Sheet Version V05 11/01/2011

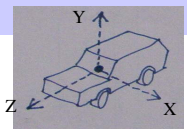
Ferrari Dino 246 GT 1969

4 Wheels

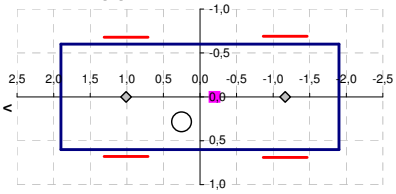
DIMENSIONS

Total height	0,919m	Length	3,800m	Wheelbase	2,175m
Ground clearance	0,119m	Width	1,200m	Front track	1,360m
		Body heigth	0,800m	Rear track	1,380m

NullPoint (0,0,0) Supossed at: 0,450m of body base



UPPER VIEW [m]

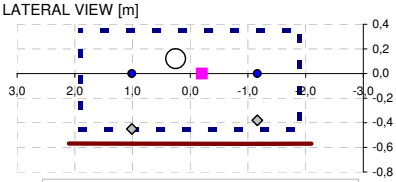


WEIGHTS

Body	1.080kg		
Engine		1.080kg	SPRUNG WEIGHT
Front wheels	25kg	+	
Rear wheels	25kg	50kg	UNSPRUNG WEIGHT
DISTRIBUTION front	44%	1.130kg	TOTAL MASS
rear	56%		

	X pitch	Y yaw	Z roll
Steering wheel			
Center of gravity [m]			-0,20
Rotational inertias [kg.m2]	1.500	1.600	190
Estimated [kg.m2]	(1.319)	(1.319)	(102)

LATERAL VIEW [m]

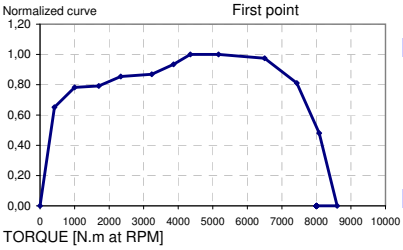


Center of gravity ♦ Roll centers
Suspension position o Steering wheel
Wheels ---- Body Floor

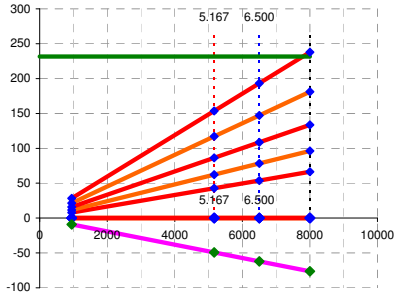
ENGINE

		8.000rpm	max
Maximum power	173 CV	6.500rpm	(128kW)
Maximum torque	192 N.m	5.167rpm	(20mkp)
		950rpm	min
CONSUMPTION		0,0000200 g/J	*(default values)*
Fuel tank	50 L	Gasoline	

Normalized curve First point



TORQUE [N.m at RPM]



SPEED BY GEAR [km/h at RPM] Vmáx

AERODYNAMIC

Frontal area 2,20m2 →→→ ↑↑↑↑↑↑

COEFFICIENTS	width	longitudinal [Z] span	Cx 0,310 Cd	vertical [Y] angle	-Kd 0,1072 Kd
overall body lif	1,00	1,00	-9,50	1,00	-0,1072

AERODYNAMIC CHANGES

V [km/h]	+/- ΔM [kg]	+/- ΔAx	- ΔAz
100	-8	**-0,7%**	**-0,03G**
150	-19	**-1,7%**	**-0,07G**
200	-34	**-3,0%**	**-0,12G**
250	-53	**-4,7%**	**-0,19G**
300	-76	**-6,7%**	**-0,28G**

TRANSMISION

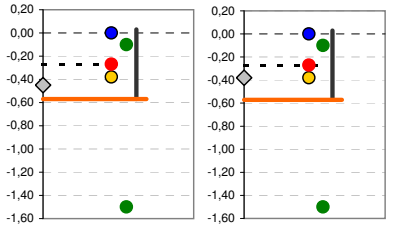
Drive:	rear	gears	5
Gearbox:	manual	differential ratio	4,44
HELP TO DRIVE:			
	without ABS	SHIFT:	
	without ASD	8.000rpm	At max RPM

0,26 +Fz

GEAR RATIOS		V [km/h]	+ Az
1ª	3,075	66	**0,79G**
2ª	2,117	96	**0,54G**
3ª	1,524	134	**0,39G**
4ª	1,125	181	**0,29G**
5ª	0,857	238	**0,22G**
6ª			
7ª			
8ª			
9ª			
MA	-2,67	-76	**-0,68G**

BRAKES

	BRAKE TORQUE	BRAKE FORCE		Handbrake:
front	1.000 N.m	6.667 N	59%	To wheels rear
rear	700 N.m	4.667 N	41%	**Az [m/s2]**
		11.333 N		**-1,02G**



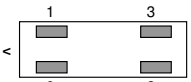
SUSPENSION GEOMETRY [cm]

STEERING

Steer lock	0,3	between locks		To front wheels	
Turning diameter	9,77	m		Ackerman	1,10
STEERING WHEEL POSITION		X	Y	Z	
	m	0,29	0,12	0,25	

WHEELS ANGLE

º out	º in
1,25	1,39
2,50	2,83
5,00	5,82
10,00	12,34



SUSPENSION

LENGTH				kerb weight	
[m]	hung	mín	max	inicio ●	weight [kg]
Front	0,380	0,100	1,500	0,269	226
Rear	0,380	0,100	1,500	0,271	289

STIFFNESS [N/m]	Wheels	Susp.	Total	antiroll
Front	290.000	20.000	18.710	8.000
Rear	290.000	26.000	23.861	3.000

ROLL CENTER		X	Y	Z
Front	m		-0,45	1,01
Rear	m		-0,38	-1,17

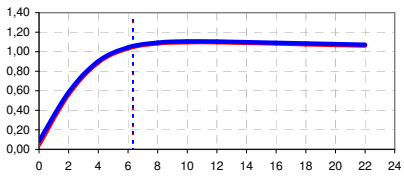
SUSPENSION POSITION	[m]	X	Y	Z
Wheel	0	0,68		1,01
	1	-0,68		1,01
	2	0,69		-1,17
	3	-0,69		-1,17

RESUME

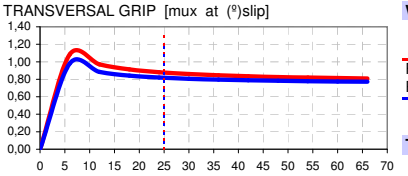
Vertical stiffness	k 85.141 N/m
Frecuencie	w 1,41 Hz
Wheel vertical stiffness	k 1.160.000 N/m
Frecuencie	w 24,24 Hz

Damping 12%

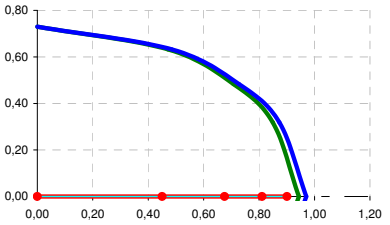
critical	19.178 N/m/s
real	2.210 N/m/s



TRANSVERSAL GRIP [mux at (º)slip]



LONGITUDINAL GRIP [muz at %slip]



GRIP ELIPSE [muz at mux]

WHEELS

	optimal values			
[m]	Radius	Perimeter	SR [-]	SA [rad]
Front	0,300	1,885	0,250	0,110
Rear	0,300	1,885	0,250	0,110
media	0,300	1,885		

TEORICAL PERFORMANCE

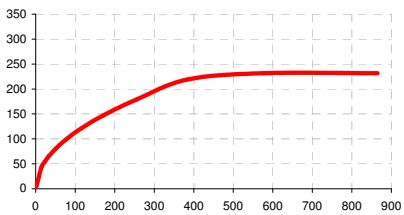
Speed	232 km/h	By power	(144mph)
	238 km/h	By transmision	(148mph)
Acceleration	7,98 seg	from 0 a 100 km/h	(6,53s Weight/Power)
	16,68 seg	from 0 to 400 m	
	28,35 seg	from 0 to 1000 m	
Brake	13,8m	from 60 to 0 km/h	
	75,3m	from 140 to 0 km/h	
Adelantament	1,89 seg	from 20 a 50 km/h in 2ª	
	7,40 seg	from 60 to 120 km/h in 4ª	
	4,83 seg	from 80 to 120 km/h in 4ª	
Consumption		1,2 L at 90km/h	
100 km		1,8 L at 120km/h	
	Autonomy	2.825 Km at 120km/h	

ROLL COEFFICIENT 0,015 *(default values)*

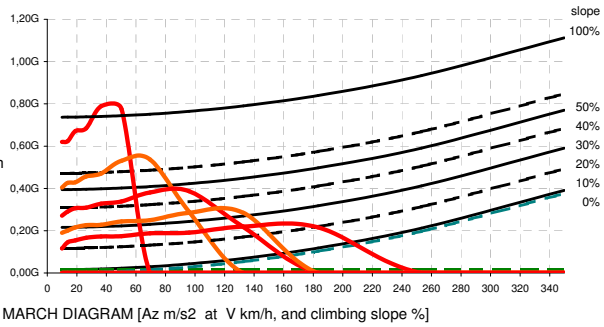
TRANSVERSAL DYNAMIC

	Roll over	Longitudinal	Transversal
V = 232 km/h	1,28G		0,96G
		Amáx 0,57G (260%)	
		Fmáx -0,72G (70%)	
V = 0 km/h	1,28G		1,00G
		Amáx 0,54G (68%)	
		Fmáx -0,8G (79%)	

(% of available aceleration/braking)



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



MARCH DIAGRAM [Az m/s2 at V km/h, and climbing slope %]

COMMENTS BY MODELERS

Release v1,0
by loungekid

version RACER: 050b6