

# 2022 CHEVROLET CORVETTE SERVICE MANUAL

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## **Electronic Vibration Analyzer (EVA) Description and Operation**

### Special Tools

- *EL-38792-25* 12V Inductive Pickup Timing Light
- *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2)

For equivalent regional tools, refer to Special Tools and Equipment.

The *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2), is a 12Volt powered hand-held device, similar to a scan tool, which receives input from an attached vibration sensor or accelerometer and displays the most dominate input frequency(ies) (up to three) on its liquid crystal display. The vibration concern frequency(ies) are obtained through the use of the *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) while following the Vibration Analysis Diagnostic Tables. The frequency(ies) obtained, when applied to the Vibration Analysis Diagnostic Tables, are used as a primary input to help determine the source of the vibration concern.

### **EVA Vibration Sensor**

The *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) vibration sensor incorporates a 6.1 m (20 ft) cord, that allows the sensor to be placed on virtually any component of the vehicle where a vibration concern is felt.

The *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) contains 2 sensor input ports which can be activated individually to allow for 2 individual vibration sensor inputs. The vibration sensors can then be placed in 2 different locations in the vehicle and their individual inputs can be read without having to stop a test, move the sensor and resume the test. The use of 2 vibration sensors can help in more quickly finding and recording an accurate frequency of the vibration concern, and in more quickly making comparisons between 2 different areas of a single component, or a vehicle system, during the diagnostic process.

### EVA Vibration Sensor Placement

Proper placement of the *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) vibration sensor (accelerometer) is critical to ensure that proper vibration readings are obtained by the *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2). The vibration sensor should be placed on the specific vehicle component identified as being the most respondent to the vibration. If no component has been identified, install the sensor to the steering column as a starting point.

### EVA Vibration Sensor-to-Component Attachment

Note:

The *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) vibration sensor must be attached to vehicle components in the manner indicated in order to achieve accurate frequency readings of the vibration disturbance.

The vibration sensor of the *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) is designed to pickup disturbances which primarily occur in the vertical plane, since most vibrations are felt in that same up-and-down direction. The *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) vibration sensor is therefore directional sensitive and must be attached to vehicle components such that the side of the sensor marked UP is always facing upright and the sensor body is as close to horizontal as possible. The sensor must be installed in the exact same position each time tests are repeated or comparisons are made to other vehicles.

The *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) vibration sensor can be attached to vehicle components in various ways. For non-ferrous surfaces, such as the shroud of a steering column, the sensor can be attached using putty, or hook and loop fasteners. For ferrous surfaces, the sensor can be attached using a magnet supplied with the sensor.

### **EVA Software Cartridge**

The *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) uses a software cartridge, the GE-38792-60, which provides various information to the *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2). The GE-38792-60 provides the *EL-38792-A* 12V Electronic Vibration Analyzer 2 (EVA 2) with an additional feature which can be selected and utilized to assist in diagnosing vibration concerns.

Note: