

Terry Vance had just hustled his 1176cc Suzuki Pro Stocker to a new track record of 9.33 @ 142 mph during a qualification run at the Bowling Green Nationals. As the sleekly-painted silver-and-black Suzuki was rolled back to the elaborately outfitted R.C. Engineering van, a crowd of photographers and newswriters strained to catch a glimpse—not so much of its slim, pocket-rock-et jockey wearing the funny boxer shoes, but more so of the young, clean-cut looking mechanical wizard named Byron Hines, the often inconspicuous half of the highly successful Vance/Hines Pro Stock team, one of the winningest teams to ever assault the quarter-mile. It was here, away from the action-packed noises and smells of the dragstrip, that the average spectator could watch this amazing 28-year-old at work, a man who is one of drag racing's most competent motorcycle designers, builders and tuners.

Surrounded by three R.C. sponsored bikes, all of which were in some state of dismantlement, Byron impatiently went to work on the newly arrived Suzuki, though the cylinders and cases were still blistering hot from the record run. With hands seemingly blessed with the power to bestow horsepower to anything they touch, he read the plugs, removed the Amal carbs, rejetted each and assembled the entire mass—all in the blink of an eye without a stitch of emotion. It's this intense dedication and love for racing which literally turns him into a well-oiled machine at the races. "The best thing I like about my job at R.C. is the chance to go racing. I don't really mind traveling seven months out of the year, but if you could leave out all the hotels and baloney and just set me at the racetrack, I'd be in heaven." He admits he's more or less a "workaholic" and constant fiddler, but like he says, "If you're No. 2 you're naturally going to be down at the shop a lot more." While being No. 2 generally isn't the case, he still wants things perfect, but he's disappointed when they are, because that means he can't fiddle and tinker anymore. Last year, when Terry Vance was playing roadracer on a KZ650, Byron said it was boring for him because the bike didn't stop after each lap so he could make adjustments. "Drag racing is much more gratifying for a tuner because you can see your accomplishments or failures instantly, right there on the time slips."

Like many tuners who stand in the shadow of their riding partner's success, Byron is quiet and conservative. He's a genuine "All American Boy." He doesn't smoke, drink or

BYRON HINES

A Silent Man Whose Motors Do The Talking

By Rich Cox

party hard, and his idea of a fun time on race weekend is dismantling an engine on the floor of a Holiday Inn room at 2 o'clock in the morning. He's been married six years, has two sparkling children and lives in a comfortable \$89,000 two-story home in La Palma, California just 20 minutes from the R.C. Engineering facilities where he's been content making engines scream for over seven years.

You'd expect the surroundings of his residence to be a graveyard of hot-rodged machinery, but it isn't; it's neat and clean and an indication of his professionalism. On one wall, behind a Yamaha YZ400 motocrosser which he occasionally rides on weekends, are rows of shelves stacked full of battered and destroyed Honda and Kawasaki heads and barrels—proof of his past and present learning method: trial and error. Directly in

front of a highly polished jet-black Grand Prix is a small drill press. On the left is a tidy workbench which supports a nifty porting tool and a sophisticated-looking flowbench. "I just like to tinker out here on weekends for my own personal knowledge." His lifestyle is slow and easy and no doubt patterned after his one prominent idol: Don Prudhomme. "He just has a clean act. You can expect that every time he comes to the starting line he's going to do good. He doesn't break very often and goes fast all the time. I follow the cars more than the bikes as far as other classes because they're the trend setters; all we can do is pattern ourselves after them."

He's a difficult person to feel comfortable around and like most gifted individuals, he enjoys communicating with those on his own level. "I don't



mind helping other guys at the track, but when some of them start mouthing-off and giving me advice when I don't need it, I just tell them to go talk to Bob Carpenter (referring to one of Terry's and Byron's arch rivals in the Pro Stock class)—Bob will talk to anyone." Outside of his co-workers at the shop, who he respects immensely, the one tuner he most admires is Carl Ahlfeldt of Motorcycles Unlimited in Oklahoma City, owner of the twin-engine Kawasaki Top Fueler which has been going head-to-head with Ronnie Teson's blown Honda single at every Top Fuel meeting. "Carl's kicked back, but his brain is going about 100 mph."

Byron Hines is your basic self-taught genius. You might even call his life "rags-to-riches." Although he is currently taking a correspondence course in math just to "keep up," in the 11 years since graduating from high school he's never had any technical schooling that even qualifies him to do tune-ups, let alone design and build sophisticated award-winning race machinery. You could attribute his success to simply "coming into his own later in life" as his early years showed little sign of genius.



Hines in a pensive mood. Suzuki's Jeff Burt knew him for weeks before he heard him crack a joke.

Until the age of eight he lived with his parents on a farm in Coleridge, Nebraska. He remembers his dad was always working on tractors and "I was the 'go-fer,' the guy who fetched the wrenches." Moving to California in 1956 he went through the standard academic classes and tinkered with the then-usual playtoys; go-cart engines and soap-box derby racers with Briggs & Stratton engines. Motorcycles caught his eye while he was a junior in high school. "I really didn't like working on cars because they were too heavy and greasy and difficult to get the engines out. So I bought a Honda Super 90 and installed a 104cc kit. When I found-out how easy bikes were to work-on compared to cars, that's when I really got enthused." He didn't get completely hooked on bikes until a friend of his, who had a cut-down and modified Suzuki X-6 Hustler that was ported and polished, let him have a pass on it at the dragstrip. "I remember that first pass, a 13.18 e.t. After that I just went crazy, hopping-up anything I could get my hands on."

He graduated six months early from high school in January of '67 with "better-than-average" grades

and proceeded to buy his own X-6 which he hopped-up and used to terrorize the locals. However, in September of the same year the Army grabbed him when he volunteered for the draft. "I did it because my brother was in and I thought that was really neat." Kicking back he laughingly adds, "Boy, was I a jerk." He was in for 31 months: nine months in the states and 22 months in Viet Nam as an Aircraft Armament Repairman, where he serviced and repaired mini-guns and grenade launchers aboard helicopters.

In April of '71, two days after being discharged, he bought a 750 Honda without ever seeing one. "I rode it 2800 miles and then some guy on a three-cylinder 500 Kawasaki smoked me—the next day I went down to Gardena Honda, bought an 811cc piston kit and cam." Assembling the engine was no problem, but he couldn't find anyone to bore the cylinder, a circumstance which eventually led him to a small, newly opened two-man operated speed shop in Torrance, California called R.C. Engineering; one of its owners was Russ Collins. Byron vividly remembers his first encounter with Russ: "He bored my cylinder, sold me another cam since he convinced me the other one was no good and really smoked me on the price. He charged \$60 to bore the cylinder and \$120 for the cam." After installing the kit Byron returned to the shop when the engine, although it ran great, kept fouling plugs. Russ recommended hotter plugs. As he was leaving the shop Russ asked if he'd done all the engine work himself, obviously impressed with the way the engine ran and the fact that it didn't leak any oil. "He offered me a part-time job right there on the spot doing tune-ups and lacing wheels, and I accepted."

It didn't take long before he impressed his way into a full-time job. "Naturally I started racing my bike occasionally on Wednesday nights at Lions Drag Strip, but I didn't know at the time that Russ had set a record of 12.11 in the B Street class, the same class I was running. I didn't want to run my bike because I was afraid it would be a 'brick', so I said: Russ, why don't you ride it. He did and it turned a 12.40, which was pretty respectable. Later I started riding it myself regularly and ended-up turning times equivalent to Russ's record—and it was just my junk transportation bike with nothin' in it." With that, things just started snowballing for him and R.C. Engineering. "We got heavier into racing. They started letting me do motor-work under Ernie's (Ernie Howard was Russ's partner then) watchful eye,



In 1977 Hines won the NHRA's Best Engineered Car award for his work on the incredible V-8 "Sorcerer."

BYRON HINES

and eventually they just let me go on my own." He attributes much of his early tuning success to the Honda engine itself. "At that time there was so much potential in the Honda engine you could make mistakes and still go faster each week. It got to the point where we were going quicker than anyone else—but I don't think we knew any more."

Several months later, at the dragstrip, Byron officially became associated with one of the Wednesday night "locals," a skinny-looking cocky little kid named Terry Vance, who at the time was biding his time while running parts for a Buick Dealer. "We used to run brackets together before I met Russ; he doesn't like to admit it but I'd just motor by him—because his bikes had no steam." But it was Terry's riding ability (the fact that he would often win his class on inferior machinery) and quick tongue that attracted Russ's attention. Soon Russ was sponsoring him, letting him ride his machinery at the races, a situation which blossomed into a full-time job for him as R.C.'s shop rider. He quickly graduated to parts manager and later to General Manager.

It was late '73, with the creation of two impressive eye-catching machines—the famed Atchison/Top-eka/Santa Fe triple-engine Top Fuel Honda and Terry Vance's B-Gas double-engine Honda—that R.C. Engineering and the Vance/Hines team stormed into the public's eye. "Both bikes were started at the same time, patterned similarly, but Russ and I were thinking along different lines. I wanted to build something that was simple, fast, that would win and everybody would respect—Russ was looking at the triple as more or less a

flashy promotional tool. The triple was mostly Russ and Slim's (Slim Moffett did most of the tuning on the triple at that time—he now works across the street at American Honda) project, although I'd make suggestions occasionally. They usually didn't get done." Campaigned simultaneously, both bikes served their purpose well: that of promoting the R.C. Engineering name; however the double was more successful on the dragstrip because it won 22 out of 23 races that it entered.

By all rights Byron could be somewhat resentful since many of his accomplishments have seemingly gone unrewarded. Some have even been stolen from beneath his nose, but he seldom lets it bother him, nor does he air any resentment publicly. Only when questioned point blank did his inner feelings about those early days surface: "One thing that upset me and Terry was the fact that the double was always overshadowed by the triple; it got all the ink even though it was continually sitting in the pits broken."

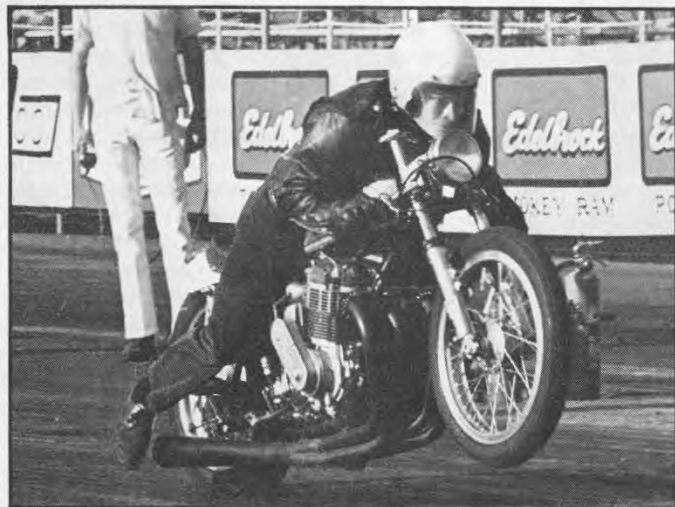
Byron's latest engineering feat and his most gratifying accomplishment to date is the "Sorcerer," Russ Collins' blown V-8 Honda-powered Top Fueler, a mechanical wonder so spectacular that Byron received "The Best Engineered Car" award from the NHRA in 1977, one of only two awarded to motorcycles—the other went to Russ for his triple. Byron credits Ralph Muldoon with the original concept of placing a blower between two engines, "but it was Russ's idea to invert the blower, which made it all feasible." Byron spent nine relentless months at the shop doing nothing but engineering and machining (he's an expert machinist but won't admit it), and fitting the Sorcerer's complicated inner and outer workings (most of which were

handmade). He admits he was somewhat probing in the dark when it came to supercharging the beast. "At that time supercharging motorcycle engines was relatively new, but I got lots of help from Russ and guys like Donovan, Dale Armstrong and Crower who were pretty much guessing too."

While constantly spurred-on by the thought of a challenge he did have reservations about building The Sorcerer. "We had to turn the head around on the rear engine. That doesn't sound like much, but it was a real mess. The biggest problem was getting something both Russ and myself could agree on. Russ was always in a hurry, wanting to cut corners; I wanted to do it right so we wouldn't have another mess like the triple—we had our disagreements."

Midway through the project the "real" Byron Hines—the creative genius—was cut loose when Russ suffered his 180-mph crash aboard the triple. "I realized then that I was on my own; I had no reins on me so I just took off and did it the way I thought it should be done." And that way ended-up being mind-blowing to say the least: it cost upwards of \$35,000 to complete; it weighed-in at a stupendous 950 pounds; and Byron estimates its nitro-burning V-8 engine is producing between 550-600 horsepower, "depending on where the throttle is." From an engineering and maintenance point he's pretty happy with the outcome. "It's a lot better than the triple because with the triple you never knew what was going to break next. It was just an engineering screw-up; it was everybody's dream, but turned out to be a wet one. You know we went through 26 stroker cranks—turning them down and keying them—I could do them in my sleep."

While the V-8 currently holds the



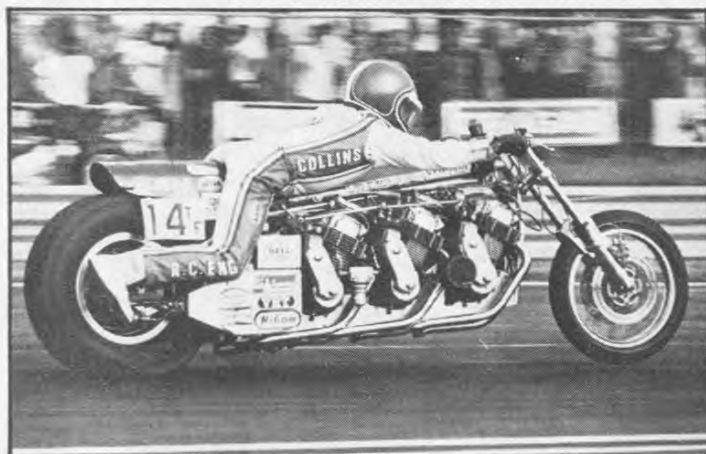
Like so many tuners before him, Byron cut his teeth as a rider. This picture shows him in 1972 at Lions where his 820 Honda turned a 10.68 quarter-mile.



It took Byron Hines one full year to build the Honda V-8 Sorcerer and only 8 seconds for Russ Collins to get it up to 190.67 mph. The bike has close to 600 horses.

The 2000cc Vance/Hines Top Gasser was the first double Byron built. It took two years because he had to redesign the clutch and perfect the first connecting belts.

Russ Collins teamed with Hines to build the fabled Atchison/Topeka & Santa Fe triple which was the first bike to ever break 8 seconds with a 7.96 run in 1976.



NHRA top speed record of 190.67 mph, there's no doubt in Byron's mind that it has the potential to be a winner and break the 200-mph barrier, a goal they've been striving for all along. Although he respects Russ's riding talents and courage immensely, he feels he's a bit gun-shy from his previous crash; he'd like to see what another rider—like Jim Bernard or Terry—could do with it. "Actually since we first started, it's been pure guesswork. I don't know how familiar people are with blown nitro bikes, but if the throttle isn't on full, the fuel injection system doesn't work right—the throttle always has to be moving and coming open. If you back off she leans out and there go the pistons." Byron admits it takes a superman to ride the thing: "I'd torch that beast before they ever got me on it."

Like an IBM computer, his work capacity is immense, dividing his time between doing all the new-product R & D work in the shop and keeping the V-8 and Suzuki Pro Stocker in competitive form. When he isn't answering countless questions, you can usually find him in his "room," an exclusive section apart from the main shop which houses a make-shift dyno that he built himself.

At the moment however, the Suzuki Pro Stocker is getting most of his attention for several reasons: 1) It's Suzuki's first sponsorship in the drag racing world and R.C. would like to make a formidable impression with them; and 2) The Pro Stock class relates more to the spectators and is therefore a valuable sales tool for promoting R.C. racing products. "I've always had a soft spot for Suzuki anyway; I was always whizzed because they never had a four-cylinder. Did you know that the same guy who designed the X-6 Hustler also designed the head on the GS1000?" Deciding which bike he enjoys working on the most seems to depend on which one is winning at the time—right now it's the Suzuki. "If Russ's

Sorcerer was running right to the edge of its capacity—say 201 or 202 mph and winning, it'd be different."

After two years of winning with Kawasaki Pro Stockers and knowing them inside and out, the change to a Suzuki in '78 was a bold move for Byron, a switch he says was made basically "just to be different," because the racing package offered by both factories was similar. "The major problem with the Suzuki was that we had to start all over, making all new parts and trying to duplicate what we already had—as far as I know the switch was all my decision because Terry would have gone either way. If we hadn't had the past experience, we'd be in big trouble right now." It wasn't only experience that enabled them to get the Suzuki out-performing last year's Kawasaki, it was just plain hard work as Byron can attest to: "We went through three cylinder heads and countless dyno hours before we got it flowing like we wanted it."

With Suzuki's lucrative backing (free bikes, a traveling expense account and bonuses for each record set), Byron is confronted with jealousy from many of his competitors. "Except for a few individuals, the real racers, most of them think money is the only thing that makes it happen. They figure if they had the same facilities we have they'd be on top. The sharp guys know what the real story is though."

In spite of their liberal backing Byron's quick to note that it's the clean-cut division of work loads between himself and Terry which give them the winning edge. "I don't have to worry about him sleeping on the line or missing shifts and he doesn't worry about what I do in the pits. He has a delicate feel for the bike and can tell me in which part of the track it's not running—that helps me a lot."

Being one of the "new generation" tuners who never dwell in the past, he's excited about the future of drag

racing—especially the Top Fuel class. With the deluge of big Japanese DOHC engines and the increased knowledge of motorcycle supercharging, the future trend is leaning towards single-engine blown fuelers—a situation that will ultimately make the Top Fuel class as competitive and exciting as the Pro Stock class is now. "We're going to have one—we'll probably start building it this winter after the last meet is over; it'll probably be a Suzuki, even though they're just a little bit behind—but they can't stop now and sit back." The fact that this situation might even throw the Vance/Hines team into an underdog position in Top Fuel doesn't bother Byron—in fact he thrives on the challenge. "Terry likes being No. 1, but I'd personally rather be No. 2 because that gives me something to shoot at."

Byron has remained loyal to R.C. Engineering since he first entered the establishment over seven years ago. Why? Because he's totally content with his working conditions: "I get to go racing; I have a free run of the shop; I don't punch a time-clock; I enjoy the people and there are no problems—I'm pretty much free." While his talents could easily handle a TZ750 roadracer or a Harley XR750 miler, he has little interest in them. "I wouldn't want to compete with the factories—drag racing is one of the few competitive sports where everyone has a fair chance at winning."

If, however, he could cater to his whims (meaning if he had unlimited money to play with), he says, "I'd like to build a blown Top Fuel and Pro Stock bike and set-up strictly a racing shop—with two or three dynos sitting around—where Terry and I would do nothin' but race." One of his all-time goals is to win all the pro records for R.C. (Top Fuel, Super Eliminator, Pro-Comp and Pro Stock) all at one time where it came out in print." He laughs slyly, "That would be a cruncher wouldn't it?"

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