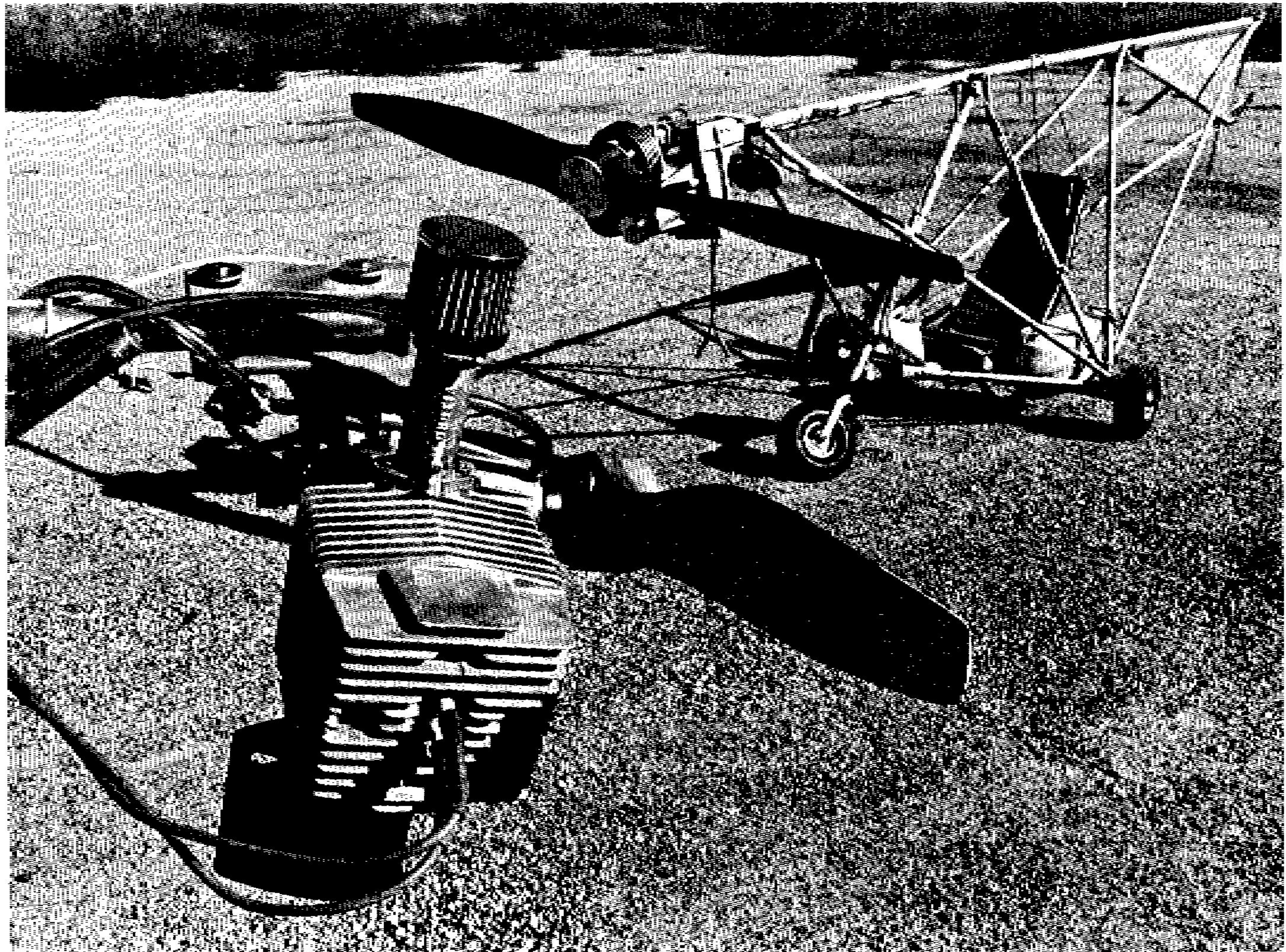


**WEEDHOPPER
OF UTAH inc.**

NEWS

Box 2253, Ogden, Utah 84404 [801] 621-3941

Volume XIV September-October 1980



Introducing the Chotia 460-B "squarehead", seen in the foreground with the new fuel injector (on top) and new muffler (underneath). In the background is the new belt drive reduction unit which swings a 6" prop. Both are mounted on Weedhoppers.

WEEDHOPPERS FOR CHRISTMAS

'Tis the season to be jolly, fa-la-la-la-la, etc. And Weedhopper has come up with some exciting stocking stuffers that ought to brighten any builder's Christmas. For those interested in a flat-out race with Santa Claus' Sleighhopper, there are some new engine components that'll make Rudolph look like a deadbeat. Our new square head Chotia 460-B is a reality now and everything on it will retrofit the original round head. Consider these:

Fuel Injector. Replaces your carburetor. Will turn up 200-250 more rpm. Has a remote, cockpit mixture adjustment which, among other things, will allow you to run richer on hot days. NOTE: The fuel injector will make your engine harder to start—however, we feel that's more than admirably compensated for by the dramatic increase in power. Fuel injection eliminates both the carburetor, and the intake manifold while it increases the downdraft into the engine—your carb has a 20 mm throat and the injector is 38 mm wide. Cost: \$100.

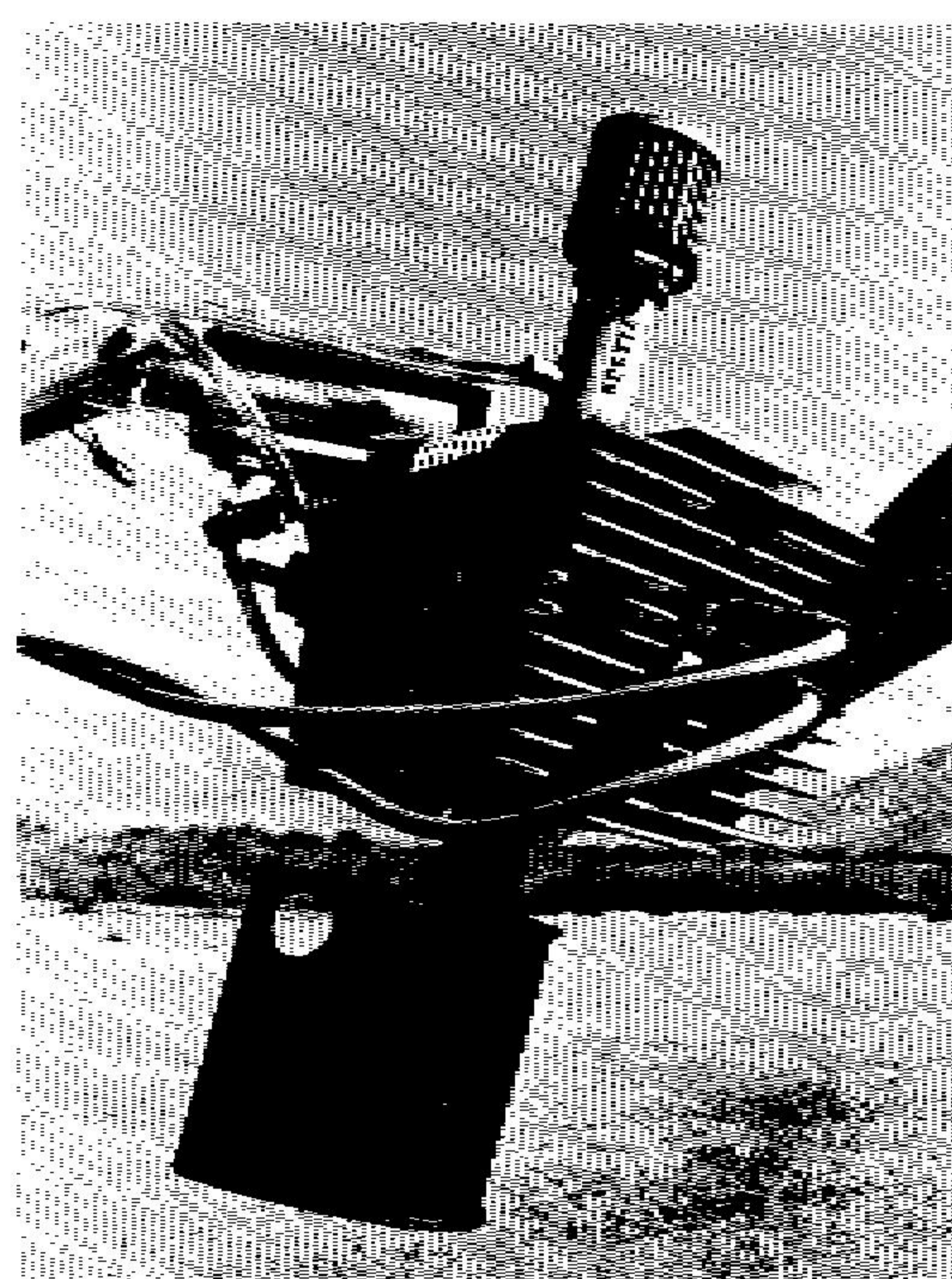


Detail shot of the new fuel injection unit that just bolts on to a 460 or 460-B and has a significant impact on power...in a positive way.

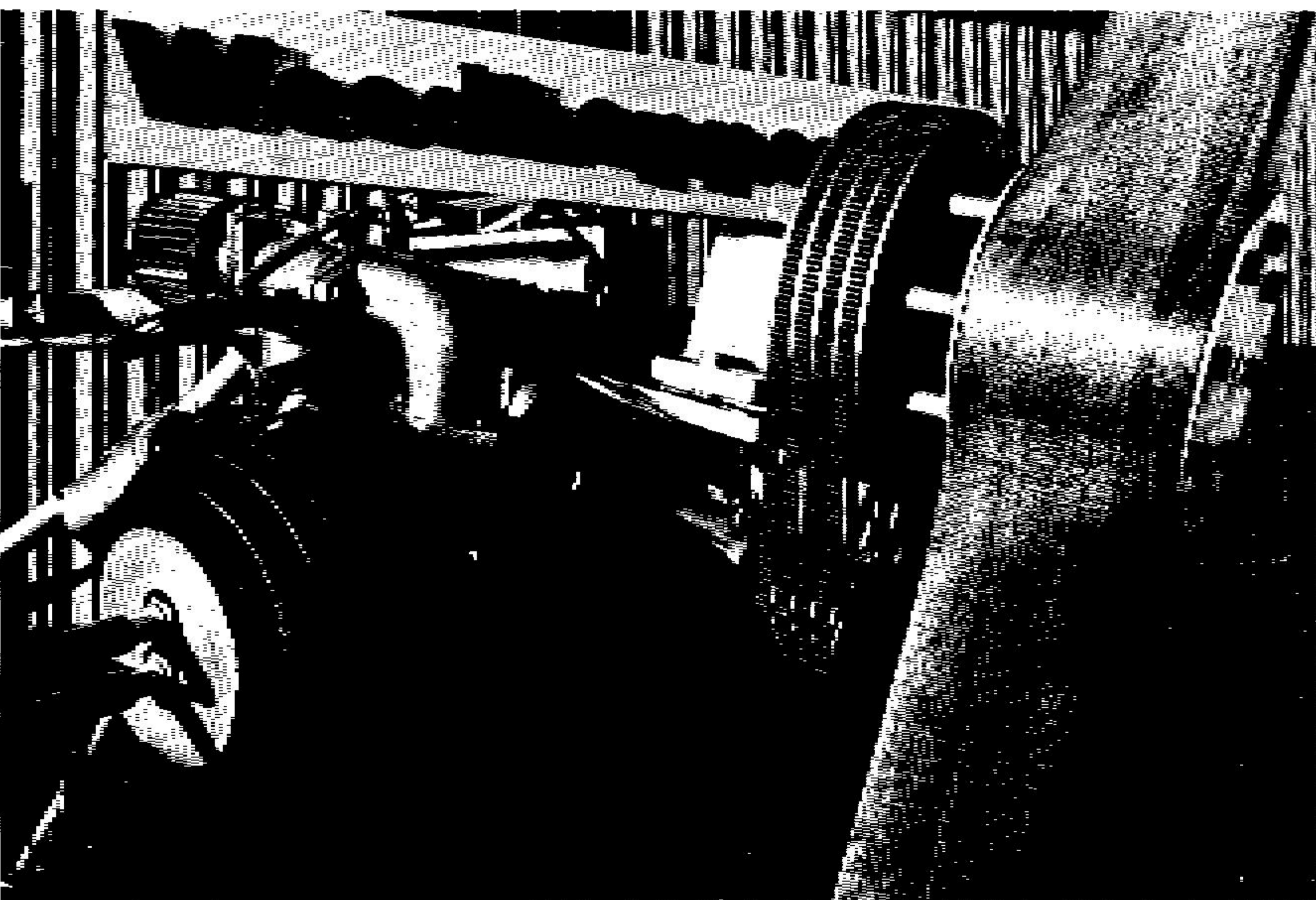
Square Cylinder.

The package includes a new "square" cylinder and cylinder head which has increased cooling fin area and redesigned intake transfer ports. It also features a new piston (and rings) that rides a half-inch taller with tighter clearances and better compression. The significance of better cooling shows up when you mount a fuel injector and learn that you can enjoy virtually unlimited use of the full power setting without any rpm loss to heating.

The parts for the "square" look are easily bolted into place on any of the original 460's with minimal effort. Converting your engine to the 460-B class also means you'll be able to buy one of the pusher airframes we're now contemplating and then switch back and forth from your Weedhopper or Gypsy (round heads don't have enough cooling area to be used in a pusher position). Whether you buy a square head for a spare, for the looks, for your overhaul, or for use on a pusher, you'll be pleased with the outstanding performance of these refinements. Cost: \$350. (This is a package price that's good only to January 1, 1981 - after that the parts will be sold individually and their total price will be \$435.)



Close-up of the new 460-B square cylinder. The original Chotia 460 can be converted in about an hour.



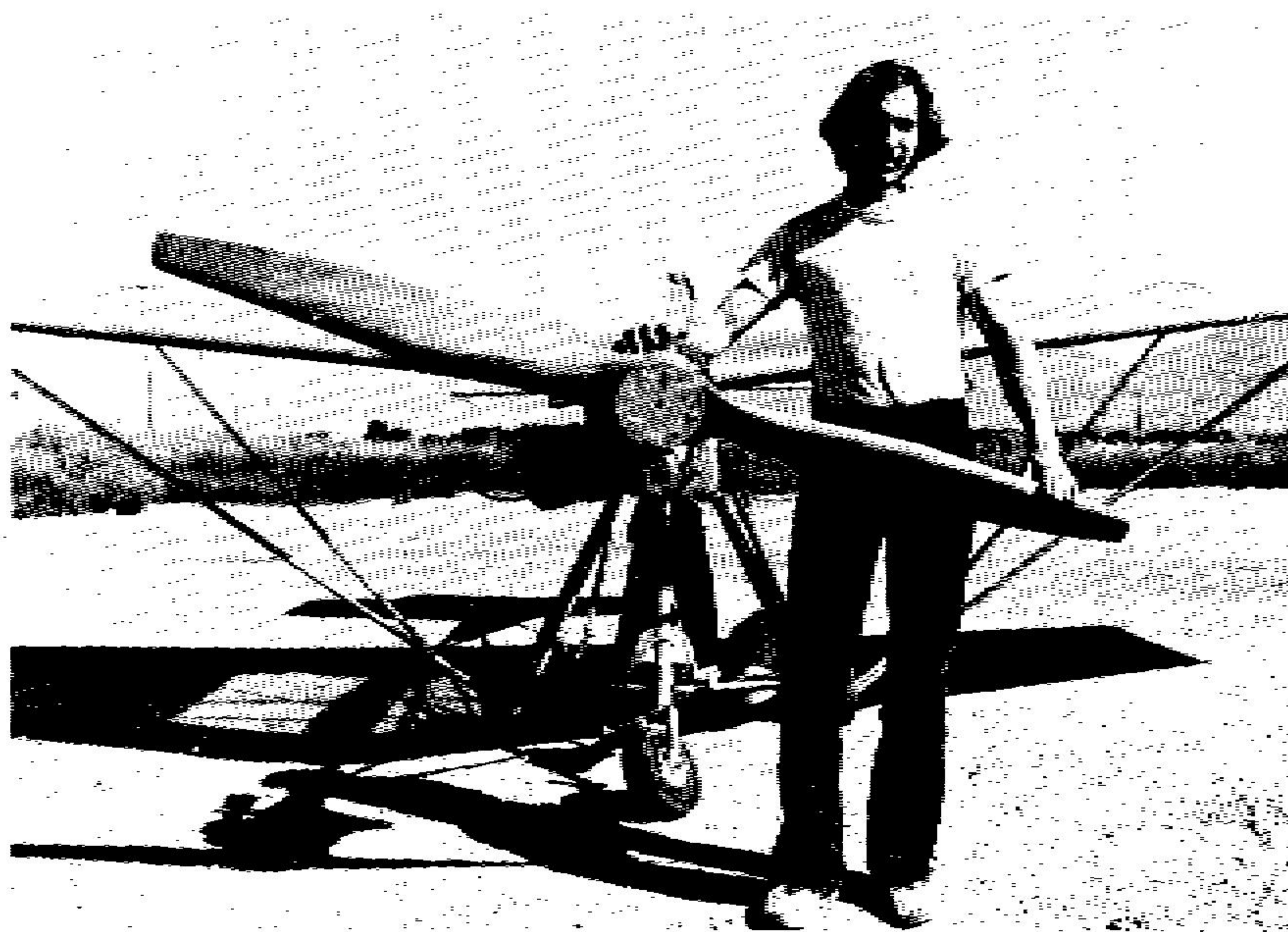
The new belt driven reduction unit, seen here on a roundhead engine, but really intended for the 460-B which has much better cooling.

Belt Drive Reduction Unit: Ps-s-s-t! Wanna turn your Weedhopper into a rocket? Wanna outrun, outclimb and outmaneuver every other ultralight at the fly-in? It's all possible with the new belt drive reduction unit that can be bolted onto the 460-B's. This is the biggest breakthrough we've had in performance and it really is dazzling! With the reducer on, and a fuel injector, the engine will run at about 3800 rpm and swing a SIX-FOOT PROP at 1500 RPM!

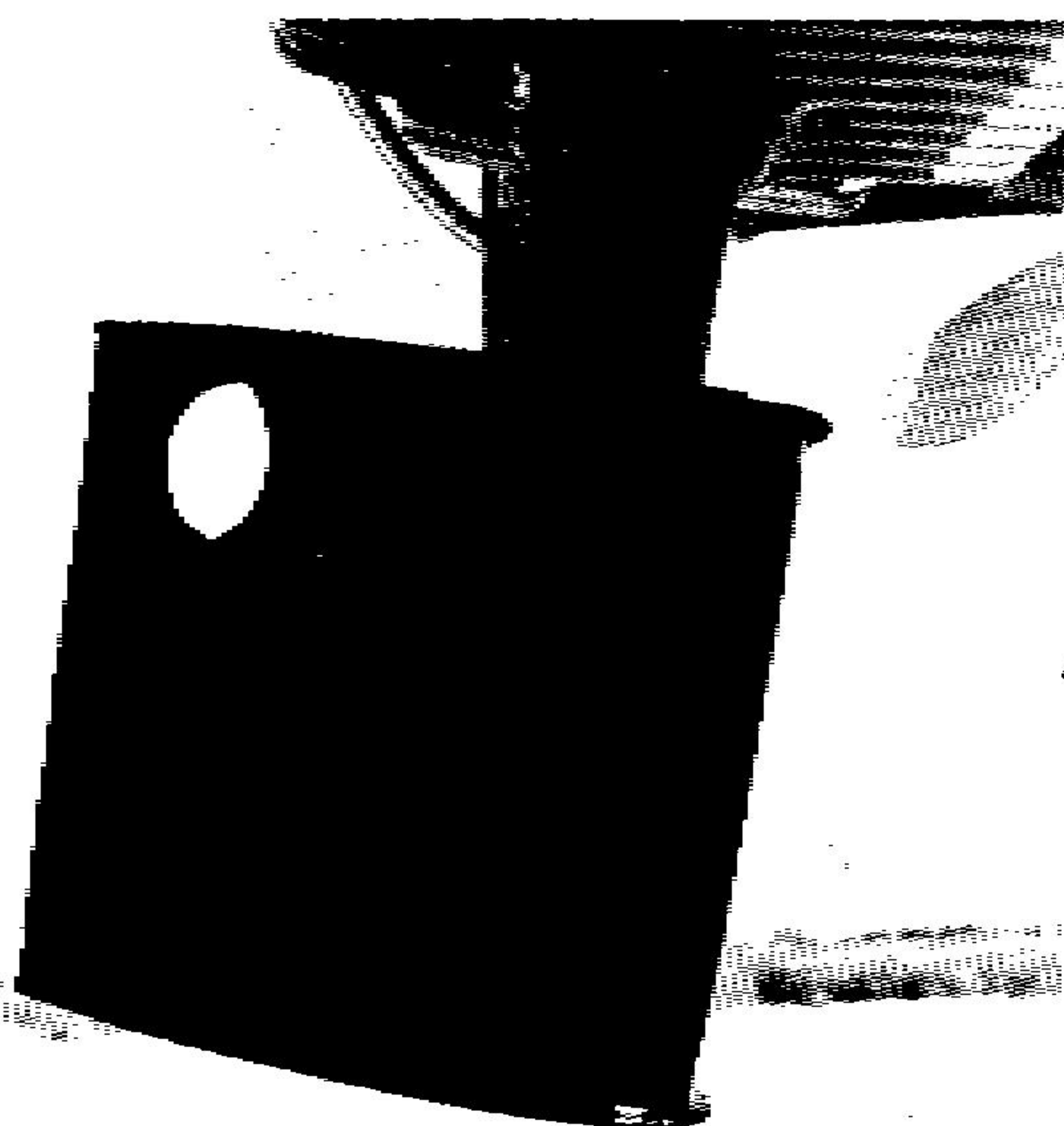
(cont. on next page)

On the average, you'll get an extra 100 pounds of thrust. USE IT SENSIBLY. It will transform the Weedhopper. In fact, it's almost as good as hyperspace. Again, mounting is a minimal experience that can be accomplished with hand tools. The reduction unit is an option that's best for square head engines (the extra cooling is necessary). Round heads must avoid hot days and long full power climbs.

Cost: Reduction Unit - \$400
Six-foot Mahogany Prop - \$300



With Reklai Salavar beside the 6' prop that comes with the reduction unit, you can begin to appreciate the scale of things.



The new muffler.

Muffler: With the new muffler option, you will probably experience a drop in the neighborhood of 50 RPM. It's a small penalty for what you gain in noise suppression: engine noise is cut dramatically. Cost: \$50.

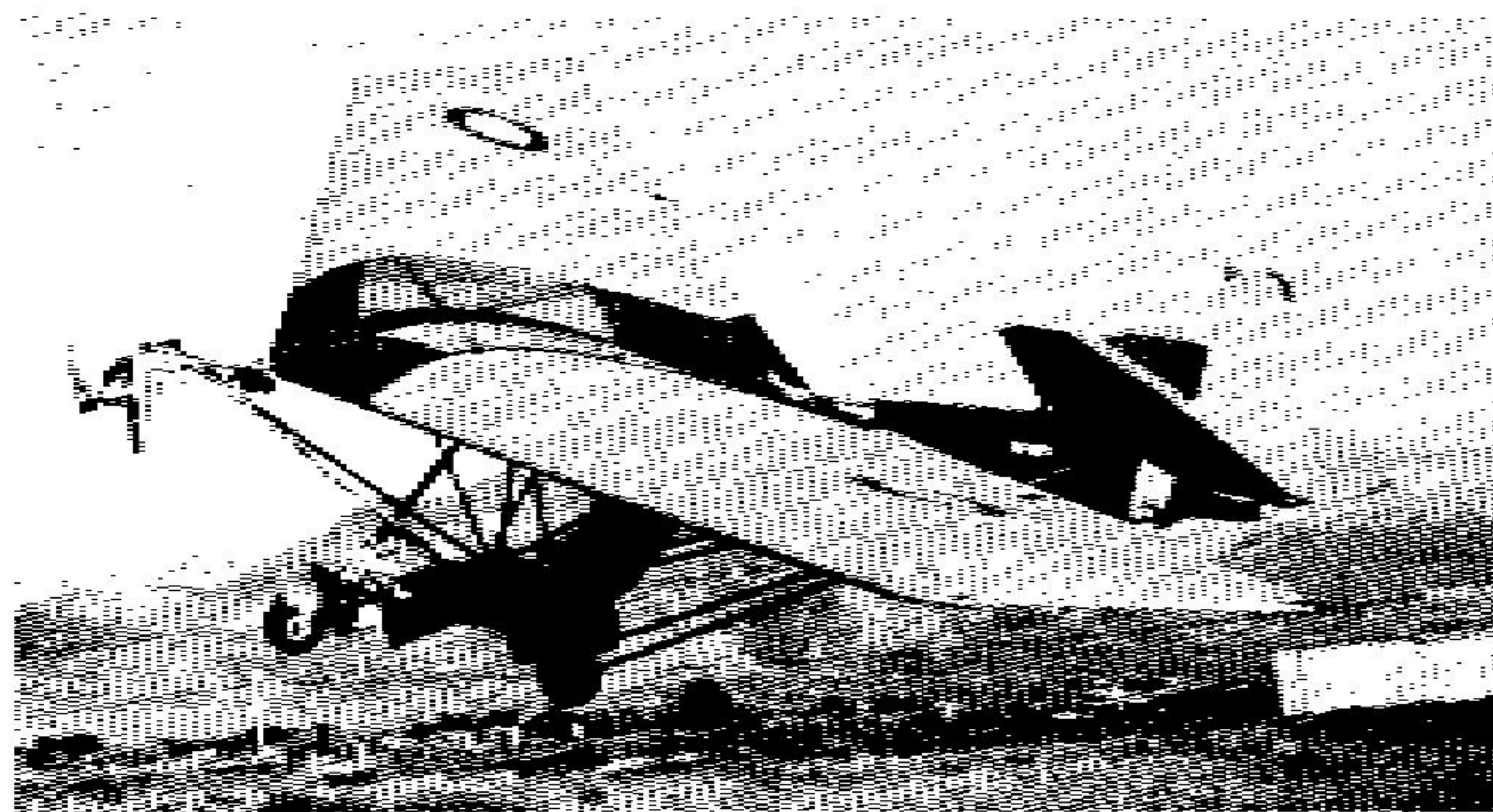
Aileron Kit: If you learned to fly in a Weedhopper or some other ultralight with two-axis controls, we recommend you stick with it. On the other hand, if you were trained in a three-axis control aircraft, and feel ailerons are a must, we've got a bolt-on aileron kit that will give you that big airplane feel. It also includes a bar for cross-over nose wheel steering which is found in all conventional aircraft. All the tubing, cable, bolts, fabric, etc. are included in the package which is available for \$75.

Recoil Starter: Eliminates hand propping and significantly reduces the possibility of flooding with injectors. It means you can start from the cockpit, when you're all strapped in and ready to go. A real convenience device and like all the rest it's easy to add on. Price is \$75.

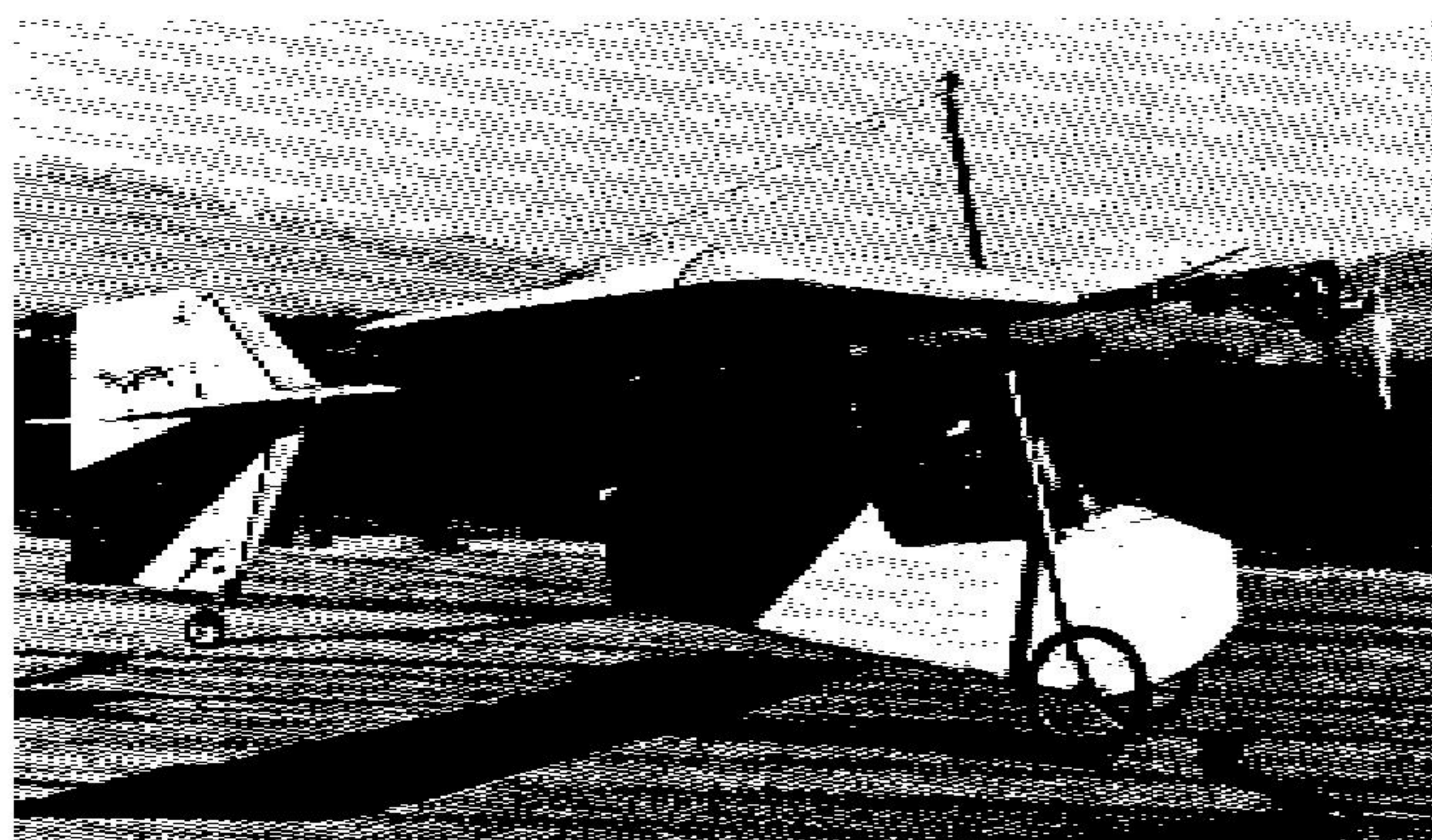
Weedhopper T-Shirts: We're sure you've already got one of your own, but why not make the rest of your family and friends a part of the Weedhopper movement this Christmas? They're available for \$6.00 each and come in children's and adult sizes. (Add 50¢ each for postage and handling).

The Ultimate Gift: What could make your lover happier than to wake up Christmas morning and find a Weedhopper under the tree (...beside it ...behind it ...out in the garage)? Or a Gypsy? Get the New Year off to an exciting new start with a Weedhopper or Gypsy Kit. Buy one for Gramma.

Weedhoppers are priced according to the wing you select:



Standard:\$2,995
 Rigid:\$2,445
 Soaring:.....\$3,495



And the Gypsy runs.....\$2,995

AMERICAN ULTRALIGHT ASSOCIATION

The impact of politics and the FAA continues to erode the freedom we've enjoyed in our sky. We hear rumors of impending regulations drafted by bureaucrats who haven't the slightest idea of the difference between a Weedhopper and a Gypsy. They don't know how ultralights fly, they don't understand the people who design, build or fly them. We get the impression they simply don't give a damn and don't want to be bothered. EAA, which grabs headlines with promises of action, has yet to follow through - what have you heard about the ultralight division that was created at Oshkosh over two months ago?

So, we're announcing our intention to explore the popularity and potential political clout of a group called the American Ultralight Association. We begin with 10,000 members - the Weedhopper enthusiasts, and stand ready to go to Washington to respond to the NPRM that's being labored over in the FAA. We seek to inspire sensitivity and common sense among the indifferent people at FAA. If you don't want to be represented, let us hear from you.

NEW JC-29 PUSHER COMING

We're not ready to say much about it yet, but the 460-B engine is an open invitation to design and build a pusher. You get so much more thrust with that configuration. The wheels are already turning...

THE FIRST FATALITY

We've received an initial, eye-witness report of a fatal accident involving a Weedhopper. The pilot was Robert Hutchison of Pennsylvania. Apparently he was flying off a narrow road and lost control shortly after takeoff. He may have glanced or bounced off a guard rail before going into a tree-sideways. The report indicated that there were gusty winds at the time.

We don't want to conjecture out loud about possible causes, but the accident does reinforce the fact that while Weedhoppers are playful, they're not simple toys and they can kill you. Good cautious judgment about flying sites and weather conditions is essential to your safety.

ANY WEEDHOPPERS DOWN ON THE FARM?

We've been approached by a farm publication that's eager to find out if anyone is using an ultralight on their farm to survey crops or livestock? We'd like to know also. What kind of practical applications have you found for your Weedhopper? We know everyone has fun with a Weedhopper, but we're curious to know if anyone has found a practical use for this popular ultralight. Please write to us if you've found a special use for your airplane.

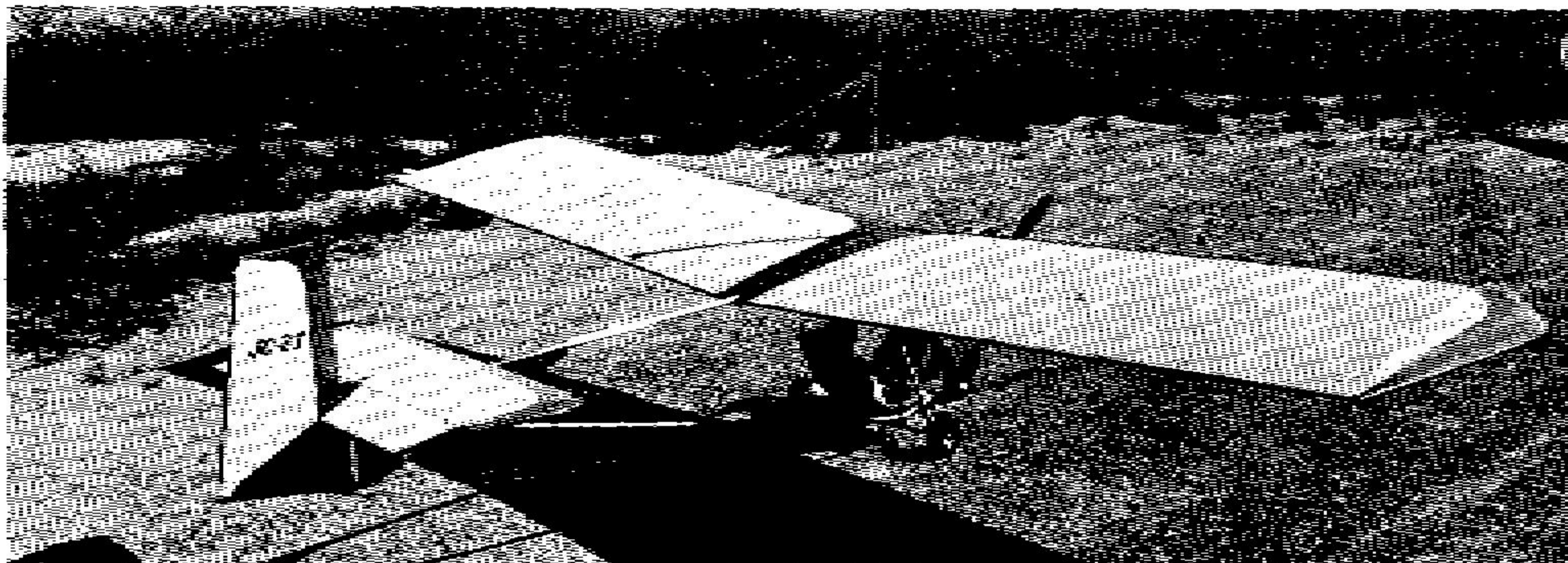
Thanks.

WEEDHOPPER DEALERS: IT PAYS TO HUSTLE

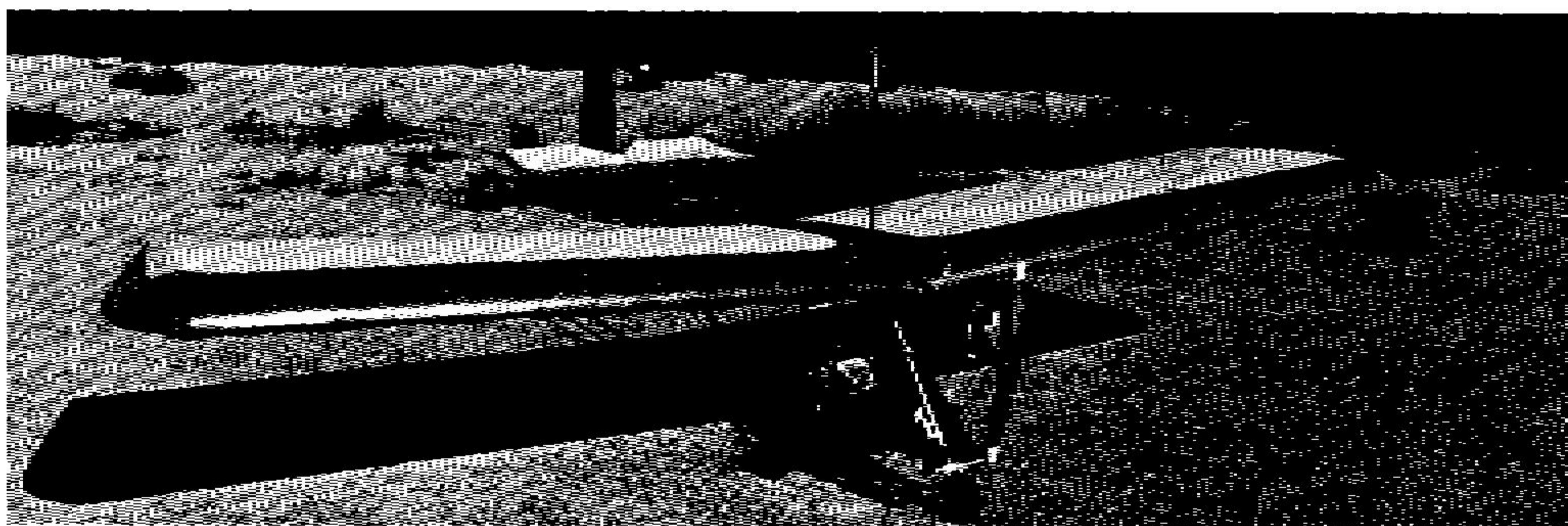
We've selected the top twelve Weedhopper dealers for immediate feedback on our square head 460-B. We are sending them free conversion kits so they can convert their round head 460's to square head 460-B's. They will get the cylinder, head, piston and rings. We're eager to learn about the 460-B's performance at various altitudes and climatic zones around the country.

By the way, do you have enough Weedhopper and Gypsy handouts? They really do pay off.

WEEDHOPPER XL READY FOR FLIGHT BUT NOT FOR SALE



Work was completed some time ago on the new Weedhopper XL, but production demands and other projects have kept us from flying the XL. Basic differences between the XL and Standard Weedhopper include a constant chord wing, wire bracing in place of tubes, a kingpost over the wing, a new shape to the tail group, foam ribs and dacron/dope covering. The XL was intended to test out several new ideas in construction and aerodynamics. There are no plans at this time to market the XL, but we thought you might like to have a look at it.



The new Weedhopper XL will probably have flown when you see this, but it will not get beyond the flight test program.

THE AUSTRALIAN CONNECTION

Arrangements have just about been completed to set up a Weedhopper plant in Australia. John will be going down under soon to survey the facilities and assist with start-up. The Aussies have been big Weedhopper fans and find it suits their open spaces real nicely. Because of the different rules governing the operation of ultralights in Australia, John is planning to develop a new airframe design that delivers higher speed and greater range. It's the kind of approach to flying we'd like to see in this country - if the FAA would only listen to the people who really use the airspace.

GYPSY PRICE INCREASE

As of January 1, 1981 the cost for a Gypsy Kit will go up to \$3295. The current price is \$2995. Increases in materials and labor costs have forced our hand. Order your now, and beat the hike.

ENGINE ALERT

A pop rivet is used to hold the air cleaner to a flange. It's important to reach inside the flange and crimp the end of the rivet so the end of the shank won't fall into the engine.

WEEDHOPPERS TO APPEAR ON NATIONAL TV

For some time sport pilots have been getting together for some spontaneous competitions with water balloon bombing. When we mentioned the game to NBC's Games People Play, they thought it might make for some good television. We've known that all along, of course, and will welcome the TV crews at what has now become the first Weedhopper fly-in, set for October 18-19 at Logan Airport, Logan, Utah. Look for us on the tube between November 20 - December 20.



The Gypsy was victimized by insanity at Oshkosh this year.

GYPSY WAS SABOTAGED! AT OSHKOSH!

MET-CHEM ENGINEERING LABORATORIES

INCORPORATED
211 W. Park St.
Sacramento, California 95804
Phone BR 1-321-3400

September 5, 1980

Headquarters of Test
P.O. Box 3222
Oshkosh, Wis. 54904

Attention: Mrs. Taylor

Job No: L333,21,3
P.O. No: 2022

LABORATORY TEST REPORT

Sample: See pieces provided

Test Required: Rust Test

Test Results:

Scrappings from the top of the pieces were positive for sugar. A sample taken from the oil circulation was normal to give any reaction.

Respectfully submitted,

Fred Schmitt
Fred Schmitt
Senior Chemist

MS/ST

Analysis Services • Physical Testing • Failure Analysis • Analytical Chemistry • Instrumentation Repair
Business Hours: 8:00 AM to 5:00 PM

SO HERE'S SUGAR IN YOUR TANK!

Sabotage is serious business, even more serious on an airplane! In a fiercely competitive business, such as the ultralight aircraft industry, this is becoming a serious problem. There have been rumors and claims of tampering in the past, but lacking documented proof, they have been dismissed as the paranoid ramblings of those whose business is slow. This is not the case here, however. This story has proof and the true meaning of this incident is significant and far reaching.

Oshkosh '80: Our crew arrives a day early and sets up the planes. The restrictions on run-ups, plus tight time scheduling prevents test running our engines. Besides, they have three Weedhoppers and a Gypsy to set up as well as a commercial display a mile and a half away. All the planes have many hours of trouble-free running anyway, even the Gypsy which is only two months old.

First day, the doped wing Weedhopper and the soaring wing fly well. The Gypsy is having carburetor problems, the carburetor float has sunk so I replace the carb and get it running just as the field is closed for flying. I ask and get permission for a

couple of taxi runs. I line up, open the throttle, the tail comes up too quickly, I pull it back down a bit and I'm 6 ft. in the air in a little over 80 feet! Back off the throttle and coast about 100 feet to land. I'm really pleased, the engine is strong, the plane responds great, this is my first flight at less than 6000' density altitude, the difference is amazing, we're going to "blow-em-away" at this meet! I can hardly wait to fly.

Next morning I get up at 6:00 A.M., make the briefing at 6:30 and after an uneventful pre-flight I roll out on the line to take off. We start the engine, it surges up to 38-3900 RPM as on the day before but then wavers and sags back to 33-3400 RPM! The whole crew notices it and exchanges curious glances. (The thought of sabotage enters my mind but I dismiss it as competitive paranoia). The engine holds steady at 33-3400 RPM, there are thousands of people watching and 2900-3000 is enough to fly on (sustained level flight) so I decide to taxi out and run up carefully, if it doesn't change, I'll fly and check it out later.

The take off roll is very long in the damp rough grass. The tail doesn't want to lift but finally it does; then lift the mains off at minimum airspeed and level at 2 feet to get up to efficient flight speed of about 33 MPH. The climb is painfully slow, I wish for yesterday's power, a glance at the VSI shows about 125-150 FPM. I've seen 225-250 FPM at 6500' density altitude. My take offs in Logan, Utah, 4500 ft. at 95°F, are shorter and climb is quicker. I'm really puzzled by the way the engine is running, the RPM wanders between 3300 and 3400. This is really strange, normally the C-460 is steady as a rock. A quick mental calculation and I realize I'm down about 50% on power! (3900 is what I expected, 3350 is what I averaged, that meant there was another 58% I didn't get, to be more exact).

The flight is short, I don't want to push my luck. A tight 180° and sideslip down. I wish for the split T.E. flaps I'd considered but not yet installed, the side slip only drops the glide to about 8-1. Throughout the week all of my final approaches must be at 30° slide slips and I still use most of the runway. My conservative (chicken?) attitude dictates at least 30 feet under the wing tip during the 45° bank 180° approach.

As soon as I'm down my mind turns back to the engine. It is idling smoothly. I blast the throttle a couple of times taxiing back and it shows 3300 RPM maximum. What is it? fuel system? ignition? carb? The compression had seemed OK when I started it.

Through the week I check out the ignition system, replace a coil which had been dropped once,

check out the fuel lines, replace ignition batteries, and check the carb, all to no avail. The power remains low, take offs get worse as the rains soften the field. The unsteady RPM continues. Compression is down some too.

With great crowds of people dawn to dusk, it is impossible to dig further into the engine. You see, since we build our own engine we can't blame problems on anyone else, and our competitors are very quick to pick up on any sign of trouble. We could blow a Yamaha, Mac or Sachs and no one would notice, but if a Chotia 460 coughs or sputters, the whole world knows in 15 minutes (well, almost)!

The real frustration is knowing we could have done so much better. We test and fly our equipment so that the unknown doesn't catch us in public, yet here it was, the Gypsy which is 10 lb. lighter and has twice the glide of a Weedhopper was barely flying.

Late in the week the awards come out, best design is given to the Kasperwing. I felt the Gypsy should certainly have been considered. It was, but the performance of the Kasperwing (it was impressive) swung the vote in its favor. This is especially disappointing for me since I know the Gypsy could have performed much better.

Saturday, last day and most of the crowds are gone. With less curious onlookers, and my own curiosity burning, I violate my own rule and remove the cylinder on the Gypsy. Immediate shock! On the side of the piston is a gummy, black despoit and the rings are stuck! The black gunk looks familiar. Once when my brother and I were kids, we had put sugar into an old junk lawn mower engine we were in the process of torturing and attempting to blow up. We used to take this old engine apart, put it back together, over-rev it, put on long pipes and rev it and just listen. Well, anyway the sugar froze the rings in that old engine and made smeary black sludge on the piston just like that on the piston I'd just taken out of the Gypsy!

I suggested to a couple of people that it looked like sugar, but everyone thought that was ridiculous. It did sound far fetched to me, so I dropped it for the moment. I cleaned the ring grooves with my pocket knife and reassembled the engine.

The RPM came up to 34-3500, take off took half as long and climb rate was up to 250 FPM. I flew almost an hour, just pattering around the relatively empty pattern. I was still puzzled, what was that goop? How did it get there? Why did it have to happen at the biggest meet of the year? As the flight wore on, short bursts of full power showed the rings were sticking again, when I landed

3400 was all it would turn again.

Funny, about mid-week we discovered loose spark plugs in the long wing Weedhopper, at other shows we have found safety ring clips missing on rudder cables and a wing strut. At Oshkosh '78 I had a muffler fall off which had never given trouble before (and later was loose again even though it had been tightened and not flown). These incidents were curious but inconclusive. After all, we might have forgotten to install the clips or tighten the plugs, though unlikely, it is possible.

When we got back to Utah and had Oshkosh behind us, I decided to remove the piston and send it out for a chemical analysis. The results were that sugar was present!

I am shocked, angry, disillusioned, frightened and apprehensive as a result. There is little need to question motives -- money. If I look too good someone thinks he is going to loose business. The Gypsy has the potential to do very well. If the power hadn't been sabotaged, how many more would we have sold? Could we have taken "Best New Design"? If the power had been up to normal I would have certainly flown it more. We sold 16 Gypsies the first month. How many more could we have sold if we could have flown both more and better??

What about the press? Oshkosh is the biggest and everyone is there. Already "Glider Rider" has commented on the poor performance of the Gypsy at Oshkosh. This type of report and the ever-present rumor mill has surely spread the story. The effects will surely linger on.

And what about murder? Tampering with a flying machine in any way can be fatal. If the person who put the sugar in my engine was a competitor or flyer, he knew the chance he was taking with my life. I would hate to think that that person was willing to risk my neck to further his business - yet he (she) did.

As a result of this incident, you can bet our security will be much tighter. I would also suggest that at all future fly-ins, no one be allowed near the planes at night, no camping and no wandering. I'm not sure exactly how I'd react (what degree of purple rage) if I personally caught someone tampering with my plane again. I'd probably be less than friendly for sure. I hate this type of distrust and suspicion, yet with the proof in the black and white lab analysis, I must be cautious; the plain hostility will take some time to fade.

I would appreciate any information from anyone who saw anything odd in the Ultralight area the night of August 1, 1980. Some serious questions still need answering.

WHAT HAPPENED AT TULLAHOMA?

We were prepared to introduce two new airplanes and our belt reduction unit at Tullahoma, EAA's National Fly-In. But then we heard that none of EAA's editorial staff would be attending the Fly-In. Strange. Obviously EAA Headquarters doesn't see Tullahoma as a major event in their calendar...we thought it meant more. Certainly the editorial staff isn't the only reason we'd be off to Tullahoma, but the symbolism EAA has chosen to downplay the event causes us to wonder if they have written it off. So we only sent a token staff with a standard Weedhopper and the Gypsy. We'll save the new stuff for Sun 'N Fun, which seems more secure.

DICK JONES PROMOTED TO SHOP SUPERINTENDENT

Dick Jones, who joined the Weedhopper staff on June 3 of this year, has been promoted to shop superintendent. Dick and his family recently moved back to his native Utah after 14 years spent running his own sheet metal shop in California. Actually, he came to Ogden to get into real estate, but then he heard about Weedhopper and dropped by one day to take a look around... Dick's done a lot to expedite delivery on engines and airframes. We're catchin' up rapidly.



Dick Jones, Weedhopper's new shop superintendent, discusses tooling for the 460-B.

WEEDHOPPER NEWS is sent free for one year to all Weedhopper and Gypsy builders. Yearly subscription price is \$6 for 12 issues.

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