

F.I.A. Recognition No. 1518
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 <u>Rootes Motors Ltd.</u>	Cylinder-capacity <u>1724</u> cm. ³ <u>105.2</u> in. ³
Serial No. of chassis/body <u>B.34.1000100</u>	Model <u>Sunbeam Rapier</u>
Serial No. of engine <u>B.34.1000100</u>	Manufacturer <u>Rootes Motors Ltd.</u>
Recognition is valid from <u>1st February ^{March} 1968</u>	Manufacturer <u>Rootes Motors Ltd.</u>
The manufacturing of the model described in this recognition form started on <u>25th August, 1967</u>	List <u>1968/4</u>
and the minimum production of <u>1,000</u> identical cars, in accordance with the specifications of this form was reached on <u>31st January, 1968</u>	

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



F.I.A. Stamp
[Handwritten signature]
[Handwritten signature]
[Handwritten signature]
 R.A.C. Stamp

Make...Sunbeam.....

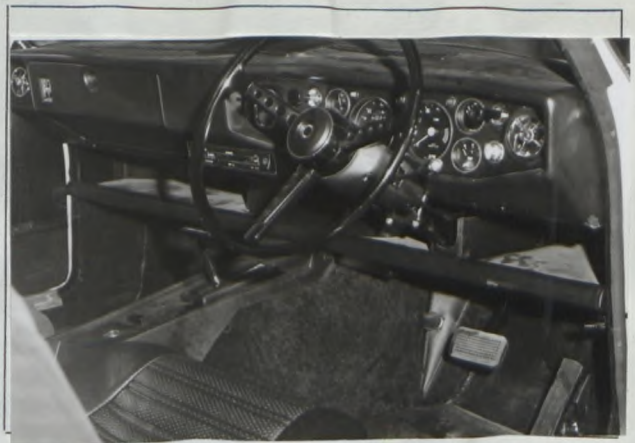
Model...Rapier.....

F.I.A. Rec. No.....

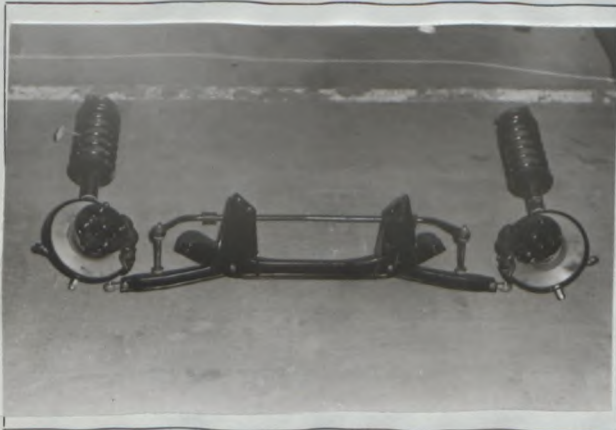
B



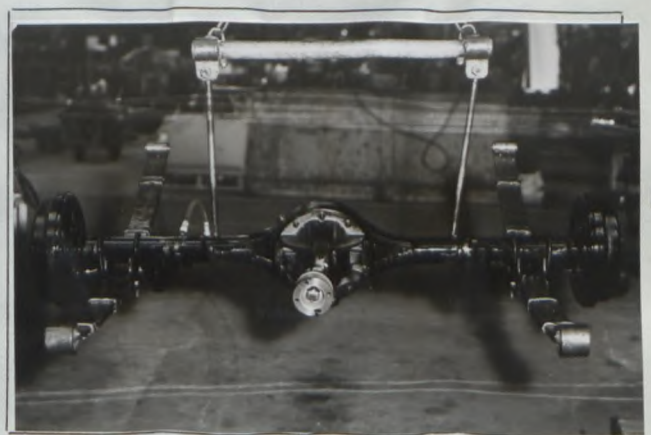
C



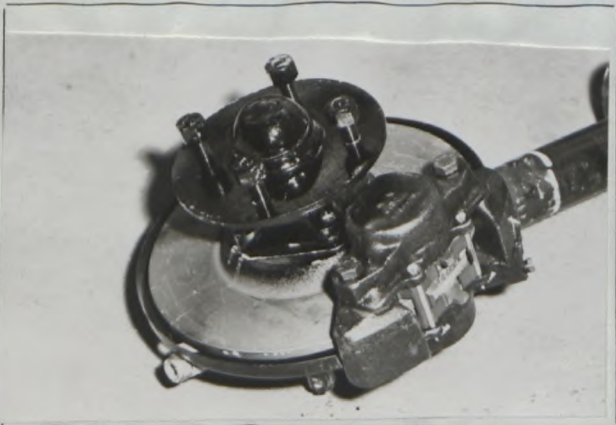
D



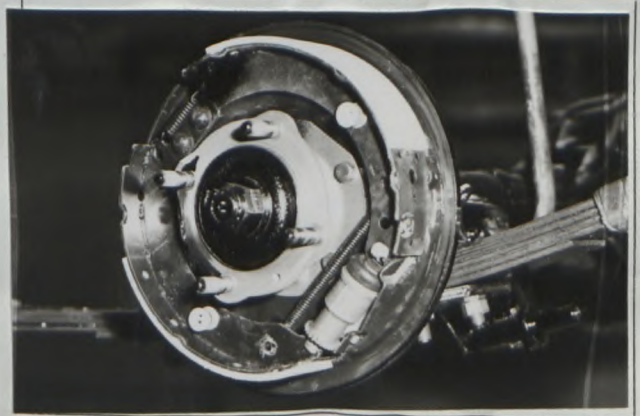
E



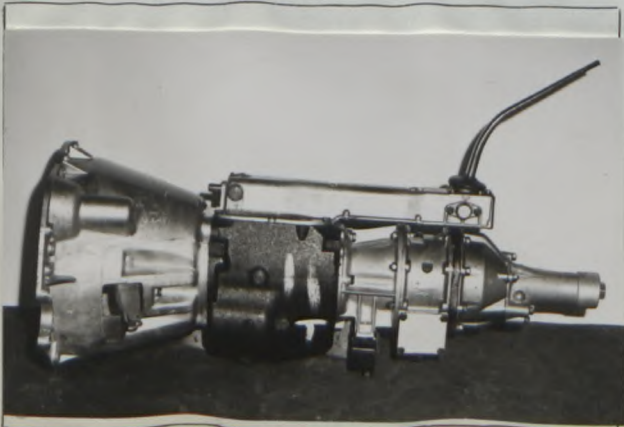
F



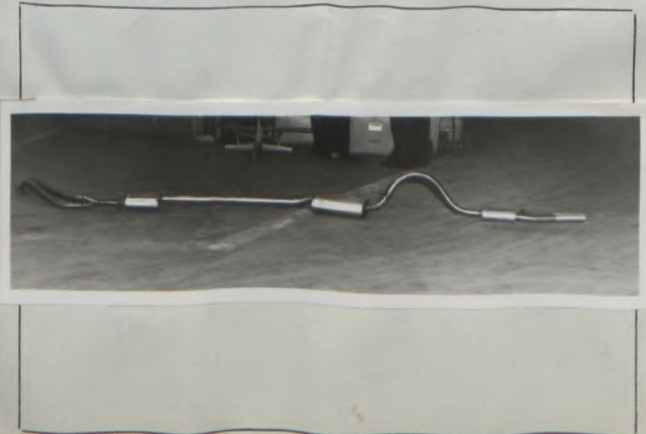
G



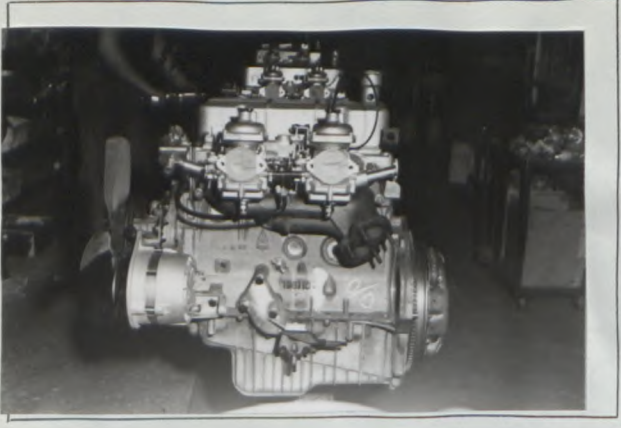
H



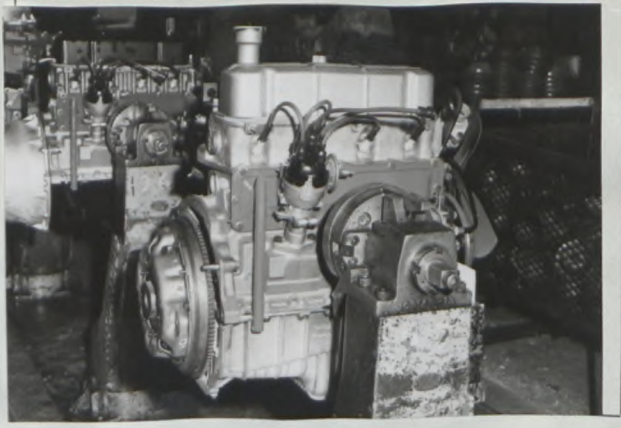
I



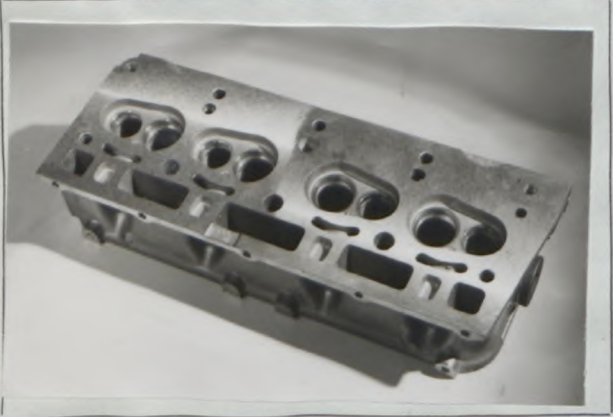
J



K



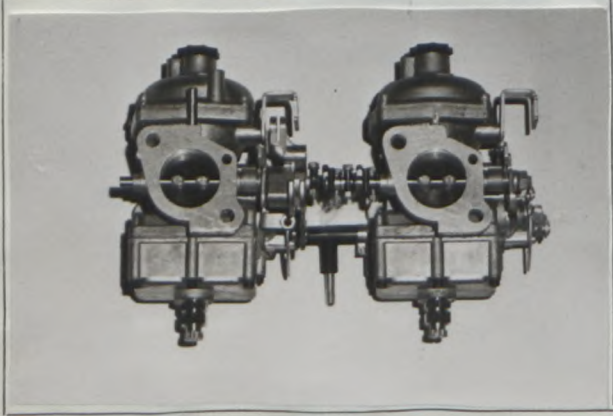
L



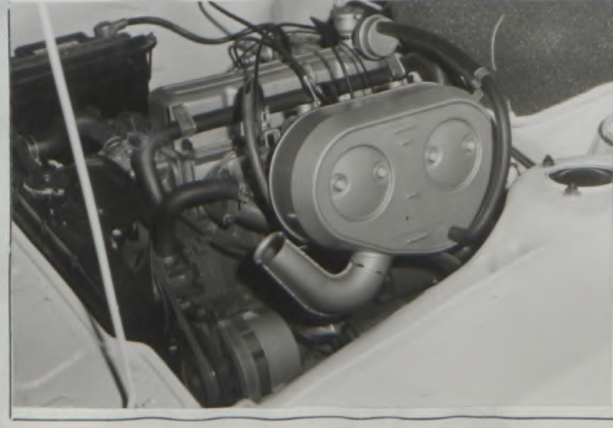
M



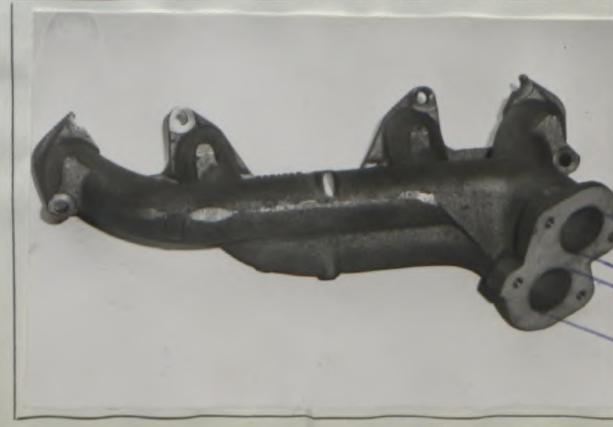
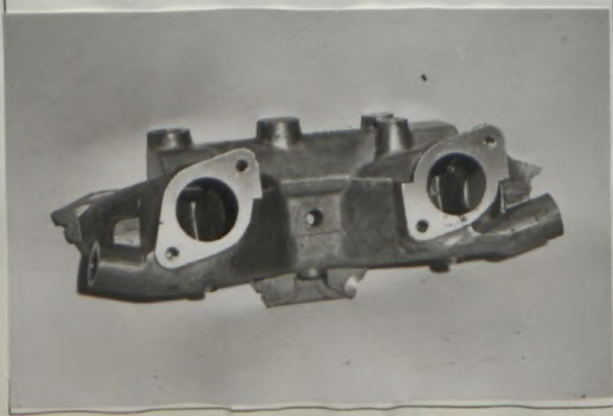
N



O



P



1.4 INS.
35.56 MM

1.4 INS
35.56 MM

Make Sunbeam

Model Rapier

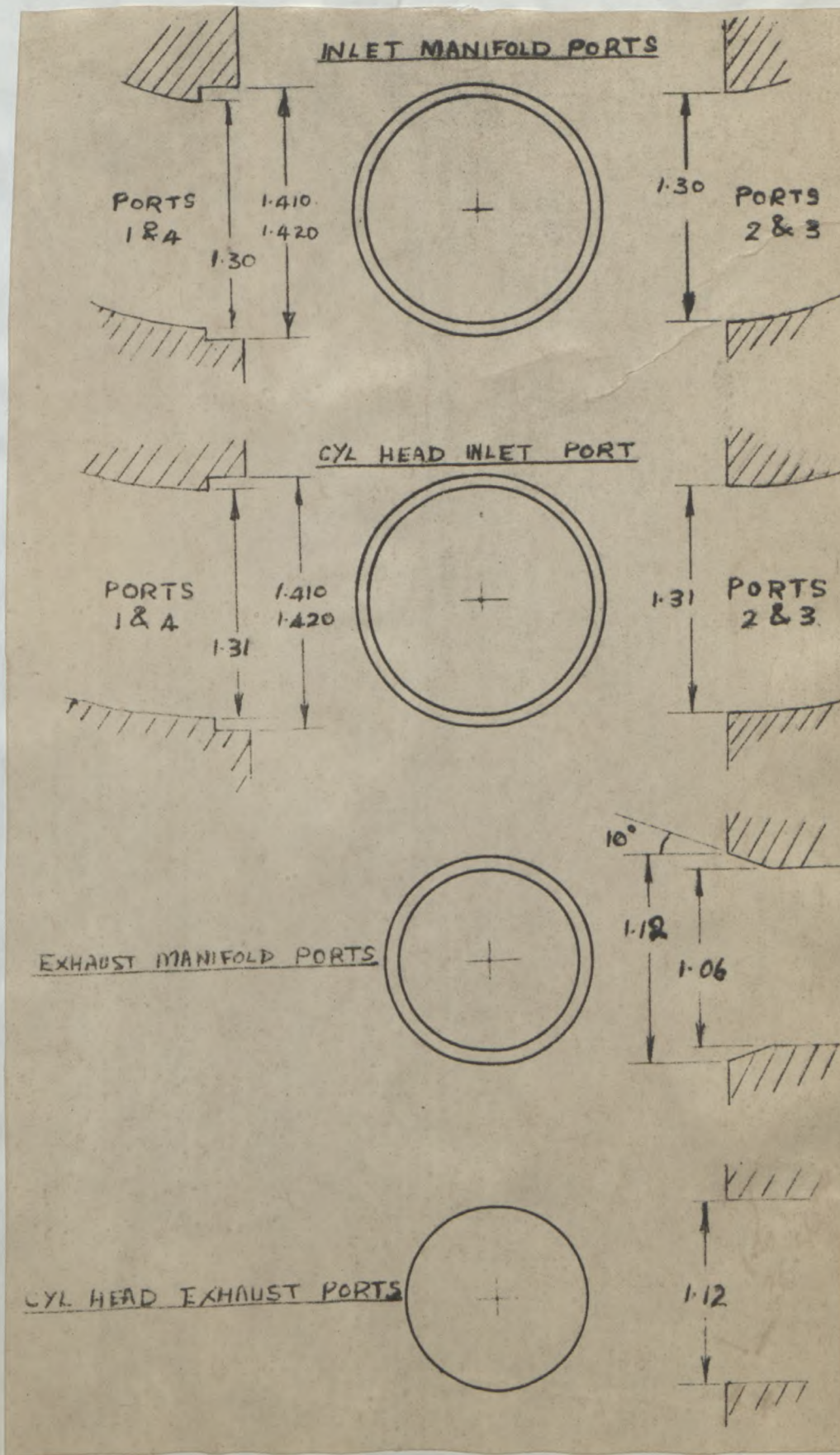
F.I.A. Rec. No. _____

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 Sunbeam Model Rapier F.I.A. Rec. No. _____

NOTE 1.

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

CAPACITIES AND DIMENSIONS

1. Wheelbase	2501.9	mm.	98.5	inches
2. Front track	1320.8	mm.	52	inches
3. Rear track	1320.8	mm.	52	inches



4. Overall length of the car	443.2	cm.	174.5	inches
5. Overall width of the car	164.5	cm.	64.75	inches
6. Overall height of the car	139.7	cm.	55.0	inches
7. Capacity of fuel tank (reserve included)	68.19	ltrs.	18	gall. U.S.
			15	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 :	979.758	kg.	2160	lbs.
			19.285	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.

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 **2** Material(s) **Steel**
- 25. Material(s) of bonnet **Steel**
- 26. Material(s) of boot lid **Steel**
- 27. Material(s) of rear-window **Safety glass**
- 28. Material(s) of windscreen **Safety glass**
- 29. Material(s) of front-door windows **Safety glass**
- 30. Material(s) of rear-door windows **-**
- 31. Sliding system of door windows **Vertical winding**
- 32. Material(s) of rear-quarter light **Safety 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 : **Ambla/Leathercloth plastic foam underlay**
- 42. Weight of front seat(s), complete with supports and rails, out of the car :

15.054 kg.	33.19	lbs.
------------	-------	------
- 43. Rear seats, type of seat and upholstery **Ambla/Leathercloth, plastic foam underlay**
- 44. Front bumper, material(s) Weight **5.67 kg. 12.5 lbs.**
- 45. Rear bumper, material(s) Weight **6.577 kg. 14.5 lbs.**

WHEELS

- 50. Type **Pressed steel ventilated disc**
- 51. Weight (per wheel, without tyre) **5.9 kg. 13 lbs.**
- 52. Method of attachment **4 - stud**
- 53. Rim diameter **330.2 mm. 13 ins.**
- 54. Rim width **114.3 mm. 4.5 ins.**

STEERING

- 60. Type **Recirculating ball**
- 61. Servo-assistance : ~~yes~~ — no
- 62. Number of turns of steering wheel from lock to lock **3.3**
- 63. In case of servo-assistance **-**

Make Sunbeam

Model Rapier

F.I.A. Rec. No.

SUSPENSION

- | | | |
|---|---|-------------------------------|
| 70. Front suspension (photograph D), type | | Independent Macpherson strut |
| 71. Type of spring | | Coil |
| 72. Stabiliser (if fitted) | | Bar and brake reaction rod |
| 73. Number of shock absorbers | 2 | 74. Type Telescopic |
| 78. Rear suspension (photograph E), type | | Rigid axle |
| 79. Type of spring | | Semi-elliptic asymmetric leaf |
| 80. Stabiliser (if fitted) | | - |
| 81. Number of shock absorbers | 2 | 82. Type Telescopic |

BRAKES (photographs F and G)

- | | | |
|--|-----------|--------------------------------------|
| 90. Method of operation | | Hydraulic |
| 91. Servo-assistance (if fitted), type | | Lockheed |
| 92. Number of hydraulic master cylinders | | 1 |
| 93. Number of cylinders per wheel | | FRONT 2 REAR 1 |
| 94. Bore of wheel cylinder(s) | 53.98 mm. | 2.125 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 | 208.3 mm. | 8.2 inches |
| 97. Width of brake linings | mm. | inches | 43.68 mm. | 1.72 inches |
| 98. Number of shoes per brake | | | 2 | |
| 99. Total area per brake | mm. ² | sq. in. | 19190.05 mm. ² | 29.73 sq. in. |

Disc Brakes

- | | | | | |
|-------------------------------|-------------------------|-------------|------------------|---------|
| 100. Outside diameter | 243.84 mm. | 9.6 inches | mm. | inches |
| 101. Thickness of disc | 9.652 mm. | 0.38 inches | mm. | inches |
| 102. Length of brake linings | 78.78 mm. | 3.1 inches | mm. | inches |
| 103. Width of brake linings | 47.75 mm. | 1.88 inches | mm. | inches |
| 104. Number of pads per brake | | 2 | | |
| 105. Total area per brake | 3225.7 mm. ² | 5 sq. in. | mm. ² | sq. in. |

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

ENGINE (photographs J and K)

- | | | | |
|---|--|--|--------------------------|
| 130. Cycle | 4 stroke | 131. Number of cylinders | 4 |
| 132. Cylinder Arrangement | In line, inclined at 10° | | |
| 133. Bore | 81.5 mm. 3.21 in. | 134. Stroke | 82.5 mm. 3.25 in. |
| 135. Capacity per cylinder | | 431 cm.³ 26.3 cu. in. | |
| 136. Total cylinder capacity | | 1724 cm.³ 105.2 cu. in. | |
| 137. Material(s) of cylinder block | Cast iron | 138. Material(s) of sleeves (if fitted) | - |
| 139. Cylinder head, material(s) | Aluminium | Number fitted | 1 |
| 140. Number of inlet ports | 4 | 141. Number of exhaust ports | 4 |
| 142. Compression ratio | 9.2 : 1 | | |
| 143. Volume of one combustion chamber | | 38.6 ± 2.1 cm.³ 2.36 ± 0.13 u. in. | |
| 144. Piston, material | Aluminium | 145. Number of rings | 3 |
| 146. Distance from gudgeon pin centre line to highest point of piston crown | | 46.86 - 47.0 mm. 1.845 - 1.850 | |
| 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 | 4.261 ltrs. 7.5 pts. 4.5 quarts U.S. | | |
| 153. Oil cooler : yes /no | | 154. Method of engine cooling | Water |
| 155. Capacity of cooling system | 7.82 ltrs. 13.8 pts. 8.28 quarts U.S. | | |
| 156. Cooling fan (if fitted) dia. | | 368.3 cm. 14.5 in. | |
| 157. Number of blades of cooling fan | 4 at 90° | | |

Bearings

- | | | | |
|-----------------------------------|--------------|------|----------------------------|
| 158. Crankshaft main, type | Shell | dia. | 60.3 m.m. 2.374 in. |
| 159. Connecting rod big end, type | Shell | dia. | 54.0 m.m. 2.126 in. |

Weights

- | | | | |
|---|--------------------------|-------------------------------|-----------------------------|
| 160. Flywheel (clean) | | 10.036 kg. 22.125 lbs. | |
| 161. Flywheel with clutch (all turning parts) | | 14.72 kg. 32.448 lbs. | |
| 162. Crankshaft | 14.97 kg. 33 lbs. | 163. Connecting rod | 0.751 kg. 1.656 lbs. |
| 164. Piston with rings and pin | | 0.62 kg. 1.379 lbs. | |

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

FOUR STROKE ENGINES

170. Number of camshafts 1 171. Location **Right hand side crank case**
172. Type of camshaft drive **Single stage duplex chain**
173. Type of valve operation **Push rod and rocker**

INLET (see page 4)*

180. Material(s) of inlet manifold **Aluminium**
181. Diameter of valves 38.23 mm. 1.505 ins.
182. Max. valve lift 10.312 mm. 0.406 in. 183. Number of valve springs 2
184. Type of spring **Coil** 185. Number of valves per cylinder 1
186. Tappet clearance for checking timing (cold) 0.381 mm. 0.015 ins.
187. Valves open at (with tolerance for tappet clearance indicated) 29° B.T.D.C.
188. Valves close at (with tolerance for tappet clearance indicated) 63° A.B.D.C.
189. Air filter, type **Paper element**

EXHAUST (see page 4)*

195. Material(s) of exhaust manifold **Cast iron**
196. Diameter of valves 30.63 mm. 1.206 ins.
197. Max. valve lift 10.261 mm. 0.404 in. 198. Number of valve springs 2
199. Type of spring **Coil** 200. Number of valves per cylinder 1
201. Tappet clearance for checking timing (cold) 0.381 mm. 0.015 ins.
202. Valves open at (with tolerance for tappet clearance indicated) 69° B.B.D.C.
203. Valves close at (with tolerance for tappet clearance indicated) 23° A.T.D.C.

CARBURETION (photograph N)

210. Number of carburettors fitted 2 211. Type **Horizontal**
212. Make **Zenith/Stromberg** 213. Model **0.15 150 CDS**
214. Number of mixture passages per carburettor 1
215. Flange hole diameter of exit port(s) of carburettor 38.1 mm. 1.5 ins.
216. Minimum diameter of venturi/minimum diam., with piston at maximum height (example : SU)
25.4 mm. 1.0 ins.

INJECTION (if fitted) **N11**

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.

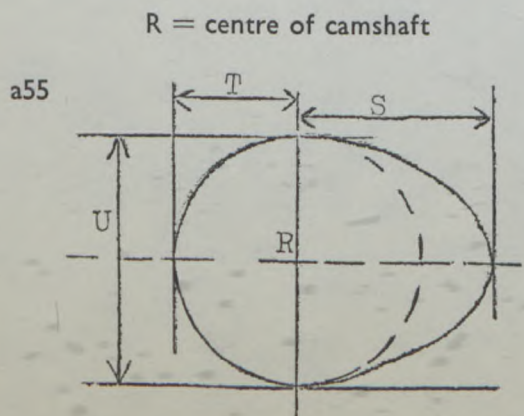
* For additional information concerning two-stroke engines and super-charged engines, see page 13.

ENGINE ACCESSORIES

- 230. Fuel pump : mechanical ~~and/or electrical~~
- 231. No. fitted 1
- 232. Type of ignition system Coil 233. No. of distributors 1
- 234. No. of ignition coils 1 235. No. of spark plugs per cylinder 1
- 236. Generator, type : ~~dynamo~~/alternator—number fitted 1
- 237. Method of drive 'V' Belt
- 238. Voltage of generator 12 volts
- 239. Battery, number 1
- 240. Location Engine compartment
- 241. Voltage of battery 12 volts

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

- 250. Max. engine output 94 (type of horsepower: ~~Gross~~ B.H.P.) at 5,200 r.p.m.
- 251. Max. r.p.m. 6,300 output at that figure Not available for publication
- 252. Max. torque 107 lbs. ft. at 4,000 r.p.m.
- 253. Max. speed of the car 163 km./hour 102 miles/hour



Inlet cam

S =	21.93	mm.	0.8634	inches
T =	14.351	mm.	0.565	inches
U =	28.948	mm.	1.1397	inches

Exhaust cam

S =	21.93	mm.	0.8634	inches
T =	14.351	mm.	0.565	inches
U =	28.948	mm.	1.1397	inches

DRIVE TRAIN

CLUTCH

- 260. Type of clutch Diaphragm
- 261. No. of plates 1
- 262. Dia. of clutch plates 19.05 cm. 7.5 ins.
- 263. Dia. of linings, inside 13.65 cm. 5.375 ins.
- 19.05 cm. 7.5 ins.
- outside
- 264. Method of operating clutch Hydraulic

GEAR BOX (photograph H)

- 270. Manual type, make Rootes Method of operation Manual
- 271. No. of gear-box ratios forward 4 272. Synchronized forward ratios 4
- 273. Location of gear-shift Centre floor
- 274. Automatic, make Borg Warner type B.W.35
- 275. No. of forward ratios 3 276. Location of gear shift Centre floor

277.	Manual		Automatic		Alternative manual/automatic			
	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth
1	3.122:1	37/16	2.393:1	67/28				
2	1.993:1	31/21	1.45:1	67/32				
3	1.296:1	24/25	1.0:1	Direct				
4								
5								
6								
reverse	3.232:1	32/25	2.094:1	67/32				

- 278. Overdrive, type Laycock Epicyclic
- 279. Forward gears on which overdrive can be selected 3rd and 4th
- 280. Overdrive ratio 0.803

FINAL DRIVE

- 290. Type of final drive Hypoid
- 291. Type of differential Bevel Gear
- 292. Type of limited slip differential (if fitted) Nil
- 293. Final drive ratio 4.22 :1 Number of teeth 9/38

Make.....Sunbeam..... Model.....Rapier..... 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.

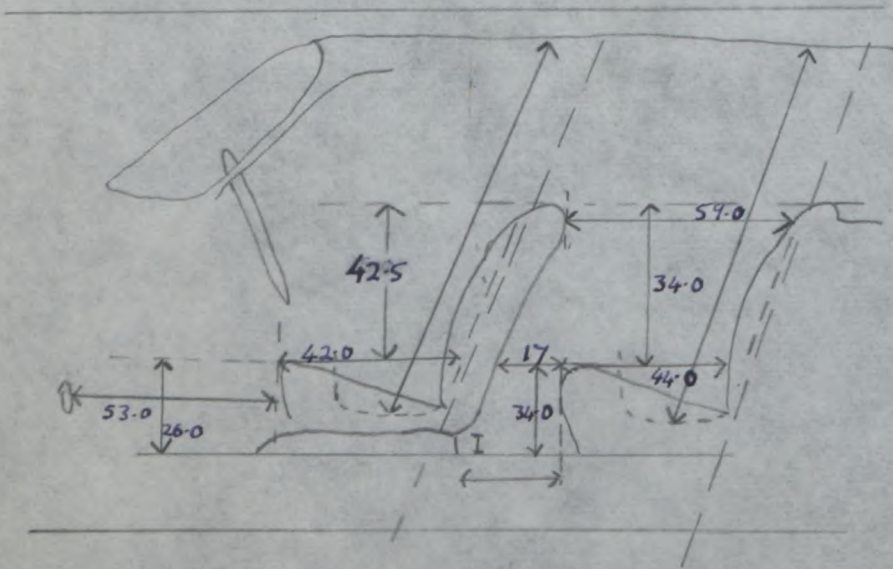
During the scrutineering of cars entered in group 4 (Sportscars) only the following items of the present recognition form are to be taken into consideration : 1, 2, 3, 9, 20, 21, 22, 23, 24, 25, 26, 70, 71, 78, 79, 90, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 147, 148, 149, 150, 158, 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.

INTERIOR DIMENSIONS OF SUNBEAM RAPIER





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

Manufacturer Rootes Motors Ltd.

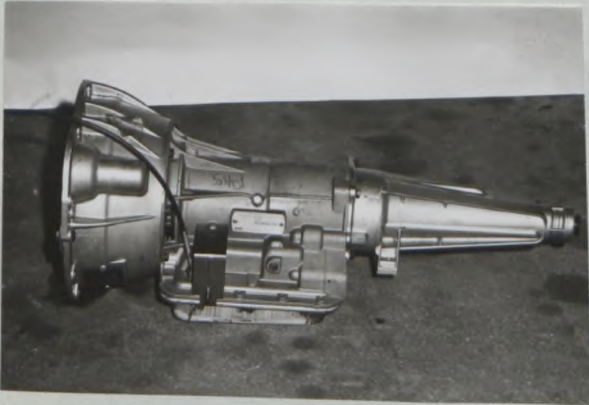
Model Sunbeam Rapier

F.I.A. Recognition No. 1518

Amendment No. 1/IV

Amendment to Form of Recognition

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

No.	Reference No.
	<u>OPTIONAL EQUIPMENT - GROUP 2</u>
1. 278	Automatic equipped variant
	
	Photograph H Automatic gearbox
2. 293.	Final drive ratio on car fitted with automatic gearbox 3.70 : 1
	Number of teeth 10 - 37
3. 9.	Weight: Total weight of car with normal equipment, water, oil and spare wheel, but without petrol and repair tools
	Automatic 2171 lbs.

Date amendment is valid from 1st March 1968
1968
1/168/4

John W. Crawford
Chairman

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



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

Manufacturer Rootes Motors Ltd.
Model SONBEAM RAPIER
F.I.A. Recognition No. 1518
Amendment No. 2/25

Amendment to Form of Recognition

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

No.	Reference No.
	<u>OPTIONAL EXTRAS</u> (Not valid in Group 1)
	HOLBAY TYPE CLUTCH. CTS NO'S 1246220, 1801582, 1801583.
260.	Type :- Diaphragm.
261.	No of Plates :- 1
262.	Diameter of Plates :- 8.5 in, 21.5 cm.
263.	Diameter of Lining I.D. :- 5.75 in, 14.6 cm. O.D. :- 8.5 in, 21.5 cm.
264.	Method of operation :- Hydraulic.
160.	Weight of Flywheel :- 21.1 lb, 9.6 kg.
161.	Weight of Flywheel and clutch :- 34.7 lb, 15.7 kg.



Date amendment is valid from 1/4/75 - 7/0/4.

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



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

Manufacturer Rootes Motors Ltd.

Model SUNBEAM RAPIER

F.I.A. Recognition No. 1518

Amendment No. 3/35

Amendment to Form of Recognition

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

No.

Reference No.

OPTIONAL EXTRAS (Not valid in Group 1)

COMPETITION UNDERSHIELD, CTS 180010.

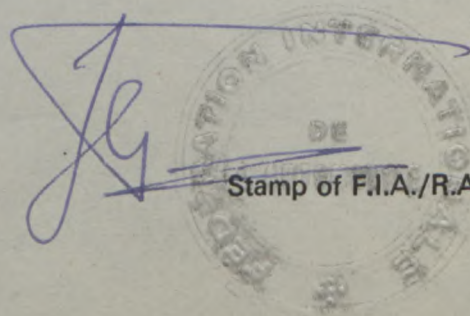
Width (max) :- 29 in, 73.5 cm.

Length :- 24 in, 61 cm.

Height :- 10 in, 25.4 cm.



Date amendment is valid from 14/70-70/14



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