

Alfa Romeo 8C 2900B LeMans

1938



DIMENSIONS

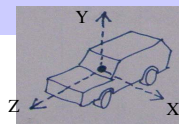
4 Wheels	Length	4,700m	Wheelbase	2,880m
Ground clearance	Width	1,700m	Front track	1,158m
0,150m	Body height	1,200m	Rear track	1,158m

NullPoint (0,0,0)

Supposed at: 0,423m

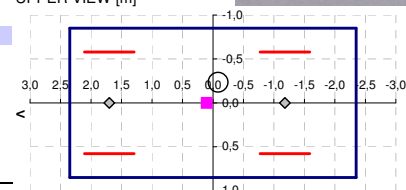
of body base

UPPER VIEW [m]

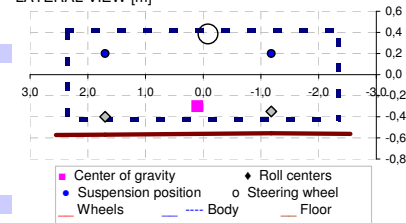


WEIGHTS

Body	870kg			
Engine	200kg	1.070kg	SPRUNG WEIGHT	
Front wheels	40kg	+		
Rear wheels	40kg	80kg	UNSPRUNG WEIGHT	
DISTRIBUTION front	44%	1.150kg	TOTAL MASS	
rear	56%			
Steering wheel		X pitch	Y yaw	Z roll
Center of gravity [m]				
Rotational inertias [kg.m ²]		2.150	-0,30	0,10
	Estimated [kg.m ²]	(2.355)	(2.355)	(208)



LATERAL VIEW [m]



AERODYNAMIC CHANGES

	V [km/h]	+/- ΔM [kg]	+/- ΔAx	- ΔAz
	100			-0,03G
	150			-0,06G
	200			-0,11G
	250			-0,16G
	300			-0,24G

GEAR RATIOS	V [km/h]	+ ΔAz
1 ^a 2,440	99	0,58G
2 ^a 1,500	162	0,36G
3 ^a 1,140	213	0,27G
4 ^a 0,880	276	0,21G
5 ^a		
6 ^a		
7 ^a		
8 ^a		
9 ^a		
MA -3,15	-77	-0,75G

ENGINE

Maximum power	214 CV	6.025rpm	max
Maximum torque	288 N.m	5.223rpm	(158kW)
		970rpm	(29mkp)
CONSUMPTION		0,0000200 g/J	
Fuel tank	50 L Gasoline		(default values)

AERODYNAMIC

Frontal area	1,70m ²		
COEFFICIENTS	longitudinal [Z]	Cx 0,350	vertical [Y]

TRANSMISSION

Drive:	rear	gears	4
Gearbox:	manual	differential ratio	3,80
HELP TO DRIVE:			
without ABS		SHIFT:	
without ASD		At max RPM	

BRAKES

	front	rear	Handbrake:
BRAKE TORQUE	1.500 N.m	7.389 N	To wheels rear
BRAKE FORCE	1.000 N.m	4.926 N	
		12.315 N	
			Az [m/s ²]
			-1,09G

STEERING

Steer lock	0,3	between locks	To front wheels
Turning diameter	13,91	m	Ackerman
STEERING WHEEL POSITION		X	Y
		-0,23	0,39
			-0,08

SUSPENSION

LENGTH	hung	min	max	kerb weight
	[m]			inicio ● weight [kg]
Front	0,406	0,350	0,560	0,363
Rear	0,406	0,350	0,560	0,350
STIFFNESS [N/m]		Wheels	Susp.	Total
Front	200.000	49.000	39.357	8.000
Rear	200.000	49.000	39.357	5.000

ROLL CENTER

	Front	Rear	X	Y	Z
			m		
				-0,40	1,70
				-0,35	-1,18
SUSPENSION POSITION			X	Y	Z
Wheel			0	0,58	0,20
			1	-0,58	0,20
			2	0,58	0,20
			3	-0,58	0,20

WHEELS

	[m]	Radius	Perimeter	optimal values
				SR [-] SA [rad]
Front	0,406	2,551	0,110	0,147
Rear	0,406	2,551	0,110	0,147
media	0,406	2,551		

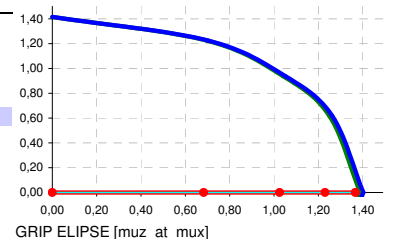
THEORICAL PERFORMANCE

Speed	261 km/h	By power	(162mph)
	276 km/h	By transmission	(171mph)
Acceleration	8,12 seg	from 0 a 100 km/h	(5,37s Weight/Power)
	15,71 seg	from 0 to 400 m	
	27,18 seg	from 0 to 1000 m	
Brake	13,0m	from 60 to 0 km/h	
	70,5m	from 140 to 0 km/h	
Adelantament	3,26 seg	from 20 a 50 km/h in 2 ^a	
	7,78 seg	from 60 to 120 km/h in 3 ^a	
	7,56 seg	from 80 to 120 km/h in 4 ^a	
Consumption		1,1 L at 90km/h	
100 km		1,6 L at 120km/h	
		3.105 Km at 120km/h	
TRANSVERSAL DYNAMIC			
V = 261 km/h	Roll over	Longitudinal	Transversal
	2,33G		1,50G
		Amáx 0,99G (472%)	
		Fmáx -1,23G (113%)	
V = 0 km/h			
	2,33G		1,50G
		Amáx 0,91G (156%)	
		Fmáx -1,4G (128%)	
		(% of available acceleration/braking)	

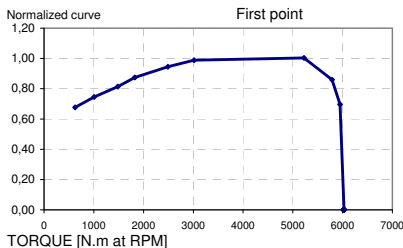
WHEELS ANGLE	° out	° in
	1,25	1,39
	2,50	2,80
	5,00	5,70
	10,00	11,82

RESUME

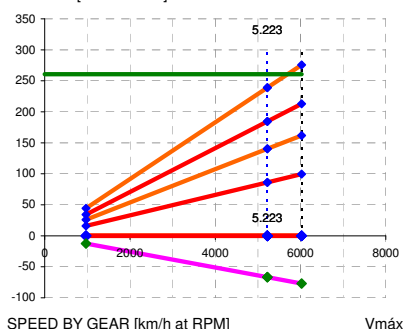
Vertical stiffness	k 157.430 N/m
Frecuencie	w 1,93 Hz
Wheel vertical stiffness	k 800.000 N/m
Frecuencie	w 15,92 Hz

Damping 29%
critical real
25.958 N/m/s
7.600 N/m/s

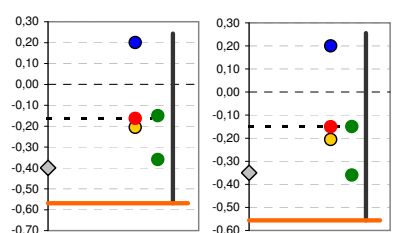
GRIP ELIPSE [muzz at mux]

ROLL COEFFICIENT
0,015

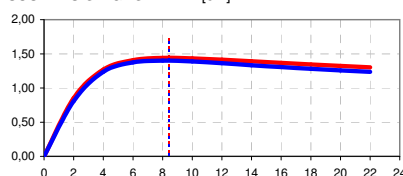
TORQUE [N.m at RPM]



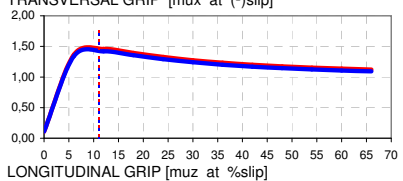
SPEED BY GEAR [km/h at RPM]



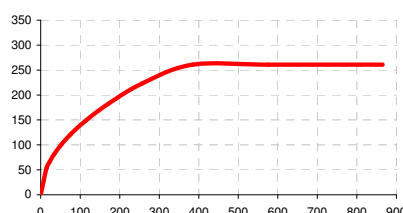
SUSPENSION GEOMETRY [cm]



LONGITUDINAL GRIP [muzz at %slip]



TRANSVERSAL GRIP [muzz at %slip]



SPEED AT CURVE [km/h at R curve,m]

With Az = 0

COMMENTS BY MODELERS

http://www.motorsport-klassiker.de.vu/

Version 2,01 >> RACER version 5.3 BETA 2.1 compatible <<

version RACER: 053b21