



# VEE LINE

NUMBER 39

DECEMBER 1967

## BAHAMA VEE GRAND PRIX HUGE SUCCESS

### DIRECTOR'S CORNER

What with a late start (it's Dec. 22 as I write this, and the holiday season cutting into the printer's schedule, and all), it may be Spring before you get this. Nevertheless, a Very Merry Christmas, and a Happy New Year to you all, and many thanks to those who sent Christmas Greetings — I hope you'll accept this in return. I'll try to get back on some kind of schedule with the January issue.

Which reminds me — we should have had an election this month, but so far we have only one candidate — Harriet Gittings, who volunteered for President. Let's have some names — immediately! If none are received, you may find yourself "volunteered" anyhow.

### FORMULA VEE HAS COME OF AGE!

Both of the tire companies (there are more than two?) had representatives at Freeport, and both, apparently at the same time, have come to the conclusion that a couple of thousand Vees may well be worth catering to. Both are coming out with tires especially designed for Formula Vee!

If you think this is going to simplify the problem of deciding on your next set of tires, forget it! It's going to be even worse! They have diametrically opposite views as to what a Vee needs, so you can either take your chances, wait until experience has shown which is better, or try a set of each.

The Goodyear tire is apparently more definitely tailored to the supposed needs of Formula Vee. It is built on the premise that top speed can be increased by cutting down on the tread width in contact with the pavement. According to Bill Robinson, the Southeast distributor, it is designed to "grow" under centrifugal force, so that only the center section will be touching, thus cutting down on rolling resistance. In the corners, adhesion is obtained through use of a very soft tread compound. As its designer, he claims that unless the tread wears rapidly, the tire isn't "working" properly, and this one really wears rapidly. Asked how long it would last, he declined to speculate, but wouldn't want to guarantee it for three races. His philosophy is that those who can't afford the best tires shouldn't be racing anyhow.

Firestone's approach is entirely different. They feel that rolling resistance is reduced by a tire in which the tread is relatively flat, and doesn't flex appreciably when it meets the road. The compound used is the same as that furnished for big-bore "enduro" races, and is expected to last a full season. They don't agree that wear indicates adhesion. In fact, they take the opposite view — that

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### ANOTHER "CURE"

The Grand Prix may very well have had an unexpected part in "improving the breed" — and I'm not referring to the 1500 engine! A clue was found relative to the broken spindle problem!

In machine work of any kind, you will note that in changing from one diameter on a shaft to another the change is made with a "radius". In other words, the shoulder is formed with a curved section, rather than with a square corner. This is done to avoid concentrating bending stresses at any one point. Even a scratch or nick on a shaft which is constantly subjected to bending forces can provide the start of a crack which will gradually progress through constant flexing until the shaft is weakened to the breaking point. You have no doubt noted on broken shafts, that a portion of the break has obviously been in existence for some time. The "bent" driveshaft on the Pontiac, which was used for a short time, would have been practical, in theory, but it was found impractical to protect the highly polished surface from nicks and scratches which eventually started cracks when it was rotated often enough in its "bent" location.

Inspection of a bent spindle at Freeport disclosed a deformed ring, or shoulder, just where the radius started at the inner end of the axle portion. It was obvious that it had been caused by forcing the seal ring on the shaft farther than it should have gone, so that its inner diameter, despite being made with a taper to accommodate the radius, was starting to climb the curve. It couldn't do so, of course, so a bit of metal was displaced on the shaft, forming, in effect, the square corner which the radius was designed to prevent. Whether or not the radius has been changed, I couldn't say, but comparison with an old spindle after returning home (by memory) indicates that it has. Or perhaps the seal rings have

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### Cars From 12 Nations

Well, the fences have been rolled up, the grandstands torn down, the taxi-drivers have given up hopes that they'll be recognized as potential racers, and the first Grand Bahama Grand Prix for Formula Vee is over — but there will be more of them! It was a huge success!

If you don't know by this time that the 50-lap, 100-mile race for the 1200 Vees was won by Jean-Pierre Beltoise in "Red" Crise's Beach; the Governor's Cup Race by Dieter Quester, from Austria, in an Austro Vee; and the big bag of marbles for the main event — the 200-mile Grand Prix — by Tony Jeffries of South Africa, in a Capital Vee, you don't really care about race results, so we'll skip the rest of the lineup. However some of the sidelights may have been overlooked in the regular racing magazines, so perhaps some of the items I remember will interest you, too.

The course itself was claimed to be similar to Monaco. That I couldn't confirm, never having seen Monaco except on TV, but it wasn't a typical SCCA course, at least. While it didn't skirt any buildings very closely, it was strictly road racing, as those who attempted to leave the road soon learned. The entire course, including the starting lane, was approximately twenty feet wide, and much of it was bordered by concrete curbing about six inches high! Not shown on any charts of the course, but actually the most important feature was a chicane around a "circus", "turnabout", or what have you, which effectively divided what might have been one long straight into two rather short ones. This "circus" is a fountain and pool, surrounded by lawn, and bordered by a concrete curb about eight inches high; it's about two hundred feet in diameter. Four four-lane streets, with a grass divider between, intersect at this circus, so that even to continue in the original direction (as the track did) it is necessary to travel part of the way around this circle. This was where a goodly number of the drivers learned about road racing the hard way!

It was a well-balanced course, with six left turns and seven rights, only three of which could be taken flat-out. The longest straight was slightly more than a quarter of a mile, which will explain the slow speeds reported — the highest speed recorded during the week was Whit Tharin's qualifying laps at just under 67 miles

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## BAHAMA VEE GP HUGE SUCCESS

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an hour. Tony Jeffries' speed in the Grand Prix was 64.857 mph. The 1200s, in the first race of the week did almost as well.

The "Week" started out in typical Bahamas fashion, with "Red" Crise in a Karmann Ghia pace car leading the field around the track a couple of laps, like at Indy, and turning them loose to practice by pulling off the track and letting them go by. Hannelore Werner, on her first practice lap, lost it at the circus and wiped out both ends of her car before she quit bouncing off the curbs. She was alone in her misery for only a short time, however — it wasn't long before it appeared the winner of the week's racing might get it by default. At least eight cars were subject to "curbitis" during the first practice session! The lesson wasn't learned the hard way by everyone, however — by the end of the week, during the three-hour main event, the few cars which did climb the curbs did it with little or no damage.

During the entire event there were only two injuries, despite the number of damaged cars. Bill Scott, of Washington, D.C., got a slight concussion and torn muscles in his forearm when the roll-bar on his AD snapped-off during one of those "occurrences" in the first practice session (the only car which flipped during the whole event, I believe) and Lief Hansen, of Sweden, broke several ribs when he wrapped his car around some sand bags protecting a corner station.

Rear axles and brake drums, front spindles, and wheels, in particular, were at a premium before the week was over. Very few of the cars on mag wheels finished with a full set. Bill Scott said that by the end of the week there was hardly enough of his car left to take home — most of it has been loaned or bought for replacement parts by those still able to restore their cars. A few of the required nerf bars were used for their intended purpose — but not many. When there is no place to go, crowding is done very carefully. Only two bars seen would have done any good — the rest were attached to the trailing arms, in token compliance with the rules, and would have folded up, along with the arm, under any kind of strain.

The finishing order of the three-hour final race, then, was even more than astonishing, considering those conditions. Out of the 34 starters, three hours and 200 miles later, 29 of them crossed the finish line. (How about that, big-bore fans?) One pit stop was mandatory, but of the first seven, at least, several only got out of their cars and back in, as required, and took off. The first four cars were all on the same lap, with only 7 seconds between first and second places, and about 11 seconds between second and third. Behind Tony Jeffries, the three Austrian entries (Dieter Quester, Joachim Rindt, and Dr. Helmut Marko, all in Austro Vaus) were expected to move up during the last laps, as they had been holding their positions so steadily that it appeared they were merely marking time waiting for the right moment. In the last five laps they did manage to cut down their times by a couple of seconds, but it was obvious then that they had been doing their best all through the race.

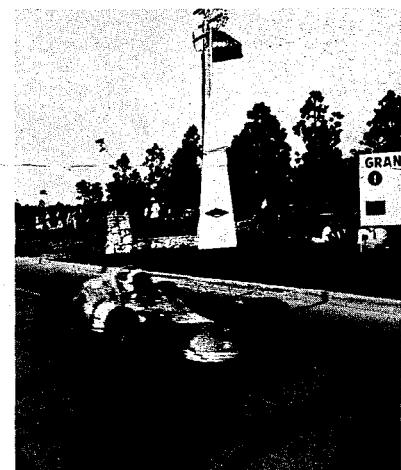
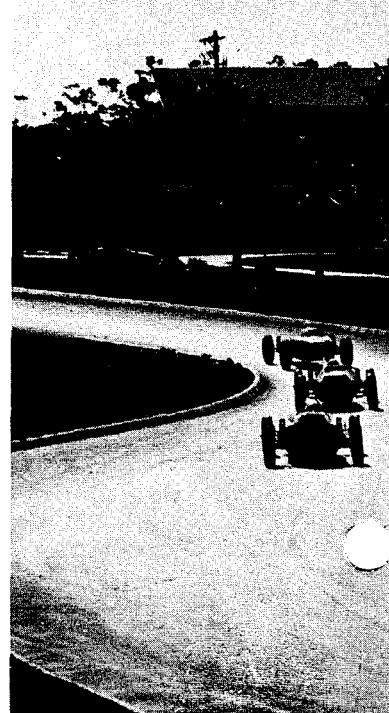
I said it last year, and I'll say it again: it's driving that wins Vee races — in the Bahamas, as everywhere else. Tony Jeffries had a perfect line through the corners, and followed it every time around. He knew exactly how fast he could go, and didn't get suckered into trying a corner just a little faster in order to go through it first. His normal lap times throughout the race were within one second of each other — any variations were large enough so it was obvious he had been held up in traffic. The same comments apply to the Austrian drivers. There were a number of cars faster than Jochen Rindt's, for instance — he started in eighth place on the basis of qualifying times, and would have been farther back if some of the faster cars hadn't been "disqualified" on the curbs previously. John Ryan, of Griffin, Georgia, was pushing Jeffries hard for the first 60-odd laps, including a pit stop, but a second one-minute stop for a mechanical problem put him back in sixth place, which he managed to improve to fifth by the end of the race. He passed Tony a couple of times, and looked to be the possible winner up till that time.

Whit Tharin made what was possibly the toughest decision in his life during the main event. The background is somewhat involved, but anyhow — grid positions for the main event were determined by times for two qualifying laps, taken earlier in the week, but even getting on the grid required being one of the first ten placers in the 1200cc race the previous Sunday, or one of the first 23 in the Governor's Cup Race on Thursday. In the first event Whit decided he couldn't make one of the corners and drove over a curb rather than take a chance on going into it sideways and flipping. He bent up the front end, but saved the car. In the Governor's Cup he had trouble shifting, and found, after a couple of pit stops, that the rubber engine mounts were torn loose. Ed Zink lashed the rear one down with a spare clutch cable, but Whit was unable to finish in the top 23, so was apparently eliminated from the Grand Prix lineup. Harvey Templeton was also eliminated during the Governor's Cup, when he hit a boulder on the shoulder during a three-car pass, skidded across the median strip (laying a palm tree between his head and the roll-bar in the process) into the opposite lane, and was then hit by Sam Posey, who was bounced into the curb, putting his car out of business, too. It was so spectacular that someone immediately dispatched a huge wrecker, which pulled onto the track in a curbed section, directly in front of Werner Muller, (Switzerland) putting his car permanently out of the race, though he was uninjured when he tried to climb onto the grass.

On the ground that he had been put out of the race due to negligence of the race

When Red Crise speaks, even a bullhorn, Bahama's drivers had better listen.

Ranfurly Circus, the center of the Lucaya circuit, is edged with big trees.



The scoreboard (above, at right) tells the story as Tony Jeffries' South African Capital Vee romps home, a winner. He was awarded the Brundage memorial trophy and about \$8,000 by Sir Ralph Grey, Governor.

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## BAHAMA VEE GP HUGE SUCCESS

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personnel, rather than to any fault of his own. Muller was allowed an extra spot on the grid — in 34th place. He arranged to "borrow" Whit's car, on a co-driver, share-the-winnings, agreement, for the Grand Prix.

From the last spot on the grid, he had worked his way up to 7th by the end of the 20th lap, to 4th in the 30th, and to 3rd in the 40th, which he held for another ten laps. When he came in to refuel after the 50th lap, Whit took the car. During the stop Joachim Rindt had taken over 3rd place, and the comparative lap times soon showed that Whit's 4th place would soon be lost, so after about 15 laps he acknowledged that Muller could drive his car faster than he could, himself, and turned it back to him, losing another place in the process. Muller was unable to regain his previous position, and was in fact passed again, putting him in sixth place at the end of the race.

(Whit did have three triumphant moments, though — he had the fastest qualifying time, he passed Jochen Rindt once, and a "blown valve", which he expected to spoil the day before the main event by requiring a top overhaul, was cured by tightening the two intake manifold bolts on that side of the engine.)

Bill Campbell, too, appeared for a time to be a possible winner. He pulled off the track right after the start for some mechanical adjustment, but got going again after losing nearly a lap, and worked his way well up before pitting for some other trouble. He repeated this process several times before dropping out for good. When questioned, he said he "had trouble with everything — brakes, clutch, shifting, etcetera."

The promised "big names" as usual failed to live up to their advance billings. A. J. Foyt was rumored to be in the area, and Lothar Motschenbacher was eliminated by finishing too far down the list in the first Sunday's race for the 1200's to be included in the lineup for the main event. Sam Posey, who got his start in Formula Vee, and is associated with Autodynamics, was the only U.S. "name" driver to justify his being there, and Jochen Rindt, of course, is a "name" in this country, as well as in Europe. The other U.S. drivers were the ones you've been hearing about in SCCA. There were no manufacturer's teams, as in the past — in fact the only builders present were Jerry Mong, with one car plus another privately owned Vega Vanguard, Wayne Kelly, of Canada, with one privately owned car and one of his own, and Ed Zink, who had no entries of his own, but as usual shepherded a flock of six privately owned Zink cars.

The 1500cc engines, raced here for the first time, provided a number of surprises. In the first place, only one of them blew up, contrary to predictions, and that was due to a calculated risk. Lee Cutler knew his engine was using oil, but decided to take a chance and try to finish without stopping for a refill — and lost. Nearly all the drivers were enthusiastic about the big engine — but it was apparent that some were confusing acceleration with speed. One of them, all excited, said, "Man, with that engine this car is fast!" However, he admitted he was getting a top speed of 5000 RPM, which works out, as with the 1200, at slightly less than 100 miles an hour. On a long course it is possible that another 10 miles an hour could be expected (most drivers considered 5500 RPM to be the maximum safe engine speed). Noise, too, was in disagreement. Many claimed that the 1500's were much noisier, but few, if any, could tell which engine was going by, just by the sound. Even with the obvious difference in acceleration, the overall performance in the track wasn't really impressive. No figures were included in the official releases for times in the first (1200) race, but the qualifying time for the fastest 1200 was only 5.626 mph slower than that for the fastest 1500, and even the slowest 1200 was only 7.44 miles an hour below the fastest 1500.

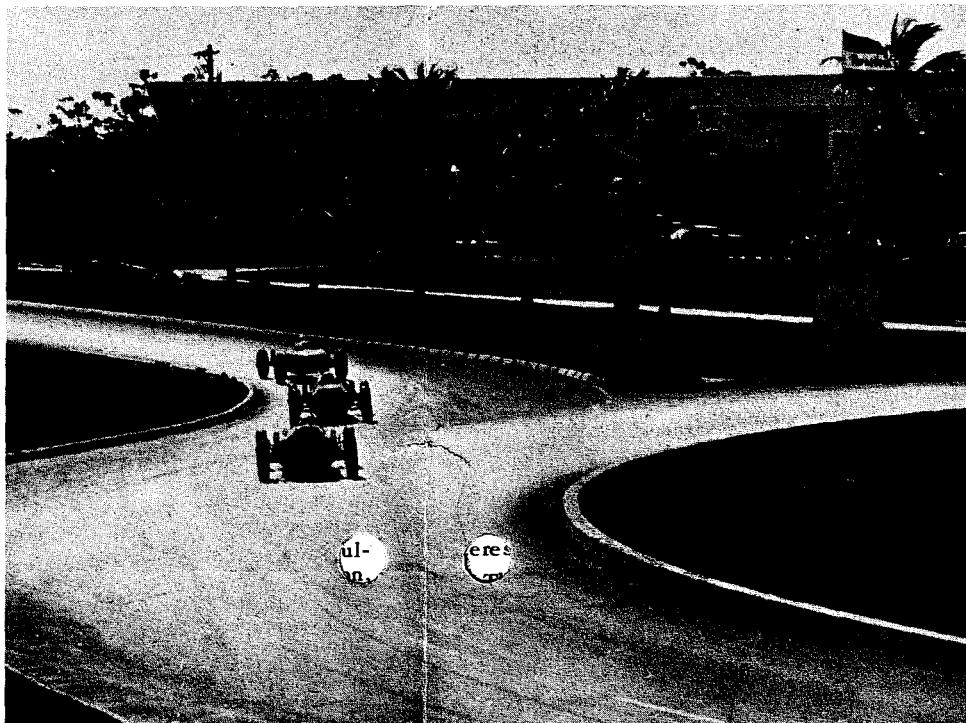
There were no reports of brake trouble in the 100-mile race for the 1200's, but the drivers who reported driving "the last 17 laps with no brakes at all" in the Grand Prix had to be either super drivers, or exaggerating, considering their lap times. There was, no doubt, an unusual amount of braking required on this semi-auto-cross course, in 100 laps, but considering that the front runners weren't the ones with brake troubles, and that the complaint usually boiled down to having to push on the pedal harder than usual, rather than to any definite failure, and that linings in general were in good shape after the race, it might be suspected that some psychological factors might have been involved, too, as in the impression that the 1500's were going *much* faster.

I didn't make the teardowns this year, but it was reported that even more care was used than was last year, to assure the legality of the 1200's. In the engine department, that is. As usual, other items were pretty well taken for granted. For instance, it was amazing how many cars had to be pushed backward. This was explained as a faulty reverse lockout, usually, but two drivers told me privately that they had no reverse gears in their transmissions. I heard no complaints or suspicions of illegality at all, this year — possibly because it has become pretty well known that anything goes, outside the engine, and possibly because there is really not too much, besides the engine, which does matter. The Europeans, of course, use the 1300 front suspension, but it is generally acknowledged, even by them, that the older pin-and-bushing type we use is stiffer in the corners than the ball joints. There was only one "camber compensator", as far as I know, but many of the "Z-bars" were in evidence. Which reminds me — one of our drivers, who shall remain nameless here, ate a good dose of crow after the main event. Before the first race he had volunteered some rear suspension advice to the South African team, with appropriate comments as to the futility of their trying to race

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*When Red Crise speaks, even without a bullhorn, Bahama's drivers had better listen.*

*Ranfurly Circus, the center of the Freeport-Lucaya circuit, is edged with high curbs.*



The scoreboard (above, at right) tells the story as Tony Jeffries' South African Capital Vee romps home, a winner. He was awarded the Brundage memorial trophy and about \$8,000 by Sir Ralph Grey, Governor.

Photo right by Gene Foss; other photos by Marathon International Productions, Inc.

## BAHAMA VEE

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**BAHAMA VEE GP**

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with the unsophisticated suspension they were using (traditional coil springs and shocks, with a simple sway bar). However, as the saying goes, you can't argue with success!

The South African team entered the fray as potential underdogs, and their win pleased nearly everyone ("As long as I couldn't win, I'm glad they did!"). There was only the one car, with Tony Jeffries (the driver) George Van Straaten (the builder) and mechanic, Wilf Egger. Right off the bat, they found, when they got there, that due to a quirk in the printing of the rules, practically everyone else had interpreted the "43cc volume" of the heads to apply to the 1500 engine, as well as to the 1200. They scurried around frantically trying to get their heads modified, but finally were able to obtain an American engine, (reducing the normal 49cc volume to 43cc gives a compression ratio of about 9.5:1, by the way). They had come expecting to have to refuel during the mandatory pit stop, but found that this was not required, so (as the Austrians) they installed enough tanks to run the entire race, getting them cobbled up in Miami at the last minute — an extra tank in the nose, and another (which looked like a piece of futuristic art) made to fit all the available space around the seat. Their body style is somewhat old-fashioned, compared to the newest creations, and, of course, their rear suspension *did* look too simple in that company. However, the construction was beautiful aircraft style, with tubing of appropriate sizes in the appropriate places, and their preparation was obviously perfect. They achieved some respect when Tony came in 6th in the 1200 race, but even then weren't considered top contenders. When he made fourth place on the grid with his qualifying time, he started to receive some consideration, but it wasn't until he had held the lead for several laps, after having been repassed once, that he was really taken seriously.



**Formula Vee  
International**

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There were two girls driving — Hannelore Werner, from Germany, and Liane Engerman, from Holland. Miss Engerman drove only in the 1200 class, and in the main event was reported to have turned her car over to Paul Richards, of New York, after five laps. Miss Werner, however, drove the full distance in a 1500 car in both the Governor's Cup and the Grand Prix, coming in 7th and 14th, respectively. This in spite of the fact that her car was the first, (and one of the worst) casualties during the initial practice session, with *both* rear axles and *both* rear drums bent, as well as damage to the front end. It couldn't be repaired in time for the initial 1200cc race.

While the Austrians failed to repeat their clean sweep of last year, they finished in the money every time. In the first 1200 race, it was Jochen Rindt, Gunther Huber, and Dr. Helmut Marko in second, third and fourth spots, Dieter Quester won the Governor's Cup, and in the Grand Prix it was Quester, Rindt, and Marko again taking second, third, and fourth. With Jean-Pierre Beltoise taking first in the 1200, and Tony Jeffries taking it in the Grand Prix, the best finishes by U.S. drivers were in the Governor's cup — second, third, and fourth by Crooky Peterson, Jeff Stevens, and Lee Cutler.

That's the way it was, at the Grand Bahama Grand Prix of Formula Vee!

**UNCLASSIFIED ADS**

**FOR SALE:** '66 Autodynamics, ex-factory Sam Posey car. 8 races, 6 trophies. New engine, excellent condition, spares. \$1495. C. R. Haines, 3 Upland Terrace, Mt. Vernon, Ohio 43050 (614) 397-6781.

**FOR SALE:** Two used factory team Sharks — one driven only on occasional weekends by conservative female driver. Ann Purucker, Continental Parts & Cars, 5919 Barton, Shawnee Mission, Kan. 66203.

The VEE LINE of  
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**ANOTHER "CURE"**

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been changed. At any rate, the two parts noted were not made for each other, whether by design or by a slip-up in machining. The ring should contact the shoulder at the inner end of the axle at its outer diameter, before the inner diameter starts to contact the radius.

If, when inspecting your spindles, you can see a mark which has been made by the seal ring, it's too late to do anything about it. It's not a definite indication that the spindle *will* break at that point — it might go for years — but it *is* the point at which it will break if it is going to. The time to check this situation is when installing a spindle which is, so far, OK.

The seal ring doesn't *have* to be a drive fit — pressure of the bearing against it will prevent its turning, so a little emery cloth on the inside, and a little STP, should be used to insure a free-fit. Then check, with a sheet of thin paper, to see that you can easily slip it on the spindle so that its face firmly contacts the shoulder. If it doesn't go easily, use a rat-tail file on the tapered side of the inside diameter, removing enough metal to insure that the corner will clear the radius on the spindle.

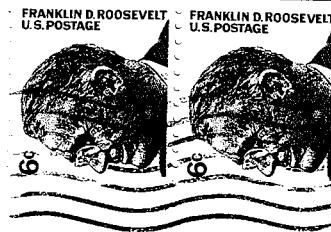
No spindles were broken at Freeport (though many were bent) and there were no broken steering arms, either.

**FORMULA VEE HAS COME OF AGE!**

(Continued from Page 1)

wear indicates friction due to slippage. Their tires are wider, both in cross section and tread width.

Goodyears are said to be available now (though it was admitted that it may take some time before all the distributors have them). Firestones are expected to be generally available within three months. Both, of course, will be handled through race tire distributors — you won't be able to buy them at your local dealers.



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