



VEE LINE

NUMBER 56

MAY 1969

PIPES, ONCE AGAIN

As far as Petunia is concerned, this is the last word on pipes—unless we decide to forget the whole thing and go back to the original crossed-over individual pipes for more spectator appeal, or unless someone comes up with something definitely proved to be better. Without a dyno it's impossible to detect any difference in performance; and this system definitely isn't the loudest, even though it does sound *different*.

The final length is 85" from the valve head to the end of the megaphone. With 20" of megaphone, 3" of port in the head, this leaves 62" of pipe (center-line measure) from each cylinder. It does make a difference in the sound if the tubes aren't almost exactly equal—when we shortened them at the track by means of the slip joints, we evidently had some that wouldn't collapse as far as the others. This spoiled the equal length, and lost the "rapping" sound at certain RPM. As a final check with the present setup, we used the test suggested by Harold Clements, elsewhere on these pages. Except that we did it on the lawn. Each pipe holds one quart fruit jar, one Pepsi bottle (12 oz.) and another about half full. Actually no attempt was made to determine an actual volume—just that all were equal. Marks were made at the water level in the last bottle. A wooden "blind flange" with a soft rubber gasket was used to seal the engine end while the pipes were being filled.

Incidentally, Bruce Belcher's Auto-dynamics, mentioned a couple of times here in connection with the new AD megaphone system, can't be all wrong. His third place position in the recent National at SIR was pretty impressive, for a rookie (until he ran out of gas). However, it wouldn't be fair to give all the credit to the pipes, or even to the car—he'd obviously been paying attention in driver's school, too! Again, his car sounds *good*, but you wouldn't pick it out of the crowd if you were blindfolded. The overall length of his pipes, he says, measured on the outside of the bends, is 58".

Let's hear from some more of you experimenters—especially if you have some dyno figures.



Petunia's last word on exhaust pipes, we hope. Yes, this is a Formcar.

DIRECTOR'S CORNER

Hey, kids, it's getting later than you think! Assuming that we'll have to get our annual Rules Ballot to the Car Classification Committee in early October again, that means it will have to be included with the August VeeLine (which *should* be out by mid-September) so there are only a couple of issues still available for rules discussion. Do you have any suggestions, complaints, gripes or other comments on the present or future rules? Let's get them in the mill for discussion while there's still time. As always, any and every (non-frivolous) suggestion will be included on the ballot, so now's the time to air your opinions. This ballot deal is about the only chance you get to act like a member of this here organization, so let's be taking advantage of it. After all, that's what FVI is for, basically — "the voice of the Vee owners."

This could be a critical year for Formula Vee (and what year hasn't been?) The movement to bring our rules into line with Europe's isn't dead, by any means. There's also some feeling that the easiest way to eliminate cheating is to make it legal. There may be some merit in such proposals, but let's find out—and let SCCA know—how we feel about it.

How do you feel, for instance, about ball-joint front suspension, wider wheels, non-operative generators, 1500 VW rocker arms, wider rear tread, oil sump extensions, 1300 head and manifold? A number of these items, and many more, we have voted on several times before. Some of the things we have voted *for* we haven't been given, but very few of those we have voted *against* have been forced upon us, so a continuing show of our position on seemingly non-controversial items will help to keep the class in line. NO change is just as essential in some areas as is an alteration in others.

Which brings up a different, but related subject — MEMBERSHIP! As you may have noticed last year, there is some feeling that the FVI Ballot doesn't present the opinions of "all" Vee owners. This is true, of course, even though we obviously represent many more of them than does any other organized (or unorganized) segment. In order to strengthen our position, then, let's be getting some more members—LOTS more! If you feel that this organization is of any value—that it's worth a little effort on your part to keep Formula Vee in line—take the enclosed application blank with you to the next race and sign up a new member. Get his five bucks and mail it in yourself, if possible. All Active Members of record when the ballot is distributed will be eligible to vote.

PLEASE, don't use the card yourself for renewing your membership. If yours *is* due, you'll get *two* of them—one of them stating that it's renewal time, in red ink. And please don't renew until you do receive this notice. It complicates our records and leads to mistakes and misunderstandings, because you'll get a renewal notice anyhow when it's due, and might even be dropped if it is not returned.

THE VEE SUPPORT PROGRAM

In case you didn't bother to read the account last month about the VW support program because you thought it wouldn't apply to you, you'd better read the fine print in this one. You missed something!

First, this program *will* be of benefit to many, if not most, Vee drivers. *Any* Vee, placing *tenth or better* in *any* National race wins \$20. Third place pays \$30, second is \$40, and first place gets \$50. Payment won't be made until the end of the season, but by that time you could have accumulated a nice sum, even if you never see the leaders after the third lap.

There are only two things you have to do to collect your share—first, you must send you name and address, *immediately*, to "Formula Vee, Public Relations Dept., Volkswagen of America, Englewood Cliffs, N.J. 07632;" and second, make sure that *someone* at each National Race takes the responsibility for obtaining a copy of the Vee race results, getting it signed by the Chief Steward, and sending it to VWoA. That's all! No box tops, rhymes, or jingles; no lucky drawings—just get tenth place or better, be on record with VWoA as a contestant, and be sure they hear about your efforts.

IN ADDITION, you may very well be able to pull down some additional cash in your Regional races, too! This is on a local level, and is left to the decision of the VW Distributor in your area. A total of \$16,150 has been pledged for Regional support.

The VW organization is certainly to be congratulated on this program! It is in perfect harmony with the general concept of Volkswagen and Formula Vee. While the individual amounts are not impressive, this program comes as nearly as possible to providing something for everyone. The "little guy," who has been responsible for making Formula Vee the greatest class in the world, hasn't been forgotten.

Compare this with the Formula Ford program! Over \$9000 of their total \$10,000 prize fund will be divided among a maximum of 21 drivers. It is possible for one of them to get as much as \$2400. This is great, if you happen to be among this elite group, but what of the guy who eagerly bought a \$2995 FF last winter? (The winning Ford at our last National was reported to have cost over \$7000!)

(TO ALL VW DISTRIBUTORS: If you'll let FVI know the details of your local program, we'll be more than happy to publicize it.)

MEMBERS' SOAPBOX

"Dear Don: Sorry I forgot the \$5 for FVI. Have been busy building a Zink, and it quite slipped my mind.

"Enjoy the VeeLine, and find it quite useful. You might consider appointing someone as knowledgeable and outspoken as yourself to follow Vees in the Northeast, where the best ones seem to be. If you read my article in the Daytona program, you know I qualify on the second count, at least.

"Can't you make that exhaust system with less than 26' of tubing?

"How about some notes on lowering the front end legally without breaking the torsion bars?"

Grant Reynolds, Potomac, Md.

Thanks for the "knowledgeable", Grant, but "outspoken"? Me? Consider yourself appointed as special correspondent to enlighten the rest of us *why* Vees in one area are faster than those in others. It's long been a mystery.

Certainly you can build an exhaust system shorter than ours (like the AD, for instance) and possibly better, too. This one was based on the only factual material on the subject that I could find at the time, but there are certainly other formulas and designs.

As for lowering the front end, that's probably one of the greatest undetected areas for cheating that we have, and probably one of the least important from a performance standpoint. Even breaking the torsion bars is technically illegal—you have to assume that they somehow got broken in use, because the rules "don't say you can break the torsion bars so you can't." Building a fire under the front end of your Vee and taking some of the tension out of the bars would lower it some, no doubt, but actually there is no legal provision for making *any* change. Lowering the frame in relation to the entire front axle assembly would be legal, and probably the simplest way to go; but it may put you in the position of having to make a bubble in the body to fit over the steering gear box, and it won't change the angle of the arms, if that's what you think you need. I'm not going to tell you any of the illegal methods—you've probably heard of several already, anyhow.

Do you want to propose a change in the rules to make such alteration legal?

"Dear Don: Enclosed is \$5 for another year's membership. I look forward to the VeeLine with something akin to pre-nuptial jitters.

"I have found very little Vee coverage in the usual auto magazines. Do you know of any that devote a little space to the poor man's races?"

Bob Ostergard, Squamish, B.C. Canada

Thanks, Bob—your sentiment has never been expressed better. It proves that we're going to have to clamp down on our censorship, though—someone else, not long ago, put the VeeLine ahead of Playboy!

Except for special events, like the Daytona race, you can't expect much race coverage devoted especially to Formula Vee. In general, it's just another of the regular classes which run at club-type race meets; and it gets about the same amount of space as the other less spectacular classes (the big-bore stuff will always get the headlines). "World Car Guide" magazine, which is specifically Volkswagen

oriented, sometimes comes out with an article featuring Formula Vee, but I don't know of any publication which makes a habit of it. Does anyone else?

"Dear Don: ...By diligent lobbying, I have managed to pound the Weight Rule through. All members are now in favour of it. Acceptance is only a matter of convincing MANZ. This is the land of Amon, Hulme and McLaren. How can we not lead the world? (I also told you we were a nation of loudmouths, didn't I?)"

Barry Munro, Director, Formula Vee Int'l
New Zealand Division

Barry is also an officer in the New Zealand Army. He had the first Vee in that country, and has almost singlehandedly promoted it to the status of an accepted racing class. "MANZ" is the New Zealand "SCCA". Have asked him for more details on this rule change.

"Dear Don: Enjoyed meeting you and John at Kent. Your remarks about my times through turns 3A and 3B cheered up a guy who was still kicking himself for being so scotch with the petrol!

"Your car is a model of experience—we could go to school on it for a whole week if you'd let us borrow it sometime. We're learning a lot each time out, not all of it as painful as the gas lesson!"

Bruce Belcher, Boise, Idaho

Petunia isn't six years old yet—much too young to leave home overnight. However you're welcome to examine her as closely as you like at any of the races. We're thinking of changing her "mascot" picture from one of a skunk to one of a guinea pig. You have to have some kind of a record for towing, Bruce—as nearly as I can tell on a map you're at least 450 miles from the nearest track, and a lot farther than that from the others you've been running on.

"Dear Don: Just got the March VeeLine and looked under the heading, "Precaution." I don't know if you have ever put a Vee case in a 'hot tank,' but I am sure that if you have, you lost it. Hot tanks are for steel—'cold tanks' are for aluminum. I doubt that anyone who has a 'hot tank' would allow you to put a VW case in it, anyhow, as it could mess up the solution; but on the slim chance that someone might be able to save \$100, I thought I would write.

"About exhausts, I couldn't legally get any Vee engine I ever had to run rich. Now if I put an extractor exhaust on the thing, it would run leaner, wouldn't it?

"I have seen only about four engines with tuned exhausts, of which 3 took them off. The one that left it on would also have been helped by a good swat with a hammer, if you get my meaning.

"If you really want to tune an exhaust system, why not check it with water, like you 'CC' heads? Actually, it's too much work—I'm still queueegeeing out my garage!

"One question—are air foils, wings, spoilers, or whatever, legal?"

Harold Clements, Mill Valley, Cal.

Thanks, Harold! That could be our \$100 you saved! All I know about extractor effect on the carburetor mixture is that most of the

articles on hopping up VW engines say that if the extractor system doesn't require larger carburetor jets, it's no good. Does that help? Our new pipes are running pretty black, but the adjustable main jet is back to where it was when we started. (Probably all that length tends to cool the exhaust and let it collect on the pipes.) We haven't entirely made up our minds about it yet—possibly a hammer may be the final answer here, too.

I can tell you what Jim Patterson will say about air foils—"The rules don't say you can, so you can't!" I'll back him on that one, too. They'd make Formula Vee a laughing stock. (Later) FIA may have settled this one. It's reported that wings have been outlawed for all FIA events. Presumably this applies only to such devices mounted above the car—not to spoilers, fins, etc., which are a part of the body design, or attached directly to it.

"Dear Don...There were five cars torn down at Daytona; mine was the fifth car. I had changed the carb top of my car, but had used a new one, and showed to Jim and the other officials the rest of the new carb with the old top on it. This may be the reason for excluding the fifth car in the report. Just thought I would try to set the record straight."

"Butch" Harris, Houston, Tex.

Thanks, Butch, for the comments. Which reminds me—Jim Patterson explained the situation regarding the alteration of the venturi entrance, but didn't comment on the alteration of the fuel-pump jet, or whatever you call it. This has developed another game of rule interpreting. Did you know that some of the older PCI carbs had a little brass "air correction" jet screwed into the casting? If it is illegal to "alter the carburetor body" by drilling out the one piece jobs, is it legal to alter those brass jets, or leave them out altogether?

"Dear Don: I saw an article on John Bishop and the IMSA in Autoweek, May 31, 1969. What is in this for Formula Vee?"

Chuck Cunningham, Coats, N.C.

John says that article was very much premature. They're still using card tables in their office, are trying to get a telephone installed, and are not ready yet to announce any definite plans or schedules. When they do, however, be assured that they will be of interest to Formula Vee owners, and that you will get the straight dope here.

"Dear Sir: What info will you be able to give me on acquiring a valid racing license in the USA? In your rules and specs you state that one must use stock VW 1200 parts. Here in Germany I have found a VW with front wheel disc brakes. Will I be able to use this on a Vee in the States? Also, on my VW I'm now using Transporter wheels. Are they legal? In the article, 'European Invasion,' you speak of other Vee races prior to September. Where can I find out about them? Is there any magazine put out on the Formula Vee other than the Volkswagen owner's manual?"

Floyd Sayers, Jr., APO, New York

Well, first, the European Formula Vee is somewhat different from that in the States. Write for information to "Formel V Europa, e.v., 800 Munchen 8, Lillienstrasse 48, Germany." You won't be able to use the disc

brakes or Transporter wheels, either here or in Europe. In fact, you'll find that it will be simpler, if you get a Vee while you're there, to dispose of it before you come home and start over when you get here.

Formel V Europa prints a semi-monthly Vee magazine, and the VeeLine "magazine" is the only such publication here. You will sometimes find some bits and pieces on Formula Vee in other publications, but not on a regular basis.

You'll have to join a U.S. racing organization to be able to race here, and obtain a license from that organization. (See the dope in your booklet.) however, if you get a license in Europe it is likely that it will be accepted in lieu of required driving training courses when you get home, and that you will be issued a license without going through the "novice" stage.

"Dear Don...With my next question you'll probably throw me out on my ear. Could a Porsche 912 extended push-rod tube be considered legal oil pan baffling? It is the same as VW, but the case end is extended to prevent oil from going into the valve covers during cornering.

"Does the Z-bar rule (coils are the 'primary springing medium') mean that the car's height shall not change when the Z-bar is disconnected, or that it should not fall to the ground (or suspension stops) without the Z-bar?"

Edward Givler, Lexington, Mass.

Well, in the first place, a Porsche tube I'm sure would not be considered a VW1200 part, or even "of VW manufacture" as the rules require. In the second place, in our crankcase, at least, the machined sockets for the push-rod tubes don't extend far enough into the case to permit the use of such a device. The machining ends — and leaves an irregularly shaped hole for the pushrod — just a short distance within the case. This sounds like a good method, however. I'm not in a position to state definitely whether or not something is legal—that is up to the race officials—but the only restriction in the rule on baffles is that they must be "housed completely within the original oil sump and crankcase," and certainly some "modification" would be involved, even if it were only the drilling of bolt holes. *Perhaps*, then, extension of the holes for the push-rod tubes would be considered in that light, as would extensions to the stock VW tubes. Note that I said "perhaps" and let your conscience be your guide. However, I would doubt that Porsche tubes would be considered legal.

The key to the suspension rule is that "when the...camber control device is removed the required coil springs must continue to perform functionally." *In my opinion*, this doesn't state that the car would have to stay at the same height, without the help of the Z-bar, but only that it wouldn't sag to the ground, or to the point where the coil springs "bottomed." On the other hand, note that it says "continue to perform functionally," which would appear to mean that they *must* be, as stated in the first part of the rule, the "primary" springing medium, under any condition.

FORMULA VEE TOOL NO. FV117A

How do you time your engine. Sure, you use those little notches on the crankshaft pulley, but how do you know where your firing point is in relation to them? If you're doing it by guess, or by feeling it with a scrap of paper between the points, or even if you have a timing light you can borrow, give it up! Make your own timing light!

For the Economy Model, all you need is a burned out taillight bulb (with one filament intact) a couple of feet of insulated wire and a couple of "alligator" clips. Attach one of the clips to each end of the piece of wire, and the job is half done. Now cut the wire in two somewhere, strip back a little of the insulation on each piece, and solder one of the bare ends to the "live" terminal of the bulb, and the other to its base. It's a little tricky to do this without cracking the bulb; but if you have a handful of them, you'll get the knack of it. (Hint—use a rather cool soldering iron.) If you want a more luxurious model, you could buy a new single-filament bulb (a small dash-light bulb takes up less room in your tool box); or for a really professional touch, install a socket between the two wires and you can replace the bulb if it burns out, or breaks.

For the ultimate in class, get one of those miniature trouble lights, with about ten feet of cord, which plugs into a cigarette lighter. Cut off the plug, split the two wires and attach the alligator clips. If you get one with a twelve-volt bulb, it will still glow satisfactorily for use as a timing light on the six-volt Vee current, and can double as a tent light, or be used for general illumination like while you're replacing the bearings at the course on Saturday night) when attached to your tow car.

There are two schools of thought on using this type of light. You can switch on the ignition and connect one wire to the point connection on the distributor and the other to ground, in which case the light will go on when the points open. Or you can connect one clip to the "battery" terminal on the voltage regulator, remove the distributor wire from the coil terminal, and clip the timing light to it, which results in the light going *out* when the points separate. This is the point at which the spark occurs, of course. A slight glow in the bulb with the points open, in this case, doesn't necessarily mean that you have a mysterious short circuit somewhere—it merely indicates that your electric tach is in the circuit, too.

When you get so many scratches around the two notches on the pulley that you can't

tell which is which, start on the other side. Find top dead center first, by slipping a screwdriver into a spark plug hole and turning the engine over until the piston hits it and won't go any farther. Mark the pulley with chalk at the seam between the crankcase halves, and without moving the screwdriver, turn the engine backward until the piston again is stopped by it. Make another chalk mark, measure the distance between the two marks, and with a file, hacksaw blade, cold-chisel or center punch, make a permanent mark exactly halfway between them. This is TDC.

If you didn't make the degree wheel described in VL No. 52, a mark half an inch to the right of TDC (as you face the engine) will be at ten degrees, which is considered to be *about* the best timing spot for a Vee. With your light, experiment in this area until you find the *exact* spot and mark it with some distinctive scratch or punch mark.

If your distributor has slipped, or has been changed for some reason, you can find the *approximate* spot again by turning the engine until the ten-degree mark is lined up with the crankcase seam, and then rotating the distributor slowly until the light goes on—or off—depending upon how you hooked it up. For the final touch, however, turn the engine backward several degrees, and then forward slowly, using a wrench on the crankshaft nut. This will eliminate the possible effect of backlash in the gearing, and will duplicate actual operating conditions.

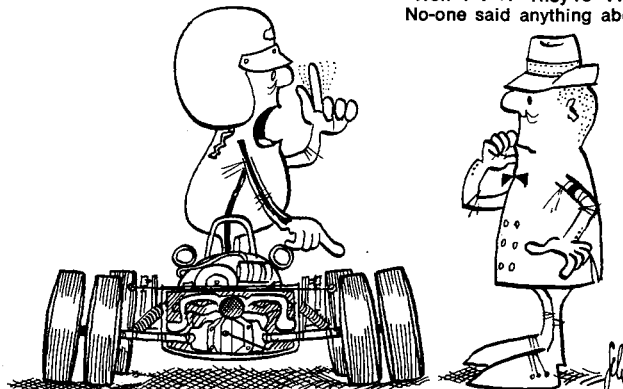
Your new timing marks will also come in handy for valve gapping. Using 4-3-2-1 for the firing order, you can start with number four cylinder (at the new mark) and set both cylinders on that side, then the opposite two, with only one move. (I never could remember 1-4-3-2 but 4-3-2-1 is simple!)

BOTH SIDES

Have you ever wondered why a car which you have timed at a second or so slower than yours ends up ahead of you on the grid? Of course you have, and you know that he was padding his times. Did you ever consider that his stopwatch might be inaccurate? Did you ever consider that *yours* might be?

It's simple to check. Just start it in the normal manner against an electric clock with a sweep second hand and let it run for an hour. You may be surprised! Don't forget to watch the half-minute marks on the small dial—at the half-minute the sweep hand will be at "twelve" while that on your clock is at "six."

"Well . . . ? They're VW wheel-rims, aren't they? No-one said anything about how many!" (Schöni)



Reprinted from Vee Sport, FV Europe magazine

EDUCATIONAL

If there's anything that Jim Patterson (Director of Club Racing for SCCA) doesn't know about Formula Vee, he should have it learned by the time the Car Classification Committee meets this fall to determine the 1970 rules. He's been working with VWOA's Joe Hoppen for several months on a check list, legal parts numbers, etc., for Vee inspection; and he's going to the Nurburgring race in August with the U.S. Vee Team.

UNCLASSIFIED ADS

FOR SALE: Autodynamics Mk4, 1967. Overhauled May, '69. \$1600. Trailer & accessories available. Philip Bonifacio, 470 Central Ave., Cedarhurst, N.Y. 11516 (516) 239-3038.

FOR SALE: Autodynamics, Mk5. Goodyears, Konis, Aeroquip, Grade 8 bolts, new magna-fluxed front suspension, extractor exhaust. 3 races on car, one on fresh engine. \$1600. Tom Shaffner, P.O. Box 75, Cromwell, Conn. 06416 (203) 346-6210.

FOR SALE: Beach Mk5 with 2 extra wheels, some spare parts, and trailer. \$1200. Joe Weber, 2190 E. Main, Hillsboro, Ore. 97123 (503) 648-5073.

FOR SALE: Autodynamics Nassau Mk5, blueprinted, Konis, latest Firestones, minimum legal weight. \$1650, or with good trailer, \$1800. Bob Wenzel, 102 El Morro, Los Alamos, N.M. 87544 (505) 672-3578.

FOR SALE: '68½ Autodynamics MkV. Blue metalflake, chromed rear suspension. Five races on car since new. \$2500. J. C. Sager, 2118 Kings Ave., Jacksonville, Fla. 32207. (305) 359-2181.

FOR SALE: '68 Bobsy Vega. New brakes, instruments, Z-bar, Goodyear R-5's, tuned megaphone exhaust. Fresh engine. Daytona prepared, SCCA legal. \$1995. Richard Lamb, 1530 Kanawha St., (Apt. 212) Langley Park, Md. 20783. (301) 439-1708, after 6:00.

SWITCH

I'll confess that on our last ballot I was somewhat pleased that nerf bars were voted down (219 to 175). However, if I haven't changed it, I at least have an open mind on the subject now. Would you believe that in two races in a row Petunia's left rear wheel and axle were dragged almost out of the car? The first time, at Westwood (B.C.), nerf bars wouldn't have helped—an off-course excursion through some boulders (where boulders have no business living) was responsible. At the next race, however, Petunia locked rear wheels with another car which spun out immediately ahead, and which suffered almost identical damage. In the same race another accident which demolished the car and beat-up the driver painfully (though not seriously) was caused by wheel-to-wheel contact. Pleas for sanity in driving notwithstanding, that sort of thing promises to become more and more common in Formula Vee racing, especially now that money has become an additional incentive to pass the guy ahead, regardless.

You may recall that nerf bars were required at the last of the Bahamas Vee races, in 1967. There were no requirements for their installation, and some of them might actually have contributed to an accident had they been put to actual use — they were merely attachments to the trailing arms, which would have been ripped loose in any sort of encounter with another car. However, some of them had been designed specifically for fending off other wheels, and several of them were credited with preventing possibly serious accidents.

Under the present rules, effective nerf bars would be illegal. ("No part of the frame or body shall project beyond a plane connecting the vertical center lines of the front and rear tires.") Half a tire width would permit climbing of one wheel over another almost as well as would the entire tire. However, as we know, the rules can be changed, and this is one we might do well to consider in that light. Even if they were not to be required, it seems reasonable to permit those who would like to increase their safety factor to do so.

In its simplest form—a slanting bar de-

HELP ON CARBURETORS

The Arnolt Corporation, U.S. Distributor for Solex carburetors, has prepared a leaflet especially for Vee owners on the 28PCI Solex carburetor. It includes cutaway drawings and full explanation of the operation of the carb, and a complete list of all the jets, venturi, float valves, emulsion tubes, etc. Prices are shown; orders (\$5.00 minimum) will be filled directly and mailed postpaid if you have trouble locating these items locally.

The leaflet is yours for the asking, from: Arnolt Corporation, P.O. Box 540, Warsaw, Ind. 46580.

Who recently moved from Haldeman to Randolph Ave., in Louisville, Ky? The address change has all the dope except the name.

flecting other wheels away from the front side of your own rear wheels—it is purely a defensive device. The most common type of wheel-to-wheel contact is done by an overtaking driver (who is supposed to give the car ahead the right-of-way) either climbing the rear wheel of the car ahead with his front one, or getting his front wheel locked in between those of the leading car, causing it to do the climbing. In neither condition would a nerf bar be of much use to the rear driver; but in the second instance, at least, it could protect the leading driver, who might not even be aware that he was in danger.

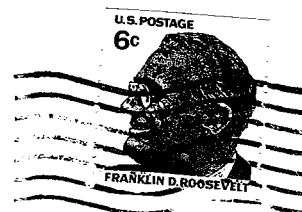
Nerf bars have been required for some years on midgets, sprint cars, etc., where the conditions are probably no more hazardous than in a Vee race. Like roll bars, helmets, seat belts and shoulder harness, they were violently opposed by the hero drivers who considered them "sissy," but they have proven their worth so often that drivers in those classes now would rather discard their steering wheels if they had to make a choice.

Next time you see, or are involved in, a wheel-climbing accident, stop and analyze it. Would nerf bars have helped?



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