

K L U SAE Collegiate Club

Team Unblockabulls

EBaja 2015 experience report

Day: -1

Date: 17/02/2015

Place: IIST, Indore, Madhya Pradesh.

SAE Baja & eBaja 2015 were started on 17/02/2015 which was -1 day of the event. Written test was conducted to the participants who are aspiring for a job. The previous schedule released by SAE says that event starts on 18/02/2015 hence our team has planned to start in Vijayawada on 17th February but later the schedule was preponed to 17/02/2015 so we need to start on 16/02/2015.

Two days earlier (15/02/20145)

Fabrication of the vehicle has been completed on 14/02/2015, we started wiring on the other day. We worked throughout the day awaiting Mahindra Reva technicians. Finally Mr. Noor (*Technician Mahindra Reva*) has arrived at 5.30pm.

Date: 15/02/2015

Place: Team UnblockaBulls Pit, K L University

We received Mr. Noor and completed all the formalities. Noor started working on our vehicle, he noticed that cell form factor of our vehicle is different compared to other colleges (*they inspected other vehicles in Bangalore earlier*). He started extending wiring harness and noticed that the temperature sensors connected by our electrical engineer was wrong. It took around three hours to completely replace the sensor and bus bar connections to the cells. He seemed tired as he worked whole day in R V R & College of engineering. We helped him wiring, insulating and other works, he also suggested to replace some of the mounts. Mounts were replaced and Dash board (totally handmade) has been fabricated in parallel by Krishna Rao and Sujana sai. They felt proud to produce such master piece without using machinery. By the time Noor finished his work dash board was ready and we started installing body panels, while one of the electrical engineers started Kill switch wiring. Some of the team members felt ill and some slept that there itself. Noor didn't stop his work he had almost completed his work and we checked watches for the time. Its 3.00 am. We notices that the date has changed we need to catch the train on the same day afternoon 2.00 pm and yes we also noticed that it was our third day without food.

Date: 16/02/2015

Place: Roads, K L University.

As soon as Noor felt our vehicle is ready to go he asked for the charging point. Unfortunately we were not having charging point in the pit. Noor suggested to go around campus and search the power source else we would not be able to run or test the vehicle. Then the time was 3.30 am, we were roaming in the campus for a single plug. Where ever we found plug we plugged the charger and it showed fault as

there is no earth connection, luckily we found a plug in canteen where grinders are plugged but vehicle cannot be taken into canteen. After an hour we found a plug in FED block which was a power supply to water refrigerator. We pushed our vehicle from pit to FED block and started working there. The vehicle is not getting charged, we tried hard but cannot figure out the problem. We found that Kill Switch wiring given by our electrical engineer were entirely wrong. Slowly sun showed up. 1st year students started coming, as our vehicle was at entrance there was a crowd to see what is going on, we heard some nasty comments in that crowd however some of them got admired by seeing our vehicle. Noor is totally undisturbed by the happenings around, he kept working. He was not able to figure out the problem, he called his colleague for help. After three starving days we had breakfast and got back to work. Mr. Deepak (*Colleague of Noor*) arrived at 9.00am. We decided to send some of the members to Indore as planned before and some of us has to stay back. Mr. Deepak figured out the problem with in no time. He bypassed the routing and set the vehicle for the trail run. The vehicle rolled out for the first time with is lightning speed, all of our faces turned into happiness except Noor His laptop was crushed under vehicle in the test drive. After two drives we found that the transmission mount is not strong enough. Deepak suggest to replace the mount and also suggested to replace wood with metals. We took back vehicle to pit and started working with left out work. We designed new mount with in no time, while Krishna Rao started working on replacing dash board. Deepak requested us to lend our IEMS (*Intelligent Energy Management System*) to fix the problem in RVR & JC College of engineering. We were ready to drive our vehicle by the time Deepak came back. The vehicle is charged for about half an hour

Date: 16/02/2015, 06.20pm

Place: K L University

First Test ride

All of us are excited to drive the vehicle. We took it out of pit and started rolling it. It has got wonderful pickup we achieved speed of 30kmph. The problem was with encoder bearing in the motor. Deepak ordered for a new encoder bearing at Mahindra Reva, Bangalore and promised that he would replace the bearing at the event site. He suggested to drive it safely and set vehicle on transport as we are short of time, it has to be transported almost 1200 km form K L U. So we continued our drive by performing some formalities at temple in the university. We had a wonderful experience driving the vehicle. The time was 8.00 pm we are ready to pack and move the vehicle for transport. Noor and Deepak are impressed by our battery arrangement and design. The design of teams which they inspected earlier we not so attractive. They also said that we are the first team to test vehicle, no other team has tested the vehicle in their colleges. They also expected an award in the event and waved their hand wishing us all the best. It was 9.00 am none of us are so strong to lift the vehicle, we can't even find anyone to help us. Lifting 417 kg vehicle after 4 sleepless nights is not so easy. We arranged debris in the university as a ramp and somehow managed to get the vehicle into lorry. He started packing vehicle so tight so that it has to withstand ghat road. The vehicle started around 12.30 am and all of us left to homes. We are not sure whether we could catch the train the other day

Date: 17/02/2015

Place: Saparkranthi express (Vijayawada to Bhopal)

We able to catch the train on scheduled day at 2.00pm around. Faculty advisor Mr. S Ramesh was traveling with us. We worked on design report and sales presentation in the train. We had some fun in the train that day. We reached Bhopal the other day while members who left on 16/02/2015 are attending the written test conducted by SAE

Day 0

Date: 18/02/2015

Place: Bhopal Railway station.

We took the train form Bhopal to Indore after waiting an hour in the Bhopal station. We were informed by our friends that there is delay in the schedule of SAE and all of us may have chance of attending the written test if we can reach IIST Indore by 1.00pm. All of us are tired, Krishna Rao and Jaswanth are interested in attending the exam so they rushed to examination center while rest of us rushed to our accommodation

Home away from Home

We rented a bungalow for 25 members in Vijay Nagar, Indore. Mr. Bhat Nagar received us at his bungalow and we felt homely there. We rested there that day and were ready to attend the competition.

Day: 1

Date: 19/02/2015

Place: NATRAX, Indore, Madhya Pradesh

We were unaware of the distance of event place form our accommodation. We started in the lorry on which we are transporting our vehicle. We passed through good industries like Bridgestone, Force India, Cummins, Nissan etc and reached the event site by 9.30 am. It was around 35-40 kms from accommodation. Mr. Deepak was waiting for us at the entrance gate, no sooner he saw us he guided us to pit and started working to change encoder bearing. It took around 2 hours to change it. Our vehicle is now ready to race. We charged the vehicle and simultaneously we are making the vehicle for technical inspection. Mr. Shyam Kulkarni, Technical head, Mahindra inspected our vehicle and suggested some changes. He also found that our electrical engineers have done a mistake in selection of wire gauge. We had to replace all the wiring. Its cost was around Rs. 4000. Mr. Ramesh guided us in all possible ways and encouraged to face the challenges. We were inspected by several people and worked on suggestions made by them. We didn't find any problem with food and dining as SAE people made all arrangements. We called it day at around 10.30 am

Day: 2

Date: 20/02/2015

Place: NATRAX, Indore, Madhya Pradesh

Design event, sales event and cost event starts at 9.00 am, 8 members are waiting for our slot while others are working on wiring. We successfully completed all the events in stipulated time. Harish taken care of cost report while Dhanunjay looked in to sales event. We had lunch and continued the work.

All are expecting that we would clear tech inspection that day and will be able to participate in the race next day. Then we heard a blast, all of our faces turned into blue, we able smell a burn. Initially we ignored it and continued work. Later when we plugged in for charging we are not able to charge. We noticed that IEMS has been damaged because of that burn. Its again fault of our electrical engineer, he made a mistake in connecting batteries. We called Mr. Deepak for help, he said the situation is out of control there is no other choice than giving up the race. All of us talked to officials over there. Mr. Ramesh talked to Shyam Kulkarni and managed to get new IEMS the next day. We were suggest to fabricated bumper and Fire extinguisher that day. We stayed back till 12.00pm and worked.

Day: 3

Date: 21/02/2015

Place: NATRAX, Indore, Madhya Pradesh

We received IEMS the next day by 1.00pm. As soon as we installed IEMS we attended technical inspection. We reworked on suggestions made by them while Ramesh Sir attended interview Dronacharya award we attended technical inspection and cleared it as soon as possible. No sooner we cleared the tech inspection we cleared Brake test. We headed towards acceleration round and accelerated 100mts in 5.7 sec. There we had an interview with a local TV channel DAINIK BHASKAR.

We had lunch while Sujan is getting ready to race as he is driver. The race started at around 3.00pm all of were zooming cameras to get nice view of our car. The race started with a warmup lap. Then the flag off is given and the race has been started. 7 vehicles participated in the race but in the second lap we can observe only 3 vehicles in the track. One was E117(Ours), E115(RVR & JC), E113(UV Patel). The commentators is giving a positive speech on us while sujan overtaken 2 vehicles on Hill and corners. All of us were very happy. As we are not able to provide proper cooling our vehicle slowed down but we passed through checkered flag which means we completed the race. All of us enjoyed our success. We had interview with different people. We were congratulated by various honorable guests. We called it a day with cheers.

Day: 4

Date: 22/02/2015

Place: NATRAX, Indore, Madhya Pradesh

We went to event site to witness BAJA. 4.00pm winners are given prizes by various guests. We received 1st position for Best Design & Overall performance award and 2nd position for Dr. A P J Abdul Kalam initiative Award. We were very happy while media taken our interview.

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