THE SIDE PIPE

OKLAHOMA CHAPTER NCRS NATIONAL CORVETTE RESTORERS SOCIETY

March, 2018

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Chairman's Comments

by Kelly Bolton

We have past the Winter Solstice with the shortest period of daylight and the longest night of the year as the month of March starts the transition from the colder Winter Season to the Spring Season.

Some of March's notable events are:

March 11– Daylight Savings Time, spring forward and the start of "Cruise Nights"

March 13 – The start of March Madness with the Final Four in San Antonio this year

March 17 – Car Event at Scott Anderson's "The Galley" at 126th and Memorial

March 20 – The First Day of Spring

We also need to allow time to prepare for our Spring Judging Event on April 21.

So what's not to like? We enjoy increasing periods of daylight, warmer temperatures, our landscape springs back to life, and better conditions to drive our Corvettes.

After a lengthy plant shutdown the 2019 Corvettes started production on January 29. While there is speculation around the introduction of a Mid-engine Corvette, the latest Corvette Blog says,'"We expect the Chevrolet Corvette to receive a midcycle refresh for the 2019 model year, as well as the launch of the range-topping ZR1 model. 2019 will also likely be the second-to-last model year of the current C7 (seventh-generation) Corvette as the next Corvette will likely arrive for the 2020-2021 model years." With no mention of the Mid-engine Corvette, the speculation will continue on the timing and offerings for the C8 Corvette.

To continue moving forward into the New Year, there are numerous opportunities for you to participate in our Chapter which is vital to our continued success as The Oklahoma Chapter of NCRS. Let's look at 2018 as a year filled with opportunity and fun as we restore, preserve, document and enjoy our Corvettes.

I look forward to seeing everyone and their cars on Saturday.

March Breakfast Meeting

Our monthly breakfast will take place on Saturday, March 3, 2018. The location is Ollie's Station Restaurant in the Redfork area of West Tulsa. The address is 4070 Southwest Blvd. The phone number is (918)446-0524, in case you need it.

You can choose the buffet or you can order from the menu. The time to be there is 8:30 a.m., but people always start arriving by 8:00 - 8:15 a.m.

Attitude Adjustment Night

The gathering place for our March Attitude Adjustment Night on Tuesday evening, March 20, 2018, will be Bravo's Mexican Grill at 4532 East 51st St. We will continue to meet at Bravo's for the next few months.

The time people start to arrive is 5:00 p.m.

Oklahoma Chapter Merchandise

by Bob Clark

We currently have Oklahoma Chapter denim shirts, long and short sleeve, for $25 each. We also have Oklahoma Chapter sweat shirts for $25.

Please call me at 918 / 625-2303 or 918 / 299-9001 to order an item. You could also send an email to bobclark77@cox.net. Be sure to include the type of shirt and size.

Attitude Adjustment Night In Oklahoma City

by Gene Holtz

We are hosting an Attitude Adjustment Night in Oklahoma City to generate interest for an upcoming Chapter event in OKC and to get OKC Members together.

The gathering will be held at Rudy's Country Store & BBQ. It is located at 3437 W. Memorial Road, Oklahoma City, on the fourth (4th) Tuesday of each month. March's gathering is the 27th with arrival time between 5:30 pm and 6:00 pm. (The location, time and dates are subject to change if they do not work out for the majority wishing to participate.)

On Saturday, April 14, Midway USA NCRS in Wichita, Kansas, is holding a judging school and Chapter Meet at Davis-Moore Chevrolet at 8200 W. Kellogg. It starts promptly at 8:30 a.m. with a Chapter business meeting, judging school and then Flight judging. I will be attending. If anyone wants a ride, let me know.

Contact me if you want further information at (cell) 405-317-3919 or email blue65l84@aol.com (that's an L84, not 184. Thanks!)

How to Wash Your Car

by Linda Young

The Jaguar Club would like to invite the members of the Oklahoma NCRS to a tech session being held on Saturday, March 3, at 11:00 in Broken Arrow.

Stuart Barrett, the fellow who has been writing the car care articles for the "Cat Tale', is going to be giving a demo on "how to wash your car" and "proper wheel care and cleaning" using the latest products for obtaining a faultless finish without ever touching the car's surface. I had him detail one of my Jags and he made a 30-year- old paint job look new; no scratches, no swirl marks. It is pretty amazing. Knowing that Corvette owners really like to keep their cars looking good, we thought your club members might be interested.

The demo will be at our house in Broken Arrow, 205 E. Knoxville St. That is just 1 block off of Main between 81st and 91st. We will start at 11:00 am.

We look forward to meeting members of the Oklahoma NCRS.

Looking Back at the Famous Duntov Small-Block Chevrolet Camshaft

By Andrew Bolig

In the early to mid-fifties, horsepower wars were just getting fired up, and aspiring racers and engineers were burning the midnight oil trying to figure out a way to get an upper hand against the cross-town competition. For Chevrolet, their ace in the hole was a Belgian-born American engineer named Zora Arkus-Duntov. His passion (and some of his antics) are legendary around the halls of General Motors, and often, his passion for performance wasn't shared with the upper brass at GM or Chevrolet.

Zora Arkus-Duntov was a car guy's car guy. As Chevrolet's Director of High Performance, he looked for power throughout the entire engine. The Duntov

cam bears his name at Chevy, same as the ARDUN heads do for early Fords. (Used with permission, GM Media Archives)

Undeniably a hot rodder at heart, Zora rose among the ranks about as quickly as Chevrolet's cars pulled away from the rest of the pack. Zora was soon promoted to Chevrolet's Director of High Performance in 1957 and was given Corvette's official Chief Engineer title ten years later. Fittingly, one of the most revered performance camshafts from this era still bears his name.

It's amazing to think the technology that this old, flat-tappet cam delivered back in the day.

The initial design of the small-block Chevy engine was birthed in the desire for higher power in a more compact, lightweight package. When the 265ci small-block appeared in 1955, it suited those demands fairly well. But, engineers were not resting on their laurels, as high-lift cams were introduced almost immediately to capitalize on the free-flowing characteristics – relatively speaking— of the new engine. The 1956 parts manual saw the introduction of a new, high-lift, performance camshaft, part number 3734077, which was available in the '56 Corvette's 240hp, 265ci V8.

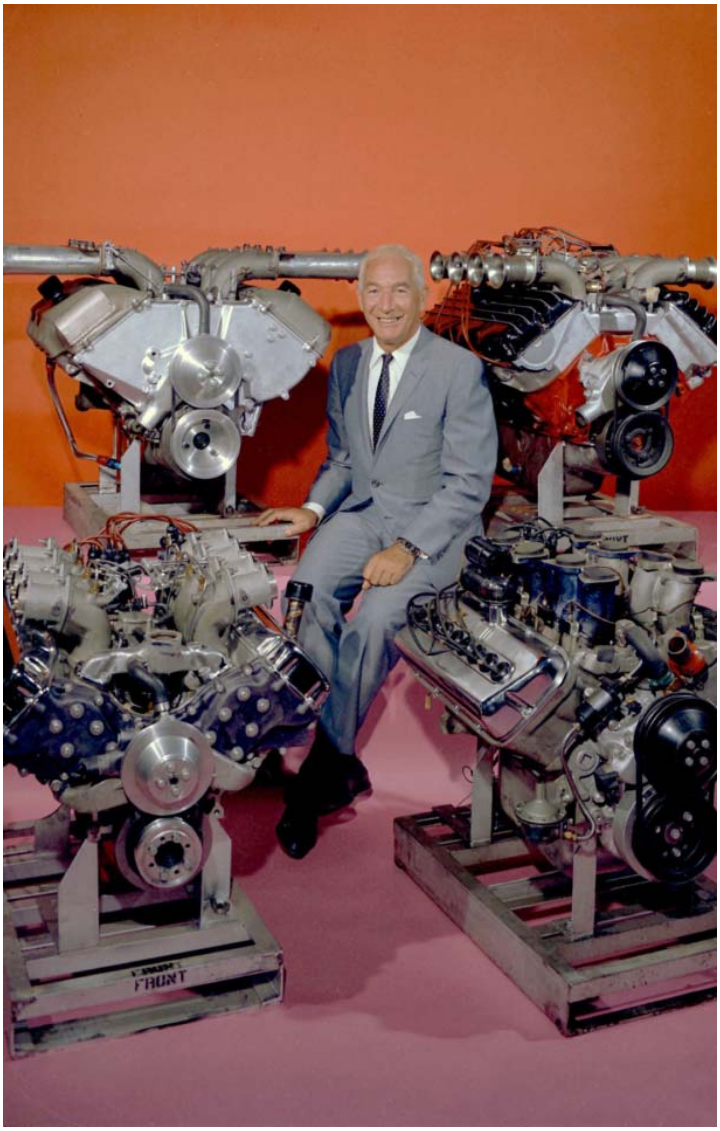
'You can appreciate the Duntov cam, as well as that entire engine, for the amazing achievement it was in its day." – Billy Godbold, Comp Cams

For 1957, the small-block engine's rear-most cam bearing journal was modified for better lubrication, and the groove on the camshaft's rear surface was no longer necessary. Another new cam featured the same duration as the previous year's (077) high-lift version at 287 degrees, but lobe lift was reduced slightly. The cam's new part number ended with the more widely-known "097", aka, the "Duntov" cam.

This cam was used by Chevy in all solid-lifter applications from '57 through 1963. This included all the 270, 283, 290 and 315-horsepowered 283s and the later 327 engines with 340 and 360 horsepower. While the Duntov cam was quite radical and considered a racing-spec camshaft that would still meet SCCA Showroom Stock rules, its performance was also supported by the small ports and intakes used on the 283 and 327 engines.

Duntov surrounded himself with performance, and performance-minded people. This made him a prime target for those within GM that didn't share his enthusiasm for speed.

The "Duntov Cam," aptly named after the budding engineer that spearheaded much of Chevrolet's performance efforts through the '50s and for two decades afterward, was actually known within GM as part number 3736097. Many times, it would simply be referred to by Zora's last name, or as the "097 cam" over many GM parts counters for expediency's sake. Keeping in mind that the performance-minded, solid-



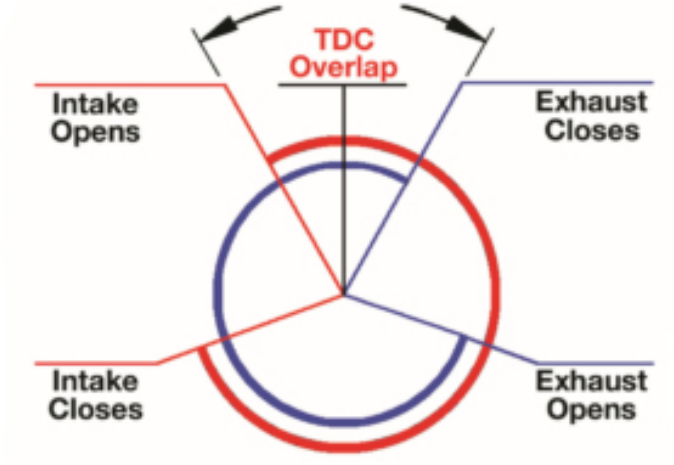
lifter cam was introduced only two years after the small-block Chevrolet engine began production, it's easy to see Zora's influence in laying an early foundation of the small-block Chevy's dominating force in performance.

Beyond "097"

As engine size and horsepower was steadily increasing in 1964, Chevrolet replaced the Duntov cam with a newer version, dubbed the "30-30" camshaft to achieve 365 and 375 horsepower from the 327. This was a replacement and is not an iteration of the Duntov cam, although some have joined the two monikers and refer to it as a "Duntov 30-30."

Zora shares the new for '57 fuel-injection with the press. Early fuelie engines used the Duntov cam until 1964 production, where it was replaced in the highest horsepower 327 engines. (Used with permission, GM Media Archives)

Where the Duntov cam was engineered to meet SCCA Showroom Stock requirements, the 30-30 camshaft was a full-on racing camshaft. These cams took on mythical proportions because they were

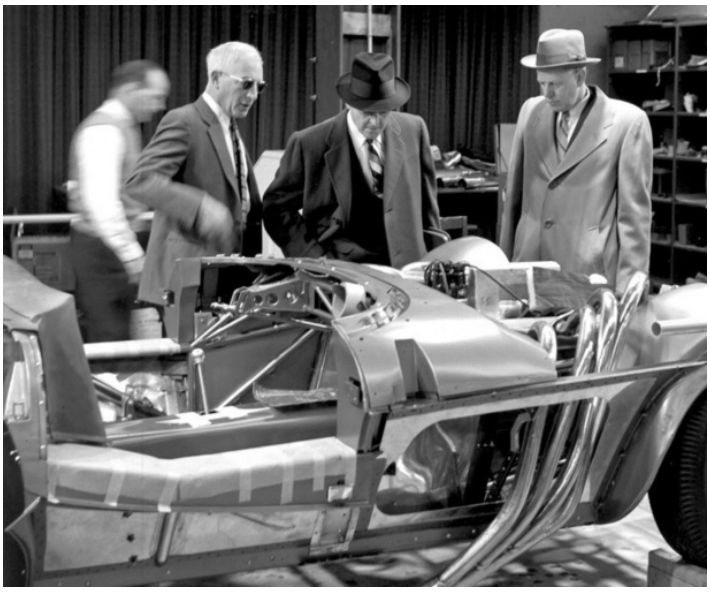


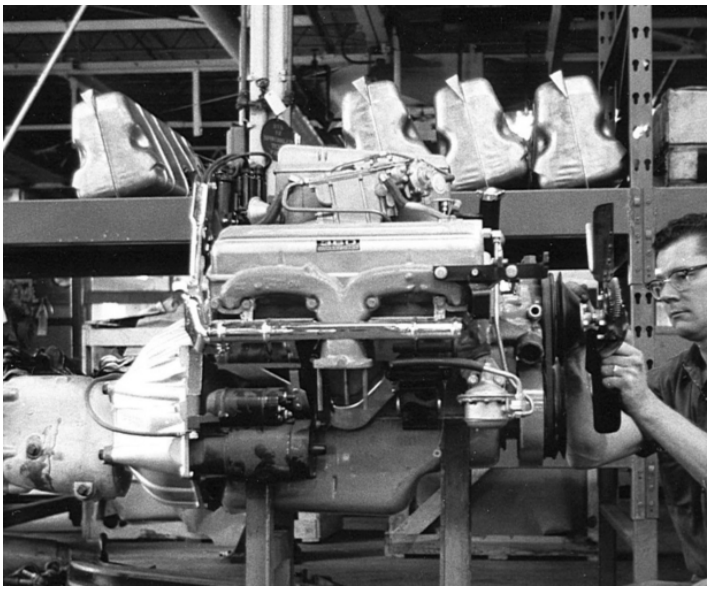
cheap and available at every Chevy dealer. The Duntov cam worked great with the 283's smaller ports and valves, but as the higher horsepowered 327s came along, the "racing cam" with the famous name was found wanting for more. In response, Chevrolet created the 30-30 cam and sought to give racers the most performance for their better breathing and higher-winding 327s.

The term 30-30 is a reference to the solid-lifter cam's valve lash settings assigned by Chevrolet. While the 30-30 cam does use recommended lash settings upward of .030-inch for both intake and exhaust, the Duntov camshaft uses a much tighter recommended lash of 0.012-inch and 0.018-inch for intake and exhaust. The 30-30 cam is a solid lifter performance camshaft, but is an entirely different camshaft altogether from the "097" Duntov cam.

The Duntov cam was one of the first high-lift cams designed for the small-block Chevy engine. As performance needs grew, so did overlap and lobe lift. Mushroom lifters used their larger base diameter for yet more agressive cams and the Edge-Orifice lifters reduced oil flow to the requisite roller rockers to control oil starvation at high rpm. Piddle-Valve lifters are solid lifters and were used in production engines. All Chevrolet camshafts were designed to use factory springs and rocker arms which had an effective ratio of 1.37:1.

The focus on racing meant that the 30-30 cam was





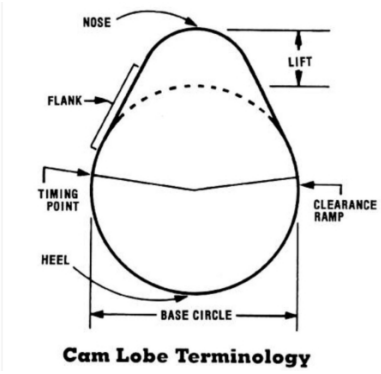
not a street friendly camshaft by anyone's imagination. It makes great power above 4,000 rpm, but the cam leaves a lot of torque on the table below that RPM. Not to say that street driving isn't doable with the 30-30 cam, but if installed in a heavy, auto-equipped car with highway gearing, the result will be far less than satisfactory. Trim the weight, learn to shift, and put in some 4:00 or higher rear gears, and the 30-30 cam can be a hoot to drive, and its lope at idle will make enthusiasts green with envy.

Designed for showroom stock racing, the Duntov cam worked well in the new fuel-injection designed for racing back in 1957, and in production engines in 1963.

As a stop-gap between the Duntov and 30-30 cams, and to better suit larger 350ci engines, Chevrolet released the "LT1" cam in 1970, which carried part number 3972178. Used in the 1970 (second-sen) Camaro Z/28 and the '70-'72 Corvette LT1, it is considered the final chapter in the development of Chevrolet factory solid-lifter cams. It has very similar idle vacuum characteristics and idle quality as the original Duntov, but unlike the 30-30 cam, it had a broad torque range coupled with excellent top-end power. The solid-lifter LT1 cam makes about 20-percent more low-end torque than the 30-30, gives up very little above 6,000 rpm, and like both the Duntov and 30-30 cam, it is designed to work with the bulletproof, stock valvetrain. In fact, it's still available in kit form from Chevrolet Performance under part number 12364054.

Lashing Out

The Duntov cam, as well as the others discussed in this story are all mechanical cams using solid lifters. As with any solid-lifter camshaft, there needs to be a certain amount of operating clearance or lash set into the valvetrain to ensure long life and proper performance. One of the endeared characteristics of mechanical cams is that signature tapping of the valvetrain. Once heralded as an indication of performance, that tapping indicator of lash under the valve covers still endears itself to many enthusiasts.



Cam Lobe Terminology

But what is lash, and why does one camshaft require more of it than another? Just like setting the ignition timing, valve lash has certain recommendations from a camshaft's manufacturer, but ultimately, it comes down to the particular application and expectations of the end user. This is due to many reasons.

Cam lobe design has moved beyond simply lift and duration. The Duntov cam was a predecessor to many of these designs.

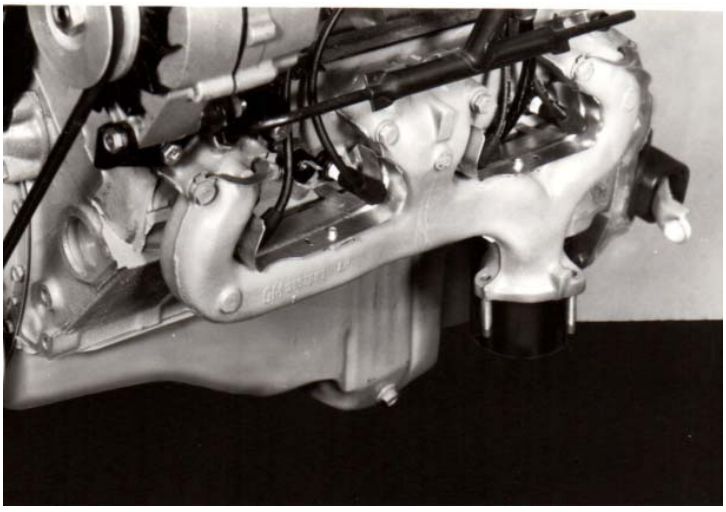
When running any solid-lifter camshaft, there needs to be a certain amount of clearance built into the system. This allows for expansion of the metal parts as the engine reaches operating temperature. If all the components expand at the same rate, lash would be less of a consideration, but that is not the case. As various components within the engine heat up independently, they expand at different rates.

Aluminum heads will increase this expansion, and when you have an aluminum block also, the growth is even more dramatic.

Fuel injection design changed in’63 and in ’64 the 30-30 cam was used for the highest-horsepower engines.

Comp Cams’ Billy Godbold explains it best,’“When the engine first cranks, the exhaust valve is typically the first valve train component to significantly change temperature. As it heats, the metal expands increasing the length, and the exhaust lash clearance would tighten slightly… If there was zero lash, this would result in the exhaust valve hanging open during combustion, and the flow of hot pressurized exhaust gasses around the seat would quickly destroy that exhaust seat.” When you consider how much variation there could be until every component equalizes to operating temperature, it’s easy to see how having a little slack between components will help make up for different expansion rates.

But what about cold, hot and running lash? Adjusting lash cold is simply that, measuring the amount of clearance with all components at room temperature. Hot lash is what you measure in a hot engine as soon as you stop the engine and get under the valve covers to measure the lash. Running lash is the amount of clearance the valvetrain actually sees in operation with the temperatures equalized.



The 30-30 cam was designed for the cross-ram 302 in the Camaro Z/28, which still used cast manifolds in stock form. This high-winding cam was designed for tall gears and high rpm.

Some prefer a slightly tighter lash setting, which will increase lift slightly. It will also increase duration, which may have adverse effects on idle vacuum. Some will opt for more lash while still staying within a reasonable range of recommended specs. Keen readers will likely note that the Duntov and LT1 cams’ lash is much tighter than the 30-30 cam’s rated lash setting. Without oversimplifying, the design of the camshaft and its lobes dictated the difference.

Billy Godbold breaks down the cam’s special setting, “What people don’t know, is the designed hot lash was supposed to be more like .020-.024-

inch. GM did not want to run tighter than those values because they knew the seats could erode over time (even with leaded fuel), and that they needed more than .005-inch “cold” at the end of any service interval so the engine would start under even colder conditions. The reason it became the 30-30 cam is because it ran so much better with the lash opened up to .030-inch hot. At this looser lash setting, the system was accelerating through the lash take-up, thereby keeping everything in compression. The quicker action also worked great to minimize seat timing without dramatically reducing area under the curve. This allowed the engine to respond more quickly to throttle inputs while improving low-end torque.”

Decoding Cam Numbers

You also may see camshafts referenced with the last few final numbers different from the cam's official GM part number. For instance, the Duntov cam has a GM part number 3736097 but cast into the camshaft is the number 3736098. It doesn't indicate a different cam or an earlier or later version. That number is actually the casting number of the camshaft, not the part number. Retired GM employee, John Hinckley, an NCRS Master Judge, explains the one number difference, "Each Chevy camshaft had its own dedicated casting number to minimize the cam-grinding cycle time. When you consider that Flint V8 ground 5,500 cams every day, you can see how important it was to keep track of what you were grinding."

Does Anyone Still "Do" A Duntov cam?

With larger engine sizes and better breathing components, is there still a case to grind cams with that Duntov design? The answer is a resounding "yes," but you need to know why it makes sense. For obvious reasons, the number of 283 and 327 engines that left Chevrolet's engine plants with this camshaft means that it's still the obvious choice for a proper restoration or someone looking to recreate that vintage sound. The Duntov cam's increased drivability over other solid-lifter options means that those searching to relive their youth in a vintage Corvette could still enjoy street-friendly gearing and automatic transmissions without adverse accommodations. Conversely, there will always be the LT1 and even wilder 30-30 camshafts for those where this is not an issue.

While big-block Corvettes are iconic, Zora preferred high-winding small-blocks with performance cams.

We spoke with Godbold, the brain behind many of Comp Cams' designs, about the Duntov camshaft and how it fits into today's spectrum of engine designs. He was quick to point out,'"When you step back and realize how much progress had been made in the first 50 years of American engine development, you can appreciate the Duntov cam, as well as that entire engine, as the amazing achievement it was for its day. But, other than the fact that a modern SBC camshaft looks kind of similar and has many of the same overall dimensions, almost nothing is left over from those 50+ year old designs."

"That said, I cannot think of a good reason to run a Duntov camshaft in any non-restoration package, as you are immediately giving up more than 50hp due to the lazy valve events and low area under the curve." While the Duntov cam is/was considered to be a performance cam, there is good reason why we might not want to consider it the end-all for performance. The camshaft was tailored for SCCA showroom stock racing, which meant that factory exhaust manifolds and intakes were used in these applications. Billy does explain that a better flowing set of heads, exhaust, and intake does benefit performance pretty much across the board, but you are limited how far you can go before the engine is no longer a restoration project, and therefore, a higher-performing, modern camshaft with a broader operating range should be available.

Aftermarket Alternatives

That doesn't mean that you'll have to give up that signature sound at idle. In fact, the opposite is true. Many manufacturers have begun reproducing these vintage camshafts, and in many instances, they have infused modern technologies to better suit the end user. Billy explains,"There is a Comp Cams series of cams called the 'Nostalgia Plus' series that match the opening and closing ramp rates and valve timing events of the original cams. They also have the option of either hydraulic or solid tappets and more area under the curve for more power. The hydraulic mimic cam of the 30-30 is Comp part number 12-672-4."

For those wanting to relive that same vintage soundtrack at idle, you could use the Nostalgia Plus in either solid or hydraulic or the Thumpr series for a bit more sound at idle. Today you even have the option of converting over to a hydraulic or solid roller valvetrain. The venerable SBC platform can be brought up to almost any performance target you can imagine with the amazing aftermarket support available today.

This article brought to our attention by John Neas.

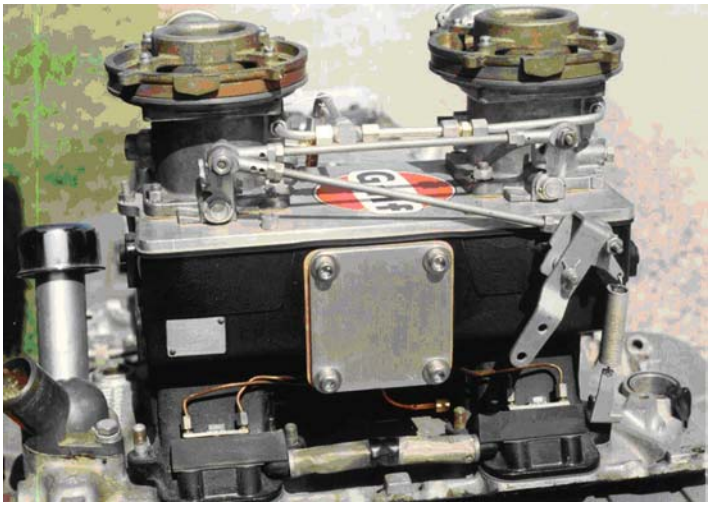
Dual Air Meter 1964 Rochester Fuel Injection.

by Verle Randolph

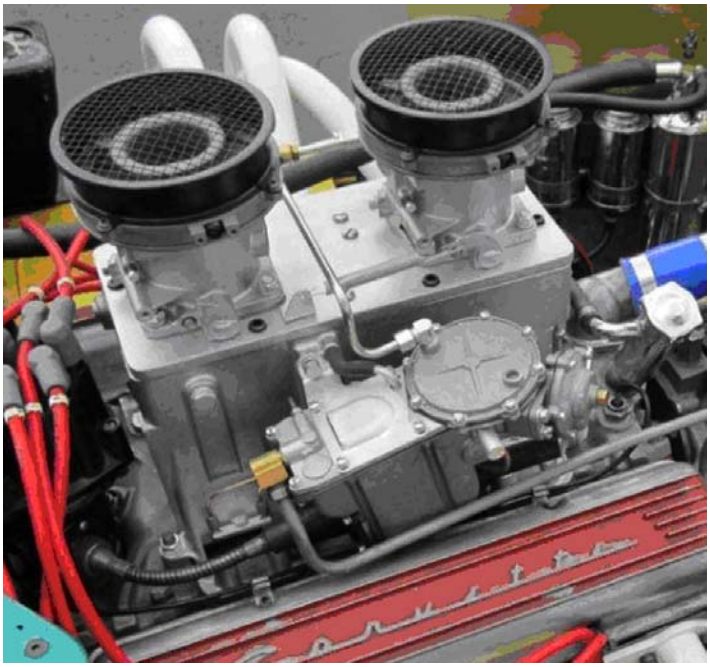
About 1965 Bob, a friend and classmate at the University of Tulsa, started talking about his 1962 Corvette. He wanted to build an engine to replace his original 250 HP 327. I had a 327 that I had been racing but no longer had the race car, so I sold Bob my engine. He rebuilt the engine and installed it, including the Crower roller cam that I had used. He replaced the stock 3.36 differential with a 4.88 positract. With those changes the Corvette was pretty fast, but Bob was not satisfied with the carburetors.

That is when we started talking about Bill Thomas Racing in California. He developed the Bill Thomas Cheetah to compete with the Carroll Shelby Cobra race car. One interesting thing about the Cheetah was the modified Rochester Fuel Injection. Bill Thomas, with the assistance of Chevrolet engineering, added a second air meter with both mounted on top of the plenum. The added air flow required changes to the fuel metering system inside the fuel meter and different calibration of the fuel curve.

Dual air meter fuel injector showing plate covering original air meter hole. Driver's side.



The pictures above and to the right are not the unit I built. They are pictures to show what the dual air meter FI unit looks like.



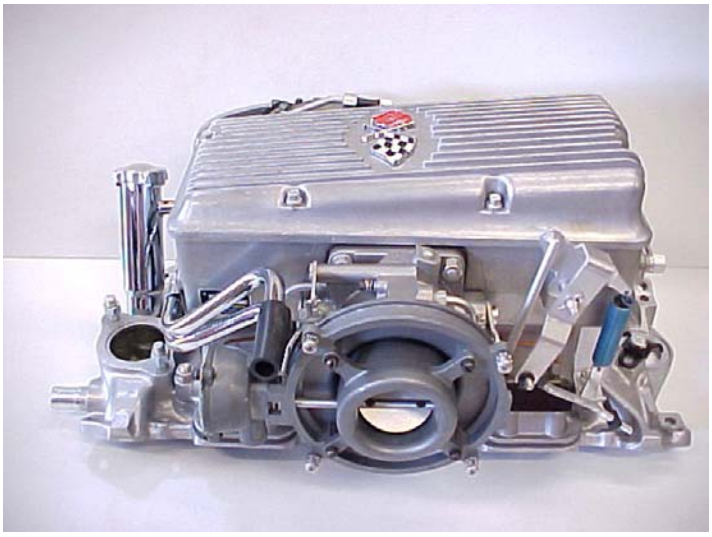
Dual air meter injector showing the fuel meter, with pump drive cable from distributor. Passenger side.

Note in the lower left of the picture above, the short cable from the distributor to the fuel meter. It connects to the high pressure fuel pump. That provides high fuel pressure for the injector nozzles and provides a volume of fuel that is directly dependant on engine RPM.

I ordered a Bill Thomas catalog to see what a dual air meter FI unit would cost. It turned out to be more than Bob wanted to spend, so I called Bill Thomas and started asking questions about what modifications were made other than the second air meter. The most critical mechanical change was the spill plunger, and he was willing to sell us one for a reasonable price so I ordered it. We also talked about fuel curve. He gave me instructions to make adjustments to the ratio stops and rod to get the fuel "in the ball park".

Stock Rochester Fuel Injector spill plunger.

1964 stock “380” Rochester Fuel Injector.



So Bob bought a used 1963 “375” Rochester Fuel Injector, then went to Wilkerson Chevrolet on 11th St, in Tulsa and bought a new air meter from the parts manager, Don Partridge. Bob had an aluminum plate made to cover the air meter hole on the side of the plenum and another large plate for the top of the plenum cut to size with two holes for the air meters. We didn’t like the locations of the big holes, so he had two more plates made, one of which was good.

I disassembled the fuel meter and replaced the spill plunger with the Bill Thomas part. I then changed the ratio lever stops and rod settings to the base setting specified by Bill Thomas.

The ratio lever and the attached rod have three different adjustments. There are two stops, the lean stop and the rich stop. The lean stop sets the fuel flow at low throttle settings. That is when there is little power required, such as driving at a steady speed. The rich stop is for full power, as in full throttle acceleration. The enrichment rod connects the ratio lever to the fuel enrichment diaphragm and is adjustable length. The ratio lever is on one end of a shaft that goes into the fuel meter. On the other end of the shaft is a lever with a roller on the end. That roller is in contact with the ratio linkage. Position of that roller on the linkage will affect the position of the spill plunger. The spill plunger is a fuel bypass.

Varying the position of the spill plunger changes the volume of fuel to the injectors. That determines the fuel curve from lean to rich as determined by the speed of the engine and the throttle position as determined by vacuum caused by air flow in the venturi in the air meter. The fuel curve adjustments are on the side of the fuel meter next to the plenum. They are not easy to get to when everything is assembled and installed on the engine.

After a basic rebuild, cleaning all the parts thoroughly both internal and external, checking the injector nozzles and lines, I assembled the fuel injector. We fabricated tubing to connect the vacuum ports on the two air meters and a line to the fuel meter enrichment diaphragm.

Bob fabricated accelerator linkage so the stock Corvette accelerator arm would operate the air meters. I did not like the geometry of the linkage but Bob didn’t want to change it. He wanted to drive it. My problem with the linkage was when the engine was idling, a small push on the accelerator pedal resulted in a large change in the butterfly opening. The farther you pushed on the accelerator pedal the slower the change on the butterfly opening. It would be a lot easier to drive if initial accelerator movement opened the butterfly a little and the more you pushed the more/faster the butterfly would open.

After installing the injector on the engine, I filled the fuel meter reservoir with gas and it started up very quickly. Everything sounded good; it ran smooth and responded well to throttle changes.

Initial test drives showed impressive improvement over the carburetors. Following Bill Thomas’s directions to fine tune the fuel injector, we would take test drives and make minor adjustments to the fuel curve and made more performance improvements. The final result was a street driven car that was impressively fast. The problem was traction; the tires were too small.

Bob ordered some Mickey Thompson tires and wheels that would not fit on the back of the car. They stuck out of the body and hit the fender so Bob raised the back about six inches so the tires wouldn’t hit. He didn’t like the nose down look, so he installed six inch “I beams” between the front suspension and the frame to raise front end. He ended up with a Maroon 1962 Corvette raised up high all around, resembling the look of the mid 1960’s gas class drag cars.

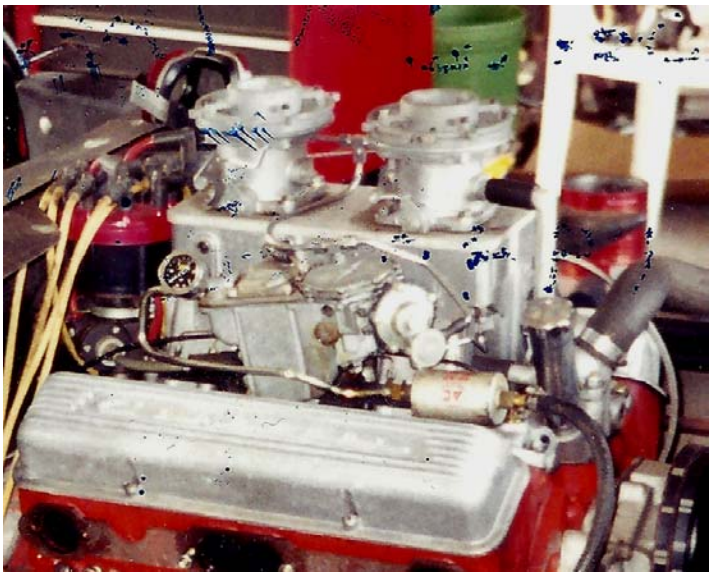
With the big tires, 4.88 positrac, close ration 4-speed and the strong engine he was never beaten in a drag race.

The changes we made produced a good running fuel injector. What we did was not comparable to a Bill Thomas built unit. He made a number of other

modifications oriented to better performance in a race car that were beyond our capability. We were satisfied with the result of our efforts.

Bob kept the Corvette for a few years and then pulled the engine and sold the car. He later sold the engine and kept the fuel injector. About 1970 Bob called me and wanted to sell the injector for $300.00. I wanted to buy it but didn't have $300 to spare, so I told another friend and he bought it.

These two pictures are of the dual air meter fuel injector I built. First one was taken about 2002 in Oklahoma.



This picture was taken in January of 2018 in Arizona.

To give some cross reference to modern fuel injection:
A Rochester injector is constant flow, fuel is flowing to all injectors all the time.
Plenum vacuum – MAP Sensor. Like a power valve in a Holley carburetor.
Venturi vacuum – air flow - MAF sensor
Fuel meter - a mechanical ECM

High pressure fuel pump inside the fuel meter float bowl, driven off the back side of the tach drive distributor. Pump speed is directly related to engine speed, so more RPM meant more fuel pumped.

When properly set up, the end result was a system that metered the fuel properly for the amount of air and speed of the engine. The fuel distribution was the same to each cylinder and the plenum distributed the air evenly. It didn't have problems with fuel starvation under acceleration, braking or hard turns.

Rochester fuel injection systems may not have made much, if any, more HP than a good dual four barrel setup, but the other factors made it superior in road racing.

Saga of My '72 Corvette

By Russ Grimm
March, 1991

Back in November of 1988, a friend of mine who is a collector of Ford products ran across a 1972 Corvette basket case in Amarillo, Texas. We followed up the lead with several calls, letters, pictures, etc. The owner of the car was in the Navy onboard a ship, so it was hard to get him to answer questions.

The car was a two top convertible with a 454 engine, automatic transmission, power brakes, power steering, and air-conditioning. It had been wrecked in 1982. Since the accident, it had been stored in a

barn. Well, barn really is not the word that I would use since it barely had four walls and almost no roof was left.

It was decided that we would get the car and decide who really would end up with the car later. The trip was made in December, 1988, and was uneventful -- unlike the trips Howard Kirsch tells about. When the car was picked up along with all of the pieces off the front end, there was quite a load in the pickup and trailer.

Soon after we had returned to Tulsa, it was decided that I would buy the car since it was too far gone to bring it back to life, according to a Ford man. The steering box was locked up, brakes were gone, and the engine was frozen. The hard top was left off the car, and there was no soft top to be found. Remember, there really was not much of a barn roof. What a mess!

At this point, I was really was looking at the car for parting it out. Then like most NCRS people, I really started looking at the car's numbers and components. After an assessment period and a few calls verifying questions, such as casting #3999289 on a 1972 block and a C55 suffix code, l started to change my mind. The car was a 79,000 mile car with the original drive train (engine, transmission and rear end) and all bolt-on components were original, except for the alternator and carburetor. It was tirne to rethink the decsion to part out. How about making it a driver?

Now came the next hurdle. Ok, am I going to keep the car and bring it back to life; "Where do I start?" The engine was for me a logical place to begin. With the engine torn down, it was determined that all of the rain that came in, (remember the barn roof and no hood due to the dismantling) had run down the carburetor and intake to the number 8 cylinder. The piston was rusted in solid.

So the engine was soaked for several days with all sorts of mystery oils and concoctions that everyone had suggested with no luck. The next step was to take a 4 x 4 shaped to fit and a sledge hammer. The first hit caused not even a budge of movement. A second harder hit was applied, and it was almost freed. So it was bore 60 over and go on. The transmission was rebuilt with no major problems.

The real delimma was in the next step-- fiber glass repair of the front clip. Do I go with a one piece front end and save money, or do I go back to the way GM made it? Somewhere in making this decision, I lost the idea of a driver to a car that was to go back to the way the general made them in St. Louis.

Don Partridge worked very hard to help get the right fiberglass pieces in. We all have heard about gray glass, black glass, or the new white glass, but that really is another story.

John Stockton was given the task of putting the front end back together. The standards were set even if it took us 30 plus hours to get the original inner fender panels correct.

About this time I lost my job, and the project was put on hold. Then, with a new job that took me out of town for the next eleven months, the only thing that I could do, was to collect parts that were missing and wait for the next phase.

That phase started last September with Marsha, my wife, and me pulling the body off the frame. She really was quite good at this. The chassis is just now being finished and with a little luck I might be able to finish the car in the next six months. After two and a half years of excitement and work, I am getting close.

By the way, I might just be doing it the right way since the best "judge" and the only one so far was my neighbor who looked at it for the first time and exclaimed, "Gee, that sure looks like it's new!"

(recycled from the March,1991, *Sidepipe*)

Corvette Classified

For Sale:1963 Borg Warner T-10 Transmission,VIN stamping 3105895, Assembly code WL122, Case T10D-1 Side Cover 10-18-62, Tail T10-7D 3813490 8-21-62, Front piece 3790278 -- Value—Open to discussion

Scott 437-5292

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Upcoming Events

Mar	3	Oklahoma Chapter Breakfast Meeting - Ollie's Station Restaurant - 4070 Southwest Blvd - Tulsa, OK
Mar	13	Cruise Nights Begin
Mar	17	Car Event at Scott Anderson's "The Galley" at 126th and Memorial
Mar	20	Attitude Adjustment Night - Bravo's Mexican Grill - 4532 East 51st St. - Tulsa, Oklahoma
Apr	7	Oklahoma Chapter Breakfast Meeting - Ollie's Station Restaurant - 4070 Southwest Blvd - Tulsa, OK
Apr	12-14	Carolina NCRS Regional - Greenville, South Carolina
Apr	17	Oklahoma NCRS Spring Judging Event
Apr	20-21	46th Annual Tulsa Swap Meet - Creek County Fairgrounds - Kellyville, Oklahoma
May	16-19	Arizona NCRS Regional - Scottsdale, Arizona

NCRS Communication

To keep up to date with the latest news from your Oklahoma Chapter NCRS and your Region VII Director, be sure to advise Bob Clark or Don Partridge of any e-mail address changes. This also applies to phone numbers and new mailing addresses.

If your address is not current, then you will not receive the latest news and information.

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Thanks to Brad Williams and Mazzio's for continuing to support the Oklahoma Chapter NCRS. We appreciate your help.

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***** Please** think about writing an article or contributing an item of interest for the newsletter. This can be a tech tip you've found, an article to reprint from another publication that would be of interest, a personal experience that would interest other members, or an item of news about the chapter or its members. Remember, include pictures if you can. Your Corvette classified ads are welcome, too. You can mail, e-mail, FAX, or loan me a flash drive or CD(Windows or Macintosh). **Remember!!** Your help is needed to make this newsletter a voice of our chapter !

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