THE LEGEND

Volume 30, Number 4 | NCRS St. Louis Chapter | Fourth Quarter 2018

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Feature Items

View From the Chair — by John Foster

This December issue of *The Legend* closes out 2018 and my term as Chairperson for the St. Louis Chapter. I have truly enjoyed serving the Chapter for the past couple of years and I look forward to remaining an active member of the Board next year as the "immediate past-chair," and an active member of this Chapter for many years to come. Bill Lacey introduced me to the NCRS when I began looking for a mid-year in 1998. I will always appreciate Bill and his vast knowledge of the mid-year Corvette, and remember him for introducing me to this great group of people.

This past year has been a good one for the St. Louis Chapter. We finish the year with 87 memberships which is as high as I recall since I first joined the Chapter twenty years ago. And not only has Chapter membership grown, but the members are more active than ever before. During 2018, our monthly dinner meetings are well attended; we judged nine cars during our two judging events; Chapter members made up 10% of the show field at the Route 66 Corvette Club show in St. Peters; a dozen members drove Corvettes to Hannibal for the Mark Twain Corvette Club show; three members hosted garage tours; another hosted a tech session; a large contingent enjoyed a road tour to the D&A Corvette restoration shop; and a group enjoyed an overnight trip to KC for a judging seminar and presentation on trim tags by Al Grenning.

I would personally like to thank all of the members for another great year, especially Mike Hanley for chairing the two judging events, Brenda and Ernie Durlas for their tenth and final year of coordinating the cookout at the judging events; Kelly Waite, Steve Gissy, and Larry Lipsitz for hosting garage tours; Jim Sahrmann for sharing his air conditioning expertise; those who submitted articles to this newsletter; and everyone who attended the dinner meetings, especially those of you who made presentations. It was definitely a fun year.

As we prepare for 2019, I am sure that with the continued support and participation of every member, this Chapter will continue to flourish and remain a "Top Flight Chapter." If you haven't gotten involved in YOUR Chapter, do so in 2019.

Sara and I wish each and every one of you a Merry Christmas and a Happy 2019!

THE LEGEND

Volume 30, Number 4 NCRS St. Louis Chapter Fourth Quarter 2018

Articles

a. Is My Muncie Transmission Numbers Matching? by John Foster

I recently had the transmission out of my '67 Corvette roadster for some service work. So… while it was out, it seemed like the logical time to check the "numbers." A few clicks here and there on the internet and I found a lot of information about the numbers on Muncie transmissions. Some articles were better than others. Of note were *Identifying Muncie 4 Speeds II by Paul Cangialosi* on 5Speeds.com and *How to Identify a Muncie Four Speed: Build Date Codes, VINs, and Input Shaft*, by James Berry on SuperChevy.com. I've relied on both for the data in this article.

There were four manual transmissions used in midyear Corvettes, all built by GM at the Chevrolet-Muncie Plant in Muncie, Indiana:

Muncie Transmissions	1st	2nd	3rd	4th	R
M20 wide ratio, 1963 - 1965	2.56:1	1.91:1	1.48:1	1.0:1	3.16:1
M20 wide ratio, 1966 - 1974	2.52:1	1.88:1	1.46:1	1.0:1	3.11:1
M21 close ratio	2:20:1	1.64:1	1.28:1	1.0:1	2.27:1
M22 "Rock Crusher" Heavy Duty close ratio	2.20:1	1.64:1	1.28:1	1.0:1	2.27:1

Vehicle Identification Number

The first thing I looked for was the VIN derivative on the main case. Seems logical enough. The main case casting was pretty rough but reads… 1S122451. The first thing I noticed was that the last character appears to be an overstrike on top of what looks like a dimple, maybe made by a hammer blow. Not typical appearance? Hmm…

A few of you have heard this story but for those who have not… my engine pad has a similar overstrike of the last character, but without a hammer mark or grind out. This "1" appears to be made with the same bold die on both the engine pad and the transmission. I've never had the engine pad affirmed by any of the premier "numbers" experts in this hobby, but a few very knowledgeable people have told me the engine pad looks fine to them. Why would just the last digit of the number be an overstrike? What are the odds of finding a component only one digit off from the vehicle identification number and changing it to match the car?

A Story About Factory "Overstrikes"

Yeah, the NCRS Judging Manuals speak of perfect stamp pads and numbers. Some of you have heard this story, but… After high school, I worked at the Chevrolet St. Louis plant while attending junior college part-time. I was there from September 1969 until February of 1974. I worked on both the passenger car and truck lines but most of my time after 1969 was on the truck line. In 1972 I was an absentee relief man and filled in for absent assembly line workers on 26 different jobs in my group trimming out the truck cabs. If all of the jobs were staffed, I might be "loaned out" to another area or assembly line of the plant. And, they paid me an extra five cents an hour to do this.

Absentee relief men who did not know an absentee's job were partnered with a second absentee relieve man and they split the work. The group relief man, whose job it was to give the coffee or injury breaks throughout the shift, had the first hour of the shift to teach these two guys the job before he had to start his relief break rotation.

On one occasion in 1972 or 1973 I was "loaned out" to the Corvette plant to cover an assembly job. They put me and another absentee relief man on the Corvette chassis line and the relief man gave us an hour of instruction. If I recall correctly, at that time the Corvette line ran 10 units an hour comparted to 36 C and K pick-up trucks, and 54 full size Chevrolets. So… my partner and I had all of 6 minutes per unit to perform the various assembly tasks that made up the job. Can you guess what one of my tasks was? Yep… he showed me how to use the gang stamp and apply the derivative to the engine. That went really well… More than a few times during the shift I didn't get the tool flat and when I struck it with the hammer, I had a partial number sequence, either some left or right, or some with only the top half of the row of numbers and some only the bottom half of the row. I was a conscientious employee though so, I would line up the stamp on top of the partial number and try to correct my error. Oops…that left some interesting effects. More importantly to this story, more than once I forgot to change the characters of the number and so two engines in a row would end up with the same number… The inspectors and repair guys had a field day that shift. No, they didn't fire me, but the next day I was installing the mast jackets (steering columns) in pick-up trucks. I apologize to any of you who own my mistakes, especially if an NCRS judge told you that number was bad.

So back to the transmissions… Assuming the VIN derivative is correct, the next thing to check are the various casting and date codes of the three housing components of the transmission; main case, tail housing, and the side cover of the main case.

Muncie Assembly Dates

All of the Muncie transmissions have a stamped assembly date that indicates the calendar date that the transmission was assembled. The transmission assembly at the Muncie plant typically precedes the car build date by 14-90 days.

The 1963-1964 assembly dates are stamped on the right side of the main case, and 1965-1974 assembly dates are stamped on the right side of the main case, just ahead of the tail housing on the vertical boss pad of the case.

1963-1966 has the letter P and four digits:
P represents the Muncie plant.
The first two digits are the month of assembly.
The last two digits are the day of the month.

1967-1974 has the letter P and four additional characters:
P represents the Muncie manufacturing plant.
The first digit represents the model year.
The alpha character represents the month of assembly.
The last two digits are the day of the month.

The character representing the month is different than those used for many other Chevrolet components:

Muncie Transmission Month Codes		
A=January	E=May	P=September
B=February	H=June	R=October
C=March	K=June	S=November
D=April	M=August	T=December
F, G, I, J, L, N, O, and Q are skipped.		

The stamp on my transmission indicates it was assembled on June 22, 1967. The "birthday of my car is July 5, 1967, just a week before the end of the 1967 Corvette production. That looks like another matching number for my transmission.

Casting Part Numbers

Clearly visible on each of the three components, the main case, side cover, and tail housing, is the part number of that casting.

Muncie Main Case Casting Number	Years Used	Notes
3831704	1963	"Patent Pending" 7/8" Bore
3839606	1963 - 1964	"Patent Pending" 7/8" Bore
3851325	1964 - 1965	"Patent Pending" 7/8" Bore (Mostly used in 964)
3851325	1964 - 1965	w/ Patent Number 7/8 inch bore
3864848	1965	w/ Patent Number, 7/8" Bore
3864___	1965	w/ Patent Number, 7/8" Bore, (Milled off last 3 digits)
3885010	1965 - 1967	w/ Patent Number, 1" Bore
3925660	1965 - 1967	w/ Patent Number 1" Bore
3925661	1970 - 1974	w/ Patent Number 1" Bore

Side Cover Casting Number	Notes
3831707	Early side cover (1963 - 1965)
3884685	Used with 3857584 Tail Shaft Housing
3950306	Late side cover w/ no switches
3952642	Long boss bolt on type w/ Transmission Controlled Spark switch
3952648	Short boss bolt on type w/ Transmission Controlled Spark switch
335308	Long boss bolt on type w/ a Neutral Safety Switch.

Tail Housing Casting Number	Years Used	Notes
3831731	1963	"Thin Fin Tail", Driver Side Speedo, 27 Spline
3846429	1963	"Thin Fin Tail", Driver Side Speedo, 27 Spline
3846429	1963 - 1965	“Thick Web Tail”, Driver Side speedo, 27 Spline
9779246	1964 - 1965	Pontiac Catalina Long Tail, Driver Side Speedo, 27 Spline
3857584	1966 - 1970	Passenger Side Speedo, 27 Spline
3978764	1970-1974	Passenger Side Speedo, 32 Spline

As pictured above, my main case bears the part number 3885010, the side cover 3884685, and the tail housing 3857584, therefore all three of my housing casting numbers are correct for the 67 Corvette small block with the base M20 transmission.

Casting Codes

In addition to the casting part numbers, the three housing components of most Muncie transmissions have casting numbers and marks that provide both the date that the piece was cast and information regarding the engineering drawing and notes that the casting matches.

The main case has a numeral on the passenger side, just right of the flange and below the part number and patent information, that indicates in which mold the piece was cast. The main case date code is to the right of the mold number. The date appears as a small number representing the month and dots representing the week of the month. The photo below of my main case, shows the cast number 10 just to the left of a smaller numeral 5 and five dots, or the fifth week of May (28th, 29th or 30th).

The side cover date code is in a circle usually found near the casting number. The top half of the circle has a number representing the month of the casting and the bottom half has dots representing the week of the month.

A second circle contains a status marker that allowed GM to track engineering information. The top of the circle may have characters that indicate the current engineering drawing number and the lower half of the circle may contain characters that represent any deviations.

This photo of my main my side cover the date is a 5 with three dots which translates to the third week of May.

The extension housing date code can be found on the passenger-side of the housing within a few inches of the casting number. This photo of my tail housing is rough with some slag, and the date code circle is a little difficult to decipher, but it appears to have a pair of fours, one partially in the circle one completely outside the circle, and three dots. The tail housing of my transmission was apparently cast the third week of April.

Input Shafts - Lastly, with the transmission out of the car, the input shaft tells a story of the year and the ratio of the transmission. Once again, my input shaft of my transmission with two rings indicated the transmission to be consistent with the 1967 M20.

		Input Shaft		Output Shaft	
Year	Type	Rings	Spline	Tooth Count	Spline
1963-1965	M20	None	10	24	27
1966-1970	M20	Two	10	21	27
1970-1974	M20	Two	26	21	32
1963-1970	M21	One	10	26	27
1970-1974	M21	One	26	26	32
1967-1970	M22	None	10	26	27
1969-1974	M22	None	26	26	32

Numbers Matching?

So, is my transmission "numbers matching?" The assembly date, part numbers and casting date codes appear to be correct for a Muncie M20 transmission that would have been in stock at the St. Louis Chevrolet Plant on the assembly date of my car. Therefore, assuming that the derivatives on my engine and transmission are in fact correct for the vehicle identification number of my car, the transmission in my Corvette *appears* to be "numbers matching" to the car.

b. Concours Judging

Here's a slide show on Concours judging.

a. Fall Judging Meet

By Mike Hanley

Well we had a fantastic cold day and another successful Judging Event and Picnic on Saturday October 13th at Love Park. We had 5 cars signed up of which 2 of them were chapter members which helped use make our Top-Flight requirements for the year. The results are as follows:

Bob Dehn from St. Louis, MO. with a 1966. Second Flight

Michael Horst from St. Peters, MO. with a 1956. Second Flight

Bill West from Jackson, MO. with a 1963. Top Flight

Ben Buchanan from St. Louis, MO with a 1966. Top Flight

Joe Struckhoff from St, Louis, MO. with a 1966. Top Flight

I want to say a BIG THANK YOU to all the participants, Judges, Tabulators, and our Great Cooks as usual they did a great job. I forgot to mention that today was Ernie's & Brenda's last day of being Master Chef's doing the cooking for our picnic.

We also had a great display of non-judged cars as well as visitors. We also gained a couple of new members as well.

Again, thanks for all of your help!

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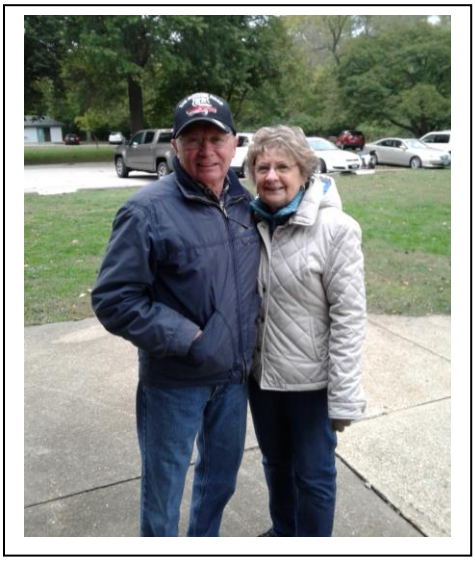


Somebody got beat with the NCRS stick!

b. Larry and Lynne Lipsitz Garage Tour By Kelly Waite

Wow!!!! Larry had the club over to see his really cool garage and cars!!!

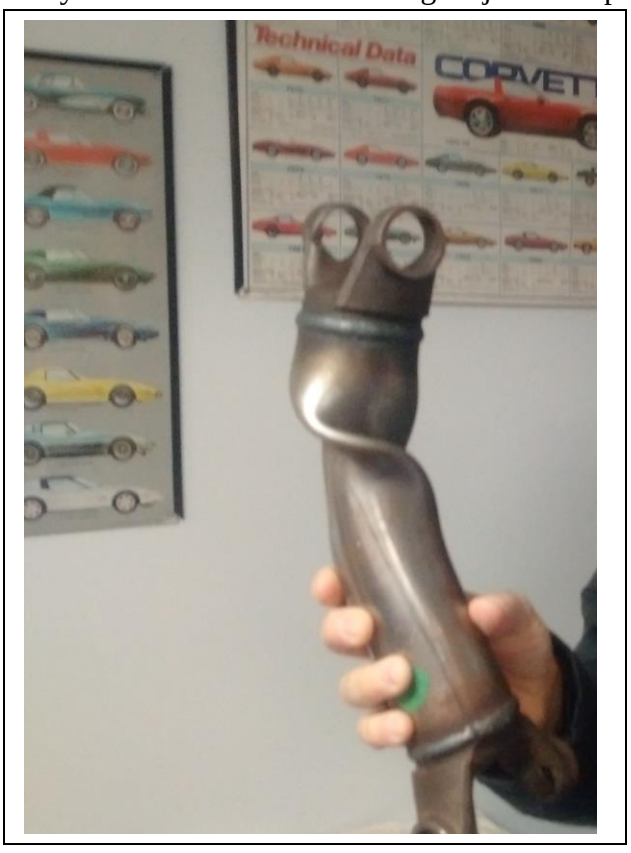
We are talking several big blocks....Top Flight and/or Bloomington Gold of course. They ranged from 1957 through 1968!!! There were even a couple very fast German Corvettes (Porsche) and an Italian Corvette (Ferrari).

Larry talked about each of the different model Corvettes in his garage, how they drove and what was unique about the model year....very interesting and informative!!!!? He knows exactly when each car red lines....and how fast they will go!!!! Rumor has it that Larry has driven more than double the speed limit on Lindbergh and Ladue Road!!! Larry's cars definately get a great workout!!!!

Larry also had a vintage videos of big block racing at Mid America drag strip....which included Larry's 65 big block, a real Shelby Cobra and and 69 L88. Really cool!!!

Larry also showed his "wall of pictures" of all of his past Corvettes!!! Quite a wall!!!!

Larry also had several vintage parts on display. My favorite was the wrenched half shaft from one of Larry's Corvettes. We are talking major horse power and torque to be able to do that!!!!



Larry also fed everyone a great lunch and had trivia questions for prizes.....which were won by Dave Dawdy, Greg Simon and Tom Dingman.

Special thanks to Larry and Lynne for hosting this event!!!!!!!

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c. Chapter Charity Event by Joan Burnett

Chapter Charity Event Dec. 6, 2018

Nurses For Newborns Gift Wrapping At Plaza Frontenac

Thanks To All Who Participated

Carol Kleinhenz

& Joan Burnett

d. Frank Bloemke 85th Birthday

Frank is a real treasure!!! Happy birthday Frank! And many more!!!

e. D & A Corvette Restoration Facility Tour by Dave Buescher

On September 29, the St. Louis NCRS chapter took a fall road trip to D&A Corvette Restoration located in Gillespie Illinois. The day was hosted by D&A owner, Dick Ferando.

After meeting in Edwardsville IL., the group of 30 plus chapter members caravanned up historic Route 66 through southern Illinois to D&A's facility where they were welcomed with coffee and pastries to warm up after an unexpected chilly morning.

The group was given full access to the D&A facility, allowing members to see the body and frame disassembly process, chassis / drive train restoration and assembly area, engine test / run in , body repair, prep and paint. This allowed all to see the various stages of restoration and assembly of the various cars in process.

There were several D&A employees on hand, who had given up their Saturday to come in and answer any questions the group may have had in regards to the solid axle and midyear restoration process.

Dick took time to explain his processes and procedures along with answering a long line of questions on topics ranging from fiberglass repair , body and paint topics and assembly tricks and techniques.

The highlight of the visit was the assembly area where there were several midyears in various stage of final assembly. With a black 1963 Fuel injected coupe, a 1965 396 coupe, a 1967 big block coupe and a 1965 red roadster in process, it was a truly impressive sight to say the least.

An interesting impromptu steering column tech session was held by Scott Smith, owner of N36 Restoration, as he performed a steering column repair and adjustment on a chapter member's car. N36 Restoration specializes in the restoration of midyear standard and telescopic steering columns.

f. Holiday Awards Dinner

Holiday Awards Dinner

Please join us as we celebrate another year of great cars and great friends.

Date: Saturday, January 5, 2019

Time: 6:00 PM – 9:30 PM - Dinner Buffet at 7:00 PM

Location: **Spazio Westport**
12031 Lackland Road - St. Louis, MO 63146

Cost: $35 per person (Cash Bar)
$15 Children Under 12

We will once again have a White Elephant Gift Exchange, so start planning now on what gift you will bring for the exchange.

This year we are also planning to hold a Silent Auction with proceeds going to our chapter charities so be sure to bring your checkbooks.

Bring a gift or donation to help Nurses for Newborns

RSVP with lower section & check *payable to NCRS St. Louis Chapter* ***no later than December 18th***

To: Joan Burnett
250 West Highway U
Troy, MO 63379

Name: _____

Adult(s) Attending _____@ $35 = $_____

Children Under 12 _____@ $15 = $_____

g. NCRS Board of Directors Meeting Minutes

Here's the minutes.

h. NCRS Calendar

Click to see the **NCRS Upcoming Events for the Next 90 Days** (scroll down to see the list).

i. Car Clubs, Shows and Cruises, etc.

National Corvette Museum, Bowling Green, KY

National Council of Corvette Clubs

Corvette Racing

St. Louis and Southern Illinois car shows and cruises

Museum of Transportation car shows

Local car clubs:

Horseless Carriage Club

Boone Trail Corvette Club

Lookingglass Corvette Club

Original Corvette Club of St. Louis

St. Louis Corvette Club

Buy, Sell, Trade

Note: We run ads for one quarter. We publish newsletters on the first of March, June, September and December. If you would like your add to run again, please notify me at least one month prior to publication time.

a. Chapter Shirts Available by John Foster

The new official Chapter short sleeved polo shirts are available! The shirts sport the new Chapter logo embroidered in full color on the light blue polyester polo shirt from our friends Tom and Alisa Green, owners of Key Sports in Rolla, MO. Contact Joan Burnett at 636-462-4401 for your shirt. Joan has a limited number in stock. Shirts are only $30 for all sizes (except 2xl for $32). Currently in inventory are sizes M through 2XL.

Club Information

a. 2018 Club Officers

Chair	John Foster	foster.johnfjr@gmail.com	636-530-9812
Vice-Chair	Mark Kessinger	markek5@gmail.com	314-341-5664
Secretary	Bill Mulder	billMulder123@gmail.com	513-305-8949
Treasurer	Joan Burnett	joanieburnett@gmail.com	636-462-4401
Judging Chair	Mike Hanley	mhanley@centurytel.net	636-625-8480
Events Chair	Dave Buescher	dbuescher1@gmail.com	618-692-0679
Board Member 1st Year	Kelly Waite	kellywaite@att.net	636-284-0500
Board Member 2nd Year	Allen Kleinhenz	ackleinhenz@gmail.com	636-696-9753
Board Member 3rd Year	Denny Marshall	dcorvettekid@charter.net	314-458-8019
Newsletter Editor	Joe Raine	j.r.raine@gmail.com	314-799-7513
Membership Chair	Greg Simon	gsimon767@sbcglobal.net	636-262-9911
Charity Chair	Carol Kleinhenz	ackleinhenz@gmail.com	636-293-8367

b. Editors Note by Joe Raine

The newsletter and web page are great ways to keep everyone in the club current on our latest activities. I am likely already working on the next edition of *The Legend*. Please send in your articles just as soon as you can. The newsletter will be published quarterly as close as possible to the first of March, June, September and December. I need articles that include pictures one month prior to publication time.

Our web page (http://stlouisouisncrs.org/) and newsletter are available for posting classified ads for cars and parts you would like to sell, or parts wanted. Member classified ads will automatically run for one quarter, unless I am notified to run it again.

Classified Ads:

- Free for members – 50 words or less
- $10 for non-members

Commercial advertising is also available for the newsletter (includes a link on our web page). All commercial ads will be included in four consecutive newsletters.

Feel free to drop me a note if you have any suggestions for improving our newsletter or webpage (j.r.raine@gmail.com).

Fine Print

Membership in the NCRS is open to persons interested in the restoration, preservation, and history of Corvettes produced by the Chevrolet Motor Division of General Motors Corporation from 1953 through 1999. NCRS is not affiliated with Chevrolet or General Motors.

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