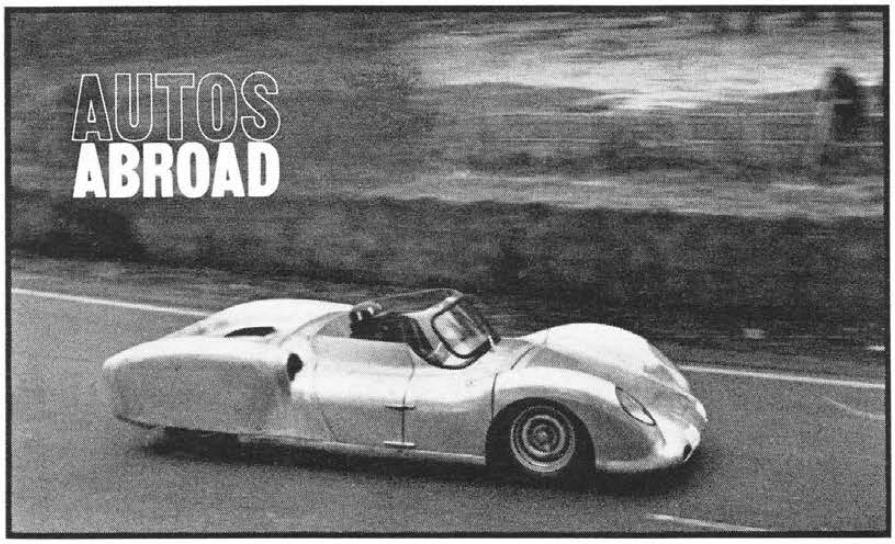


HENRY MANNEY III PHOTOS

ROVER/BRM TURBINE, with Graham Hill at wheel, hisses around course.

A Windmill For Le Mans

WHILE DOUBTS officially exist in front offices at GM and American Motors, it is axiomatic that Racing Improves the Breed. Mindful of the truism, Rover Motor Co. of England has entered one of the most interesting prototypes to be seen at the 24-hour endurance race at Le Mans, France, June 15 and 16—its gas turbine-powered sports 2-seater.

The car, which was tested on the course last April, is technically entered as the Rover/BRM and was then powered by Rover's model 2S-150 (2-shaft, 150-bhp) turbine. A more powerful turbine is expected to nestle among the frame's multitubes for the race. The test unit measured only 30 in. in length and weighed a mere 200 lb. with all auxiliary equipment. Dispensing with the heat exchanger cuts down engine weight, which in turn permits the use of a 48-gal. fuel (kerosene) load.

The chassis is an orthodox BRM 1961 (2.5 liter) Formula I, split down the middle and widened to accommodate the 2-seat configuration required by Le Mans. Light alloy bodywork is bobbed off close behind the rear wheels. Rear fenders rise above the somewhat high rear deck, where the exhaust outlet is centered. It was necessary during the testing to fit a spoiler lip to the rear deck—the latter after the car exhibited a disconcerting tendency to lift its tail at speed.

Drive is taken through a special lightweight transmission with a single forward gear and reverse. There is no clutch; idling power presumably is bled off from the power turbine by means of a waste gate. Suspension is all-independent with coil springs, and disc brakes are fitted at each wheel. Without the braking assist of engine compression, the brakes are subjected to heavy loads. Brake wear during the spring tests, however, was considered quite reasonable.

Like the almost-ran John Zink Trackburner at last year's Indianapolis 500, the Rover/BRM has problems in acceleration that are common to turbines. Drivers for the race are World Champion Graham Hill of England and Californian Richie Ginther, and they have developed a technique to cope with the problem.

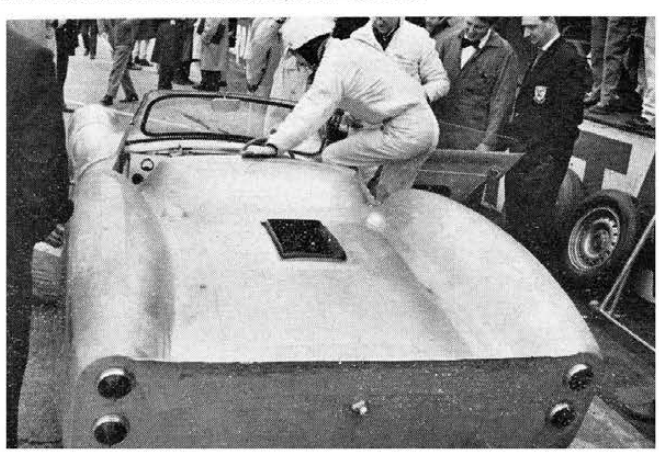
Approaching a turn, the driver backs off the throttle and applies the brakes. After the car slows and enters the turn, he opens the throttle again while still braking hard, thus increasing compressor speed to provide the necessary power out of the corner. Instrumentation includes two tachometers, one for the compressor reading to 70,000 rpm, and a second for the turbine red-sectored from 50,000 to 60,000 rpm and brown-sectored from 40,000 to 50,000 rpm. Ginther's method of accelerating from a complete stop is to release the brakes when the compressor hits 40,000 rpm.

There is a surprising quietness as the car circuits the course, with only a low moan or rush of air being heard by the spectators. Ginther lapped the course at 111.235 mph (a Ferrari 330-LM Berlinetta shattered Phil Hill's former course record of 126.9 mph that same day with a 129.067-mph lap) and was timed at 149 mph along one straight section.

Little chance exists that the Rover/BRM will be among the top ten when the race is finished, but it will be trying for a special $5000 prize as the first turbine car to complete the 24 Hours with a 92 mph (150 kph) average speed. In the process, it can't help but provide the enthusiast with more information on the prospects for gas turbines in automotive applications.

—*Gene Booth*

GINTHER climbs aboard; note spoiler, exhaust.



TURBINE is 2-shaft, develops 150 bhp.