the tech engineering news

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the institute fly-boys

By Hubert Flomenhoft, D.I.C.

"Do you want to learn to fly for $3.00 an hour?"

This unobtrusive, mimeographed notice that appeared on the various bulletin boards around M. I. T. one day late in 1947 was the germ of an idea in the minds of six Tech students who had joined in flying a war surplus Aeronca L-3 during the previous year. Their experience had indicated that it was feasible to operate a flying club with as many as thirty-five men per airplane, if the membership were mainly students who found time to fly during the week, but that such a number was a basic requirement for a successful student flying club, for only in such numbers could costs be kept down to levels that a student could afford.

Just how successful this plan has been is indicated by the fact that now, only slightly more than one year later, the Tech Flying Club has expanded to over seventy-five members, owns three postwar Cessna two-place airplanes, and, with a monthly budget of better than $700, is one of the largest "businesses" of all extra-curricular activities at Tech. This budget represents an average of 200 hours of flying each month, an average which has continued even though rising costs and more conservative financial policy have forced the flying rate up to $3.50 an hour.

Furthermore, the Tech Flying Club is performing an outstanding educational function in many ways other than flight training. M. I. T. has often been criticized for providing too one-sided an environment for its undergraduate student body, who are in just those formative years when training in phases of living other than purely technical skills is so important. TFC is valuable, then, in not only encouraging social relationships between men with common interests, but in imposing adult responsibilities. That last point is no idle platitude since there is involved in this venture not only a considerable amount of capital, but also a factor of human life. Along with rigorous financial policy to maintain costs at a minimum without endangering investments or safety, strict adherence to CAA and club flight regulations must be enforced. This places the club in the position of being an independent, self-disciplining organization and gives it even greater value to its student members. The efficient enthusiasm of these rabid flyers serves as a continual reply to those who are skeptical of this kind of activity.

Say, haven't you ever been up in an airplane? Well, maybe you haven't or maybe you have only ridden commercial aircraft — or maybe you were a military pilot. (But that is not flying; it's just hanging on to the end of a stampede.) In any case, come along for a mythical hop and you can learn how the club operates.

The first step is to sign up for a plane at the club bulletin board in the hallway of Building Ten. There are three schedule sheets posted, one for each airplane. By means of these, one can tell whether or not an airplane is available at the particular time he desires; and, once having signed, he informs others that the plane is taken for that time. However, it is necessary to make

Traffic pauses as Tech flyers bring a Cessna-140 to M. I. T. for display at Open House on May 1, 1948. The plane is on its way here to the Building Six lawn.

Credit: The Boston Globe

The Navy visits the Tech Flying Club at Mountain Field, Beverly, during the Club's air show on January 8, 1949. *Credit: TFC*

The Executive Board of the Tech Flying Club poses in front of one of its planes. One of the board's duties is to decide when and by whom the planes shall be used for cross-country flights. *Credit: TFC*

the appointment binding by calling the Operations desk of the Pilgrim Flying Service at Beverly Airport, where the airplanes are based, since they keep a schedule book there of who is scheduled to fly at any particular time. Beverly is about twenty-three miles north of Boston; it takes about forty minutes to get there by train. Pilgrim provides free transportation to and from the railroad station; so, the members generally try to go out and back in groups in order that the number of trips can be reduced to a minimum.

It is an expensive inconvenience to make many telephone calls to the airport; consequently these clever engineers have come forth with a means of solving even that problem. Several of the E.E.'s are building a 460 megacycle two-way radiotelephone, which is to be set up at the desk at Beverly and in the club office in 20-E-002. Negotiations are under way for obtaining the special license on that band which permits anyone to operate the set. If this scheme is successful, it may be possible to do away with the schedule sheets and just radio the airport instead.

Transplanting ourselves to Beverly Airport, we notice first the inescapable "M. I. T. Operations" sign in the familiar red and gray as we come up the road. The building toward which it points is the office of the Pilgrim Flying Service, where the club has another bulletin board. Here items of strictly flying interest are posted, including news items of recent crashes with stern reminders of what basic rule of safe flying was ignored in causing the accident. Also, record books for each plane are kept in boxes along with hectographed inspection forms which must be filled out for each airplane by the first person to fly it that day. The pilot checks the squawk sheet for anything wrong with the airplane and then logs out before going to his plane.

Sometime during the course of these proceedings a loudspeaker over the main desk may suddenly start spouting out weather information broadcast from East Boston Airport, "Hub of the Air Universe" no longer with the Tech Flying Club operating elsewhere. . . .

"How did you know to turn your radio on just then?" asks a newcomer of Jack McNeil, who runs Pilgrim and is one of the flight instructors.

"Oh, that's a rig those M. I. T. fellows put in," he replies with a twinkle. "It operates all day, but the radio range frequency is filtered out, and the weather broadcasts are cut in automatically with a relay when they come on. They fixed up some surplus gear and set it up back of the desk here."

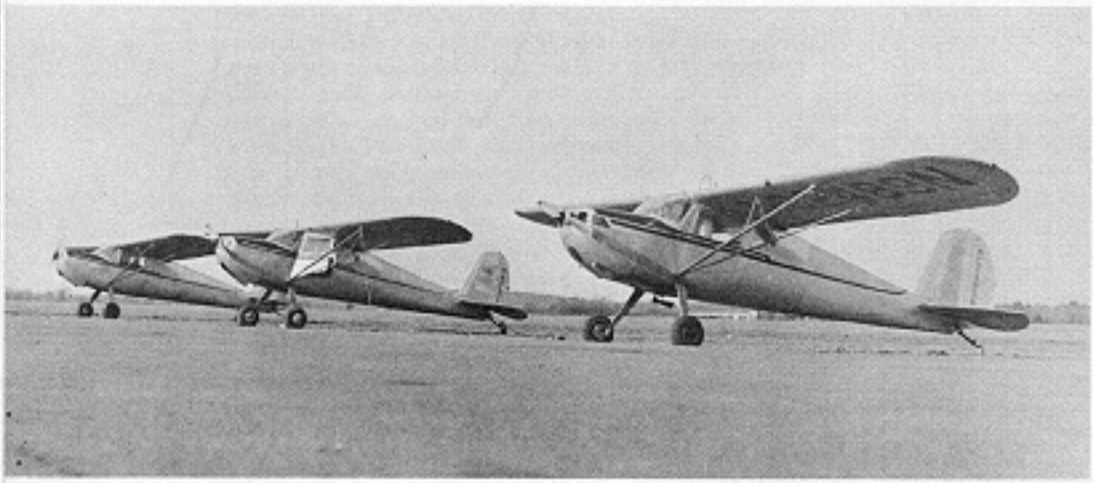
If those E.E.'s get any more brainstorms, the aero engineers are sure to get jealous and start hanging Jato rockets all over the planes.

Out at the hangar, you can get a good idea of just what the club owns, although it would be a rare experience indeed to find all three airplanes on the ground at the same time on any good-weather day. The first plane that was bought when the expansion program got under way was N76546, a Cessna 120, which is a basic training model used primarily for student flying. Although it was only a year old with just over 100 hours logged, the procurement committee was able to take advantage of the low winter market of 1948 to obtain it at a price far below the current standard market-depreciated value. Another bargain turned up later — a Cessna 140, N89028, which is the same as the 120 except for the addition of flaps, upholstered interior, and extra equipment designed to make it more attractive to the private owner. Finally, continued demand for expansion by prospective members led to the discovery of the best bargain of all, another 140, N2489N, whose extra equipment includes a gyrocompass, a loop antenna, a two-way radio (which 028 also has), and a fan marker receiver

around $2.25 per month. Finally, the direct flight costs are charged against each man according to the number of hours listed on the time sheets in the record book of each airplane at the airport. These charges are at the rate of $3.50 an hour for the two 140's and $3.30 an hour for the 120, which has lower maintenance costs because of less equipment. For anyone who flies three to four hours per month, this totals about half the cost of renting an equivalent plane from a commercial operator. Even those who fly only one hour per month pay less than commercial rates. Students who require dual instruction pay an additional $3.00 per hour for an instructor, which is a standard rate.

The present membership of the club consists of about half student pilots and half private pilots. In addition, there are flight instructors, Charlie Richbourg, who is also a Naval Reserve pilot, and Air Force Reserve pilot Yen Whitney, who will soon be taking the test for his flight instructor rating; so TFC definitely includes a broad background of flying experience. Some idea of the progress made in the flight training program can be obtained from the fact that fifteen men obtained their private licenses during 1948. The private pilots have been doing quite well for themselves, too, with cross-country trips to New York, Philadelphia, Washington, Chattanooga, Syracuse, and other cities. However, there are special problems associated with cross-country scheduling which will be discussed later.

Centered around its three two-place Cessnas, here shown waiting for take-off, the Club's budget runs to about seven hundred dollars each month and includes expenses of about two hundred hours' flying time in such a period. *Credit: TFC*



The acquisition of 02S with a landing light made night flying possible, and this has just begun in the last few months after the establishment of a very strict set of regulations. The gyrocompass and loop antenna in 89N make instrument flying relatively easy, and regulations should soon be set up for permitting this kind of instruction. It is certainly clear that the spirit of TFC embodies a very serious intent to provide a wide scope of training and experience for its members rather than just to provide means for "Sunday afternoon sport."

The educational function of TFC covers ground as well as air, since it goes into competition with Tech every Monday at five and seven o'clock when it presents CAA ground school films in 20-E-011. Everyone is invited to these classes free of charge — one way to attract new members. After the second showing, the executive committee meets in the club office, 20-E-002, to conduct the business of the club. All members of the flying club and anyone else may listen in on these meetings to see how the executive committee functions. This is encouraged since there is too often a lack of interest by the general membership of a large organization in how such business is carried out.

Indeed, it may be said that the most critical problem of this type of club is the apathy on the part of the general membership to join in any but flying activities. An attempt was made during the original membership drive to impress on the men the fact that additional interest in club activities would have to be a basic requirement for the selection of members; but, after the usual initial burst of enthusiasm, the primary responsibility and initiative soon gravitated on the small group who had the keenest interest in the club. This has meant on innumerable occasions that several

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soon to be installed by those ambitious E.E.'s. This makes 89N the safest and most desirable airplane for cross-country flying.

Now let us take that mythical ride I promised so that you can get a look at Beverly from the air. After taking off, you can see clearly the extent of the four- to five-thousand-foot paved runways in three directions. This was a Coast Guard base during the war and is thus quite large; but there is not too much traffic now, which situation is especially advantageous for student flying. It must be remembered that the lack of flat land around Boston is the reason for the shortage of airports; the three fields closer to town are very crowded. While directly above the field, we can tune in the Boston radio range and get right on the beam of the north leg. This provides a handy safety factor for any pilot who should ever find himself unable to locate the field, although it is pretty hard to miss since it is so close to the coastline.

By the time we return to the field, you are pretty sure to be thinking about doing some flying yourself and are wondering what the financial arrangements are. Expenses are divided into three classes: capital investment, fixed monthly costs, and flying costs. When a man joins the corporation, he pays eighty dollars as his equity. Depreciation on the aircraft is subtracted from this equity and amounts to about fifteen dollars per year; the remainder is returned after a man leaves the club. Total fixed costs — which include insurance, hangar rent, and the operating costs of administration — are divided by the number of men in the club each month to obtain the dues. Some average figure is generally used so that it can be kept fairly constant,

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men have been tied down with an unfair share of work. These men have been, of course, the club officers, and it would be apropos at this point to mention that President Tom Cuthbert, '50, has been a very rare sparkplug for the club. It takes a fanatic to spend days on end in the workshop and at the airport to make sure that seventy-five men can continue flying, and Tom is just that crazy about flying. Others who are only slightly less crazy are Leonard Nippe, '50, Vice-President, Ed Jacobsen, '50, Head of Operations, and Johnny Sorrels, '50, Treasurer. These "Fiery Four" are shown standing proudly in front of 89N the day it was bought.

Another characteristic problem of the "capacity" flying club is the conflict between cross-country requests and the high demand for local flying. Because of the great number of men per plane, the club must be regarded as primarily for local flying with cross-country a special privilege. A basic policy has been established, then, of allowing only one airplane to go out on cross-country, generally 89N, except for periods of low local demand, such as college holidays. In addition, a standard form must be submitted to the President, who, with the concurrence of the Executive Committee, passes it or turns it down. Consideration is given to cross-country experience, previous cross-country flights, length and time of the cross-country related to the home demand at that time, and particularly the amount of extra interest in club activities that the individual has shown. Obviously, requests for cross-country during the week present practically no problem.

The extent of TFC activities has definitely gone into the realm of the spectacular. For instance, at the M. I. T. Open House last spring, Tech men and neighbors in Cambridge were treated to the rare sight of a super-duper Cessna 140 sailing down to a landing in Briggs' Field and then taxiing down Memorial Drive under the watchful eye of M.C. Tom Cuthbert. It was put on exhibit on the lawn outside of Building Six. A similar stunt was arranged for January 12 when one of the club's planes was brought into the Building Ten lobby for exhibit.

Not to be outdone, some promoters-extraordinary staged, on January 8, the most glamorous air show since Air Force Day. With the Wellesley Flying Club as honored guests, an Eastern Airlines pilot raced his 180 m.p.h. midget racer for the benefit of the crowd — but mostly the girls — and a squadron of F6F's and F4U's came up from NAS, Squantum, to demonstrate military aerobatics and carrier break-ups and landings. Oh yes, the club's red-hot Cessnas were also flown, again for the benefit of the Wellesley girls, who were given rides by the chivalrous TFC boys.

What these fellows will do next is anybody's guess — be sure not to suggest any seemingly fantastic thing as a joke, because, sure enough, they will go ahead and do it!