

MAKE MERCURY MODEL 1968 COUGAR FIA REC # 5204 C  
427  
GI



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AUTOMOBILE COMPETITION COMMITTEE FOR THE UNITED STATES, FIA, INC.

433 MAIN STREET, STAMFORD, CONN. 06901



Federation Internationale de l'Automobile  
FORM OF RECOGNITION

In accordance with Appendix "J" of the International Sporting Code

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CONVERSION TABLE:

1 inch / pouce	2.54 cm	
1 foot / pied	30.479 cm	
1 square inch / pouce carre	6.452 cm <sup>2</sup>	
1 cubic inch / pouce cube	16.387 cm <sup>3</sup>	
1 pound (lb.) / livre	453.593 gr	
1 pint (U.S.)	.473 ltrs	.833 pt. Imp.
1 quart (U.S.)	.946 ltrs	.833 qt. Imp.
1 gallon (U.S.)	3.785 ltrs	.833 gal. Imp.
1 pint (Imp.)	.568 ltrs	1.20 pt. U.S.
1 quart (Imp.)	1.136 ltrs	1.20 qt. U.S.
1 gallon (Imp.)	4.546 ltrs	1.20 gal. U.S.



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Cylinder capacity 6982.4 cm3 426.1 in3  
 Lincoln Mercury Division  
 Manufacturer Ford Motor Company Model 1968 Cougar 427  
 Serial # Chassis 8F91W-500001 Manufacturer Lincoln Mercury Division  
Ford Motor Company  
 Serial # Engine None Manufacturer Lincoln Mercury Division  
Ford Motor Company  
 Recognition valid from \_\_\_\_\_ List \_\_\_\_\_

The manufacturing of the model described in this recognition form was started on August 23, 1967 and the minimum production of 10,000 identical cars, in accordance with the specifications of this form, was reached on November 30, 1967.

(\*) need not be answered for Group II and III cars.  
(\*\*) only need to be answered for Group IV cars.

A 3/4 Front View Car \*\*



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

Variants				Normal evolution of the type			
on	<u>19</u>	rec #	<u>list</u>	on	<u>19</u>	rec #	<u>list</u>
on	<u>19</u>	rec #	<u>list</u>	on	<u>19</u>	rec #	<u>list</u>
on	<u>19</u>	rec #	<u>list</u>	on	<u>19</u>	rec #	<u>list</u>

Stamp/Signature of  
National Sporting Authority

  
JOHN M. SAWYER  
TECHNICAL DIRECTOR  
ACCUR. FEAT. INC.

Stamp/Signature  
F.I.A.

MAKE MERCURY

MODEL 1968 COUGAR 427

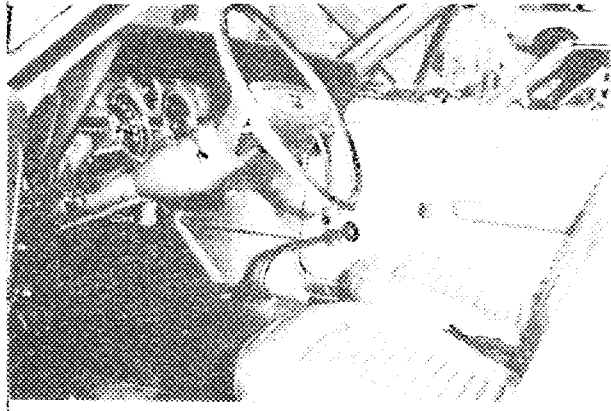
FIA REC # 5204

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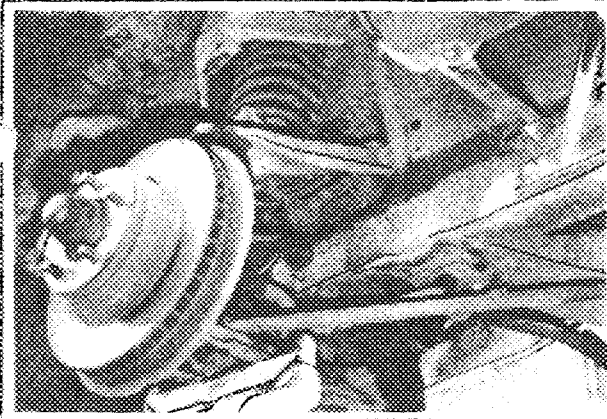
B 3/4 rear car (\*\*)



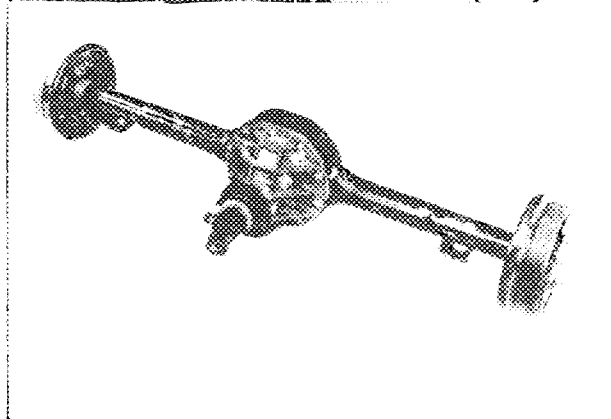
C interior-car (\*\*)



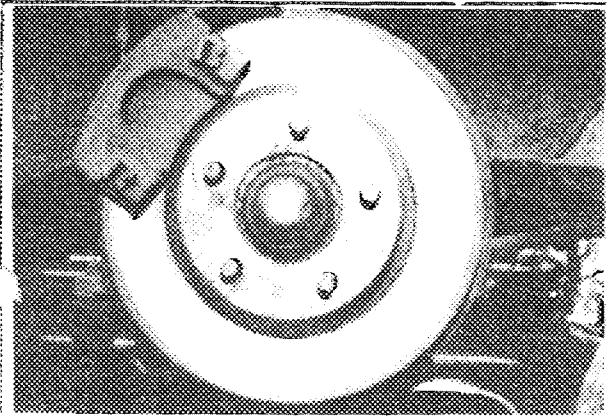
D front axle (\*\*)



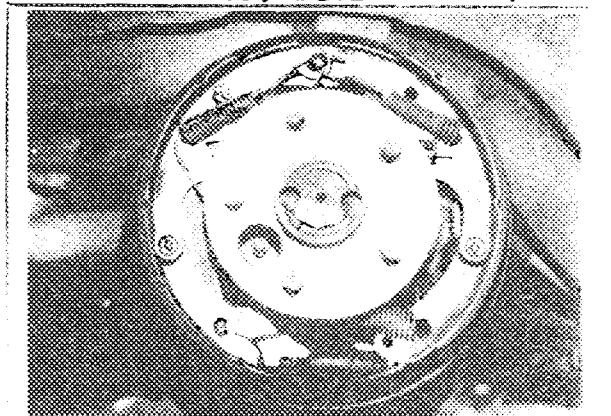
E rear axle (\*\*)



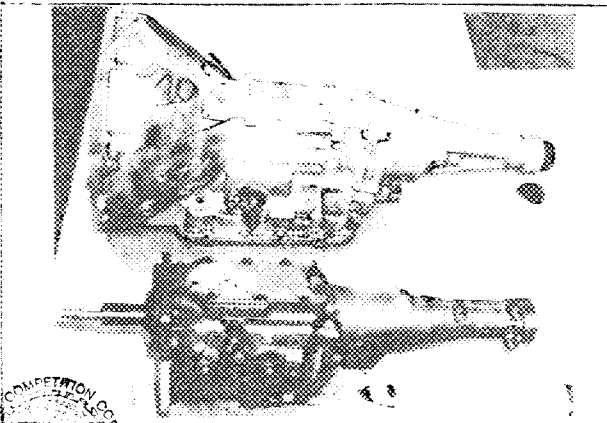
F brake, front (\*\*)



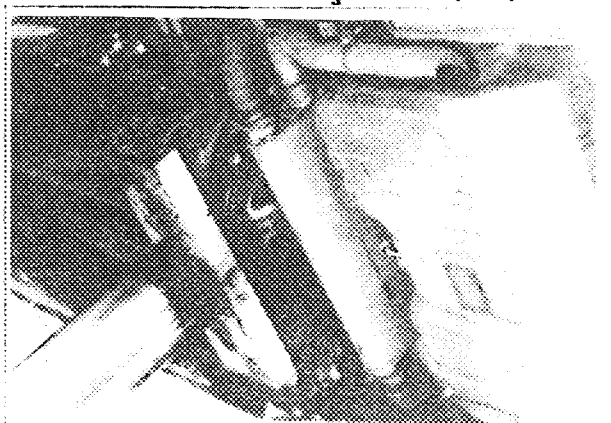
G brake, rear (\*\*)



H gear box (\*\*)



I exhaust system (\*)



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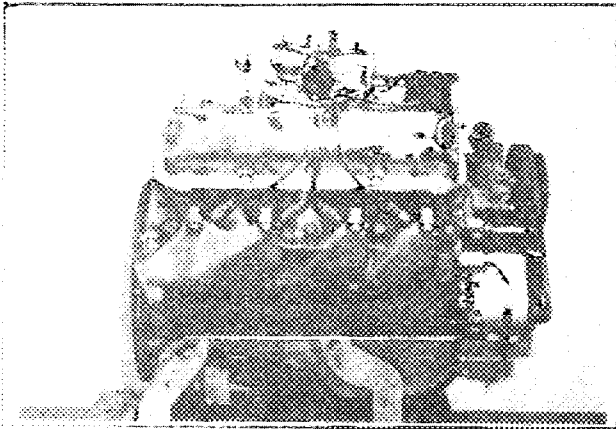
MAKE MERCURY

MODEL 1968 COUGAR 427

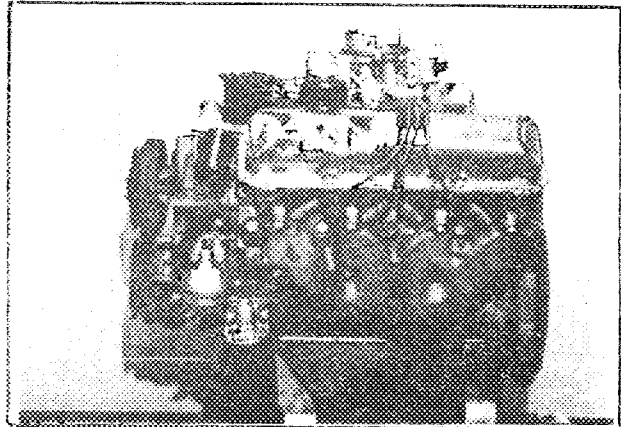
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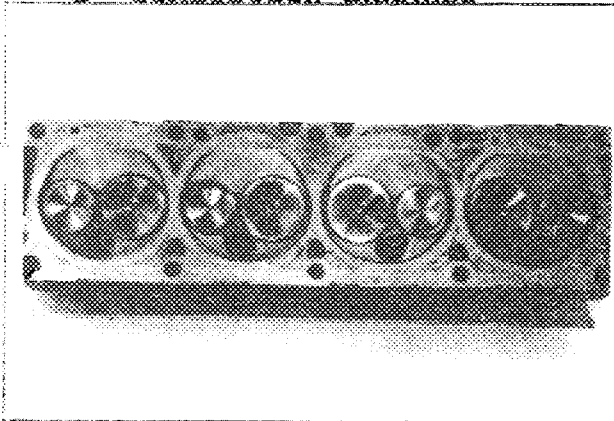
J ENGINE RIGHT (\*\*)



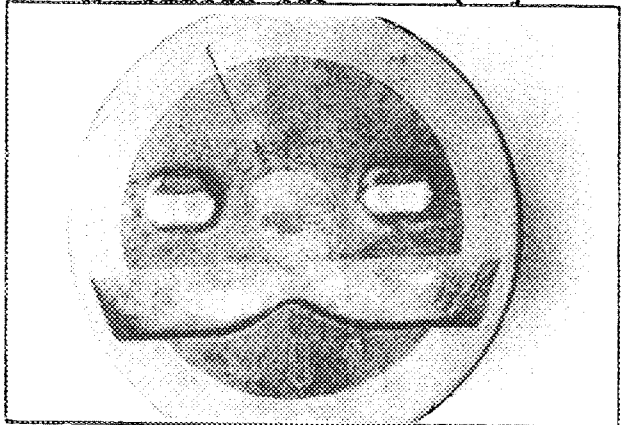
K ENGINE LEFT (\*\*)



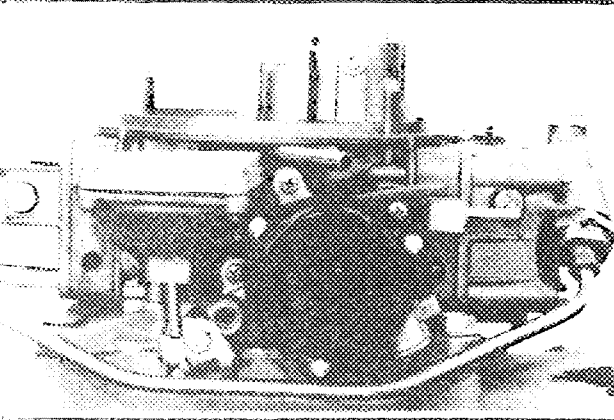
L COMBUSTION CHAMBER



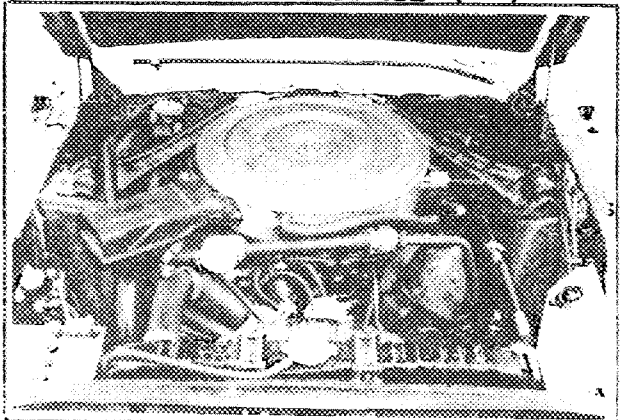
M PISTON TOP (\*)



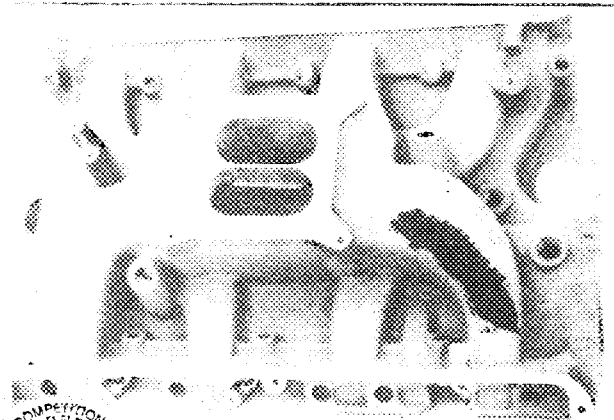
N CARBURETOR (\*)



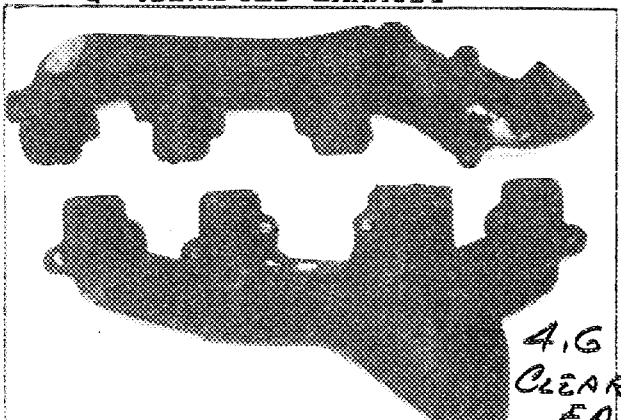
O ENGINE IN PLACE (\*\*)



P MANIFOLD INLET



Q MANIFOLD EXHAUST



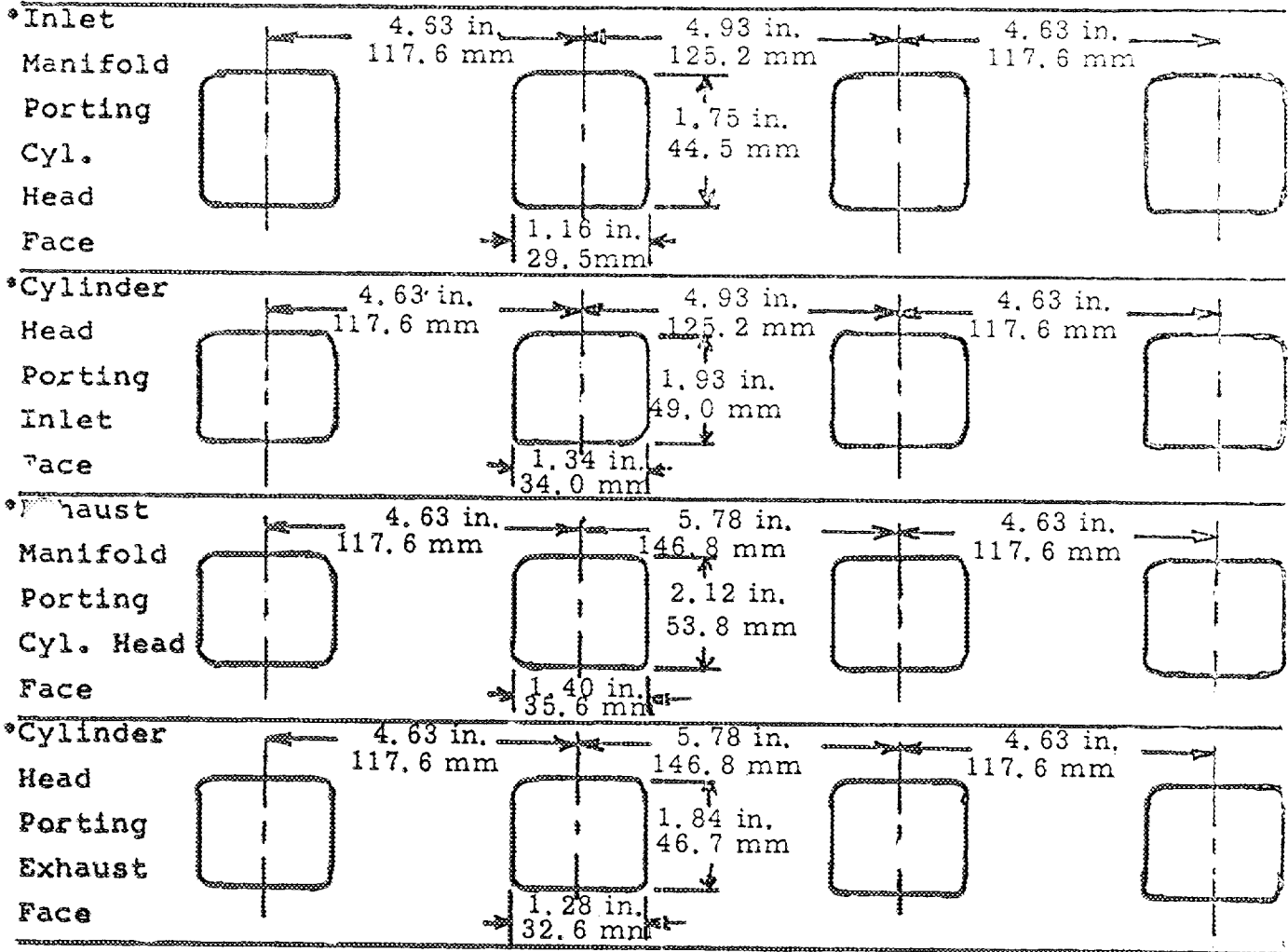
4.6 SQ IN.  
CLEAR AREA  
EACH



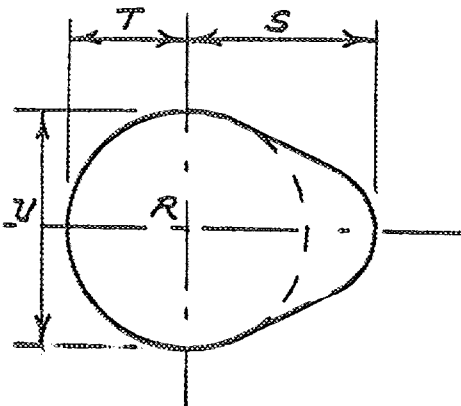
Strip out: ALL SKETCHES MUST INDICATE ACTUAL DIMENSIONS AND MANUFACTURER'S TOLERANCES.

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ALL SKETCHES MUST INDICATE ACTUAL DIMENSIONS AND MANUFACTURER'S TOLERANCES. = + .04 in. or + 1.0 mm



**CAM**



Inlet cam

S=	26.0	mm	1.025	in
T=	19.0	mm	.747	in
U=	37.9	mm	1.494	in

Exhaust cam

S=	26.2	mm	1.030	in
T=	19.0	mm	.747	in
U=	37.9	mm	1.494	in

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MAKE MERCURY MODEL 1968 COUGAR 427 FIA REC # 5204

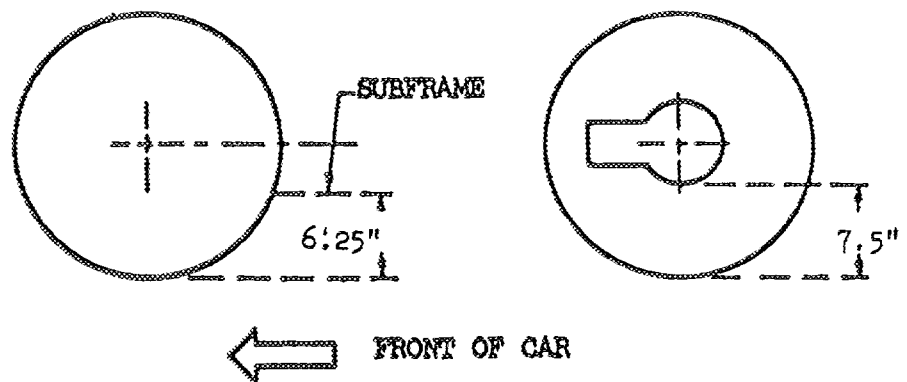
**IMPORTANT:** Questions 1 through 9 must be answered in two measuring systems, one of which must be the metric system.  
See conversion table at index.

**CAPACITIES & DIMENSIONS**

- \*\* ) 1. Wheelbase 2819.4 mm 111 in
  - \*\* ) 2. Front track 1483.4 mm 58.4in + At 0° Camber
  - \*\* ) 3. Rear track 1475.7 mm 58.1in + 0" Toe-In
- + Differences in track resulting from use of optional wheel and rim sizes must be stipulated on recognition application forms. \*See Note Below

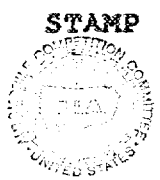
Dimensional relationship between track (front and/or rear) and ground clearance resulting from use of optional wheel sizes shall also be stipulated and a sketch illustrating suspension reference points shall be shown below to establish the "reference chassis height." The reference chassis height dimension is to be used only when checking track and shall not affect eligibility of car in any manner.

Sketch, Ground Clearance: Dimensional Suspension & Chassis Reference Points"



\*NOTE: Geometry changes in front suspension will alter track.

- 4. Overall length of car 483.4 cm 190.3 in
- 5. Overall width of car 181.1 cm 71.3 in
- 6. Overall height of car 131.3 cm 51.7 in
- 7. Capacity of fuel tank (reserve included) / 128.7 / 64.3 ltrs.  
37 / 34 / 17 gallons US 140.0 gallons, Imp.
- 8. Seating capacity Four (4)
- \*\* ) 9. Weight - total weight of car with normal equipment, water, oil and spare wheel but without fuel or repair tools.  
1410 kg 3116 lbs



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CHASSIS & BODYWORK - Photos A, B, C

- (\*\*) 20. Chassis/body construction - separate/unit construction
- (\*\*) 21. Unit construction - material/s Sheet Steel
- (\*\*) 22. Chassis - material/s Steel separate construction
- (\*\*) 23. Body - material/s Steel separate construction
- (\*\*) 24. Doors - number Two (2) material/s Steel
- (\*\*) 25. Hood - material/s Steel
- (\*\*) 26. Trunk Lid - material/s Steel
- 27. Window, Rear - material/s Glass
- 28. Windshield - material/s Glass
- 29. Windows, front door - material/s Glass
- 30. Windows, rear door - material/s D.N.A.
- 31. Windows - actuating system Regulator
- 32. Window, rear quarter - material/s Glass

ACCESSORIES AND UPHOLSTERY

- 38. Heating, interior - yes no
- 39. Air conditioning - yes no
- 40. Ventilation - yes no
- (\*) 41. Seats, front - type of seat and upholstery Bucket - Vinyl
- 42. Seats, front - weight  
(complete with supports & rails out of car) 16 kg 35.2 lbs
- CHECK: BENCH \_\_\_\_\_ BUCKET X CONSOLE INCLUDED \_\_\_\_\_
- 43. Seats, rear - type of seat and upholstery Bench - Cloth and/or Vinyl
- 44. Bumper, front - material/s Steel kg 7.48lbs 16.5 Weight
- 45. Bumper, rear - material/s kg 6.57lbs 14.5 Weight

WHEELS

- 50. Type Steel
- 51. Weight (per wheel, without tire) 8.9kg 19.5 lbs
- 52. Method of attachment Stud and Nut (Five)
- 53. Rim, diameter 356/381 mm 14/15 in
- 54. Rim, width 152/152 mm 6/6 in

STEERING

- 60. Type Recirculating Ball and Nut
- 61. Servo assistance No
- 62. Number of turns of steering wheel from lock to lock 4.6
- 63. In case of servo assistance 3.7



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SUSPENSION

- (\*\*) 70. Suspension, front (photo D) - type Independent  
 (\*\*) 71. Spring - type Coil  
 ( \* ) 72. Stabilizer - if fitted Yes  
 73. Shock absorbers - number Two (2)  
 74. Type Tubular Adjustable  
 (\*\*) 78. Suspension, rear (photo E) - type Live Axle  
 (\*\*) 79. Spring - type Leaf  
 ( \* ) 80. Stabilizer - if fitted No  
 81. Shock absorbers - number Two (2)  
 82. Type Tubular Adjustable

BRAKES (Photos E and F)

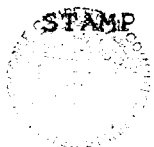
- (\*\*) 90. Method of operation Hydraulic  
 ( \* ) 91. Power assisted (if fitted) - type Pedal Boost  
 92. Master Cylinders - number and type One (1) - Dual  
 (indicate if duplex master cylinder) Front Rear  
 93. Cylinders - number per wheel 4 1  
 94. Cylinders - wheel bore 41.3 mm 1.625 in 23 mm .906 in  
 (indicate stepped bore dimensions if applicable)

Drum Brakes

- |                              | <u>Front</u>                           | <u>Rear</u>                           |
|------------------------------|--|---------------------------------------|
| 95. Diameter, inside         | mm in 254mm                            | 10 in                                 |
| 96. Linings, length          | mm in 495mm                            | 19.5 in                               |
| 97. Linings, width           | mm in 635mm                            | 2.5 in                                |
| 98. Shoes - number per brake | Two (2)                                |                                       |
| 99. Area, total - per brake  | mm <sup>2</sup> in <sup>2</sup> 31,454 | mm <sup>2</sup> 48.75 in <sup>2</sup> |

Disc Brakes

- |                              |  |                 |                 |
|------------------------------|--|-----------------|-----------------|
| 100. Diameter, outside       | 287 mm 11.3 in                               | mm              | in              |
| 101. Thickness of disc       | 23.88 mm .940 in                             | mm              | in              |
| 102. Lining - length         | 124.5 mm 4.9 in                              | mm              | in              |
| 103. Lining - width          | 46.8 mm 1.83 in                              | mm              | in              |
| 104. Pads - number per brake | Two (2)                                      |                 |                 |
| 105. Area, total - per brake | 11,580 mm <sup>2</sup> 217.9 in <sup>2</sup> | mm <sup>2</sup> | in <sup>2</sup> |



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ENGINE (Photos J and K)

- (\*\*) 130. Cycle two four Wankel
- (\*\*) 131. Cylinders - number Eight (8)
- (\*\*) 132. Cylinders - arrangement VEE Wankel - # of elements and basic dimensions
- (\*\*) 133. Bore 107.56 mm 4.23 in
- (\*\*) 134. Stroke 96.11 mm 3.78 in
- (\*\*) 135. Cylinders - capacity 872.8 cm3 53.26 in3
- (\*\*) 136. Cylinders, total capacity 6982.4 cm3 426.1 in3
- (\*\*) 137. Cylinder Block - material/s Cast Iron
- (\*\*) 138. Sleeves - material/s (if fitted) None
- (\*\*) 139. Head, cylinder - material/s Cast Iron number fitted Two (2)
- (\*\*) 140. Port, inlet - number Eight (8) - Four (4) Per Head
- (\*\*) 141. Port, exhaust - number Eight (8) - Four (4) Per Head
- (\*) 142. Compression - ratio 10.4
- (\*) 143. Combustion chamber - volume 74.2<sup>+1.5</sup>cm3 4.54 in3
- (\*) 144. Piston - material/s Aluminum Alloy with Steel Struts
- (\*) 145. Rings - number Three (3)
- (\*) 146. Distance from gudgeon pin centre line to highest point of piston crown 44.75 mm 1.75 in
- (\*\*) 147. Crankshaft - cast-forged-mach from solid
- (\*\*) 148. Crankshaft - type - integral - sectioned - # of sections
- (\*\*) 149. Crankshaft, main bearings - number Five (5)
- (\*\*) 150. Bearing cap - material/s Cast Iron
- 151. Lubrication - system - dry sump/oil in sump
- 152. Lubricant - capacity 5.68 ltrs pts 6 qts US
- (\*) 153. Cooler, oil - yes no
- 154. Cooling - method Water Radiator
- 155. Cooling - capacity of system 19.39 ltrs pts 20.5 qts US

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- (\*) 156. Fan, cooling (if fitted) - diameter 46.36 cm 18.25 in
- (\*) 157. Fan, cooling - number of blades Seven (7) material/s Steel

BEARINGS

- (\*\*) 158. Crankshaft, main - type insert diameter 69.82 mm 2.7488 in
- (\*\*) 159. Connecting rod, big end - type insert diameter 61.94 mm 2.4384 in

WEIGHTS

- (\*) 160. Flywheel (clean) 18.14 kg 40.1 lbs
- (\*) 161. Flywheel with clutch (all rotating parts) 29.6 kg 65.35 lbs
- (\*) 162. Crankshaft 30.72 kg 67.9 lbs
- 163. Connecting Rod .831 kg 1.84 lbs
- (\*) 164. Piston with rings & pin .863 kg 1.90 lbs

FOUR CYCLE ENGINES

- (\*\*) 170. Camshafts - number One (1) material/s Alloy Iron
- (\*\*) 171. Camshaft - location Cylinder Block
- (\*\*) 172. Camshaft Drive, type Chain
- (\*\*) 173. Valve operation - type Tappet, Pushrod, Rocker

INLET (See Photo P) (for addtl info re 2 stroke engines and super charged, see page 15)

- 180. Inlet manifold - materials Aluminum or Cast Iron
- 181. Valves (overall) - diameter 53.26 mm 2.097 in
- (\*) 182. Valve lift - maximum 12.22 mm .481 in
- 183. Springs, valve - number Two (2)
- 184. Spring - type Coil
- (\*\*) 185. Valves, per cylinder - number One (1)
- (\*) 186. Tappet - clearance for checking timing (cold) 0 mm 0 in
- (\*) 187. Valves - open at (with tolerance for tappet clearance indicated) 18° BTC
- (\*) 188. Valves - close at (with tolerance for tappet clearance indicated) 72° ABC
- (\*) 189. Air filter - type Dry Element

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EXHAUST (See Photo Q)

195. Manifold, exhaust - material/s Cast Iron
196. Valves (overall) - diameter 43.05 mm 1.695 in
197. Valve, lift - maximum 12.45 mm .490 in
198. Valve Springs/valve - number Two (2)
199. Springs - type Coil
- (\*\*) 200. Valves - number per cylinder One (1)
- (\*) 201. Tappet - clearance for checking timing (cold)  
0 mm 0 in
- (\*) 202. Valves - open at (with tolerance for tappet 82° BBC  
clearance indicated)
- (\*) 203. Valves - close at (with tolerance for tappet 28° ATC  
clearance indicated)

CARBURETION (See Photo N)

210. Carburetors, fitted - number One (1)
211. Type 4V Down Draft
- (\*) 212. Make Holley
- (\*) 213. Model 9510
214. Carburetors - number of mixture passages Four (4)
- (\*) 215. Carburetor - flange hole diameter of exit port  
39.6 mm 1.561 in
216. Venturi - throat diameter+ 31.8 prim.mm 1.25 in prim.  
33.3 sec. 1.3125 in sec.

INJECTION

220. Pump - make
221. Plungers - number None Fitted
- (\*) 222. Pump - model
223. Injectors - location
224. Injectors - total number
- (\*) 225. Inlet pipe - minimum diameter mm in

+ For variable throat type carburetors, indicate minimum lift of shutter mechanism such as pistons in S.U.

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ENGINE ACCESSORIES

- ( \*) 230. Pump, fuel - mechanical and/or electrical
- 231. Number fitted One (1) Each - Total Two (2)
- 232. Ignition system - type Battery and Coil
- 233. Distributors - number One (1)
- 234. Coils, ignition - number One (1)
- 235. Spark plugs - number per cylinder One (1)
- 236. Generator (or Alternator) - number fitted One (1)
- 237. Drive - method Belt
- 238. Voltage, generator - volts 12.8
- 239. Battery - number One (1)
- 240. Location Front of Car
- 241. Voltage - volts 12 amp hrs 55

ENGINE & CAR PERFORMANCE as declared by mfr. in catalogue

- ( \*) 250. Horsepower - maximum engine output 390 at 5600 rpm S.A.E.  
(indicate SAE or DIN)
- ( \*) 251. RPM - maximum 5600 output at that figure 390
- ( \*) 252. Torque - maximum 460 at 3200 rpm
- ( \*) 253. Speed - maximum km/hour miles/hour

DRIVE TRAIN

Clutch

- 260. Type Dry Plate
- 261. Plates - number of driven One (1)
- 262. Plates - diameter 29.2 cm 11.5 in
- 263. Linings - diameter - inside 17.78 cm 7 in  
Linings - diameter - outside 29.2 cm 11.5 in
- 264. Method of operation Mechanical

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Gear Box (Photo H)

- (\*\*) 270. Manual type - make Ford
- (\*\*) 271. Ratios, forward - number Four (4)
- 272. Ratios, forward - number synchronized Four (4)
- 273. Gear-Shift - location Floor optional
- (\*\*) 274. Automatic - make Ford type Hydraulic with Planetary Gears and Torque Converter
- (\*\*) 275. Ratios, forward - number Three (3)
- 276. Gear-Shift - location Floor

277.	Manual		Automatic		Alternative manual/automatic			
	Ratio	# Teeth	Ratio	# Teeth	Ratio	# Teeth	Ratio	# Teeth
1	2.78	$\frac{23}{30} \frac{32}{15}$	2.46	Maximum Torque Converter Ratio at Stall 2.08:1	2.32	$\frac{23}{25} \frac{32}{15}$		
2	1.93	$\frac{23}{30} \frac{31}{21}$	1.46		1.69	$\frac{23}{25} \frac{28}{18}$		
3	1.36	$\frac{23}{30} \frac{25}{24}$	1.00		1.29	$\frac{23}{25} \frac{25}{21}$		
4	1.00	Direct			1.00	Direct		
5								
6								
reverse	2.78		2.175		2.32			

- 278. Overdrive - type None Fitted
- 279. Forward gears on which overdrive can be selected
- 280. Overdrive - ratio

FINAL DRIVE

- (\*\*) 290. Type Hypoid - Semi-Floating - Straddle Mounted Pinion
- (\*\*) 291. Differential - type Locking - By Ratchet or Roller
- (\*\*) 292. Limited Slip Differential (if fitted) - type Positive Locking (Ratchet or Roller)
- 293. Ratio 3.0 3.25 3.50 4.11 3.70 3.89
- Teeth - number  $\frac{39}{13} \frac{39}{12} \frac{35}{10} \frac{37}{9} \frac{37}{10} \frac{35}{9}$

( / ) Specify friction or positive locking type



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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 technical inspection when the vehicle has been entered in Group II (Touring Cars) or III (Grand Touring Cars):

41, 72, 80, 91, 142, 143, 144, 145, 146, 153, 156, 157, 160, 161, 162, 163, 164, 182, 186, 187, 188, 189, 201, 202, 203, 212, 213, 215, 216, 222, 225, 230, 250, 251, 252, 253, 255, photos I, M, N & items on page 5 as indicated.

During the technical inspection of cars entered in Group IV (Sports Cars) 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 & photos A, B, D, E, F, G, H, J, K, O.

Optional equipment affecting preceding information:

CATALOGUE PART NUMBER MUST BE GIVEN

W-64000	Power Steering	28 LBS.										
W-65000	Air Conditioning	75 LBS.										
S7MS 6675-B	Sump Guard	17.4 LBS										
04HM 1007-7M	Wheels 15 x 7 in. - 381 x 178 mm Steel and/or Aluminum		<table border="0"> <tr> <td></td> <td colspan="2" style="text-align: center;">Track</td> </tr> <tr> <td></td> <td style="text-align: center;">Front</td> <td style="text-align: center;">Rear</td> </tr> <tr> <td></td> <td style="text-align: center;">58.9"</td> <td style="text-align: center;">58.6"</td> </tr> </table>		Track			Front	Rear		58.9"	58.6"
	Track											
	Front	Rear										
	58.9"	58.6"										
SIMK 6642-A	Engine Oil Cooler Kit - Includes:	9.6 LBS CAP 1.7 QTS.										
	1 Radiator - Oil											
	1 Adapter											
	2 Hoses											
	Required Brackets, Fittings, Gaskets, Attaching Parts											

STAMP

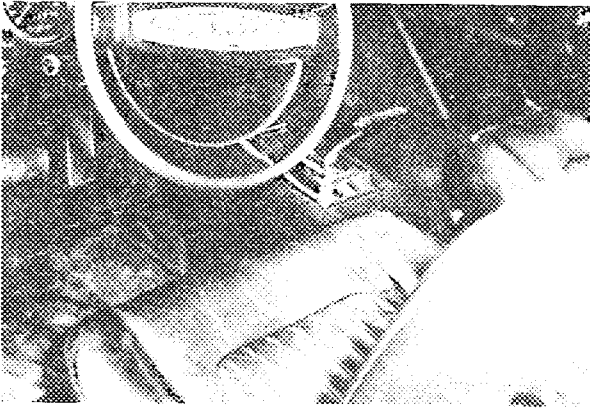


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MAKE MERCURY MODEL 1968 COUGAR FIA REC # 5204

Optional Equipment - CATALOGUE PART NUMBER MUST BE GIVEN



INTERIOR OF CAR WITH AUTOMATIC GEARBOX



37 GAL. GAS TANK WITH  
EXTERNAL FILLER ASSY.

36 LBS.

STAMP



STAMP

