



VEE LINE

NUMBER 25

OCTOBER 1966

DIRECTOR'S CORNER

Well, the results of our balloting are in the mail to the officials of SCCA, and all we can do now is wait to see how they are received. Barring delays and mix-ups, I am told we should have the rules for 1967 in time for inclusion in the December VeeLine. In the meantime, you can see what we requested elsewhere in this issue.

By the time the polls had to be closed we had 176 ballots returned, which really is a pretty fair percentage, considering there was no really burning issue at stake. That figures out to about 68% (including those which arrived too late—70%) which is a darned good response in anybody's election! Evidently this organization is still composed of people who are really concerned about the future of Formula Vee. Checking back in issue #12, I see that last year we got a 65% return.

It appears also that last month's VeeLine was an anniversary issue—our second! It's customary to review the previous year at that time (which I missed) but a few comments may still be in order.

First, Formula Vee in general has, of course, continued its phenomenal growth during the past year. The original "boom" is probably over, but its progress has been steadily upward. Reports from Australia and South Africa indicate that there, too, the class is enthusiastically accepted (with much less opposition than it had here at first). There is no way of determining the number of cars now in existence; but judging from the reports from the manufacturers, there must be at least 1300, in this country alone.

Complaints of illegal cars have dropped off to practically zero, and in the few protest cases which have come to my attention, the cars were all found to be legal after all. It appears, then, that Col. George Smith's dream of a strictly limited class was soundly based, and that those who for four years have proclaimed "It will never work!" might as well face the facts.

Membership in this organization has increased in much greater proportion than has the number of cars—277 as this is written, and due to top 300 by the end of the year if the last couple of months is any indication. New members are coming more and more from those who have had cars for some time, but just haven't bothered to join, till now. Many of them have been recruited by present members.

Looking ahead, there seems to be only one real problem in sight at this time—with Vee entries already exceeding available grid spots at many races, continued growth could prove to be a mixed blessing. The GCR states that SCCA events must include *all the classes*, but it doesn't say they must include *all the cars*. Primarily it would appear that solutions for this problem should be sought on a local level where the problem exists, but this organization will be glad to give any possible assistance.

All in all, it's been another good year for Formula Vee!

CHECKPOINT

If your car has a hydraulically operated clutch, you can skip this and go on to the next item, but if it uses a cable, better stick around. If the cable is made up of parts of two VW cables fastened together with a clamp, pay attention!

A routine inspection on Petunia recently disclosed a broken wire in the clutch cable, where it runs over the pulley at the rear of the frame. Running a finger underneath the pulley produced a couple of other broken wires and a gashed finger. When the cable was loosened and removed from the pulley, a number of wires broken on the inside of the bend could be seen. And a straight pull on the cable, to test its strength, pulled it in two! It is a single strand, with the wires in several layers—each laid in the opposite twist to the layer below to minimize stretch and twist. In the VW it runs through guides which give it a slight curve, but it was never designed to run over a pulley.

Three-sixteenths aircraft cable makes a good replacement. It is stranded and made especially flexible to run over small pulleys. We were lucky enough to scrounge a used piece at the local airport. It was already fitted with a clevis on one end which fit the pedal lever exactly and a turnbuckle on the other which could have been used for the clutch adjustment if the cable had been 8 inches shorter. Instead, it was cut off and clamped with two small cable clamps to about a foot of the original cable—the part with the adjusting threads on it. U-bolt type cable clamps (1/8" size) work very nicely. Tighten one clamp till it will hold enough to operate the clutch, then put another one on as a safety factor.

For a "show" job, most airport shops can cut the cable to the right length and install fittings on it to suit—for a price.

Incidentally, those airport shops are quite likely to be a source for Dzus fasteners, Heim ball joints and aircraft-quality bolts and lock nuts.

ANOTHER BALLOT

We're a month later than last year in bringing up the election of officers, it appears, so let's be getting at it!

As was mentioned last year, the only real duty of the officers (which I sincerely hope they will be able to avoid) is to meet as a Board and select a new Director, should his replacement ever become necessary.

The few of you who were Charter Members of this organization 'way back when, will remember that under the original constitution all the business was transacted (?) by the officers, who had overlapping duties, couldn't act without co-ordination with the other officers, and were so widely separated that such co-ordination was impossible. As part of the reorganization two years ago it was agreed that a Director should be given the total responsibility for all phases of the business of the club, subject only to approval of the officers and removal by them, if, in their opinion, it appeared to be in the best interests of the members.

Your officers *could* become very important, very suddenly, should your Director sell out to the opposition, kick the bucket, or resign. So let's not take this election lightly.

Nominations are now open for President, Vice President and Executive Secretary. There are two requirements—they must be Active Members, (owners or part-owners of cars) and they must be willing to serve. That's all—except no two may reside in the same State. The President doesn't *have* to write magazine articles and conduct Vee Clinics, as does our present President, Whit Tharin, but it's a darned good idea!

I'm going to start the nominations with the present list of officers. Now let's have some nominations from the floor! (Volunteers are eagerly accepted, too.)

GAS TANK VENT

John Proctor, Rochester, Michigan, sends a note about venting gas tanks. This set-up has been roll-tested (involuntarily) and, with shoulder harness, allowed the driver to come through without a scratch, or a drop of gasoline spilled.

It's simple, really. A vent fitting is soldered into the top of the tank, and a flexible hose is run from this fitting, up along the under side of the roll-bar and down the other side, all the way to the bottom, extending through the belly pan. No matter what position the car assumes, no gas will be spilled, if a tight cap is used.

TORSION AND SWAY BARS

"Dear Don:

It looks like Vee has come of age here in the Mid-West. It's not uncommon to see twenty-five or thirty Vees come to the grid. Vee surely must be the largest class in SCCA.

Keep up the fine work with the VeeLine. Let's have more on the mechanical side. *Question:* does it make any difference whether the sway bar is incorporated in the upper or lower front axle tubes? Do you know of anyone who is manufacturing the stiffer front sway bar?

Baxter Rogers,
Indianapolis, Indiana"

Although SCCA hasn't yet compiled their table of "number of starts" for the various classes for 1966, I don't believe there is any question that FV is now at the top. There is a growing number of tracks at which Vee entries are being turned down because they can't all be included in one race (a problem which deserves and will get a separate discussion).

Yes, there is a difference between the upper and lower torsion bar settings. For the later models (equipped with eight leaves in the torsion bars) the center anchors are set at 49 degrees from horizontal (upper) and 51½ degrees (lower). Different angles were used on other models. However, it would probably not make enough difference to be noticed. In the later model, your car would set about ¼" higher using the lower torsion bar.

I don't know of anyone except the various car manufacturers who furnishes sway bars. I suggested to EMPI once that this might be one acceptable method "contributing" to FV, but haven't any indication that they took me seriously. If the sway bar section of the rules is revised back to include more than one bar, you can again use the original VW bar to supplement the one that came with the kit, or you can get even stiffer ones from EMPI (VW style).

If you want to make your own, it's not too difficult, though you'll probably have to have some outside help. To start, get a piece of "alloy steel" the proper length (chrome-moly, or chrome-vanadium, not high-carbon spring steel) and whatever diameter you think you'll need. I'd suggest 5/8" for a start. Then get a couple of pieces of 3/4" square keystick about an inch and a half long; have them centered in a lathe and drilled to fit your rod. Slip them on the rod, and have them welded at both ends with "low-hydrogen" welding rod, then have the welds "normalized". Heat to a dull red, well past the weld, with some heat, but not as much, applied further down the rod to prevent cooling too fast. Let it cool in the air (don't bury in sand or anything of that nature) for a certain degree of "heat treatment". Locate the setscrew holes from one of the center sections of the torsion bar you're replacing.

Now comes the work. The holes in the torsion arms are metric, which doesn't exactly equal 3/4", so you'll have to do some filing. Keep the file flat, and keep trying the rod in the square holes till you think it will go in with a little persuasion. It should be a drive fit so there will be no chance of its working back and forth in the hole, but not so tight, of course, that you can't get it out again.

If you aren't satisfied with its action, you can get this material larger or smaller in increments of 1/16th of an inch. So have an assortment! don

FROM THE SOUTH SEAS

"Dear Don:

Thank you for the application and All About FV. Also for the names and addresses of other New Zealanders who have made inquiries. I will get in touch with them. If necessary, I will form a Vee Association of New Zealand.

Race promoters here have agreed to run FV races if six cars turn up, and are quite happy for the cars to run as normal 1½ litre cars in the meantime. My car is coming along nicely. As it will probably be the first one running, I am taking care that it looks good, runs well, and sounds loud! The first impression is pretty important.

I have been in touch with the FV Association of South Australia, who are interested in our stumbling footsteps here. I will keep in contact with them, and will also keep you informed of the progress of FV in this country. Wish me luck!

Barry Munro,
Trentham, New Zealand"

FROM LYNX

"... I regret to say that I am no longer building complete Vee kits, because of previous commitments. I am, however, still selling Lynx bodies, and hope to get back into the full swing of things in the not-too-distant future.

Robert Riley,
Lynx Competition Cars"

BACKTRACKING

If you haven't yet tried that "hole" in the carburetor bowl, don't bother. Apparently it is not the answer. At the last two races we had cutting-out problems! Worse at the last race than at the one before. And after running all season with no sign of trouble.

Nothing was changed - we were running so well when the bearing burned out that we carefully removed the carb and distributor without disturbing the settings, and replaced them the same way, but something now is different! Please, you people who claim you have licked this problem - GIVE!

FROM EUROPE

"Dear Don:

Last weekend I attended the Grand Prix of Germany at the Nurburgring. This was the second year a preliminary FV race was run, and the results might interest VeeLine readers. This year's race was for three laps - total time about 32 minutes. The fastest lap over the 14.8 mile course was posted by an Austrian car - 10.22, for a surprising 82mph average. The fastest 1300 Vees are reaching top speeds around 120mph.

The disappointing thing about FV in Europe is the list of deviations from the U.S. rules. I'm afraid Formula Vee in Europe is going to get more and more expensive as time goes on. Almost all the front runners were using a four-into-one equal length exhaust system leading into a megaphone. Rear wheel spacers (between the rim center and the brake drum) were much in evidence, as were Porsche oil coolers and carb air horns.

Although the Belgian rules specify that an additional exterior front sway bar is permissible, the German rules are vague (or my German-English dictionary page-flipping is getting worse) on this point, and none of the cars present at Nurburgring were using them, so I suspect a local ruling was made to remove them. Most cars used a conventional rear sway bar, similar to the larger formula cars, and a few had nothing to limit camber. No flat camber compensators were used.

If the European type of Vee is getting a little more expensive, then the prizes are making the extra cash layout worthwhile. I doubt that this is typical of every large race, but last weekend first place netted a new 1300 VW sedan; second a new 1300 engine; and third a set of Dunlop racing tires mounted on VW wheels.

There are now 160 Vees registered in Germany, so the idea has caught on and the class is firmly established.

I'll be separated from the Army here in Germany shortly, and can begin work on my Vee in earnest. Keep up the good work on the VeeLine - it has been a great help, and I look forward to it every month.

Bill Martensen,
APO New York"

A more recent note says he's finished his Vee (an A-D with a 1300 engine).

Speaking of European Vees, a member from France says the megaphone exhaust system makes a Vee sound like a Formula Junior "at 7000 to 8000rpm". How does your Vee sound at that speed? I mean, how did it sound? don

The VEE LINE of
Formula Vee International

Don Cheesman, Director

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CARBURETOR TIP

The idling system in either of the Solex carbs is actually an entirely separate carburetion system, with its own air supply, "venturi," "main jet" and "throttle".

The "main jet" (actually called the "pilot jet") is fairly high on the carb body, and has a depression in the center and a screwdriver slot. It functions exactly like the main jet, admitting gasoline to the idling system through a very small hole in its tip.

The gas is admitted to a combination of drilled passages which induces a vacuum on the jet under idling conditions, and passes the mixture to the idling adjustment screw (on a level with the throttle). This screw acts as a throttle, regulating the amount of mixture admitted to the engine, unlike most carburetors in which this screw regulates either gas or air. The mixture is over-rich at this point, as it is further diluted with air passing the main butterfly. The richness of this mixture is determined by the "pilot jet," which can be obtained in several sizes.

This pilot jet can be the cause of some mysterious ailments. A very small particle of dirt can plug it, spoiling the idling, at least; and even more important, it can become loose in the body fairly easily. This admits enough extra gas to the engine to throw off the entire main adjustment. It can even work out of the carburetor entirely (yes it can!) which makes a slightly sick engine very sick. So check it once in a while, even if it is on the back of the carb, out of plain sight.

UNINTENTIONAL

Yes, Formula Vee was omitted from the line-up in the article about the American Road Race of Champions in "Sports Car" for October. But I wouldn't worry about it—check the schedule. They're expecting Vees, all right.

DANGEROUS?

There have been at least three reports this past season of cracked or broken front spindles. (Whit Tharin lost one at full bore in a turn!) Anyone have any comments? Is this a known hazard in VWs, or is it peculiar to Vees? Is it a result of previous pranging, or does it occur with no excuse or warning? Where do you look for a crack?

Unless there is some good explanation for these failures, we'd all better get Zy-Glo kits. And use them!

UNCLASSIFIED ADS

FOR SALE—Lotus-7, 1500 Cosworth engine, always out in front. \$2500. Might take a Vee as part payment. Bob Uhler, 229 Ada, Richland, Wash.

FOR SALE—Back issues of VeeLine (except #3), 25¢ each. Extra jacket patches, adhesive FVI emblems, 7" Class emblems, 50¢ each. FVI, Box 291, Ephrata, Wash. 98823.

GYMKHANA

"Dear Don—

Notice that my address has changed. We moved last week to a much larger home. Plus the garage is quite a bit larger—very important. We haven't been doing much on the Vee—just getting things sorted out and put away—but we will be going again before too long. Don White and Dick Garrecht have purchased their frame tubing, so we now have three cars under construction.

Want to thank you for coming down to our Gymkhana. Your car caused quite a lot of discussion. Very few of these people had ever seen a Formula Vee racing machine, and they could hardly believe that a puny little VW engine was turning the wheels...

Dave Wooton,
Wenatchee, Washington"

Oh Boy! I found that one thing Vees are no good for is Gymkhanas! In fact, that's where I found out what a Gymkhana is. That's where you dash among pylons in first or second gear (or reverse!) get out of the car to pick an object off a table, back in and fasten the seat belt, dash to some other point and put it on one of the pylons, and back up, all the way to the start. Or bust balloons with a pointed stick as you weave past them.

For dashing among the pylons, the Vee was tops—it really did make an impression, but the time lapses caused by getting in and out, compared to the times necessary for a Renault, or a TR-3, more than ate up any advantage in cornering. You'd be surprised, too, at how much your position in the middle of the car cuts down your reach, compared to reaching out the window of a small sedan, in events like taking a flag from one pylon and sticking it in another. Balloon-busting, without a co-pilot, is another prank Vees weren't designed for. It was fun, though—even if the elapsed times were unimpressive.

FROM BOBSY

"...I have observed from reading the newsletter that many members seem to be less than happy with the roll bars in their Vees, and are asking about improving the installation.

I have on hand a limited number of formed hoops which I will make available to members at cost (\$9.00). They are 1 1/4" OD by .090 wall mild steel tube, which exceeds the SCCA suggested minimum of 1" x .060". The hoop measures 19" across the base and is 28" high.

Now, I am sure not going to guarantee the things, but I do feel that, properly braced and installed, these will do the job if the need should arise. I have a few owners who will back me on this.

Have noticed that interest in new FV kits seems to be picking up, and as a result I am scheduled to do 20 before the end of the year.

Keep up the good work—Jerry Mong"

KEEPING TABS

From Bruce Redding, who has parlayed his driver training in a Vee into a "job" driving a Formula 3 Brabham in Europe next year:

"Dear Don—

Just thought I'd drop you a note to let you know that the Vee fields out here are fabulous. Went to the Reading, Pennsylvania Road Races (won combined Formula A and B classes both days) and have never seen so many Vees in my whole life. Like 35! Plus they even had to turn down some Vee entries, there were so many. You know, in Southern California 8 to 10 Vees was a good turnout. What a difference!

Am leaving for Europe in February. Don't forget to send those VeeLines!

Bruce Redding"

WRECKS

If you're an Associate Member shopping for the works for a Vee, or an Active Member in the market for a spare set of machinery, don't go to a wrecking yard looking for a wreck—go to your friendly insurance man. When he decides a wreck is a "total" he pays off the owner, which leaves the company in possession of the wreck. He then sells it, getting bids wherever he can, but usually from wrecking yards figuring on selling the parts for a profit. He'll take a bid from you, too, just as from anyone else. Let him know what you're looking for, and if you don't happen to get the first one, at least you'll get an idea of what they're selling for. So bid on another one.

CIPNIKTHINK

Competition Press claims no interference with the views of its columnists (especially if they are castigating FV) and perhaps it's true. Dennis Cipnik has devoted several columns to the big-bore Sports Racing picture in which he points out that, with the fastest cars being the most likely to blow, and with less than half of them finishing any given race, it's a bit presumptuous to rate a driver on the basis of his "luck" in the Can-Am Series. He advocates some restriction on engine size in order to keep the cars under control. He overlooks the point that engines, at least in any class in which unlimited modification is allowed, will be run at their limits (or beyond) regardless of size. However he does have a point—the situation is getting so ridiculous that the most avid columnists wouldn't even hazard a guess on the winner of the next race without hedging, "if he can finish".

This has nothing to do with FV, except that one of their anonymous editorial writers, arguing with his point of view, ended up with, "Artificial restrictions on performance belong to the WCTU. CIPNIKTHINK is the stuff Vees are made of." In case you've wondered, now you know. (I'm sending Mr. Cipnik an Honorary Membership in FVI.)

FORMULA VEE INTERNATIONAL RULES BALLOT

NOTE: Only underlined words are to be added or deleted.

%	YES	NO	%	4.1	DEFINITION
94	<u>165</u>	<u>7</u>	4		Add - ".....single-seat, open-wheel, <u>open-cockpit</u>"
92	<u>161</u>	<u>12</u>	7		Change - ".....Volkswagen 1192cc sedan....." to ".....Volkswagen 1200 sedan....." (Also change all other such references from "1192cc VW" to "VW 1200")
55	<u>97</u>	<u>73</u>	41	4.2	WEIGHT AND DIMENSIONS
88	<u>155</u>	<u>17</u>	10		Add - "Minimum weight without fuel or driver - 825#, <u>with driver - 1000#</u> " Add - to "Overall length" - " <u>excluding exhaust pipes</u> "
83	<u>145</u>	<u>26</u>	15	4.3	SUSPENSION
94	<u>166</u>	<u>6</u>	3	a.2	Change - ".....any single anti-sway bar" to ".....any anti-sway bars"
88	<u>155</u>	<u>8</u>	4	a.4	Add - " <u>Alteration of the spindle steering arms to permit mounting the tie rods below the arms.</u> "
85	<u>150</u>	<u>22</u>	12	a.6	Add - ".....on the steering gear box."
				b.	Add - ".....coil springs surrounding telescopic shock absorbers providing the <u>sole</u> springing medium. Camber control devices may be used, <u>provided they carry no weight.</u> "
80	<u>140</u>	<u>27</u>	15	4.4	BRAKES
84	<u>147</u>	<u>24</u>	14	a.	Eliminate - "..... <u>brake shoes</u>"
				b.	Eliminate - Entire section. Transfer linings and shoes to non-VW parts.
82	<u>144</u>	<u>25</u>	14	4.5	ENGINE
90	<u>158</u>	<u>13</u>	7		Change definition to - "The engine shall be a standard VW 1200 automotive power plant, from serial #5 000 001 (34bhp)." h. Change to - "Use of either Solex 28 PCI or Solex 28PICT carburetor, and use of any size venturi and jets which may be fitted without alteration to the carburetor body. <u>A single hole may be drilled in the carburetor bowl to prevent cutting-out.</u> "
74	<u>129</u>	<u>41</u>	23	o.	Eliminate - " <u>The use of valve spring shims, provided the fitted length of the spring is not less than the standard dimension.</u> "
92	<u>161</u>	<u>8</u>	5		Add - " <u>Maximum bore - 3.040"</u> (VW " <u>standard green</u> " size, plus .008")"
75	<u>131</u>	<u>39</u>	22 *		Eliminate - " <u>Exhaust Valve Diameter: (1.102) or (1.18)</u> " " <u>Intake Valve Diameter: (1.18) or (1.24)</u> "
81	<u>142</u>	<u>26</u>	15	4.6	TRANSMISSION-REAR AXLE
				a.	Add - " <u>The transmission may not be inverted.</u> "
46	<u>81</u>	<u>61</u>	35	4.7	BALLASTING
					Eliminate this section if you voted for "1000# with driver".
83	<u>146</u>	<u>26</u>	15	4.9	BODY
76	<u>133</u>	<u>35</u>	20		Change first sentence to "The body must conceal the engine, extend to the extreme rear of the chassis (excluding exhaust pipes) and may not fair in the wheels or suspension." Eliminate restriction against attaching air ducting to engine components.
90	<u>159</u>	<u>15</u>	9	4.10	(Non-standard-VW parts)
92	<u>162</u>	<u>10</u>	6		Add - <u>Tie-rod ball joints</u>
88	<u>155</u>	<u>18</u>	10		<u>Brake master cylinders</u> <u>Brake shoes and lining</u>

Percentages are based on the total vote of 176. Not every item was voted on on every ballot.

* Refers to eliminating the smaller figures for valve diameters, if the 36hp (30bhp) engine is deleted.



**Formula Vee
International**

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