AUTOS ABROAD: NEW JAGUAR 420

A Fatted Cat for Prodigal Sons

BY JOSEPH LOWREY

EXTRA VARIATIONS appear in the Jaguar's 1967 range. New is a 420 model that is a larger-engined, 4-headlamp version of the medium-sized S sedan. Power is from the familiar 6-cyl. dohc engine of 258.4 cu. in. with two carburetors, instead of the three, for which other bodyshells provide room. The engine is rated at 255, instead of 265 bhp with the third carburetor. An all-synchromesh, 4-speed, stick-shift transmission will accept an optional electrically-controlled overdrive, or it can be replaced with the Borg-Warner Model 8 automatic. An alternator provides electric power. The braking system has a dual master cylinder that operates front and rear discs through separate hydraulic circuits. Optional power steering is the Bendix-Marles Varamatic, with ratio 21.5:1 in the straight ahead position, altering to 13 beyond half-lock in either direction. Engine cooling is by a new cross-flow radiator. The fan has a viscous drive for silence and to conserve power at high rpm.

Below this model in price is the S, with the identical bodyshell and 4-wheel independent suspension. However, it continues to be built with the older frontal styling. Engines available are in 230.6- and 210-cu. in. sizes. Also continued is the older and smaller Mark 2 sedan bodyshell with a less capacious luggage trunk above a rigid rear axle. This lighter car on a similar 107.5-in. wheelbase now becomes lower in price with simpler upholstery and floor covering. There are, of course, the E-types, in original 2-seat open and closed forms, and the 2 plus 2 coupe on a slightly longer wheelbase.

Top of the Jaguar size range, the model hitherto known as the Mark 10 (or sometimes, irreverently, as "Brand X"), is slightly improved and given the confusing name "420 G." The G identifies a bulkier body on a 120-in. wheelbase. To complicate ordering, a car which is in effect the Jaguar "420" sedan with power steering and overdrive (or automatic transmission) can be ordered as the Daimler Sovereign, the increased price of which delivers a distinctive radiator grille and posh interior furnishing. A takeover by British Motor Corp. certainly is not robbing Jaguar of individuality!

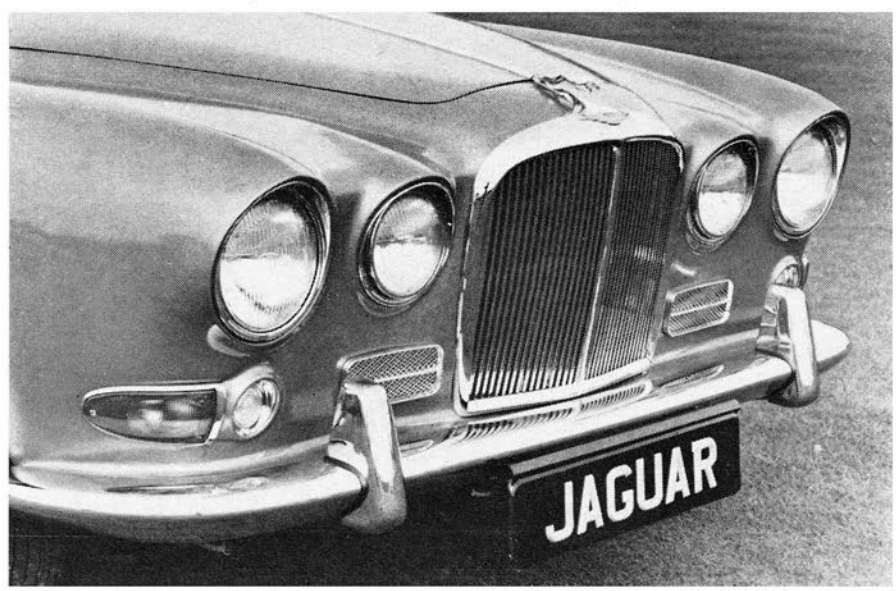
THE 3-LITER Honda Grand Prix racing engine has emerged as a 90° V-12 apparently dry-sump unit, mounted fore-and-aft behind the driver instead of transversely as was the 1.5-liter V-12. Choice of a 90° vee angle, instead of the 60° or 120° angles usual for a V-12 has practical merits. A narrower engine than the 120° layout in a single-seater offers minimum frontal area and lower engine height when compared to a 60° layout. The 90° format also provides more adequate room for ports between the cylinder heads.

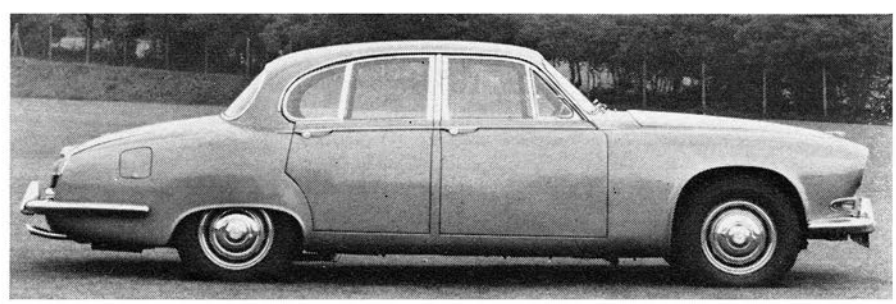
A 90° vee angle imposes uneven firing intervals (alternately 30° and 90° of crankshaft rotation) if a simple 6-throw crankshaft is used. Judging from the subtle way in which exhaust pipes are cross-connected on the Honda engine, it does appear that the Japanese have found room for a 12-throw crankshaft. Even the inexpensive little 4-cyl. Honda sports car has roller main and big end bearings on a built up crankshaft. Thus it seems likely the racing engine is similar in design.

Obviously, with very high rpm in mind, Honda again has power take-off gearing and the drive for four overhead camshafts at the center of the engine. A shaft to the clutch runs rearward between the cylinder blocks. This helps to permit installation very low in the monocoque chassis. Short-stroke, big-bore engines recently have had rather small angles between inlet and exhaust valves, but external views of the Honda suggest an inordinately wide angle between valves. Such obviously would require steeply domed piston crowns.

Reputedly, there are four valves per cylinder. However, with only one inlet and one exhaust pipe visible per cylinder, this could be a false rumor. It is difficult to produce full gas flow potential from a 4-valve cylinder head unless each inlet and exhaust valve has its own separate pipe. The Italian Grand Prix at Monza confirmed Jack Brabham as winner of the 1966 world championship with his V-8 Repco-Brabham. Monza also was the first competitive outing of the 3-liter Hon- ▶

NEW FOR 1967 is Jaguar's 420, a larger-engined, 4-headlamp version of the S sedan. A choice of 4-speed or automatic transmissions is offered.





AUTOS ABROAD

da. And an ill-starred debut it was. Richie Ginther crashed the car.

HAVING BUILT a million examples in four years, Ford of Britain is refining and re-styling the very light Cortina sedan for a fresh lease on life. Weight, frontal area and drag coefficient, unfortunately, rise slightly in the process. This could be one reason why the maximum-performance dohc Lotus-Cortina continues to be offered with the obsolete bodyshell. Among refinements are five crankshaft bearings instead of three in the smaller-displacement engine which many European buyers purchase. The larger 91.5-cu. in. unit always has had five mains. Also new is the provision of compliance in the MacPherson strut front suspension, a feature that European designers are rushing to adopt because it quiets low frequency noise from radial ply tires. It can be claimed that compliance is not just an American feature copied. Before World War II, some Mercedes-Benz i.f.s. linkages were given rubber-cushioned freedom to swing backward around a vertical pivot. Popularity of compliance in America has, however, certainly helped other European designers to notice its advantages.

SLEEKER FOR 1967 is Ford of Britain's Cortina. Mechanical refinements include five crankshaft bearings instead of three in the standard engine.

FORD OF GERMANY also is re-styling its V-4 front-drive models which, commercially, have had less success than the much more orthodox British Fords of similar size. However, Ford of Britain is closely interested in front-wheel drive. A recently published patent specification of the firm shows a quite unorthodox form of horizontally-opposed 4-cyl. engine driving a car's front wheels from a vertical crankshaft.

FORD NOW IS supplying American-designed, German-made 91.5-cu. in. Taunus V-4 engines to Saab of Sweden. The engines are mated to Saab's own 4-speed transmission and free-wheel. In comparison with the 51.9-cu. in. 3-cyl., 2-cycle Swedish engine, the 4-cycle V-4 is considerably heavier, but develops fully 50% more power to raise the little front-drive sedan's top speed considerably. Should this Saab/Taunus hybrid be named the Sauna?

Problems of meeting air pollution regulations with 2-cycle engines already have been discussed in this column and have already led Auto Union of Germany to introduce a 4-cycle Audi. Saab of Sweden has been working with Triumph of Britain on plans to share a new 4-cycle engine a few years hence. This powerplant was designed by Ricardo and Co., long famous for engineering consultations. Unreliable rumor suggests that prototypes are slow to achieve design performance, but this powered-by-Ford interim model will permit Saab to continue selling today's car in markets closed to 2-cycle engines.

CHRYSLER-POWERED rear drive and Ferguson Formula 4-wheel-drive Jensen cars for 1967 are given a new Italian-designed sports sedan body.

OPEL'S NEW Rekord hardtop coupe incorporates fastback styling. Among powerplant options for 1967 is a 136.6-cu. in. engine, rated at 107 bhp.

RE-STYLING OF the Opel Rekord, middle-sized car from General Motors of Germany, has brought suspension changes. Coil springs are substituted for leaf rear springs, with the rigid axle controlled for four trailing links and a track bar. A year ago Opel introduced for this series a new 4-cyl. engine. The design features a camshaft mounted low on the cylinder head. This operates in-line valves through tappets and rocker arms—an arrangement which minimizes engine height, but leaves considerable reciprocating weight in the valve train. For 1967, a 136.6-cu. in. Six is added to the range

THIS SEASON, the Hans Glas factory is producing a new station wagon in fastback styling with either 60.5- or 78.7-cu. in. versions of a 4-cyl. in-line engine with belt driven overhead camshaft. Glas cars now are marketed through BMW of Munich.

of options. This engine is based on the smallest of the three bore diameters with which the Four is offered. It develops 107 bhp at 5200 rpm.

OTHER GERMANS recently have been mystified as to how the comparatively small Hans Glas factory in a quiet corner of Bavaria can finance such a varied range of cars. The Glas offering includes everything from 2-cyl. 2-cycle midgets to a V-8 with Glas' own new overhead-camshaft engine. This season the company adds a smart new station wagon to the best selling range, which has alternative 60.5- or 78.7-cu. in. versions of the 4-cyl. in-line engine which ante-dated Pontiac's belt driven overhead camshaft. Glas also announces a marketing link-up with BMW of Munich, a much larger firm in the same part of Germany. This should reinforce the enterprizing smaller company.

IN CONVENTIONAL rear-drive form and also as the 4-wheel-driven prototype that appeared a year ago, the British-built Jensen sports sedan with V-8 Chrysler engine has been an extremely good, but extremely ugly car. An altogether new Italian-designed body for 1967 now goes onto either chassis. The Ferguson Formula 4-wheel-drive model has at last gone into production.

Some months ago this writer was allowed to drive an instrument-festooned prototype of the all-wheel driver on roads near the Jensen factory. (*CL*, Feb. '66). It was a conveniently wet day. Most impressive was a wait at a stop line before joining a main road and then, with full steering lock applied, to floor the gas pedal. Chrysler's 383-cu. in. V-8 with Torque-Flite transmission, produced fierce acceleration around the 90° turn without any wheelspin on the wet surface. Equally, one could jump on the brake pedal while turning sharply on the same wet road (power-assisted rack-and-pinion steering gave very quick response) and the car slowed to a rapid stop without any sliding. During this last maneuver the brake pedal felt very odd. The Maxaret anti-skid control pumped it underfoot to check incipient skids by reversing the brake servo. It was surprising to find the extra mechanism of continuously-operating 4-wheel drive was inaudible inside the car.

This writer is promised the opportunity to drive a production example at much higher speeds around Goodwood road racing circuit, which will close finally at the end of this season. This writer's modest personal place in racing history is as the first idiot who ever overturned a car there—and this was during the inaugural race meeting on the circuit.

A strange problem, which Jensen, Ferguson and Dunlop engineers have solved, is making sure that the anti-skid brake control (in which an inertia flywheel operates electrical contacts to open air valves on the brake servo) will respond instantly in a crash stop, even if it has been inactive during a year or more. With the Ferguson positively-limited-slip differential between front and rear drive systems, transfer of effort through the drive-line can correct for any excess braking applied to either rear or front wheels, and a smooth driver is unlikely to brake fiercely enough to operate the anti-skid device (located on the central transfer chaincase behind the automatic transmission) in any except an emergency stop.

Emphasizing the safety of this model, Jensen now has abandoned fiberglass plastic molded bodywork in favor of steel, both the touring Superleggera and the firm of Vignale having influenced the production design. However good a car's own ability to avoid accidents by skid-free swerving and braking may be, its occupants always require protection against impact from less controllable machinery. In this instance, the steel body is integral with a very strong full width steel tube chassis.

WHILE AM has been having such a lean time in the home market, the export department apparently has been finding the Americans, Rebels and Ambassadors quite easy to sell. In Britain and some other countries, AM has been outselling the American Big Three and, whereas the larger groups seem to be getting less interested in adapting designs to suit small markets, AM hopes to gain by becoming yet more willing to meet local tastes. Total demand in the old world for cars of even the Rebel's size (at prices inflated by transatlantic freight and import tax) cannot, however, be large enough to give the parent factory much help in its problems. A 232-cu. in. American Six in Britain costs 45% more than the locally built 183-cu. in. Ford Zodiac Six with i.r.s. Both are priced with automatic transmission and both have the same 145 bhp rating. ■