

BLITZKRIEG

INC. 14'

Baja SAE India

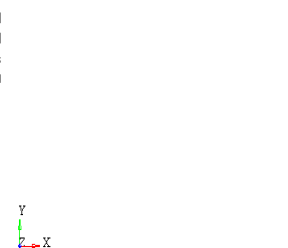
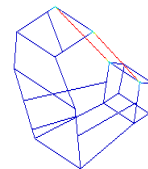
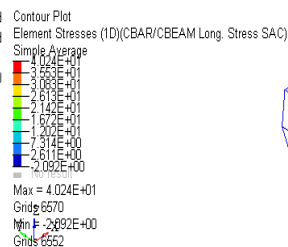
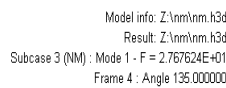
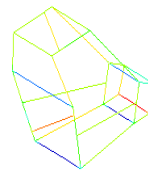
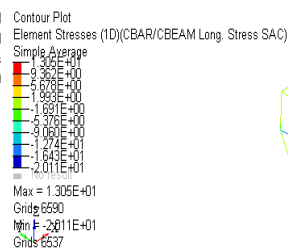
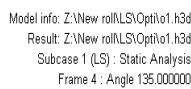
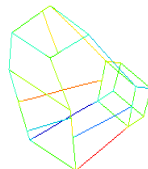
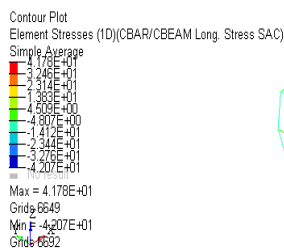
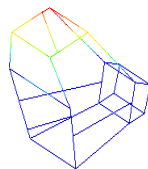
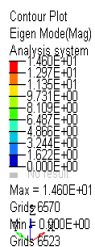
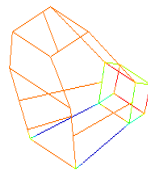
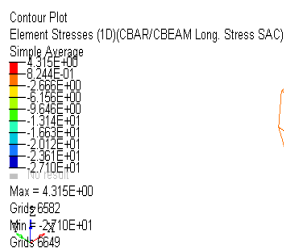
ROLL CAGE:

The material we have selected is AISI 1018. The properties of the material are:

	ASTM 106-B	AISI 1018	CHROMOLY
Tensile str. (MPa)	429.98	634	560.5
Yield Stress (MPa)	371.96	365	360.6
E (GPa)	200	200	200
W (Kg/m)	1.615	1.9	1.2

TYPE OF WELD: TIG WELDING

ROLL CAGE TESTING:



Pipe Diameter :

Outer diameter : 1 inch

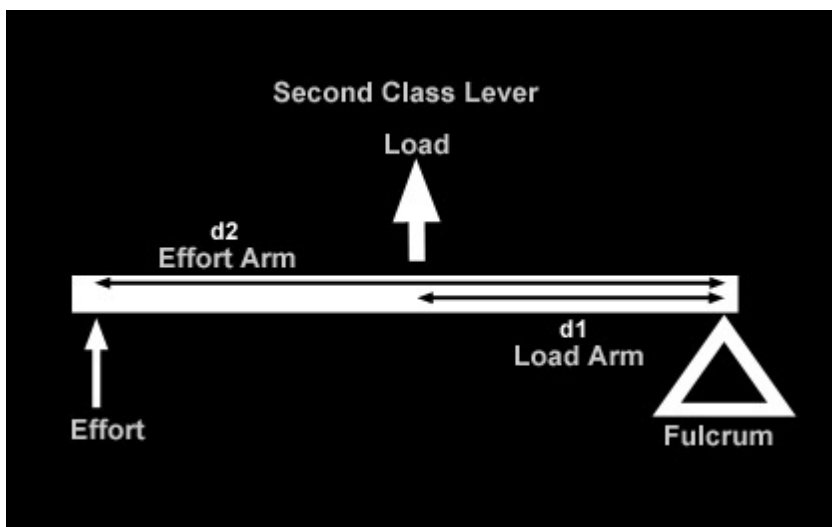
Inner diameter : 0.76 inches

PROTOTYPE :



SUSPENSION:

	FRONT SUSPENSION	REAR SUSPENSION
CONFIGURATION	Unequal double wishbone	Unequal double wishbone
TRACK	1346.2 mm	1346.2 mm
AVAILABLE TRAVEL	127mm	101.6mm
RIDE FREQUENCY	1.25 Hz	1.35 Hz
SPRING RATE	19.64N/mm	25.38N/mm
MOTION RATIO	0.8	0.9
WHEEL RATE	12.56N/mm	20.5N/mm
STATIC DEFLECTION	38.1mm	
BUMP DEFLECTION		
ROLL CENTER HEIGHT	205.6mm	
STATIC TOE		
STATIC CASTOR	0	
KING-PIN INCLINATION	9.96 degrees	
SCRUB RADIUS	11.90mm	
RACK HEIGHT		
WISHBONE MATERIAL	Chromoly (AISI 4130)	Chromoly (AISI 4130)

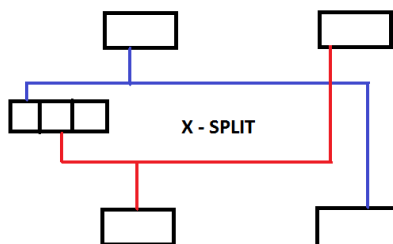
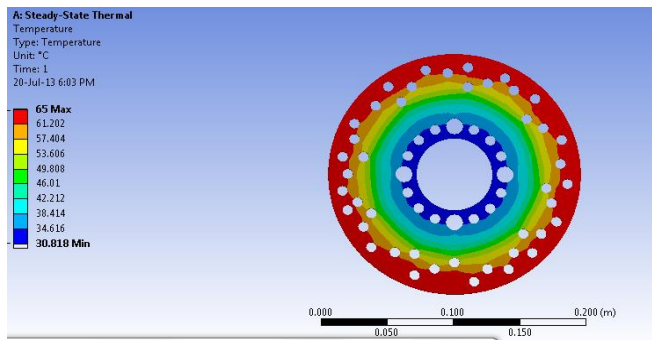


BRAKES:

Specifications:

	FRONT	REAR
BRAKE DISCS	190mm(vented)	190mm(vented)
STATIC AXLE LOAD	130kg	195kg
DYNAMIC AXLE LOAD	190.19kg	126.79kg
BRAKING FORCE	1865N	2143N
BRAKE TORQUE	217.9 N-m	145.33 N-m
BRAKE BIAS RATIO	55:45	
STOPPING DISTANCE	7 meters (target)	
TMC DIAMETER	16.25mm (double piston)	
LEVERAGE	5	
CLAMPING LOAD OF CALIPER	2546.92N	

PEDAL FORCE	FORCE ON TMC	PRESSURES GENERATED
13kg	65kg	$3.1 \cdot 10^6 \text{ N/m}^2$
14kg	70kg	$3.3 \cdot 10^6 \text{ N/m}^2$
15kg	75kg	$3.6 \cdot 10^6 \text{ N/m}^2$

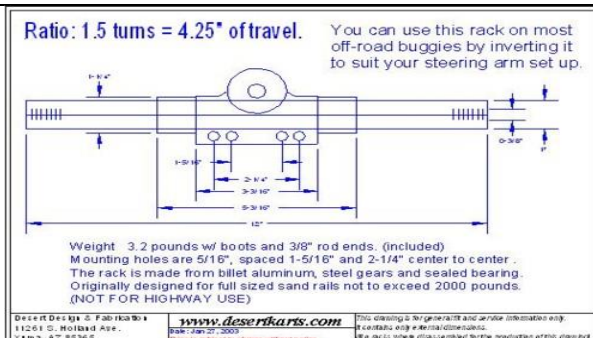


STEERING:

Specifications (Rack and Pinion Steering system)

WHEEL BASE	1346.2mm
FRONT TRACK	1346.2mm
REAR TRACK	1346.2mm
KING-PIN INCLINATION	9.96 deg
TURN CIRCLE RADIUS (inner)	2300mm
OUTER WHEEL TURN RADIUS	
SCRUB RADIUS	11.90mm
No. of turns of STEERING WHEEL	1.5
RADIUS OF STEERING WHEEL	150mm
RACK DISPLACEMENT	108mm
TIE ROD LENGTH	304.8mm
LOCK TO LOCK ANGLE(tyre)	70 deg
STEERING EFFORT	39.73N
STEERING RATIO	8.43:1
MOVEMENT RATIO	12:1
RACK OFFSET	101.6mm

RADIUS OF STEERING WHEEL (mm)	STEERING EFFORT (N)
130	45.87
140	42.6
150	39.76
160	37.275
170	35.08



POWERTRAIN:

MAXIMUM TORQUE	18.6N-m @2600 rpm
CVT ratio	MAX :0.45 to MIN :3.0
IDLE RPM	1600 to 1850
MAX ACCELERATION	4.8m/sec²
TOP SPEED	55kmph
ACCELERATION 0 TO 50kmph	8.3 sec
GRADEABILITY	22 deg