**Service Information**

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[2007 Holden Captiva](https://gsi.ext.gm.com/gsi/publications.do) | [Captiva, Terrain, Antara VIN C Service Manual](https://gsi.ext.gm.com/gsi/showPubSection.do) | [Engine](https://gsi.ext.gm.com/gsi/showPubSubsection.do) | [Engine Mechanical - 2.0L Diesel](https://gsi.ext.gm.com/gsi/showPubServiceInfoTypes.do) | [Diagnostic Information and Procedures](https://gsi.ext.gm.com/gsi/showDocumentList.do) | **Document ID: 1834090**

**Engine Compression Test**

**Tools Required**

[**EN-48248**](https://gsi.ext.gm.com/gsi/showTif.do?image=1844742) Cylinder Compression Pressure Gauge

1. Ensure that the vehicle's batteries are in good condition, and fully charged.
2. Operate the vehicle until the engine is at normal operating temperature.
3. Shut off engine.
4. Disconnect the crankshaft position sensor.
5. Remove the fuel pump relay from the underhood fuse block.
6. Remove only cylinder #1 fuel injector and fuel pipe #1. All of injector electrical connector must be removed during each cylinder test to obtain valid test results.

**Note:**The engine cranking time for the compression test should be less then 10 seconds and at 30 second intervals.

1. Crank the engine with the starter motor for 5 seconds to remove any foreign substances from the cylinders.
2. Prior to taking a compression reading, verify the cranking speed is greater than 140 RPM. If the cranking speed is below 140 RPM, repair the slow cranking speed condition before continuing with the compression test. Refer to [Engine Cranks Slowly](https://gsi.ext.gm.com/gsi/cellHandler.do?cellId=37780&refDoc=1834090&from=sm).
3. Install the Compression Gauge in the fuel injector hole for the cylinder that is being checked.
4. Using the vehicle's starter motor, rotate or crank the engine for 4 compression strokes, puffs, for the cylinder being tested.
5. Observe the compression gauge and note the reading as the compression test is being performed. A normal cylinder reading will be indicated if compression builds up quickly and evenly to the specified level. An abnormal reading will be indicated if compression is low on the first compression stroke, starts increasing on the following compression strokes but does not reach the specified level.
6. Record the compression reading for the cylinder just tested.
7. Disconnect the compression gauge from the fuel injector hole and reinstall injector into cylinder #1. Injector washer must be used as new part.

**Note:**Do not reuse the injector washers, leaks, may results. Do not wipe to clean the nozzle tip area. It may damage the nozzle hole.

1. Repeat steps 6–13 for each cylinders. All 4 cylinders must be tested to obtain valid test results. Record the readings.
2. The normal compression in any one cylinder is 2600 kPa (377 psi). There should not be more than 260 kPa (37 psi) difference between a suspect cylinder and the average compression of all 4 cylinders.
	1. Normal—Compression builds up quickly and evenly to the specified compression for each cylinder.
	2. Piston rings leaking—Compression is low on the first stroke. Compression builds up with the following strokes but does not reach normal.
	3. Valves leaking—Compression is low on the first stroke. Compression usually does not build up on the following strokes.

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