

DESIGN AND FABRICATION OF AN ALL TERRAIN VEHICLE

An Ecological Recreational Vehicle has been designed and fabricated that met the standards for quality, safety, durability and maneuverability as well as provide features that would have mass market appeal to the general off road enthusiast. Design decisions were made with keeping ease of mass production, ergonomics and simplicity of design in mind. It is light weight vehicles which can easily carry in hilly terrain. Briggs and Stratton Gasoline Engine has been used which is light weighted.

Specification:

Engine	
Type	4-stroke, B&S Engine
Displacement	305 cc
Compression Ratio	08:01
Power	10 hp
Torque	7.46@3800RPM
Drive Train	
Transmission	4 speed manual constant mesh gear box with 4 reverse
Company	Mahindra alpha champion
Gear Box Reduction	1st 4.6 2nd 2.67 3rd 1.67 4th 1.07
Chassis/Suspension	
Chassis Type	AISI 4130 Steel tubular frame
Overall Length	92 inch
Wheel Base	61 inch
Overall Width	63 inch
Front Suspension	Double Wishbone

Uttarakhand State Council For Science & Technology

Department of Science & Technology, Govt. of Uttarakhand



Rear Suspension	Double Wishbone
Ground Clearance	13 inch
Shocks	coil-over
Front Travel	80 mm
Rear Travel	87 mm
Vehicle Weight	270 kg
Wheels/Tires	
Front Tires	25x8-12 inch 6 ply rating
Rear Tires	25x8-12 inch 6 ply rating
Top Speed	56 km/hr
Rear Wheel Torque	609.2 NM at low gear
Max. acceleration	5.32 at top gear

