

SPANNERMAN ANSWERS YOUR QUESTIONS

ENGINE OILCHANGES IN THE UNITED STATES

Owners of American vehicles made in the last 20 or so years, will know that much thinner oils are now specified than was previously the case. But do you understand the reasoning behind this and the implications thereof? We'll attempt to explain.

Currently, the number one selling grade of passenger car engine oil in the United States is SAE 5W-30. However, a number of engine manufacturers have already started recommending SAE OW-20 for their latest models and more will be following.

The obvious advantage of lower viscosity engine oils is improved fuel economy. The sum of fuel economy improvements over the span of the oil's life must be at least 1.9 percent with SAE xW-30, but SAE xW-20 oils are required to show a minimum 2.5 percent improvement. So a vehicle manufacturer can capture 30 percent more fuel economy from the lighter weight!

Certainly improvements in engine design have had a major impact on what viscosity can successfully lubricate modern engines. We've gone from engines which could deliver about 0.5 horsepower per cubic inch (16.4 cc) to engines which now deliver 1.5 hp/ cu.in. Along with that, we have onboard computers that control most aspects of engine operation. While we celebrate this gain, and engine oil's contribution, we also have to acknowledge viscosity's difficult side. The other property we're talking about here - volatility - has a major impact on engine operation and engine oil life. First, volatility is measured as the amount of oil lost by evaporation due to temperature. Concerns with volatility are three-fold.

- First, it can result in a less than optimum amount of engine oil in the crankcase, which in turn means more stress on what's left. Today's oil life systems and engine monitors that alert you when it's time to change the oil are based solely on an algorithm of crankshaft revolutions and operating temperatures. They do not measure such things as remaining oil volume.
- Second, some of the oil lost to evaporation is actually recirculated into the intake manifold, where these volatiles can impact combustion and promote deposits in the combustion chamber. Worse, the newest small-displacement engine designs, equipped with direct fuel injection and turbochargers, are exquisitely sensitive to oil in the combustion chamber, which can result in severe pre-ignition detonations and catastrophic engine failures.
- Third, the loss of oil from the system affects the viscosity of the oil that remains, just like cooking down a liquid on your hob. The thickened engine oil

works against fuel economy simply because it's heavier and creates drag. The other factor here is that we've all been lead to believe synthetic base oils have a much long life than mineral oils & thus less frequent oil changes are required. Well, that's all well and good, but clearly it's now more important than ever to check your oil level frequently and top up as necessary, otherwise the oil in your engine isn't going to do the job it was intended to!

HOT STARTING CHEVY DIESEL

I own a 1993/4 Rockwood Regent powered by a Chevy 6.2 litre diesel. Sometimes, when the engine is hot after a long run it refuses to start which refuses to start when it is hot. The engine turns over fine but refuses to 'kick in'. Can you help?

The 6.2 diesel did suffer from starting problems when hot. Usually the starter motor would not turn at all until the engine had cooled. This was caused by its proximity to the exhaust manifold and even though there was a heat shield between the two it still got very hot and seized. This problem and not 'firing up' are usually overcome if you allow the engine to cool for a short while before trying to start it. If the problem gets any worse then I suggest you have the engine checked out by a competent person.

FUEL FILTER PROBLEMS

I recently purchased a 1984 motorhome that is built on a Chevrolet P-chassis with a 454-cid engine. Since it is over 16 years old, and I have considerable automotive mechanical experience, I am aware that ageing has to be reversed if I am going to enjoy my new-to-me motorhome.

When I was replacing all of the rubber fuel lines, I had the carburettor overhauled. The firm who did the job enclosed a note stating that considerable rust had been found in the fuel filter. Since that filter is very difficult to change, I doubt if it was changed with any great frequency prior to my ownership. Is there a way of safely installing an inline fuel filter that will be easier to change and won't cause a loss in fuel pressure?

I'm glad you said safely. All too many mechanics simply cut the solid-steel pipe between the fuel pump and the carburettor and install an inline fuel filter with a couple of pieces of hose and four hose clamps. Such an installation defeats a fire-safety design that General Motors and other manufacturers have had in place since 1965.

There are a number of very low-resistance fuel filters that can be safely and accessibly installed in the rubber fuel line that runs between the steel fuel line and the engine-mounted fuel pump. An AC GF-61P petrol filter and two small hose clamps will do the job. All you have to do is cut out a piece of the rubber fuel line that is the length of the

filter body, install the filter with the arrow pointing toward the fuel pump, and tighten the clamps.

With today's petrols that are often scavenging older fuel tanks, such a filter is almost a necessity. It is inexpensive, and an extra one in your glove compartment is also a good idea.

If the steel fuel pump-to-carburettor fuel pipe has been cut on your motorhome, it should be replaced with a new pipe to restore fire safety to your engine compartment. The pipe's relatively low cost is a very wise investment.

An inline fuel filter before the fuel pump keeps the fuel pump clean and makes changing the carburettor fuel filter almost unnecessary. This is desirable because the carburettor filter nut is easily cross-threaded in the carburettor, and the solid-steel fuel pipe from the fuel pump makes filter removal and replacement difficult.

LOW TV VOLUME

I recently purchased a used A-class American motorhome which is fitted with a built in TV. Despite numerous attempts I cannot get a reasonable volume setting on it. At the very maximum setting I still have to strain to hear it.

I've had this problem from the day I took delivery and telephone calls to the motorhome dealer and the TV manufacturer have not produced any answers or cures. The TV set is a 19-inch model, and it is connected to a switching box that controls the living-room television, the bedroom television and the antenna or cable connection.

Any help you can provide would be appreciated.

You aren't the only one with TV-volume problems. The TV sets installed in most motorhomes have very small audio systems. Some of them have speakers on the side of the enclosure, and are not designed to be built into motorhome cabinets, which tend to muffle the television sound.

Many of the new TV sets have an audio-output jack that can be connected to a stereo system. In many cases, the headphone jack can be used for this purpose. The instruction manual that comes with the TV set will tell you how to make such a connection and use the television only as a monitor.

Any motorhome TV set will sound better and can be as loud as you want when it is played through the stereo system in the motorhome. You may have to upgrade your stereo system to do the job. That's when it becomes a (motor)home theatre system!

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