

Summary and Data Synthetic Oils

Note from editor of this article:

I collected several articles on synthetic oil which seem to contain more fact than opinions. I went through the trouble to verify some of these facts, and also added the data for the new Castrol Syntec.

The conclusion is that synthetic engine oils are indeed better than regular oils, though you may not use your car in such a way to get full benefit of the oil.

Even a good quality mineral oil changed at regular intervals (around 3000 miles or 5000 km seems to be the norm) for average use will allow most car engines to last well beyond other components' useful lives.

The first article is an excellent detailed technical description on oils, followed by a couple additional notes derived from another posting.

Jan Vandenbrande
jan@ug.eds.com

Some additional notes

The following notes are derived from a posting by mvs@mink.att.com (michael.a.van stolk).

SWITCH OVER:

=====

By the way when you add synthetics to an "old" engine, it will spend the 1st 5-15K removing the old gunk. This is why YOU MUST change the oil filter regularly at first, it gunks up with your engine dirt. (80K miles on a car, change oil filter at 83K, 86k, 90K, etc...).

Also your engine may start dripping on the floor. Don't blame the synthetic. It will do this because the wax is being removed from the inside of the engine and the seals are dry from not having been exposed to oil to keep them fresh for a long time. As the new oil reaches the gaskets and seals, they will expand to fill the cracks.

COST:

=====

It is cheaper than regular oil. I used to change my car oil every 2000 miles incl filter (5*\$1.25 + \$3.00 = 9.25 every 2000 miles. Now I change it every 6000 miles (5*\$3.25(kmart price) + \$3.00) = 19.25 for 6000 miles. 19.25 for synthetic for 6K miles versus \$27.50 regular. You may not like my numbers, but the oil costs are K-mart retail. Please use a QUALITY 2-STAGE filter which will bypass the oil should it gunk up in the future (shame on you).

[NOTE: Castrol recommends retaining the original manufacturers interval, even with synthetic oils. jhv]

OIL PRESSURE:

=====

Your oil pressure may drop once you add it. This is ok since oil pressure measures how much oil IS NOT GETTING TO YOUR ENGINE PARTS. What you want is the oil to flow between the mating surfaces and lubricate properly. A typical drop in 5-10lbs is ok with no negative effects. (This one will take a while to accept, I know)

[NOTE: That may be part of the cause, personally I contribute it to the lower viscosity or better pourability of synthetic oils. jhv]

=====

Newsgroups: rec.autos.vw
Subject: Re: [W] G60 30k service Qs

In article <1993Aug5.213945.9606@wuecl.wustl.edu> christos@wucs1.wustl.edu (Christos Papadopoulos) writes:
In article CBAKHF.KEr@calvin.edu> jtong73@ursa.calvin.edu (Joanna Tong) writes:

I just want to second what Jan says about 5w50 syntech. It definitely is the best oil I have run. I have had it in my 2.0 for over 2500 miles and it is still not dark but looks just like how it looked when I poured it in - with the exception that it is a slight bit browner. There has been no consumption at all on my car either - mileage has been good, and I bet part of it has been due to this oil.

Peter Tong

Ok, Peter (and Jan, and anyone else using Syntec) can you be a little more specific on why you liked the Syntec so much? Any opinions are welcome, subjective or otherwise.

It's probably more than subjective because it was quite noticeable in my G60: When you start in the morning with a cold engine, the engine "feels" warmed up, less "sluggish" when you accelerate. In fact, there is little difference between a warm or a cold engine in the way it responds, except which can be contributed to a cold fuel system (5th inj, air cold ==> inefficient air fuel mix/freezing).

When warm, the car feels peppier as well, easier to get up to speed.

Some have reported that the car slows down less when you take your foot off the gas. I did not notice anything like that though.

I mean the fact that it doesn't get black would also be a minus (less effective detergent package), and little or no oil consumption could mean that it's too thick to pass through valves and rings (thus less lubrication?)

It will turn rather dark after a while, but it seems to take longer. Also the reduced consumption may have been purely coincidental with my engine finally being worn in after 30k miles.... However, others have reported similar effects with (other) synthetics in older engines.

I am not sure what all this means, less break down, better sealing for the rings, less detergents? And I don't think this stuff is too thick, it's about as fluid as water (vs thick maple sirup for regular oils), which did make me a bit worried. I am most worried about the G60 bearing...the G60 spins really fast and it uses engine oil pressure for lubrication.

Whether it is really protecting the engine better, naturally I cannot tell you, I have not done an analysis of the oil.

However, my friend in Europe who races his very expensive 944 Turbo "S" only uses Castrol Syntec (called "RS" over there), same as the other members of his Porsche club. So I figured, it can't be too bad. With Synthetics, I almost feel comfortable changing the oil at the recommended interval of 7500 miles (which is what Castrol themselves recommended for "normal" duty!)

From: cac@mtmis1.mis.semi.harris.com (Clint Chamberlin)
Subject: Re: Make Best of Synthetic Oil?
Date: Sat, 18 Sep 1993 13:27:09 GMT
Organization: HARRIS Semiconductor, QC Dept.
Sender: news@mlb.semi.harris.com

JIE YUAN, CHEMISTRY, U. CINCINNATI (yuanj@ucbeh.san.uc.edu) wrote:
Just some thoughts about the synthetic oil:

Almost all the products in the market are possibly silicone type, very resistant to oxidation, and would last very long.

How do one filter out the junk in the oil circulation system to take full advantage of the synthetic oil? Synthetic oil is very expensive. It does not make sense to change it often. But the engine will generate some sediments no matter what oil is used. Too much of the junk will degrade the lubricating function of the oil. Redesign the lubrication system?

Can't all the cars, at least all the newly designed cars, utilize synthetic oil? It must save a lot of oil and do the environment a lot of good!

You are right on all counts. Try AMSOIL spin on filters that remove 1 micron particles as opposed to std FRAM and AC that remove 25 micron. AMSOIL also has a bypass filter that essentially eliminates the need to change oil. Many truckers never change their oil with this. It costs around \$109 retail(you can get it for \$89 as a dealer.

From: scottst@microsoft.com (Scott Stiles)

Subject: Re: Synthetic Oil

Organization: Microsoft Corp.

Date: Fri, 12 Aug 1994 21:25:24 GMT

Distribution: usa

Lines: 322

First, I will answer a couple of questions asked by another. Yes, it is OK to mix mineral and syntetic oils. One of the early synthetics used was a Polyalkylene Glycol. This was totally incompatable and would gel when mixed. This has not been used for years for automotive lubrication. All common synte tics used for engine lubrication now days are a Polyalphaolefin (Mobil 1) or a Dibasic Organic Ester type (AMSOIL). These are fully compatable with conventional oils. In fact Golden Spectro and AGIP Sint 2000 are mixtures of mineral and synthetic oils. It is always best to mix oils with the same rating (SG). This insures that the additive packages are compatable and will maintain their effectiveness.

All engine oils use an organic zinc compound as an extreme pressure/anti wear additive. Spectro adds more to their Motorcycle oil than to the car oil because zinc is a poison to catalytic converters. You will also see that some "car" oil contains more than their motorcycle oil. The difference in zinc content between .11% and .16% is insignificant to the converter. The little data I saw on the oils packaged by the motorcycle manufacturers indicated that they were no better than the top automotive oils. While most were good, they didn't offer anything the cheaper oils do. (They are in reality just repackaged and in some cases slightly reformulated top grade auto oils).

The following is a slightly modified repost of my original article. I have added a few bits that address some FAQs.

** Data on Syntec

I just recieved this data from our local oil distributor. It is the update on the new Mobil 1 formulation and that for the new Castrol Syntec. They did not have the numbers for the new Valvoline Synthetics yet. The data on the new Mobil 1 is pretty impressive. Based on these numbers, price, and avaiability, there is little need to look further for a synthetic oil.

The Syntec seems to be compromised by it's wide viscosity range. Notice that the pour point is for all practical purposes, no better than the Mobil 1 15W-50. (actually, it's not as good) While, meeting the viscosity parmeters, the wide range is probably for marketing purposes. The Mobil 1 15W-50 will pump at -35 degrees F, which is as good as some conventinal 5W-30 oils.

Any of the ester based synthetics (AMSOIL, Mobil 1, and Syntec), will give you the benefits that Castrol is making a big deal of in their advertising. The ability to cling to metal walls is due to the polar nature of the ester base stock, not something unique to Castrol's formulation.

The Data: (add to your current article)

Brand and Weight	VI	Flash	Pour	%ash	%zinc
Syntec 5W-50	180	437	-49	1.2	0.10
Mobil 1 5W-30	165	445	-65	---	---
Mobil 1 10W-30	160	450	-65	---	---
Mobil 1 15W-50	170	470	-55	---	---

