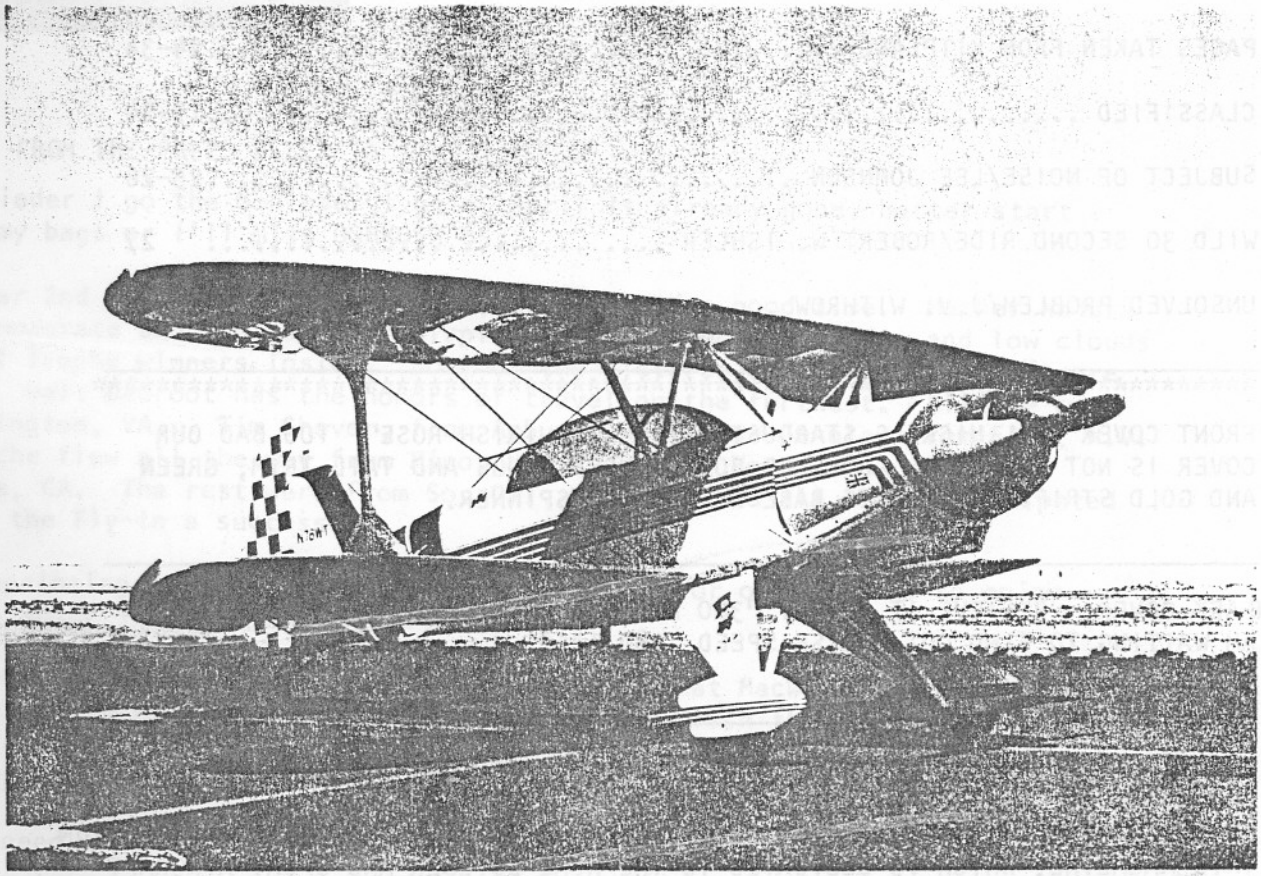
Starduster



Dedicated to the
ACTIVE Homebuilders

April 1985

APRIL 1985

THIS MAGAZINE USES MATERIAL SUBMITTED BY IT'S READERS.
SOME ARTICLES OR STATEMENTS MAY NOT BE IN AGREEMENT
WITH STOLP STARDUSTER CORPORATION OR IT'S EDITOR.

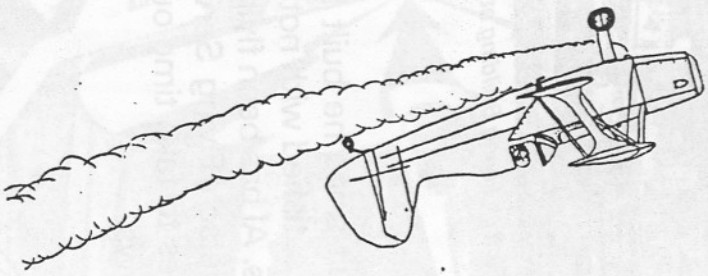
TABLE OF CONTENTS

****

FRONT COVER - AL NICKELS STARDUSTER 11 "WILD IRISH ROSE" TOO BAD OUR COVER IS NOT IN COLOR. CHECKER-BOARD UNDER WINGS AND TAIL TRIM, GREEN AND GOLD STRIPING ON WHITE BASE WITH GREEN SPINNER.

BACK COVER - BELIEVE IT OR NOT "360 HP") ACRO 11 STRAIGHT UP FOREVER - AM WAITING TO FIND OUT CRUISE SPEED 180 IAS?

PLEASE - BLACK & WHITE PHOTOS - FOR USE IN OUR FUTURE PUBLICATIONS - COLOR PHOTOS DO NOT REPRODUCE WELL WITH OUR COPIER -
THIS EDITOR IS ALWAYS LOOKING FOR TECHNICAL AND EDITORIAL CONTRIBUTIONS FOR THIS MAGAZINE, WHICH IS DEDICATED TO THE HOME BUILDER AND SPORT AIRCRAFT ENTHUSIAST.



COMMENTS FROM THE PREZ. B.C.

The hurrieder I go the behinder I get. April is already gone, better start packing my bags or I'll miss OSHKOSH 85.

We had our 2nd Annual Fly-In and again everyone had a good time. Mother Nature didn't cooperate and kept several airplanes home. Because of fog and low clouds A list of Trophy winners inside. Somehow the pictures of winning aircraft are missing. Walt DeGroot has the honors of traveling the furthest. All the way from Arlington, VA... Tim Shaver, from Auburn, WA., Dean Connley from Elks, N.V. Al Pietsche flew all the way from Minot N.D. and Les Homan flew down from Livermore, CA. The rest were from So. CA. My thanks to all that participated and made the Fly-In a success.

We are reprinting Lycomings Trouble Shooting Guide for our readers to enjoy - will take about 3 issues for all of it.

Opened my mail today and was very unhappy to find that MacWhyte has raised the prices of our flying wires another 30% - we will publish the new prices soon.

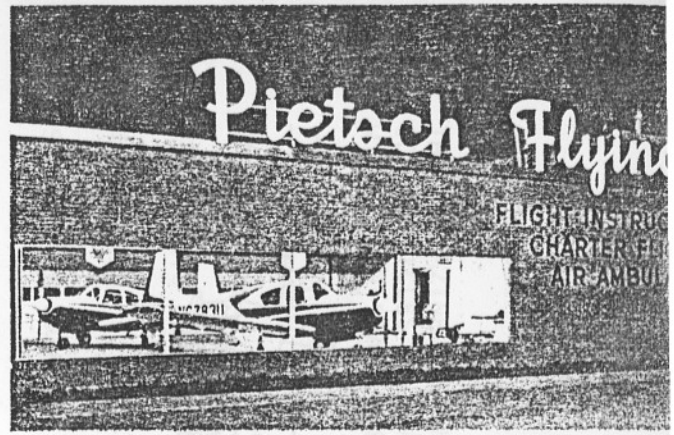
We are reprinting the articles out of Kit Planes. A very good story.

We still need more input from our builders and readers.

Bill Clem

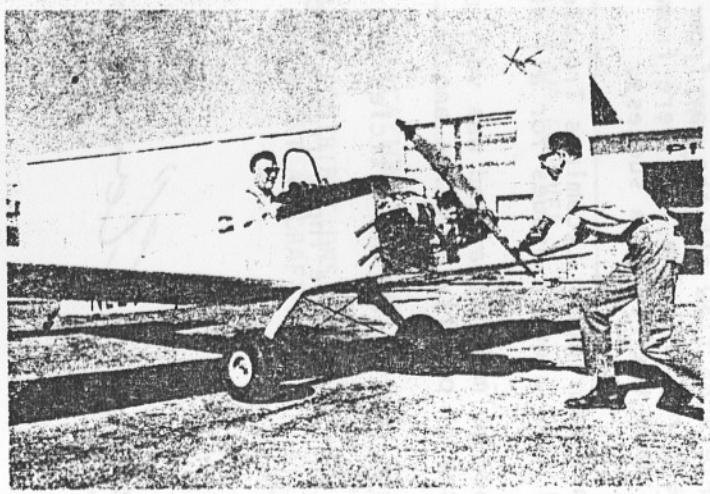
Al and USAF General Cross in EAA "Breezy" built at Pietsch Flying.

Al Pietsch

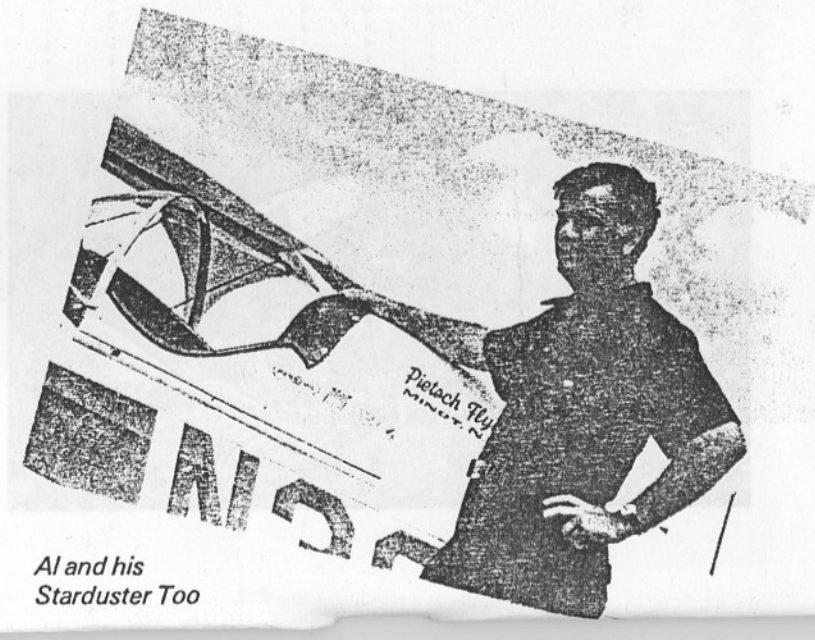


Pietsch Flying Building at Minot International Airport.

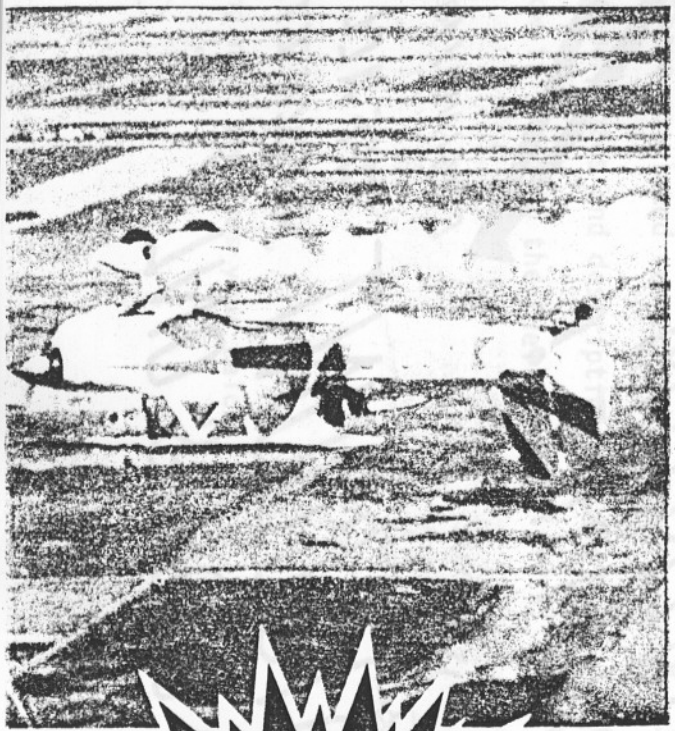
Well known in the aerobatic circuit since he built his Starduster Too in 1967, Al is a s-m-o-o-t-h pilot, satisfied with nothing less than perfection in his aerobatic maneuvers. Al has been flying most of his life and has owned and operated Pietsch Flying Service in Minot, North Dakota since 1955. He manages to take time out of his busy schedule to perform at several air shows.



Al test flying a home built aircraft.



Al and his Starduster Too



Aerobatic Excitement And Action

AL PIETSCH FROM MINOT N.D. WAS THE STAR AT OUR FLYIN THIS YEAR. HE FLEW ALL THE WAY DOWN HERE TO PUT ON A TERRIFIC AIR SHOW.

ALL THAT WATCHED WERE IMPRESSED WITH HIS TALENT AND HIS STARDUSTERS PERFORMANCE.

AL HAS A VERY RARE STARDUSTER 11. IT TOOK AL 6&1/2 MONTHS TO BUILD A 968 LB AIRPLANE, EQUIPPED WITH A 200 HP LYC AND CONSTANT SPEED PROP. THE AIRCRAFT HAS OVER 5000 HRS LOGGED.

THANKS AGAIN AL

Bill Howe

Al Pietsch

AND THE

STARDUSTER TOO

PRECISION AEROBATICS

James O. Smith, Jr.
R.D. 2, Box 379
New Wilmington, PA 16142

March 25, 1985

Dear Bill,

This a follow-up to my letter and photos published in the January 1985 issue of the Starduster Magazine, to perhaps clarify and add additional information about the retaining collars on the torque tube.

The forward collar is held in place with four (4) 6 X 32 machine screws. The rear collar has three (3) machine screws as well as the collar being tight to the welded bracket that holds the control stick in place. I had a local engineer check the shear loading and the following is what was determined:

Based on a tensile strength of 55,000 PSI (AN 500 fillister head screw) a calculated allowable shear was determined to be 20,600 PSI (+). For the remainder of the calculations an allowable shear load of 20,000 PSI will be used. The calculated cross sectional area of the screw is 0.021 inches square. This equates into an allowable shear loading of 421 lbs. per screw or a total load of 1,684 lbs. for four (4) screws, well above the 900 lb. load discussed over the phone this past January.

I have completed connecting the throttle/mixture linkage and hope to send some photos and description of same in the near future.

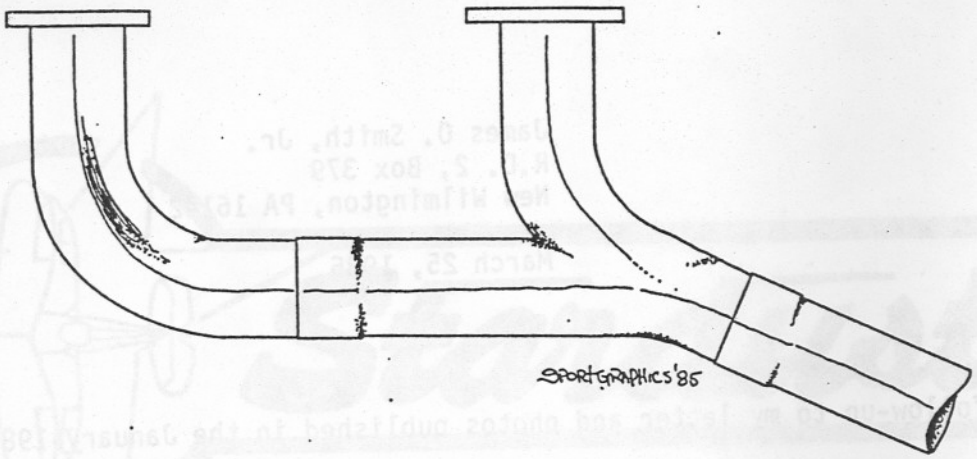
Now it is on to the fuel system.

Sincerely,

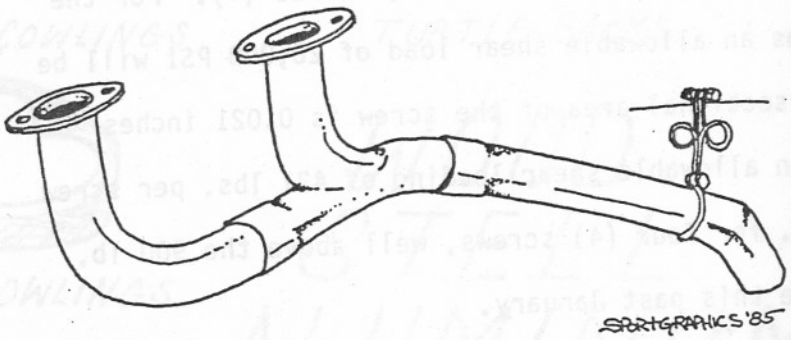
Jim Smith

Our engineer confirms your calculations.

B.C.



Because of several failures of our 200 HP header systems, which we feel were caused partly by improper installation and expansion and contraction between the two cylinders, which would cause the aft stack weld to fail. As you can see by the illustration we have added a slip joint between the two cylinders which allows for expansion and contraction, between the cylinders and reduces that stress on the weld.



This illustration shows an acceptable way of supporting the tailpipe extension. The hanger is usually fabricated out of .090 stainless steel welding rod and fastened to the firewall. The tailpipe is anchored to the header by drilling a hole through the tailpipe sleeve and header to accept a 5/32 monel rivet which is held in place with a stainless steel hose clamp. The slip joint between cylinders is not pinned or clamped.

" BC "

INTRODUCTION

TROUBLE-SHOOTING

1. Trouble-shooting is the step-by-step procedure used to determine the cause for a given problem and then selecting the best and quickest way to solve that problem. The use of turbochargers and automatic controllers has somewhat complicated the trouble-shooting procedures. A good rule to follow when trouble-shooting is to always start by discussing the problem with the pilot and the facility management people to assist you in narrowing the problem to as few possibilities as possible. In the case of twin engine aircraft, let's make sure you are working on the correct engine. After a thorough discussion and verbal analysis of the problem, you are ready to go to work. If you are an experienced mechanic, you may be able to automatically eliminate some of the probable causes. If you are new on the job, you will have to go through all of the possibilities available to you. The important thing to remember is always start with the simple and inexpensive things first and work toward the more complicated, time consuming, and expensive things later.

2. After the mechanic has received all possible information from the pilot and management people, a quick observation of the external condition of the engine may give him an indication of the problem. Some areas to look are the intake and exhaust pipes for leaks, the ignition harness, breather, and the engine compartment for excessive oil stains, gas stains or exhaust stains. More information may be gained rather quickly by doing a compression check to locate any low compression cylinders. Do a boroscope inspection to determine the condition of the combustion chamber. Some information that may be obtained is: the presence of excessive carbon deposits indicates high oil consumption; the lack of carbon deposits may indicate continuous lean engine operation or detonation; scratched or scored cylinder walls may indicate broken rings. More information may be compiled by removing the spark plugs and observing their condition. Note: Keep track of which plugs came out of which cylinders. Another good trouble-shooting tool is the use of spectrometric oil analysis. To be effective the engine must be in the analysis program from an extended period of time to develop a useful history of periodic samples of oil that were analyzed. The program must be carried out by experienced and reputable people in the oil analysis field.

3. The following list of problems, causes, and solutions was selected because we believe it represents the more common and recurring problems encountered by mechanics when doing trouble-shooting. It should be noted that the list is general in nature, and does apply to both normally aspirated and turbocharged engines. The sequence in which the lists are arranged is not necessarily the exact step-by-step procedure to use, but should be used as a guide to determine all of the possible causes and solutions to a problem and then decide on his own the exact procedure, always keeping in mind to do the simple and inexpensive things first, then proceed with the more complicated and expensive things later.

HARD STARTING

Cause	Solution	Procedure for Solution
1. Technique	1. Refer to operator's manual recommended starting procedures.	1. Solution is self-explanatory.
2. Flooded	2. Clear engine	2. Crank engine with throttle full open and mixture in idle cutoff.
3. Throttle valve open too far.	3. Set for approximately 800 RPM.	3. Solution is self-explanatory.
4. Insufficient prime (may be accompanied by backfire).	4. Increase same.	4. Note: Make sure primer is not leaking.
5. Mag impulse coupling not operating properly.	5. Remove and check for binding, or broken impulse spring.	5. Remove mag and check that spring is not broken and flyweights move freely. Check torque on coupling retaining nut. If unable to locate problem, remove coupling and check according to S.I. 1096 and SI 1189.
6. Defective spark plugs or ignition wire.	6. Inspect and replace or repair as necessary.	6. Remove plugs, inspect, clean, and/or replace as necessary. Visually inspect ignition harness for breaks and cracks. Test leads by removing distributor block from mag and using a Bendix high tension lead tester No. 11-8888 or 11 8888-1 or equivalent type equipment.

HARD STARTING (con't)

7. Low voltage at vibrator input.	7. Check with voltmeter and replace battery, if necessary. (Be sure battery terminals are clean and tight, also check leads for condition.)	7. Measure voltage between vibrator terminal marked "in" and ground terminal while operating starter. Must be at least 8 volts on 12 volt system, or 13 volts on 24 volt system.
8. Inoperative or defective vibrator.	8. Check and replace vibrator, if necessary.	8. If voltage is o.k, listen for interrupted buzzing of vibrator during starting. If no buzzing is heard, either vibrator is defective or the circuit from the "output" terminal on the vibrator to the retard contact assembly is open. Check both switch and retard circuit. Also check for good electrical ground.
9. Retard contact assy. in magneto not operating electrically. Engine may kick back during cranking.	9. Check all connections at switch and vibrator. Adjust retard points. See appropriate Bendix Manual for procedures.	9. Retard points may not be closing due to improper adjustment or may not have a good electrical connection in circuit. Check for good contact of switch and retard leads at magneto and vibrator. Check condition of wire.

10. Vibrator - Magneto combination not putting out electrically.	10. Check and replace, if necessary.	10. Disconnect Starter and all Spark Plug Leads. Turn engine in right direction until retard points open on #1 cylinder firing position. Hold #1 plug lead approximately 3/16" from ground, energize vibrator by turning switch to start. Plug lead should throw a shower of sparks to ground. If spark is weak or missing, replace vibrator. Also check mag for correct internal timing. Proper duration of shower of sparks may be checked by holding switch in start position, and hand turning prop until sparks stop. Degrees of prop rotation may be measured or estimated to determine if retard points are adjusted properly. Note: All checks must be made with starter and plug leads disconnected.
11. Magneto improperly timed to engine.	11. Check mag timing as per engine manufacturer's instructions.	11. Disconnect starter. Turn engine in proper rotation to #1 cyl. firing position. Attach timing light to primary leads (marked switch) of mag and ground lead to engine. Rotate engine until advance points break,

		indicated by timing lights going out or coming on, depending on type of light used. Observe that when points break, timing marks on engine are aligned. Engine timing marks are located on engine as follows: Direct Drive - Line on starter ring gear to dot on starter hsg. TIGO - Degree markings on crankshaft to split of case observed at top front of engine. Geared Supercharged - Pointer mounted to accy. hsg. to lined bevel tooth on camshaft gear observed on right side of engine in accy. housing
12. Magneto internal timing not adjusted properly or "E" gap drifting because of point or follower wear.	12. Adjust magneto internal timing, or replace points if either follower or points are worn.	Remove mag from engine and turn mag to #1 firing position, attach timing light, turn mag in proper rotation. Observe that when lights go out, built-in pointers in the magneto are aligned in the observation window provided. (See Bendix Maintenance Instruction Manual for your particular mag.)
13. Impulse coupling on mag. inoperative.	13. Repair or replace impulse coupling.	13. Remove magneto from engine, turn in proper direction by hand and observe that flyweights in impulse coupling contact stop pins. If this condition does not exist,

		flyweight axles are worn excessively and impulse coupling must be replaced. If flyweights are in good condition, rotate mag several times to snap impulse and determine that impulse spring is not broken. Check torque on impulse coupling nut to be sure it is not binding due to an over torque condition. For complete information on magneto impulse couplings, get a copy of the booklet, "I AM YOUR IMPULSE COUPLING", #L-1019 from Bendix at Sidney, N.Y.
14. Impulse Coupling is magnatized	14. Remove and de-magnatize or replace impulse coupling	14. Solution is self explanatory.

ROUGH IDLE

Cause	Solution	Procedure for Solution
1. Mix to rich or lean (If mixture is lean, poor acceleration may be noticed).	1. Adjust idle mixture	1. Lean engine if mixture is too rich. Engine will smooth out and pick up RPM as it is leaned. If mixture is too lean, condition will become more aggravated as engine is leaned. Adjust for proper mixture by turning scalloped wheel at side of injector to either rich or lean condition, as indicated by arrow and letter "R" located on injector linkage. Note: After mixture is set, re-adjust idle speed to desired RPM, if necessary.
2. Plugged nozzles (Usually accompanied by indicated high fuel flow).	2. Clean nozzles, inspect with magnifying glass before cleaning if contamination is found, remove same. No need to check further. Note: May locate problem by feeling for cold cylinder.	2. Wash in acetone or MEK, blow out with compressed air. Note: Flow-check nozzles in containers of equal size to locate plugged or partially plugged nozzles. (S.I. 1275)
3. Induction air leak at one of the following locations: a) Hoses and hose clamps. b) Cracked int. pipes. c) Bad gaskets. d) Loose flange bolts e) Loose plugs in int. port of cylinders.	3. Check previously mentioned locations and tighten or replace as necessary.	3. Solution is self-explanatory.

f) Fuel drain valve not seating properly.		
4. Cracked engine mounts or defective mount bushings.	4. Replace same	4. Solution is self-explanatory.
5. Mount bushings improperly installed.	5. Install as per manufacturer's instructions.	5. Solution is self-explanatory.
6. Internal injector leak (Usually unable to adjust injector at idle) or won't hold adjustment.	6. Replace injector.	6. Check by disconnecting induction system at injector inlet to observe impact tubes, then put throttle in full forward position and mixture in full rich position, cap fuel line to flow divider, turn on boost pump, and if fuel is observed coming out of impact tubes, then injector has internal leak and must be replaced.
7. Fuel vaporizing in lines and distributor, (encountered only at high ambient temperatures and prolonged operation at low or idle RPM).	7. Keep ground operation to a minimum and operate with cowl flaps in full open positions. (If necessary, operate with booster pump on.)	7. Solution is self-explanatory.
8. Nozzle screen and shroud deformed to extent it blocks or partially blocks air bleed hole.	8. Replace nozzle.	8. Remove nozzles from cylinder so that they may be adequately inspected.

9. Sticking valve in fuel flow divider.	9. Disassemble and clean.	9. Remove divider from engine. Disassemble and flush out dirt. Also divider valve may be hand lapped in seat to remove any burrs that may be present. Note: Never interchange fuel flow divider parts and do not damage diaphragm.
10. Uneven cylinder compression.	10. Differential check cylinders to determine if further disassembly and repairs are necessary.	10. Differential compression check is accomplished by rotating cylinder to be checked to T.D.C. on compression stroke and introducing 80 psi air into cylinder and observing how much is retained. Step-by-step procedures and equipment requirements will be found in S.I. 1191.
11. Improper fuel pressure.	11. Adjust as necessary.	11. Minimum and maximum limits are found in engine and airframe manufacturer's operator's manual.
12. Faulty ignition system.	12. Check mag drop and condition of plugs and leads.	12. Set engine to produce 50-65% power with prop at min. angle. Check both mags for excessive dropoff. Note: Smooth dropoff that exceeds limits may indicate a lean or rich injector or carburetor. Leads must be checked by removing distributor block from mag and using a Bendix high

		tension lead tester, #11-8888 or 11-8888-1 or equivalent, type equipment to determine lead condition. A visual check is also helpful. Note: The difference in drop between mags is just as important as the total mag drop (not more than 50 RPM difference between mags).
13. Fuel Pressure too low.	13. Adjust to at least minimum pressure as found in Operator's Manual.	13. Note: If unable to adjust pressure, replace pump.
14. Primer not locked or leaking	14. Lock securely or replace primer if leaking.	14. Solution is self explanatory.

ENGINE WON'T IDLE UNLESS BOOST PUMP ON

Cause	Solution	Procedure for Solution
1. Idle mixture extremely lean.	1. Enrichen idle mixture at injector.	1. Turn scalloped wheel at side of injector toward rich condition. Note: Arrow on linkage indicates rich and lean. Idle speed will no doubt have to be adjusted.
2. Engine fuel pump failed, or pressure too low at idle speed.	2. Replace fuel pump, or adjust pressure as necessary.	2. Solution is self-explanatory.
3. Fuel pump by-passing fuel internally. (Note: AN type pump).	3. Replace fuel pump.	3. Solution is self-explanatory.
4. If engine has diaphram type fuel pump consider either a loose fuel in fitting or a missing or defective "O" ring. NOTE: Check "O" ring seat machined in fuel pump to be sure seat is smooth.	4. Tighten fitting or replace "O" ring as required. If "O" ring seat is damaged, pump may have to be replaced.	4. NOTE: Engine may also loose fuel press as aircraft climbs to altitude. See Bulletin 374.
5. Fuel vaporizing in fuel lines.	5. Keep engine nacelle as cool as possible.	5. Solution is self explanatory.

Silk Scarf and Starduster

Stolp's high-performance biplanes are sure to turn heads.

BY DON DOWNIE

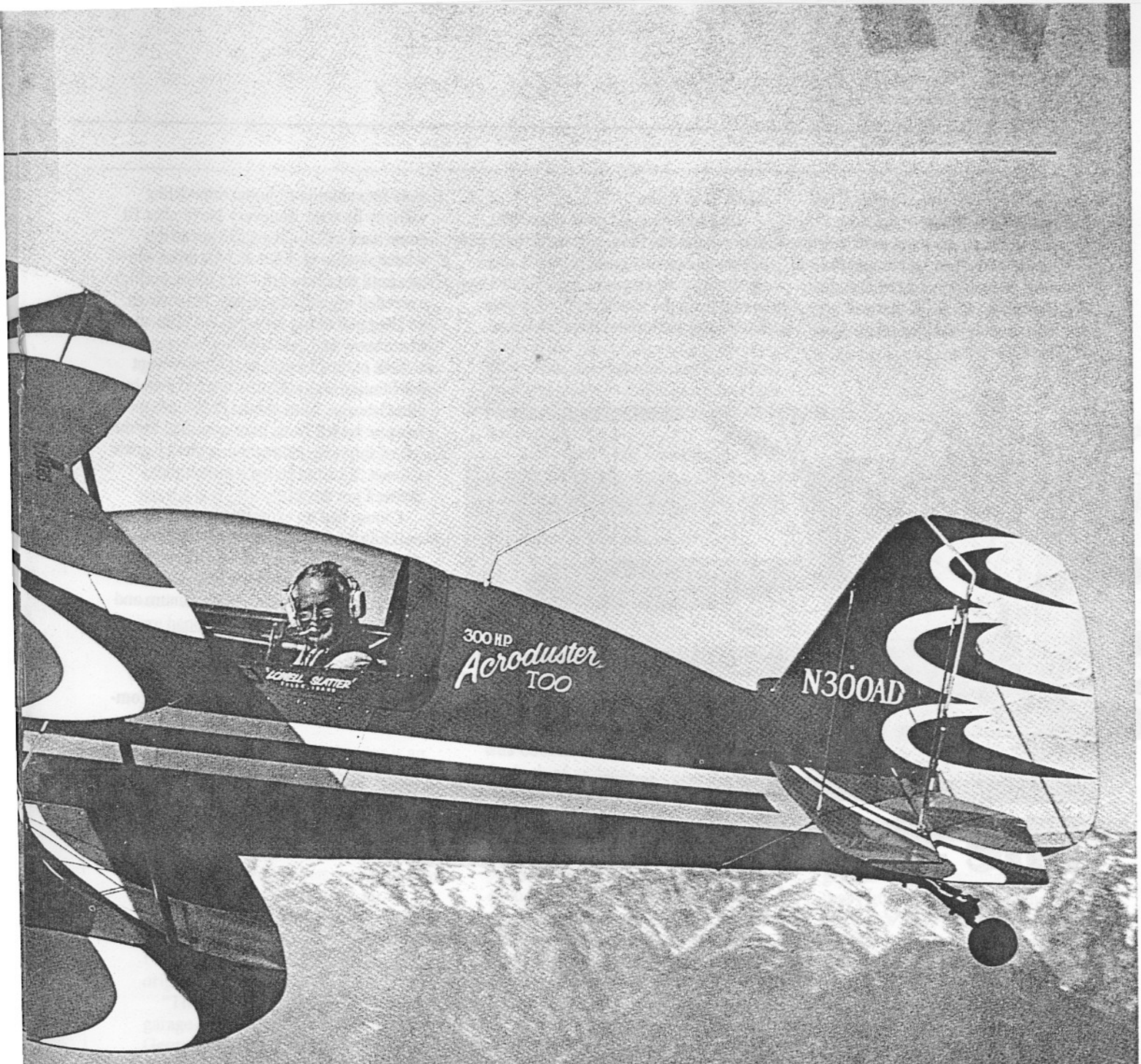
Nothing makes heads turn at the airport more quickly than a glistening biplane with the strength and performance to do all the aerobatics a pilot can handle. In an era when helmets and goggles, scarves and leather jackets are the exception, the builder/pilot of a biplane is in for more than his share of airport attention.

The rebirth of the high-performance biplane came after World War II when the durable Stearmans and N3Ns had lost their novelty. In the following years many new biplanes came leaping into the air: the agile Pitts, the newer Christen Eagle and many others. One of the most popular designs since its introduction back in 1950 is the Stolp Starduster and its follow-ons, Starduster II and Acroduster I and II.

There's an unimposing building adjoining the hangar and storage area at the entrance to the FlaBob Airport at Riverside, California. The cut-out wooden sign says "Stolp Starduster" with, at last viewing after a violent windstorm, the "p" temporarily askew. This is the home of the Starduster II, the Acroduster II, the V-Star and the Starlet.

The present owner of the company is Bill Clouse, a retired U.S. Air Force B-52 master sergeant with 166 missions over southeast Asia. Lou Stolp now operates a plastics forming company just across the entranceway from his original FlaBob shop (see sidebar). Clouse is still supplying plans, kits and prefabricated components for all of Stolp's designs. In addition, he'll build any part for any homebuilt for which plans are available or he'll make them to the builder's own design.

Although the helmet and goggles are colorful, many of the Starduster builders are opting for a full-blown canopy to keep out the wind, cold and rain. However, there are still many purists who take pride in facing the elements; but an ever-increasing number are going the more comfortable way. The increasing availability of good quality, relatively inexpen-



Sure to turn heads at the airport, the Stolp Acroduster II is one of the most popular high-performance biplane designs.

Photos: Don Downie

sive canopies may have something to do with the move to modernize.

The Starduster design, Clouse explains, has sold more than 2400 sets of plans, with some 550 airplanes flying. The more recent Acroduster II, which is essentially a Starduster II reduced 10%, has sold 475 sets of plans.

Jim Osborne—a design specialist with Lockheed, McDonnell Douglas, Boeing and Hughes—bought the company from Stolp, did the final development on the Acrodusters and finally sold everything to his shop foreman, Bill Clouse. Now Osborne is back with Lockheed in an engineering capacity.

Clouse quotes an EAA report that said there are 117 different designs (not counting ultralights), which people can build from plans. "The Starduster has won more first-place awards than any other single design," he says.

Lowell Slater's Acroduster II, a stock 300-hp version, is presently flown by Clouse for demonstrations. Slater, of Filer, Idaho, is presently with the Flying Tiger lines and Clouse has the use of the ship that is stabled at FlaBob. Clouse flew with us on some air-to-air photos with Brenda Handleson in the front pit. As we circled over FlaBob at 3500 feet, we noted that Clouse made his runup and then taxied *all* the way back onto the 300-foot oiled extension of the runway. As he opened the throttle, the Acroduster II accelerated extremely rapidly. Within a minute and a half, he was comfortably parked off the right wing of our Cardinal. After the filming, the Acroduster II peeled off toward the airport and we came back down into the fog 'n' smog.

There have been a number of Star-

duster IIs built with "round engines," all the way from the Kinner to the 165 Warner, the 220 Continental (which is the most popular), the 245 Jacobs and the 300 Lycoming. Although not a radial engine, there is modified IO 540K that will produce 360 hp being installed on an Acroduster II in Texas.

Bill Clouse logged more than 7000 hours in the Air Force and made 1023 parachute jumps on his own time. "I was a skydiving nut," he comments. "After I separated from the service in 1970, I went back home to Buffalo, New York, and went into aluminum-home remodeling with my brother. But every November I'd come back to California and spend the winter skydiving. I did that for three winters until the cost of my vice (parachuting) exceeded my retirement pay and savings; so I began looking for a job in California. I hate snow and cold weather, anyway."

One of the places where Clouse went job hunting was at Stolp , owned then by Jim Osborne. "Jim almost didn't hire me because he felt I was over-qualified for the job of shipping and receiving clerk," grins Clouse. "I had to go back three times before I got the job."

Clouse had no experience in home-building when he joined the Stolp company, but he had been around aircraft all his life and was good with his hands. He had a knack with tools and aluminum and

Jim Osborne—pictured here with his Acroduster I—flew a Stolp aircraft to Oshkosh every year he owned the company.

The Starduster Man

The man who loved biplanes will never run out of work.

BY DON DOWNIE

The name Starduster conjures up a wide variety of romantic situations, but has nothing to do with how Lou Stolp named his first Starduster. "Back about the time I was nearing completion of the prototype, I'd been kicking around some names without much success. Then I remembered a comic strip where a guy sold vacuum cleaners called Stardusters and that's all there was to it. It's not true that I named it after a B-17 bearing the

Photos: Don Downie

Starduster designer Lou Stolp inspects a plexiglass windshield he sells to support his aircraft-building and -restoring hobby.

used this to advantage to build the prototype Acroduster and subsequently built 13 Acroduster Is—a competition aircraft sold only as a complete kit.

"I learned how to cover airplanes from Glenn Beets. He was a past master at the art. Incidentally, he now has an FBO on the airport at Kingman, Arizona." Clouse recommends the Stits fabric system for the best results, if the complete system is used. "Personally, I like dacron (ceconite) with nitrate and buterate dope, but Stits has the best process if you use it all the way through."

Fabric, accessories and a full selection of A/N nuts and bolts are in a carefully cataloged annex to the front office where walk-in customers and telephone orders are handled. The owner has a cordless telephone strapped to his belt. "I like to answer the phone here; 90% of the calls are for me, anyhow." When he is out of range or flying, calls and orders are taken in the office.

In back of the assembly hangar is an impressive stack of steel, aluminum and wood. A long workbench is used to fabricate wing components and full wing structures. Shipping and receiving is headed by Bob Feltes who is building an Acroduster II after working hours. Mike Snow is the welder, working on everything from steel tube fuselages to aluminum fuel tanks. Both the hangar and the shop area are surprisingly clean, and are swept daily.

Clouse likes being located right on an airport. "It's handy, particularly when you want to test hop a modification or some new system. Actually, 90% of our business is mail order and 5% of that is export. Occasionally, Canadian customers will purchase several kits together, which we'll ship through a local broker."

On one trip to Oshkosh, Jim Osborne picked some rugged terrain to shoot tight, aerial shots over—some say it was chosen to divert his attention from the lack of suitable landing spots.

name Starduster, but that would have been the only four-engined Starduster."

While forming plexiglass windshields in his precision oven in a hangar at the FlaBob Airport, Stolp told us about the original development.

"The first Starduster was built in my garage in Compton, California, while George M. Adams and I were running a shop at the Compton Airport. We had been building a modification for the Waco UPF-7 with a 400-hp Lycoming, a constant-speed prop and a speed ring around the engine. We sold drawings and information for the engine conversion. We also made a canopy for the rear cockpit."

Stolp's first building project was a Stits Playboy that he tackled in 1965. He kept it for a year or two and traded it to Duane and Al Trefethen. Then came the original Starduster: "I like biplanes," Stolp says, "I just drew it up the way I wanted it—the way they built airplanes for the past many years. First, I made the cockpit big enough for me to sit in and went on from there, cutting tubing and welding it together. Lee Wainscott who worked with Frank Smith on the Miniplane did stress analysis on the wing attach points and the cabane structure.

"The first Starduster surprised me when I got it into the air. It was faster in cruise and climbed better than I'd hoped," says the designer. "I'd never expected to get into the plans-selling business, but too many guys wanted to build the damn airplanes, so that's the way we went. I kept the No. 1 ship for two years and then sold it to John Tucker, one of the management team members for Air California.

"There was a demand for a two-placer so the Starduster II came along. It wasn't any easier to build than the original, but it became popular. I actually built three of them, one with a 230-hp Continental

The single-place Stits Playboy—shown here in an airshow routine with current owner Jim Trefethen—was the first airplane built by Lou Stolp.

STARDUSTER

continued

Clouse learned to fly after he joined up with Jim Osborne in 1973. He soloed in a Cessna 150, received his private in a Piper PA-11 taildragger and soon graduated to the company's Starduster. He has some 500 hours of civilian time to go with his over-7000 hours of aircrew time in the service. On one trip to Oshkosh—he's been there every year since 1973—he was flying Osborne's Starduster after a servo in the fuel system had been overhauled following a bird strike. The ship would run fine until Clouse throttled back in the traffic pattern when the engine would quit. After landing dead-stick at Prescott, Arizona, Albuquerque, New Mexico, and, finally, Grove, Oklahoma, the FBO offered him the use of his shop to find the problem. It proved to be a small chip of metal—from the steel braid around the fuel line—that would flood the carburetor.

Clouse visited Europe with the idea of establishing an outlet there and returned discouraged about governmental restrictions. "In Holland, for example, there is a top limit of 135 hp for home-builts, making only the Starlet and V-Star buildable there," he explains. He told of one builder in Switzerland who couldn't fly because of noise restrictions; the builder shipped his Stardust to France

Stolp Starduster Corp.'s unimposing offices are located at the Riverside, California, FlaBob Airport.

STOLP

continued

O-470 with a constant-speed prop. That was a fine airplane."

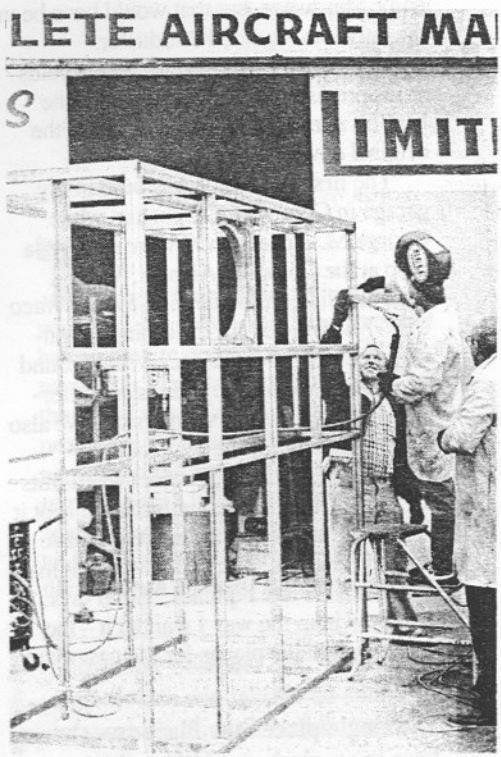
Stolp designed the Starduster II for 180 hp, with an empty weight of 1020 pounds and an across-the-fence speed of 55 mph. Later builders added larger engines with faster approach speeds.

Next came the VW-powered Starlet, a parasol monoplane. Stolp describes the prototype as having too little wing, and adds, "Glenn Beets, a former P-51 pilot, is kind of a lightweight guy and was the only one to fly it. He put about five hours on the ship. When a guy wanted to buy it, I wouldn't sell it with the engine I'd installed. But Glenn bought it without an engine and put in an 85-hp Continental; that made a good airplane out of it. The original short-winged Starlet was kind of like throwing a rock," quips Stolp.

The No. 2 Starlet had a third more wing and a 115-hp Lycoming to produce what Stolp considers a fine aircraft with reasonble performance. Then he grins and adds, "In one of the marvelous feats of engineering, it was impossible to reach the flap handle with the shoulder harness tightened." Prints for the Starlet went on sale after the No. 2 airplane was flying.

The last of the present series of Stardusters is the V-Star. (Note that we say the *current* series: there is more to come!) The V-Star was designed for HAPI, Revmaster, aircraft-modified VW or other engines. Stolp remembers that this ship was completed and flown just one week before Oshkosh and was flown 50 hours in six days by a number of pilots.

"We'd fly it all day and make our modifications at night. Then Dan Carry flew it back to Oshkosh where we put it on display and sold plans after that. I've always liked the little V-Star. It cruises at 80, lands under 35 and will climb to 14,000 to 15,000 feet if you want to go that high—and do it all on very little gas."



Stolp is building a 10-foot-long electric oven for forming larger plexiglass canopies.

for assembly and test flying, then imported it back via Germany to be legal.

Starduster is opening an east coast outlet store to be run by Acroduster I builder Dave Spencer of Martinsville, Maryland.

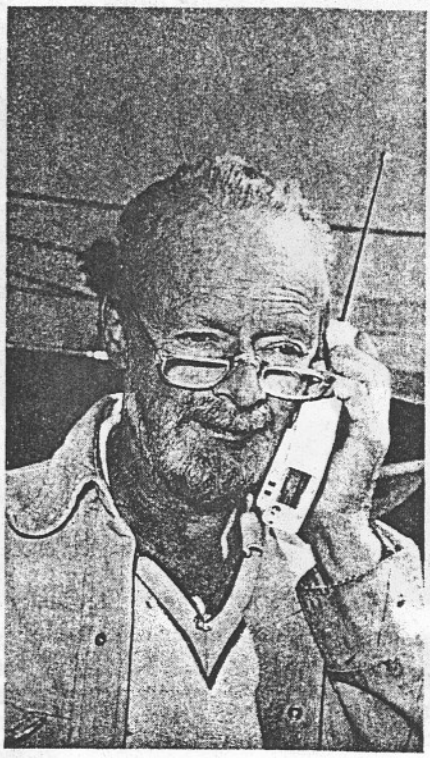
"We run full-service operation here in California," Clouse says. "We handle all the components, hardware and accessories needed for a homebuilt aircraft, except composites. Although we specialize in fabricating components for the Starduster II and the Acroduster II, we can and do prefab parts for other designs. For example, a single-place Pitts with a 180-hp engine was brought in by a builder. He wanted us to change the gear and put in one of the one-piece aluminum landing gears we make right here with our 40-ton press. We mated the wings after the builder had constructed them to the ultimate aerobatic wing design from Canada. We hung the engine and controls and will install a see-through, fiberglass belly. Then the customer will take it elsewhere for covering and painting."

Among the many projects that the company has handled was building a set of wings for aerobatic, airshow pilot Jimmy Franklin's Mystery Waco—a modified UPF-7.

"We have the most complete wing kit going; spars all cut to size and ribs and corner blocks all precut. The wing kit costs almost $2000 and the fuselage metal kit is $3000," Clouse states.

Clouse suggests obtaining some prefab parts to speed the project along. "A builder working alone usually will take one and a half years to get the fuselage on the gear. I've seen many builders who hit a burn-out period at about three years of part-time work, but when the day comes when all the components begin to look like an aircraft, the project goes right along smoothly."

He recommends that builders start



While at the Starduster warehouse, owner Bill Clouse carries a portable phone on his belt: "90% of the calls are for me anyhow."

When it comes to favorites, Stolp favors the original SA-100 single-place Starduster because he likes to fly alone. However, he readily admits that "at my age (he just qualified for Social Security), the V-Star is probably better because it cruises and lands much slower."

But there's another model in the Starduster design stable that Stolp told us just a little about. "I don't want to get too much interest in the new one right now because I have three projects in the hangar to complete: restore a Staggerwing Beech, cover a Pitts and build my Boeing Curtis Hawk replica. In between those jobs, I have to form enough plexiglass windshields for homebuilts and gliders, boats, race cars and commercial displays so that I can afford my hobbies.

"As long as you'll spell it out that the new ship is just in its beginning stages and I'm not ready to draw any plans until it has flown, I'll tell you a little about it. It is going to be a light airplane, but by no means an ultralight. It will look much like the V-Star biplane, but it won't carry anything that it doesn't need. I'll lighten it up where I can without sacrificing the structural integrity and make it so it will fly well on either an accepted VW conversion or a 50-hp Rotax two-cycle engine with a hand start. The builder will be able to complete the project and get it flying—for about half the cost of a new Lycoming engine alone—for the V-Star. Then you can fly it for almost nothing in the way of fuel.

"Naturally, it will have a full canopy," says the designer.

"What am I going to call it? Why, Featherduster! I have it under way now, but really not very far. I have bent some of the metal and we'll see how it fits into my priorities that are already in the hangar."

Stolp came back to FlaBob after an absence of many years and leased a hangar to build a replica Boeing F4B4: a 1930-vintage biplane with a 1340 engine. He says that this project "is for my own amazement. When it's finished, I'd like to fly it just once to keep me honest and then it should go to a museum."

However, there were some cash-flow problems, so Stolp put in an oven and the required equipment to fabricate all forms of blown and molded plexiglass canopies.

"I don't work on any certificated aircraft," he comments. "However, there seems to be plenty of plexiglass work available, because plexiglass is just like a person—the older it gets, the more brittle it becomes."

The company is called "Lou Stolp Plastic Forming." He was completing a new electric oven 10 feet long to handle the larger blown canopies.

Stolp began forming canopies in 1948 to make a buck. "I wasn't making it repairing aircraft," he says. Now he will duplicate any noncertificated canopy or build special orders if the owner will supply a reasonable set of drawings. He does not advertise at all, "or I'd never get any of the aircraft done," he grins.

The plexiglass ovens have controllable, pulsing heating elements and a battery of fans to circulate the heated air to more

STARDUSTER

continued

Dennis Slavick's "mystery" Starduster is one-of-a-kind, with its retractable landing gear.

looking for an engine just as soon as they start their project: "You never know when a good buy is going to turn up, and you can save a good deal of money if you're in the right place at the right time."

Bill Clouse still has plans available for the original Starduster I, but discourages his would-be customers from buying them. "The V-Star is a newer design and has many improvements over the original SA-100," he says. "The V-Star was developed after a couple of hundred Starduster Is were flying and has many improvements. I still have the plans for the Starduster I at $60, but I will sell them only as a last resort."

Working with Starduster's help, Dick Green and his father, Tom, a retired Continental captain, built a modified SA-100 that has been called the "Super Starduster." The modification has a 200-hp Lycoming IO-360-AIA with a constant-speed Hartzell propeller. The airfoil is a modified Osborne A-1 symmetrical cross section with a novel arrangement: with the stick back, all four ailerons droop one inch to serve as flaps and, when inverted with the stick forward, the ailerons raise one inch for better control.

How long does it take to build a Starduster II? Clouse estimates a realistic 2000 hours if the builder is an accomplished welder or woodworker. "We had our first kit completed in 11 months by a builder who was working on it full time. As a contrast, it took one part-time builder 13 years to complete." Clouse says

STOLP

continued

than 200°F. When the sheets of plexiglass are thoroughly heated, they are removed and spread over a rubber-coated table and "blown" with air pressure into the required shape. There is a short period of time between when the sheet is removed from the oven and when it sets up to be too hard to mold. Stolp compares the heated plexiglass to gum rubber and says, "It seems like you have about 10 seconds to put in 50 sets of vice grips and blow the canopy before it hardens."

Lou Stolp has been interested in airplanes for as long as he can remember. He would ride his bike six miles to the Mount Hawley Airport near Peoria, Illinois, just to look at the airplanes. When he was old enough to learn mechanics, he worked for a mechanic for two years and nine months without pay to learn the trade. He even slept in the hangar. During WW-II, Stolp was checked out both as a tail gunner and a flight engineer on both the B-17 and B-25. Like most other ex-B-25 pilots and

Lou Stolp's personalized license plate: "Hell, Warm It Up, I'll Fly It!"

crew members, his hearing is not five-by-five. The time in B-25s was in Italy with the 429th Squadron, 2nd Bomb Group, Fifth Wing, 15th Air Force. He grins as he rattles off the designations. "Didn't think I'd remember all that, did you? It was a good experience."

Lou has a one-of-a-kind California license plate on his pickup truck. It reads HWIUIFT, and is explained by the bracket holding the license plate: "Hell, Warm It Up, I'll Fly It!"

Stolp admits with bashful pride that he enjoys seeing the Stardusters that have been built. "So many of the builders did a much better job than I did on the prototype. It makes me feel good."

When Lou Stolp has time between his canopies and his airplane projects, he has a 1955 Studebaker Speedstar, a 1941 Lincoln Continental and a 1940 supercharged Graham Hollywood under wraps and in various stages of completion. Stolp will never have a fully clean hangar without projects to work on. He grins as he looks over his filled-to-the-brim hangar and says, "I'm afraid I'll wake up some day with nothing to do!" □

FOR MORE INFORMATION, write Lou Stolp, 308 Midori Lane, Calimesa, CA 92320.

the Starduster/Acroduster line is fairly straightforward. He recommends purchasing two cheap wooden doors—bolted or glued together—set on sawhorses to create a worktable. Then the fuselage can be laid out with wooden blocks to hold the steel tubing in place during tack welding.

Some of the Starduster projects really travel during construction, particularly those of military personnel. Clouse told of one U.S. Air Force colonel who built most of his Starduster II in Germany, then had it shipped home as household belongings when he retired and completed it in Florida. An Englishman on a jet vacation saw it, said "I want it," paid the price and had it shipped to Liverpool. He flew it briefly and eventually sold it to another Englishman, who took it north of London about 50 miles. "When I was in England I had a chance to fly it," says Clouse. "Mr. Holmes was such a good customer that we had gotten well acquainted by mail."

As we talked with Clouse about the Starduster fabrication, Hobey Bates, an Air Force OV-10 pilot from nearby George Air Force Base, walked in and began asking questions about the Starduster. Right up front Clouse asks him, "Why don't you want to build something fast like a Glasair?"

"I like biplanes," Bates replies. "A friend I went through high school with told me the Starduster was the best of the biplanes. I saw one at Oshkosh and that's why I'm here. I just came back from two years in Germany where I built a lot of model planes; but now I think I'm about ready for the real thing."

Clouse went on to explain the builder's options: plans and materials or prefabricated parts. "The way most builders do it," he explains, "is to order the wing kit first. That takes several months of part-time work to complete. Then some of them order the fuselage welded up. I like to have four months to do that. It could be done in three weeks if I were to put two men on it full time, but at the prices I charge for the completed fuselage, I put men on it only when there is nothing urgent to do. If a guy has pranged his ship and needs a new landing gear right now, I don't want to have to pull a man off to go on overtime to make the repairs. Usually this time delay is no problem in slowing down the builder's project. I used to keep a built-up fuselage in stock, but with just one welder and one fabricator, it just isn't economical to have that much of an investment just waiting for a customer.

Slavick's Starduster II with gear retracted.

"Back in the '70s, when prices were about half of what they are now and there was more disposable income, the built-up fuselages were more popular. Now it's a question of cash flow. A builder can buy the plans and wing kit and put down a deposit on the fuselage; by the time he needs it, he will have saved the money to pay for it."

During the six years that Osborne owned the Stolp Starduster he took a plane to Oshkosh each year, as do almost all other builder/suppliers. Tall tales from these cross-country trips are legion and Osborne tells briefly of the 1980 junket where he was flying his single-place Acroduster I buddy system with John Helton and his 18-year-old daughter Janet flying an Acroduster II. (On her 16th birthday, Janet had soloed the Acroduster II and 35 other aircraft at FlaBob.) Janet did the flying on this trip and her father handled the navigation because Osborne had no radio in the single-seater.

On the leg between Page, Arizona, and Montrose, Colorado, Osborne moved in close—really close—so that the standard lens on Helton's 35mm camera could capture the plane in detail. While Osborne won't admit it, he may have chosen this particular area to keep his attention on formation flying, because down below there were very few suitable landing spots.

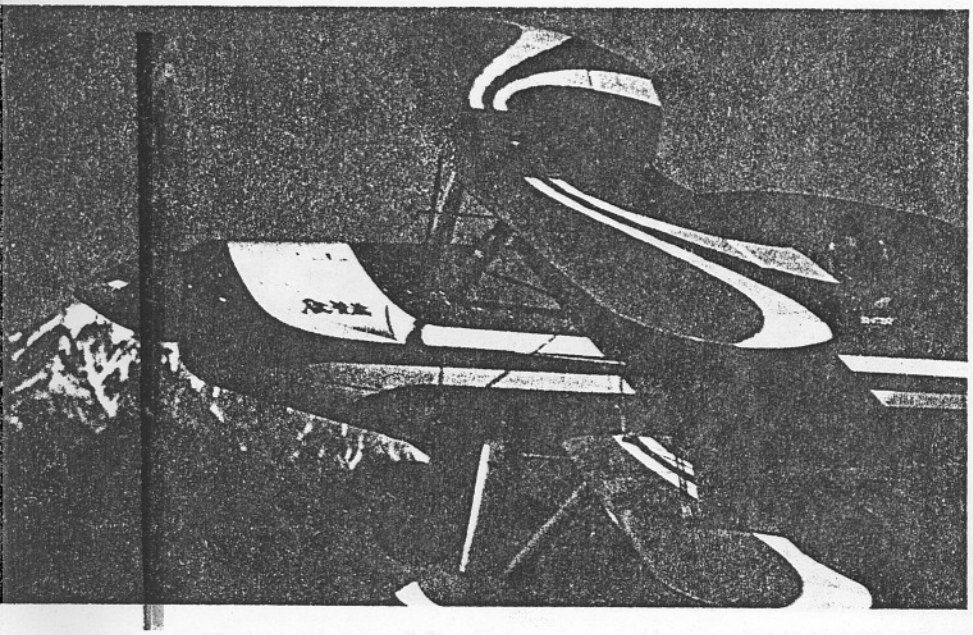
On his landing at Montrose (elevation 5759 feet), Osborne's engine quit on rollout due to an excessively rich mixture. The Heltons had to taxi back and hand

Starduster Plans

Aircraft Type	Plans Cost	No. Plans Sold
Starduster II	$ 85	2400
Acroduster II	85	475
V-Star (single-place biplane)	60	350
Starlet (high-wing parasol)	60	253
Starduster I	60	101
Super Starduster (Replaces Starduster I)	125	–*

Note: Acroduster I is sold only as a complete kit
*not available at press time

continued



Current Stolp Starduster Corp. owner Bill Clouse flies Lowell Slater's Acroduster II: a stock, 300-hp version.

prop the single-seater because it had no electrical system. When flying cross-country alone, Osborne utilizes a glider tow release on the tail spring and a scrap of rope to tie the little "bipe" to a fence, tree or other secure object during hand-starting. When he is safely back in the cockpit, he releases the rope.

Flying in heavy rain near Boulder, Colorado, Osborne was able to stay respectably dry behind the broad windshield until he stopped on the ground.

On the return trip from Oshkosh, Osborne came back in the Acroduster II, but without his wingman. In a rush to depart, he was unable to locate a helmet that had a built-in headset; he could use a portable VOR but could not listen to anyone. After an overnight stop in Montrose, Colorado, Osborne took off into questionable weather and had to deviate some 100 miles north to get around it. When he reached back for his Las Vegas sectional it was missing. Osborne thought it had blown out of the open cockpit but actually it had slipped into the tailcone through a one-inch slot behind the seat.

"I should have been sitting on the chart," he says in retrospect, "but there I was with no VOR in range and no map to work with. The country below was both rugged and lonesome. It was no place for a forced landing with a ship that touches down as fast as the Acroduster II.

"I was pretty well lost, but I had plenty of fuel and under those conditions you're not *really* lost. I picked up a westerly heading with the compass whenever the weather would permit and kept flying until I came to the first big river. I hoped it was either the Snake or the Colorado. I turned left, downstream and followed the water to a larger river that finally emptied into Lake Powell. I knew that the Page, Arizona, airport was at the southwest end of the lake and I made it with almost an hour of fuel to spare."

While he was refueling, Osborne bought another map!

The company publishes a quarterly newsletter titled simply, *Starduster*. It carries builder information, classified ads and a listing of what completed Starousters and parts cost these days. For example, a 1974 Grand Champion Starduster II with 570 hours TT and inverted fuel and oil systems is listed for $22,000. Built-up Starduster II wings with a 23012 airfoil for better inverted performance are ready to cover for $600. One reader wanted to trade two one-third-acre waterfront lots on Table Rock Lake, Missouri, for a perfect Starduster II, noting the property taxes were $25 per year. Another reader, Charles Grant of Dallas, Texas, wrote that he had flown 660 hours in his Starduster I: "The plane has been almost faultless these nine-plus years. It's a joy to fly!"

Edward W. Harker of Carlisle, Pennsylvania, flew his Acroduster II after an eight-year building period. "Prior to the test hop," he wrote, "I got in a few rough landings in the front seat of a Christen Eagle. This caused me to feel that my piloting skills had deserted me. However, I was relieved to find that the Acroduster has excellent take-off and landing characteristics. On the second flight, rolls, loops and snaps were performed. The guidance, support and first-class service I have received from you over the years has contributed greatly to the success of this project."

Builder Robert C. Wyse of Malakoff, Texas, wrote: "14 years of part-time and weekend work produced my Starduster II. The full-size sliding canopy and turtledeck are the only changes I made. Everything else is standard except for upholstery and electronics. Empty weight comes to 1372 pounds, but it still climbs 1900 fpm. I want to compliment Stolp Starduster for prompt service during the last 14 years. I don't remember a single time that you were out of something I needed.

"I do remember numerous times when you shipped the same day I ordered and I received the order within two days by Blue Label. This kind of service resulted in my ordering more than 90% of my Starduster from the proper place (Stolp, of course).

"I seriously thank you for the time you spent over the past years answering all of my 'how to' calls and other questions a novice airplane builder can think of. I've been offered $45,000 for my bird; I told the gentleman that amount would just about make a down payment!"

Clouse had his panel truck painted up with gaudy advertising signs; it brings many questions and some orders. "One time I was parked in a shopping mall and a guy came up. He wasn't interested in airplanes, but he was building a race car and wanted some materials." Clouse says that as much as 20% of his steel goes into race cars. In another parking lot, a local resident stopped to tell him about a neighbor who was building a Starduster and concluded his conversation with, "Someday I might build one."

There is a mystery Starduster that has retractable gear—at least it is a mystery to Clouse. "I've heard about the ship and I'd certainly like to see it," he comments. "I

Robert C. Wyse

Robert C. Wyse's award-winning Starduster II features a turtledeck, a full sliding canopy over both cockpits, and Stits Aerothane finish.

hope the builder reads about our annual fly-in and can attend. I'll bet that ship cruises at about 160 mph." (FAA records show that this Starduster II is registered to Dennis M. Slavick of Mammoth Lake, California.)

The annual Starduster fly-in is set for the FlaBob Airport at Riverside, California, the first weekend in May. There were 31 aircraft and some 250 people who attended the initial fly-in in 1983.

"How would you like to see a four- or five-place Starduster?" This is Bill Clouse's dream; he wants to take one of the reliable Pratt & Whitney 985 round engines and build his own personal Starduster. "When I'm finished, it will be for sale at $150,000. It will be almost the same size as a Staggerwing Beechcraft, with the fuselage about one foot longer for 'that Starduster look.' I could take a Howard DG fuselage, cut it off at the rear of the cabin and start with that. The wings would not be negative stagger. I don't want to retract the gear, but the ship should be sufficiently fast with fixed gear.

"I have asked Starduster builders to send in sketches of what they think the ship should look like, but so far I've had no drawings—just talk."

Ask Clouse how business is going and he grins around his beard: "Well, we're still in business—so business must be good." □

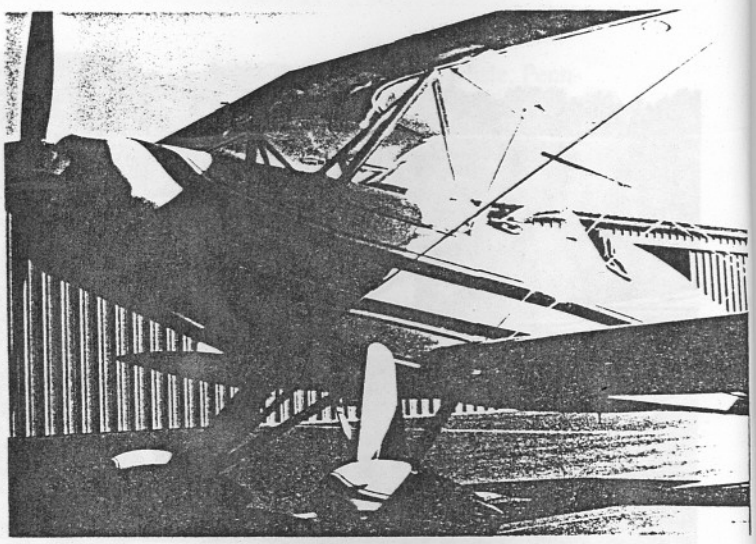
FOR MORE INFORMATION, *contact Stolp Starduster Corp., 4301 Twining, Flabob Airport, Riverside, CA 92509; 714/686-7943.*

Stolp Designs

	Acroduster II	Starduster II	Starlet	V-Star
Specifications:				
Height	6.8 ft.	7.5 ft.	6.7 ft.	7.4 ft.
Length	18.5 ft.	n.a.	17 ft.	17.1 ft.
Wingspan	21.4 ft.	24 ft.	25 ft.	23 ft.
Empty weight	1050 lbs.	1000 lbs.	700 lbs.	700 lbs.
Gross weight	1750 lbs.	1765 lbs.	1058 lbs.	1000 lbs.
Fuel capacity (gallons)	35–41	44	22	15
Seats	2	2	1	1
Performance:				
Maximum speed	185 mph	148 mph	130 mph	90 mph
Cruise speed	155 mph	130 mph	105 mph	75 mph
Landing distance	1200 ft.	1000 ft.	n.a.	600 ft.
Takeoff distance	n.a.	700 ft.	n.a.	400 ft.
Rate of climb	2300 fpm	1800 fpm	n.a.	600 fpm
Service ceiling	16,000 ft.	16,000 ft.	12,000 ft.	n.a.
Powerplant				
Horsepower range	180–260	150–360	85–125	60–125
Used for figures	200	200	n.a.	65
Manufacturer:				
Stolp Starduster Corp., 4301 Twining, FlaBob Airport, Riverside, CA 92509; 714/686-7943.				
Information package	$5	$5	$5	$5
Plans	$85	$85	$60	$60
Prefab. parts	yes	yes	yes	yes
Kit	$13,500	yes	yes	$10,000

STARDUSTER TOO

N 17 RM SERIAL # 1488



Construction completed in .....January 1977

Total hours to date.....390

This aircraft was constructed by David Meade of all new materials and equipment.

Engine.....Lycoming 200 HP, 10-360-AIA modified for Cristen inverted oil system

Propeller..Hartzell 7666A.....zero time since over-haul

Globe Gel-Cel Battery

ALL AN hardware and fittings in fuel, oil and hydraulic and pneumatic systems

New 6:00 x 6, 6 ply tires on MLC

New 10 inch pneumatic tail wheel (Scott 1200)

Collins Micro Line VHF Transceiver

Collins Micro Line VOR Receiver

Collins Micro Line Transponder

Narco ELT (New battery.....January, 1984)

AIM Aerobatic Attitude Gyro ....vacuum operated

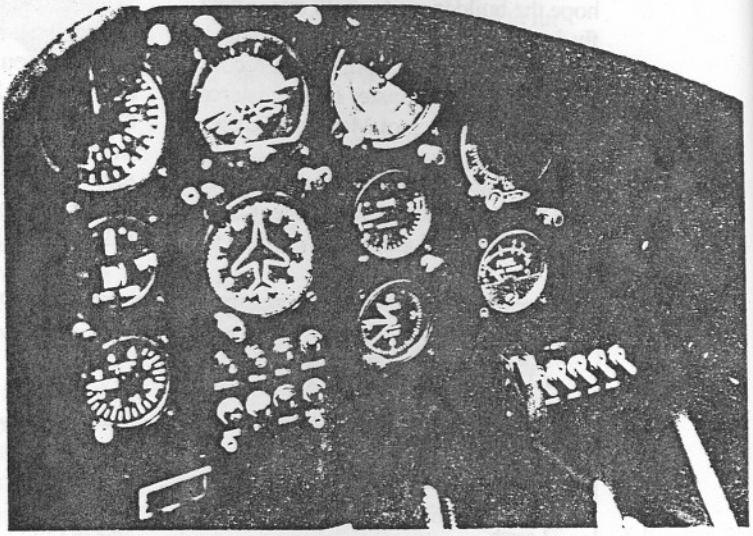
AIM Aerobatic Directional Gyro..vacuum operated

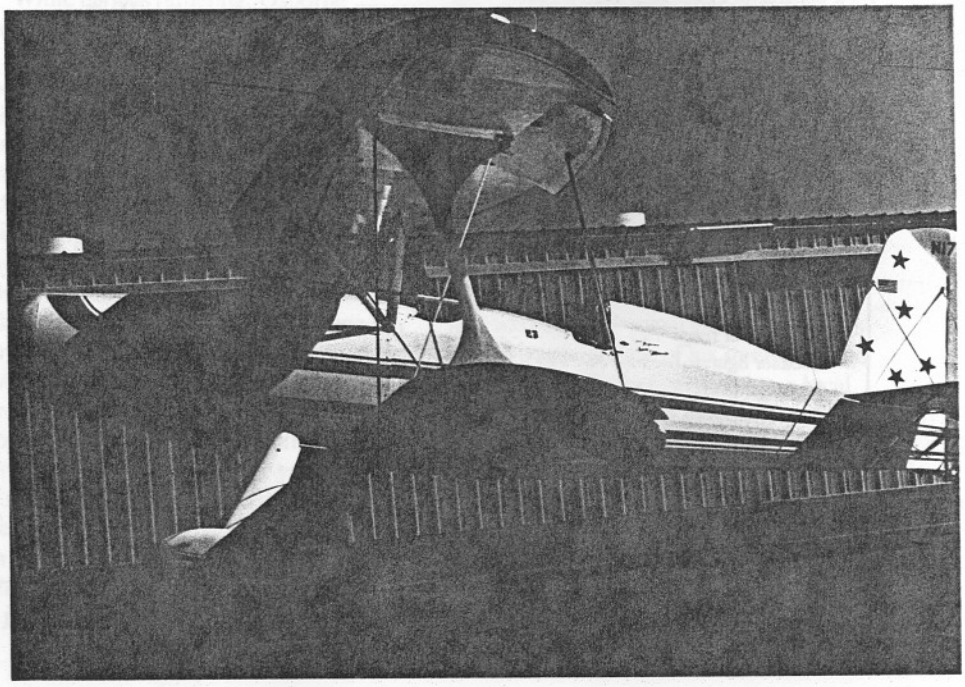
David Clark Headsets/Microphones....both cockpits

All wiring, switches, gages, hoses and plumbing are MIL spec.

All instruments are aircraft type (3 1/8 - 2 1/4).....there are NO automotive gages in this aircraft.....

Aircraft is equiped with 2 Security 250 Parachutes





This aircraft is certified as experimental, amateur built for day/night VFR & IFR and Aerobatic. (Full IFR panel with dual power source in rear cockpit only)

Intercom is designed to provide continous open MIC Operation or Push to talk thru switch on control stick. This intercom is a real gem and works extremely well.....never have had any complaints on noise, volume, squelch etc.

Engine is equiped with Cristen Inverted Oil System and Cochran Crossover Stainless Steel (18 gal.) Exhaust System. Fuel system provides for 4.5 gal. of fuel when inverted, automatic refill in upright flight.

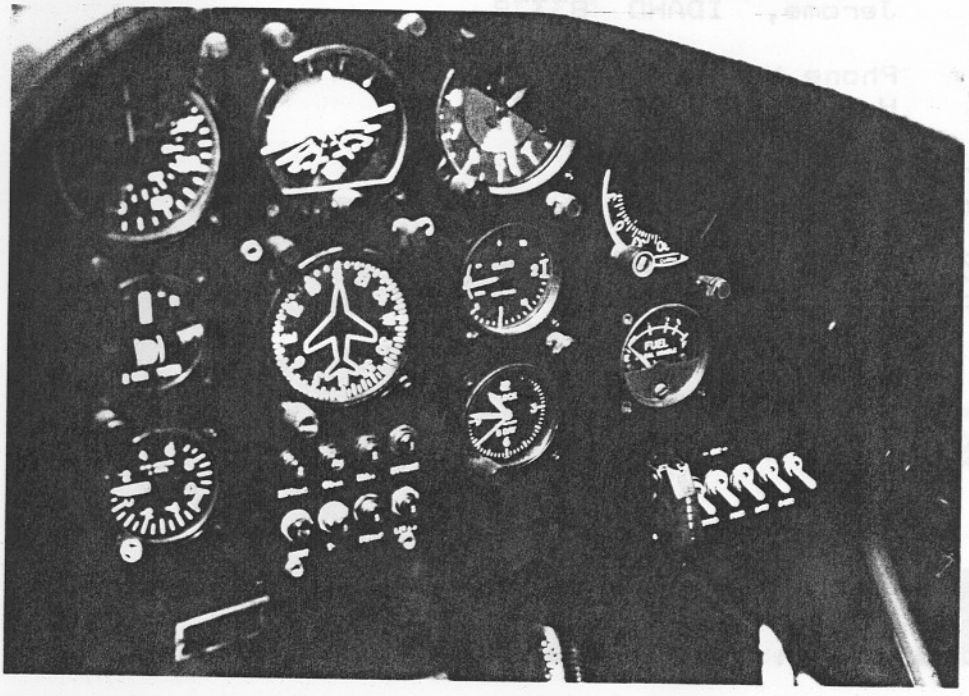
Final finish is Matterhorn White Alumagrip over Buterate Dope and Ceconite. Trim is Huntsman Red and Royal Blue Alumagrip.

There are numerous trophies on the shelf for aerobatic competions, including 3 First Place Sportsman, 1 First Place Intermediate plus 6 for Best of Class or Best in Show.

The aircraft is immaculate. Fresh license will be completed on date of sale.

PRICE: $25,000

May be seen at Falcon Field, Mesa, Az.
Call for appointment. (602) 898-8788



David N. Meade
2258 E. Inca
Mesa, Arizona 85203

Alfred J. Nickels
Route No; 1
Jerome, IDAHO 83338

April 26, 1985

Stolp Starduster Corp;
4301 Twining, Flabob Airport,
Riverside, CALIF 92509

Attention; Bill Clouse
President

Subject; Sale of Starduster II 78WT

Dear Bill;

I appriciate you takeing the time to talk to me yesterday on the sale of my Starduster II. I am closing some photographs which I feel are a true repsentation of the condition of this plane. As you can see it is beautful aircraft.

The total time is approx 125 hours. Everything is new or newly overhauled. The radio is an Escort 110 which has also been overhauled I am asking $27,500.00 or best offer. All of the power controls ant the sticks have been chromed. I think that this is the only starduster to have electric trim.

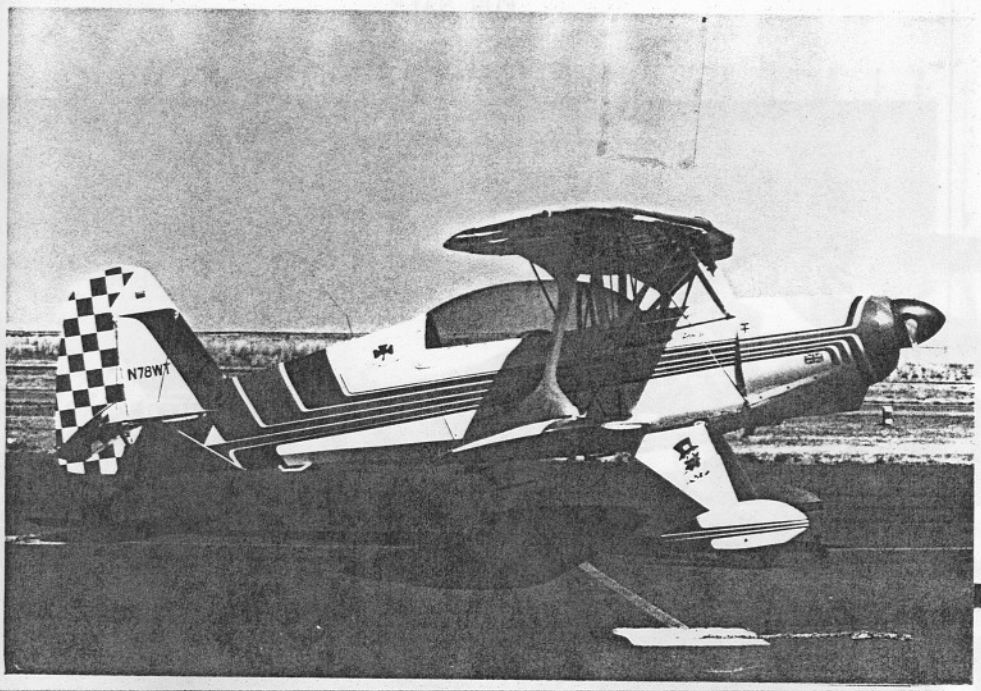
I have enclosed a check for $10.00 for an advertisment in your magazine. I hope you can sell this for me.I can be reached at the following address and telephone numbers;

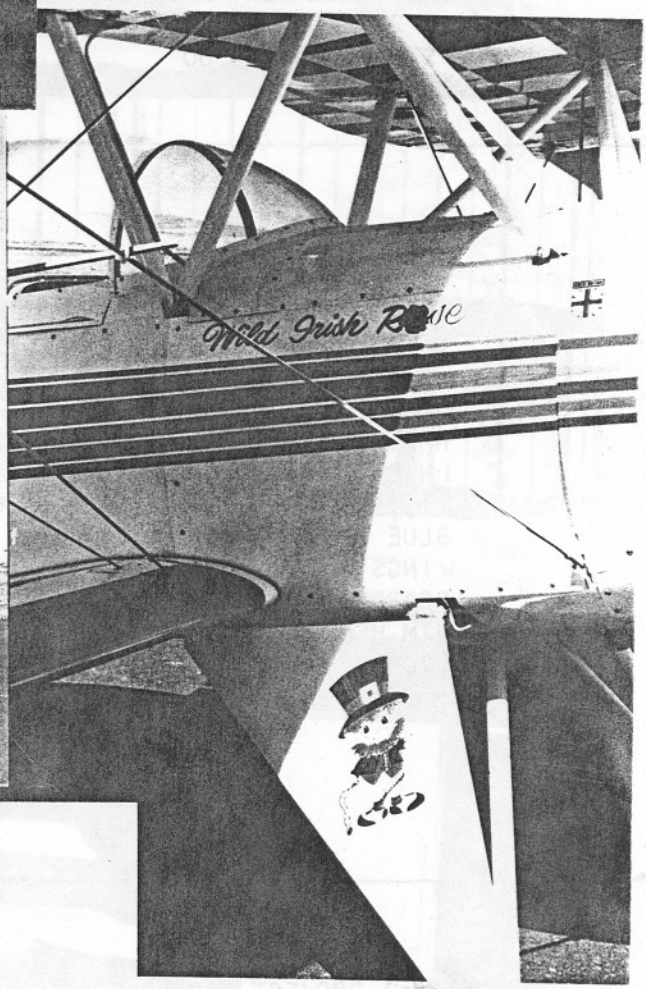
Alfred J. Nickels
Route No; 1
Jerome, IDAHO 83338

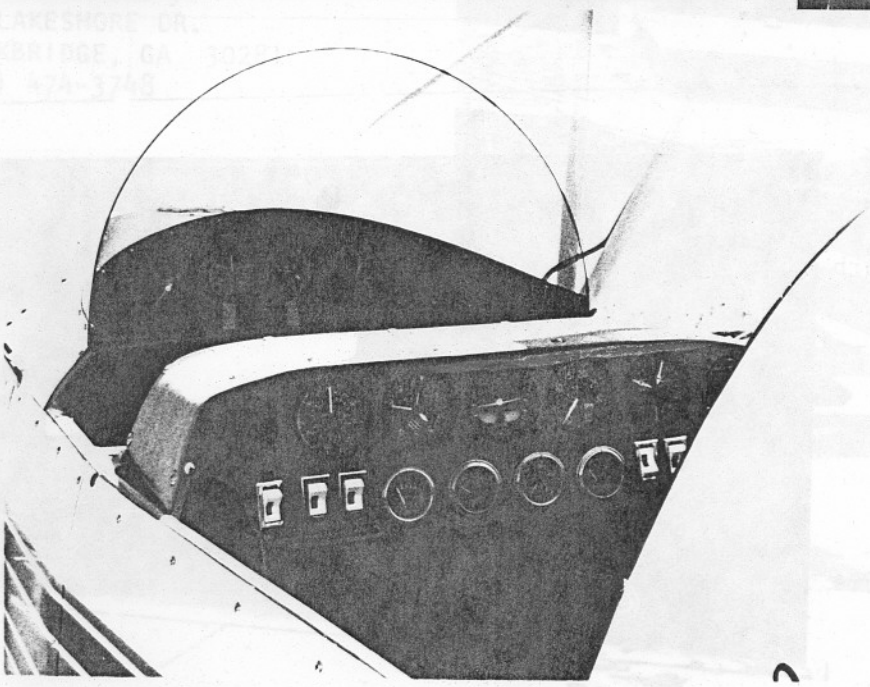
Phone Numbers;
Home; 208-324-2927
Office; 208-734-7279

Very truly yours

Alfred J. Nickels







"Got

FOR SALE OR TRADE:
SINGLE SEAT STARDUSTER PROJECT. WINGS COMPLETE AIRFRAME ON GEAR, MOSTLY COMPLETE. O-290G (UNASSEMBLED)
O-290-D-2 COMPLETE WITH BOOKS, PROP AND PS5C CARB.
WILL SELL ENGINE SEPERATELY. CALL TONY PILEGGI
(619) 243-1678 OR SEE
LOU STOLP $7500.00

FOR SALE

STARDUSTER TOO

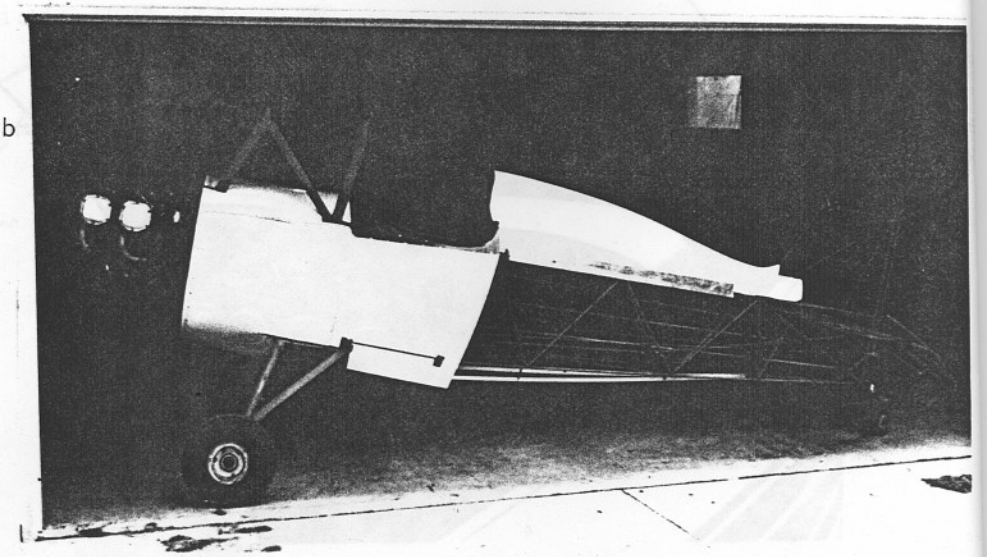
180 Lycoming Engine - less than 600 hours TT
Hartzell Constant Speed Non-Feathering Prop
2 - 360 Channel Narco Radios
2 - VORs
1 - 4096 Transponder
1 ELT
Nav Lights - Rotating Beacon - Belly Strobe
2 Fuel Tanks - 40 plus gallon capacity
Converts from open cockpit to full one piece bubble canopy

CONTACT:
Stolp Starduster Corp.
Bill Clouse
4301 Twining Flabob Airport
Riverside, CA 92509
Telephone - (714) 686-7943

FOR SALE

SA300 0540 250HP
HARTZELL 100 Hrs.
INTER COM - GENAVE
$19,500
BLUE & WHITE
WINGS & TAIL CHECKERBOARD
JIM HENDRICKS
(203) 774-1052

STARDUSTER-1 PROJECT FOR SALE
2 Engines - .0290G (Dissasembled)
0290-D-2 with prop and pressure carb
Wings ready to cover. Will sell engine separately.
Call Tony
(619) 243-1678 Will Trade



MORGAN SCHRACK'S
ORIGINAL N5462
ACRODUSTER TOO

Very unique aircraft professionally built (1972) and maintained. Repainted 1983 with Imron in original design minus large numbers. Award winner Oshkosh '83.

FEATURES:
200 HP
RADIO
2 PLACE
RECENT PROP

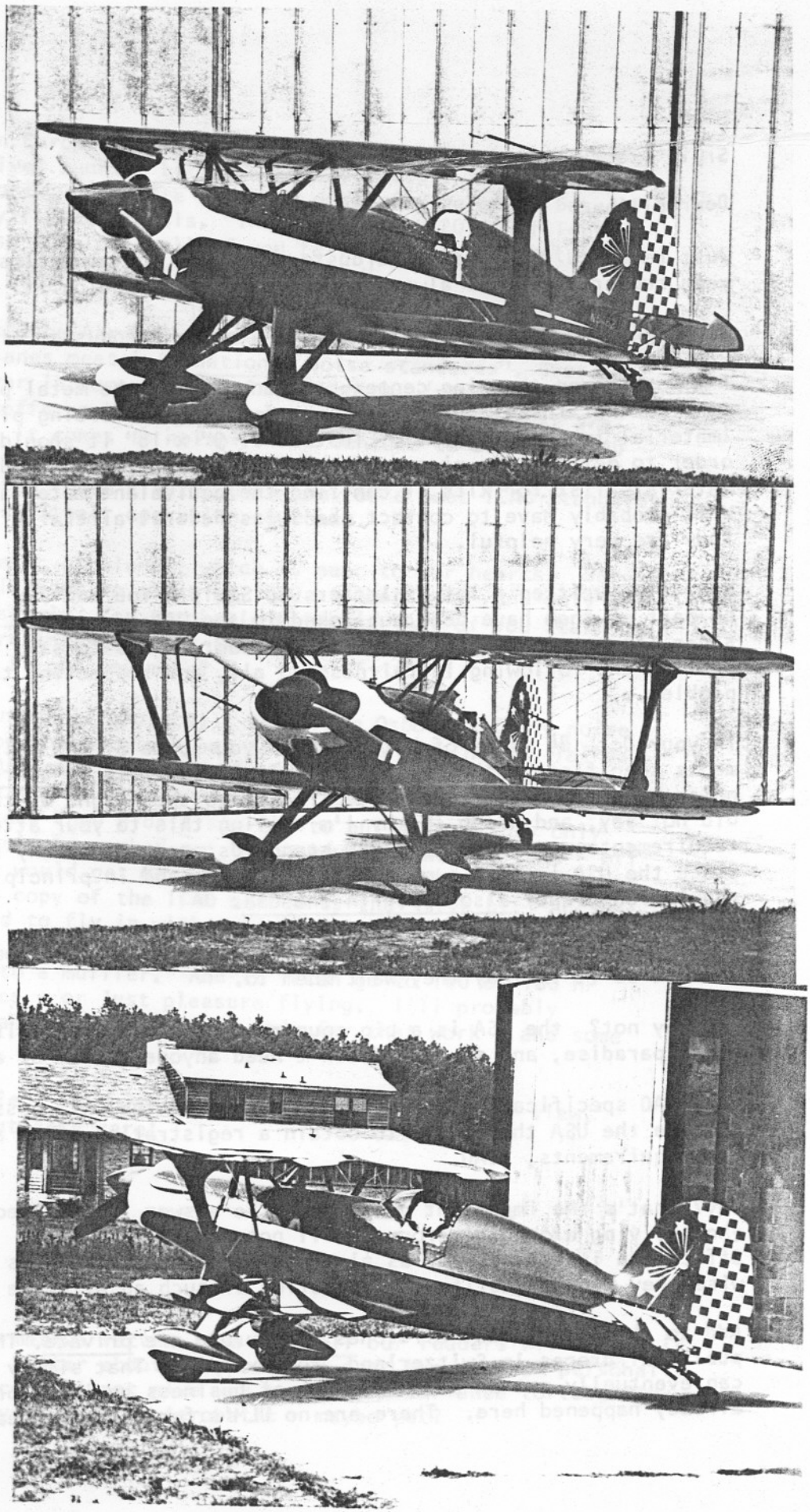
FULLY ACROBATIC
HELMET
EXTRA FUEL
OVERHAUL

GREAT "SMOKE"
PARACHUTE
GELL CELL
400 TT A&E

Excellent condition in every respect. I'm looking for a good home for this one of a kind aircraft.

$27,900

ALLEN CAMPBELL
304 LAKESHORE DR.
STOCKBRIDGE, GA 30281
(404) 474-3748



April 27, 1985

Srolp Starduster

Dear Bill,

Just received the latest Starduster magazine and am enclosing $28.00 for a 2 year subscription. I always have pleasure in reading it.

Although, I'm making a snails progress on my Acroduster II - there's progress.

I'm working on the wing center-section, making the metal parts. I'm disappointed to find that the 4130 x 0.032 piece for the reinforcing pieces isn't large enough (material in the wing kit). Instead of 9" x 18" it should be about 12 x 18 in order to get the two pieces out of the bit material. Should note that on your materials list for kits, I can find the equivalant material here in Europe. Will probably have to contact the Swiss Federal aircraft factory to get it. But they are very helpful.

Now, I've written a lot of letters to Stolp - You and Jim Osborne, and none or no part of them have been published in the "Starduster". That's O.K. with me since I'm not one who always has important things to say. However, I wish you'd publish the following in fairness to all, and respecting the significance of the problem...

In your Oct. 84 issue of "Starduster" you spoke of the noise (aircraft) requirements specified by the Swiss Feral Air Office. It is <u>correct</u> to say that these noise requirements are related directly to the weight of the airplane. What you did not say, and which is why I'm calling this to your attention, is that these requirements come from the ICAO standards, and not at any spurious Swiss decision Since the USA is also a member of the ICAO, and in principle observes the same regulations, they <u>also apply in the USA</u>.

Except, of course, Americans can and usually do, tell anybody to go to hell who doesn't do it the way they want them to.

And why not? the USA is a big country and takes care of itself. It is aviations paradise, and as such doesn't need anyone else - or anyone else's rules.

The ICAO specifications are there though, and the only possible way, at least outside the USA these days to obtain a registration of an airplane is to meet the requirements, ICAO.

Why? that's the important question. The answer is that people, especially those living around airdrones, will not accept the noise. The Federal Air Office can insist, as far as airplane meets come standards (ICAO is it) otherwise they cannot justify the operation of such an airplane - at least for pleasure.

Add to this, that most airdrones, in Europe are <u>private</u>. There are about 6 public airdrones in Switzerland, for example. That simply means that the locals can eventually put an aerodrone out of business by local pressure. And it has already happened here. There are no ULM's for the same reason.

It's the same everywhere in Europe - theres a large aerodrone near Paris which has had a long (and expensive) running battle with the locals who want to put it out of business. Of course, there are a half - dozen flying clubs based there, and probably as many flying schools. They have about 20,000 flight movements a month. It doesn't help at all if you tell the locals, "but the aerodrone was there before you built the high rises ---"

In the face of that at least the Air Offices can (fight) as long as they can say.- "our registered airplanes meet international noise standards". Over in the USA the honeymoon is over in some places, Santa Monica (anyone heard about that?) night time jet takeoffs anybody? FAA enters the fight but what are they going to stand on when it comes to noise? I'll venture to say the ICAO And this is what ties behind the battle to stop oerations of FoF's in a lot of places in the USA. Why the "hush kits?" Once the FoF's meet ICAO standards the FAA can justify permitting their operation anywhere.

Now let's get down to aerobatic airplanes, which is near to our hearts. Surpresed? there are no restrictions on noise by ICAO standards if and only if that airplane is used exclusively for aerobatic flights. Any of you Starduster or Acroduster builders interested in that? unless your Kermit Weeks. So, the first non-aerobatic flight you make?

Before I started this Acroduster II project, I asked Jim Osborne if any noise measurements had been made on the airplane per ICAO standards - nill. Talked with the Swiss Federal Air Office. Bunch of nice guys, truly, but they told me outright that they didn"t think I could register it with that H.P. - to - weight ratio because of noise. They didn't say not to build it. They only said that maybe something could be worked out like reduced power at take - off etc. Bdt: that requirements would get more strict instead of better - so good luck... Then they gave me a copy of the ICAO standards they live by. And behold, the J-4 Piper I learned to fly in with a 90 HP engine is within the specs, but if I put a 120 HP engine in it for glider towing, for example, I'm going to have to equip it with a muffler. And if I can go to 160 or 180 HP for towing some of the heavies - or just pleasure flying. I'll probably have to get one of the Hoffman 4- bladed propes made for that work - and some "dB's" quieter.

There you have it on the subject of noise at least from this point of view. Americans are still lucky, but take care!

Sincerely,

Lee Johnson

Hello Leland,
Thank you for your very informative letter. Am sure all our readers will enjoy it. and maybe even feel a little better about our paradise over here. I am personally surprised that your air office will not give you a one time variance to test fly your airplane, than license your Aero II Aerobatic - maybe yet?

Bill Clouse

P.O. Box 245
Lemont, PA 16851

May 14, 1985

Mr. Bill Clouse
Stolp Starduster Corp.
4301 Twining
Riverside, CA 92509

Dear Bill:

I thought I should advise you of a wild thirty second ride that I experienced in my recently acquired Starduster Too, SA300.

As you know it is powered by a Lycoming I.O. 540 with a constant speed and cruises nicely at a 155 M.P.H.

I had been doing aerobatics for probably 20 minutes or so, got tired and landed at a local grass strip.

Shot the breeze for a while, then took off and leveled off at 2500 feet when that little sucker started to shake rattle and roll. The stick was moving forward and backward at a rapid rate. My head was hitting the windshield, my goggles came lose. I nearly lost my David Clark headset when the cable became snarled around the control stick. I had a feeling the tail was coming off that bird and as I am old but not brave this was not a pleasant thought. I got the power back nose up to kill my air speed and found that if I kept power off and air speed just above a stall the airplane would fly with just that wobbling feel that the old B-25's used to have on take off back during World War II.

Back on the ground I found that the trim tab cable had broken just 2 inches from the trim tab. Hope that reporting this little incident might help someone else keep themselves out of trouble.

I have received and installed the new heavier cable that you sent me and I believe it will be a much safer airplane with this heavy control cable.

Thanks for listening.

Sincerely yours,

Bob Ishler

Robert W. Ishler

Thanks Bob for your explanation of "Flutter". This has happened before on a new single place Starduster. Am sure your experience kept you out of trouble.

B. C.

HELP!

We are hoping that someone out there, among our readers, builders has experienced the following problem and has a solution for J.V. Withrow.

The problem; With engine at idle, throttle movement and engine RPM increase are not uniform - Engine RPM will not increase until last 1" of throttle movement. The mechanics of the system has been checked and rechecked and all geometry is correct. I.E. throttle lever closed butterfly closed - throttle wide open - butterfly wide open. All components of fuel injection system have been changed - fuel pump - servo, flow divider, injector nozzles. Mainfold gasgets.

J.V. has discussed this with me, Bendix, Lycoming and other trusted individuals and still needs an answer. If anyone out there has an idea or solution, Please contact Mr. Withrow.

J.V. Withrow
West 7th St.
Central City, KY 42330
(502) 754-2544

"LAST MINUTE CLASSIFIED"
An excellent STARDUSTER 11 is for sale. We have no photos available at this time, aircraft was assembled at Starduster Corp. 165 Hours total time, Engine has 660 hrs. rear cockpit has all 2¼ instruments - radio & VOR
$25K
CALL BILL AT 714-686-7943

Acrodusler
100