

## GLIDING AND SOARING CENTER

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A visitor to IIT Kanpur has a pleasant surprise, a well-laid airstrip, a huge hangar and lots of gleaming flying machines. If he is lucky, a joyride in a glider to view the splendid green IIT campus and the glittering waters of the Ganga. It is a fact that, world over, you least expect to see such aviation setup in an educational institute. It is therefore natural that the question is asked, why this setup at IIT Kanpur?

The IITs were set up by the Government of India for providing engineering and technological education of internationally recognized excellence. IIT Kanpur received collaborative technical assistance from a consortium of nine leading US universities when it was being set up. Considering the intense research potentials and rapid growth in the field of aviation at that time, it was decided to establish the faculty of Aeronautical Engineering at IIT Kanpur. Under the USAID educational assistance project, an all-weather 884x61 m small airstrip was set up with a Flight Laboratory. The Lab was equipped with Piper PA-18 and Cessna 182 powered aircraft and Schweizer 2-22 and Schweizer 1-26 gliders. A Rohini glider, designed and developed at Technical Center of Civil Aviation Department and manufactured at HAL, was the jewel in the crown of the Flight Lab. The open cockpit, side-by-side seating, fabric covered wooden structure glider became very popular among students and used extensively for research work. Soon the Flight Lab. swung into action and the gliders were aero-towed to desired heights with students on board for the complex studies of aerodynamics and flight mechanics.

IIT Kanpur, in meeting the challenge for excellence, shaped the departments to the contemporary and future demands of good education. The curriculum was designed to provide a strong base in fundamental scientific principles and technical skills with professional specialization. Soon, the education planners and administrators of that era realized that a student with such education would rise rapidly in their fields and hold important senior positions. They would be required to work under immense stress and difficult conditions, and still be required to make the correct decisions. Therefore, it was not enough to just provide higher technical education, but also important was to develop students' total personality and character. It was this line of thinking that put education in the IITs in a different class. The importance of character development activities was recognized and fusion of education, culture and sport was tried at IIT Kanpur.

At IITs, courses in Humanities and Social Sciences complemented the engineering education and greater participation of students in sports and cultural activities was encouraged. The spiraling sports fields, swimming pool, indoor and outdoor courts, SAC and students' councils with numerous clubs are testimony to the importance

given to the character and personality development of the students of IIT Kanpur. With this in mind, the Gliding and Soaring Center was established at the Flight Lab. in 1965.

Soon after the Second World War, gliding as an aviation sport became very popular in Europe and the US. It helped in the development of general aviation and provided a most thrilling sport for the youth in the war-torn countries. This King of aviation sport helped the youth to keep away from depression and provided a thrilling outlet to indulge in constructive activities. The world scientific temper, developments in technology and the keen perseverance of pilots has resulted in world height records of over 49,000 feet in 1986 and duration of over 36 hours in 1933. The studies of mountain waves have shown continuous lift currents which glider pilots can use for long soaring flights. Studies of high-altitude waves and vortices have also indicated the presence of lift at 100,000 feet. Such flights proved the endurance of the pilot, the superiority of glider design and the flying skills of the pilot. Unfortunately, the duration flights were resulting in serious accidents due to pilot fatigue. After 40 hours and 55 minutes, one such flight resulted in a fatal accident back in 1937. Therefore, the duration event was withdrawn from World Gliding Records.

An expedition is on in New Zealand to soar the southern polar vortex to 62,000 feet, to set a new world height record. A glider, sans engine, at 60,000 feet! Glider cross-country flights of over 1000 km have become common feats. Further, Faster, Higher has become the motto of the game.

The glider flying programme was an instant hit with the students of IIT Kanpur. Due to the massive response, membership was restricted to a number of selected students. You could see them beeline for the Center immediately after their classes. The intense heat of summer or the extreme cold of winter could not deter them from that one more flight. The excitement of positive- and negative- 'G's, long soaring flights or a first solo provided a special thrill and were keenly awaited. Soaring flights of over five hours and altitudes over 10,000 feet became common events. Many students who were unable to become members became frequent visitors for joyrides. The campus residents were not to be left far behind, and visited the Centre with family and friends to lose the feel of being earth-bound.

The Gliding and Soaring Center has also contributed at the national level by conducting Flight Instructor courses. The Center has the distinction of holding pre-world-championship camp for the national team in 1968 and conducted the first National Gliding Championship in 1973. Many gliders and winches, developed by the Technical Centre of the Directorate General of Civil Aviation were sent to the Center for flight evaluation and certification. This also helped the Technical Center to improve the design and performance parameters of their machines. Students of Aerospace Engineering from IIT Madras, IIT Bombay, IIT Kharagpur, MIT Chennai, PEC Chandigarh as well as IIT Kanpur conduct experiments in the Flight Lab. every year as part of their academic curriculum. The Gliding Center gives them air experience through glider flights and teaches them the handling of the controls.

Experiments to evaluate glider stability and performance are undertaken. With the Center growing in stature and popularity, a new Schweizer 2-33 glider, with metal covered wings and composite structure, was purchased and added to the fleet in 1985.

It was neither easy nor cheap to set up the infrastructure and run training programs by the Gliding and Soaring Center. It was still more difficult and costly to maintain and run it. The success of the Center was due to the fact that it kept students busy with a constructive activity in their free time, and thanks to the receipt of financial assistance in the form of a Government subsidy. The subsidy helped the Center to maintain the flight-training fee at a bare minimum, well within the affordable reach of the students. However, a government decision to do away with all subsidies with effect from the year 2000 resulted in a steep hike in the training fees, which has adversely affected the gliding program. During the '60s one could enjoy a flight for Rs. 2, it was Rs. 4 during the '70s, and Rs. 15 in the '80s, but after 1995 it changed every year, and by 1999 it was Rs. 168 per flight. **From 2000 till today, the cost of a flight has been pegged at Rs. 187.**

Thanks to the subsidy given to the club by the Institute, via the **Students' Gymkhana**, a student does not have to take the payment of the entire amount upon his shoulders. **A student wishing to take a joyride only has to pay Rs. 50 today, and a member has to pay only Rs. 40 (or Rs. 30 in the case of more experienced members) for a training flight.**

The average performance has declined tremendously, from around 3000 launches per annum around 1998, to about 5 to 600 launches per annum today. The number of members of the club has also reduced as compared to the glory days. Less launches mean a loss of revenue and difficulties in meeting the operational costs. The subsidy from the gymkhana can also only be raised provided the membership goes up so that there are more students to avail of the increase in funds.

**We are noticing a general apathy on the part of students these days. There is a lull in most student activities, most prominently in gliding. Here in IIT Kanpur, the cost of gliding is far, far cheaper than what you will find anywhere else. Once you leave campus, you will not have such an opportunity again.** Coupled with the lack of such facilities will be the added responsibilities of occupation, vocation, family, etc. These days of youth are the ideal time to live life to the fullest. Its not just about gliding. Student participation levels are going down in all extra-curricular fields and realms. Its high time this decline was arrested. **The facilities are extensive, the facilities are excellent. The facilities are also extremely underused.**

The student body and the Gliding Center exist in a mutually symbiotic relationship. Students can make extremely good use of the Gliding Club, and only if they do so can the Club return to past glories.