



BOX 291  
EPHRATA,  
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# BULLETIN

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## DIRECTOR'S CORNER

Dear Don:

Thank you for sending me the copies of the FVA Bulletin. I found them most interesting.

Any suggestions you might have for changes of the GCR may be submitted to the Car Classification Committee by sending it in care of Jim Kaser, Competition Director, Westport. I am sure the Committee will give your suggestions every consideration, particularly if you have described them as originating from a number of FV drivers.

Reading the Bulletin brings one point to mind. A great many Vee drivers are new to racing, having started with the Vee. From my observation a pretty good percentage of these are not only new, but lousy drivers. And this is what leads to many of our protests. One Vee driver can't understand how it is possible for another driver to lap him in the same type of machine without having some great mechanical advantage. This is SCCA's fault more than that of the FV drivers themselves. I don't think any of our Regions have made a real effort to work new drivers into Drivers School procedures. You can't get in the car with them, so you lead them around a couple of laps and turn them loose.

I think the more experienced and better drivers in your Association should step forward in their respective SCCA Regions and volunteer to be instructors for Vee students at Drivers Schools. Perhaps you could work up some procedures for instruction, but in any event your interest would stimulate closer attention to the necessary instruction of Vee student drivers.

Thanks again for your letter and the Bulletins. Sincerely,

A. Tracy Bird, Chairman  
SCCA Competition Board

There's a lot of food for thought there. I've been stuffing you with "don't accuse the other guy of cheating until you're sure there is nothing more you can do to better your machine", but it is also true that a lousy driver can lose as much time as a lousy carburetor.

Experience can be a great teacher, but not if it consists of making the same mistakes over and over. I think too many of us are inclined to feel that because we're great street drivers, it follows automatically that we're pretty good on a track, too. If we were taking up golf or bowling or flying we'd get all the help and advice we could, but we learned all there is to know about driving by the time we left high school. It is still possible, though, that we might find some little thing we don't already know in some of the books written by professional drivers--things they learned the hard way.

Also, if you're new to racing, ask questions! Not of the Cobra or Lotus drivers, but of the Vee drivers who have been winning in your region, and who have been passing

you in practice, especially if they are the friendly, helpful type who have FVA emblems on their cars. Ask them if they have noticed what you have been doing wrong, and how you can do better. Chances are that they have been watching you, and if asked will be glad to tell you. Chances are also that unless you give them some encouragement, no one will walk up to you and give his opinion of your driving unasked. Unless you have committed some unforgiveable sin, that is.

On the other hand, if you are one of the more experienced drivers, and can see where you can be helpful, at least make it easy for a newcomer to ask you. It will take him a long time, even with your help, to become as good as you are, and by then you'll be even better.

Mr. Bird's remarks concerning Drivers Schools are especially to be noted, since this is where many potential drivers will lose interest unless they are helped and encouraged. This is particularly true in the few areas still existing where Formula Vee is a stepchild. If you have any influence (and who doesn't have at least a little?) try to obtain more consideration for the training of Vee drivers. Volunteer to help with the training. Offer suggestions as to points to be stressed. Offer to check out newcomers' cars, to be sure they can be handled right. There are many ways in which you can be helpful.

That this Class seems to attract an unusually friendly, cooperative type of people has already been noticed. Let's make it really obvious!

### CLAIMING PRICE?

The best comment on Whit Tharin's suggestion for a "claiming price" on Vee engines was made by Whit himself. Though he still thinks it could be made to work, some of his later observations were--

1. A consistently winning engine would no doubt change hands after every race.
2. Except if it were obviously illegal, who would risk \$500 on it?
3. If a VW expert turned out exceptional legal engines he wouldn't have time to race--he'd have to sell his engine every time.

All in all, I believe we can come up with something better. I still feel that what is needed is a strict, comprehensive, undebatable set of rules, confined only to items having a bearing on performance, a simple test procedure for detecting possible violations, and an automatic teardown for any engine failing to meet the testing specs. Let's have some more comments.

Many of you, bless your little hearts, are apparently sharing your Bulletins with others. Quite a number of the application blanks from the December issue are being returned by people who didn't get them from here, anyhow. Let's all get the habit!

If you can use more, let me know.

FORMULA VEE INTERNATIONALE!

Formula Vee is definitely going to be an International Class, and soon. I have mentioned receiving a number of inquiries from South Africa. Well, the latest one is from the Secretary of the Sports Car Club of So. Africa, saying that they have formed The Formula Vee Register of South Africa and would like to affiliate with this Assn. They already have over 70 people who are ready to join--and 40 ready to build cars.

Also, Porsche of America wrote recently, saying that the parent company in Germany had requested them to locate all the sources of Formula Vee bodies in the U.S. This tends to confirm a rumor I've had from two different sources that Porsche intends to introduce and produce Vees in Europe.

This could be a mixed blessing, on two counts. First, I hope they--or others in Europe--won't attempt to corrupt the Class by using Porsche engines. Secondly, there seems to be a tradition that international-type classes are controlled by Europe. If they start messing with FV we could have even more problems than we have now. So keep your fingers crossed, and help to get this Association in a position to keep control of the Class, no matter how it grows.

FLASH--(Just arrived)

"Dear Mr. Chessman: Thank you for your letter of Mar. 29, addressed to Mr. Kuffner of the PoAC, listing all the manufacturers of Formula Vee cars.

"It is true that Porsche K.G. has been appointed as sole agency for Western Europe by the manufacturers Competition Components Inc. (Beach, in case you didn't know--don) and Formcar Constructors, Inc. With the help of some selected partners, Formula Vee cars shall be introduced by us to the present European racing program.

"Up to now we have succeeded in enlisting the organizing clubs in Germany and in the Netherlands, and we hope we will get a positive reaction also from the other ones. At the end of this sporting season one shall see if and to which extent Formula Vee cars will get a footing in Europe.

"We shall keep in touch with you and inform you occasionally as to the progress we hope to make here.

"Thank you in advance for your co-operation. Yours sincerely,

Dr.-Ing.h.c. F. Porsche K.G.  
by W. Raether"

Harriet Gittings' "VEE Mail" reminded me of this one--

If the copper tubing to your oil pressure gauge is connected directly to the engine, don't press you luck! Install a section of flexible hose about a foot long, starting at the engine, before you run another mile! The engine, being rubber mounted, jumps around like crazy, straining rigid lines with every jump. Standard flexible fuel hose, with fittings attached, works very nicely. Clamp or tape the rest of the line to the frame so that it can't vibrate, as that is the cause of breakage, even though there may be no actual strain. Likewise, the tubing at the fuel pump should be cut off short to minimize vibration, with flexible hose making up the balance of the line.

REBUTTAL

I hope you enjoy Whit Tharin's letters as much as I do. Here are some excerpts from his latest--

"Every time I write one of these I promise myself I will thereafter keep my mouth shut and let the guys who plan to stay in the Class run it, but each new Bulletin has some thought-provokers I can't let pass.

"First, with regard to the "scare yourself" advice, Ray Caldwell is basically right, but he differs from me only in degree of statement. Ray says "You generate a constant fear level...", I say "...you consistently scare yourself", yet he thinks my license should be lifted and I think he's the best driver in the Class. Did I miss a chapter somewhere?

"I am, admittedly, given to overstatement particularly when I am trying to "sell" an idea. My overstated advice was not for the likes of Ray Caldwell, Rick Kohler, Millard Ripley, John Mahler, Bill Duckworth, Harold Zimdars, or Walt Hane, to name a few of the really good Vee drivers I have observed from behind a few times. I was trying to get through to the other 80 or 90 percent who make up groups two and three in every Vee race. Two or three or four guys run off from the pack and form group one. They are followed at a respectable distance by group two, which also has a good time dicing and swapping positions, but doesn't win any races. Behind them come the stragglers, group three, and they are not even having any fun. These are the guys I'd like to see move up a notch, and many of them could if they would only (I'll say it this way) "generate a constant fear level". Many of them need suspension improvements or racing tires, but all of them need to extend themselves. So I repeat--if you know you are going to make that corner (where is the "fear level") you can probably go faster. Try it!

"I still haven't sold my Vee. I have to sell it because my Porsche 911 is due the last of the month and I need the ottnpkngsn btchgn money. Besides, I promised my wife... Also for sale: Complete running gear from a '63 Porsche Super. I had a notion to build a Special and acquired a wrecked Porsche. I won't need it now, according to my wife. She sold our '59 Normal yesterday. Don't get me wrong--she's a good sport, the best pit chief in the East, has a Regional license and can out-drive 60% of the male drivers in Vees, and makes the best dam chili you ever ate. Further, she has the two most beautiful children I've ever seen. But she is firm.

"Honestly yours,  
Whit"

I hope my hyphenating doesn't bother you too much. I know better, but the typewriter doesn't. It comes to the end of a line before I do.

It's easy to tell from here which magazine has recently published an article about Vees. Immediately there is a surge of letters--"I just read in so-and-so magazine about Formula Vee. Please send me information". This month it is Volkswagen's little "Small World". It may not have the circulation of Popular Mechanics, but its readers are made to order for FV. They're writing at the rate of 2 or 3 a day.

#### MORE ON VW

A few days ago Volkswagen of America donated to the Association a pair of Workshop Manuals, 1965 Edition. Being so recent they don't answer many of the questions we have in regard to older models, but they have a number of notes on repairing procedures that I haven't run across in any of the other (privately published) manuals I have. I'll pass them along from time to time.

There are also two or three very interesting items, which, in true VW fashion, must be pried loose, studied, and compared with other data before a conclusion can be reached. For instance--

1. This manual covers "all models of the VW 1200 from August 1964".
2. The engine is casually referred to in a number of places as the "41.5 HP" engine.
3. The specs for the cam are different from any others I have seen.
4. There is absolutely no hint that any change has been made, EXCEPT--
5. In discussing valve timing--"Make a timing mark 9mm to the right of the TDC mark (6mm up to Engine #6930129)..."

Is a picture beginning to show? I think it is reasonable to assume that in August, 1964, starting with engine #6930130, a new cam was adopted, helping to boost the engine to 41.5 HP. I would also bet that the part number is 113 109 015E. Let me know when you find one.

I still expect--eventually--to have definite information on points like this, but even then there will be one question we will have to answer for ourselves--"How are we going to live with these variations?"

More and more it is becoming apparent that there is no such thing as a "stock VW engine". Improvements have been--and of course will continue to be--made whenever it seems advisable, so that even two engines of the same year may very possibly have significant differences. Assuming that it is possible to draw a line somewhere, where would you draw it? And if you draw one what would you do about replacement parts? Don't wait for me to answer this--you tell me!

It may be that we will have to accept the idea that racing costs money--that FV is cheap only by comparison with other classes--and resign ourselves to updating whenever VW comes up with a better mousetrap, if we want to stay in the game. Perhaps we will have to accept as legal any assembly of unmodified VW 1200 parts, make the latest information available to everyone, and forget about trying to race with "as is" mills made up of obsolete components.

I'd hate to see it, myself--if there's anyone with less foolish money than John and I have they shouldn't be racing either--but those marks on the wall are looking more and more like handwriting to me. If any of you can interpret them differently I'll certainly be glad to pass it on.

There's another angle to this, too. I am assuring 20 to 30 people a week that FV is "based on stock VW", that no modification is permitted, and that therefore it is a cheap class to maintain. If we--and they--are going to have to keep up with the latest developments they should be told about it before they are uncontrollably "hooked".

LET'S HAVE SOME COMMENTS!

#### DOES YOUR VEE HAVE A MIND OF ITS OWN?

Have you tried skate-boarding yet? Does it remind you of anything? Like the way your Vee starts feeling about the time you shift into fourth? If it does, perhaps this will help. (Your Vee--not your skate-board).

First, let's get into a little steering geometry in general. Hey, come back here! This won't hurt at all! That's just a term for the way a front end is set up.

Camber, of course, you are familiar with in connection with the rear end. It's what the rear wheels have positive and negative of, depending on how tight the corner is. The term is applied to the front wheels the same way, except that VW's don't have any, which is called neutral. In other words, if yours have positive or negative you had better get the individual parts checked at your VW dealer and replace the bent ones. Now you know all about camber, what isn't what we're discussing here, anyhow. We're talking about caster.

Caster is what if you've got enough of makes the car want to keep going straight ahead, and if you've got too much of makes it hard to turn a short corner, and if you don't have enough it makes the car willing, or even eager, to go anywhere at all. Like a skate-board. It is simply the backward tilt of the king-pin. Like camber, in the VW it is built in, and only an act of God or a foolish driver can change it. However--

On our Formcar ('63) there was no built-in caster, though the directions recommended adding shims to give the standard VW two degrees. This is measured at the axle tubes. The car handled pretty well, but even though it never wandered or acted up in any way, it always felt like it was about ready to. So this Spring, just on suspicion, we gave it another 3 degrees, which makes a heck of an improvement. I'd give it some more, except that it would require welding in longer bolts.

To check yours, on a level floor set a carpenter's square, with the long leg held against the lower axle tube. To get 5 degrees the upper tube should be 3/8" behind the lower one. (Use a protractor, of course, if you have one.) How you get it will depend on the method of attachment used on your car, and your ingenuity. And possibly on your welder. But it's worth it. Incidentally, this new VW manual shows that the VW caster has also been changed, to 4 degrees, 20 minutes.

Thanks to those who wrote most of this Bulletin for me. See why I keep plugging for letters? You, too, can be a columnist. Just write. don

#### VEE ENDURO

A little more dope on the Aspen (Colo.) Enduro-- It is intended that every car will have to pit once, so don't install extra tanks. (They will be verboten.) Winning engines will be thoroughly inspected. Aspen is 200 miles west of Denver, on US 6 and 24, and 435 miles east of Salt Lake City, on US 40. They have an airport that will handle a DC-3 if you want to fly your Vee in. The altitude is 8000 feet, which should give you flatland furriners something to think about when you're tuning. The date again is June 12 and 13. The address is Aspen Sports Car Club, Aspen, Colo.

This organization has the finest collection of people in the sport. Far from the bunch of "kooks" envisioned by some racing writers, by far the majority of Vee owners (at least the ones who are members of this Association) are professional people such as doctors, engineers, teachers, etc. I'll list them some time. (That's the reason for "occupation" on the application blank.)

We are fortunate in having one of these people who runs the Automotive Balancing Service, 11019 Atlantic Ave., Lynwood, Cal. Name? Pete Reidy. Here's his letter--

"Well, Don,...I will try to clear up your problems on balancing. I'll take the points in the order you wrote them in your letter, and maybe throw in a little more.

"Effect on performance? Lot's of confusion here. Let's assume an unbalance condition of 1 pound at the outer edge of the flywheel, where it would exert the most force on the crankshaft. At 5000 r.p.m. this condition would use something like .15 HP. (That's right--fifteen hundredths of one HP!) The maximum unbalance you are likely to find in a stock VW flywheel is about one ounce, and by correcting this condition you could reasonably expect an increase of .01 (one one-hundredth) HP. Hardly worth thinking about, is it? O.K. then, why balance anyhow? Now come the goodies. You can expect as much as 750 additional rpm (This is free-running rpm, where all the power the engine develops is used in running the engine--NOT down the straight. -don) depending on the condition of your engine and the onset of valve float. Your attractive Raydot mirrors will now become functional, too. These are about the only noticeable changes that will take place, since your stiff suspension will probably still rattle your teeth and the smooth running engine will go unnoticed.

"The big story with balancing is not in the horsepower used, but in the forces developed. That one-pound weight on the flywheel we discussed would develop a force far in excess of the total weight of the engine, and would in fact completely demolish it in a very few seconds. As far as a VW engine is concerned, the factory balance is pretty good. If your engine is still using the parts the factory put in it, in the same places, the total unbalance will probably be less than 2 ounces. However, if you have replaced rods or pistons, had the crankshaft ground, or the flywheel lightened or surfaced, or the pressure plate rebuilt, balancing is definitely needed.

"The method of balancing is as follows: The pistons are weighed on a sensitive gram scale until the lightest one is found, and then the others are lightened by removing material from lightly stressed areas until all are within one-half gram of each other. The rods are balanced in the same manner, except that they are balanced end for end--that is all the big ends of the rods are matched, and then all the small ends. This takes special attachments and a certain amount of skill, and is not advised as a do-it-yourself project, although you can do the pistons if you have a lathe and an accurate scale.

"The crankshaft comes next, and from here on out the job must be left to the fully equipped balancing shop. The crank is set up in the balancing machine, which spins the crank and indicates, through gauges and strobe lights, the amount and location of unbalance. This is corrected by grinding in the case of the VW. Then the flywheel is bolted to the crank, the unbalance located again, and it is drilled in the proper place until the desired amount has been removed. The clutch is then bolted to the flywheel and the process is repeated, and the same with the front pulley. The fan, generator, and pulley can be balanced in the same way, though experience has shown that this is absolutely unnecessary unless the fan has been modified in some way. (It had better NOT have been!--don)

"The easiest way to find a balancing shop is to contact the nearest speed equipment shop. If they can not do the job they will know where you can get it done. The price will vary a great deal, depending on the location. Our price for the complete job is \$24.50, but we are making a special offer to members only of \$18.50, and this offer must be limited to one engine per member. The parts needed are: rods, pistons and pins, flywheel and flywheel bolt, front pulley and bolt, pressure plate and bolts, and crankshaft with gears and keys but without bearings. We deal with several VW dealers and must be sure that we are not interfering with their legitimate trade, so will have to request that members include their membership cards, for identification.

"I guess that about covers it, Don.

Sincerely,  
Pete Reidy

(Be sure to pack your parts in a strong box that will get them not only there--but back home again. That price does not include re-crating. -don)



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