

# Blue Flame Special



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JULY 1970



Vintage Corvette Club of America

# Vintage Corvette Club of America

2359 W. Adams  
Fresno, Calif. 93706

**Blue Flame Special** Newsletter is printed quarterly by the Vintage Corvette Club of America, a non-profit organization open to all Corvette enthusiasts. Membership fees as follows: Regular membership (ownership of a 1953-55 Corvette) - \$10.00 per year: Associate membership (ownership of a 1956 through present Corvette or anyone interested in Vintage Corvettes) - \$10.00 per year.

## NOTICE

Permission to reproduce all or any part of this newsletter must be obtained in writing from the Vintage Corvette Club of America. Also, use of the names on the roster for any purposes other than official club business is strictly prohibited.

All correspondence regarding the Vintage Corvette Club of America should be mailed to 2359 W. Adams, Fresno, California, 93706.

Editors:	Ed and Jean Thiebaud
Photography:	Ed Thiebaud
Articles:	Ed and Jean Thiebaud
Preparation:	Ed and Jean Thiebaud

## EDITOR'S NOTE:

We have adopted a newsletter name: "Blue Flame Special," submitted by our Secretary, Jean Thiebaud. I tried to top it fellows, but finally conceded. The name Blue Flame Special was written in white letters on the blue-green six-cylinder engine valve cover on the early Corvette models.

--Ed Thiebaud

## COVER:

The cover photo is a reproduction of the cover photo of the June, 1954, issue of Road & Track Magazine.

### JOINT CONVENTION

The Western States Corvette Council and the National Council plan to hold a joint convention in St. Louis, Missouri, in 1971. We hope to have the biggest display of "Vintage Corvettes" ever at this convention. So get those cars in concours shape - you have one year to get ready.

The agenda has been pretty well set up. They have a firm commitment from the Mid-America raceway which has a 2.5 mile track and is located in Watsonville. Falstaff has been sponsoring races there lately and they are working to get them to sponsor the Convention. One of the attractions will be a four decker river boat cruise. The entry forms will be available by September of 1970. The confirmed dates for the Joint Convention are June 28 thru July 3, 1971, and it will be promoted as CORVETTE EXPO '71. Some of the happenings being planned are tours of Bush Gardens, seminars, luncheons, dinners, dances, races, concours, and the immediate vicinity of the hotel is rich in tourist attractions.

The hotel prices will show a 5% increase by 1971 due to a union contract but the present rate is \$15.00 for one person and \$21.50 for two persons. The events package will run \$30.00 to \$35.00 per couple.

### MEMBERSHIP RENEWAL

You will be notified by card or letter of your annual dues. If the dues are not paid to the Club within thirty days from date of notice, membership will be cancelled. At this time anyone desiring reinstatement will be charged an additional \$5.00 reinstatement fee to cover extra bookkeeping.

### MEMBERSHIP ROSTER

The new membership roster will be out in September. Please check the old roster and membership addendums - if your serial number is not shown it's because you have not sent it to us. In order to make a more complete roster, please make sure we have your car serial numbers. This number is located inside the driver's door on the frame of the car and inscribed on a silver plate.

### RARE 1955 CORVETTE COLOR COMBINATION

Our thanks to Noland Adams, Kerman, and Bob Roach, President of Western States Corvette Council, who once owned the first 1955 Super-charged yellow Corvette with green trim, and is presently trying to locate a 1955 of this rare color to purchase. His address is 931 Bloomwood Rd., San Pedro, Calif. 90731. Colors as follows: Harvest gold or yellowbody, cockpit, yellow steering wheel perimeter, green horn area and steering column post, top dash green, leather strip dash green; inside top deck storage area - green & green floor carpets; green color soft top & top bows; green side curtain bag; yellow inside trunk & bottom dash; yellow seats and door panels. Remember yellow - harvest gold is a light yellow color.

### CAR SHOW

We just received the following letter from the Autorama Corp. 428 Clark Lane, Orange, Connecticut 06477, Ph. 795-3089:

"Please consider this letter as a personal invitation to have your group exhibit cars on an individual basis or as a combined club effort in each of our shows:

Hartford	November 6, 7, 8, 1970
Boston	January 7, 8, 9, 10, 1971

We will forward to all interested individuals an entry blank with complete information and it's important to note that we pay mileage, award trophy prizes in all classes in addition to cash awards."

S/Joe Kizis  
Autorama

### MEMBERSHIP NUMBERS

As you may have noticed in the membership roster, there is a number after each member's car serial number. This is your membership number. For example, E54S002140-69 denotes the 69th regular member to join the club - 16A would designate the 16th associate member to join the club.

## CLUB CAR BADGE

We must apologize to those who are patiently awaiting the arrival of their car badge. We had negotiated with a company before the printing of Vol. 2 #1 on a car badge and soon after found another source for a much higher quality badge which we hope to go ahead with. The only problem is they want all their money before going ahead which totals over \$600.00 for the first 100 badges. The price to members is still \$6.50 per badge and we ask everyone who might want one to hurry the money so we can finalize the deal. It still could be three to four months before they will be completed and mailed out. They will be on brass, hand painted in full club colors, then baked in a special process to a hard porcelain finish with two mounting screws behind the badge.

## JACKET PATCH

The jacket patch is a 9 1/2" diameter round emblem embroidered in ten colors. The design is pictured below. The cost of the patch is \$12.50 each. Due to the great expense of the patch, we could only order a limited supply, so please get your orders in as soon as possible. Please allow one week for delivery.



## COMMITMENTS

COMMITMENTS ON THE 1953-54-55 PARTS CATALOG at \$17.50 each are still being received.

As yet, we do not have enough interest to reproduce this catalog.

REPRODUCTION OF THE 1953-54 PARTS CATALOG is now being printed. For those who have sent in their original commitment and who helped finance the project can expect to receive their copies for the original commitment price quoted in Vol. 2 No. 1. The price of these catalogs now being printed is \$16.50 because of a much limited order by members. For new members this is a reproduction of the original parts catalog. Order by Catalog No. 1 - 1953-54, complete 66 pages.

A brief explanation on commitment money sent to the club. Please send separate checks on each commitment you desire. If you are ordering parts and you want six different parts you may total the price of the six parts and send one check - some members have been sending ten separate checks for ten different parts. This is not necessary, we only want separate checks on commitments.

## CORVETTE SIGNAL SEEKER RADIO 3706551 FOR 1953-54

This is Article Number 2 in a continuation of the whole article.

## CLUB JACKET

The club jackets are light weight white nylon with racing style collar, and a red, white, and blue stripe down the left front. The jackets are \$12.50 each. Please allow one week for delivery. The sizes are as follows:

XS	S	M	L	XL
32	34-36	38-40	42-44	46

## ADVERTISING

Name, address, and phone number will be counted as part of your ad. A \$3.00 fee will be charged for each photograph. Also all ads must be received by 15th of the month prior to publication, i.e., March 15, 1970, June 15, 1970, September 15, 1970, December 15, 1970. Members may advertise their vintage Corvettes or parts at the following rates:

0- 25 words	free
26- 50 words	\$1.00
51- 75 words	\$2.00
75-100 words	\$3.00

## FOR SALE

### CLUB ITEMS OFFERED FOR SALE

The Club is offering the following items for sale. The Club is taking a small mark-up on these items to cover ordering, transporting, special packaging (like on long pieces of side chrome, the Club buys 200 lb. test plastic pipe to ship the chrome in) storage, postage, and loss from breakage in the mail, also to cover cost of time involved in accurate inventory control. The Club is using any overages to help pay for our Club patches which cost over \$600.00 and our club badges which cost over \$600.00.

1. Carburetor kits - new \$7.00 each - post paid.
2. New gear shift knobs - exact duplications - \$8.00 each, post paid.
3. Rear license plate covers - exact duplication - \$24.00 each postpaid. Insured.
4. Owner's Manuals 1953-55 - reproduction - \$7.50 each post paid.
5. Back issues of Newsletters - first three issued - \$1.00 each, Vol. 2, No. 1 - \$2.00 each post paid.
6. New orig. outside mirrors - \$14.00 each post paid.
7. Park Lights: A. Lenses - \$2.25 each postpaid.  
B. Doors (chrome piece) - \$2.25 each postpaid  
C. Gaskets - \$.60 each post paid.
8. New left door & right door striker plates - \$13.00 each post paid.
9. New front end Corvette emblems - \$10.50 each post paid.
10. New windshield - \$125.00 plus postage.
11. New windshield rubber gaskets - \$10.50 each postpaid.
12. New front bumper (lic. plate hangs between this bumper) - \$18.00 each
13. Original large open-mouth windshield washer jar for passenger side mount of engine compartment - \$4.00 each postpaid
14. Exhaust chrome ring - fits into body around exhaust pipe - \$3.50 each
15. Chrome word Chevrolet for right & left front fender - \$4.00 each.
16. New right and left chrome piece front fender from door to gullwing piece - 24" piece (special shipping in plastic pipe) - \$11.00 each.
17. New full length door chrome piece left or right side (special shipping in plastic pipe) - \$13.00 each post paid.
18. New horn ring without horn plastic button - \$10.75 each post paid.
19. One quart of Chevrolet engine blue heat resistant paint - \$6.00 each.
20. One quart of Chevrolet red upholstery paint for entire upholstery, including carpets, seats, door panels, etc. - \$8.00 each postpaid.
21. New "stop light" brake switches, fits under dash - \$3.75 each p/p.
22. Reproductions of Red original side curtain bags with the passenger car headliner material used as a divider between side curtains while in bag - also two original chrome turn buckles to attach it to inside trunk area - \$15.00 each postpaid.
23. Original (patterned in configuration) trunk mat reproduction made out of red loop pile carpet with red leatherette sewn around perimeter for trim work - \$21.00 each post paid.
24. New fuel pump - \$25.00 each post paid.
25. Weather stripping for trunk, under top deck, doors, & hood, 162" long - \$13.00 postpaid.
26. Front chrome oval large grill frame which houses entire grill - \$60.00 post paid.

27. Stock original new gasoline filter for fuel line - \$8.00 each postpaid.
28. Original dash knobs - white with chrome rings (works on hood latches, choke, lights, cigarette lighter - \$3.00 each postpaid.
29. New brake pedal return spring - \$2.00 each postpaid.
30. Eight piece master cylinder brake rebuild kit - \$8.00 each postpaid.
31. Original right & left door handle knobs - white - \$5.00 each postpaid.
32. Original left & right side curtain release knobs - white - \$4.00 each
33. New original dash instrument clear plastic gauge lense - gas, oil, temp., clock, battery - \$2.50 each.
34. New grille teeth starting at center tooth as (C) then numbering to left and to right numbers #1 number #4 and tooth #5 available - \$11.00 each post paid.
35. New original distributor with side tachometer drive - \$60.00 each.
36. New original gas feed pedals - \$4.00 each postpaid.
37. New factory carburetor idle adjusting screws each - \$2.00 each p/p.
38. New rubber transmission mount (2 bolt hole) fits between trans and cross brace unit - \$8.00 each postpaid.
39. New original color red upholstery 54" wide for seats and doors \$9.00 per yard post paid.
40. New water pump rebuilt kit - \$4.00 each postpaid.
41. New "female" hood catch bolts to firewall - left & right - \$7.00 each
42. New horizontal long center grille bar - \$24.00 each post paid.
43. Brand new beautiful reproduced chrome set of hub cap (knock off) spinners. \$8.00 each wheel or \$32.00 per set (4 wheels). Only 15 sets of these left in stock, at which time they will be discontinued.
44. Rear fastening sleeves and cap screws (These were used on the '56-'57 top deck cover to screw down the hard top to rear top deck - set of three \$15.00
45. Lower seating strip (rubber) used around bottom of the plasticon hard tops and any other custom made Vintage hard tops. \$1.50 per foot.
46. Chrome ash tray with flip lid, fits into arm rest 1953-55, also fits into tunnel for 1956-62. \$5.50 postpaid.

### FOR SALE

1. One custom hardtop for 1953 Corvette.  
Terry K. Watson, 1080 Plantation Dr., Marion, Ohio 43302

1. Headlight screens.
  2. Hardtop.
  3. Clock
  4. One front vertical bumper.
  5. One rear vertical bumper.
  6. Two rear horizontal bumpers (small).
- Dan Bloom, 3072 Grandview Blvd., Los Angeles, Calif. 90066

1. One hundred pairs of sliding latches to secure those flapping side curtain vent windows. Fit all 1953-55 Corvettes with stock side curtains. No tools needed, just slide on. Constructed of nickel plated brass. \$6.25 a pair, includes postage & handling. Make checks payable to:  
Fred R. Nelson, Rt. 1, Verona, Wisconsin 53593

## FOR SALE

1. One pair 1954 side curtains, good condition — \$180.00.  
Jim White, 525 Windsor Dr., Lodi, Calif. 95240, 209-369-4993.

1. Two complete 1957 Corvette parts cars to sell as parts — motor, trans., upholstery, doors, hoods—you name it. Write: Ken Thiebaud, 2359 W. Adams, Fresno, Calif. 93706, 209-266-2153.

1. 1955 Corvette #68, newly rebuilt '67 327, Goodyears and American mags, newly rechromed and reglased side hardtop and new beige sot hardtop and new beige soft top, new paint (Eldorado "Firemist Nutmeg"), new tan button-tuck interior, newly rebuilt 3-speed, and new positraction rear end. \$1,600.00 or best offer.

Linda Bartel, 2116 Chester Lane, Bakersfield, Calif., 322-8137.



1. Three sets side curtains.
2. Two 3-speed drive shafts.
3. Right & left outside rear bumper chrome.
4. New original radiator.
5. Three complete sets grill teeth starting with center tooth & going both ways 1, 2, 3, 4, 5, 6.
6. Front & rear chrome bullets, also horizontal front & rear.
7. Four used sets intake & exhaust manifold with three carburetors.
8. Two sets 1956 hubcaps.
9. One 1953 chrome tank and one 1954 chrome tank for radiator.
10. Wrecked 1954 parts — windshield frame, all dash equipment, both doors, top deck, trunk, etc.
11. Two used chrome headlight rings.
12. Four new chrome headlight rings.
13. One set seats — top & bottom.
14. Two horizontal rear bumpers.
15. Two used tail light lenses with chrome bezels, complete.
16. Used 56-62 grey steering wheel — 1957 venitial red steering wheel.
17. Used horizontal grill bar.
18. Mint set four hub caps (best selected from 12 hub caps).
19. Complete 1963 Stingray dash driver's side.
20. Two original steering wheels with new chrome horn ring (no button).
21. One exhaust manifold.
22. Original chrome air cleaner for 265, 1955 V-8 Corvette.
23. Professionally taken color photos (20 in a set), of 1953 color combinations available: 1953: Polo white with red interior; 1954: Polo white with red interior; 1954: Blue with beige & gold interior; 1955: Bronze with beige interior. These photos show front, rear side left & right door panels, trunk, inside cockpit, etc. Good for restora-

tion. Taken with Argus 35 mm color film. Total cost includes film, developing, shipping, etc. \$25.00 set of 20 pictures.

Ed Thiebaud, 2359 W. Adams, Fresno, Calif. 93706, 209-266-2153.

1. 1953 Corvette #157, being restored completely, \$3,000.00
2. 1954 Corvette — Western States Corvette Council Convention trophy winner, still has bright red original upholstery, mint condition — \$3,500.00.
3. 1957 Corvette, original, needs paint, upholstery, 283 with 3-speed, both tops, power top — \$1,400.00.
4. 1957 Corvette hardtop — primer color — good windows — headliner waffle pattern, white.

Ed Thiebaud, 2359 W. Adams, Fresno, Calif. 93706, 209-266-2153.

1. 1955 Corvette #577 — Original engine, with 4-speed, 4:56 rear end, soft top & toneau cover, chrome wheels, new tires, black upholstery, all dash instruments working, maroon color, new emblems, price — \$1,600.00.

Jim White, Lodi, Calif., 209-369-4993.

1. Rare find: 12 complete sets 1957 Corvette rear end exhaust chrome fender outlets — also top vertical bumper and lower rear fender vertical bumper for 1957 Corvette — will sell as pieces, sets, etc. — All mint condition.

Ed Thiebaud, 2359 W. Adams, Fresno, Calif. 93706.

## WANTED

1. Wanted — Back issues of "Corvette News".  
J. F. Owings, Jr., 4229 Milford Mill Rd., Baltimore, Md. 21208

1. Gullwing piece left — chrome wire mesh — cover for radio speaker.  
Joseph Fentress, 7314 Cheltonham Ave., Clinton, Md. 20735, 301-868-2959.

1. Three yoke Carter Carburetors, also ignition shield cover, and the script word Chevrolet for side of car.  
James Kilcher, 12031 Laing, Detroit, Michigan 48224.

1. Wooden spare tire cover.  
2. Steering wheel & emblem cover.  
3. Rocker arm valve cover.  
4. Oil fill cap for valve cover.  
5. Right & left rear vertical bumper.  
6. Tackometer.  
7. Cigarette lighter and knob.  
8. Plastic face for speedometer.  
9. Ring for ignition switch.  
10. The removeable part of the ash tray.  
Dick Hellman, 901 Chestnut St., Atlantic, Iowa 50022.

1953 Parts Wanted:

1. 1 chrome license plate bar.
  2. 1 chrome license plate frame.
  3. 1 Corvette emblem for nose of car.
  4. 2 chrome air cleaners (individual carb. type).
  5. 2 full wheel covers.
  6. 1 set front & rear bumper bullets.
  7. 1 wire headlight cover.
  8. 1 taillight.
  9. 1 chrome bezel & associated mounting hardware for trunk lock.
  10. 1 Corvette emblem for center of horn ring.
- Terry K. Watson, 1080 Plantation Dr., Marion, Ohio 43302




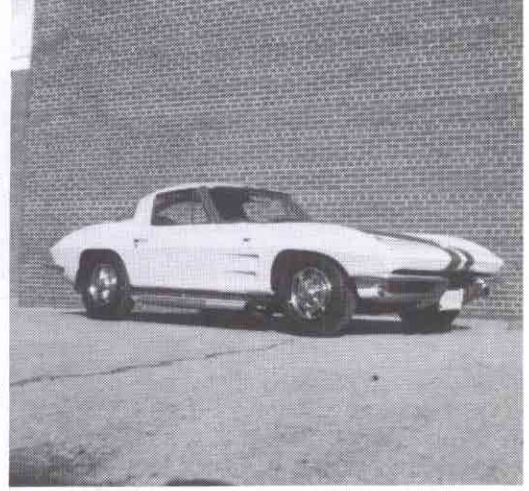
Don Majestic, Yucaipa, Calif., 1954 followed by Ed Thiebaud, 1954. Ontario Motor Speedway




Don's car again shot thru window of Ed's '54 at WSCC Pre-Convention, Riverside, Ca.



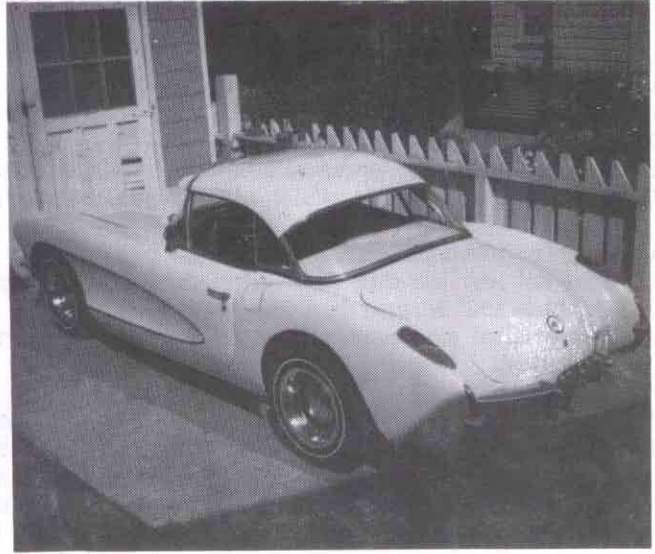
Left -   
John Schoppes, Ohio,  
Family Group.



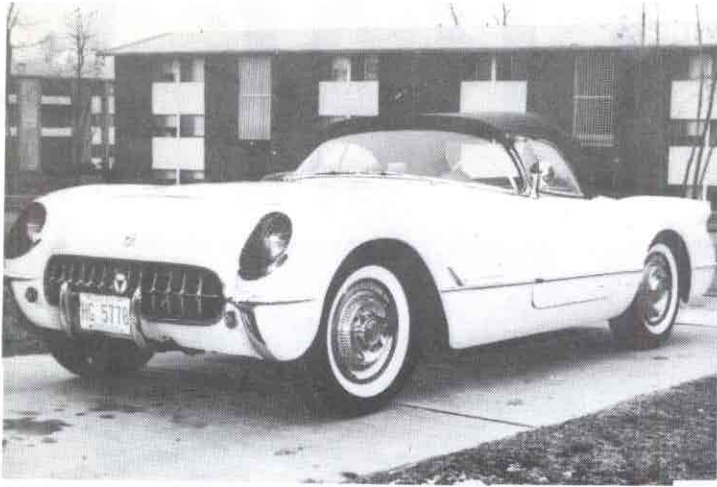
Right -   
John's 1963



John Walner, Butler, Pa. E545002162



Martin Ball, Oakland, Calif. 1956



Barry Davis, Baltimore, Md., 1954



Bob Stevens, Kalamazoo, Mich., 1954



John Schopfer, Loudonville, Ohio, '55 --  
VE55S001266



Side view of John's car



Carol Vamchuk, British Columbia Cor-  
vette Club Rep at WSCC Pre-Convention,  
Riverside, Calif.



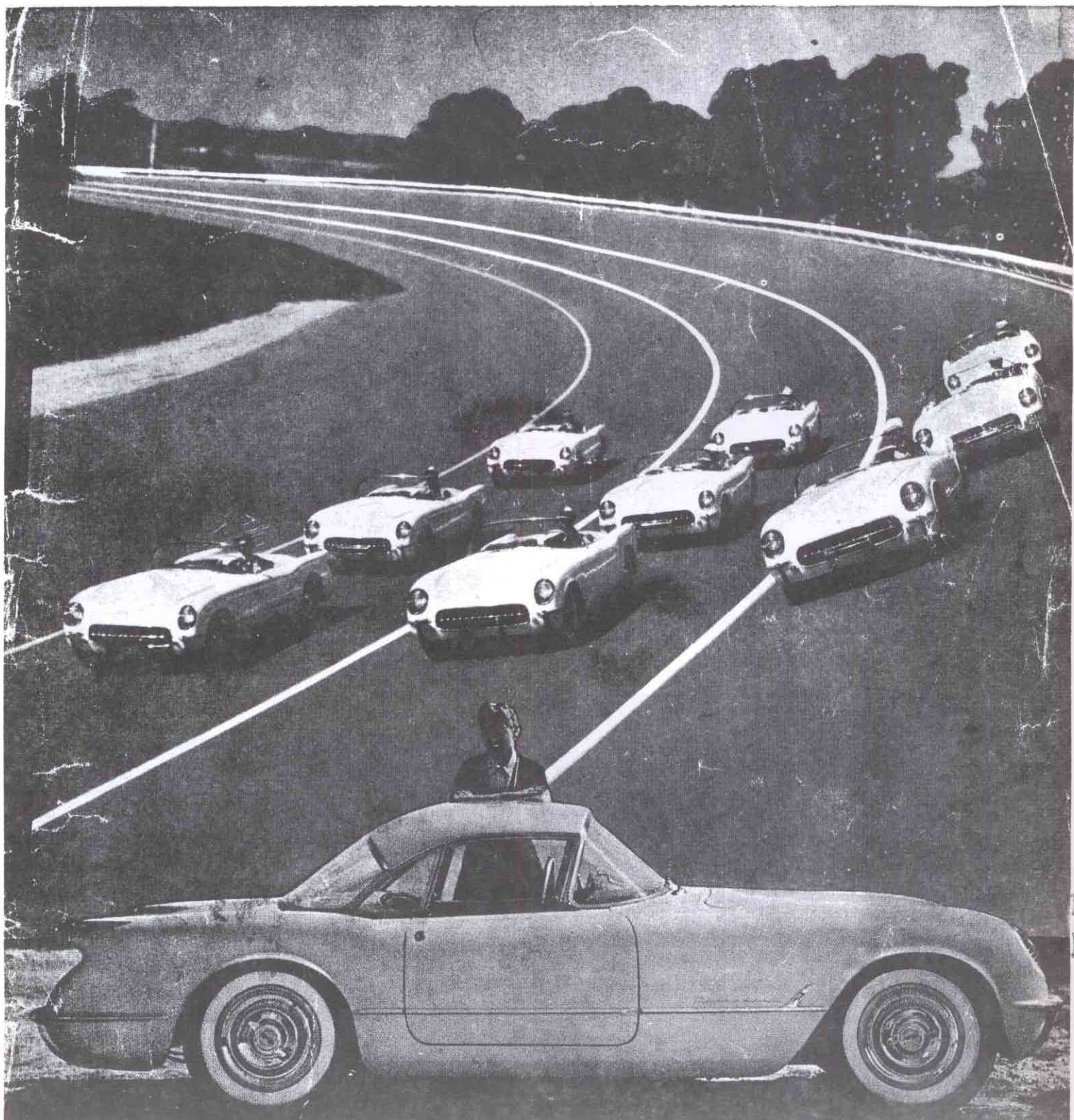
Tom Taylor, San Jose, Calif., 1955



# ROAD & TRACK

June, 1954

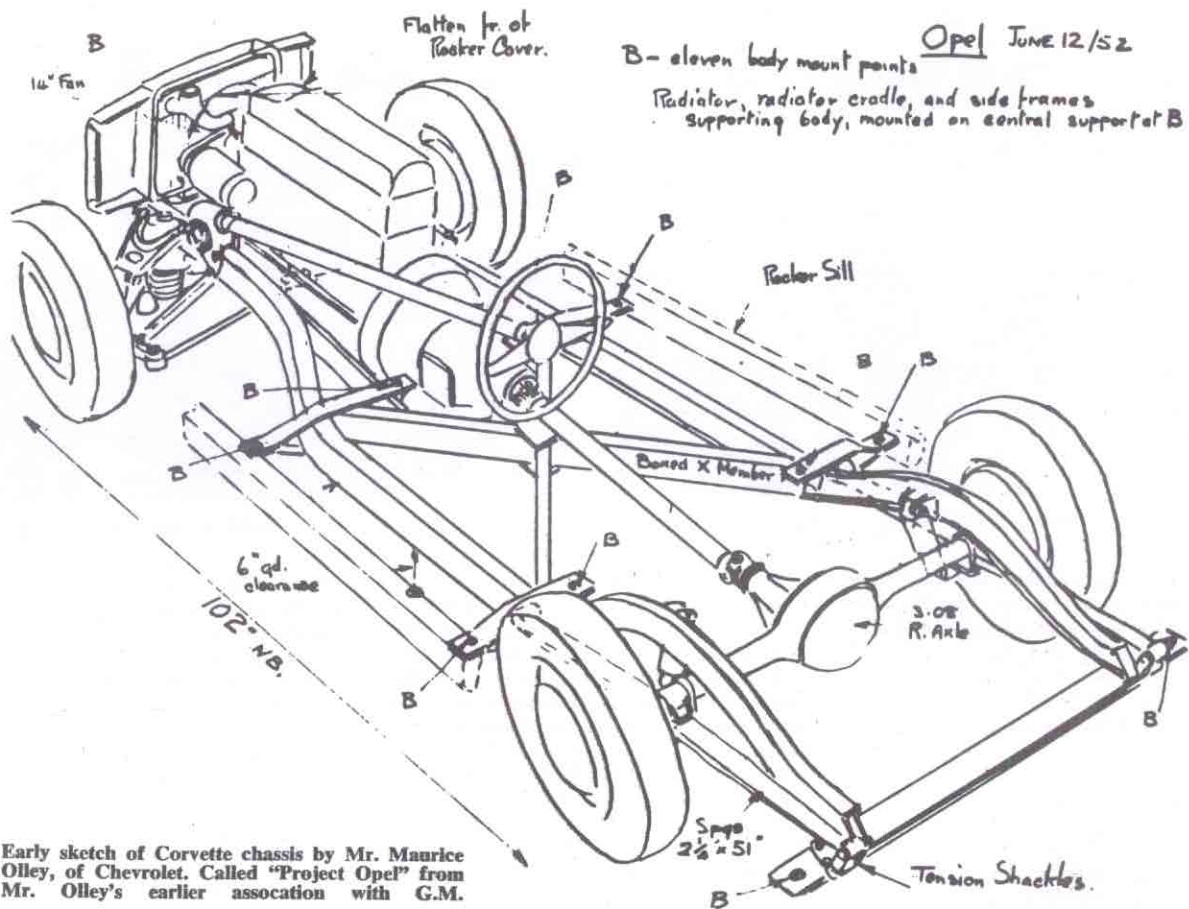
35c the copy



Vintage Corvette Club of America wishes to extend their thanks to Road & Track Magazine for reproduction rights of the article, "THE CHEVROLET CORVETTE".

**CORVETTE** Complete road test  
Engineering report

• **MG-V8-60 CONVERSION**



Early sketch of Corvette chassis by Mr. Maurice Olley, of Chevrolet. Called "Project Opel" from Mr. Olley's earlier association with G.M.

# THE CHEVROLET CORVETTE

by John R. Bond

photographs courtesy Chevrolet Motor Division

As far back as 1948, *Road & Track* took-up the cause of the American Sports Car, with editorials and articles continuing through the years. Now we have such a car in the Chevrolet Corvette. During a recent trip to Chicago and New York it was discovered that very few sports car enthusiasts know much about this new car. There

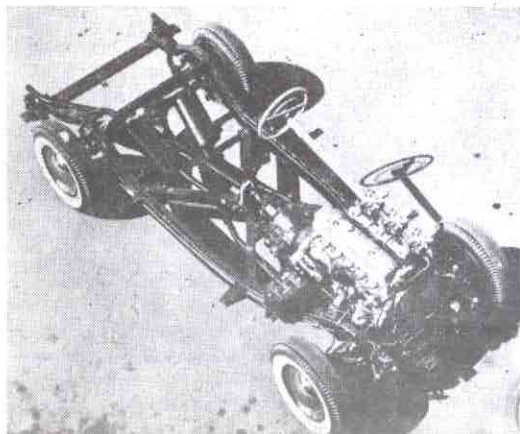
is also a very general feeling that the Corvette is not a genuine sports car. Maybe it isn't, though part of the difficulty can be traced to the lack of a universally accepted definition.

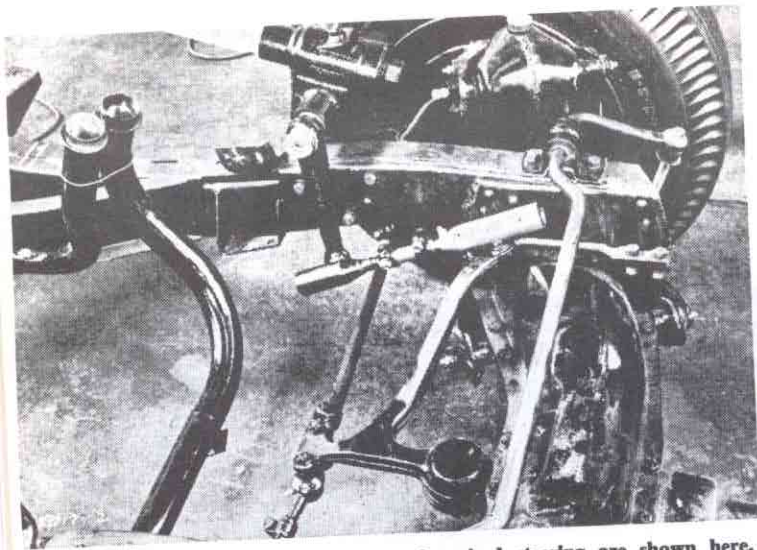
To enable each reader to evaluate the Corvette for himself, the following facts and information are presented. The basis for this

report has been taken from an S.A.E. paper, presented by Mr. Maurice Olley, at Detroit, Michigan, on October 5, 1953.

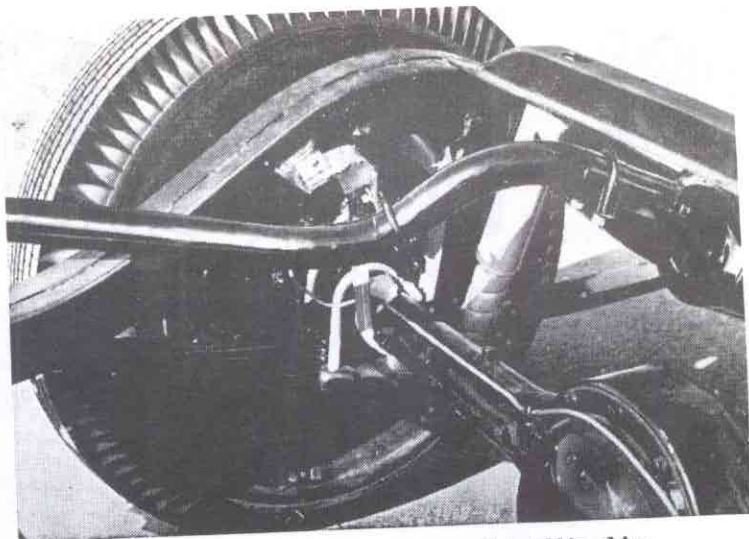
The thinking behind the Chevrolet Corvette is based on the assumption that a sports car must have a cruising speed of over 70 mph, a weight/power ratio of better  
(Continued on next page)

Final result, a well engineered sports car chassis. Development of the new car enjoyed the advantage of G.M.'s vast proving grounds.





Bolt-on front cross-member and revised steering are shown here.



Corvette rear suspension with special springs and hotchkiss drive.

than 25 to 1, ample brakes, and good handling qualities. On this latter point Mr. Olley lists the following items as being desirable:

1. Quick steering with light handling.
2. A low center of gravity.
3. Minimum overhang with a low moment of inertia relative to wheelbase.
5. Smooth yet firm suspension.
6. A quick steering response, but no oversteer.

How the Chevrolet Motor Division achieved these obviously desirable sports car characteristics is very interesting. On June 2, 1952 Chevrolet engineers were shown a plaster model of a proposed car having a wheelbase of 102 inches. In seven months they were to design, build and test a chassis, using components of known reliability. It must have adequate performance, a comfortable ride and stable handling qualities.

On June 12, one of several sketches was selected (see illustration). It remains fairly close to the final design. In general the chassis components were adapted from Chevrolet parts, but a hotchkiss drive was essential, since the short wheelbase would have required a torque tube so short as to produce excessive change of wheel speed on rough roads. Since the open body would contribute nothing to overall rigidity, a completely special frame was designed using box-section side rails and X-member. The X-member is low enough to allow the drive line to run above it, giving a very strong, solid junction at the "X". The low frame also required outboard rear spring mountings which places them close to the wheels, for stability. Weight of the complete frame is 213 lbs.

The front suspension uses many standard parts but is stiffer in roll by virtue of a larger diameter stabilizer bar. The coil springs are special because of the reduced

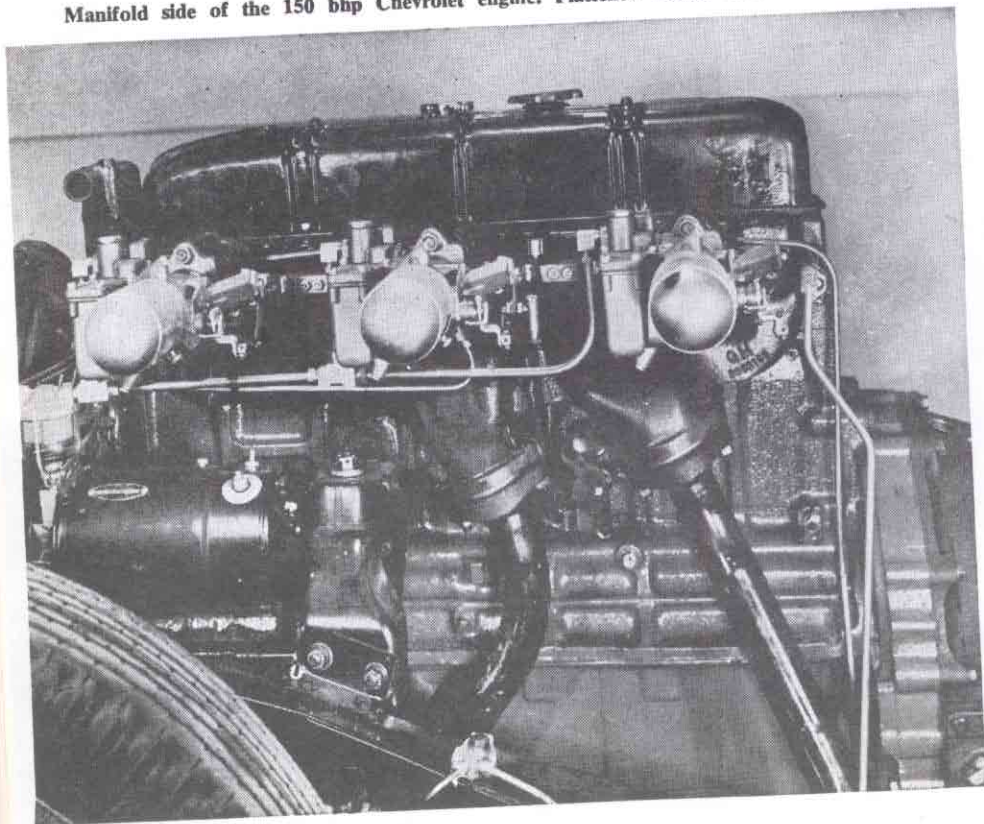
load, but their rate appears to be the same as the stock sedan. However the sprung weight is less than stock, giving the effect of "stiffer" springs with a faster bounce frequency. Static deflection is given as 7 inches, equivalent to a ride rate of about 105 lbs/in. and a bounce frequency of 71 oscillations per min. The front cross member appears to be stock and retains the excellent bolt-on, sub-assembly feature used by Chevrolet since 1934.

The steering idler arm (see photo) was redesigned because of the lower engine mounting and is carried on a double-row ball bearing. Steering ratio selected is 16 to 1. On this Mr. Olley says "We are aware of a preference in some quarters for a rack and pinion steering on cars of this type. However this involves a steering ratio of the order of 9 or 10 to 1. We regard this as too fast even for a sports car . . ." The steering wheel is 17.25" in dia., its angle is 13° from vertical and the turning circle is 38 ft.

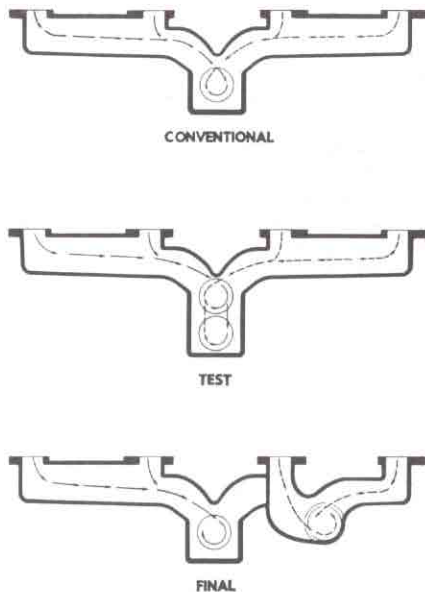
The rear springs are 2" wide x 51" long, with four leaves. They are inclined (low in front, high at the rear) so as to give approximately 15% roll understeer. Quoting Mr. Olley, "This may appear excessive, but some of the handling qualities of a car depend on the amount it is allowed to roll on turns. When a car is designed to roll very much less than normal, and with a low c.g., so that the overturning couple on the tires is reduced, it may become necessary to put a strong understeering tendency into the rear axle control, to provide an adequate tail for the arrow." Tension type shackles are used to give a variable rate, but the static deflection at the rear is given as 5", equivalent to a ride rate at normal load of about 112 lbs/in., a ride frequency of 80 oscillations per minute.

The center of gravity of the Corvette is only 18" above the ground. This, in conjunction with a heavier stabilizer bar and stiffer, non-symmetrical rear springs contributes to greatly reduced roll angle when cornering.

Moment of inertia relative to the wheelbase of the car as whole is dependent on the distribution of the principal masses. A dumbbell-like distribution, with weight concentrated at the ends, tends to give good riding qualities but a slow steering response. A sports car requires some compromise in this respect. In the Corvette the engine is



Manifold side of the 150 bhp Chevrolet engine. Flattened rocker cover allows low hood.



Dual exhaust adds to bhp, but thorough engineering resulted in over 4% better torque.

located 7 inches further back and 3 inches lower than a stock Chevrolet sedan. To avoid complexities, if we take the stock sedan's moment of inertia as 100%, the Corvette can be rated as 62%. Obviously much of this reduction in "dumbbell" or flywheel effect comes about from the drastic reduction in body weight.

The net result of the suspension features just described more than fulfills the original design objective—smooth yet firm suspension. Again quoting Mr. Olley "A joggling ride is not acceptable, but a floating ride which appears to be divorced from the road is even more unacceptable. Excessive roll and vague handling characteristics will not do."

The question of weight distribution, fore and aft, should not be confused with mass distribution. A car could have its engine in the middle of the wheelbase and still have a 50/50 weight distribution. But its moment of inertia would be even less than the Corvette. Most engineers will agree with Mr. Olley that any deviation from 50/50 distribution should favor a slight nose-heaviness. There are many reasons for this, but

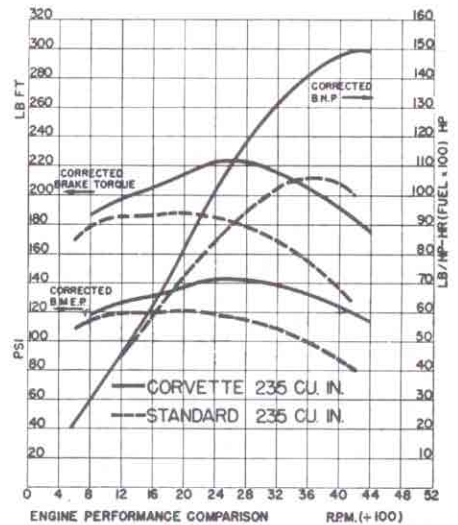
the most important one is that extra weight on the front wheels gives better directional stability at high speeds. The Corvette road tested this month (see page 10) weighed exactly 2890 lbs with full tank, spare tire, radio and heater. In this condition the fore and aft distribution was 1560 lbs front, 1330 lbs rear, or 54/46. With 320 lbs for driver and passenger added, the weights change by just over 2%, to 52/48. A mere 90 lbs of luggage over the rear axle changes the distribution another 2%, to 50/50. It is worth noting that every principal sports car manufacturer of note shows tendencies towards more weight forward. Allard's latest JR model is a complete reversal of previous policy with 57/43. Even Porsche is "reversing" their engine location from just behind to just ahead of the rear axle, on their latest type 550 model.

Having dealt with the various aspects of the chassis design and its effect on the all-important handling qualities, let us examine the rest of the Corvette. Many people like to point out that "Chevrolet hasn't changed their engine since 1937" (when four main bearings and a new stroke/bore ratio were adopted.) This is however, a compliment for it attests to the excellence of a design which, though perhaps not exciting or dramatic, has stood the test of time. Actually, very little of the original design is left. Today all Chevrolets have a larger bore and stroke, pressure lubrication to the rods, aluminum pistons, insert type bearings, an even heavier crankshaft, very large ports and valves. The accompanying power curve data compares the 108 bhp 1953 Chevrolet to the Corvette. The Corvette engine is not changed radically over the 1954 115 and 125 bhp stock engines. Compression ratio is slightly higher at 8.0 to 1. Adjustable type valve tappets run on a revised camshaft having .005" more lift than the production 125 bhp engine. The following table illustrates the moderate changes made in valve timing.

ENGINE	I.O.	I.C.	E.O.	E.C.
115 bhp	1.0	39.0	42.0	9.0
125 bhp	10.5	53.5	49.8	15
150 bhp	19.5	44.5	59.0	5.0

The corresponding valve spring pressures on the three engines are 160, 182 and 207 lbs. The camshaft timing gear is aluminum

The Corvette engine sits horizontal in order to get the drive-line over the X-member.



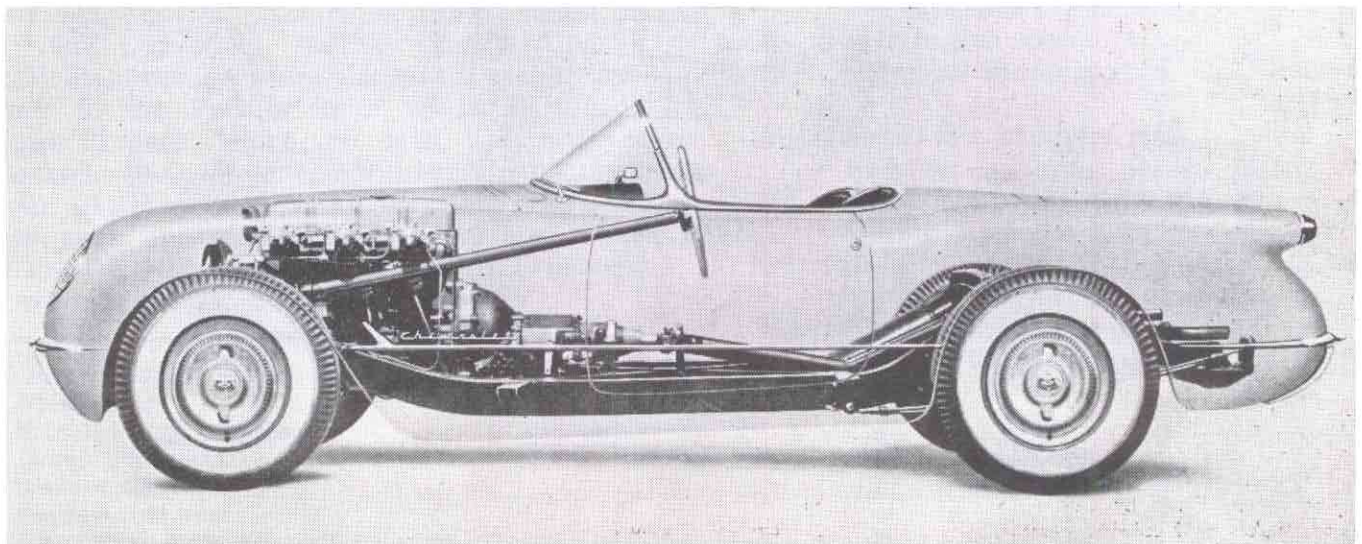
This shows the improved engine performance of the Corvette compared to the 1953 engine.

on the 150 bhp Corvette, to withstand the heavier loads and higher speeds.

There are three Carter side draft carburetors mounted on a cast aluminum manifold provided with suitable balancing passages. Automatic chokes were tried and abandoned because of choke valve flutter and fast idling. No exhaust heat is used or is necessary, but provision is made for extremely cold weather. The heat shield can be removed and the heat control valve spring reversed, if desired. The dual exhaust system (illustrated) is a special type to keep the gasses in the outlets always swirling in the same direction. This one feature added 8 to 10 ft/lbs of torque in the mid-speed range. On the mufflers, Mr. Olley says "A requirement in the minds of sports car enthusiasts is that the exhaust should have the right note. They don't agree what this is. Some prefer 'foo-blap' while others go for 'foo-gobble.' It is impossible to please them all. We hope we have achieved a desirable compromise."

The water pump is a special high-efficiency type running at .9 engine speed. Circulation rate is 27 gpm at 2000 rpm. The fan is 18 inches in diameter, not shrouded. Cooling tests show that the cooling system of the

(Continued on page 16)



## CORVETTE

*Continued*

Corvette (pressurized at 4 psi) is far above normal passenger car standards.

The ignition system is 6 volt, with a special coil, condenser and distributor cam. Voltage reserve is ample for speeds well above 5000 rpm. Standard spark plugs are 14mm AC 44-5, but the AC 43-5 is recommended for continuous high speeds.

As a result of these engine modifications the maximum output has been raised to 150 bhp at 4200 rpm. More power has been developed experimentally, but only at a higher peaking speed, and accompanied by a serious loss in torque. As it is, the bhp gain is 20%, yet torque has also gone up by 11.5%. The net result is a vastly better acceleration curve, and a smooth idle at 475 rpm.

For reasons of wider appeal, a modified Powerglide transmission is used on the Corvette. Mr. Olley says on this: "The use of an automatic transmission has been criticized by those who believe that sports car enthusiasts want nothing but a four speed crash

shift. The answer is that the typical sports car enthusiast, like the 'average man', or the square root of minus one, is an imaginary quantity. Also, as the sports car appeals to a wider and wider section of the public, the center of gravity of this theoretical individual is shifting from the austerity of the pioneer towards the luxury of modern ideas . . . there is no need to apologize for the performance of this car with its automatic transmission." That statement, from Chevrolet, should get a rise from 100,000 *Road & Track* readers!

The rear axle is essentially stock, but the housing and pinion gear are special to provide an oil seal and universal joint flange. The open drive shaft is only 36 inches long and check straps are used to prevent too great an angle at full rebound. The spring pads are also different from the stock rubber bushed pin used with the torque tube.

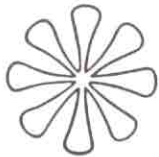
The first Corvette shown at G.M.'s New York Show in January 1953 had a fiberglass body, as is well known. What isn't so well known is that the 1954 production schedule of 10,000 units were to have steel bodies

made from Kirksite dies. But, the demand for immediate delivery was so great that it was decided to build 300 Corvettes in 1953, with fiberglass bodies. As experience was gained with the new material, so also did confidence increase. The result was the decision to build the entire contemplated 1954 production in fiberglass, and the Kirksite dies were never cast.

Chevrolet sums up the experiment this way. "What we get for all this is a very usable body, somewhat expensive, costing a little less than a dollar a pound, but of light weight, able to stand up to abuse, which will not rust, will not crumble in collision, will take a paint finish, and is relatively free from drumming noise."

Finally it is worth noting that it is amazing to find a great mass production organization willing and able to step out of its normal role of producing over 500 vehicles an hour, to make 500 specialized vehicles in two weeks. The Corvette is more than just a new sports car. It is all of that, but perhaps more important it heralds an entirely new approach, offers new hope, for the individualist. ●





NEW MAGAZINE FROM

HEMMINGS MOTOR NEWS

HEMMINGS MOTOR NEWS announces publication of a new magazine called SPECIAL-INTEREST AUTOS. We think it's the sort of magazine your members will enjoy. We hope you will be kind enough to make mention of it in a forthcoming issue of your club publication.

Briefly, SPECIAL-INTEREST AUTOS (SIA) will devote itself to collectable non-classic and non-antique cars. Coverage will range broadly - from the birth of the Model T (1908) through the original Avanti (1962). For example, we'll be dealing with all generations of Ford, Chevrolet, Hudson, Airflow, Buick, Kaiser-Frazer, Olds, non-classic Cad, Packard, Zephyr, Pontiac, Nash, Reo, Willys, Graham, Hupp, Austin, Crosley, Edsel, Star, 2-seater T-Bird, etc., etc. A full listing would be too long to detail here.

SIA will publish only original articles, not reprints. We will use top writers, photographers, researchers, and artists. This will be a bimonthly, full-sized magazine printed on glossy paper, with ads limited to 25% of total space (no classifieds).

Our first issue will be out in September. Distribution is by subscription only. Pre-publication rates are \$4 for HEMMINGS subscribers and \$5 for all others. Rates go up \$1 respectively after Sept. 30, 1970.

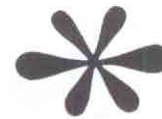
SIA's publisher is Terry Ehrich, who also publishes HEMMINGS MOTOR NEWS. Michael Lamm will serve as editor. Editorial offices are in Stockton, Calif. Business, subscription, and advertising offices are at Box 380, Bennington, Vt. 05201.

Michael Lamm is a friend of ours from Stockton and has given us good coverage in "Rod and Custom" November, 1969, issue on our 1956 Corvette. He has also written an excellent coverage story on the "Vintage Corvette" in the Fall of 1969, which he sold to "Motor Trend" which, to date, has not yet appeared. We recommend both these magazines to our Club members as an excellent source of parts, cars, and information. We feel it broadens our knowledge to learn more about all makes, and models of special interest cars.

1955 Parts Wanted:

1. Wheel Covers.
2. Front hood support springs.
3. License plate bezel.
4. Intake manifold.
5. Courtesy light lense.

K. Nailor, 2661 Summit, Broomall, Pa. 19008



The following appeared in "On Your Marque" published by the Corvette Marque Club of Seattle, Washington and was written by Donna Bridgeman, wife of Joe Bridgeman, our 2nd member.

I've seen a lot of grand machines  
 With high toned paint and power.  
 I've seen them purring down the street,  
 I've watched them by the hour.  
 And they are lovely, I'll admit,  
 And pangs of envy bring.  
 But after all, I really think,  
 The "Vintage Vette" is the thing.

For sure the man who harbors one  
 Within his humble gates,  
 Will make a wondrous husband for  
 The girl with whom me mates.  
 I'm speaking from experience  
 And surely ought to know,  
 My husband's spare time all is spent  
 In trying to make one go.

He leaves the table every night,  
 A smile upon his face.  
 And gets his tools together then,  
 A whistling 'round the place.  
 You'd think that he was going to  
 A banquet or a show,  
 But really he is going out  
 To make the old 'Vette go.

He drives the thing on tours and back,  
 Through sunshine and thru rain.  
 And takes it all apart at night,  
 And puts it back again.  
 If callers come around at night,  
 The brothers of his lodge,  
 He always has to entertain  
 Them out in the garage.

My husband is a cheerful man  
 To have around the place.  
 He comes home every night with  
 A smile upon his face.  
 Our life is sunny all the time,  
 But dark will be the weather,  
 If ever by mischance he gets  
 The old 'Vette all together.



# PROJECT:

## Restoration of Corvette, Serial No. E53001255

### Editors' Note:

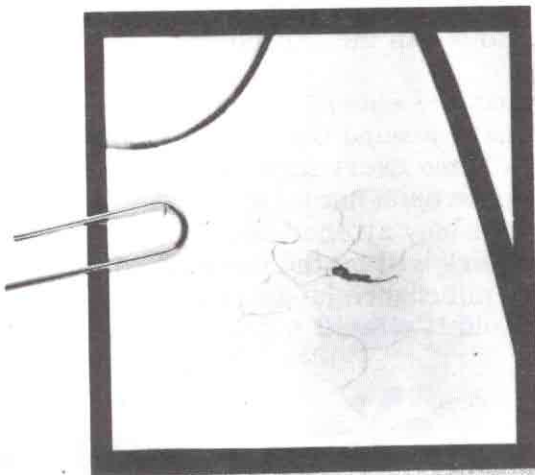
This is the second part of a two-part article covering the restoration of a 1953 Corvette, the 255th one built. Briefly to bring you up to date, *Corvette News* and its readers have long been pushing to have one of these first models authentically restored to mint and given its rightful place in automotive history. As explained in the last issue, this proposal received Chevrolet's enthusiastic support for undertaking such a project. Once completed, the car is scheduled to become a part of Chevrolet's permanent display.

While not a classic in the true sense of the word—although history may place it in this category—the 1953 Corvette was certainly revolutionary for its time. And it was definitely the harbinger of a breed of cars that have the ability to make drivers feel more of a oneness with the road. Cars such as the later model GT-inspired Corvette and other specialty jobs of the same ilk.

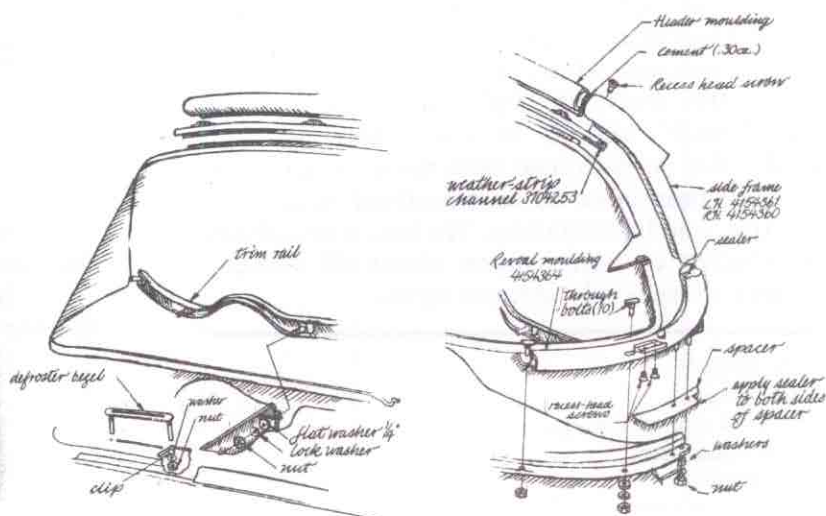
The first part of the article dealt with the goals of the project, the search for a likely subject (one that was mostly intact and had not been modified in some way) and how just such a subject was located on a used car lot in Cincinnati, Ohio. The project engineer's notebook style was used to tell how the car was stripped of its body and running gear and how the various components were evaluated for refinishing, rebuilding or replacement. It was felt that this method of reporting the project could be used as a guide for owners who might want to undertake a restoration project of their own.

The first report covered mechanical procedures, but did not get into the facets of body component restoration. Close examination of the body (still to be stripped down) had revealed several minor cracks in the left front fender, hairline cracks around left headlight and around taillights, crazed and cracked paint on the rear deck, cowl and top of instrument panel (photo). The crazing looked almost like alligator skin and it was obvious that this had to be taken down to bare fiberglass. Pieces of chrome just behind the doors needed replacing and were scheduled to be saved for use as models for hand-made duplicates. All the rest of the pieces absolutely needing replacement happily were available through regular sources. With these operations confronting the rejuvenators, this is how the work proceeded, with the steps covered in a running log from the engineer's project book.

(Part TWO of two parts.)



*Crazed, cracked paint on cowl*



## Body disassembly continued

Simultaneous with mechanical refurbishing, continued with disassembly of body to allow upholstery and body restoration. No particular schedule for disassembly set up; removed and inspected parts in what seemed like a "logical" order.

Removed taillight assemblies, then took out trunk floor panel to gain access to rear bumpers and guards. Had to use deep-socket with universal joint to remove nuts that had become imbedded in fiberglass.

Removed light screens from headlights. Then removed headlight units and housing assemblies. Made a note to remember to fill several mounting holes in the fiberglass that had become enlarged. (Decided to use plated machine screws with nuts when reassembling.)

Front bumper and guard attachments (rusted ones cut off with torch).

Pried (very carefully) bezels around exhaust pipe moldings to prevent damage to body. Took out door inner trim panels to get at upper door outer moldings. Clutch-head screwdriver 3" long with  $\frac{1}{8}$ " bite required.

Upper door moldings (required double-jointed hands and offset screwdriver), window moldings, convertible top cover trim moldings, cover, top, trim around seat edge, seat divider trim and top cover catch removed.

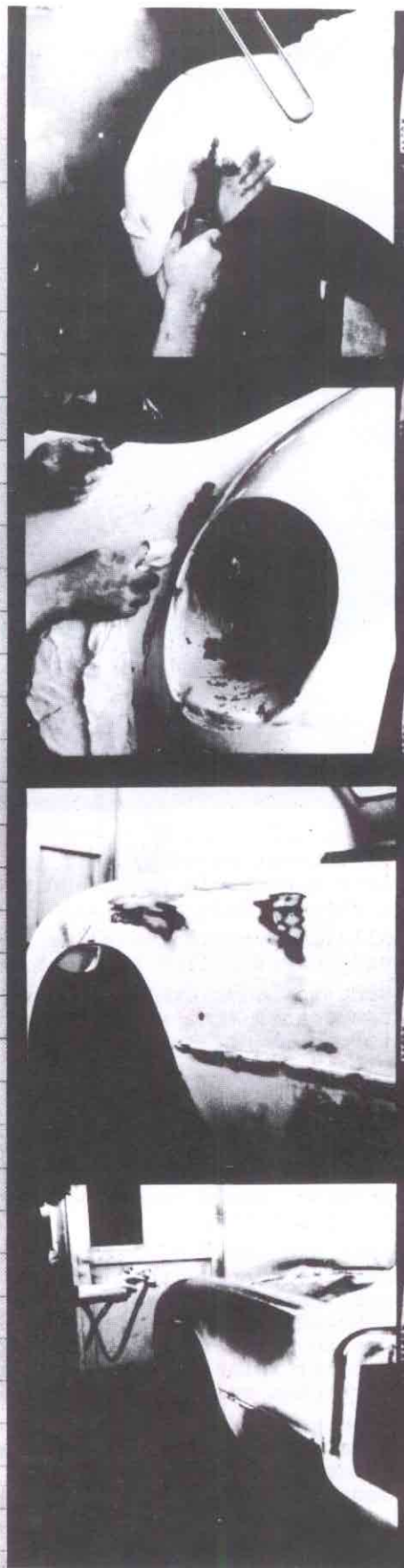
Fender moldings unscrewed from behind, nuts rotated forward and backward to loosen rust and to prevent twisting off. (Pry from underneath, take care to preserve molding clips for possible re-use.)

Molding behind door removed carefully for use as model for making a new one. Removed molding clips with short clutch-head screwdriver.

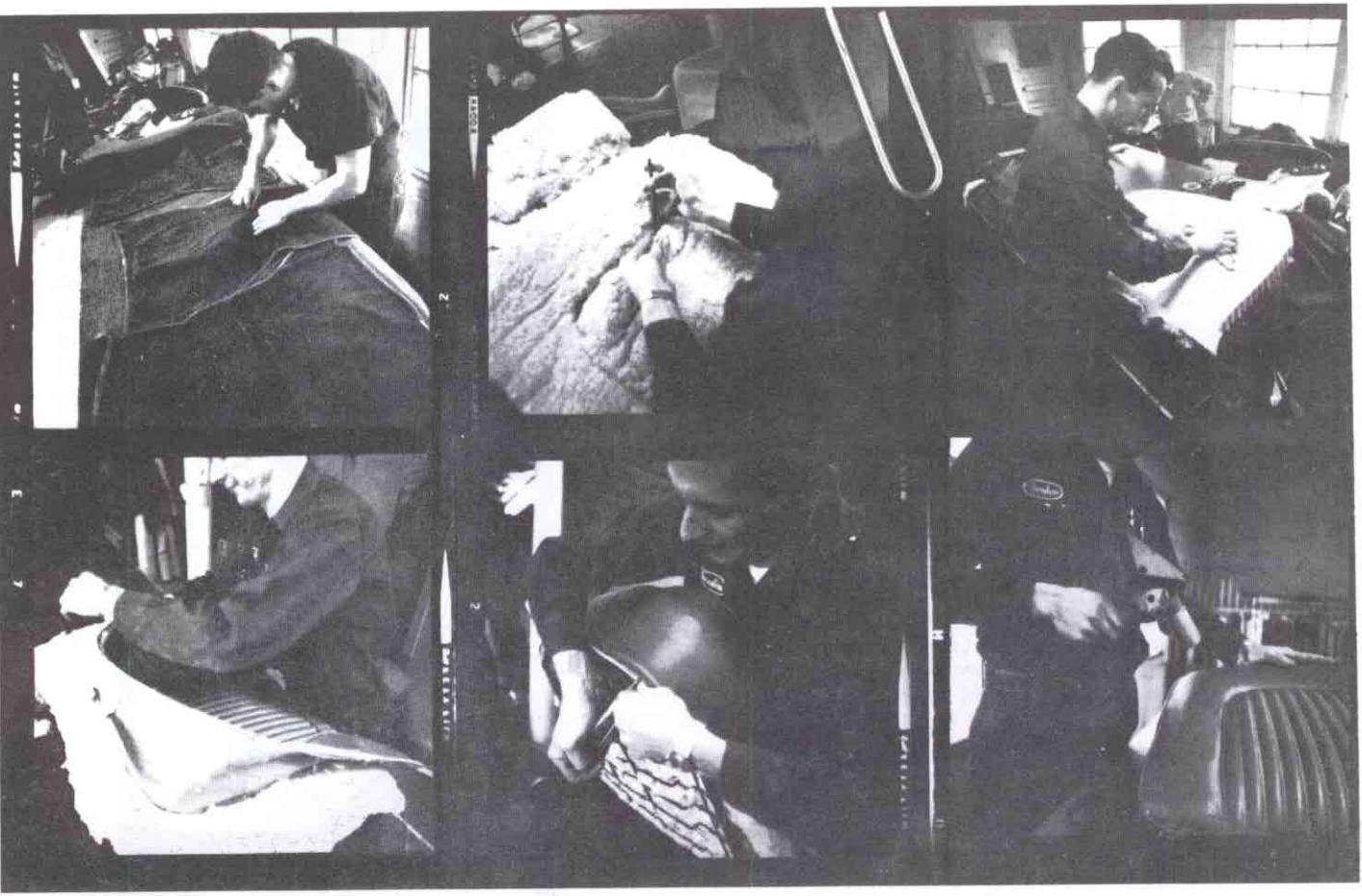
Removed radiator rubber splash guard and 16 bolts holding radiator support. Grille was then accessible with support removed, but it had been cracked in several places; removed gingerly. Horns, front "Corvette" emblem, windshield wipers, seat backs, carpet and door sill moldings taken out.

Before removing windshield, had to take out radio and defroster bezel, lower windshield molding (10 screws — sketch), upper molding, upper and lower trim moldings (windshield was badly scratched and needed replacing).

Took out horn center insert, horn ring (special care here, parts were cracked), steering wheel, steering wheel hub and bearing assembly. Inside rearview mirror, windshield washer nozzles,







instrument panel front rail, right, and left windshield posts and moldings; right and left doors taken off.

All instruments including speedo looked and worked well. Left intact.

Body now completely stripped of all components that would interfere with refurbishing.

### Body restoration

First step was wiping with Prep-Sol wax and silicone remover. (Wax or silicones could be imbedded in finish during sanding, would cause imperfections in final painting.)

Used #240-grit open-coat silicone-carbide paper with hand vibrator sander over entire surface. Ground crazed and cracked paint to bare fiberglass. Dusted off and sprayed all over with lacquer thinner. (Makes fine cracks and scratches more visible to naked eye.)

Used pointed rotary file (photo) to enlarge cracks for easier repair in fender, around headlight and taillights. Smoothed cracks with #240 paper.

Filled all opened-up cracks with Ren Epoxy (from Ren Plastics, Lansing, Michigan). Substance comes in two cans, is mixed 50-50 from each container. Smoothed plastic (photo) with cloth soaked in denatured alcohol. (Keeps plastic from sticking to cloth.)

Just before final hardening, plastic can be "shaved" to reduce final sanding.

Rough-sanded area with #80-grit sanding disk. Resanded with #240.

Resprayed questionable areas with lacquer thinner to bring out any possible cracks in surface. Sanded any questionable areas.

All sanded spots double-checked for perfect "feather edge" where no ridge between fiberglass/primer/paint can be felt with bare hand. Took photo of prepared area.

Sprayed all worked areas with Co-Polymer Epoxy Enamel Sanding Sealer.

Sprayed entire body with Rinsed-Mason Primer Surfacer. Allowed to dry thoroughly. Sanded with #320-A waterproof sandpaper, using plenty of water. Next step. Fill any imperfections with Green Stuff body filler/putty and let dry.

Sanded filler with #320-A and respotted with primer/surfacer.

Repeated operation with filler, sanding and respotting until surface was free of all visible imperfections, and gave it a good coat of primer and sealer.

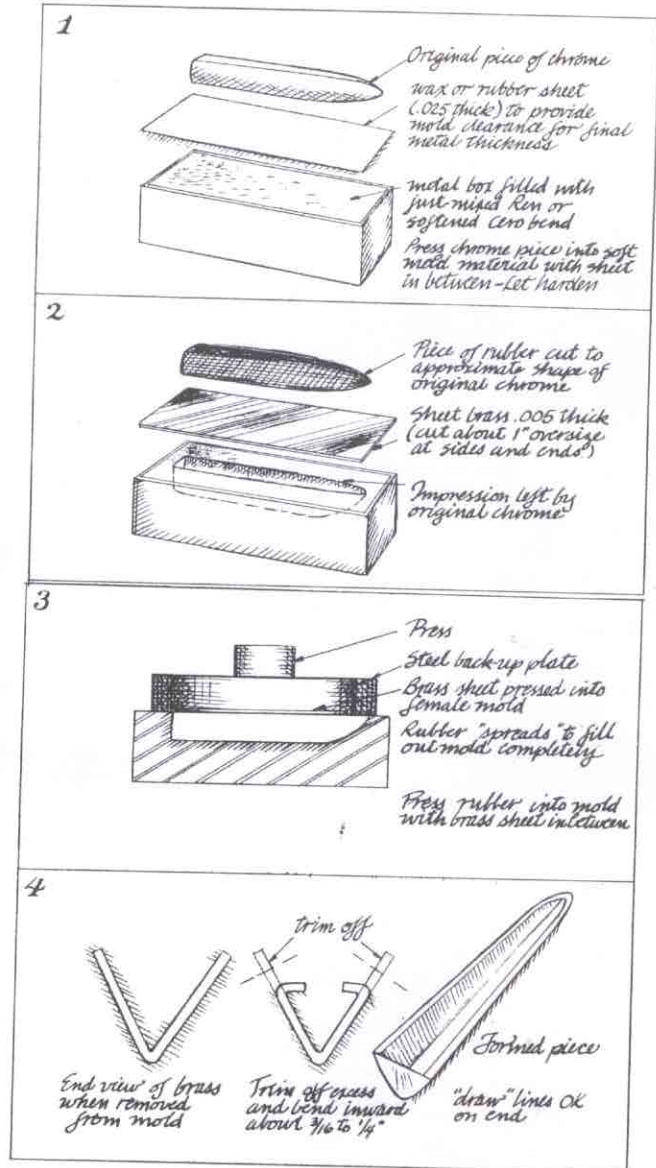
Sprayed on color coats of Duco Polo-White (nitrocellulose lacquer). Baked at 200° in oven for about four hours (24 hours for air-drying if no oven available), sanded final color with #600-A waterproof sandpaper. Wiped off water during sanding with small rubber squeegee to check surface. (Should look dull with small shiny specks for final buffing.) Often, found that cracks would reappear and lengthy process of filling, sealing, priming and painting would have to be repeated. Final buffing was left to be done after vehicle completely reassembled. Coinci-

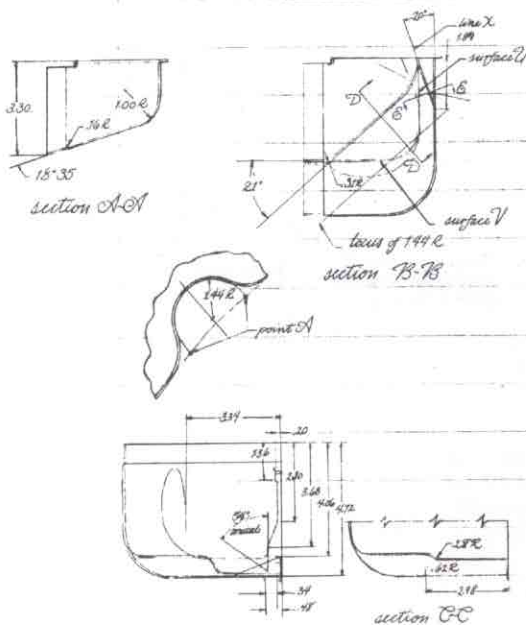
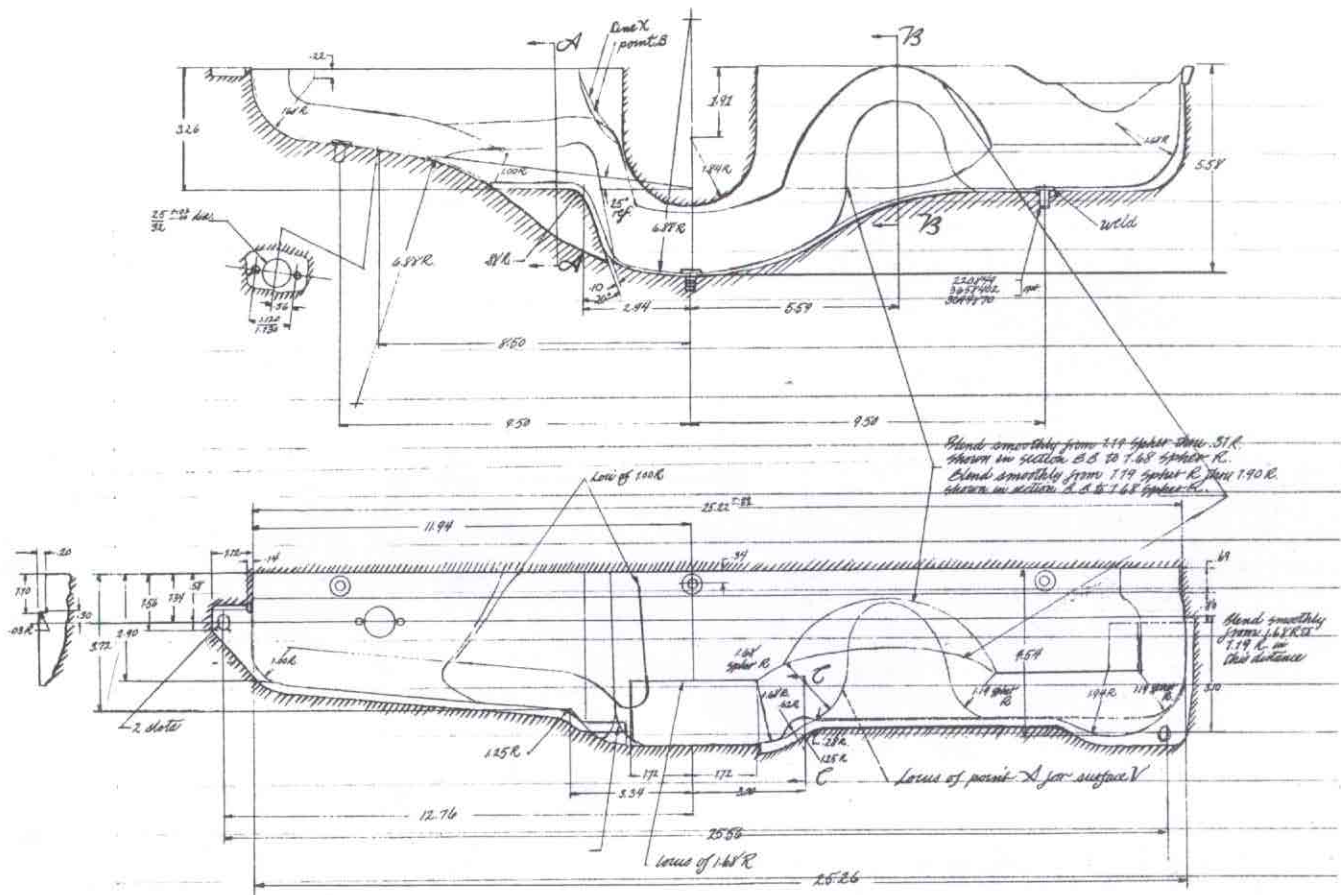
dental with body restoration, all soft trim taken to Schultz Auto Upholstery in Flint. (Firm has extensive experience in restoration of antiques and preparation of show car interiors.) All vinyl trim was removed carefully from seats and door panels to be used as patterns. Wire stays identified for re-use. Seat cushion underpinnings and springs badly rusted. Several new coil springs installed; all springs retied in burlap to keep aligned.

Top and carpets cut apart at seams; used as templates to cut out new material. Seat trim cut apart in same way. Resewn into original design with new red vinyl. Reassembled vinyl on cushions and backrests in these steps: placed new padding over cushion spring frame; attached with wire stays and hog-rings. Attached foam rubber over padding; reshaped seat with additional padding. Attached new vinyl with hog-rings (compress cushion springs). Heated any wrinkles or sags with hair dryer held about 4-6 inches away. Kneaded looseness out. (photo.) Carpeting fitted in vehicle before final sewing and binding.

All chrome trim sent to Davison Plating Company and Saginaw Plating Company to be "show quality" chromed. Original pieces sent to chrome shop when new not available. Even some brand-new pieces were "show" chromed.

Prepared to make two new chrome strips for behind doors on quarter panel. Made two female molds on a trial basis. First one used Ren Epoxy and second made of Cerobend (a commercial product with all the properties of lead, but considerably stronger). Cerobend, while hard at room temperature, melts in boiling water; starts to get soft and pliable at 180°. Female mold made by pressing old chrome strip into still-soft Ren or softened Cerobend. Placed piece of sheet rubber or wax (.025" thick) between Ren/Cerobend and chrome strip to approximate clearance needed for final forming of new stock. When hardened, old piece removed. Cut chunk of special rubber to approximate size of original chrome. (Rubber had consistency and "give" similar to material used in shock absorber bushings or engine mounts.) Used rubber chunk backed by steel plate as male portion of die. Used sheet brass .005" thick as stock. Used 25-ton press (one with less pressure would do) to force rubber male die and brass stock into mold. (Rubber has "give" to press into all corners of female mold, forming brass stock into exact shape.) After two trials in forming, a piece was pressed, trimmed and plated to look like original. Of the two female mold materials, both Ren Epoxy and Cerobend seemed to have necessary strength for this type of





Tolerances of form contours from nominal dimensions is .010 from gauge surfaces signified thus: LLLL, ±.02 otherwise.  
 Slots on nominal locating dimensions must 100% datum nominally located, please pass DTC under minimum hole size.  
 All identification must appear on this part.  
 All bend radii .05 unless otherwise specified.  
 Must be free from burrs.

thin-metal forming. Made sketches of procedure.

Procured original prints of ignition wire and distributor radio shielding to make up new. (Original shielding missing entirely.) Estimates by outside sources proved to be extremely high. Decided to form shielding (strictly for appearance) out of thin plastic. As a show car, this '53 will not be driven — "for real" shielding not necessary.

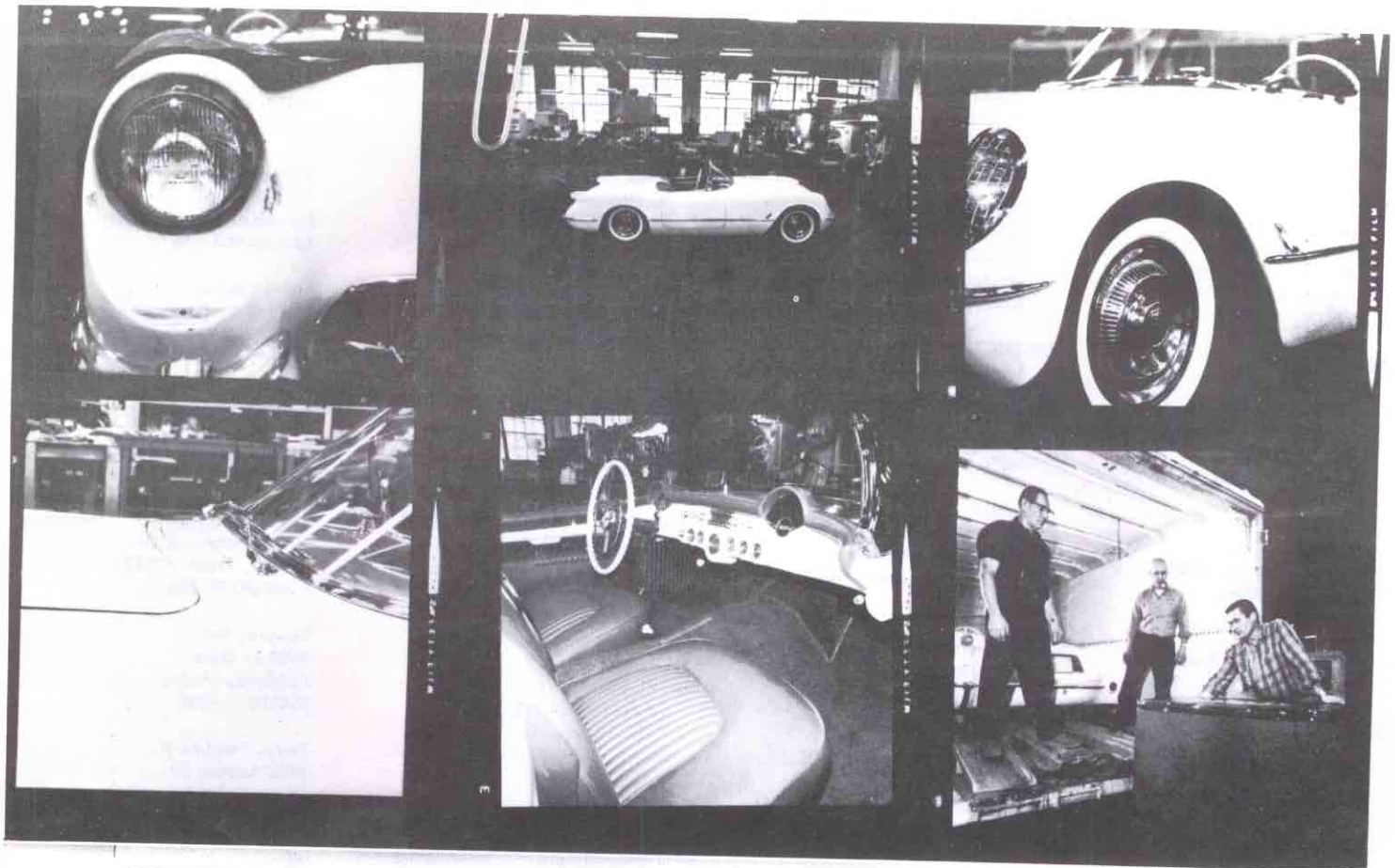
**Reassembly**

In general, reversed procedure used when disassembling. As components were refurbished, or ordered pieces arrived, these were installed when practical. By the time body restoration was well under way, complete chassis and running gear had been reinstalled. Made record of all operations and final disposal.

**Engine:** New pistons, rods and bearings. New valve springs; reworked carburetors, ground valves. New hoses, wiring, thermostat, distributor, fuel pump. Repainted with original blue enamel. Exhaust system replaced.

**Transmission (Powerglide):** Everything appeared perfect. Installed front and rear seals and painted with Dulux semi-gloss enamel. Drive shaft OK.

**Rear axle and suspension:** Replaced all gears in carrier; installed new shocks and springs. Repainted with semi-gloss enamel.



Frame, front suspension and steering:

In spite of age, springs, king pins and bushings, tie rod ends and steering idler were good. Replaced worn steering gears. Replaced shocks on general principles. Rewelded a couple spots on frame. Repainted with semi-gloss enamel.

Body and components: Every piece removed from body was either replaced or refurbished. All windshield and interior components were new. Steering wheel had to be repainted, but horn ring, emblem, etc. replaced with new; upholstery trim all new. Chrome mostly new; all replated with "show" chrome.

Before reinstalling body on chassis, reassembled all body components to stage body was in at time of removal, i.e., lights, bumpers, doors, windshield, interior trim, top and deck lid (replacing shims in their proper location as marked at disassembly), steering wheel, grille, radiator and support, etc., all installed. Each operation proceeded without a hitch except for minor scratches or gouges in some of the fiberglass. Headlight openings were fixed, (forgot to allow clearance for boss on headlight rim...chipped repaired area which required whole new repair).

Used tapered "drift" (alignment bar) to align body mounting holes with frame mountings. Lowered body, taking care to position body shims in exact location as when body removed.

Double-checked "stack" of body mounts (sketches made during disassembly). Reinstalled hoses, brake lines and cables, wire connectors, accelerator linkage, shift linkage, battery, radiator expansion tank, etc. Bled brake system; added fuel, oil and water.

Primed carburetors and started engine. Minor adjustment on carburetor and engine began to run smoothly. Double-checked lights and brakes.

Resanded, sealed and primed all nicked or damaged paint. Repainted. Next day sanded and buffed entire surface to ultra high gloss.

Drove car to waiting van for transport to Detroit. Operating perfectly. Loaded extra space in van with crates of old parts taken off. Decided to keep all old parts for possible future use if new parts are no longer available.

Summary

To recap this history-making project, it started early in January, 1967, and was completed in April, 1967. A total of 1536 man-hours was logged against the project. Total cost records were not kept because no expense was spared in some of the restoration. Also, parts bought from Chevrolet by Chevrolet have a habit of being priced quite favorably ...in Chevrolet's direction! In case you missed it, a photo of the finished product is shown in the middle of the upper row of photos on this page.

