



# VEE LINE

NUMBER 76

JANUARY 1971

## DIRECTOR'S CORNER

This seems to be the time of year when I habitually apologize for the lateness of the VeeLine, promise that you will get twelve issues for your year's membership regardless, remind you that your renewals are due on the anniversary of your first joining—not the first of the year, and thank the senders of all the complimentary comments and season's greetings. This year is no exception—consider those things repeated again, please.

If all goes as expected, you found a copy of "All About Formula Vee, 1971" along with this. There's nothing special about the filler material, but you really should review the rules at least once a year—even the sections you think you know by heart.

Will try to get the February issue out in a couple of weeks, somewhere near to our irregular schedule. After that, anything can happen! Our first race here in the Northwest is April 3-4, and the only progress we've made on Petunia's annual remodeling is to get her up on sawhorses and get the wheels and brake drums off!

## QUERY

When I worked at a Titan missile installation a number of years ago, there was a good deal of Teflon sheet, about one-eighth inch thick, used for gaskets in the liquid oxygen area. If I'd known then what I know now—about Formula Vee—I'd have liberated enough of it for a pair or two of lifetime valve cover gaskets. Anyone know where the stuff can be obtained now?

## FROM WESTPORT (WASH.)

Had a call from Jerry Anderson, of Westport (Wash.—not Conn.) the other night. He had a couple of items which should be of interest to many of you.

He had just bought a set of the 1300 slotted wheels for his car (legal for this year) and found that within the accuracy of his bathroom scales they weighed exactly the same as his old wheels. Joe Hoppen (Special Vehicles Mgr. for VW of America) claims that there is some variation in the weight of VW wheels and that generally the slotted ones are heavier than the older type so, if you're interested in performance more than appearance, you might want to take your scales along to your dealer and try before you buy. Some of the top drivers are said to go to great lengths to find the lightest available wheels in order to reduce unsprung weight.

Jerry is one of those fortunate individuals with two Zink engines. Last Fall, after some waiting, he received his second engine back from the Zink plant. He (and all his competitors) agreed that it had been worth waiting for! After hearing of the hassle at the ARRC over the illegal carburetors, he checked his and found that it, too, had the vent tube pushed back into the float bowl. If you have a recent Zink rebuild, you might want to check yours, too. There was no question at Atlanta as to its illegality—the protest was against allowing the race results to stand despite the

illegality. How much difference would this modification make? Very little, probably.

## DID WE START SOMETHING?

Did you see that the International Sporting Commission (CSI), which is the "Competition Board" of FIA, has announced that as of April 1 all single seater formula cars must be fitted with a "single red tail light"? This applies only to cars taking part in FIA-sanctioned events, of course, but that would include the international Vee races at Daytona. "Tail light" wasn't defined—it's not clear whether a steady light (like for showing a car's location on a rain-drenched track) or a brake light is meant.

At the same time, use of "6-point safety harness" will become mandatory. Again, no definition in the release. Anyone know what the six points are?

Even though we got a 72% "No" vote on the brake light, it's a good bet that they'll be required, possibly for next year, along with the anti-submarining harness.

## HOUSEHOLD HINT

Did you ever find that you couldn't get the crankcase halves together because the bearings weren't all seated properly on their dowel pins? Next time, set each bearing in its respective seat (before putting them on the crank) and make a scratch mark at the face of the crankcase. Then, when you set the crank assembly in place, just rotate each bearing (with an ice pick or knife point) until the scratches are lined up with the case and the shaft will drop into place. For a positive check (suggested by Paul Tillotson of Genoa, Ohio) set the top half of the #2 bearing on the crank. If it can be rocked from side to side appreciably, one or more bearings must be shifted lengthwise until they set down over the dowel. If it fits snugly (or very nearly), everything's go.

## MEMBERS' SOAPBOX

Dear Don—Over the years you have campaigned for and against many rules governing Vee racing. I believe there is an item that has gone unnoticed—namely, the camshaft. You mentioned the "B" cam. As I recall, you said it was the same as the 3/4 race cam in your Ghia. The problem is, if only a few cars are equipped with this cam, how can the rest of us compete?

Chuck Schnepf, Tiffin, Ohio

*Cams certainly haven't been ignored, Chuck—not in the VeeLine, anyhow. There have been numerous attempts, via our ballot, to get cam specs included in the rules, but so far all we have had is promises. It seems likely now that the specs arrived at by Frank Schultheis (with some assistance from FVI) will be adopted by local scrutineers, at least, and eventually by SCCA if there is enough pressure in that direction. I doubt that there will be much resistance—the lack of action in the past has been, no doubt, due to lack of information on which to base such specs. Now it is available.*

*As to the "B" cam, it has the same duration and overlap as the "C" ("D" in the parts book), but has about 0.030" more lift. According to the major engine builders this is of no advantage, and actually is of some detriment at high rpm. They all use new "C" cams, they say.*

Dear Don—I am writing to you in hope that through Formula Vee International something can be done to help the family of one of our fellow members who died in October. Dave Sullivan was attending his first driver's school on Oct. 10 when, after several laps, his Vee left the track and hit a tree. As a result, Dave was rushed to a hospital in critical condition and remained in intensive care until his death on Oct. 28. He left his wife and five children.

Dave's family is in need of financial aid. Contributions can be made to the David Sullivan Fund, Manchester Methodist Church, 129 Woods Mill Road, Manchester, Mo. 63011.

Don, I don't know if you can help with this, but I wouldn't feel I had done all I could without making an appeal to this organization.

John F. Wien, Ballwin, Mo.

## PROGRESS!

As was mentioned a couple of months ago, Formula Ford has made a remarkable increase in the past year, comparable to the first year or so of Formula Vee. In fact, in one department it has passed Formula Vee already! In one recent issue of *Autoweek* there were 11 used Fords for sale, as compared to 8 Vees. In another issue they were even farther ahead—16 Fords to 8 Vees.

## ANNUAL LECTURE

During the Fall and Winter months a good many of the ads for used Vees are accompanied by a plaintive note to the effect that the owner is giving up Vee racing because he "just can't keep up with the cheaters." That's rather sad, really, especially when the writer is a relative newcomer to Vee racing. Certainly there are differences in engines (legal ones, that is), but Formula Vee is still a driver's class, and any newcomer who thinks cheating is keeping him from getting the checkered flag just isn't facing the facts of life.

It's been mentioned here before, but will obviously bear repeating—"Don't worry about cheaters until you are getting the very utmost out of your car." That's an oversimplification, of course—cheaters should be worried about at any time—but the basic point is valid. Certainly there has been cheating. A number of methods have been exposed here, resulting either in rule changes to make it legal (where enforcement is impractical) or in closer scrutinizing in other instances. There will, no doubt, continue to be cheating, but it probably isn't nearly as prevalent or as effective as it was several years ago. Have you heard of anyone running 1300 heads and manifolds lately?

In most of the racing classes it's fairly easy to pick out mediocre drivers who are running ahead purely because of a faster car, and others who are driving beautifully but just don't have equal equipment. In Formula Vee, however, you never see an inept driver in the front rank, and very rarely a good driver in the rear. Certainly there are differences in the cars, but a good car won't compensate for poor driving. That's why novices have frequently been advised here to start with a used car, and a good stock engine, at least for their first season. They can learn just as much, just as fast, with this equipment; and they will have a perfectly good excuse for running in the back of the pack. But how do you suppose they feel if they start with a new factory-built car, with a professionally prepared engine, and still get passed by Formcars?

This isn't slanted entirely toward novices by any means. Unless you happen to be at least your Regional Champ, how do you feel? Is it your car that won't keep up with the leader—or do you perhaps still have something to learn? How about taking this computer-prepared, educator-approved Self Evaluating Driver Test to see if you're really as good as you think you are?

Ready? Go! (No time limit.)

- A. Do you know your shift points? (Do you know where, on your tach, you should shift from third to fourth and vice versa? Do you observe them?)
- B. Are you sure you use the proper gear for each corner? (Do you perhaps take one at 5500 in second when you'd save time by staying in third at 3200? Or lug through it in fourth at 3000 when you should be in third at 4100?)
- C. Do you know the exact top speed at which you can enter each corner on your regular courses?
- D. Do you know the last possible point for each one at which you can brake in order to reduce to that speed?
- E. Assuming (in all these questions) that

you're unhampered by traffic, do you always "clip the apex" of each corner within a foot or less, and at the same point?

- F. Do you start each turn at the outside of the corner, within a foot of the edge?
- G. Do you come out of each corner at the outside, within two feet of the edge?
- H. Do you *have* to use all that track coming out? (If you could hold closer to the inside, you could be going faster.)
- I. Are you always aware of cars behind you which may attempt to pass?
- J. Do you know how to pass from a draft?
- K. Are you always sure there's room when you pass? (Or are there self-inflicted battle scars on your car?)
- L. Are you aware of at least the most obvious driving habits of your customary competitors?
- M. Are you sure you would be out in front if you had a stronger engine?

Give yourself 7 points for "yes," 5 for "usually," and 2 for "occasionally," and don't tell anyone your score. Just write it down somewhere and then go over this again a year from now and see if you've learned anything.

OK, so much for your driving. Now, how about your car? We'll skip the obvious things you could do with money, like flow-tested heads, dyno-tuned exhausts, etc., and mention only simple things you can do for less than ten bucks:

- A. Are you using a light weight oil in your transmission?
- B. Do you have a ram-tube, or other cold air supply, to your carburetor?
- C. Do you actually know, from experimenting, what your best tire pressures are for each track on which you run? (Or do you just ask your competitors what they're using?)
- D. If you're not running a dyno-tuned engine (and perhaps even if you are), have you tried jets smaller and larger than those you're using, to make *sure* what's best?
- E. Same for ignition advance—have you tried other settings, under actual track conditions?
- F. Have you tried various suspension adjustments to determine the best combinations?
- G. Are your brakes adjusted so that the front wheels slide just before the rear ones? Do you change tires for wet tracks?
- H. Do you run a loose fan-belt or otherwise restrict the cooling air flow to maintain your engine temperature at around 220 degrees?
- I. Are your tie-rods located so that there is a minimum of toe-in change under braking conditions?
- J. Is your toe-in correct for both front and rear?
- K. Is your car as near to the minimum weight as you can get it?
- L. Do you start a race with only the amount of fuel you will actually need, plus a small safety margin?
- M. Is your shift linkage adjusted so that you never lose time by missing a shift?
- N. Is your throttle linkage adjusted so that the butterfly is perfectly vertical at maximum pedal travel?
- O. Is your manifold tight—and flat—on the cylinder heads?
- P. Are your front wheel bearings as loose as they can be without actual play?
- Q. Is your compression reading above 100psi and reasonably equal on all cylinders?

R. Are your wheels balanced, statically at least?

Give yourself six points for each "yes" in this group, add your two scores and divide by two, and see if the results don't roughly correspond to your *average* finishing position last season. (Rough ragged driving may gain you a few positions in one race, but counting the DNF's, it won't help your average much.)

## FV AT DAYTONA

John Finger flouted Vee tradition at the Brundage Trophy Formula Vee Race at Daytona—came in all alone, more than 6 seconds ahead of the following pack. The battle for second place was where the action was, with Ray Caldwell (in a new D-13) finally getting it, followed by Harvey Templeton III in third. Harvey never got into second spot, but finished ahead of three other drivers who did. The ninth place car, Fleet Underwood, was only another six seconds behind Caldwell.

Cars weren't weighed at tech inspection, but the scales were open at all times and all drivers were warned that the first ten cars would be checked after the race. Nevertheless, three of the first ten turned up underweight—one by twenty pounds. Again, there was no disqualification, but lots of grumbling.

## BACK TO ATLANTA

There have been numerous questions and comments on the fiasco at the ARRC, where the first three cars were found to be illegal, but were not disqualified. Evidently a number of such letters have been sent to SCCA too. Here's part of a typical one!

"... I need some enlightenment about SCCA's recent actions in regard to rules enforcement.... I have been invited to the ARRC on three occasions and have attended twice in the Formula Vee class.... As I am planning on competing at future ARRC's in this class, I need to know the answers to some questions before I tow a race car to Atlanta from California. These answers will help me in preparing my race car for future SCCA racing. If the two illegal cars at this year's ARRC are not disqualified, did SCCA set a precedent that violators will be fined \$100 and allowed to keep their positions? If this is the case, will offenses be treated equally, or will some be more expensive than others? Will the same type of rules enforcement apply at Regionals and Nationals? An answer would be appreciated, as it would help me finalize my race strategy for 1971-72."

Jim Herlinger, Palo Alto, Cal.

Here's the answer he got from SCCA Director of Club Racing, Jim Patterson:

"Rule violations do *not* necessarily result in disqualification. (See GCR 7.1 & 7.3) For example, should a Vee be disqualified for having a red fan? Only *black* fans are legal.

"My advice would be to prepare a legal car for the '71 season. Winners *have* been disqualified at past ARRC's—one 3rd place A-Sedan driver lost his license for 6 months for a relatively minor infraction.

"Anyway—Terry Gough has appealed the Formula Vee penalties levied at Atlanta. We'll see what happens."

*So there! Unless you have good reason to think that you could get away with rule bending—if you got caught—you'd better build a*

legal car. Even a minor infraction could (not "would") get you disqualified, or even worse! SCCA is a "member oriented" organization, but some members are "oriented" better than others, so evaluate your own status as you decide how to go to the ARRC.

No word here yet regarding the appeal, but I imagine Jim Patterson's first sentence will just about sum it up. Sec. 7.1 says, in effect, that "any action having as its objective participation of an automobile known to be ineligible" (among other things) shall "be deemed a breach of the GCR." This could conceivably involve the builder and pit crew as well as the entrant. However, Sec. 7.2 says, in effect, that penalties "may" (not "shall") be assessed for any violation of the GCR. Sec. 7.3 spells out the penalties which may be assessed, including a fine of not more than \$100.

I would imagine that the Court of Appeals will either (a) refuse to hear the appeal, which it is empowered to do, or (b) find that the Stewards acted within the letter of the GCR (if not the spirit), which they did. Nothing in the rules says they have to disqualify an illegal car. The Court is actually empowered to "decide that the penalty... may be waived, mitigated, increased, or a fresh penalty imposed..." but unless there is some question regarding an interpretation of a rule, it seldom, if ever, reverses or modifies the original decision.

### MORE ON MANIFOLDS

Had quite a discussion on manifolds with Ed Zink while at Atlanta. In an interview with him printed some time ago on these pages, you may remember, he said that regardless of how carefully his engines were put together—no matter how parts were interchanged—he still came up with some engines which had more power than others. Since then, he said, he has found the answer. No one had ever considered swapping manifolds, and that was the key item!

When he started flow-testing heads, it was simple to check manifolds, too, and he found it was well worth the effort. It's amazing, he said, how much difference there may be between seemingly identical manifolds—not only in overall flow efficiency, but also in the efficiency of one side as compared to the other on the same manifold. Even after a particularly bad one is cut apart, there is no discernable reason for its deficiency, but his tests leave no room for doubt, that there are appreciable differences.

As a result of his testing program, he now tests new manifolds before accepting them, keeping, as a rule, the better 50% of any lot. Not that the rest are all that bad—they may very well be as good as or better than the one on your car, but there's no point in using them when he knows he can get better ones.

He freely admitted that he had tried acid etching, stretching, fairing the center joint and every other trick he heard of as well as some he dreamed up himself, just to see what he was up against in building a competitive legal engine. He said that he was able, by the selection process, to provide stock manifolds equal to any he had been able to construct himself. Sounds somewhat improbable, but he swears it's so, and when you consider the fact that identical manifolds are *not* identical, it gets at least a little easier to accept.

So—if you have access to flow meters and

a bountiful supply of manifolds from which to choose, you might want to go that route, rather than the do-it-yourself manifold-modifying one. If you're dead set on taking advantage of the new rules, you'll find some directions for it on this page.

### HERE IT IS!

*(This was written by Walter Stiedieck, of Port Matilda, Pa. He's uniquely qualified to do a piece like this—he's a research chemist and also a Vee owner—two years—with five years of stock-car racing before that.)*

The outfit I work for produces etching equipment for "chemical machining" of metals. They have kept me busy the last half-dozen years on etchant research. So I offer the following for what it is worth.

The etching of metals is a helluvan old art, so right off you know it's going to be confusing to find out what's going on. (Yes, you can spend 6 years at it and still be confused!)

The etchant to use is Ferric Chloride. Photoengravers (newspaper and magazine printing-plate makers) call the stuff "iron chloride" or just plain "arn." If you live handy to a photoengraving shop, walk in and say, "One gallon of 42-degree iron chloride, without copper, please." You'll get an aqueous solution of Ferric Chloride which has a specific gravity of 42° on a Baume hydrometer. If that fails, order "one cube of 42° RotoIron" from Phillip A. Hunt Chemical Co., Palisades Park, N.J. Cost is about \$8.00 for 5 gallons—enough to go through a lot of manifolds.

Get the inside of the manifold CLEAN! Very important! I used a commercial rust, carbon, and paint stripper called "Oakite LRS" from Oakite Chemical Co., New York, but plain old concentrated Drain-O will clean just about as well. Plug up the flange ends with a #4 rubber stopper and pour in the Drain-O. (Be careful with that stuff—they mean what they say on the can!) Heat the manifold until the solution starts to boil and then let it cool overnight. Wash with water, inspect, and get ready to etch.

Pour in the Ferric at room temperature. The etch rate will be about .0001" per minute, or less, so you don't have to worry about things happening too quickly. Increasing the temperature will increase the rate (an increase of 100° will approximately double the rate). About every half hour or so it's a good idea to change the etchant, since it gets tired and slow after a while.

OK, now the big question—"How Long?????" By now, anyone who has tried it knows that the wall thickness just ain't uniform. The outside radii of those bends are thinner because they got stretched in the bending process, right? I've got the holes to prove it! About the best method I can devise (experimenting on my overetched manifold) is to tap the tubing with a teaspoon and listen for anything from a ring down to a dull thud—which means, "STOP—you're almost through!" When you reach that point in the bends, if you want to go further you might try coating the inside of the bend areas with nail polish to mask them from further etching. After the job is finished, remove it with acetone.

I cut apart my overetched manifold to see what the Tee-joint looked like. The wall thickness was around .005" in most places, with the joint quite burr-free and smooth. In

fact, the original oval cut in the small tube had grown considerably and left a nice transition between the big tube and the smaller one.

Ferric will attack aluminum. There will be evolution of gas so, if you etch through into the aluminum heat exchanger, you'll know it right away by the bubbling at the surface.

As mentioned at the beginning, it is important to have fresh "arn." If there is any copper in the solution, it will plate out onto the steel as etching takes place and make a grand mess.

I have been working with a chemical polishing expert with the hope of coming up with a magic elixir that will put a mirror finish on the inside of the manifold. The chap tried several solutions which work well on certain mild steels but had no luck with the manifold material. Too bad! It is possible to electro-polish the material, but the drawback is that you have to use Perchloric Acid in the electrolyte. That stuff can blow! What a pipe bomb!

Well, that's about it. If you have enough space in the VeeLine, some members may save themselves some hot, frothy, boiling disasters you get when you use the wrong "acid."

### MORE ON MANIFOLDS

How did you like Walt Striedieck's recipe for manifold etching? (If you haven't read it yet, skip this until you have.) It certainly answers most of the basic questions, doesn't it?

As far as we're concerned, if we get down to .005" at the tee before eating holes in the bends, that's pretty uniform wall thickness! We'll probably shoot for a nominal thickness of about .015" for Petunia—after all, that thing has to hang together for racing, and the way the rule reads I don't think you could hang stiffeners or braces on it.

Here's one possible method for estimating wall thickness. If you made the twenty-five-cent piston-and-rod-balancing scale described here, several years ago—and can still find it—set it up so you can hang the manifold on one end and a can of water on the other. Adjust the amount of water so as to just balance the manifold. Now, assuming that the manifold is actually the .040" (1mm) thick that it is supposed to be, decide how many thousandths you want to remove, and divide by two. That's how many ounces of water you want to remove from the can. In this range it won't matter whether you use weight or liquid-measure ounces. A pint (16 fl. oz.) or 16.6 av. oz. will equal .032" of metal removed, when the manifold just balances the can with that much water removed from the original amount.

If you have a really gung-ho source of supply, you might be able to walk in and buy a 61/64" steel ball for swaging out the bends and dents in the manifold as was mentioned a couple of months ago. This would be almost exactly the ID for .015" wall thickness. If you can't, try for a 15/16" ball, and use it as soon as the flange ends are enlarged enough to admit it, then finish etching afterward. If you can't find one of that size, I'll tell you what I'm gonna' do: I had to buy *sixty* of the darned things in order to get one—"they're not a stock item"—so I'll gladly sell 59 of them to the first who ask. A buck apiece, postpaid.

**SUPER VEE**

It has been suggested a couple of times that I'm an unenthusiastic supporter of Super Vee and, come to think of it, that's a pretty fair description. I'm a supporter, chiefly because it has taken off a lot of the pressure for updating Formula Vee into something else, but any enthusiasm I have is that of a spectator and owner of a couple of VWs. I guess I resent, somewhat, the attempt to trade on the success and popularity of Formula Vee by the use of the name to imply that there is some similarity between the two classes. Yes, they are both Formula cars, and both use VW components, period.

I'm happy for anyone who wants to graduate from Formula Vee to Super Vee, provided he knows what he is doing, but I feel that I should do what I can to keep him informed. This can only dictate that the negative, as well as the positive, aspects must be presented. OK?

OK, if you had built or bought a Super Vee last year, chances are you would now be faced with the decision of whether or not to buy—and develop—a new engine. An entirely different engine. You've heard that the VW 411 engine is legal for this year? Well, it's not all that simple, really. In the first place, you will most likely have to get one—unless you're racing only for fun. There's that much difference. Besides having a stiffer crankcase and heavier crank, it has a larger bore and shorter stroke (talk about oversquare!), which means it will rev higher without blowing, which means more usable horses.

In the second place, it isn't exactly the 914-4 engine, either. And again, it is. Actually, it is that engine, "detuned" to 1600cc (from 1700) by the use of smaller cylinders, or it is also the Model 127V Industrial engine.

VWA has already assisted manufacturers in making the change-over from Type 3 to Type 4 engines and also has aided drivers who were actually out campaigning their Type 3-powered Super Vees during the 1970 racing season. If you don't fit into either of those categories but have a Super Vee with a Type 3 engine and want to be wholly competitive in the class this year, you will be faced with the

problem of buying one of the new engines yourself (there certainly aren't many used ones around), probably complete with all the goodies, many of which you wouldn't use (carbs, manifold, generator, oil pump, tin-ware, etc.). Then you'd have to start all over, developing that powerplant into a racing engine. Of course, the manufacturers have that facing them, too, but it probably won't take them as long as it would you.

Then, (prediction) you'd have to spring for a special counterbalanced roller bearing crank, which will cost at least eleven dollars—maybe even more! Plus a Hewland gear box, of course. Which should take care of you for the balance of the season, and maybe even next year, if the rules stay the same. You have lots of time, and can afford it? Great! And the best of luck to you! You're Super Vee material! Otherwise, you'd better stick to Formula Vee. The time for "stuffing a 1600 engine in your Formcar" was *last Spring*.

**SV AT DAYTONA**

It took the Europeans three years to latch on to Formula Vee, but they caught on to Super Vee a lot faster. It wasn't an official class there until this year, but they obviously didn't spend last year just dreaming about it. There are probably more SV builders there, already, than we have, and they've obviously been busy!

For the first time since Bill Scott won at the Nurburgring in 1968, a furriner won an International (Super Vee) race. Erich Breinsberg (Austria) slingshotted Tom Davey on the last lap—after leading four laps and being in close contention the rest of the way. Third place went to Steve Pieper with Germany's Helmut Bross coming in fourth.

Probably due to the high speeds possible on the oval section at Daytona, half of the sixteen contenders finished. Two didn't get started, six dropped out along the way. Bill Scott had a particularly annoying weekend—after getting wiped out in the sixteen-car scramble in the Vee race on Saturday, he blew an engine in SV practice, and then lost his suspension on the 6th lap. (He did win his qualifying race in Formula Vee.)

**UNCLASSIFIED ADS**

FOR SALE: Late MK III Autodynamics, completely updated. New Goodyears, balanced engine, splitcase trans. Clean and well maintained. Garth D. Hickoff, 21 Walnut Lane, Montoursville, Pa. 17754 (717) 368-2820.

FOR SALE: '68 Autodynamics Nassau MK V. Blueprinted, Konis, Firestones, Z-bar, min. legal weight, excellent condition. With good trailer, \$995. Tom Wilber, 3028 Delano Place NE, Albuquerque, N.M. 87106 (505) 265-4069.

FOR SALE: Vee engine, dyno'd, legal, never raced. \$590 or best offer. Harriet Gittings, 37158 Blacow Rd., Fremont, Cal. 94536 (415) 793-2514.

FOR SALE: Autodynamics MK III. 4 Firestones, 4 Goodyears, custom trailer. Picture on request. Will sell complete, or take a partner. Dave Gordon, 3760 Bel Pre Road, Silver Spring, Md. 20906 (301) 871-1105.

FOR SALE: '68 Autodynamics MK V. Fully balanced & modified engine, suspended pedals, chrome suspension, new tires. B. J. Sweeney, 530 E. Hector St., Conshohocken, Pa. 19428 (215) 828-3521.

FOR SALE: Zink, immaculate. 2 races on new Goodyears, 1 on rebuilt engine. Too many spares to list. Car and spares, \$2000, Don Parker trailer, \$350. Both for \$2300. Herb Forrest, 100 Central Ave., Fort Lee, N.J. 07024 (201) 944-0356.

FOR SALE: (A) Autodynamics MK V body, \$150. (B) Fully prepared Vee engine, disassembled for inspection. As is, \$300, with new rings and bearings, \$375. Stan Czacki, 32 Thurston Ave., Trenton, N.J. 08618 (609) 882-4737.

**The VEE LINE of  
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