

# HIGH HOPES

*New material from the Michelotti archives helps James Taylor to piece together the story of the Triumph Stag's pre-production development*

**I**N the early Sixties, Michelotti enjoyed an excellent relationship with Triumph, both professionally and on a personal level with its Chief Engineer, Harry Webster. So when he asked Webster if he could have an old Triumph 2000 to turn into a show special, his request was willingly granted. But there was one proviso: that Triumph would have first claim on the show design if the company liked it.

An early 2000, registered 6105 KV, did its last duties for Triumph as a service support car at the 1965 Le Mans 24-hour race, and was then driven straight to Michelotti's studios in Turin. Webster then probably thought no more about it until, on one of his regular visits to Turin in the

summer of 1965, he caught sight of the wooden mock-up of Michelotti's proposed show car. Sitting on a shortened wheelbase, it was a two-plus-two convertible, with remarkably attractive sculpted front and rear shapes, and quad headlamps hidden behind power-operated sliding grille sections. Webster loved it and offered to buy it for Triumph. As a result, the car was built up as a Triumph styling prototype and never became a Michelotti show vehicle.

While Michelotti was turning the mock-up into a real car, Webster drummed up support from his colleagues. He formally reported to his fellow directors in February 1966, observing that he thought the design

looked more promising than the TR4A facelift, then under consideration. Indeed, for a few weeks, the car was referred to as a TR6, although it rapidly became clear that the Michelotti design was too much of a grand tourer ever to slot comfortably into the TR sports car range.

Over the next few months, Triumph soberly examined the car's sales potential, but the Board was already sold on the idea of producing it. A letter Harry Webster wrote to Michelotti on April 21 discussed design modifications in terms of 'when' rather than 'if', and formal Board approval to commit resources to putting the car into production came during that summer. The speed with which this had been achieved is remarkable, especially since the single prototype was not delivered to Canley until the early summer of 1966!

Triumph's main market in the late Sixties was the USA, so it was not surprising that the first concern was how to sell the car there. Anticipated new safety regulations prompted Harry Webster to ask Michelotti in a letter dated July 11 to style a roll-over

bar for the car. He also wanted to have a detachable hard-top, like the Mercedes SL, and to discuss the styling of the hood and the interior as well as the headroom in the rear. Other documents show that Triumph engineers had built their own interior styling buck and had found rear headroom could be improved by lowering the seat pan, whilst lowered footwells gave more leg room.

It was Triumph practice to give all new projects a code name, and by the time of Webster's July 11 letter, the name of Stag had been allocated to the 2000-based special. By way of clarification, Webster also referred to it as a 'GT 2000'. Its precise status at the time certainly did cause some confusion: Triumph normally allocated all prototype and experimental cars an 'X' number but the Stag prototype never had one because the 2000 from which it had been converted already had its own chassis number.

The Stag prototype went back to Turin that autumn for Michelotti to carry out modifications for Triumph and it was probably in early November that a delegation of senior Leyland

people went out to Italy to see what progress had been made. They expressed a "strong feeling of disappointment" with what they saw, singling out for criticism the seats, hood, roll-over bar and hard-top. As Harry Webster put it in a letter: "The result of your work over the last few weeks is not really Michelotti."

Triumph requested 22 further modifications to the car in November 1966 and Michelotti agreed to carry them out as quickly as possible. "We are," as Webster observed towards the end of November, "completely held up here, pending the return of the vehicle." In fact, the car did not return to Canley until the beginning of January, and then without a modification to the door pillars which Triumph had requested and which Michelotti had warned them would take a long time to effect. Chief Body Engineer Arthur Ballard wrote to Michelotti on January 5, noting that the car was now "in most respects satisfactory" but that Triumph wanted to raise the rear of the hard-top, to improve both the appearance and the

headroom. Michelotti was asked to submit appropriate drawings.

Once these modifications had been made, however, Michelotti's work was done. Now it was up to the Triumph designers and engineers to get to work on the Stag concept, and in fact the Italian studio seems to have been involved with the project very little over the next two years.

As built, the Stag prototype had the 1,998cc OHV six-cylinder engine of the 2000 saloon. With 90bhp, this was adequate but it was not going to give the sort of performance which Harry Webster wanted: much better would be the long-stroke version of the engine, then under development for the TR5, which promised between 130 and 150bhp when fitted with Lucas fuel injection. This could go into the

*Below, this first Stag prototype was converted by Michelotti from a Triumph 2000 saloon in 1965 and started out as a project for a special show car*



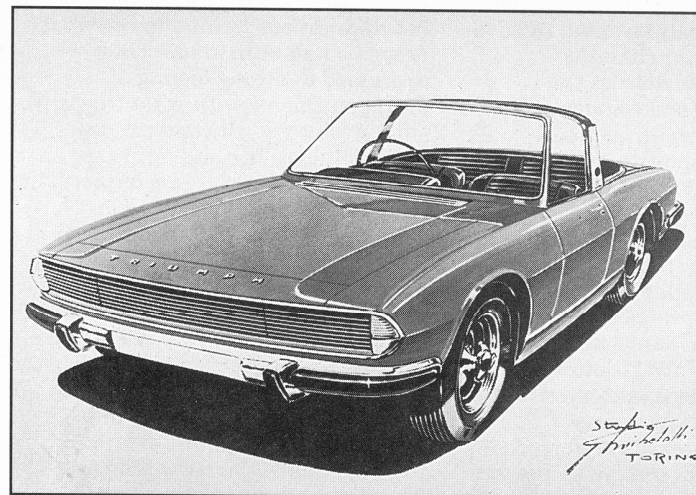
first production cars and then, at some future date, it could be supplemented or replaced by the new V8 engine which was under development.

The V8 was actually part of a planned new family of engines, which consisted of an overhead-camshaft slant-four and a V8 which was really two slant-fours on a common crankshaft. One or the other would be suitable for all Triumph's cars, for the capacities available in theory ranged from the 1½ litres of the smallest four-cylinder to four litres in the largest feasible V8. There was no doubt that a powerful, modern V8 engine would give the Stag considerable appeal in its main target market of the USA, so Harry Webster decided to try one of these engines in a Stag prototype as early as he could.

For the moment, however, the Triumph engineers concentrated on getting the styling right, as the body press tools would have to be signed-off as the first stage in getting the car into production. It was November 1967 before final agreement was reached but from then on things began to happen more quickly.

In the last months of 1967, Triumph built up its own prototype Stag, X763. This had a 2½-litre six-cylinder engine but with carburettors, no doubt because the Lucas fuel injection installation was not yet satisfactory. A second prototype, X777, was completed in March 1968, this time with left-hand drive. This may also have had a six-cylinder engine originally but the dual exhausts visible in photographs taken in July 1968 suggest that by then it had a V8.

Testing on pavé with these prototypes soon revealed some serious structural shortcomings, including "the most enormous scuttle-shake," as Harry Webster described it. Double-



Left, because of concern about US safety regulations Michelotti was asked to design an integral roll-over bar. This sketch dated February 19, 1967 shows his proposal, with the bar not yet connected to the windscreen rail

Opposite page, an idea for an improved fastback design drawn after the first car had been converted

skinning in the body structure offered a partial solution, but further testing (initially carried out with the aid of a broom handle!) showed that the best way to solve the problem was to brace the roll-over bar to the windscreen header rail. The second Triumph prototype, X777, was modified to incorporate the new T-brace soon after it was built, and X763 was also modified very soon afterwards.

Related development work was carried out on other cars. As Triumph wanted to put the V8 engine into the 2000 saloon in due course, several V8-powered 2000 development cars were built. In order to perfect the sliding headlamp covers incorporated in Michelotti's original design, at least one prototype was also fitted with this. However, things

were not destined to run smoothly on the Stag project during 1968.

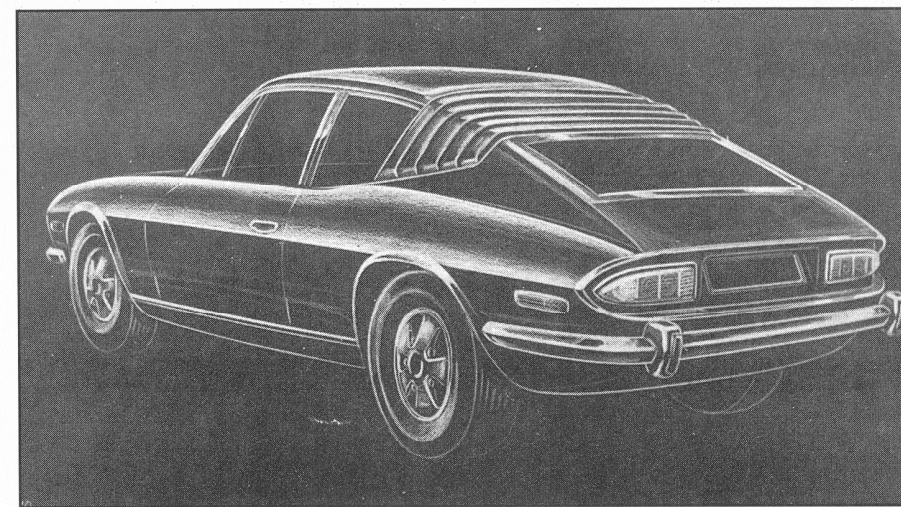
It was in that year that the Leyland Motor Corporation (which owned Standard-Triumph) merged with BMH to create the new British Leyland Motor Corporation, and the spring months were disrupted by the consequent reorganisation. Harry Webster was moved from Triumph to take over at Austin-Morris, and in his place as Triumph's Chief Engineer came Rover's Spen King.

The new Chief Engineer's view was that the Stag should be launched with V8 power and, as enthusiasm for the

six-cylinder engine had been on the wane before Harry Webster's departure, Spen King dropped it from the project. The V8, however, was far from satisfactory. In 2½-litre form, it lacked low-speed torque when fitted with carburettors and could not be made to meet American emissions control regulations when fitted with fuel injection. King therefore suspended the work with fuel injection and asked the Triumph engineers to redevelop the engine with a longer stroke to give the necessary torque.

This decision cost the Stag project some three months, as there was rather more to the task than simply fitting a new crankshaft and pistons. In fact, the cylinder bores were repositioned within the block to give better water circulation and sundry other modifications were also made. One of the original 2½-litre engines still survives in the hands of a Midlands engine specialist and it is clear from this that a much better quality aluminium alloy was used for the cylinder heads and other components than on the production 3-litre types; perhaps, then, a decision to use the cheaper material was also made when the engine was being redeveloped during 1968.

Uprating the engine brought with it more problems. Triumph had intended to use a number of components from existing cars in order to minimise

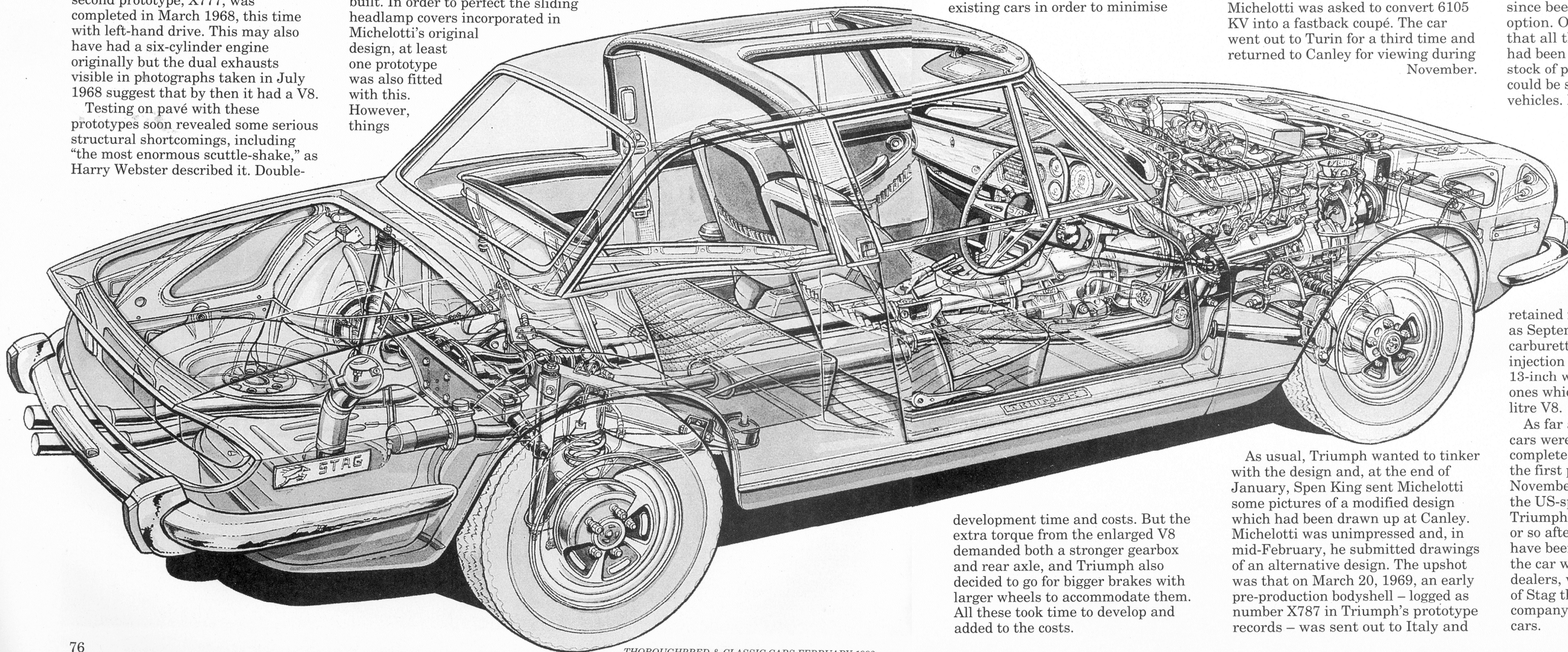


The sliding headlamp arrangement was a further casualty over the summer of 1968, as it could not be made reliable. The third Triumph-built prototype probably had exposed lamps from the beginning. With this and the fourth car, which was completed in the winter of 1968/69, the Stag was gradually reaching its definitive form. But there would be one more major aberration before production began.

Exactly why Triumph decided to look at the possibility of a fastback Stag is not clear but the project seems to have had a fair head of steam behind it by October 1968, when Michelotti was asked to convert 6105 KV into a fastback coupé. The car went out to Turin for a third time and returned to Canley for viewing during November.

Michelotti was asked to turn it into a new fastback. Whether the style he adopted after trying two different ones in clay on the shell itself was primarily his own or Triumph's is unclear. It certainly was different from the style used on 6105 KV, giving the Stag the appearance of an oversized GT6 from some angles. The rebuilt shell was back at Canley by August 22, when it was mocked-up with wheels for a viewing.

Renumbered as X798, the fastback shell was subsequently built up as a complete car. Curiously, it was given a fuel-injected 2½-litre six-cylinder engine, even though this had long since been rejected as a production option. One explanation might be that all the V8s then in existence had been earmarked for the launch stock of production cars and that none could be spared for development vehicles. Nevertheless, the fastback



Left, the production Triumph Stag with 3-litre V8 engine and T-bar to brace the structure against scuttle-shake

retained its six-cylinder engine as late as September 1971, when twin carburettors had replaced the fuel injection and the car was running on 13-inch wheels instead of the 14-inch ones which had come in with the 3-litre V8.

As far as the European-specification cars were concerned, development was complete by the middle of 1969 and the first production car was built in November. Work now concentrated on the US-specification models, which Triumph planned to introduce a year or so after the European cars. It must have been about this time, too, that the car was shown to Triumph's US dealers, who so liked the project name of Stag that they persuaded the company to retain it for the production cars.

development time and costs. But the extra torque from the enlarged V8 demanded both a stronger gearbox and rear axle, and Triumph also decided to go for bigger brakes with larger wheels to accommodate them. All these took time to develop and added to the costs.

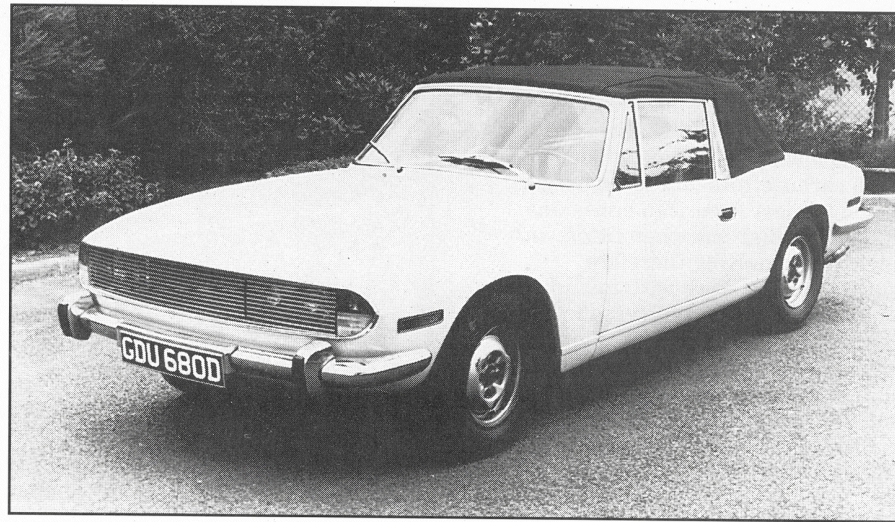
As usual, Triumph wanted to tinker with the design and, at the end of January, Spen King sent Michelotti some pictures of a modified design which had been drawn up at Canley. Michelotti was unimpressed and, in mid-February, he submitted drawings of an alternative design. The upshot was that on March 20, 1969, an early pre-production bodysell - logged as number X787 in Triumph's prototype records - was sent out to Italy and

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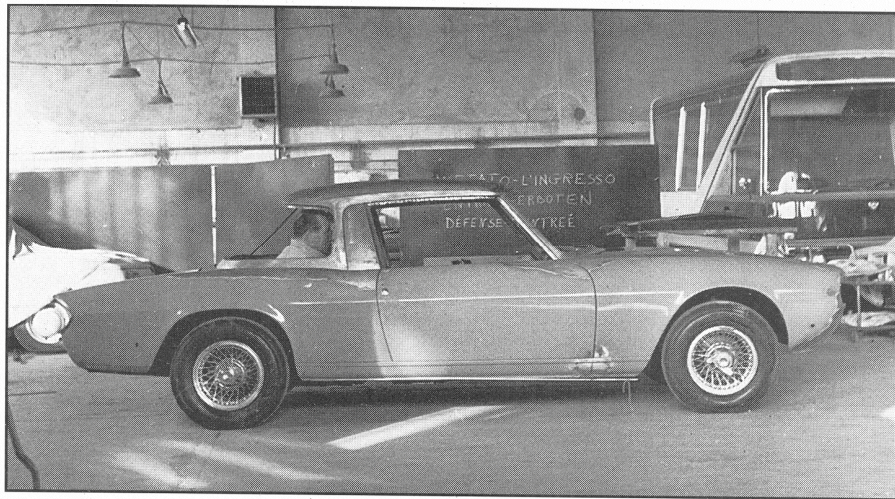
Two further prototypes were constructed for final development of the US specification. One, X802, was simply a crash-test car which was subjected at MIRA to the barrier, side and roof intrusion tests then demanded under Federal law. The other, X790, was a full US-specification car which went out to the USA in the spring of 1970 for cooling and air conditioning tests. By October 1970, its 2,997cc V8 engine had been fitted experimentally with Bosch fuel injection, no doubt because the latest Bosch systems looked like offering the most effective way of meeting emissions control requirements. However, no fuel-injected Stag would ever go into production.

For the future, Triumph seems to have been thinking of more power and of the fastback as an alternative model. The completed fastback (X798) was among the cars at a viewing arranged for the Triumph directors on February 11, 1970. A list of photographs from the Triumph archives suggests that an experimental four-valves-per-cylinder V8 was in existence by December 1969, although engineers associated with the Stag project do not remember it. That it should have existed is plausible enough, however, as the slant-four Dolomite engine (effectively half a V8) was modified at around the same time to a four-valves-per-cylinder layout for the Triumph Dolomite Sprint.

Many people at Canley must have been holding their breath during the first six months of 1970. The Stag launch had been scheduled for June, but by March there was still only one complete production car. Strikes and last-minute development problems had caused hold-ups and, in fact, no more cars were completed until the following month. Even then, Stags had to be assembled in small batches on the TR6 production line because their own line had not yet been completed. Meanwhile, the first car

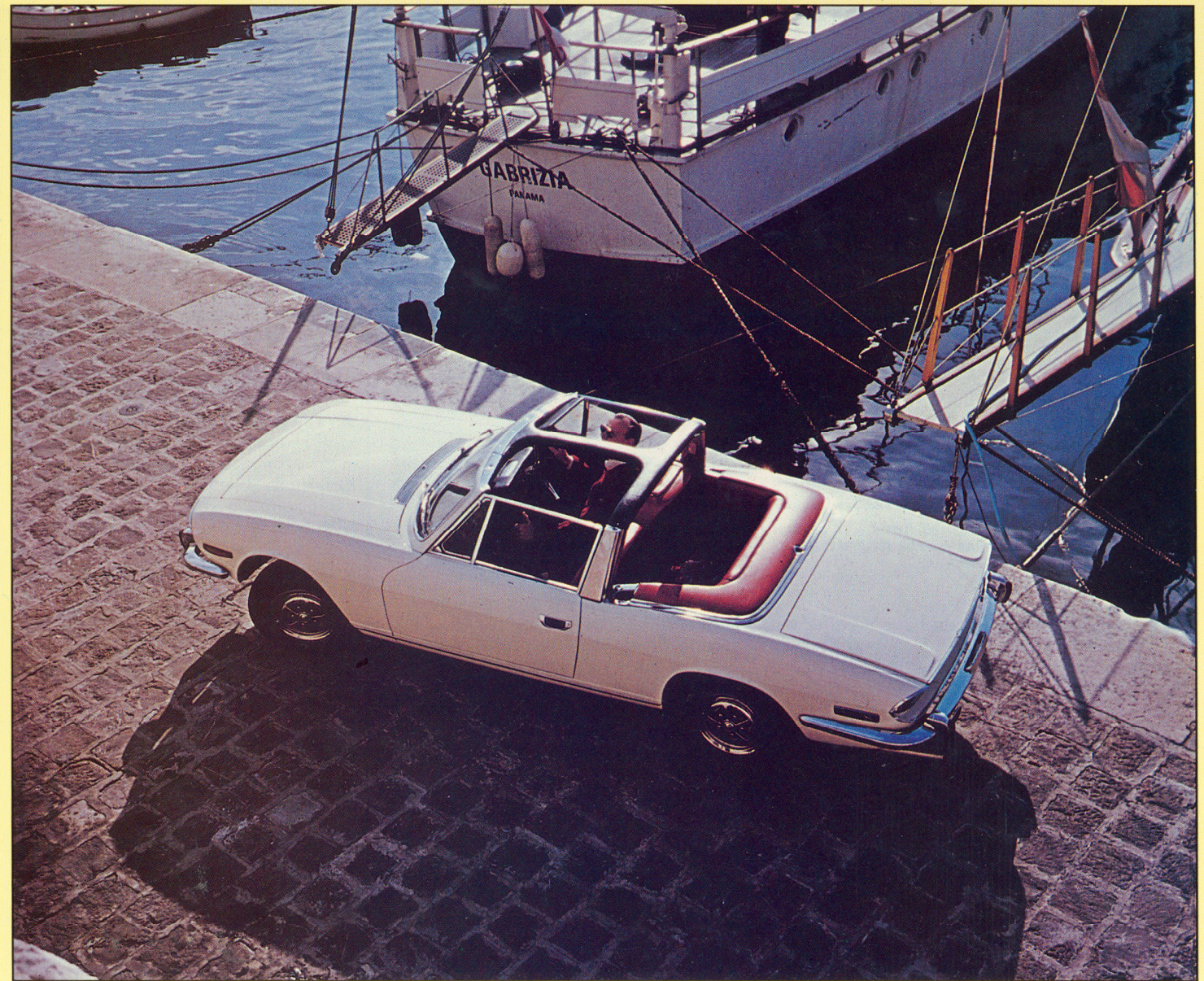


Above, the second Triumph-built prototype retained the sliding headlamp covers but otherwise reflected production styling. It is really PVC 237G, the number shown is false



was photographed during March for the launch publicity and the first sales brochure. As Triumph wanted to give the Stag a European image which would help to establish it as a competitor to the Mercedes-Benz SL and Alfa Romeo 1750 models, these pictures were taken in Italy, Switzerland and the south of France.

Below, Michelotti's first attempt at a hard-top for the Triumph Stag was an aesthetic failure. Here rear headroom is being checked during construction in Turin



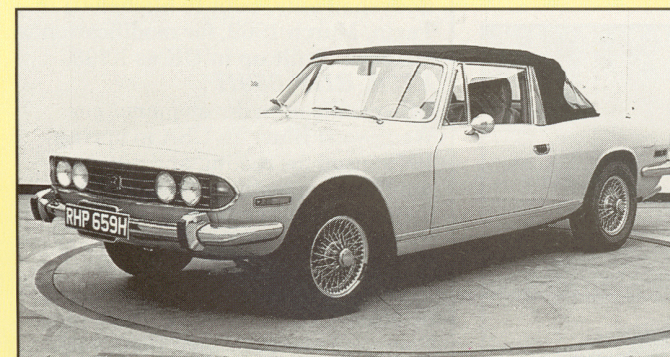
Above, the first production car was used for publicity photographs, taken in exotic locations on the continent in March 1970 to give a European image. Below left, the American specification development car pictured at Canley in March 1970. Wire wheels were optional until 1973 but were seldom specified, except in the USA



Left, the final Triumph Stag prototype, X815, was Triumph's own fastback design and was completed at Canley during 1971. This was the third fastback prototype and originally was painted yellow. It has been restored and survives in private ownership

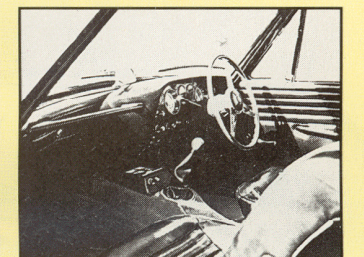
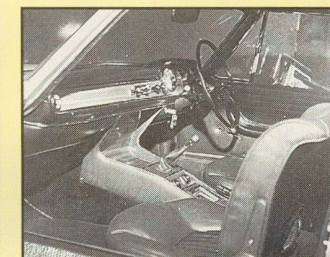
The launch went ahead in Belgium without a hitch, the Press reviews were ecstatic and for the first few months Triumph's main concern was with matching production to demand. On the development side, there was still more than enough to do to get the car ready for its US-market launch in September 1971. And there was still the question of the fastback variant to consider . . .

Although the second Michelotti-built fastback was a vast improvement on the first, Triumph still had some reservations. Once the pressure to get the basic Stag into production and ready for the US market had eased a little, the company turned again to the fastback. A new design was drawn up by Triumph's own stylists under Les Moore and a third hatchback prototype, numbered X815, was built up in the early part of 1971 and put on the road in February or March of

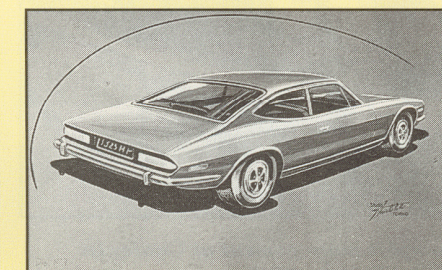
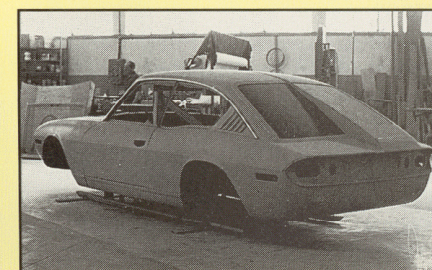


Below, Michelotti's studios mocked up fastback styles in clay on a bodyshell sent out from Canley in March 1969

Michelotti's interior style for the Stag was always very Italianate. His original design (below right) was later altered at Triumph's request and became more modern with a centre console (below left) but was still some way from the interior of the production cars



Below, another of Michelotti's ideas for an improved fastback, drawn after the first car had been converted



Below, the first fastback Stag, with an eggbox grille. The sliding headlamp covers had been abandoned by this time



*Michelotti's redesigned hard-top, shown fitted to the first Stag prototype, was a great improvement on the first design. A Standard-Triumph badge can be seen in the T-bar side member*

that year.

"I liked it," Spen King recalled some 18 years later. "I thought it was a nice, sensible car and much more useful than an ordinary Stag." With hindsight, however, it is easy to see why the fastback was never approved for production. Firstly, it arrived just as the Stag was beginning to cause Triumph a major headache with warranty claims relating to the engine. Secondly, it coincided with the beginning of British Leyland's financial troubles, when all the corporation's profits were pumped into its volume cars division, leaving nothing for the development of prestige models such as the fastback Stag. X815 was therefore the last Stag prototype to be built.

Of the nine Stag prototypes, only three are known to survive. The second Triumph-built prototype, X777, is currently owned by SOC Spares, the Stag parts specialists, but is in very poor condition. The fourth Triumph-built car, X783, survives in everyday use in private ownership and the final hatchback prototype, X815, has been restored and is owned by a Stag enthusiast. There are rumours that one other hatchback survives, but that is all. ▲

*Our thanks to Dave Jell of the Stag Owners club for use of his extensive research into the early history of the Triumph Stag and to Michelotti's son for the pictures from his father's studio.*



*The second Stag fastback was viewed by Triumph's management at Canley in February 1970. In this photograph it still lacks a rear bumper*

## *The Stag Prototypes*

### **6105 KV**

Converted from Triumph 2000 saloon in 1965 by Michelotti. Finished in lilac/pink. Later used for development of hard-top and roll-over bar. Converted to fastback autumn 1968.

### **X763**

Built probably in late 1967. Finished in matt black with red interior. Originally fitted with 2½-litre, six-cylinder carburettor engine. Later had 2½-litre carburettor V8, then fuel-injected 2½-litre V8. Eventually fitted with 3-litre V8. Used for pavé and rear axle tests. Scrapped in mid-Seventies.

### **X777, PVC 237G**

Build completed March 28, 1968; LHD with automatic transmission. Originally pale yellow. Fitted with air conditioning and US marker lamps, also with fuel expansion tank for US safety-regulation experiments. Dual exhausts and hidden headlamps. Roll-over bar from new; first car fitted with T-bar, during 1968. Fitted with CV joints instead of UJs in rear suspension. Seen in early pictures with number plates GDU 680D (front) and 1325 HP (rear). Used for pavé testing, air conditioning tests in North Africa, brake tests in North Wales and suspension tests. Survives.

### **X782, PHP 465G**

Built as RHD automatic but converted to manual by July 1970. Painted white. Used for engine and gearbox work, including emissions control development.

### **X783, TKV 754J**

Built as RHD automatic with air conditioning. Originally Valencia Blue. Used for 50,000-mile air conditioning test in USA, 1972. Survives, now registered as 3702 DF.

### **X787**

Bodyshell only. Sent to Michelotti in Turin, March 1969, for modification to fastback. Built up in UK as X798.

### **X790, RHP 659H**

US-specification development car. Wedgwood Blue. To USA in spring 1970; used for cooling and air conditioning tests at Pikes Peak. Fitted with Bosch fuel-injected 3-litre V8 by October 1970.

### **X798**

Built from bodyshell X787, modified by Michelotti to fastback. Dark blue. Completed by February 1970, with fuel-injected 2½-litre six-cylinder engine. By September 1971, running with 2½-litre carburettor six-cylinder engine and 13in wheels.

### **X802**

Crash-test car, LHD. Barrier crash test at MIRA on December 15, 1969. Scrapped after roof intrusion test on March 18, 1971.

### **X815, WHP 852J**

Built as fastback by Triumph, circa February 1971. Originally Saffron Yellow, later white. Survives, re-registered as PAE 755.