F.I.A. Recognition No. 1649

Group 2

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

Manufacturer VAUXHALL MOTORS LTD.

Serial No. of chassis/body 90000 - 101011 onwards

Serial No. of engine 3000000 onwards

Recognition is valid from

Cylinder-capacity 2279 cm.³ 139 in.³

Model HC. VIVA 2300

Manufacturer VAUXHALL MOTORS LTD.

Manufacturer VAUXHALL MOTORS LTD.

List

The manufacturing of the model described in this recognition form started on FEBRUARY 1972 and the minimum production of 2000 identical cars, in accordance with the specifications of this form was reached on AUGUST 1972

Photograph A, ¾ view of car from front

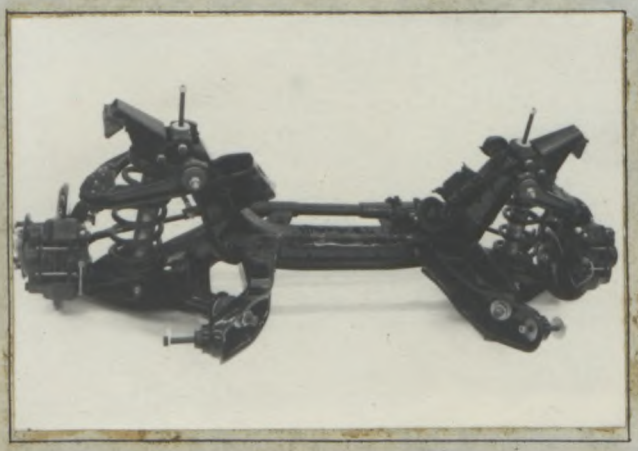
F.I.A. Stamp

R.A.C. Stamp

B

C

D



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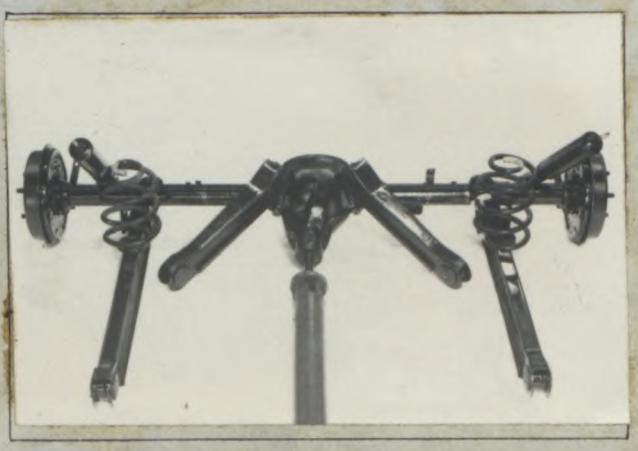

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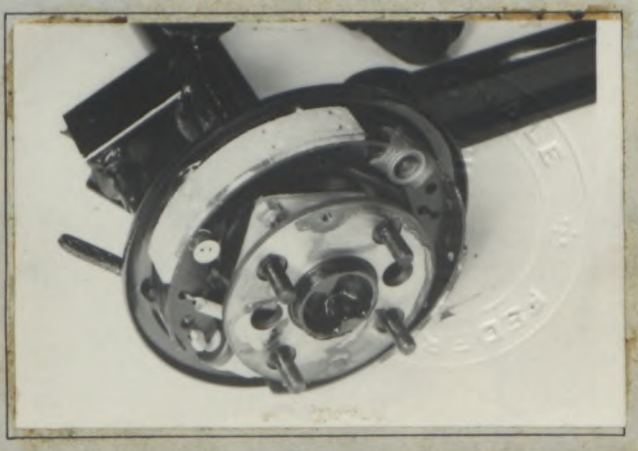

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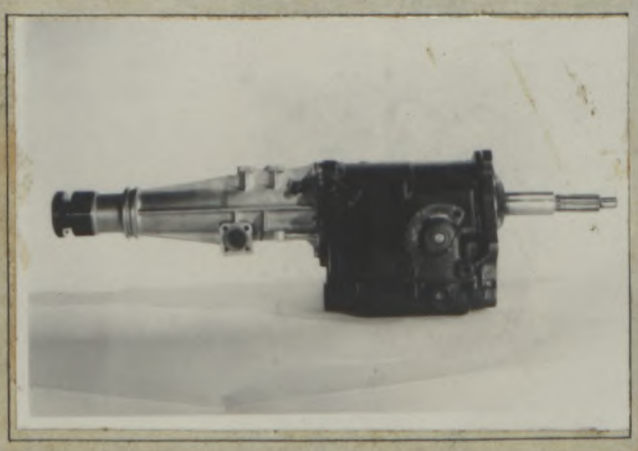

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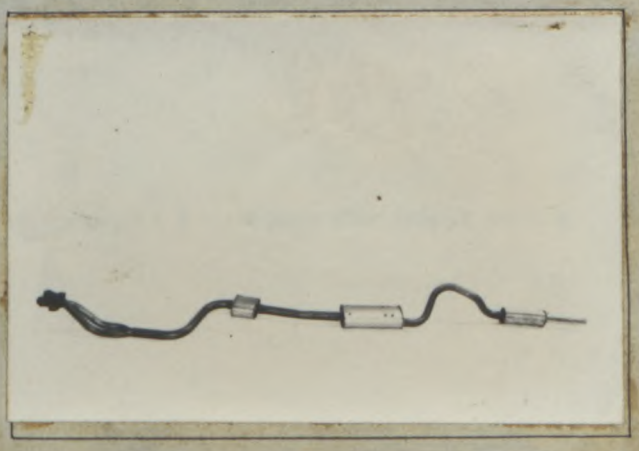

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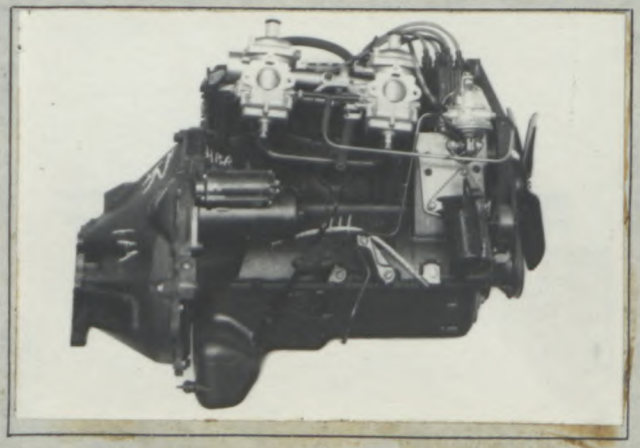

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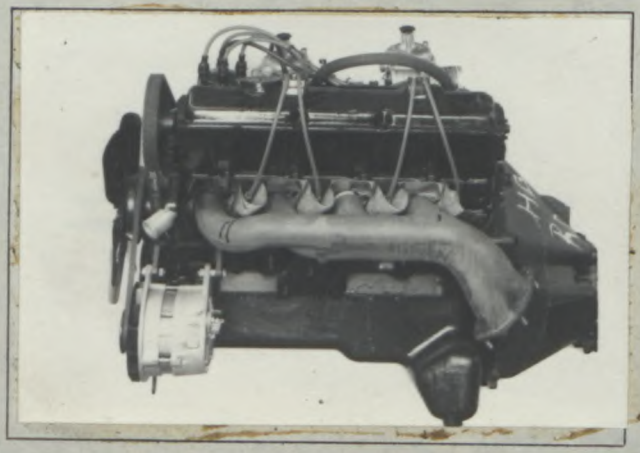

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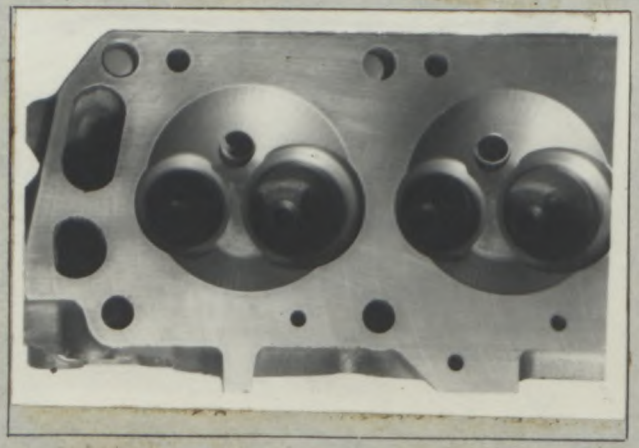
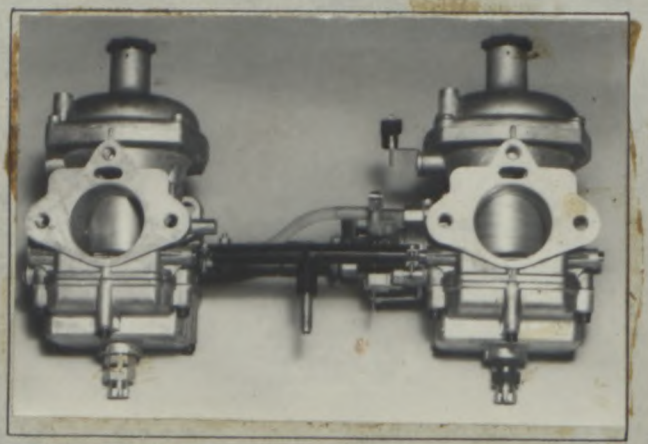


M

N



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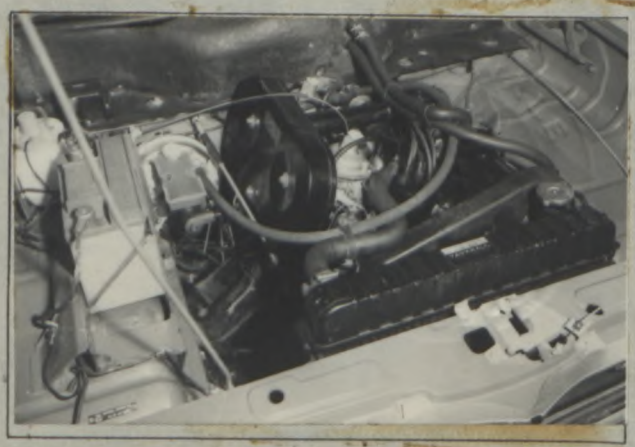

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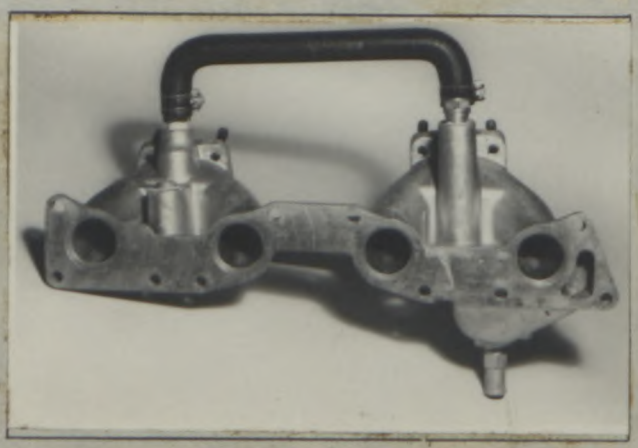
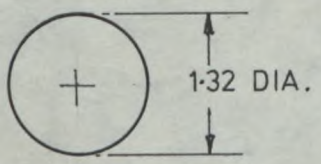


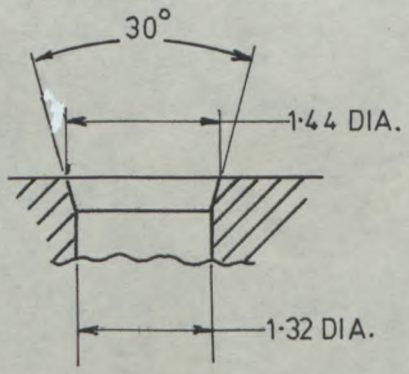
Q

Make VAUXHALL MOTORS LTD. Model HC VIVA FIRENZA 2300 F.I.A. Rec. No.....

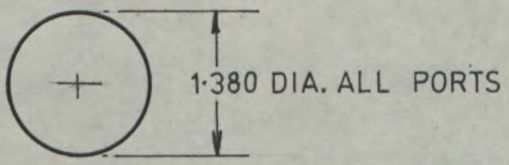
Drawing inlet manifold ports, side of cylinderhead. Indicate scale or dimensions and manufacturing tolerance.



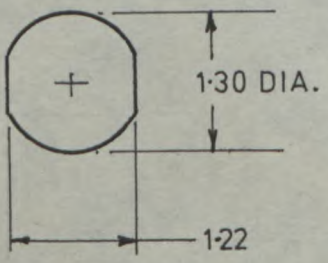
Drawing of entrance to inlet port of cylinderhead. Indicate scale or dimensions and manufacturing tolerance.



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.



TOLERANCE ± .010 INS. .254 MM

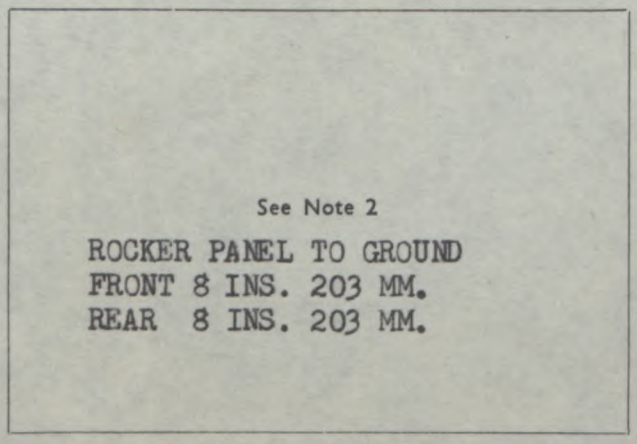
Make VAUXHALL MOTORS LTD. Model HC. VIVA 2300 F.I.A. Rec. No.

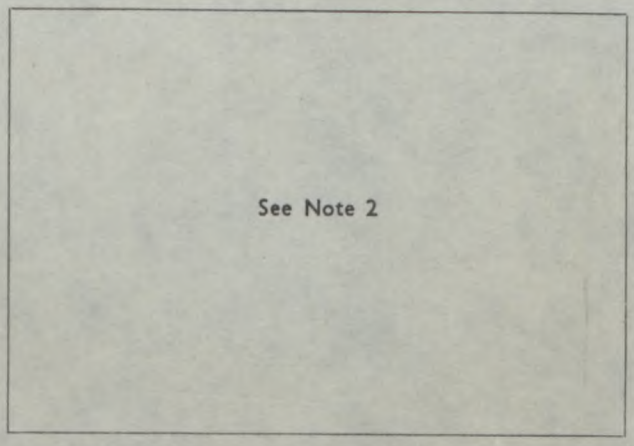
NOTE 1.

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

CAPACITIES AND DIMENSIONS

1. Wheelbase 2461 mm. 97 inches
2. Front track 1321 mm. 52 inches
3. Rear track 1308 mm. 51.5 inches





4. Overall length of the car 413.8 cm. 162.9 inches
5. Overall width of the car 164.3 cm. 64.7 inches
6. Overall height of the car 134 cm. 53 inches
7. Capacity of fuel tank (reserve included) 54 ltrs. 14.4 gall. U.S. 12 gall. Imp.
8. Seating Capacity. 4.
9. Weight. Total weight of the car with normal equipment, water, oil, and spare wheel but without fuel or repair tools : 923.5 kg. 2036 lbs. 18.18 cwts.
10. Width at front axle 164.3 cm Width at rear axle 164.3mm.

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 VAUXHALL MOTORS LTD. Model HC. VIVA 2300 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) STEEL
22. Separate construction, Material(s) of chassis -
23. Material(s) of coachwork STEEL
24. Number of doors Material(s) STEEL
25. Material(s) of bonnet STEEL
26. Material(s) of boot lid STEEL
27. Material(s) of rear-window LAMINATED OR TOUGHENED GLASS
28. Material(s) of windscreen LAMINATED OR TOUGHENED GLASS
29. Material(s) of front-door windows LAMINATED OR TOUGHENED GLASS
30. Material(s) of rear-door windows NONE
31. Sliding system of door windows GEAR OPERATED DROP GLASS
32. Material(s) of rear-quarter light LAMINATED OR TOUGHENED GLASS

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 TUBULAR FRAME BLOWN PVC
42. Weight of front seat(s), complete with supports and rails, out of the car : 10,4 kg. 23 lbs.
43. Rear seats, type of seat and upholstery SPRING CASE, PVC
44. Front bumper, material(s) STEEL Weight 3,6 kg. 8 lbs.
45. Rear bumper, material(s) STEEL Weight 3,1 kg. 7 lbs.

WHEELS

50. Type DISC
51. Weight (per wheel, without tyre) 6,8 kg. 15 lbs.
52. Method of attachment 4 STUD
53. Rim diameter 330,2 mm. 13 ins. 54. Rim width 127 mm. 5 ins.

STEERING

60. Type RACK AND PINION
61. Servo-assistance : ~~yes~~ — no
62. Number of turns of steering wheel from lock to lock 3,16
63. In case of servo-assistance

Make VAUXHALL MOTORS LTD. Model HC. VIVA 2300 F.I.A. Rec. No.

SUSPENSION

70. Front suspension (photograph D), type			INDEPENDENT - WISHBONE
71. Type of spring			COIL
72. Stabiliser (if fitted)			FITTED
73. Number of shock absorbers	2	74. Type	TELESCOPIC DOUBLE ACTING
78. Rear suspension (photograph E), type			BEAM AXLE 4 LINK
79. Type of spring			COIL
80. Stabiliser (if fitted)			FITTED
81. Number of shock absorbers	2	82. Type	TELESCOPIC DOUBLE ACTING

BRAKES (photographs F and G)

90. Method of operation	HYDRAULIC						
91. Servo-assistance (if fitted), type	DIRECT ACTING VACUUM SERVO						
92. Number of hydraulic master cylinders	ONE DUAL TANDEM						
93. Number of cylinders per wheel	TWO	FRONT			ONE	REAR	
94. Bore of wheel cylinder(s)	48,2	mm.	1,90	inches	19,05	mm. 0,75	inches
Drum Brakes							
95. Inside diameter		mm.		inches	228,6	mm. 9	inches
96. Length of brake linings		mm.		inches	179,3	mm. 7,06	inches
97. Width of brake linings		mm.		inches	44,5	mm. 1,75	inches
98. Number of shoes per brake					TWO		
99. Total area per brake		mm.²		sq. in.	207.1	mm.² 32,1	sq. in.
Disc Brakes							
100. Outside diameter	254,8	mm.	10,03	inches		mm.	inches
101. Thickness of disc	9,65	mm.	0,38	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	TWO						
105. Total area per brake	5742	mm.²	8,9	sq. in.		mm.²	sq. in.

Make VAUXHALL MOTORS LTD Model HC. VIVA 2300 F.I.A. Rec. No.....

ENGINE (photographs J and K)

130. Cycle 4 STROKE
131. Number of cylinders 4
132. Cylinder Arrangement 45° IN LINE
133. Bore 97,59 mm. 3,842 in.
134. Stroke 76,2 mm. 3 in.
135. Capacity per cylinder 569,7 cm.³ 34,7 cu. in.
136. Total cylinder capacity 2279 cm.³ 139 cu. in.
137. Material(s) of cylinder block CHROMIUM CAST IRON
138. Material(s) of sleeves (if fitted) NOT FITTED
139. Cylinder head, material(s) CHROMIUM CAST IRON
Number fitted ONE
140. Number of inlet ports 4
141. Number of exhaust ports 4
142. Compression ratio 8.5-1 (DPT 7.3-1)
143. Volume of one combustion chamber 50,8 cm.³ 3,1 cu. in.
144. Piston, material ALUMINIUM ALLOY
145. Number of rings 3
146. Distance from gudgeon pin centre line to highest point of piston crown
mm. 39 in. 1,535
147. Crankshaft : moulded/~~stamped~~
148. Type of crankshaft: integral/.....YES.....
149. Number of crankshaft main bearings 5
150. Material of bearing cap CAST IRON
151. System of lubrication : ~~dry sump~~/oil in sump
152. Capacity, lubricant 5 ltrs. 8,75 pts. 5,26 quarts U.S.
153. Oil cooler : yes/no
154. Method of engine cooling WATER
155. Capacity of cooling system 7.98 ltrs. 14.0 pts. 8.4 quarts U.S.
156. Cooling fan (if fitted) dia. 32 cm. 12,5 in.
157 Number of blades of cooling fan 8

Bearings

158. Crankshaft main, type WHITE METAL/COPPER LEAD dia. 63,5 m.m. 2,500 in.
159. Connecting rod big end, type COPPER LEAD TIN dia. 50,76 m.m. 1,998 in.

Weights

160. Flywheel (clean) 9,2 kg. 20,3 lbs.
161. Flywheel with clutch (all turning parts) 15,46 kg. 33,9 lbs.
162. Crankshaft 17 kg. 37,6 lbs.
163. Connecting rod 0,78 kg. 1,7 lbs.
164. Piston with rings and pin 0,83 kg. 1,8 lbs.

Make VAUXHALL MOTORS LTD. Model HC. VIVA 2300 F.I.A. Rec. No.....

FOUR STROKE ENGINES

170. Number of camshafts: ONE
171. Location: HOUSING ON CYLINDER HEAD
172. Type of camshaft drive: EXTERNAL TOOTHED BELT
173. Type of valve operation: CAM VIA INVERTED BUCKET TAPPET

INLET (see page 4)*

180. Material(s) of inlet manifold: ALUMINIUM
181. Diameter of valves: 42,98 mm. 1,688 ins.
182. Max. valve lift: 10,69 mm. .412 in.
183. Number of valve springs: TWO
184. Type of spring: COIL
185. Number of valves per cylinder: ONE
186. Tappet clearance for checking timing (cold/warm): 20 mm. .008 ins.
187. Valves open at (with tolerance for tappet clearance indicated): 31° 36 BTDC
188. Valves close at (with tolerance for tappet clearance indicated): 63° 36 ABDC
189. Air filter, type: PAPER ELEMENT

EXHAUST (see page 4)*

195. Material(s) of exhaust manifold: CAST IRON
196. Diameter of valves: 35,94 mm. 1,415 ins.
197. Max. valve lift: 10,69 mm. .412 in.
198. Number of valve springs: TWO
199. Type of spring: COIL
200. Number of valves per cylinder: ONE
201. Tappet clearance for checking timing (cold/warm): 0,43 mm. .017 ins.
202. Valves open at (with tolerance for tappet clearance indicated): 63° 36 BBDC
203. Valves close at (with tolerance for tappet clearance indicated): 31° 36 ABDC
204. Diameter outlet orifice exhaust manifold: 48 mm. 1,92 ins. X2

CARBURETION (photograph N)

210. Number of carburettors fitted: 2
211. Type: VARIABLE CHOKE
212. Make: ZENITH
213. Model: 175 C.D.
214. Number of mixture passages per carburettor: SINGLE VENTURI
215. Flange hole diameter of exit port(s) of carburettor: 44,5 mm. 1,750 ins.
216. Minimum diameter of venturi/minimum diam., with piston at maximum height (example : SU): 31,7 mm. 1,250 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 VAUXHALL MOTORS LTD. Model HC. VIVA F.I.A. Rec. No.

ENGINE ACCESSORIES

230. Fuel pump : mechanical and/~~or electrical~~

231. No. fitted ONE

232. Type of ignition system COIL

233. No. of distributors ONE

234. No. of ignition coils ONE

235. No. of spark plugs per cylinder ONE

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

237. Method of drive BELT

238. Voltage of generator 12 volts

239. Battery, number ONE

240. Location IN ENGINE COMPARTMENT

241. Voltage of battery 12 volts

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

250. Max. engine output 122 (type of horsepower: BHP GROSS) at 5500 r.p.m.

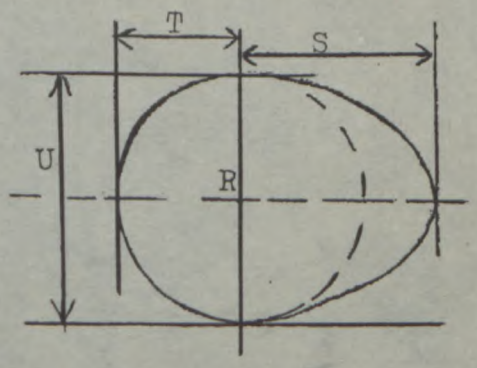
251. Max. r.p.m. output at that figure NOT PUBLISHED

252. Max. torque 150 LB/FTat 3200 r.p.m.

253. Max. speed of the car km./hour miles/hour NOT PUBLISHED

R = centre of camshaft

a55



Inlet cam

S =	29,5	mm.	1,162	inches
T =	19	mm.	.750	inches
U =	38,1	mm.	1,500	inches

Exhaust cam

S =	29,5	mm.	1,162	inches
T =	18,8	mm.	.741	inches
U =	37,7	mm.	1,487	inches

Make VAUXHALL MOTORS LTD Model HC. VIVA. 2300 F.I.A. Rec. No.

DRIVE TRAIN

CLUTCH

260. Type of clutch DIAPHRAGM

261. No. of plates ONE

262. Dia. of clutch plates 21,6 cm. 8,5 ins.

263. Dia. of linings, inside 15,9 cm. 6,25 ins.

outside 21,4 cm. 8,44 ins.

264. Method of operating clutch CABLE LINKAGE

GEAR BOX (photograph H)

270. Manual type, make VAUXHALL Method of operation LEVER

271. No. of gear-box ratios forward 4

272. Synchronized forward ratios 4

273. Location of gear-shift FLOOR CENTRAL

274. Automatic, make GENERAL MOTORS type

275. No. of forward ratios 3

276. Location of gear shift ON CONSOLE

277.	Manual		Automatic		Alternative manual/automatic			
	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth
1	3.3-1	33/13	2.4-1 TO 4.8-1		2.521-1	30/14		
2	2.141-1	33/20	1.48-1 TO 2.9-1		1.765-1	27/18		
3	1.362-1	25/13	1-1 TO 2-1		1.353-1	23/20		
4	DIRECT				DIRECT			
5								
6								
reverse	3.064-1	33/14	1.92-1 TO 3.84-1		3.064-1	33/14		

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 2 PINION

292. Type of limited slip differential (if fitted in series-production)

293. Final drive ratio 3.455-1 Number of teeth 11/38
4.1 11 10/41

Make VAUXHALL MOTORS LTD. Model VIVA 2300 F.I.A. Rec. No.....

IMPORTANT:

During the scrutineering of cars entered in group 5 (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.

TERRITORY OPTION. COACHLINES.
DECALS VIVA, FIRENZA, SL, SPORTS.

157. TERRITORY OPTION. COOLING FAN 4 BLADE 34.93 CM. 13.75 INS.

78. HEAVY DUTY REAR SUSPENSION. ADJUSTABLE SHOCK ABSORBERS.

TERRITORY OPTION, SINGLE PIECE PROPELLER SHAFT

TERRITORY - EXHAUST SYSTEM

TOLERANCES: - 1. MACHINED SURFACES 2% 2. NON MACHINED SURFACES 10%
3. WEIGHTS OF PART MACHINED PARTS 5%
4. WEIGHTS OF MACHINED PARTS 3%

MOTOR SPORT DIVISION
The Royal Automobile Club,
31 Belgrave Square, London, S.W.1

Manufacturer VAUXHALL MOTORS
Model VIVA 2300
F.I.A. Recognition No. 1649
Amendment No. 1/IV

"valable en Groupe 2 uniquement"
"valid for Group 2 only"

Amendment to Form of Recognition

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

No.

Reference No. GROUP 2

WING EXTENSIONS

CAPACITIES AND DIMENSIONS - TRACK CHANGES

13 x 7	55 ins.	1397 mm	13 x 10	58 ins	1473 mm
13 x 8	56 ins.	1422 mm	13 x 11	58 ins	1473 mm
13 x 9	58 ins.	1473 mm	13 x 12	58 ins	1473 mm

$\frac{3}{8}$ or $\frac{3}{4}$ spacers

HEAVY DUTY AXLE (293) HEAVY DUTY AXLE RATIOS 3.7 11/41 3.9 10/39 4.1 10/41 4.6 8/37

HEAVY DUTY CLUTCH
260 DIAPHRAGM NO. OF PLATES 2
262 DIA. OF CLUTCH PLATE 7.2 ins 184 mm
263 DIA. OF LININGS
INSIDE 5.2 INS - 132 mm
OUTSIDE 7.12 INS - 181 mm - OR

260 DIAPHRAGM NO. OF PLATES ONE
262 DIA. OF CLUTCH PLATE 8.5 INS - 21.59 cm.
263 DIA. OF LININGS
INSIDE - 6.25 ins - 15.88 cm.
OUTSIDE - 8.5 ins - 21.59 cm.

Date amendment is valid from.....

Stamp of F.I.A./R.A.C.

MOTOR SPORT DIVISION
The Royal Automobile Club,
31 Belgrave Square, London, S.W.1

Manufacturer VAUXHALL MOTORS
Model VIVA 2300
F.I.A. Recognition No. 1649
Amendment No. 2/2V

"valable en Groupe 2 uniquement"
"valid for Group 2 only"

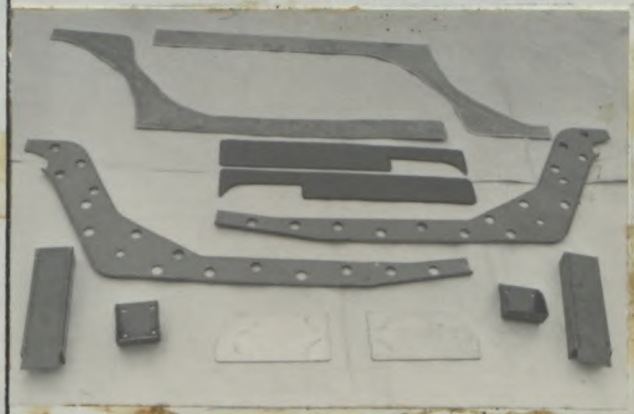
Amendment to Form of Recognition

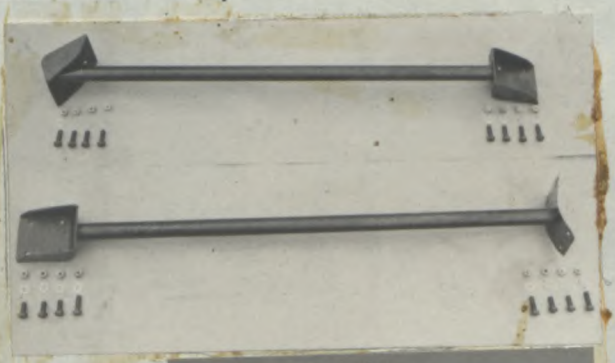
FEDERATION INTERNATIONALE DE L'AUTOMOBILE

No.

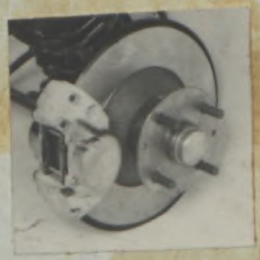
Reference No. GROUP 2

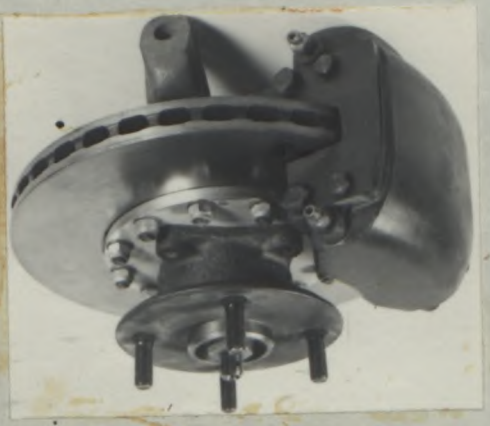
FINAL DRIVE. SPIN RESISTANT DIFFERENTIAL PART NO. 8834100 (292) FRICTION AUXILIARY CHASSIS AND SUSPENSION KIT INCLUDES SHOCK ABSORBER BRACKET - LINK SHIELD, BOXED LINKS AND MOUNTINGS.





ALLOY DIFFERENTIAL
HEAVY DUTY BRAKE WITH VENTILATED DISC
HEAVY DUTY BRAKE WITH SOLID DISC





Date amendment is valid from.....

Stamp of F.I.A./R.A.C.

MOTOR SPORT DIVISION
The Royal Automobile Club,
31 Belgrave Square, London, S.W.1

Manufacturer VAUXHALL MOTORS LTD.
Model VIVA 2300
F.I.A. Recognition No. 1649
Amendment No. 3/IE

Amendment to Form of Recognition

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

No.	Reference No. ERRATA
	Gearbox Ratios should read:
277	Ratio — Teeth
	1 3.3 - 1 — 33/13
	2 2.141 - 1 — 28/17
	3 1.362 - 1 — 22/21
	4 Direct
	Reverse 3.064 - 1 — 33/14

Date amendment is valid from 1 7 73

Stamp of F.I.A./R.A.C