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**Fuel Injector Balance Test with Tech 2**

[**Diagnostic Instructions**](https://gsi.ext.gm.com/gsi/showDoc.do?docSyskey=1846761&cellId=161985&pubObjSyskey=4724729&from=sm&pubCellSyskey=547146&deliveryEffectiveDate=Apr+1%2C+2016#d25757e3)

* Perform the [Diagnostic System Check - Vehicle](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=72794&refDoc=1846761&from=sm) prior to using this diagnostic procedure.
* Review [Strategy Based Diagnosis](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=161235&refDoc=1846761&from=sm) for an overview of the diagnostic approach.
* [Diagnostic Procedure Instructions](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=161236&refDoc=1846761&from=sm) provide an overview of each diagnostic category.

[**Circuit/System Description**](https://gsi.ext.gm.com/gsi/showDoc.do?docSyskey=1846761&cellId=161985&pubObjSyskey=4724729&from=sm&pubCellSyskey=547146&deliveryEffectiveDate=Apr+1%2C+2016#d25757e39)

When conditions arise in cylinder balancing, a scan tool output control test function is provided to help in locating the cause. A compression test can be used to decide whether the cause should be attributed to the engine or the injection system. Once the problem has been limited to the injectors, further tests can determine which injector is responsible for the condition in cylinder balancing. The test consists of 3 modes (A, B, C), which are conducted in different test conditions.

[**Circuit/System Testing**](https://gsi.ext.gm.com/gsi/showDoc.do?docSyskey=1846761&cellId=161985&pubObjSyskey=4724729&from=sm&pubCellSyskey=547146&deliveryEffectiveDate=Apr+1%2C+2016#d25757e48)

Using a scan tool, perform the compression tests following the instructions.

**Mode A**

Output of rotational speeds of selected cylinders during a compression test All injections are inhibited in order to allow a compression test by actuating the starter without starting the engine. The rotational engine speed at each top dead center (TDC) is provided. A lower cylinder selective engine speed in compression to the others shows a higher compression of this cylinder. A higher cylinder selective engine speed a lower compression. The fuel balancing control (FBC) correction values in this test are zero. Note that the purpose of the test is to see the relative performance of each cylinder. The higher or the lower compression mentioned here does not necessarily mean that the actual engine cylinder compression performance as a gauge pressure is showing a same property.

**Mode B**

Quantity correction output by selected cylinder In this test mode, the engine is running with the fuel balancing control (FBC) correction values enabled. The correction quantity shows an offset, which is added to the injected quantity to establish a vibration-free running of the engine. The cylinder selective engine speed is also provided. A higher cylinder balancing quantity correction shows an injector, which needs more time to inject an amount of fuel to produce the requested torque.

**Mode C**

Output of rotational speeds of selected cylinders for shut off cylinder balancing quantities In this test mode, the engine is running with the fuel balancing control (FBC) correction values disabled. The cylinder selective engine speed is provided and the engine running behavior without FBC values can be monitored.

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