

# CORVETTE NEWS

Vol. 8  
No. 6

FOR CORVETTE ENTHUSIASTS



# CORVETTE NEWS



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## P. 4—SLALOM DE CAMPEONES

*California, traditional hotbed of sports car activity, is site of championship slalom hosted by Corvettes, Ltd.*



## P. 10—UNDER & AROUND A CORVETTE WITH TOOLS

*The tools needed for more sophisticated operations are described in this second part of a two-installment story.*



## P. 14—CHEETAHS ALWAYS WIN

*This bit of whimsical philosophy surrounds Bill Thomas, founder and force behind Bill Thomas/Race Cars in California.*



## P. 20—RALLY U.S.A.

*Nearly 10,000 miles of travel and two miles of film went into making the rally movie that's now available for your group.*



## P. 22—THE VIRGINIA REEL RALLY

*They've changed the way of doing the reel in Virginia and some of the scenery, too. Report by rallyist/writer Starr Hammen.*



## P. 26—CLIF TUFTE

*The story of Mr. Road America and his great four miles of road that goes nowhere in Elkhart Lake, Wisconsin.*



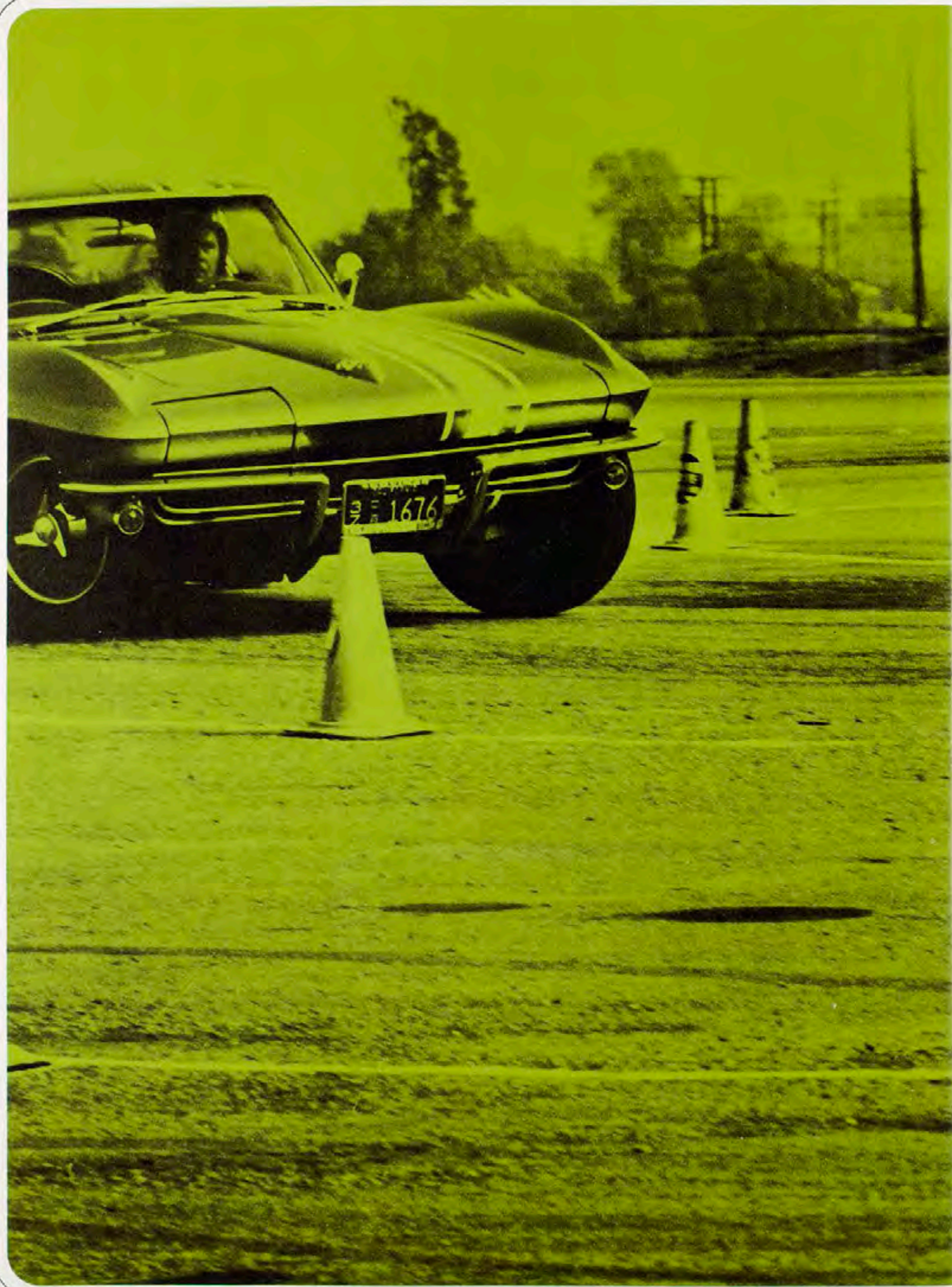
## P. 30—CORVETTE CLUB DIRECTORY

*Complete list of U.S. & Canadian Corvette Clubs. Steering wheel marks National Council of Corvette Club members.*



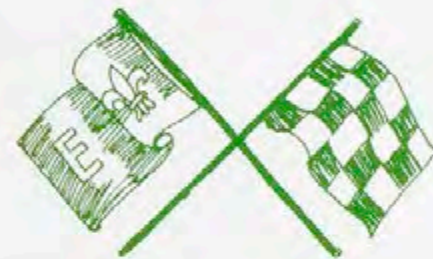
**COVER**—Arid Arizona provides the background for '65 Corvette taking part in Great Canyon Rally. Color photo by Don Sudnik.





Corvettes, Ltd., in California rate an "iOle!" for their fifth

# slalom de campeones

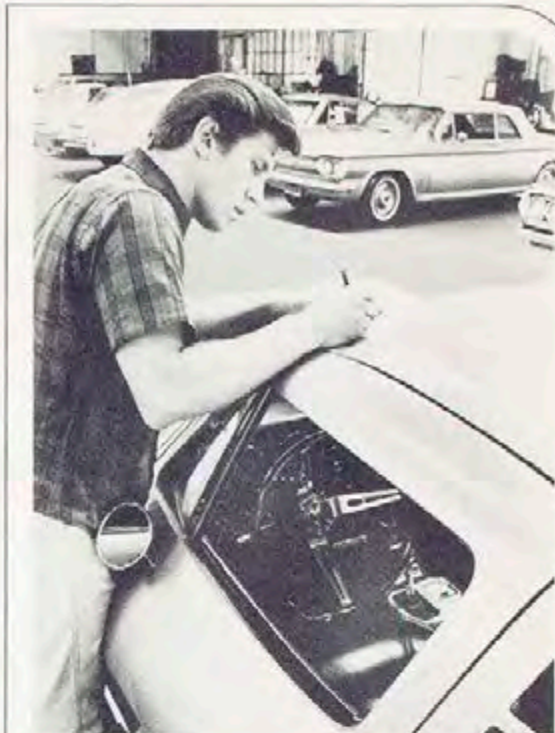


It's probably no surprise to *Corvette News* readers that California is a veritable hotbed of sport cars activity. Just a glance at the Directory in the back of this magazine shows the preponderance of Corvette Clubs in that state. Along with Corvette Clubs, many other sports car clubs abound as well. This is true especially in the Los Angeles area where some 55 active clubs meet and hold events throughout the year.

Corvettes, Ltd., in Los Angeles, held an outstanding event June 13th of this year — their fifth Slalom de Campeones. Translated from the Spanish as "Slalom of Champions," it was truly that in planning and execution. During the day, 234 of the area's top drivers ran through a serpentine course at a Pomona shopping center parking lot. Top time was set by a Corvair-engined dune buggy; Corvette Sting Rays won 1-2-3 in women's class A; and a non-Ray Corvette (pre-'63, that is) won first in men's class B. Men's division class A went to the Cobras, but not without stiff competition from the Sting Ray contingent.

**Top right:** Corvette owner Ronald Vergilio fills out the necessary forms at technical inspection; Vergilio placed 10th among his peers.

**Center right:** When Daddy starts the engine in the Lotus, it's cover-up-the-ears time. **Bottom right:** Any further comment would seem superfluous. Chuck Coleman, of Corvettes, Ltd., was in charge of collecting registration fees.



**Top left:** Widely divergent hair coverings were the order of the day. **Top right:** Bob Wingate at the moment of truth in his dealership-sponsored car. **Bottom:** An Alfa-Romeo bends it carefully around one of the many tight turns.



slalom  
de  
campeones

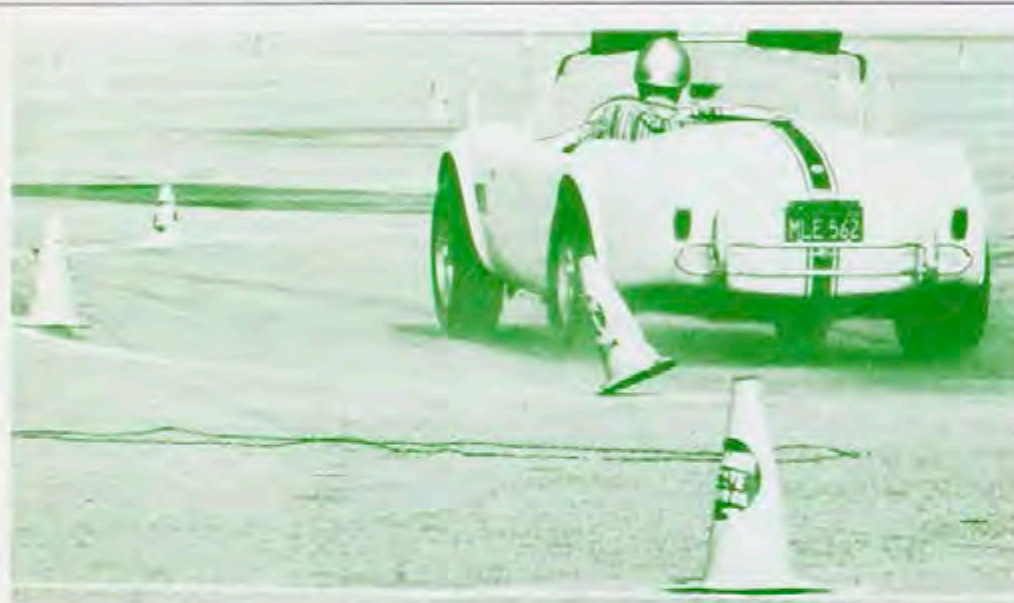


Here's how the course looked. Cars started at (1) and wig-wagged through (2) and around the big bend at (3). A series of serpentine turns put emphasis on driver skill as entrants tried to shave seconds through (4) and found the going increasingly worse at (5). Finish, in a blaze of glory, still required entrants to make a sharp right-hand turn to get off the course.



**Top:** The sponsoring club's ubiquitous emblem is found on members' jackets, T-shirts and car windows. **Center:** Although it looks as if the pylon in front of the oncoming Alfa-Romeo is in jeopardy, it survived without being molested. **Bottom:** Sting Ray sport coupe, sporting the new side exhausts, pours it on through area 4 (see the diagram).





**Left:** One of the Cobra entries had a tad too much enthusiasm; that pylon cost him five seconds. **Right:** Artist's representation of the "big thing" in California these days: very, very large tires on Corvettes. **Below right:** Overall Slalom de Campeones V winner Don Wilcox at the wheel of his Corvair-powered dune buggy. **Below left:** Don nips around the pylons with comparative ease. His car, with extremely short wheelbase and fast steering, negotiated the twisty circuit like it was born for it.



Ten such championship slaloms are held a year in the L.A. area. The coordinating body for all of the clubs is the Southern California Council of Sports Car Clubs (SCCSCC in initial form and pronounced "sick-sick" by area members). The Council, formed in 1955 to coordinate and schedule events between area clubs, set up the qualifications. As Don Platzer, Corvettes, Ltd. president, explains it, "The championship events have to have major emphasis on driving ability." Obviously, with only 10 events judged champion quality by SCCSCC, mere selection by this august council is in itself an honor.

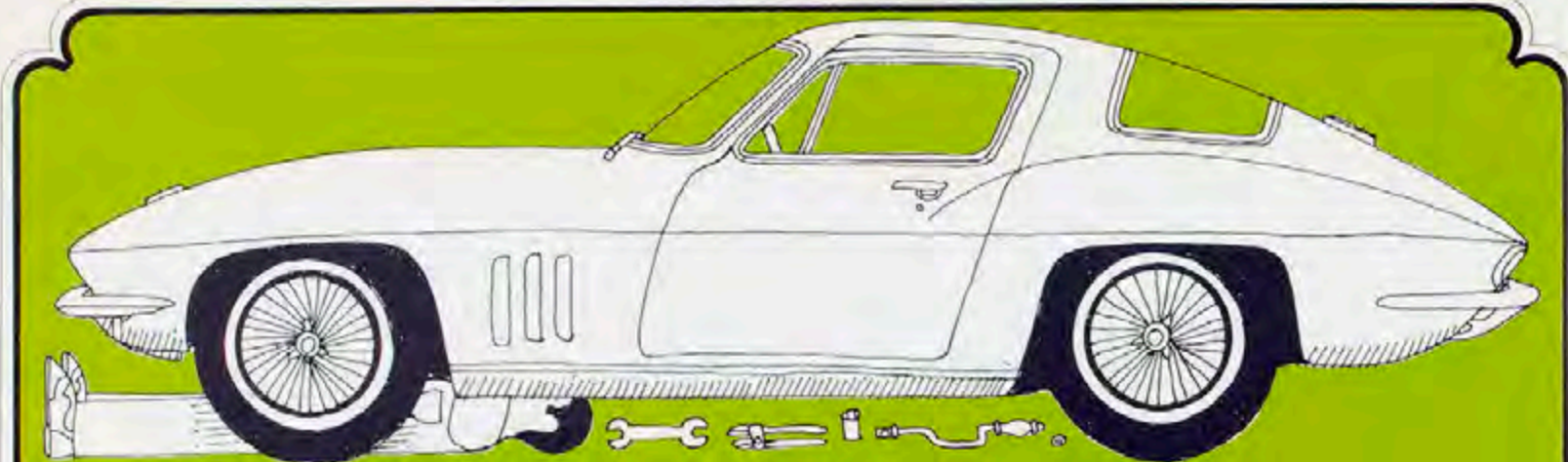
Corvettes, Ltd. members worked hard to bring off every detail with flawless perfection—including well attended parties before and after the slalom. Registration and technical inspection were conducted on Wednesday and Saturday preceding the event at Warren Biggs Chevrolet in Los Angeles.

On event day, regularly as clockwork (and the space-age timer that measured in thousandths of a second), the cars ran through the course. Even an early morning mist (it never rains in California, a Ltd. member said) failed to put a damper on activities — or times.

When the pylons were scraped up, times tallied and penalties figured, Don Wilcox and his Corvair-engined dune buggy turned 0:47:86—fastest time of the day. B. Thompson in a pre-Sting Ray Corvette turned in 0:53:46 for tops in men's B; S. Roach in the ladies' Sting Ray echelon turned in a 0:58:30 for the kudos.

Highest praise for efficiency must go to the 32 members of Corvettes, Ltd. who tirelessly toiled throughout the day. All were garbed in the club uniform—red shirt with a white club wheel emblem and white pants—which gave further continuity to the event. With favorable comments from various drivers swirling about in the members' heads, plans are already under way for a Slalom de Campeones VI for next year.





## Under & Around a Corvette with Tools (basic and sophisticated)

**EDITORS' NOTE:** BASIC TOOLS, THEIR DESCRIPTIONS, USES AND METHODS OF ACQUISITION WERE COVERED IN SOME DETAIL IN CORVETTE NEWS, VOLUME 8, NUMBER 4. THIS ARTICLE IS THE SECOND PART OF BASIC TOOLS FOR CORVETTE MAINTENANCE.

If the rationale for buying a complete set of tools is to save a lot of money in normal maintenance, actual savings in dollars and cents may prove disappointing. For example, those operations which are considered normal maintenance require more than basic hand tools. Consider such things as a simple chassis lube job, oil change, fixing a flat tire or periodic engine tune-up. These may take some exotic equipment—hydraulic lube rack, tire-changer machine, engine diagnostic rig, etc.—not found in every Corvette owner's garage. Therefore, the justification for buying basic tools would not lie in saving money on normal maintenance, but in not-so-normal operations.

To illustrate, the astute owner could rightly question how often the various steering, suspension or other mounting points are checked in routine maintenance work. Yet

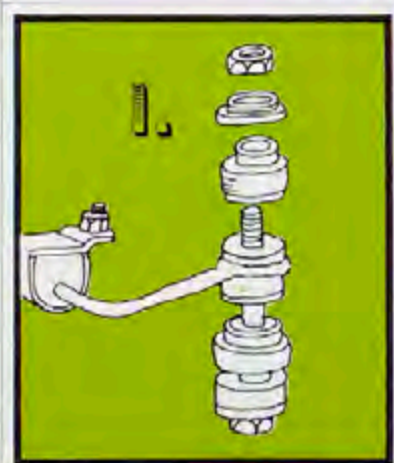
it makes good sense, if only for peace of mind, to keep the often-overlooked items in tip-top shape. With the basic set of tools, an owner can check for himself that all's well for trouble-free driving. Assuming an owner has a good share of the basic hand tools mentioned in the earlier Corvette News article, here are a few suggestions on where to check and what to look for.

**Exhaust manifold and exhaust system (#5).** Because of the constant expansion and contraction of exhaust system parts, these all should be checked periodically. Loose connections not only ruin threads, but damage gaskets as well. A flex or ratchet handle with a 12", 6" and possibly 4" extension, plus universal socket adapter and both conventional and deep sockets with a 1/16" opening are required for this operation. The rest of the exhaust system can be checked with the same tools, but with the possible addition of 7/16" and 1/2" sockets. If any part of the system is in contact with something and rattles or vibrates, the joints or hangers should be loosened. Move the pipe away from the contact point with a block of wood or pry bar. With the pipe so positioned, the joints or hangers can be re-tightened.

**Inlet manifold.** Because of the manifold's (especially aluminum) expansion and contraction characteristics, mounting bolts should be checked regularly. Always follow the proper tightening sequence as outlined in the shop manual, starting toward the middle and working out to the sides and ends. The tightness range is 25-35 ft.-lb.

**Shock absorbers and stabilizer bar (#'s 1, 2 & 3).** These have similar bushings and should be tightened until the bushings are well compressed to a maximum of 25 ft.-lb. torque for the shock absorber upper bushings; to 12 ft.-lb. for the stabilizer bar. A torque wrench is recommended, but any 1/16" open-end, box-end or socket can be used for "sight" tightening.

**Front suspension and steering gear.** Many of the nuts and bolts are of a special type with markings to designate tensile strength. When disassembling or replacing components, be sure nuts and bolts with the proper markings are used. (These markings are charted later in this article.) All suspension and steering components should be checked for tightness and presence of lockwashers where needed. A shiny part

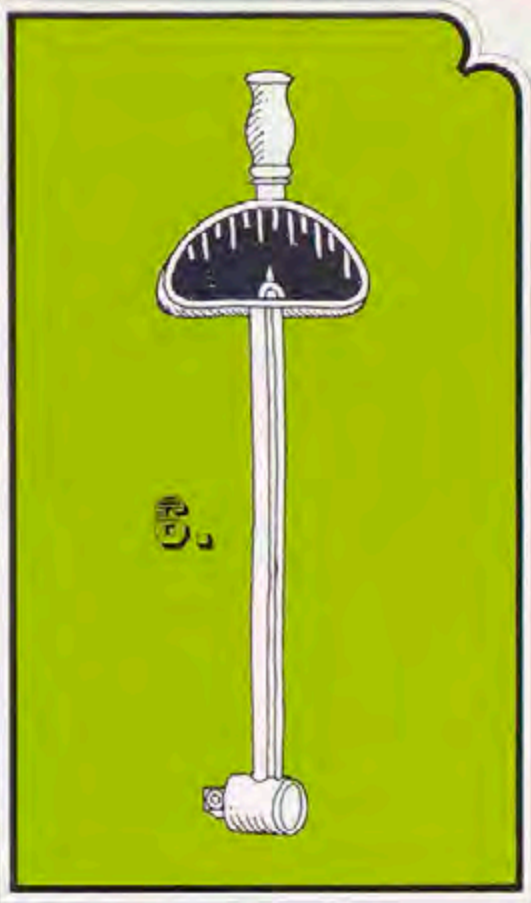
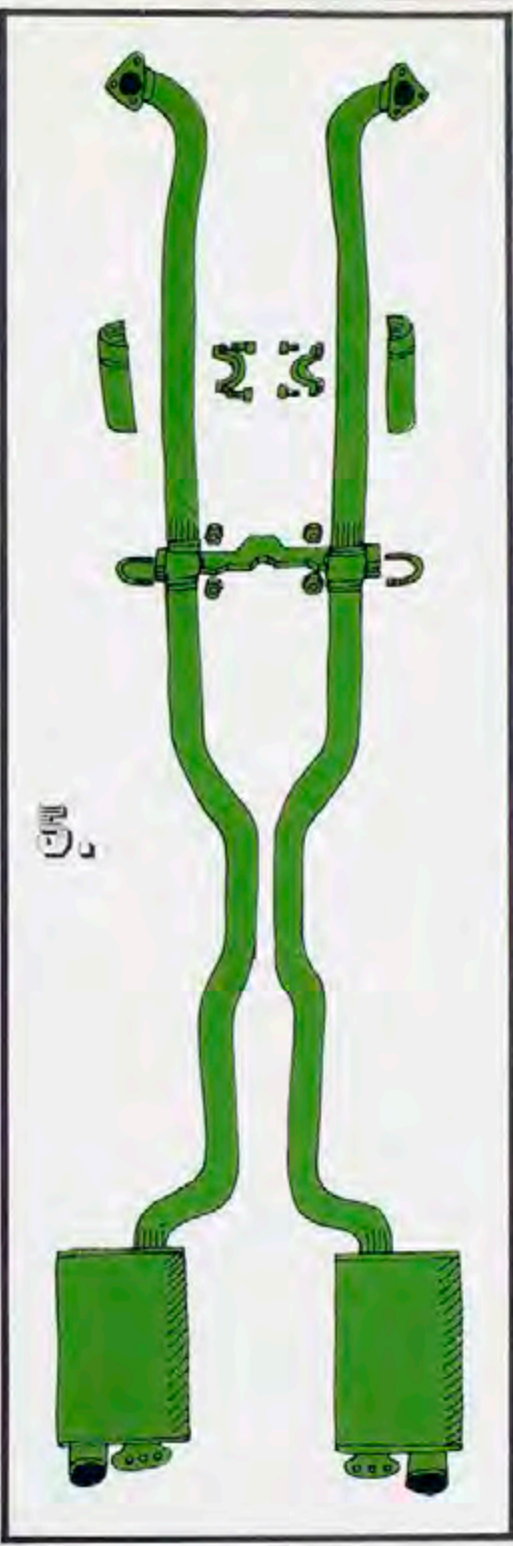


around the head of the bolt or nut indicates excessive looseness. Mounting-holes should be checked for possible enlargement if such movement is indicated.

**Engine, transmission, driveshaft, rear axle and rear suspension (#4).** These should all be checked periodically. Open-end wrenches in either 1/2", 3/16" or 3/8" sizes will do for the universal joint job. Socket wrenches up to 3/4" opening will do for most of the other tightening jobs.

**Chassis-body mounting bolts.** The biscuit mountings should be checked, but here, a too tight condition can lead to many problems. The bolts should be snug. Excessive tightening could cause squeaking, rattles or even distortion of door or hood openings.

Proper torque of nuts and bolts is certainly important—in some applications it cannot be overstressed. For most engine, transmission, rear axle and steering components, the proper torque is necessary to prevent



loosening. But more important, proper torque helps prevent distortion which could lead to other problems in close tolerances. For example, a cylinder head that is too tight can actually distort cylinder bores. This condition even gets worse as the engine expands or contracts during operation.

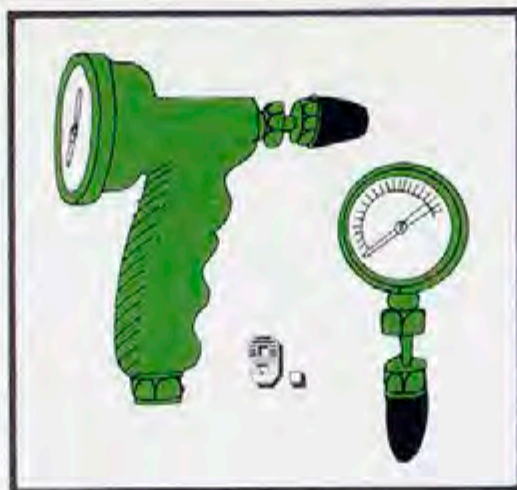
A good torque wrench (#6) can be purchased for approximately \$10-\$15. The most practical would be one with readings from 0 to 100 ft.-lb. A pivoted handle allows a concentrated load position for more accurate readings. Capacity can be raised 50% by using an adapter exactly six inches long; can be doubled by using a 12-inch adapter. Another type of torque wrench is the inch-pound version, used mostly in transmission and steering adjustments.

The chart below shows various bolt markings and how they can indicate proper torque readings.

Bolt shank diameter	TORQUE RECOMMENDATIONS (ft.-lb.)				
	Plain	Marks 120° apart	Marks 90° apart	Marks 60° apart	Multiple markings
1/4"	5	7	10	10.5	11
5/16"	9	14	19	22	24
3/8"	15	25	34	37	40
7/16"	24	40	55	60	65
1/2"	37	60	85	92	97
9/16"	53	88	120	132	141
5/8"	74	120	167	180	192

Equipment used for engine checking and tuning also falls under the broad heading of basic tools. In recent years many of these items of equipment have become available at relatively low prices. They are a good investment for checking and an absolute necessity for tune-ups. Dwell meters (#'s 7 & 8) are necessary for checking duration of point opening. The sliding door opening on the distributor cap of most Corvettes allows an absolutely accurate adjustment of dwell while the engine is running. Dwell meters also indicate worn shaft bushings when readings are erratic. Prices for good dwell meters start around \$20. There are also several inexpensive gadgets that give a dwell reading. One, typical of those costing less than \$5, is shown below. This is a straight mechanical device which employs an attachment on the shaft contacting a hair-like needle on a scale. As the distributor shaft rotates, the attachment brushes the needle and the scale indicates dwell.

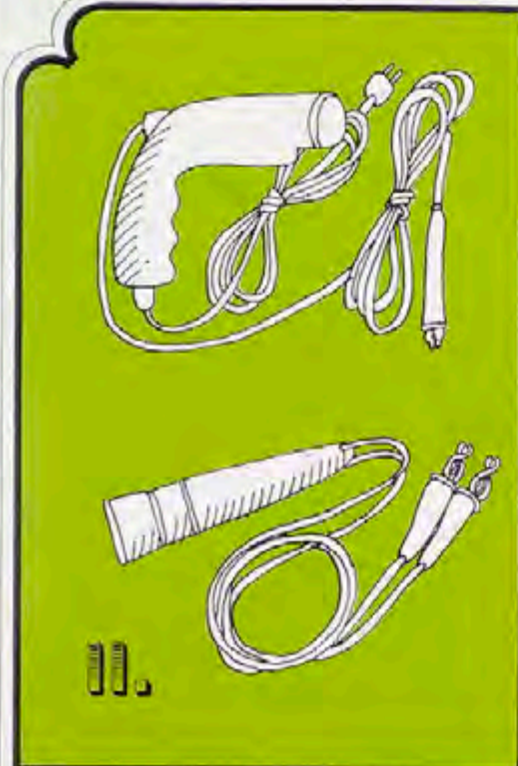
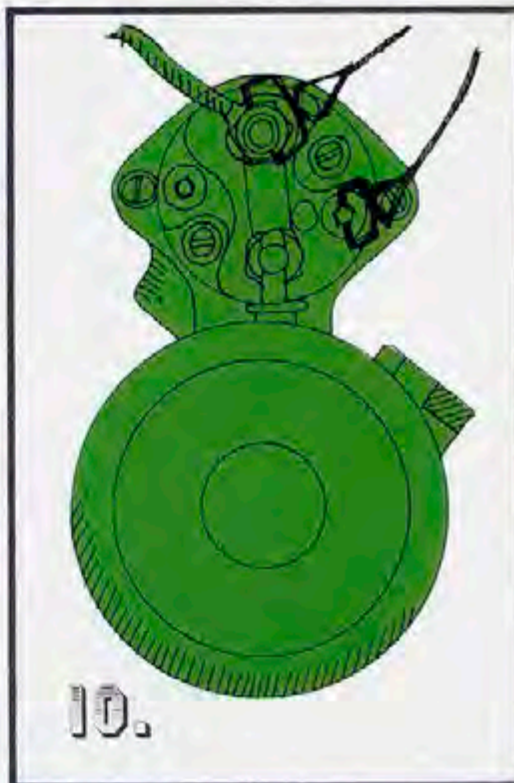
Compression gauges (#9) also come in a variety of sizes, prices and shapes. The two most popular, including one with a pistol-grip, are shown. The direct-type is usually



the least expensive, with prices starting around \$5. There are also some very inexpensive types that look like a tire gauge with a rubber adapter for the spark plug hole. Compression is always checked with all plugs removed, throttle blocked wide open, the engine warm and the engine turning at cranking speed with the center lead out of the distributor cap. It is best to make a little chart to show the readings on each cylinder to show up any wide variation between cylinders. Instructions included with most compression gauges tell about pouring oil in a low-reading cylinder to determine whether a low reading is because of rings or valves. (A higher reading with oil usually means the rings are the culprit.) Low readings on adjacent cylinders may indicate something like a seeping or blown head gasket. For best performance, maximum variation should never exceed 20 psi between highest and lowest readings.

A remote starter switch (#10) is inexpensive to purchase or easy to make with two spring clamps, a pushbutton switch and two lengths of wire about three or four feet long. One clamp of either the homemade or professional remote starter is attached to the battery positive cable at the starter solenoid or battery itself. The other clamp should be placed on the switch terminal of the solenoid.

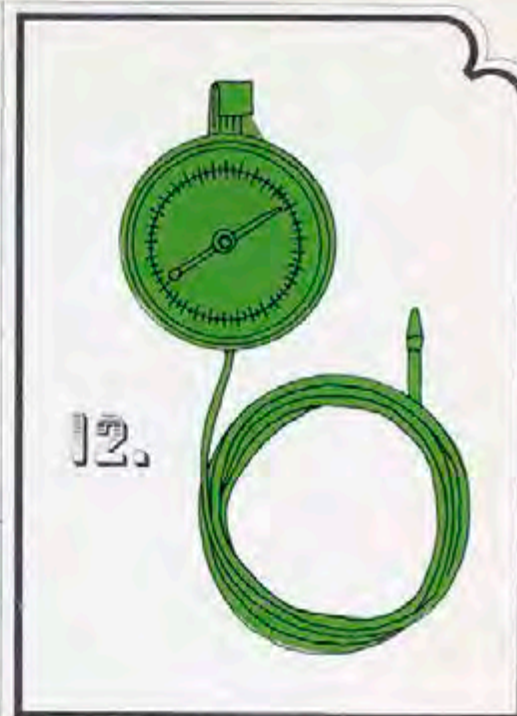
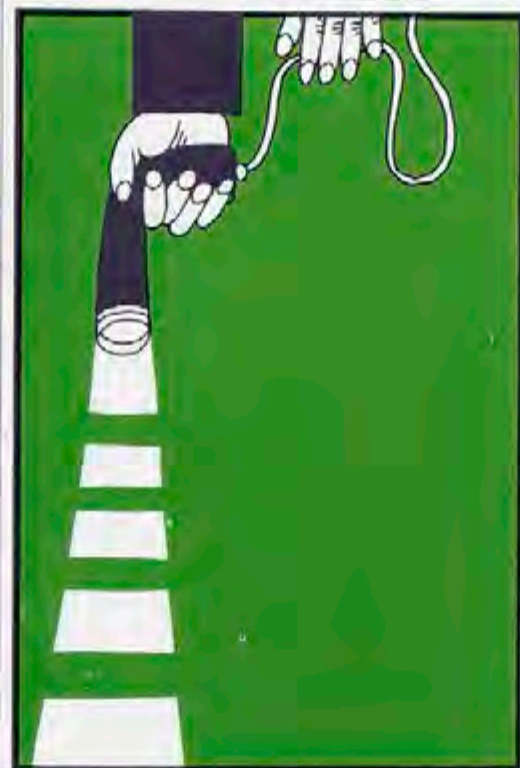
If not sure which is which, hold the remote starter button in and just touch, for a fraction of a second, either of the two small



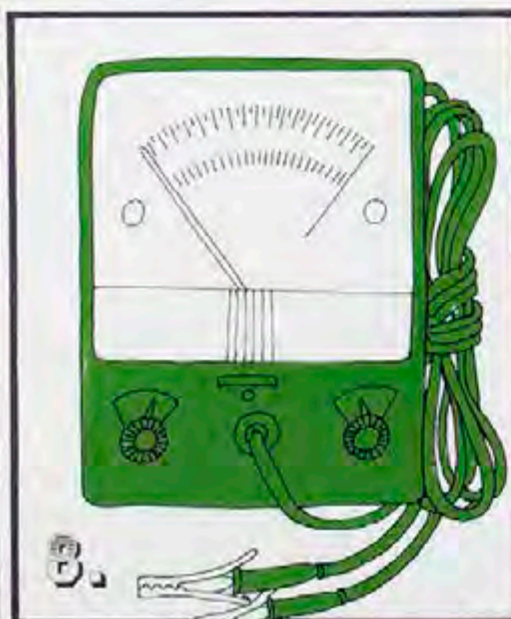
terminals on the solenoid. If the starter engages and operates the first time, luck is with you. The wrong terminal will give only a slight arc. Always be sure the parking brake is set and the shift lever is in neutral.

Timing lights (#11) have more variations and prices than most other tune-up equipment. Often the neon timing light can be bought for less than \$4, but its value has definite limitations. The light it casts is quite weak and unless it is dark, the timing marks can hardly be seen. This type can be dangerous

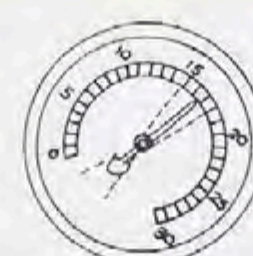
because the operator may tend to get the light too close to the fan or belts in an attempt to see the marks. The types that derive their light source from the car battery or house current are much brighter, but much more expensive as well. Whatever timing light used, however, accuracy in setting the timing is essential. It is also essential to remove the vacuum line to the distributor and block the holes on some Corvettes when setting initial timing.



Vacuum gauges (#12) are versatile and inexpensive, often costing under \$5. They can give a good indication of late timing, sticking valves and other possible malfunctions. They are also good for making carburetor settings. Another feature of a vacuum gauge is that fuel pump pressure and possible leakage at the pump diaphragm can be checked out. The chart below shows some typical readings on a vacuum gauge and what they indicate. A word of caution: timing should never be set with a vacuum gauge. By advancing the timing to get the highest vacuum reading, the result will be a setting that is too far advanced and this could lead to very serious detonation.



Pointer registering in 15-18 in. hg. range at first, then gradually dropping down scale as rpm is held constant is sign of restricted exhaust system.



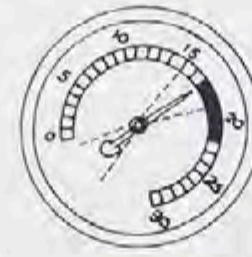
Intermittent pulsation of pointer is caused by occasional ignition misfire resulting from defective spark plug, faulty high tension wire, etc.



Steadily pulsating needle indicates trouble in one cylinder. Could be caused by poor rings, bad valves, poor ignition, faulty head gasket.



Low and steady pointer signals late ignition timing, late valve timing or worn piston rings with probability that all cylinders are equally affected.



Pointer drifting slowly between 15-18 in. hg. is usual indication of improper carburetor air-fuel mixture adjustment.



Steady gauge pointer between 15-18 in. hg. is typical reading for efficiently operating engine.

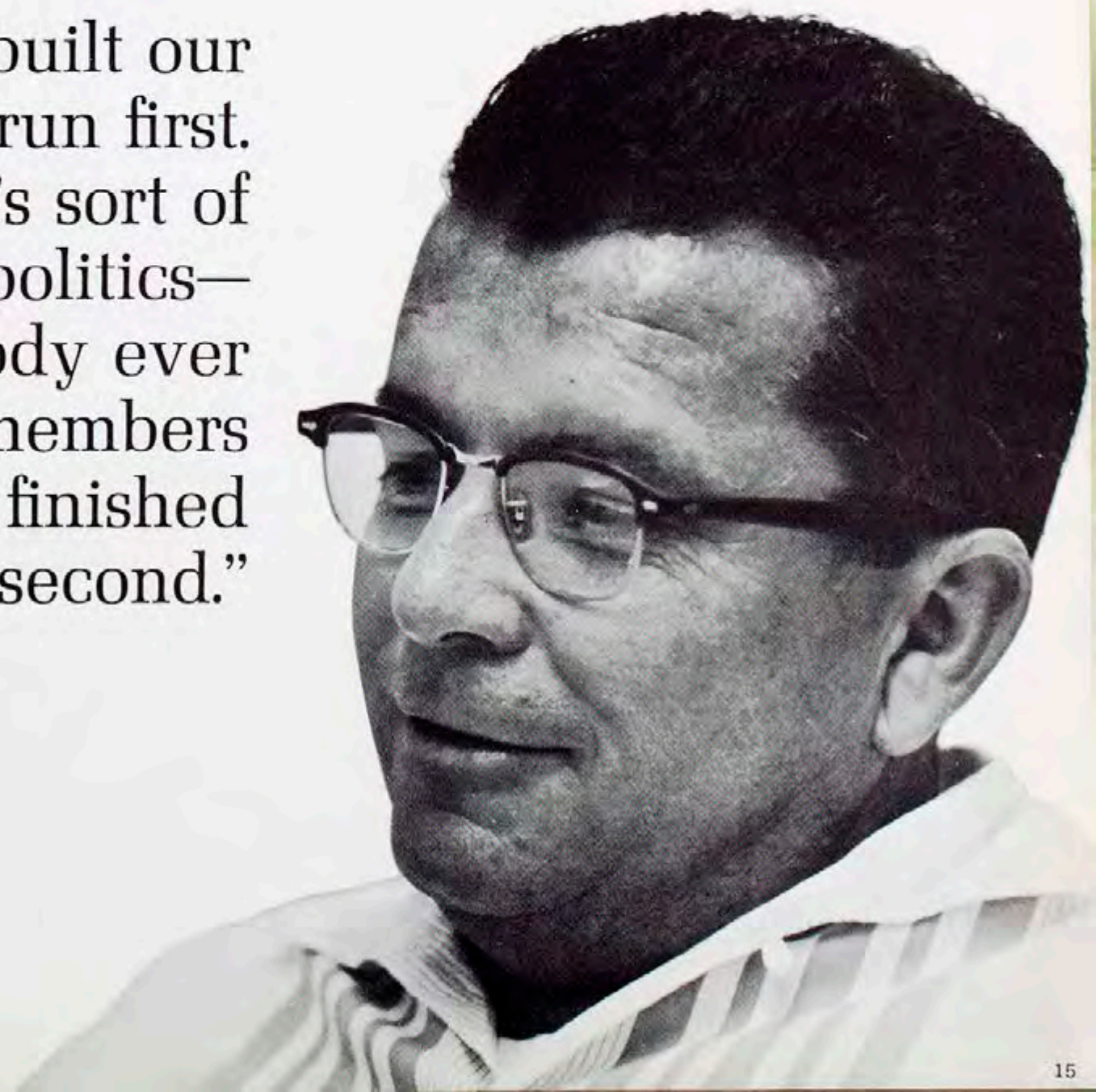


## CHEETAHS ALWAYS WIN

Remember when you were little and you had the righteous saying, "Cheaters never win!" drummed into your head? That's probably why so many people do a double-take at Bill Thomas' emblem: "Cheetahs always win." Bill, owner and chief motive force behind Bill Thomas/Race Cars in Anaheim, California, explains his emblem and the rationale behind it with a twinkle in his eye: "We built our car to run first. It's sort of like politics—nobody ever remembers who finished second."

"Our car"—the Cheetah—is a sports car built by the Thomas organization and is powered by a Corvette engine, transmission and features a myriad of other interesting parts. These would include a space frame fabricated from many small, tough, lightweight steel tubes; an aerodynamically clean fiber glass body and styling that says "Go!" in any language. The Cheetah project began several years ago when Bill decided that that upstart snake charmer, Carroll Shelby, ought to have some competition in

"We built our car to run first. It's sort of like politics—nobody ever remembers who finished second."





the AP division. Accordingly, plans were made to build a car with the potential to run first. Bill's car hasn't reached sufficient production volume to be homologated as an AP contender, and so runs CM.

The results not only looked spectacular, they turned out to be first rate in the performance department, too. Using a basic 327 Corvette fuel injection engine, Bill took the stroke route to arrive at 377 cu. in., modified the injector to house two air meter units—both on the top—and changed to his own grind cam. With these goodies and tuned exhaust headers, the engine spouted some 498 horsepower and was deemed suitable for a dragstrip version of the Cheetah. Competitors soon felt the bite of this feline-namesake as it shut down car after car at strip after strip.

Its latest victories include Class A Modified Sports title at the 1965 Winternational drags held at Phoenix, Arizona (sponsored by AHRA), and a record run at the Fresno, California strip. The fastest time turned in by the Cheetah to date has been 10.21 seconds and 139 mph for the quarter mile, and Bill thinks he can do a little better "with a few new ideas." Dragging is one sport; road circuit work is quite another. To date, some 21 Cheetahs have been built and are being campaigned under various names around the country's major road courses. The drivers include Al Grant, Jerry Titus and Al Unser in the far West area; Bob Hunt and Ralph Salyer in the Midwest and Jerry Grant in the Seattle area. Probably the most successful Cheetah has been Ralph Salyer's (the "Cro-Sal Special") with eight overall victories in 1964 including the Elkhart Lake June Sprints. And this in the face of formidable competition from Ferraris, Cobras, Cooper Fords and Lotuses.

Performance comparisons are much more difficult to make when comparing road race cars to drag cars, because of the differences in road race courses around the country. However, as a measure, one Cheetah has been consistently clocked at over 180 mph on the back straight at Riverside, California. Performance isn't limited to Cheetahs. The Thomas organization has built quite a following in the Corvair crowd over the past several years. A red Corvair coupe with a 176-cu.-in. engine (enlarged from 164-cu.-in.), Thomas-modified heads, exhaust and intake systems plus four one-barrel carburetors regularly startles the onlookers—and competition—

at the California drag strips. Bill rates the engine at 215 hp, without supercharging. In fact, the front fenders carry the legend "UNSUPERCHARGED" in bold letters. With the total vehicle weight lowered to 1,970 lbs., the car has turned an almost phenomenal 13.00 quarter mile time, with a top speed of 106 mph. This is no ordinary Corvair. But, then, Bill and his crew profess a strong liking for Corvairs and work on them with great enthusiasm. Proof of yeoman effort is their performance with the 164-cu.-in. engine at the AHRA-sponsored Winternationals at Phoenix in 1964. The car turned 13.29 seconds elapsed time and 104 mph for the quarter mile. This performance earned the Thomas team the DM Sports title.

Yes, there's a road-circuit version of the Corvair, too. It ran with a 164-cu.-in. engine, and Bill recounts about eight victories in 12 starts, all in the sedan class. He's especially proud of his conquests over some of the V8-engined competition as well as over the foreign cars. Currently the car has the larger 176-cu.-in. displacement mentioned earlier and a dry-sump oil system. The conventional pan is eliminated along with the oil pickup in favor of fully enclosed piping to a remote oil cooler and back to the oil pump. Chief benefit for cars is much cooler oil. (Bill points out that this system is used on aircraft which sometimes fly upside down, but that he customarily drags the Corvair in the conventional position—right side up.)

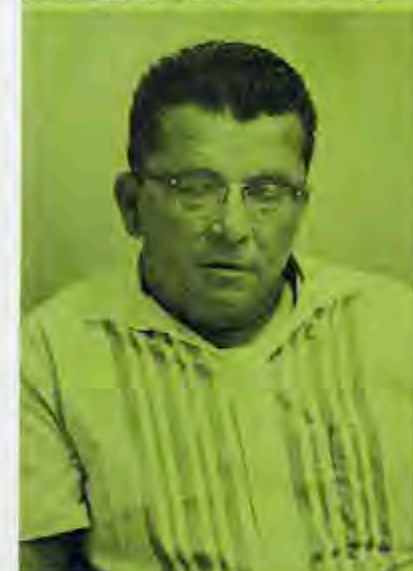
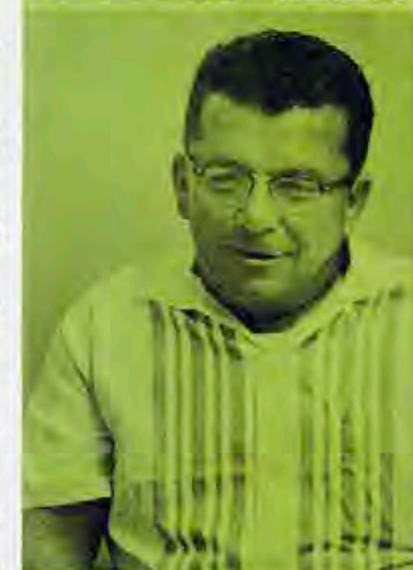
With all of the emphasis seemingly on making engines produce outrageous amounts of horsepower, the mere thought of economy and Bill Thomas might not cross the reader's mind. In 1959, however, Bill entered a Chevrolet passenger car in the Mobil Economy Run under the sponsorship of C. S. Mead Chevrolet, a Los Angeles area dealer. With Mary Hauser driving, Bill's prepared car won its class. Further Thomas Mobil Run feats: A Chevrolet took third in class in 1960. A 1961 Corvair entry was piloted by femme Pat Sawyer to a victory in its class. In 1962, a double win accrued—with Pat Sawyer in a Corvair and Byron Frohlich in an Impala V8. Pat staged yet another win in 1963 with a Corvair. The Thomas crew prepared the 1964 Chevrolet Teen Team cars and a 1965 6-cylinder entry. The 1965 car, driven by Pat Sawyer, won its class this year.

The main Thomas forte remains performance. A Thomas-prepared 1961 409-cu.-in. V8 Impala won Pikes Peak that year. Other cars took four for four at the drags in super stock classes at the 1961 and 1962 Winternationals and Summernationals held in Phoenix. Don Nicholson drove three times, Hayden Proffitt once, in the 1962 Summernationals.

How did Bill Thomas get into the race car business? According to Bill, it was almost an accident. "We were in the aircraft wing, skin and spar business back in 1956. I also had a thing going in real estate. I had my eye on a Mercedes-Benz 300-SL gullwing coupe and I was all set to buy it. And just about that time the 1956 Corvette came out. I liked it and bought one of those instead. A local Jaguar driver, Jim Peterson, who went with us when we took the car out to the drags, talked us into entering a road race at San Maria. I drove it in the Novice event on Saturday and broke the transmission. Jim drove it Sunday after we replaced the transmission, promptly lost all gears except high, but still brought it home first in class."

A few more attempts at road racing with the '56 car and bad luck with transmissions prompted Bill to return to dragging. One day Bill went into C. S. Mead Chevrolet and asked the service manager matter of factly if the dealer would sponsor a Corvette in a road race. The service manager said he'd have to ask his boss. The next time Bill wandered into Mead Chevrolet, the boss asked him what was necessary to sponsor the car. Bill told him, "Well, my car needs a new engine (the 265-cu.-in. V8 in Bill's '56 had been bored and stroked to 327-cu.-in.), but now that the '57 Corvettes are out, why don't you order one of those?" After some conversation with Bill about equipment—fuel injection, 4-speed, Positraction, special suspension and brakes, etc., the dealer ordered not one but four of the cars and Bill went racing. "In 54 races, I think we won 51," recounts Bill. "Then we started building Corvettes and engines for people locally, including all of Dave MacDonald's Corvettes. Pretty soon we found we were building engines and cars for people all over the country." By 1962, his business had grown to the point where he had to move into new quarters. "The building we moved into here," Bill goes on, "was used by a guy making fruit packages for atomic bomb shelters. I guess that market sort of faded out."

"Pretty soon we found we were building engines and cars for people all over the country."



Since his move, Bill's activities have expanded from simple engine and car preparation into specialty accessories for both Corvette and Corvair. He markets a whole line of engine equipment including his own grind of camshaft, modified cylinder heads and exhaust headers. We asked Bill what he thought about Corvette's new 396 Turbo-Jet engine. He was only one or two shades more than ecstatic. "This is the best engine Chevrolet has ever built, and far better than any other engine in the industry. You know, that's the one Chevrolet took to Daytona in 1963. It simply blew off everybody and did it with some 500 rpm less than competition! However, during the race, paper and debris cluttered many of the competitors' radiators—including the Chevrolet entries—and caused mass overheating. The Chevs so afflicted had to retire."

Bill went on in equally glowing terms about the Turbo-Jet V8. "We can take one of those babies right out of the crate and we know it'll put out 400 horsepower. However, we took one 396 that read 398 horsepower on the dyno and blueprinted it (taking it apart, piece by piece, and checking clearances to factory blueprint specifications) put it back on the dyno and got 442 horsepower! And that's an entirely stock mill! For fun, we put one of our own cams in and tuned headers on, left everything else stock, and the dyno test showed 498 horsepower. I think any time you can get cubic inches plus 100 horsepower from an engine with almost no modifications save the cam—and I mean nothing done to the heads—you've really got an engine. We haven't even started to play with this one yet, and I don't know how we can improve very much on this 396, because the head design is so good and correct from the start."

Eight men usually are employed at Bill Thomas/Race Cars. Among them are several very skilled engine men, chassis and suspension men and drivers. Most of the driving chores fall to Mike Jones. Mike came to Bill Thomas from the navy in 1960 and began working full time for Thomas shortly after. He drove Corvettes for Don Steves Chevrolet in California as well as other machinery. Mike is continuing his education at the University of Southern California and expects to earn his degree in industrial engineering. The business man-

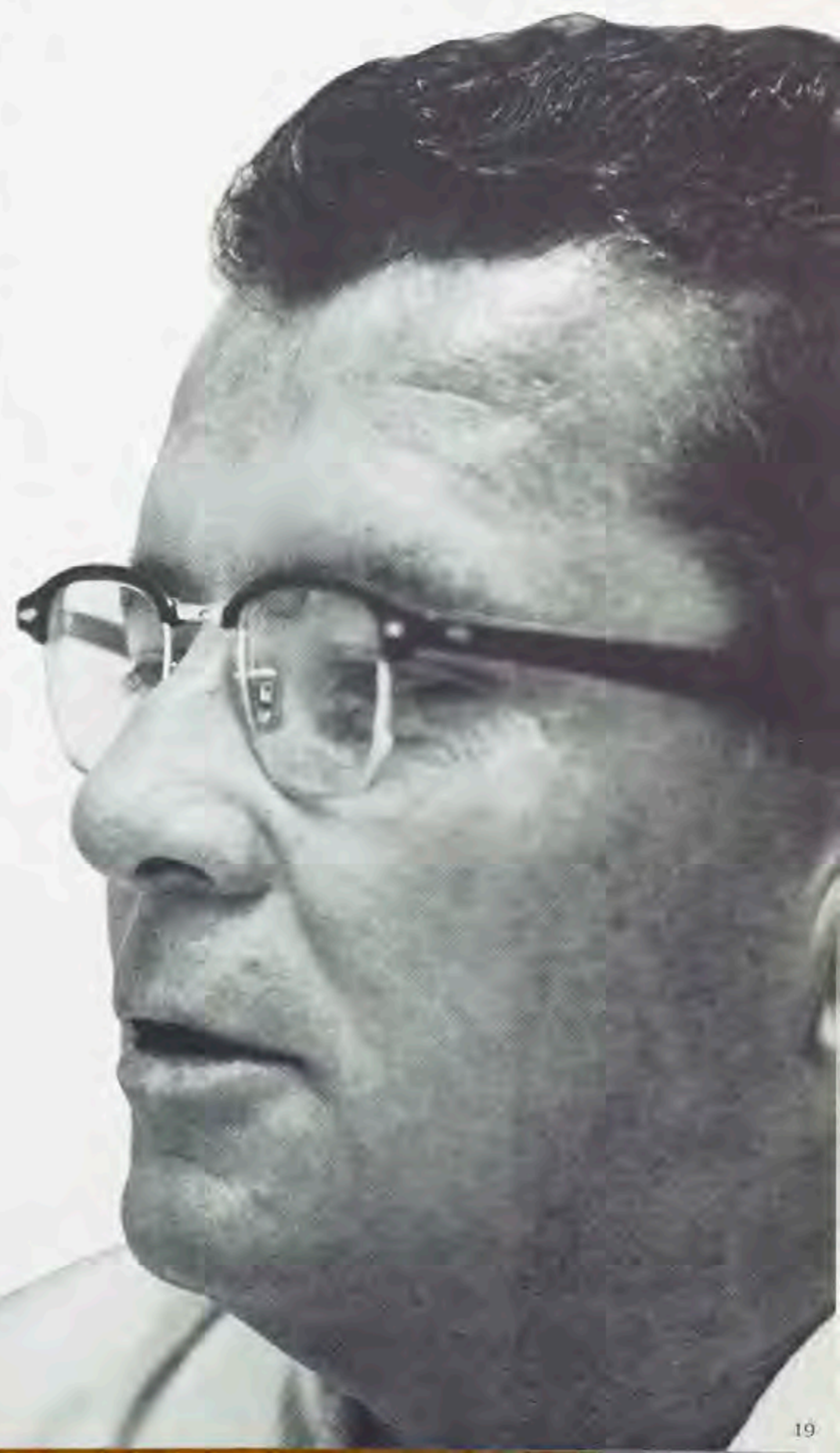
agement end of the Thomas organization is handled by a transplanted Corvette enthusiast Mark Cohen. The balance of the technicians have been gleaned from the area, and all show great proficiency in car design, engineering and general know-how.

Walking through the Thomas works is a dream-come-true for most lovers of high-performance machinery. Several Cheetahs are crouching (they just don't sit there—even unassembled they look mean) in various states of completion. A couple of Corvette engines are always being worked on and a whole shelf is covered with special Corvair heads. The impression is that of quiet, knowledgeable competence throughout the shop.

The future, according to Bill, holds promise for his Cheetah project. When asked about a rear-engine Cheetah, Bill gave forth with that twinkle again, and though not saying, "Ah, yes or no," possibly indicated that something along that line was afoot. It's safe to say, however, that an independent businessman whose first love was aircraft and real estate has taken the Corvette specialty business to heart. Most encouraging is that in a field dotted by failures, Bill Thomas has apparently found the formula for success.



"...any time you can get cubic inches plus 100 horsepower from an engine ... you've really got an engine."



Now! Here's the movie  
you've been waiting  
to see . . .



*Dramatic!  
Spectacular!  
Colorful!  
Exciting!  
Scenic!*

The story  
of the sport  
as it is  
today

# RALLY U.S.A.

*Starring Corvette & Corvair*

PLUS A CAST OF HUNDREDS OF RALLY CARS AND ENTHUSIASTS

It took a lot of time, travel and film to make this 16-mm color movie on the fun and frustration, sounds and scenery of U. S. rallying. See it. You'll agree "Movies are better than ever."

The preliminary work on "Rally U.S.A." began in February by the Jam Handy Organization. From the start, it was apparent that the toughest part would be getting good shots along the rally routes. By comparison, producing a race film is child's play. You know where the cars are going to be in a race—on the track. So you set up your cameras and take pictures of the cars going around the course, shots of action in the pits and reaction from the spectators. In a rally, just finding the course can be a problem of major proportions.

Coming events were scoured to find representative rallies to film. Three activities were selected for a wide diversity of rally situations—the Great Canyon Rally through the arid Arizona desert; the Virginia Reel amid historic Blue Ridge countryside; and the Rallye Glenwood Springs in the awesome grandeur of Colorado's Rocky Mountains.

Each rally encompassed a different section of the country. Each introduced new challenges to the camera crew. For example, at the Great Canyon the crew took an oath of secrecy and received a set of instructions two days before the start of the event. With the stealth of Agent 007, they covered the course from start to finish, picking sites to set up their equipment to best advantage. When they returned from their arduous two-day tour of the course, the crew had but a few hours rest before retracing their steps. For them, the Great Canyon was a rugged four-day affair.

At the Virginia Reel rally, the camera crew could not preview the route. However, the rally committee made every effort to cooperate and sent one of their number along with the camera crew on both days of the event. Armed with a set of regulation instructions and several county maps, the crew had to shoot on

the run to keep ahead of participants.

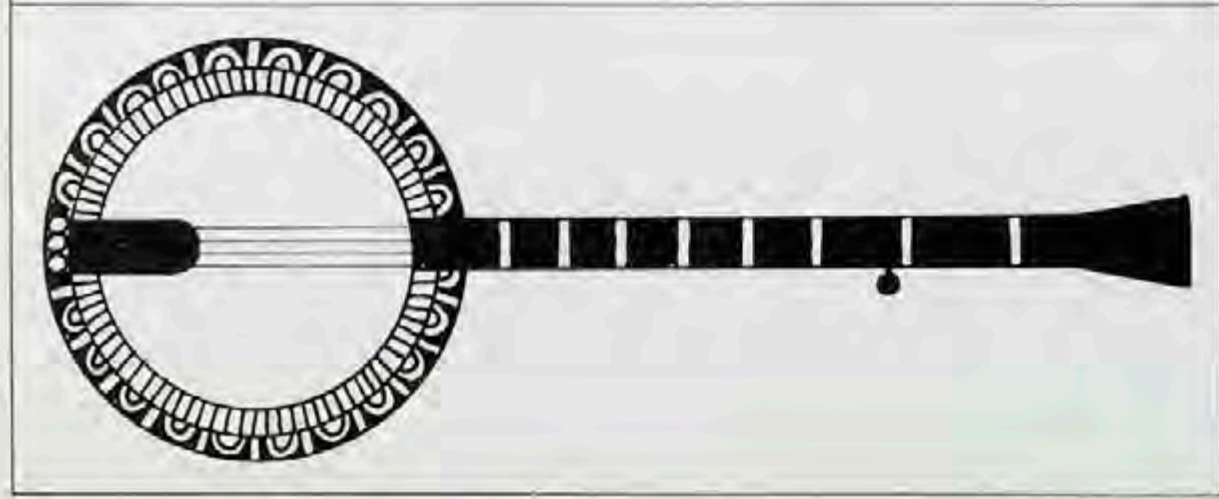
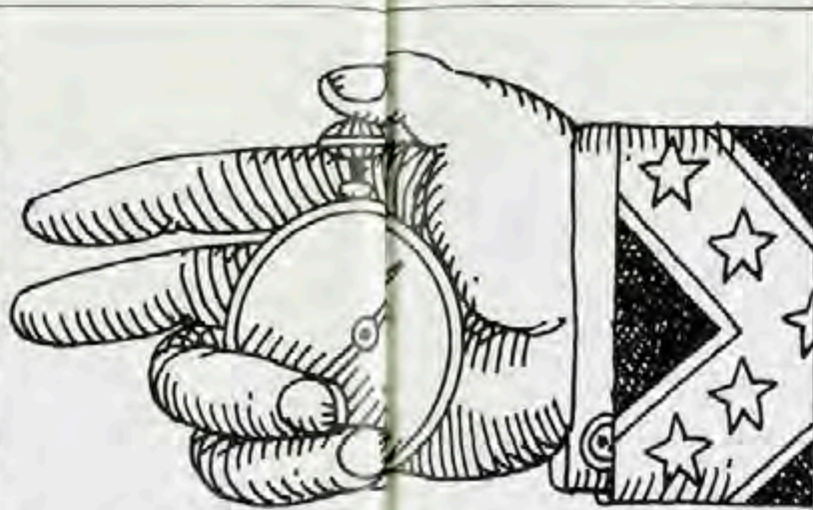
Experience gained from filming the two previous events made the Rallye Glenwood Springs somewhat easier. Again it was necessary to keep equipment well hidden to avoid tipping off the real rally route to sharp-eyed rally contestants.

Tenacity has its rewards and the three rallies resulted in more than 9,800 feet of 16-mm Ektachrome film being shot. That's enough to fill the screen for six solid hours. Every facet of rallying was covered in depth—registration and inspection, equipment, typical situations along the course, even the social activities that are so much a part of the American rally scene.

The film was processed and returned to Jam Handy's studios in Detroit. Here a team of experts set about the complex task of converting the mass of raw film into a cohesive, interesting motion picture. Editors viewed and cut, viewed and cut, then viewed and cut some more. As a matter of fact, more than 90% of the film ended up on the cutting room floor. Only the very best footage remained. The excitement is there. The drama is there. The fun is there.

Many other film specialists entered the picture with their particular talents. The writer, with six weeks of intensive research on rallying behind him, prepared the script. Sound technicians recorded the narration and added sound effects. Audio experts selected suitable background music. The finished product had to pass the scrutiny of a technical panel, a quality panel plus a host of individuals along the way.

Prints of "Rally U.S.A." now are available through Chevrolet Zone Offices. If you would like to show the film to your Corvette Club or other group, contact your local Chevrolet dealer. He'll make the necessary arrangements.



Virginia Reel

# the Virginia Reel Rally

*"BOW TO YOUR PARTNER, RALLYING'S GREAT PROMENADE CORNERS AND DON'T BE LATE!"*

By Starr Hammen

Editors' Note: In this article Starr Hammen, distaff side of an experienced husband-wife rally team, contributes another of her colorful accounts to Corvette News readers.

They've changed their tune in Virginia. Once its beautiful mansions hosted full-costume balls and dinner parties that were attended by landed gentry, American aristocracy and many of our presidents. These honored guests tapped their toes to a fiddle and showed off their fancy footwork in the formal Virginia Reel dance. Now, the tempo is on the upswing and the Virginia Reel is a rally.

On a weekend in May the stately Thomas Jefferson Inn in Charlottesville served as headquarters for the seventh annual national Virginia Reel Rally. It was sponsored by the Washington, D.C., Region of the Sports Car Club of America. There were 73 cars entered in the event, including nine Corvettes and 10 Corvairs. As is usually the case, there were more Chevrolet cars in the rally than any other marque. At least one team had participated in all six previous Virginia Reels and many crews had competed in three or four. The Reel has become famous for interesting roads through scenic and historic country, for the "Southern Hospitality" of the sponsoring group and for some really tricky innovations in rally navigation. An added feature of this year's event was the presence of a professional film production unit shooting the rally movie sponsored by Chevrolet Motor Division.



In accordance with the S.C.C.A. national regulations, the Virginia Reel was run in two days: 300 miles on Friday, 200 on Saturday. On the first day, the course wandered east and south of Charlottesville through many areas of historic interest; on the second day the rally route ran north and west, crossing the Blue Ridge Mountains. The scenery was beautiful. Hills and valleys, wooded dells, babbling brooks, flowering dogwood, birds on the wing, lovely old houses, historic monuments, Civil War battlefields—the whole bit. But drivers and navigators had little time to admire it.

The problem in rally navigation on either day was just the simple one of finding the right road—and staying on it. All of that section of Virginia is criss-crossed by narrow, winding county roads and the system for numbering them defies rational explanation. The general instructions for the Reel had specified that rallyists were to follow the numbered route on which they were traveling even if the number had not been mentioned in the route instructions. So it was vital to know—and write down—the number of every road on which you turned.

And "Virginia County route signs," quoting the general instructions, "may be located in varying points or near intersections, i.e., on the left, right, ahead and sometimes in the center of the road. County routes occasionally disappear with a new route continuing straight ahead or crossing. County routes also change surface or direction without a change in route number." On the road it was even less clear to many a hapless team.

In the afternoon of the first day's run, to further complicate the Reel number game, contestants were directed to turn "right on to second numbered route after 6139." Just "6139," that's all the instruction said. And for mile after anxious mile drivers and navigators peered at every mailbox, every intersection, every telephone pole, every railroad marker. Finally "6139" turned up—faintly marked on the side of the bridge. Not long after that instruction came one that said, simply, "left at UE 360/9." That, too, was scrawled on a bridge—put there by the rallymaster, according to disgruntled contestants.

The second day of the event marked the unveiling of the whimsical sense of humor of some member of the rally committee. Cars were headed in the general direction of the Skyline Drive and had been given official mileages at several action points during the day's run. These mileages were listed in the left-hand margin of the route instruction page and were easy to overlook in the stress of the moment, particularly if car mileage was a bit scrambled due to excursions off course. Then came instruction No. 86:

*"48.94 left toward and right at STOP. This is the Blue Ridge Parkway. Begin transit zone. You have 23 minutes to complete this transit which is about 9.4 miles long, allowing about 10 minutes for sightseeing. We recommend that you stop at the first overlook on the right. The view below is particularly interesting."*

How prophetic! The view was interesting and so were the comments of the viewers. A rally car would pull into the overlook and park. The crew would climb out of the car, stretch, saunter over to the retaining wall and look down. After a few seconds they would do a classic double-take, and, "Hey, there's a checkpoint down there! How come we missed it? Did we come up on the wrong road?" They did. If they had carefully noted that official mileage figure of 48.94, they would have gone through a control and turned onto the Parkway at the correct mileage. They would have missed that "interesting view," but they wouldn't have collected 600 points for missing a checkpoint.

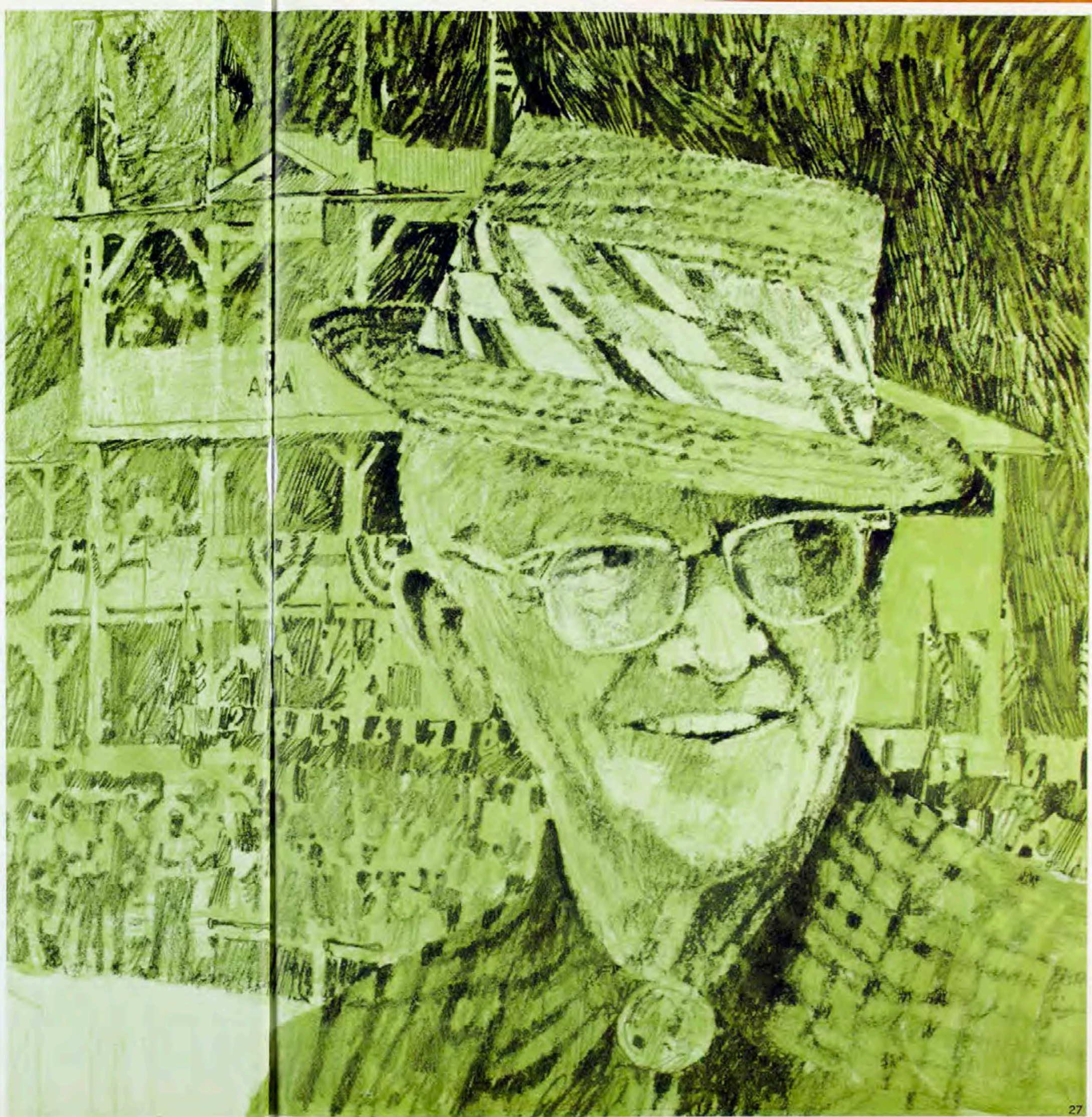
The checkpoints in the Virginia Reel were exceptionally efficient, well organized and accurate in timing. Somebody had the novel idea of having every control present each car with a small gift. As you were given your control data slip, you were also handed a small token of esteem "from your friendly checkpoint crew." (That's what the signs beside the road said.) The presents ranged from bubble gum, Band Aids, cocktail stirrers, tiny toys and colored crayons to a freshly minted penny in an envelope marked "decision maker."

The 1965 Virginia Reel was climaxed by a traditional victory banquet at the Thomas Jefferson Inn. Despite the hazards of following Virginia county route signs, the team of Dick Norton and Don Kirkpatrick, overall winners of the rally, had collected only 44 penalty points in two days. A feature of the evening was the presentation of two impressive trophies awarded by Chevrolet to the best-placed Corvair and Corvette entries. The Corvair trophy went to the team of George Gay, of Brockport, N. Y., and Bob Henderson of Rochester, N. Y. The winning Corvette in the Virginia Reel rally was driven by Frank Didot and navigated by Moishe Mark, both from West Chester, Pa.



# clif tufte...

the man who  
got the “call” to  
enter road racing  
and came up with the  
greatest four miles  
in the country



## All Clif had to show them was a bunch of stakes with flags attached

We first met Clif on a Thursday night, just one day before the June Sprints at Elkhart Lake, Wisconsin. Most of the town's 651 inhabitants had been to bed for hours. Aside from a few stalwart natives still whooping it up at the Elkhart Inn, the only sign of life in town was the light shining from the Road America office. There, amid ringing phones and tables cluttered with remnants of a late box dinner, Clif and his crew were putting together the pieces and cleaning up last minute details. The calm and precision with which each item was dispatched belied the fact that come Friday morning drivers, crews, race officials, some 40,000 spectators and tons of iron would begin descending on the town.

Clif, dressed in khakis, shirt and a straw hat that have become as much a part of the Tufte legend as Road America, greeted us like long-lost cousins. But before we got started, Clif had a question for us. "Why on earth would anyone travel some 500 miles just to interview me?" We convinced him that *Corvette News* readers, so familiar with Road America, would be interested in a "What's Clif Tufte Really Like" story. Our conversation got a mite raggedy-andy in spots what with phones and people that needed answering but we managed to jot down a few vital statistics.

Clif was born on a farm in Chenequa, Wisconsin, served in WW I and received his degree in mining engineering from the Platteville School of Mines in Platteville, Wisconsin. He and his wife, Wyllie, have been married 36 years and have a daughter Ann and three grandchildren ages four, five and eight. The whole family shares Clif's great love of sports and the out-of-doors. Ann was a champion dry fly fisherwoman at the tender age of seven.

Clif was never a stranger to racing. Back in his younger days he was quite an accomplished sandlot ball-player and



after exhibition games he'd watch races on old dirt tracks. But it wasn't until 1950 that he literally got the "call." It was back then that two men from the Chicago Region S.C.C.A. flew over the beautiful Kettle Moraine area of Wisconsin in a helicopter. Surveying the territory, they decided it would be a great spot for a race course. Not knowing whom to contact, the men put in a call to the bank in Elkhart Lake. The bank, in turn, not too sure as to what they really wanted, had the call transferred upstairs where Clif had an office for his gravel company. That was the call that changed Clif's life. With a promise from Clif that his gravel company would repair any damage to the county roads free, in July, 1950, the Chicago S.C.C.A. and the Elkhart Lake Businessmen's Association co-sponsored a road race—the first in the Midwest since 1933. The six races, run on a 3.35-mile course around the lake, were strictly trial runs. There was no advance publicity. Yet, some 5,000 spectators thronged the roads to watch 'em run!

In '51 and '52, with the enthusiastic support of townspeople, the course was extended to 6.5 miles, circling the lake and running right through the heart of town. All the main arteries into town were blocked off one hour before and after the races as an added safety measure. An old Wisconsin blue law came to light, when a handful of people objected to the road blockades. The law said, "There will be no racing or speed contests on the state's public roads." Although the races of '51 and '52 were of national significance and drew crowds estimated at well over 100,000, it looked like racing had come to an end.

But Clif wouldn't quit. He had picked out a site for a race course in the spring of '52. Part of the land was owned by his gravel company. The surrounding area encompassed four sprawling farms which the gravel company later purchased and held.

Clif spent the better part of 1953 and 1954 tracking every inch of that country on foot . . . laying out race circuits in his mind and on paper. When Clif had a circuit he was finally satisfied with he asked several mem-

bers of the S.C.C.A. to come to Elkhart and take a look. There wasn't much to see—a bunch of rough stakes with flags attached to them was really all Clif had to show them. Yet they could see what he was trying to do and shared his enthusiasm for the project. However, their parting remark was, "It'll be great if it ever gets built."

Mr. "T" was undaunted and when he met later with the national officers of the Sports Car Club of America and presented his plan for Road America, the approval was unanimous. The townspeople too had had a taste of racing and they liked it.

Clif attributes nine-tenths of the success of Road America to Al Laun, then state senator from nearby Kiel, and the townspeople. It was Al who proposed to the 75-100 persons attending the first open meeting of RA in January of '54 that each one pledge to sell a certain amount of stock purchases. Once a goal was set, selling RA stock to the public was relatively easy.

Road America was incorporated in November, 1954, and Clif was elected President. In December, the Chicago Region of the S.C.C.A. scheduled a national race for September, 1955. This was the vote of con-

fidence needed as not one shovelful of dirt had been turned for the course.

Said Clif, "We were lucky. The summer was unusually hot and dry. We used a special hot mix that not only withstands extreme heat but gives a much smoother road surface so necessary for high speed driving. Everyone who could lend us a hand did and on the day of the race we pounded the last nails in the scoring pagoda."

Speaking of weather, pleasant skies down Elkhart way are referred to as

"Tuft Weather." Race weekends have usually dawned bright and sunny. Rainy weather is rare, indeed.

"A couple of years back," said Clif, "some durn fool phoned from New York at 3:00 a.m. He wanted to know what the weather was going to be like next weekend.

I mumbled something and hung up. I don't know to this day who he was or why he wanted to know."

It was after midnight when we said goodnight to Clif and we marveled at his sunny disposition for such a late hour. He laughed, "My mother told me that if you always wake up with a smile, nothing much can really be wrong. It works, but under that smile I'm a crank and a perfectionist. You have to be if you want to have things done right." We would find out just how "right" he did things when we drove out with him to Road America on Friday morning.

Spreading over the 523 acres that belong to RA is a beautifully executed four miles of asphalt road that goes nowhere. Two hundred acres of free parking are interconnected by another four miles of secondary roads. And four bridges—for people, cars, or both—connect various parts of the course. Walking trails extend to every corner of the track and there are eight miles of crowd-control safety snow fencing paralleling the course.

Eighteen communication phone stations keep cars in sight at all times and 75 loudspeakers comprise the track PA system. Covered pits, 52 in all, are served with water from a 250-foot well and the paddock area can hold 250 entrants. A special house serves both official scoring personnel and working press and nearby is a separate medical building plus a first-aid post. The pagoda accommodates course officials, announcers and other track personnel; atop the pagoda is an elevated Eagle's Nest for special guests and workers. The elevated starter's platform high above the start/finish line is the first of its kind in the world.



Most corners on the track have "escape routes." Those sections considered to be potentially dangerous have guard rails and hay bales placed strategically along the route.

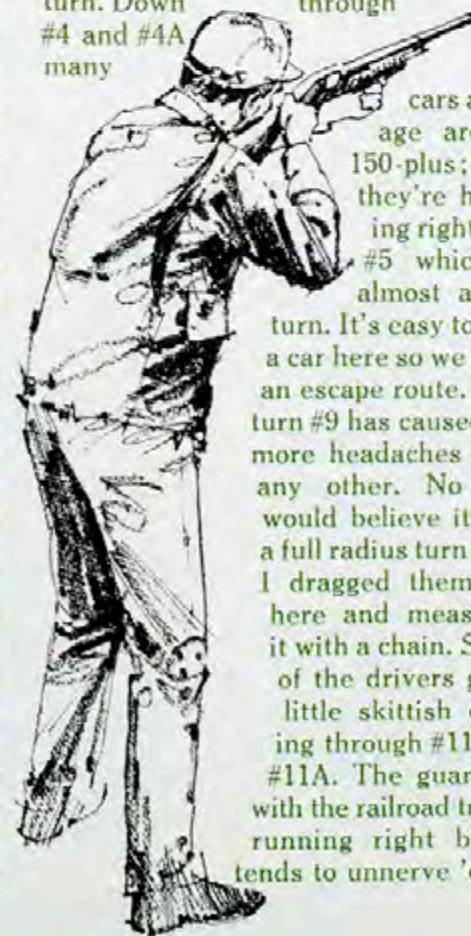
The most popular race vantage points are equipped with seats and nine permanent concession stands offer race-goers a varied menu.

The great favorite on the bill-of-fare is Bratwurst . . . a well-spiced charcoal-grilled sausage served on a roll.

Clif kept up a steady banter as we drove around the track. Road America is his labor of love and every word, every smile showed it. A stopoff at the communications building on turn #14 was a must. We had to see the newly installed computer system that clocked each car.

Back in the car again, we sat and listened, completely fascinated. "Notice the grade going up to the start/finish line—a full 10%—and a real challenge for any car. Here's where drivers start gearing down to head into the first turn. Down through

#4 and #4A many



cars average around 150-plus; then they're heading right into #5 which is almost a 90° turn. It's easy to lose a car here so we have an escape route. This turn #9 has caused me more headaches than any other. No one would believe it was a full radius turn until I dragged them out here and measured it with a chain. Some of the drivers get a little skittish coming through #11 and #11A. The guardrail with the railroad tracks running right below tends to unnerve 'em."

And on he went, detailing everything from the history of the Kettle Moraine country to how the various sections of track got their names to the varying degree of difficulty of each precision-engineered turn. Clif had been over that track a million times and yet, he was as excited as a youth with his first car.

With all the time and energy Clif Tufte has spent on Road America, he still has found time for other pursuits. Clif has been described as a racing-shooting bug from way back and has put together the finest package in the country for other members of this dual breed.

Directly across the road from RA is Clif's other dream come true. Shotgun Shooting, Inc., comprises 90 acres of spectacular scenery and is a challenge to anyone who likes to smoke up clay targets. Traps deftly concealed in open fields test the experts' skill at flushing quail, while at another range clays are released at the speed and angle of International Trap. Clif can trigger any number of traps running along an old rail fence to provide the shooter with some fifty different grouse and pheasant situations while hard-driving duck and goose clays come in at all directions from three traphouses. It's about as real as clay targets can get.

Trying to locate Clif on Saturday and Sunday during the races was like looking for a hot "Bratwurst" at the end of the day so we decided our goodbyes would have to come on Monday.

By then the town was back to normal. A few drivers were still in town readying their cars for the trip back home. The Road America office was strangely silent when we walked in and we found it hard to say goodbye. Clif had become an old friend in just four all-too-short days. He did make one request as we took our leave. "Please," Clif said, "Don't embroider the facts . . . just stick to the truth." The thought of embroidery on a straight-shooter like Clif Tufte kept us smiling all the way home.





