

LOW ENGINE LOAD

OPERATING THE ENGINE WITH LOW LOAD

Avoid long periods of idling and low load operation.

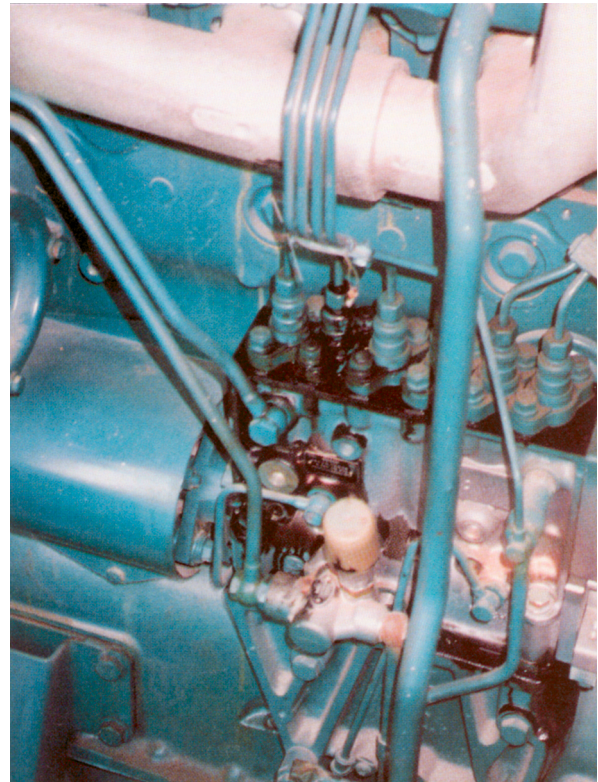
Operation of this type will cause an increased lubricating oil consumption and oil/fuel leaking from the exhaust manifold.

All mating parts in the engine are manufactured to certain tolerances to work properly under full load conditions. When operating at low load, these tolerances will be bigger due to lower engine temperatures. Bigger tolerances allow more lubricating oil to pass between valve guides and stems, liners and pistons.

Lower combustion pressure have an influence on the piston ring operation and the combustion temperature. Low boost pressure will cause oil leakage over the turboshaft seal.

Above mentioned conditions will cause:

- 1 Heavy carbon buildup on pistons, in piston ring groves, valves and turbocharger.
- 2 Heavy carbon buildup on pistons and in ring groves can cause piston seizure when operating later at full load.
- 3 Low combustion temperature will result in insufficient burnt fuel, which will cause diluting of the lubricating oil.
- 4 Bore polishing.
- 5 Due to the low combustion temperature, unburned fuel and lubricating oil will enter the exhaust manifold and eventually leak out through the joint in the exhaust manifold. See Photo.



To reduce the affects of the above, the following should be observed.

Generator sets should be exercised at a level that exceeds 50% system load or to 30% of the name-plate rating whichever is greater.

Typically if the unit exercise load does not meet the 50/30 rule listed above, the unit should be run at 75% of rated load for 2 to 4 hours once a year.