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# JAPAN AUTOMOBILE FEDERATION

F. I. A. Recognition No.

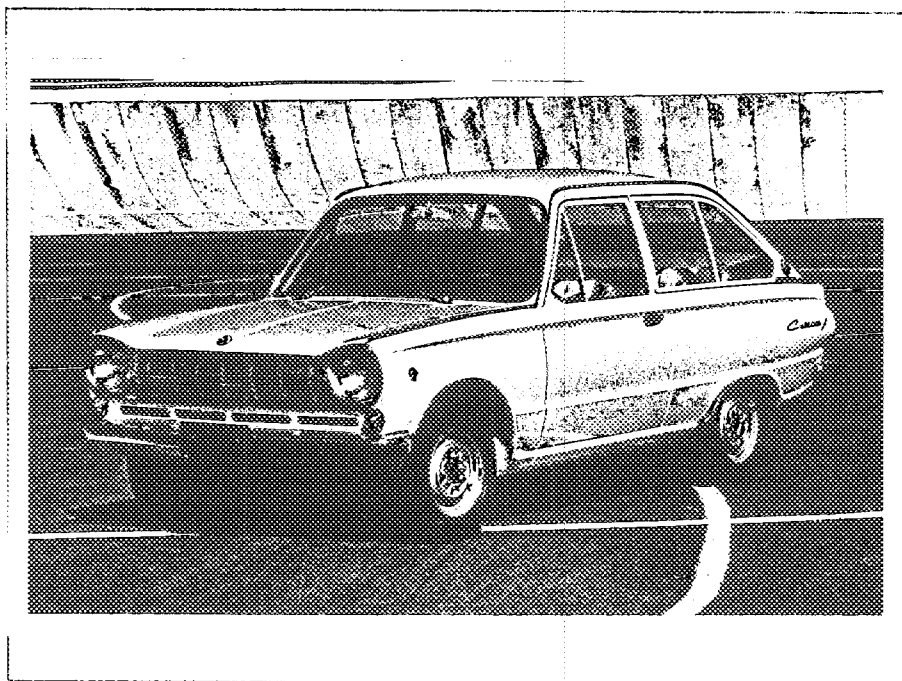
Group 1 - Series Production  
Touring

## FEDERATION INTERNATIONALE DE L'AUTOMOBILE

Form of recognition in accordance with  
Appendix J to the International Sporting Code.

Manufacturer: Mitsubishi Heavy Industries, Ltd.      Cylinder-capacity      977    cm<sup>3</sup>    59.6 cu in.  
 Model: Mitsubishi A81-Sedan  
 Serial No. of chassis: A81-00001      Manufacturer: Mitsubishi Heavy Industries  
 engine: KE43-10001      Manufacturer: do.      Ltd.  
 Recognition is valid from: 1st July 1967      List: 16/4  
 The manufacturing of the model described in this recognition form was started on Aug. 1966 and the minimum production of  
5000 identical cars, in accordance with the specifications of this form was reached on Nov. 1966.

Photograph A 3/4 view of car from front



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

Variants				Normal evolution of the type			
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

Stamp and signature of the  
National Sporting Authority

Stamp and signature of the F. I. A.

*Arbut ph...*



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Model **A81**

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IMPORTANT - the underlined items must be stated in two measuring systems, one of which must be the metric system. See conversion table hereafter.

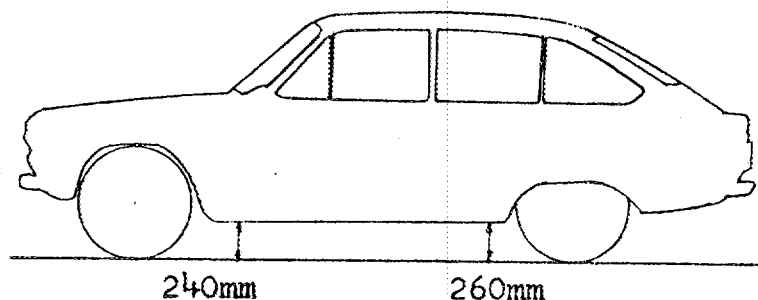
**CAPACITIES AND DIMENSIONS**

1. <u>Wheelbase</u>	2200	mm	86.6	inches
2. <u>Front track</u>	1220	mm	48.0	inches *
3. <u>Rear track</u>	1185	mm	46.7	inches *
4. Overall length of the car		365	cm	inches
5. Overall width of the car		145	cm	inches
6. Overall height of the car		139	cm	inches
7. <u>Capacity of fuel tank (reserve included)</u>				40 ltrs
	10.57	Gallon US		Gallon Imp.
8. Seating capacity	<b>5 passengers</b>			
9. <u>Weight</u> , total weight of the car with normal equipment, water, oil and spare wheel but without fuel nor repair tools:				
	710	kg	1565	lbs
				cwt

\* 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.

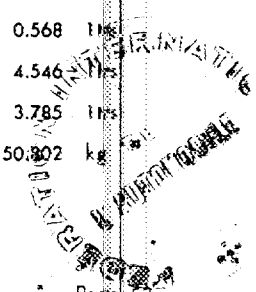
Specify ground clearance in relation to the track and give drawing of two fixed points of the vehicle's structure at which measurements are taken.

These ground clearance dimensions are only for information when checking the track and can in no way affect the eligibility of the car.



**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 square inch / pouce carré	--	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



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**CHASSIS AND COACHWORK** (Photographs A, B and C)

20. Chassis/body construction : ~~separate~~ / unitary construction
21. Unitary construction, material (s) **Steel Plate**  
Separate construction
22. Separate Constructions: Material(s) of chassis
23. Material (s) of coachwork **Steel Plate**
24. Number of doors **2** Material (s) **Steel Plate**
25. Material (s) of bonnet **Steel Plate**
26. Material (s) of boot lid **Steel Plate**
27. Material (s) of rear-window **Glass**
28. Material (s) of windscreen **Glass**
29. Material (s) of front-door windows **Glass**
30. Material (s) of rear-door windows
31. Sliding system of door windows **Vertical, Manual**
32. Material (s) of rear-quarter light **Acrylic resin**

**ACCESSORIES AND UPHOLSTERY**

38. Interior heating : ~~yes~~ - no
39. Air-conditioning : ~~yes~~ - no
40. Ventilation : yes - ~~no~~
41. Front seats, type of seats and upholstery **Separate or Bench, Vinyl Leather**
42. Weight of front seat (s), complete with supports and rails, out of the car :  
**19.0 kg** lbs
43. Rear seats, type of seats and upholstery **Bench, Vinyl Leather**
44. Front bumper, material (s) **Steel Plate** Weight **3.1** kg lbs
45. Rear bumper, material (s) **Steel Plate** Weight **2.5** kg lbs

**WHEELS**

50. Type **Pressed Steel**
51. Weight (per wheel, without tyre) **4.4** kg lbs
52. Method of attachment **Bolt Attachment Type**
53. Rim diameter **304** mm **12** inches
54. Rim width **102.0** mm **4** inches

**STEERING**

60. Type **Recirculating Ball Type**
61. Servo-assistance : ~~yes~~ - no
62. Number of turns of steering wheel from lock to lock **2.6**
63. In case of servo-assistance



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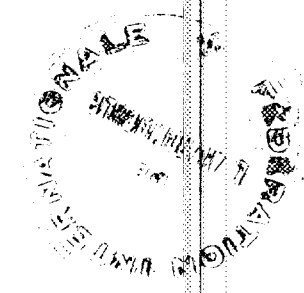
**SUSPENSION**

- 70. Front suspension (photogr. D), type Independent by Double Wishbones
- 71. Type of spring Transverse Leaf Spring
- 72. Stabiliser (if fitted)
- 73. Number of shockabsorbers 2      74. Type Hydraulic Telescopic
- 78. Rear suspension (photogr. E), type Rigid Axle
- 79. Type of spring Semi-elliptic Leaf Spring
- 80. Stabiliser (if fitted)
- 81. Number of shockabsorbers 2      82. Type Hydraulic Telescopic

**BRAKES** (photographs F and G)

- 90. System Hydraulic
- 91. Servo-assistance (if fitted), type
- 92. Number of hydraulic master cylinders 1

	FRONT		REAR	
93. Number of cylinders per wheel	2		1	
94. Bore of wheel cylinder (s)	mm	$\frac{7}{8}$ in.	mm	$\frac{11}{16}$ in.
<b>Drum brakes</b>				
95. Inside diameter	203	mm in.	203	mm in.
96. Length of brake linings	221	mm in.	221	mm in.
97. Width of brake linings	35	mm in.	35	mm in.
98. Number of shoes per brake	2		2	
99. Total area per brake	15500	mm <sup>2</sup> sq. in.	15500	mm <sup>2</sup> sq. in.
<b>Disc brakes</b>				
100. Outside diameter	mm	in.	mm	in.
101. Thickness of disc	mm	in.	mm	in.
102. Length of brake linings	mm	in.	mm	in.
103. Width of brake linings	mm	in.	mm	in.
104. Number of pads per brake.				
105. Total area per brake	mm <sup>2</sup>	sq. in.	mm <sup>2</sup>	sq. in.



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ENGINE (photographs J and K)

130. Cycle	4	131. Number of cylinders	4			
132. Cylinder arrangement	In-Line					
133. Bore	72 mm	134. Stroke	60 mm			
	2.83 in.		2.36 in.			
135. Capacity per cylinder	244.25	cm <sup>3</sup>	14.9	cu. in.		
136. Total cylinder-capacity	977	cm <sup>3</sup>	59.6	cu. in.		
137. Material (s) of cylinder block	Cast Iron					
138. Material (s) of sleeves (if fitted)						
139. Cylinder-head, material (s)	Aluminium Alloy	Number fitted	1			
140. Number of inlet ports	4	141. Number of exhaust ports	4			
142. Compression ratio	8.5					
143. Volume of one combustion chamber	32.5	cm <sup>3</sup>	1.98	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	38 mm	1.50 inches				
147. Crankshaft : <del>mounted</del> / stamped		148. Type of crankshaft : integral / <u>=====</u>				
149. Number of crankshaft main bearings	3					
150. Material of bearing cap	Cast Iron					
151. System of lubrication : <del>dry sump</del> / oil in sump						
152. Capacity, lubricant	3	litrs	5.3	pts	3.2	quarts US
153. Oil cooler : <del>yes</del> / no		154. Method of engine cooling	Water			
155. Capacity of cooling system	2.8	litrs (Without Radiator and Pipe)	4.9	pints	3.0	quarts US
156. Cooling fan (if fitted), dia.	30	cm	1.2	inches		
157. Number of blades of cooling fan	4					

Bearings

158. Crankshaft main, type	Plain Bearing	Dia.	64	mm	2.520	in.
159. Connecting rod big end,	Plain Bearing	Dia.	52	mm	2.047	in.

Weights

160. Flywheel (clean)	6.77	kg	14.93	lbs					
161. Flywheel with clutch (all turning parts)			10.53	kg	23.21	lbs			
162. Crankshaft	10.8	kg	23.81	lbs	163. Connecting rod	0.521	kg	1.15	lbs
164. Piston with rings and pin	0.32	kg	0.71	lbs					



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**FOUR STROKE ENGINES**

- 170. Number of camshafts 1 171. Location Cylinder Block
- 172. Type of camshaft drive Chain
- 173. Type of valve operation Pushrod and Rocker

**INLET** (see page 5) \*

- 180. Material(s) of inlet manifold Aluminium Alloy
- 181. Diameter of valves 35 mm 1.38 inches
- 182. Max. valve lift  $7.8 \pm 0.3$  mm  $0.312 \pm 0.012$  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) 0.05 mm 0.002 inches
- 187. Valves open at (with tolerance for tappet clearance indicated) 20Deg,  $\pm 2.5$  BTDC
- 188. Valves close at (with tolerance for tappet clearance indicated) 60Deg,  $\pm 2.5$  ABDC
- 189. Air filter, type Dry

**EXHAUST** (see page 5)

- 195. Material (s) of exhaust manifold Cast Iron
- 196. Diameter of valves 28 mm 1.1 inches
- 197. Max. valve lift  $7.8 \pm 0.3$  mm  $0.312 \pm 0.012$  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) 0.1 mm 0.004 inches
- 202. Valves open at (with tolerance for tappet clearance indicated) 60Deg,  $\pm 2.5$  BBDC
- 203. Valves close at (with tolerance for tappet clearance indicated) 20Deg,  $\pm 2.5$  ATDC

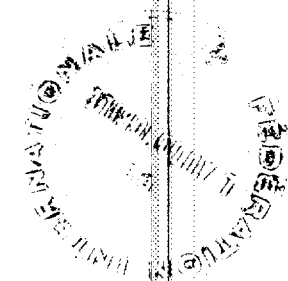
**CARBURETION** (photograph N)

- 210. Number of carburetors fitted 1
- 211. Type Down Draft Dual Venturi
- 212. Make AISAN KOGYO CO., LTD.
- 213. Model DW28
- 214. Number of mixture passages per carburetor 2
- 215. Flange hole diameter of exit port(s) of carburetor 28 mm 1.1 in.
- 216. Minimum dimensions of mixture passage (s) ~~with piston at max height (example SU)~~  
18.0 , 22.0mm 0.709 , 0.866 inches

**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 inches

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



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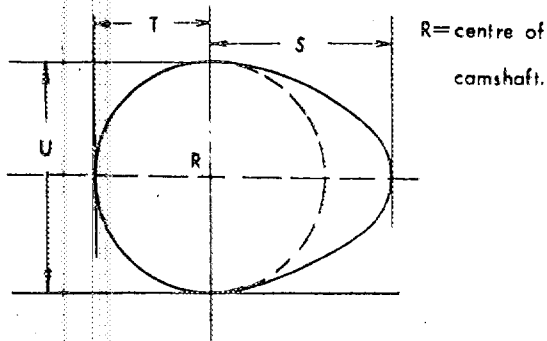
**ENGINE ACCESSORIES**

230. Fuel pump : mechanical and / or ~~electric~~  
231. No. fitted **1**
232. Type of ignition system **Battery Ignition System**  
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 **Belt**
238. Voltage of generator **12** volts  
239. Battery, number **1**
240. Location **Engine Room**
241. Voltage of battery **12** volts

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

250. Max. engine output **55 PS** (type of horsepower: **JIS**) at **6000** rpm
251. Maximum rpm **6500** output at that figure **54 PS**
252. Maximum torque **7.5 kg-m** at **3800** rpm
253. Maximum speed of the car **135** km/hour  
miles / hour

255.

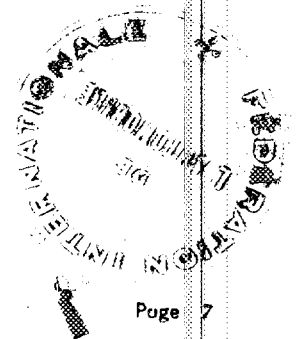


Inlet cam

S =	20.3	mm	0.799	inches
T =	15	mm	0.591	inches
U =	30	mm	1.181	inches

Exhaust cam

S =	20.3	mm	0.799	inches
T =	15	mm	0.591	inches
U =	30	mm	1.181	inches



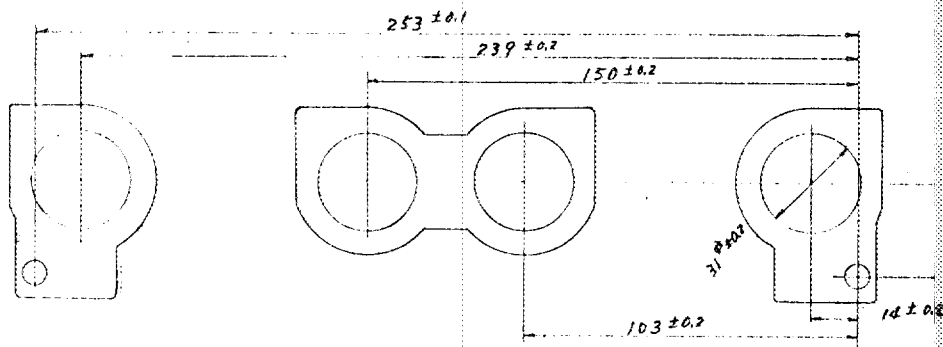
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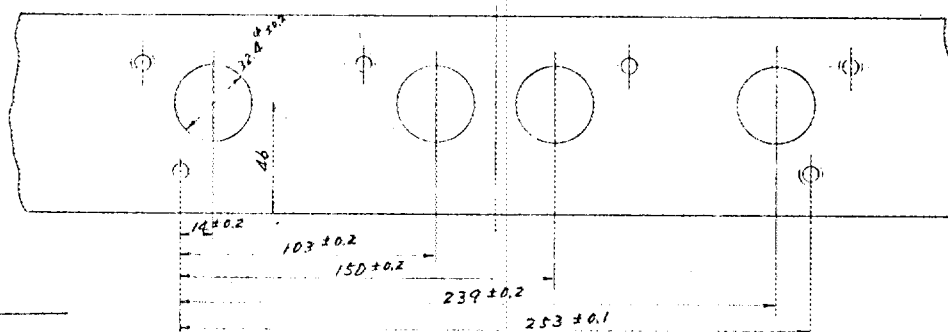
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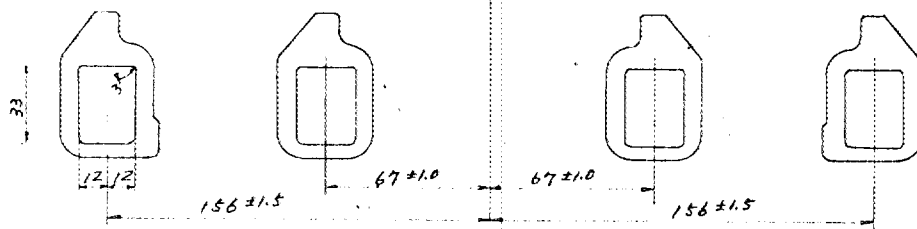
Drawing inlet manifold ports, side of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



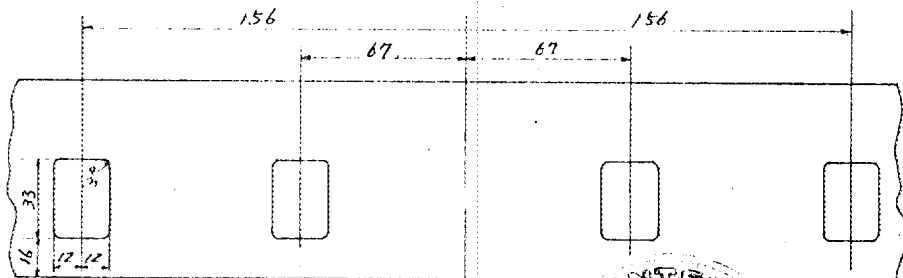
Drawing of entrance to inlet port of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



Drawing exhaust manifold ports, side of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



Drawing of exit to exhaust port of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.





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**DRIVE TRAIN**

**CLUTCH**

- 260. Type of clutch Dry Single Plate 261. No. of plates 1
- 262. Dia. of clutch plates 18.5 cm inches
- 263. Dia. of linings inside 12.7 cm in. outside 18.42 cm in.
- 264. Method of operating clutch Hydraulic

**GEAR BOX** (photograph H)

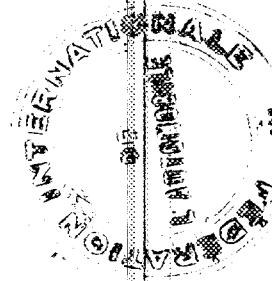
- 270. Manual type, make Mitsubishi Heavy Industries Ltd. Method of operation Mechanical  
Kyoto Machinery Works.
- 271. No. of gear-box ratios forward 4 272. Synchronized forward ratios 1,2,3,4
- 273. Location of gear-shift Steering Column or Floor
- 274. Automatic, make type
- 275. No. of forward ratios 276. location of gear-shift

277	Manual		Automatic		Alternative manual/ <del>Automatic</del>		
	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth	Ratio
1	3.787	35/19x37/18			3.490	35/19x36/19	
2	2.379	35/19x31/24			2.211	35/19x30/25	
3	1.535	35/19x25/30			1.426	35/19x24/31	
4	1.000				1.000		
5							
6							
reverse	5.385	35/19x21/13x38/21			5.385	35/19x21/13x38/21	

- 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 Straight bevel gear type
- 292. Type of limited slip differential (if fitted)
- 293. Final drive ratio 4.625 , 4.222  
Number of teeth 37/8 , 38/9



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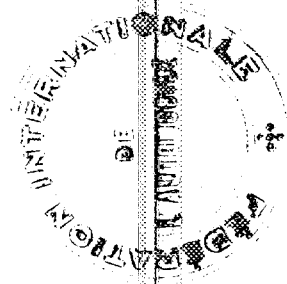
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IMPORTANT - The conformity of the car with the following items of the present recognition form is to be disregarded during the scrutineering, when the vehicle has been entered in group 2 (Touring cars) or 3 (Grand Touring cars) : 41, 72, 80, 91, 142, 143, 144, 145, 146, 153, 156, 157, 160, 161, 162, 163, 164, 182, 184, 186, 187, 188, 189, 199, 201, 202, 203, 212, 213, 215, 216, 222, 225, 230, 250, 251, 252, 253, and photographs L, M and N.

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 C.

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



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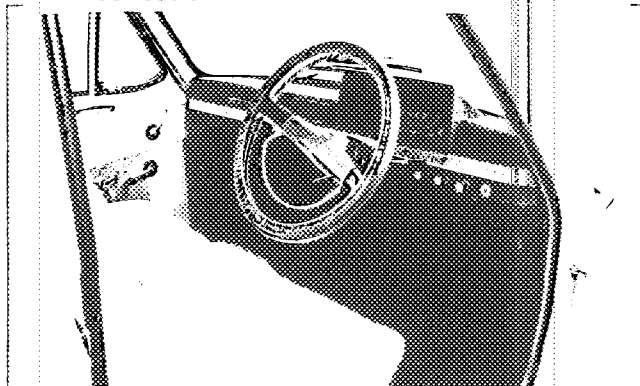
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**Photograph**

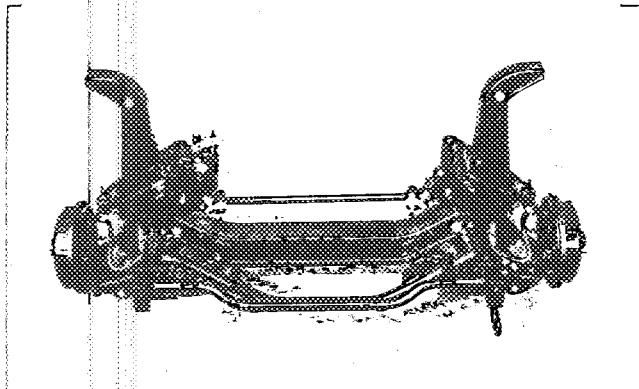
**B.** 3/4 view of car from rear



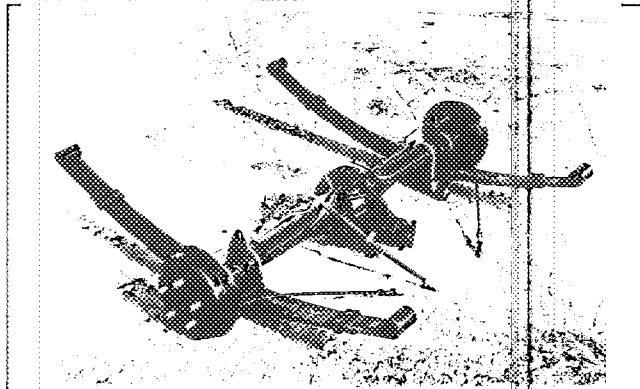
**C.** interior view of car through driver's door (topex or removed) with dashboard



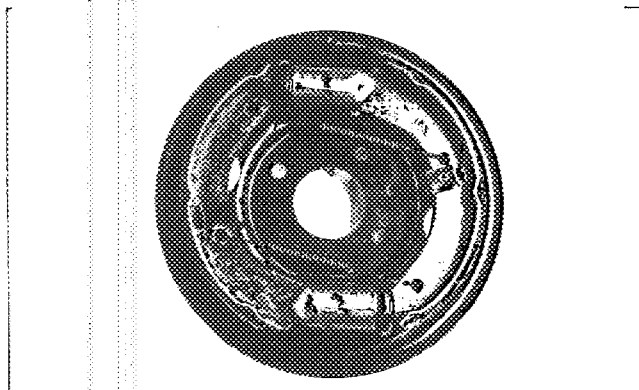
**D.** front axle complete... removed from car. Without wheels.



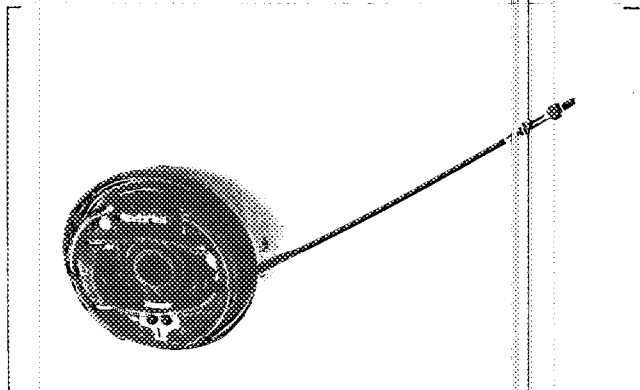
**E.** Rear axle complete without wheels, removed from car.



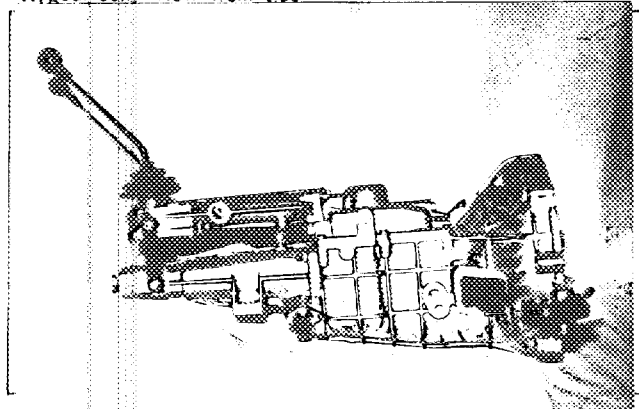
**F.** front brake. drum removed or disc with caliper(s)



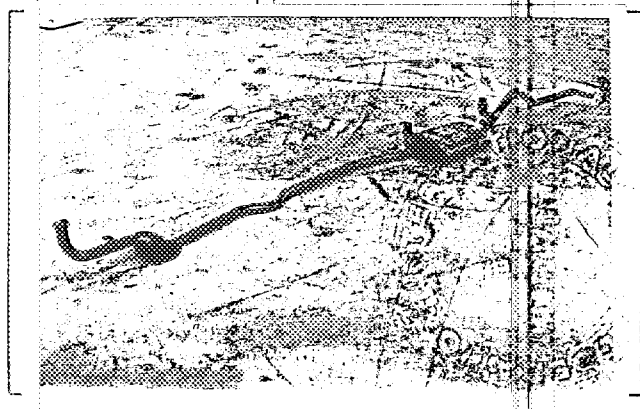
**G.** rear brake. drum removed or disc with caliper(s)



**H.** gear-box. view from side

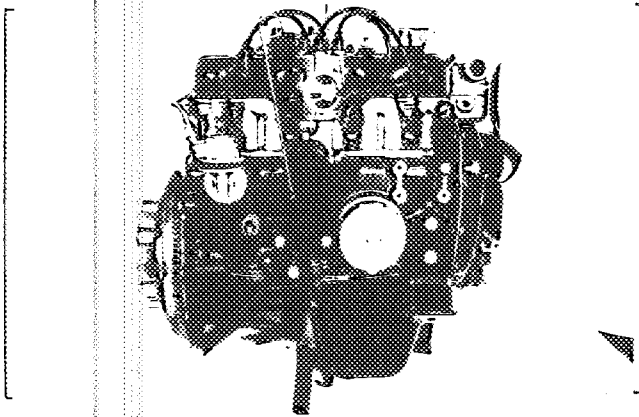


**I.** silencer + exhaust pipes after exhaust manifold.

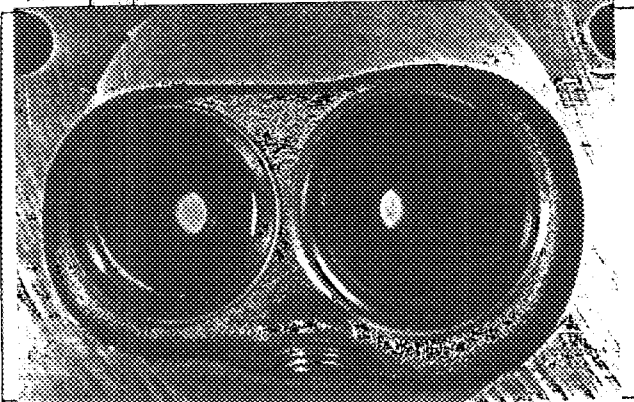


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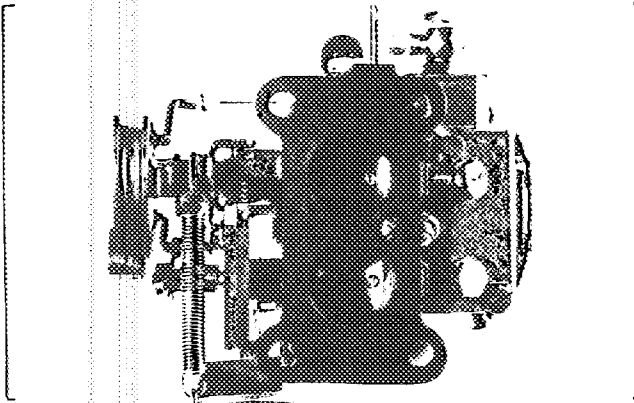
engine unit out of car, from right. With clutch and accessories but without air filter nor gear-box.



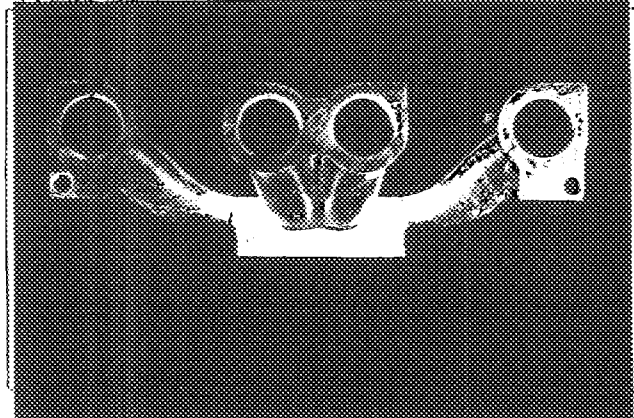
L, combustion chamber



N, Carburettor (view from side of manifold)



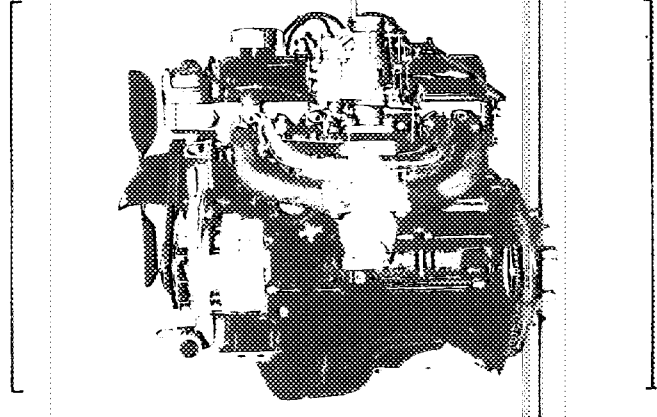
P, inlet manifold



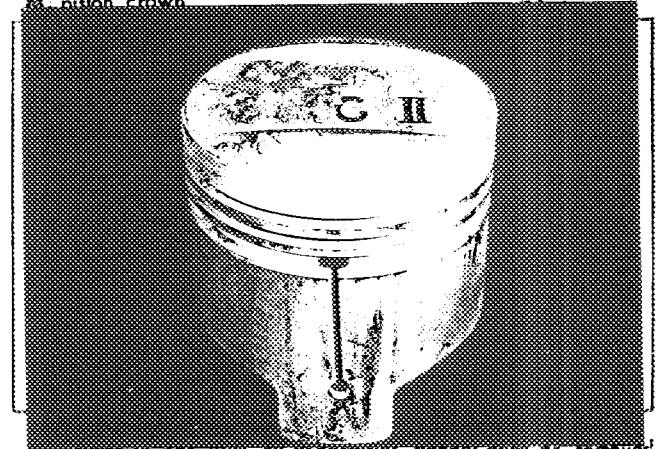
Model **A81**  
Photograph

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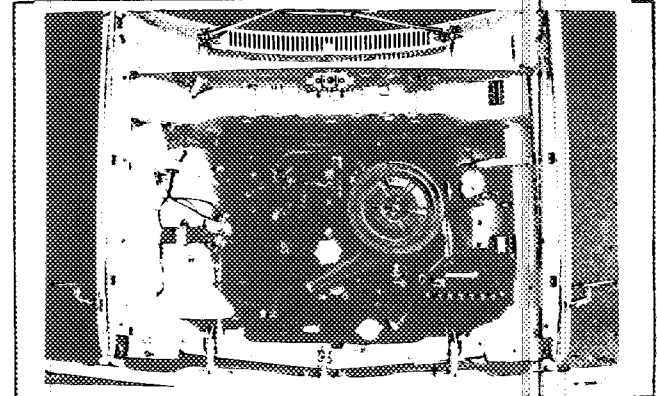
Engine unit out of car, from left. With clutch and accessories but without gear-box nor air filter.



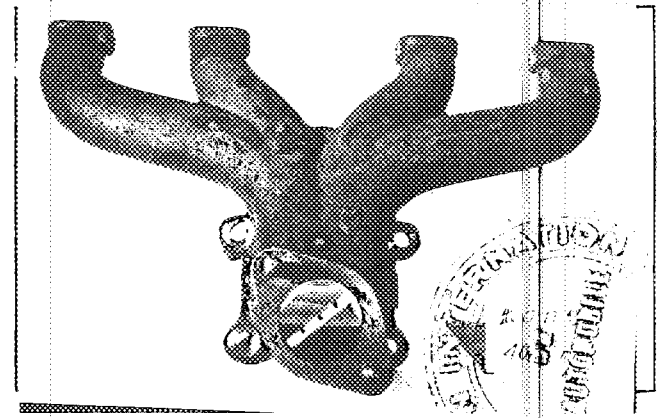
M, piston crown



O, engine in car with all accessories, bonnet open, or removed



Q, exhaust manifold



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**TWO STROKE ENGINES**

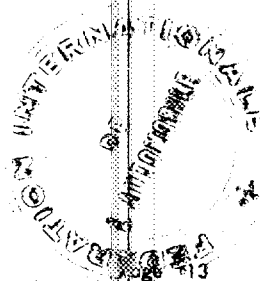
- |  |    |        |                           |                 |         |
|--|----|--------|---------------------------|-----------------|---------|
| 300. System of cylinder scavenging                                       |    |        |                           |                 |         |
| 301. Type of lubrication   |    |        |                           |                 |         |
| 302. Inlet ports, length measured around cylinder wall                   |    |        |                           | mm              | inches  |
| 303. Height inlet port   | mm | in.    | 304. Area                 | mm <sup>2</sup> | sq. in. |
| 305. Exhaust ports, length measured around cylinder wall                 |    |        |                           | mm              | inches  |
| 306. Height exhaust port   | mm | in.    | 307. Area                 | mm <sup>2</sup> | sq. in. |
| 308. Transfer port, length measured around cylinder wall                 |    |        |                           | mm              | inches  |
| 309. Height transfer port  | mm | in.    | 310. Area                 | mm <sup>2</sup> | sq. in. |
| 311. Piston ports, length measured around piston                         |    |        |                           | mm              | inches  |
| 312. Height piston port  | mm | in.    | 313. Area                 | mm <sup>2</sup> | sq. in. |
| 314. Method of precompression  |    |        | 315. Precompression cyl.: | yes / no        |         |
| 316. Bore  | mm | inches | 317. Stroke               | mm              | inches  |
| 318. Distance from top of cyl. block to highest point of exhaust port :  |    |        |                           | mm              | inches  |
| 319. Distance from top of cyl. block to lowest point of inlet port :     |    |        |                           | mm              | inches  |
| 320. Distance from top of cyl. block to highest point of transfer port : |    |        |                           | mm              | inches  |
| 321. <u>Drawing of cylinder ports.</u>                                   |    |        |                           |                 |         |

330. Supercharging—state full details hereafter :

**JAPAN AUTOMOBILE FEDERATION**

*難波清治*

Yasuharu Nanba





JAPAN AUTOMOBILE FEDERATION F.I.A. Homol. No

5155/1/E

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

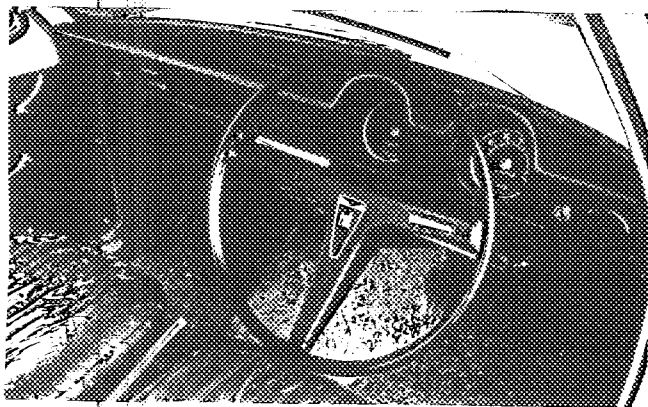
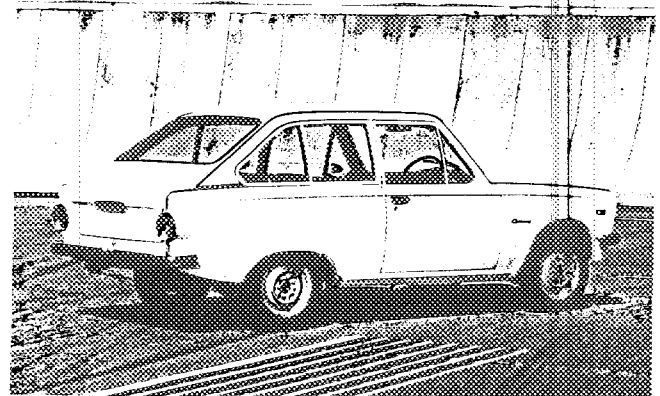
Amendment to Form of Recognition in accordance with the International Sporting Code.

Make Mitsubishi Heavy Industries, Ltd. Model A81
Modification's application starts with serial No. chassis A81-40001
Application of this amendment started the July 1968 engine KE43-1145385
Commercial denomination after application of modifications Aug. 1968
The modifications are to be considered as: ~~X~~ normal evolution of the type
Date amendment is valid from 14 Nov. '68 List 1968/10

Description of amendment

The following items have been supplemented.
Photograph A (right, above)
Photograph B (right, below)
Photograph C (left)

Normal evolution of the type Mitsubishi A81, F.I.A. Homol. No. 5155



Stamp and signature of National Sporting Authority

Stamp and signature of F.I.A.

JAPAN AUTOMOBILE FEDERATION

Handwritten signature of Hazunari Komotori

Hazunari Komotori

Handwritten signature of F.I.A.