Ted Walker
Ferret Fotographics

The Old Bull, 5 Woodmancote, Dursley, Gloucestershire GL11 4AF
Tel/Fax: 01453 543243 email: ted@ferret1.co.uk

GB 7402 MGCT Rollover

ROBERT

ENCLOSED HOMOLOGATION FORM (NEVER SUBMITTED)

THIS CLEARLY SHOWS A WET SUMP ENGINE

+ S.C. GRAPHIC DESCRIPTION THAT ALSO STATES BRUCE'S OWN WORDS CAR AM CAR HAD WET SUMP

I WOULD THINK THAT WHEN PROPHET CONVERTED HIS CAR IN 1970 TO M12 SPEC HE ALSO SUMPED IT. IT WAS AGREED BY HIM AS A CONDITION WITH WET SUMP.

PLEASE SORT THIS OUT ASAP AS IT IS A VERY EXPENSIVE JOB TO CONVERT TO DRY SUMP AND IN MY OPINION NOT NECESSARY !!

Ted

What is it that's bright orange...has no wings...and eats Lolas? No, it's not a Kiwi bird, but you're not too awfully wrong! It's the CAN-AM McLAREN

By John Blunsden

BRUCE MCLAREN, WHOSE TWO FACTORY-ENTERED CARS had less than their share of good fortune during the 1966 Can-Am race series, has had little enough to complain about this time. With 1967 'Driver of the Year' Denny Hulme joining him in a brand new all-Kiwi entry comprising a pair of orange-painted M6A monocoques, supported by six 358 CID McLaren-modified and Lucas fuel-injected Chevrolet V-8 engines, four five-speed Hewland LG600 gearboxes, and crate loads of chassis spares and materials, the McLaren stable was able to virtually sew-up the 1967 Can-Am series at the halfway point.

After Elkhart Lake, Bridgehampton, and Mosport Park (the Eastern half of the six-race series), Hulme was way out in front and heading for almost certain Can-Am Championship honors with three straight wins, and McLaren was in second place with two seconds and one DNF (an oil cooler fault early in the first race). It was the sort of one-make domination which could be calculated to demoralize the most race-hardened of campaigners, and it caused John Surtees (the 1966 Can-Am Champion) to return to 'Jolly Ole' and help Eric Broadley to come up with something more competitive for the West Coast races, Jim Hall to take off for Midland after only two races with similar intentions, and Dan Gurney to head for home with the problem of trying to make his Lola-Ford handle an average of two seconds per lap better. The three-pronged Ford attack never did get off the ground, but had it done so it is difficult to believe that it would have had any material effect on the results of those three Eastern races. The McLaren team scored not only because it had good cars and drivers, but because it arrived fully prepared and race-sorted, which proved to be a great advantage.

The M6A is the most highly developed car McLaren has produced to date. Bruce and his chief designer, Robin Herd, started to draw it at the beginning of April and began to build it at their Colnbrook, Buckinghamshire, England, factory a week later. The chassis was completed and the first development test began on June 19, after which more than a thousand laps of Goodwood were covered as part of the test program, both Hulme and McLaren lapping the circuit in times which made all previous fast laps look sick.

The Can-Am McLarens have a monocoque chassis made of magnesium and aluminum, riveted and bonded with glue, covered by a fiberglass body produced to McLaren's basic design by Specialised Mouldings, the body being secured to the chassis by quick-release pit pins.

Although monocoque construction is a departure for a McLaren sports car, the M6A is in effect a two-seater development of Bruce's Formula 2 single-seater, the hull being constructed along similar lines and the suspension also being basically similar. The result is a fairly compact and very light car, scaling 1,354 pounds with oil and water, but without the sixty-five gallons of fuel which can be carried in the three rubber bags, one in each side section of the hull and one in a central tank below the driver's knees. The three tanks are connected up with a pair of one-way valves, one joining the outside tank to the central tank and the other linking the central tank with the inside tank. The valves, which are reversable for left- or right-handed circuits, are to ensure that the inside tank is maintained as full as possible with fuel as an aid to cornering performance. The system worked so well during initial tests that the inner tank blew up like a balloon until a return pipe had been added!

The front suspension is by Koni shocks and coil springs mounted outboard between transverse upper and lower links and leading radius arms, and the rear suspension by similar spring-shock units with double-braced lower A arms, single top transverse links, and trailing arms pivoting from the firewall at the back of the cockpit below the housing for the roll bar.

The fifteen-inch magnesium wheels have 8½-inch rims at the front carrying 10.40 Goodyear tires, and there is a choice of twelve-inch and 13½-inch rims at the rear for the 12.35 Goodyears. The original twelve-inch solid disc brakes were changed before Bridgehampton to ventilated discs all around, utilizing twin-pot (twin-piston) calipers at the front and special horseshoe-type strengthening pieces at the rear where the calipers had to be machined to give clearance for the 1.1-inch discs.

The front and rear track measurement of both works cars is fifty-three inches, and the wheelbase of Bruce's car is eighty-nine inches, Denny's being two inches longer; apparently the handling characteristics of the two cars are virtually indistinguishable. Anti-sway bar sizes are small, varying between ⅝-inch and ¾-inch at both ends, equal-size bars producing moderate understeer.

McLaren used fuel injection, with mixed success, on his 1966 factory cars, but this time he has opted for Lucas injection equipment, based on that used on the Formula 1 Ford V-8 engine, but adapted to the 358 CID Chevrolet with the aid of a Mickey Thompson cross-over intake manifold.

The standard four-inch bore of the 327 CID engine is increased by forty thousandths, and the stroke is twenty thousandths over the 3.61 inches of the V-8 in its 350 CID Super Sport form, as fitted to the Camaro. Compression is 11.2 to one, and maximum power is 'in excess of' 500 bhp at 7000 rpm (there is an electrical cutout at 7500 rpm).

Although the race engine has been built to McLaren's specifications, a lot of the work has been done in the United States. For example, the Bartz

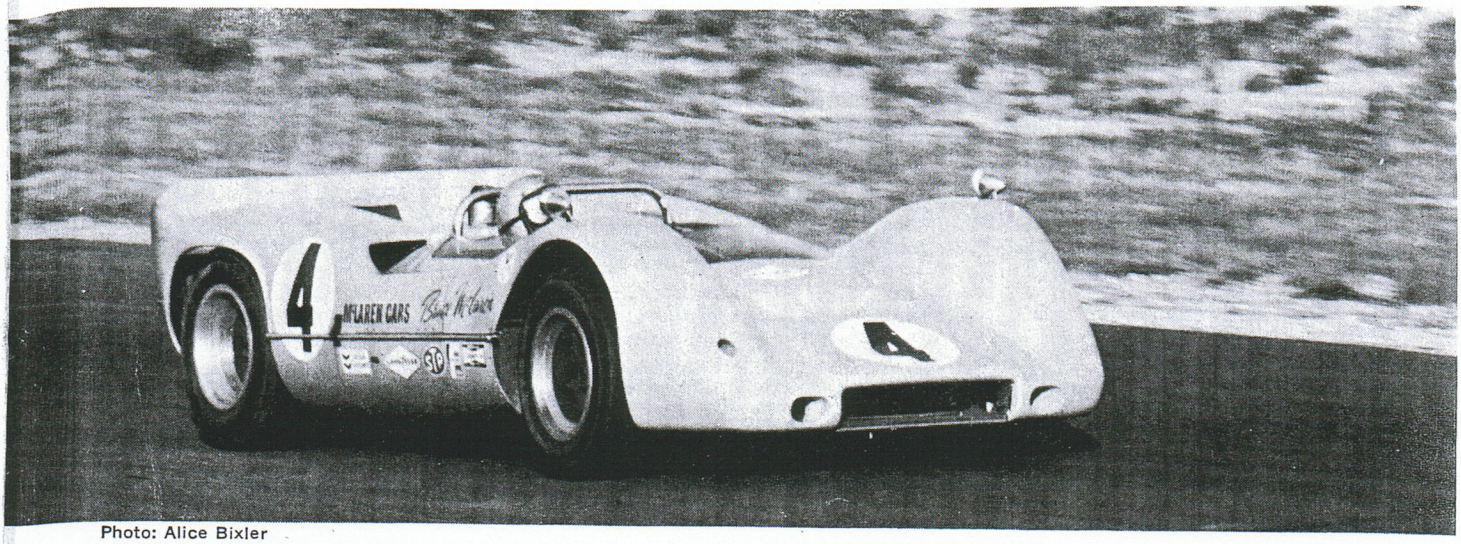


Photo: Alice Bixler

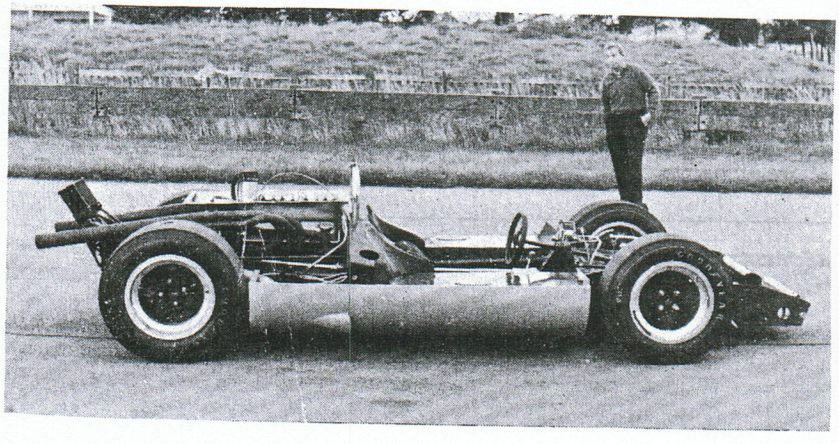
Engine Development Company (see next month's SCG for an article on Bartz) has done the crankshaft work, using the Camaro shaft but with reduced big end and main bearing diameters to fit the older Chevrolet block. (Both cast-iron and aluminiumn blocks have been used, the iron engines so far proving superior.) The pistons are a Forged-true line, and Fred Carillo has supplied the camrods through his Warren Machine Company, while the valves are lifted by Iskenderian cams. The wet-sump lubrication system has been retained, with modifications, and the Champion plugs are sparked by a Scintilla magneto, vertically mounted at the [illegible] engine. The complete engine package, including exhausts, weighs in at 560 pounds, nearly one-third of the cars' total weight.

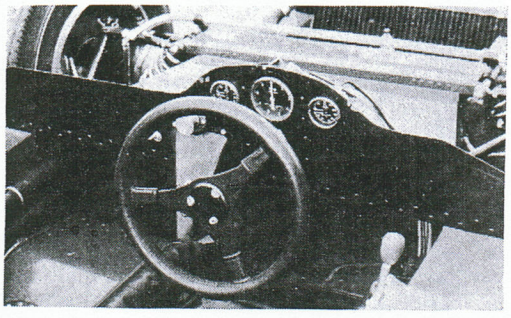
A Borg and Beck triple-plate diaphragm-spring clutch takes the drive to a Hewland LG600 five-speed transaxle, the final drive to the rear wheels being through BRD roller-splined shafts. All four hub carriers are cast in magnesium, those for the front wheels being topped by aluminum plates forming the steering arms. The LG 600 has evenly stepped ratios, a typical final-drive gearing giving the following relative road speeds at 7000 rpm: first 82 mph; second 103 mph; third 125 mph; fourth [illegible]2 mph; fifth 178 mph.

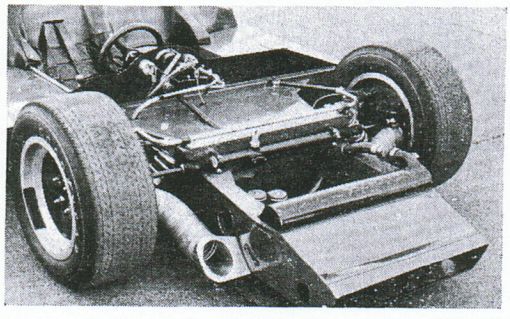
McLaren and Herd say that their development tests have taught them a lot of things about high-speed aerodynamics, and that several of their earlier-held theories have been thrown out of court. It is, perhaps, significant that although they tested the M6A with a wing they decided to throw it away and use simply a thin transverse spoiler across the rear of the body as an extension of the body's wind-deflecting lip, the magnesium spoiler being provided with alternative mounting holes, one inch apart. The angle of the nose section is unusually steep (and reminiscent of the Porsche 904), and the body line extends downwards to just a few inches above the ground forward of the front wheels. No anti-dive or anti-lift having been built into the suspension, the fiberglass comes close to grounding under heavy braking; a steel skid below the engine pan also contributed to a low ground clearance.

The immaculate factory McLarens (new bodies were fitted prior to the three West Coast races) have been a credit to all who have worked on them whenever they have appeared and, though they may have taken the spice out of the Can-Am series, few people will contest that they have thoroughly earned every Can-Am point which has come their way. ■

Below, monocoque is a departure in McLaren sports/racing cars. Right, cockpit is simple while, below right, front end was modified to take steeply inclined nose piece which helps stabilize car at high speeds.







F.I.A. Recognition No. .....

Group 4

ROYAL AUTOMOBILE CLUB

31, Belgrave Square, London, S.W.1

Form of recognition in accordance with appendix J to the International Sporting Code of the
FEDERATION INTERNATIONALE DE L'AUTOMOBILE

Cylinder-capacity 4993 cm.³ 304 in.³

Manufacturer Bruce McLaren Motor Racing Ltd. Model McLaren M6GT

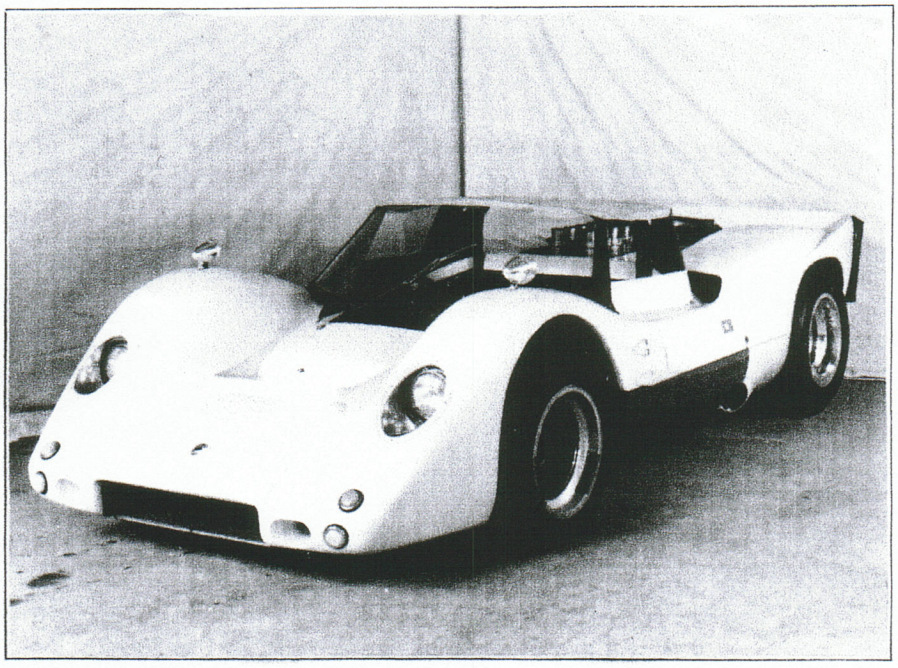
Serial No. of chassis/body 50/0001 Manufacturer McLaren

Serial No. of engine M6.0030 Manufacturer Chevrolet

Recognition is valid from ..... List .....

The manufacturing of the model described in this recognition form started on August 24th 19 67
and the minimum production of 25 identical cars, in accordance with the specifications of
this form was reached on August 20th 19 68

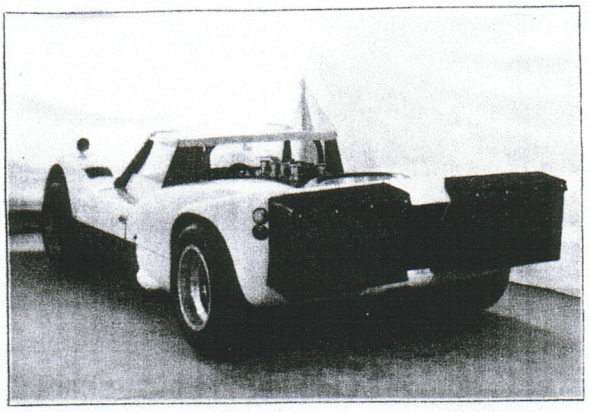
Photograph A, ¾ view of car from front



F.I.A. Stamp

R.A.C. Stamp

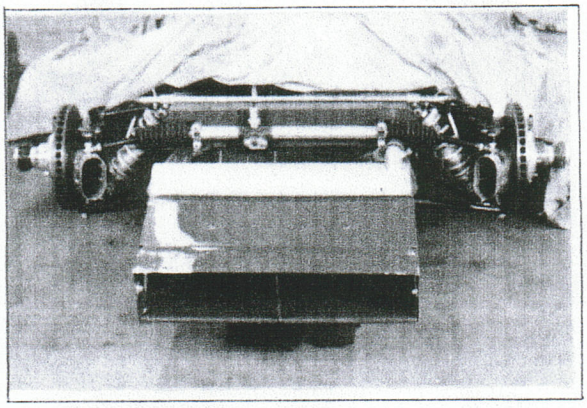
B



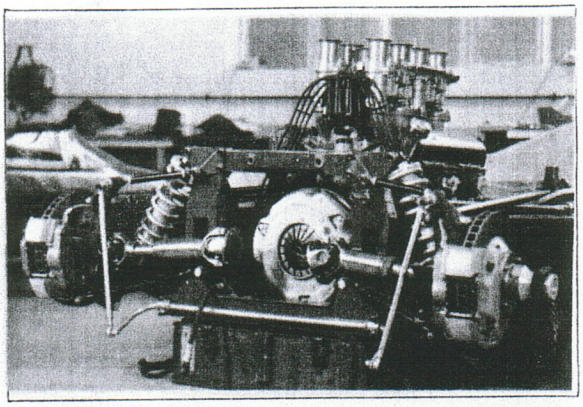
C

interior view of car through driver's door (open or removed)

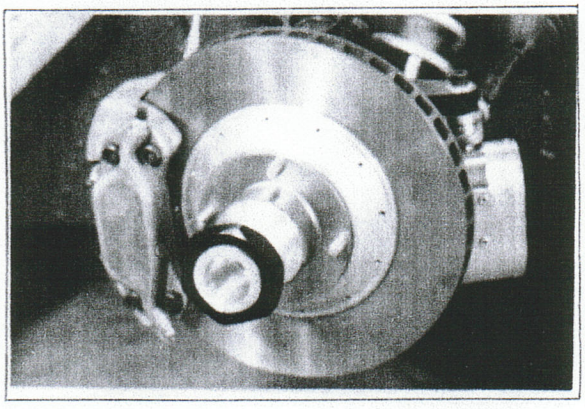
D



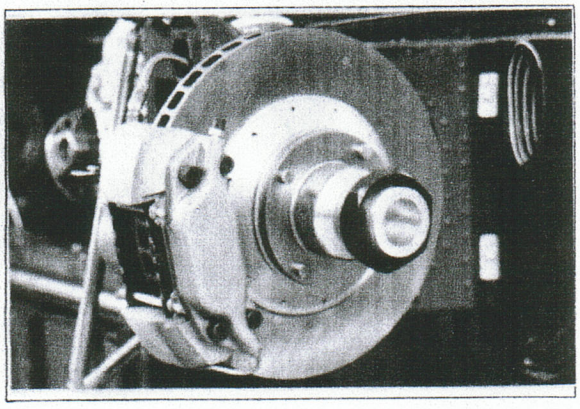
E



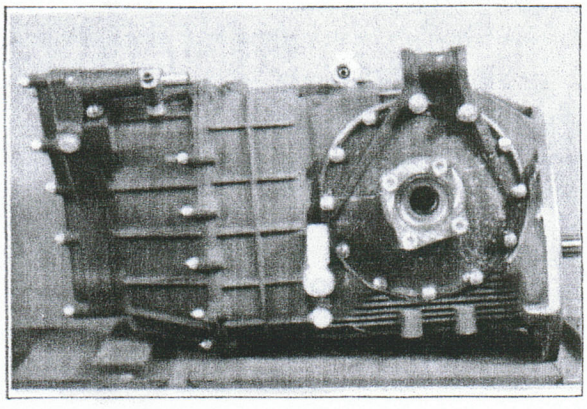
F



G



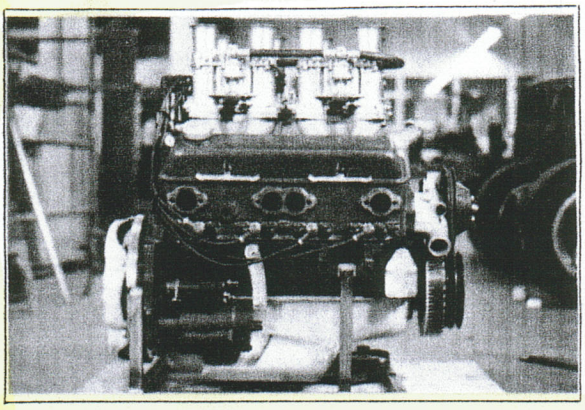
H



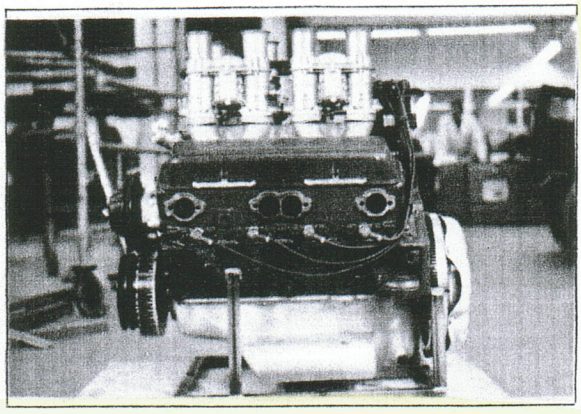
I

silencer + exhaust pipes after exhaust manifold

J



K



L

combustion chamber

CLEARLY SHOWS WET SUMP

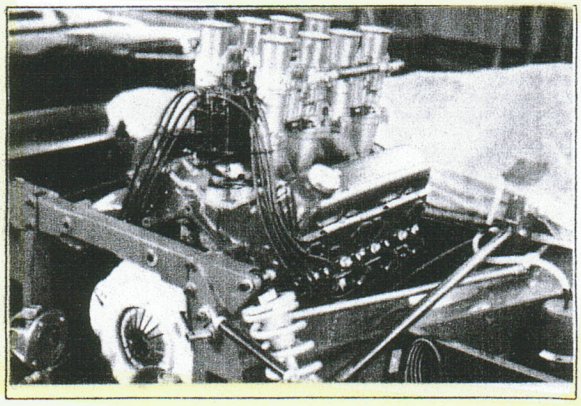
M

piston crown

N

Carburettor (view from side of manifold)

O



P

inlet manifold

Q

exhaust manifold

Make..... Model..... F.I.A. Rec. No.....

Drawing inlet manifold ports, side of cylinderhead. Indicate scale or dimensions and manufacturing tolerance.

Drawing of entrance to inlet port of cylinderhead. Indicate scale or dimensions and manufacturing tolerance.

Drawing of exhaust manifold ports, side of cylinderhead. Indicate scale or dimensions and manufacturing tolerance.

Drawing of exit to exhaust port of cylinderhead. Indicate scale or dimensions and manufacturing tolerance.

Make McLaren Model M6GT F.I.A. Rec. No.

NOTE 1.

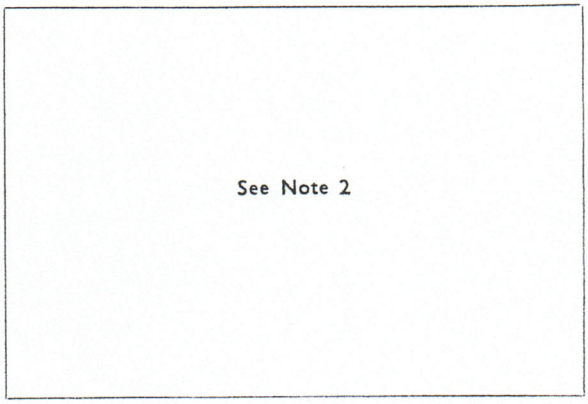
All dimensions must be given in two measuring systems, see Note 3.

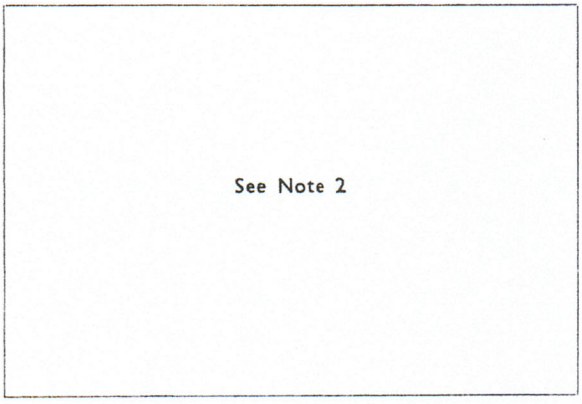
CAPACITIES AND DIMENSIONS

1. Wheelbase 2375 mm. 93.5 inches

2. Front track with 10" rims ±1" ±25.4 mm
1435 mm. 56.5 inches

3. Rear track with 15" rims ±1" ± 25.4 mm
1372 mm. 54.0 inches





4. Overall length of the car cm. inches

5. Overall width of the car cm. inches

6. Overall height of the car cm. inches

7. Capacity of fuel tank (reserve included)
140 ltrs. 37 gall. U.S. 30.8 gall. Imp.

8. Seating Capacity. Two

9. Weight. Total weight of the car with normal equipment, water, oil, and spare wheel but without fuel or repair tools :
800 kg. 1760 lbs. cwts.

NOTE 2.

Differences in track caused by the use of other wheels with different rim widths must be stated when recognition is requested for the wheels concerned. Specify ground clearance in relation to the track and give drawing of two easily recognisable points at front and rear at which measurements are taken. These ground clearance dimensions are only for information when checking the track and can in no way affect the eligibility of the car.

NOTE 3.

CONVERSION TABLE

1 inch/pouce	—	2.54	cm.	1 quart US	—	0.9464	ltrs.
1 foot/pied	—	30.4794	cm.	1 pint (pt)	—	0.568	ltrs.
1 sq. inch/pouce carre	—	6.452	$cm.^2$	1 gallon Imp.	—	4.546	ltrs.
1 cubic inch/pouce cube	—	16.387	$cm.^3$	1 gallon US	—	3.785	ltrs.
1 pound/livre (lb)	—	453.593	gr.	1 hundred weight (cwt.)	—	50.802	kg.

Make McLaren Model M6GT F.I.A. Rec. No.

CHASSIS AND COACHWORK (Photographs A, B and C)

20. Chassis/body construction: separate/~~unitary construction~~
21. Unitary construction, material(s) N/A
22. Separate construction, Material(s) of chassis Aluminium and steel
23. Material(s) of coachwork Fibre glass
24. Number of doors 2 Material(s) Fibre glass
25. Material(s) of bonnet Fibre glass
26. Material(s) of boot lid Fibre glass
27. Material(s) of rear-window
28. Material(s) of windscreen
29. Material(s) of front-door windows
30. Material(s) of rear-door windows
31. Sliding system of door windows
32. Material(s) of rear-quarter light

ACCESSORIES AND UPHOLSTERY

38. Interior heating : yes — no
39. Air conditioning : yes — no
40. Ventilation : yes — no
41. Front seats, type of seat and upholstery .....
42. Weight of front seat(s), complete with supports and rails, out of the car :

kg. lbs.

43. Rear seats, type of seat and upholstery
44. Front bumper, material(s) Weight kg. lbs.
45. Rear bumper, material(s) Weight kg. lbs.

WHEELS

50. Type
51. Weight (per wheel, without tyre) kg. lbs.
52. Method of attachment
53. Rim diameter 381 mm. 15 ins. 54. Rim width front 254 mm. ±25.4 10 ins. ±1"
rear 381 mm ±25.4 15 ins ±1"

STEERING

60. Type
61. Servo-assistance : yes — no
62. Number of turns of steering wheel from lock to lock
63. In case of servo-assistance

Make McLaren Model M6GT F.I.A. Rec. No.

SUSPENSION

70. Front suspension (photograph D), type: independent coil spring and double wishbone
71. Type of spring: helical coil
72. Stabiliser (if fitted)
73. Number of shock absorbers
74. Type
78. Rear suspension (photograph E), type: independent double wishbone and radius rod
79. Type of spring: helical coil
80. Stabiliser (if fitted)
81. Number of shock absorbers
82. Type

BRAKES (photographs F and G)

90. Method of operation: hydraulic
91. Servo-assistance (if fitted), type
92. Number of hydraulic master cylinders
93. Number of cylinders per wheel

	FRONT		REAR	
94. Bore of wheel cylinder(s)	mm.	inches	mm.	inches
Drum Brakes				
95. Inside diameter	mm.	inches	mm.	inches
96. Length of brake linings	mm.	inches	mm.	inches
97. Width of brake linings	mm.	inches	mm.	inches
98. Number of shoes per brake				
99. Total area per brake	$mm.^2$	sq. in.	$mm.^2$	sq. in.
Disc Brakes				
100. Outside diameter	mm.	inches	mm.	inches
101. Thickness of disc	mm.	inches	mm.	inches
102. Length of brake linings	mm.	inches	mm.	inches
103. Width of brake linings	mm.	inches	mm.	inches
104. Number of pads per brake				
105. Total area per brake	$mm.^2$	sq. in.	$mm.^2$	sq. in.

Make McLaren Model M6GT F.I.A. Rec. No.

ENGINE (photographs J and K)

130. Cycle Four

131. Number of cylinders Eight

132. Cylinder Arrangement 90^{o} V

133. Bore 102.1 mm. 4.020 in.

134. Stroke 76.20 mm. 3.00 in.

135. Capacity per cylinder 624 cm.³ 38.09 cu. in.

136. Total cylinder capacity 4993 cm.³ 304 cu. in.

137. Material(s) of cylinder block cast iron

138. Material(s) of sleeves (if fitted) N/A

139. Cylinder head, material(s) cast iron

Number fitted two

140. Number of inlet ports eight

141. Number of exhaust ports eight

142. Compression ratio

143. Volume of one combustion chamber cm.³ cu. in.

144. Piston, material

145. Number of rings

146. Distance from gudgeon pin centre line to highest point of piston crown mm. in.

147. Crankshaft : ~~xxxxxx~~/stamped

148. Type of crankshaft: integral/....xxxxx

149. Number of crankshaft main bearings five

150. Material of bearing cap steel

151. System of lubrication : dry sump/oil in sump

152. Capacity, lubricant ltrs. pts. quarts U.S.

153. Oil cooler : yes/no

154. Method of engine cooling

155. Capacity of cooling system ltrs. pts. quarts U.S.

156. Cooling fan (if fitted) dia. cm. in.

157 Number of blades of cooling fan

Bearings

158. Crankshaft main, type Shell dia. 62.23 m.m. 2.45 in.

159. Connecting rod big end, type Shell dia. 53.34 m.m. 2.10 in.

Weights

160. Flywheel (clean) kg. lbs.

161. Flywheel with clutch (all turning parts) kg. lbs.

162. Crankshaft kg. lbs.

163. Connecting rod kg. lbs.

164. Piston with rings and pin kg. lbs.

Make McLaren Model M6GT F.I.A. Rec. No.

FOUR STROKE ENGINES

170. Number of camshafts one 171. Location cylinder block
172. Type of camshaft drive chain
173. Type of valve operation overhead pushrod and rocker

INLET (see page 4)*

180. Material(s) of inlet manifold
181. Diameter of valves mm. ins.
182. Max. valve lift mm. in. 183. Number of valve springs
184. Type of spring 185. Number of valves per cylinder one
186. Tappet clearance for checking timing (cold) mm. ins.
187. Valves open at (with tolerance for tappet clearance indicated)
188. Valves close at (with tolerance for tappet clearance indicated)
189. Air filter, type

EXHAUST (see page 4)*

195. Material(s) of exhaust manifold
196. Diameter of valves mm. ins.
197. Max. valve lift mm. in. 198. Number of valve springs
199. Type of spring 200. Number of valves per cylinder one
201. Tappet clearance for checking timing (cold) mm. ins.
202. Valves open at (with tolerance for tappet clearance indicated)
203. Valves close at (with tolerance for tappet clearance indicated)

CARBURETION (photograph N)

210. Number of carburettors fitted 211. Type
212. Make 213. Model
214. Number of mixture passages per carburettor
215. Flange hole diameter of exit port(s) of carburettor mm. ins.
216. Minimum diameter of venturi/minimum diam., with piston at maximum height (example : SU) mm. ins.

INJECTION (if fitted)

220. Make of pump 221. Number of plungers
222. Model or type of pump 223. Total number of injectors
224. Location of injectors
225. Minimum diameter of inlet pipe mm. ins.

* For additional information concerning two-stroke engines and super-charged engines, see page 13.

Make McLaren Model M6GT F.I.A. Rec. No.

ENGINE ACCESSORIES

230. Fuel pump : mechanical and/or electrical

231. No. fitted

232. Type of ignition system

233. No. of distributors

234. No. of ignition coils

235. No. of spark plugs per cylinder

236. Generator, type : dynamo/alternator—number fitted

237. Method of drive

238. Voltage of generator volts

239. Battery, number

240. Location

241. Voltage of battery volts

ENGINE AND CAR PERFORMANCES (as declared by manufacturer in catalogue)

250. Max. engine output (type of horsepower:) at r.p.m.

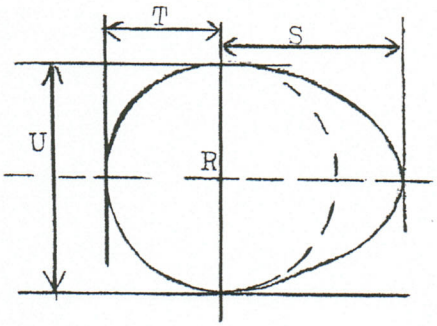
251. Max. r.p.m. output at that figure

252. Max. torque at r.p.m.

253. Max. speed of the car km./hour miles/hour

R = centre of camshaft

a55



Inlet cam

S = mm. inches

T = mm. inches

U = mm. inches

Exhaust cam

S = mm. inches

T = mm. inches

U = mm. inches

Make McLaren Model M6GT F.I.A. Rec. No.

DRIVE TRAIN

CLUTCH

260. Type of clutch

261. No. of plates

262. Dia. of clutch plates cm. ins.

263. Dia. of linings, inside cm. ins.

outside cm. ins.

264. Method of operating clutch

GEAR BOX (photograph H)

270. Manual type, make Hewland LG 600 Method of operation

271. No. of gear-box ratios forward five

272. Synchronized forward ratios N/A

273. Location of gear-shift

274. Automatic, make N/A type

275. No. of forward ratios N/A

276. Location of gear shift

277.	Manual		Automatic		Alternative manual/automatic			
	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth
1								
2								
3								
4								
5								
6								
reverse								

278. Overdrive, type

279. Forward gears on which overdrive can be selected

280. Overdrive ratio

FINAL DRIVE

290. Type of final drive Hypoid

291. Type of differential Limited slip

292. Type of limited slip differential (if fitted) Hewland cam and pawl

293. Final drive ratio Number of teeth

Make McLaren Model M6GT F.I.A. Rec. No.

IMPORTANT—The conformity of the car with the following items of the present recognition form is to be disregarded during the scrutineering, when the vehicle has been entered in group 2 (Touring cars) or 3 (Grand Touring cars) : 41, 72, 80, 91, 142, 143, 144, 145, 146, 153, 156, 157, 160, 161, 162, 163, 164, 182, 186, 187, 188, 189, 201, 202, 203, 212, 213, 215, 216 222, 225, 230, 250, 251, 252, 253, 255 photographs I, M and N and page 4.

During the scrutineering of cars entered in group 4 (Sportscars) only the following items of the present recognition form are to be taken into consideration : 1, 2, 3, 9, 20, 21, 22, 23, 24, 25, 26, 70, 71, 78, 79, 90, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 147, 148, 149, 150, 158, 159, 170, 171, 172, 173, 185, 200, 270, 271, 274, 275, 290, 291, 292 and photographs A, B, D, E, F, G, H, J, K and O.

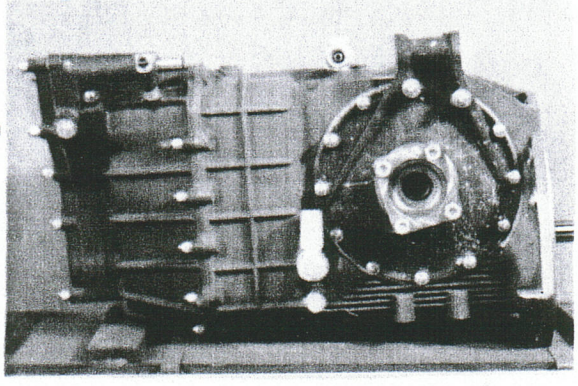
The vehicle described in this form has been subject to the following amendments :

on 19 rec. no. List on 19 rec. no. List
on 19 rec. no. List on 19 rec. no. List
on 19 rec. no. List on 19 rec. no. List
on 19 rec. no. List on 19 rec. no. List
on 19 rec. no. List on 19 rec. no. List

Optional equipment affecting preceding information. This to be stated together with reference number.

Variants

1. Reference 271 Hewland LG500 4 speed gearbox
   Externally similar to Photograph H



2. Reference 292 Salisbury Powr Lok
   Limited slip differential

3. Reference 54 Wheel rims 11" front 279.4 mm
   16" rear 406.4 mm

4. Reference Photographs A and B
   Coupe body following same general line of coachwork