

CITROËN SM V8

THE LOST PROTOTYPE
REBORN

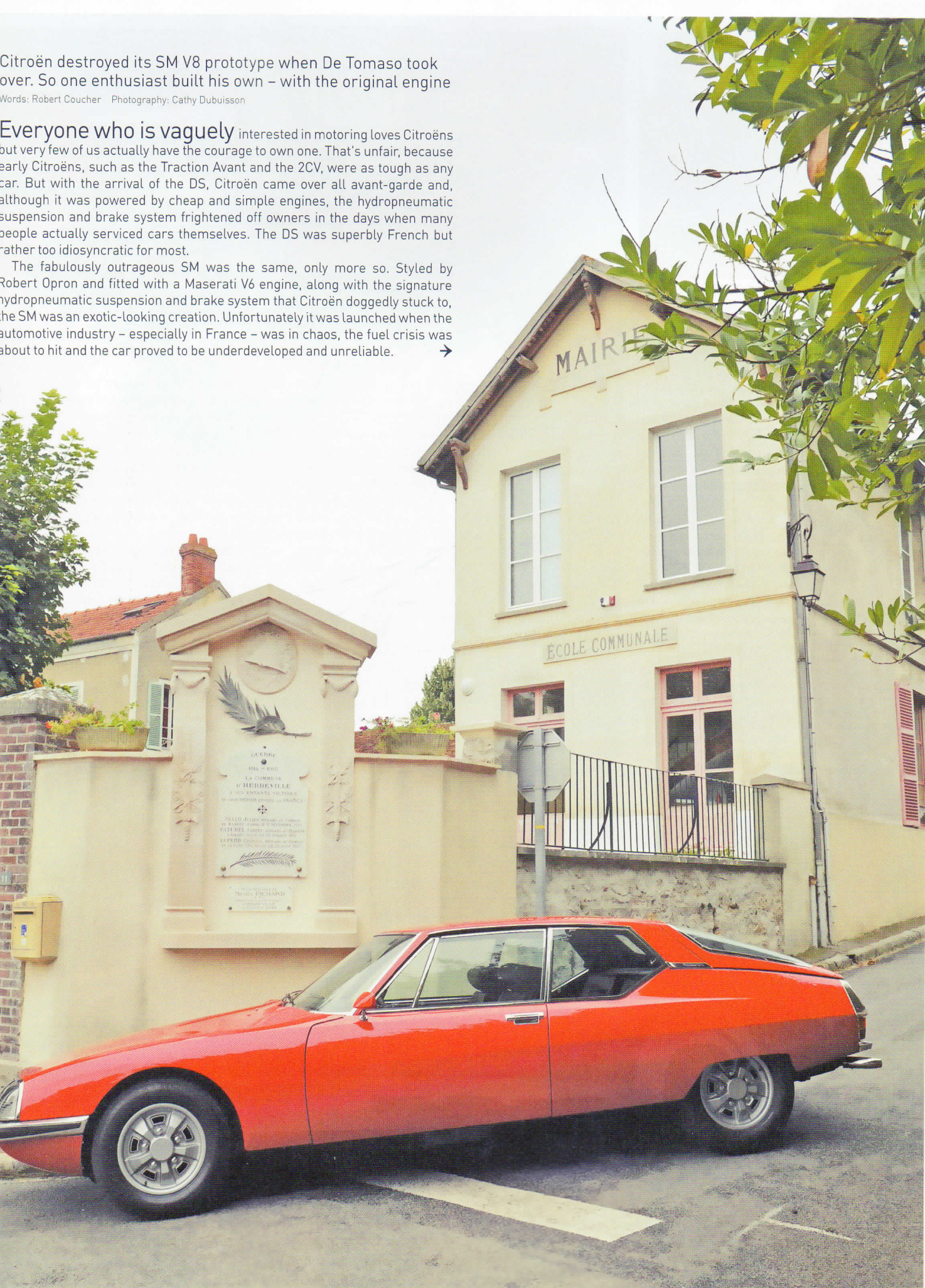


Citroën destroyed its SM V8 prototype when De Tomaso took over. So one enthusiast built his own – with the original engine

Words: Robert Coucher Photography: Cathy Dubuisson

Everyone who is vaguely interested in motoring loves Citroëns but very few of us actually have the courage to own one. That's unfair, because early Citroëns, such as the Traction Avant and the 2CV, were as tough as any car. But with the arrival of the DS, Citroën came over all avant-garde and, although it was powered by cheap and simple engines, the hydropneumatic suspension and brake system frightened off owners in the days when many people actually serviced cars themselves. The DS was superbly French but rather too idiosyncratic for most.

The fabulously outrageous SM was the same, only more so. Styled by Robert Opron and fitted with a Maserati V6 engine, along with the signature hydropneumatic suspension and brake system that Citroën doggedly stuck to, the SM was an exotic-looking creation. Unfortunately it was launched when the automotive industry – especially in France – was in chaos, the fuel crisis was about to hit and the car proved to be underdeveloped and unreliable. ➔





Below
The SM proved what a great car the Citroën DS would have been with a V6. And this one's got a V8...

During the decades since, the SM was largely ignored by the mainstream classic car world, seen as an over-complicated underachiever. For years, old SMs could be seen smoking around less salubrious suburbs with bits of fragile trim hanging off and the brittle interior crumbling. But in the last few years prices have jumped as the SM has become a desirable icon of the 1970s. With specialists such as Garage Daumat and Regembeau in France and Andrew Brodie in the UK proving that SMs can be made to run reliably and their foibles remedied, interest has rocketed. Even *Octane* editor David Lillywhite is in the process of importing one!

The SM was recently afforded a seven-page feature in *Octane* (issue 89), so this is not the place to repeat all the history. And nor should it be, because the car we have here is not one of the ordinary 12,920

production models but a replica of a one-off prototype. In fact it's the only Citroën SM V8 in existence.

To the bafflement of many, Citroën purchased Maserati in 1968 and this gave it access to Maserati's engine department, headed by Giulio Alfieri who developed the 2.7-litre V6 for the SM. According to marque expert Marc Sonnery, and detailed in his upcoming book *Maserati and Citroën Years 1968-1975*, in the spring of 1974 Alfieri was tasked with developing a new V8 engine for the Maserati Quattroporte II. The old Indy/Bora V8 was deemed too heavy and out of date so the Merak V6 engine was the basis for a fresh and more efficient 4.0-litre V8, and the idea was to test it in an SM.

Alfieri ingeniously enlarged the V6 by cutting it in the middle of the third cylinder from the front and mating it with a one-and-a-half cylinder section from another

block. *Perfecto!* A lightweight V8 that sits behind the front-wheel-drive SM's gearbox.

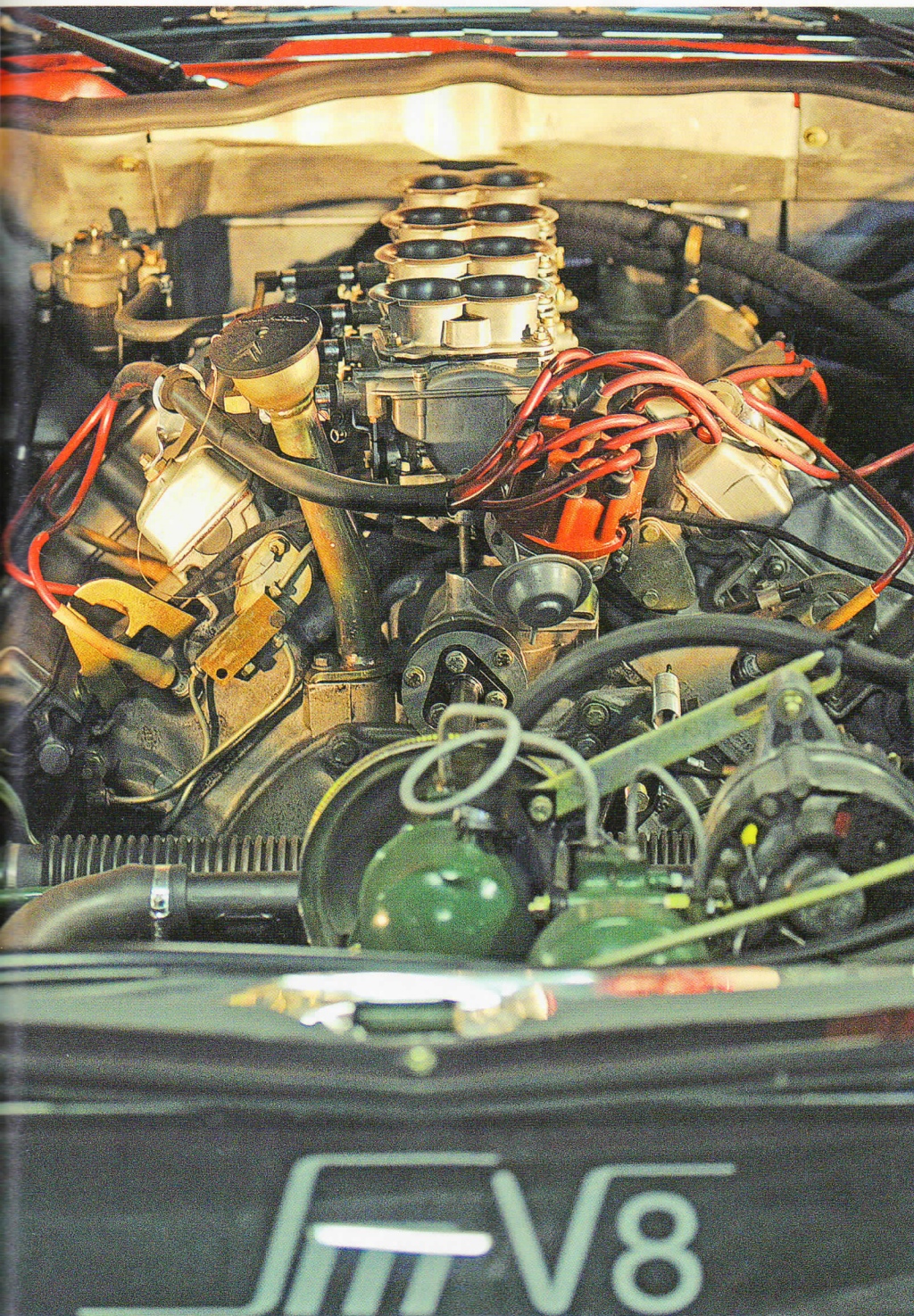
Marc Sonnery put the question to Cleto Grandi, who was head of *tecnico* in the late Alfieri's R&D department for Maserati, and he says: 'Since Mr Malleret [director of Maserati for Citroën] did not want to use the traditional V8, judged too long in the tooth and uneconomical, it was decided to make a Merak Plus 2 engine... we took a Merak block and welded two additional cylinders from another Merak block and this engine came together quite simply.'

Grandi continues: 'It was installed in the same position as the six-cylinder except that, to make room for the two additional cylinders, we had to modify the bodyshell slightly in the area of the dashboard to be able to fit the coolant pipes.'

The gearbox remained standard, as Grandi explains: 'Normal five-speed



'The SM V8 looks no different to a regular SM but, when the engine fires, the cat is out of the bag'



Above
Carburettor trumpets
prove the badge tells
the truth – though this
V8 was actually built
out of two V6s.

gearbox, yes. We practically did not change a thing... To be able to fit [the engine] in the car, we flattened, as opposed to cut, the firewall and it just fitted in. There wasn't a lot of spare space, however.'

One of Citroën's reasons for purchasing Maserati was because of the smaller company's ability to produce prototypes quickly and Alfieri's engineers were skilled at aluminium welding. Grandi says: 'The distributor, we obviously took one for a V8, I am sure we fitted a Bosch unit, and we made longer camshafts and crank. The most difficult part of the job was to cut the two engine blocks and then afterwards weld them *on the inside*. That was difficult because of water and oil flow... you have all these passageways which had to be

machined and then the two parts of the V8 were placed together so that everything could be calculated, then a welding tool specifically made for aluminium managed to weld it all very well.'

The compact V8 was secreted into the SM's engine bay using the standard gearbox and engine mounts, with the firewall 'tapped with a hammer' – as Grandi tactfully puts it – to accommodate the extra cylinders. The regular SM sound-deadening material had to be removed, the exhaust manifolds took a bit of work, and additional pipes had to be added to both headers at the correct angle.

The standard SM chosen to take the prototype V8 was finished in Rio Red with a black interior – exactly like you see in



NOT THE ONLY SM HOT ROD

For decades, Citroëns have been enormously advanced cars let down by distinctly pedestrian engines. And as Citroën destroyed its only SM V8, you'd either have had to build your own – or visit Georges Regembeau.

Regembeau, born in 1920, first got into engineering at the age of 14, when he built a tractor. At 17 his innovative repair of a road-tarring machine (which had broken down outside his home) earned a handsome sum from a Mannheim company, which patented his modification. So he bought himself a car: a Citroën Traction 15/6.

After World War Two, he rallied it and even entered Le Mans, and realised the chassis could cope with more than just 77bhp. So he devised his own mechanical fuel injection and supercharged it. For good measure he built a six-speed gearbox, which endowed the Traction with a 131mph top speed – verified by an officially timed run at Monthéry.

Regembeau supercharged another four 15/6s for customers, then moved on to develop various modifications to improve the reliability of the DS. Besides work to make the hydraulic seals more oil-tight, he devised a five-speed gearbox, greatly improving the car's refinement and economy on the new autoroutes. Then he moved to tuning and, with judicious changes to its cylinder head and induction system, the later DS21 was capable of a staggering 138mph.

Soon Regembeau found himself peering beneath the SM's elegant bonnet. With the oil shock of 1974, Regembeau began proposing a diesel conversion to SM clients whose engines were giving them problems. He had already built an 85bhp 2.0-litre four-cylinder diesel for the DS and, by the early 1970s, experiments with Bosch mechanical injection and successive increases in capacity to 2.6 litres produced a reliable 180bhp – enough to push the 1450kg SM to almost 125mph.

But there was life in the petrol V6 yet. Regembeau understood the V6's flaws and realised that nothing short of ground-up re-engineering would make it run reliably. Starting from the bottom end, he revised the crankshaft, main bearings and piston liners, installed solid valves and redesigned the cylinder heads using better quality steel. He also redesigned the primary timing chain with better lubrication and added automatic tensioners to this and to the secondary belt, which drives the alternator, air-con compressor and the hydraulic steering and suspension systems.

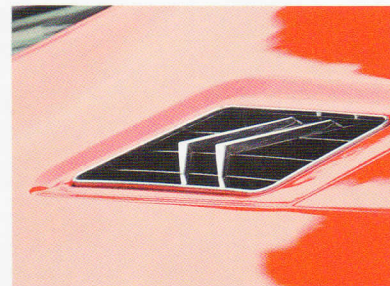
Regembeau's revisions to timing, induction and exhaust manifolds lowered peak torque from 4000rpm to a more relaxing 3000rpm, while power went up to an impressive 240bhp with triple Weber 48 carburetors. Allied to Regembeau's own six-speed gearbox, the Citroën SM RG was a 150mph car.

Son Patrick gradually took over the business from a very reluctant father and today, like his father used to, he works alone – although his mother is also an accomplished mechanic who has certainly served her time in the workshop. Visit <http://citroensmregembeau.free.fr>.

Kieron Fennelly →

**Left**

Inside, it's the usual plush, deeply comfortable and slightly eccentric SM story. With added speed.



'Going, not stopping, is this car's intention and, boy, is it quick. The V8 engine note hardens at about three thou', then goes off the chart with enthusiasm'

CITROËN SM V8 ENGINE

4100cc V8, DOHC per bank, four Weber 42DCNF carburettors

POWER

260bhp @ 5500rpm (approx)

TRANSMISSION

Five-speed manual, front-wheel drive

STEERING

Rack and pinion, fully powered

SUSPENSION

Hydropneumatic, front wishbones, rear trailing arms

BRAKES

Vented discs front, solid discs rear

WEIGHT

1450kg (approx)

PERFORMANCE

Top speed 150mph. 0-60mph 7.8sec (est)

these photographs. 'Ingegnere Alfieri (and others) did about 12,000km with the car, using it not only as a test bed but also for his personal commute home,' says Grandi. 'There was *troppo potenza* [too much power] so we had to change the suspension settings. Then at the end of the testing and development stage we removed the engine and, as the car was by then in poor condition, it was dismantled and scrapped.'

By 1975 Michelin had decided to sell Citroën to Peugeot along with Maserati, which was haemorrhaging money. Peugeot then sold Maserati to Argentinean industrialist and ex-racing driver Alejandro de Tomaso. A fiery character, he wanted all signs of Citroën totally expunged from Maserati's history and the SM V8 was one of the casualties.

Although the original Rio Red SM bodysell was crushed, the special engine was saved along with other important Maseratis, including a collection of historic racing cars. This collection was then preserved by the Panini family in Modena, where it was put on display at its Parmigiano cheese factory. In 1998 the SM V8 engine was sold to the German Maserati collector Hermann Postert, who displayed it on a stand in his home.

In the summer of 2009, private collector Philip Kantor persuaded Postert to sell him the prototype engine, to realise a long-held ambition. 'My late father loved SMs,' says Kantor. 'The trouble was they proved somewhat unreliable so he owned five at

once to ensure one would always be running. He thought the cars were great but underpowered. Discovering that Alfieri had created this one-off prototype V8, and researching exactly how he had gone about it, I knew I had to recreate it, using the original V8 engine. My father would have really appreciated the engineering challenge and most certainly the result.'

Citroën SM specialist Frederic Daunat was entrusted with this personal project and recreated the V8 in accordance with the original prototype. And now *Octane* gets the chance to drive this unique SM in the quiet rural surrounds of Herbeville, near Versailles.


It's immaculately finished in the soft orangey hue that is Rio Red, wearing the rare composite wheels made by Michelin, and its smart black leather interior appears original. In fact, the SM V8 looks no different to a regular SM but, when the engine fires, the cat is out of the bag.

And, *mon dieu*, it sounds good! There's a very angry Italianate rasp that promises a good deal of power. It was never dyno'd, but the 4.0-litre V8 is thought to be whacking out around 260bhp.

The driver's seat is big and soft; the view over the curved dash and fat steering wheel clear. The clutch operates as it would in the V6 and the V8 provides plenty of shove off the line, while the gearshift moves around the heavily chromed gate beautifully. That fat steering wheel needs to be so because you really have to hang onto it – with high

gearing and extremely strong self-centring, you cannot palm along with one hand.

Frederic Daunat, who prepares rally-winning SMs, has beefed up the hydropneumatic suspension but the car retains that incredible gliding ability across the country roads. As instructed, the brake button on the floorboard has to be treated very gently and at first application the SM nosedives to a very sudden halt. It takes practice to learn how to toe it correctly and it is a bit disconcerting not having a brake pedal to feather into blind bends, but at least you are always assured that the 1450kg Citroën will stop.

But *going*, not stopping, is this car's intention and, boy, is it quick. The V8 engine note hardens at about three thou', then goes off the chart with enthusiasm. Minimal sound deadening means you hear it at work from inside, and what a wonderful sound. With super-sharp steering, immense brakes, a tautened chassis and a fabulous V8, this prototype replica is the car that the SM always should have been. It's fast, comfortable, totally sorted, and the added power allows you really to exploit the capable chassis and benign handling to the full. This impressive Citroën is exactly what the late Mr Kantor Sr would have enjoyed for his high-speed European motoring. 

The Citroën SM V8 prototype replica will be offered for sale at the Bonhams Le Grand Palais auction in Paris, France, on 5 February 2011; www.bonhams.com/cars.