

FILTERBOSS COMMANDER TROUBLE-SHOOTING GUIDE
ALWAYS FOLLOW MFG DIRECTIONS AND USE YOUR OWN JUDGEMENT

ENGINE SHUTS DOWN (NO WARNING)

INDICATION	POSSIBLE CAUSE	CHECK FOR	WHAT TO DO
<p>Check filter light did not illuminate on either the Early Warning Panel or on the Commander unit. Prior to shutting down, the engine dropped in rpms by a couple hundred rpms.</p>	<p>Online filter is clogging and there is a air leak</p> <p>Note: An air leak will not allow the vacuum to build, causing a false indication on the vacuum gauge.</p>	<p>Vacuum gauge max pointer needle reads higher than normal, also when bleeding the engine fuel system check for lots of air bubbles in the fuel.</p>	<p>Switch to filter #2, bleed engine fuel system per manufactures instructions (to assist in bleeding, use the Commander fuel pump), reset vacuum gauge max pointer to "0"</p> <p>Restart engine and operate at cruise power - recheck vacuum gauge for normal reading. If vacuum reading is still higher than normal please see HIGH VACUUM READING below.</p> <p>Change filter #1 if on a long trip</p> <p>When at the dock or anchored – perform the operational check (test both filters) – test system for air leaks and electrical operation repair as needed. In the future do the operational check prior to leaving on the next trip.</p>
	<p>Low fuel quantity - depending on sea conditions, the vessels angle and fuel tank design can cause the tanks fuel pick up tube to pull air into the system if the fuel quantity is low.</p>	<p>Fuel quantity</p>	<p>Switch tanks or add fuel</p> <p>When filling the tank, check the fuel gauge reading against the actual fuel being pumped into the tank, say every 10 gallons- repair as needed</p>

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<p>Check filter light did not illuminate on either the Early Warning Panel or on the Commander unit. Prior to shutting down the engine dropped in rpm a couple hundred rpms</p>	<p>Engine Lift pump failure or a fuel leak</p>	<p>Engine lift pump mounting (see if it is loose), with the Commander pump on check for signs of a fuel leak.</p>	<p>Bleed engine fuel system per manufactures instructions (to assist in bleeding, use the Commander fuel pump). Start the engine and operate normally - check for fuel leaks, if ok continue operating for 10 minutes. If the engine stops, turn on the Commander fuel pump, bleed engine and restart engine. If engine operates normally it is most likely the engine lift pump has failed. The Commander pump is a continuous duty pump and can be used until the engine lift pump is repaired.</p> <p>CAUTION- "MAKING OIL" is a term used when fuel enters the crankcase of a diesel engine and starts to raise the oil quantity level. This can cause a runaway engine condition. The only way to stop the motor is to cut off its air supply.</p> <p>To get home, It is best to check the oil level in short engine operating intervals to make sure you are not making oil when using the Commander fuel pump. Once satisfied check as needed.</p> <p>Note: Some cruisers have it set up so the engine lift pump can be bypassed, if the engine lift pump fails.</p>

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AIR LEAKS

INDICATION	POSSIBLE CAUSE	CHECK FOR	WHAT TO DO
<p>Engine RPM will increase and decrease without throttle command – vacuum gauge reads normal</p>	<p>Air leaks</p>	<p>When bleeding the engine fuel system check for lots of air bubbles in the fuel.</p> <p>If the filter has just been changed it is possible to have a rolled seal or have a loose drain or bleed valve.</p>	<p>Bleed engine fuel system per manufactures instructions (to assist in bleeding, use the Commander fuel pump).</p> <p>Perform the operational check and due a leak down test on both filters. If one filter fails the leak down test the problem is with that filter, if both filters fail the leak down test the problem is most likely to be between the engine lift pump inlet and the outlet of the Commander. Recheck the connections and repeat the check.</p> <p>Note: Fuel hose connections with hose clamps are a common problem with air leaks. The fuel hose connections are expose to heat, vibration and over time will require the hose clamps to be retightened.</p> <p>Pipe thread connections are a common area for air and fuel leaks. The thread sealant should be a general-purpose sealant for metal threads and is diesel fuel compatible. Do not use Teflon tapes.</p>

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HIGH VACUUM READING

INDICATION	POSSIBLE CAUSE	CHECK FOR	WHAT TO DO
<p>During engine operation Commander VACUUM GAUGE READS HIGH</p>	<p>Clogged filter</p> <p>Fuel blockage</p>	<p>Switch filters - if vacuum returns to the normal setting, the filter was starting to clog.</p> <p>If the vacuum remains the same after switching filters, there is a blockage between the Commander inlet and the fuel tank pick up tube.</p>	<p>Change the dirty filter element.</p> <p><i>This next step is done with the boat safely anchored or docked.</i></p> <p>Remove the fuel inlet line from the Commander, using the same fuel line, blow low-pressure air back into the tank. Listen for bubbles in the tank you will also feel a drop in air pressure as the blockage clears. <i>Be careful when checking gravity fed fuel tanks.</i></p> <p>If you cannot hear air bubbles or feel a change in air pressure, the blockage remains. Remove the fuel line from the top of the fuel tank and repeat test. If the fuel line tests ok- check the connection at the tank and pick up tube for obstructions, repair as needed.</p> <p>After clearing the blockage, bleed the fuel line from tank to the Commander using the polishing bleed port and pump. Look at the view port until no bubbles can be seen. Continue bleeding the engine if needed. Start engine and check the vacuum gauge indication. If the problem returns, the tank needs to be opened and checked for foreign objects (rags, caps, sealant etc.).</p>

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HIGH VACUUM READING

INDICATION	POSSIBLE CAUSE	CHECK FOR	WHAT TO DO
	Blocked fuel tank vent	Loosen the deck fill cover and listen for a suction type noise. When you are filling the tank and the fuel burps out of the deck fill.	At fuel tank, disconnect tank vent hose and using low-pressure air, try to blow out the vent. If plugged, remove hose from hull vent fitting and clean out (very common for mud daubers to make a nest in the vent outlet port). Reinstall hose at vent fitting and using low pressure air blow through the hose and check if it is clear- repeat if needed. If vent is clear, then the obstruction must be between the tank and the vent. The fix would be to install fuel vents with screens.

WATER IN FUEL TANK

INDICATION	POSSIBLE CAUSE	CHECK FOR	WHAT TO DO
Water in filter bowl	Leaking deck fills Normal condensation Fuel with lots of water	Check deck fill cap o-rings for condition and replace as needed. Small amounts of water is normal Switch filters and drain the offline filter. Now check the online filter for the amount of water that is entering the filter. It is possible to have several gallons of water in the tank that will need to be cleaned out. The water separator filter can separate the fuel and water, but if it is too much water the filter can be compromised.	Replace as needed. Drain water and service filter per manufactures instructions. Underway Switch filters, drain water and service with fuel, continue switching filters until the water is minimal. At anchor In polishing mode switch back and forth between filters draining the water out, when finished service both filters with fuel.