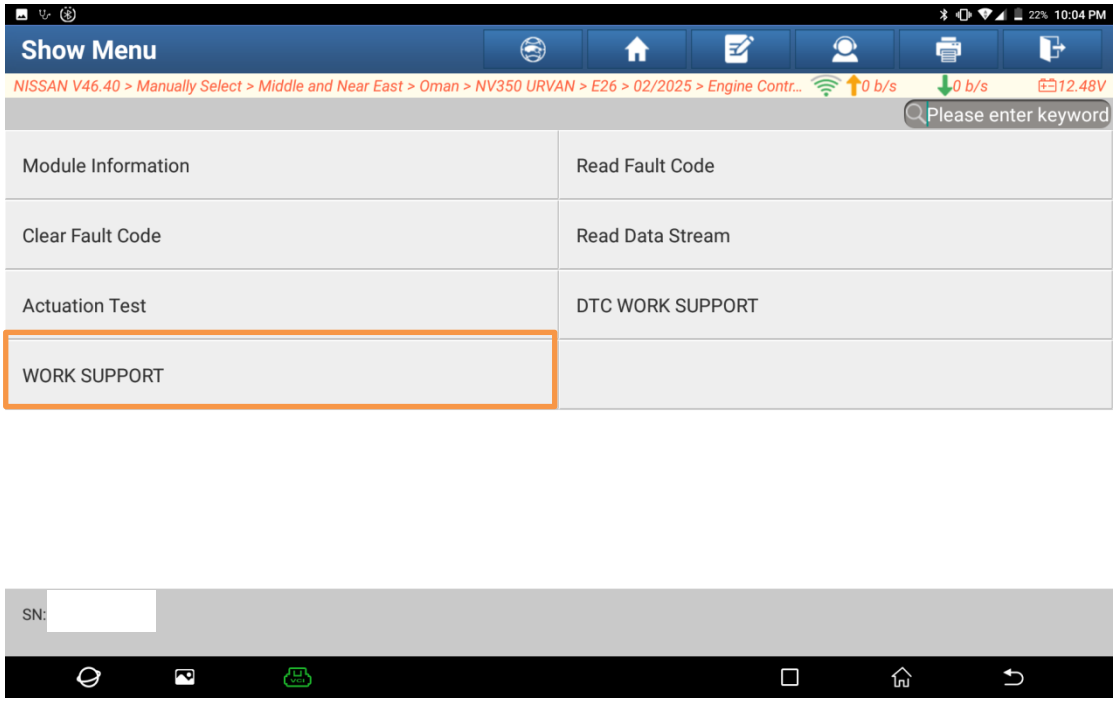


Figure 9

6. On the [WORK SUPPORT] menu interface, choose [Write Valve Timing Offset Data] (Figure 10).

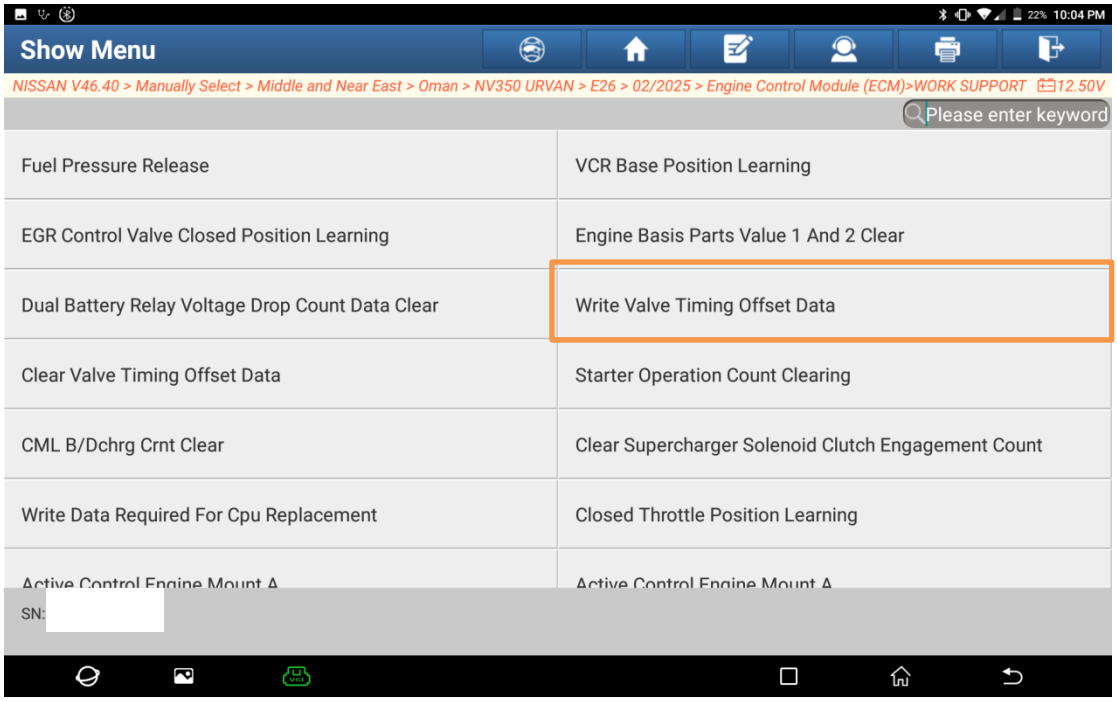


Figure 10

7. Tap "OK" to enter the function interface (Figure 11).

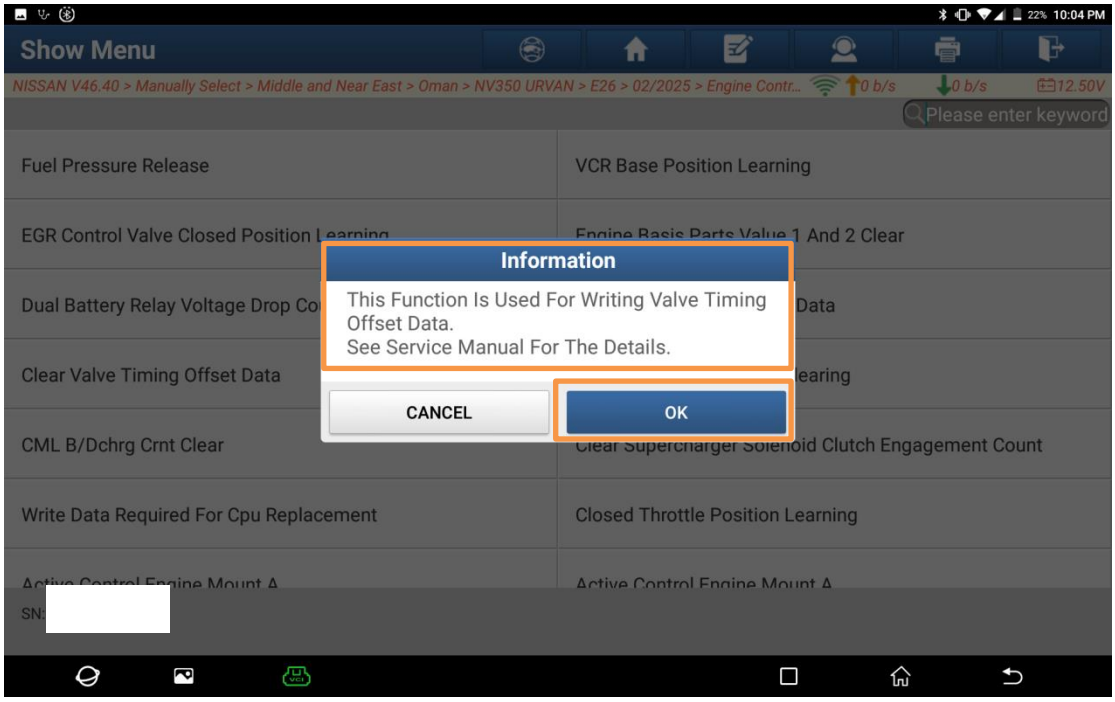


Figure 11

8. On the function interface, choose [Write Valve Timing Offset Data] (Figure 12).

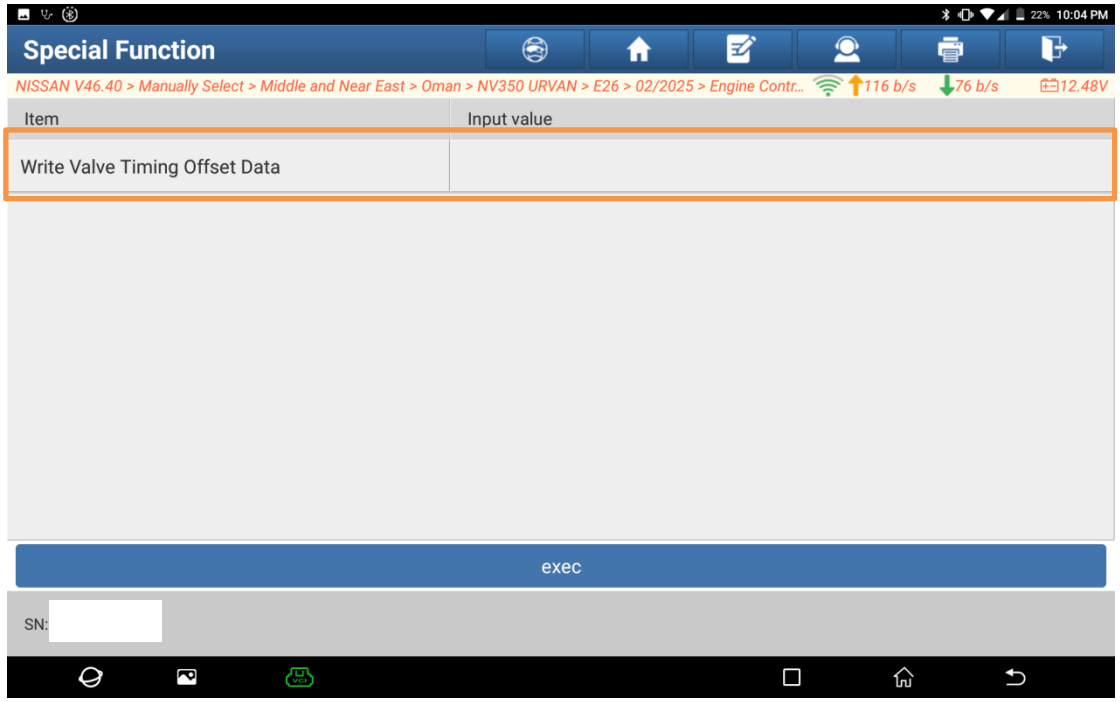


Figure 12

9. Enter the 10-digit valve timing offset data found on the QR code label of the electronic throttle control actuator into the input box (Figure 13). Tap "OK" (Figure 14).



Figure 13

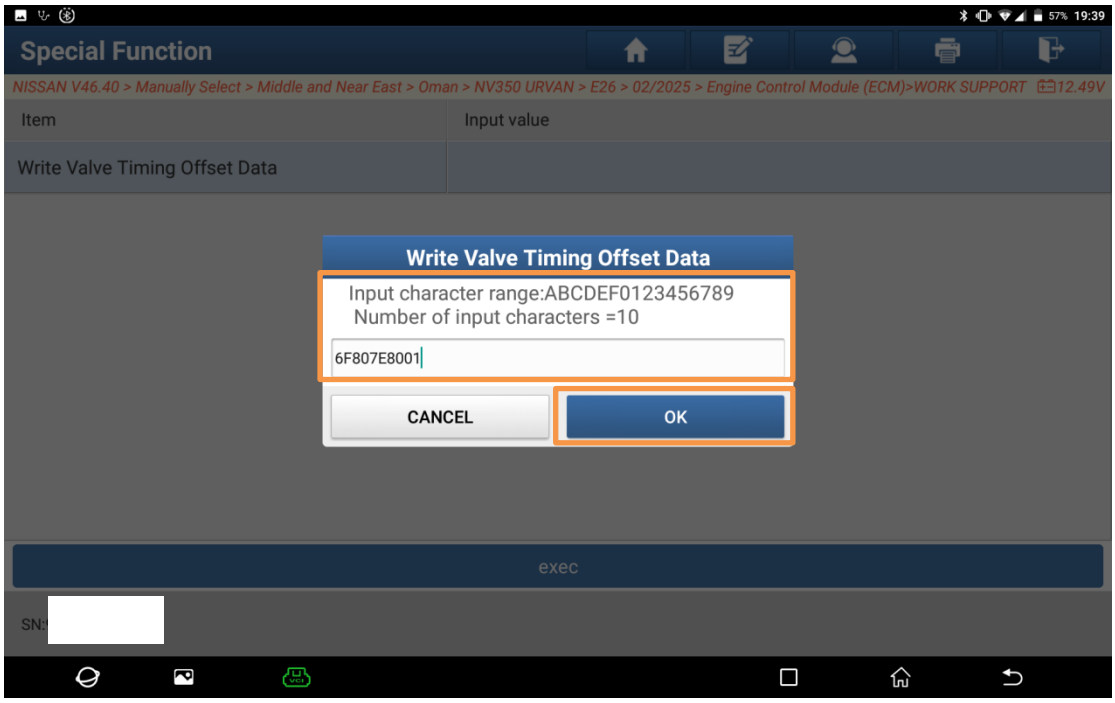


Figure 14

10. After verifying that the valve timing offset data has been entered correctly, tap "Exec" to perform the write operation (Figure 15). Once the function is completed, a "DONE" message window will appear (Figure 16), indicating that the process is finished. Tap "OK" to return to the [WORK SUPPORT] menu interface of the ECM.

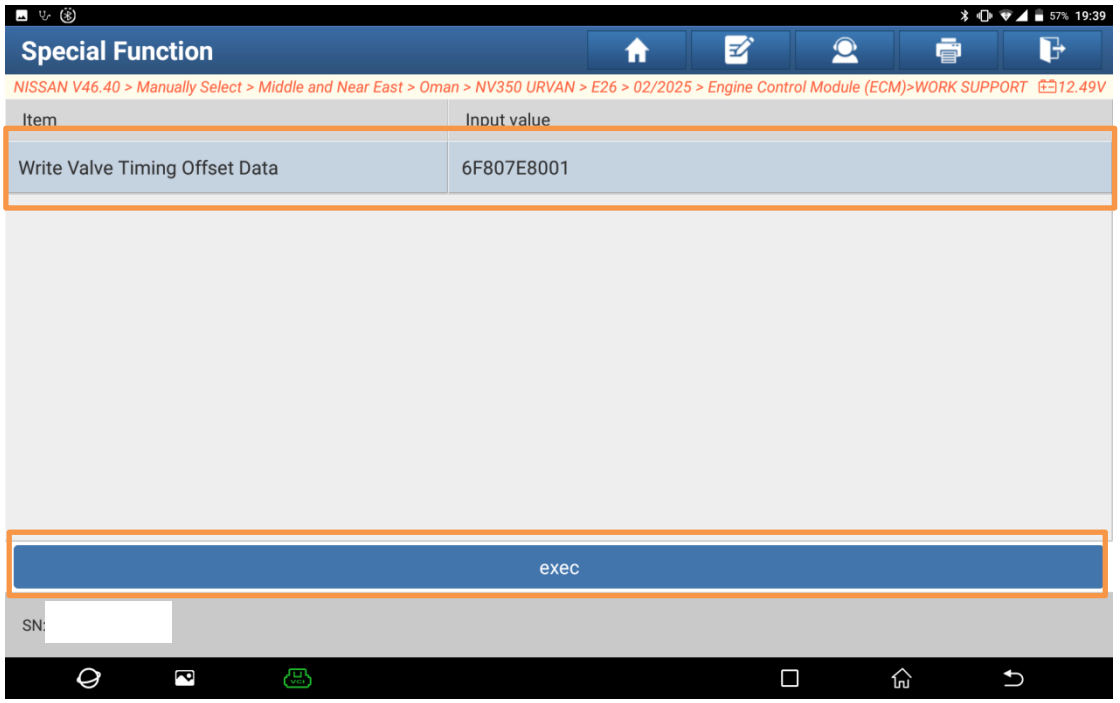


Figure 15

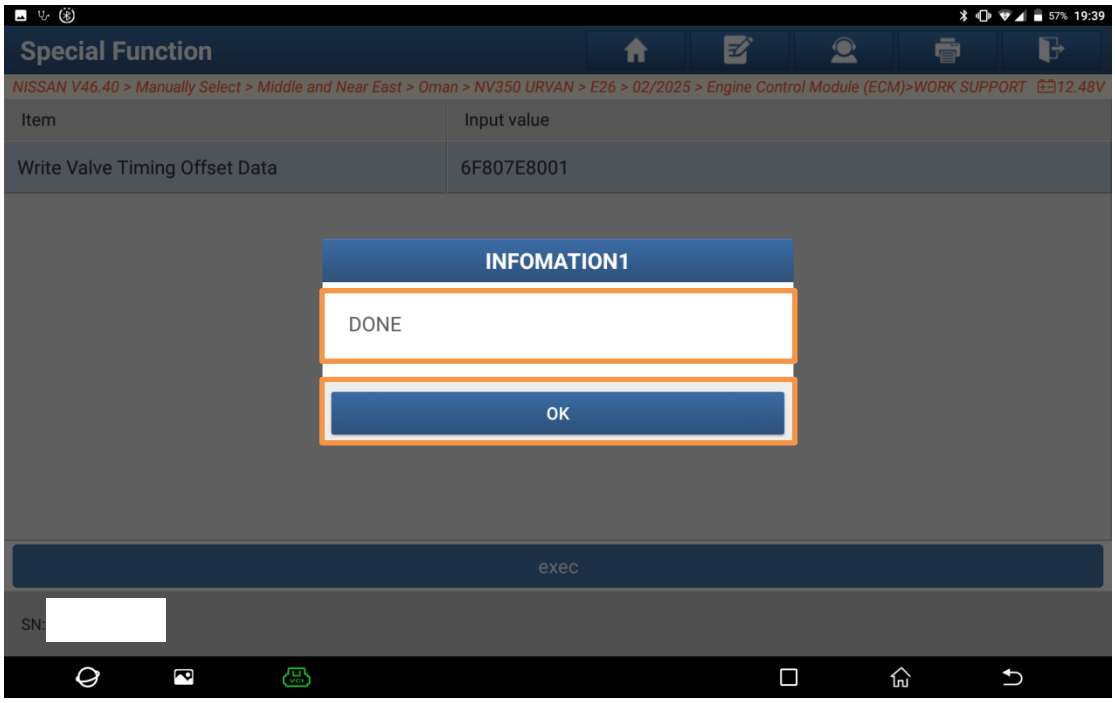


Figure 16

11. Return to the ECM menu interface, choose [Clear Fault Code], tap "Yes", and then tap "OK" to clear the DTC information (Figure 17).

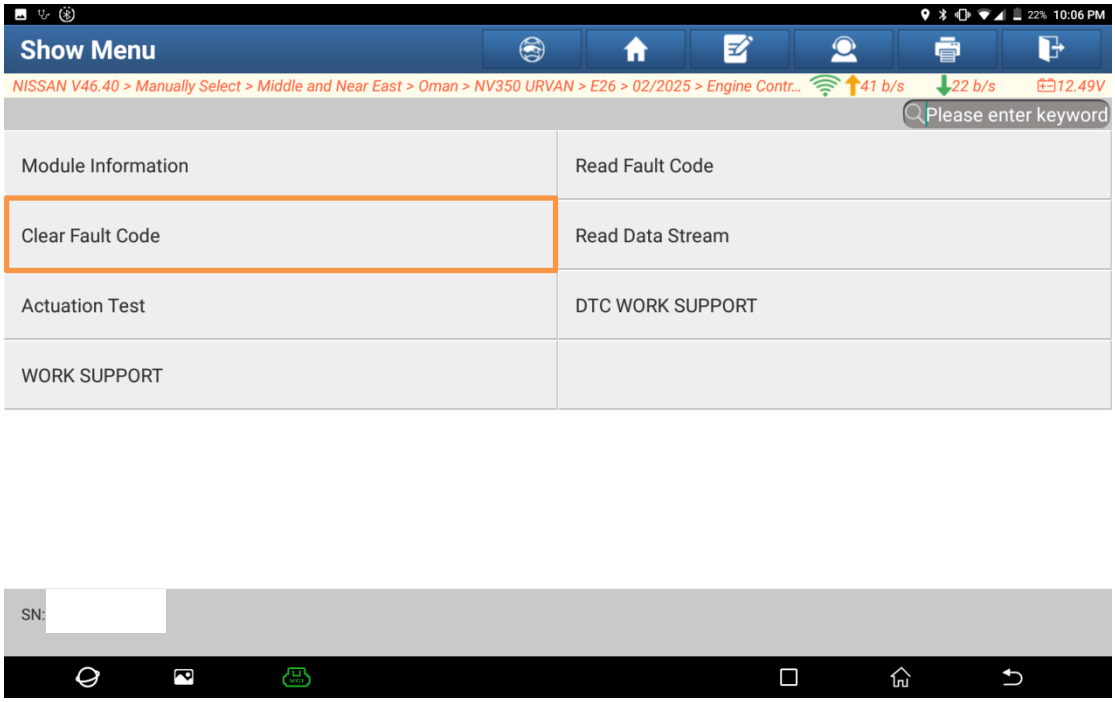


Figure 17

12. On the ECM menu interface, choose [Read Fault Code] (Figure 18). Read the ECM DTC information. If no DTC is displayed (Figure 19), it indicates that the valve timing offset data has been successfully written, and the operations are completed.

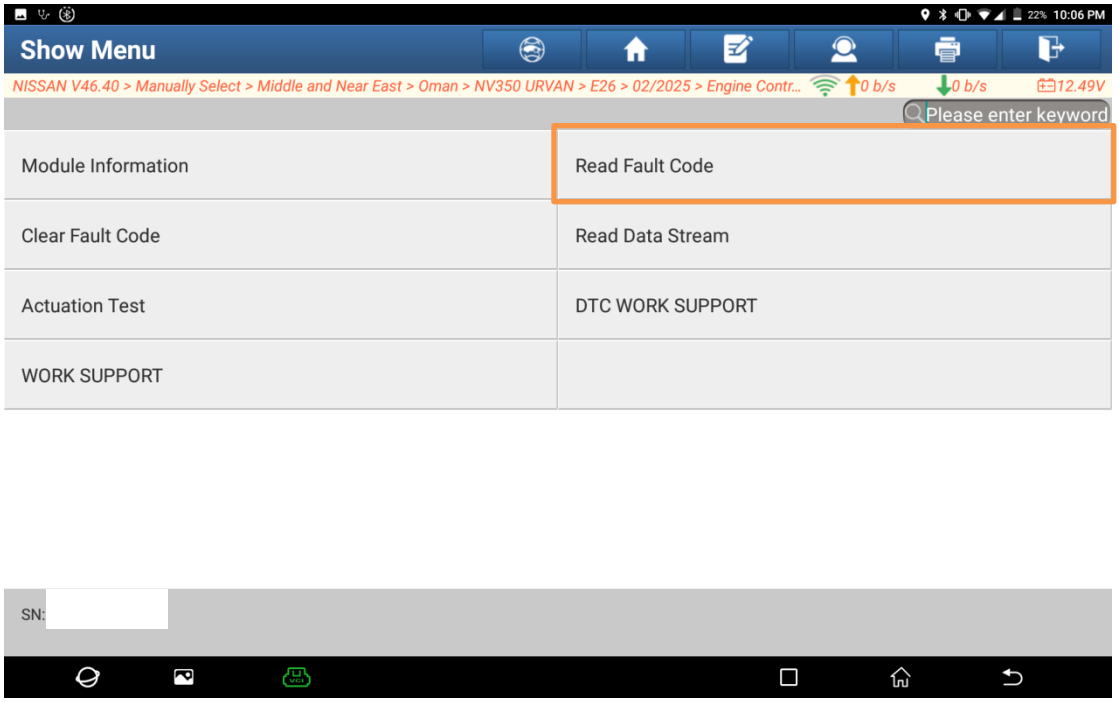


Figure 18

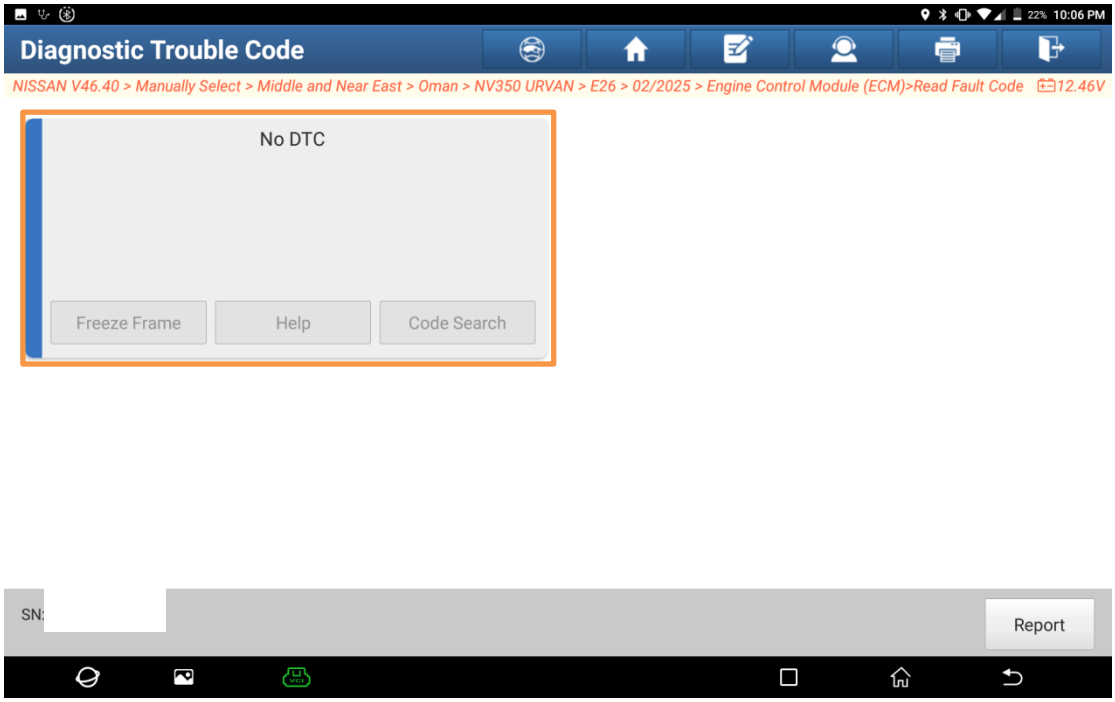


Figure 19

Statement:

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