

MOTOR RACING

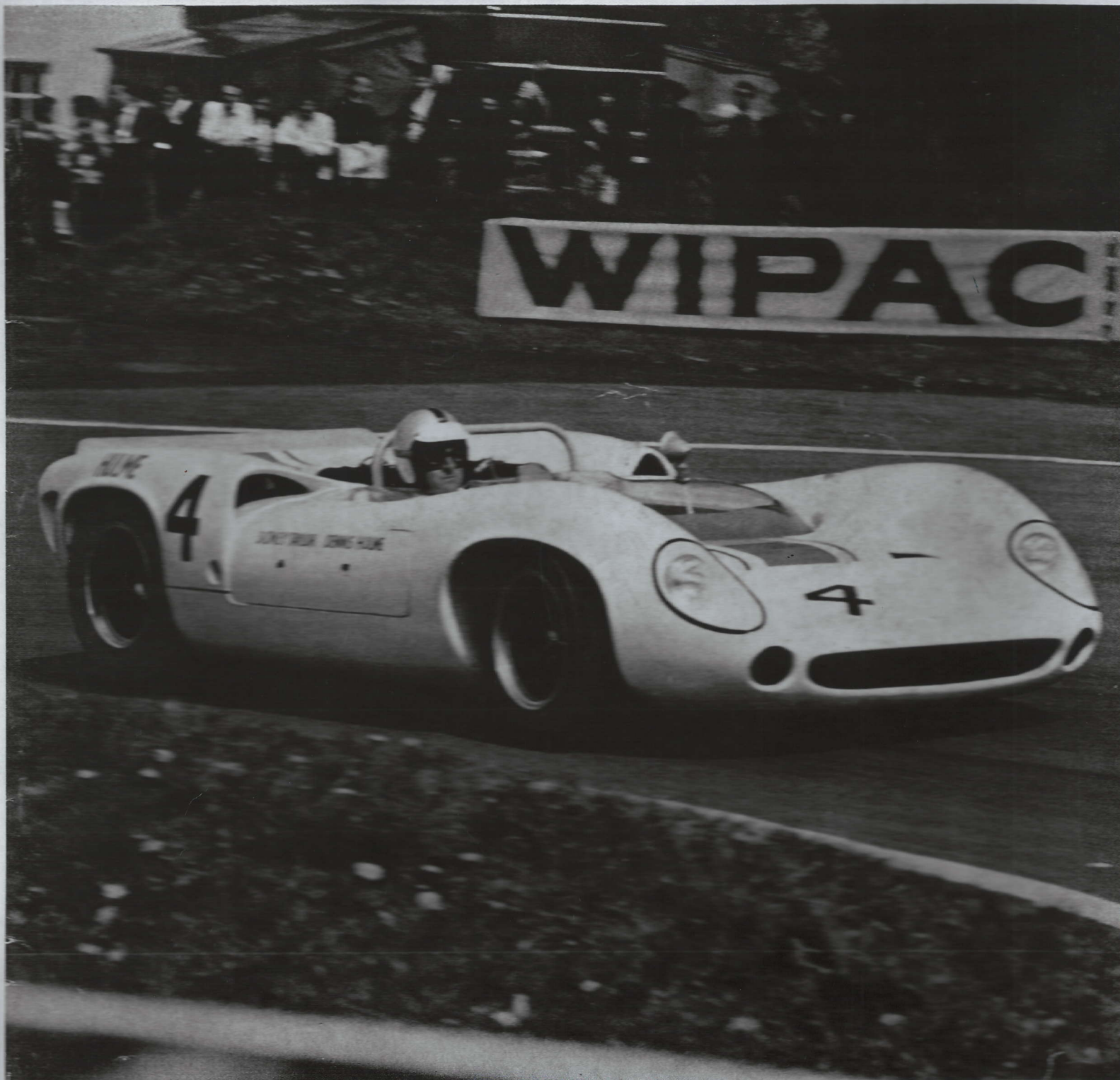
'ROOKIE' HILL CAPTURES INDY

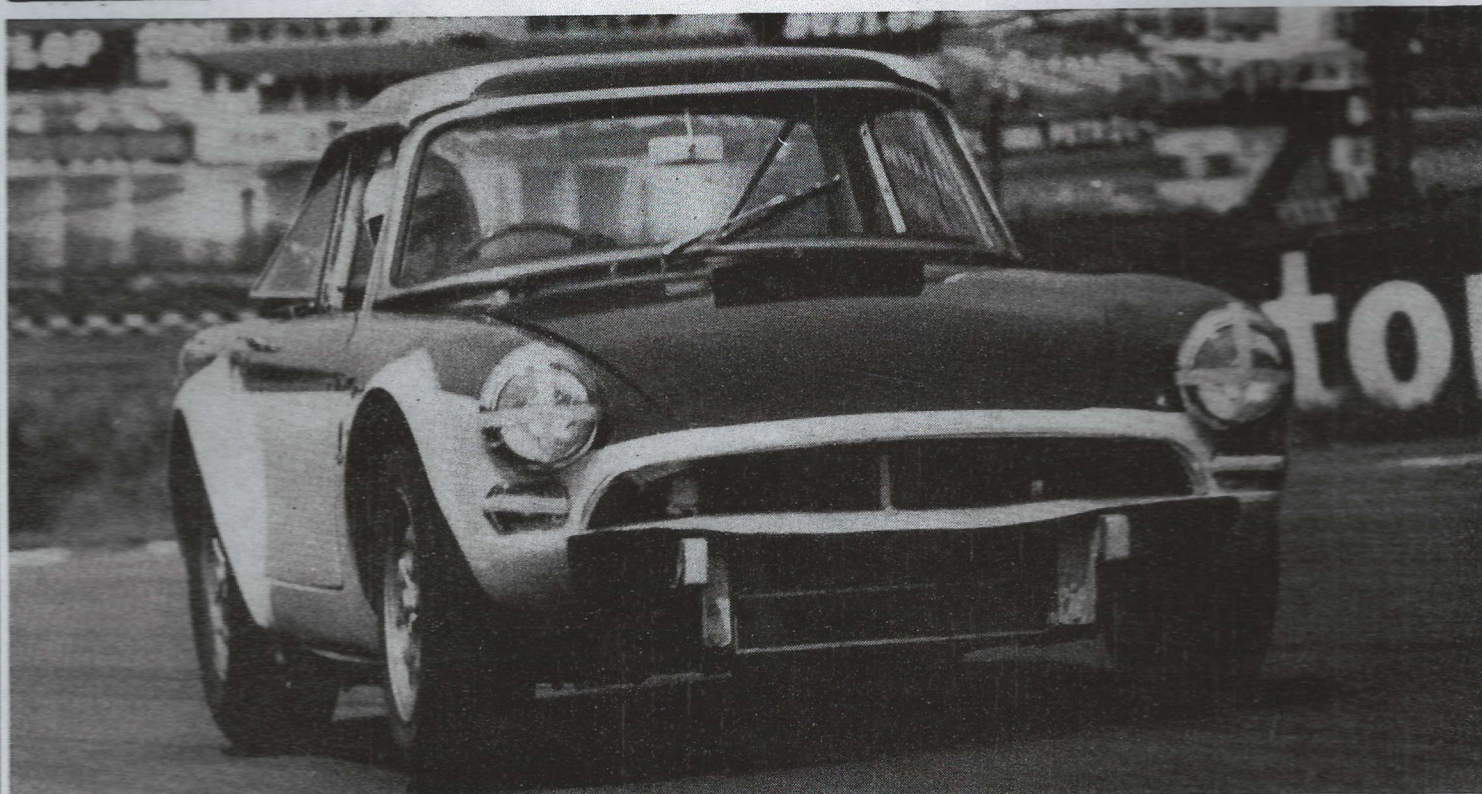
MOTOR RACING

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Coming through Kidney, with the front suspension working hard, and the rear end beginning to get a bit light. Narrow-section tyres had to be used for the test.

SPECTATORS at Brands Hatch on Whit Sunday may recall that the Alan Fraser Racing Team had a pretty good day's sport. Bernard Unett ran away with the 1 litre saloon race with a club Imp, teammate Ray Calcutt easily won the 850 cc class in the same race with a smaller-engined but otherwise similar car, and then Unett rounded things off very nicely by scoring a comfortable win with the team's new Marque Tiger.

Having sampled the Fraser Group 3 Tiger while practising before the Ilford Films 500 Miles race, it seemed a sensible thing to track-test the Marque car, and see how the two compared. Alan Fraser's team manager, Leslie Sherley-Price, agreed, and kindly 'lent' it to me during a session of development testing at Brands Hatch.

This, of course, is a considerably more potent beast than the team's Group 3 car, and having right-hand drive it is a lot more comfortable to drive. It started off as a normal 'cooking' Tiger, but was completely stripped down, and the body/chassis unit, having been emptied of all the mechanical bits and pieces, was inverted in the Fraser Team's workshops at Hildenborough and given a thorough weld job, strengthening-up here and there, adding various brackets and modifying mounting points as part of the suspension-'tweaking' process.

The car has been lowered by 2½ to 3 inches, and the revised mounting points give the top wishbones a pronounced inclination. Competition-spec coil springs are supplemented by adjustable Armstrong dampers at the front and adjustable Konis at the back. The 4.07 to 1 axle, which came from

one of the Le Mans Tigers, is particularly well located, upper and lower tie bars on each side of the car being secured at their forward ends on brackets welded on to the body unit. The 1 inch diameter front anti-roll bar is strapped to plates added to the body structure, instead of merely being coupled between the suspension arms.

The gearbox, like the axle, is ex-Le Mans Tiger, and is the 'production' Ford competition unit (four-speed, all-synchro) with the longer tail, enabling a shorter prop shaft to be used. The clutch is also basically a standard Ford unit, but with packed springs.

The engine, like most of the rest of the car, has been prepared by Frasers themselves, under the supervision of Les Bennett. They started off with a new 4.2 litre block, and have fitted Cobra-type 289 heads and crank. The whole thing—rods, pistons, clutch assembly, the lot—has been balanced, and Frasers are currently experimenting with different camshafts. Twin 45 DCOE dual-choke Webers are fed by a pair of SU high-pressure pumps, mounted adjacent to the 25 gallon fuel tank, which occupies a fair proportion of the 'luggage' space. The four-branch exhaust manifolds feed into a single tail pipe on each side of the car, extracting outwards from below the doors.

There has been no opportunity to put the power unit on a brake, but the output should be in the region of 300 to 325 bhp, and the engine will rev up to 7,000 rpm, although we adopted a limit of 6,000 for the test. At the other end, everything starts to happen around 4,000 rpm with the camshaft in use on test day, although of course the unit is very tractable well below that.

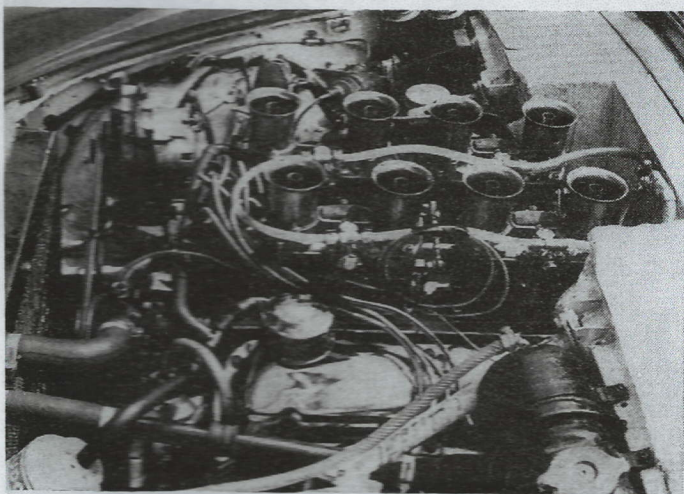
One or two useful modifications have been made to the engine's ancillaries. For example, the single long-travel fan belt has been dispensed with, and replaced by twin belts, one driving the water pump from the normal crankshaft pulley, and a second belt, built on to an extension of the first pulley, running the alternator, which of course has also had to be moved forward an equivalent amount to line up with the additional drive pulley.

A larger, export-type radiator is part of a 4 gallon cooling system, the header tank for which has been brought away from its normal location to the rear of the engine compartment, to give better accessibility at the front of the engine, and in particular around the oil filter. A further engine modification is the use of a fully baffled 2½ gallon sump.

The Marque Tiger has an alloy bonnet, boot lid and hardtop (there's a strong tubular roll cage inside), and the intention is to fit alloy door panels shortly. In its current form the car scales 22 cwt with 10 gallons of fuel aboard. A very neat piece of panel bending, utilising only the existing metal, has achieved the smart fairings over the wheel openings, necessary to completely cover the wide-tread tyres which are normally used on this car.

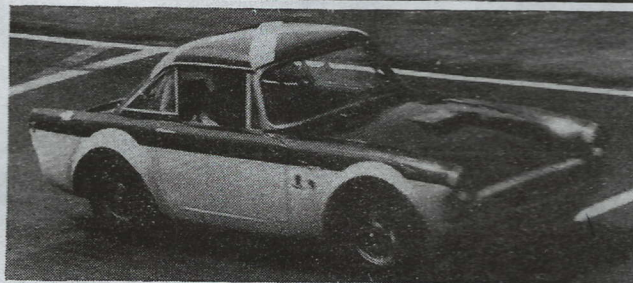
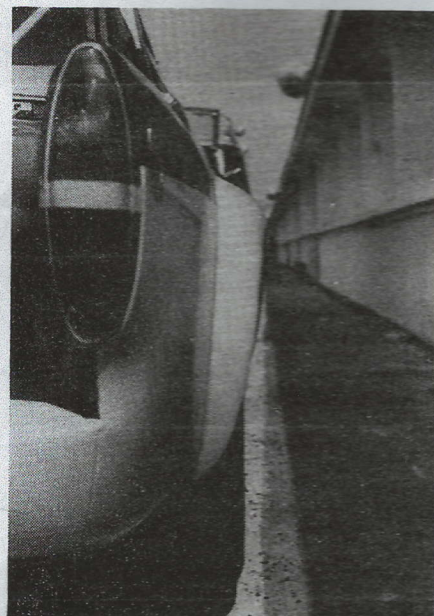
I say 'normally', because in this instance we had to run on narrower-section 5.50L and 6.50L x 15 Dunlop R6 yellow spots due to the non-arrival of the 'M' tyres needed to replace those which had been worn out in racing. It meant that we were well down on tread contact area, and as a result we were getting a rear-end breakaway

Marque Sunbeam Tiger



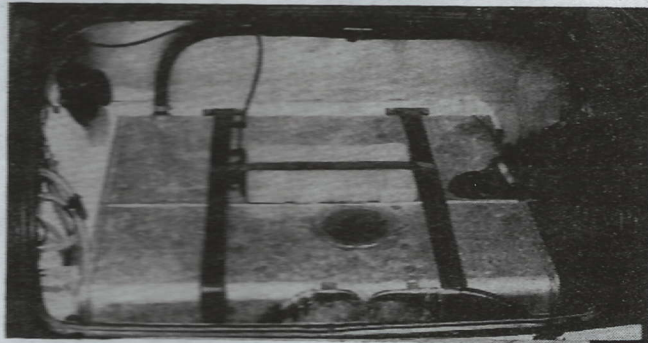
Left: A tight fit, but it's all there! Two belt drives run from the crankshaft, one driving the water pump, the other the alternator. The radiator header is repositioned close to the rear bulkhead.

Right: A neat example of metal-bending. The smart fairings over the wheels were formed from the original metal of the body shell.



Like all Alan Fraser's cars, the Tiger carries the white cross of St Andrew on its roof. The car runs with aluminium bonnet, hardtop and boot lid, and scales 22 cwt with 10 gallons of fuel.

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considerably earlier than would have been the case with the wider rubber.

This, and the fact that we were using the club circuit, whereas the '500 Miles' Tiger had been run on the long circuit, prevented a really accurate comparison test between the two cars. Obviously, with a higher 'power-to-rubber' ratio, the Marque car was relatively more of a handful, and I noticed that Bottom Bend in particular had to be taken with more respect. A little of this may have been psychological, however, as the Group 3 Tiger had had left-hand drive (it is now being converted), and no corner seems quite so difficult, I think, when you are driving it from the nearside (left-hand drive for left-handers, right-hand drive for right-handers).

The early breakaway called for care at Kidney. The car goes in with an understeer, and unless you set it up fairly early you find that the understeer prevents you from clipping the apex. If you try to tighten up the lock once you are on a line, however, the tail will go, and you lose as much as you gain while correcting the slide. So as I say, it is a case of setting it up early, then coaxing it through on your chosen line with gentle 'nudges' at the steering wheel.

Clearways presented the biggest problem on the circuit, due to the speed of the rear-end breakaway. Power had to be fed in carefully coming down the hill, because although a limited slide could be used to advantage, the fuller-blooded variety invariably meant using up too much road while correcting, which in turn meant having

to pull the car back across the road to the right, and in so doing inducing a subsequent rear-end breakaway. They just didn't mean Clearways to be taken like a row of 'S' bends!

The technique, therefore, which I think I only achieved on my last two laps, was to anticipate the first slide by coming in very tight over the brow, neutralise the throttle as the breakaway occurred, and then as the car responded to correction, carefully blend throttle with lock to achieve just one more slight breakaway near the bottom of the incline to help line up the car for the start of the top straight. Good practice in the art of throttle control!

The Tiger's gear-shift pattern was the conventional one, third sufficing for everything except the hairpin (second) and the pits straight (top about the beginning of the pits, using the 6,000 rpm rev limit). The shift itself I thought better than on the Group 3 car, but probably because it is a more natural movement with a left hand than with a right.

The clutch action, inevitably, is moderately firm, but this is mainly noticed on the line, when fully depressing the pedal to engage first. On the move you soon forget all about it. As for the brakes (11 inch discs at the front, 10 inch at the back), it was a question of pushing hard until you found them. They were there, all right, in good measure, but the pedal was near the floor by the end of the test, making it difficult to hit the throttle on down-shifts without coming off the brakes. The car seemed very stable under braking, while the

power unit's overrun provided quite a noticeable supplementary 'anchor' going into a corner.

The Tiger's steering is difficult to define. It is influenced considerably by the car's body motion, so that whenever the car begins to rock as a result of hitting a rough patch (the rear end seemed to me to be more prone to this than the front) you find yourself giving a compensating 'saw' on the steering wheel. On a smooth surface, the steering is very good indeed, and commendably light for a car weighing over a ton, the majority of which must be carried by the front wheels (these, incidentally, are Dunlops, from the Le Mans cars). It is just through the 'rock and roll' sessions that it lacks feel.

It all adds up to quite an exciting car to drive. There's a lot of power on tap for a tight circuit, and you have to work quite hard to get just the right amount of it through to the road all the time. This way, a corner well taken gives quite a lot of satisfaction.

Lap times? Well, Ray Calcutt, who carried out the development testing, set the ball rolling at 62.1 seconds. At the end of my track test laps, the 'bogey' time was down to 61.6 seconds, and then Ray went out for a final fling, taking the unofficial ftd with a lap in 60.8 seconds. Pondering on these times, we both came to the conclusion that with the right tyres a 59-second lap should be 'on' without much trouble. After that... we'll just have to wait and see! Oh... and in case you haven't heard it, the car sounds just marvellous!