

# TAMING THE BEAST, BUT DID MG SUCCEED?

Launched to the international press as a concept car on February 24 1984, the now iconic MG Metro 6R4 was a groundbreaking project developed jointly by Austin Rover Motorsport and Williams Grand Prix engineering. The car was designed for the Group B rally category and whilst the 6R4 showed little resemblance to the supermini on which it was based, it vividly captured the imagination of motorsport fans worldwide.

Williams F1 was employed as design consultants under the guidance of designer Patrick Head. His hard-working team constructed the first three prototype bodysells, shortly after which the entire project moved in-house to Austin Rover Motorsport.

From then on, the Metro 6R4 underwent considerable development, both as a rally car and to meet the production engineering needs of FISA, whose regulations stated 200 identical cars must be manufactured.

At the nucleus of the car was a thumper of an engine, a bespoke 3.0-litre beast. The 4 overhead camshaft, 24-valve all aluminium V6 machine was affectionately referred to as a V62V and had been fashioned from a Rover V8. Designed and

engineered by the motorsport department at Austin Rover Motorsport, the V64V engine (6 cylinders in V formation/ 4 valves per cylinder) is believed to be the first specifically designed for International rallying instead of being developed from a production base.

The production version of the V64V engine fitted to the 200 homologation vehicles produced 250bhp at 7,000rpm. In 'works' International form the unit developed from 380bhp at 8,500rpm to 410bhp at 9,000rpm.

Austin Rover deliberately chose a larger capacity, normally aspirated engine to challenge the supremacy of the current generation of small capacity, turbo-charged 4-wheel drive rally cars from continental Europe. The 6R4's engine was a break from the norm, it wasn't turbo-charged like a majority of its competitors. The V64V engine was a 3.0-litre, over-square, 90 degree V6 with a symmetrical crankshaft and uneven firing. At the bottom of the engine, the cast aluminium dry sump contained the engine oil as well as the short cross shaft between the rear differentials and the left-hand drive shaft coupling, and the separate lubrication system for that shaft.



John Price and Caroline Broad on the Chevoit Rally in February 1999.



Richie Holdfeld/Ednyfed Morgan competing in the Severn Valley Rally.

At the time, Metro 6R4 rally driver, Tony Pond, was impressed by the car's incredible torque: "The car pulls cleanly from 1,500 in fifth gear which means that if you find yourself in the wrong gear on the exit from a hairpin it will still pull you away. If you're in too high a gear in a turbo car it will simply die on you" he said.

Austin Rover's talented new recruit and former Audi Quattro driver, Malcolm Wilson, was equally impressed after winning the Nicolet Stages rally, his first event in the Metro:

"I was braking far too early. If you lifted off in the Quattro it just didn't respond but when you lift off the pedal in the Metro the torque reversal slows you instantly. Braking is a revelation."

The brain of the V64V engine was the digitised fuel and ignition

control system which was wholly devised and developed by Lucas Micos of Cirencester, Gloucestershire. The Lucas Micos system is believed to be the first which electronically generated both the ignition and solenoid injector control signals at the 90/150 degree uneven firing intervals characteristic of a 90 degree V6.

The most obvious change to the Metro 6R4 in its final form compared with the original versions were to the bodywork. The car grew in width, track and wheelbase. Bulges in the bonnet revealed the front suspension mountings had been raised to allow for increased vertical wheel travel. The wheel arches grew in size to accommodate larger diameter wheels and disc brake diameter increased from 10 to 12 inches to allow for the bigger wheels.



The MG 6R4 of Rob Gibbon at the 1990 European Rally Cross at Lydon.



A superb shot of the 6R4 charging through a snow-covered forest.

## TAMING THE BEAST, BUT DID MG SUCCEED?

The basic layout of suspension remained unchanged, though there was considerable refinement. Wide base, tubular bottom wishbones were incorporated in the front suspension.

On May 17 1985 the car was declared ready for its final Group B form.

The 6R4 appeared in two guises. There was a so-called 'Clubman' model which developed in the region of 250bhp (186kW), of which around 200 were made and sold to the public for £40,000 (the homologation version). A further 20 were taken and built to International specifications which had a recorded output of over 410bhp.

At its launch in 1985, Rover announced that it would complete the necessary number of cars required for homologation by November of that year. This was undertaken at the Group's large manufacturing facility at Longbridge. The car was to participate in the Lombard RAC rally in November 1985, and an example, driven by works driver Tony Pond, finished a highly respectable third, behind two Lancia Delta S4s.

However, this encouraging start proved to be a false dawn and, although a 6R4 was raced in rallies at Monte Carlo, Sweden, Portugal and Corsica during the 1986 season, none of the Metros managed to complete a full round of the Championship. A majority of the unreliability was related to the V6 which suffered plenty of niggling and frustrating problems.

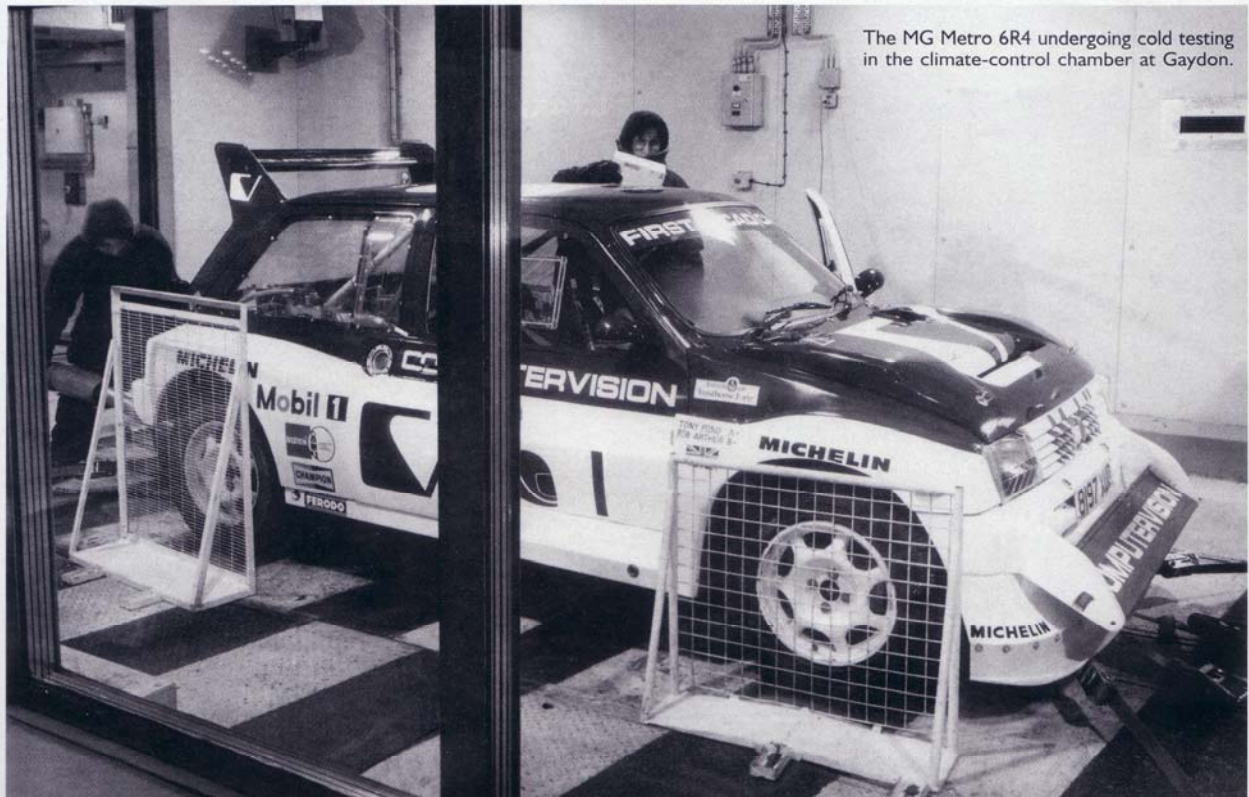
This had led to increased speculation that the engine wasn't properly developed and would have benefited from increased testing. Mid-way through the 1986 season, the Group B rally class was banned (after a succession of fatal crashes in which both competitors and spectators lost their lives). From that point on, the 6R4 was always going to be limited in front line competition, although they were run with partial success for the remainder of the

year. A number passed into private hands and have proved formidable rally and rally-cross cars. Despite the expiry of the cars homologation, the MSA still allow the cars to run in competition although engine sizes have been limited to 2800cc (single plenum engines) and 2500cc (multi-plenum engines).

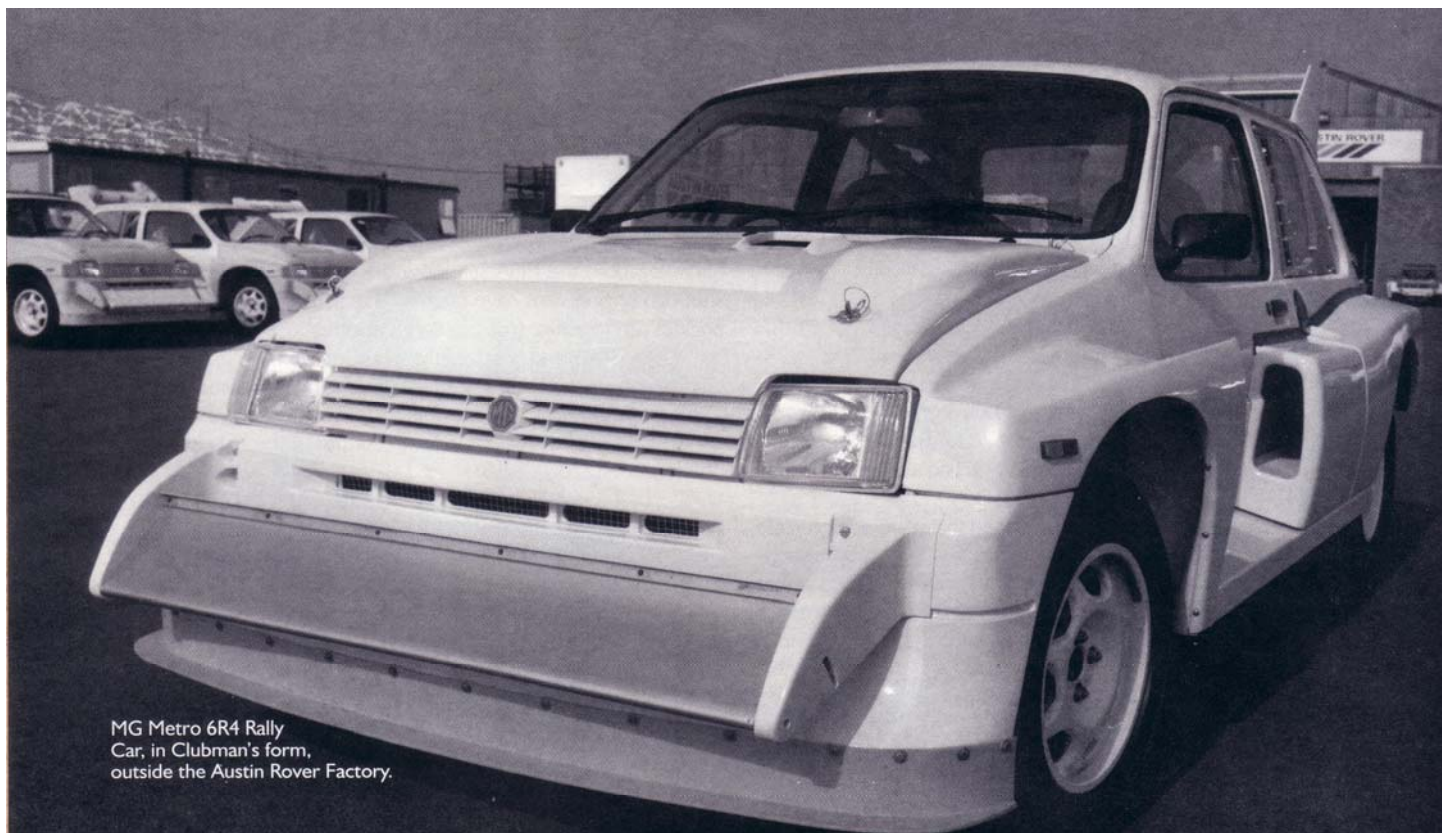
Austin Rover subsequently announced their intention to withdraw from the rallying scene at the end of the season. In 1987, all the parts and engines were sold to Tom Walkinshaw Racing, and the V6 engine reappeared under the bonnet of the Jaguar XJ220.



Now, that's what you call an engine!



The MG Metro 6R4 undergoing cold testing in the climate-control chamber at Gaydon.



MG Metro 6R4 Rally  
Car, in Clubman's form,  
outside the Austin Rover Factory.

## SPECIFICATION

### ENGINE

Configuration:	90 deg, V6
Position:	Mid-mounted, in-line
Capacity:	2991 cc
Bore and stroke:	92mm x 75mm
Block/head material:	Alloy
Compression ratio:	12:1
Firing order:	1-6-3-5-2-4
Valves:	4 per cylinder
Camshafts:	4 overhead, belt driven
Valve included angle:	38 deg
Valve diameters (mm):	inlet 36/exhaust 30
Nominal valve timing:	52/72/74/50
Valve lift:	13.0mm
Period:	304 deg
Fuel injection/ignition:	Lucas Micros electronic, sequential, fuel injection (6 venturi/6 butterfly) and ignition
Max power:	380bhp/8,500 to 410bhp/9,000
Ma~ torque:	270lb ft at 6,500
Lubrication:	Dry sump, Mobil oil

### TRANSMISSION

4-wheel-drive. 5-speed, non-synchro gearbox with direct drive to transfer box. Viscous centre coupling. Propellor shaft drive to front differential, quill shaft drive to rear. Fully articulating driveshafts. AP twin-plate clutch

### BODY

3-door steel and aluminium bodysell with Kevlar carbon-fibre reinforced body panels. Front and rear aerofoils. Fabricated front

and rear chassis frames. Two main longitudinal chassis members. Integral full roll cage. Two seats, full-harness seat belts. Fully instrumented dashboard. 2 x 52-litre fuel tanks

### SUSPENSION

Front: Independent Bilstein strut with reverse bottom wishbone, adjustable anti-roll bar.

Rear: Independent Bilstein strut with reverse bottom wishbone, adjustable front links, blade type anti-roll bar

### BRAKES

12-inch diameter ventilated discs and lightweight, 4-piston calipers on all four wheels. Front/rear split with balance bar

### STEERING

Power-assisted rack and pinion

### TYRES AND WHEELS

Michelin tyres to suit conditions. Dymag alloy wheels, 390mm diameter for loose conditions, 16-inch for Tarmac

### DIMENSIONS

Overall length:	3,657mm
Overall width:	1,860mm
Height:	Approx 1,650mm to top of rear wing (varies according to wheel/tyre fitment)
Wheelbase:	2,412mm
Front track:	1,510mm
Rear track:	1,550mm
Front overhang:	755mm
Rear overhang:	490mm
Weight:	Approx 980kg