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Bulletin No.: **SE81**
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SUBJECT: 1B ENGINES AND THE CONSEQUENCES OF WET STACKING

Wet stacking occurs when an engine is run with little or no load or is cycled from no load to a light load at a high frequency (4 to 6 times a minute). Wet stacking shows up as a oily substance coming out of the exhaust outlet and sometimes looks like oil leaking from between the muffler and the cylinder head. When an engine is run at low load (loads of less than 25%) the cylinder head and cylinder never get hot enough to completely burn off the fuel especially in colder weather. When this happens the cylinder starts to become glazed because some of the components in the fuel aren't burning, leaving a tar film on the cylinder bore. When this happens, the piston rings start to lose their sealing ability and in some cases the rings will also start to get gummed up from the deposits left behind from the incomplete burn, which leads to lower compression, more blow by, diluted fuel and increased oil consumption. When the oil is diluted it loses it's viscosity and lubricating properties. It then can no longer stand up to the pressure of combustion which can lead to premature rod bearing failures. Also because of higher oil consumption, there is the danger of rod bearing being starved for oil, again resulting in rod failure. Needless to say, this type of failure is not covered by warranty.

We see wet stacking taking place on applications that are run unattended at low loads for long periods of time, such as gensets running at less than 25% load or that are cycled at high frequencies, like when used to power flashing light boards. Hatz Diesel of America does not recommend the use of our engine to run light boards unless there is a battery buffer between the light board and the generator. We also see wet stacking taking place on water pumps because they are off load when the water level has dropped down to the point where water is no longer being pumped. We sometimes see it happen on compaction equipment when an operator lets the engine run at idle when performing other tasks. To avoid wet stacking; turn the engine off when not in use. When running the engine make sure it has a load of no less than 25% at temperatures above 32℉ and no less than 50% load at temperatures below 32℉ and always check the oil le vel at least twice daily. These simple measures will certainly prolong the life of the engine.

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