21ST CENTURY RESTO

Opel FRUIT

It's a mouthwatering combo, one GM should have engineered itself rather than leaving it to a clever chap from Cambridgeshire...

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FROM THIS...

This 1981 Manta B was destined for use as a parts car, or worse... until Clive stepped in. Now it's a jaw-dropping, barn-storming, show-stopper.

TO THIS...

The Opel Manta, in either A or B form, is a fine machine. Capable, practical and handsome, it was GM's answer to the Capri and production ran for an impressive 18 years. There was a problem though, identified by many, even those who loved the car: insufficient fastness. The majority of Mantas, 2.0S included, could only make it to 60mph in around ten seconds. Not good enough.

So when, in 2011, Clive Moss found a rusting Manta B with a seized engine, he resolved to go further than the traditional Weber carb upgrade. In fact, he decided to get rid of the four-pot entirely. 'It was in a sorry state,' says Clive. 'There was so much rust and the engine was completely locked up. I bought it anyway, because I had always wondered what it would be like to have the straight-six Opel Monza engine in that car.'

With a basket case to start work on, Clive had no hesitation. He began his 'big six' experiment with a blank piece of paper. There was precedent, too: 'Opel did have a notion to make one themselves.' He's right. Opel had previously tried a six-cylinder engine layout in a Manta A in the early Seventies, but it was deemed unsuccessful. Then the TE2800 arrived. It was the brainchild of a Belgian company called Transeurop Engineering. Transeurop took a 2.8-litre CIH-type engine from the Opel Commodore 2.8GS and popped it into a Manta 1.9SR. Sound easy? It wasn't. The entire front end required reengineering. So Transeurop went back to Opel for help, but Opel refused to even allow the plucky Belgians to use their badge on the car. Transeurop Engineering then went to Steinmetz, Opel's preferred tuning house. They supplied a new glassfibre bonnet with a large bulge on it to

LEFT Clive's favourite tool is this well used lathe. It's essential.

RIGHT Original wheel and seat material and Clive's yellow piping.

Clive kept the satin black bumpers from the original Manta, but swapped the single lens headlights for doubles.

LEFT Clive made the manifolds by adapting original parts from the old Monza manifold.

BLIND ALLEY

'There was a very steep learning curve, especially with the triple carbs. I initially fitted old Seventies rebuilt Solex 45s that caused so many running problems – running rich no matter what I did. It didn't matter what plugs I fitted, they fouled up every 100 miles or so. Changing to brand new Weber 40s changed all that and it now runs absolutely perfectly.'

make room for the engine, a set of widened arches, and a special front bumper integrated with the lower front spoiler, all to make room for the dramatic changes that needed to be made to the car's front end construction.

The 79 TE2800s that eventually reached the road had 142bhp and could hit 60mph in 7.5 seconds. Steinmetz offered a racing version that put out 230bhp, which sounds much more exciting. Clive agrees: 'I wanted some of that. So, after lots of thinking and drawing, I worked out that I could make a six-pot fit, but the cooling would have to be squeezed a long way into the nose of the car.' The theory worked for the TE2800s, but that was a Manta A. It worked on paper for Clive's Manta B, but now it was time for a bit of practice.

'Once I had the car's original engine and box out, I sat it next to the 3-litre lump I had sourced from a scrap Senator,' he smiles as he remembers. 'I could see that, with the Monza gearbox, the 'six' would fit with some alterations to the main engine mounts and anti-roll bar.' Clive has the eye of an engineer... he also owns a tape measure. This was employed on

Clive's Manta mod journey...

1 2011 Assessment
With the old set up Clive knew he would need to alter the crossmember supports, anti-roll-bar and fabricate new engine mounting brackets to fit the 'six' and Getrag box.

2 AUTUMN 2011 The resto
The base unit needed a full restoration before he could even start, rust had ruined the front chassis legs, floor, jacking points and wings. Then Clive painted it himself!

3 DEC 2011 Mounts
Once the engine bay modifications had been fabricated and applied it was time for paint. This is the redesigned crossmember and nearside mount.

4 JULY 2012
Carb cooler
Controlled by an automatic switch, a former bilge pump blasts the carbs with cool air as required through repurposed and redesigned exhaust pipes. It keeps the 40s perfectly cool.

5 SEPT 2012
Radiator
Audi 90 radiator on new brackets sits inside the nose. The distributor has been repositioned on the Senator 12v lump, and the only other change has been the fitment of a different flywheel.

multiple occasions before he finally bit the bullet and started work in earnest.

The shell was very rusty, but Clive is a dab hand with a MIG welder and it only took a few months to get it ready. 'Once the shell was restored it was time for paint, and there was only one option really. Something close to the yellow used in the Manta 400 rally car livery of the early Eighties – and black stripes and lettering to my own design.'

Once Clive had finished the paint the GT-J, as he had christened it, was ready to receive the new powerplant, so Clive went to look for a good engine. 'At the time I had a Senator automatic. I also had the Getrag 264 from a four-speed Monza. I fitted them together and then, with some alterations to the gear linkage I discovered that, give or take a few millemetres, the new box would end up in the same place as the original four-speed Opel 2.0 set up.'

Dropping in

All that measuring and thinking time was paying off. New engine mounts were fabricated and the 3-litre, six-cylinder lump and its Getrag 'box were lowered in. The fit was remarkably good, but any radiator would need to be tucked deep into the nose – the rocker cover ended ten centimetres from the slam panel, so it was a really tight fit.

'Once it was in I could start work on the cooling system,' sayas Clive. 'I had to work out what size radiator I needed and where I could add the fans.'

SOURCE MATERIAL

From spare parts and engines, to donor cars and more...

The engine is a Senator 3-litre, 12-valve unit with modified distributor and flywheel. It is fed by three Weber 40s and cooled by an Audi 90 radiator with modified expansion tank and fans. The manifold was fabrcated by Clive using an Opel Monza item as a base and the exhaust is a home-made two-inch through pipe system. The engine is married to a Getrag 264 four-speed box from a Monza. The 'GT-J' is stopped with Manta rear brakes (with bias valve removed). Front brakes are adapted Audi discs drilled out to fit the original hubs and Opel Monza calipers, which bolted almost straight on. The master cylinder is from an Omega 2.0 and fits the original servo with a little adjustment. Manta 400 rally spec suspension carries the car... it also has massive air-horns!

ESTIMATED COSTS

Opel Manta base vehicle	£1000
Engine modifications	£1750
Paint and trim	£1500
Other modifications	£1000
TOTAL	**£5250**

Getrag (top) fits!

Clive painted it all himself.

WHAT'S IT LIKE TO DRIVE

First thing to register, it sounds amazing. The hand-built two-inch through pipe is made from Jetex parts. Then there's the induction noise from the triple 40s. Smooth but nasty, a bit like a racing XK. So what's the acceleration like? Well, obviously it goes like a rocket and, once sufficient revs are reached, it is remarkably smooth as well. The power delivery arrives progressively and feels as if it could go on forever.

The injection version of this engine puts out about 190bhp, so this must be hitting 250bhp... it's more than enough for the Manta and there is some understeer and the potential for rear end slippage is always there, but nowhere near as much as I was expecting. In fact, thanks to the way the car is engineered, it feels extremely planted with only minimal obvious understeer. Having owned, restored and driven my own Manta B back in the day, I was waiting for this creation to let itself down in some way. It didn't. In fact it felt as well set up as my 2.0S. The gearchange is superb and the ratios well spaced. The big question has to be, why didn't Opel make it themselves?

Really fast? Yes Understeer? Yes, but not as much as you would expect.

'I designed and built my own cooling system for the Weber carbs'

Eventually Clive used a radiator from an Audi 90 Quattro. 'It was shallow enough to fit deep into the nose of the Manta, but was hefty enough to cool the engine properly.' Clive mounted it into the nose on an angle to make fitting the fans possible... the fit is almost invisible.

Clive's next challenge was to work out the braking. The rears were simple, as he kept the same set up but removed the load bias valve. 'The change in weight was all up front, so I made Audi discs fit the original hubs and then fitted reconditioned Monza calipers. After that, I realized I was getting there.'

Clive had the original interior trimmed with yellow piping to set off the body colour. After two years solid work he had a car that was looking great, but needed finishing. Clive was up for the challenge. 'I designed the decals and found the alloys. Then I realised I needed better springs and found some through the club that were for a Manta 400 rally car – they were perfect for the extra weight.'

The time for start up was approaching, but Clive made a last minute change. 'I decided I didn't want the fuel injection, I wanted triple carbs. So I remade the inlet manifold and fitted triple Solex C45s that came from a boat engine.' Sounds involved, and it was, and to be fair Clive encountered lots of problems getting them to work, so he went traditional and bought three new Weber 40s with standard jets. He didn't leave them standard though. 'I redesigned the linkages and suddenly, on first start up, it was almost perfect.' There were still issues with cooling though.

TECH SPEC

Engine	2969cc/6-cyl/OHC
Power	240bhp@6500rpm
Torque	211lb ft@4000rpm
Gearbox	4-speed manual
0-60mph	6.9sec
Top speed	145mph
Fuel economy	20mpg
Weight	1335kg (est)

'I knew that the tight space and the big engine would generate a ton of heat and that, with carbs, either Solex or Weber, I would be in danger of having and engine that would have trouble fuelling itself in hot weather. So I designed my own carb cooling system.' Of course he did. Clive is no ordinary restorer. 'The carb cooler is a 12v boat bilge pump that blows air straight onto each of the Webers. It is switched on by a adjustable thermoswitch from the heater hose. It works on the same principle as the cooling fans. I made the pipework out of an old exhaust.' It was ready, so Clive drove it to the MOT station. 'There I was,' he says with pride, 'This was my Q-car. A unique Manta GT modified with a 3.0 Vauxhall Senator six-cylinder lump on triple Webers. And suddenly I was allowed to drive it!'

Hats off to Clive, he has a real autobahnstormer that retains the svelte Manta look and feel, but goes like stink. 'I've been showing the car at a few events and every one I take it to ends up with swarms of people having a look,' he smiles, 'they are all interested in the design of the engine set up. I'm glad that I had success where Opel didn't.' ■

Solid boot spoiler and 14in alloys complete the subtle exterior modifications.

James says

'From parts car wreck to this. Such ingenious thinking is right up our street. Clive has triumphed in building the car we wish they'd made.'