

VEHICLE DATA SHEET

FERRARI

DATE 5/15/2006

BASIC DATA						
CURB WEIGHT lb	2900		KG:	1318.2		
WEIGHT DIST. %	FRONT	42.5	REAR	57.5		
AXLE WEIGHT lb	FRONT	1233	REAR	1668		
WHEELBASE IN	92.1		CM	233.9		
CENTER OF GRAVITY HEIGHT IN	16.75		CM	42.545		EST
FRONT TIRE SIZE	225	0.45	17			
REAR TIRE SIZE	245	0.4	17			
FRONT TIRE DIAMETER MM / IN	FRONT	634.3	25.1		317.2	12.6 RADIUS
REAR TIRE DIAMETER MM / IN	REAR	627.8	24.7		313.9	12.4 RADIUS
TOP SPEED	MPH	155	M/S	69.3		
VEHICLE KINETIC ENERGY KJ	6,961					
FRONT Master Cylinder Dia. Inches	0.865	MM	22.0			
REAR Master Cylinder Dia. Inches	0.865	MM	22.0			
FRONT MC press with pedal force	pedal force lb	30	MC PSI	230		
REAR MC press with pedal force	pedal force lb	30	MC PSI	230		
PEDAL RATIO	4.5					
PROPORTIONING VALVE	0.7					
BOOSTER RATIO	4					
Total Pressure, w/prop valve and booster	PSI F-R	919	644	BAR F-R	62.5	43.8

OEM CONDITION						
OE CALIPER FRONT	P2	48	0	MULTIPLIER	2	
OE CALIPER REAR	P2	38	0	MULTIPLIER	2	
TOTAL CAR CALIPER VOLUME	pad travel mm	1	TOTAL	9,238.4		9.2 cc
MASTER CYLINDER VOLUME	bore x stroke	22	24	28,632.3		28.6 cc
RESERVOIR VOLUME	50.8	50.8	50.8	131,096.51		131.1 cc
DISC FRONT DIA X WIDTH	274	28		Effective Radius		111.6
DISC REAR DIA X WIDTH	279	16		Effective Radius		114.1
PAD MATERIAL	FRONT	OE	REAR	OE		
COEFFICIENT OF FRICTION (EST) <i>mu</i>	FRONT	0.35	REAR	0.35		
OE PISTON AREA PER CALIPER CM	FRONT	36.17	REAR	22.67		
Brake Torque, per wheel @ 50 bar, in Nm	FRONT	706	REAR	453		
Static brake torque balance %	FRONT	60.9%	REAR	39.1%		
Brake Torque, per wheel @ 50 bar, in Nm	FRONT	706	Rear pressure w/prop valve	REAR	317	
True balance %	FRONT	69.0%	Rear balance w/prop valve	REAR	31.0%	
1 G deceleration brake torque balance						
Brake Torque Nm, Front @ 88 bar, Rear @ 62 bar	FRONT	1243	REAR	561		
Static brake torque balance %	FRONT	68.9%	REAR	31.1%		

BREMBO KIT						
CALIPER FRONT	P4	36	40	MULTIPLIER	2	
CALIPER REAR	P2	38	0	MULTIPLIER	2	
TOTAL CAR CALIPER VOLUME	pad travel mm	1	TOTAL	22,529.2		22.5 cc
MASTER CYLINDER VOLUME	bore x stroke	22	24	28,632.3		28.6 cc
RESERVOIR VOLUME LxWxH	50.8	50.8	50.8	131,096.51		131.1 cc
DISC FRONT DIA X WIDTH	313	28		Effective Radius		131.1
DISC REAR DIA X WIDTH	279	16		Effective Radius		114.1
PADS MATERIAL	FRONT	DS1100	REAR	DS3000		
COEFFICIENT OF FRICTION <i>mu</i>	FRONT	0.45	REAR	0.62		
KIT PISTON AREA PER CALIPER CM	FRONT	45.47	REAR	22.67		
Brake Torque, per wheel @ 50 bar, in Nm	FRONT	1341	REAR	802		
Static brake torque balance %	FRONT	62.6%	REAR	37.4%		
Brake Torque, per wheel @ 50 bar, in Nm	FRONT	1,341	Rear pressure w/prop valve	REAR	561	
True balance %	FRONT	70.5%	Rear balance w/prop valve	REAR	29.5%	
1 G deceleration brake torque balance						
Brake Torque Nm, Front @ 62 bar, Rear @ 48 bar	FRONT	1663	REAR	770		
Static brake torque balance %	FRONT	68.4%	REAR	31.6%		

WEIGHT TRANSFER TO FRONT AXLE DURING DECELERATION

WEIGHT	CG height	TRACK	G force	TRANSFER LB
2900	16.75	92	1.00	527.4
Axle weight during 1.0 G deceleration, Lbs	FRONT	1760	REAR	1140

At 1 G deceleration, car makes 1.3 times more braking torque, with 30% less system pressure, than in OE condition

At 1 G deceleration, car makes 2346 Nm of brake torque, equal to about 1730 F/Lb of torque

Note that at 1 G deceleration, the rear axle has 39% of the cars weight, and the brake torque for the rear is 32%, nicely balanced