



VEE LINE

NUMBER 100

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DIRECTOR'S CORNER

Well, kids, with this 100th issue VeeLine joins Life, Collier's, and Liberty as defunct publications. It didn't last as long or have as many readers, but there are probably as many complete sets of back issues as there are of any of the others, and they're probably more worn from re-reading.

Your Officers and I have had no volunteers for this position, and even a couple of attempts at a draft have failed. My job situation is still uncertain, but a move in the next few months seems inevitable, and I want to get this over with while there is still time to do it in an orderly manner.

I wish I could have passed this on to someone else, but it's probably time for me to quit, regardless. This whole thing was dreamed up for a different era — a different type of car, a different type of driver, and, yes, a different type of racing organization. Nine years ago all three were amateur oriented, and so was I. Now all three are dominated by professionals, but I haven't been able to make the switch, really. I've been fighting a delaying action, but the war was lost some time ago.

My playing Don Quixote to the SCCA windmill is no longer doing Formula Vee any good, though I would like to believe that it played some part in helping the Class to attain the ripe old age it enjoys already. I haven't even been able to get permission to reprint the copyrighted Formula Vee rules. This, alone, would have put us out of the Formula Vee information business!

What am I going to do now? Well, right now it's impossible to make plans of any kind. However, I'm building a dyno, and if John and I can keep Team Petunia intact, we'll still be racing Formula Vee. If the dyno brings out those additional five to eight horses it's supposed to find, we might even make a try for the ARRC. (We did make the "alternate" list once.) We've never tried racing seriously — maybe we've been missing something.

Many thanks for all the letters of encouragement, suggestions, comments — yes, and criticism, too — which have been of so much help in keeping this thing going. That's the hardest part of giving this up. Those of you whom I have met, even if only by phone or letter, are friends as dear to me as those I see often.

But let's not get maudlin about it! See you at Atlanta — with a Formcar! Auf Wiedersehen!

TO KILL A RACING CLUB

For a while, at least, busting up FVI is going to be more of a problem than keeping it going has been. We can't just cover up the typewriters, throw out of the office everything with "FVI" on it, and return the mail unopened—not for a while, yet, anyhow. For one little detail, there's the matter of the eleven twelfths of you with unexpired memberships.

According to the book we should have a reserve bank account large enough to take care of this, but to put it bluntly—we haven't. Since Volkswagen dropped Formula Vee (and FVI) three years ago, our income and expenses have balanced almost exactly. You don't get all your membership back, directly, of course, but with emblems, jacket patches, the booklet, special printing of the rules, ballots, address plates and over a dollar's worth of postage, you get more than \$5.00 direct return on your investment. With the balance, you have been helping to spread the word to around a thousand inquirers each year (at 47¢ each) and you have helped to finance some of the improvements on Petunia, which have been the basis of many of the

articles in the VeeLine. So we have spent the whoooooo thing! (Well, almost—we do have a few bucks of current expense money in the sock.)

So what it boils down to is this — if you'd just as soon take your refund out in trade (back issues of VeeLine, jacket patches, emblems) we'll be overjoyed. If you want to buy *additional* back issues (your last chance!) we'll be ecstatic! (We're hoping to make the cash refunds from that source.) If you want your refund in cash—and you have every right to—we'll do that, too, on a first-come-first-served basis as long as the money lasts, and from then on, as fast as we can scrape it up.

We'll make refunds on the basis of the VeeLines you would have received if this hadn't happened, at 25¢ each, which happens to be almost our exact cost (17.4¢ for the printing, 8¢ postage).

Check the number in the lower right corner of your address imprint. That's the last month of your membership—the last issue of the VeeLine you would have received. If the number is 8, for example (August) you'd have received 7 more is-

WHAT NEXT?

From the direction in which Formula Vee specifically, and "club racing" in general is heading, it makes one wonder just how "member oriented" SCCA really is, doesn't it? I doubt that the organization would receive anywhere near a majority vote of confidence from the membership if they dared to take a ballot on the subject, but, as everyone says, "What can you do?"

Well, it's a long way around to get to a near-by destination, but the Governors, at least, are still elected by the members. With the rotation system they are under it would take three years to replace all that "tired blood", but even a single transfusion might save the patient until another one could be made.

Anyhow—did it ever occur to you that a bit of organized campaigning might save SCCA? There are a number of you people in every area who are good Governor material, and the most active of you, at least, get around enough so that you know people in other parts of your area, so why don't you volunteer or draft some one, and then get a campaign going and elect him. You could do it! You really could!

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sues. (This is the January issue, in case you hadn't noticed.) Let us know how you want your refund — merchandise, or cash.

Now, as a special inducement, we are going to make a SPECIAL GOING-OUT-OF-BUSINESS OFFER! TWO back issues for the price of one! This applies to additional ones you may wish to buy, as well as those in lieu of the ones you would have received! Jacket patches for less than half the actual cost—25¢ each! The round "FV" emblems — only a few left — soon will be collector's items — again less than cost at 50¢ each! This offer expires March 31, and positively will not be repeated! After that date they will be offered to the general public at the regular price.

Indicate which VeeLines (and other goodies) you want, and enclose a check to cover the excess above your refund. If we're out of the ones you want, we'll enclose a refund check for the balance with your order. □

The VEELINE of FORMULA VEE INTERNATIONAL

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LAST CHANCE!

Nearly three years ago (July '70) I printed a letter questioning the SCCA insurance situation, and my somewhat satirical answer. Both Jim Patterson (then director of Club Racing) and Tracy Bird took exception to it. This led to a running argument by mail which they won in the usual manner by neglecting to answer my last letter. I still think my suggestion is valid—more so today than it was then—and I can't resist this last chance to let the rest of the world in on it.

I have been unable to obtain the current rates on which racing insurance is based, but I'm sure that there have been no spectacular changes in the meantime. I won't quote any specific figures, then, but if you want to start some thinking in your Region, ask your Secretary or Treasurer, or RE, or whoever arranges for your race insurance, to give them to you. This is going to have to be very brief, considering the scope of the subject, but, as I said, you can certainly expand it in your own Region. If enough of you can get worked up about it—perhaps you can force a change.

Let's start off with this—the insurance for a Can-Am or Trans-Am race can be less than for a spectator Regional! OK, it isn't—IF a partial Regional or National is scheduled along with it, BUT, in that event the Regional drivers have to pay the somewhat higher rate—*per car*—which is charged for the professionals.

Second, if your Region is contemplating a "spectator" Regional or National, the insurance will be in the neighborhood of \$3000 more than for a "non-spectator" event, which means that it will have to attract at least 1500 spectators (at \$2.00 a head) *just to pay for the additional insurance*, before it can show a cent of profit. That's why the usual solution is to run non-spectator events, relying on the entrants to pay the expenses, rather than risk taking a loss if not enough spectators can be attracted.

For another thing, if you were driving a big tractor-trailer van, loaded with \$100,000 worth of racing machinery and equipment, back and forth across the continent several times a year, you might very well feel that you *needed* in-transit insurance on it. But do you really *need* it for the relatively few miles you tow your Vee? That coverage, you understand, is presently included in your "per-car" premium, whether your rig is worth a thousand dollars, or a hundred thousand.

Insurance, you see, is based on the *number of cars* entered in an event. The rate, *per car*, is slightly lower for non-spectator club races than for pro events, but the smaller number of cars at a pro event (assuming that no club races are included) could make the *total* premium less than for the normal Regional event! Again, if club races *are* included, the higher rate *per car* for a pro event is charged against the local yokels, too —

plus \$6.00 pit passes, etc.! Big deal!

OK, that's the basic picture, unless there have been some drastic changes in the meantime. Again, check with your Region for specific figures being used today.

Obviously, a certain total amount of money is required *per year* to pay for *all* the SCCA insurance. I won't even question the amount, but I do question the present system for raising that amount of money, and I have an answer for that question.

Suppose that instead of on cars, the insurance were based on the number of *people* at each event. Not just spectators, or just participants, but the *total* number of *people* — *bodies*. Include drivers, pit crews, workers, spectators, visiting officials from Denver — *everybody* — and figure \$1.00 per head for each one for insurance. Based on published figures this would raise more money in the course of a year than does the present system!

Since SCCA wants the insurance money *before* an event is held, tickets could be furnished from Denver, printed specifically for each event (after all, they have to be printed somewhere!) and be sold to the Region for the cost of printing plus the \$1.00 insurance fee for each one, regardless of the actual admission price printed on the ticket. (Yes, \$1.00 for the free passes, too!) As is the practice now, refunds for excess insurance paid for initially would be obtained by returning the unused tickets to Denver. Can you pick any flaws in that?

The point of all this is, of course, that there would be no need for "non-spectator" events, conducted solely at the expense of those participating in it. Some forms of skullduggery (such as "Guest Passes") are now tolerated by SCCA, so that a few non-members can attend a "non-spectator" event, but such events must be kept secret, with no advertising, no news announcements, no indication at all to the general public that a race meet is going to be held.

Any event could be announced to the public under this proposed system, since each spectator would be paying for his share of the insurance. A regional with 500 participants (drivers, pit crews, workers) and even 200 spectators would pay only \$700 for insurance, and would make a profit of \$200 on the spectators (at a \$2.00 admission charge). A professional race, with 25,000 spectators (at \$6 to \$20 a head) plus the workers and participants, would pay nearly \$30,000 for insurance—and why not?

Doesn't it seem reasonable to assume that the risks are greater for a crowd of 25,000 people and 200 mile-an-hour cars than for 1,000 people at a Regional? Isn't the professional program supposed to be benefitting club racing in some obscure way? What better contribution could it make than to pay its fair share of the insurance costs?

Tracy Bird finally conceded, before our

GYPPED?

We frequently get mail, including checks, for which no address, or an improper address, is included. We have VeeLines returned after several previous issues have apparently been delivered. If you hear of anyone who "never heard anything back from FVI", please pass him this word, and suggest he try again.

correspondence was terminated, that this system would work, "provided the SCCA and Lloyds could be persuaded to adopt it," but he made it pretty clear that he wasn't about to try to persuade them. In fact, his arguments against it were on a par with the usual arguments against weight with driver, use of oil filters on Vees, etc.

It **WOULD** work—if SCCA and Lloyds could be persuaded to adopt it! *Every* SCCA race could be a "spectator" event, and could make a profit on each spectator. Races could be openly advertised, instead of being held in secret like clandestine cock fights, with the result that many additional members and participants would be attracted. Entry fees could be drastically reduced, or in some cases even eliminated!

The American Road Race of Champions is now recognized by most sports writers as one of the biggest and best racing events of the year. Even though it is pretty much dominated by professionals, they got there through the route of "National" races, each of which was conducted by one or more Regions. Those drivers got their starts in Regional Driver Schools, and in Regional Races.

It's no secret anywhere that many of those Regions are now in grave difficulty due to the ever spiraling costs of Regional racing. (Our Northwest Region is seriously considering abandoning its racing program entirely this year!) The trend is recognized, but apparently it is accepted as inevitable, since there seems to be little or no concern about it above Region level. This may not be the *best* solution for the problem, but as far as I know, it is at this time the *only* one which has been offered.

The point is, of course, that if anything is to be done about it, it will have to originate at the grass-roots level. Denver's only contribution is to explain that the cost of racing is high because insurance costs are high, and nothing can be done about it. Something *can* be done about it, but it will have to start with individuals, like you, and you, and you! Go to your Regional meetings and get your Regional officials worked up! Get them to get in touch with other Regions, and get your Division interested in a solution. Get your Area Governors to meetings and put it on their backs. If everyone simply accepts Denver's sympathetic explanation of why nothing can be done to save Club racing, nothing *will* be done, and you can use your Vee for autocrosses and hill-climbs!

MEMBERS' SOAPBOX

"Dear Don—Do you have a past issue of the VeeLine covering the task of removing the front lower torsion bar and installing a stabilizer bar, in detail? I have replaced my slightly bent front end with a fresh stock one and am at loss as to how this is done.

Dick Wine, Richland Heights, Ohio"

We've had a couple of articles on front end work—locking the plastic bushings in place, and changing front camber, and there was one on making a stabilizer bar, but I don't believe we ever started from scratch on the subject before.

It's really very simple—probably one of the simplest jobs you'll run across, once you've tried it. First, remove the entire hub-brake-steering assembly. The wheel itself will be in the way, but once it is off all you do is remove the locking bolts entirely from both torsion arms (they are the arms which extend to the rear from each torsion bar) where they clamp the link pins in place. (Those are the two pins with flats on the inner ends for a wrench, which support the "link" in which the king pin is located.) Drive these pins out, alternating between them so you don't bind them up, and the whole assembly is free. You don't even have to disconnect the brake line or the tie rod—just swing it back out of the way.

Next, remove the Allen-head setscrew in one (only) of the torsion arms you wish to change, and the one in the middle of the tube. Using a heavy hammer and light strokes, drive the loosened torsion arm out of the tube. That setscrew is the only thing which has been keeping it from coming out by itself. When it's off, go to the other side and do the same with the other arm (with the screw still in place) and the torsion bar will come out with it. Then remove the setscrew and drive the bar out of the arm with a punch.

You'll find that the bar is an assembly of small strips of spring steel, probably all wrapped in gobs of gooey grease. The ends of the bars have to be welded together if you ever want to use it again, so wire the pieces together in their original order, just in case, before removing it.

If you're weight conscious, you may be able to save several pounds just by swabbing out the excess grease which has collected over the years. This is so simple

What's Next?

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Just for openers, there's a $\text{\$}$ Sedan racer in Area 5 who feels strongly enough on the subject to take on the "system". He's had the same kind of patronizing no-logic treatment that we've had and has decided to do something about it. You people who live in Area Five (that's everything in the Central Division west of Chicago, plus the Des Moines Valley Region, and minus Detroit) let's hear it for BRUCE NESBITT FOR GOVERNOR! \square

you might even want to clean out the other tube, too.

While you have the tubes open, check those plastic bushings (about 6" in from the end of the tube) for wear and for location. Slip the torsion arm back in place and try to wobble it around. If there is appreciable slop, it might be a good idea to replace the bushings. This is a bit of a job, since the outer needle bearing will also have to be replaced. This requires some special tools, in order to avoid damage to the bearing, so I'd suggest seeing your friendly VW dealer. If he's really friendly you might be able to borrow or rent the tools for a weekend, or if not, it might pay you to have him do the job.

If the bushings are reasonably tight, check them for location. They are supposed to bear fully on the inner end of the torsion arm, but they have been known to slip farther into the tube, so they don't support it at all, especially if there has been welding on the tube close to their location. Measure with a tape the distance from the outer end of the arm to the point where the bushing should be, and then measure in the tube to make sure it is actually at the proper point, making allowance for the thickness of the rubber seals which were at the ends of the tube. If the bushings are in the proper place, use a piece of wood for a punch, tap very lightly, and see if they move easily or are firmly in place. If they are tight, forget them.

If they move easily, or are already displaced, get them back in their proper place. (It may require a long rod or a thin stick of wood to drive them back from the opposite side.)

By measuring, find the point on the outside of the tube where the bushing is located and drill a 1/8" hole through the tube and bushing. Insert a #6 sheet metal screw, 1/4" long, in the hole for a setscrew. It will be long enough to secure the bushing, but not long enough to interfere when the torsion arm is replaced.

If you're using your previous stabilizer bar, you will have the spacer washers too, no doubt, which replace the rubber seals. If not, you'll have to get some made. With the original torsion bar, the setscrews in the arms and the one in the middle of the tube secured the arms and bar against moving endways, and the rubber seal was just that. The stabilizer bar, however, is free to move endways, so the seals must be replaced with metal washers in order to prevent end play. The possibilities here for making changes in the camber setting have been discussed in a previous issue.

From this point on, it's just a case of reversing the tear-down procedure. Make sure that the spacer washers do their job, and don't allow a lot of end play. A sixteenth of an inch would be a lot, and none at all is OK, as long as the arms move freely. (If you have too much, turn the bar over so that a new flat is exposed, and

WHAT'S NEWS?

By the time you read this it's 99% certain that the Board of Governors will have made two decisions regarding Formula Vee rules which you don't know about as this is being written. First, it seems they did request the Competition Board to reconsider the fan-belt rule, and the Competition Board did, and they decided they were right the first time and sent it back to the Governors with that recommendation, which the Governors will accept as final.

Second, the original recommendation on cams was to require a plus-or-minus-one-degree tolerance from the stock location for cam timing. However, Frank Schultheis said, "No way! Even stock engines have more tolerance than that—as much as three degrees retard is possible with selected components, and it's impossible to determine whether the components have been selected or prepared." So rather than restrict retarded cams to those who could come up with the right assortment of stock parts (or reasonable facsimiles thereof) the new rule will permit "any" camshaft timing, by any means.

Watch it! That's camshaft timing—not cam timing. The stock cam profile will still be required ("D" cam shape) but the entire camshaft may legally be retarded—or advanced, if you like that better.

We've mentioned here before some of the devious methods for accomplishing retarded cam timing—mostly illegal, but some, as Frank says, are either legal or impossible to detect. The previously legal method was to take advantage of the maximum crankshaft and camshaft endplay. This allowed the cam gear to ride farther back on the crankshaft gear, and the slant of the teeth changed the timing somewhat. In addition, the snap ring holding the gears on the crankshaft could be thinned a little bit, as could the spacer between them, and the gears could be forced, in a press or with a puller, slightly farther toward the end of the crankshaft, inducing a little more "retard".

Now you, too, can have a retarded camshaft, without going through all that

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drill new "dimples" for the setscrews, closer together.) The same applies to the link pins. You will note a spiral groove on each pin, through which the locking bolt passes. When the bolt is in place, and the pin is turned, the groove acts as a "thread" so the end play can be taken out of the pin. Turn the pin clockwise as far as possible, and then back it off just enough to prevent any binding without permitting any end play.

The final job is checking your toe-in, since any difference at all in length between the original torsion bar and the stabilizer bar you are installing will show up as an alteration of the toe-in setting.

THEY SAY IT CAN BE DONE!

Last month we heard from a couple of members who had fried their engines experimenting with no-belt cooling. This month we have a couple of rebuttals.

First, John and Jinny Morris (our volunteer computer ballot counters) are really getting back into Formula Vee after a long dry spell—apparently they're trying to make up for the lost time!

John says the main problem they have had with their setup, so far, is getting the engine to run warm enough, though they haven't had a chance to try it in really hot weather yet. Their system starts with a sheet aluminum "funnel" fitted to the space between the roll bar and the body. At the back end, by means of two slightly modified 6" stove-pipe elbows, it makes a U-turn into the fan inlet. The elbows have to be shortened a bit to cut down on the height, and the lower one is trimmed off on an angle, and has a sheet metal transition piece pop-riveted to it to fit the fan inlet. The lower elbow is mounted to the frame of the car, the upper one is a slip fit on the lower one and is riveted to the aluminum funnel, and the whole thing is held in place by the roll bar and a single Dzus fastener to the frame right behind the driver's head. The carburetor horn also extends into the funnel for a ram-air cold air box effect.

They use a loose greased belt, and have seen a maximum of 190 degrees, when the belt was thrown off the pulleys. This seems to be an inherent problem with loose greased belts. If they're loose enough to be effective, they're too loose to stay on the pulleys. However it seems that everyone feels the need for at least some connection between the engine and the fan.

Well, not everybody—Harvey Templeton (who else!) is strictly a no-belt man, and some of his observations make you wonder about all the people who are having problems! He too, has to modify his system to adapt to weather conditions, in order to maintain a high enough temperature for efficient operation!

He starts with two ducts, one on each side, mounted far enough out from the body to avoid turbulence — about 3½

inches, he says. The ducts are smaller at the inlet than they are from there back. Harvey says the principle is that you transform the velocity of the air into pressure by enlarging the ducts—just the opposite of the funnel theory. Where the ducts come together at the fan housing baffles direct the flow into the fan in such a manner that the air has a spinning motion such as the fan would naturally impart to it. This, he says, diverts the air to the cylinder heads more equally than just a straight flow into the fan.

He also uses the suction effect of the air under the car to pull the air through the engine. The cylinders lay in fitted shrouds attached to the frame, and open to the rear so as to give a venturi effect. He uses the standard baffle between and below the cylinders. The area of these exit ducts should be at least as great as that of the inlet ones.

He has to use funnel shaped inserts in the 3½" ducts, he says, in order to get the temperature up to the desired 200-210 degrees. They're in various sizes, to suit weather conditions. He's had no problems with overheating on pace laps, but he doesn't recommend warming up the engine on the pre-grid—with no cooling air the oil temperature will lag so far behind the head temperature that it's no indicator at all of how warm the engine really is.

ONE LAST WORD ON INSURANCE

While the Northwest Region is seriously considering abandoning racing, the rival organization (International Conference of Sports Car Clubs) is scheduling 14 races and 7 driver schools, with half of the events on the same tracks used by SCCA. Detractors explain this success as due to the fact that the Conference entry fees are lower because Conference does not offer equal insurance coverage.

This could be true, but it could be asked, "Is Conference coverage insufficient, or is SCCA coverage excessive?" Do you have all the life insurance you "need"? Why not? If your employer decided that you needed \$100,000 worth of life insurance, and suggested deducting the premiums from your pay check, what would you say?

UNCLASSIFIED ADS

FOR SALE: '72 "Jiben" Vee, mint condition, two-tone metalflake green. All suspension parts magnafluxed. Fits 6'2" driver. Transporter 3rd. Spare tires and engine parts. \$1250 without engine, \$1995 with 52 h.p. engine. New tilt-bed trailer, \$295. Al Arbaugh, 40 N. Portage Path, Akron, Ohio 44303. Ph. (216) 379-4914 days.

FOR SALE: Autodynamics MK 5. SO PAC champ 1972. 12 tires and wheels, many spares, trailer, \$2300. Ernie Rolston, 1607 W. Dell Circle, Mesa, Ariz. 85201. (602) 969-3746.

FOR SALE: Zink, with latest heads & exhaust. 8 mounted tires, many spares. Custom trailer available. Bob Rudko, 4 Short Road, Holliston, Mass. 01746. (617) 429-4082.

FOR SALE: Tire bargains! New, unmounted Goodyears — two 5.00/675-15, four 4.50/600-15W. Used mounted Goodyears—four 4.50/600-15, two 4.50/600-15W. John B. Haydon, 317 E. Acacia Rd., Milwaukee, Wis. 53217 (414) 352-1669.

What's New?

(Continued from Preceding Page)

subterfuge. The simplest method would be to simply file the "pushing" side of the Woodruff key ("half-moon key") in the crankshaft. Taking off about 1/32" (0.037" if you're fussy) will give you 3 degrees of retard from the original location if you make sure the gear is turned as far as possible toward the filed side of the key.

The catch, of course, is where was the original location in relation to the stock specs? If you're going to mess around with this, you had better do it right, and get yourself a degree wheel (or make the one described in an earlier issue) and a dial indicator, and a copy of Frank's "Scrutineer's Handbook for Formula Vee" (#97 VeeLine) and have at it. About 0.012" off the key for each degree of retard, and you want about 3 degrees from the stock location. (File only the part that sticks up out of the shaft, of course—not the entire face of the key!)



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