

F.I.A. Recognition No. 5233  
Group 1 - Series Prod. Touring



## 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. Cylinder-capacity 3294 cm.<sup>3</sup> 201 in.<sup>3</sup>  
Model Ventora  
Serial No. of chassis/body 94869V/117766 onward Manufacturer Vauxhall  
Serial No. of engine 2500001 onward Manufacturer Vauxhall  
Recognition is valid from 1st Nov. 1968 List 1968/10  
The manufacturing of the model described in this recognition form started on September 1st. 1967  
and the minimum production of 5000 identical cars, in accordance with the specifications of  
this form was reached on August 1st. 1968

Photograph A,  $\frac{3}{4}$  view of car from front



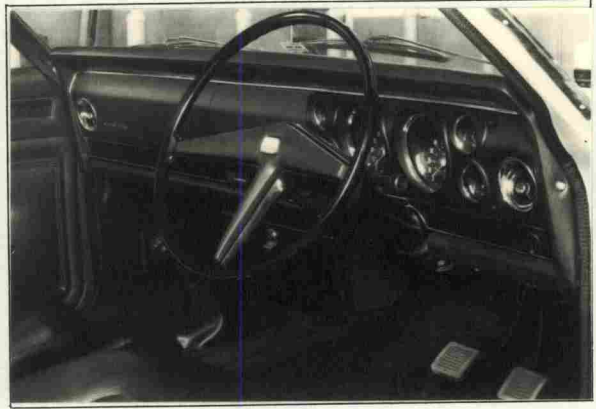
F.I.A. Stamp

R.A.C. Stamp

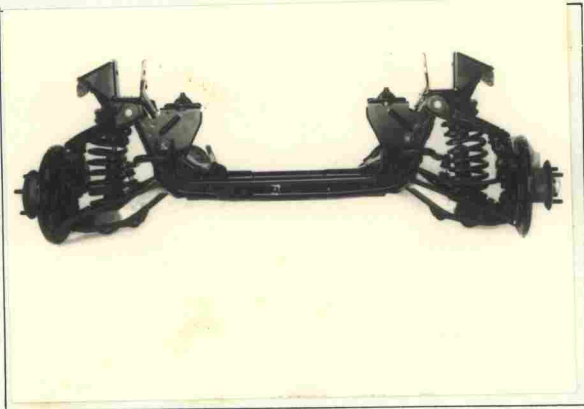
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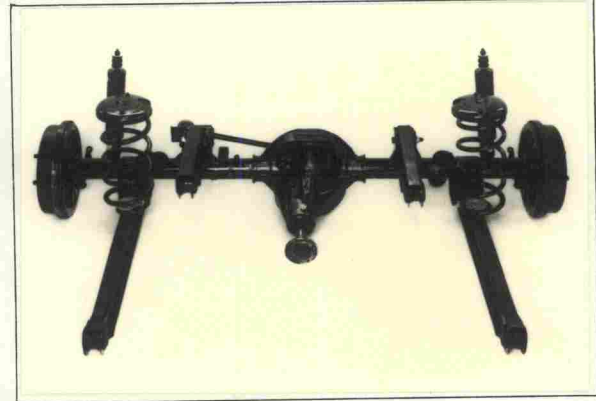
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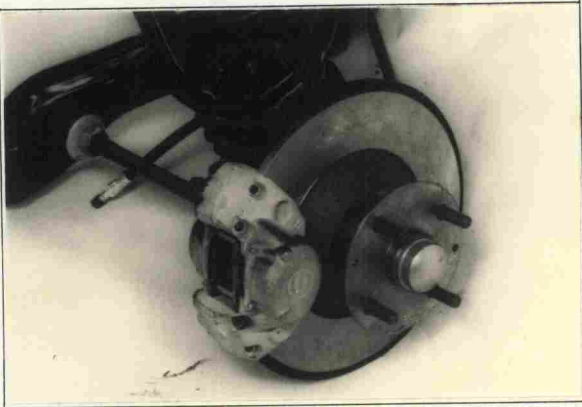
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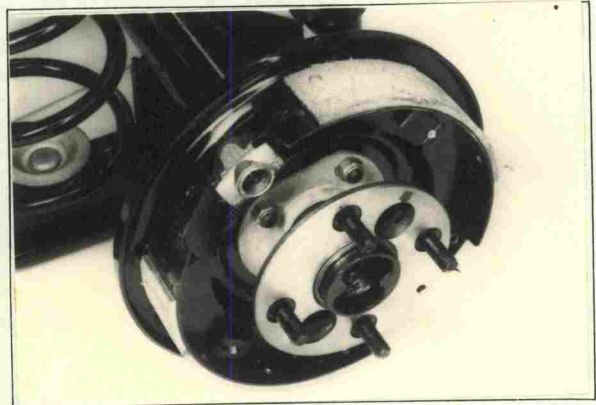
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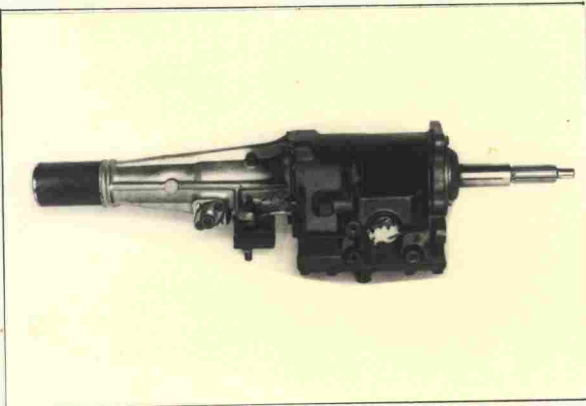
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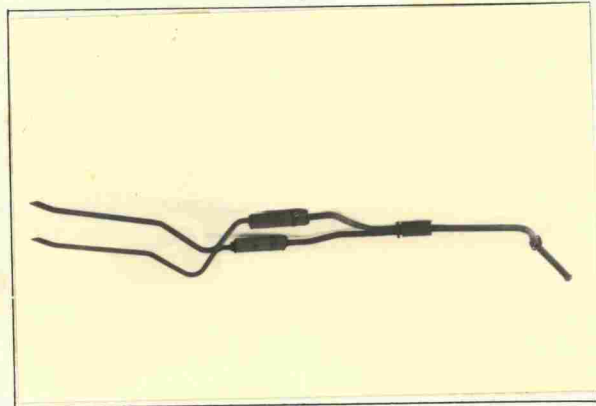
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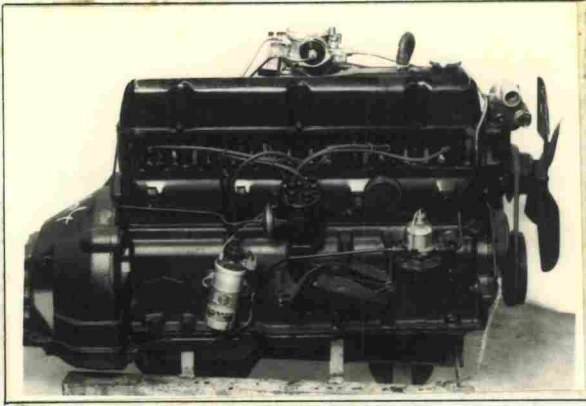
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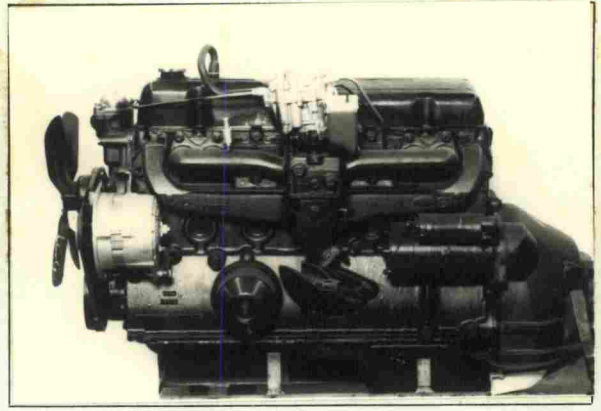
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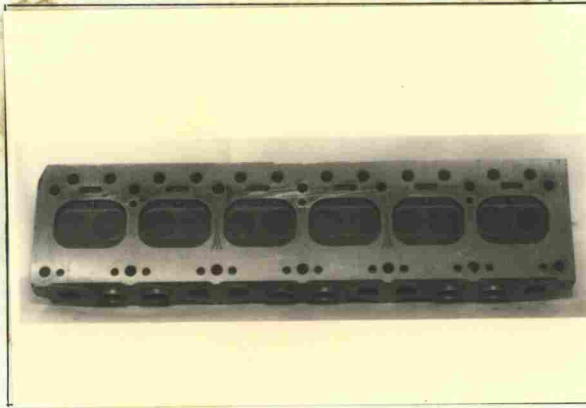
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K



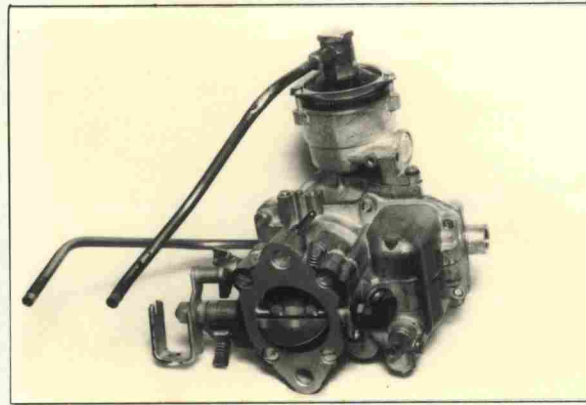
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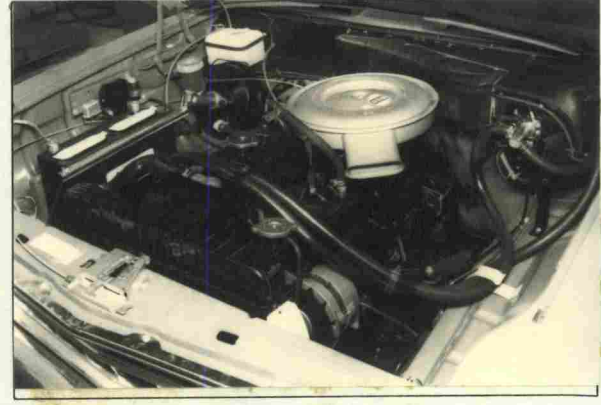
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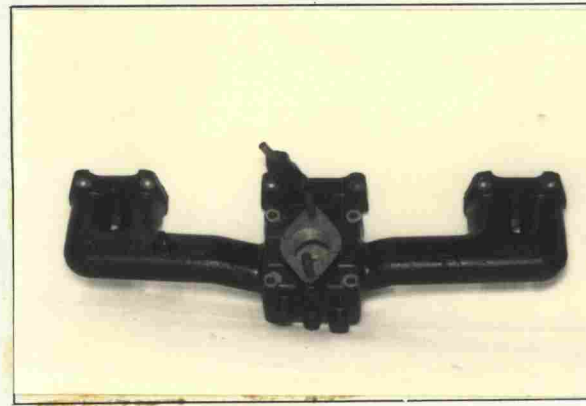
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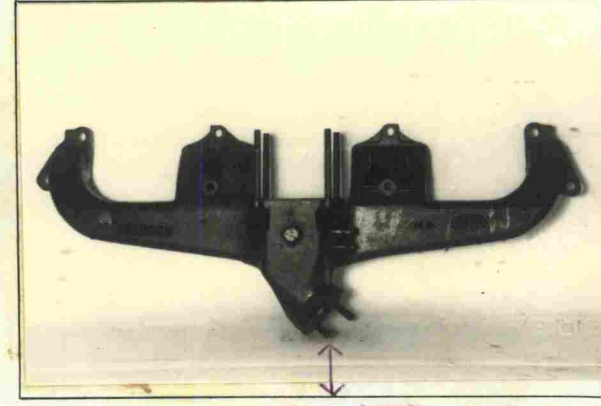
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P

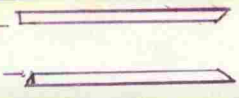


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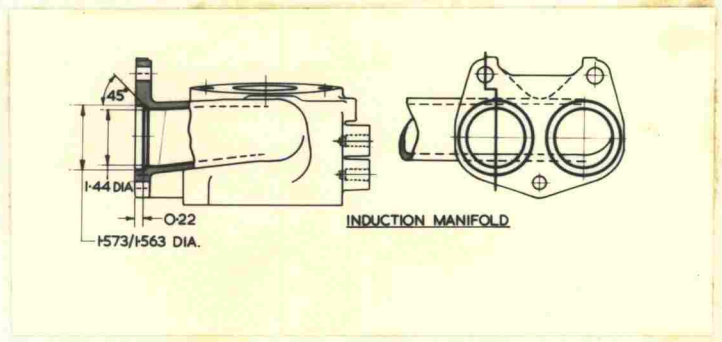
3

1.9 ins  
48.26 mm

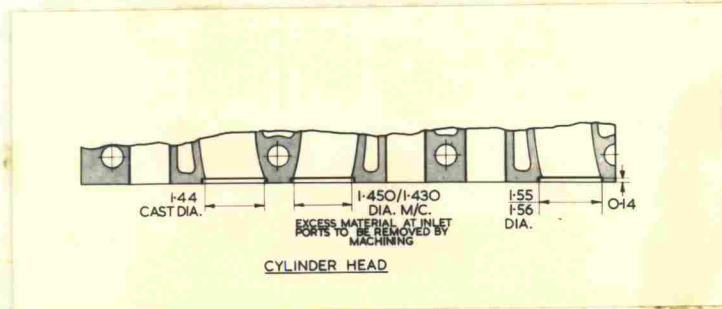


2.24 ins  
56 mm

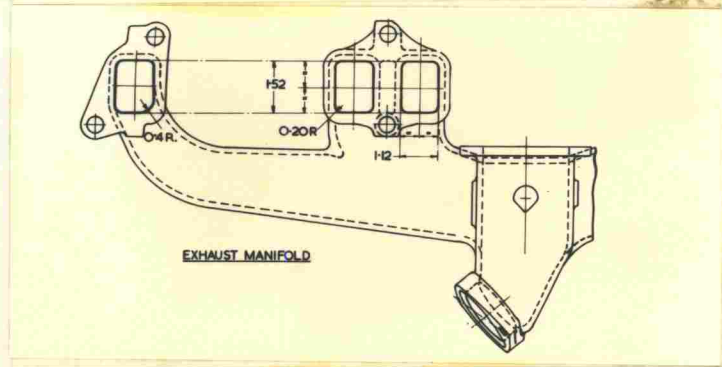
Drawing inlet manifold ports, side of cylinderhead. Indicate scale or dimensions and manufacturing tolerance.



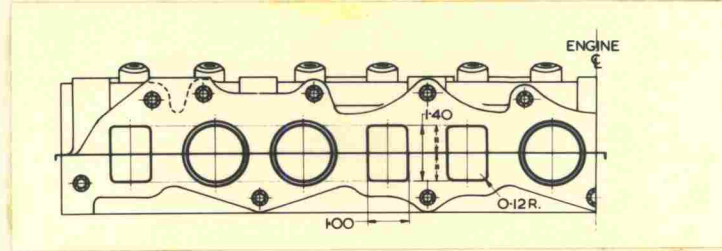
Drawing of entrance to inlet port of cylinderhead. Indicate scale or dimensions and manufacturing tolerance.



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.

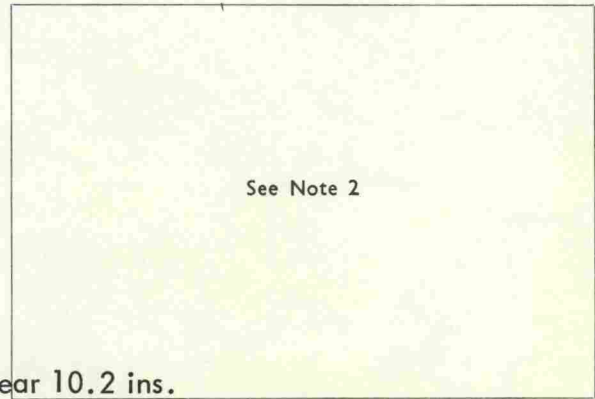
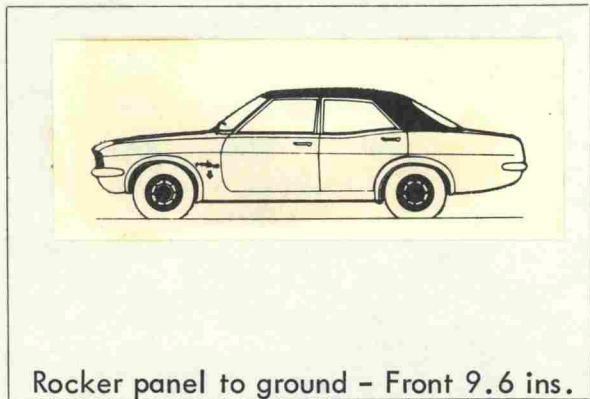


**NOTE 1.**

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

**CAPACITIES AND DIMENSIONS**

- |                |            |      |        |
|----------------|------------|------|--------|
| 1. Wheelbase   | 2590.8 mm. | 102  | inches |
| 2. Front track | 1386.8 mm. | 54.6 | inches |
| 3. Rear track  | 1371.6 mm. | 54   | inches |



- |  |            |         |            |       |            |
|--|------------|---------|------------|-------|------------|
| 4. Overall length of the car   | 243.8 mm.  | 259 mm. | 448.8 cm.  | 176.7 | inches     |
| 5. Overall width of the car  |            |         | 169.9 cm.  | 66.9  | inches     |
| 6. Overall height of the car   |            |         | 133.3 cm.  | 52.5  | inches     |
| 7. Capacity of fuel tank (reserve included)  | 54.5 ltrs. | 14.4    | gall. U.S. | 12    | gall. Imp. |
| 8. Seating Capacity.   | 4/5        |         |            |       |            |
| 9. Weight. Total weight of the car with normal equipment, water, oil, and spare wheel but without fuel or repair tools : | 1139.4 kg. | 2512    | lbs.       | 22.43 | 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. <sup>2</sup>	1 gallon Imp.	— 4.546	ltrs.
1 cubic inch/pouce cube	— 16.387	cm. <sup>3</sup>	1 gallon US	— 3.785	ltrs.
1 pound/livre (lb)	— 453.593	gr.	1 hundred weight (cwt.)	— 50.802	kg.

**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 4 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 Laminated or toughened glass
- 31. Sliding system of door windows Gear operated drop glass
- 32. Material(s) of rear-quarter light None

**ACCESSORIES AND UPHOLSTERY**

- 38. Interior heating : yes — ~~xxx~~
- 39. Air conditioning : ~~xxx~~ — no
- 40. Ventilation : yes — ~~xxx~~
- 41. Front seats, type of seat and upholstery Steel frame
- 42. Weight of front seat(s), complete with supports and rails, out of the car : Moulded polyether  
Rubber diaphragm  
14.06 kg. 31 lbs.
- 43. Rear seats, type of seat and upholstery Formed wire moulded polyether
- 44. Front bumper, material(s) Weight 4.37 kg. 9.640 lbs.
- 45. Rear bumper, material(s) Weight 4.17 kg. 9.200 lbs.

**WHEELS**

- 50. Type Disc
- 51. Weight (per wheel, without tyre) 5.41 kg. 11.920 lbs.
- 52. Method of attachment 4 stud
- 53. Rim diameter 330.2 mm. 13 ins. 54. Rim width 139.7 mm. 5.5 ins.

**STEERING**

- 60. Type Rack and pinion
- 61. Servo-assistance : ~~xxx~~ — no
- 62. Number of turns of steering wheel from lock to lock 4.4
- 63. In case of servo-assistance -

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**SUSPENSION**

70. Front suspension (photograph D), type **Independent. Wishbone upper arm. Single lower arm control rod. Rubber mounted.**
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 parallel link with panhard rod**
79. Type of spring **Coil**
80. Stabiliser (if fitted) **Panhard rod**
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 **Girling direct acting servo**
92. Number of hydraulic master cylinders **One**

	<b>Two FRONT</b>		<b>One REAR</b>	
93. Number of cylinders per wheel				
94. Bore of wheel cylinder(s)	<b>54</b>	<b>mm. 2.125</b> inches		<b>mm. 0.75</b> inches

**Drum Brakes**

95. Inside diameter	mm.	inches	<b>228.6</b> mm.	<b>9</b> inches
96. Length of brake linings	mm.	inches	<b>179.3</b> mm.	<b>7.06</b> inches
97. Width of brake linings	mm.	inches	<b>219.4</b> mm.	<b>8.64</b> inches
98. Number of shoes per brake				<b>2</b>
99. Total area per brake	mm. <sup>2</sup>	sq. in.	<b>16659</b> mm. <sup>2</sup>	<b>25.8</b> sq. in.

**Disc Brakes**

100. Outside diameter	<b>256.5</b> mm.	<b>10.01</b> inches	mm.	inches
101. Thickness of disc	<b>12.7</b> mm.	<b>0.5</b> 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		<b>2</b>		
105. Total area per brake	<b>6710</b> mm. <sup>2</sup>	<b>10.4</b> sq. in.	mm. <sup>2</sup>	sq. in.

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**ENGINE** (photographs J and K)

- |   |                                       |   |                                     |
|---|---------------------------------------|---|-------------------------------------|
| 130. Cycle  | 4 stroke                              | 131. Number of cylinders                | 6                                   |
| 132. Cylinder Arrangement   | In-line                               |   |                                     |
| 133. Bore   | 92.07 mm. 3.625 in.                   | 134. Stroke                             | 82.5 mm. 3.250 in.                  |
| 135. Capacity per cylinder  |                                       |   | 549.1 cm. <sup>3</sup> 33.5 cu. in. |
| 136. Total cylinder capacity  |                                       |   | 3294 cm. <sup>3</sup> 201 cu. in.   |
| 137. Material(s) of cylinder block  | Chrome cast iron                      | 138. Material(s) of sleeves (if fitted) | Not fitted                          |
| 139. Cylinder head, material(s)   | Chrome cast iron                      | Number fitted                           | One                                 |
| 140. Number of inlet ports  | 6                                     | 141. Number of exhaust ports            | 6                                   |
| 142. Compression ratio  | 8.5:1 (7.0:1 option)                  |   |                                     |
| 143. Volume of one combustion chamber                                       |                                       |   | 55.4 cm. <sup>3</sup> 3.39 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 |                                       |   | 44.4 mm. 1.75 in.                   |
| 147. Crankshaft : <del>rodless</del> /stamped                               |                                       | 148. Type of crankshaft: integral/..... | Yes.....                            |
| 149. Number of crankshaft main bearings                                     | 4                                     |   |                                     |
| 150. Material of bearing cap  | Steel                                 |   |                                     |
| 151. System of lubrication : <del>dry sump</del> /oil in sump               |                                       |   |                                     |
| 152. Capacity, lubricant  | 4.83 ltrs. 8.5 pts. 5.1 quarts U.S.   |   |                                     |
| 153. Oil cooler : <del>yes</del> /no  |                                       | 154. Method of engine cooling           | Water                               |
| 155. Capacity of cooling system   | 8.97 ltrs. 15.8 pts. 9.48 quarts U.S. |   |                                     |
| 156. Cooling fan (if fitted) dia.   |                                       |   | 37.4 cm. 14.75 in.                  |
| 157. Number of blades of cooling fan  | 4                                     |   |                                     |

**Bearings**

- |                                   |                                    |           |          |
|-----------------------------------|------------------------------------|-----------|----------|
| 158. Crankshaft main, type        | White metal and aluminium tin dia. | 63.5 m.m. | 2.5 in.  |
| 159. Connecting rod big end, type | Copper lead tin alloy dia.         | 52.3 m.m. | 2.06 in. |

**Weights**

- |   |                    |                     |                   |
|---|--------------------|---------------------|-------------------|
| 160. Flywheel (clean)                         |                    | 10.71 kg.           | 23.61 lbs.        |
| 161. Flywheel with clutch (all turning parts) |                    | 17.01 kg.           | 37.50 lbs.        |
| 162. Crankshaft                               | 30.2 kg. 66.6 lbs. | 163. Connecting rod | .74 kg. 1.64 lbs. |
| 164. Piston with rings and pin                |                    | .735 kg.            | 1.62 lbs.         |



**FOUR STROKE ENGINES**

170. Number of camshafts **One** 171. Location **Cylinder block**  
 172. Type of camshaft drive **Chain**  
 173. Type of valve operation **Push rod**

**INLET** (see page 4)\*

180. Material(s) of inlet manifold **Aluminium alloy casting**  
 181. Diameter of valves **41.35 mm. 1.628 ins.**  
 182. Max. valve lift **10 mm. 0.397 in.** 183. Number of valve springs **One**  
 184. Type of spring **Helical coil** 185. Number of valves per cylinder **One**  
 186. Tappet clearance for checking timing (cold) **.33 mm. .013 ins.**  
 187. Valves open at (with tolerance for tappet clearance indicated) **39° BTDC**  
 188. Valves close at (with tolerance for tappet clearance indicated) **84° ABDC**  
 189. Air filter, type **Paper element**

**EXHAUST** (see page 4)\*

195. Material(s) of exhaust manifold **Cast iron**  
 196. Diameter of valves **36 mm. 1.420 ins.**  
 197. Max. valve lift **10 mm. 0.397 in.** 198. Number of valve springs **One**  
 199. Type of spring **Helical coil** 200. Number of valves per cylinder **One**  
 201. Tappet clearance for checking timing (cold) **.33 mm. .013 ins.**  
 202. Valves open at (with tolerance for tappet clearance indicated) **81° BBDC**  
 203. Valves close at (with tolerance for tappet clearance indicated) **42° ATDC**

**CARBURETION** (photograph N)

210. Number of carburettors fitted **One** 211. Type **Downdraught**  
 212. Make **Zenith** 213. Model **42 WIAT**  
 214. Number of mixture passages per carburettor **Single choke**  
 215. Flange hole diameter of exit port(s) of carburettor **42 mm. 1.654 ins.**  
 216. Minimum diameter of venturi/~~minimum diameter of venturi~~ ~~with piston at maximum height (example 51)~~  
**36 mm. 1.42 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.**

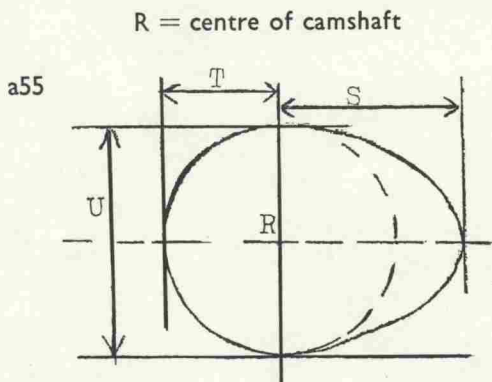
\* For additional information concerning two-stroke engines and super-charged engines, see page 13.

**ENGINE ACCESSORIES**

- 230. Fuel pump : mechanical and/~~or electric~~
- 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      Engine compartment
- 241. Voltage of battery      12      volts

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

- 250. Max. engine output      140      (type of horsepower:      BHP      ) at      4800      r.p.m.
- 251. Max. r.p.m.      6000      output at that figure      Not available for publication
- 252. Max. torque      185.7      at      2400      r.p.m.
- 253. Max. speed of the car      168      km./hour      105      miles/hour



**Inlet cam**

S =	23.11	mm.	.91	inches
T =	16.25	mm.	.64	inches
U =	32.51	mm.	1.28	inches

**Exhaust cam**

S =	23.11	mm.	.91	inches
T =	16.25	mm.	.64	inches
U =	32.51	mm.	1.28	inches



Make Vauxhall Motors Model Ventora 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.

Heavy duty suspension Code 357

- 71 8810415 - Front spring (2 off)
- 79 8810416 - RH 8810457 LH. rear spring

Manufacturing tolerances

1. For all machined surfaces allow .075%
2. For all non-machined surfaces allow 2%
3. For weights of all part machined parts allow 2.5%
4. For weights of all completely machined parts allow 1.25%



**MOTOR SPORT DIVISION**  
**The Royal Automobile Club**  
**31 Belgrave Square, London SW1X 8QH**

Manufacturer Vauxhall Motors Ltd.

Model Ventora

F.I.A. Recognition No. 5233

Amendment No. 1/1E

*Amendment to Form of Recognition*

**FEDERATION INTERNATIONALE DE L'AUTOMOBILE**

**VALID IN GROUP ONE**

No.

Reference No.

Body and trim Styling change.

Mechanical details as Ventora II, F.I.A. No. 5233.

Weight

1247.8 Kg      2751 lbs      24.56 cwts



Date amendment is valid from 1.7.78

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