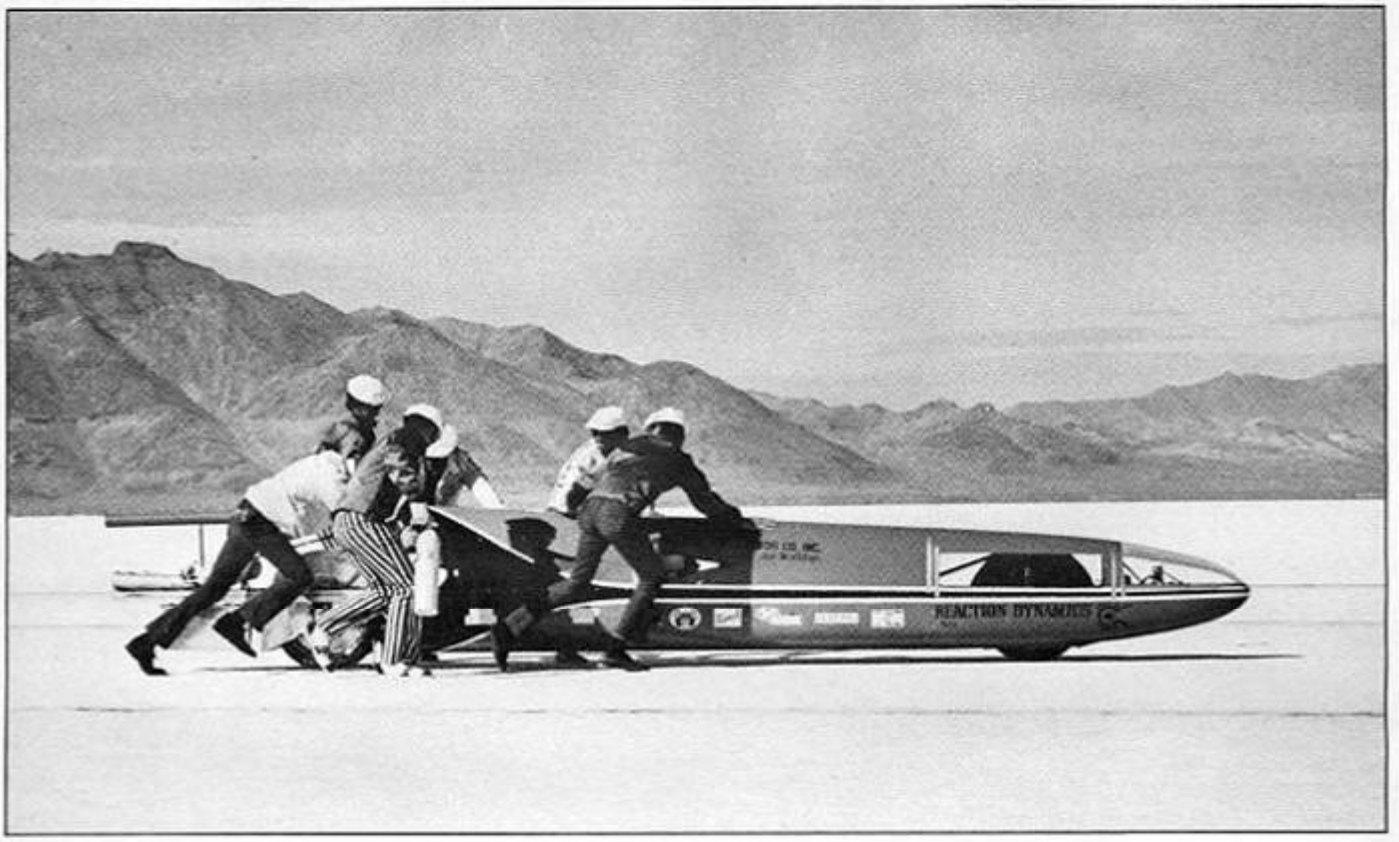
Not merely content to beat Harley's 265 mph, the salt liners are going for that elusive 300 this year.



ASSAULT BUGGIES

By Carol Ashworth

Three hundred miles an hour! The magic figure for optimum motorcycle speed, thought impossible not too long ago, is well within the realm of reality at Bonneville this year. When Speed Week rolls around, Utah's famed salt flats will be hosting some real down-for-the-money attempts at breaking the elusive barrier. And if the feat isn't accomplished, it certainly won't be due to lack of effort.

Harley-Davidson's two-way record average of 265.492 mph, set in 1970, has never been in greater jeopardy, especially since the contending Motorcycle Land Speed Record machines are aiming for much more than a new record. Their builders want the 300-mph mark.

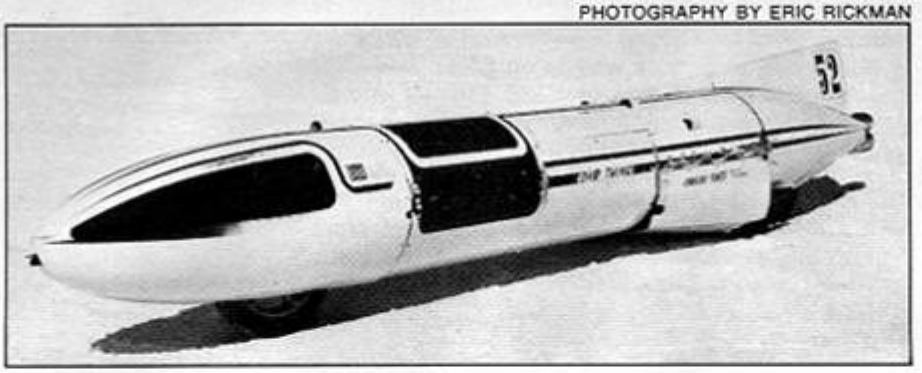
Not surprisingly, the methods of attack involved in readying these two-wheeled missiles vary considerably from one streamliner to another. No two builders have the same approach; their knowledge may have been gained through long years of individual trial-and-error experimentation or from factory-backed use of the most sophisticated and computerized formulas. But whatever their backgrounds might be, whatever their selection of engine sizes, types and components, whatever their choices in such critical areas as suspension and aerodynamics, they all have the same goal: to create the fastest motorcycle in the world.

Leppan/Weslake Triumph

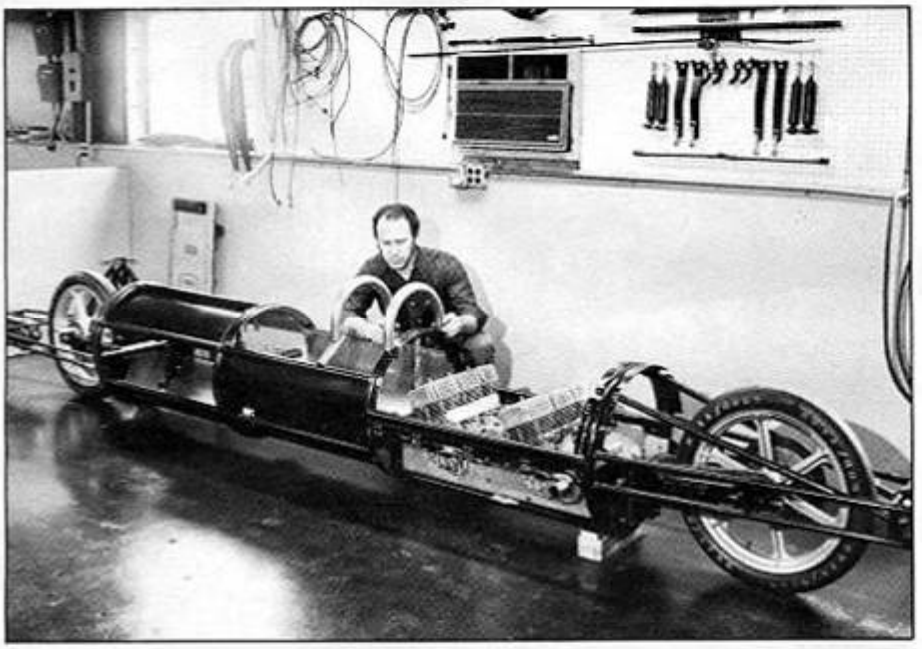
One of the most determined men on the Bonneville scene, this or any other year, is Bob Leppan—former record holder with his dual-Triumph Gyronaut. From 1966 to 1970, Bob's time of 245.667 mph withstood all onslaughts. Then in quick succession he was dethroned, first by Don Vesco's 251.255 on a twin-350cc-engined Yamaha, next by Cal Rayborn's current 265-plus Harley mark. October of 1970 found Leppan back on the salt, prepared to regain his title. Right off the trailer he went 259 mph. On his first official run he was timed at 264.437 but couldn't return because of high winds. The following morning tragedy struck.

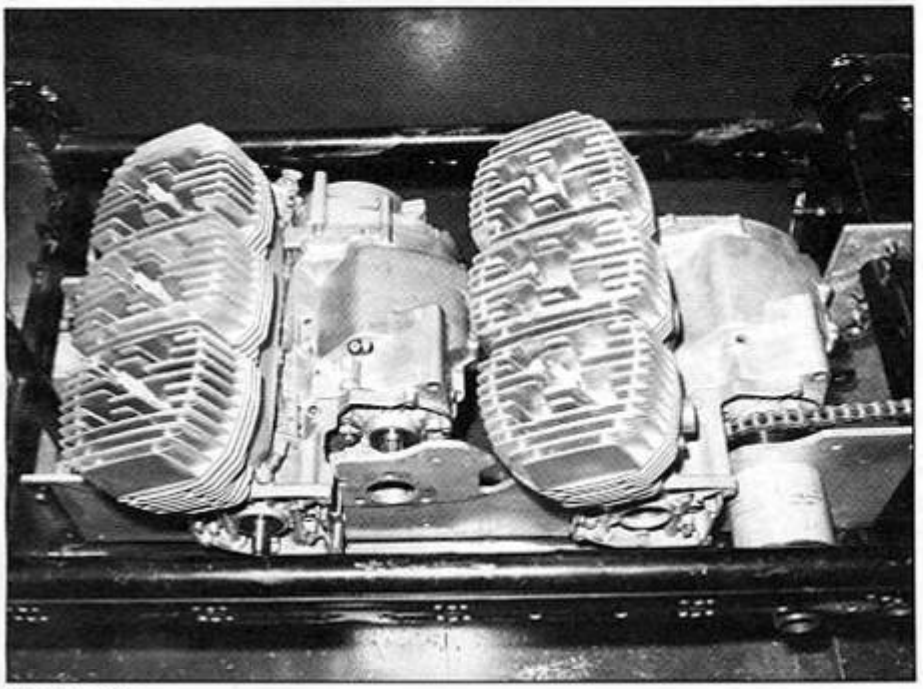
While streaking along the salt in excess of 260 mph the machine's suspension failed and what followed was one of the most horrendous motorcycle crashes of all time. Bob's machine flailed, bounced and rolled end over end for nearly a mile. Though never losing consciousness, Leppan was critically injured and almost lost one arm. But eight operations later, despite removal of his bicep and 8½ inches of artery, he's back in the hunt.

PHOTOGRAPHY BY ERIC RICKMAN



Wirges *efforts in '71 were hampered by handling and visibility problems. With the prone riding position it was difficult to get the bike going. This year the rider will have a better view of what's ahead and the results should improve. Chassis is much the same but the rider sits about the same as in a race car. The 500cc engines have been replaced by a pair of Kawasaki's new 750's. Look for this 'liner to run fast and straight.*





This time around, Leppan's plans are more expansive than ever before. Feeling that current-day speeds will soon make Bonneville obsolete, he recently traveled to Australia where he checked out the remote 4000-square-mile Lake Eyre. There he tentatively laid out a 22-mile course and put over 300 fast miles on a Triumph Bonneville to get the feel of things at 42 feet below sea level. He's enthusiastic about the traction-plus surface over which he rode; it's 14 inches deep and, in Bob's words, "even better than I'd hoped for."

Leppan has started work on a new machine which he is confident will get the job done. Alex Tremulis is his aerodynamic consultant, chassis work is the responsibility of Ron and Gene Logghe from Detroit, and the bike will house two four-valve-per-cylinder Leppan/Weslake Triumph 750 twins. Leppan has high praise for everyone involved in the project.

"We're no longer playing with a toy powerplant," states Bob. "You don't hunt bear with a switch. We had 140 hp before, 300 now, a complete new chassis that won't twist, and a new gearbox and transmission. Everything is evolution. We're not trying to startle anybody; it's not a design exercise. The idea is to go fast and I feel we're more than competitive."

Why does this successful 34-year-old businessman feel so strongly about regaining the record? "The Motorcycle Land Speed Record is a significant thing," says Leppan. "I've been working toward it all my life, continuous work, but the satisfaction comes from doing it. It's the Heavyweight Championship of the World." In terms of sheer persistence and total commitment, Bob Leppan will be a hard man to beat.

Bill Wirges Kawasaki

In any type of racing there's always the darkhorse threat, and Bonneville is no different. Speed Week will find several sleepers on hand; not as highly publicized as the others, their determination to succeed is in no way lessened.

Bill Wirges and his dual Kawasaki liner from Princeton, Ill., fall into this not-to-be-taken-lightly category. Last year, Wirges—who's in the motorcycle accessory business—made an impressive debut on the salt with a most innovative individual effort. He'd personally sprung for every penny of the $50,000 required to build his beautiful streamliner. Though plagued by teething problems, the bike bristled with excellent engineering and design principles, including adjustable torsion-bar suspension at both ends. Hassad alloy spoke wheels were utilized as was center-hub steering. Meticulous workmanship was evident throughout, even though total

construction took place in a mere three months.

Changes this year include going from two 500cc to two 750cc Kawasaki triple engines, which will be mounted on a pair of common side plates to unitize the powerplant. This permits easier removal for dyno testing and other work. The Krober ignition system is integral with the engine unit and one beefed-up clutch will now be used instead of two.

Wirges experienced the old "can't-see-where-I'm-going" routine last time around and has remedied that situation too. His revamped liner will have slightly more frontal area and the body shape will be changed from a fully prone rider position to a sit-up style, a la Don Vesco's machine. "I should have listened to Don in the first place," says Wirges. He's raised the swing arms on the frame slightly to lower the center of gravity 2 inches in front and 1 inch in the rear which means he'll start out with 2-inch maximum front and 3-inch rear ground clearance. Then he can adjust downward to minimum 1-inch-front, 2-inch-rear clearance as conditions dictate. Modifications to the shape of the shell now give a few more inches of space behind the rider which will house the black boxes (CDI ignition, data collector, etc.).

The machine fell over last year when Wirges was operating it while lying on his back. Since all the streamlining in the world won't help a rider who's flying blind, Wirges' new styling approach, bigger engines and already established attention to detail make him a definite force to be reckoned with.

Martinez/Eyeball Kawasaki

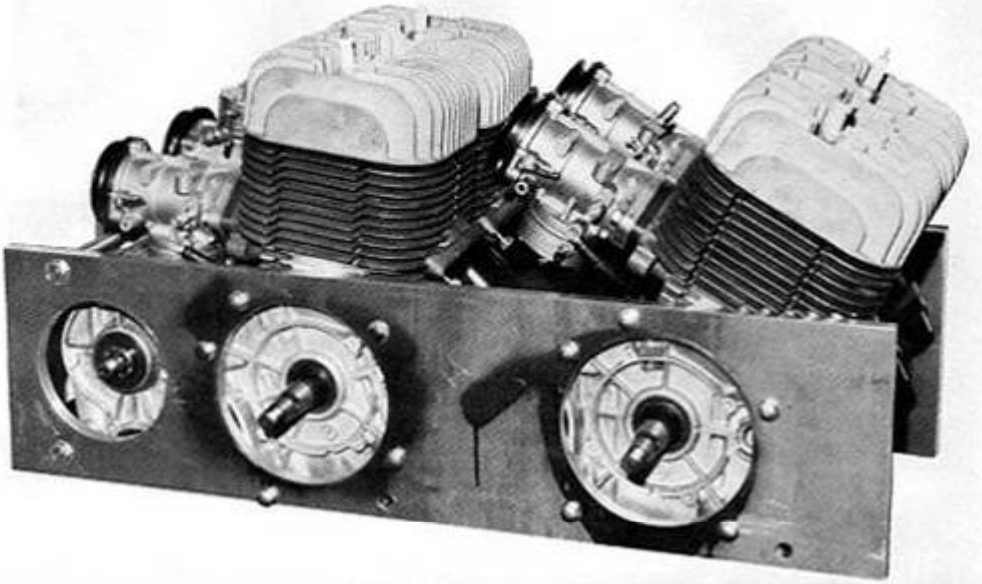
A newcomer to the streamliner ranks, Buddy Martinez, is also going the Kawasaki route. One of the few men to top 200 mph on an unstreamlined motorcycle, Buddy will be piloting a new Bonneville rig being built by Eyeball Engineering of Rialto, Calif. His 200-plus run came on a one-way trip during Speed Week '71 when he was at the controls of the Martinez-McEvoy dual-engined Triumph.

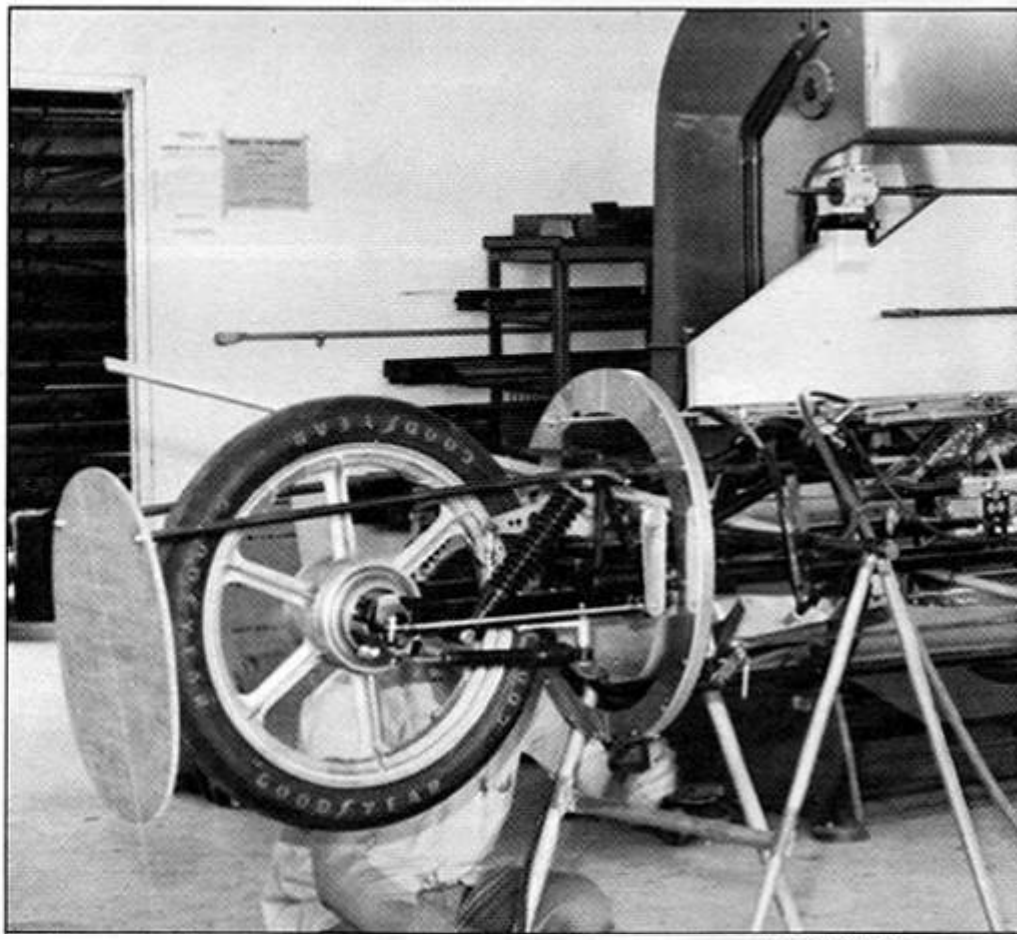
Martinez apparently feels that twin turbocharged 500cc Kawasaki triples have the potential for a land speed record. At least that's the motive power being planned. But just in case, room has been left in the design for twin 750's should the switch be made. Although an unknown factor, this effort deserves your attention.

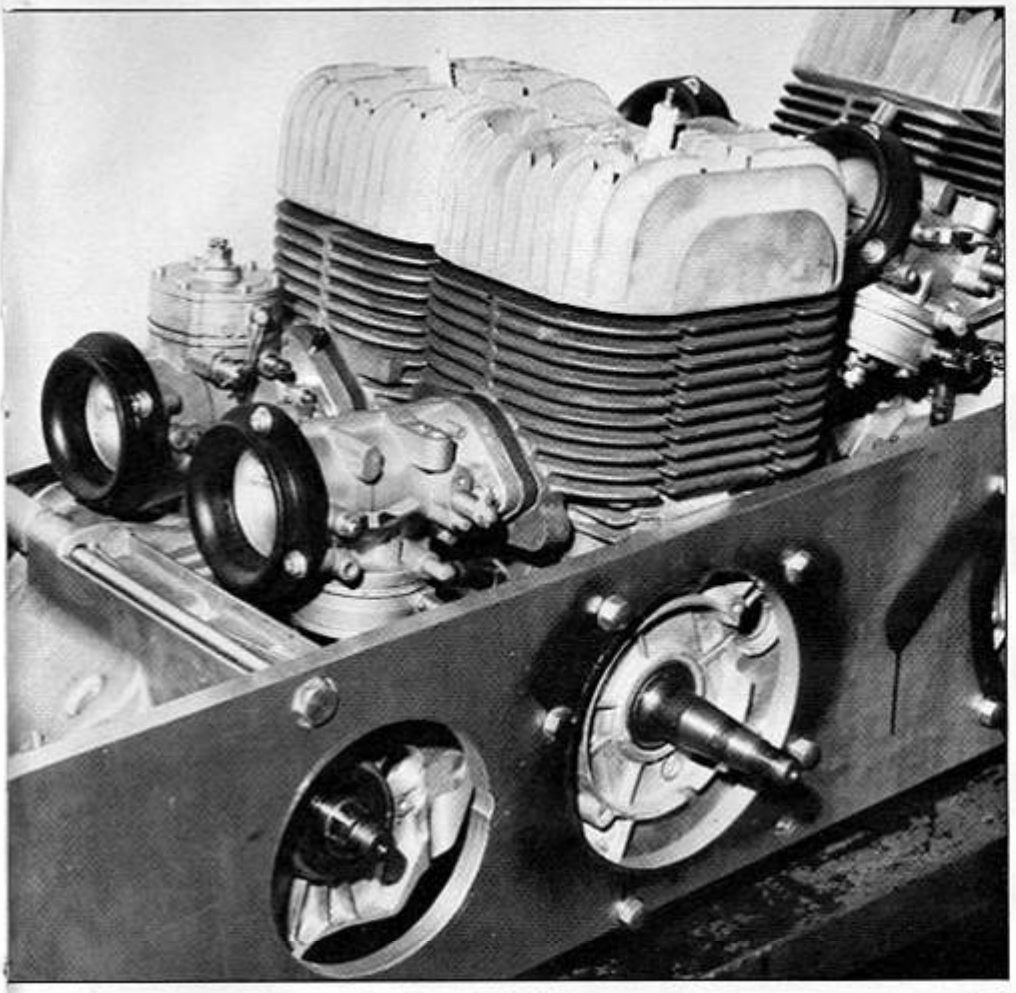
Vesco Yamaha

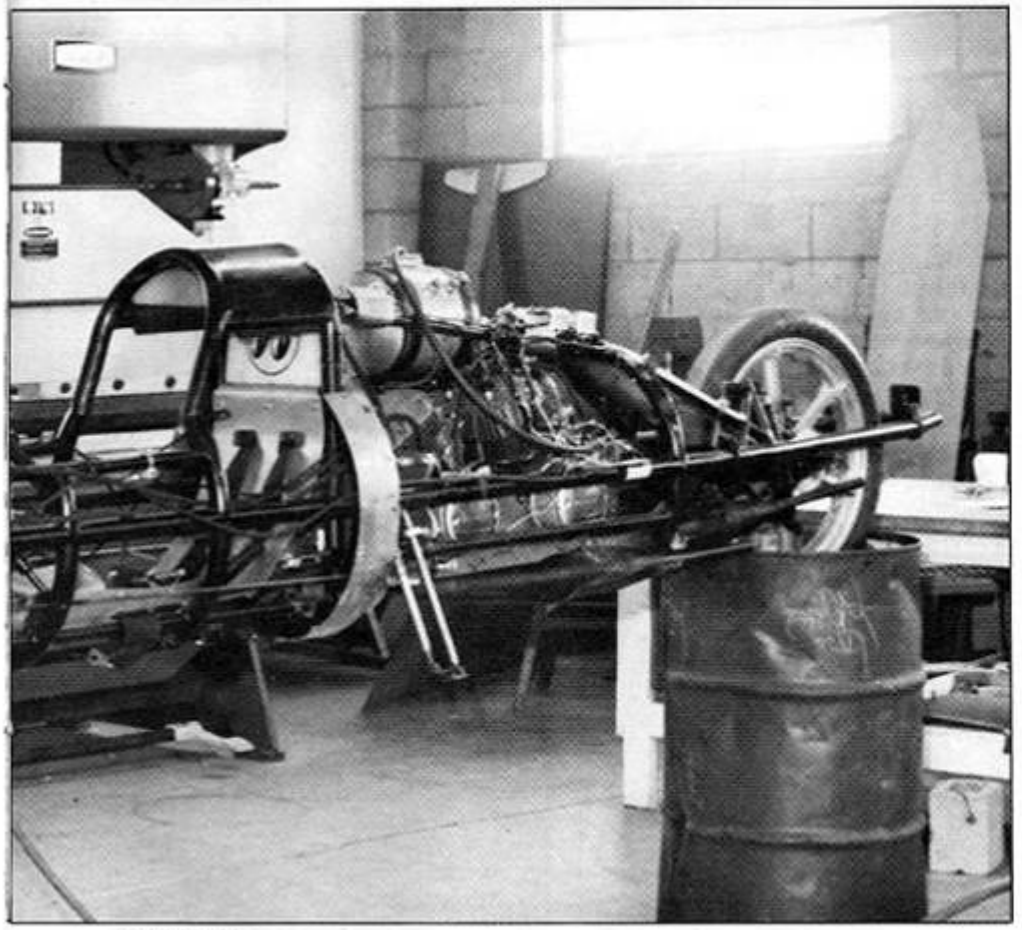
Don't ever forget Don Vesco! When considering past performance and all-around ability, Don has to rank as the most dangerous individual threat on the salt scene today. Possessed of a quiet,

Vesco *is a name that has always been in the hunt at Bonneville, in cars as well as on bikes. Don has replaced his 250-mph-plus 350 engines with a pair of 650cc experimental engines from Yamaha. He's hoping for a lot more power from the piston-ported two-strokes and may have a shot at 300 mph. The chassis used last year is much the same, although the streamlining has been improved. More power and the slipperier shell could bring surprises.*









unassuming manner which hides the tiger inside, this man is a veritable storehouse of know-how and ability. He's not only a second-generation Bonneville legend but a champion road racer, tuner, machinist, self-taught engineer...you name it.

And Vesco currently holds ten SCTA titles. But when he journeyed to Utah in '70 with a streamliner housing two 350cc Yamaha twin engines, his remarkable MLSR record-breaking two-way speed of 251.255 mph, which broke Bob Leppan's mark by nearly 6 mph, was soon overshadowed by the 265-mph Harley effort of Denis Manning and Warner Riley. Even Don's arch rivals expressed dismay that the first-over-250-mph record stood for only a few days, so great is the esteem in which he's held by Bonneville regulars.

Vesco was stoically undeterred. Adversity just seems to spur him on. Back he came in '71 with a new Lynn Yakel-designed shell, and while the machine showed great promise, he never put two good runs together. Now, though, watch out, for this could be his year.

For Speed Week '72, Don has substituted a pair of experimental 650cc piston-port Yamaha two-stroke twins for the dual 350's. Fuel injection and 50mm carburetors may be utilized. Since he's a Yamaha dealer in El Cajon, Calif., Vesco prefers going with the brand he sells, although his can't truly be called a "sponsored" machine. Parts and powerplants he gets; expenses, etc., no. But bonuses await if he does well.

The new engines—reported to pump out around 100 hp each on gas, 120 hp on alcohol—are expected to fit in the existing chassis with minor modifications, such as new motor mount brackets and perhaps a different swing arm location. Gear Engineering of Los Angeles is making the gear drive setup, Koni is handling the suspension. Don says that the body will be basically the same. Visibility will be better, however, and there may be necessary bulges to accommodate the magnetos, plus new air scoops.

Will he break the record? Will he break 300 mph? Can a private entry shatter the factories' preeminence? Don's attitude of serene indifference to all the variables involved tells volumes about his mental and mechanical preparedness. Not one to waste words, Vesco simply states that he's confident he can do it.

Harley-Davidson

When you're on top, in any facet of motorcycle sport, they're all after you. The record-holding 265-mph Harley-Davidson streamliner constructed by Denis Manning and Warner Riley now graces the hotseat, fair game for everybody else. Talk about pressure! It's

enough to make a person paranoid.

Though last year's Honda onslaught very nearly toppled the H-D kingpins, Harley still has a lot of those No. 1 decals and T-shirts lying around. They're bound to give up hard. Actually, the factory itself is content with the status quo...at present. They figure going gung-ho after their own record would be a frivolous expenditure.

This attitude, however realistic from Harley's bookkeeping standpoint, doesn't suit chassis designer Manning and engine builder Riley at all. Both men feel that you can't rest on your laurels when the Motorcycle Land Speed Record is hanging by a thread. So, without factory backing, the pair has done a lot of behind-the-scenes R & D work toward future goals.

One thing's for sure. If their mark is broken they'll still have the fastest single-engine motorcycle in the world. But there's a lot of difference between fastest single-engine and *fastest.*

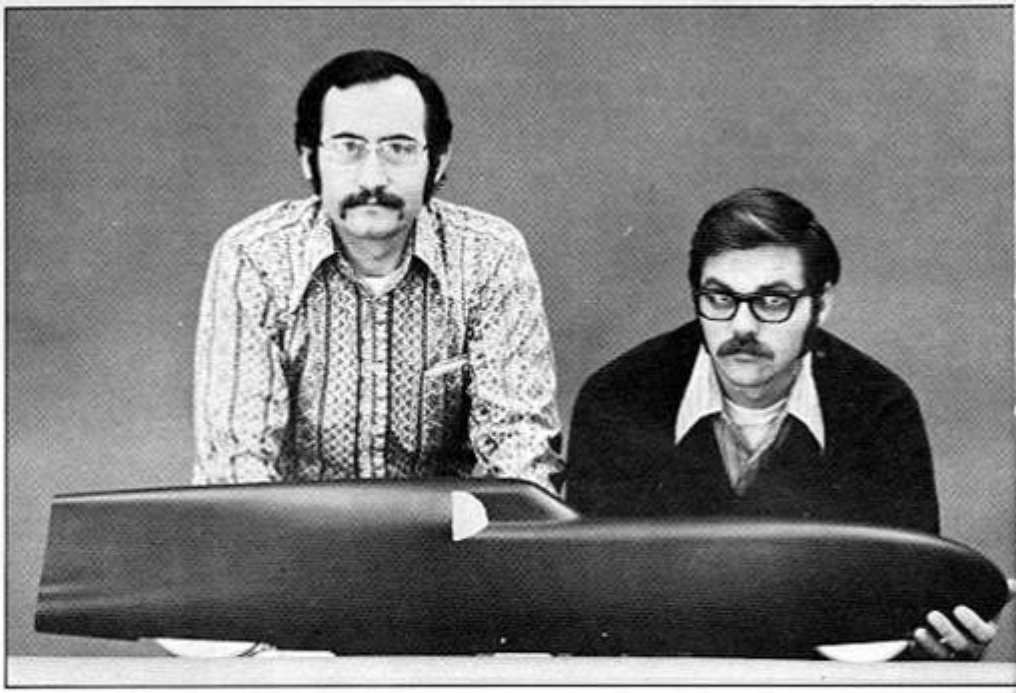
It's been two years since Cal Rayborn racked up the 265-mph clocking. What changes do Manning and Riley have up their collective sleeves when the time comes for a counterattack? Well, naturally they're not spreading their speed secrets around with a loudspeaker. They've got too much salt savvy. As far as basics go, however, they'll share some of their hard-earned knowledge with us.

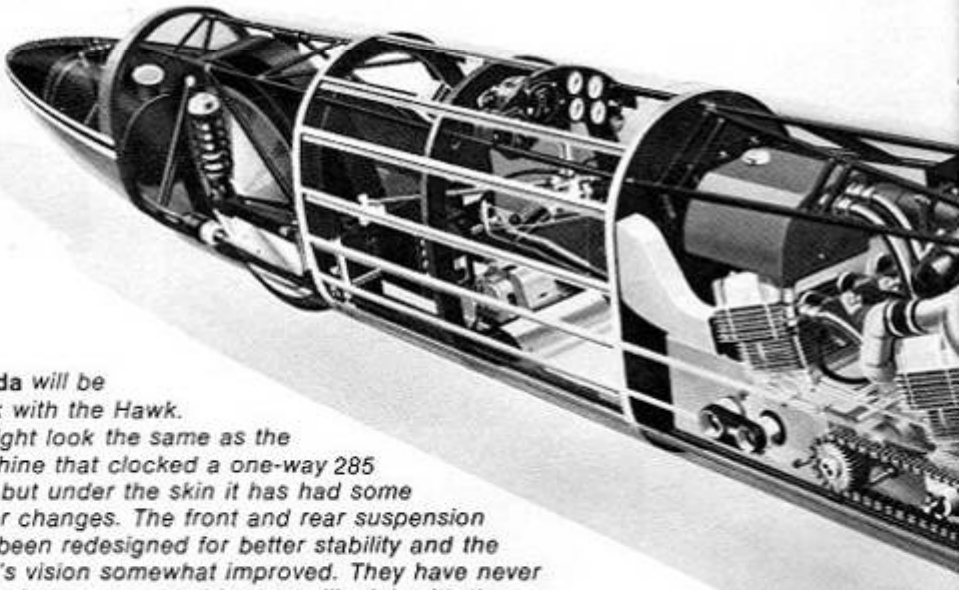
A scale-model version of the Manning/Riley liner looks vastly different from the current record-holder. The formerly round shell is now to be oval—39 inches high instead of 25. This undoubtedly means improved visibility. The new body will be whittled from 16 feet, 8 inches to 15 feet in length; width (21 inches) is 2 inches narrower than it was before.

Regarding engine configuration, both men are reluctant to forsake the traditional V-twin after gaining so much from their lone powerplant. Only after really pouring the juice to it and failing would they begrudgingly shove in another engine. But if conditions warrant, they'd do just that, so their new chassis will be built to accept dual V-twins if necessary. Even though neither Manning nor Riley wants to go that route, they're not one-way. They know it takes a two-way run at Bonneville.

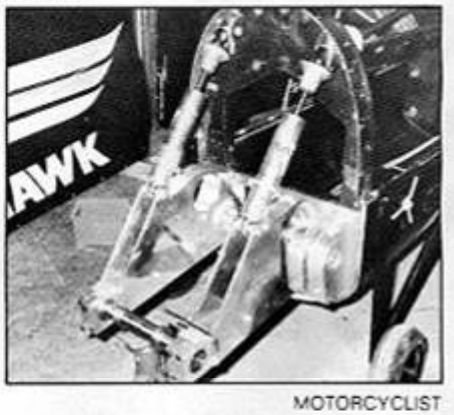
Honda Hawk

Most formidable contender in the MLSR hunt today is the exotic Honda Hawk, powered by two turbocharged 750cc fours, and theoretically capable of speeds around 311 mph. A project of American Honda Motor Co., the Hawk made an abortive but threatening attempt at the world record last year. No expense had been spared in the liner's preparation. Computers played a big

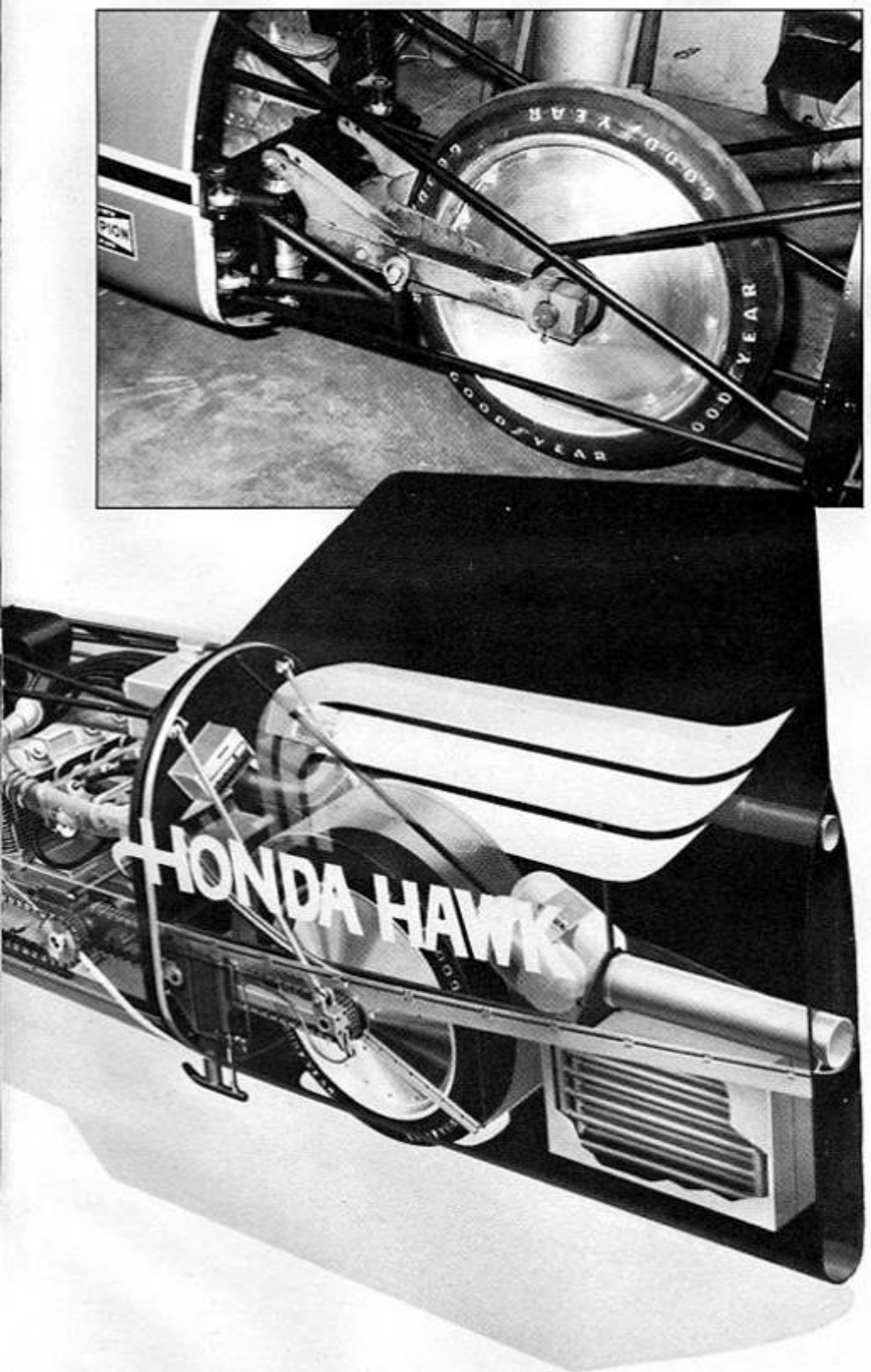




Honda *will be back with the Hawk. It might look the same as the machine that clocked a one-way 285 run, but under the skin it has had some major changes. The front and rear suspension has been redesigned for better stability and the rider's vision somewhat improved. They have never had a horsepower problem so will stick with the twin turbocharged fours that they used last year. This year they could be the first over 300 mph.*



Harley-Davidson *hold the record at the salt, and there are no plans to go after it until someone else goes faster. Just in case, Warner Riley, on the left, and Denis Manning are ready with a new design. They can't get it done for '72, but if their 265 mph record falls they'll be ready next year to grab it back. Latest design is more stable and although it has more frontal area, they expect it to be considerably faster, look for 300 mph.*



role in its initial development. But while the engines (140-hp apiece) showed great promise—a one-way run of 285 was clocked—chassis design failed to live up to expectations and numerous other problems prevented a record two-way run.

Reaction Dynamics, the firm responsible for building the highly successful 630-mph Blue Flame jet car, constructed the vehicle. A multi-man team effort under the direction of Honda's Project Manager Bob Young, prepared the engines. Considering the goal in mind, six months' time from drawing board to salt flats was so minimal that sorting-out hassles were almost assured, especially with such a technically innovative and sophisticated machine. Hassles they had. Frustrations? Countless.

This year, a season of development, research and plain hard work behind them, the Honda team (minus Reaction Dynamics) plans to be at Bonneville for Speed Week. Beforehand they'll probably make some runs on the local California dry lakes so rider Jon McKibben can check out the handling. It's in the area of chassis design and steering geometry that most of the changes have taken place. Competition-gained individual knowledge now holds stead over many of the computerized theories.

No significant alterations were necessary to the engine package, says Project Manager Young, other than improving the rev limiters to prevent over-revving and unwelcome valve clatter. Much effort has been expended to give McKibben a better view of where he's going, however, and to offer him a more controllable conveyance en route. The windshield arrangement is completely different, for one thing. Front suspension units have been moved from alongside the wheel and above the fork to below the fork and behind the wheel, giving vastly better visibility, as does relocation of the fuel tank to the rear and lower placement of the handlebar mounts.

Koni suspension units are used throughout. The shock absorber company is integrally involved with the whole chassis system, which now finds the rear wheel movable rather than rigidly mounted—the previous system having caused some unexpected airborne leaps over the rough salt. A new drive system incorporates another jackshaft to the rear wheel, fabricated by the Morse Hy Vo people who are also supplying special sprockets and chain.

Honda's not fooling around. They want that record and they want it bad. Perhaps the most revealing aspect of their current preparedness for supremacy is that while all the other high-powered contenders have something to say about the Honda project, whether in passing or at great length, the Honda team speaks only of the Hawk. •