



# VEE LINE

NUMBER 26

NOVEMBER 1966

## DIRECTOR'S CORNER

As this is being written, it is rather difficult to say much about the status of the 1967 rules. The Car Classification Committee of SCCA has made its recommendations, they have been passed by the Competition Board, and in another week (before you read this) the Board of Governors will have made the final decisions.

According to the grapevine, the Car Classification Committee, in several areas at least, apparently felt that the Vee owners weren't entirely qualified to judge where their best interests lay. It remains yet to be seen whether the Board of Governors will rubber-stamp its recommendations, or decide to give more consideration to the wishes of those directly concerned—the Vee owners, themselves.

To give credit where it is due—a number of our recommendations *were* adopted, and the rules should be at least more specific for 1967, and with no really basic changes.

Membership in this organization is now over 300, and is increasing steadily. 500 voting on next year's ballot? Why not? Maybe that will be enough to be impressive!

## CAMS, AGAIN

This letter from Volkswagen in Germany doesn't answer all the questions, by any means—in fact it inspires a couple—but it does have some information:

“... The 1.2 liter engine of 41.5 SAE hp and all subsequent VW engines have been equipped with the camshaft #113 109 105 D since June, 1962. This version only is available as a spare part. The diameter of the intake lobe of this camshaft is 38.8mm (1.528”) and of the exhaust lobe, 38.4mm (1.512”), measured across the top.

“The camshafts used in assembly line production before June, 1962, are of a different material, and have a slightly different lobe shape. These camshafts are no longer available as spare parts. All original VW camshafts have the VW seal cast in.

“The difference in the performance data of the 1.2 liter engine has not been caused by engineering changes, but by a clerical error. The correct data is 41.5 SAE hp.”

We still don't know why no one (?) has ever seen a “D” on an actual camshaft, or where the commonly seen “C” comes into the picture; but it appears plain that there are only *two* camshafts. Will try to get some more dope on those letters.

## SHORT LIFE

Anyone for the 1300cc engine in Formula Vee? They may be somewhat hard to come by—in 1967 they are replaced by a new 1500 engine, based on the bus engine, which has larger bore than the 1300.

## AND CAM FOLLOWERS

If you have—or get—one of the old “B” cams (with the higher lift) and also follow some advice given here previously on installing the latest type of follower, here's something you'd better check:

Even when simply installing the latest followers, the VW manual advises checking to see that the follower guides allow for the increased thickness of the heads, between the peak of the cam lobe and the metal of the crankcase. In some cases the heads of the followers may strike the guides at peak lift. When this is combined with the higher lift of the “B” cam, this possibility is even greater.

Since installing this combination in our engine we have had a noise, only when the engine is hot, which we can't attribute to anything else. One teardown failed to disclose anything wrong—this is pure speculation. However it seems to be improving with age, which would bear out this diagnosis.

Incidentally, one engine expert advises using the oldest type of follower, on the ground that it is lighter. Suit yourself, but it was discontinued because of its tendency to break off chunks of the thin head, leaving sharp edges which would remodel a cam in a hurry. And it probably didn't hit 5,000 very often, either.

## ALIBI

You'll be getting this issue of the VeeLine even later than usual, I'm afraid. By the time it gets back from the printers, I'll be basking in the sun at Nassau! That's right! Got a complimentary invitation from Red Crise! More about it next month. don

## DOWN UNDER

The Australians are in the process of forming a truly national Formula Vee Association. For some time now there have been three Associations, in New South Wales, Victoria, and South Australia (three of the seven states in that country), and are hoping to get them established in the other four states, with delegates from each state association forming the national body.

They are fielding up to 20 Vees in their races, and have at least five firms building Vees at this time.

Donald Thomson, Secretary General of CAMS (the Australian counterpart of our SCCA) assures us that Australia will adopt the same rules we do for 1967. He says, “I am sure you will not do anything that is not consistent with the spirit of Formula Vee.”

Correspondence with other countries is very rewarding and interesting. Mr. Thomson and I still marvel that racing, as conducted in the other's country, is able to function; but we are both, I think, getting a better insight into how it works. Mr. Thomson won't agree to my description of CAMS as being related to SCCA, but that's the closest I can come to it in a few words.

Formula Vee is now the oldest Formula in the U.S., but it's an infant compared to their “Australian National Formula”. Mr. Thomson says, “This is identical to the old international Formula I, which was in effect up till 1960. It has been a very successful Formula, and is on the point of being renewed for a further three years.”

## TIPS FROM A VEE BUILDER

Chuck Tatum, who builds the Crusader Vee, offers the following hints in the FRA “Open Wheels”—

“If you find that you have to adjust your brakes constantly, check that the vent in the master cylinder is open.

“Everyone knows (?) that covers from one-pound coffee cans make excellent lids for opened oil cans.

“There have been several reports of drivers discovering that their tachs are incorrect. This problem should be watched for, as sometimes you can't play it by ear.

“Checking with drivers who have extended their pipes in accordance to the GCR, as compared to last year, seems to indicate that no increase of power resulted, but the sound was much improved. About half the cars encountered at recent out-of-region races ran the old pipes. Including the fast ones.”

## ANOTHER BALLOT COMING UP

With the rules ballot out of the way, we have another ballot coming up—the election of officers.

For President we have two candidates, so far—the platforms of one volunteer, Lee Wachs, and one nominee, Harvey Templeton, are presented elsewhere. Our President, Whit Tharin, feels he “should step down and give someone else a chance.”

Due to the clause in our Constitution which prohibits more than one officer per state, another candidate for Executive Secretary is needed. Harriet Gittings has volunteered for re-election, but as she and Lee Wachs are both Californians, only one of them can be elected, so I am therefore nominating Bill Dennison, of Albuquerque, New Mexico, as a second candidate for Secretary.

For Vice President, the only candidate so far is Vi Hendrickson, formerly of Winter Park, Florida, now living in Needham Heights, Massachusetts. Vi is the gal who held this organization together all by herself for about a year before its reorganization in 1964.

A ballot will be included with the December issue of the VeeLine. Other nominations or volunteers can be accepted up until December 1.

## WHIT BOWS OUT

Dear Don:

I feel I must decline your nomination of me for President. I have enjoyed my tenure, and appreciate the status that attaches to the office. I have tried to represent the true philosophy of Formula Vee, and to convey that philosophy to fans, detractors and lukewarms alike. Most members know of at least some of my efforts! However, it is time for a new man, with new ideas and approaches to the job of communication with non-believers. I would like, therefore, to nominate a potential successor.

The man I will nominate is not an “old hand”. He has been in Formula Vee little over a year, but he has caught the idea, the basic concept of competitively equal cars, low cost racing, and of sharing his knowledge and experience. He is financially able to race anything he chooses, but he chose Vees. He is a successful businessman, an accomplished scientist, a complete gentleman, an articulate writer, and one heck of a nice guy. He is also a grandfather! Further, he is now semi-retired from business and therefore has the time to devote to this job. He is blessed with a strikingly distinguished physical appearance which can only add to our image. He is Harvey Templeton.

I have discussed this nomination with Harvey and he has agreed to serve if elected. I can promise he will do a job which will bring credit to us all.

Harvey is in Formula Vee with both feet. He and his wife both hold licenses, Harvey going from Driver's school last March to Riverside in November. He has a Bobsey, his wife a specially-proportioned

## FROM BELGIUM

Part of a letter from Pascal Ickx, who is Secretary-General of the Belgian Club Vee, plus “representing France in the International Meetings, and member-founder of ‘Formel Vau Europa’, which is likely to be the same as FVI for Europe.” As with Australia, we don't yet understand each other entirely, but we are getting closer with each letter. Letters like this make this “job” a very rewarding one.

“Dear Don—

...Please believe that we are at least as rules-conscious here in Belgium and France as you are over there. The trouble is that the individuals who have brought the nice ‘thing’ here in Europe have mistranslated at least a half dozen items, altering their very sense or meaning. In fact, the FV regulations are a very nice bunch of subtle dispositions, dictated by experience; but we didn't have any experience on the philosophic point of view. And without the three years of tradition you gained there in the States, it could be expected that we might not understand everything, or feel the very subtle sense of every single item. But I feel, (and very many people here, if they know the Formula Vee from its origin, do feel the same) that we are very close to you Americans—very close to your spirit, your action, your philosophy, and your developments. Please believe it.

If we apparently go away from your way of thinking, it is mainly because of material possibilities. The adoption of the 1300cc engine is an example of this. Perhaps in one year, or two, you'll do the same. But you must understand that we are very much closer to the VW source, and that explains much of the way we are doing things in FV.

As far as performance is concerned, it is a must for us to introduce firmly FV in the European sporting world, which as you must know, is terribly active and versatile. Performance being a must on the scale of Europe, we look for performance at low price. Emptying the dynamo (eliminating the generator) is one of these means. On the other hand, on a national scale, we are trying in Belgium to introduce a new national class. This one is simply the 1200cc, and prohibited racing tires (compulsory sport tires) with exactly the same regulations as for the 1300, because ruining a 1200 head is still much cheaper than a new 1300 head. In one sense, our national FV will be practically yours. And we feel we are doing a good job, doing this for the beginners and for the diffusion of FV....

In fact, Don, if you can give us the time to send us an accurate and detailed *explanation* of the FV regulations you adopted and proposed, you would do us a great favor, and you will give us the chance to understand everything. But till we know the ‘why's’ of the U.S. regulations, there is no hope to have the possibility to make a nice common bond work on the matter.

... Anyway, for '67 we intend to make the European regulations on the basis of the German '66 ones, with some alterations—especially to limit finally the possibility of lightening and polishing everything, which was the disaster of the German regulations for '66. We'll put an end to that on November 18 here in Brussels.

7,000-8,000 revs! Don't be afraid—we are not going high like that. I only wanted to explain that with the German type of exhaust megaphone, the 1300 revving at 5,500 (and some very brief times to 6,000) is producing the same noise as the Formula Jr. of '62-'63 when they revved at 7,000 to 8,000. Okay? Excuse me for the misunderstanding—and go in peace, brother. We don't have till now 130mph Vees. Perhaps next year... the Austrian Vees are reported to have done a good 115mph—a 100mph average on a 50-mile race.

... This is not as cheap a Formula Vee as yours—maximum \$3,000 for the fastest Austros in place of the \$2,500 in your country, and less than \$2,000 for complete cars in Belgium. Cheapness of FV in Belgium made in fact its success—more than 50 cars in the very first complete season. About 500 in Europe.

... I feel I have had a good afternoon with you, Don. I hope you'll have an interesting time reading this. I hope it is understandable. Hope to hear from you soon, too, and to receive various and numerous materials about our FV in the States. Already, many thanks.”

Pascal Ickx

*I wish I were as fluent in his language(s) as he is in ours. He included a copy of the German rules, but my high-school German teacher, many years ago, didn't include the words for “carburetor” and “transmission” etc. I can make out, though, that they are ahead of us on one item, at least—their gear ratios are spelled out. Late sedan or transporter third and fourth, but only sedan first, second and ring-and-pinion. No opportunity for the “mystery gears” there.*

*There are yet some basic differences, but it doesn't appear impossible that someday the “twain shall meet”.*

Zink. Their double-decked trailer and orange-and-white cars have been all over the U.S. this year. He also has two sons who have licenses earned in the family Vees!

Harvey does all his own work. He is

one of us—he is worthy—he is willing. I sincerely hope a majority of the membership will vote for him—Harvey Templeton, of Winchester, Tennessee!

Honestly yours,  
Whit Tharin

## OPEN LETTER TO FVI MEMBERS

I, M. Lee Wachs, hereby announce my candidacy for President of our organization. My platform is one of liberalism. I do not believe in changing things for no apparent reason, nor do I believe in suppressing change when it becomes necessary.

I am 32 years old, married, with four children, and reside in El Sobrante, Cal., a suburb of Oakland. My livelihood is earned by conducting public relations activities for a free non-sectarian charitable organization.

I have been racing since 1952, starting with flat track AMA motorcycles and continuing on with hardtops, super modified and sports cars. I built my Vee from a kit, like most of us, and feel I am intimately familiar with the problems facing my fellow builder/drivers.

If elected, I will do my utmost to preserve the traditions, aims, and ideals of our club; but equally important, I will endeavor to enlarge the scope and meaningfulness of its activities. I sincerely wish to serve as your President, and hope you will see fit to elect me.

Respectfully,  
M. Lee Wachs

## UNCLASSIFIED ADS

AUTODYNAMICS KITS, Close-out, \$495. Complete cars, \$1295, FOB, while they last. W-R Racing, Inc., 337 Elmira Rd., Ithaca, N.Y. Phone 607 273-0495

1963 FORMCAR demonstrator, and 1 kit. Make a ridiculous offer! Metro Motors, 2121 8th Ave., Seattle, Wash.

1963 FORMCAR (Old Yaller). 1965 Champion, SE Division. \$1250. Whit Tharin, Allendale, S.C. Call collect (station-to-station) after 8:00 PM, 803 584-2485.

FORMCAR VEE, with trailer and spares. Graduating to Lotus 22. Keith G. Saunders, 422 Alcazar NE, Albuquerque, N.M.

Mk III FORMCAR, specially prepared for 1965 Nassau race, practically unused otherwise. \$1300 FOB Orlando. Formcar Constructors, 2002 Edgewater Drive, Orlando, Fla.

## OFFSET KEY

"Dear Don -

Is an offset key legal? I ask because -

1. The same result can be achieved by an infinite matching of timing and cam gears.

2. Matching of cam and timing gears can extend the duration of the cam, which can improve performance.

3. Those who have access to VW parts departments can achieve this."

Tim Sharp,  
Los Angeles

(Referring, of course, to the key which locates the timing gear on the crank-

shaft.) *In my opinion*, if this offset key had a VW part number (which it hasn't) it would be legal. There is a great deal of speculation and theory on the effect of advancing or retarding the camshaft in relation to the crankshaft, and the consensus seems to be that it does affect performance. Not by *increasing* the power output, but by locating the peak power curve higher or lower on the rpm scale. It *won't* "extend the duration" of the cam - if the valves open earlier (or later), they will also close earlier (or later). So you might gain a little here, but you'll lose it there.

As to "matching gears" to accomplish this effect, again, in my opinion, this advantage attributed to VW parts people is 99% myth. There is, of course - as with any machined part - a certain allowed variation in dimensions in VW components. However I can't imagine that there are very many VW parts with a tolerance large enough to be of any particular value. One exception might possibly be the volume of the combustion chamber in the head, which might conceivably, due to its method of manufacture, vary a little. Even here, a difference of a couple of cc's isn't going to amount to much. Certainly time could better be spent in fine-tuning, adjusting shifting mechanisms for flawless shifts, attention to steering and brakes, etc. As far as I'm concerned, anyone who wishes to try to "match" timing gears is welcome to do so. By the way, Tim, how much advance (or retard) are you looking for? Or do you know? don

## KNOW YOUR RULEBOOK

Dear Don:

How about some clarification of the second sentence of the opening paragraph of 4.9, regarding firewall, safety equipment, etc. If 2.9g (or all of 2.9 for that matter) doesn't apply, what does?"

Donald Williams,  
Silver Spring, Md.

*These numbers, of course, refer to rules in the GCR (General Competition Rules, SCCA). If you check on back to 2.1, you'll see that this whole section refers only to "Sports Racing Category" (Modifieds), just as Sec. 4 refers to Formula Vee. Nothing in this section, then, has any bearing on FV. Now check Section 5, which applies to all categories - and if you haven't read it already, shame on you! Don't wait for someone to point out that you are in error somewhere - read your GCR. There's a lot of interesting dope in it besides the section on Vees.*

*Not all the items in Sec. 5 are applicable to Vees, of course - fenders, lights, passenger seats, etc. - but most of it is, so be warned.*

*Don't feel too badly about getting in the wrong section, Don - at a Driver's School in Texas last Spring all the Vee drivers were told they'd have to conform to that Section 2.9. It took a word from Westport to straighten it out. don*

## MANUALS AND MAIN JETS

"Dear Don -

...I have found an excellent book called *Fix Your Volkswagen*, written by Jud Purvis and published by Goodheart-Willcox Co., Homewood, Illinois. It is no substitute for a shop manual, but it is better than anything else I have found in the same line. Not only does he cover tune-up and repair, but he also goes into theory a little. Pictures and diagrams are excellent....

"I am in need of a little information. I know that quite a few of the Vees are running with an adjustable main jet. The question is - where do you get them? I put my Vee on a dyno the other day. The owner felt that it had fuel starvation, so I tried a 125 main jet. The engine really perked up and sang! The owner felt that there was more potential speed with an even larger jet. Alas, the 125 is the largest Solex makes. I will now try an adjustable jet if I can lay my hands on one..."

Bob Dixon,  
Everett, Washington"

*I wondered what was wrong, Bob - obviously it wasn't your driving. Solex makes 50 different main jets which will fit either of the Vee carbs, in sizes from 35 to 240 in jumps of 5, with a couple of in-between sizes, like 122.5. The No. 8 VeeLine lists all the jets, (including the adjustable one), venturis, float valves, etc., by number, with postpaid prices. Or you can write to the Arnolt Corp., Warsaw, Indiana. don*

## LOOKING FOR A VEE?

Despite increasing numbers of inquiries about Formula Vee (over 1,100 this year, already) and despite the increasing percentage of these inquirers who are joining this organization, and who are definitely planning to get cars, the manufacturers report that sales of new cars are lower than last year. However, there is a definite demand for used Vees. If you know of any which are for sale, please urge their owners (members or not) to list them in the VeeLine.

Those in the market for cars are also missing a bet if they fail to investigate sources of brand new Vees which are "outdated". Several distributors overstocked during the original Vee boom, and they are now offering original models at fantastic prices. (A couple of these are listed in the "Unclassified" section.) As has been stated here before, there is no evidence whatsoever to indicate that the make - or age - of a Vee has any bearing on its performance. "It's what's up front that counts."

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

### NELSON LEDGES GRAND PRIX

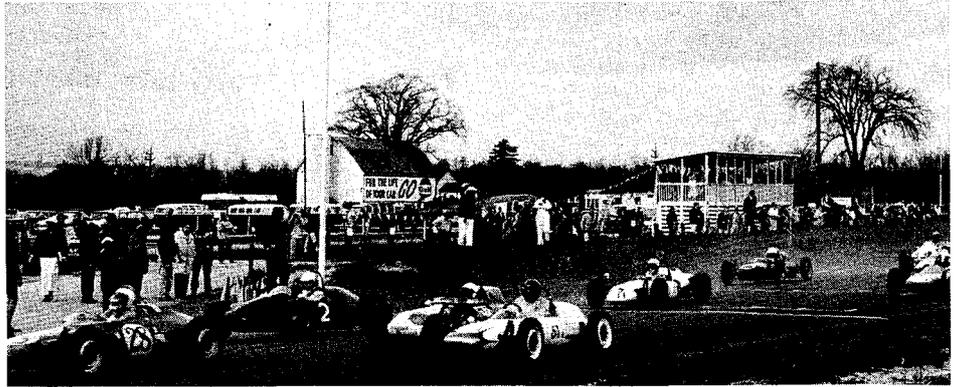
A total of 42 Vees, hailing from such diverse climes as Canada and Florida, converged on the small town of Nelson, Ohio, October 29-30 for the first annual Formula Vee Grand Prix.

Sponsored jointly by the Volkswagen Club of Pittsburgh and Red Foxes Ecurie (a splinter group of the Steel Cities Region of the SCCA), the race weekend consisted of two heat races and a three-hour main event. The race was the inaugural for the extended course (from 1.1 miles to 2.1 miles) which winds through the gently rolling Ohio countryside.

Winner of the main event in a new Autodynamics (No. 36) were J. Magee and J. Wanner of Rochester, N.Y. The winners covered 250 miles in three hours, an astounding average of 83 mph. Second went to N. Windsor and R. Nagel of Pittsburgh, Pa., in another Autodynamics (No. 55). The leader was a scant five seconds ahead of the second place car, indicating that even in long-distance events the nearly equal performance of all Vees can maintain spectator interest.

Third (No. 8, a Zink), was driven by J. Heishmans and J. Moore of Arlington, Va. This car won one of the heat races handily but later suffered a broken rear axle retaining strap, which hampered its handling in the corners.

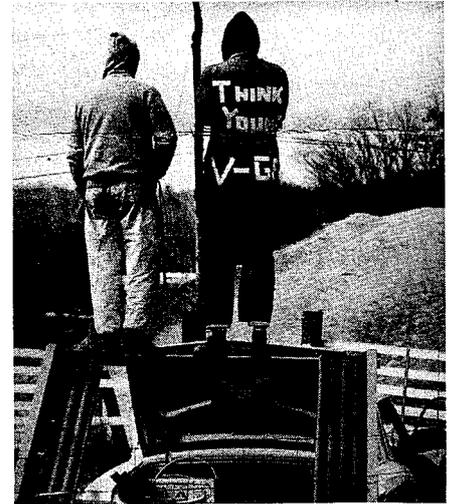
The high average speed was achieved despite a mandatory one-minute pit stop. Drivers and organizers seemed enthusiastic about the event and plan to make it an annual feature.



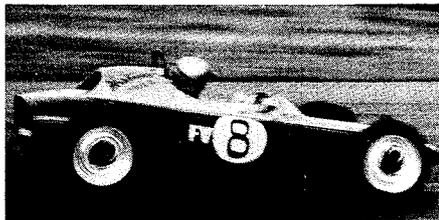
There were 29 Vees in the start of the three-hour Grand Prix.



The co-driver winners of the Grand Prix, Magee and Wanner, were awarded a battle of champagne and wasted no time in popping the cork.



The pit crew for the Young team were among the best dressed.



This is how a Vee with a broken rear axle retaining strap looks.



One pit stop was required in the main event.



**Formula Vee  
International**

BOX 291  
EPHRATA,  
WASH. 98823