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BULLETIN

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DIRECTOR'S CORNER

Out of a total of over 200 ballots sent out, including Associate Members, sixteen, including five from Associate Members, have been returned so far.

Why did the REST of you join?

To get a subscription to this outstanding publication? You could have subscribed to three good racing magazines for \$10.00!

To get car emblems? You could get them painted on at the nearest sign shop for half the price! Jacket patches run about a buck.

To "help" Formula Vee? How? Just by "be longing" to the Association?

Sure, your bucks help pay for this Bulletin, and for the ads in the magazines, and the emblems and the literature mailed to prospective Vee owners and stamps and so on, but to what purpose?

I took on this job solely because I was afraid that without some organization no one could--or would--speak for Formula Vee in the racing family, and without someone to represent us--a spokesman--our individual voices would be as children crying in the wind.

Okay! So I volunteered to speak for you --but what am I to say? I've been speaking to you, but how can I speak for you if you don't tell me what to say? Do you think the Competition Board of SCCA is going to pay any attention to what I want? Not by a dam site! My individual voice isn't a bit louder than yours. But if I can say "Here's what a couple of hundred Vee owners want", you can bet they will hear. And, hearing, they will act. I'm sure they would be happy to let us make all our own decisions, and would adopt them without question if they were certain that those decisions were the will of a majority of Vee owners. But sixteen votes?

If we held a meeting anywhere in your vicinity you'd change clothes and arrange for a baby sitter and drive ten miles through the snow and sleet and when you got there you'd get up and argue every point and vote on every question. And if a few members or the Chairman attempted to ram something down your throat you'd fight.

Well, Brethren and Sisters, listen well! Every time a ballot appears in this here Bulletin we're holding a meeting of the Association, and you're attending it. And when you throw your ballot in the garbage can or whatever you do with it, you're walking out of the meeting-house, and if you keep on doing it there won't be any meetings.

I mean maybe you came here just to listen but I didn't come just to talk. To preside at the meeting, yes--but not to dictate to it. To present matters for consideration, but not to decide them. That's for you to do. So let's be doing it! If you haven't any opinion at all, say that. But PLEASE say something!

HOW TO WIN--LESSON TWO

Last month we heard from Whit Tharin how to place second, Nationally. This month Ray Caldwell gives the recipe for first place.

"Whit Tharin's quote from Charlie Kolb-- 'Scare yourself'--is completely absurd. Whit Tharin, in my opinion, has as much native ability as anyone, but "when you reach the point where you consistently scare yourself, the corner workers, etc." you ought to have your license lifted. Now there is a quote you can print. A good driver does not even look like he is going fast so how could he be scaring everyone to death?

"The first thing you do is make your car understeer slightly. Stiffer front roll bar, more negative rear camber and properly adjusted rebound straps promote understeer. The car should be at minimum weight and the engine set up to racing clearances. (Saves lots of money by not seizing engines.)

"Then you learn the course and drive your own race. You can't either spin or go off the course. You generate a constant fear level that keeps you on your toes, but you never go around anything faster than you know you can. The speed comes automatically with experience. Most drivers are slower when they are over their heads than when they are under complete and experienced control. It's the guy who finishes the race first, not the one through the first turn first.

"I figure it took me three race weekends and five days of open practice at Limerock to learn the course. It is presently the only course that I can truthfully say I know. I asked Phil Hill how long it should take to learn Nassau. He said I probably would not learn it yet this year, and I was on the track four hours or better.

"In short, finding the perfect line can take as much as thirty or forty hours, even on a small track. There are many seconds between what most of us would judge to be the right line and what ultimately turns out to be the right line.

"One approach of great value is to let a top notch Vee driver try your car. He can tell in a minute if it handles right. After the handling is sorted out let him determine the capability of the car on a given course. Then you have a goal to aim at because you know the difference between his time and yours is only your driving."

So there you have two blueprints for success in racing. All ya gotta do-----

Ed Shantz comments that the heating-and-driving method for placing tie rods under the steering arms can be improved upon. He suggests a taper reamer, instead. By all means, if you have or can get one, use it. If it's borrowed, though, check the arm for hardness, before you ruin the reamer. We had one that a drill wouldn't touch till it was annealed.

THOSE FABULOUS BEETLES!

"We had no concept of the complexity of the VW numbering system, and the problems it would bring....." (Quote from a letter by George Smith, originator of Formula Vee.)

That could well turn out to be the understatement of the year! Apparently it isn't that information on the subject is "classified"--if it were it would be available to at least a few. It's more like it has never existed. Even Volkswagen of America doesn't have all the answers, though they are now trying to get some for us.

Like everything else about these remarkable cars, the numbering system, also, is unique.

In the first place it seems that 111 indicates VW sedan components, 211 indicates Transporter components, which are identical except that some are different, and 311 is sun-roof sedan or convertible, which is the same as sedan and Transporter except that you're likely to get sunburned. The numbers following the first three have something to do with the birthdays of the Black Forest elves who build the Beetles, I think.

In the second place, VW boasts that there have been one thousand leventy-seven changes made over the years, which is evidently a modest estimate, and it is a good guess that seven of them were body changes and the rest in the mechanical department.

In the third place, in order to simplify things, when a change is made it seems that all traces of the former part simply vanish. The new one may have the same number, sometimes followed by a different letter, but even in this case a new page is issued for the parts book and the shop manual, and unless a quarter of an inch has to be ground off somewhere when replacing part "x", or part "y" has to be replaced also when replacing part "z", there is no indication that parts "x" and "z" aren't the same as the ones used in engine number 111-111-111 (or whatever it was.)

In the fourth place there is some suspicion that engine numbers are fictitious in the first place, as they are not actually used on the engines, anyhow.

What does all this have to do with Formula Vee? Well, it indicates that rather than everyone using identical engines, as was originally intended, the odds are that very few of them are identical. Many of the variations, of course, are of the "don't-matter type", such as the three (at least) styles of valve lifters. On the other hand, among the three (at least) cams that have been used there are some marked differences. There are two (at least) cylinder heads, one of which has larger intake ports than the other. There are at least two styles of pistons, one of which is higher compression than the other. The '65 engine is rated at 41.5 horsepower, which is said to be due to another change in cam and heads.

I have received several letters lately to the effect that certain combinations of components will give a compression ratio of 9:1 and produce over 45 HP, though there's been no definite description of how it's done.

I expect to have a complete list of these variations soon, and to be kept up to date on future changes, but what will we do with this information when we get it?

Shall we all rush to the nearest wrecking yard with a shopping list of obsolete parts in our hands? Shall we compile a list of forbidden items and combinations? Shall we rely on the various tech inspection teams to decide what is legal and what is not? Or wait for some word from SCCA? Or ignore the whole problem and let the sharpies take home all the silverware? (Judging from the response to the last ballot that would seem to be the expected course here, too.)

Well, not having any specific dope yet, other than the few above items, definite decisions can't be made now, but be thinking and talking it over. You can be sure you haven't heard the last of this.

I shouldn't have included the compression test as a rule change, but as an acceptable figure for a non-teardown check. What point would you say indicates a teardown?

ANOTHER APPROACH

You've heard of claiming races, no doubt, where each entrant agrees before the race to sell his entry for a specified sum to anyone who offers it after the race. This practice has been common in horse racing for years, and has more recently been applied to "stock cars".

There have been several proposals for extending it to Formula Vee. One, not very thoroughly thought out, was for a \$1500 tag on any Vee. Probably this wouldn't go over very big with anyone who had just paid \$2500 for a factory-built car.

Whit Tharin has another idea---

"Hold on to your hat, Don! I think I may have an idea that will do the trick for:

1. Eliminating excessive protests
2. Eliminating "fast" engines
3. Eliminating the incentive to bend the rules or outright cheat.
4. Greatly reduce the cost of a truly competitive engine.
5. Force the real emphasis to be on suspension, tires and drivers.

"How? Simple. Follow the NASCAR lead and declare a \$500 claiming price for the entire engine assembly, available to any person who drove in the race who delivers the cash or a certified check to the stewards within half an hour of the conclusion of a race. To avoid having everyone's engine up for "sale" at every race, this should apply to the first three finishers only since they will probably be in the compound anyway. The claimer should get everything that comes loose when you unbolt it from the transaxle, and get it before the car leaves the compound. I know this will take some selling to Westport, but it would really cure all our real problems. Try this idea out on the membership and see what the response is! Any one with more than \$500 in his engine does not belong in the class anyway! I'll take \$350."

How about it, Membership? By the way, he's racing again, while waiting to sell out.

ARE YOU A ROUGH RIDER?

considering the tender, loving care that is customarily lavished on the mechanical parts of a race car it is rather astounding to watch the casual approach toward wheel balancing that is so often seen. A new tire is mounted, the wheel is laid on a bubble-type wheel "balancer", a couple of weights are slapped on, and awaassay we go!

Sure, you can get by this way, too, and in many cases, perhaps, get a pretty fair job. On the other hand, I recall an Austin-Healey with a front wheel that would start bouncing like a basketball at a Globetrotter exhibition before top speed could be reached on the straightaway. If your car has no wheel vibration at any speed, and no tendency to shake the steering wheel, just skip the rest of this, and go on to something else. But for the rest of you---

First, it is absolutely impossible to get an out-of-round wheel to run smoothly by any type of balancing. The wheel can be in perfect balance, but if egg-shaped it will still bounce the car. A VW wheel has an out-of-round tolerance of 1/16" and even racing tires can also vary at least this much. If the high side of the tire happens to be on the high side of the wheel it is easy to get a variation of more than 1/8". At some speeds the flexing of the tire will absorb this (though it will get progressively worse as the tire wears unevenly) but at other speeds it will actually multiply, as in the case of the Healey.

This is easy to check. Just jack up the wheel till it barely clears the floor and rotate it by hand, watching at the ground-line for high and low spots. If you find a variation of 1/16" or more, your tires need truing. Most any recapping outfit can do the job. It hurts to watch them cut off all that good rubber just to bring the whole tire down to the level of the lowest spot, but it's worth it.

Only after you are sure your tires are round can you do any good with balancing. If you can find one, get it done on a "dynamic" balancer--one on which the tire is spun by an electric motor on the machine, off the car. On a dynamic balancer the wheel is first balanced statically (adding weights till there is no heavy side) and then it is spun at high speed to determine dynamic (moving) balance. It is not at all unusual to see a wobble of 1/4" on the spindle, even though the wheel is in perfect balance statically. An indicator shows where to add the additional weights so that no lateral vibration (shimmy) will occur. Even a crooked wheel can be perfectly balanced by this method, though it is not recommended.

For a quick demonstration of this, turn a bicycle upside down and take off the chain. With wire solder, or nuts and washers and wire or string, balance the crank so that it will stay in any position. This is static balance. Now spin the crank, and watch it shake the bicycle sideways. This is dynamic imbalance. The only way it could be cured would be to add weight equal to the crank arm and pedal, opposite each one. I'm not a professional wheel balancer, but I've done a few and watched a few more being done, and I have yet to see one that wasn't improved by dynamic balancing, sometimes drastically.

COULD THIS BE YOUR CLUB?

Here's an idea for you--- The "group" (not "organization") which calls itself "Nor Cal Vees" makes every effort to pit together at races, and even has a large red and white banner advertising their "Marque". They're doing everything they can to attract more Vees in their area. They aren't a club, and don't pay dues, and don't have officers. But they do have Harriet Gittings, who keeps everyone in touch with her regular (and some special) news letters, supported in part, at least, by their contributions. This should work most anywhere. Is there a Harriet Gittings in your part of the country? Are you one, perhaps? (All right, Harry, then?)

MORE VEES COMING

The number of applications for Associate Membership are rather surprising. I expected a few, but they are running better than one out of three. A few are from youngsters but nearly all express an intent to become Vee owners as soon as possible. If this trend continues, and it seems to be a stable respectable growth rather than a mushrooming fad, I wouldn't be surprised to see Vees more popular than Karts, even, in the next few years. There is no doubt that they will dominate the other racing classes by the end of this season. Here's a typical letter, from Neal Musto, of Boston----

"After reading the FV Bulletin I've decided to send my membership form....My bank account does not see a Vee this season, but I don't want this thing to skyrocket out from under me. I do not wish to see the Vee unattainable in the future. Although I do not have voting rights, I do want to voice my opinions. I say great to your definition of "objectionable" modification. This is the definition of FV in a simple sentence. If it needs copying, even though it may cost only a few bucks, it is out. On the positive side, I am in favor of permitting any modifications that will increase the reliability of the Vee.

"I would like to ask a question: If I have the smallest size in the standard group do I have to get the largest stock cylinders in order to stay in competition with the boys with the big jugs?"

(I can't answer that, yet, Neal. I'm just the Director. If we can get enough ballots in to show a solid opinion it should be all settled by the time you get your Vee though. The trend seems to be to 1200cc--anything in the first (standard) group. See the back page. don)

ENDURO

Another reminder, with more details, from the Aspen (Colo.) Sports Car Club---

Their Formula Vee Enduro will be held on June 12 and 13, with a driver's school on the 11th. The main Vee event will be held on Saturday--100 laps around their 1.1 mile course (enduro?) with prize money of \$1000, plus various Vee components (bodies, frames, etc.) On Sunday there will be races for sports cars, "and Vees if anyone is still running and wants to race for trophies". The event is SCCA sanctioned and insured. Accomodations are plentiful--check with the Aspen Chamber of Commerce.

This should be fun--wish I could make it! ("...if anyone is still running..." Hah!)

WANNA BUY A DUCT?

Gary Simmons and Eric Harris agree (and so do I) that the present interpretation of the "air ducting" rule allows ram tubes or velocity stacks or whatever to fit against or around the carburetor, as long as they don't depend on any engine part for support, and that these can contribute an increase in power. This means, of course, that if they continue to be permitted we will all have to adopt something along that line in order to remain competitive. However, they ask, how can this affect the blower?

First, let's consider the carburetor. Due to the manifold being split and already in the neighborhood of the right length for any "tuned ramming", and to the off-beat firing order of the VW, it is doubtful if any type of extension would add much to this effect. However, taking advantage of "forward ram" (the velocity of the air "passing" the car) could add perhaps $\frac{1}{2}$ HP, which isn't much, but could make the difference.

However, if I'm compelled to start messing with air ducts I'm going to start with the blower, myself. Here's why---

Applying orthodox fan formulas to the unorthodox VW blower leads only to an informed guess, so I don't believe the figure I came up with, either. Instead, let's be conservative and say that it takes only 2HP to drive the blower at maximum speed. If this can be reduced by only 15% that's equal to what you can gain at the carb. OK? OK. I also get a figure of 3000'/min. for the velocity of the air entering the fan (plus or minus a thousand feet or so).

Now---the engine furnishes 2HP to drive the fan, in order to impart a velocity of 3000'/min. to the air passing through it, so if by proper ducting you could route in air "passing by" the car at 90 mph (nearly 8000 ft./min.) the fan wouldn't have to impart any more velocity to it, and the engine then would have 2HP to use somewhere else, like at the wheels. In fact, theoretically, you might be able to also remove the fan belt and let the fan turn the generator, windmill fashion. A length of stovepipe stuck out of the back of the engine room won't have that effect, of course, but ducting, as now defined, isn't restricted to that. Even the "1-inch-gap" (perhaps it should be larger) won't entirely eliminate this effect, but it would spoil it somewhat, at least.

I can do it too, if I have to, but that's why I'm against ducting as it is now defined. How do you feel about it?

Vees for 1965 certainly can't be accused of not looking like race cars. Even last year some models were often confused with Formula Jm and this year they all look good.

Formcar, first on the scene, is the first naturally, to come out with a major change. The new one is still definitely Formcar, but much refined, with wrap-around windshield and a tunneled rear section. (with a couple of minor alterations, the new body will fit the old frames.) Mechanical changes include shorter shocks, with provision for camber adjustment and limiting, and longer trailing arms.

Judging from pre-publicity pictures, the newest newcomer, Lynx, should make quite a splash. The prototype, still unassembled, was skillfully photographed in a museum of modern art, where it looked perfectly at home. It appears that the roll-bar is not yet installed and that someone left a helmet in the seat, till you read that the roll-bar is enclosed in the body, and that the helmet contains a driver's head. Less than thirty inches high, overall, including driver! Can it possibly be legal?

(No new manufacturers this month! Is the sport dying out?)

CORRECTION

Whit Tharin and Peter Reidy caught this-- I wonder if any of the rest of you did, too, but didn't bother to say anything.

The percentage difference between the diameters of the largest and smallest cylinder is 1.63, but the area difference, to which horsepower is directly related, is 3.26%, or a difference of about 1.3 HP. If you have not voted yet, does that help make up your mind? It should!

I'm grateful to Whit and Pete, and to any one else who will argue with me about either "facts" or opinions. They both have some other points in their letters (just received) which I'll take up next time. This was all ready to print, but thought I'd better make this correction, anyhow. Send your comments along with your ballot.

Colin Cameron (Curry-Cameron Engineering) appears to have started something with his offer to sell unassembled frame components--

James Snyder, a soldier at Fort Benning, Georgia, writes--"Beach Racing Cars will sell me a frame cut to size but not welded for \$85.00. You can pass this along to anyone else who wishes to build a Vee as I'm doing".



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