



JAPAN AUTOMOBILE FEDERATION

(532)

F. I. A. Recognition No. 539

Group 3 *Grand Touring*

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

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

Cylinder-capacity 985 cm³ 60 inches³

Manufacturer TOYO KOGYO CO., LTD.

Model MAZDA FAMILIA COUPE

Serial No of chassis MPA-10001
engine PA-10001

Manufacturer TOYO KOGYO CO., LTD.

Manufacturer TOYO KOGYO CO., LTD.

Recognition is valid from *1st February 1966*

List *14/2*

The manufacturing of the model described in this recognition form was started on October 19 65 and the minimum production of 500 identical cars, in accordance with the specifications of this form was reached on December 19 65

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 |

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 National Sporting Authority

Kametarō Fujita

Kametarō Fujita
Chairman of C.S.



Stamp and signature of the F.I.A.

Hubert Pichon

K

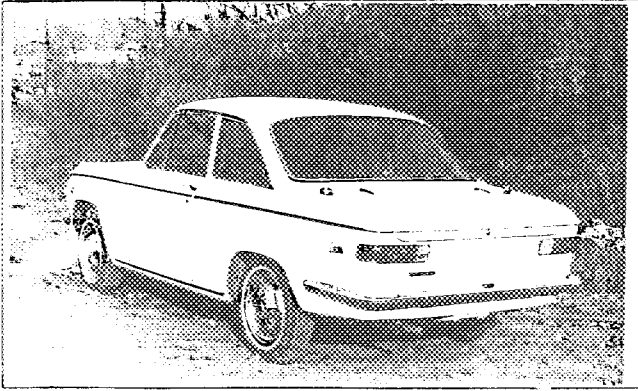
Make TOYO KOGYO CO., LTD.

MAZDA FAMILIA COUPE

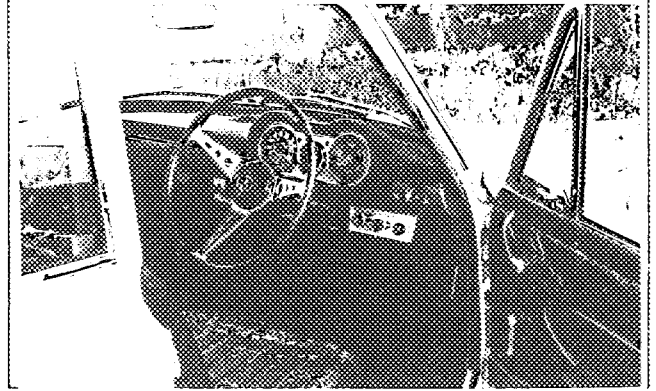
F. I. A. Rec. No.

Photograph Model

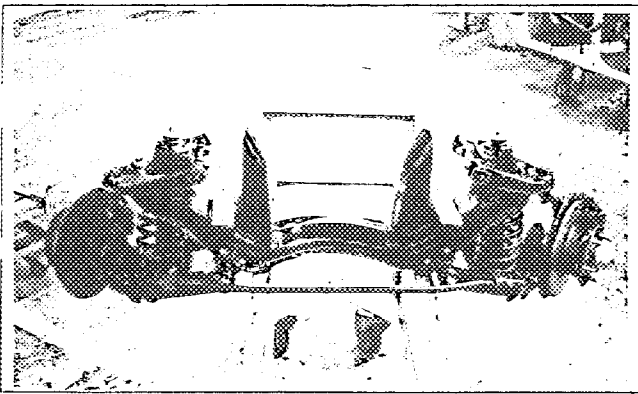
B 3/4 view of car from rear



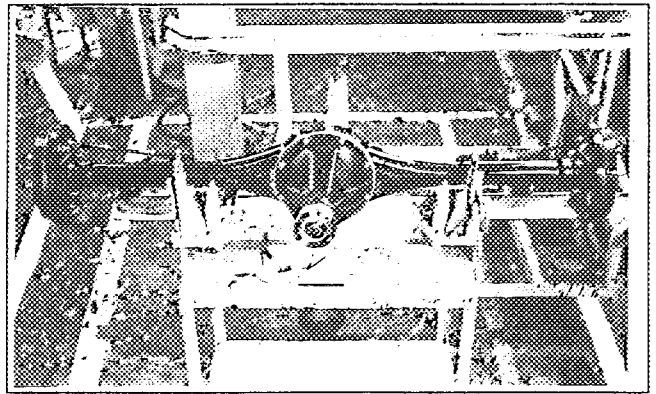
C interior view of car through driver's door (open or removed)



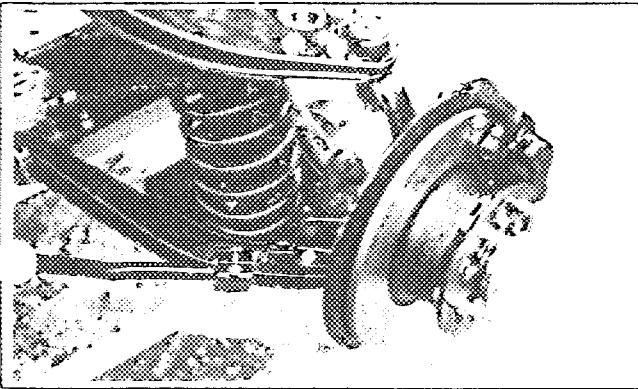
D front axle complete, removed from car. Without wheels.



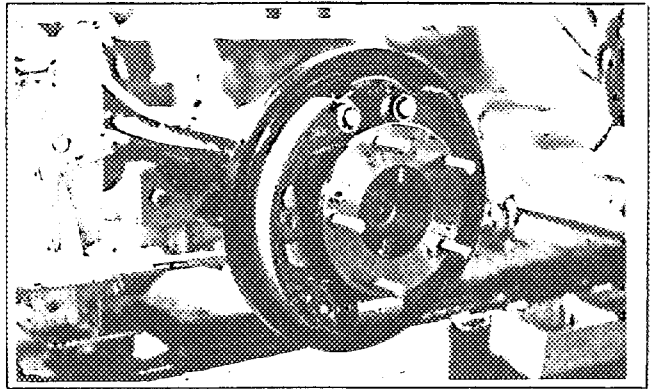
E Rear axle complete without wheels, removed from car.



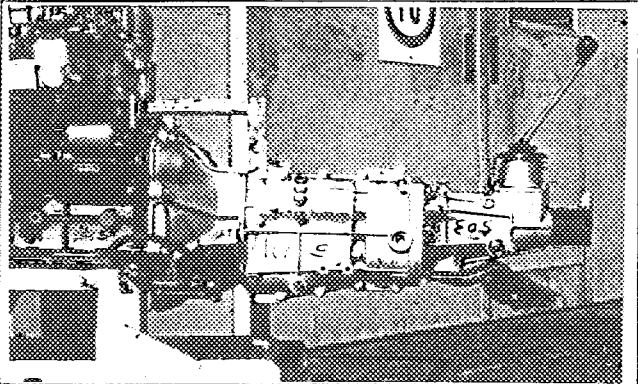
F front brake, drum removed



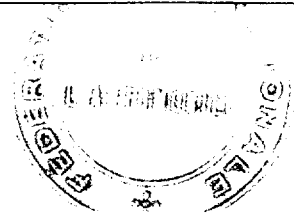
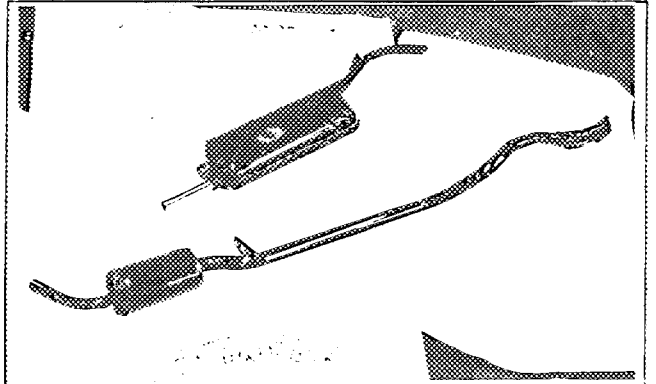
G rear brake, drum removed



H gear-box, view from side



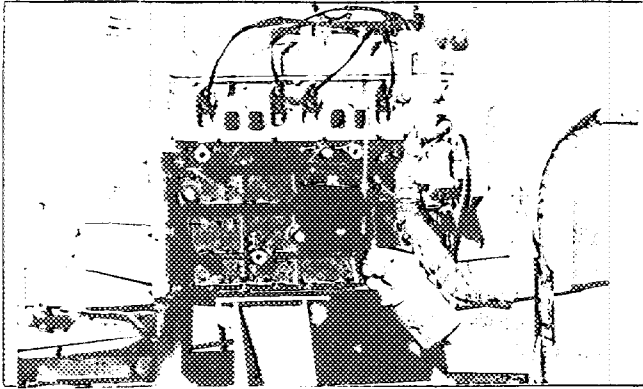
I silencer + exhaust pipes after exhaust manifold.



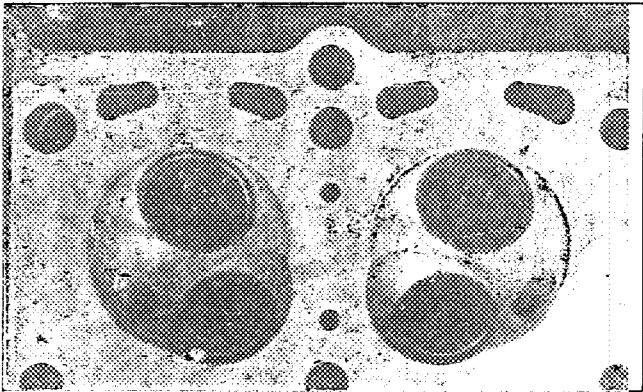
K

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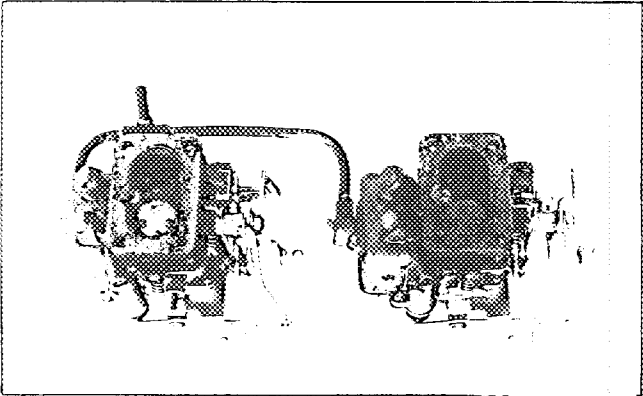
engine unit out of car, from right. With clutch and accessories but without air filter nor gear-box.



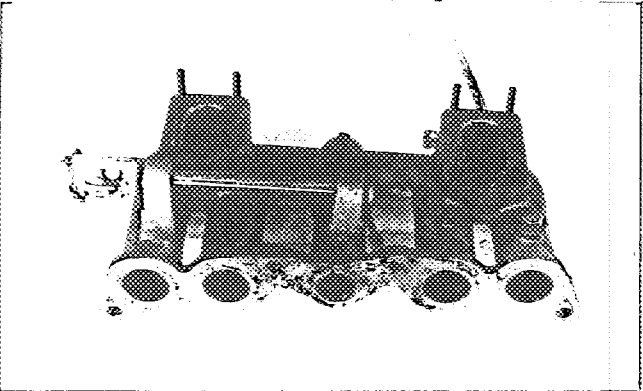
L combustion chamber



N Carburettor (view from side of manifold)

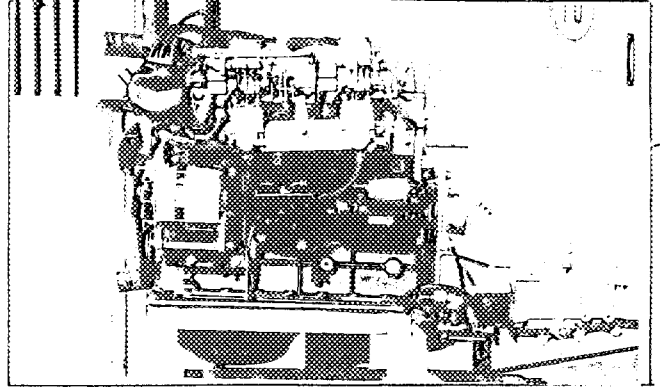


P inlet manifold

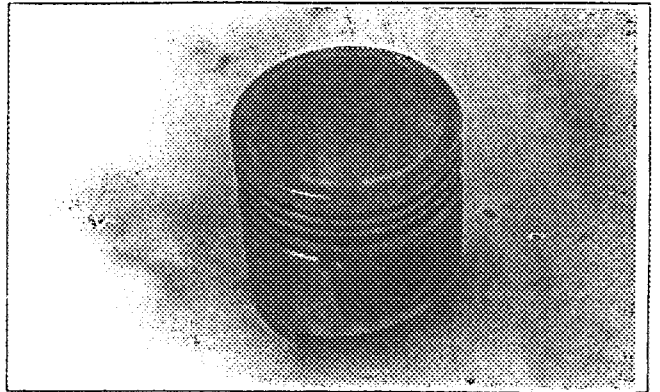


Photograph Model MAZDA FAMILIA COUPE F.I.A. Rec. No.

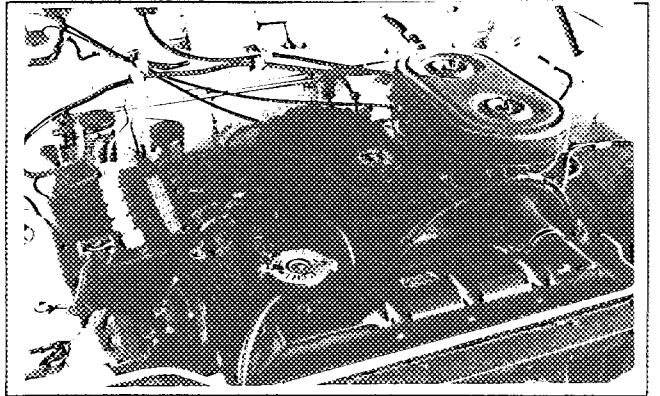
Engine unit out of car, from left. With clutch and accessories but without gear-box nor air filter.



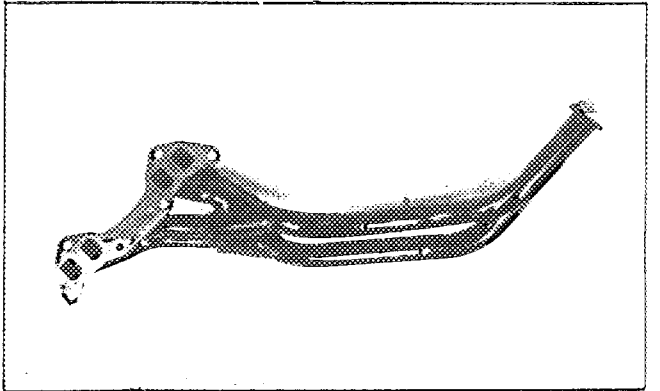
M piston crown



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



Q exhaust manifold



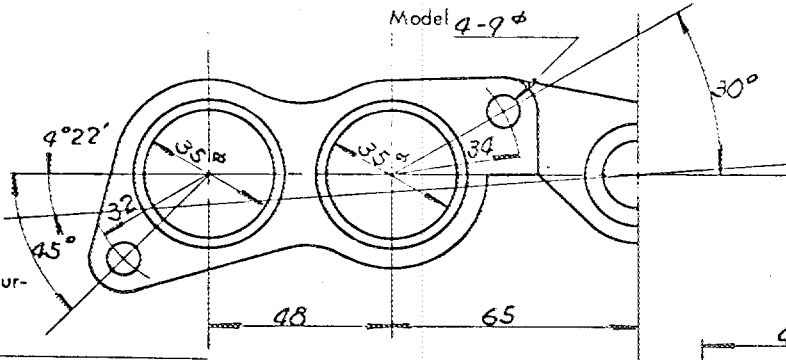
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Make

Model 4-9^φ

F. I. A. Rec. No

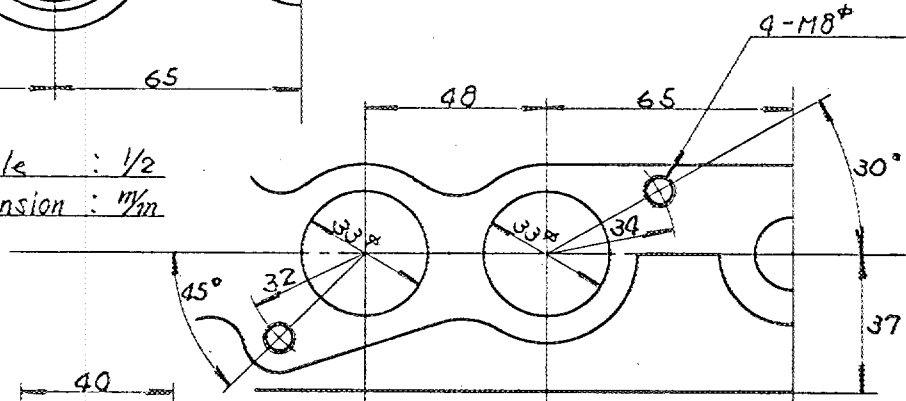
Drawing inlet manifold ports, side of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



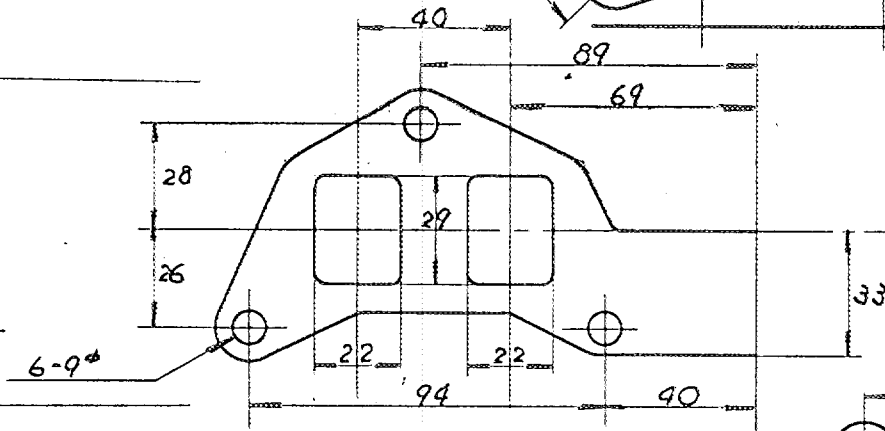
Scale : 1/2
dimension : mm

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

Scale : 1/2
dimension : mm



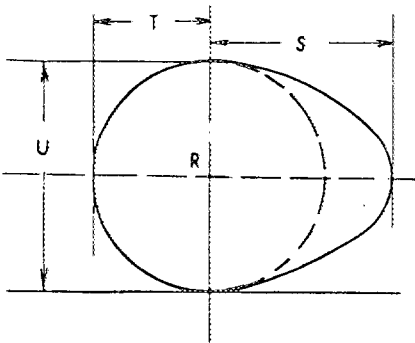
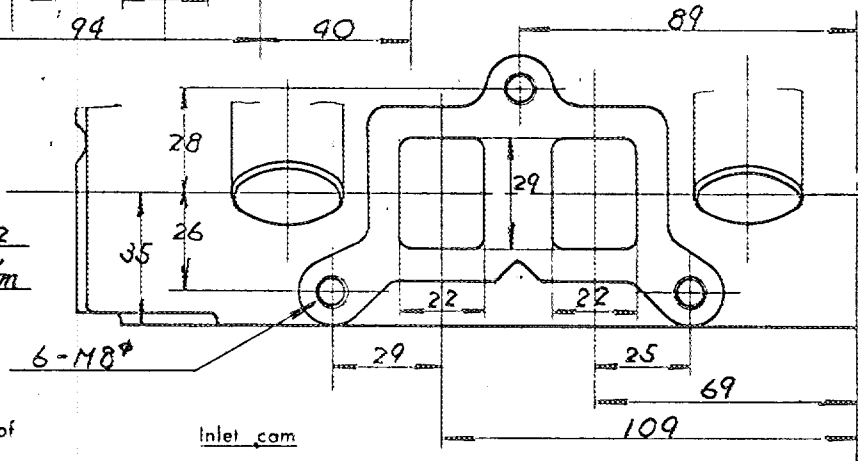
Drawing exhaust manifold ports, side of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



Scale : 1/2
dimension : mm

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

Scale : 1/2
dimension : mm



R=centre of camshaft.

Inlet cam

s = 24.9 mm 0.98 inches

T = 19.0 mm 0.75 inches

U = 38.0 mm 1.50 inches

Exhaust cam

s = 24.9 mm 0.98 inches

T = 19.0 mm 0.75 inches

U = 38.0 mm 1.50 inches



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Make **TOYO KOGYO CO., LTD.**

Model **MAZDA FAMILIA COUPE**

F.I.A. Rec. Rec. No

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> | 2190 | mm | 86.2 | inches |
| 2. <u>Front track</u> | 1200 | mm | 47.2 | inches * |
| 3. <u>Rear track</u> | 1190 | mm | 46.8 | inches * |
| 4. Overall length of the car | | | 370.0 | cm inches |
| 5. Overall width of the car | | | 146.5 | cm inches |
| 6. Overall height of the car | | | 134.5 | cm inches |
| 7. <u>Capacity of fuel tank</u> (reserve included) | | | | 40 ltrs Gallon Imp. |
| | 10.6 | Gallon US | | |
| 8. Seating capacity | 5 | | | |
| 9. <u>Weight</u> , total weight of the car with normal equipment, water, oil and spare wheel but without fuel nor repair tools | | | | |
| | 760 | kg | 1674 | 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 | — 16.3.7 cm ³ | 1 gallon US | — 3.785 ltrs |
| 1 pound / livre (lb) | — 453.593 gr. | 1 hundred weight (cwt) | — 50.802 kg |

K

SUSPENSION

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

BRAKES (photographs F and G)

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

93. Number of cylinders per wheel

94. Bore of wheel cylinder (s)

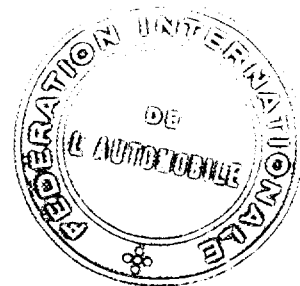
Drum brakes

- 95. Inside diameter
- 96. Length of brake linings
- 97. Width of brake linings
- 98. Number of shoes per brake
- 99. Total area per brake

Disc brakes

- 100. Outside diameter
- 101. Thickness of disc
- 102. Length of brake linings
- 103. Width of brake linings
- 104. Number of pads per brake 2
- 105. Total area per brake

| FRONT | | | REAR | | |
|-------|-----------------|---------|-------|-----------------|---------|
| 2 | | | 1 | | |
| 50,8 | mm | in. | 15,9 | mm | in. |
| | mm | in. | 200 | mm | in. |
| | mm | in. | 200 | mm | in. |
| | mm | in. | 30 | mm | in. |
| | mm ² | sq. in. | 12000 | mm ² | sq. in. |
| 238 | mm | in. | | mm | in. |
| 8 | mm | in. | | mm | in. |
| 52 | mm | in. | | mm | in. |
| 39 | mm | in. | | mm | in. |
| 4056 | mm ² | sq. in. | | mm ² | sq. in. |



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Make TOYO KOGYO CO., LTD.

Model MAZDA FAMILIA COUPE

F. I. A. Rec. No.

ENGINE (photographs J and K)

- | | | | |
|---|---------------------|--|--------------|
| 130. Cycle | 4 Stroke | 131. Number of cylinders | 4 Cylinders |
| 132. Cylinder arrangement | in line | | |
| 133. Bore | 70 mm | 134. Stroke | 64 mm |
| | 2.75 in. | | 2.52 in. |
| 135. Capacity per cylinder | 246 cm ³ | | 15.0 cu. in. |
| 136. Total cylinder-capacity | 985 cm ³ | | 60.0 cu. in. |
| 137. Material (s) of cylinder block | Cast Iron | | |
| 138. Material (s) of sleeves (if fitted) | Cast Iron | | |
| 139. Cylinder-head, material (s) | Aluminum | Number fitted | 1 |
| 140. Number of inlet ports | 4 | 141. Number of exhaust ports | 4 |
| 142. Compression ratio | 10.0 | | |
| 143. Volume of one combustion chamber | | 35.6 cm ³ | cu. in. |
| 144. Piston, material | Aluminum | 145. Number of rings | 3 |
| 146. Distance from gudgeon pin centre line to highest point of piston crown | 48.4 mm | | |
| | | | inches |
| 147. Crankshaft : xxxxxx / stamped | | 148. Type of crankshaft : integral / xxxxxxxxxxxxxxxx | |
| 149. Number of crankshaft main bearings | 5 | | |
| 150. Material of bearing cap | Cast Iron | | |
| 151. System of lubrication : xxxxxx / oil in sump | | | |
| 152. Capacity, lubricant | 3.5 ltrs | | pts |
| | | | quarts US |
| 153. Oil cooler : xxxx / no | | 154. Method of engine cooling | Water |
| 155. Capacity of cooling system | 6.0 ltrs | | pints |
| | | | quarts US |
| 156. Cooling fan (if fitted), dia. | 30 cm | | inches |
| 157. Number of blades of cooling fan | 4 | | |

Bearings

- | | | | | |
|-----------------------------------|-------|------|-------|-----|
| 158. Crankshaft main, type | Plane | Dia. | 63 mm | in. |
| 159. Connecting rod big end, type | Plane | Dia. | 45 mm | in. |

Weights

- | | | |
|---|---------|---------|
| 160. Flywheel (clean) | 4.5 kg | lbs |
| 161. Flywheel with clutch (all turning parts) | | 7.3 lbs |
| 162. Crankshaft | 10.3 kg | lbs |
| 163. Connecting rod | | 0.26 kg |
| 164. Piston with rings and pin | | lbs |



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Model MAZDA FAMILIA COUPE

F. I. A. Rec. No

FOUR STROKE ENGINES

170. Number of camshafts 1 171. Location Cylinder Head
 172. Type of camshaft drive Chain
 173. Type of valve operation Locker Arm

INLET (see page 4) *

180. Material(s) of inlet manifold Aluminum
 181. Diameter of valves 33 mm 1.3 inches
 182. Max. valve lift 7.5 mm 0.3 in.
 183. Number of valve springs 2
 184. Type of spring Coil
 185. Numbr of valves per cylinder 1
 186. Tappet clearance for checking timing (cold) 0.3 mm inches
 187. Valves open at (With tolerance for tappet clearance indicated) B.T.D.C. $25^{\circ} \pm 2.5^{\circ}$
 188. Valves close at (with tolerance for tappet clearance indicated) A.B.D.C. $45^{\circ} \pm 2.5^{\circ}$
 189. Air filter, type Dry

EXHAUST (see page 4)

195. Material (s) of exhaust manifold Steel pipe, Welding
 196. Diameter of valves 29 mm 1.2 inches
 197. Max. valve lift 7.5 mm 0.3 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) 0.3 mm inches
 202. Valves open at (with tolerance for tappet clearance indicated) B.B.D.C. $55^{\circ} \pm 2.5^{\circ}$
 203. Valves close at (with tolerance for tappet clearance indicated) A.T.D.C. $15^{\circ} \pm 2.5^{\circ}$

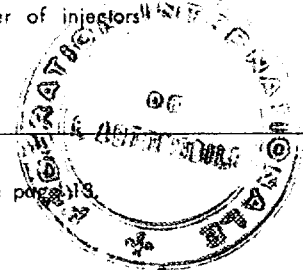
CARBURETION (photograph N)

210. Number of carburetors fitted 2
 211. Type Downdraught
 212. Make Hitachi
 213. Model DTBW FL / RL
 214. Number of mixture passages per carburetor 2
 215. Flange hold diameter of exit port(s) of carburetor 26 / 28 mm in.
 216. Minimum diameter of venturi / ~~venturi diameter~~ 18 / 24 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.



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Make TOYO KOGYO CO., LTD.

Model MAZDA FAMILIA COUPE

F. I. A. Rec. No.

ENGINE ACCESSORIES

- | | |
|--|---------------------------------------|
| 230. Fuel pump : mechanical electric | 231. No fitted 1 |
| 232. Type of ignition system Contact Breaker & Ig. Coil | 233. No of distributors 1 |
| 234. No of ignition coils 1 | 235. No of spark plugs per cylinder 1 |
| 236. Generator, type: dyno alternator-number fitted 1 | 237. Method of drive V-Belt |
| 238. Voltage of generator 12 volts | 239. Battery, number 1 |
| 240. Location in Engine Room | |
| 241. Voltage of battery 12 volts | |

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

- | |
|---|
| 250. Max. engine output 68Ps (type of horsepower: JIS) at 6500 rpm |
| 251. Maximum rpm 7000rpm output at that figure 66Ps |
| 252. Maximum torque 8.1m=kg at 4600 rpm |
| 253. Maximum speed of the car 145 km/hour miles / hour |



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Make TOYO KOGYO CO., LTD.

Model MAZDA FAMILIA COUPE

F. I. A. Rec. No

DRIVE TRAIN

CLUTCH

- 260. Type of clutch Dry Plate, Friction
- 261. No. of plates 1
- 262. Dia. of clutch plates 18.7 cm inches
- 263. Dia. of linings, inside 12.7 cm in. outside 18.4 cm in.
- 264. Method of operating clutch Hydraulic

GEAR BOX (photograph H)

- 270. ~~Manual make~~ ~~Automatic make~~ TOYO KOGYO CO., LTD.
- 271. No. of gear-box ratios forward 4
- 272. Synchronized forward ratios Full
- 273. Location of gear-shift Floor shift
- 274. Automatic, make type
- 275. No. of forward ratios
- 276. Location of gear-shift

| 277. | Manual | | Automatic | | Alternative manual | | Alternative automatic | |
|---------|--------|------------------|-----------|-----------|--------------------|------------------|-----------------------|-----------|
| | Ratio | No. teeth | Ratio | No. teeth | Ratio | No. teeth | Ratio | No. teeth |
| 1 | 3.655 | 30/17 x 29/14 | | | 4.013 | 31/16 x 29/14 | | |
| 2 | 2.185 | 30/17 x 26/21 | | | 2.399 | 31/16 x 26/21 | | |
| 3 | 1.425 | 30/17 x 21/26 | | | 1.435 | 31/16 x 20/27 | | |
| 4 | 1.000 | | | | 1.000 | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| reverse | 3.655 | 30/17 x 29/14 | | | 4.013 | 31/16 x 29/14 | | |

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

FINAL DRIVE

- 290. Type of final drive Hypoid Gear
- 291. Type of differential Bevel Gears
- 292. Type of limited slip differential (if fitted) Mechanical Type
- 293. Final drive ratio 4.111 4.625
- Number of teeth 37/9 37/8



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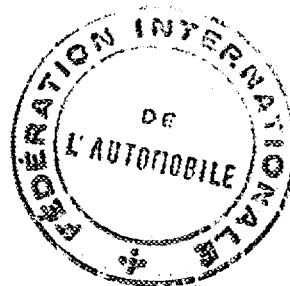
Model MAZDA FAMILIA COUPE

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, ¹⁸⁴186, 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.



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Make TOYO KOGYO CO., LTD

Model MAZDA FAMILIA COUPE

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

303. Height inlet port mm

305. Exhaust ports, length measured around cylinder wall

306. Height exhaust port mm

308. Transfer port, length measured around cylinder wall

309. Height transfer port mm

311. Piston ports, length measured around piston

312. Height piston port mm

314. Method of precompression

310. Bore mm inches

318. Distance from top of cyl. block to highest point of exhaust port :

319. Distance from top of cyl. block to lowest point of inlet port :

320. Distance from top of cyl. block to highest point of transfer port :

321. Drawing of cylinder ports.

mm inches

in. 304. Area mm² sq. in.

mm inches

in. 307. Area mm² sq. in.

mm inches

in. 310. Area mm² sq. in.

mm inches

in. 313. Area mm² sq. in.

315. Precompression cyl. : yes /no

317. Stroke mm inches

mm inches

mm inches

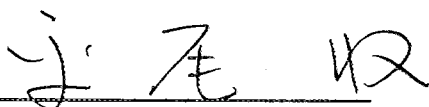
mm inches

Supercharging—state full details hereafter :

JAPAN AUTOMOBILE FEDERATION

Chairman

of Technical Subcommission



Osamu Hirao

K