



JAPAN AUTOMOBILE FEDERATION

F. I. A. Recognition No. 1417
Group 2 TOURING CARS

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

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

Manufacturer **ISUZU MOTORS LIMITED** Cylinder-capacity **1579** cm³ **96.36** inches
 Serial No of chassis **PR90 - 4201738** Model **ISUZU PR90 (BELLETT 1600GT)**
 engine **G160 - 3001738** Manufacturer **ISUZU MOTORS LIMITED**
 Recognition is valid from **1st February 1966** Manufacturer **ISUZU MOTORS LIMITED**
 The manufacturing of the model described in this recognition form was started on **10 SEPT, 1965** and the minimum production of
1,000 identical cars, in accordance with the specifications of this form was reached on **30 NOV, 1965** List **14/2**

Photograph A, 3/4 view of car from front



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

Variants

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

Kametarō Fujita

Kametarō Fujita
Chairman of C.S.

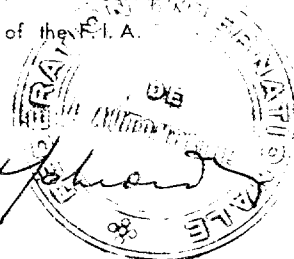


Normal evolution of the type

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

Stamp and signature of the F. I. A.

Hubert Schmitt

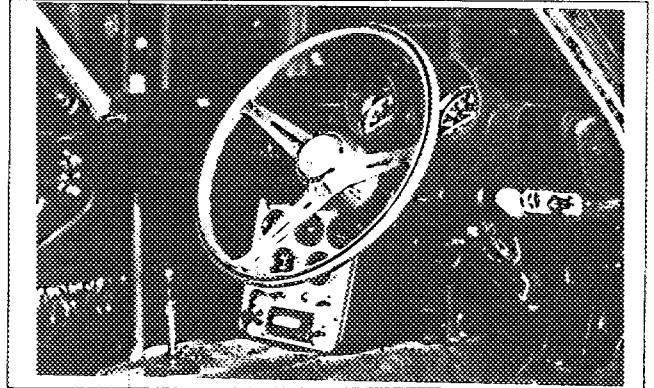


F

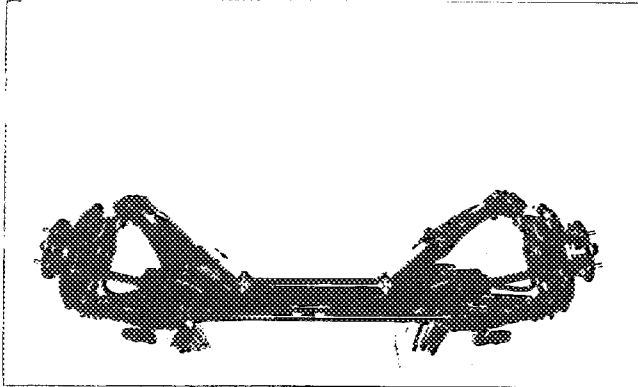
B 3/4 view of car from rear



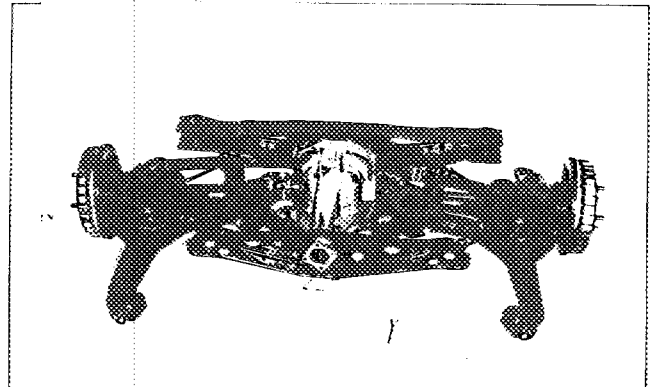
C interior view of car through driver's door (open or removed)



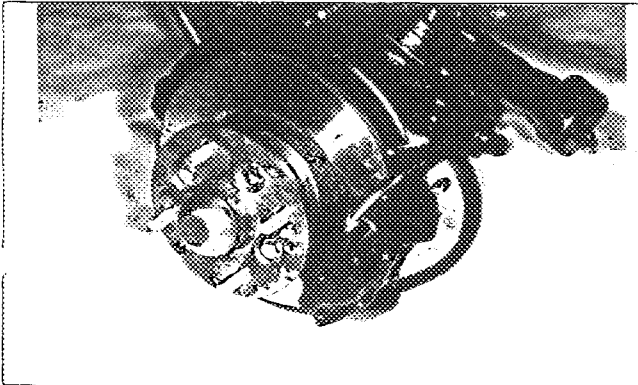
D front axle complete, removed from car. Without wheels.



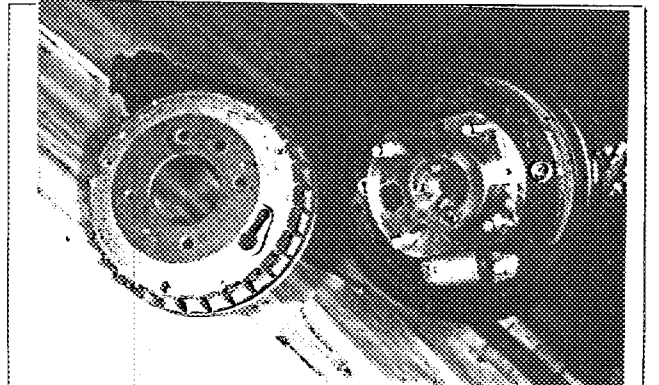
E Rear axle complete without wheels, removed from car.



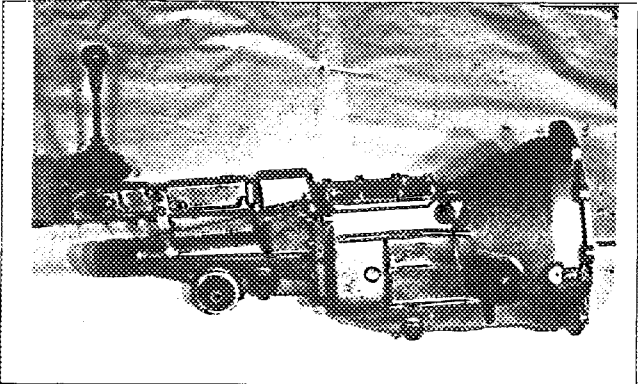
F front brake, drum removed



G rear brake, drum removed



H gear-box, view from side



I silencer + exhaust pipes after exhaust manifold.



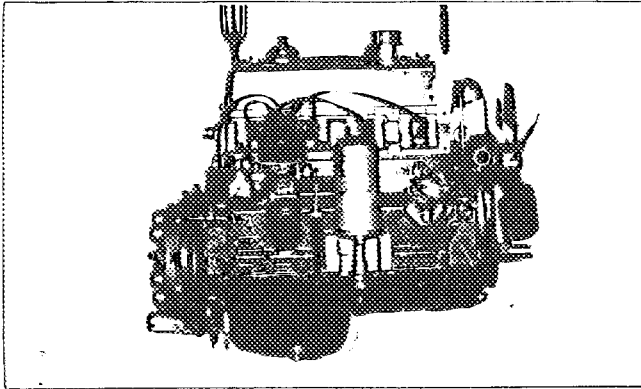
F

Make ISUZU MOTORS LIMITED

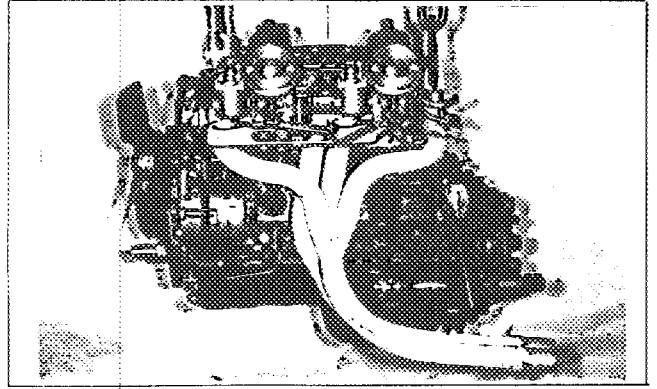
Model ISUZU PR90

F.I.A. Rec. No

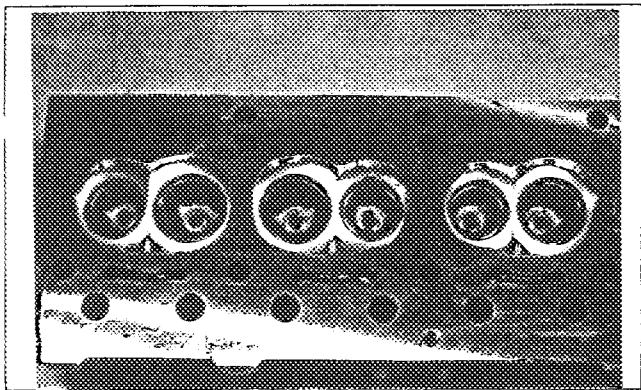
J engine unit out of car, from right. With clutch and accessories but without air filter nor gear-box



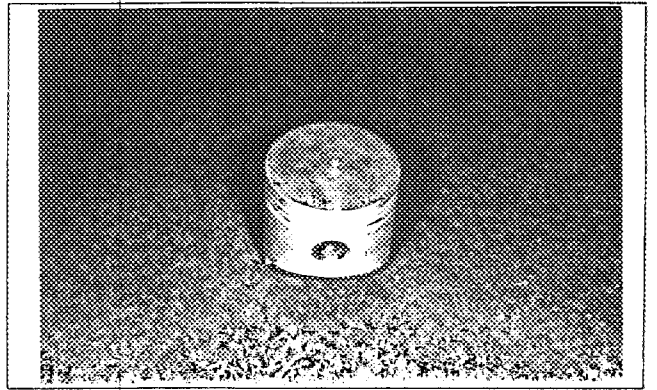
K Engine unit out of car, from left. With clutch and accessories but without gear-box nor air filter.



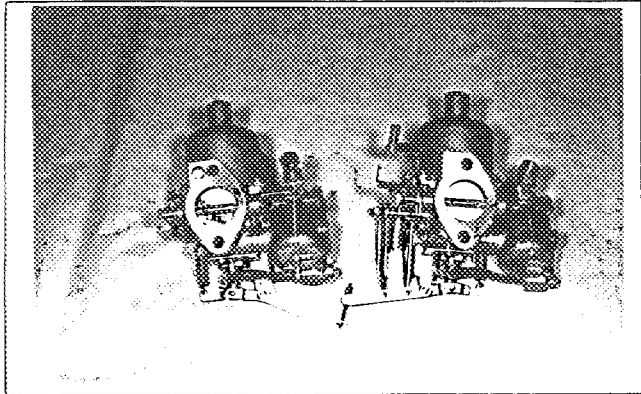
L combustion chamber



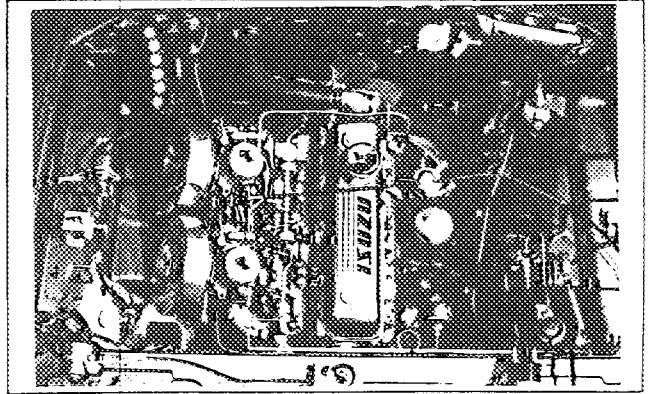
M piston crown



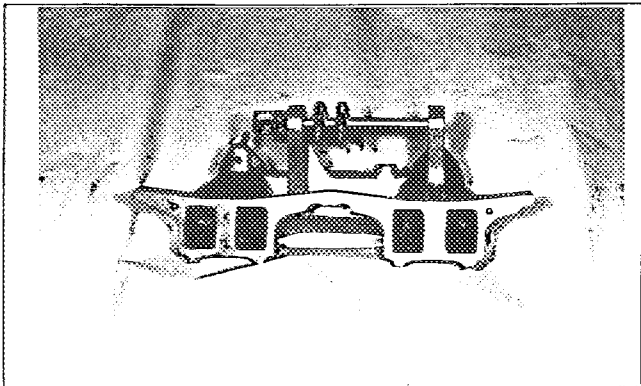
N Carburettor (view from side of manifold)



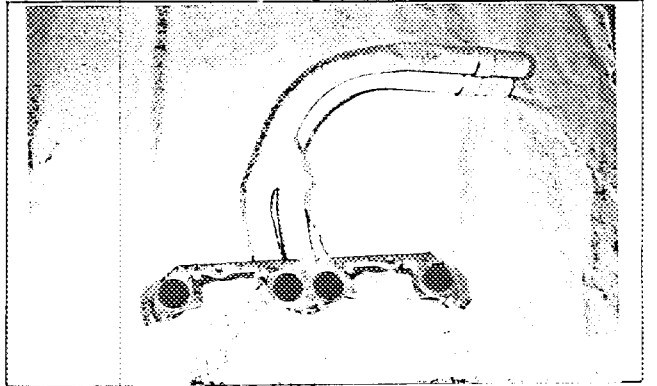
O engine in car with all accessories, bonnet open or removed.



P inlet manifold



Q exhaust manifold



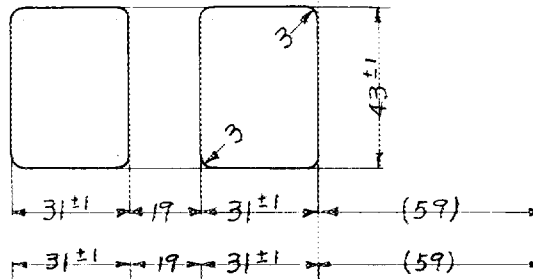
Make ISUZU MOTORS LIMITED

Model ISUZU PR90

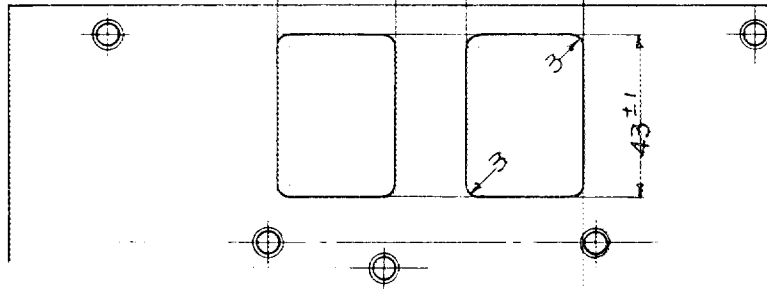
Engine's
Center

F. I. A. Rec. No

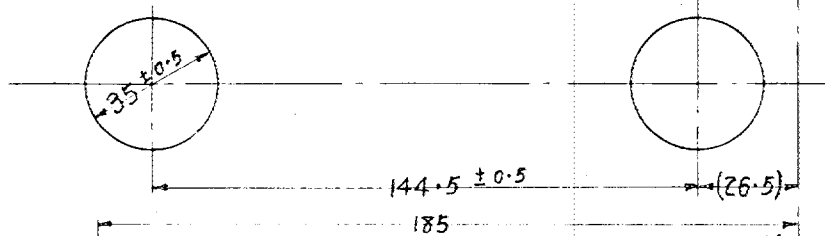
Drawing inlet manifold ports, side of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



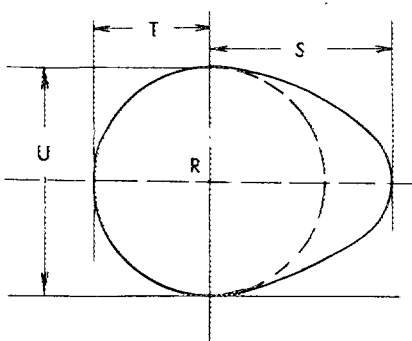
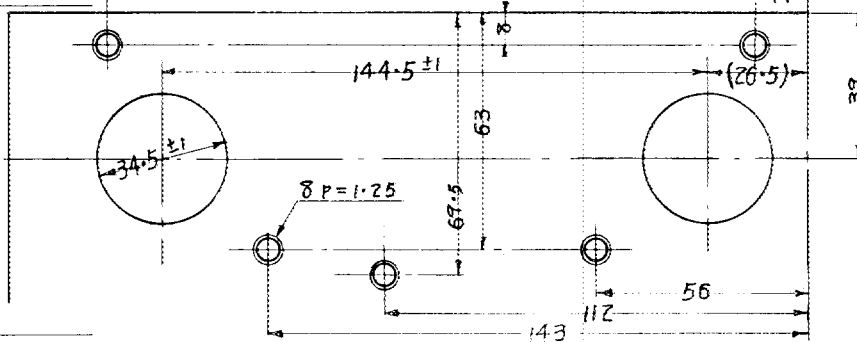
Drawing of entrance to inlet port of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



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



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



R=centre of camshaft.

Inlet cam

S =	21.465	mm	0.845	inches
T =	14.626	mm	0.575	inches
U =	29.333	mm	1.155	inches

Exhaust cam

S =	21.465	mm	0.845	inches
T =	14.626	mm	0.575	inches
U =	29.333	mm	1.155	inches



T

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

CAPACITIES AND DIMENSIONS

1. <u>Wheelbase</u>	2,350 mm	92.5 inches
2. <u>Front track</u>	1,245 mm	49.0 inches *
3. <u>Rear track</u>	1,195 mm	47.0 inches *
4. Overall length of the car	400.5 cm	inches
5. Overall width of the car	149.5 cm	inches
6. Overall height of the car	134.0 cm	inches
7. <u>Capacity of fuel tank</u> (reserve included)		40 ltrs
	10.5 Gallon US	8.75 Gallon Imp.
8. Seating capacity	4	
9. <u>Weight</u> , total weight of the car with normal equipment, water, oil and spare wheel but without fuel nor repair tools	910 kg	2,010 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 easily recognizable 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.

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 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	— 50.802 kg



CHASSIS AND COACHWORK (Photographs A, B and C)

- 20. Chassis/body construction : ~~separate~~ / unitary construction
- 21. Unitary construction, material (s) **STEEL, CAST IRON, ALUMINUM**
Separate construction
- 22. Material (s) of chassis
- 23. Material (s) of coachwork
- 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 **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 **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~~ , **BUCKET, VINYL**
- 42. Weight of front seat (s), complete with supports and rails, out of the car :

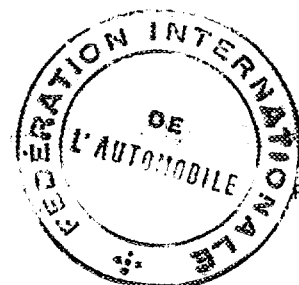
13 x 2	kg	13	lbs
---------------	----	----	-----
- 43. Rear seats, type of seat and upholstery ~~TUBULAR~~ , **BENCH, VINYL**
- 44. Front bumper, material (s) **STEEL** Weight **5** kg inches
- 45. Rear bumper, material (s) **STEEL** Weight **6** kg inches

WHEELS

- 50. Type **PRESSED STEEL**
- 51. Weight (per wheel, without tyre) **7.2** kg lbs
- 52. Method of attachment **WHEEL PIN & NUT, 4**
- 53. Rim diameter **329.4** mm **13.0** inches
- 54. Rim width **127 OR 114** mm **5 OR 4.5** inches

STEERING

- 60. Type **RACK AND PINION**
- 61. Servo-assistance : ~~yes~~ - no
- 62. Number of turns of steering wheel from lock to lock **2.9**
- 63. In case of servo-assistance



Make ISUZU MOTORS LIMITED

Model ISUZU PR90

F. I. A. Rec. No

SUSPENSION

70. Front suspension (photogr. D), type INDEPENDENT, COIL SPRING, WISHBONE
71. Type of spring COIL
72. Stabiliser (if fitted) TORSION BAR
73. Number of shockabsorbers 2 74. Type HYDRAULIC TELESCOPIC
78. Rear suspension (photogr. E), type INDEPENDENT, DIAGONAL LINK
79. Type of spring COIL AND TRANSVERSE LEAF
80. Stabiliser (if fitted)
81. Number of shockabsorbers 2 82. Type HYDRAULIC TELESCOPIC

BRAKES (photographs F and G)

90. Method of operation 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)	57.2 mm	in.		22.2 mm	in.	
Drum brakes						
95. Inside diameter	mm	in.		203.2 mm	in.	
96. Length of brake linings	mm	in.		195 mm	in.	
97. Width of brake linings	mm	in.		37.1 mm	in.	
98. Number of shoes per brake				2		
99. Total area per brake	mm ²	sq. in.		14,430 mm ²	sq. in.	
Disc brakes						
100. Outside diameter	237 mm	in.		mm	in.	
101. Thickness of disc	10 mm	in.		mm	in.	
102. Length of brake linings	60 mm	in.		mm	in.	
103. Width of brake linings	45 mm	in.		mm	in.	
104. Number of pads per brake	2					
105. Total area per brake	5,400 mm ²	sq. in.		mm ²	sq. in.	



F

Make **ISUZU MOTORS LIMITED**

Model **ISUZU PR90**

F.I.A. Rec. No.

ENGINE (photographs J and K)

- 130. Cycle **4**
- 131. Number of cylinders **4**
- 132. Cylinder arrangement **IN-LINE**
- 133. Bore **83** mm **3.268** in.
- 134. Stroke **73** mm **2.874** in.
- 135. Capacity per cylinder **395** cm³ **24.09** cu.in.
- 136. Total cylinder-capacity **1579** cm³ **96.36** cu.in.
- 137. Material (s) of cylinder block **CAST IRON**
- 138. Material (s) of sleeves (if fitted)
- 139. Cylinder-head, material (s) **ALUMINUM** Number fitted **1**
- 140. Number of inlet ports **4**
- 141. Number of exhaust ports **4**
- 142. Compression ratio **9.3**
- 143. Volume of one combustion chamber **47.6** cm³ cu.in.
- 144. Piston, material **ALUMINUM**
- 145. Number of rings **3**
- 146. Distance from gudgeon pin centre line to highest point of piston crown **38.4** mm inches
- 147. Crankshaft : ~~stamped~~ / stamped
- 148. Type of crankshaft : integral / ~~stamped~~
- 149. Number of crankshaft main bearings **3 SET**
- 150. Material of bearing cap **CAST IRON**
- 151. System of lubrication : ~~oil in sump~~ / oil in sump
- 152. Capacity, lubricant **3.2** ltrs. pts **WATER** quarts US
- 153. Oil cooler : ~~no~~ / no
- 154. Method of engine cooling **FORCED CIRCULATION** (W/THERMOSTAT) quarts US
- 155. Capacity of cooling system **5.7** ltrs pints
- 156. Cooling (if fitted), dia. **32** cm inches
- 157. Number of blades of cooling fan **4**

Bearings

- 158. Crankshaft main, type **PLAIN** Dia. **56** mm in.
- 159. Connecting rod big end, type **PLAIN** Dia. **53** mm in.

Weights

- 160. Flywheel (clean) **5.7** kg lbs
- 161. Flywheel with clutch (all turning parts) **12** kg lbs
- 162. Crankshaft **17.6** kg lbs
- 163. Connecting rod **0.71** kg lbs
- 164. Piston with rings and pin **0.567** kg lbs



FOUR STROKE ENGINES

- 170. Number of camshafts **1** 171. Location **CYL BLOCK**
- 172. Type of camshaft drive **CHAIN DRIVE**
- 173. Type of valve operation **PUSH ROD**

INLET (see page 4) *

- 180. Material(s) of inlet manifold **ALUMINUM**
- 181. Diameter of valves **41** mm **1.614** inches
- 182. Max. valve lift **9.3** mm **0.366** in. 183. Number of valve springs **2**
- 184. Type of spring **COIL; ~~COMPRESSION~~** 185. Number of valves per cylinder **1**
- 186. Tappet clearance for checking timing (cold) **0.30** mm inches
- 187. Valves open at (With tolerance for tappet clearance indicated) **38° B.T.D.C ± 3°**
- 188. Valves close at (with tolerance for tappet clearance indicated) **82° A.B.D.C ± 3°**
- 189. Air filter, type **PAPER**

EXHAUST (see page 4)

- 195. Material (s) of exhaust manifold **STEEL**
- 196. Diameter of valves **36** mm **1.417** inches
- 197. Max. valve lift **9.3** mm **0.366** in. 198. Number of valve springs **2**
- 199. Type of spring **COIL, ~~COMPRESSION~~** 200. Number of valves per cylinder **1**
- 201. Tappet clearance for checking timing (cold) **0.35** mm inches
- 202. Valves open at (with tolerance for tappet clearance indicated) **73° B.B.D.C ± 3°**
- 203. Valves close at (with tolerance for tappet clearance indicated) **35° A.T.D.C ± 3°**

CARBURETION (photograph N)

- 210. Number of carburetors fitted **2** 211. Type **S.U. TYPE (VARIABLE VENTURI)**
- 212. Make **HITACHI** 213. Model **HJD38W**
- 214. Number of mixture passages per carburetor **1**
- 215. Flange hold diameter of exit port(s) of carburetor **38** mm in.
- 216. ~~Minimum diameter of exit port(s)~~ / minimum diam. with piston at maximum height **36** mm 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.



Make ISUZU MOTORS LIMITED

Model ISUZU PR90

F. I. A. Rec. No.

ENGINE ACCESSORIES

230. Fuel pump : mechanical and / ~~electrical~~
232. Type of ignition system ~~DISTRIBUTOR SYSTEM~~
MAKE AND BRAKE IGNITION.
234. No of ignition coils **1**
236. Generator, type: ~~dyn~~/alternator-number fitted **1**
238. Voltage of generator **12** volts
240. Location ~~ENGINE~~ **ENGINE ROOM**
241. Voltage of battery **12** volts
231. No fitted **1**
233. No of distributors **1**
235. No of spark plugs per cylinder **1**
237. Method of drive **BELT DRIVE**
239. Battery, number **1**

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

250. Max. engine output **88 P.S.** (type of horsepower: **JIS.**) at **5400** rpm
251. Maximum rpm **5400** output at that figure **88 P.S.**
252. Maximum torque **12.5kg-m** at **4200** rpm
253. Maximum speed of the car **160** km/hour miles / hour



Make ISUZU MOTORS LIMITED

Model ISUZU PR90

F. I. A. Rec. No

DRIVE TRAIN

CLUTCH

- 260. Type of clutch **DRY PLATE**
- 261. No. of plates **1**
- 262. Dia. of clutch plates **20.3** cm inches
- 263. Dia. of linings, inside **14.6** cm in. outside **20.3** cm in.
- 264. Method of operating clutch **MECHANICAL**

GEAR BOX (photograph H)

- 270. Method of operation **MANUAL, MAKE-ISUZU**
- 271. No. of gear-box ratios forward **4**
- 272. Synchronized forward ratios **3 (2,3,4)**
- 273. Location of gear-shift **FLOOR**
- 274. Automatic, make type
- 275. No. of forward ratios
- 276. Location of gear-shift

277.	Manual		Automatic		Ratio	Alternative manual/ automatic		No. teeth	Ratio	No. teeth
	Ratio	No. teeth	Ratio	No. teeth		No. teeth	No. teeth			
1	3.444	$\frac{28}{21} \times \frac{31}{12}$			3.444	$\frac{28}{21} \times \frac{31}{12}$				
2	2.133	$\frac{28}{21} \times \frac{32}{20}$			1.820	$\frac{28}{21} \times \frac{30}{22}$				
3	1.387	$\frac{28}{21} \times \frac{26}{25}$			1.280	$\frac{28}{21} \times \frac{25}{26}$				
4	1.000				1.000					
5										
6										
reverse	4.593	$\frac{28}{21} \times \frac{20}{12} \times \frac{31}{15}$			4.593	$\frac{28}{21} \times \frac{20}{12} \times \frac{31}{15}$				

- 278. Overdrive, type
- 279. Forward gears on which overdrive can be selected
- 280. Overdrive ratio

FINAL DRIVE

- 290. Type of final drive **HYPOID BEVEL**
- 291. Type of differential **BEVEL**
- 292. Type of limited slip differential (if fitted) **MECHANICAL**
- 293. Final drive ratio **3.727 OR 4.111**
- Number of teeth **41/11 37/9**



F

Make

Model

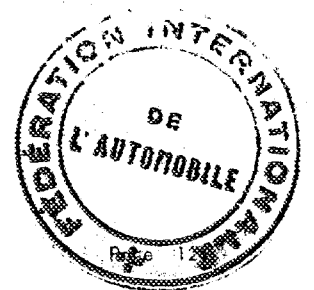
F. I. A. Rec. No

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, 236, 250, 251, 252, 253, 255 page 4. and photographs I, M and N,

During the scrutineering of 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.

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

30. HEATER	DIESEL KIT
RADIO	MARSHALL
WINDSCREEN WASHER	JEDOSH DRYER
CARPET	SIDING



F

Make ISUZU MOTORS LIMITED

Model ISUZU PR90

F.I.A. Rec. No.

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 mm² sq. in.
- 305. Exhaust ports, length measured around cylinder wall mm inches
- 306. Height exhaust port mm in. 307. Area mm² sq. in.
- 308. Transfer port, length measured around cylinder wall mm inches
- 309. Height transfer port mm in. 310. Area. mm² sq. in.
- 311. Piston ports, length measured around piston mm inches
- 312. Height piston port mm in. 313. Area mm² 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. Drawing of cylinder ports.

330. Supercharging—state full details hereafter :

JAPAN AUTOMOBILE FEDERATION

Chairman

of Technical Subcommittee



Osamu Hirao

F



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

1417 A/V

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

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

Make ISUZU MOTORS LIMITED

Model ISUZU PR90(BELLETT 1600G.T.)

Modification's application starts with serial

No. chassis PR90-4201738
engine G160-3001738

Application of this amendment started the

Commercial denomination after application of modifications

The modifications are to be considered as: Variant / ~~substitution of parts~~

Date amendment is valid from 1st May '66 List 14/4

277	MANUAL		MANUAL		MANUAL	
	RATIO	No. TEETH	RATIO	No. TEETH	RATIO	No. TEETH
1.	3.746	$\frac{29 \times 31}{20 \times 12}$	3.053	$\frac{26 \times 31}{22 \times 12}$	3.170	$\frac{27 \times 31}{22 \times 12}$
2.	2.320	$\frac{29 \times 32}{20 \times 20}$	1.891	$\frac{26 \times 32}{22 \times 20}$	1.964	$\frac{27 \times 32}{22 \times 20}$
3.	1.508	$\frac{29 \times 26}{20 \times 25}$	1.330	$\frac{26 \times 27}{22 \times 24}$	1.276	$\frac{27 \times 26}{22 \times 25}$
4.	1.000		1.000		1.000	
REVER- SE	4.994	$\frac{29 \times 20 \times 31}{20 \times 12 \times 15}$	4.071	$\frac{26 \times 20 \times 31}{22 \times 12 \times 15}$	4.227	$\frac{27 \times 20 \times 31}{22 \times 12 \times 15}$

293

FINAL DRIVE RATIO
NUMBER OF TEETH

3.778 4.300 4.625
34/9 43/10 37/8

- 50. WHEELS TYPE PRESSED STEEL
- 51. WEIGHT (PER WHEEL, WITHOUT TYRE) 6.5kg
- 52. METHOD OF ATTACHMENT 4 HUB-BOLTS & NUTS
- 53. RIM DIAMETER 356mm 14 inches
- 54. RIM WIDTH 102 or 114mm 4 or 4.5 inches.

Stamp and signature of
National Sporting Authority

Stamp and signature of F. I. A.

JAPAN AUTOMOBILE FEDERATION

Chairman

of Technical Sub-commission

Osamu Hirao

Osamu Hirao

