

AC Cobra 427

1966



DIMENSIONS

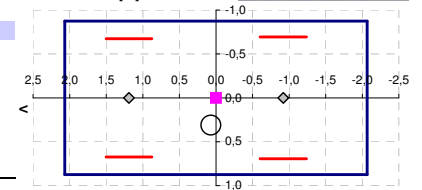
4 Wheels	Length	4,135m	Wheelbase	2,110m
Ground clearance	Width	1,750m	Front track	1,348m
0,150m	Body height	0,900m	Rear track	1,389m

NullPoint (0,0,0)

Supposed at:
of body base

0,469m

UPPER VIEW [m]



WEIGHTS

Body	1.035kg		
Engine	1.035kg		
Front wheels	40kg	+	
Rear wheels	44kg	84kg	
DISTRIBUTION front	44%	1.119kg	
rear	56%		

Steering wheel		X pitch	Y yaw	Z roll
Center of gravity [m]			-0,22	
Rotational inertias [kg.m ²]		1.900	2.200	500
	Estimated [kg.m ²]	(1.225)	(1.225)	(214)

ENGINE

Maximum power	518 CV	8.000rpm	max
Maximum torque	625 N.m	5.828rpm	(384kW)
		1.000rpm	(64mkp)
CONSUMPTION		0,0000200 g/J	
Fuel tank	50 L Gasoline		(default values)

AERODYNAMIC

Frontal area	2,20m ²		
COEFFICIENTS			
	width	span	
Overall Lift	1,00	1,00	32,00
Rear Wing	1,00	1,00	42,00

TRANSMISSION

Drive:	rear		gears	4
Gearbox:	manual		differential ratio	3,54
HELP TO DRIVE:				
	without ABS		SHIFT:	
	without ASD	8.000rpm	At max RPM	

BRAKES

	BRAKE TORQUE	BRAKE FORCE		Handbrake:
front	1.650 N.m	10.555 N	59%	To wheels rear
rear	1.150 N.m	7.235 N	41%	
		17.790 N		

STEERING

Steer lock	1,0	between locks	To front wheel	
Turning diameter	8,11	m	Ackerman	1,00
STEERING WHEEL POSITION		X	Y	Z
	m	0,31	0,12	0,07

SUSPENSION

LENGTH					kerb weight
[m]	hung	min	max	inicio	weight [kg]
Front	0,430	0,300	0,450	0,388	204
Rear	0,450	0,300	0,470	0,387	272
STIFFNESS [N/m]					
	Front	250.000	48.000	40.268	32.000
	Rear	250.000	42.000	35.959	22.000

ROLL CENTER

		X	Y	Z
Front	m		-0,65	1,19
Rear	m		-0,60	-0,92
SUSPENSION POSITION		X	Y	Z
Wheel				
	0	0,67	0,08	1,19
	1	-0,67	0,08	1,19
	2	0,69	0,08	-0,92
	3	-0,69	0,08	-0,92

WHEELS

	[m]	Radius	Perimeter	optimal values	
Front	0,313	1,964	0,100	SA [rad]	-
Rear	0,318	1,997	0,080	0,185	-
media	0,315	1,981			-

TEORICAL PERFORMANCE

Speed	329 km/h	By power	(204mph)
	269 km/h	By transmission	(167mph)
Acceleration	3,66 seg	from 0 a 100 km/h	(2,16s Weight/Power)
	13,61 seg	from 0 to 400 m	
	24,57 seg	from 0 to 1000 m	
Brake	8,7m	from 60 to 0 km/h	
	47,5m	from 140 to 0 km/h	
Adelantament	1,05 seg	from 20 a 50 km/h in 2ª	
	2,25 seg	from 60 to 120 km/h in 3ª	
	2,05 seg	from 80 to 120 km/h in 4ª	
Consumption	1,3 L	at 90km/h	
100 km	1,9 L	at 120km/h	
	2,64 L	Km at 120km/h	
TRANSVERSAL DYNAMIC			
V = 269 km/h	Roll over	Longitudinal	Transversal
	1,89G		2,26G
	Amáx 1,25G (197%)		
	Fmáx -2,1G (130%)		
V = 0 km/h	1,89G		1,64G
	Amáx 0,92G (66%)		
	Fmáx -1,2G (74%)		
	(% of available acceleration/braking)		

AERODYNAMIC CHANGES

	V [km/h]	+/- ΔM [kg]	+/- ΔAx	- ΔAz
	100	66	5,9%	-0,03G
	150	148	13,2%	-0,08G
	200	263	23,5%	-0,14G
	250	410	36,7%	-0,21G
	300	591	52,8%	-0,31G

GEAR RATIOS

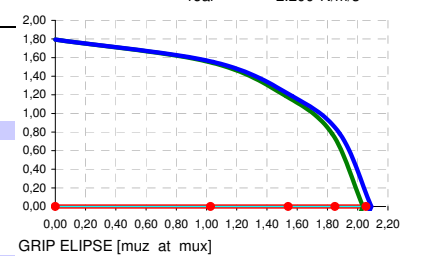
	V [km/h]	+ Az
1ª	2,200	122
2ª	1,660	162
3ª	1,310	205
4ª	1,000	269
5ª		
6ª		
7ª		
8ª		
9ª		
MA	-2,32	-116
		-1,47G

WHEELS ANGLE

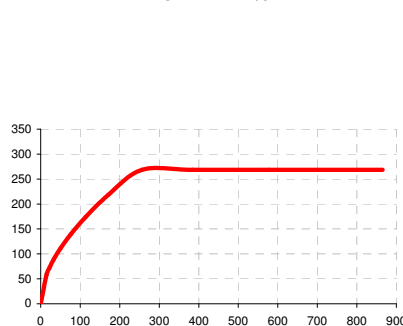
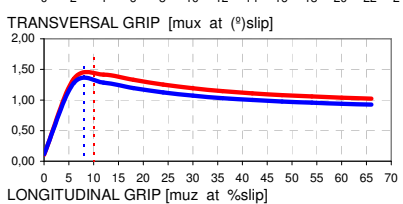
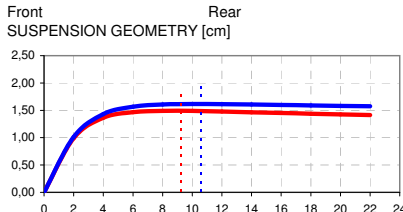
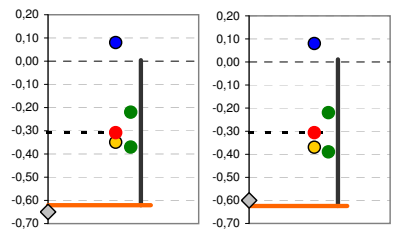
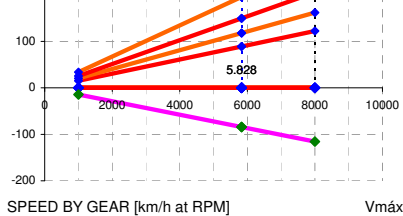
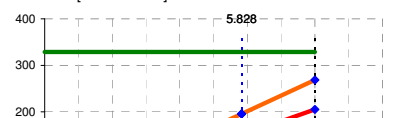
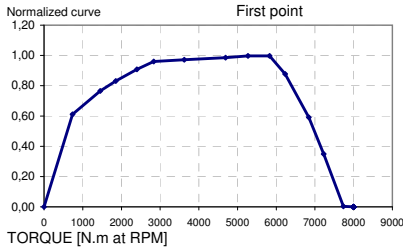
	° out	° in
1,25	1,27	
2,50	2,57	
5,00	5,30	
10,00	11,26	

RESUME

Vertical stiffness	k 152.455 N/m
Frecuencie	w 1,93 Hz
Wheel vertical stiffness	k 1.000.000 N/m
Frecuencie	w 17,37 Hz

Damping 9%
critical real
25.123 N/m/s
2.200 N/m/s

GRIP ELIPSE [muzz at mux]

SPEED AT CURVE [km/h at R curve, m]
With Az = 0

COMMENTS BY MODELERS

Blue with White Stripes
Model by NightEye / INI by CUL8R / Dials by Frank H

version RACER: 050f