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## Yesterday's & Today's Motor Oil By Jeff Bernhardt

Yesterday's motor oil had among other additives, Zinc as an additive to protect valve train components of older design engines. Preservatives to keep oil on bare metal when engine is infrequently used. Unfortunately, this has changed. Newer engines are made from high grade metals that do not require such additives. Hence, today's newer motor oil contains no such additives.

Jeff Bernhardt has provided a number of items below to help educate us gearheads driving these older cars relative to the kind of oil we should and should not be using:

- ✦ Zinc dialkyldithiophosphate, or ZDDP is the main anti-wear ingredient of yesterday's motor oil that has sadly taken a hiatus on the EPA bus to obscurity.

- ✦ What this stuff used to do was this: the zinc in the ZDDP would bond to the internal metal of our engines and form a protective "zinc plating" to prevent metal-to-metal wear.

It's now gone because the higher powers said that it's possible that ZDDP could be damaging the catalytic converters on today's cars – catalytic converters that

they want to be warranted for 100,000 miles.

- ✦ There have been many, many testaments of car enthusiasts wiping out a brand-new cam in a matter of 10 minutes.

Camshaft break-in cards are now instructing users to first remove the inner valve

- ✦ springs before the cam break-in procedure, or cam failure could result - and the warranty will be voided. It's this initial running of a fresh cam that's so critical to the life of the cam that every precaution must be strictly adhered to.

- ✦ It is true that there are lots of engines running around out there with flat-tappet camshafts installed in the '60's, 70's and 80's, and are having their oil changed once a year with today's API motor oils - with no appreciable problems. These 'seasoned' cams should be fine for a while, but how long is that?

- ✦ Rotella diesel oil - forget it unless it has the specification C I 4, which has been discontinued. If it's the new C J 4, it won't do you any good. It too has fallen victim to the EPA bus.

General Motors used to sell an engine oil supplement under part number 1052367, but the part number was changed to an AC Delco number 10-106 with the wording that it was not recommended as an engine oil supplement, but an assembly lube (I'm thinking the lawyers were involved here) before it was discontinued. You might find some on a dealer's shelf

- ✦ somewhere where the inventory doesn't move much, but it's kind of like the VC-1810 vacuum advance cans that worked so great and started pulling at about 5" H.G; the word got out that they were no longer being made and in short supply, and Corvette owners stockpiled their own garages with them. Try to find one now.

- ✦ Any API (American Petroleum Industry) approved oil will be devoid of this lubricant that's been with us for all of these years, so what do we do? Look outside the box. There are oil manufactures that don't belong to the club, and aren't looking for an endorsement from the API, and don't care.

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## Yesterday's & Today's Oil (con't) *By Jeff Bernhardt*

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Pennzoil says their GT racing oil is the way to go with 2000 ppm Zn in their blend, but I'm not sure there are any detergents in the stuff. Redline racing oil states that theirs is formulated for racing only, with very low amounts of detergent, and they don't even recommend it for street use. Joe Gibbs endorses his own brand of racing oil with a healthy dose of ZDDP. The racers don't want detergent in their oil as an

✦ added protection against detonation, but we need it in our street cars that will go 3000 miles ( or 1 year ) before being drained.

✦ The good stuff along with detergent includes Motorhead Classic "Hi-Z" motor oil, an oil formulated with the correct amount of zinc and phosphorous by a pair of "motorhead" car enthusiasts seeking the answer to today's oil problem. Sales are brisk at \$14.50 per gallon for their one-viscosity 15w40, which equates to \$3.625 a quart, and can be had by emailing Sam Nicolosi at [think-zinc@motorheadoil.com](mailto:think-zinc@motorheadoil.com) or by calling their shop at (937) 254-2673. And – they're right here in town.

Brad Penn Grade 1 Racing oil has the ZDDP and the detergents, and comes in a variety of weights such as 0w30, 10w30, 20w50 and higher. They even have a 30w break-in oil. In case you haven't heard of Brad Penn, ([www.bradpennracing.com](http://www.bradpennracing.com)) it's a green motor oil that's very reminiscent of the old Kendall GT motor oil that a lot of us used in the gold ole' days. In fact, it is the same oil. In 1997 the American Refining Group purchased

✦ the Kendall / Amalie refinery located in Bradford, Pa. The office is located on N. Kendall Ave.

✦ Most of the major camshaft manufacturers have a supplement to add to your oil during break-in, like the Comp cams break-in oil additive in 12 ounce bottles (PN 159) for about \$115 a case. Comp Cams says it's a "special blend of extreme pressure additives no longer available in off-the-shelf motor oils." Add a bottle to each of your oil changes and call it an extended break-in period.

The guys at World of Motorworks ([www.worldofmotorworks.com](http://www.worldofmotorworks.com)) a group of Buick Grand National enthusiasts are selling a 4oz. bottle of ZDDP

additive for 10 bucks. Let's see, 4 oz. for 10 bucks or 12 oz. of Comp Cams additive for 9.50. I'll have to get back to you.

Ninety percent of the engines we're doing in the shop are total roller valvetrain with totally stock outward appearance, so any API oil can be used. However, we're still putting additives in the break-in oil, and additives in the engines we service with new crankcase oil.

If you must be faithful to the original 30-30 grind and solid flat-tappet lifters in your 365 horse small-block, what else can you do? I spoke with David McCarver at Comp Cams, and he told me you can have your new Comp Cam nitrided - at their facility. It's an additional \$100 to the price of the cam, but how much would it cost you to tear down your fresh engine and replace your brand new wiped out cam because of poor lubrication. I would do the nitriding, and the good oil as an insurance policy.

Jeff