



VEE LINE

NUMBER 93

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DIRECTOR'S CORNER

Well, we've kicked this rule revision bit around about as long as possible, without, apparently, generating too much steam. We've had a few letters of protest, and a couple of good suggestions, and the next thing on the program is to find out what the rest of you think about some of the more controversial items.

We'll use the punch-card ballot again, and since you all seem to be so good at it, we'll introduce a new concept next month. Instead of voting only "Yes" or "No", it will be a multiple choice type of thing—you can use a number of columns. John and Jinny Morris have again offered to tabulate the results on their computer.

The results of that vote will be incorporated into a final draft, and you will then be asked to vote simply "Yes" or "No" on the whole package. It seems reasonable to expect that if we can show enough strength and unity, SCCA will adopt the entire proposal, without piecemeal alteration.

WHAT DO YOU THINK?

(The following is an excerpt from a letter sent to SCCA by Stan Moore, Westwood, N.J.) "... I'd like to suggest that you consider making two changes in the system of displaying flag signals—in the interest not only of improved safety, but improved communication as well.

"First, it's the opinion of a great many drivers that passing should never be allowed near an ambulance or other non-competing vehicle on the track. No matter how well the ambulance driver is trained, or how alert drivers are to its presence, the danger is just too great when drivers have to compete with each other and another vehicle at the same time. Last September a veteran Canadian Formula Ford driver was killed outright when he tangled with an ambulance. Perhaps it wouldn't have happened had a mandatory waving yellow flag been displayed with the white one.

"Second, most drivers who disobey flag signals in all probability don't even see them. There are, after all, a great many things to think about out there, and very little time to think about them. If the appropriate flags were displayed at each flag station *at all times* drivers would be much more alert to changes in the flags displayed ...

"The case for constant flag signals was amply demonstrated to me last summer when I participated in a non-SCCA race. Whether as a matter of club policy or personal zeal, the Chief Steward caused the green flag to be constantly displayed at all stations under green flag conditions, throughout the event. As a result, I didn't observe a single instance of a driver not observing a flag signal. Even the greenest of novices knew that upon reaching the next station where a green flag was displayed, (after having seen a yellow) they could start dicing again ..."

YOU CAN'T KEEP

A GOOD VEE MAN DOWN

Formula Vee Mid-Atlantic is a group of Washington, D.C. Area drivers, organized in 1969 to promote FV racing. When the Washington Region lost access to Summit Point, FVMA became very active in trying to go racing, regardless. The intent was to find a place to race at the lowest possible cost. The managers of both the local speedways were contacted—Beltsville (1/2 mile asphalt) and Old Dominion (3/8 mile asphalt) in Manassas, Va. Both were receptive to adding Vees to their programs.

Insurance was FVMA's first hurdle and a policy better than SCCA's best was obtained at a reasonable cost. To make a more complete program, the IMSA Baby Grand Sedans were added to form the "Formula Vee and Baby Grand Challenge Series". Races are to be held at Old Dominion Speedway on Sunday afternoons, every other weekend. It is hoped that a similar program can be arranged at Beltsville.

The first event was successful—the racing was good, the spectator attendance was not bad (about 500) in spite of threatening rain, all starters in the feature race received their entry fee back, and were paid prize money in addition. The schedule for the rest of the year: July 16, 23, Aug. 6, 20, and Sept. 3.

Bob O'Connor, who sent in this information (along with numerous newspaper clippings showing a good deal of local interest) says, "I have been a Vee driver on road courses for 5 years but I thoroughly enjoyed running on the oval. It takes skill, stamina, and wits, in addition to a good machine, to win. Road racing is still my favorite, because of its variety, but oval racing is a real challenge."

Anyone interested in entering their events, or in starting such a program in

another area, can get in touch with Bob at #1009 4921 Seminary Road, Alexandria, Va., 22311, or by calling (703) 931-4891 evenings.

A NEW PROBLEM

Bob Fletcher (Manager of Autodynamics) called with a bit of unusual news. Seems that in the Northeast, at least, there's a recent rash of broken rear brake drums. The "new" ribbed type, yet!

His explanation is unbelievable, but until someone comes up with a better one it will have to be taken seriously. His theory is that the new tires (Goodyear slicks, and Continentals for those who can still get them) have so much more stick in the corners that they're putting more strain on the drums than they can take. Apparently they don't break all at once, but cracks start due to flexing of the drum and spread until the wheel drops off, if not discovered first.

No, they're not all on Caldwell D-13's! They're impartial!

CLAIMING PRICE

Curt Fredrikson (Chicago) suggests \$700 as a claiming price, "less exhaust system, generator, shroud, sump, and other bolt on goodies not conducive to performance". He points out that you can buy a completely rebuilt 1500 VW engine from Sears for \$527.

Another guideline might be the price of a professionally built engine, less the cost of a rebuild by the same builder, with enough lead time so that the owner of any such engine would have time to get his money's worth out of the original job. If he then chooses to get it rebuilt, and make it worth a thousand clams again, he'd have to take his chances on having to sell it at a loss. Any figures on this?

REMEMBER?

You're an old timer in this outfit if you can remember which member of which SCCA board was the first President of FVI.

You're a pretty old old timer if you can remember which driver at the Indy 500 was making a name for himself in Formula Vee five or six years ago.

Give up? Check the back page.

The VEELINE of FORMULA VEE INTERNATIONAL

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MEMBERS' SOAPBOX

"Dear Don—In your answer to Larry Wilson I don't think it is right for you to introduce the terms "intent of the rules" or "spirit of the rules" into the discussion. The terms are too vague. They certainly must mean one thing to you and something somewhat different to someone else.

"Besides, such terms are not fair to the designer or builder of a Vee. He has enough troubles as it is without having to try to decipher a vague term like "intent". What we do need are clear definite rules that mean exactly what they say in plain English—no more and no less—with nothing left out and no mysterious "spirit" or "intent" added. Write the rules so that they can stand on their own as written without falling back on such uncertain terms to distort their meaning.

"I doubt that very many agree with your highly restrictive and regressive interpretation of "intent" or "spirit" or that it would be a good thing if they did. For example can you imagine a Zink or Caldwell or someone else saying to himself as he started to design a Vee, "The spirit of the class is that no Vee can be any faster or any better (or any worse) than any other Vee so I must be careful to see that what I design is no improvement"? If they had followed that policy Formula Vee would have stagnated and withered and would be dead and forgotten by this time. There must be some interest and enthusiasm to keep the sport alive. In Vee racing that enthusiasm comes from the struggle to GO FASTER. Let's don't let regressive rulings stifle that enthusiasm.

"Regarding rules changes it seems to me there are two classes of situations. The first is where the GCR has specifically permitted some object or practice. The second where the GCR has said nothing specific about it.

"An example of the first class is air ducting. Since it has been specifically allowed even to the extent of setting out just how it may be and may not be attached it would not seem fair to prohibit it now because too many people have spent a lot of thought and effort trying to get it to work. These people took the rule in good faith believing that it meant what it said and all their work should not now be brought to nothing by changing the rule. That is a good way to kill the enthusiasm for the Class. How can such a person take any more interest in the Class if he can not be sure that the benefit of his work will not be arbitrarily taken away from him?

"This is just one example and is no more nor less important than many other examples in this class.

"It is a little harder to find a clear example of the second class. I suppose the classic example is the steel sides of the original Zink, or to get closer to home your pet project of changing the camber of the front wheels. Since the GCR had

not said anything specific at the time about allowing steel sides on the steel tubing frame I can see that the rule might be changed there with less reluctance. Or that the rule might be changed so as to prohibit change of front wheel camber since the GCR says nothing specific about allowing it.

"Even so I feel that one should be very reluctant about changing any rule because even in the shadowy cases of this second class there is bound to be someone who in his enthusiasm has spent a lot of effort in the hope of GOING FASTER. And to shoot him down on whatever his effort may be means that much less interest in the class and that much life gone from the class.

"I do hope you will print this because it does present to some extent the "other side". At least it is a somewhat different view of rule changing and I believe it is something every Vee owner should think about carefully before jumping in and changing the rules too quickly.

Harvey Templeton, Winchester, Tenn."

Harvey, I think we do agree on one thing, at least, if we can understand each other. I certainly agree that the rules should be written so that there is no need to interpret "intent" or "spirit". That's what has been at the root of 99% of the hassles on legality. If you have actually read all the proposals which have been printed here, I am sure you will agree that there is very little left to the imagination (if they are adopted).

However, in order to revise the rules to this stage there must be a point of departure, which can only be, of course, the present set of rules. It was necessary, then, in many cases, to spell out more clearly what appeared to me to be the "intent" of the original rule, in order to avoid a rewording which would result in an actual CHANGE of meaning. As I said to Larry, I don't believe you can find many actual CHANGES in this proposal, especially of the type you call "first class".

There are a good number of the type you call "second class"—things which are presently not covered in the GCR. To take the example you mentioned, it is true that front camber change is not specifically mentioned in the GCR. But neither is rear camber, except that the GCR says that nothing may be assembled "in other than standard VW configuration unless specifically authorized". Leaving this unchanged would mean not only that front camber would have to be between 0 and 1 deg. positive, but ALSO that the REAR camber would have to be positive (0 to 3½ deg.). Front CASTER could not legally exceed 2¼ degrees. Would you agree that a "change" is needed here?

Since I assumed that the "intent" of the rules was NOT to restrict items such as these to "VW configuration", you'll find a lot of such "specifically authorized" excep-

tions if you take the trouble to read the fine print.

We certainly do differ on the OVERALL "intent" of the Vee rules, however. I don't see any question as to the meaning of "restrictive in specifications so as to emphasize driver ability rather than design and preparation of the car". That "intent" has been the secret of the success of Formula Vee ever since it was invented! That "spirit" enticed more people into Formula Vee than into any other class—the implied promise that they had to be only good mechanics and good drivers in order to be competitive. The "intent" was never that an owner would also have to be an engineer in order to keep up with the other cars. Your philosophy of "GO FASTER" has never been an accepted concept of Formula Vee.

I don't want to get personal, but I don't see any other way of putting it, Harvey—you people who cry about the wasted effort you will have put in if the rules are "changed" in order to maintain the original "intent" ignore entirely all the extra work and money which will be required of all the rest of us if your "GO FASTER" concept is allowed to prevail. You feel that you should be allowed to invent and improve and innovate, in order to GO FASTER, and you say you think this will improve the class. You certainly must expect that your innovations will be copied—by some owners—but how about the rest of them? Do you feel that those who can't keep up with the latest improvements should scrap their cars and give up racing? After all, they, too, have a lot of time and money invested in what they have. Do you feel that THOSE owners, instead of the "progressive" ones, should "have the benefit of their work arbitrarily taken away from them"?

You say that retaining restrictive rules will ruin the Class. (Leon Mandel said that in 1964!) In my opinion, the extent to which we have drifted away from that concept has already hurt Formula Vee. I don't know how it is elsewhere, but in this part of the country Vee grids are down to where they were six years ago, while Formula Fords are now fielding half again as many cars. The reason—you can "GO FASTER" in a F/F for little more than the cost of running a winning Vee at today's prices. The sad fact is that Formula Vee is no longer a "cheap" racing class, and it's losing the people who got into it on the assumption that it would be.

"GO FASTER", in Formula Vee, means not only such goodies as etched manifolds, flow tested heads, expensive balancing of non-essential parts, professional dyno tuning, etc., but also the increasing cost of maintenance due simply to more rpm. If the "direct ducted" cooling you want is not prohibited, the cost of engine maintenance could be as much as twice what it is now, due simply to overheating and more rpm in an effort to "GO FASTER".

Just the cost and trouble of converting a car to that type of cooling would eliminate a good many owners, and the increased cost of maintenance would wipe out a lot more.

If that's what you want—if you really think the Class would benefit by restricting it to only "serious" drivers who can afford to "GO FASTER", letting down the bars for more "improvement" would certainly do the job. I don't agree with that philosophy, however. I hope Formula Vee will remain a racing class in which an owner can work at a job during the week and have enough time and money left over for racing on weekends. THAT is the "intent" of Formula Vee!

One more thing, Harvey—although you say you think the rules should be written so as to eliminate any need for interpreting "intent", I get the impression that you don't feel that they should be changed at all. If you really do feel that they need improvement, but you don't like the proposals which have been presented, how about some counter proposals? I certainly didn't expect to satisfy everyone, but we've been asking for suggestions for improvement for five months now. "Let's not stifle ingenuity" isn't really very helpful!

"Dear Don—Well, after being uprooted by the cutting back of military contracts at Rochester, New York, and being out of work for almost a year, I'm finally relocated and entrenched in a new job here in Miami. My Vee life was finally re-begun two weeks ago at West Palm Beach after almost two years. It's good to be back! Our home here is finally liveable, the job's going well, a few dollars are filtering back into the Vee kick, and life is so much more pleasant!

"Naturally, I got in touch with a few Vee people down here. There's a lot to catch up on! Back in Rochester many of the top Vee people were "around" the various tracks and the motel room bull sessions and the dinner table sessions were highlights in my Vee life.

"One thing which has been bugging me for a long time came up as "normal engine prepping" in one of the all-night dives in Daytona at a Brundage Bash—the trimming of the front cam bearing to allow the cam to be advanced. This puts the torque of the engine in an RPM range that is more desirable than where it "naturally" came. I thought this was common practice, but the boys down here almost flipped-out when I mentioned it. Could it be that the Vee contingent a la D. Cheesman are missing a trick? It's very noticeable when compared with an "unprepared" engine on the dyno. Now, please help me—why does this happen, and how come it's not happening when one merely advances the distributor, rather than the cam? Food for thought, Don. By the way, is it "Smart Preparation" or illegal?

"By the way, your cheap axle tube puller works wonders in pushing out the main pinion shaft from its bearing seat in the transaxle case. Just lay the 2 plates out, one against the far side of the case and the other flat side against the front of the pinion, then unscrew the nuts on the threaded rods and out presses the pinion and gearing through the back of the case. Very neat, and the price is right!

"Don, the VeeLines brightened things up a lot during the past two years. When one is forceably out of touch with as good a hobby as ours, and the monthly journal came out, my spirits were uplifted temporarily like you'll never know!

Vince Chimera, 8250 S.W. 139th Terrace, Miami, Fla. 33158"

Good to hear from you again, Vince! Glad your troubles are vanishing! Thanks for the kind words for the VeeLine, and for helping to put this one together.

You lost me on that pinion-pushing bit—one thing I've never had guts enough to tackle is a transmission. I know a lot of people do, and they'll probably know what you're talking about, even if I don't.

Now for that cam thing! It's been some time since our last lesson on "how to cheat", so your question is welcome! I can't imagine any way it could be justified as legal, since it certainly isn't "specifically authorized" in the rules, and it certainly is a modification. However, the principle of FVI is that "everyone ought to know all about everything", so we'll let the honest people in on this speed "secret", too.

For those who don't know how to do it, you cut back the thrust shoulder on the front (pulley end) cam bearing so that the cam can be shifted toward the flywheel. It will no doubt take some extra trimming in the section where the gears mesh, too, or the cam gear can be narrowed to provide enough clearance. The cap which goes in the bearing at the flywheel end might have to be trimmed a bit, too. It ain't simple! The slant of the gear teeth will keep the cam pushed back as far as the bearing shoulder will allow, except that at idling speeds the cam may tend to shift back and forth due to pressure of the valve train (springs) against the cam lobes. (It would very likely do this during a dial-indicator-and-degree-wheel check, too, making a very odd looking cam profile!) You mentioned "advancing" the cam, but I'd bet that it is actually retarded. If not, some additional means would have to be devised to hold it toward the pulley end of the engine against the thrust of the slanted gear teeth.

Relocating the gear on the camshaft is another method of accomplishing this result. It's somewhat simpler—you just drill out the rivets which hold the gear to the shaft, use rivets smaller than the drill, so there will be some "slop" in the holes, turn the gear backward as far as the loose rivets will allow, and re-rivet. (Slotting

the holes and using bolts are other variations.)

A much simpler way of getting the same effect is to use an offset key to relocate the gear on the crankshaft. It's not only easier, but has the advantage that all you have to lose if you're caught is a 25¢ Woodruff key—not an entire crankcase! It's just as detectable as shifting the camshaft, of course.

The principle, in any case, is to retard the cam timing, which, for some unexplained reason, moves the torque curve higher on the rpm scale. (You'd think it would be the other way around, like advancing the spark, wouldn't you?) If you want to experiment, try assembling an engine with the cam a full tooth off the timing marks, both advanced, and retarded. You can tell the difference without a dyno, but you won't like it, either way. In one position you have lots of low end torque, but not much top speed, and in the other, some extra rpm, but not much acceleration.

One tooth off the normal setting equals 14.4 crankshaft degrees. The "smart set" figures about 3 degrees retard is desirable, which would require shifting the camshaft about 1/8" toward the flywheel.

This process has nothing to do with the distributor timing. The distributor is driven off a separate gear on the crankshaft, and even if it weren't, spark advance would still be adjustable to any degree simply by rotating the distributor. This changes the timing of the VALVE ACTION in relation to the crankshaft, only. As to WHY it can be beneficial to a racing engine, as compared to a stock Beetle engine for all around use, I'm afraid I can't give you an answer. Perhaps some of our engineer types can explain it.

Regardless of the method you use, if you see the tech inspector unreeling his dial indicator and degree wheel, don't count on telling him you learned how to do this in the VeeLine—it's illegal, regardless! I guess you know it's not done on the cars that race at the ARRC. WHILE they're racing at the ARRC, I mean—it appears it may have had something to do with some of them getting there, from what you say.

"Dear Don—Have you ever printed instructions for making a metal post-type toe-in gauge?

Steve Carmick, Northbrook, Ill."

There was a description of a wooden one a year or so ago, but we've revised it somewhat, due to difficulty in keeping the uprights rigid. It's a simple one which measures to the center line of the tires (approximately) rather than between them or from outside to outside, as some commercial ones do. It's simpler to make and probably more accurate to use.

Take a stick of lumber about 56" long, and narrow enough to slide under your car, on edge (1x2 or 1x3) and a couple of pieces of light angle iron (1/2" to 1") at

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MEMBERS' SOAPBOX

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least a foot long. Weld a plate, with a couple of screw holes in it, across one end of each angle, and then screw them onto the board with the flat sides of the angles toward the ends of the board, and 50" apart, outside to outside. That's it.

To use it, put the driver (or reasonable facsimile) in the car and roll it ahead a few feet to establish normal running position. Slide the gauge under the car, behind the wheels, and then stand it up so that the vertical angle iron legs contact the tire at hub height. Using a pencil or ball pen, make a vertical mark on each tire, using the outer edge of the angle as a guide. Roll the car ahead again, half a turn of the wheel, so that the marks are on the front side, at the same height. Place the guide in front of the wheel, again with the legs touching the tire at hub height, and compare the marks. If they're farther apart than the legs, you have toe-out, of course; toe-in, if they're closer. Adjust your tie-rods until you get the marks about 1/16th inch closer together in front than at the rear.

This works the same on the rear wheels, of course, except that you adjust each wheel individually by means of the trailing arm. For all practical purposes you can tell which one to change by eyeballing, or if you're really fussy, use a straight board against the outer edge of the tire to check how it lines up with the front wheel. Remember that the front track is an inch or so wider than the rear and don't try to line up exactly with the front wheels—just use this method to determine which way to move which wheel.

"Dear Don—Does it usually take longer than four weeks to hear from Vee manufacturers? I've written to eight of them for info and haven't received anything!

Paul W. Gimbel, Tamaqua, Pa."

Paul, Vee manufacturing must be about the most profitable business there is! Yours is a common complaint, due, no

doubt, to the fact that all the builders are so busy building and selling cars that they don't want any more customers. How about a good used Vee from our "Unclassified" section?

"Dear Don—I am now working for the Dept. of the Navy in their San Diego construction office doing much the same work as I did for the Corps of Engineers up North . . . I am not planning on quitting Vees, but would like to sell the Lynx. I have been working on a different design for a car—I think it will be legal for the proposed rules, even. I'd like to try my hand at that part of racing, as well as mechanic and driver. Please run my ad in the VeeLines.

Bill Hoyer, San Diego, Cal."

Good Luck, Bill! You'll be missed up in the NW Corner, and not just for that fabulous collection of tools and spares you always-carried, either!

CRANKCASES, AGAIN

"Dear FVI—I have a new 1200cc crankcase #11 101 025C. It has the new oil system with larger galleries and a second oil relief valve as the one you described in VL #92. But it takes normal 1200cc cylinders! The only parts needed to use this case are: gasket set; oil pump body and cover; oil relief valves, springs and plugs; oil cooler (larger inlet and outlet) oil strainer, and plug at the end of the camshaft. You may also need different spacers at the bottom of the distributor drive gear and a larger pickup tube if you have a deep sump. Your old windage tray won't fit, either.

Curt Barnard, Sudbury, Mass."

Thanks, Curt! I goofed.. Somewhat, at least. I got my information while checking those two Vees in Canada, but I should have checked here, too. (I saw a parts book with a "C"-cam listed, in Canada, once!)

I called the Parts Department of Riviera Motors in Portland, today. (They are the Northwest Volkswagen distributors.)

Talked with Win Casey, who is one of our new—and fastest—NW Vee drivers. (It took five years to get him out of Formula C, and Volkswagen Sedan, and several other cars, and into a Vee.) Besides all the information he apparently had right at his finger tips, he called several other distributors to compare notes. Here's what he came up with:

There have been seven crankcases for the 1200cc 34HP (Vee) engine! Plain #111 101 025, plus modifications A, B, C, D, E, and F. The "F" case, as described last month, IS a "universal" case, now being supplied on ALL new VW's, from 1200cc to 1600cc. It DOES use the same outside diameter for all cylinders. HOWEVER, the case currently being stocked by all distributors (and dealers, no doubt) is the "C" case, which is the one described above by Curt Barnard. Riviera Motors has an ample supply of them, as do the other distributors Win talked with.

When those run out, they will be replaced by the "E" case, which, again is interchangeable (in most respects) with the older ones. There is also a "D" case, but it has never been sold in this country. The "C" will be superseded directly by the "E" when present stocks are exhausted.

The "C" case, then (or "E", if that's what your dealer has, eventually) would have to be considered legal for Formula Vee—but not the "F"—in the U.S., anyhow.

Sorry 'bout that!

UNCLASSIFIED ADS

FOR SALE: Lynx, super prepared for '72. Spare Goodyears and Firestones. With excellent trailer, \$2000. Bill Hoyer, 5011 Cole St., San Diego, Cal. 92117. (714) 235-3841 days, 274-8458 eves.

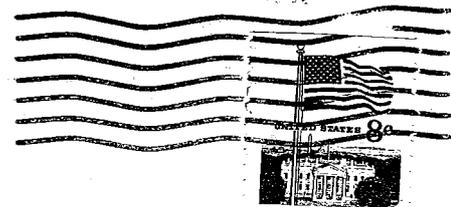
DAVE TALLAKSEN was President of the original Formula Vee Automobile Racing Association, and of this outfit for the first year after its reorganization.

SAM POSEY, who came in 6th at the Indianapolis 500, got his start in an Autodynamics Vee, about six years ago.



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