



R V COLLEGE OF ENGINEERING TEAM HELIOS RACING



Department of Mechanical Engineering
Mysore road, R V Vidyanikethan Post, Bangalore- 560059

BAJA SAE ROCHESTER: EVENT REPORT

Baja SAE Rochester was held between 9th and 12th June, 2016 at Rochester, New York. About 100 teams from all over the world participated in the intercollegiate student design event.

7th June 2016: The car arrived at University of Rochester, a little later than expected. The team began assembly at the workshop provided by University of Rochester. The team from University of Rochester helped out a lot, especially in the procurement of the battery, brake fluid and so on. The two teams bonded later in the evening over pizza.

Mr. Andrew Power from Meritor who has been a mentor for the team and has long dreamt of seeing Indian teams participate in International Baja events was present to provide much needed guidance. His completely voluntary support all these years has helped the team come as far as it has and achieve various milestones these past seasons.



The team at the University of Rochester



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Assembly at the workshop provided by University of Rochester

8th June: With the assembly now complete, the car was transported by truck to Rochester Institute of Technology along with the University's own car.

9th June (Day 0): The Engine Inspection was completed by 10 am while the sales presentation took place simultaneously. The top 3 teams of the Sales presentation were shortly announced and the finals took place after.



The car having cleared Engine Inspection



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10th June (Day 1): The Design presentation was scheduled for 1 pm and the team also appeared for Technical Inspection in the morning. The car failed to clear the inspection on the first attempt due to the requirement of an extra member that had to be welded between the SIM and FBM. There was also a minor leakage in the drip pan. The member was successfully welded with much appreciated help from Husker Racing and the team appeared for Technical Inspection a second time. The next attempt was a lot smoother; however the problem with the drip pan remained.

The drip pan was finally fixed successfully at the end of the day. Also a problem was identified in the rear brake calliper and promptly fixed by the team. The sales presentation ranks were announced at the end of the day and the team settled down for the evening with a barbecue, along with the team from University of Rochester.



The team at the Technical Inspection bay



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Welding of the extra member with help from Husker Racing

11th June (Day 2, Hogback Hills): The team reached the venue at Hogback Hills (around 40 miles from RIT) early and set up canopy. The car was taken for technical inspection and cleared it quite quickly. The team also proceeded to clear the brakes test in one go. The Faculty advisor, Dr. Ravindra S Kulkarni joined the team in the afternoon to support the team in all its endeavors.



The car cleared technical inspection and the brake test

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The car was then prepared for the first dynamic event: The acceleration event. The first attempt at acceleration didn't go quite as well as planned with the first trial timing being 5.74 seconds.

The team then took a first and second attempt at hill climb, but did not complete it both times. In the first trial the car managed to clear 78 odd ft of a total of a 100 ft and in the second attempt managed 87 ft.

The team then proceeded to attempt the manoeuvrability course. In the first try, the car completed the course with a reasonable time. In the second attempt of the manoeuvrability event, the car went off track due to miscommunication between the driver and a volunteer and the attempt was terminated.



The car at the Hill climb event

The team then went on to give the acceleration event another shot, and emerged with the 2nd best time in the competition, having clocked a time of 5.242 seconds!

The team, riding on the success of their run at the acceleration event then proceeded to the suspension and traction event. The car went slightly off track on the first run and the attempt was disqualified. In the second attempt at the suspension and traction event, the team successfully completed the track with a good time. The team retired for the day after a very eventful and rewarding run at the dynamic events.



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At the manoeuvrability and Suspension and traction events

12th June (Day 3, Hogback Hills): The team reached the venue geared up for the endurance race having secured the advantage of starting second on the grid. The race was exciting and rather eventful.

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The car was sent back to the pits for the first time, due to the identification number on the firewall not being clearly visible. The firewall was cleaned up and the car went back on the tracks quickly.

The first of the few technical problems the team encountered occurred when the duct tape used to support the belly pan mounting came off, and had to be peeled off before the car left the pit. The next stop was after a rollover on the big logs when the rear kill switch mount weld broke. The mount was welded on again with some timely assistance from the team from Tennessee Technological University (TTU Baja). Nearing the end of the race, the rear right hub sheared off, causing the tyre to fly in front of the car. The hub was later replaced.

The endurance event concluded at 1.30 pm. The team finished the endurance race at 32nd place overall, having completed slightly more than 31 laps. The team completed about 18 laps less than the leaders of the race.

The team then had a photo session with the other Indian teams, University of Rochester, University of Michigan and so on followed by a hearty lunch. A banquet had been arranged later in the evening where the team received the 2nd place award for the Acceleration event at the prize distribution ceremony. The team came in at the 18th place in Suspension and Traction, at the 42nd place in the manoeuvrability event and 52nd in the Hill Climb event.



The Indian teams with the faculty advisors after the completion of the endurance race.



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Photo session with the other participating teams and faculty advisors.



Winning the 2nd place award in the acceleration event

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With a highly exciting, rewarding season successfully completed, and their exceptional debut at an international Baja event concluded, the team began disassembly of their car for shipping back to India.

These were the overall results:

Overall (1000)	Overall Dynamic (300)	Overall Static (300)	Cost (100)	Design (150)	Presentation (50)	Acceleration (75)	Maneuverability (75)	Hill Climb (75)	Suspension & Traction (75)
6647.84	221.10	176.74	63.24	80.00	33.50	73.53	56.45	30.12	61.01