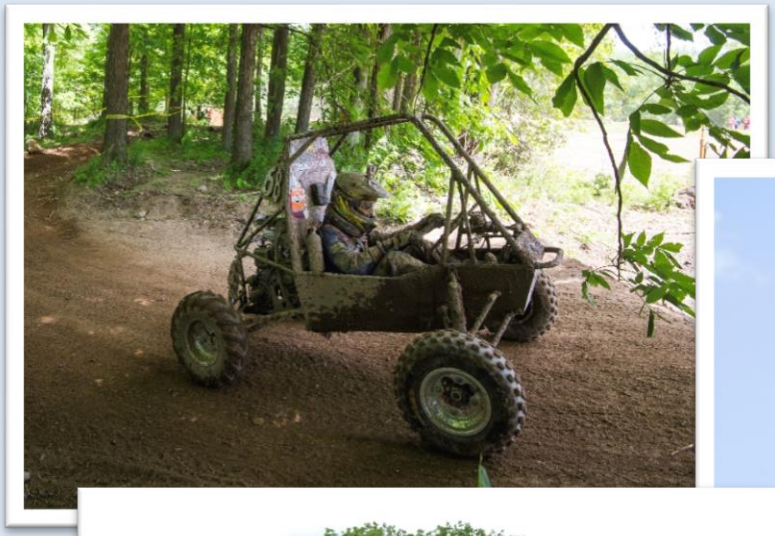
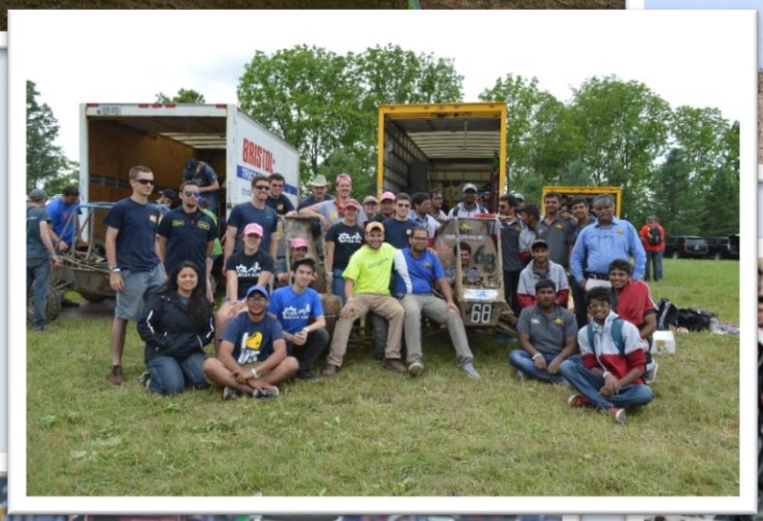
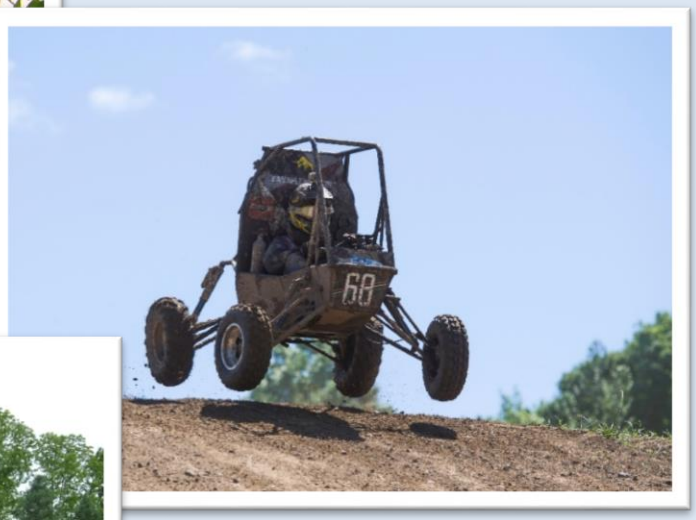
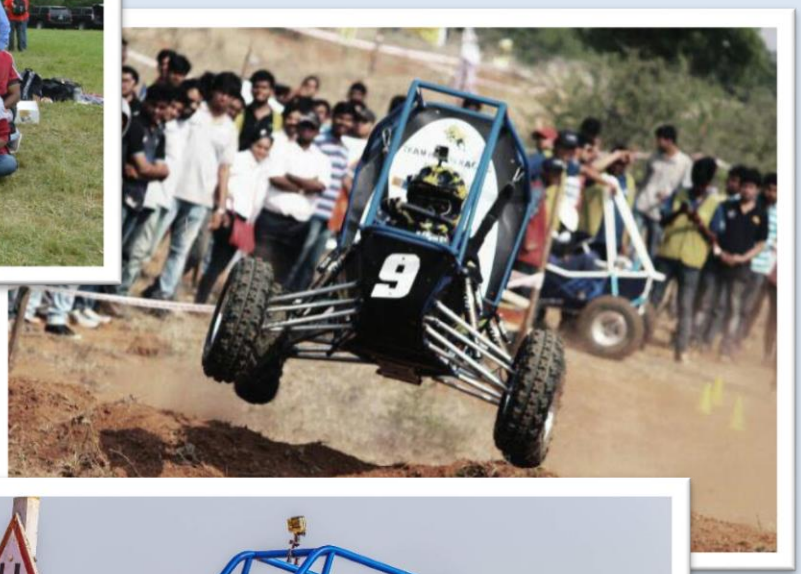
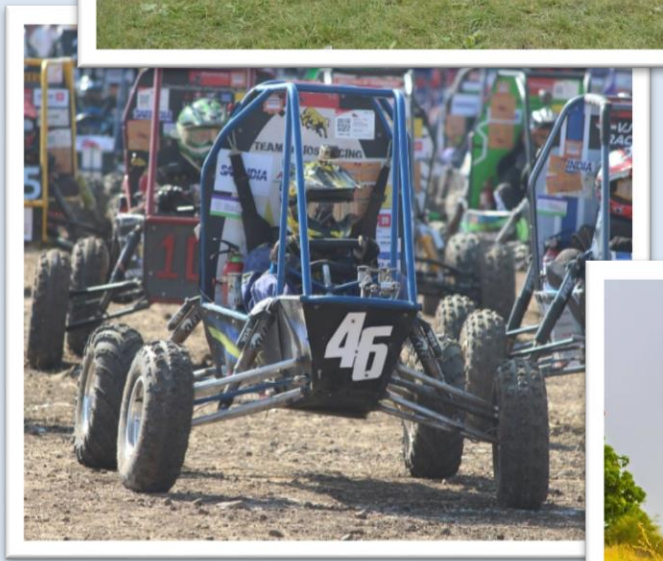
TEAM HELIOS RACING

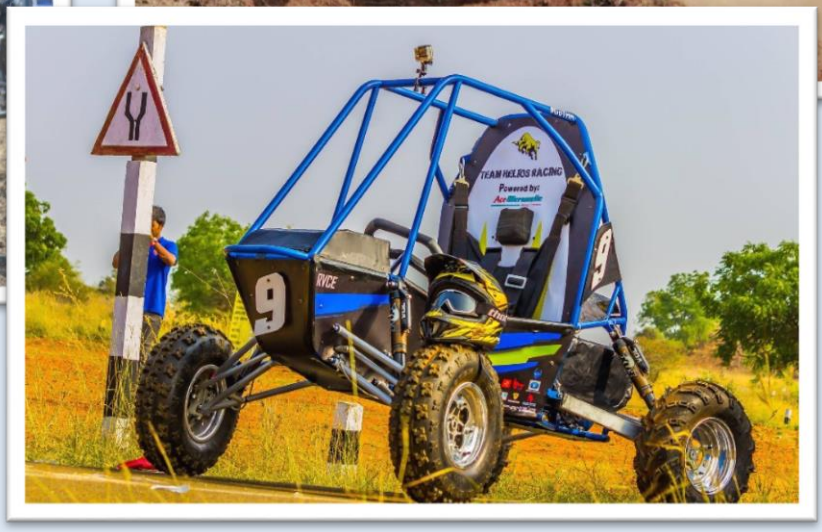












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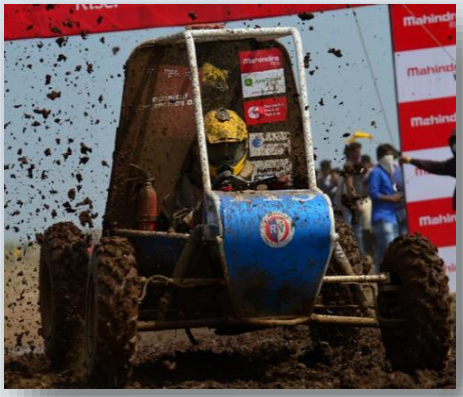
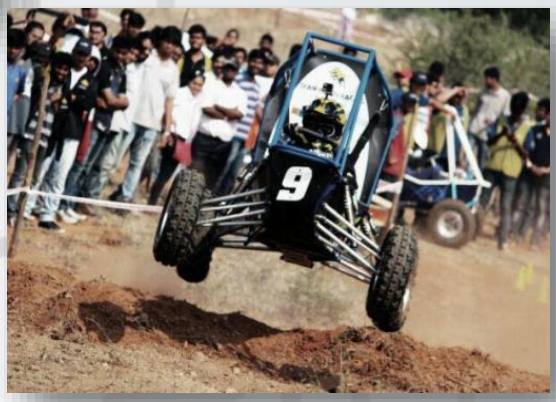
Contents





About Team Helios Racing

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Team Helios Racing is the BAJA team of Rashtreeya Vidyalaya College of Engineering (RVCE), a private educational institution in Bangalore, Karnataka. The students of RVCE operate many projects supported by SAE and participate in intercollegiate design competitions in India and abroad.

About BAJA

BAJA is an intercollegiate engineering design competition for students whose objective is to simulate real-world engineering design projects. Each team endeavours to design and fabricate an industry standard All-Terrain Vehicle (ATV).

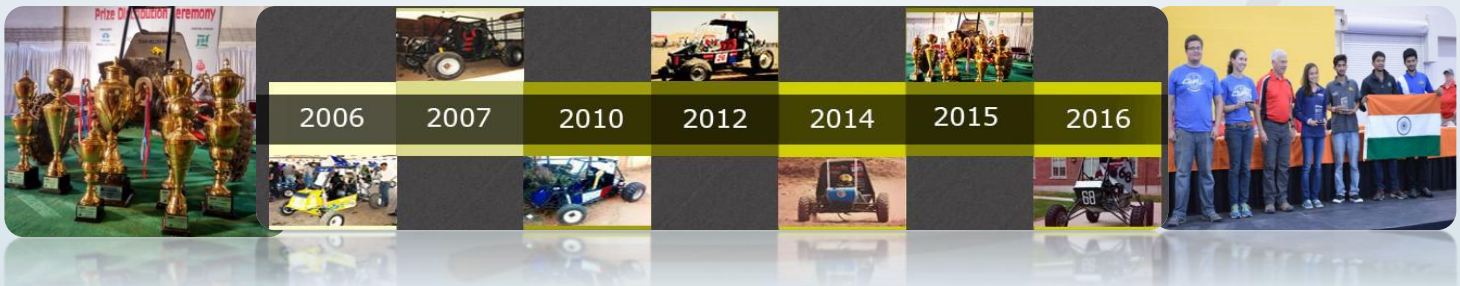
The competition challenges teams' design skills by putting their car to the test in the harshest and most unforgiving of terrains in events like acceleration, manoeuvrability, suspension and traction and a four hours long endurance race.

History of Team Helios Racing

Our team was founded in 2005 and became the first Indian team to participate in an International BAJA event at South Africa in 2006. From 2007 until 2013, we participated in BAJA SAE India, but it was in 2014 that we had an exemplary performance securing the 3rd place in the Endurance event and the 6th place overall.

In 2015, we were crowned the National Champions at BAJA Student India securing the 1st place in Endurance, Acceleration and Manoeuvrability.

At BAJA SAE USA Rochester 2016, our team secured the 2nd place in acceleration becoming the 2nd fastest car in the world. At Enduro Student India 2017, we had the 2nd lightest car in the competition and in BAJA SAE India, we secured the 3rd place in Suspension and Traction.



2010-11 Car Specifications

SPECIFICATIONS	DESCRIPTION
Kerb Weight (kg)	348.2
Cost (Rs.)	1,95,000
Track width	Front: 52” ,Rear:54”
Wheelbase	83”
Weight Distribution	45:55
Ride Height	Front:12” , Rear:12”
Chassis	AISI 1018
Brakes	Hydraulic disc brakes with mounted pedal assembly. Stopping distance:23.1m Stopping time: 5.25s
Powertrain	Lombardini LGA340 Engine M&M manual transmission Trans-axle differential
Suspension	Front: AISI 1018 Double wishbone Rear – AISI 1018 Trailing Arm
Steering	Custom made 12:1 steering ratio
Tyres	Front:22x10-12(3 bias ply) Rear:24x11-12(3 bias ply)
Top Speed (km/hr)	55
Turning Radius(m)	3.7

2011-12 Car Specifications

SPECIFICATIONS	DESCRIPTION
Kerb Weight (kg)	282
Cost (Rs.)	2,40,000
Track width	Front: 50” ,Rear:48”
Wheelbase	64”
Weight Distribution	45:55
Ride Height	Front:10” , Rear:10”
Chassis	AISI 1018
Brakes	Front: 220mm ventilated disc, pulsar 180 calipers Rear: 220mm ventilated disc, apache 160 callipers Pedal Ratio – 5:1 Tandem Master cylinder
Powertrain	Briggs and Stratton 10HP 305cc Engine 4 speed MT manual transmission(Mahindra Alfa) Trans-axle differential and reverse gear
Suspension	Front: AISI 1018 Double wishbone Rear – AISI 1018 Trailing Arm with coil spring
Steering	Rack and pinion(Maruti 800) Travel: 40mm
Tyres	Front:21x7-10(3 bias ply) Rear:26x7-16(3 bias ply)
Top Speed (km/hr)	67.2
Turning Radius(m)	2.795

2013-14 Car Specifications

SPECIFICATIONS	DESCRIPTION
Kerb Weight (kg)	230
Cost (Rs.)	3,05,000
Track width	Front: 52” ,Rear:54”
Wheelbase	60”
Weight Distribution	65:35
Ride Height	Front:10” , Rear:10”
Chassis	AISI 1018
Brakes	Hydraulic disc brakes(rear outboard) with floor mounted pedal assembly.
Powertrain	Top mounted engine with CVT, differential and custom reverse gear (chain drive)
Suspension	Front: AISI 1018 Double wishbone Rear – AISI 1018 Trailing Arm Fox Float 3 air shocks
Steering	Lock to Lock: 260˚
Tyres	Front:23x8-12(3 bias ply) Rear:25x8-12(3 bias ply)
Top Speed (km/hr)	53

2014-15 Car Specifications

SPECIFICATIONS	DESCRIPTION
Kerb Weight (kg)	175
Cost (Rs.)	3,05,000
Track width	Front: 53” ,Rear:48”
Wheelbase	62”
Weight Distribution	58:42
Ride Height	Front:9” , Rear:12”
Chassis	AISI 1018 (TIG welded)
Brakes	Rear inboard, swinging arm pedal assembly
Powertrain	Top mounted engine with CVT, custom gearbox.
Suspension	Front: AISI 1018 Double wishbone Rear – multi link suspension Fox Float 3 Evol R air shocks
Steering	Lock to Lock:180 Turning radius: 1.8m
Tyres	Front:22x7-10(6 bias ply) Rear:23x7-10(3 bias ply)
Top Speed (km/hr)	68

2015-16 Car Specifications

SPECIFICATIONS	DESCRIPTION
Kerb Weight (kg)	145
Cost (Rs.)	5,13,900
Track width	Front: 53” ,Rear:52”
Wheelbase	56.5”
Weight Distribution	43:57
Ride Height	Front:15” , Rear:12”
Chassis	Chromoly 4130 tubes
Brakes	Dual master cylinder with bias bar, Rear Inboard
Powertrain	Top mounted engine with Gaged CVT, custom gearbox and custom aluminum half-shafts
Suspension	Front: Chromoly 4130 A-arms Rear – Aluminium multi-link with integrated trailing link and knuckle
Steering	Lock to Lock: 270˚
Acceleration Time (150ft)	4.98s
Top Speed (km/hr)	53

2016-17 Car Specifications

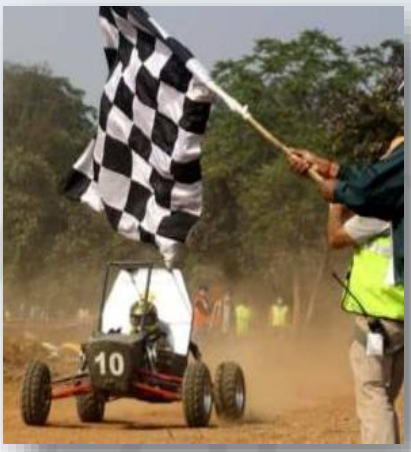
SPECIFICATIONS	DESCRIPTION
Kerb Weight (kg)	130.3
Cost (Rs.)	5,15,700
Track width	Front:50” , Rear:47”
Wheelbase	53”
Weight Distribution	47:53
Ride Height	Front:13” , Rear:13”
Chassis	Chromoly 4130 with changed primary dimension
Brakes	Custom calipers , Dual master cylinder with remote reservoir
Powertrain	Top mounted engine with custom CVT, custom gearbox and aluminum half shafts with U-joints
Suspension	Front: All Aluminium suspension Rear: Steel trailing link with upper and lowerAluminium camber links
Steering	Lock to Lock: 240˚
Acceleration Time (150ft)	4.74s
Top Speed (km/hr)	62

Achievements

Here is a quick look at how our team has fared during the last few years…

BAJA STUDENT INDIA 2015

Acceleration - 1st
Maneuverability – 1st
Endurance -1st
Hill climb -2nd
Design -3rd
Overall -1st



BAJA SAE INDIA 2015

Hill climb – 2nd
Raftaar – 2nd
Overall – 4th

BAJA STUDENT INDIA 2016

Acceleration - 1st
Design – 3rd
Overall – 9th

BAJA SAE USA 2016

Acceleration – 2nd
Design- 17th
Overall- 26th

BAJA SAE INDIA 2016

Go green – 1st
Acceleration – 2nd
Hill climb – 2nd
Endurance – 2nd
Overall – 5th

ENDURO STUDENT INDIA 2017

Lightest car – 2nd
Overall - 17th

BAJA SAE INDIA 2017

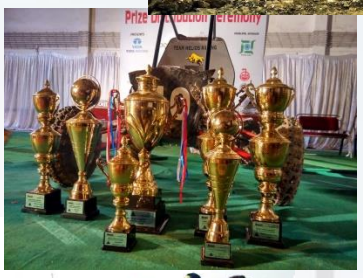
Suspension & traction – 3rd
Overall – 26th

The Journey so far ...

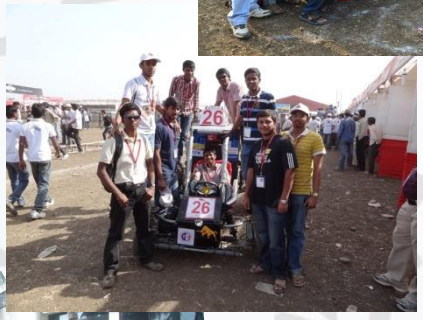
2017

2016

2015



2014



2012

2010

2007

2006