



VEE LINE

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DIRECTOR'S CORNER

Anyone reading most any of the racing mags would understandably get the impression that Formula Vee, if it actually exists at all, is a sometime thing. From race reports in the latest issue of *Competition Press*, for instance, one would gather that of the four races which included Formula cars, two of them included Formula Vee. One in each race.

On the other hand SCCA tabulations showed Formula Vee practically tied for the largest SCCA Class in 1965 and by now it no doubt is ahead of all the rest.

Apparently there are still those who think that if they ignore Formula Vee it will go away. These are the same people who predicted a couple of years ago that deliberately "restricting the potential" of a racing class with rules would sound its death knell. Well, FV appears to be a pretty healthy corpse!

It is obvious that the basic concept of the class was originally, and is now, RIGHT. A class *can* not only survive, but thrive, without "progress".

There have been some changes in the rules, to be sure, and a few minor changes in the cars, but when you get right down to analysis, what has actually been changed?

Camber limiting has been legalized, dual brake master cylinders have been required, better sounding exhaust pipes have been made legal, and a larger oil pump has been permitted. Only the master cylinder has been compulsory, and none of the changes has been made in order to permit the cars to go faster. Other changes in the rules have been made, too, of course; but none of them has changed the original concept of the class. In other words, most of the changes have been made to make the rules conform to the Formula. Further steps are needed in this direction, but conceivably there could come a time when the rules have been amended to the point where there are no longer any loop-holes, or ambiguities, or room for arguments over definitions.

SCCA has a rather awesome responsibility with Formula Vee. It is, in effect, the "FIA" of Formula Vee racing. SCCA rules are in force not only in the other racing organizations in the United States, but in Canada, Australia, and South Africa as well.

Although SCCA last year ignored a number of our recommendations, they are to be commended for acting in what they obviously believed to be the best interests of the class. In a couple of instances, as has been mentioned before, the reasoning behind their decisions is rather obscure; but no irreparable damage has been done, and it is to be hoped, and expected, that repairs will be made this year where their need is pointed out.

SPRING COMPRESSOR

The only ingredients needed for a simple spring compressor are a couple of steel plates about 3" x 5" and at least 3/16" thick, and a 5/16" or 3/8" "Redibolt".

Most any hardware store will have the "Redibolt"—they are merely pre-threaded rods three feet long. With a Formcar, which uses rather long springs, cutting the bolt in half will be just about right if you wish to entirely remove or change springs. At any rate, they should be cut long enough to take the spring stretched out to full length.

Cut U-shaped notches in each of the plates, wide and deep enough to slip over the retaining washers for the springs and leave enough room to remove the lock rings. About 2 1/4" will be right for Formcar—others may be slightly different. The outside of the plates will have to be trimmed in various places to allow them to be placed over the shocks. When the plates can be put in place, determine where to drill the holes for the tie bolts so that they, too, will clear all the ob-

structions. They should, of course, go on opposite sides of the spring.

If it is only desired to remove or add shims under the springs, the compressor can be adjusted to the approximate length of the compressed spring and slipped in place while someone loads the car to compress the spring. When the car is lifted, the spring is still restrained to its compressed length. If removal is necessary, remove the locking rings and then release the spring tension by slacking off on the bolts.

The upper plate—for Formcars, at least—is not symmetrical; it has to be inverted to be used on the opposite side of the car.

A word of caution—when removing or installing a spring, don't try to remove the shock while the spring is compressed. Leave it inside the spring until all the tension is removed. With nothing to restrain it, the spring, while under tension, could bow out in the middle and pop out of the compressor somewhat rapidly and energetically.

THE VEE AND ME

WHIT THARIN

We in Formula Vee are painfully aware of the slings and barbs often hurled our way on the subject of honesty. It seems that everyone is critical, or at least skeptical, of the faster Vees. Drivers of slower Vees mutter amongst themselves. Drivers in other classes proclaim the "impossibility" of Vee lap times. Stewards get furious over the frequent protests. And sometimes even I wonder about the others, myself.

But the plain truth is that there are very few illegal cars, and even fewer of them get any trophies. To compound this illogical statement, it seems to me that the fastest Vees are "more legal" than the slower ones. It figures. The fastest man expects to be challenged, and goes to extremes to keep his car scrupulously honest. Yet I can walk casually through the pits and spot some minor illegality on about half the Vees. Usually, when I point out these things, the owners either don't know they're illegal, or disagree with me. But why protest a car I can beat anyhow?

So how do the faster Vees go faster? The answer lies in two words—preparation and driving.

Preparation is simply a matter of having everything right in the mechanical department and then giving the engine itself a "super tune-up". The super tune-up requires a dyno, a handful of jets and someone who knows what to do with both. This is not so rare a combination. Most Vee owners could avail themselves of such services, but too few do it. Formula Vee is, after all, a racing class. It is false economy to spend \$150 on a race weekend with a non-competitive engine because you flinch at spending 25 bucks for a professional tune-up. I know because I've been there—a pro recently squeezed 15% more power out of my tired engine. And that explained a lot of things about my poor showings this year.

The second prerequisite for a faster Vee—driving—implies a lot more than sticking your foot in it and your neck out. The top drivers are seldom satisfied with their cars' handling. Most are constantly modifying, changing or altering the Vee's suspension to get it to corner just a wee bit faster. Tire pressures, shock absorbers, sway bars, wheel cambers, spring rates are all legitimately adjustable. By these means, the drivers who are good enough to know what they are seeking will achieve several seconds advantage.

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RULES

Except for the camber limiting devices, the only other subject for controversy mentioned, so far, is weight-with-driver. Those of you who were members last Fall will recall that we voted about 2 to 1 to change the weight definition to "weight with driver, 1,000 pounds" in an effort to further equalize the class.

There is no doubt that a 10% difference in overall weight, easily possible between large and small drivers, can be a very considerable factor in performance. The effect on top speed would not be very great, but acceleration would very definitely be affected. There is also no doubt that there would be some drawbacks to such a limitation, the greatest one probably being the problem of compliance when two drivers use the same car. Some of the other objections which have been made would appear to be more on an emotional basis than on a factual analysis.

At any rate, all comments will be printed in the next couple of months, and a vote on the proposal will be included in our annual poll before our recommendations for 1967 rules are presented to SCCA.

If you have any other points to bring up, please do it right away. This procedure takes time.

I have a few items for your consideration, too -

(1) Add to the list of non-VW items "Master Brake Cylinders". It seems an odd time for this to be brought up, but the Rambler, Girling, and other makes, used since Vee was conceived, are in direct violation of the rules, as one new manufacturer pointed out.

(2) The "body" definition still is inadequate, requiring only that it "fully enclose" the engine, and not fair in the wheels or suspension. Inasmuch as the exhaust pipes are required to terminate "one to three inches behind the rear-most part of the body," there should be some requirement for where the body must terminate. It would be technically legal at this time to terminate the body at the end of the clutch bell housing, and the exhaust pipes an inch farther back. It is my opinion that some semblance, at least, of a body should extend to the rear-most part of the rest of the car. There is not a single car, to my knowledge, which complies with the requirement to "fully enclose" the engine, either; 98% of the vote last year approved that "the body must conceal the engine and extend to the extreme rear of the car." Any comments?

(3) Brake shoes should be added to the "non-VW" parts list. Factory lined or re-lined shoes using the best grades of American lining may very well be American made, also; but if they are replicas of standard VW shoes they should be allowed, in my opinion.

(4) It should be legal to alter the steering arms on the spindles to accommodate either the Heim ball joints used on many cars or the standard VW tie-rod ends mounted in an inverted position. I

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DEVOTION TO RULES

This issue being devoted to Rules, the following letter arrived at an appropriate time -

"Dear Don -

It was nice of you to print what went on when I tried to call Mr. Westport, but it does seem like you could have spelled my name right. It's Dryvar, not er. This may not seem like much to make a point about, but one letter can change the whole slant.

There was this fellow over in Alabama that was named Fred V. Drivar and was racing a Vee too, but he kept getting in so much trouble with the Stewarts of the Meeting that he finally sold his.

This Fred Drivar was a nut on the GCR, and he knew them backwards. He kept bugging the Officials for making mistakes that wasn't in the GCR until they finally changed the whole thing. You probably think I'm exaggerating but you remember when the GCR said that the Supplementary Regs had to agree with the GCR or they was null and void? Well Fred used to read the fine print in the Sup Regs and figure out ways to fox them.

Like the time up in Maryland when they got him for not keeping his fire extinguisher in his car. They claimed the Sup Regs said he had to, but Fred pulled out his GCR and showed them where it said it was his choice to take it or leave it in the pits. They still argued, but not after he showed them the "null and void" part. Well, this year they changed the GCR to where you got to keep it in the car.

Now old Fred liked his -likker (that ain't spelled wrong when it's what-Fred-drunk) and he used to always take a good long pull on his jug as soon as he got his helmet off. Well, some persnickety Pit Stewart saw him down in Florida and reported him. They was going to disqualify him because of the rule in the GCR against drinking in the pits, but old Fred showed them that it only said he couldn't "participate" after taking a drink, and he was all through participating. Well, I guess you know they changed that now to where you got to wait till everybody else is through participating, too.

Then there was the time up in New York where they got this hot-shot starter. After he checks out the grid he turns his back on them, walks off, then jumps up real high and waves the flag without ever stopping with it over his head like the GCR says. After Fred saw that at the start of the G-H Prod race, he talked to the Stewarts about it; but they told him the guy had wrote the book on starting and he could do it that way if he wanted to. Well, old Fred got out the Sup Regs and read them real close and couldn't find anything about a false start, and he knew already that the GCR says that in case of a false start the starter should go ahead and start it anyway, and the guy that jumped the gun will be punished like it says in the Sup Regs, which didn't say anything. I tell you them Yankees hadn't seen a strategist like old Fred since Robert E. Lee let them think they won the War.

Well now, you should of seen it! That old starter checked out the grid, but time he turned his back old Fred dumped the clutch and was gone! Well that old boy dropped his cigar and stood there with his mouth open and his flag at half-mast, watching Fred disappear around the first turn, then he remembered the clutches and drivers that was getting hot behind him so he went ahead and waved heck out of the flag.

Now old Fred made one mistake. He should of explained the rules to the Stewarts before he done what he did because they gave him the black flag, and he knew he had to come in, whether he was right or wrong. No need to tell you that by the time they let that poor boy out of the pits he was a lap behind. After the race he got out the book and proved that they couldn't do what they done, but they already done it and said they couldn't change the results. Said they were sorry, and sounded sincere as heck, too. Anyway, they haven't left that penalty thing out of the Sup Regs up there any more.

Then there was the time Fred got them on push-starts on the grid. In Alabama one time his starter went out, and you know you can't buy a VW starter part on Sunday hardly anywhere. It happened that the GCR said no push starts on the grid, but Fred knew that wasn't legal, because the GCR didn't say anything about Vees or anything else, just Modifieds not push starting. He told this to the Stewarts, but they wouldn't even look it up because they said they was going to enforce the Sup Regs whether they was right or wrong. Well, Fred decided not to fight it since he didn't want to cause any more ruckus than he could. He just push started it in the pits and went to the grid, which would of been OK but some spectator tripped over a phone wire and broke it so they had to delay the start.

The starter gave the "cut engines" sign and everybody but Fred shut off. He sat there goosing the gas to keep it going and making a lot of noise. The starter wanted that racket stopped and he said so, but old Fred just kept it going. Well, the starter took it personal and reached down and shut it off himself, but Fred grabbed hold of his arm and jerked him right into the cockpit and bit his ear, but before much more could happen some Pit Stewarts pulled the starter loose. Well the Stewarts were real mad and so was Fred; but they got the phone wire fixed, and Fred got pushed to start his motor and the Assistant Starter got his first chance to start a race. After the first lap they black-flagged Fred on account of his push start only they didn't hold up the board with his number on it like the GCR says so Fred acted like he didn't see it because things were so thick nobody could really tell who it was for. Well, after the third lap the two guys in front of Fred must of figured it was for them so they went in the pits together. That left old Fred in the lead all by himself where he couldn't ignore it any longer so

he came in next time around. He proved they was wrong again, but some other guy won the race.

Well, the upshot of these things Fred got them on where the Sup Regs weren't legal was, first, they changed the definition of them to where they only have to be "normally consistent with the GCR" and second, they took out completely the part where it said they was "null and void" if they disagreed with the GCR.

I guess old Fred left his mark, all right, but now do you see why I want you to get my name spelled right?

Frank V. Dryvar

"Fred" says the stories are true—only the names have been changed to protect the innocent (?) don

OPEN LETTER TO SCCA

Competition Director, Board of Governors, Car Classification Committee, Rules Committee, Competition Board, Stewards Committee, et al

You have all been receiving the Vee-Line, and have no doubt seen several references to the "camber control device" problem, but a bit of review may be in order.

The original Vees, using the standard VW swing-axle rear end, had a nasty tendency in a turn to spin out, due to the outside rear wheel folding under to the limit allowed by the shocks, frame, or other structural unit. It was found by numerous drivers that this reaction could be eliminated—and handling and safety thus improved—by the use of straps, cables, or chains between the axles and the frame of the car, which limited the downward movement to a small amount, if any, of positive camber. These devices were protested in several instances, and their use was quite controversial, as there was no authorization for them in the very specific Formula Vee rules. In the middle of the 1965 season, however, through the medium of a Driver's Letter, it was announced that "camber limiting straps" would be legal.

This definition left much to be desired, but it did settle the question of legality, and while not specific, it did imply a one-way device for *limiting positive* camber. There were some, however, who took advantage of the lack of definition to experiment with camber compensators (a transverse leaf-spring device installed below the axle), Z-bars (similar to a conventional sway bar, but bent in a Z-shape so that simultaneous upward or downward movement at both ends actually causes it to become a torsion-bar type of suspension) and other devices which contribute to the springing of the car.

Section 4.3b of the Formula Vee rules states that coil springs and telescopic shock absorbers shall provide the springing medium. However the transfer of weight to the camber-control devices has in some cases led to cars being seen with no coil springs whatsoever, and in many instances with only wire springs wrapped around the shocks in token compliance with the rules.

In the poll taken of the membership of this organization last fall, before our presentation to you of our joint recommendations for rules for 1966, 99% concurred with the change that "coil springs surrounding telescopic shock absorbers

shall provide the *sole* springing medium" and 80% approved "use of any camber and/or sway controlling devices. . . providing they carry no weight." With all due respect for your deliberation and judgment in adopting the present wording, it does seem that this definition might have been given more consideration.

Presumably the great majority of Vee owners still favor the coil spring suspension specified in the rules, but if other types of suspension are going to be allowed they should be made available to those who are presently observing the *spirit* of the rules as well as to those who are ignoring it. It is therefore respectfully suggested that rather than wait for the issuance of the 1967 rules for clarification, a ruling or definition be included in the "Drivers' Meeting" as soon as possible, before the situation gets further out of hand.

ON THE WEIGHT QUESTION

"Dear Don—

I feel that I should reiterate the feelings of many folks to whom I have talked in the past weeks—the idea of making the Vees weigh 1000 pounds with passenger and a full fuel load is just asking for trouble. In the case where two drivers use the car, you will have to add ballast, voiding the rules elsewhere. Also, it would permit the shoddy builders to put together any toothpick frame, intending to ballast it out to the very bare minimum, trusting to the usual scale inaccuracies to keep them from going too far over the legal limit.

You are penalizing the big driver, but he is penalized in ANY production class. And while he may have 6 ft. 5 in. and 250 pounds to get around the course, he may have more stamina for a long race, or perhaps just will learn to be a better driver, and thus will win more often than the 5 ft. 3 in. weakling.

My tendency is to insist on the status quo for the rules. By changing the basic premise—"an open wheel, 825 pound, VW-engined single seat car" you will eventually destroy the solid state of the car as a "permanent" formula class.

Do you have any ideas on how to compress the springs to install them on the rear?

Harriet F. V. Gittings

Well, there's another opinion. Let's have some more. Glad you asked about the springs, Harriet—was wondering what to put in the mechanical department this time. don

(THE VEE AND ME)

The other side of the coin is that many drivers fail to get the most out of what they have. At a recent National, a top driver—who had lashed his opposition with a superb car—stepped into a different brand of Vee which had qualified 4 seconds slower. On his second lap he was within 1 second of his own car's best time. Does that make my point?

Preparation and driving are the road to success in Formula Vee, but there are those who must try the short-cut of cheating. We therefore must thank Westport for the GCR that lets us check on them, even at the considerable inconvenience to stewards, officials, and honest drivers. I, for one, will never flinch at protesting a Vee I believe to be illegal, for I invest too much of my heart, soul, and pocketbook in an honest car to risk it, and my neck, against an illegal one. But in three years, at 42 events, I have only had one Vee torn down, and it, to my chagrin, was very legal. I'm not sorry—this action may at least serve as a deterrent to someone else who may be tempted to fudge a bit.

When preparing a Vee, the best rule is "when in doubt—don't!"

CRUSADER AWARD

"Happy to report that Jack Bequette, of Carmichael, California, won the Saturday Regional at Stockton Nationals and received his \$25.00 check at Start-Finish before taking his victory lap.

Total Vee entry was 25! It's just the start—we are selling Crusader frame plans like they are going out of style, and have sold 4 kits in the last six weeks in the Sacramento area alone! See you at Kent.

Thanks—Jerry Demele"

HILL CLIMB

John and I ran Petunia in a hill climb a couple of weeks ago. For some obscure reason we were classed with an EP Morgan, several Porsches, and a TR-4. John got 3rd place, and I got fourth.

We made one definite convert and a couple of possibles, too. The convert said "I thought Formula Vee was funny, but seeing it perform with those bigger cars, I decided it was time to take it seriously".

WATCH YOUR WEIGHT

Results from the May 8 race at Laguna Seca show Walt Maas' Lynx being disqualified for being under the legal weight. Some of the early Autodynamics were on the border-line, too. If in doubt, better check—finding out at a race is rather embarrassing.

The VEE LINE of
Formula Vee International

Don Cheesman, Director

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SUCCESS STORY

"Dear Don —

Just thought I'd drop you a note to tell you how great the new FV booklet is. I'm sure it will convince many skeptics that FV is (1) here to stay, (2) actually a race car—not a toy, (3) is FUN, and (4) provides a good beginning ground for those interested in racing as a career.

Let me tell you my own story: I made up my mind when I was 16 that I was going to be a racing driver, and that nothing could stop me. When I turned 21, joined the SCCA and started driver training, I found there *was* something that could stop me—MONEY (or rather the lack of it). So I quit my salaried job and took a job selling magazines on a straight commission basis, knowing that a determined hard worker could make more money this way, and money was what I needed. Don, those were the two hardest years of my life!

I bought a brand-new TR-4 to run through driver's school. It had a roll bar, but other than that it was *stock*. I learned at my first race that a *new stock* car was not nearly as fast as an *old race* car. Seeing my error, I sold the TR-4 and bought a so-called "race-prepared" Formcar Vee. I learned at *that* first race that my Vee was as "race-prepared" as a showroom Falcon. My first instinct when I saw all the other Vees pass me on the straight was to scream "Cheater!". Now after 12 races and about 300 hours of labor, I realize how foolish I was.

I'm still legal, but my car keeps up with the best of them. To build a competitive Vee takes time and patience, and above all, a willingness to experiment endlessly. When the rules for the exhaust system were changed this year it took us over 80 hours to find the best setup—but we gained 300 extra RPM for our efforts. I think the lesson learned here is that success comes to those who work for it. Sure, money counts in FV, too, but *careful* preparation is the main point.

Now for the final and best part (for me) of this note. I guess you could say I drove rather spiritedly last year—I was hoping to attract some attention. Although my car's slowness in the straights (that has been rectified) hindered me somewhat, luckily there was someone who did notice that I was faster in the corners than anyone else. I was able to get together with this wealthy English gentleman for a test, of sorts, in his F/B Brabham early this Spring at Riverside. On my 18th lap we bettered the old record by almost 2 seconds! So next February I'll be driving in Europe, in a Formula 3 Brabham!

So Don, there you have my Cinderella story. And I really don't think I could have gotten this far if there had been no Formula Vee. It was only because of people like you, Don, and of all the help and advice I got from your newsletter, and people like Harriet Gittings, who also publishes an excellent newsletter, and Bob Chamberlain, who loaned me a set of tires once, and Pee Wee Hough (that "old man with that old Formcar") who gave me a lot of useful tips, and of the many, many more Vee enthusiasts who have helped me along the way, that I was able to go so far in only 1½ years of actual competition.

Thanks to you all!
Bruce Redding,
P. O. Box 556,
San Bernardino, Cal."

(This kid—he's 24—will bear watching! His Vee is for sale for anything over \$1750, he says, but he doesn't guarantee that the magic formula goes with it. He also mentioned that he's available for most any kind of automotive job from July through January, anywhere. Hey, Bruce—how about some dope on that exhaust system? don)

(RULES)

don't believe this has ever been made an issue here; but the Australians, who are following our lead, are wrestling with the question, and it *is* technically illegal.

(5) For some reason SCCA has, for the past two years, declined to specifically forbid turning the transmission upside down to achieve the reversed rotation necessary with the engine in front. Perhaps they have thought that it couldn't be done. Well, it can, and it has. It might even have been a good idea, when the class was new, as it also lowers the engine about 4". However, if it were to be allowed now it would make 1,000 Vees obsolete. I repeat, it can and has been done. The job I have seen will no doubt be protested, on the grounds that some slight alterations were made on the transmission in order to accomplish it; but I could get around that, and I'm sure there are many others who could find a way around that technicality, too, if they set their minds to it. It would be much simpler for everyone if SCCA would just say "No!".

(6) Further revision of the exhaust pipe rule may be in order. I have had several reports of tuned exhaust systems (presumably legal) which added up to 3 HP on a dyno—and cost up to \$85. Do we want to go that route?

(7) How about re-ground crankshafts?

(8) Valve spring shimming (adopted over our 63% vote *against*) is NOT a standard VW practice, and is therefore not subject to measurement, as mentioned in the rules, and is not in any way within the general spirit of the Formula Vee concept. Shall we recommend that it be eliminated next year?

(9) Perhaps (I hope) the discussion on gearing in the #12 VeeLine had something to do with it—at any rate it has been some time now since we had a comment on the "mystery gears" used by some of the faster drivers. Any comments or recommendation on this?

Or anything else?



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