

CERTAIN 2021-2022 MODEL YEAR VARIOUS VEHICLES — ENGINE VALVE INSPECTION TEST

SERVICE PROCEDURE

IMPORTANT! The Service Technician Specialty Training (STST) Competency 10 certification requirement in the U.S. market only will be enforced starting with repair orders opened on or after August 31, 2024. Field Service Action (FSA) repairs will reject and the claim will not be paid if the repairing technician is not certified in STST Competency 10 FSA. See Electronic Field Communication (EFC)15936 for more details.

1. Connect the vehicle and Log into Ford Diagnostic and Repair System (FDRS).

NOTE: If the diagnostic software does not load or if the vehicle cannot be identified properly, make sure there is a good internet connection and the Vehicle Communication Module (VCM) is properly connected to the Data Link Connector (DLC).

NOTE: Vehicle information is automatically retrieved by the diagnostic software and a Network Test is run. Vehicle identification data appears on the screen when this is complete.

2. Click **Read VIN from Vehicle** or manually enter the Vehicle Identification Number (VIN).

NOTE: Available modules are shown on the left hand (LH) side of the screen and available procedures are listed on the right hand (RH) side of the screen. Modules that are communicating are highlighted in green.

3. Select **Toolbox** tab.

4. From the list on the LH side of the screen, select **PCM**.

5. From the list on the RH side of the screen, select **PCM - Engine Valve Inspection and Test**. See Figure 1.



FIGURE 1



6. Follow the on-screen prompts.

7. Does the application instruct you to run a 55 minute engine valve inspection test?

Yes - Proceed to Step 8.

No - Proceed to step 18.

8. Does the vehicle have at least 2 gallons of fuel?

Yes - Proceed to Step 9.

No - Add two gallons of fuel. Proceed to Step 9.

9. Change the engine oil and filter. Refer to Workshop Manual (WSM) Section 303-01.

10. Make sure FDRS is plugged in or has a sufficient battery life to last a minimum of 60 minutes. An electrical extension cord may be needed.

11. Park the vehicle outside approximately 30 feet away from other vehicles or service bay doors.

12. Is the vehicle an Edge or Nautilus?

Yes - Proceed to Step 13.

No - Proceed to Step 14.

13. Set-up box fans on both the driver and passenger side in front of the rear tires as shown in Figure 2. Box fans should be set to high.

NOTE: Passenger side shown, driver side similar.

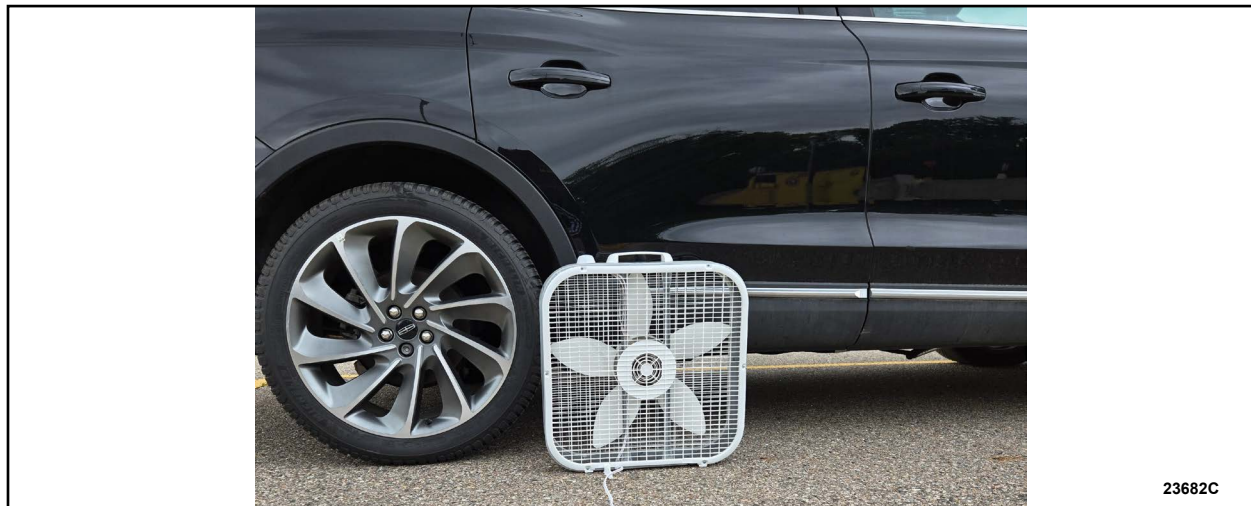


FIGURE 2



14. From the vehicle settings menu, disable the 30 minute max idle option. From the center display, press the vehicle settings button and disable the 30 minute max idle setting. See Figure 3.

NOTE: Menus may differ across vehicle lines.

NOTICE: Once this is disabled do NOT press the gas or brake on the vehicle or perform a key cycle. This will enable the 30 minute max idle and will NOT allow the test to complete.



FIGURE 3

WARNING: This vehicle may become hot and emit an odor during the 55-minute test.

15. Click **RUN**. Follow all on-screen instructions carefully and start the 55-minute engine valve inspection test.

NOTE: Once the 55 minute engine valve inspection test is started, no technician interaction is needed.

NOTE: This test will automatically complete/stop when the test is finished.

NOTE: The FDRS application will provide a message indicating damage is possible when an engine failure condition is detected.

16. Did the test result in an engine shut-down before the 55 minutes was complete?

- Yes - Proceed to Step 17.
- No - Proceed to Step 20.

17. Attempt to restart the engine.

18. Was the engine successfully restarted?

- Yes - Continue to Step 19.
- No - Replace the engine. Follow Workshop Manual Procedures in Section 303-01. Proceed to Step 21.



19. Does the engine exhibit any signs of noise concerns?

Yes - Replace the engine. Follow Workshop Manual Procedures in Section 303-01. Proceed to Step 21.

No - Return to Step 3 and re-start the application.

20. Follow the on-screen prompts to create the process validation code. This should be included in the tech comments of the warranty submission.

21. This FSA is complete.

IMPORTANT NOTE: Federal law prohibits selling motor vehicle parts or components that are under safety, compliance, or emissions recall. Unless a part is requested to be returned to Ford, all parts replaced under this FSA must be scrapped in accordance with all applicable local, state and federal environmental protection and hazardous material regulations. Refer to the Parts Retention, Return, & Scrapping section of the FSA dealer bulletin for further information.

Important Information for Module Programming

NOTE: When programming a module, use the following basic checks to ensure programming completes without errors.

- Make sure the 12V battery is fully charged before carrying out the programming steps and connect FDRS/scan tool to a power source.

NOTE: A good internet connection is necessary to identify the vehicle and to load the diagnostic software.

- Inspect the Vehicle Communication Module II (VCM II)/Vehicle Communication Module III (VCM III) or the Vehicle Communication and Measurement Module (VCMM) and the cables for any damage. Make sure scan tool connections are not interrupted during programming.
- A hardwired connection is strongly recommended.
- Turn off all unnecessary accessories (radio, heated/cooled seats, headlamps, interior lamps, HVAC system, etc.) and close doors.
- Turn the accessories back on after programming has completed.
- Disconnect/depower any aftermarket accessories (remote start, alarm, power inverter, CB radio, etc.).
- Follow all scan tool on-screen instructions carefully.
- Disable FDRS/scan tool sleep mode, screensaver, hibernation modes.
- Create all sessions key on engine off (KOEO). Starting the vehicle before creating a session will cause errors within the programming inhale process.



Recovering a module when programming has resulted in a blank module

- a. Disconnect the VCM II/VCM III or the VCMM from the data link connector (DLC) and your computer.
- b. After ten seconds, reconnect the VCMII/VCMIII or the VCMM to the DLC and the PC. Launch FDRS. The VCMII/VCMIII or the VCMM icon should turn green in the bottom right corner of the screen. If it does not, troubleshoot the FDRS to VCM connection.
- c. If you are using the same FDRS as the initial programming attempt, select the appropriate VIN from the Vehicle Identification menu. If you are using a different FDRS, select "Read VIN from Vehicle" and proceed through the Network Test.
- d. In the Toolbox menu, navigate to the failed module and Download/Run Programmable Module Installation (PMI). Follow the on-screen prompts. When asked if the original module is installed, select "No" and continue through the installation application.
- e. Once programming has completed, a screen may list additional steps required to complete the programming process. Make sure all applicable steps are followed in order.

