

CELEBRATING **20 YEARS** OF CALLAWAY CORVETTES

Electronically reprinted
from November 2007
Volume 31 No.11



Vette

HIGH-TECH HAULER

**LS2 '66 Blends
Vintage Looks with
Modern Muscle**



HIGH-TECH HOW-TO'S:

- **New C3 Control-arm Upgrade**
- **Hot C6 Cam Swap = 45 RWHP!**

WWW.VETTEWEB.COM



This 572-in-a-midyear installation is one of the more ambitious engine-swapping projects we've seen to date. We'll have a full story on this car in a future issue. (Photo by Jay Heath)

It Only Lives Twice

A high-performance crate motor can breathe new life into your vintage Vette

BY CHRISTOPHER R. PHILLIP

We've all heard the old saying, "It's only original once." While that may still be true in the strictest sense, the growing availability of quality, high-performance crate engines means breathing new life into an old classic—without degrading its collector-car bona fides—is easier than ever.

To explore this development further, we spoke with Dr. Jamie Meyer, Product Integration Manager of General Motors Performance Parts. Because of his position within GMPP, Meyer should be considered one of the world's foremost authorities on the remarkable variety of crate motors currently available to Corvette aficionados.

VETTE: We're seeing a growing trend in which Corvette owners are pulling their original motors, preparing them for long-term storage, and replacing them with brand-new high-performance motors.

Dr. Jamie Meyer: I think you're absolutely right. People have these Corvettes—or really any muscle car—and they're worth a lot of money. And you can't afford to break that original block. You can't keep your numbers-matching Corvette intact if the block is blown up. The car is meant to be driven, and certainly we encourage people to enjoy their cars. A great way to do that is to buy a high-performance crate engine from GMPP.

VETTE: What makes a Corvette owner purchase a GMPP high-performance motor?

JM: It's easy. With a GMPP engine, everything comes with brand-new components. We don't remanufacture anything. So when you buy a GMPP crate engine, it's brand new every time. All of our crate engines pass a 50-hour validation-and-durability test. That's what it takes to have a GMPP stamp of approval. We've also expanded our warranty to 24 months or 50,000 miles on every GMPP crate engine. So you think about that: a high-performance crate engine with a 50,000-mile warranty. General Motors is the only company to offer that level of assurance. You can buy one of these crate engines with a lot of confidence.

VETTE: How hard is it to retrofit a GMPP engine into a vintage Corvette and still retain the car's nostalgic look?

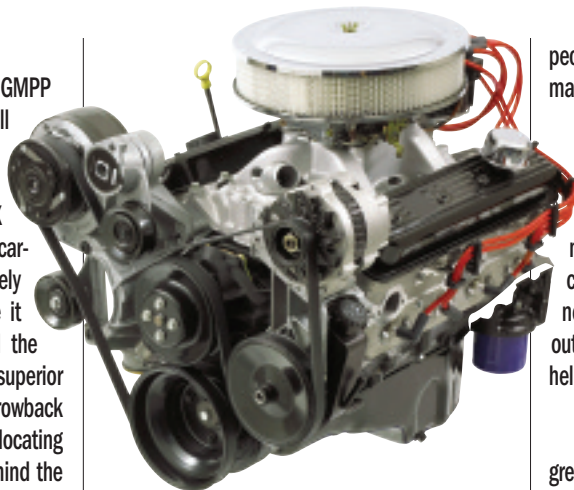
JM: I think GM appreciates that there is some complexity to today's LSX portfolio. Our LS 364/440, which is the carbureted version of the LS2, is an extremely popular crate engine right now because it comes with all the high technology, all the modern drivetrain, and the inherent superior engine design. But you get that kind of throwback carbureted intake, and a lot of guys are relocating the coilpacks down on the firewall or behind the engine and covering it up with an air filter. You can still have a very nostalgic look, but you've got a car with an engine that will spin 7,000-plus rpm, not break a thing, and make 500 hp with a camshaft upgrade.

VETTE: Many of our readers say they love the bodies of the early Corvettes, but they want the best of both worlds: ultimate power and classic beauty. Is GM listening to what these Corvette owners are demanding?

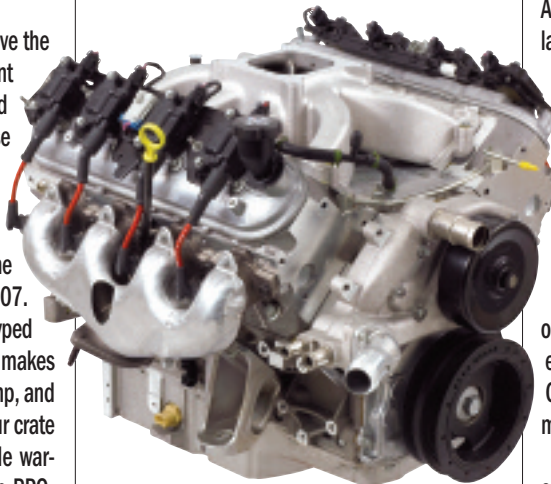
JM: Of course we are. The second wave of our LS series line, which is coming right now, is our entire LSX crate-engine portfolio. We'll launch that at SEMA 2007. We'll start with an LSX 454 that was prototyped in the Reggie Jackson Camaro. That thing makes over 620 hp. We're going to rate it at 620 hp, and it will enjoy all the benefits of the rest of our crate engines, with a full 24-month/50,000-mile warranty and a validation. And we'll also have RPO-coded LS3s, so they'll be part of the GMPP portfolio. You'll see a carbureted LS3 [as well]. By bringing that modern technology into the hobbyist market and putting a carburetor on it, it's easy for a guy to get it into his Corvette.

VETTE: You're an authority on engines. How much more difficult is it for someone to remove and reinstall their motor with a rebuild, as opposed to extracting it, preparing it for storage, and bolting in a GMPP high-performance small-block? Aren't there already plenty of rebuild shops for original motors?

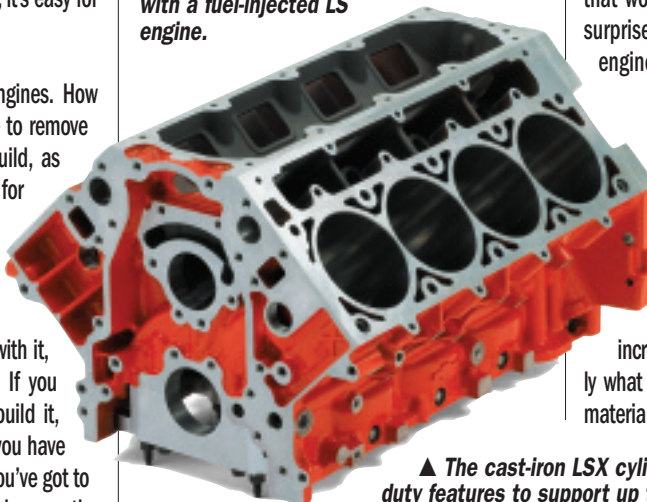
JM: That's a great question, and with it, you're dealing with so many issues. If you take the engine out and have to rebuild it, then you're involving a third party, or you have to go to a machine shop. Of course, you've got to do all your background checks to make sure the machine shop is up to your standards. There are



Sold complete with induction and ignition hardware, GMPP's Fast Burn 385 Turn Key package has long been popular with Gen I small-block devotees. Its 385hp output can easily be increased with a cam swap.



This LS 364/440 blends cutting-edge engine technology with a vintage look. Its carbureted configuration eases installation considerably as compared with a fuel-injected LS engine.



▲ The cast-iron LSX cylinder block uses a variety of heavy-duty features to support up to a claimed 2,500 hp. GMPP should be releasing a 454ci crate engine based on the LSX block right around the time you read this.

people who have not had great experiences with machine shops.

The other thing is time. Typically, you can devote several months to pulling an engine out, taking it to a shop, having it rebuilt, and putting it back in, whereas if you buy a brand new GMPP crate engine and time it right, you can have the crate engine and all your components sitting there in the garage, ready to swap out. I think a very competent mechanic with some help can probably do it all in a weekend.

VETTE: Let's talk for a moment about the great-selling GMPP ZZ Fast Burn motors. Why do you think these engine packages are so popular with Corvette owners?

JM: By name, the Fast Burn crate engines come with the Fast Burn cylinder heads. It was GMPP's most popular aluminum cylinder head. And they've actually been re-released within the last 12 months with some slight upgrades in the design. If you start with a 350 or the 383, you put a Fast Burn head on it, you match the right intake on it, it's real easy to make a Gen I small-block get over 400 hp in the case of the ZZ383. It's a very nice, evolved, Gen I small-block. I think that's why they are so popular.

VETTE: You know how finicky Corvette owners can be about the look of their cars. How easy is it to mimic the look of a classic Corvette engine bay when using a GMPP crate motor?

JM: It's still a small-block. Even if you pulled out your LT-1, you can actually pull the engine dress off of that, the valve covers, the air filter—or buy reproductions of those pieces—put it all on a ZZ383, [and] have a 425hp small-block that would really wake up a car. You might be surprised how fast the car is with a newer crate engine.

VETTE: When should Corvette owners consider going all the way—that is, moving up to the recently introduced LSX line?

JM: It's one of those deals where it's the best of what the current LS family has. We took an LS7 block out of the incredible Z06 and updated it. And that's really what the LSX means. It's more features, more material, and a higher horsepower capability. It's

It Only Lives Twice

for that Corvette owner who is always on the cutting edge of technology, always has to have the best that GM makes, and is looking for a new experience.

Guys who have had cars all of their lives know that you go through phases. You might get tired of your current setup, or find that it's too radical. Let's talk briefly about a Gen I small-block that makes 600 hp versus today's LSX portfolio. Well, that 600hp Gen I is an extremely radical engine combination that's probably not fun to live with. We're going to come out with a pump-gas 454ci small-block as our first LSX crate engine. [It] makes way over 600 hp, and it will be very easy to live with. It will make a ton of low-end torque, and from driving the prototype—a '69 Camaro we built with Reggie Jackson—I can confirm that it is a very, very exciting time for GMPP enthusiasts.

VETTE: What makes a GMPP crate motor ideal for use in a regularly driven vintage Corvette?

JM: I think it goes back to the value of these vintage Corvettes. You still want to enjoy them, but there's so much investment in these cars, and an original motor is irreplaceable. I think people are really looking hard at whether it is appropriate to be driving some of these original-drivetrain Corvettes when we have a portfolio of engines that will install in exactly the same place, using exactly the same headers, cooling systems, and air-intake systems as the vintage setups.

[With a GMPP crate motor], you have that reassurance that if you get a bad batch of fuel, if you get water in the intake, or any of the things that can happen, and you damage the engine—well, you didn't break the matching-number engine that your Corvette came with. Instead, you have this GMPP crate engine that fills that gap, and you can use it up. And if it breaks, well that's unfortunate, but at least you didn't break the engine the car came with.

For more information on GMPP high-performance crate engines, check out www.gmperformanceparts.com or visit a GMPP dealer. 

Safe Storage

We asked the crate-motor experts at Scoggin-Dickey Parts Center for advice on how to correctly prepare a Vette's original motor for long-term storage. Tim Cook, a team member at SDPC, told VETTE, "One of the reasons many people are replacing the old engine is to enjoy the Corvette again. They are holding on to the old engine for the value of the automobile. It's having your cake and eating it, too. The new powerplants have roller cams and one-piece rear main seals, and you have great driveability."

According to Cook, there are nine rules to follow when you remove your Corvette's original engine:

1. Clean the engine bay. Steam cleaning is preferred.
2. Take pictures of the engine before you remove any accessories. Use a camera that gives good close-up detail.
3. Keep as many of the drivetrain parts intact as possible. This includes the bellhousing/clutch and accessory drive unit.
4. Remove all fluids from engine. Use GM low-VOC chlorinated brake-parts cleaner (PN 12378392) to ensure all fuel is removed from the carburetor and fuel lines.
5. Remove the spark plugs. Spray a small amount of penetrating oil in the cylinders, then reinstall the plugs.
6. Back the rocker arms off.
7. Make sure you keep moisture out of the engine. One way to do this is to place the engine in a sealable bag and remove all excess air from the bag.
8. Place the engine in an engine crate or on an engine stand to protect it. Store the engine in a dry, uncluttered place.
9. Rotate the engine crank several revolutions at least two times a year. At the same time, remove the spark plugs and spray the penetrating oil in the cylinders again.



◀ The 505hp LS7 represents the pinnacle of Gen IV crate-engine technology. While making a computer-controlled LS engine such as this work in a vintage Vette can be challenging, it's far from impossible.

▼ Engine swapping isn't just for investor cars. High-tech crate motors can also be used to optimize the performance and driveability of a dedicated custom. This photo shows an LS2 crate engine as installed in this issue's cover car.

