



# Technical Service Information

## GM 4T65E TCC SURGE OR CYCLING

**COMPLAINT:** General Motors vehicles equipped with the 4T65E transaxle can exhibit a TCC surge or cycling condition before or after overhaul. The condition occurs to quickly too store a trouble code however if the signal to the TCC Solenoid is checked during this condition the ON/Off cadence of the signal matches what the converter clutch is doing.

**CAUSE:** The following list are the known causes and their corrections for this condition to occur:

- 1 - Some GM vehicles that have the “Active Fuel Management” feature will give the perception that the converter clutch is cycling.
- 2 - The “Shift Adapts” have not been successfully reset.
- 3 - A computer reprogramming may be necessary.
- 4 - The TCC PWM Solenoid is faulty.
- 5 - The TCC Regulator Apply Valve or valve body bore is worn.
- 6 - The TCC Regulator Apply Valve bore plug o-ring is leaking or missing.
- 7 - The TCC Control Valve or valve body bore is worn.
- 8 - The TCC Blow Off Ball in the channel plate is leaking.
- 9 - Vacuum leaks.
- 10 - A dirty or faulty Mass Airflow Sensor or air intake duct is permitting un-metered air to the sensor.
- 11 - A restricted air filter.
- 12 - Faulty tune up items, (spark plugs, plug wires, ignition coils, etc.).

**CORRECTION:**

- 1 - GM vehicles with “Active Fuel Management” will create the perception that TCC is cycling because when AFM performs cylinder deactivation the computer will decrease TCC application and reapply the converter clutch afterwards in order to prevent driveline harshness. This creates the feeling of a cycling converter clutch which can actually be heard in the vehicles exhaust system. ***This is considered to be normal operation.***
- 2 - Using a capable scan tool, perform a “Shift Adapt” reset and check the 4thGR/TCC Steady State that it is showing zero, Figures 1 and 2.
- 3 - Search for factory TSBs or go to the GM TIS website found At [www.atsg.biz](http://www.atsg.biz) under the “Resources” tab and type in the Vehicle Identification Number and see what reprogramming is available, Figure 3
- 4 - Replace the TCC PWM Solenoid, Figure 4.
- 5 - Repair the wear condition or replace the valve body, Figure 4
- 6 - Make certain a new o-ring is installed, Figure 4.
- 7 - Repair the wear condition or replace the valve body, Figure 4.
- 8 - Check the TCC Blow-Off Ball in the channel plate to insure it can seat, Figure 5
- 9 - Correct any vacuum leaks that exist, use a smoke machine if the leak is not obvious, Figure 6.
- 10 - Clean or replace the Mass Airflow Sensor (whichever is necessary) and inspect the intake air duct to insure it is not damaged, Figure 7.
- 11 - Inspect the air box for a restricted air filter and for any debris that may have collected, Figure 7.
- 12 - Check tune-up items for proper function and replace components that are not functioning properly. Be sure to check Mode \$06 for any failures that may be relevant to the existing complaint and be sure to check the Misfire Monitors as well as Freeze Frame or DTC storage, Figure 8.



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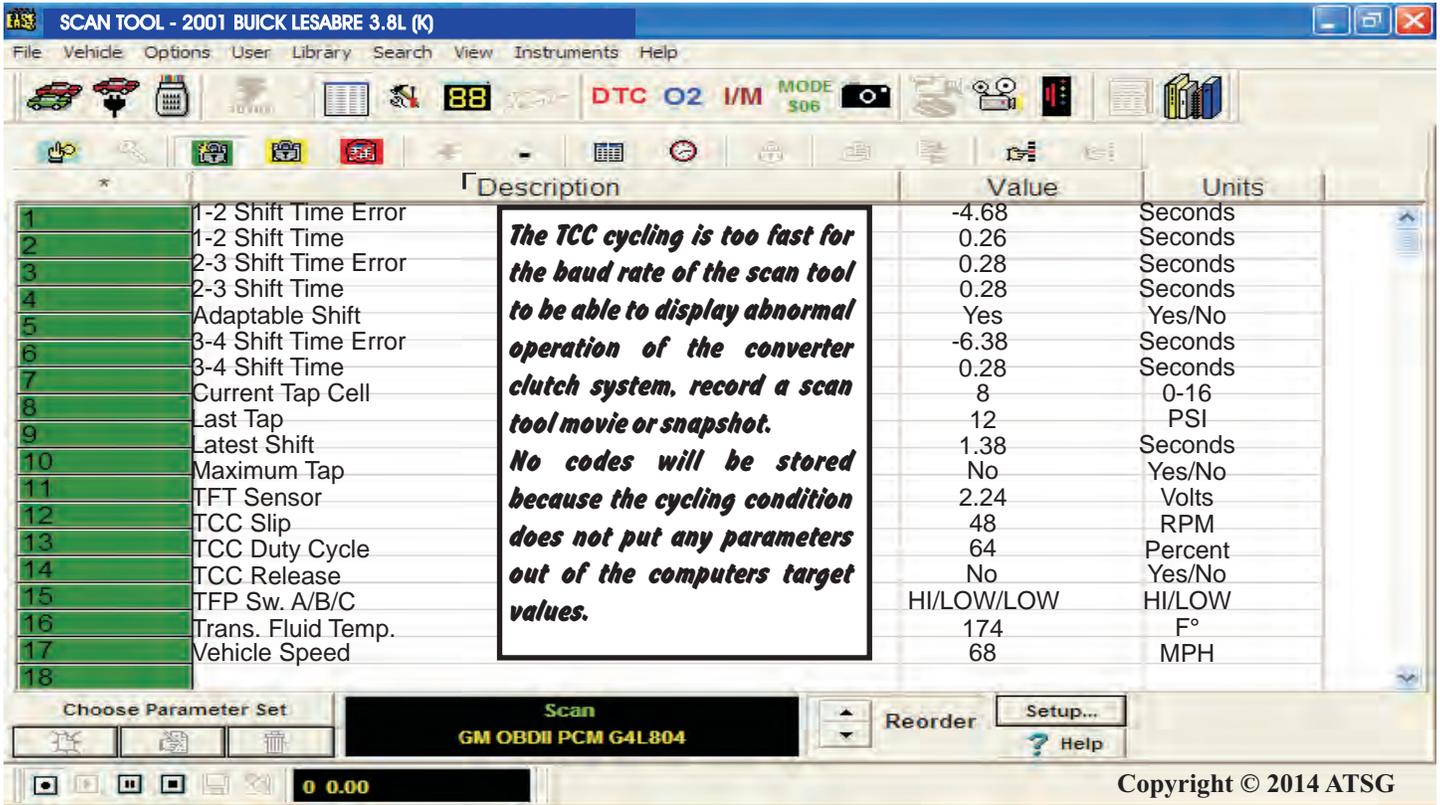


Figure 1



Figure 2

## GM 4T65E TCC SURGE OR CYCLING

**GM Service and Parts Operations**

**Vehicle Calibration Information**

VIN: 2G2WP552681121942 Calibration Selection

<input checked="" type="checkbox"/> Operating System	<input checked="" type="checkbox"/> Engine	<input checked="" type="checkbox"/> Engine Diagnostic	<input type="checkbox"/> Transmission	<input checked="" type="checkbox"/> Transmission Diagnostic	<input checked="" type="checkbox"/> Fuel System	<input checked="" type="checkbox"/> System	<input checked="" type="checkbox"/> Speedometer
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● **9358568**

**Calibration History for: Engine**

Part Number	CVN	Bulletin #	Description
9358568	0000D4A6	07-07-30-012	NEW CALIBRATION TO ADDRESS A CONVERTER CLUTCH HUNT OR SURGE

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Figure 3

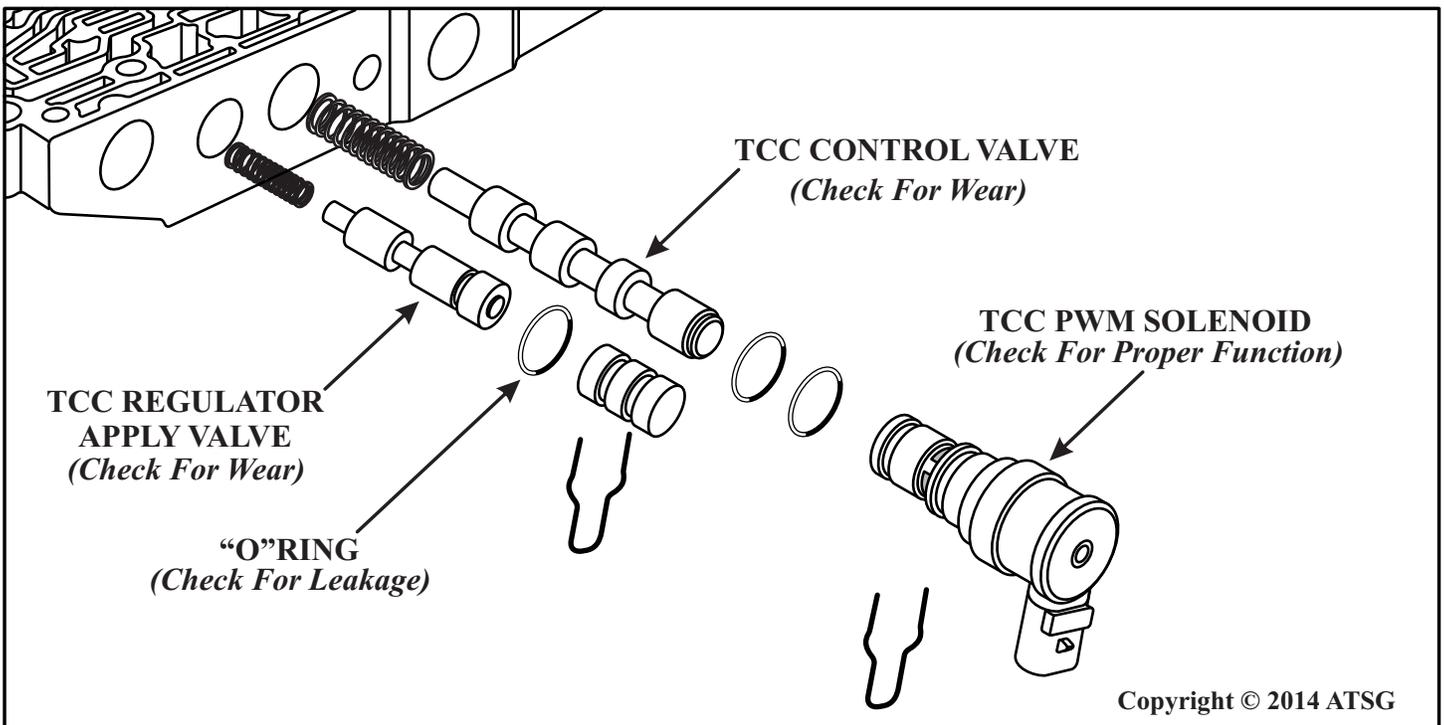


Figure 4

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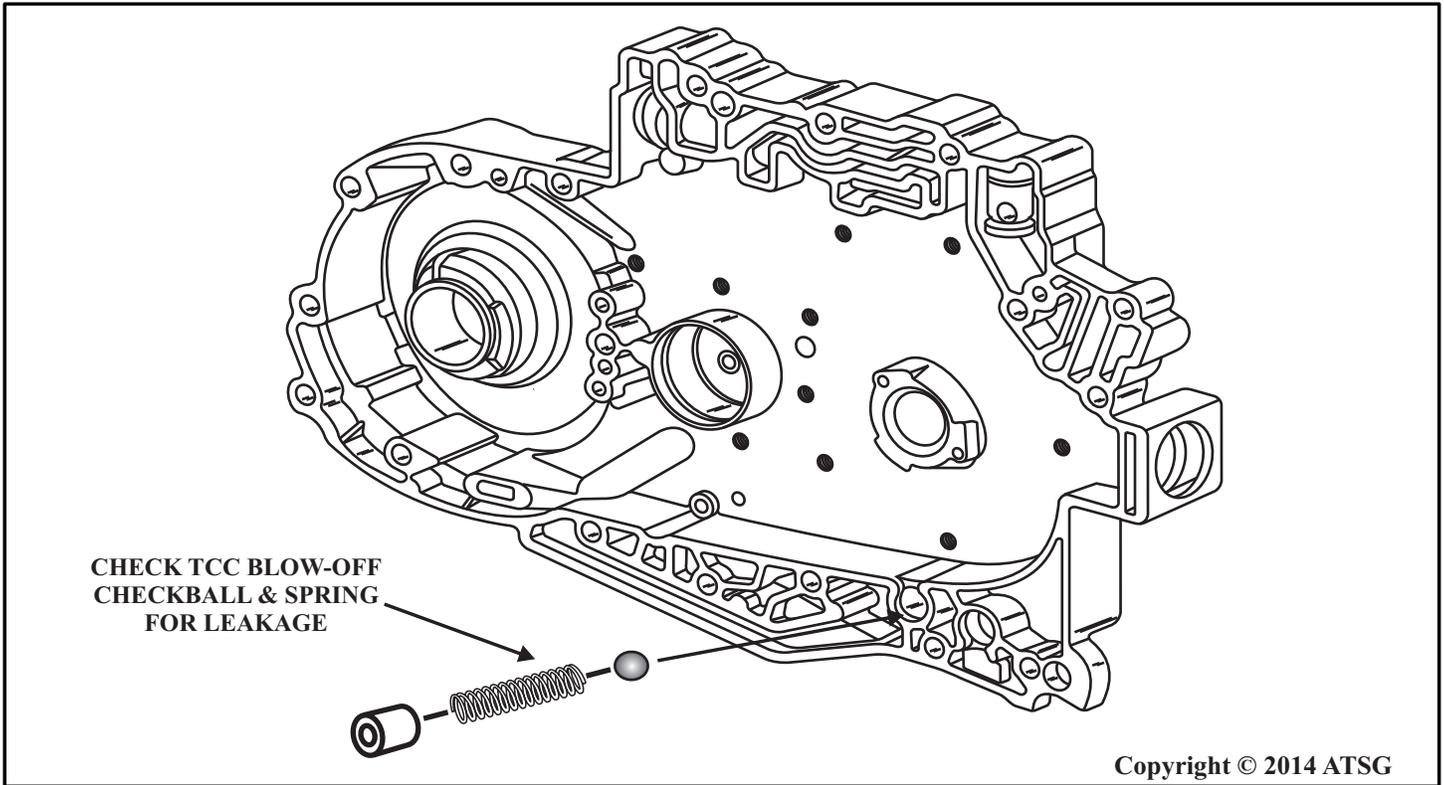


Figure 5

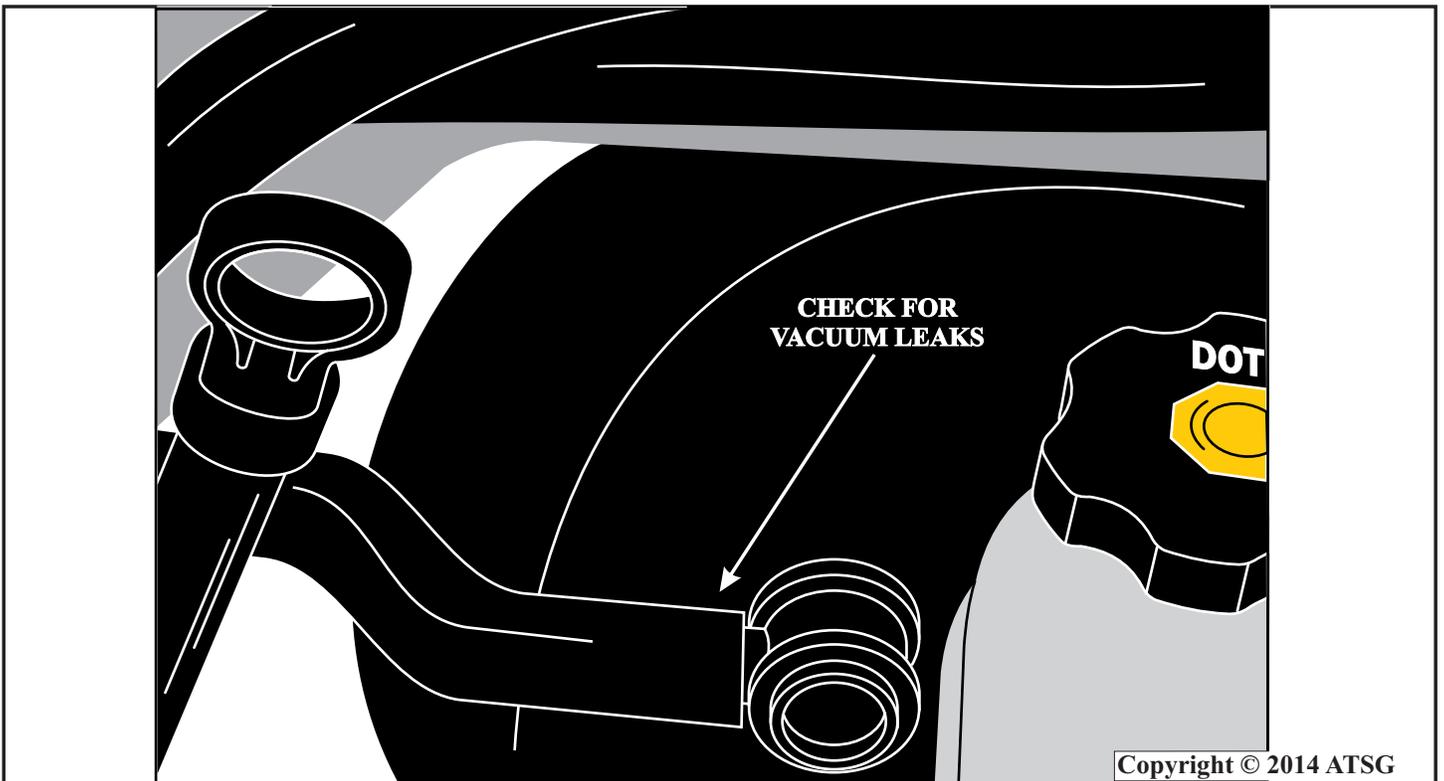


Figure 6

GM 4T65E TCC SURGE OR CYCLING

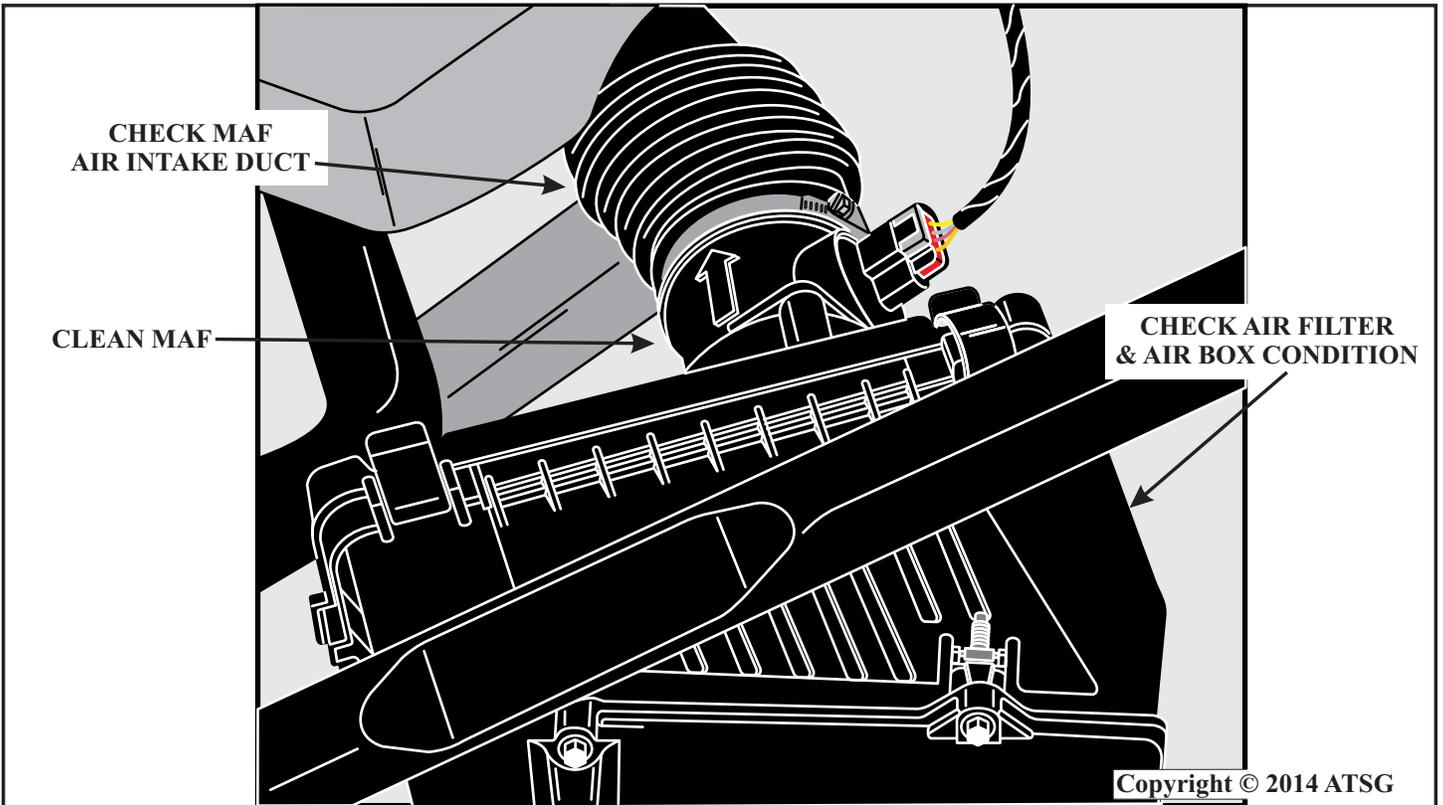


Figure 7

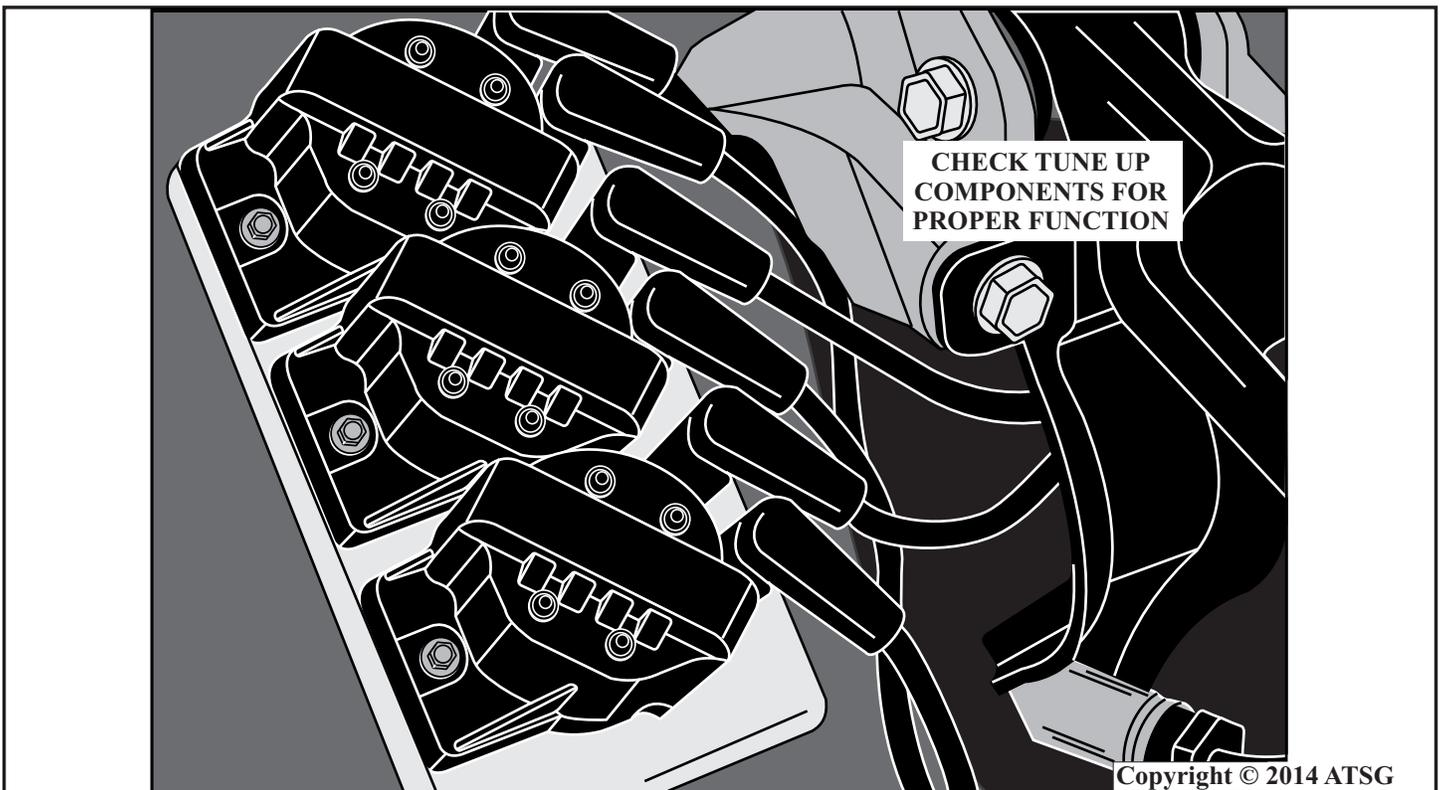


Figure 8