



# Skywriter



Monthly Newsletter of the Calgary Ultralight Flying Club

August 1996

## President's Message

by Ed D'Antoni

Summer is half over and the Great Ultralight Challenge is just two weeks away, application forms are in last month's issue of Skywriter. You can mail applications to me at 32 Varbay Pl. NW, Calgary AB, T3A 0C8, or fax them to Wilf Stark at 271-6621. Don't forget, the first meeting since the summer break is on September 4.

Kirkby's fly-in breakfast was a great success. The strong cross-winds allowed all of the attending ultralight pilots to demonstrate their skills. The ever increasing wind speeds scared me into leaving early. I prefer being a live coward to a damaged or dead hero. I noticed a couple of conventional aircraft did not land because of the strong cross-winds. My thanks to Bob for the great food and hospitality.

I'd like to take this opportunity to bring up a safety concern. I've noticed a number of flyers wearing coveralls while others jump in and out of aircraft clad only in T-shirts, shorts and running shoes. Most of us fly aircraft with either header or cabin tanks, or at least plastic fuel tubing running through the cockpit area. Fueling is also done with plastic containers that cannot be electrically grounded. This makes us extremely vulnerable in the event of a fire. I'd highly recommend wearing heavy cotton coveralls, or at least, loose denim jeans, a heavy cotton sweat shirt, wool socks and leather shoes.

On a more navigational note, I've noticed the Magellan 2000 GPS is being used as an ultralight navigation aid. These systems work well and are available from Canadian Tire for just

under \$300. There are 2 basic types of GPS systems available; ground based, which generally come without a data base and work at speeds up to 103 mph, or aviation systems with elaborate data bases. The aviation systems work at speeds up to 1000 mph. The ground based systems usually provide for input of about 200 waypoints, and automatically display location, elevation and time. They provide ground speed, track, distance and time to destination. Navigation-

mode screens usually have arrows pointing to the destination location, or show the deviation line from your course-line.

I recently tried a Garmin GPS 38. This unit costs only a few dollars more than the Magellan, but has the following extra features: 1) An internal lithium memory battery (should you inadvertently run down the batteries, all of the stored waypoints etc. will be saved). 2) Nearest 9 waypoints. Should you get into trouble The GPS 38 will instantly give you the nearest stored locations, their track and distance. 3) Trip odometer which accumulates the actual distance traveled. 4) Optional data transfer kit which allows you to design a database on your PC, then transfer it to your GPS. 5) Optional cigarette lighter adapter. For the type of flying we do this instrument is ideal. It might be nice if the Club standardized on the Garmin and then compiled a database of local airstrips which could be downloaded into members' GPS's.

Similar to the GPS 38 is the GPS 45XL. This system has a remote antenna which may be important, depending on the aircraft one flies.

The next step up in sophistication are the aviation systems. First, the GPS 89 which sells for about \$675.00 and comes with a World or North American database. Next is the GPS 90 at about \$1000.00 which, in addition to the navigation base has a moving map and displays all airspace boundaries as well as airport locations. It also provides runway headings, radio frequencies etc. Garmin has higher-end systems for those with the need. Another item worth considering is the just introduced GPS COMM radio combination. The Canadian price is not yet available but I'm guessing it will be in the \$1700 range.

(continued on page 2)



Garmin GPS 38.

## Letters

From readers



Editor:

I would like to make a few comments in response to the very well written letter by Wayne Winters in the last issue of Skywriter. Before I do so, let me thank the editor, Bob Kirkby, and Assistant Editor, Stu Simpson, for their long standing efforts in producing this excellent newsletter on a monthly basis. I know it takes a lot of time and work. Our cowboy hats are off to you guys!

It appears from the conversation mentioned in Wayne's letter that one or more people may not appreciate the contribution that the Winters family has made to ultralight flying in this area over the past decade. I have been flying ultralights for 10 years, I took my training at Winters Air Park, and have flown many happy hours to and from the Winters' place. In all those years I have, without exception, always been greeted with a friendly, enthusiastic "Hello" and have been made to feel welcome. I have not paid anything toward the cost of running the place, all the while enjoying the use of the facilities, as is the case with most of the club members. The thing that distressed me in reading the letter is that there are perhaps some people in the club who may not appreciate the generosity that this family has extended to all ultralight fliers. Shame!

Most recently Wayne Winters took on the thankless task of being President of the CUFC during a very turbulent

time in the sport. Under the best circumstances, I can tell you from personal experience, there is much work involved in doing the job, and one can only take on this kind of task with a true feeling of community spirit and the desire to make things better. During his tenure Wayne and his team have taken the club to new heights, furthering our position as a club to be consulted on important regulatory and safety matters. For this he and his executive are to be congratulated.

In conclusion, it is very easy to take "shots" at someone who is trying to make things better, especially if you are the type of person who does nothing. Wayne Winters has done his homework well in crunching the numbers for the proposed flying group. I have not decided whether or not I will be able to participate yet, but in my opinion there is no person better qualified or more reputable than Wayne Winters to run the (proposed) club. While I am on the subject, let me express my personal gratitude to anyone who has been involved in running CUFC over the years, but particularly to past Presidents Paul Hemingson and Wayne Winters, to past Presidents of the UPAC club which was a predecessor to CUFC, and to current President Ed D'Antoni, along with their executive committees.

It does not cost anything to shake their hands and say thanks for all you have done to improve the sport. And if a past President of the club happens to forget to pay his dues perhaps discretion would dictate that we gently remind the person or waive the dues that year as a small token of appreciation. Enjoy your summer flying!

Gord Keegan

*Lest we forget, Gord Keegan was instrumental in bringing together the UPAC and CUFC clubs 7 years ago and served as the first President of the amalgomated group. Gord did much to steer the club along its current course. Thanks Gord.*

- Editor



### Executive

**President:** Ed D'Antoni 247-6621  
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**Treasurer:** Brian Vasseur 948-0688  
**Secretary:** Bernie Kespe 255-7419  
**Director:** Wilf Stark 271-4435

### Skywriter Staff

**Editor:** Bob Kirkby 569-9541  
**Assistant Editor:** Stu Simpson 255-6998

Skywriter is the official publication of the Calgary Ultralight Flying Club and is published 12 times per year. Opinions expressed by our writers are not necessarily those of the club. Articles and letters to the editor are very welcome from any readers. Address correspondence to: Bob Kirkby, RR 7, Calgary, AB T2P 2G7 or Fax to 403-291-1112.

Meetings of the Calgary Ultralight Flying Club are held the first Wednesday of every month at 7:30pm at

R.C.A.F. Association  
5430 - 11 Street N.E.  
Calgary, Alberta

*(Message - continued from page 1)*

While I'm on the topic I'd like to talk about pricing. I know the Magellan is available by mail order for \$189.00 US. Sounds great, but by the time one adds exchange, duty, and shipping, you'll be lucky to save \$10.00. If you really work at it you can probably save \$40 to \$90 on a more expensive system. Sure, the mail order companies are reputable, but do you really want the hassle of waiting, dealing with customs, or the possibility of loss or damage in shipping?

Last fall, in an effort to obtain some parts I couldn't locate in Calgary, I called every prospective aviation supplier in Edmonton. Of the eight listed in the yellow pages, none were still in business. I know we don't spend a fortune on parts and avionics but I firmly believe in supporting local suppliers whenever possible. Garmin GPS 38, 89, 90 and 95 are all available from Western Avionics, 275 Palmer Rd. NE. The above plus the GPS 45 are also available from Canadian Avionics, 575 Palmer Rd. NE.



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## Around The Patch

by Stu Simpson

### Something Worth Waiting For

I guess it all started a few weeks ago when I got this notion that I'd like to fly to Wetaskiwin. Of course I didn't want to go alone, so I invited a bunch of other guys. We had everything lined up, departure points and times were all set, and everyone knew what the game plan was. Everyone but the weatherman, that is.

The day we were all set to go the wind was straight out of the west at 30 knots. So much for Wetaskiwin.

When I phoned Gerry Moore to let him know we'd scrubbed the flight he suggested another destination. One that was much closer and maybe even more interesting.

He told me about a strip he'd found in the Highwood Pass southwest of Longview, which immediately intrigued me. I love exploring with my airplane and finding airstrips that aren't on the map.

So I called everyone again and said we'd try for the Highwood. And again we set departure points and times. And again the weather was awful. I've got to hand it to Jim Corner, though. He flew into Kirkby's that morning riding a 25 knot tail wind, only to learn we weren't going.

It happens.

I was determined to find this place. So I arranged another try for the next evening. We agreed on the departure point and time (starting to sound familiar, isn't it?), and this time we even got airborne.

Wilf Stark, Don Rogers and Ron Axelson accompanied me as we made our way southwest that evening. The wind was stronger than forecast (big surprise, that) but we were still making reasonable progress. Right up to when Rogers radioed that he was having trouble transferring fuel from his Norseman's rear



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tank to the main feeder tank. Then Stark chimed in, saying he thought he didn't have enough gas. Our nearest alternate was Black Diamond's Thompson's Ranch. It didn't take a rocket scientist to figure out that we'd best divert to Black Diamond, fix the problems and go home.

It happens.

Our time grounded at Black Diamond was fun. We examined some of the aircraft there and, of course, we took every opportunity to kid Rogers about his personal plumbing problems. Stark determined that he had enough fuel to get him and his Super Koala home safely, but then it was Axelson's turn to sweat. The battery on his Ercoupe had bought the farm, so he spent several minutes hand-propping his baby until it finally caught.

The flight home was uneventful, if you

can call a summer evening's flight above stunning green hills, valleys and fields uneventful.

Four days later Stark, Bob Kirkby and I were in the air again, and this time I knew we'd make it. The wind ambled calmly from the south at a leisurely six or seven knots, and a layer of high cirrus spread above us to dampen the unsettling effects of daytime heating.

"Dragonflies, this is Three," called Kirkby when we were a little south of Okotoks, "watch this."

He nosed over for a second or two and then launched his Renegade into a short series of chandelles and wing-overs. Wilf and I watched him manoeuver gracefully around the sky before plying him with admiring "Oooo's" and "Aah's".

*(continued on page 4)*



Rogers re-fills the front tank and takes abuse from his wingmen.



(Around - continued from page 3)

Soon, Black Diamond drifted by off my right wing and I remembered the many flights I'd made in the area years before with my Beaver. I have to admit, I've missed the hills and mountains near there.

Longview ought to be just over the next hill, I thought, checking the map. Then an unfamiliar voice rattled in my earphones.

"Dragonflies, this is Lima Kilo Papa. What's your position please?"

"Lima Kilo Papa, this is Dragonfly One," I replied. "We're approximately seven miles northeast of Longview at fifty-seven hundred feet, southwest bound."

Kilo Papa asked for a few more details to better clarify where we were. Then he radioed that he had us in sight and would shortly be passing a few hundred feet beneath us. He added that he was headed for Black Diamond this morning and heard us on the radio. He wanted to check us out because we "sounded like fun."

"Kilo Papa, Dragonfly One has you visual," I called as he sailed underneath us.

"Is that a Supercub?" queried Wilf.

"Roger," came the answer.

"That's a gorgeous airplane," said Stark. I could practically hear the smile on his face.

The Cub driver asked what type of airplanes we were flying and I provided him with a brief description of each. He asked where we were heading and I told him that, too. He got quite interested in this and said he'd flown the Highwood pass before, looking for the same strip, but hadn't found it yet. Then he asked if he could tag along with us. Of course, we gladly welcomed him.

So the four of us droned on into the Highwood valley looking for an airstrip in the woods.

Kirkby was the first to spot it. At the very south end of the valley, where



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it turns west again, it lay directly in our path about a mile-an-a-half ahead. Since I was flight lead it fell to me to make the first approach and landing.

As I crossed over the strip I thought it looked pretty good, albeit a little narrow. Forty-foot tall pine trees jutted up not fifty feet from the button, and a pond was located at the side of the runway at about mid-field. It would have to be avoided at all costs. A thrill ran through me and I found myself smiling involuntarily at the challenge of the coming landing.

I turned final about a third of a mile back and kept a wary eye on the distant wind sock. It was still parallel with the runway and indicating about 7 knots. I eased the 'Max through a small gap in the pines, pulled the throttle back, and nosed over gently for the ground. The plane settled

smoothly on the mains, with the tail-wheel alighting almost immediately afterward.

I lengthened my rollout to give Stark plenty of room for his landing, which he accomplished beautifully. Then I back-tracked and followed him off the runway just as Kirkby was clearing the trees on final.

Wilf and I climbed out and the first thing we heard from the crowd that had gathered was, "Thanks for the great airshow!" We swelled with pride.

The Supercub taxied in as we introduced ourselves and chatted with the rancher who owned the land, and his friends. John, the Cub driver introduced himself, too. We spent about thirty minutes chatting and letting these warm-hearted folks examine our airplanes.

*(continued on page 5)*



*Axelson hand-props the Ercoupe at Black Diamond.*

(Around - continued from page 4)

Then it was time to go. You see, on these adventures getting there is most of the fun, and getting back is the rest of it.

Since I was first to land, it seemed only natural that I be first to takeoff. I noticed the slightly longer takeoff run since our field elevation was 4800 feet, about 1500 feet higher than the home 'drome. Naturally, climb out took a bit longer, too.

John and his Supercub were headed to High River. On the radio he bid us farewell, thanking us for the good time and promising Bob he'd drop in to Kirkby Field in the future.

Quick and smooth describes our return flight, at least until we crossed the Bow River. There, the thermals kicked themselves loose from the prairie and rumbled right by us on their way up.

A garbled radio call, "... traffic.... eleven..." It sounded like Bob. I reflexively checked north, which was my eleven o'clock position, and my heart nearly stopped.

A Mooney was headed straight for me! I nosed over and yanked the throttle back, telling Wilf to drop down a few hundred feet. Seconds later I watched through the top of my cockpit as the Mooney zoomed by less than a hundred feet away. He hadn't changed course by so much as a degree. Maybe he figured he had the right of way. Or maybe he didn't even see me.

The odd thing is this: I've flown many, many hours with Kirkby and he has never, ever had a radio problem. Not until he tried to warn me I was about to be killed. Even after the near miss his radio functioned perfectly.

It happens.

Fortunately, Wilf was never in any danger, and a few minutes later we all touched down safely at Kirkby Field.

Another adventure would now be written into our log books, and hopefully etched for ages in our memories. It sure took us enough tries to get there, to that airstrip in the woods, but I'm sure glad we kept trying. This flight was definitely something worth waiting for.



We finally made it. Stark's Koala at rest in the Highwood pass.



Kirkby's Renegade next to SuperCub "Lima Kilo Papa" just beside the runway.

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**Chinook WT-11** - 68 hrs SMOH on Rotax 447, tundra tires, wing tanks + main = 14 gals, wing/tail/cabin covers included, located at Indus. Ron Garnett 256-7838. (7/96)

**IVO Prop** - Hub style, 3-blade tractor, 56", \$100. Arlene Sondergaard 289-9662. (7/96)

**Lazair** - 1986, no motors, no mylar covering. ALT, ASI, CB radio & antenna, \$1000 OBO. Wade Cook 287-3145. (7/96)

**Avid Flyer** - 1992, Arcobatic Speed Wing, Rotax 582, centrifugal clutch, cabin heat, 2 seat, GPS, hangared, very good mech. cond., \$19,000 OBO or enclosed trailer and airplane \$28,000 firm. Roger Relly 938-2797. (7/96)

**Wanted** - New or used 3 1/8" altimeter. Gerry 270-0877. (6/96)

**Chinook WT2** - new Rotax 503 Dual CDI, many extras, poor health forces sale. Mel Haakenson Box 66, Berwyn, AB, T0H 0E0. (6/96)

**Chinook** - 2 place, 1985, 2 hrs on rebuilt Rotax 447, cabin heat, battery, headlight, strobe, good instrumentation, complete manuals, \$6200.00, trades welcome. Ray Waller 274-4388. (5/96)

**Rotax 447** - with gear box, wood prop, exhaust, carb, 40 hrs, \$600.00. Dave Dedul 403-823-6054. (3/96)

Classified ads are free to CUFC members. Call Bob Kirkby, 569-9541 to place your ad.

## Calling All Air-Heads

Where we continue to seek out new life forms that know the answers to questions like these:

1. Who discovered the "pinched-waist" principle of supersonic aircraft design? What's it called and on which aircraft was it first used?

2. What Canadian-designed bush plane was famed musician Glenn Miller flying on when the aircraft disappeared without a trace in World War II.

3. When a U.S. Navy air traffic controller asks a pilot to "say state", what does he want to know?

4. Do Rotax gear boxes turn the prop the same direction as the crank shaft, or the opposite direction?

5. How many sets of throttle controls are there in the cockpit of the Rockwell B-1B bomber. What is the aircraft's official name (eg. Hornet, Falcon, etc.)?

(Answers on next page)

## News...

### ...from the Blue

#### Tilt-Rotor For Civvie Street?

Bell Helicopters is considering marketing a civilian version of its tilt-rotor aircraft. Based on the V-22 Osprey, the civilian version would be smaller, carrying only 11 people, with a pressurized cabin and a range of 800 nm. The price would be in the \$6-7 million range. A launch decision is expected later this year.

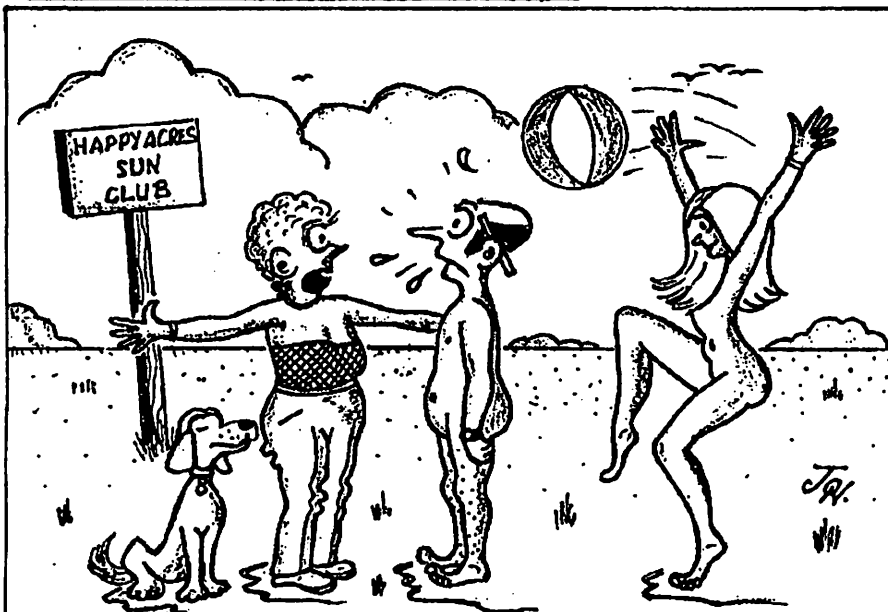
#### US Eliminates Aircraft Radio Licences

The American Federal Communications Commission has abolished individual radio licences and fees for aircraft and aviation ground radios. The agency says the licences and fees are not deemed necessary for either safety or operation of aircraft.

#### CARs Coming

Transport Canada has announced that the new Canadian Aviation Regulations (CARs) will come into effect October 10, 1996. The current Air Regulations and Air Navigation Orders will be revoked at the same time.

### MISADVENTURES OF RIGGER MORTISE.



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# One Pilot's Opinion

by Bob Kirkby

## Alberta Airshow Scene

This summer the Airshow scene in Alberta took on a new complexion. For years now the Red Deer show on the August long weekend has been our premier airshow event. A few years ago Lethbridge started an annual show about the third weekend in August and every second year Edmonton held a show at the Namao air base. Things have been changing lately.

With the closure of Namao as an air base that show seems to have fizzled. The Edmonton International Airport decided to host the Edmonton show instead, and held the first (presumably annual) airshow at the international in May. I was unable to get to this so I really have no idea how it turned out.

Two years ago Springbank held a one-day show in September and it turned out to be a success. This presumably encouraged them to start an annual airshow event in July. This year the second was held on July 13-14 and appeared to be quite successful. I was not able to attend last year's show (Oshkosh was calling) but I did attend the initial show two years ago and this year's show. Both times I flew my Renegade in for static display.

Unlike the initial show, this year the organizers did not appear to be particularly interested in aircraft on static display. I was disappointed to discover that the ultralight and

homebuilt static area was at the far east end of taxiway Charlie and the antique static display was in front of the Flying Club. Both areas were far away from the main crowd viewing area. Instead the main area (along Charlie towards the tower) was dedicated to commercial displays (for example the IMAX booth selling tickets) and the grassy area just behind the tower was dedicated to classic old cars. I have no objection to having commercial booths and other things like cars displays at an airshow, however, centre stage should be reserved for airplanes! Compared to all the other shows where I have been involved in static displays, the number of people passing by my airplane was negligible. I might as well have stayed home. In fact, if it had not been for the fact that HAWC1 and STARS where at the same end of Charlie, there would have been virtually no traffic at that end.

Other than this gripe the Springbank show was very well done. The acts were excellent, although there seemed to be a few long pauses in between, culminating in my favourite team - the Snowbirds. I am sure as time goes on the Springbank airshow will continue to improve and grow. I'm looking forward to next year's show.

The surprise this year was that Red Deer decided not to host their annual airshow. I don't know why, although I have noticed a decline in quality of acts and attendance over the last two years. I believe the official word is that this year it was skipped and will return next year. I think the organizers just needed a rest - the same people have been doing it for a long time.

With the Red Deer show not utilizing the August long weekend, Lethbridge moved their dates up to Aug 3-4 this year. I made plans to fly down on Saturday, Aug 3 to see the show but the weather turned ugly and I stayed home to watch the rain instead. I planned to try again the next day. Although the weather was much better on Sunday the forecasters were predicting rain and IFR weather for the afternoon and evening in Calgary, so I decided to drive on the assumption I would not be able to get home if I flew. The day turned out to be very nice except for typical Lethbridge winds of 25 to 30 knots. The show was excellent, with more emphasis on military hardware than at Springbank. The crowds were good but there didn't seem to be much on static display. Perhaps this was due to the excessive winds keeping homebuilt and ultralight pilots at bay. The show ended with the Snowbirds once again. This is the first summer I have been able to see the Snowbird perform twice.

Next year should produce some interesting airshow action. Stay tuned.

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## Air Head Answers

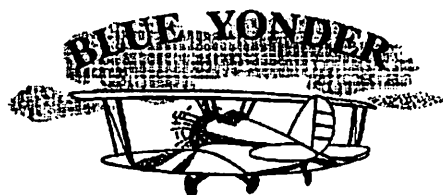
1. Richard Whitcomb discovered the "area rule" fuselage and applied it to the Convair F-102 Delta Dagger.

2. Miller was a passenger on a U.S. Army Air Corp Nordoon Norseman. The mystery of the aircraft's disappearance has never been satisfactorily solved.

3. The controller is asking for the aircraft's remaining fuel state, given in thousands of pounds.

4. The Rotax gear boxes turn the prop opposite to the direction of the crankshaft.

5. There are two sets, one set situated at each pilot's left hand position. The B-1B is known as the Excalibur.



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# Report Card

Welcome to Skywriter's newest monthly column. Here, the editors will provide you with an in depth look at a different ultralight airplane each month. Our information will come from CUFC members; people who own and fly the airplanes, and who don't have a financial interest in making the airplanes appear better than they really are.

'Report Card' will depend heavily on members' participation since they're the ones who have the experience in the various airplanes we'll cover. We'll give our airplane owner(s) a standard evaluation form and ask him to fill it out (he may even have to take a test flight or two to confirm the data. Aw, shucks).

None of us are professional test pilots, and most of us don't know what a phugoid is (I don't think I even know anybody who has one). So we'll present things in plain language and let you know the real poop on a bunch of different planes. Please let us know what you think, and what planes you want evaluated.

## Report Card: TEAM Himax

Our first victim will be your faithful scribe's own TEAM Himax 1700R. We picked this plane because, 1) It was readily available on short notice, and 2) Locally, there's at least five similar airplanes (miniMAXes included) either under construction, or being contemplated as future projects.

The Himax is put out by Tennessee Engineering and Manufacturing, known as TEAM. They've got well over a thousand airplanes (mostly Airbikes and mid-wing miniMAXes) in the air and have one of the highest completion and customer satisfaction rates in the ultralight business.

The Himax is a conventional looking high-wing, strut-braced, single-seat tail-dragger that looks like a squared-off Cessna Bird Dog that shrunk in the rain.



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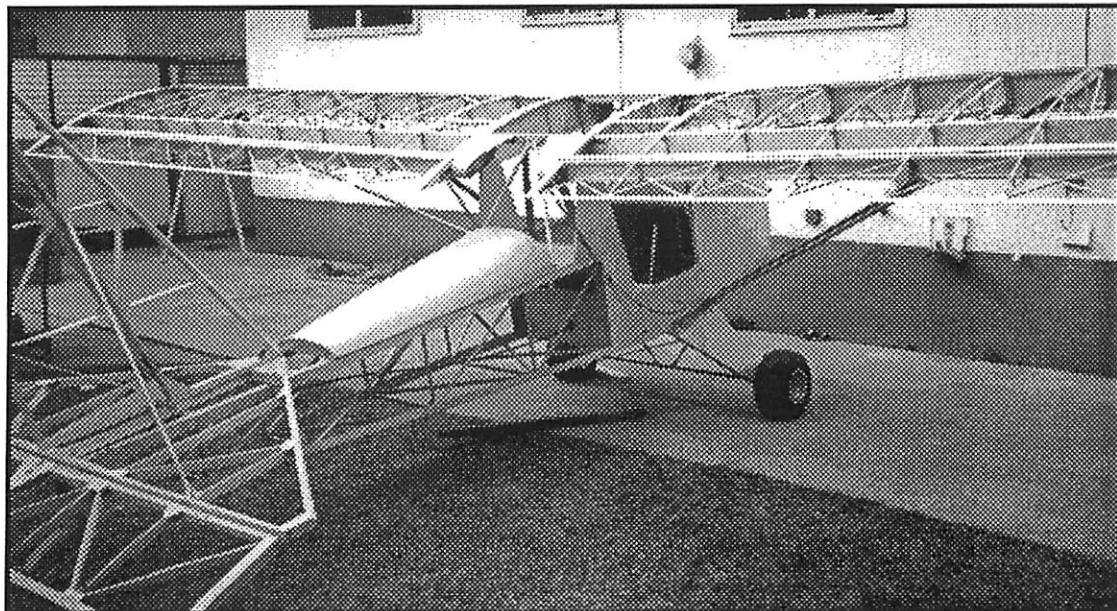
Being a major fan of high-wing, tail-wheeled things, I can't understand why more of these planes aren't sold. But TEAM's other products outsell the Himax by almost ten to one.

The structure is made entirely of wood with metal struts and fittings. Some people are big detractors of wooden airplanes thinking that they just aren't as strong as metal ones. I speak from experience, because I used to be one of those people. That is, until I examined a 'MAX. Then I was sold. This is an extremely solid and well engineered design. You'll be impressed.

I've got a Rotax 503SC up front and it turns a 60" ground adjustable prop. It's an ideal engine for the airplane, though I'd have opted for the 45 hp Zenoah mill if I could have. By the way, 45 hp is the limit for the 1700R or 1700Z (Zenoah).

I'll tell you right here and now that anyone can build this plane. TEAM offers a whole gamut of purchase options, from just a set of plans, all the way to a fully complete kit with some pre-built parts. They don't supply engines, props, or gauges. TEAM kits use northern white or ponderosa pine for lumber (spars use select grade sitka spruce), and mahogany and a few pieces of birch for plywood. To tell the truth, I wasn't thrilled with the notion of using pine, I wanted spruce. Also, I know of at least one person whose mahogany plies actually separated in one critical spot on the plane.

Therefore, I went the plans-building route and purchased spruce lumber and birch plywood locally. I bought several items such as the cowling and fuel tanks from TEAM, as well as the bracket and fittings kit (pricey, but *(continued on page 9)*)



*The TEAM Himax is a sturdy wooden design.*



*(Report Card - continued from page 8)*

VERY well worth it). All tolled, considering the exchange rate, I saved well over \$1,000 by building from plans and acquiring most parts locally.

The Himax goes together nicely and is very straight forward, no high-tech skills are required. The plans and instructions are absolutely outstanding. If I had a question, factory support was just as good.

The factory claims a modest 500-hour build time for a complete novice with a kit. I think that's exaggerated. As a first-time plans-builder who'd never built anything, I took 1100 hours from the time of the first nail to the first flight. Anyone with even rudimentary building skills will likely cut that time by at least a third. However long it takes, building an airplane will rank as one of the premier accomplishments of your life.

Okay, let's fly the darn thing.

Walk around is easy and typical. Everything you want to check is readily accessible and visible. One area of difficulty that I discovered was fueling the plane. The gas tanks are mounted in the wing roots and the filler caps are up top. But they're far enough back from the leading edge to make things really awkward when pouring from a gas can. So I hang my gas can from the ceiling of the hangar and run a hose from the can into the tank. It works beautifully. Fueling the mid-wing miniMAX will be much easier.

Control surfaces for the entire 'MAX line are simply enormous. Ailerons are full span and can double as flaperons as an option. The tail feathers are very large and it's easy to predict plenty of authority from them.

Getting into the Himax takes a bit of getting used to, due mostly to my size (I'm not the federal aviator's average of 170 lb). It's a minor inconvenience, and easily overcome with the proper technique. Getting into the miniMAX is a lot easier; one foot in the step, and swing a leg over and in.

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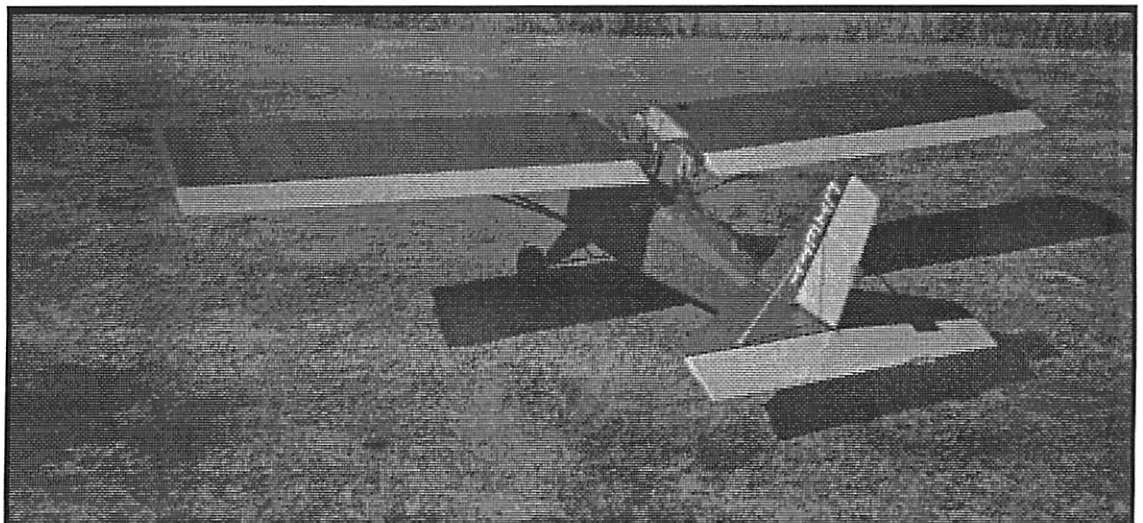
Once inside, the cockpit is very roomy with 24" of hip and shoulder room, and lots of head and leg room. Only the tallest of people will have a tight fit, and that can be adjusted while building. The plywood bench seat obviously didn't come from a Cadillac, so some sort of cushion is necessary. A very strong four-point harness holds you in place. The panel has plenty of space for instruments and other toys. Both stick and throttle are very naturally placed and fall easily to hand. Rudder pedals are adjusted to fit the builder. Ground visibility is good, even with the beefy cabane struts in front of you. The overall impression in the cockpit is one of rugged practicality.

By comparison, I've also sat in a couple of the fully enclosed mini's and I can tell you there's nowhere near the head and shoulder room, nor the all

round visibility, for someone my size. I was very cramped and found I didn't even have room for a helmet. I think the canopy size could be adjusted, but it looks like it might be a painful job.

Once started and with the temps in the green, taxiing is pure tail-dragger. Press the rudder pedal in the direction you want to go, and that's the way you go. Visibility over the nose is pretty good, S-turns aren't needed because there's space enough to just move your head inside to see around the engine. The ride is much better than I ever expected from a rigid landing gear.

Once onto the active and ready for takeoff, it's a simple matter to check the controls, temps, and traffic, push the throttle forward and keep the nose straight with the rudder. The best technique for grass strips is to get the tail up early, let the speed build and gently come back on the stick. It gets  
*(continued on page 10)*



*Note the large control surfaces, fuel tank caps and over-head Lexan.*

*(Report Card - continued from page 9)*

light pretty quickly, then comes off with just a tug in about 450 - 500'. On pavement, you might not get time to get the tail up first; count on about half the takeoff distance for grass, or less. Crosswind takeoffs are easy thanks to the huge rudder and the oodles of control it gives.

Once into the climb the proper angle of attack is important. Too much nose-up and you start to bog, too little and you're not getting the best rate. I put the center of the carb intake filter on, or just a hair below, the horizon and get a pretty respectable 800 feet per minute. Visibility over the nose at this stage is what I call bat-like. In other words, you're as blind as a bat.

In flight, control response can only be described as wonderful. The Himax is clearly in its element, and it shows. Both aileron and elevator are activated with push-pull teleflex cables. The rudder works via standard 7 x 19 cables with spring returns on the pedals.

Stick forces are slightly higher than average for an ultralight, but only in roll. Response to roll inputs is instantaneous, with my estimate at 55 - 60 degrees per second. With those huge ailerons you can expect a bucket full of adverse yaw, which is easily countered by that huge rudder. In fact, it's best to lead the turns by about half a second with a healthy dose of rudder.

Pitch response is also fabulous, though there's not much stick movement required to get the desired reaction. Pitch changes noticeably with throttle input, wanting to go nose up at higher RPMs. It's acting much like a pendulum because the thrust line is quite a bit below the wing. It's not a problem at all, just a quirk. I expect the effect is much less, or completely eliminated, in the mid-wing models.

Rudder control is great, and it's clear that the Himax is very much a rudder dominated airplane. Unlike spam-can drivers, Himax pilots will be very aware of their feet.

Stalls are so gentle as to be boring. When compared to the Spectrum Beaver, which

has a definite break in the stall, the Himax merely mushes; there's nothing to it. Altitude loss is typically thirty feet or less. You'll have to work hard to spin this airplane, and if you inadvertently do so, opposite rudder will stop it in no time.

One area where the Himax truly shines over other ultralights is flight in windy conditions. The airplane is simply rock solid due to its fantastic control response and the slightly reduced wing area when compared to other ULs.

Cruise speed on my plane is about 65 mph at 5500 rpm, which ought to improve once I stream-line the struts and gear legs. My wheels are 15 x 6.00 x 6's, which also eat up some knots. In other words, a bit of work by the builder could yield a cruise of around 75 mph, and faster still for the mid-wingers. I'm quite happy with what I've got, and if I pick up a few more knots with the stream-lining, so much the better.

The engine and nose that pesters you during climb-out virtually disappears in level flight. Visibility in cruise is 360 degrees horizontally. I've added a skylight to my plane which allows me to see very well during a turn, but I'd recommend tinting the top-side Lexan to avoid the greenhouse effect in summer.

Landing the Himax is a more challenging affair than a three-wheeled UL, but one can quickly become competent. The circuit is flown at about 500' and you should begin the descent a few seconds before turning base. Speed control is very important; the Himax is quite a bit cleaner than designs like the Beaver

or Chinook, and it retains its speed more readily. Putting the revs at 4500 - 4800 rpm on final will give an approach speed of 45 - 50 mph, depending on your descent rate. This is bled off coming over the fence and numbers. Control authority remains excellent throughout.

You'll know instantly if you've got too much speed because the airplane will float for quite a while and then drop right in. Thus, you'll also know instantly if you're down. Roll out is, again, just a matter of keeping things on the center line. Tail-wheel steering is positive and effective. My Himax has no brakes, but if I do things right, I can make the turn off a grass runway in about 500'. It'd be down to 300' or less if I had binders.

There are some options available for the Himax, such as a spring aluminum landing gear (which is reportedly too soft, and according to the designer, too heavy), electric start, fiberglass wing tips, wheel pants and flaperons.

My airplane cost about \$8000 to build from scratch with a re-built engine and locally acquired parts. I could have done it cheaper, too. Most anyone could get one in the air for less than \$10K with a brand new engine and several options.

The Himax is a simple, rugged tail-dragger, and it'd be tough to find more airplane for the dollar. It takes the average ultralight jockey out of the tube and sail-cloth realm and puts him in an airplane with a "real" feel. But it still retains the undeniable charm of an ultralight. It's comfortable, responsive, and tons of fun. I'm keeping mine for a long time.

