



# VEE LINE

NUMBER 85

OCTOBER, 1971

## WHAT'S NEW FOR 72?

Well, the Oracles of Denver have spoken, and it's all over but the final approval of the Board of Governors, which can be taken for granted. Usually, at least. A couple of years ago we did persuade the Governors to reverse the lower bodies' recommendations — remember when it was announced that everyone would have to go back to the stock VW venturi, and there was such an uproar that the Governors rescinded the rule and reinstated the previous one? The time is ripe for a repeat! Read on!

Before we could get the complete results of the Car Classification Committee's deliberations, the Competition Board's meeting was due, so we held this up for a couple of more days, hoping to be able to announce that things weren't going to be as bad as it looked at first. However, the recommendations of the CCC were apparently rubber-stamped, and unless some change is made by the Board of Governors, this is what we can expect for 1972:

1. The second paragraph in Sec. 1 will read: "No component of the engine, power train, front suspension or brakes may be altered, modified, or changed, nor be of other than VW manufacture, *nor be assembled in other than stock VW configuration, unless specifically authorized.*"

2. Rear track dimension will be corrected to include both styles of rear brake drums.

3. Along with "any sway bars", you may also use "mounting hardware, and trailing arm spacers".

4. You can't use "spring shocks" on the front suspension, even if they do fit the original mounts.

5. Your non-VW steering column will be legal.

6. You can remove the rubber knobs from the front rebound bumper horns.

7. You can open up the intake ports, including the valve seat, to 29mm, within certain areas which will be specified later.

8. "Complete or partial removal of any cooling duct component except the fan housing" will be permitted.

9. You may remove the brush holders, too, from the generator.

10. You may use valve spring shims, period. That "standard dimension" bit has been dropped.

11. The dimensions specified for bore, stroke, combustion chamber volume and head space may be achieved by "machining in the same plane as previous machining".

12. You may machine the crank case

for oversize mainbearings and for cam bearing inserts, "provided the location of the camshaft and crankshaft is not changed".

13. The wording of the "non-stock VW parts" section has been changed for clarity.

14. Only a "single" 6 volt battery may be used.

That's it.

No action was taken on:

1. Weight with driver. (It was felt that such a rule "just wasn't in the spirit of Formula Vee racing".)

2. Oil filters. (They just couldn't figure out wording which would prevent some sharp operator from converting a filter into a dry-sump system. I'm not kidding! That's the precise reason I was given!)

3. Complete removal of the rebound bumper horns. (If all your torsion bar leaves were to break simultaneously you'd need those horns to keep your car from dragging on the ground. You think I'm making this up! Even though the member who told me this *still* didn't know where those horns are located, he was convinced that the decision he had helped to make was the right one! So help me!)

Don't go away! We've just started! This, so far, is just what they decided to do or not to do. Now for what they didn't decide at all!

If you don't know that key sentence in the first Section of the rules by heart (and even if you do — it's been changed slightly) go back to the first of this article and read it over again, carefully . . . . OK, did you notice that addition of "nor be assembled in other than standard VW configuration"? That section, even the way it was before, was the key to this whole hassle about rules, when the Court of Appeals ruled that flycutting was illegal because it wasn't "specifically authorized". "Everyone" was doing it, because everyone else was, and no one had ever blown the whistle on it before, so it came as a shock to everyone when it finally happened, and as even more of a shock when we realized how many more such practices which we had been accepting as legal were actually in the same category.

It even shocked the good people on the Boards and Committees who are making our rules, especially when it was pointed out to them that the ARRC Champions were *all* running illegal cars, and could conceivably be beat out for the National Championship by some kook with an absolutely legal car who came in dead last.

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## "HIGHWAY" TIRES, ANYONE?

(The following excerpt from the British magazine "MOTOR" was sent in by Arthur Heinbockel, Bronx, N.Y. It was received too late to include in the last issue but should be of some interest, even now. This is *considerably* boiled down, from two magazine pages.)

"What do you look for in a set of tyres? . . . The high performance (highway) driver might very well look to Formula Ford racing for a clue since ordinary road-going tyres must be used on these single seaters.

". . . The battle for supremacy on the FF scene has produced a freak tyre that would cost 70.80 pounds for a set of five 7.5x13 covers which enthusiastic drivers could well wear out after 3000 miles.

"The Torino crossply has brought control of Formula Ford back to Firestone, but at what price?

"The story goes back to 1967, and the introduction of Formula Ford. In those days radials were thought to provide the best sporting performance, and in tests at Brands Hatch . . . the Firestone F100 came out the winner.

". . . It's now well known that Gerry Birrell took a set of Avon Wide Safety GT's, a high performance low profile crossply tire, and won the 1969 European FF Cortina Championship . . . everybody switched to Avons.

". . . The men at Firestone pondered the fickle state of the racers' mentality. They were upset, and understandably so . . . Using racing technology from their Indianapolis tyre they developed the Wide Oval radial and from that the roadgoing Torino crossply has been built . . . The lap records began to tumble, but the tyres were lasting for only one race. The compound was hardened a little to obtain more wear but they still have a problem.

"There is nothing to suggest that the compound might be hardened even further; such action might ease the cost to the competitor but might also allow the Avons to be competitive again.

"The only difference between racing tyres and Torinos is the expense; racing tyres last much longer and are therefore a lot cheaper.

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### The VEE LINE of FORMULA VEE INTERNATIONAL

DON CHEESMAN, Director  
1347 Fairmont Ave.  
East Wenatchee, Wash. 98801



1971 Formula Vee International

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(Incidentally, they have made a special dispensation to those drivers to allow them to run their illegal cars this year.)

You'd think, wouldn't you, that having seen the error of their ways (after all, we've been pointing this out to them and asking for relief for five years) they'd do a thorough job on it while they were at it? So they made flycutting (we'll come back to that in a minute) and front suspension spacers legal and crawled back to wherever they hibernate away from what's going on in Formula Vee for another year! Ae least!

Details? OK, even under the previous wording of the rule, it was illegal to even remove the hubcap clips from your wheels—or weld a clip or bracket to the front

suspension, or remove the rear shock mount (it could be *altered*, only) or plug off one of the outlets in the oil filler breather, or drill and tap the transmission case for a vent, or drill a hole in the fan housing for a screw, or use "helicoils" to restore stripped threads, or do a dozen other "normal" things such as that. And it *still* is! They're all "unauthorized" modifications, just as much as was use of that "unauthorized" washer, flycutting the heads, or use of spacers on the front torsion arms. Yet only those last two items received any attention!

You think that's bad? It's even worse, now! "... nor be assembled in other than standard Volkswagen configuration..."

That was a slick and easy way of saying, "You can't turn those pistons bottomsides up in the cylinders anymore", and it might

even cover some other devious practice that no one is even aware of yet. However, it also outlaws some more of those "accepted practices" which aren't "specifically authorized". For instance: Now your front axle must not only be mounted to the frame by those stock welded-on brackets but must also be mounted with 2 degrees caster and no camber. The engine on those Auto dynamics Vees will have to be raised up in front so that it is mounted level with the frame. The rear axles will have to be restored to their "normal configuration", with the brake cylinders at the bottom, even though they don't fit the trailing arms very well that way, and then will have to be set with positive camber, according to the VW manual. Your left front wheel had better have a hubcap with a square hole in it, filled with a speedometer shaft, and probably you'd better have the speedometer cable housing in the front spindle, too.

OK, so much for the openers. Are you ready to get down to serious business now? The situation regarding head modification has finally been cleared up. You bet! If you did your own work, you *may* be able to keep your present heads, but if yours are "flow-tested", or otherwise "prepared" by a professional engine builder, you'd better take a good look at them. They're probably still illegal. It's been common practice among those people to enlarge the exhaust valve seat as much as possible without destroying the seating area. That's permissible now on the intake seats (if yours are less than 29mm inside diameter, which they aren't unless they are the "A" or "B" series) but it's *not* permitted for the exhaust port.

Contrary to the VW manuals, it is possible to replace valve seats. If you're caught in a bind by this rule, you might be able to save an otherwise perfectly good head by going that route.

Finally, believe it or not, even though this whole "ARRC thing" arose because a car was disqualified for use of washers under the rocker arm shaft, absolutely no action was taken on that question! I got the reason for that, too. "You don't *have* to use washers when you flycut the head—you can use the short pushrods and get the same effect."

That's true, too, as far as it goes. When we remodeled the "C" heads for Petunia, we didn't need washers (as we did with the old "A" heads). The "A" style pushrods, which were in the original '62 engine, allowed assembly with no trouble. The catch is, these pushrods haven't been available over the VW counter since about 1963, when the "B" style (2mm, or about .079" longer) were introduced. They are almost as scarce now as the "B" cam, which was superseded about the same time. The "C" and "D" pushrods, which are the only ones presently listed, are even longer! This was pointed out to the Com-

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**UNCLASSIFIED ADS**

**FOR SALE:** Updated Formcar. Excellent modified body, Z-bar, Hyd. clutch, extra tires, '71 legal. Including trailer with spare and winch, \$950. W Bourne, 12 Terrace Drive, Bristol, R.I. 02809 — (401) 245-1887.

**FOR SALE:** Crusader, with original aluminum body shell. Adjustable Koni steering damper, Adjustable shocks—Koni front, Spax rear. Engine in good condition. Trailer with ramps and some spares. \$900, or offer. Wilkie Talbert, 2924 Benvenue St., Berkeley, Cal. 94705 — (415) 548-2815 (home) or 843-6836 (office).

**FOR SALE:** Autodynamics MK III, with MK V trailing arms and updated suspension. Exceptionally strong engine, excellent shape. Good tires, some spares. \$1375 or best offer—must sell! Garth Hickoff, 21 Walnut Lane, Montoursville, Pa. 17754.

**FOR SALE:** Zink, with 52hp Magee engine, 1971 suspension modifications, long and short transaxles, numerous other spares. Bob Shafer, 403 Dott Ave., Somerset, Pa. 15501 — (814) 445-4578.

**FOR SALE:** "EDGE" Vee Sports Racer prototype. ("C" Sports Racer) 1300cc VW engine, roller crank, cam, dual-port heads, Webers. Rest is "2-seat Formula Vee". Ed Givler, 39 Prospect St., Marblehead, Mass. 01945 — (617) 631-7319.

**FOR SALE:** Zink, with all '71 factory mods. 2 sets Goodyears, extra engine, transaxle and nose. With driver's suit and trailer—make offer. Chuck Haines, 5846 Gen Hill Drive, Bethel Park, Pa. 15102 — (412) 833-1584.

**FOR SALE:** "Viper" Vee, with trailer. Fits up to 6'1" driver. Ready to race. \$1000 or best offer. Don Barnhart, 14402 SE 272nd, Kent, Wash. 98031 — (206) 631-2483.

**FOR SALE:** Kellison, with 1 race on new engine. All '71 modifications. Good Firestone Indy's. \$2000. Bob Ostergard, Box 883, Squamish, British Columbia, Canada.

**FOR SALE:** '67 Sardini, with 5 Dunlop wets, complete spare body, custom cover. Cassius engine with 3 races on rebuild. Rick Bell, 2207 Hayes NE, Minneapolis, Minn. 55418 — (612) 781-0009.

**FOR SALE:** Autodynamics "Nassau" model, with latest '71 mods, 4 mounted rain tires, tilt-bed trailer. \$2250, (negotiable). Michael Montaine, 1539 Fred St., Whiting, Ind. 46394 (312) HA-4900, Ext. 524, (eves) (219) 659-1676.

**FOR SALE:** '69 Zink with '71 Zink engine, '71 rollbar, 4 Goodyear gumballs, 8 Firestones (wet and dry) etched manifold, trailer, many spares. Will help deliver. \$2000 complete. Bob Walmsley, 375 W. Galbraith, Cincinnati, Ohio 45215 — (513) 761-6774.

**FOR SALE:** (1) Bobsy Vanguard with '71 rollbar good tires, tuned exhaust, 49-plus engine, \$1000. (2) RCA MK III with gumballs, fresh 50-plus engine, tuned exhaust, looks new. \$2195. Photo, 25¢. Phillip R. Rendahl, P. O. Box 114, Central Valley, Cal. 96019.

**FOR SALE:** Crusader with many modifications. Excellent condition, never crashed. Fully modified engine—fresh and legal. Needs '71 rollbar. With tilt-bed trailer \$925. Car only, \$700 or make offer. Loren Dragoo, 1840 Leffingwell NE, Grand Rapids, Mich. 49505 — (616) 363-7588.

**FOR SALE:** Extensively modified Bobsy Vanguard Vee. 50% lighter frame, roll cage, 2 complete engines (one for "go") 4 Firestone dries, 4 Dunlop wets, Z-bar, Konis, Hyd. clutch—everything for \$1500. Frank Lambert, 1785 N. Livingston, Indianapolis, Ind. 46222. Days, — (317) 635-1554, ext. 201.

**FOR SALE:** Latest model Beach with fresh dyno'd engine, Donn Allen fuel cell, 12 tires, Konis and Armstrongs, many spares. Immaculate \$2400. Professionally built trailer, \$200. Will crew for Northern Cal. buyer. Guy Rosebrook, 2939 Old Almaden Rd., #15, San Jose, Cal. 95125 — (408) 266-5623.

FVI EIGHTH ANNUAL RULES BALLOT, FOR 1972

*The following should be permitted:*

%	YES	ABS	NO	%	
50	163	0	164	50	1. Streamlining the throttle shaft and butterfly.
	105	1	221	67	2. Use of 12 volt electrical components.
55	179	1	147		3. Attachment of air ducting to engine components.
	125	4	198	61	4. Air ducting directly to cylinders and heads.
72	235	1	91		5. Modification of fan housing to permit passage of roll-bar braces or frame members, if shape and size are not altered.
	128	7	192	59	6. Regulation of cooling air from the cockpit.
62	201	10	116		7. Trimming of horizontal areas only on cylinder cover plates.
67	218	0	109		8. Mounting the manifold and carburetor behind the fan housing.
85	278	2	47		9. Removal of the cast aluminum heat exchanger on the manifold.
88	288	2	37		10. Use of any Solex float in the carburetor.
74	241	2	84		11. Use of the 28PCI carburetor with venturi removed.
64	209	2	116		12. Drilling of accelerator pump jet.
	105	7	215	66	13. Only shelf-stock heads.
71	231	2	94		14. Flycutting of the head to attain 43cc min. combustion chamber.
68	221	3	103		15. Enlarging the ports to 29mm and 33mm.
52	170	5	152		16. Enlarging valve seat bores to match port diameters.
	146	4	177	54	17. Cutting off valve guides flush with port walls.
	82	3	242	74	18. Other modification within the ports.
69	224	1	102		19. Machining of cylinder barrels to attain .039 headspace.
77	252	2	73		20. Use of shims under the barrels to attain .039 headspace.
	158	1	168	51	21. Installing pistons with the wrist-pin offset reversed.
56	183	1	143		22. Increasing wheelbase and overall length by 4".
	101	3	223	68	23. Use of '66 and later ball-joint front suspension.
	90	4	233	71	24. Use of later VW front disc brakes.
74	243	1	83		25. Installing an oil filter.
70	230	2	95		26. Modifying pump and cover for filter installation.
67	219	22	86		27. Front camber adjustment as described in August VeeLine.
	152	5	170	52	28. Only tires approved for 100 mph highway use.

*The following should be required:*

68	222	0	105		29. Minimum weight empty 800 lbs., with driver and remaining fuel 1,000 lbs.
69	226	10	91		30. Body and firewall dimensions not less than corresponding dimensions of the engine.
69	226	3	98		31. Fuel tank mounted within the frame and behind front axle.
	87	4	234	72	32. Safety "fuel cells".
80	263	7	57		33. Valve movement in relation to crankshaft rotation to be in compliance with specifications, regardless of parts used.
	152	4	171	52	34. Removal of the cast aluminum heat-exchanger on the manifold.
	56	3	268	82	35. Mounting of manifold and carburetor behind the fan housing.
62	202	5	120		36. Minimum limits on softness of tire tread compound.
	134	8	185	57	37. We should start planning now to update Formula Vee to 1973 components for 1974.
76	247	3	77		38. Do you do most of your own engine work?
59	192	6	129		39. Have the heads on your engine been flycut?
69	225	6	96		40. Have the ports been modified?

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**WHAT'S NEW FOR 72?**

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mittee before their meeting, but "somebody said" that the short ones were still available, so the matter was dropped right there.

It was also suggested to the Committee that if washers were *not* permitted, shortening of the pushrods to the minimum legal length should be allowed. However, the Committee "felt that this would open the door to other modifications, like magnesium or titanium tubes". Nevertheless, in case you're interested, the length of the "short" pushrod is 10-3/8" (10.375 to 10.390 inches) and while I haven't tried it, it shouldn't be too difficult to pull one of the ends out of the tube, cut off the appropriate amount, and replace the ball. A word of warning, though—the short pushrod does *not* have a knurled band at one end.

The "Schultheis procedure" for valve action checking was definitely *not* approved. Now see if you can follow this (If I can tell it as it was): It was felt that the tolerance in his specifications was far too great to make the procedure "meaningful". When it was suggested that, even though his specs were based on the maximums and minimums he had observed in checking dozens of engines, the tolerance *could* be narrowed down to include only the "normal" installations, outlawing non-standard combinations of parts, this was viewed with horror, too. That would outlaw engines which *did* include non-standard combinations, which should be considered legal, provided all the individual parts were legal! In other words, if his charts included the exotic engines, the specs were too broad—and if they weren't included, the specs were too restrictive. You do understand this philosophy—don't you? Further, it was considered unwise to list the unusual legal parts which could be used, because then *everyone* would be looking for an out-of-stock cam which might have been imported from Mexico, or certain rocker arms, or unlisted push-

rods, or something like that. It was considered smart for those who could come up with some such combination to use them, you understand, but it shouldn't be publicized for everyone.

This is apparently considered to be "in the spirit of Formula Vee racing", even though "weight with driver" isn't!

Well, that's the way it is, right now, and probably the way it will be for 1972—unless there are a lot of letters and calls to Denver before the Board of Governors meets, on the weekend of Nov. 20-21, I believe. Incidentally, the address is P. O. Box 22476, Denver, Colo. 80222, and the phone number is (303) 758-6080.

**"HIGHWAY" TIRES, ANYONE?**

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"... Firestone claims that only 10 to 20 percent of Torino production goes to Formula Ford. In answer to my question I was told rather stiffly that if Formula Ford went over to racing tyres, production of the Torino crossply would continue. Their performance is incredible, but so is the price and wear rate. A friend with a BMW 2002 wore out a set in under 3000 miles, but a Rover 3500 owner needed new tyres after only 1500 miles. With careful driving they would obviously last longer, but that's not the point."

Bob Fletcher (Manager for Autodynamics) called after receiving the ballot and noting the "highway tire" item. He had been in England recently, he said, checking on the Formula Ford scene, and had heard the same reports including the phenomenal wear rate on cars used strictly on the highways.

The vote on the use of highway tires was pretty evenly divided—not enough preponderance of opinion to justify changing the rules—but in view of the above, perhaps it's just as well. If "highway" tires were required on Formula Vees, it probably wouldn't take either Firestone or Goodyear very long to make "highway tires" out of their present racing rubber.

All is not necessarily lost, however. Bob also mentioned that many of the top drivers on the East Coast, having observed the success of European drivers who were driving them in the international races, are switching to Continentals. He says they perform at least as well as Goodyears, and wear at least as long as Firestones. I'll try to have some dope on cost and availability in the next issue. If you have several months before your season starts again, it might pay to wait for it.

**ANOTHER BALLOT**

With the rules ballot out of the way, it's time to think about our annual Election of Officers. Our officers have led very sheltered lives, as far as duties are concerned, but we need them, just the same. Their only *required* duties are to keep tabs on the Director, and replace him if and when it becomes necessary—or desirable. As has been pointed out every year at this time, your Director isn't immortal, and might even decide to quit, at any time. Beyond that, your officers might decide that he *should* be replaced. So their duties are—or have been—not very arduous, but their responsibility is great. Bear this in mind when making nominations.

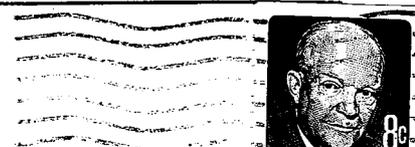
Within the next couple of months, actually, they might be called upon to make some changes. There is a good possibility that a job promotion and transfer will require the appointment of a new Director. (If you want to volunteer for that position, watch for further developments.)

OK, nominations for President, Vice President, and Executive Secretary are now open! There are only two requirements—they must be Active members, and they must be willing to serve. And volunteers are most welcome! If you can't think of anyone else, volunteer yourself. (If you don't, I may volunteer you, anyhow.) The pay scale isn't much of an incentive—the outgoing President gets a life membership in FVI. (That encourages the Vice President and Secretary to volunteer again.)



**Formula Vee  
International**

1347 FAIRMONT AVE.  
EAST WENATCHEE  
WASH. 98801



Warren A. Roberts  
5927 E. 127th St.  
Grandview, Mo. 64030

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