



Customer Service Bulletin Commercial Business Group

Workman[®] 2100/2110

Date: 01/09/2007

<u>Model/Serial Range:</u>	<u>Model Number:</u>	<u>Serial Numbers:</u>
	07253	200000001-250099999
	07253TC	200000001-250099999
	07277	220000001-270000699
	07277TC	220000001-270000699

Subject: Engine Oil Level Increases

The vehicles listed above, used in short duty cycle operating conditions such as frequent engine start/stop cycles, not allowing the engine to fully warm up, or prolonged idling, may experience an increased level of engine oil due to unburned fuel collecting in the crankcase.

If the engine oil level increases between oil change intervals, review the Causes and Effects checklist, which was provided by the vendor and attached to this bulletin. It is important to understand that many factors can cause oil dilution. If the oil dilution issue is not corrected after you review and check the possible solutions on the list, an alternative HSE (High Speed Enrichment) carburetor is available to aid in reducing or eliminating the effects of the oil dilution issue.

Please contact your authorized Toro Commercial Distributor for further information regarding this bulletin.

OIL DILUTION CAUSES AND EFFECTS

Provided by Briggs & Stratton

January 9, 2007

Oil level increase in crankcase possibilities:

- 1) Oil level was incorrect to start with. Too much oil was added.
 - a. Oil level in crankcase is too high due to overfill or fuel in oil. The v-twin valley breather is very sensitive to oil level. The breather system can be overrun with excessive oil when overfilled as little as ¼" over the full mark on the dipstick. This will cause oil to get into intake system which will eventually get into the combustion chamber, and as a result, burning of oil is evident in the exhaust. Another possible side effect of oil getting into the intake system is that the carburetor air bleed holes can be covered with oil thus causing the carburetor mixture to be rich.
- 2) Oil level reading is incorrect. Oil was checked on a non-level surface.
- 3) There is fuel in the oil.
 - a. Float needle is stuck open (debris, leaking, etc.)
 - b. Tank venting is not working properly. (Plugged vent can pressurize fuel tank then unseat float needle.) Note: Can also cause lean condition.
 - c. Transportation (non-running such as trailering) causes float needle to unseat at times.
 - d. Transportation over excessively rough terrain while running can cause float needle to unseat at times. Note: Excessively bumpy terrain can also cause a lean condition due to aeration of the fuel in the carburetor bowl.
 - e. Choke is left on which can cause a rich condition.
 - f. Spark plug could be fouled. This is a big issue on twin cylinder engines because they can keep on running, and the one cylinder that doesn't have spark continues to get fuel.
 - g. There could be a failed ignition coil or failed diode in ignition coil primary wire harness. Both failures will cause one cylinder not to have spark, and the cylinder that does not have spark continues to get fuel.
 - h. A dirty air cleaner element can cause oil to be pulled through the breather system into the carburetor. On current external vent carburetors, this will cause a rich condition and could foul a spark plug.
 - i. Breather system is inoperative. A stuck breather reed or no crankcase vacuum could be due to missing or leaking gasket on valve cover, oil fill, etc.
 - j. Very light loads. If carburetor calibration is rich, either by design or by other items such as dirty air cleaner elements and/or light loads, the engine temperature doesn't get high enough to complete the combustion process. Fuel in oil possibilities would increase as ambient temperatures get lower. In other words, winter conditions should produce more issues than summer conditions with regard to temperatures.
 - k. The carburetor bowl vent is pressurized. If forced air is directed at carburetor bowl vent (external vent), carburetor calibration will go rich.
 - l. Carburetor calibration is rich. This can be the result of many of the items listed above or could also be the way the carburetor is designed. Some carburetors have to be calibrated on the rich side (light loads) to deliver acceptable acceleration along with additional fuel at higher loads to protect the engine.