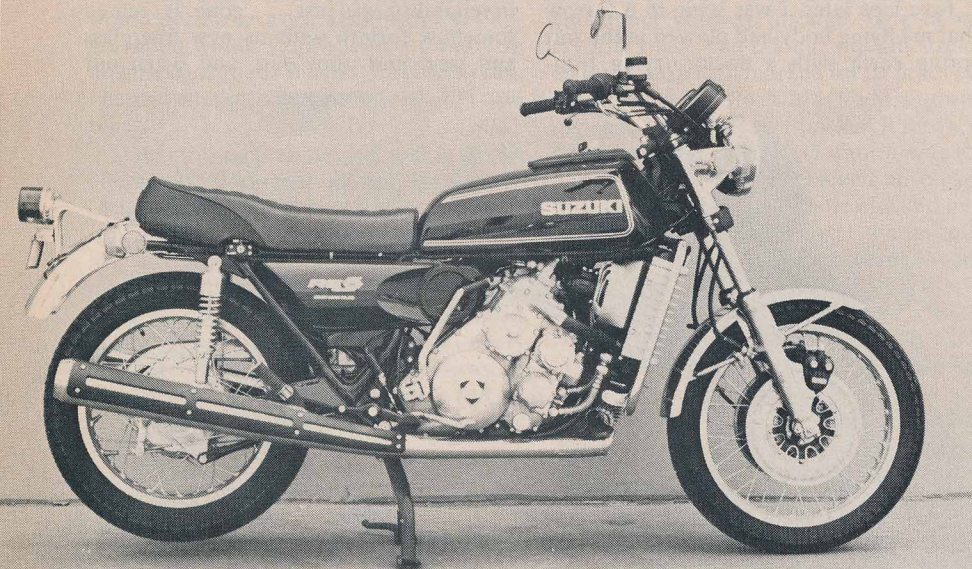


# RE-5 RE-Visited

A progress report on the Suzuki Rotary



When it was introduced about a year and a half ago, the Suzuki RE-5 Rotary was revolutionary: It was the first production Japanese motorcycle using the Wankel-type rotary engine. (Suzuki isn't the only manufacturer to market a rotary—Hercules has a smaller Wankel-engined bike—but it was the first of the giant motorcycle corporations to do so.)

In addition to the power plant, the RE-5's styling was unique. Suzuki designers combined angular tank, side panel and front fender lines with a cylindrical instrument pod and taillight housing, and then gave the huge engine a very modular appearance.

However, the RE-5 never quite sparked a "rotary revolution." The styling alone caused some potential buyers to look elsewhere. Other people were dissuaded by the RE-5's poor gas mileage, the Wankel's uncertain future emissions-wise, some small problems uncovered in magazine road tests, or by doubts about yet-to-be-discovered flaws in any new design. And some people just weren't prepared to hook up with a motorcycle that didn't possess those familiar pistons and rods.

The Rotary may have done better had it offered something special in the way of performance. Mazda made "Wankel" and "quick" synonymous in the world of automobiles, and many riders were let down when they learned that the RE-5 wasn't a pavement-ripper like a Kawasaki Z-1. Instead, Suzuki had put its usual emphasis on reliability.

The RE-5 did handle well, however, and the engine provided a very smooth, ex-

tremely torquey basis for a comfortable touring machine. But these virtues were not enough to make the bike a huge sales success.

The 1976 Suzuki RE-5 has undergone some changes. The spacey cylindrical instrument pod has been disposed of in favor of a conventional speedometer and tachometer. Gone too are the cylindrical taillight and Sputnik-style turn signals, all replaced by conventional Suzuki items. The angularity of the tank and fenders has been smoothed and rounded, and the only unusual-looking parts are the side panels—and the engine. Suzuki obviously got the message about the bike's styling.

The RE-5 is powered by a water-cooled, single-rotor, Wankel-type engine displacing 497cc and having a 9.4:1 compression ratio which allows it to use unleaded gas. The engine is fed by a two-throat Mikuni carburetor mounted on the left front of the engine. The 18mm primary throat is controlled by a butterfly valve and leads to two small intake ports. The 32mm secondary throat, which leads to a single large passage, is controlled by a constant-velocity, butterfly valve/vacuum piston setup.

The CDI ignition system fires a single spark plug and still has its unusual two-point ignition system. However, the main set of points now supplies all the spark all the time. The secondary set of points—which was originally designed to supply spark only during deceleration above 1700 rpm and only on every other revolution in an effort to eliminate the Wankel's tendency to surge and backfire

during deceleration—was subsequently deemed unnecessary and has been disconnected, although it is still available if needed.

The engine receives lubrication from two sources: Oil from the sump is pumped to the eccentric shaft (equivalent to a crankshaft) bearings and to the interior of the rotor to cool it. This system has an oil cooler at the bottom of the radiator and an automotive-type spin-on oil filter on the right side of the engine. In addition, oil from a tank under the seat is pumped into the fuel in the carburetor float bowl to lubricate the rotor's apex seals. (For more information on the RE-5 and on rotary engines, see the February 1975 issue of *Cycle Guide*.)

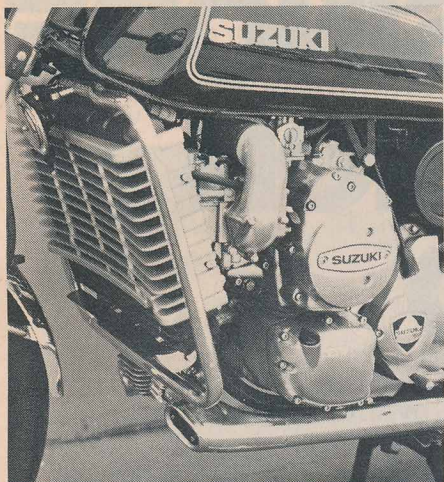
The rotary engine runs very hot, and the elaborate system of water passages and the huge radiator insure that the engine won't overheat. Exhaust heat is also a problem, so each side of the one-into-two exhaust system has a scoop at its forward end to duct cooling air around the muffler.

The 1976 version of the RE-5 performs the same as last year's model. It produces gobs of torque, which makes top-gear passes easy—even with a passenger—and eliminates the need for a lot of shifting in town. The weight of the rotor creates a great deal of flywheel-type inertia, making the bike hard to stall while moving away from a stop, although the flywheel effect may bother some riders slightly during shifting. Even though it's reasonably fast, the Rotary still isn't one of the quickest street bikes on the market. It's best quarter-mile figures were 14.39 seconds and 89.4 miles per hour, and top speed is in the neighborhood of 110 mph. Correcting for a slight pessimism in the odometer, we got an average fuel consumption figure of 29.9 miles per gallon during 1000 miles of riding.

The only real change in the engine performance is in the preciseness of the throttle. Last year the throttle/oil pump linkage was arranged so that an eighth to a quarter turn of the throttle grip was required before the engine began to rev up. That small annoyance has been removed, but otherwise the engine and its support systems remain significantly unchanged. For the time being at least, the Rotary's greatest performance attribute continues to be its tremendous low-speed torque.

The wet clutch, driven by a double-row primary chain on the right side of the engine, worked smoothly, as did the five-speed gearbox—although it clunked—





The water-cooled Wankel engine is essentially unchanged. It still produces lots of torque and uses lots of gas.

throughout our mini-test. There is an over-sized gap between first and second gear, but the rest of the ratios complement each other handily.

The '76 RE-5 handles very well, just like its predecessor. It is steady and accurate in high-speed corners and stable on the highway. The weight of the engine is carried high, but you only notice it around town or in some low-speed turns. You must lean the bike over and take a new line deliberately, but when you do, it stays put and feels steady and there is plenty of ground clearance. Motorcycles are usually more reluctant to turn during braking, but the RE-5 is exceptionally hard—sometimes nearly impossible—to turn when the brakes are working hard. The high center of gravity is responsible for this lack of cooperation when braking into a corner. The handlebars, which sweep back tiller-like, are comfortable for cruising.

Comfort is one of the RE-5's strongest points. The engine is as smooth as anything but a Honda Gold Wing, and the difference between the two is really almost imperceptible. The Rotary's droning exhaust note did bother us sometimes during touring; it's loud and sometimes seems to hit an uncomfortable note. Although not as wide as some, the seat was comfortable


enough for most of us, even two-up, for several hours. We did take the liberty of removing the grab-strap, which had proven to be a quick source of annoyance. The riding position was comfortable for long rides, and when properly set, the suspension provided a good ride.

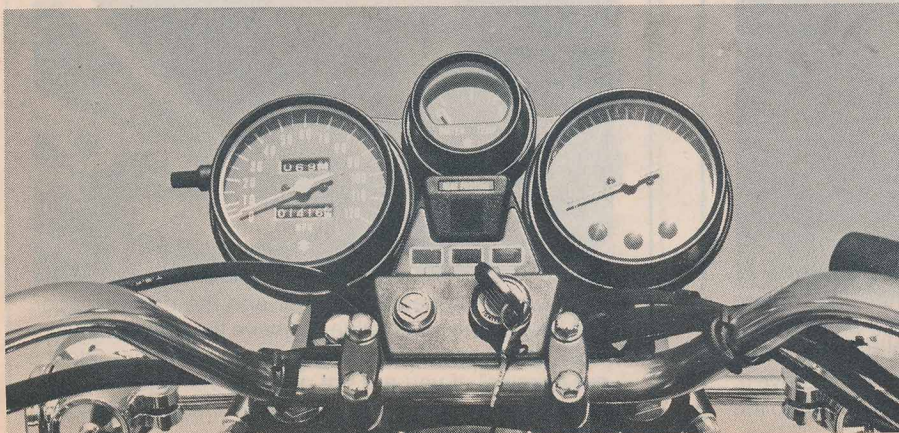
Suzuki has made an honest effort to remove some of the RE-5's smaller problems. Sump oil consumption has been reduced considerably with some small engine changes. Last year's test machine used a quart of sump oil every 1000 miles; this year's bike didn't require any in a similar span of mileage.

The RE-5 also has a new "self-lubricating" chain. In addition to being quieter and reputedly more durable, the new chain has done away with the need for a chain oiler. The '75 chain oiler worked well enough to keep the chain, the left side of the rear tire, and the ground where the RE-5 was parked all thoroughly oiled. Since the old chain oiler drew its lubricant from the injection oil tank, that oil supply now lasts longer.

Have the changes made to the RE-5 made it better? Definitely. But it's still not a whole lot different. The styling has been improved (how much of an improvement depends upon personal taste) and some silly little problems have been effectively dealt with.

The RE-5's speed, ride, seating comfort, braking, and ease of routine maintenance are on a par with most big road bikes. It is better than average in the areas of passing power, high-speed handling, smoothness, and probably long-term reliability. It comes up short in fuel consumption and in noise level, both of which are related to the engine type. With the exception of its remarkable low-end grunt, it doesn't do anything exceptionally well, and it doesn't have any terrible flaws. What's left, if you ignore the unusual engine, is a more or less average big sports-tourer.

The Rotary is something out of the ordinary, and its rider will have to be someone who wants to ride something different, yet not objectionable. That's the RE-5: Not all bad, not outstandingly good, but very unique. 



The spacey instrument panel was replaced by more conventional instrumentation.

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