



VEE LINE

NUMBER 46

JULY 1968

DIRECTOR'S CORNER

Where is it going to all end? Or rather, where is it going to level off? Formula Vee, that is. Jim Patterson, SCCA's Deputy Competition Director, says in *Sports Car* magazine that entries in typical National races are up 12 percent over last year. "Spot-checking," he says, "it seems apparent that the Production category and Formula Vee are providing the bulk of the additional entries." And I'd bet that of the eight classes, thus represented, the Formula Vee class alone accounts for at least half of them.

Increasingly, the Vee events are showing more entries than can legally be allowed on the track at the specified maximum rate of 15 cars per mile of track. What is the next step? The problem has been met in a couple of different ways already. At least at one event the surplus entries were turned down, and at another, 54 Vees were gridded for one race. (Do you know of any four-mile tracks?) At one race, where the Vee drivers became so enthusiastic that the race had to be stopped for additional "driver training," they were threatened with a switch to "Restricted" races at which Vees wouldn't be allowed. Under the present rules, however, Regional and National races "shall provide a competition for each class of automobile recognized in Rule 5.1 of the GCR," so that doesn't seem to be a solution. Restricting entries to the legal number would unfairly penalize drivers for choosing the most popular racing class, and could very well lead to discrimination against some drivers to allow others to participate more frequently.

Amending the car-per-mile rule for Vees might be a temporary answer, at least. The way the Vees bunch up, especially during the first laps in a race, at least half the track is unoccupied for most of the race, anyhow. But even this amounts only to taking aspirin for a headache — "temporary relief."

It appears inevitable that sooner or later heat-races, with a final for the winners of the heats, will have to be established. There is a natural reluctance among the officials to even consider this approach (many of them were declaring three years ago that there would never be any all-Vee races), and it is easy to see why. Into an already crowded race schedule they would have to add not one, but two, additional events. Even if the heat races were held to perhaps 15 minutes each, the added time required for clearing the track, gridding the cars, etc., would count up. When this problem hits your area, then, be sympathetic with your officials, but firm. One way or another, there *must* be racing for *all* Vees.

There must be racing for all Vees, *except* — for some Vee drivers it is becoming apparent that *some* restriction will have to be applied. As Tod Knuth suggested last month, let's apply it ourselves, rather than have the officials make a public spectacle of it. As you may have read, the entire Vee field was blackflagged at Marlboro, Md., recently, and told to straighten up, or else; and although the most drastic, that's not the only time the criticism of wild driving has been applied to Formula Vee as a class. True, it has often been claimed that the Vees lack "spectator appeal," and certainly that kind of driving appeals to the spectators; but it doesn't do anything for racing as a sport, or for the insurance rates, or for the individuals with broken cars — or bodies. Either open-wheel cars aren't as inherently dangerous as they were once thought to be, or Formula Vee is just plainly a lucky class — up till now, at least. So far, most of the injuries — and the one known fatality — in Formula Vee seem to be attributable to going off course rather than to collision with other cars; but considering some of the near-miraculous escapes reported from collisions, immunity won't necessarily be permanent.

So let's shape up! If you're sure your driving is above criticism, criticize those who need it — to their faces! In our area, at least two drivers have been taken aside by a couple of their competitors and told firmly but politely how their driving appears to others, and it helps. You don't have to call a meeting: After the race, when the rehashing begins, if some driver appears to several of you to need some additional instruction, go to him, as a group, and give it to him. It's more effective than a reprimand from an official, and the car you save might be your own.

ANOTHER "PRO" VEE RACE

"Professional" (prize money involved) Vee races are becoming almost commonplace! The latest announcement is for one to be held at Marlboro, in connection with the regular Regional, on Aug. 18 and 19. The Vee event will be 100 miles, with the field limited to the 35 fastest qualifiers on

the 1.8 mile track. Capital Car Distributors (Volkswagen) has allotted \$1,500 in prize money, and it is expected that local VW dealers will contribute additional money and trophies. For details contact the Washington Region, SCCA. The Competition Chairman is Mr. John J. Riley, 816 Easley St., Silver Spring, Md.

**YOUR MEMBERSHIP RENEWAL IS
DUE BEFORE THE NEXT ISSUE.**

SAD NEWS!

Col. George Smith, "Father of Formula Vee," passed away on July 21, after a series of illnesses which he did his best to ignore. He was rather embarrassed at having let a heart attack be the cause of postponement of the meeting in New York, and I'm sure his chief concern with his last illness was that it would prevent his going to Europe with the U.S. Vee racing team.

His passing will mean little to world historians, but it will be a long time before his name is forgotten in racing circles as the founder of the world's most popular, best known, racing class — Formula Vee.

WHAT'S FOR THE BALLOT?

Our annual ballot on proposals for rule changes will be included with next month's issue. Items proposed, so far, include:

1. Changing the rear track spec, which seems to be incorrect at present.
2. Use of the 1300 front suspension.
3. Specifically allowing blueprinting.
4. Specifically allowing cutting off of rear shock mounts.
5. Clearly specifying permissible transmission and rear axle ratios.
6. Requiring nerf bars.
7. Requiring oil catch tanks.
8. Requiring fuel cells.
9. More realistic roll bar requirements.
10. Allowing 1000# minimum weight with driver.
11. Allowing wider wheels.
12. Allowing swing-type oil pickup pipe.
13. Allowing free exhaust system.
14. Allowing megaphones on present exhaust system.
15. Allowing transporter clutch.
16. Clarifying fan-blade removal.
17. Clarifying rear suspension (an appeal on the subject is even now before the Court of Appeals, but we'll get opinions again, anyhow).
18. And tires, of course.

There will also be some questions on your opinion of FVI, updating Formula Vee, compromises toward world-wide rules, etc. If you have anything else you would like to bring up, or if you wish to comment on any of the above items, this is the time! If you've proposed something not on the above list, please assume that I've lost it, and get it in again. Please be assured that whether or not I personally favor an item, it won't be intentionally vetoed by being left off the ballot. There may not be room enough for all comments, especially if they are generally similar to several others, but *all* proposals will be presented.

MEMBERS' SOAPBOX

"Dear Don: Flat out into a corner at Lime Rock I suddenly found the car not responding to the steering wheel. . . . We hit the bank nearly dead on, started to upend, and flipped. The station people were fast and on their toes. . . . but I'm sure they wondered why anyone would drive straight off a fast corner and stuff a car into a bank without taking some evasive action.

"The Volkswagen steering shaft connector has a clamp around it; a bolt fits through the clamp and a slot in the steering shaft. Somehow the shaft had been able to twist so that the bolt continued the slot completely around its circumference.

"How could such a thing happen? The only possible cause that sticks in my mind is that while we were on the grid for the start of the race a latecomer came blasting through and hit my front wheel with his rear fairly hard - hard enough to tear the steering wheel out of my hand. I checked for alignment and movement, and all seemed in order; but it's very possible that the shaft twisted enough to ride over part of the groove, and then deteriorated further in the three laps before the crash. I was told later of six similar failures, so it was not a freak accident. Such failures could be prevented simply by drilling and pinning with a hardened pin."

Edward G. Tripp, New York, N.Y.

"Dear Sir: I bought a Formula Vee. I went to my first school. I flipped the car during practice at 105 mph. I and my rollbar dug a hole in the Florida sand about six inches deep, but I was not hurt in the least. The rollbar, which used to extend an inch over the helmet, was bent forward six inches, but the welds held. My thank you to Col. Smith for not scrimping on the rollbar. . . . Before the school, I purchased Nomex underwear and suit, but did not wear the underwear since I thought it sort of foolish. After the flip, the car and I were upside down; it was impossible to get out, and I could smell gasoline. At that moment I wished I had worn the Nomex underwear, and from now on I'll have it on, even if I do feel sort of foolish!"

Peter van Steenbeeck, Chamblee, Ga.

"Dear Don: The 'two-weekend' Goodyears may be a thing of the past. I bought a set of Goodyear Vee tires for the race at Warbonnet. They started with five thirty-seconds of an inch of tread. After over an hour of practice and about an hour of extremely close racing, two tires have four thirty-seconds left, and two have about four and a half.

"Since that weekend was equivalent to about two normal ones, I would expect at least eight and maybe as many as 12 to 15 on this set of tires. To top it off, they get pretty good traction in the wet.

"As for new rules, I'm still for the 1,000 lb. weight including driver."

Mike Roberts, Bartlesville, Okla.

"Dear Don: I think a swing oil pick-up would be a good idea from the reliability standpoint. Also the 5" x 14" transporter wheels would be OK. I think the rules should be changed on the exhaust system so the cars would sound more racy. You could run the two pipes from one side into a motorcycle megaphone and it wouldn't cost too much."

Richard Milleson, Hastings, Mich.

"Dear Don: First, the Goodyear three (two) week-end tires. I have a set of these on my car. I have run them. . . . for a total of eight hours and I feel they will run two more Regionals. Not bad for the price!

"Second: I weigh 230 lb. and have done well considering. . . . I feel that if we want to run Vees that are equal, all cars should be weighed in at 1,100 lb. with driver. This would require smaller and lighter drivers to weight their cars to create equal competition."

Joe Goebel, Danville, Ky.

"Dear Don: I think FVI should support Formula Ford as a logical class between F/V and F/C. I am not advocating desertion to F/Ford - just moral support. If we study their regulations we will find ways to clarify some Vee rules better.

"Read with interest your efforts to remove girth from Petunia and John. Since I weigh about 150 lb., I have an unfair advantage. I think we can go to a 1,000 lb. minimum and allow ballasting, but *only* under the driver's seat. Tell the skinny guys to weld a hunk of iron to the frame under the seat. If we do this we will have to continue to have a minimum weight *without* ballasting, too. I think a 775 lb. minimum would be reasonable from a safety standpoint. I doubt that many Vee drivers weigh over 225 lb.

"Blueprinting - it can't be outlawed because it can't be enforced. I would like to see written specs for all VW dimensions if they can be found, but I doubt if I would go all the way, even if I had the information.

"I would like a free exhaust system, because I don't know much about the theory and would like to experiment. (*That would be a lousy reason for more liberal rules, though.*)

"I would like to have the same rules worldwide. I don't know if we should update to Europe, or if they should downdate to us. A \$50 engine kit would be fine, but what about ball-joint front ends, brakes, wheels, etc?

"If you know of someone who is well versed in the art of going off course, some articles on do's and don'ts would be invaluable."

Joe Weber, Hillsboro, Ore.

"Dear Don: . . . While agreeing that costs need to be kept within reasonable bounds, any backward steps regarding performance must surely affect the image of Vees. We in New South Wales have had to work hard

to attain the spectator acceptance we now have, and if we cannot maintain this image (and radial ply tyres would affect it), we might find ourselves without race organizers prepared to include F/V races on their programs. After all, any class without spectator support will surely lose the support of the Promoter, and a Vee without a race is a pretty useless piece of machinery. . . ."

Aub Revell, President, Formula Vee Assn. of N.S.W., Australia

"Dear Don: I suggest that in this year's vote on rule changes the FVI membership take a stand on safety measures, i.e., fuel cells, roll bar reinforcement, etc. I believe FVI should be completely concerned about *all* considerations affecting FV, and autosport generally."

Bill Maisey, Yorktown, Va.

"My wife is beginning to give me odd looks lately - I am more concerned with the arrival of the VeeLine than of Playboy."

Paul White, Newport, Ore.

"Dear Don: Membership in FVI has saved me much coin and given me many short cuts, so enclosed is my check for membership renewal. (*Just couldn't make myself cut that out! don*) Also, my late thanks for solving one of my problems (VeeLine #38). I *did* have my intake manifold cinched down incorrectly, causing lean mixture in two cylinders. I *did* invest in two new manifold gaskets."

Bob Adams, Phoenix, Ariz.

FROM MADAME PRESIDENT

"Hi, Don - A hasty word - I had hoped to have something on the great venturi protest and attendant appeal, but so far, nothing. Four cars were disqualified at Cotati in June for illegal venturi. (All were polished much like ours, I am told.) Guess you've heard that Russ Harness in a single car accident went off turn 5, overturned, landed on his wheels in the ditch and was a good bit shaken up. Pretty well ruined the car.

"There were 23 starters in the National on Sunday, and 20 in the Regional on Saturday. Counting the ones who didn't enter, we are nearing the 55-car mark in the Bay Area. All for now - Harriet." (Gitting's, that is.)

Hey, Harriet - what do you mean, "polished" venturi? You people aren't opening up the 28PICT (late model) carbs, are you? There were some mixed emotions in the NW regarding Russ ("Local Yuk") Harness's accident - relief that he wasn't seriously injured, but somewhat less sympathetic for his car. That combination just disappeared in the distance the first time he raced, at Delta Park! Some people blamed it all on the car - those who didn't get to watch him take it through the "Circus," that is. Having big-time drivers switch to Formula Vee is great - in someone else's Region!

Q AND A

"The engine I am going to use is one of the many which had the rocker studs (long type) tear out. Am I OK if I use those threaded inserts by Fullwell, BAP, and others? They aren't stock VW, but I don't want to buy new heads if I can avoid it."
Paul White, Newport, Ore.

I'd say they come under the heading of "Fasteners (nuts, bolts, screws, etc.," as listed in Sec. 5.10a, which may be non-VW, "normal replacement parts." This is a common solution to a common problem in VW shops. If they're the short ones, which screw directly into the bosses in the valve chamber, you'd better check your valve clearances with the engine hot, to make sure you have some — the expansion will be different from that using the long studs screwed into the base of the head. In fact, this check can give you some interesting results, regardless.

"What heavy-duty, extra service, or 'racing' bearings are available for our engines? Other Vee owners indicate that even a generally healthy engine needs a bearing change once or twice a year, but better bearings would be a great help in extending the time between overhauls."
Ralph Nodine, Mays Landing, N.Y.

I'd appreciate an answer to that one, too. We've used VW and Federal-Mogul, both of which seem to last for seven or eight races. Once in a while longer, because our preventative maintenance usually amounts to repairing when something breaks. You might get a couple of extra races by trying our method of diagnosis, though — keep track of your oil pressure, at a given rpm and temperature. When it starts to drop off noticeably, it's time for a bearing change. If you take a chance, and still continue running, as we do, keep a very close watch for rise in temperature, low oil pressure, and definite power loss, all occurring at once, and when it happens, STOP! You may still be able to save the crank.

"Blueprinting" of cams is too tempting, and, I am afraid, widely practiced. In the absence of VW specs on lift and duration, except at Imm checking clearance, some averages could be worked out at different checking clearances. Another approach would be to place a *minimum* spec on the long dimension of the cam lobe. This would eliminate regrinding of cams, which always *shortens* the long lobe dimension, and the disadvantage of requiring a complete teardown to check."
Mike Boylan, Houston, Tex.

I had to read that over three times, and then draw a picture, before I got it; but by golly, you've got something there! A cam's lift is the *difference* between the major and minor diameters. You can't increase the major diameter, but you can decrease the minor diameter, which also decreases the major diameter, but *increases* the *difference* between them. It also allows some leeway for altering the profile for earlier lift and later closing. (If the rest of you haven't grasped it yet,

draw your own pictures.) I'll look into it! Can this really be checked through a cylinder opening in the crankcase?

"I have a 1966 VW service book in which there is a chart that tells where the shims for the link pins should be located for a different offset. There are two charts—one for pins with dust seals, and one without. I would like to know which setting to use.

"I haven't been to any of the races yet this year as I figure I'm better off staying home and working on the car. I drove the green #43 Vee at Kent last year and came in last."

Ronald Robinson, Seattle, Wash.

Put your charts away! Due to replacing one of the torsion bars with a sway bar (which may be slightly different in length) and the use of spacer rings in place of the rubber seals, chances are that your suspension won't conform to VW specs, to start with; and even if it does, it's not all that difficult. The whole idea is to assemble everything so that there is no binding on the pins. Having stepped on a couple of front ends rather unobtrusively (I hope) in order to get an idea of what others are using for shocks, I have come to the conclusion that a good many Vee mechanics are overlooking this principle.

The only object of the shims is to insure that when the pins are drawn up snugly, both the bottom and top of the link contact their respective arms at the same time, without being forced into position. In fact, you should be able to slip them back and forth on the pins by hand and tell which end makes contact first. Shift washers back and forth until you think they are contacting equally, and then try it by tightening the pins. If one end springs away from the arm when its pin is loosened (with the other pin tight), more washers are needed between the link and the arm at that end. The exact number of washers in any one place is immaterial, but the correct *total* number (ten washers, or eight and a dust seal) should be used somewhere on each pin — otherwise you may run out of "thread" (spiral groove) on the pin when you tighten it before it actually comes up snug against the link.

If your washer set includes the later type dust seals, with rubber O-rings, better have a few extra rings on hand until you learn — the hard way — how not to cut them in two while you're experimenting. They'll get caught between the washers and the spiral groove in the pin, no matter how careful you are!

Don't try to adjust front camber with these shims — all you'll accomplish is to put everything in a bind. When you get through, you should be able to press the front end of the car down, and watch it come back up practically to the original position. The speed at which it does so will depend on the shocks, but regardless of the shocks, it should return to normal

if everything is adjusted correctly — and if nothing is bent.

As to working on your car instead of racing, that's up to you, of course, but if you are expecting that this will get you in the front row on the grid next time out, I'd say, "Forget it!" In my opinion, at least, a novice would do better to race the first year with the engine directly out of the Beetle, adding proper carburetor and distributor, experimenting with tuning, suspension, tire pressures, etc., and above all, learning to drive. *Perhaps* by the next season he will be able to take advantage of the extra bit of horsepower he can coax from an all-out engine — which is actually very little. The things he'll learn in the first year on the track — and in the pits — will be of a lot more benefit than will a perfect engine.

WHAT ARE THE NEIGHBORS DOING?

"Formel V Norge," a national Formula Vee association, has been organized in Norway.

In Brazil, the Vee drivers belong to the "Associacao Brasileira de Formula Vee." About 11,000 fans attended their opening race of the season. Cars in Brazil must be *made* in Brazil, generally speaking, so race cars are very rare except for the Vees, which are built around made-in-Brazil VW s.

Attempts in Australia to form a National organization haven't been too successful yet. It seems that the Vee associations in the various states can't see eye to eye on some of the regulations. In New South Wales, where the Vees seem to be most numerous, the rules are more liberally interpreted than in some of the other states. Transverse leaf rear springs have been in use there for some time, and now free exhaust systems have been adopted.

The Motor Association of New Zealand now lists Formula Vee as one of the regular classes. Vees already outnumber the 1½-litre National Formula cars. Barry Munro, Director of the Vee Association there, has been trying to promote a National Championship, but is handicapped somewhat. He says, "No matter which way I add up the points, I would be the winner, so it would hardly be sporting."

Formula Vee is getting started in the Philippines. One VW dealer has imported two kits, and has cooperated in the building of a road course near Manila. Another is planning to build Vees for sale.

A new Formula Vee association is being formed in Canada, with the intent that it will be truly national, rather than a local club such as the original one was. It will be affiliated with FVI. Canadians wishing more information should contact Gord Munn, 185 Eilerslie Ave., Willowdale, Ontario.

The VEE LINE of
Formula Vee International
Don Cheesman, Director
Box 291 - Ephrata, Washington 98823

AND FROM OUR VICE PRESIDENT

(Bob Ames and his wife, Linda, spent their vacation in Europe again this year, visiting the Monaco Grand Prix and other places of cultural interest. Here's part of a letter he wrote while there - and mailed two weeks after he got home.)

"Unfortunately I am unable to give you the report on the Monaco Vee race I promised, as none was held this year. Rest assured, however, that the GP and F/3 races were exciting!

"While in Zurich I had a chance to visit with Jurg Dubler, who built the Zarp cars. He is no longer in the Vee business. . .; the reason for quitting is that the cost of development and competition has gotten out of hand. Horsepowers for the 1300's are in the 67-69 range, and lap times on "The Ring" approach those of Formula 3 a couple of years ago.

"I saw most of a disassembled Zarp engine - machined rods, short-skirt pistons of half the original weight, a somewhat revised crank, etc. A thoroughly prepared car costs about \$3500.

The rumor is that the late type non-swing-axle suspension will be allowed here next year plus perhaps a change to 1500 cc, or the addition of such a class...."

Does that last paragraph remind you of anything - like in the minutes of "that" meeting, ". . . Formula Vee. . . should be updated from time to time. . . to reflect current Volkswagen production"?

ANOTHER ONE!

Volkswagen Southeastern, distributors for Florida, Georgia and South Carolina, have now joined the "prize money for Vees" movement. For the balance of the year they will award \$75, \$50, \$30, \$25, and \$20 for the first five places in the National Vee races in their area.

UNCLASSIFIED ADS

FOR SALE: Autodynamics Mk IV. Engine in only two schools and one race. \$1450. Robert A. Lurz, 84 Parkridge Drive, Pittsford, N.Y. 14534 (716) 381-7243.

FOR SALE: '67 Shark. New paint, nearly new R-4 Goodyears, less than one hour on rebuilt engine. \$1250, or with trailer, \$1450. Will consider partial trade. Tom Watson, 836 No. 93rd East Ave., Tulsa, Okla. 74114 (918) TE 5-3695.

FOR SALE: '65 Bobsy Vanguard, ready to race. Enough spares for extra engine and trans. 4 extra wheels and tires. With trailer, \$1800. Jim Weaver, 1110 Superior Ave., Dayton, Ohio 45407 (513) 277-3375.

FOR SALE: Autodynamics Mk IV, factory prepared with Cassius engine, all fresh. \$2195. R.C. Houchins, 111 Pine St., San Francisco, Cal. 94111 (415) 849-0918.

FOR SALE: '68 Crusader, late '65 engine, rebuilt, balanced, dyno-tuned, all legal modifications. New Firestones. \$2200, with excellent covered trailer. R. D. Walters, 12204 SE 64th St., Bellevue, Wash. 98004 (206) 547-4428.

FOR SALE: "Junemann" - prepared engine, never uncrated. Make offer. Robin Boone, 3601 Beach Drive SW, Seattle, Wash. 98116 (206) WE 7-4672.

FOR SALE: Autodynamics, BRG, con-course throughout and A-1 mechanically. 8 wheels and Goodyears. \$1425 with good trailer. Laurie Burford, 2929 Bergen Lane, Dallas, Tex. (214) CH 7-7937.

FOR SALE: Bobsy, with '65 components, complete '68 rebuild - Z-bar, etc. Trailer and spares. Must sell. Make offer! Bill Maisey, Box 468, Yorktown, Va. 23490 887-5306.

FOR SALE: Factory Autodynamics, never raced - used only for show. First \$1200 takes it. Tom Curtis, 10716 Dacton Ave., Tampa, Fla. 33615 (813) 855-1730.

FOR ASSOCIATE MEMBERS ONLY

The Autodynamics Corp. has announced that they are now able to furnish complete plans and instructions for do-it-yourself Vee building. The address is 2 Barnard St., Marblehead, Mass.

Also, Member Folis Jones, who has long made a hobby of improving and customizing his Vees as well as driving them, is now embarked on a venture of building one of his own design. He is making notes and taking pictures as he goes, and plans to compile a complete set of directions, with photos, if there is enough interest to warrant it. If you think you might be interested in investing \$10, let him know. He promises his personal assistance in case of difficulty as part of the deal, too! He lives at 4052 Drowsy Lane, Memphis, Tenn.

ANOTHER SAFETY FUEL TANK

As was predicted here in April, the "PyroGuard" fuel tank treatment has been approved by SCCA. Rather than a bladder, or foam filling, it is a rubber-like coating applied to both inside and outside of existing tanks. (Or they will furnish complete tanks on request.) It is said to contain the fuel, even in case of rupture of the metal tank itself, and is said to be about half as expensive as the custom made bladder types.

Safety tanks won't be required for 1969, but if you don't feel completely safe in your fireproof suit, and want to investigate, write or call Universal Products, 5616 Fourth Ave. So., Seattle, Wash. 98108 (206) 767-3450.

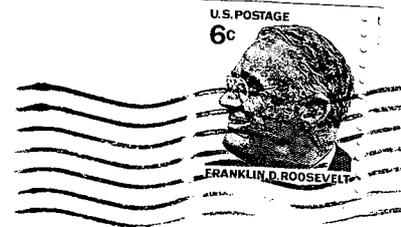
HOW'S THAT AGAIN?

From the brochure of a well-known cam-grinding company: "These grinds have worked extremely well for small sedan racing and also for the popular Formula V racing engines."



**Formula Vee
International**

BOX 291
EPHRATA,
WASH. 98823



Warren A. Roberts
1208 Swain Drive
Bartlesville, Okla. 74003