



5TH CATEGORY - HISTORIC RACING

GROUP Nc

APPROVED VEHICLE SPECIFICATION

This form details the approved specifications of individual vehicle models in the 5th Category Historic car group. To be issued with an Historic Log Book, cars need to comply with these specifications, the physical appearance shown in the illustrations and the general historic rules as detailed in the current CAMS Manual of Motor Sport.

Make of Car: Toyota

Model: Corolla KE-11

Period of Original Manufacture: .1969-70

CAMS Historic Group: Nc

Date of Issue of this Document: May 2004



This form was issued without alteration or erasure.

SECTION 1 - CHASSIS

1.1 CHASSIS FRAME

Description: Unitary Construction
Manufacturer: Toyota
Chassis no. from: KE-11 000001
Chassis no. location: Firewall.
Material: Steel
Comments:

Period of Manufacture:
1969-70

1.2 FRONT SUSPENSION

Description: Independent – McPherson Strut.
Spring medium: Coil
Damper Type: Telescopic - Internal
Anti-sway bar: Not Fitted
Suspension adjustable: No

Adjustable: No
Adjustable: N/A.
Method: N/A

Comments: Spring Rates and Ride Height Free. Anti-Sway Bar may be fitted. Refer Group Nc regulations for permitted modifications

1.3 REAR SUSPENSION

Description: Live Axle
Spring medium: Semi- Elliptic Leaf
Damper type: Telescopic
Anti-sway bar: Not Fitted
Suspension adjustable: No

Adjustable: No
Adjustable: N/A
Method: N/A

Comments: Spring Rates and Ride Height free. Externally adjustable Shock Absorbers not permitted. Otherwise free. Anti-Sway Bar may be fitted. Refer Group Nc regulations for permitted modifications.

1.4 STEERING

Type: Worm & Sector
Comments:

Make: Toyota

1.5 BRAKES

	Front	Rear
Type:	Disc	Drum
Dimensions:	200x10mm	200x30mm
Material of drum/disc	Cast Iron	Cast Iron
No. cylinders/pots per wheel:	2	1
Actuation:	Hydraulic	Hydraulic
Caliper: Make, Material, Type:	Toyota- Cast Iron	
Master cylinder make:	Toyota	Type Tandem
Adjustable bias:	No	
Servo Fitted:	Yes	

Comments: Dual M/Cylinders permitted, Servo may be rendered inoperative. Components may be replaced with those from another Prod. .Touring Car produced before 31/12/1972. Refer Group Nc regulations for permitted modifications.

SECTION 2 - ENGINE

2.1 ENGINE

Make: Toyota
Model: 3K
No. cylinders: 4 **Configuration:** In Line
Cylinder Block-material: Cast Iron **Four Stroke**
Bore - Original: 75mm **Max. allowed:** 76.5mm
Stroke - original: 66mm **Max. allowed:** 66mm
Capacity original: - .1166cc **Max. allowed:** 1213cc
Cooling method: Water
Identifying marks:
Comments: Refer Group Nc regulations for permitted modifications.

2.2 CYLINDER HEAD

Make: Toyota
No. of valves/cylinder- **Inlet:** 1 **Exhaust:** 1
No. of ports total: 8 **Inlet:** 4 **Exhaust:** 4
No. of camshafts: 1 **Location:** Block **Drive:** Chain
Valve actuation: Pushrod
Spark plugs/cylinder: 1
Identifying marks:
Comments: Refer Group Nc regulations for permitted modifications.

2.3 LUBRICATION

Method: Wet Sump **Oil tank location:** N/A
Dry sump pump type: N/A **Location:** N/A
Oil cooler standard: No **Location:** N/A
Comments: Oil Cooler may be fitted. Refer Group Nc regulations for permitted modifications.

2.4 IGNITION SYSTEM

Type: Coil & Distributor
Make: Nippondenso
Comments:

2.5 FUEL SYSTEM

Carburettor: Make: Aisan **Model:** 3K-B 28mm
Fuel injection Make: N/A **Type:** N/A
Supercharged: N/A **Type:** N/A
Comments: Carburettor may be replaced by Carburettor/s of a make/type available in the period. Multiple carburettors may be fitted in the ratio of one choke per cylinder

SECTION 3 - TRANSMISSION

3.1 CLUTCH

Make: Toyota **Type:** Diaphragm **Diameter:** 183mm

No. of Plates: 1

Actuation: Mechanical

Comments: Clutch and method of actuation are free. Refer Group Nc regulations for permitted modifications.

3.2 TRANSMISSION

Type: Four Speed Synchromesh

Make: Toyota

No. forward speeds: 4

Gearbox location: Behind Engine

Gearchange type and location: Floor Remote

Case material: Alloy

Identifying marks:

Comments: Ratios free. Refer Group Nc regulations for permitted modifications.

3.3 FINAL DRIVE

Make: Toyota **Model:** KE

Wheel drive method: Rear

Ratios: Various

Differential: Free

Type: Hypoid Bevel

Comments: Ratios free. Limited Slip Differential permitted. Refer Group Nc regulations for permitted modifications.

3.4 TRANSMISSION SHAFTS (EXPOSED)

Number: 1 **Location:** Gearbox to Final Drive.

Description: Tubular Tailshaft

Comments: Refer Group Nc regulations for permitted modifications.

3.5 WHEELS & TYRES

Wheel type: Original: Pressed Steel

Material:

Original: Steel

Allowed: Steel or Alloy

Allowed: Steel or Alloy

Fixture method: Bolt On

No. studs: 4

FRONT

REAR

Wheel dia. & rim width: 4x12 or 13

4x12 or 13

Original:

Allowed: 6x12 or 13

6x12 or 13

Tyre Section:

Original: 145

145

Allowed:

Aspect ratio - minimum: 60%

60%

Comments: Wheels /Tyres are confined to dimensions which fit within wheel arches. Period alloy wheels permitted. Refer Group Nc regulations for permitted modifications.

SECTION 4 - GENERAL

4.1 FUEL SYSTEM

Tank Location: Rear **Capacity:** 40 Litres
Fuel pump, type and location: Mechanical **Make:**
Comments: Fuel pump/ s free. Refer Group Nc regulations for permitted modifications.

4.2 ELECTRICAL SYSTEM

Voltage: 12 **Generator/Alternator fitted:**
Battery Location: Engine Bay Alternator
Comments: Refer Group Nc regulations for permitted modifications.

4.3 BODYWORK

Type: Two Door Sedan **Material:** Steel
No. of seats: 4 **No. doors:** 2
Comments: Refer Group Nc regulations for permitted modifications.

4.4 DIMENSIONS

Track - Front: 1235mm **Rear:** 1220mm
Wheelbase: 2285mm **Overall length:** 3845mm
Dry weight: 700kg.
Comments:

4.5 SAFETY EQUIPMENT : *Refer applicable Group Regulations*



JAPAN AUTOMOBILE FEDERATION

F. I. A. Recognition No. 1580
Group 2

T1-12

FEDERATION INTERNATIONALE DE L'AUTOMOBILE

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

Manufacturer Toyota Motor Co., Ltd.

Serial No. of chassis KELL-000001

Serial No. of engine 3K 0000001

Recognition is valid from 1/1/70

Cylinder-capacity 1166 cm³ 71.1 cu. in.

Model Toyota Corolla SL, KELL-S

Manufacturer Toyota Motor Co., Ltd.

Manufacturer Toyota Motor Co., Ltd.

List 70/1

The manufacturing of the model described in this recognition form was started on August 1969 and the minimum production of 1000 identical cars, in accordance with the specifications of this form was reached on Sept. 1969

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



Stamp and signature of the F. I. A.

Handwritten signature and circular stamp of the F. I. A.

Make **Toyota**

Model **KELI - S**

F. I. A. Rec. No.

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

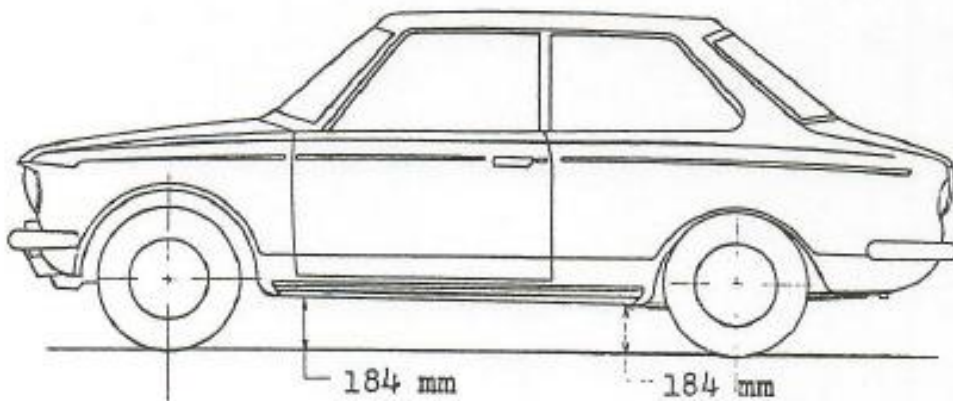
CAPACITIES AND DIMENSIONS

1. <u>Wheelbase</u>	2,285	mm	90.0	inches
2. <u>Front track</u>	1,235	mm	48.7	inches *
3. <u>Rear track</u>	1,220	mm	48.1	inches *
4. Overall length of the car	385.5	cm		inches
5. Overall width of the car	148.5	cm		inches
6. Overall height of the car	138.0	cm		inches
7. <u>Capacity of fuel tank</u> (reserve included)			36	l. lrs
	9.5	Gallon US		Gallon Imp.
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	700	kg	1540	lbs
				cwt

Differences in track caused by the use of other wheels with different rim widths must be stated when recognition is requested in 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	= 0.946 lrs
1 foot / pied	= 30.4794 cm	1 pint (pt)	= 0.568 lrs
1 square inch / pouce carré	= 6.452 cm ²	1 gallon Imp.	= 4.546 lrs
1 cubic inch / pouce cube	= 16.387 cm ³	1 gallon US	= 3.785 lrs
1 pound / livre (lb)	= 453.593 gr.	1 hundred weight (cwt)	= 50.802 kg

Make Toyota

Model KELL-S

F.I.A. Rec. No

CHASSIS AND COACHWORK (Photographs A, B and C)

20. Chassis/body construction : ~~XXXXXX~~ / unitary construction
21. Unitary construction, material (s) **Steel**
Separate construction
22. Separate Constructions: 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 **Glass**
31. Sliding system of door windows **Vertical, Manual**
32. Material (s) of rear-quarter light **Glass**

ACCESSORIES AND UPHOLSTERY

38. Interior heating : ~~XXXX~~ - no
39. Air-conditioning : ~~XX~~ - no
40. Ventilation : yes - ~~XX~~
41. Front seats, type of seats and upholstery **Separate, Vinyl leather**
42. Weight of front seat (s), complete with supports and rails, out of the car
12.8 x 2 kg lbs
43. Rear seats, type of seats and upholstery **Bench, Vinyl leather**
44. Front bumper, material (s) **Steel** Weight **3.9 kg lbs**
45. Rear bumper, material (s) **Steel** Weight **3.9 kg lbs**

WHEELS

50. Type **Pressed steel**
51. Weight (per wheel, without tyre) **5.0 kg**
52. Method of attachment **4 nuts**
53. Rim diameter **305** mm **12** inches
54. Rim width **102** mm **4** inches

STEERING

60. Type **Worm & sector roller**
61. Servo-assistance : ~~XXXX~~ - no
62. Number of turns of steering wheel from lock to lock **3**
63. In case of servo-assistance



SUSPENSION

- 70. Front suspension (photogr. D), type Independent, Macpherson
- 71. Type of spring Coil & transverse leaf
- 72. Stabiliser (if fitted)
- 73. Number of shock absorbers 2
- 74. Type Hydraulic telescopic
- 78. Rear suspension (photogr. E), type Rigid
- 79. Type of spring Leaf
- 80. Stabiliser (if fitted)
- 81. Number of shock absorbers 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	1		1	
94. Bore of wheel cylinder (s)	44.45 mm	in.	17.46 mm	in.
Drum brakes				
95. Inside diameter		mm	200 mm	in.
96. Length of brake linings		mm	192 mm	in.
97. Width of brake linings		mm	30 mm	in.
98. Number of shoes per brake				2
99. Total area per brake		mm ²	sq. in. 115 x 10 ²	mm ²
Disc brakes				
100. Outside diameter	200	mm		in.
101. Thickness of disc	10	mm		in.
102. Length of brake linings	97	mm		in.
103. Width of brake linings	37	mm		in.
104. Number of pads per brake				2
105. Total area per brake	61.0 x 10 ²	mm ²	sq. in.	mm ²



Make Toyota

Model KELL-S

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	75	mm	2.96	in.	134. Stroke	66	mm
						2.60	in.
135. Capacity per cylinder			291.	cm ³		17.8	cu. in.
136. Total cylinder-capacity			1166	cm ³		71.1	cu. in.
137. Material (s) of cylinder block	Cast iron						
138. Material (s) of sleeves (if fitted)							
139. Cylinder-head, material (s)	Aluminum alloy					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			32.4	cm ³			cu. in.
144. Piston, material	Aluminum alloy					145. Number of rings	3
146. Distance from gudgeon pin centre line to highest point of piston crown			36	mm			inches
147. Crankshaft : moulded / xxxxxx				148. Type of crankshaft :	integral /	xxxxxx	
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	lts			pts		quarts US
153. Oil cooler : yes / no							
154. Method of engine cooling	Water						
155. Capacity of cooling system	4.7	lts			pints		quarts US
156. Cooling fan (if fitted), dia.	31	cm			inches		
157. Number of blades of cooling fan	2						

Bearings

158. Crankshaft main, type	Plain	Dia.	50	mm	in.
159. Connecting rod big end,	Plain	Dia.	45	mm	"

Weights

160. Flywheel (clean)	9.1	kg		lbs
161. Flywheel with clutch (all turning parts)			12.3	kg
162. Crankshaft	8.9	kg		lbs
163. Connecting rod			0.47	kg
164. Piston with rings and pin	0.4	kg		lbs



Make Toyota

Model KELL-S

F.I.A. Rec. No.

FOUR STROKE ENGINES

170. Number of camshafts 1 171. location cylinder block
 172. Type of camshaft drive Chain
 173. Type of valve operation Push rod & rocker

INLET (see page 8) *

180. Material(s) of inlet manifold Alumimun alloy
 181. Diameter of valves 35 mm 1.38 inches
 182. Max. valve lift 8.8 mm 0.35
 184. Type of spring Coil
 186. Tappet clearance for checking timing (cold) 0.08 mm inches
 187. Valves open at (with tolerance for tappet clearance indicated) B.T.D.C. $16^{\circ} \pm 2.5^{\circ}$
 188. Valves close at (with tolerance for tappet clearance indicated) A.T.D.C. $50^{\circ} \pm 2.5^{\circ}$
 189. Air filter, type Dry

EXHAUST (see page 8)

195. Material (s) of exhaust manifold Cast iron
 196. Diameter of valves 29 mm 1.14 inches
 197. Max. valve lift 8.4 mm 0.33 in.
 199. Type of spring Coil
 201. Tappet clearance for checking timing (cold) 0.18 mm inches
 202. Valves open at (with tolerance for tappet clearance indicated) B.B.D.C. $50^{\circ} \pm 2.5^{\circ}$
 203. Valves close at (with tolerance for tappet clearance indicated) A.T.D.C. $16^{\circ} \pm 2.5^{\circ}$

CARBURETION (photograph N)

210. Number of carburetors fitted 2 211. Type Down draught
 212. Make Aisan 213. Model 3K-B
 214. Number of mixture passages per carburetor 2
 215. Flange hole diameter of exit port(s) of carburetor 28 & 28 mm in
 216. Minimum dimensions of mixture passage(s) ~~XXXXXXXXXXXXXXXXXXXXXXXXXXXX~~
 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.



Make **Toyota**

Model **Kell-S**

F. I. A. Rec. No.

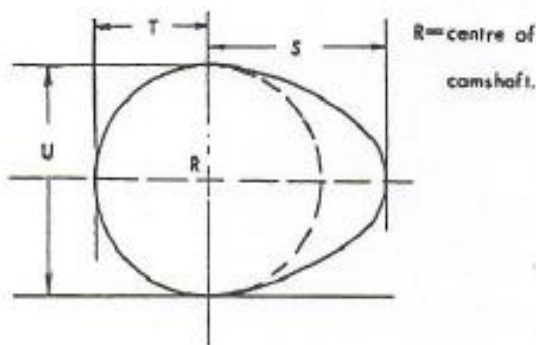
ENGINE ACCESSORIES

230. Fuel pump : mechanical and / XXXXXX	231. No. fitted	1
232. Type of ignition system Make and break	233. No. of distributors	1
234. No. of ignition coils 1	235. No. of spark plugs per cylinder	1
236. Generator, type: XXXXXX /alternator-number fitted 1	237. Method of drive	V 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 77PS (type of horsepower: JIS) at 6600 rpm		
251. Maximum rpm 6700 output at that figure 76.5PS		
252. Maximum torque 9.6 kg-m at 4600 rpm		
253. Maximum speed of the car 160 km/hour miles / hour		

255.



Inlet cam

S =	21.1	mm	0.831	inches
T =	15.4	mm	0.607	inches
U =	30.8	mm	1.214	inches

Exhaust cam

S =	21.2	mm	0.835	inches
T =	15.2	mm	0.599	inches
U =	30.4	mm	1.198	inches

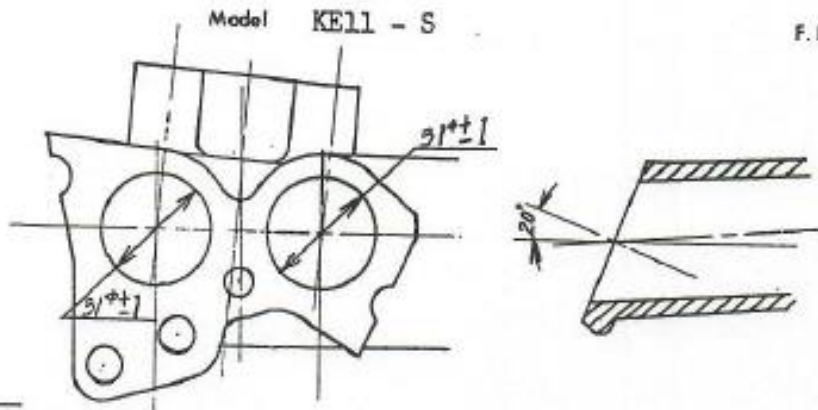


Make Toyota

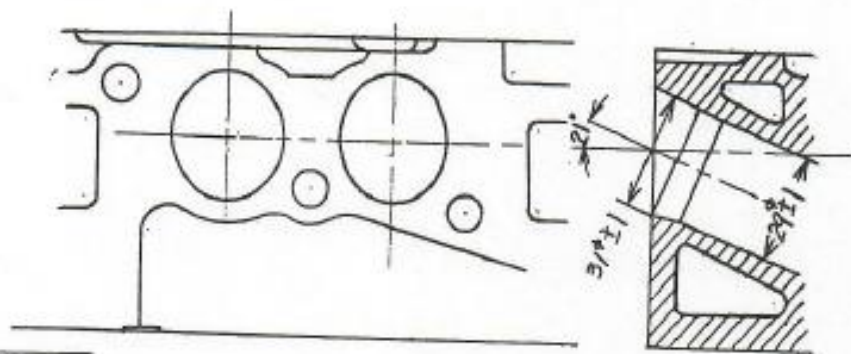
Model KELL - S

F.I.A. Rec. No.

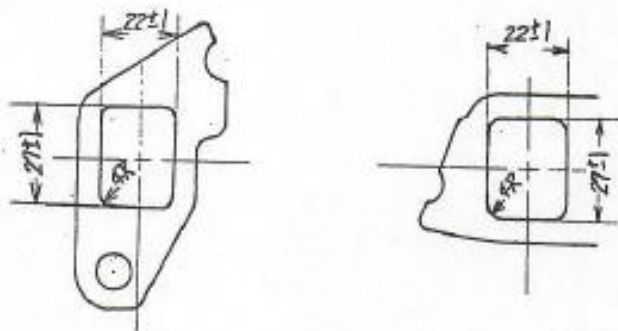
Drawing inlet manifold ports, side of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



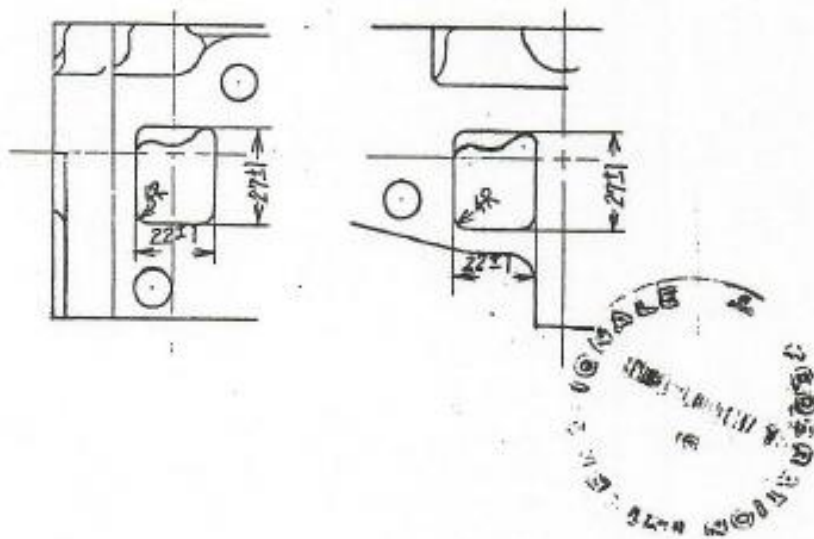
Drawing of entrance to inlet part of cylinder-head. Indicate scale or dimensions and manufacturing tolerance.



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



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



Unit : mm

Make **Toyota**

Model **Kell-S**

F. I. A. Rec. No.

DRIVE TRAIN

CLUTCH

260. Type of clutch **Dry single plate** 261. No. of plates **1**
 262. Dia. of clutch plates **18.3** cm inches
 263. Dia. of linings, inside **12.5** cm in. outside **18.0** cm in.
 264. Method of operating clutch **Mechanical**

GEAR BOX (photograph H)

270. Manual type, make **Toyota** Method of operation **Mechanical**
 271. No. of gear-box ratios forward **4** 272. Synchronized forward ratios **1, 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		Alternative manual/automatic			
	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth	Ratio	No. teeth
1	3.684	$\frac{32}{19} \times \frac{35}{16}$						
2	2.050	$\frac{32}{19} \times \frac{28}{23}$						
3	1.384	$\frac{32}{19} \times \frac{23}{28}$						
4	1.000							
5								
6								
reverse	4.316	$\frac{32}{19} \times \frac{41}{16}$						

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 gear**
 292. Type of limited slip differential (if fitted)
 293. Final drive ratio **4.222** **4.444**
 Number of teeth **38/9** **40/9**



Make **Toyota**

Model **KELL-S**

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, 184, 186, 187, 188, 189, 199, 201, 202, 203, 212, 213, 215, 216, 222, 225, 230, 250, 251, 252, 253, and photographs I, M, N, and page 8

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, 76, 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.

Four door version



Photograph A 3/4 view car
from front



Photograph B 3/4 view car
from rear



Make Toyota-

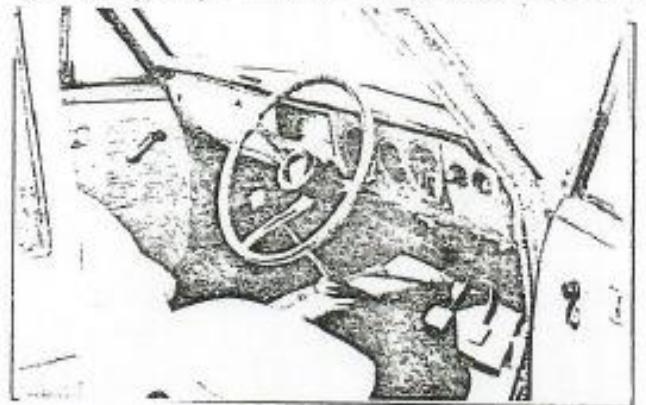
Model KELL-S

F.I.A. Rec. No.

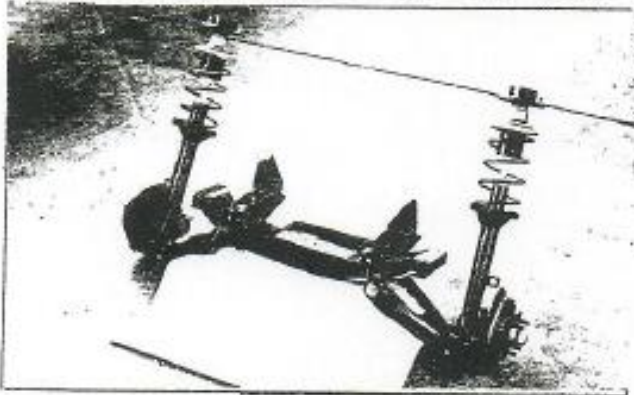
Photograph

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

B, 3/4 view of car from rear



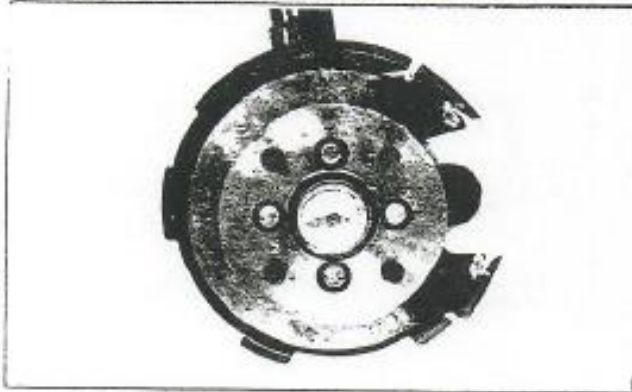
D, front axle complete, removed from car, without wheels.



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



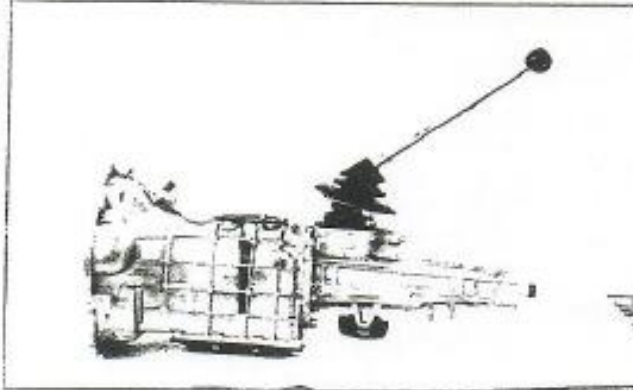
F, front brake, drum removed or disc with caliper(s)



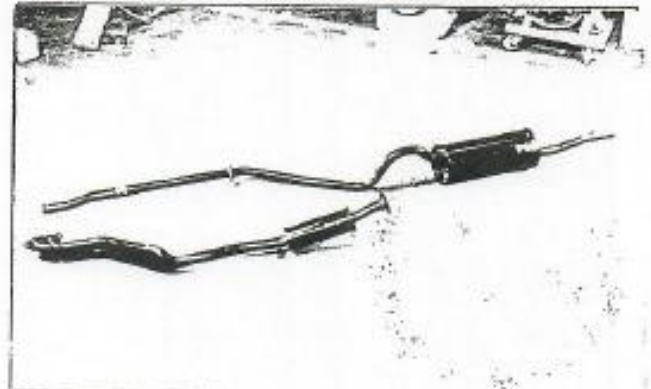
G, rear brake, drum removed or disc with caliper(s)



H, gear-box, view from side

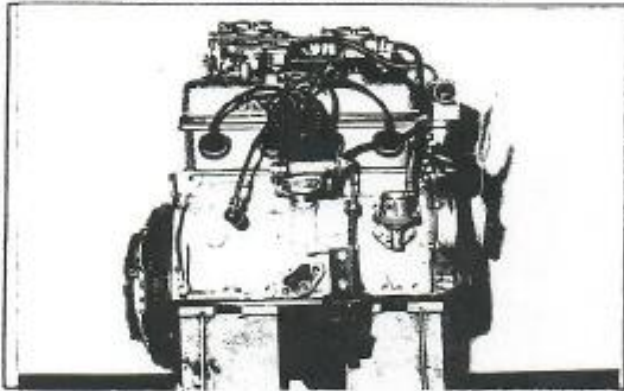


I, silencer + exhaust pipes after exhaust manifold.

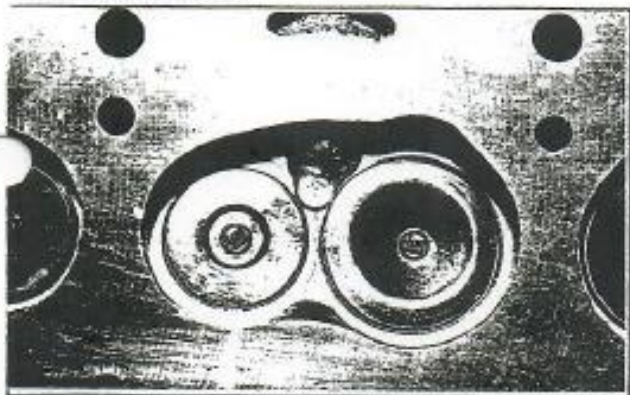


Make **Toyota**

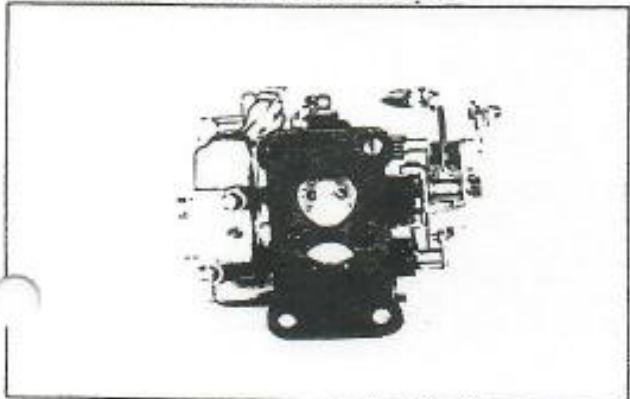
engine unit out of car, from right. With clutch and accessories but without air filter nor gear-box.



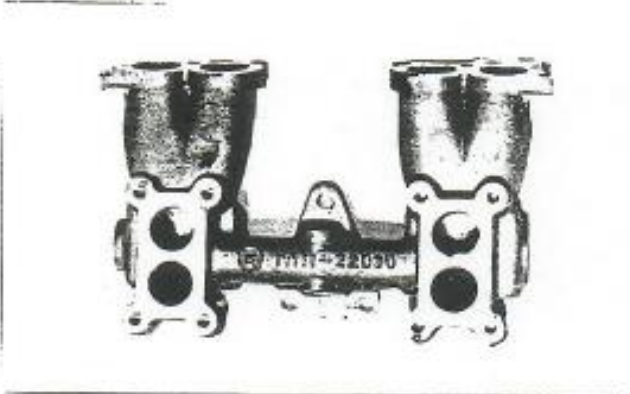
L, combustion chamber



N, Carburettor (view from side of manifold)



P, inlet manifold

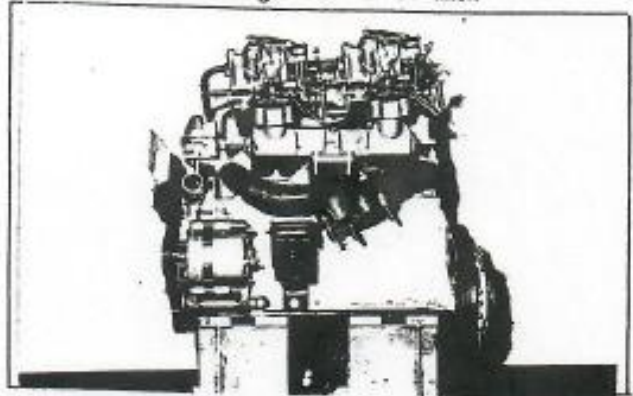


Photograph

Model **KELL-S**

F.I.A. Rec. No

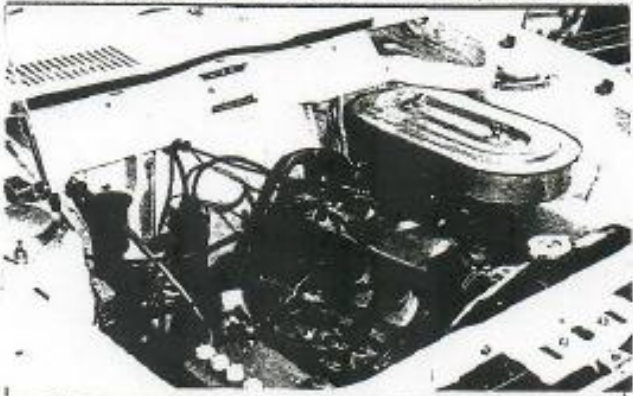
Engine unit out of car, from left. With clutch and accessories but without gear-box nor air filter.



M, piston crown



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

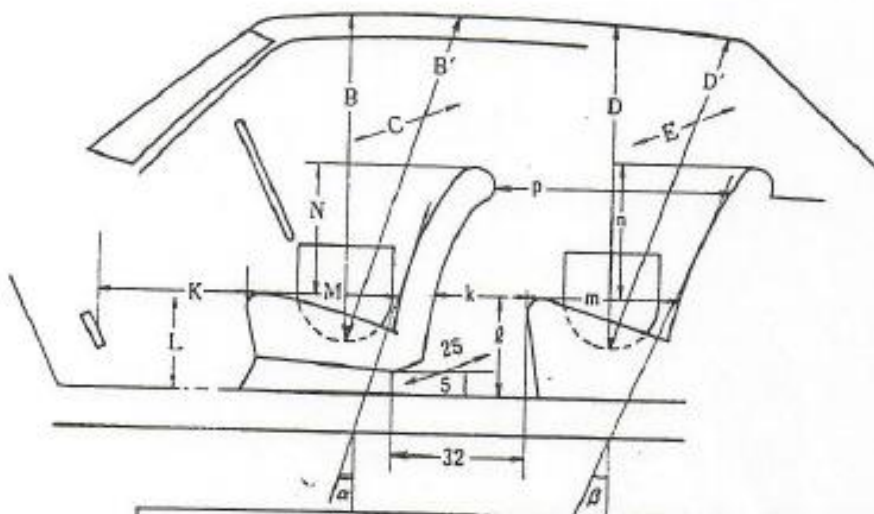


Q, exhaust manifold



DIMENSIONS OF INTERIOR
(Conform to Art. 253 b of Appendix J)

For four seaters :



Minimum Dimensions (cm)							
B	B'	α	C	D	D'	β	E
94.5	99.5	19°	124	95.5	96	20°	124.5

Minimum Dimensions (cm)										
L	l	M	m	N	n	k+m	p	k	k+l+m	K+L+M
30.5	32	46	43.5	46.5	43	65.5	62.5	22	97.5	121
0.9L - 27.5		0.85M - 39		0.8N - 37		0.8(k+m) - 52.5		(15)	(95)	(120)



Make Toyota

Model KELL-S

F. I. A. Ref. 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
- 304. Area
- 305. Exhaust ports, length measured around cylinder wall
- 306. Height exhaust port
- 307. Area
- 308. Transfer port, length measured around cylinder wall
- 309. Height transfer port
- 310. Area
- 311. Piston ports, length measured around piston
- 312. Height piston port
- 313. Area
- 314. Method of precompression
- 315. Precompression cyl.: yes/no
- 316. Bore
- 317. Stroke
- 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 parts.

330. Supercharging—state full details hereafter :

MO. LE FEDERATION


 Yasuharu Nanba

