



# VEE LINE

NUMBER 28

JANUARY 1967

## DIRECTOR'S CORNER

(This is being written a week before the ballot count.) Both of the candidates for President are able, enthusiastic members of FVI, and whichever is elected will certainly be a credit to this organization. However, he'll be stepping into some pretty big shoes, and it will be no disgrace if he can't completely fill them.

Whit Tharin set a precedent for the office of President which is going to be hard to live up to. Technically, the officers of this club are required only to keep the office of Director adequately filled, but Whit's efforts during the past year have gone far beyond the requirements.

His most conspicuous activity, of course, has been his "Vee and Me" columns, which you have read on these pages. However many of you may not know that they have also appeared in a number of Regional newsletters, and in "Foreign Car Guide" magazine. These columns alone have been responsible for probably 25% of the membership gain in the past year. In addition (as indicated by his signature on the bottom line of the applications) he has personally signed up at least a dozen members.

He has conducted "Vee clinics" — on a semi-organized group basis at driver's schools, and on an individual basis any time he has met a driver who wanted help and advice. He has freely shared his "secrets" with anyone who would listen.

In the Southeast Division "cheating" is a word which has almost been dropped from the vocabulary in connection with Formula Vee. Whit's insistence on strict rule observance, regardless of any personal feelings, has been largely responsible in that area for legality of the Class which is unsurpassed anywhere.

He has written letters and made phone calls (at his own expense) in behalf of Formula Vee whenever he has felt that his influence, either as President of FVI or as an individual, could be of any benefit. In short, he has done everything he possibly could to help Formula Vee.

"Honorary Membership is open to those who contribute some extraordinary service to Formula Vee." I am sure then that there can be only approval for designating Whit Tharin as an Honorary Life Member of FVI

## HOW MANY VEES?

As this is written, the December issue is not yet back from the printer, and I just received a copy of Harvey Templeton's "campaign literature". (If he doesn't make the "Rookie of the Year", we should call for a Congressional investigation!)

I was going to take issue with his statement that we represent only one-fifth of the Vee owners — till I did some checking and came up with about the same figure (one-fourth actually). If my estimate of 1300 Vees at this time is anywhere near correct (it's based on somewhat vague and guarded replies to a questionnaire sent to the several manufacturers), we certainly are missing a lot of members we should have.

Are there really that many Vees? Only 117 (a third of whom are members) are listed in the National Points standing in Sports Car Magazine. Can there possibly be 1200 more? Let's find out!

Let's you — and you — and you — take a census of the Vees. It should be simple, really — something you can do at home, in a few short minutes. All you have to do is get out your Regional Membership Roster, and your list of final point standing in the Region, and pick out the Vees. OK, so you wouldn't even need the

Membership Roster — except that there is a gimmick here. While you're at this herculean task, I'm going to ask you to include the name and address of each driver, so they can be contacted with our literature. And not only that — will you please check the National drivers listed in "Sports Car" too — many of them don't run in regional races.

Please, will YOU do this? Don't pass it off with the idea that someone else in your region will probably do it — we average a little less than 4 members per Region (some more, some less) so you could very well be the only member we have in your Region.

## TEMPLETON ELECTED PRESIDENT

The number of ballots returned was certainly nothing to brag about, but as judged by comparable elections, was probably about average.

With the California candidates being handicapped by the clause permitting only one officer from any one State, it is not surprising that Harriet Gittings was the one who got the post. Her activities in FV for the past couple of years have made her name familiar even beyond the influence of the VeeLine. This situation may have had some bearing on the vote for President, too, though Harvey Templeton, too, has become somewhat of a celebrity in his own right. Vi Hendrickson, of course was a cinch from the start, as the only candidate for Vice-President.

Final ballots total may be obtained from the outgoing president, Whit Tharin, Allendale, South Carolina 29810.

## RULES FOR 1967

An official copy of the '67 rules has just been received. As usual, we didn't win them all, but we didn't really lose any, either. They'll be reproduced completely in our new issue of "All About Formula Vee," and the GCR will be out shortly, but in the meantime —

1. The "Definition" is now "based on standard Volkswagen 1200 Series, Type 1 sedan components," which still includes the 36hp engine.

2. Under "front suspension," we got a dilly! "6. Use of any desired Pitman arm. Standard steering arms may be altered; however no modification of the spindle is permitted." Are the "standard steering arms" those on the spindle — or are those on the spindle specifically included in the "no modification"?

3. "Use of any anti-sway (bars)". (Front only)

4. Coil Springs still "provide the springing medium". Looks like the use of the Camber Compensator would have to be definitely settled through the protest-and-appeal route.

5. Brake shoes (also valve guides) have been added to the "non-VW parts" list.

6. Transmission-rear axle is now limited to "sedan". Are transporter ring-and-pinion forbidden — or included under "any standard VW gear set"?

7. "Transmission may not be installed in an inverted position."

8. "Use of a limited-slip differential device is prohibited."

9. Body must now "enclose" (not "fully enclose") the engine, and no part of it can be movable to allow entrance or exit.

10. "The use of any 6 volt battery is allowed."

There's still room for improvement, but, as usual, this year's rules are better than last year's. Who said Formula Vee couldn't last?

## FV SUPER?

The proposal printed here last month to adopt an additional Vee class, based on the 1500cc engine, seems to have arisen in several places simultaneously. John and I had discussed it briefly at one of our bench-racing sessions, and when I mentioned it to Whit during one of our phone conversations I found that he had already written up the idea for his "Vee and Me" column. At about the same time, apparently, Red Crise, in Nassau, had abandoned the idea of a 1300 class for 1967, and was seriously considering the 1500.

By now there should be no doubt anywhere about Whit's intentions — anyone who has followed his Vee career, and has read his columns knows that his only motive was to solve a problem which, while not yet serious, is bound to get worse if it is ignored. However, if there has ever been a two-sided question in connection with Formula Vee, this is it. Let's kick it around, then, for a couple of months, and look at *both* sides. For a start —

Pro: In some areas the class is already too big for the existing tracks. The GCR permits a maximum of 15 cars per mile in a race; and with at least half of the SCCA tracks, especially in the East, averaging a mile-and-a-half, you don't need a computer to convince you that the number of Vees is going to exceed the number of available grid spots in a number of areas, if they haven't reached that point already. *Two* Vee classes — the present 1200 class and an additional one based on *stock* 1500 engines — would split the entries and permit two separate races, thus relieving the overcrowding.

Con: True, the class — already the largest in SCCA — is continuing to grow, and there's no limit in sight. However, this solution presupposes (1) that SCCA can be persuaded to adopt an additional class for Formula Vee, (2) that the two classes would be evenly divided, and (3) that the race organizers could somehow be persuaded to find time for another race in their already crowded schedules. If time could be found for two *classes* of Vees, it could just as easily be found for two *heats* for the present class, and if the heats were cut by a third, a main event could be included in the time normally needed for two separate events. At the many tracks where this problem does *not* exist — where it is impossible to get enough Vees even with the present single class, to have a race of their own — it could only be expected that the two classes would still run together, with or without the other Formulas. This would do nothing for morale in the 1200 class — it's bad enough getting blown-off by Juniors.

Pro: A faster class of Vees is needed to increase spectator appeal.

Con: In the first place, the Vee's lack of "spectator appeal" is a myth, originated by opponents of Formula Vee at the time of its introduction; and through constant repetition it seems to have been accepted as a general indictment, even by the Vee

owners themselves. Despite the fact that Vee events are frequently singled out as the "most exciting race of the day" by unbiased reporters, and the fact that it has transformed spectators into participants as no other class has ever done, a couple of vitriolic columnists who make a point of "taking advantage of the Vee event to make a trip to the john" have apparently left an indelible mark. It's not the fans who complain about the Vees — they come to see *racing*, and they *get* it in the Vee events. Watch them start to trickle home in the middle of the "main event" though!

Would the 1500 engine further increase "spectator appeal"? Probably very little, if any. If accepted as proposed, with absolutely *no* modification except a choice of carburetor jets, they probably wouldn't be more than 5 miles an hour faster than the 1200. (Check the official figures for the respective sedans.)

They'd be using the same gearing available now, so would either have to be able to exceed appreciably the 5,000-rpm ceiling we seem to have with the 1200, or use much larger tires. (A 1-inch increase in diameter would equal about 4 mph.) If they were allowed the same "modifications" allowed for the 1200, another 10 mph might be possible. Either way, they won't scare the Juniors. Acceleration should be much better, but this isn't spectacular except in comparison with another car (such as a 1200?).

At the majority of events, where the two classes would still be run together, it would be obvious that some Vees were appreciably faster than others (is that good?) but where they were run in separate events the average spectator would never notice the difference between 95 mph in one race and 100 to 105 in another.

All in all, with this proposal being made chiefly as a solution to the problem of too many Vees already, *more* spectator appeal would seem to be something we could do without anyhow.

Pro: If we don't take the initiative and get the 1500 engine adopted as we would like to have it, it will soon be rammed down our throats, anyhow. In the SCCA deliberations on the '67 rules, a proposal was made, at least, to include *both* engines in the *present* class! It wasn't adopted, but it indicates a trend.

Con: Possible, perhaps, but very doubtful. While some of the details in the '67 rules indicate that there is still some lack of real understanding of Formula Vee, the past four years demonstrate that the officials in SCCA are thoroughly in accord with the overall concept. It is inconceivable that, with so many conscientious people involved, any such attempt at sabotage could possibly succeed.

Pro: We will soon be forced to something else anyhow, as the 1200 engine is obsolescent.

Con: True — the 1200 engine is obsolescent. Last year's 1300 engine is obsoles-

cent. This proposal is based on the use of the '67 sedan-type 1500. How long could we count on *this* engine remaining current? With the present engine we know where we stand, at least — it was produced for five years. Formula Junior became the "car of the month class." Should we make Formula Vee the "engine of the year" class?

The big thing about Formula Vee is that it was *originally* based on the use of "obsolete" components. As 1200 VWs become increasingly "obsolete," the only effect, as far as Formula Vee is concerned, will be to make getting into the class even cheaper than it is now. Very few people now racing will live long enough to experience difficulty in obtaining replacement parts for these engines, however, which is the true test of obsolescence. The 30hp SAE engine (discontinued in '53) is no longer available as a new unit, but the parts are still listed in the parts books. The 36hp engine ('54 through '60) is still available as a complete new unit. When do you suppose the 41.5hp engine will really become obsolete? No mention has been made of updating the running gear because of this "obsolescence" — if this is (or will soon become) a problem, perhaps an *entirely* new car should be considered.

Pro: This could very well be the bridge to a uniform class with Europe.

Con: True — and the destruction of the bridge to the other countries which have had faith in our ability to maintain the present class. As Mr. Icks told us last month, Belgium is having success with going backward (?) to the 1200 engine, for the same reasons that it has been successful here — cheapness and availability. Should this be discouraged? Also, Volkswagen still builds cars powered by 1300 and 1200 cc engines. In January, 1967, the factory re-introduced the 1200 for European markets.

The Car Classification Committee of SCCA will hold its next meeting in May, I am told. At this mid-year meeting, clarification of rules is often made (where doubt is shown to exist) and — seldom, but occasionally — actual changes are made in the rules. It is *not impossible*, then, that this change could be adopted, to become effective for 1968, as Whit proposed. There are also a couple of other areas in the new Vee rules which need some attention.

There is a possibility of our having our own representative at that meeting. For his guidance, then, we will take another ballot (probably with the March VeeLine) on this proposal and any other pertinent questions. SO — in the meantime, let's sound off!

## BIG TIME!

Hey! Did you see "Wide World Sports" on TV Dec. 31? The races Nassau were featured and FORMULA VEE was included! Respectfully, too — even the mention of the class as "the poor man's Formula 1" was made in good taste.

**Q & A**

"Dear Don:

Thanks for the informative answers to my last letter. I have some more questions that might also be bothering some others -

1. Are parts from your local "Beck Distributor" legal? They are identical except there is no VW emblem.

*(I'd hate to get caught with them - Sec. 4.1 is pretty plain. Are they even cheaper than genuine VW?)*

2. I have been told that 40hp crank-cases are no longer stocked - that they are using the case from the 1300 as a replacement. This case has replaceable cam bearings. Is this true?

*(The 1200 and 1300 cases have different parts numbers, and the VW factory says they are not interchangeable (No. 22 VeeLine). Probably this myth was started because the replaceable bearings were incorporated in the 1200 cases at the same time the 1300 came out with them.)*

3. I told you I would let you know the results of changing from 36 to 40hp. On a fresh engine, with no tuneup, I dropped my times from 2:00.5 to 1:55.7, which is only 3 sec. from winning time. *(Nyah, nyah, I told you so.)*

4. The engine only lasted about 20 laps when a bearing failed, due to excessive side-play of a con-rod and the cheeks weren't even parallel. These were "Revmaster" rebuilts that I used, trying to save a few dollars. There must be a moral somewhere. *(What in the world do you mean?)*

5. It is my understanding that several Vees are using something called an "offset key". Do you know what it is, and is it legal?

*(It's the Woodruff - "half-moon" - key which locates the timing gear on the crankshaft. If it had a VW part number - which it hasn't - it would be legal. It is "offset" in that it isn't flat - the part which goes into the crankshaft is "offset" from the portion which goes into the key-way in the gear. It locates the timing gear either ahead or behind the normal setting, which in turn advances or retards the valve timing by repositioning the camshaft. The effect of this is to move the torque peak up or down the rpm scale. In a car with enough gear ratios so that the engine can be kept at nearly peak power at all times, this can be of some benefit; but in a Vee, with the wide range of rpms required, you "get it here, but you take it from there". We tried once setting the cam a full tooth ahead of the timing marks - and a full tooth behind - and couldn't tell any marked difference between either position, except that neither was quite as good as the stock set-up. Possibly a dyno would detect some minute difference, but it would be so little that it wouldn't be worth the risk. As for me, I'll believe that VW knows best.)*

6. What happens if crankshaft end-play is too much or too little? *(If it's*

*too little, the aluminum bearing shell could expand with heat more than the crankshaft journal - lengthwise - reducing the clearance still more and causing binding, more heat, more binding etc. If too much, you could be relying on the rod and wrist-pin bearings to locate the crankshaft, which they are not equipped to do.)*

7. What happens if the oil pressure relief valve spring is stretched or spacers are put under it? How much? *(Your oil pressure will be increased. How much stretch or spacer are you adding?)*

8. I suggest that cutting-out is caused by gas running out the float chamber vent and flooding the engine." *(Could be, but have you ever seen a Vee belching black smoke as it cuts in again?)*

*Terry Farrell,  
Lynwood, Cal.*

**SPEAKING OF CUTTING-OUT**

"Dear Don:

I put the old 28PIC back on my Vee and took it out to the track yesterday. Lo and behold, the cutting-out on a hard right turn was cured! Dr. Robert Barnard, Aspen, Colo." *(Great, Doc, but now try running the track in the opposite direction.)*

I've had a couple of other "cures" recently, but can't remember who gave them to me -

1. Carefully remove the lever from the float and place the float in the bowl upside down, floating free. Reassemble with the lever in the normal position, but laying loose on the float.

2. Someone from Australia or New Zealand gave me the Solex part numbers for another float-and-valve assembly which will cure the problem. I mislaid the letter - or probably threw it away after answering. Please, "somebody" - tell me again?

**ANOTHER CLUB**

"Dear Don:

I have been appointed to write and advise you of a meeting held in the Los Angeles area this past week. This meeting was held to promote Formula Vee. After sending postcards to all the drivers whose address we could locate, a total of seven drivers and three prospective owners attended. The meeting was held at the home of George Eickhoff who is a relatively new owner and recently licensed driver. The attendance figure may not startle you, but the average Vee field this past year in our area has been less than ten cars. This is basically what prompted the get-together. As a group we decided to help each other out as much as possible and thereby present a better show. We also decided to take advantage of local club publications to promote Formula Vee activity and advantages. In line with this we would appreciate any space you could give us in the VeeLine. We are especially interested in helping new owners and drivers. Our local address is - c/o George Eickhoff, 12861

Martha Ann Drive, Los Alamitos, Cal.

For want of a better name we would like to use "Formula Vee International, Los Angeles Chapter", if that is OK."

*Best regards,  
Bob Sidlow*

*You bet it's OK, Bob - more power to you! For some time I've been sending Harriet Gittings names and addresses of inquirers from her area (San Francisco) and will be glad to send you the ones from Southern Cal. That personal touch often does the trick, and even if it doesn't make owners out of them, it can make serious fans.*

*Incidentally, Harriet's been sending me names, too - of owners, drivers and anyone else she runs across who might be a prospect for membership in FVI. How about all of you getting the habit? If you're too bashful to sell FVI yourself, at least send in the names and addresses of prospects you meet and they'll be given the treatment from here.*

**FROM EUROPE**

*(From Tom Lambele - a serviceman stationed in Germany)*

"Dear Don:

Now to a few of your questions. First the 1300cc engine is still very much in evidence in Germany. . . In Formula Vee circles here we seem to be retaining the 1300cc engine for another year, but they are looking into the 1200cc more and more. Contrary to many people's belief, the 1200cc engine is still being produced - primarily for "Bundespost", or Post Office, VWs.

You asked if the Belgium 1200cc class was spreading. My only answer is that the Swiss already have built up a 1200cc class, and that the Germans are apparently thinking along those lines. . . The Swiss are really big on Vees and have several large dealers backing Vee racing down there.

As of right now, the Vees of different countries are independent in Europe, but all are fashioned after American Formula Vee. I have been invited to join Formula Vee of Europe, and am going to. . . they wish to consolidate Vee racing.

The "Fuchs" Formula Vee is the best (as far as I have seen) that Germany has, and it is quite popular here. The other Vees seen in action have been Beach, Formcar, and Mahag (German-Austrian and really nice).

This is about all I can think of right now, but have you heard the latest rumor from VW? It seems there have been flat-six-cylinder (2 litre) sounds coming from their plant. That sounds interesting.

As I receive more information, I'll send it along. - Tom"

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

## PIPES

Several have inquired as to the proper length and diameter for the exhaust pipe set-up mentioned by Bruce Redding. I haven't been able to get the dope from him, but according to an accepted authority on racing engineering, diameter isn't a factor. Colin Campbell, an English engineer, in his book, "The Sports Car - Its Design and Performance", goes into some detail on the subject.

Fundamentally, tuning is merely taking advantage of the phenomenon of sound, specifically, echos. It takes sound a definite time to travel a given distance - in this connection, the length of a pipe. An explosion follows this law, leaving behind it a vacuum, which sucks air back into the pipe. When this air hits the closed exhaust valve it bounces back and repeats the process. The time required depends on the length (only) of the pipe. If it is of such length that the "vacuum" portion of one of the "bounces" or echos coincides with the "overlap" of the valves (that time when both intake and exhaust valves are open) it will reduce the pressure in the cylinder (even to the point of causing some initial vacuum), which gives better scavenging of the exhaust gases and allows a larger charge of fuel mixture. In a VW engine, exhaust valve is practically closed before the intake starts to open, so tuning is of very little effect.

Further, in any engine, this condition occurs at only one engine speed - that which corresponds to the "echo-period" of the pipe. The longer the pipe, of course, the longer this echo-period will be. If you can find a full length of ordinary plumbing pipe, clap your hand over one open end, leaving it in place tightly, and you can hear the pulses coming out the other. Tuning, then, has to be done with the intention of getting the maximum performance at some specific engine speed, with probably some detrimental effect at other points on the tach. As with valve timing, the usable range of engine speeds in a Vee is so great that little if any *overall* benefit is possible. Do you want more top speed? Then

acceleration at 3,200 will have to be sacrificed. And vice versa.

To get down to specifics, the following lengths are recommended for the corresponding engine speeds -

2,000 rpm	102 inches
3,000 rpm	68 inches
4,000 rpm	51 inches
5,000 rpm	41 inches
6,000 rpm	34 inches

Measurement is from the valve head to the end of the pipe.

Incidentally, these figures apply to *any* engine which utilizes a single pipe for each cylinder, contrary to some claims that tuning is only possible when all pipes are led into a single one.

This tuning effect applies to the intake, also, and the figures indicate that perhaps the VW engine unwittingly takes some advantage of this. The optimum length for 5,000 rpm is 18½ inches, and for 4,000 is 23, from the top of the carb to the valve head.

"Forward-ram" - the effect of pointing the air intake into the airstream of the moving car - is covered too. This doesn't seem to be very effective at Vee speeds - 0.7% is claimed at 75mph.

## SAFETY FOR 1967

As has been mentioned here before, there is more to the GCR than the Vee section, and a good deal of it applies to everyone who races. For instance, you'll find that this year shoulder harness will be required in every automobile entered in a speed event. Also, the handwriting is on the wall for fireproofed gas tanks to be required soon. In this regard, I still haven't any real facts, but Red McCurdy (who sparked the Nelson Ledges "Formula Vee Grand Prix" last Fall) has promised the entire story, "before next racing starts". It is a do-it-yourself project. He says, "The process is not the ultimate, but it is a big step in that direction. There have been no fuel starving problems at all. Moreover, it was very inexpensive to complete." It has been extensively tested on his, and two other, Formula Vees.

### WELL, OF COURSE!

(From the report on the ARRC at Riverside by Vern Jaques, as printed in "Sports Car") "With only two DNFs and no accidents in a race that featured such tightly packed duels, the Vee drivers probably displayed the finest overall driving level of the entire weekend."

## UNCLASSIFIED ADS

FOR SALE - '66 Autodynamics, red & white. Penn. hillclimb champion, '66. Engine with new, balanced, parts. Konis, new R-2's, tilt-bed trailer. Complete outfit \$1,750. F. K. Zimmer, 1 Murrey Ct., Lake Parsippany, N.J. 201-887-5850.

FOR SALE - Jerry Demele's "Supersader". \$1,599. Crusader Cars, 2060 Portola, Stockton, Cal.

FOR SALE - '65 Autodynamics, 11 firsts, 4 2nds, no DNF. Tom Wingett, Box 123, Meriden Rd., Cheyenne, Wyo.

FOR SALE - Formcar. Sam Lipka, North Hollywood, Cal. PO 2-4991.

FOR SALE - Autodynamics Series IV Nassau Team cars. Factory set up, tested, and raced only once. Cost \$4,000 to build. Autodynamics Corp., 2 Barnard St., Marblehead, Mass. (617) 631-6724.

FOR SALE - Autodynamics, complete with engine (in a basket) and transmission (less starter). Needs some work. \$750. E. G. Meloni, 81 Sagamore St., So. Hamilton, Mass. (617) 468-1708 after 6:00 PM.

FOR SALE - Formcar, good condition, race-ready \$995. Trailer available. Charles Haines, 248 Fernledge Dr., New Kensington, Pa. (412) 335-6543.



**Formula Vee  
International**

BOX 291  
EPHRATA,  
WASH. 98823