

# Castrol Speaks . . . . .

## WindsorDetroit MG Club Listens

Recently a former WDMG Club member, Gary Morrison, contacted Guy St. John regarding an oil issue and wanted to share it with the club.

He read an article in a local club newsletter concerning "new" oils that are killing the engine. According to this article, any 10w40, 10w30 is not good for the older cars that is marked "Energy Conserving" in the API donut of the bottle. He questioned Castrol as to whether Castrol 10w40 safe to use or should 20w50 oil be used.

Here is Castrol's reply:

Thank you for contacting Castrol North America.

As indicated on our product packaging, the current engine oil category API SM/ILSAC GF-4 is fully backwards compatible or 'back serviceable' and has been extensively tested. Valve train issues are not anticipated with the use of modern engine oil in older cars of OEM stock configuration. In fact, current SM/GF-4 engine oils are subjected to testing that is far more intensive than engine oils of previous API/ILSAC categories.

To clarify, in general, ZDDP levels have been reduced a small amount in the current category engine oils (API SM/ILSAC GF-4) in compliance with industry regulations that set maximum levels of Sulphur and Phosphorus, but are still at levels that provide ample engine protection.

Special procedures have always been recommended for the proper initial break-in of a new, matched, cam and lifter set; which include the use of a properly formulated cam break-in lubricant paste which typically contains a healthy dose of molybdenum. Engine oil alone is typically insufficient for break-in of a new cam and lifter set, particularly in a vintage engine type built to historic specifications.

In regards to camshaft failure, Camshaft failure can be attributed to numerous possible causes. Only a thorough analysis of each case can identify the root cause(s) of any failure.

Castrol is aware of articles in enthusiast magazines and web-sites, as well as after-market parts manufacturer discussions concerning GF-4 engine oils and cam-shaft durability issues in older performance vehicles. Some consumers suspect the lower level of ZDDP in GF-4 oils may be causing these failures. Castrol is currently investigating this issue. For those consumers that wish not to use a GF-4 oil in these vehicles, Castrol does offer the following products that contain Zinc at a level that is higher than the Zinc level found in oils (API SG) marketed during the "muscle car" era of time:

- \* Castrol GTX 20W-50 (SL,SM)
- \* Castrol GTX Diesel 15W-40 (CI4,CH4,CG4,CF4,CF,SL)
- \* Castrol GTX High Mileage 20W-50 (SL,SM)
- \* Castrol HD 30 (SL,SM)
- \* Castrol HD 40 (SL,SM)
- \* Castrol Syntec Blend Truck 15W-40 (CI4,CH4,CG4,CF4,CF,SL)(Semi-synthetic)
- \* Castrol Tecton Extra 15W-40 (CI4Plus, CI4,CH4,CG4,CF4,SL)
- \* Castrol Hypuron S 15W-40 (CI4Plus,CH4,CG4,SL)(Semi-synthetic)

The following Castrol products have Zinc levels that are typical of API SG oil:

- \* Castrol Syntec 5W-40 (SL,CF)(Synthetic)
- \* Castrol GO! 10W-40 Motorcycle Oil (SG)
- \* Castrol GO! 20W-50 Motorcycle Oil (SG)
- \* Castrol Grand Prix 4-Stroke Motorcycle Oil 10W-40 (SG)
- \* Castrol Grand Prix 4-Stroke Motorcycle Oil 20W-50 (SG)
- \* Castrol TWS Motorsport 10W-60 (SJ)(Synthetic)

If installing a new performance cam in an older performance vehicle, it is important to:

- \* follow the installation recommendations provided by the cam manufacturer
- \* use the recommended cam break-in lube
- \* prime the engine oil circuits
- \* use the recommended engine oil
- \* confirm valvetrain geometries prior to starting the engine with the new cam

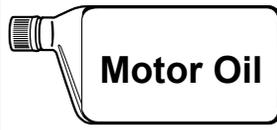
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*By Harry MacLean*

What is safe to use in our Little British cars. There have been many articles going around lately about British cars and wear characteristics in our LBC's. Actually if you own a pre 2006 vehicle this should apply to all of your cars. At the August meeting I brought a few fliers to pass around concerning Motor Oil. It may be confusing at best to a lot of you. It was a guide from API- the American Petroleum Institute. It is on all oil cans and rates the oil that you use in your can. An example is SF, SD SM, SI, etc. It seems that if you use any oil marked SJ that it is safe to use in your LBC. It has reduced zinc in it, but not enough to damage your engine. A lot of those oils with the lower markings are obsolete nowadays but safe for your LBC. Because of our government the oil companies have had to produce what is called a GF-4 oil. All earlier oils were considered GF-3. The driving issues on the new oil is emission related and longevity for the new metals used in today's engines. The older engines used bearings made from tin, copper and lead. Today's engines use a mix of aluminum and lead. It's kind of a hard bearing that gives good wear characteristics as long as it doesn't get damaged or etched. That is another subject that can be covered later if requested (bearing make up and wear). The old GF\_3 license was good until April 30, 2005 so you can see it is a little late for this. The auto companies are looking at viscosity level of 0W20, etc for fuel mileage requirements. That means less friction (drag), better fuel mileage. Specifically what has been removed from the oil is Sulfur and Phosphorous. Zinc had been reduced about 1999 but that didn't seem to bother engines. Most oil companies didn't want to do this as they manufacture oil for countries all over the world and the U.S. is the only country requiring this GF-4 spec. Of course the EPA is trying to force the auto makers and oil companies to educate the consumer. Looks like we are getting educated. This oil of course is more expensive as the chemicals that are being removed are naturally produced. The education part is to relate the added cost to the consumer so the poor mechanic that installs it doesn't get hollered at for trying to rip you the consumer off for more money cause the oil is more expensive. Now that I have you totally confused, here is the real nitty-gritty on oils that you can use in your LBC's and American cars. Any can/bottle of oil that has the API rating of SL/SJ/SH/SG/SF is SAFE to use in your LBC. I looked at a current bottle of Castrol 20w50 and it has SM/SL/SH/SG on it under the API rating. So that oil is safe to use. These Mobil 1 products: 15w50, 15w50 extended performance, 10w40, Mobil 1 high mileage 10w30 & 10w40. I would also think any HIGH MILEAGE motor oil would be ok just checking the can for the api rating, they all will have it. Of course as one of these letters was supplied by Mobil they of course recommend synthetic oil. So if you use any oil in your car check your bottles. \*\*

\*\* - Mobil Oil, API, North American Lube papers.

# *Oil for you car*

By Harry Mac Lean

Breezing through the latest edition of Moss Motor's "British Motoring" I ran across an article about oil for your old car. For the average person the article was confusing at best. It actually started talking about oil and then switched to preventing wear in your engine after an overhaul. They ended up saying to change the oil several times within the first 1000 miles. The very two most important things that you can do to your oil are to change it on a regular basis along with the filter. It is an absolute must to change your oil and filter prior to putting your car up for the winter. The reason for this is to get the acid and water out of your engine over a long period of sitting. Should you start your car and run it over the winter? Nope, reason is you can't get it hot enough to get rid of the fuel and water that will go into your oil. If it doesn't get hot enough it won't boil it out or evaporate it. But lets get back to the article.

What the article specifically dealt with was ZDDP or Zinc and phosphates. What the article didn't tell you was that oil used to be rated as GF-3 oil and now it is rated at GF-4. Most people are more familiar with the API ratings of SH-SJ-SL-SM. Those ratings are on all oil containers containing engine oil. As the article continued it talked about zinc removal for catalytic converters. Zinc was removed from engine oil in 1999, surprised? What they did was remove most of it and not all of it. And then in 2004 phosphates were removed. Surprised again? That is when oils were changed to GF-4 oils. If you have changed your oil since then you have been using the oil all along. At least you should have changed your oil since then or you would be in serious trouble! It is better to run SH or SJ oil in your car but you will have a hard time finding it unless you go to Moss, which they happened to mention that they are now handling. Funny how they slipped that advertising in the article!

As the article went on it mentioned different assembly lubes and cam lubes to put in your engine when overhauling it or doing a cam/lifter change. Let's look at an engine. There are shafts and bearings. The shafts are hard and the bearings are softer materials. The bearings are separated from the shafts by a thin film of oil. Do they wear? Yes, but usually from acids, dirt, and foreign material. That is why it is important to change oil and filter every oil change. Now to the reason the article

showed the cam lubes. When doing a cam/lifter change it is very important to pre-lube the cam with the cam lube or graphite grease. You should lube all of the bearing and lobe surfaces with this as well as the lifter surfaces. The reason? They are two *hard* surfaces rubbing against each other. If you start the engine dry the hard surfaces rub and with no or not much lube the wear terribly. When they do this they put foreign material in your engine and then guess what? Uh oh! I just rebuilt and now I have this funny noise.



If you rebuild or overhaul your engine you absolutely need this. You can even put the cam lube on your bearings if you rebuild it. You should also run the oil pump prior to starting the engine as well. You'll see a lot of drag racers and race motors with a pre-lube bottle on their cars. What that does is when the key is turned on it automatically pressurizes the engine and then they start it. Here are the biggest reasons for camshaft failures: installing a reground cam that has been ground through the hardness of the lobes; starting it up dry without lubing the lobes or lifters; starting it up and letting it idle. If you ever get a cam the manufacturer always put in their instructions to run the engine over 2000 RPM for the first few minutes. Why? Because when you do this the valves are opening and closing so fast there is hardly any load on the lobes. The heaviest load on a camshaft is from 900-1700 RPM. Why is that? Because each lobe will have about 130 pounds per square inch (PSI) on each and every lobe. If your valves are double or triple sprung it is even more. At over 2000 RPM the springs don't load that heavily. So if you get the foreign material from the cam/lifters guess where it goes. No it doesn't go to the filter, because filters don't filter all the time. Uh oh! Surprised again? Yep, most of them don't work when the engine is cold.

Ok now because I've written on this before I'll just hit on this once. Can I use synthetic oil in my engine. **Yes, yes, yes!** It doesn't have to be 20w50 either, as it reduces friction and makes your car run smoother and cooler, plus it will take a lot more heat than conventional oil. I hope this helps everyone out.... Harry

