

# AUTOS ABROAD= V-6 FORDS



INDEPENDENT REAR suspension, V-6 engines in 152- or 183-cu. in. displacements and an entirely new 4-door sedan body are offered with Ford of Britain's Zephyr/Zodiac twins. And there's a choice of 3-speed automatic or 4-speed manual gearbox.

**A**SQUARED-OFF stern, perhaps a gift from brother Mustang across the sea, characterizes two new sedans, the Zephyr and the Zodiac, from Ford of Britain. Both are driven by forward-mounted V-6 engines. Both employ independent rear suspension of new design.

Spare wheels and tires are placed ahead of the very short engines and above air intakes for very low radiators. Hence Zephyrs and Zodiacs display rather elongated, though not disproportionate, forward profiles.

Because luggage compartments need not accommodate spare wheels and tires, usable cargo space is ample and rear overhang is held to a minimum.

Automotive journalists, this writer included, previewed the Zephyr and Zodiac in lonely North Africa. The new engines and shared suspension system proved impressive. Writers approved the head room and leg room in the new body shell, but rated the forward spare tire as merely an acceptable sales gimmick. The shortened rear overhang and lengthened body nose leave only 43% of curb weight on the rear driving wheels and move the center of aerodynamic pressure ahead of the center of gravity. The latter slightly increases the Zephyr/Zodiac sensitivity to side winds.

Ford's new independent rear suspension may not quite meet the standard set by more complex designs, but it

certainly represents a very great advance when the former rigid rear axle is considered. The new system provides greater riding comfort and directional stability over rough roads. Fast driving on dirt surfaces did not show any trace of the common fishtailing tendency of rigid rear axles. Rear passengers were not jolted unduly, though some shake was detected through the floor. On straight but lonely one-lane desert roads, meeting other vehicles meant putting two wheels off the pavement onto a hard shoulder and then back onto the road surface. At upward of 80 mph this proved a 100% controllable maneuver for Zephyr and Zodiac. Steering, which requires 5.25 turns lock-to-lock, made "sports car" driving along winding mountain roads rather difficult. Fast cornering, however, showed very little body roll and never any sudden change of car attitude.

The surprise is not that Ford has been able to achieve such fine results, but that the company has accomplished them with a layout comparable in simplicity to the divided-axle system. A second universal joint in each wheel driving shaft and a compliance link at the inner mounting point of the wishbone, which locates each rear wheel, make the Ford system slightly more elaborate than that fitted to early Pontiac Tempests. Wheel camber change as the springs deflect is much

reduced in comparison with divided-axle systems. No unwanted rear wheel steering effects intrude, yet no splined telescopic driving shafts are required.

Smaller 60° V-6 engines already have been highly successful in German Fords, so the refinement of the new British-designed units comes as no surprise. Bowl-in-piston combustion chambers give a 9:1 compression ratio, hence octane requirements are rather high. There was none of the "off-beat" feel which sometimes makes a V-6 seem less silky than an in-line Six. Nominally, alternative lengths of piston stroke and double- or single-barrel carburetors provide outputs of 118.5 or 114.5 bhp from 152- or 183-cu. in. displacements. On the road, both versions showed closely similar timed maximum speeds of approximately 100 mph. Tachometer red sectors start at 5000 rpm, but this was no worry because engine power reaches maximum at 4750 rpm. Instead of the former Borg-Warner unit, an American Ford 3-speed automatic transmission is introduced as the alternative to a 4-speed manual shift. The unit, which is strong enough to handle torque from 289-cu. in. engines, seems to put an undue performance penalty on these smaller cars.

**W**HEREAS FORD is becoming technically adventurous, a new Fiat 124 Sedan of 73-cu. in. displacement

has emerged as a model of very orthodox basic layout. Two smaller Fiat models are rear engine and not very long ago Autobianchi introduced the first Fiat-designed car to employ front-wheel drive. Having thus experienced the alternatives, the Turin firm now has chosen a completely traditional layout with modern design details for what appears to be a No. 1 export challenger of the late 1960s. Fiat's near monopoly of the Italian home market recently has been eroded by imports, hence the newcomer 124 Sedan obviously is very closely costed. Its short-stroke 4-cyl. engine features in-line valves in an aluminum cylinder head; the valves are operated by rocker arms. A coil-spring-mounted rigid rear axle is stabilized by two radius links, a track bar and a short torque tube.

As do the new Fords, the Fiat 124 has disc brakes on all four wheels. On the larger British models the front disc brakes are conventional, with inner and outer hydraulic cylinders, but Girling rear brakes have only one operating cylinder per wheel, in cali-

pers which can swing around vertical hinge pins.

In contrast, all four wheels of the Italian model use single-cylinder brake calipers of the Renault-pioneered variety in which the caliper slides laterally as it nips the rotating disc between its fixed and moving friction pads.

**E**FFORTS ARE being made by British electric power suppliers to sell the idea that battery-electric cars have a future as fume-free urban transport. Vehicles of this kind already are in widespread use in England for door-to-door milk delivery, in which low speed and short range matter little. Passenger cars converted to this form of propulsion are showing predictable characteristics of excessive weight, ease of control and reasonably brisk acceleration to 30 mph, but a maximum speed below 40 mph, and a need for several hours of battery charging after a maximum distance of 30 miles or so. Costs per mile are low at present, but will multiply if anything equivalent to Britain's 44¢ per Imperial gal. tax on gasoline is charged to pay for road

maintenance. Unless anti-smog rules are made much tougher, there seems little likelihood that electric cars will attract buyers.

**A**S THE initial events under the World Championship Grand Prix 3-liter (183 cu. in.) formula are conducted, it becomes obvious that more American material than ever before is competing on the circuit.

Jack Brabham is running the Australian-built Repco V-8 based on Oldsmobile's light alloy cylinder block castings. He hopes reliability and good torque production will make up for limited peak horsepower.

Bruce McLaren is performing with reduced displacement models of the 1965 Indianapolis Ford V-8, prepared by Traco of California.

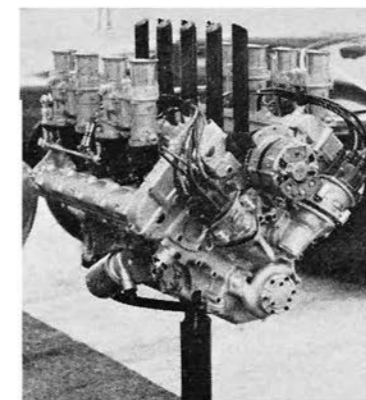
Dan Gurney's All American Racers Formula I cars, California-built, will receive British research engineer Harry Weslake's all-new 60° V-12.

A year behind these three projects is the Ford-financed plan for a British-built engine to power Lotus GP cars in 1967. —Joseph Lowrey

## SHOWBOATS



BERTONE-bodied Porsche features slotted headlamp covers which transmit some light when closed.

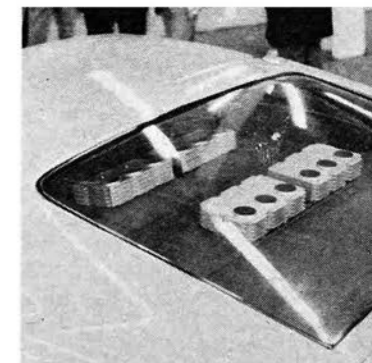
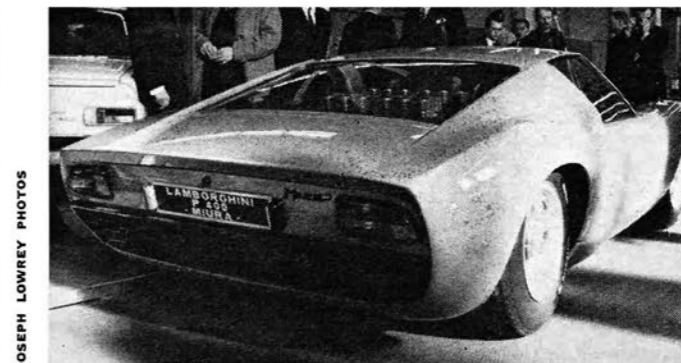


ABARTH'S new 122-cu. in. dohc V-8 is aimed at winning the European hillclimb series.



S-TYPE Jaguar, with body by Bertone, accommodates five passengers, air conditioning.

THE LAMBORGHINI Miura is powered by a 240-cu. in. V-12 engine mounted transversely between the rear wheels. Low 2-seat bodywork offers good visibility over the horizontal radiator. Even though 12 individual silencers and a plastic partition are fitted to minimize induction sounds, the wise Miura buyer probably won't choose to purchase a high-fidelity radio.



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