



56J ONLY



THE PERIODIC NEWSLETTER OF THE 1956 STUDEBAKER GOLDEN HAWK OWNERS REGISTER

Web Site: www.1956GoldenHawk.com

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Packard Patter - Technical Information Engine Oil and Snake Oil

Gary Zimmer

This article appeared in the October 2023 issue of The Packardian, newsletter of the Packard Automobile Club of Australia

I don't think there has been as much waffle and misinformation as there is about engine oil. One problem is these forums on the net. Anyone can say anything, even if it is plain wrong or just repeating misinformation.

How it works:

Compared to a Packard made in the 50s or earlier, some things on newer cars are a definite improvement. A few examples, 12 volts for starting or headlights is certainly better than 6 volts. Who would really want to be driving on the cross-ply tyres that your Packard had when new? I don't really want to exit my car through the windscreen, so it now has some 1970s vintage seat belts. If the Pebble Beach judges don't like them, bad luck. However, there is one feature used on the newest cars that you do not want in any old car, that is engine oil.

These new things use oil like 0W-20 or 5W-30. (The lower the numbers, the less viscous the oil is.) The reason for that is that makers of current vehicles are trying to squeeze every last drop of fuel mileage out of their engines, which also has an effect on engine emissions (ignoring the energy and emissions that result in making these throwaway cars in the first place and shipping them halfway around the world), and also results in more power, so the new car owners can drive as they do.

Engine oil with lower viscosity results in a reduction of the friction in the main and conrod bearings, and elsewhere. To allow this low viscosity oil to be used, these engines are made with much smaller bearing clearances than old engines. The extreme case is Formula 1.

Every team would have a deal with a maker of oil, they certainly don't buy the stuff on special at the local auto



parts shop. The bearing clearances in these engines is actually less than zero when cold. That is an interference fit, and it means the engine is seized when cold, and needs external heating before it can be cranked and fired. They can do this, because they have tons of gear and a pit crew the size of a small army.



Next time you look at a river or stream that is flowing, notice what is happening. We know the water is moving downstream. You can see it moving in the middle, but at the bank it isn't moving. This is called a no-slip boundary condition. Oil in a bearing does this too. The oil in contact with the crank journal travels with that, the oil at the bearing stays with that. In a journal bearing this creates a hydraulic wedge that keeps the metal bits from being in contact, which is what we want.

The mechanics of fluid flow between moving surfaces was worked out by French physicist Maurice Couette in the 19th Century, and is called Couette Flow. In a nutshell, the bigger the bearing clearance, the more viscous the oil has to be. Engine oils these days are mostly semi-synthetic. (We can credit the Third Reich with developing semi-synthetic oils.) Before this, lubricating oils were mineral oils. The viscosity was like grease when cold, and like water when hot.

If your engine overheated, it might also cause a ruined bearing. Temperature idiot light on, followed by oil pressure light, followed by getting out the cheque book. At least semi-synthetics are less likely to do that. However, using oil that has a lower viscosity than the engine was designed for is asking for trouble. 20W50, that is it. If you pay someone to service your car, don't let the apprentice put "water" in it. "But this is good oil" they will say. Yes it is, for a 2020 car.

The myth of zinc.

Oil is a chain of carbon atoms with hydrogen atoms hanging off them. This is called an alkane, or saturated hydrocarbon. Short chains are gases (propane, butane), a bit longer is octane (petrol), longer still you get diesel fuel, and even longer, oils for fuel and lubrication. Very long alkane chains slide over each other, that is what does the lubricating.

Now we come to zinc. When you see a piece of galvanized steel, you see zinc. Zinc is a hard metal; it is not a lubricant. There is stuff called zinc di-alkyl di-thio-phosphate (or ZDDP). Chemists like running words together, so I put hyphens in to make it a bit more readable. This oil additive has long alkane molecules that in a nutshell, are held by a zinc atom. What is special about a zinc atom is that it can hold hands with 4 other atoms or molecules. These phosphates and alkane chains are what does the lubricating, not the zinc. But because the compound is called zinc-something, some people get the idea that the zinc is the magic ingredient, not the rest of the ZDDP.

This misconception is a bit like tetra ethyl lead. TEL was developed in the 1930s as an anti-knock in gasoline, it was phased out once catalytic converters were adopted. The lead atom, like zinc, has 4 bonds, hence the term tetra. The ethyl does the anti-knock, and the lead atom would form lead oxide. That was the grey stuff in your tailpipe all those years ago. TEL also had one advantage; it would prevent valve seat recession. Now with the introduction of unleaded petrol, some people got the idea that they could put some fishing sinkers or shotgun pellets in their fuel tank and turn their unleaded petrol into the old leaded. No. Those sinkers are still rattling around in the tank. Lead does not dissolve in petrol.

I hear this "if you don't use oil that has zinc, your camshaft will wear out." What a load of rot. It's the same as some expert claiming you have to use Pennzoil or your engine will blow up. This invariably comes from someone who sells Pennzoil. A vested interest can go straight in the bin.

Likewise, everything I have read on ZDDP is from a vested interest, someone who wants us to buy their product. Engines designed and built 70 or 80 years ago were designed to use oils available back then, not today's fads.

I suspect there are a lot more labels on oil bottles than manufacturers of engine oil. All oils have a variety of additives, and many would have ZDDP anyway. However, at one brand someone in marketing has decided that zinc is the magic ingredient, and plays on that. I have an old Castrol oil drum that boasts "liquid



tungsten". Tungsten melts at 3400C, so that means the engine block would be melted too. You can't believe advertising.

My Packard was on the road from new (1949) until 1969, so I believe. When I took the engine apart for a full rebuild, I measured the cam lobes. They were fine, so I just put the cam and lifters back in. So it wasn't running on Pennzoil or unlikely any oil with ZDDP, and the cam wasn't worn. The rings however were a different story, Pre-rebuild I fired it up and it smoked out my shed in no time. The rings were just as old as the cam. If it did have oil containing ZDDP, why didn't it stop the rings wearing out?

Camshafts wear for different reasons. One is manufacturing process. 1970s Holden V8s were notorious for cam wear, due to poor hardening process. Another cause is giving it the beans when stone cold, before oil gets to the cam and lifter gallery. Improper break-in procedure (the wrong speed, with inadequate oil pressure, and no break-in lubrication) also causes cam failure. Another cause would be heavy valve springs, as racers would want. However, a Packard engine isn't a high revving race engine, so the valve springs are fairly soft. This is good for cam life. Important point, if you have a crook hydraulic lifter, NEVER put new lifters on a used cam.

There was a thread on Packardinfo, one owner said he had lifter rattle. This was in a straight eight with hydraulic lifters. Hydraulic lifters need clean oil, a bit of gunk can block the oil flow to them. There followed a lot of bad advice, like don't use 20W50 oil, you need Pennzoil (probably posted by someone who sells it), and the zinc fallacy. The problem with Packards is the oil filters (if they even had one) only filters a small amount of oil, not like a full flow system. So, you need something that stops the lifters getting gunk in them.

In your engine you can put what you like. In all my vehicles (all petrol powered), I use 20W50 Diesel engine oil. About 40 years ago by mistake I put Ampol Longhaul in my Falcon. It was an improvement, and I have used it (then its replacements) ever since. Why Diesel?

Because Diesels are filthy things, and oil for them contains high levels of detergent. You don't get a buildup of sludge. In fact, the recommended maintenance procedure for my 1949 is to remove the sump and scrape out the gunk every so often. No need for that using Diesel oil. It will not harm your engine, in fact it will run quieter and if you ever take it apart, the inside will be cleaner than your kitchen. Well my kitchen anyway.

It looks like a nice car. Hopefully, someone bought it at the auction and will register it with us once again. Till then, it will remain in the Unknown/Unregistered file.

Indrojit Sircar

56J From India, Finally On The Road

NOTE: Indrojit first made contact in 2009 when his friend, Wasif Ahmed sent a photo of the car.



They weren't sure if it was Golden or Sky Hawk. They supplied Body # 56J-K7 3096, which correlated to 6032564. As the only 56J in India, the restoration project presented quite a challenge. The story appeared in Issue 064, Pg 4.

March 19, 2024 - Dear Frank, I just wanted to inform you and share my happiness with you that we have finally managed to get our car on the road. We still have lots of smaller details to work around but it's been a really uphill task for us to complete the car.

I only started working on this car in mid 2021, and from then onwards, we have made significant progress. A big thanks to Dwayne Jacobson and Jack Vines for all their help and support. Also, a lot of the bits I sourced from Studebaker International.



February 14, 2024 - Making more Progress. You'll recall I emailed you a picture asking if I had the right tool in hand to remove the door panels from my 56J. The reason was, although I had worked to get the panels off, the volcanic shaped springs behind the panels were protruding through the panels, impacting the ability to get the clip removing tool to do the right "push" job.

Turns out, the door handles and window cranks were installed incorrectly. Once I figured that out and could get the tool between the door handles and cranks and the improperly installed "washers" which were supposed to hold the springs behind the door panels (not in front of them), the removal was a breeze! It's a pretty dull day when you don't learn something new, right?

I have all the material to recover the panels -- in fact to install an entire new interior should I desire -- but now the trick is to find an upholster to do the job. I had one, but he's not returning phone calls about the project so I'm going to have someone else do it. At 85, I have neither the patience nor time to be ignored...

February 26, 2024

We had temps in the 50s here in Michigan today and it's supposed to approach 70 tomorrow. But then the bottom falls out again -- down into the 30s with snow. I'll just be thrilled with what we get and the prospect that February nearly is over!

So, I thought I would update you with the latest plans for the 56J. They include hopefully selling the 56 Power Hawk. I have TONS invested in both the Hawks but decided to stop the Power Hawk work in favor of doing the right job with the Golden Hawk. Hopefully, I won't take a terrible bath if I find someone interested in the PH. As I indicated previously, things weren't quite what they seemed with the 56J.

I want to take it on some fairly long trips this summer - read that to mean part of Route 66 - so I had it really checked over carefully to ensure it could handle the miles. Bottom line is it needs some pretty hefty suspension work, both front and rear, for safe long distance travel. Selling the PH will provide freed up cash to get it done.

Beyond that, I'm currently having upholstery work done on the Golden Hawk. The door panels are finished as of today and look super. There's some water damage on the panels by both rear windows which also got into the headliner, splitting the seams between the side upholstery and the headliner.

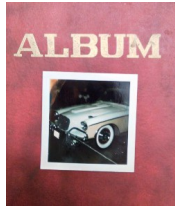
That's going to be resolved in the next few weeks. The seats aren't really too bad, so I'm going to leave them as they are for the time being. I'm confident the engine now is fine based on the tons of work it received over the winter.

No doubt I'm leaving something out, but at least that gives you a feel for where things presently stand. Thanks for all the attention you gave my project in the recent newsletter.

The Resurrection Of 6030610 (Part 7)

From Ed Capozzi

NOTE: Ed bought this 1956 Golden Hawk in 1968 and sold it in 1979. He repurchased it in 2021, from that buyer's son and is now working on this reclamation project. It sat outdoors for over 30 years in Massachusetts. Ed has agreed to provide a running account of his progress. Hopefully, his reports will inspire others to get busy on their own project.



February 20, 2024 - This is second try at painting 56J steering wheel..I think the color is pretty close to original!



March 24, 2024

- Things around here slow way down in the winter, however I did manage to restore the '57 GH hood overlay which will be going on 6030610.

This overlay was on the car when I first purchased it back in '68...and I've always liked the 'look.'

My GH must have had its original hood replaced some time before '68, as the '56 only' hood, with short bulge, isn't there.

The Strange Case of Serial 6030091

Paint Code doesn't Match the Body #

Serial 6030091 was first registered with us by Jim Mielke (TX) in 1989. He sold it to Cliff Hall (MO) in 1992. I last heard from Cliff in 2002, and dropped him in 2007. I found out years later that he had sold it to Toby Masten, also in MO, and Toby registered the car in 2013. In November 2018, his newsletter came back as unable to forward, so I had to drop him at that point.

I request *Address Service* on the newsletter, and normally the post office will forward it, and send me the new address, for about \$0.70. I don't know what happened to him. It was up for auction at the Osceola Heritage Park - Kissimmee, FL, January 2-14, 2024.

This car is a bit puzzling. The production order shows body # 121, and paint code P5642 Tangerine/Snowcap White. It was shipped in November 1955. That P5642 paint code was not introduced till late in the model year.

The car is currently painted all black, and has the painted rear quarter panel moulding instead of the stainless. This is consistent with the body number.

VIN: 100655		MODEL NO: 1901	ORDER NO: 6030091
DESTINATION: Houston, Tex (M.R.H.)		FACTORY NUMBER: 10180	ACTIVE NUMBER: 1021
SHIP VIA: ST		BODY NUMBER: 121	TRUCK KEY NUMBER: 665
DESCRIPTION OF UNIT AND EQUIPMENT: 56J K7 P 5642 TANGERINE SNOWCAP T 8414 HC 343		TRUCK KEY NUMBER: 1300	FINAL ASSEMBLY DATE: 11-15-55
ULTRA TRAN 710X15 4 WHT AC 2769 DIR SIG AC 2780 AC 2747 AC 2688 AC 2302 AC 2762 AC 2774 AC 2756 AC 2750 SP50060PR		DATE SHIPPED: NOV 17 1955	INVOICE NUMBER:
OK NOV 18 '55		INSTRUCTIONS: Provided by Car Order Dept. Illustrate as received.	
PASSENGER CAR PRODUCTION ORDER - FINAL ASSEMBLY LINE			

Note the P5642 Tangerine Snowcap color

Mail Bonding



Letters From Our Readers. (Edited as required.)

Doug Button May 25, 2024

Just letting you know I purchased the 56J (6030712) from Jeff Weaver, which was previously Larry Pack's. Larry had restored the body and painted it, and done some engine work to it, but not an overhaul. Mostly, just the interior work is left. My goal is to complete the restoration and clean up a few resurfacing rust issues and then resell it. Larry put disc brakes on the front and the heavy duty sway bar. I'm not sure if it was Larry, but someone converted it to a floor shift.

I am hoping to have it at the SDC Meet next month, but it won't be complete by then.

Thought you would like an update on this one.

Here We Grow Again

If you move, please remember me when you send your change of address information.

Gains

734 James Osterman Rio Verde AZ
SN 6800507 Prev Owner Bret J King-CA

(If Present):

- * = New, Not previously registered or reported.
- ** = Previously reported, but never registered.

Losses

309 Louis Carvell - Sold car in 2023
447 Ron Turcotte - No response in four years

477 Scott Benson - No response in four years
 556 Jamie Carillon - No response in four years
 600 Andre Betit Jr - No response in four years
 695 Russ Carnes - No response in four years
 608 Shannon Bruffett - No response in four years
 614 JR Shaver Sold car in 2021
 667 Kenneth Styer - No response in four years
 686 Glenn Moseley - No response in four years
 707 Jeff Weaver - Sold car to Doug Button

The "J" Account

1956 Golden Hawks Registered/Reported/Scrapped

217	Registered Owners
272	Cars Registered (includes parts cars)
375	*Cars Reported But Not Registered by Owner
647	Total Cars Registered plus Reported
52	Additional Cars Reported as Scrapped
* Includes cars previously registered but dropped afterwards, due to 4 year non-response by the owner.	

Administrative "Assistance"

Special notes and recurring items.

✓ **EMAIL CLUTTER:** I easily get 100s of messages, most of which are useless and interfere with the more important items. Please do not send forwarded mail to me. I just can't read it all. This includes anything not 56J related, especially jokes, E-cards, political and religious messages. Believe me, if you send it, I'll also get it from 10 others. Far too much aggravation for me!!!

✓ **Studebaker Drivers Club (SDC):** Although we are not officially connected with SDC, they have always been in our corner. I am a life member and would urge every 56J owner to join. It is a great organization and at least two of its Presidents have owned a 56J at one time or another.

✓ **Phone Calls,** We *don't* answer the phone anymore due to the number of scams and crank calls. I prefer email, but if you *must* call, **leave a message, and I'll pick up.**

✓ **56J ONLY Message Forum** Started by Doug Button, for owners and fans to exchange information. Click on *56J ONLY Message Forum* on our home page, www.1956GoldenHawk.com.

✓ **56J ONLY, Electronic Version** of the newsletter is in color, and undamaged in transit. If you would like to receive it electronically, **and save me a buck and a half**, let me know and send me your Email address. I will send you a notice when the latest version is posted on the website. You can read it, download it, and/or print it at your leisure. If you can't view it on the website, let me know, I'll send it as an attachment. Anyone with an Email address on file with me, will automatically receive the

newsletter notice electronically. Let me know if you prefer to receive it by mail. This costs me a couple bucks, but the mangling, ripping, and stains are free.

✓ **The Four Year Rule** - If I haven't heard from or about you during the past four years, I will send a registration form to you with your newsletter, or by Email. You must respond or you will be dropped from the Register. Since we don't charge dues, this is the only way I can be sure you are receiving the newsletter and/or still own a 56J.

56J Club Items

All Proceeds Help Maintain the Register
Some Items are free to view or download on our web site or can also be ordered on-line

1956 Studebaker Golden Hawk Parts Catalog (Posted on our web site).

Printed copies are No Longer Available due to high printing cost

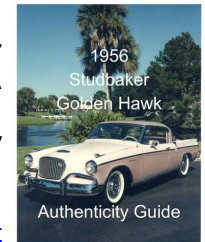
However, the Catalog is available as a .pdf download from our web site..



1956 Studebaker Golden Hawk Authenticity Guide (Posted on our web site).

Need a printed copy? A batch of the new *Authenticity Guide* in full color was created in 2021 by Doug Button. Contact Doug Button, Phone: 844-788-3344

Email : accounts@timemachines.net



\$20.00

Complete Package Flash Drive. 1956 GH Restorers Guide Video plus 1956 GH Parts Catalog, 1956 GH Authenticity Guide (New version), 1956 Owners Manual, 1956 Accessories Catalog, Borg Warner Overdrive Manual, 1955-58 Chassis Parts Manual, 1953-58 Body Parts Manual, 1956-57 Shop Manual, 1958 Shop Manual Supplement, *56J Only* Newsletter back issues, 1956 GH Production Orders. \$20.00



\$20.00

1956 Golden Hawk Restorers Guide on DVD Contains a video version of the Authenticity Guide with many new items discussed. (Video is Included on the Flash Drive shown above)

Decals-Tags-

Oil Filler Cap, Dark blue/buff \$ 3.00
Oil Bath, yellow/black \$ 4.00
Generator Field Terminal Tag, red \$ 1.50
Owners Roster - (For Registered owners only) send Email, or SASE for a printed copy

Make Checks Payable to: Frank Ambrogio.

In this Issue

- **Gary Zimmer** has in interesting philosophy regarding engine oil and additives.
- **Serial # 6030091** was a November 1955 production car, with a paint code that wasn't introduced till spring 1956.e.
- **Indrojit Sircar** has gotten his 15 year, 1956 Golden Hawk project, on the road.
- **Neal Miller** continues to provide updates on the progress he has made with his 1956 Golden Hawk.
- **Ed Capozzi** continues the restoration of Serial # 6030610 and provides a few I updates.

- **NOTES:**

- **Renewal time** If we haven't corresponded in the last four years, you will receive a renewal notice either by mail with this issue, or by email if I have an address for you. You must respond or you will be dropped from the mailing list.
- **Do not forward email** (jokes, politics, environment, religion, etc.), to me that is unrelated to our purpose. I just can't keep up!!! All you accomplish is to provide my email address to others, including spammers who send more junk!
- **56JONLY Message Forum** Started by Doug Button, for owners and fans to exchange information. Click on **56JONLY Message Forum** on our home page at www.1956GoldenHawk.com.

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For the Type "J" Personality

