



VEE LINE

NUMBER 41

FEBRUARY 1968

COL. SMITH PROPOSES INTERNATIONAL FACT-FINDING BODY

DIRECTOR'S CORNER

Most of you people have faith — or perhaps it is just resignation. Anyway, I appreciate your not bugging me about the December VeeLine being so late. A couple of newcomers, obviously not aware of my frailties, did write in to see if their addresses were correct, but all in all, you were very patient. For the benefit of those who haven't lived through this before — unlike most publications, the March VeeLine *never* comes out in February. If all goes well, it *may* get in the mail by the end of March, but it may very well be in the first week (or later) in April. This is *normal*. What with the holidays, the weather, waiting for printing which never comes, etc., things get even worse around the first of the year. About all you can count on is that, on the average, you will get one VeeLine per month. So far, at least, I've never skipped an issue.

Speaking of printing, the new booklet has a couple of typographical errors — one of which might be critical. I *hope* that all have been hand-corrected, but if you got one which still shows the intake port diameter as 39mm, don't you believe it! Make it 29mm, or you're likely to lose your manifold in the hole!

HEADS, AGAIN

This was covered once before, but will bear repeating. It seems that there is still confusion, even in VW parts rooms, regarding the 1200 and 1300 heads. So pin this on the wall, or write the issue number on your Social Security card, or something—

Part number	hp,bk.	hp,SAE	engine
113-101-351-A	34	40	1200
" B	"	"	"
" C	"	"	"
" D	"	"	"
113-101-353	"	"	"65" "
113-101-353-B	40	50	1300

The changes in the older heads were an alteration of one half a degree in the valve stem angle, and changes in the method of mounting the rocker arm shaft. They were made to improve the geometry of the valve train for less wear and noise, but had no effect on performance.

The only change on the "65" head was additional finning and baffles to improve the cooling under adverse operating conditions. Again, no change in ports, valves, combustion chamber etc.

The 1300 head is essentially the same as the "65" except for larger porting to adapt to the larger 1300 manifold. It can easily be identified because the manifold enters the head at an angle rather than straight down. It will interchange with the 1200 heads if the manifold is changed, too. It is, of course, not legal for Formula Vee.

OOPS!

A Valvoline ad, featuring Tony Jeffries' win at Freeport, shows Whit Tharin in his Zink, at the Daytona ARRC in the accompanying picture!

THIS TIME IT'S FRAMES

Last summer the controversy about body rule violations came to a head, you may remember. An appealed protest finally came to the attention of the Appeals Court; and after an extensive investigation, the Court handed down a decision which spelled out much more clearly than before just what the rule meant.

At this writing, much the same situation exists regarding frame design, except that it is the Competition Board of SCCA which is hearing the charges. The first chapter was written at its regular meeting, in January, where charges against the Zink and Bobsy cars were presented. Evidently there was not time for much investigation or deliberation before the decision was presented to the Board of Governors for approval: "Rules for Formula Vee require a steel tubular frame providing chassis rigidity with no significant rigidity or strength derived from other means. Mono-coque, semi-mono-coque, or stressed skin structure frames are not legal."

By the time the Governors met, additional arguments had been presented and they were persuaded to return the proposal to the Competition Board "for further study and recommendation" with the following comment:

"In taking this action, the Board of Governors emphasizes that the trend toward increased cost in Formula Vee must be halted. Our reluctance to make existing cars obsolete does not mean that we condone stressed skin, mono-coque, or semi-mono-coque designs, and competitors and manufacturers fielding such designs do so at their own peril." (The last sentence referred to a previous statement that such a change in the rules should not be made during a competition year.)

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A FATHER LOOKS AT HIS CHILD

At a luncheon given by Volkswagen, at the SCCA Annual Convention in Atlanta, Col. George Smith, — the "Father of Formula Vee" — was asked to speak on his favorite subject. Only the highlights can be given here, more's the pity.

"My thanks to Volkswagen for their thoughtfulness in providing this luncheon. . . ; it presents a golden opportunity for me to talk of my adolescent child, Formula Vee. . . . Some of you already know that the dropping of a nickel on a plush pillow is sufficient noise to bring me bounding to the foot-lights on this subject.

" . . . What is in store for Formula Vee? That is the question. . . . Should it become an international class, or should it remain international without becoming a class? This is a question burning deeply within those concerned with the welfare of the class here at home. What has happened is that, while adhering for the most part to the rules we use here, Europe has settled on the 1300 engine, while we use the 1200. There are also other differences. Must we, or indeed should we, attempt to bring unity so that FIA might be induced to classify the car?

" . . . My feeling is that agreement on world-wide rules should be sought now, before too many deviations complicate the task beyond reason. . . . But which way do we go? Some would say that the most equitable way. . . would be for the rest of the world to adopt the rules in the GCR. . . . Alas, it is not that simple. Even if such an agreement could be reached, which is highly unlikely, technical advancement must be considered to sustain interest. What's wrong with holding the status quo? . . . Well, I'll tell you: the status doesn't quo at Volkswagen. You recall VW advertising reminding us that subtle changes are constantly being made. . . and these changes must finally find their way to the substance of Formula Vee. What happens when parts on which the Vee was planned become difficult, if not impossible, to get? Some wise guy will corner the market on the few remaining parts and the law of supply and demand will take over! . . . As the parent who spawned the Vee, I don't want this on my conscience. So I will propose that an early international study be made to determine the path Formula Vee development must take.

"I propose organization of a fact-finding body, international in composition, to hear viewpoints and consolidate them into a summary for consideration by FIA, for inclusion in its listing of international

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WAR HAS BEEN DECLARED!

The Formula Vee Class was given a big boost in its infancy when "Red" Crise included it in the "Volkswagen Grand Prix" which was one of the events at his "Nassau Speed Week" in 1963. The Vees beat the VW sedans, with which they were combined, so decisively that the sedans were never included again in one of his events. The next year the Vees ran alone.

Even that long ago, however, "Red" was dissatisfied with the rules, the looks and the performance of the cars, and insisted on some changes being made before they could run in the Bahamas. And he's been sniping at them ever since. He is interested only in safety, he says, in demanding longer bodies (more fiberglass to crumple and absorb impact?), wider wheels (to permit navigating turns more safely?), tuned exhaust systems (so competitors can hear you coming?), bigger, modified engines (for more acceleration and speed, to get out of the way of trouble?), disc brakes (to enable you to handle the extra speed safely?), etc. Up until this year, he has fought a defensive action, on his own grounds, against those who maintained that, while Formula Vee *could* be "improved," it *shouldn't* be. Now, however, he has mounted a full-scale invasion of the U.S., and has established a beach-head at Sebring. Yes, there will be a race there for "Crise Formula V," and in true aggressor style, he has even set up his own puppet government - "The Formula V Club of America."

There is no quarrel with anyone who wants to establish a *new* racing class, but (based on our ballots) this organization will resist all efforts to *change* Formula Vee, or to capitalize on its demonstrated success. There will be those (again based on our ballots) to whom "Formula Five" will appeal - and to them I say, "Go in peace!" But don't expect Formula Vee to go with you! Go, and have fun, and the wider you make the gulf between Formula Vee and "Formula Five," the better. Be aware, though, that there will be a gulf - that you *will* be making a choice.

"Red" Crise is a promoter. In a field of wider public interest than auto racing, he would have been another Barnum. Those who know him would have been amazed if A. J. Foyt and Mario Andretti had actually appeared in a Vee in Freeport, and

"VEE" SPORTS RACING?

Last month it was mentioned here that the Australians were working toward a Sports Racing Class, based on VW components and Vee-type rules. It seems they're not alone. Volkswagen's "Small World" carries a photo of a beautiful sports-racer, built by Gene Beach on VW 1300 running gear. No plans were announced for its production, however.

1300cc puts it right at the top of the "C Sports Racing" class. However, even with the utmost in modification, the 1300 VW engine could hardly compete with some of the 1300cc 150hp engines you can buy for around \$3000. However as a distinct Class, like Formula Vee. . . .

equally amazed if he hadn't promised that they would. ("Implied" is probably a better word.) Would you believe the side-show barker who says the dancing girls were imported from Tibet? That's show business, man! And "Red" ranks right up there with the best of the showmen - in talent, if not in scope!

SO - before you make a choice, analyze every word of his propaganda, and don't really count on:

1. SCCA acceptance of Formula Five.
2. Inclusion of Formula Five at *any* SCCA race.
3. "Only small modifications" being allowed in Formula Five.
4. Joe Hoppen Scrutineering at Sebring.
5. The next Formula Five race after Sebring.
6. European acceptance of Formula Five
7. Formula Five.

SOME CORRECTIONS

Ole Whit (Tharin, that is) takes me to task on some of the points in the report on the Bahamas race:

"1. The nerfing bars were used more effectively than most people realized. I was personally involved in two nerfing bar contacts, but naught came of it *because* of the bars. Without them there might have been a flip, in one of the contacts. I would like to see SCCA make them optional this year, and mandatory next year. (*No argument there - but let's not fasten them to the trailing arms.*)

"2. Werner Muller gave my car the best ride it ever had. . . but he did not drive faster than I under the same conditions, i.e., full tanks, and no brakes. During his charge, he was lapping around 1:49, and was gaining on everyone but Jeffries. I knew that I could drive a second or more faster, so I elected to carry out the original plan of driving myself, instead of putting Muller *back* in the car when he was expecting to be relieved. I went out intent on closing the gap with Jeffries, and that's where amateurism ruined us. I cooked the brakes completely in three laps, turning a best time of about 1:50, with full tanks, but no better than 1:51 or 1:52 without brakes. I nearly wrecked it three times, and thought how dumb it would be to spoil Muller's beautiful effort, so turned it back over to him since driving without brakes is a pro's job, not an amateur's. Without

brakes he never got under 1:52. The pity was that he had carefully nursed the brakes and kept them functioning for 51 laps, and I ruined them in three. With his pro's touch, he could probably have run 80 to 90 laps before they gave out - but no more. After the race he said he couldn't have gotten back in the car at the refueling stop. That was the longest distance he had ever covered, and he had paced himself for that much only. My comment was made right after I got out of the car, before I saw what his times were, and heard his comment about his fatigue. (*OK, Whit. I still say it took a lot of self-denial to make that decision. I also say that anyone who could drive that course completely out of brakes, and lose only two or three seconds a lap, is a pro - or something.*)

"3. On the 1500 engines, which you continue to pooh-pooh, the Jack Ryan car just clocked in the traps 112.3 mph at Savannah on a 3000-foot straight. (*That's with the compression ratio raised to 9:1, and the car lightened to 800 lb. isn't it? Dual carbs would probably boost it another five or eight miles an hour, too.*) In a 20-lap race he lapped the field on a two-mile course. (*Isn't that what I've been saying? Assuming a 30-minute race, my slide rule tells me that's 80 mph for the lapper, and 76 mph for the lappees - for a difference of 4 mph. Wow!*)

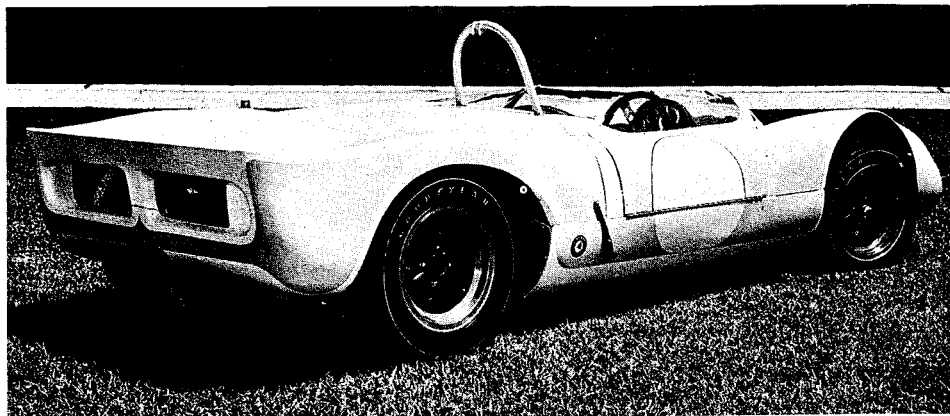
"4. Hardly any of the top ten cars finished with appreciable brakes. What you find hard to believe about it, I don't know." (*"Completely."*)

Whit

CIRCLE BURNERS?

Mike Rand of Riverside, Conn., called the other night. He'd been approached about getting a bunch of Vees rounded up to provide excitement at the local "stock-car" tracks, and asked my opinion. We work Petunia out on a quarter-mile oval once in a while, and my personal opinion is that it would get pretty boring - but everyone to his own taste! One thing we've found - it will take some kind of modification, or perhaps a couple of extra quarts of oil, to keep the pressure up while making all left (or right) turns.

Anyone interested can contact him at Indian Point Lane, Riverside, Conn. (There's some prize money involved.)



ELECTION NEWS

Nasty crack on one of the ballots — "An election or an affirmation?" OK, friend— so next year nominate someone! Or volunteer, even. But don't sit on your thumbs and then complain because there's only one candidate for each office.

While all the returns aren't in yet, and won't be counted until Feb. 28, it rather looks at this time as though the 1968 officers will be: President, Harriet Gittings; Vice President, Robert Ames; Secretary, Dr. Edgar Shantz.

Possibly some of you newcomers aren't acquainted with your new officers. Well, Harriet and Dale Gittings were owners of one of the first Vees (maybe *the* first) in California. Harriet is a columnist (motor sports — what else?) and an officer of some kind in most every motor-sports-oriented organization in the San Francisco area, including the Formula Racing Association and the Association of Sports Writers and Broadcasters. She's been racing her Vee (her second) in every race in Northern California, and many in the rest of the Western States. I don't believe she ever won a race, but she never brings up the rear, either.

Bob Ames is a banker in Portland, Ore. Last year was his first in Formula Vee, but he has raced in other classes since 1956, which means he started when he was 18. (Those were the good old days.) He saves up for his vacations so he can get to Europe every so often — to watch the races.

Dr. Ed Shantz is a professor at Cornell University. He had one of the first Formcars, before it was recognized as a Formula Vee by SCCA. Probably many of you (like John and me) were first informed of the class through an article in *Foreign Car Guide*, featuring Ed, Ray Caldwell and another driver demonstrating the Vees at Watkins Glen. He flipped the old Formcar last Fall and decided to get a new car rather than rebuild it. He was active in the formation of the original "Formula Vee Automobile Racing Association" — the original name of FVI.

THIRD ANNUAL GRAND PRIX FOR FORMULA VEE

Red McCurdy, who has been in the front lines at both of the previous events writes:

"The 'Red Foxes' Formula group of the Steel Cities Region will meet next week to lay down plans for the Grand Prix. The date is set for October 19 and 20, at Steel Cities International Raceway.

"Have asked Jim Kaser how to go about getting National's acceptance of our fire-proofing of Vee tanks. We have made several major refinements. Will pass this info along to you.

"Here's a bit of choice information — there is available a large number of traffic signals which could be installed at courses to replace flagmen. I have obtained 9 units which I will give to the Raceway for free. They were donated by the City of McKeesport. The City was forced to meet new safety standards, and though the lights are in excellent working order, they are obsolete. There are no doubt many other cities which must make such a change, so anyone who has 'friends' should ask before they are scrapped."

Red

IN A HURRY?

"Dear Don, . . . I am building a new car from one of the better known constructors. I purchased the deluxe kit, which 'can be assembled in 30 to 40 hours.' Two comments on that: 1. You might be able to assemble in 30 to 40 hours if the instructions were somewhere near complete; — which they most certainly are not. 2. Darned if I'd want to drive a car built in that time. I already have over 200 hours in it, and it's not on the ground, yet!"

Loren Dragoo, Grand Rapids, Mich.

Amen! If we ever get Petunia finished, I'll let you know — and we've been working on her for exactly four years now!

BRAKE ADJUSTMENT

Seen at Freeport was one driver worrying about lack of brake pedal on his car. This was in the pits in the middle of the week — not at the end of a race. Questioned on the adjustment of his brakes, he said he had just finished adjusting them and still had practically no pedal left. It was true, too — once down, the pedal was firm; but it went nearly to the limit before the brakes were actually actuated. Questioned as to how he had adjusted them, he said he was following VW recommendations — adjust them as tight as possible, and then back off the adjustment nut 5 notches. He obviously didn't believe the advice he got, and may very well be one of those who finished "completely out of brakes."

If the brakes have been properly bled, the pedal, when it does bring the shoes to bear, should be almost rock firm. From that point on, increased pressure should increase the braking power, but result in very little pedal movement. For ease of driving, saving time, better "heel and toe" action, etc., the sooner the pedal gets to work, the better.

The first place where adjustment should be made is at the master cylinder; and once set, it should require no more attention. This cylinder has some sort of arrangement for allowing the fluid to bleed back into the reservoir when the pedal is released and the springs retract the shoes to the rest position. Usually it is merely a small hole which is normally uncovered by the piston, but which is closed as the piston starts to move. Until this hole is covered, movement of the piston only squirts fluid through it, with none going to the wheel cylinders, so the pedal linkage should be adjusted accordingly. Set it so that, at rest, the piston is retracted *only* enough to uncover this hole — no more. Don't cut it too fine — if the hole is *not* normally open, heat in the brake cylinders will expand the fluid which, with no-

where to go, will expand the wheel cylinders, causing the brakes to drag.

With the master cylinder adjusted, start with the shoes. Run one shoe out against the drum until a drag can be felt, and then back it off (probably not more than one notch) until you can just hear the drum dragging on the shoe at one point. Repeat with the other shoe. You will probably be able to detect the drum touching *twice* at each revolution then. (Yes, this will cause a noticeable drag.) After all the shoes are adjusted, take one lap and then check for drag. You'll find that the drums have warmed up enough to expand away from the shoes to where no drag exists. The pedal movement will be in the neighborhood of one inch. Wear? Well, Petunia has worn the same shoes for two seasons — haven't checked them yet for this next one.

HAPPY!

"Dear Don — Thank you very much for your letter congratulating the Formula Vee team on its achievement in the Bahamas. I must say that we were very, very pleased indeed that Tony and George managed to do so well, though I was not altogether surprised, as Tony is a pretty good driver, and the Capital cars are very well constructed.

"I had a long talk with Tony about the race, and I must say he seemed a little surprised at the driving attitude of the Americans, in particular, as he felt that they never made overtaking easy but in fact tended to try and push you off the circuit if they could. . . ."

David Clapham, Secretary
Formula Vee Assn. of S. Africa

I'm sorry to hear that Tony considered our drivers to be out of line. Considering the hours of racing and the inherent hazards on the course itself, I understood that the driving was of rather high caliber, especially in the final event. I guess you know Tony didn't make overtaking easy, either! In, fact, I believe he was only overtaken once!

UNCLASSIFIED ADS

FOR SALE: 1966 Autodynamics with every legal modification. Frame altered to accommodate large driver. Recent engine rebuild. R-4's. \$1375. Michael Spalding, 10 Patrick Henry House, 200 W. Galbraith Road, Cincinnati, Ohio. (513) 821-2862.

FOR SALE: Autodynamics, with 2 extra wheels and tires, some spares. \$1600. John Winkelman, 908 SW 2nd, Beaverton, Ore. 644-0161 Ext. 7880 days, 646-3638 nights.

OUR FILM, "To Vee or Not to Vee" is again available. It's about 15 minutes, 16mm with color and sound.

FOR SALE: 1 pr. Armstrong adjustable shocks, 100 lb. 12-coil springs (Beach). Used once. \$50. Zink "Z" bar camber compensator, new. Will adapt to any car. \$25. Donald Wilham, 6714 Chestnut St., Cincinnati, Ohio 45227. (513) 272-3315.

A FATHER LOOKS AT HIS CHILD

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classes. This will promote a healthy steady growth of the class that has provided 'racing on a budget' for so many. These students must never lose sight of the fact that what really made the Vee grow so rapidly as a class is that the founders never swerved from their promise to hold the line on specifications. . . . Development there must inevitably be. . . but it must be well considered change, tested and certain to improve the class, slowly and carefully integrated, and zealously guarded, as in the past. If this is done, the future of Formula Vee is great beyond speculation. Thank you."

I, too, would like to see this wonderful class attain truly universal status, in *all* parts of the world. However, I refuse to be stamped by the bugaboo of "shortage of 1200 parts" - for the next ten years or so, at least. I'm sure Volkswagen would be horrified at a sales pitch for its newer models based on the threat of obsolescence of its millions of 1200 models. It is true, of course, that there have been some changes made, and that exact duplicates of some of the original parts are no longer available. The "B" cam, for instance has been out of stock since 1963. The plain rear brake drums have been superseded by the ribbed drums which are also used on the 1300. Crankcases now come equipped with replaceable camshaft bearings, like the 1300 cases have. And there may be more. However, I'd bet that legal Vee parts will be available as long as 1200 Beetles continue to roam the land, and when you consider that some of them are only three years old, that will be a long time!

**The VEE LINE of
Formula Vee International**

Don Cheesman, Director

Box 291

Ephrata, Washington 98823



**Formula Vee
International**

BOX 291
EPHRATA,
WASH. 98823

THIS TIME IT'S FRAMES

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I was asked for an opinion by the Competition Board. I probably rubbed it in a bit by reminding them (1) that this organization had already made a recommendation, in regard to the Zink, at least, by voting it legal by a 74% margin, and that this information was in their hands last October; (2) that at the same time, their attention had been directed to the fact that further deviations from the spirit of the rule were already in the making, and that some line should be drawn before the situation got out of hand. I recommended that, since the subject had been opened, in fairness to both builders and owners of now-questionable cars, a decision should be made and announced as soon as possible, but that any required changes should become effective Jan. 1, 1969.

The following *addition* to the *present* rule was proposed: "The frame must be capable of supporting the car on two diagonally opposite wheels (one front wheel held down) minus body panels, and with not more than x degrees of twist." (The actual figure to be supplied by the Board after appropriate investigation.)

It was emphasized that (with the exception of the ballot figure) these recommendations were not made in the name of FVI, but as an individual opinion only. Nevertheless, I hope that 74% of you approve of this action, too.

The latest dope is that Bobsy has announced that the inner panels of their "torque boxes" will be omitted in the future, the styrofoam filling will be left out, and the frame will be exposed to view. Zink was apparently determined to go down fighting, and has, as yet, announced no changes.

This will be in the hands of the printers (hopefully) before any decisions can be announced, but watch this space next month for further exciting developments in this continuing story, "Whither Formula Vee?"

VALVE SEAT ANGLE

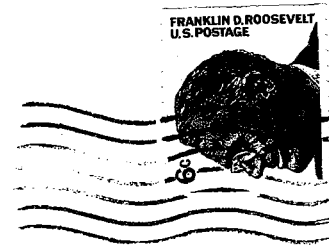
There is a theory that performance can be improved by changing valve seat angles (Don't ask me which way, or how much - don't know, and don't intend to go into it.) The question has been asked, "Would it be legal?" Again, I can't say - that's for the SCCA officials to determine. However, inasmuch as we use "stock components," and are not allowed to "alter, modify, or change . . . unless specifically authorized," and VW does specify valve seat angles, I would *think* this would automatically be included in the rules.

The valve seat angle, for both intake and exhaust, is nominally 45 degrees. There is a one-degree difference between the valve and the seat, but for practical checking procedures, it would be hard to detect. 45 degrees can be considered the correct figure.

SOMETHING TO CHECK

Due to changes in the parts through the years, as well as the possibility that your crankcase might have once been re-conditioned, it is possible that the distributor drive gear might not be meshing properly with the coupling on the distributor shaft. This mesh is determined by the thickness of the washers which are installed under the gear.

Volkswagen has published a table of measurements covering all the combinations. However, for our purposes the same results can be obtained by use of a narrow rule, or even a piece of stiff wire. Measure the depth in the case to the bottom of the slot in the gear, and check it against the length of the shaft, to the end of the key on the coupling which fits into the gear slot. The key should fit almost, but not quite, to the bottom of the slot. Normally this requires *two* washers 0.6mm (about 1/32") thick, under the gear. *One* washer, 1.25mm (about 1/16") thick was installed on some models, but two of the thinner ones are recommended as replacements. It could be that you'd need more.



Warren A. Roberts
1208 Swab Drive
Bartlesville, Okla. 74003