



June, 2026

From the Editor...

My 351 Cleveland wiped a cam lobe. You may have heard this has been a big problem over the past decade or so. Some people blame the motor oil. Some say it's low-quality cam blanks. Another theory gets into lifter quality. Whatever the reasons, the fact is running a flat tappet camshaft here in 2026 is living dangerously.



On the subject of motor oil, definitely make sure it has enough ZDDP, or zinc, to protect the cam. Options include Valvoline VR1 Racing oil and Mobil 1 15W-50. (That particular viscosity of Mobil 1 has more zinc.) If you heard years ago to just run diesel engine oil, it might be time to move on. Most diesel oils no longer contain enough zinc for a flat tappet cam. Diesel oils do have lots of detergent which can be counterproductive by washing the zinc off your cam.

You can buy zinc additives and pour those into your crankcase. This will likely work, but be aware petroleum engineers spend a lot of time designing a balance of additives which all work together in your engine. When you pour an additive into that balance, the results are unpredictable.

I will once again pull the Cleveland. This time I plan to take it to a shop for a proper cleaning and rebuild. And yes, that rebuild will include a roller cam. The roller cam will require new, link bar roller lifters, new push rods and new valve springs. That gets expensive, but not as expensive as wiping another cam.

Patrick Germain



Continued...

Ford Mustang News

1970 Mach 1 Munched at Mecum

<https://themustangsource.com/red-1970-ford-mustang-mach-1-crashes-into-pole-at-mecum-auction-41517/>

Four-Door Mustang?

<https://www.motor1.com/news/797821/ford-expand-mustang-family-four-door-sedan/>

Could the Original Mustang Prototype Be Relevant Today?

https://autos.yahoo.com/classic-and-collector/articles/forgotten-mid-engine-mustang-concept-012500340.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xILmNvbS8&guce_referrer_sig=AQAAAJMfV-uW_JagV6DaKICL3eDqgC43S9hkoEobY668qrfPcbWDMLxnJetKmtatmTvjCOCZVUg9eO69Isiz-VdrtG0MbSHRQ2TL2cuvshDdqIhkaaymGteVhj6h2X893AMfKEocZ3zLnUI52xA3x8tTfroOc3Zu88tBtFO_1_iLG7

Drive Your Mustang More!

<https://www.autoblog.com/news/ford-mustang-owners-barely-drive-their-cars-new-study-shows>



May Flash Cruise

The Rocky Mountain Mustangers participated in a Flash Cruis to BJ's Velvet Freeze off of Platte Ave on 24 May 26. There were 6 cars and 9 club members.





Upping the Ponies

And Other Mods for Your Early Street Mustang

By Patrick Germain

Introduction

Some people consider the Mustang to be a sports car while others will argue it's not. Either way, when thinking of a Mustang, the word "sporty" should come to mind. And sporty is associated with performance. So it makes sense that many proud owners of the Ford Mustang want to make their cars more powerful and handle better. Increasing power, or upping the ponies, makes a classic car not only more fun, but also significantly increases the cool factor. And if you're not interested in being cool, why are you driving a Mustang?

The reality is a basic, low-horsepower Mustang can still be a lot of fun when cruising to Dairy Queen. If that's all you need, good on you. For those who want some grunt when they push the pedal which is narrow, read on.

In this multi-part series, I will cover some basics for modifying early Mustangs. For the proud owners of later model Mustangs, well, you have the benefit of having more power and handling from the factory than all but a tiny few early cars. If you want to see an article about modifying late model Mustangs, by all means let me know.

Part 2: Ponies to the Pavement

Now we are getting into that mill between the shock towers. Lucky for us Mustang fans, options for modifying these engines are endless. It's the common case of, "How much do you want to spend?".

Six Angry Cylinders

Many an early Mustang came from the factory with an inline six under the hood. Nobody expects those engines to be fast. For this reason, owners of such cars tend to neglect them. When an inline six Mustang is a dog off the line and won't rev, many a driver will shrug it off and assume it's just the way the inline six runs.

I'm old enough remember when early Mustangs were still pretty new. (No, I wasn't old enough to drive back then.) I rode in Multiple straight six Mustangs as a kid and, no kidding, they pulled like a mule. No, they won't dominate quarter mile competition in factory form, but those engines are more than capable of getting the car going quickly. Thus, if the inline six in your Mustang has you feeling like Captain Slow, consider a tune up. Or, maybe it's time for a proper rebuild.

I know, everybody wants to do the proverbial V8 swap. Before you start combing the local yards for a V8, consider that from the factory, the inline six Mustangs and the V8 Mustangs were very different cars. A proper and safe V8 swap will also include upgrades to the spindles, brakes, coil springs, leaf springs, transmission, anti-sway bar, drive shaft, rear axle and radiator. I'm missing a few things, but you get the idea. Whenever someone asks me about doing a V8 swap into a six cylinder Mustang, my advice is to buy a V8 Mustang instead. But as always, it's your car and your choice.

There are a few performance options for an inline six. Exhaust headers are easy to find. They come as two pieces with three pipes each. Connect each of those pieces to a separate, dual exhaust and this alone will allow that long cylinder head to breathe much better.

One challenge is the intake. Ford inline six cylinder engines typically have a "log" intake which is cast into the head. This intake accepts only a single, one-barrel carburetor. Adventurous hot-rodders have machined the log intakes to accept larger or even multiple carburetors. A much simpler approach is to install an adapter plate to accommodate an Autolite or Holley two-barrel carburetor. A custom throttle linkage is required which is no big deal.



1-Barrel to 2-Barrel Adapter for Ford Inline Six

The carburetor swap also requires swapping out the factory Load-O-Matic distributor. Those aren't great distributors anyway.

You can also source a better camshaft for your inline six. No, it won't go rumpety-rump like a top fuel dragster, but you will get some slight gains in lift and duration which translate to gains in power.

For these and more performance options, check out <https://www.vintageinlines.com/>.

The Mighty V8

Through the 1960s and 1970s, Ford made a plethora of V8 engines and most of them were available in the Mustang. As I hinted at in the last article, the vast majority of these engines fell into the “Ho-Hum” category. Sure, a factory 289 or 302 2-barrel will move a Mustang along quite nicely, but with a tiny few exceptions, those engines were far from street terrors.

Likely you have heard of the famous “Hi-Po” 289 or K-Code. These engines were available in Mustangs beginning in June of 1964. They did not come cheap. The High Performance 289 option was over \$400 for a car with a sticker price of roughly \$2,000. Ford also required suspension and tire upgrades along with the K-Code engine which bumped the price even higher. Thus, from 1964 to 1967, only about 1% of Mustangs rolled off the assembly line with this engine. Not surprisingly, finding one today is a challenging and very expensive endeavor.

In 1967, Ford stepped up and offered the 390 as a Mustang option. This engine has a lot of potential, but once again, doesn't really live up to the hype. (The famous “Bullitt” Mustang 390 was modified.)

The old description of an internal combustion engine essentially being an air pump is a good one. The more air/fuel mixture the engine can pull in and the more exhaust it can push out, the more power it will make.

Carburetors

That air/fuel mixture starts at the carburetor. I've seen many an early V8 Mustang in my decades and all but a tiny few came from the factory with a 2V carburetor. For the 302, this is understandable since a 4V option was available only in 1968 and later on the Boss 302. Otherwise, it was a 2V only. (The “V” is for venturi which equates to the barrel in the carburetor.)

So which carburetor should you bolt on top of your engine? As always, it depends and a lot of it depends on personal preference.

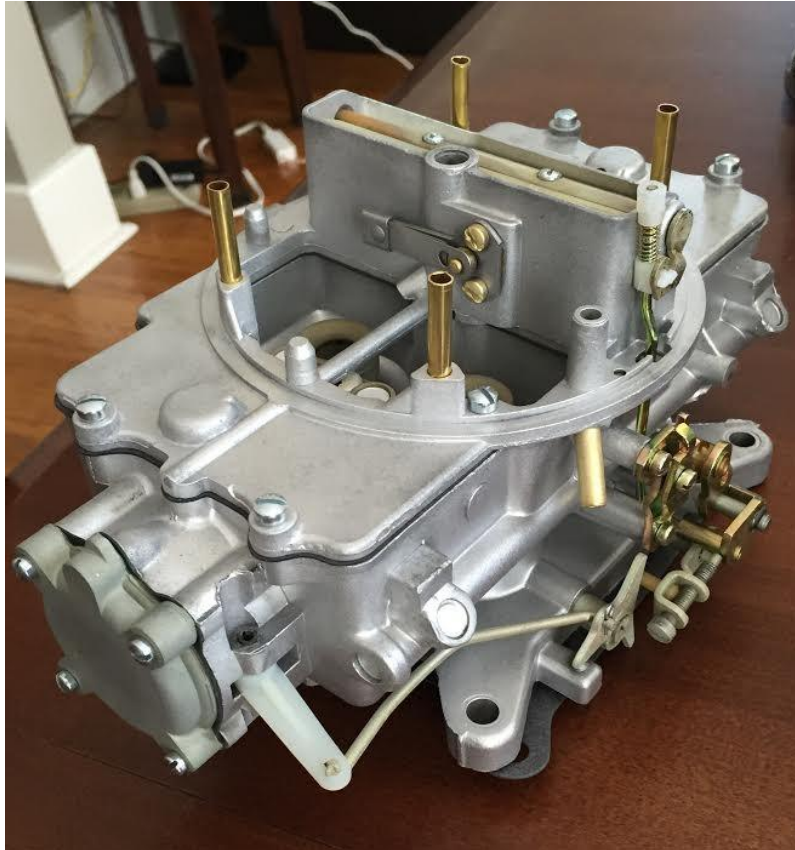
A primary difference between 4-barrel carburetors is whether they have vacuum secondaries or mechanical secondaries. Vacuum secondaries open based on the amount of air flowing through the carburetor and work very well on a street car. Mechanical secondaries open based on the position of the throttle. Mechanical secondaries tend to work better in cars with a manual transmission, but you can certainly make them work with an automatic transmission with some extra calibration and tweaking.

Swapping the 2-barrel carburetor for a 4-barrel is often the first modification a Mustang owner considers. Unfortunately, these owners often don't consider much beyond installing the 4-barrel intake manifold and carburetor. Sure, swapping to a 4-barrel will definitely get you more cool points at the local Cars & Coffee. And it sounds great when you stomp on the pedal and open up those secondaries. However, with no other changes to the engine, you won't get much of a performance boost from just the bigger carburetor.

Unfortunately, the factory iron cylinders heads on a 289 and 302 are pretty puny. (Boss 302 notwithstanding!) There's only so much air those heads can move. And the factory "broomstick" cam that was designed for economy and a smooth idle doesn't help. I will get into other modifications later, but here are a few carburetor options to consider.

Autolite 4100

This was the 4-barrel Ford used from 1957 to 1969. It is an outstanding carburetor with vacuum secondaries and annular boosters which work really well on a street car. It came in multiple sizes. Although Ford installed millions of them over those years, here in 2026, a 4100 in good condition can be hard to find. When you do find one, it's pretty expensive. These carburetors are easy to rebuild, but after hundreds of thousands of miles, it's possible the throttle shafts are worn out. This will require installing bushings which goes far beyond a typical rebuild.



Autolite 4100 Carburetor

Edelbrock AVS Series Carburetor

The Edelbrock AVS Series 4-barrel carburetor is based on the old, Carter AFB which was a good one. The secondaries are a kind of hybrid design which open based on throttle position. However, there is a door which opens only when air velocity is high enough. These carburetors are known for running well right out of the box, but be aware any aftermarket carburetor will run better with some tuning. (Here at elevations over 6,000 feet, tuning is essential to prevent an overly rich air/fuel mixture.) The Edelbrock carburetor has no power valves or gaskets below the fuel bowls. This makes them very reliable and leak-free. A newer, AVS2 design features annular boosters which I highly recommend for street Mustangs.

I ran an Edelbrock carburetor on the 351 Windsor in my 1969 Cougar for over ten years. That car was a daily driver and with one pump on the pedal and a bump of the ignition key, the engine always roared to life on the coldest of winter days and most swealting days of summer.



Edelbrock AVS Series Carburetor

Edelbrock recently released a new VRS carburetor which is similar to the Holley design. I don't have any experience with this carburetor and can't offer much other than it's primarily for racing.



Edelbrock VRS Series Carburetor

Summit Carburetor

Summit Racing has their own 4-barrel carburetor which is a good, economical option for a street Mustang. It's available in multiple sizes, it has vacuum secondaries and annular boosters. This carburetor was originally offered by Holley, but it had some design flaws. Summit purchased the rights to the carburetor and improved the design.

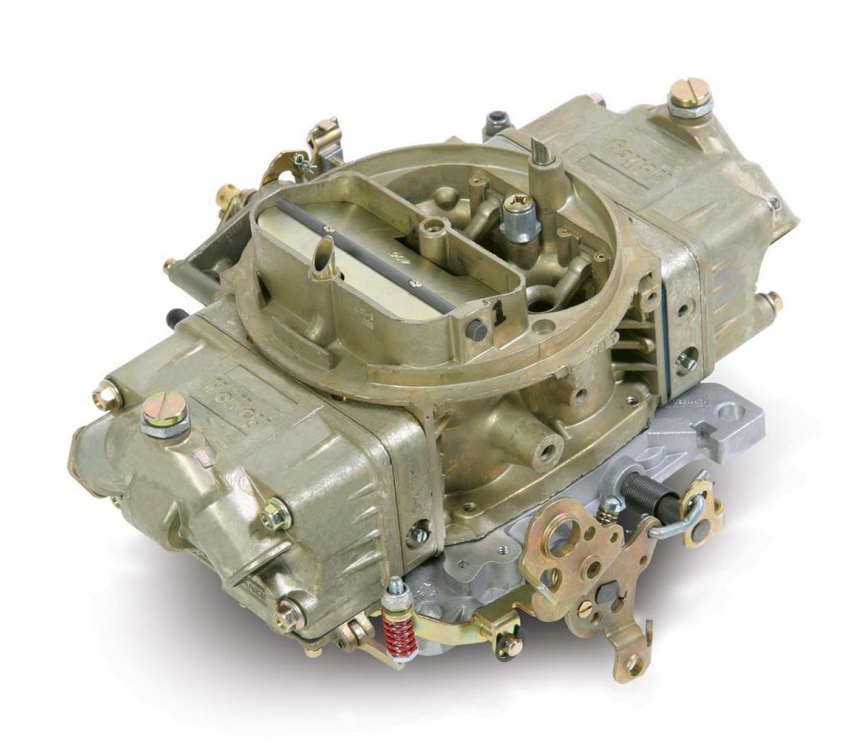
I ran a Summit carburetor on my Mustang for several years and it ran really well. The Summit carburetor accepts Holley jets and power valves.



Summit Carburetor

Holley Carburetor

Every car person has heard of the famous, and sometimes infamous, Holley carburetor. Options are many. Holley carburetors tend to be very tunable, but also might require more consistent tweaking than the Edelbrock. The classic Holley design features front and rear fuel bowls with gaskets. These have a reputation for leaking, but in my experience, it has not been a problem. They also have one or two power valves which can blow out during an engine backfire. Based purely on observation, the typical Holley fan is very loyal to this brand and won't consider anything else.



The Classic Holley Double-Pumper

Super Holley

Beyond the standard Holley carburetors are a highly tunable breed sometimes called a "Super Holley". Brands include Quick Fuel and Advanced Engine Designs (AED). These carburetors tend to be expensive, but the tuning ability might be worth it for high altitude operation.

I recently installed a Quick Fuel SS Series on my 351 Cleveland and, wow, what a difference. My Cleveland really liked that carburetor. A big benefit of these carburetors is the 4-corner idle. The Quick Fuel SS Series features annular boosters which are not available on most Holley carburetors.



Quick Fuel SS Series

Tune It!

Many times I have been driving or sitting idle behind a classic vehicle with my eyes watering and my lungs complaining from all the gasoline fumes. It seems a lot of classic car owners fail to properly tune their carburetors. To repeat, this is especially critical in the Colorado Springs area with elevations from 6,000 to 7,000 feet above sea level. The higher the altitude, the more rich a carburetor will run because it doesn't get enough air to go with the fuel. It's critical to install smaller jets and power valves to compensate for the thin air.

Just how critical is it to calibrate carburetors? I'll share the story of my friend Darrel. Darrel loved the Pontiac GTO and found his dream car, a 1968 GTO convertible, in Pennsylvania. He bought the car and had it shipped to his garage in Black Forest. A previous owner had installed a Tri-Power (3, 2-barrel carburetors) onto the factory 400 V8. These carburetors were calibrated for operating at near sea level. After enjoying the car for a few weeks, Darrel noticed it wasn't running very well during a cruise. When he got home, he revved the engine a little while sitting in the driveway and it suddenly stopped running. When he tried to restart it, the engine would not turn.

Darrel didn't know much about working on cars so I offered to help him pull the engine. When I drained the oil, it was very thin and reeked of gasoline. This is where we can say, "Well there's your problem!". Since the two-barrel carburetors on his engine were calibrated for sea level, they were pumping way too much gasoline into the engine which could not burn all that fuel. Most of that extra fuel simply went out the exhaust unburned. But some it ended up in the crankcase and slowly started to dilute the oil. Eventually, the oil was diluted with so much gasoline it couldn't properly lubricate the engine which caused it to seize.



Club code of Conduct

The Rocky Mountain Mustangers take pride in our Club being an organized club with monthly meetings and events. We enjoy having members of all ages participate and show their love for the Mustang, from a new car to a classic car, a show car and a race car, and up and coming cars. We have had numerous members come and go from the Club for various reasons. The Board of Directors does not want to see any of our members treat other members, or potential members inappropriately, with comments or actions. In accordance with our By-Laws, the Board of Directors will ask anyone found causing embarrassment to the Club to resign.

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