SPANNERMAN ANSWERS YOUR QUESTIONS

STALLING DIESEL

We have a 1995 Class C motor-home on a Ford E-350 chassis. It has a Power Stroke diesel with about 66,000 miles on it and has developed an intermittent problem when it runs rough and stalls. It also uses quite a bit of oil. So far, my dealer has been unable to find the problem. He told us to put additives in the fuel and oil because, he said, the injectors and piston rings are probably "gummed up."

We've tried additives and it hasn't helped. Any ideas?

Ford has issued Technical Service Bulletin no. 98-23-13 for problems similar to what you report. This bulletin covers 1995-98 E-series and 1994 F Super Duty models. According to the bulletin, vehicles with a 7.3-litre Power Stroke engine may exhibit one or more of the following: rough idle, stalling, hesitation, loss or lack of power, poor fuel economy or excessive oil consumption. These problems may be caused by deteriorated injector cushion 0-rings. This cannot be detected with conventional diagnostics, such as electronic testers or trouble codes. The repair requires an 0-ring kit, no. F8TZ-9229-AA.

MORE POWER REQUIRED

We have a 1995 Class C motorhome on a Chevrolet G-30 chassis; normally the weight is about 9,000 pounds. I have been attempting to get improved performance out of the 5.7-liter engine for better hill climbing and less shifting. The engine has throttle-body fuel injection.

I have installed a power chip from Hypertech and was told I should also put in a 160-degree F thermostat. Why is such a cool operating temperature required?

I also put in a K&N air filter. With these changes, I was told by the Hypertech people that 93-octane gas was recommended. My fuel consumption is about 10 mpg, and this is about the same as before I made the above changes. I have noticed some improvement in performance, but not much. The shifting out of overdrive is somewhat better. Can I switch back to regular fuel? I'm also wondering about other improvements, such as a larger-diameter exhaust system.

The fuel economy you report is about par for your type of coach.

Computer chips and air filters alone, for example, cannot completely change the way an engine runs because it still has the same internal parts, such as the camshaft, valves and ports, and it has to breathe through the same restrictive exhaust. Just as a kink in a garden hose restricts the flow in the entire hose, so does any restriction in the cylinder heads, intake or exhaust.

Chips can enrich the fuel mixture and advance the spark timing. Alower-temperature thermostat helps the engine to tolerate more spark advance. If the engine is running cooler, it also lowers the temperature of the air coming in through the intake ports, which keeps the air denser. More fuel can be mixed with denser air to produce more power. I recommend a system approach that includes a good-quality aftermarket exhaust system and headers for the biggest single gain.

TRANSMISSION TEMPERATURE TIPS

We have a 35-foot 1985 motor-home that's powered by a Chevrolet 454-cid engine. The coach weighs about 14,500 pounds and has around 40,000 miles on it. There are two transmission coolers on it, and the transmission temperature stays well within the recommended range, but the coolant temperatures range from 215 to 225 degrees F. This seems to bring the transmission temperatures up to 230 to 275 degrees F (the upper figure is at the top of a grade), when ambient temperatures are 40 to 60 degrees F. Both of the fluid temperatures seem to be high.

What do you recommend? Would a lower-temperature thermostat make any difference?

According to Chevrolet Technical Service Bulletin no. 466204, dated June 1994, coolant temperatures of 200 to 240 degrees F are normal for 7.4-liter engines during warm weather (more than 70 degrees F) during motorway driving and in slow urban traffic.

How are you measuring the temperatures? If you are going by the stock coolant-temperature gauge, it may be off significantly. I suggest you verify the temperature readings with a good-quality aftermarket gauge and sending unit, in case you have a partially clogged radiator or dirt in the fins. These types of problems develop gradually as a coach gets older.

Thermostat operation is widely misunderstood. A properly functioning thermostat closes off the flow of coolant through the radiator until the coolant reaches a certain temperature. Once the thermostat opens, it no longer controls the maximum engine-operating temperature. That temperature is determined by the effectiveness of the cooling-system components, such as the radiator, fan and water pump. If the thermostat is restricting flow or not opening when it should, it could cause the engine to run hot.

The place where you are measuring transmission-fluid temperatures is very important. If you are measuring the temperature as the fluid exits the torque converter, your readings are in the normal range. If the readings are taken in the sump pan, they are too hot, based on those low outdoor temperatures. If the ambient temperature was 100 degrees F, the transmission fluid would be OK

You also need to be careful about running the transmission fluid through too much plumbing. If you have too many bends and hoses and fittings, the flow may become restricted, which will starve the transmission of needed fluid flow.

WHY DO RV HEATERS USE OUTSIDE AIR?

Why is the air for a motorhome boiler's burner drawn from outside while air for many domestic boilers draw their air from inside the home? It seems to me that using inside air and exhausting it out through the flue would create a slight replenishment of fresh air inside the vehicle. Am I missing something?

I can find no published reason for using outside air, and the local LPG people have no explanation. The only thing I have seen in writing is that the exhaust flue must be level with, or above the air inlet. I always leave a gap in my RV roof vents for ventilation.

Neither your home or your local LPG people are up to date. Manufacturing regulations have required recreational vehicle boilers to draw combustion air from outside the vehicles for more than 25 years.

Motorhomes are built tight and have limited interior volume in comparision to a home. If you drew combustion air from inside the motorhome and didn't keep a window or a vent open, you might not live through a cold night. By taking combustion air from outside and circulating only inside air, the boiler does not consume any oxygen from inside the motorhome.

Current building regulations also require new domestic boilers even fires to draw air from outside for the same reason.

ALACK OF BATTERY POWER

I have a recurring problem with my elderly motorhome. When it is not hooked up to mains power the battery-powered lights don't come on at all.

I've checked all the terminals in the fuse box and on a couple of occasions when I closed the fuse box the lights have come on. This problem does not affect the water pump, nor does it happen all the time.

All motorhomes built to comply withe regulations have a large fuse or a circuit breaker between the fuse panel and the house battery. It is usually rated at 50 or 60 amps. The fuse or circuit breaker is in the circuit for your safety. It is close-wired to the battery and will open if there is a large short.

While a blown main fuse is easy to spot, an open or partially open circuit breaker isn't. Furthermore, circuit breakers aren't obvious unless you know what they look like. The larger circuit breakers are round plastic with two terminals and two mounting ears. Others look like a small relay with two terminals.

LETTER TO SPANNERMAN AND ARTICLES FOR ARVM
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