

THE

Starduster

JULY 1977

MAGAZINE

DEDICATED TO THE ACTIVE HOMEBUILDER



outlaws contingency suits, and puts a lid on swarms. I am waiting for the day when the American public gets enough and

PAGE ONE



In working the bugs out of our new Acroduster Too, with a Lycoming 260 H.P. engine, we had occasion to complain to the Lycoming Factory Representative on the west coast about the engines midrange performance. Almost immediately he had the Bendix Fuel injector Representative on the phone and, in a few minutes, it was decided to take the injector off our engine, and hand carry it to Burbank for flow checking and calibration.

So, in the space of time between twelve noon and nine P.M. that same day, the injector and nozzles were removed, carried to Burbank, worked over by the magic of the bendix factory reps, returned to Flabob airport, installed on the airplane, and run up. How sweet it was. The engine ran **perfectly**.

I wish to publicly express my thanks to IVAN GUNTON, Lycoming West Coast Rep, and DAVE THOMPSON, in charge of the Burbank Bendix operation. Dave put two technicians and himself at my disposal and we all stayed on the job until seven P.M. When leaving, Dave said that he thought the trouble was cured, but just in case it wasn't, he loaned me a backup unit, to use if needed.

Thanks to this wonderful service, our flight test program proceeded right along, losing only one afternoon of scheduled flying, which was easily made up. As a consequence, our new airplane will be at Oshkosh.

I also had the opportunity to complain a little about the high cost of Lycoming engines, and Bendix Fuel injectors, and what I was told startled me.

According to Dave, 40 per cent of the cost of a new Lycoming engine goes to pay the cost of Liability insurance. Because of the prevalent attitude of "Sue the Manufacturers", and the irresponsible awards handed out by Jurors, a new Lycoming that lists for \$7000.00 would otherwise list only for \$4200.00.

It was quite forcefully brought home to me who pays the awards that some few people are getting, these days. You do, everytime you buy an engine, either new, or used. For used engine prices follow new engine prices. So, for the average homebuilder, at least three thousand dollars of the cost of his airplane is going to pay liability insurance premiums.

If this shocks you, as it did me, you are ready to protest the endless maneuvering and legal ledgerdeman of ambulance chasing shysters who are out day and night looking for accidents so that they can cajole the survivors into filing law suits. These suits are usually filed on a contingency basis, and the shysters go all out, no holds barred, with no considerations of justice, to get the highest awards possible.

The most successful of these shysters are very successful indeed, some of them raking in millions of dollars a year. And these millions are paid for by you and me, when we buy an engine, or anything else that has suffered from their legal machinations. I am waiting for the day when the American public says "enough" and outlaws contingency suits, and puts a lid on awards.

THE STARDUSTER MAGAZINE--DEDICATED TO THE PROPOSITION THAT THE ULTIMATE IN SPORT AIRCRAFT WAS REACHED WITH THE DESIGN AND DEVELOPMENT OF THE OPEN COCKPIT, TAIL DRAGGING BIPLANE--AND THAT EVERYTHING ELSE HAS BEEN DOWNHILL--EVER SINCE

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On our front cover is a picture of Jon Nace's beautiful STARDUSTER TOO. This airplane has SMALL NUMBERS ON THE TAIL. Maybe it sets a needed precedent.

On our back cover is a picture of Harry Barr's beautiful new ACRODUSTER 1. When not flying his ACRODUSTER 1, HARRY Flies Lear Jets around the country. Harry runs Duncan Aviation, at Lincoln, Nebraska. We expect this airplane to be at Oshkosh

OUR TWO INFLATION FIGHTING POLICIES

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CHINESE BLOODCHIT

By Eric Shilling (All rights reserved)

A true story of a wartime crash onto a mountain in the interior of China.

During the early training period of the American Volunteer Group, otherwise known as the FLYING TIGERS, I was assigned two additional duties, other than those associated with my normal flight duties. One additional duty required me to be the Group Engineering Officer, and the other required me to be the Group Photo Reconnaissance Officer. To be Photo Recon Officer, I had to have a P-40 converted to a Camera ship, using British equipment, scrounged from the RAF at Rangoon. Both additional duties required frequent trips to Rangoon for Liason with CAMCO, and to obtain equipment needed for the conversion. The P-40 was also stripped of its guns to lighten it and improve its performance at altitude.

Because of these frequent trips, I became fairly well acquainted with Walter Pentecost, the CAMCO engineer in charge of assembling P-40's at Rangoon, and Captain Glover, a CAMCO factory test pilot, who was also an old family friend.

On one of these trips, I saw, for the first time, a small sleek looking airplane, the CW-21. My interest was immediately aroused because of its impressive look. It appeared to be highly maneuverable, and carried a very large engine. Naturally I wanted to fly it, and I talked to Walter about it. He said he thought it could be arranged. However, all three CW-21's at this time had cracked windshields. New ones were being formed out of plexiglass, and Walter expected them to be ready on my next trip down.

And so it turned out. I was able to fly a Curtiss Wright 21 on my next trip, and it was one of the most impressive airplanes I have ever flown. It had a combat weight of only 3150 pounds, and a blown 9 cylinder CW engine pumping out 1000 Horse Power. It had a most fantastic rate of climb for its day. An unbelievable 5200 feet per minute, which made it greater than any propeller driven plane produced, up to this time. It was fitted with 4 synchronized 50 caliber machine-guns, and had armor plate of 9 mm thickness. (The P-40's was only 7 mm thick, and only the outline of the pilots body was protected, whereas the entire bulkhead was armor plate in the case of the CW-21.)

I feel that the CW-21's performance should be brought out to justify my enthusiasm for the plane, because I feel that I was influential in General Chennault's decision to obtain the three CW-21's for AVG use. These three were prototypes that were to have been used in the tooling at the factory near Loi Wing, which was to have produced about thirty of them for the Chinese Air Force.

During a conference with General Chennault, it was decided that the CW's would make a very effective interceptor which could be used to bring down the Japanese Photo-Recon ships, which flew at altitudes of 25-30,000 feet. The P-40's required some 30 minutes to reach this altitude, whereas the CW-21 was capable of reaching this altitude in six or seven minutes. It was with this purpose in mind, that the three ships were purchased from CAMCO.

Lacey Mangleburg, Ken Merit, and myself picked up the CW's in Rangoon, and flew them to Toungoo, where the radios, machine guns, and belly tanks were to be installed. The gun installations had not been quite completed when we received a radio message from General Chennault, who as in Kunming, to bring the airplanes to Kunming immediately. Because of the urgency of the message, and the fact that several days previously the Japanese had attempted to bomb Kunming, we decided to depart early next morning for Kunming via Lashio.

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We proceeded North to Lashio to refuel, before proceeding on to Kunming. It was on this leg of the trip that I began to experience engine trouble, which was an occasional backfire. When we landed at Lashio, George Bailey, one of the AVG crew chiefs, met us. I told him about the backfiring. We both finally decided that it was probable that the low octane fuel we had been using was responsible. We drained the tanks, and installed the 90 octane fuel which the manual called for.

The maps of the area which had been given to us were not of the best. In fact, they left a lot to be desired. They consisted of photographed copies of Chinese maps which had the names of the cities in Chinese characters, and were not Aeronautical maps to begin with. The only available maps from Lashio to Kunming were mimeographed copies of maps which had only the route, heading, and distance, plus the main rivers and lakes south of Kunming.

While I had been busy refueling, Lacy had taken off, and had been doing aerobatics and quite a buzz job over the field.

When he had gotten in and started his engine I had not been aware that he intended to take off. I had thought that he was only going to check his engine. Ken Merrit had come over to my aircraft, and helped me defuel and refuel, as he had finished with his own machine. As we finished with my ship, the air raid siren sounded, so Ken ran to his ship, and we both started up and taxied out, myself in the lead. We took off, and were joined by Lacy on the climbout. Since our guns were useless, and we were without radio, I thought it best to depart for Kunming. It didn't make much sense to hang around and become sitting ducks for the Japanese. Although Ken and Lacy had the same maps as I did, they lacked my advantage of having been to Kunming before.

From Lashio to Kunming was approximately 330 miles, or a little less than one and one half hours at the CW's cruising speed. The flight was uneventful at the beginning. Weather at Lashio was scattered Cumulus which became lowering stratus as we proceeded, eventually down to about 2000 feet above the ridges, and occasional light rain.

About 40 minutes after takeoff, my engine started backfiring again, and if we had not departed during an air raid alert, I would have returned to Lashio. As the flight continued, the backfiring became more frequent.

Naturally I was becoming quite concerned, and had doubts as to whether or not the engine would last as far as Kunming. I was continually looking for a safe place to land. To a degree, I was able to convey my problem to both Ken and Lacy. It was at this time that I saw a CNAC plane approaching from the opposite direction, and knew that it must have just departed from Kunming. It was still in its climb on the way to Lashio. I wagged my wings, turned towards it, and pointed to the CNAC ship, hoping Ken and Lacy would see it. Kunming could not be very far away, because of our flight time out of Lashio. The CNAC plane had passed only about 1/4 mile to the south of us and a little below us. We had to be on course to Kunming. I retook up course heading, confident that Ken and Lacy were aware of our approximate position.

It was less than five minutes later when the backfiring became so frequent that I was unable to maintain altitude. I immediately started looking for a spot to put down in. All I was able to find was a small spot on the side of a mountain, just below the mountain peak, so I headed for it. Because I had misjudged my height, I had to dive the airplane in order to make the clearing. The excess speed actually saved my life, as the slope was much steeper than it had looked from above. With the excess speed I was able to flare paralleling the slope before I munched into the trees. A split second before impact I glanced at the Airspeed indicator out of the corner of my eyes. It was exactly on 100 M.P.H.

Upon Impact, the airplane sheared down several large trees. First the left wing was sheared off at the root. Then another tree tore off the tail section and revolved me to the right. Then the right wing was ripped off, and the airplane finally came to a stop. The airplane was completely demolished.

From the time I struck the first tree until the airplane came to rest seemed like an eternity. The thought, when is this damn thing going to stop, repeatedly ran thru my mind.

I think the reason the airplane had not caught on fire was because the battery was torn away when the tail section had been torn off. Because of this, the electrical system was inoperable, which eliminated any source of sparks due to shorts in the wiring. After the airplane came to rest, I jumped out and ran down the mountain, stumbling several times due to the steepness of the slope. I ran away from the wreckage purely from instinct, as I was not really aware of what I was doing until later.

When I stopped running, I found myself in the clearing below the ridge where I had originally intended to land. By this time, Lacy was just above the ridge, circling, concerned about my safety. I waved to him to show I was O.K. On his next circuit, he dropped his pistol to me. It landed near the beginning of the wooded area. After dropping the pistol, Lacy headed on toward Kunming. It was the last time I saw him alive.

Although I spent some 30 minutes looking for the pistol, I was unable to find it. I believe not finding the pistol saved my life, as I may have been tempted into using it, a little later. I climbed back up the mountain to the wreckage, sometimes on my hands and knees, due to the steepness of the slope.

Upon reaching the wreckage, I found the ground completely gasoline soaked. The fuel tanks had all ruptured during the crash. As darkness approached, it became extremely cold. Due to elapsed time since the crash, the gasoline had evaporated. I decided to sleep in what remained of the cockpit. I felt it would serve as some protection against the cold and misty night winds. Even in the shelter of the cockpit, the cold was so penetrating I pulled the ripcord on the chute, and wrapped up in the canopy to keep warm. I slept fitfully, aware of every sound in the woods, and imagining all sorts of wild animals roaming about.

At dawn, I took stock of the situation. I was extremely thirsty, and tried to slake my thirst by licking the dew off of the leaves and parts of the airplane which were strewn about. I saw a man and a young boy approaching. When I called out to them, they both ran off, and left me alone with my thoughts. After they left, they apparently contacted other natives in the area, as it wasn't long before they were back with a very large crowd. One of them proved to be quite an arrogant individual.

Because of this self appointed leader, I became quite concerned for my safety. Also, he was the reason why I was glad later that I hadn't found the gun. I honestly think I would have used it, or threatened him with it. This would have been a big mistake.

As he spoke to me, he became more and more excited, and began to shout. He thought I was ignoring him on purpose, instead of not knowing what he was saying. I tried answering him in English. This angered him even more. Apparently he assumed that I was talking in a foreign language out of sheer arrogance. As the situation became more volatile, I remembered my passport, which had a Chinese Chop on it, reached in my back pocket, and gave it to him to read.

Fortunately, he took it upside down, and continued to look at it upside down. By this time I was becoming frightened. I was also becoming angry, so I reached over, deliberately took the passport, and turned it right side up for him. This surprised him, and made him lose face in front of the crowd. As they laughed at his confusion, he sulked off into the crowd. I didn't see him again, thank goodness. After he left, the people became more friendly. They built a stockade of cut down trees and covered the plane with branches, so it could not be seen from the air.

My first reaction to all of this was that they were mistaking me for Japanese. Later I thought maybe they were holding me for ransom. They didn't hurt me, but wouldn't let me leave the vicinity of the encircling fence which had been constructed with small cutdown trees. Later that day they became much more friendly, although they still would not let me leave the area.

That evening they started a small bonfire, over which they prepared a kettle of food, consisting mainly of rice, with several vegetables plus some bits of meat. This became a thick soup, served steaming hot in a bowl with a raw egg broken on top. It was quite tasty, but would have been better with soy sauce on it.

The crowd had now dwindled down to just 10. They stayed with me for the remainder of the night. One or the other would get up at intervals to keep the fire going. We all slept around the fire, which was a welcome warmth compared to the previous nights fitful sleep following the accident, when I had tried to sleep in the cockpit wrapped up in the parachute.

The next morning opened on a dreary overcast day, with intermittent drizzles, so for the most part, we remained huddled around the fire. I made several attempts to leave, but was told, by sign language, to remain in the area. We finally left on the following day. It wasn't until then that I found out that preparations had been underway for our trip to Kunming, and the reason for the delay was the necessary preparations along the way, arranging for different villages to supply food and sleeping accommodations.

As the crowd dwindled and the situation became more relaxed, I started going over the things I had stashed in the airplane. When I left Toungoo I knew I would not be going back, so I had packed as many of my belongings into the airplane as I could. I reached under the seat and pulled out my record player and the stack of records that I had jammed there. To my amazement, none of them were broken. The record player was a wind-up type, so I decided to play some records. The reaction was quite amusing. It was another first, for them, and they gathered excitedly around the player, talking and pointing. Several even felt inside, looking for the little men, I suppose.

After they had heard it several times, they would insist that I play it for every newcomer, with the same amusing results. I was glad to do it, as it distracted their thoughts, and reduced their hostility.

As I continued to unpack, they showed their interest in everything that was removed, handling it, and passing it from person to person. Needless to say, some of the smaller items never got back. In the meantime, one of the group was busily playing records for every newcomer that came along. He picked out one, apparently his favorite, and played it over and over again. Ironically, his choice turned out to be, "HIGH ON A WINDY HILL".

Although the accident had happened on Dec 23, it wasn't until the day after Christmas that I became aware of time, and realized that Christmas had passed. In this cold,

drizzling miserable weather, my thoughts reflected back to more pleasant Christmases. As I relived the excitement of past Christmas events, I started to indulge in self pity, and my spirits really hit bottom. But there were signs of activity giving every indication that everyone was preparing to leave. As I started to help them, my self pity disappeared.

Several men were cutting down small trees, which were then trimmed and made into poles, which apparently were going to be used to carry gear on. The parachute was cut up, and all the stuff was tied up in the pieces. Several suitcases, the phonograph, records, and .50 Caliber ammo from the guns were packaged in this manner. I also found out, when we were ready to go, that they had made a sedan chair with two poles and shroud line from the parachute.

The next day followed true to form; Cold, drizzling, and miserable. However, my spirits rose as preparations were made to leave. After Breakfast I became involved in cutting down small polesized trees, and in tying up the .50 Calibre ammunition in parachute rags, and slinging them from poles so that they could be carried between two natives. When I was ready to leave, I became aware of the Sedan Chair, fashioned from two poles and shroud line. They insisted upon carrying me in this contraption.

I reluctantly climbed in the swinging chair, and was lifted onto the shoulders of only two short, stocky, but sturdy natives. We were on our way at last, Thank God. There were numerous times I would have preferred to walk, such as when I was cold, or the trail was rough and slippery. Looking down the steep mountainside I was fearful I might be dropped over the side of the trail if one of the bearers slipped.

We arrived at a small village late that afternoon. We stayed overnight with the village radio operator, who was part of our early warning net system. He spoke very little English, but there was an English-Chinese dictionary available, so, laboriously looking up words and pointing to them, we were able to communicate after a fashion.

It was then that I found out that both of the other CW-21 Airplanes had crashed, and one of the pilots had been killed. I was unable to find out any details.

I was also able to find out why the Chinese had initially exhibited such hostility. They had thought me to be Japanese. They had never seen a white person, nor a Japanese. They knew I was not Chinese, but a foreigner. Putting two and two together, they were initially sure that I was a Japanese Fighter pilot flying against their beloved country. I was very fortunate that I had not been killed, or mistreated by them. Their change of heart came about when this same radio operator correctly identified me, and told them I was a friend and compatriot in arms against our common enemy.

After a most comfortable night, we departed early the next morning. This second day on the trail was a repeat of the previous day. It was cold, drizzling, and again the natives insisted that I be carried. Finally I became unbearably cold, and insisted that I be allowed to walk in order to warm up. Late in the afternoon we came to another village where we spent our second night on the trail.

The next morning, our group got started early. Soon we spotted another group approaching from the opposite direction. As we neared them, I was able to make

Merril. I knew then that it was Lacey who had been killed. This saddened our reunion. In addition to Merrill, Dr Richards and a party from the hospital had come along as well.

Lacey Mangelburg, Ken Merrill, and I had been an inseparable threesome for some time after arriving in Toungoo, but I must confess to a closer friendship with Lacey. I was therefore, eager to talk to Ken and find out what had happened.

After talking to Ken I was able to understand the reason why both pilots had also crashed. I had been unable to get it across to them that we were O.K. and on course. When I had turned to follow the passing CNAC Transport, they had not seen the airplane, nor known my reason for turning, although I had rocked mt wings for attention, and pointed to the transport, after which I had I made a 180 and continued on course to Kunming. I knew Kunming could not be far off, as the DC3 was still in a climb after departing Kunming for Lashio. It was a shame that neither Ken nor Lacy had seen it. They would have known that our destination was close and that we were right on course. We were only 18 minutes from destination, and had they continued on course another 5-10 minutes after I went down, they would have seen Kunming.

Due to my problems, and Kens, with the local natives, the so-called Blood chit was developed and subsequently used by our military aircrewmn. This was a back patch, showing the natives of our wartime affiliations, and offering a reward for helping downed airmen back to allied lines.

OSHKOSH BOUND

By jim osborne

As in previous years, STARDUSTER CORP. will be represented at Oshkosh.

However, unlike previous years, we will not have a booth, or outdoor display area, or a workshop. Instead we will only have an airplane. But what an airplane. It will be our new ACRODUSTER TOO, with 260 H.P. This will be the first ACRODUSTER TOO TO have a six cylinder engine, and, as such, it should be of great interest to anyone interested in two place, aerobatic biplanes. Our cruising speeds are 169 M.P.H. with the front cockpit open, and 174 with the front cockpit cover on. Wide open speed at 1000 feet is checking out to about 210 M.P.H.

Eric Shilling and I will be there together. We will hold forums at tent #2, on both Saturdays. Please come, meet Eric, and lets talk about our airplanes.

STARDUSTER CORPORATION will be closed for business during the first two weeks of August. We will be open for business again on August 15.

Our popular STARDUSTER Foreman, Bill Clouse will not be at Oshkosh this year. He would like to go, and we would like to have him, But someone has to run the business next week while we are traveling to Oshkosh.

Don't forget. Come see us on the flight line. Our plane is yellow, orange, and red, with a Sharks mouth at the front end and the flying tiger emblem on each side of the cockpit area. You should have no trouble recognizing it.

After Oshkosh, the plane will fly at Fon du lac. Pilots will be Eric Shilling and John Helton



NEW ACRODUSTER TOO FLIES

Pictured above is a new ACRODUSTER TOO, built by Jim Osborne, of Stolp Starduster Corporation.

In addition to the wild paint job, it is of interest because it is the first ACRODUSTER TOO to have a six cylinder engine. It has a Lycoming IO 540 N1A5, which puts out 260 H. P. Weight of the engine is 429#, which is not the lightest IO 540 available. However, it is the lightest IO 540 with a heavy duty Crankshaft, which Lycoming would recommend for aerobatics.

Since this engine turns 2700 RPM, just like its little brothers, the extra horsepower is absorbed by a prop which is 6" more in diameter. This gives better prop efficiency, which translates into higher performance than an additional 60 H.P. would lead one to expect. With the front cockpit covered over, cruise at 75% is 174 indicated, and top speed at 1000 feet, on a hot day is 210, indicated.

Because of the greater weight of the engine and prop, plus one more oil cooler, and more braided lines, the weight is 1270, empty. This means that it is only a 6 g aerobatic airplane with one person in it. With two people it is about a 5-1/2 g airplane. Also, a little extra care is called for in throttle handling. This is a counterweighted engine, and the operators manual calls for smooth and gentle throttle movements.

Flight testing uncovered no unusual problems. It handles well, and will cover the full spectrum of aerobatic maneuvers. Time was flown off and restrictions lifted on Friday, July 22. On the 23, Eric Shilling flew it to Delano, California, to participate in an aerobatic seminar weekend.

We were assisted in Flight testing, by John Helton, an airline captain with UNITED, who has a strong military and aerobatic background.

The plane will fly at Fondulac, as well as at Oshkosh. Pilots will be Eric and John.

A DOPEY EXPERIENCE

by jim osborne

In matters of aircraft design and construction, we are conservatives by nature. We tend to stick with the tried and proven methods. (Look at us. We still design and build Biplanes in this modern age.)

So it was a rather momentous decision for us when we decided to depart from the tried and proven (for us) nitrate-butyrate doping and finishing process for completing our new airplane.

We were getting this plane, our new ACRODUSTER TOO, ready for Oshkosh and we wanted an extra nice looking paint job. After much discussion, we decided to use a urethane paint. By this time we had the nitrate on thru silver. After some further discussion, we decided to use Stits Aerothane. According to a sheet of instructions put out by Ray Stits, his process could be used over Nitrate dope. The procedure was to clean the nitrate with a Stits cleaner, apply poly silver over the nitrate, and then apply the Aerothane over the polysilver.

We followed this procedure as best we were able. Several weeks were spent in sanding silver, in cleaning, in applying polysilver, more sanding, and then in spraying the white, base-coat Aerothane. Then, just as we were about to apply color, we sanded thru the aerothane and poly silver at a high point. We found only a very loose bond between the nitrate silver, and the poly silver. In fact, the Stits material peeled off the nitrate like a bed sheet being pulled off a bed. Except on the fuselage. There it peeled off in patches, very unevenly, so that we wound up stripping all the covering off the fuselage, and recovering from scratch.

By dint of heroic overtime, seven days a week, we were able to recover the fuselage and refinish the wings and tail in time to fly the hours off and get the plane to Oshkosh. Kudos to Eric Shilling for the fastest recovering job on the fuselage on record. One day, thru silver. And appreciation to Bill Clouse, Norman Eaves, Doug King, Ed Nagahisa, and Paul Little for long hours of unstinting labor. We pulled out of a near disaster, and made our deadline.

But why was this gross expenditure of time and materials necessary? What went wrong? We asked Ray Stits over to inspect the damage, as soon as we started peeling. He responded immediately. After checking our procedures and materials, he decided that it was our Nitrate dope. According to Ray, his Poly dope will only adhere to Mil Spec, tautening nitrate dope. Like most everyone else we know, who uses a heat shrinking fabric, we had used a non tautening nitrate dope. According to Ray, there is too much plasticizer in nontautening nitrate for his poly dope to adhere properly.

Now, we most certainly agree with Ray. And we have nothing but respect for Stits process finishing materials. We have seen too many beautiful, prize winning airplanes finished in Stits dopes to have anything but respect for Rays products.

Nevertheless, we feel obligated to pass on a few facts to builders who may be contemplating using Stits products. Number one; Ray advises you to use his process from the ground up. We couldn't agree more. If Stits products are used from the cement on the fabric up, we can't see how you could get anything but a nice job. Number two; If you decide to use his process over nitrate dope, be sure you are using what Ray calls real dope, that is, tautening nitrate which meets Mil Specs. If you try using poly spray over non tautening dope, you will likely wind up as we did; out a great deal of time and money. Ray Stits doesn't spell out this distinction between dopes in his instructions. We want to warn our customers.

And of course, it is a stupid thing to try out an entirely new process when you are on an extremely tight schedule, as we were.

FOR some reason, this spring, there has been an unusual number of landing gear accidents involving STARDUSTER TOO'S. These accidents have occurred on the East Coast as well as the West Coast.

Now, one explanation of these accidents might be as follows. These accidents are without precedent in number. Therefore it is likely that most of them are pilot error. Investigation discloses that most accidents do, in fact, happen either to low time pilots, or to pilots who have little taildragger time. Therefore it would seem logical to say that the pilots involved need to upgrade their skill in flying biplane taildraggers.

Another theory (popular with those who have had accidents) is that the landing gear design is not strong enough.

Perhaps there is some truth in both viewpoints.

The Starduster Too landing gear was designed to collapse or fail, before damage was done to the fuselage. The gear is easier, and cheaper, to repair than is the fuselage. It was designed to take an impact load of 2.5 g's at a gross weight of 1704 pounds.

However, many, perhaps most, Starduster Too's are like the lady on a diet, in a word, overweight. Combine this overweight with some hard or groundlooping landings and it might be argued that the gear should be a bit stronger.

A third factor, which I have personally noticed, is that many owners have the safty cable which wraps around the gear, on much too tight. This safety cable is on for one purpose only; and that is to keep the gear from collapsing if the shock cords break. It is NOT on there to keep the shocks from breaking; but only to save the situation in case they DO break. If the safety cable is too tight, the gear will hit the cable, hard, before the shocks have hardly extended themselves. This means that the cables will probably bend the top cross piece. If the hit is hard enough, and the bend great enough, the welds holding the cross piece in place will fracture, and we have another landing gear accident. Such an accident could have been prevented by making the safety cables long enough to allow the gear to come off the rebound pad by at least 4 inches. Six inches wouldn't hurt.

Another safety habit we should get into, is to inspect the gear after hard landings. Professional, and military pilots do this as a matter of routine. If you have had a bad day practicing landings, the least you can do before putting your bird to bed, is to carefully inspect the landing gear for damage. Usually, a gear bends a little. or gives a little, before letting go entirely. A safety inspection after an unusually hard landing might spot this incipient damage.

We are modifying our gears to the extent of making the top cross braces, which the shocks wrap around, out of 1-1/4 x .065 tubing. We suggest you do the same, particularly if you have an extra heavy TOO, or are a relatively inexperienced tail dragger pilot.

The same gear, almost, is used on the ACRODUSTER TOO. I have personally flown this gear many many hours, and made many hard landings. I have inspected the gear carefully after such landings, and have so far found no evidence of damage. Therefore, I believe the gear, as designed, is adequate for all normal flying and quite hard landings, provided the safety cable is properly installed. If you have a standard gear, and are areasonably good pilot, you should be O. K.

If you are just now building, or rebuilding your landing gear, we suggest you increase the size of the top cross piece.

HOW TO S-T-R-T-C-H YOUR RANGE

by jim osborne

There are very few of us who haven't, at one time or another, found ourselves wishing we could squeeze more range out of our airplane. If you have ever had to divert to an alternate airport after having had a headwind cut into your diminishing fuel reserve, then you know whereof we speak.

At times, this matter of extending range can become very critical. Sometimes it is the difference between a safe landing and an accident statistic.

To get the utmost range out of an airplane is a relatively easy matter. All we have to do is fly at the speed of least drag. This is the speed which will give us the most miles per gallon. It is also the speed which will give us the longest glide. And it is usually considerably below our normal cruising speed.

When you are out flying for fun sometime, experiment a little, and determine your most efficient gliding speed. You can expect to find this speed in the neighborhood of 1.4 to 1.6 times your stalling speed. Cut your engine all the way back to idle and find the speed which will take you the farthest distance from a given altitude. Your most efficient glide speed is NOT the speed which gives you the lowest rate of sink. To repeat, it is the speed which will take you the longest distance.

To determine this speed. Pick a spot on the ground where you appear to be heading. If the spot does not move up or down on your windshield you are heading right at it. If it moves up, you are undershooting. If it moves down, you are overshooting. If you are overshooting, pick another spot a little further along. By juggling glide speeds and reference points, you should soon be able to pick the glide speed which will give you the most distance for a given altitude.

This is the speed of maximum range. It is the speed where you have the least amount of total drag. Airplane drag can be divided into two parts. There is induced drag, which is generated by lift; and there is parasite drag, which is all the rest. At low speed, induced drag is quite high, and parasite drag is quite low. At high speed the reverse is true. Where drag is least is at the bottom of the power curve. This is the speed where you will glide the farthest, and the speed that will give you the maximum amount of range.

To get down to particulars. Suppose you are flying a STARDUSTER TOO with an indicated cruise speed of 120 M.P.H., and at this speed you burn 10 GPH. You are getting 12 miles per gallon. With a stall speed of 55 M.P.H., your best glide and cruise speed will be somewhere around 80 M.P. At this speed you are pulling about 15" M.P. and your engine is using about 5 GPH. Voila, you are now getting 16 miles per gallon.

To really get maximum mileage on a cross country trip, you should cruise at the speed of least drag, at the altitude at which your throttle is wide open to give you this speed. And you should lean your engine past the peak EGT and on into the lean side. The engine will run a little rough, but you will not hurt your engine, at this reduced power setting. Set your C/S prop at lowest allowable RPM's.

Whether to climb or not when you decide that increasing your range is imperative is a matter of judgement. The extra gas you burn in order to gain altitude might be better expended taking you cross country. By rule of thumb, the earlier you make your decision to extend range, the more altitude you can afford to gain. For 20-30 minutes, stay where you are. For one hour, gain a couple of thousand feet. For two hours, gain considerably more.

Even though your airspeed drops when you are cruising at maximum range, you might still save time on some trips. This is because you may be able to pass up a refueling stop you might otherwise have to make.

CONCERNING FIRST FLIGHTS

by jim osborne

I just finished reading an article in SPORT AVIATION, by Molt Taylor, in which he repeats and reinforces advice to the effect that you sneak up on a first flight in a new airplane by high speed taxi runs, increasing to speed to momentary lift-offs, and, after many such liftoffs, finally graduating to a circuit around the field. He says if your runway is too short to permit these abbreviated liftoff flights, you should go to a field with longer runways.

Now, Molt Taylor is a distinguished engineer, and an excellent airplane designer. I have nothing but the highest respect for his talent, and achievements in sport aviation. And yet, I think he is entirely wrong in his advice to pilots contemplating a first flight. With the utmost respect, I must say that I believe his advice, if followed, is likely to cause accidents and crackups.

It is quite true that the flight characteristics of a new airplane may be new and strange to the test pilot. But where is the best place to learn to fly a new airplane. Did your initial instructor take you 5 feet off the ground, at just above stalling speed and teach you to fly under these conditions? If not, then why try it now, with a not new home built which might need an hour or so of air practice before the first landing should be tried.

I have made a number of first flights in hot new airplanes. In my first such flight I did as Molt suggests, and made run after run down the runway, at increasing speeds. I had such trouble transitioning from a high speed taxi with full power to a high speed roll out with no power, that I had serious doubts about my ability to control the machine. Finally I made up my mind to go. I went. After one half hour of practice at altitude, I made an uneventful landing.

I have seen many first flights end in trouble due to this fast taxi, liftoff approach. I know of one woman who totaled out her new Pitts during a lift off. Recently, in Arizona, a Variviggen was totaled out and the pilot suffered serious injuries during a liftoff. I have watched a pilot nearly total an Acroduster by making the first flight low and slow, just five feet off the ground.

We here at Starduster believe solidly in the "Go fly when ready" approach. By that we do not mean to take off haphazardly, or prematurely. Check your airplane out thoroughly. Check weight and balance, not once, but several times. Check your control linkages. Make sure they are properly saftied. Check engine controls. Make a ground run-up. Check for oil leaks, operation of instruments, and operation of engine controls. Do a little low speed taxiing. Brake hard. Check the brake system for operation and leaks.

Now if you and your airplane are ready to fly, why then, go fly. Don't fool around in ground effect, at low airspeeds, with an airplane that is new to you.

During your takeoff roll, open the throttle slowly and smoothly. At takeoff speed, if it is controllable, climb on out. Do Not chop the throttle and try to make a landing in half a runway length. Go up to three or four thousand feet. Feel it out. Practice stalls. See if you can get it in a three point attitude without the wing dropping. (A dangerous procedure just off the ground). Determine your best glide speed. Now, after this practice, when you are ready, come in and make a good landing. It will probably be one of the best you will ever make.

In my opinion, it is just as unreasonable to make low and slow first flights as it would be to get checked out in any other airplane under the same conditions.

HOW TO RIG YOUR BIPLANE

By Jim Osborne

The rigging of your biplane starts with the construction of your basic structure. It should be all completed before the wings are covered.

In addition to making the wings accurately, and the fittings with precision, it is important to leave most of the base fittings attachment holes blank. On the center section it is best to put in only one wing attach hole per side. This should be the hole on the rear fitting of the rear spar. Make this hole full size for a STARDUSTER TOO. Make it $1/4$ ", or $1/16$ undersize, for an ACRODUSTER TOO.

It is best to leave out all attach holes on the two top wing panels. On the bottom two panels, do the same as for the center section. That is, holes in the rear fitting of the rear spar only. However, it is best to make these holes full size.

In building the fuselage be sure and build in the bottom wing carrythru members accurately. For a STARDUSTER TOO or V-STAR, be sure and build in the required angle of incidence. For an ACRODUSTER TOO, be sure the incidence is zero.

On a STARDUSTER TOO, it is best to build the center section before building the Cabane Struts. Level the fuselage, using the top longerons in the forward bay as a level reference. Level from side to side, as well as fore and aft. Then position the center section. Hold in place with lumber and clamps. Build the cabane struts between the fuselage and center section.

To position the center section, on any of our airplanes, first clamp a straight edge along the top of the firewall. Let it stick out approximately two feet on each side. Triangulate back from the same distance out on each side of firewall to center line of fuselage. (TAIL POST IS O.K.) Be sure straight edge is exactly 90 degrees to fuselage centerline. Hang two plumb bobs from front spar of center section, one on each side. These two plumb bobs should be as far apart as possible, and should be equal distances from centerline. Plumb bobs should be equidistant from straight edge, and equidistant from fuselage centerline.

Now all we have to do is adjust for the proper incidence. Our reference line for incidence adjustment on the STARDUSTER TOO and V-STAR is the flat bottom of the ribs. On the ACRODUSTER TOO it is the centerline of the spars. NEVER USE AS AN INCIDENCE REFERENCE LINE THE HOLE THRU CABANE STRUT OR WING FITTINGS.

To measure incidence, the cheapest and most common gadget is a carpenters level, about two feet long. Clamp this to a wooden support. See figure 1. Adjust your supports until proper incidence is achieved. For a STARDUSTER TOO, then build your cabane struts. For an ACRODUSTER TOO, then adjust your end fittings as needed. Note that the ACRODUSTER TOO cabane fittings do not take up all the space available. This is to allow for skew adjustment by washers. fill up any gaps solid with washers. And now we are ready to proceed to the lower wing installation.

Install the two lower wing panels approximately in position. Put a pin thru the most rear wing fitting and into the back fuselage fitting. Temporarily remove the frontmost wing fitting. Support the wing panels with scrap lumber and clamps.

Now hang four plumb bobs from the front spars, two on each side. One should be inboard, and one should be outboard. Adjust the two panels so that the four plumb bob strings line up perfectly. Triangulate from the outboard point of each front spar to the tail post. It should be the same on each side. However this is not as critical as other wing measurements. Now proceed to the most important lower wing measurement, the incidence. Using your level again, adjust the panels for correct incidence. Measure each panel at the inboard bay, and also at the bay where the "I" strut attaches. The incidence should be the same at both places, both sides. THERE IS NO WASHIN OR WASHOUT ON OUR AIRPLANES.

At this point, it is a good idea to drill holes in the front fittings on the rear side of the front spar. Recheck your measurements. Drill both fittings on rear spar, each side. Install front fittings. Backdrill them to size.

Now check dihedral in lower wings. Use your level again, with the proper offset in cradle so that your level reads level when the dihedral is correct.

Recheck everything. Reline up your four plumb bobs. Retriangulate from the wing tips to the tail post. Recheck incidence. Recheck dihedral. If needby, now is the time to correct any errors by making new wing fittings. If this is necessary, use the old fittings to properly locate bolt holes which attach fitting to spar. Leave fuselage attach fittings blank until alignment is exact.

Now we are ready to install top wings. Move panels into approximate position and support with lumber and clamps. Line wing panels up carefully with center section, at the rear spar. Drill hole and insert pin in rearmost wing fitting. From straight edge off leading edge of center section, measure sweepback. Then trammel from each wing tip to rudder post and also center of firewall. Should be same on each side.

Pivot wing panel around rear attach pin and measure incidence with your protractor and cradle. Turn protractor and cradle spanwise and measure dihedral. Take your time. Get it right.

Once all measurements are correct, drill out your wing attach holes. It is a good idea to drill all attach holes slightly undersize, and ream to final dimensions.

The center section, and all wing panels should now be in their correct position. Build your "I" struts in place. Tack weld. Use a piece of scrap metal as a heat shield so as not to scorch your wing wood. After tack welding, compare the two "I" struts. Except for the twist in STARDUSTER TOO "I" struts, they should be identical. Any significant difference is cause to recheck your wing installation.

If your "I" struts are now satisfactory, weld them solid and reinstall. Recheck fit.

Install ailerons now and check control linkage. The push rod running from the fuselage to aileron bell crank will be completed now. Check movement of ailerons. Install slave strut. Make any needed adjustments to aileron controls.

Install flying wires. Tighten up to a reasonable tightness. On our airplanes, tightness is not critical. Install a piece of tape on each wire, and mark on this tape the location of each wire. It is a good idea, also, to have all left hand threads on bottom, and all right hand threads on top. Or vice versa.

Remove wires by loosening landing wires only. Slip out pins from flying wires and remove. Disassemble wings from fuselage. Cover leading edges with aluminum, and then cover wings with fabric.

On final assembly, Install centersection, lower wings, upper wings, slave struts, and flying and landing wires. Tighten only the landing wires. Install the ailerons and hook up controls.

Make a final check for incidence, dihedral, washin and washout. Check incidence in tail plane. Check control movement and throw.

If everything is O. K., your wings are ready for flight.

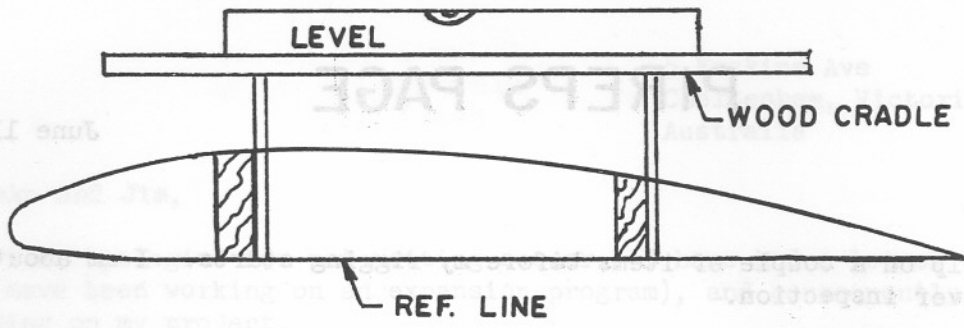
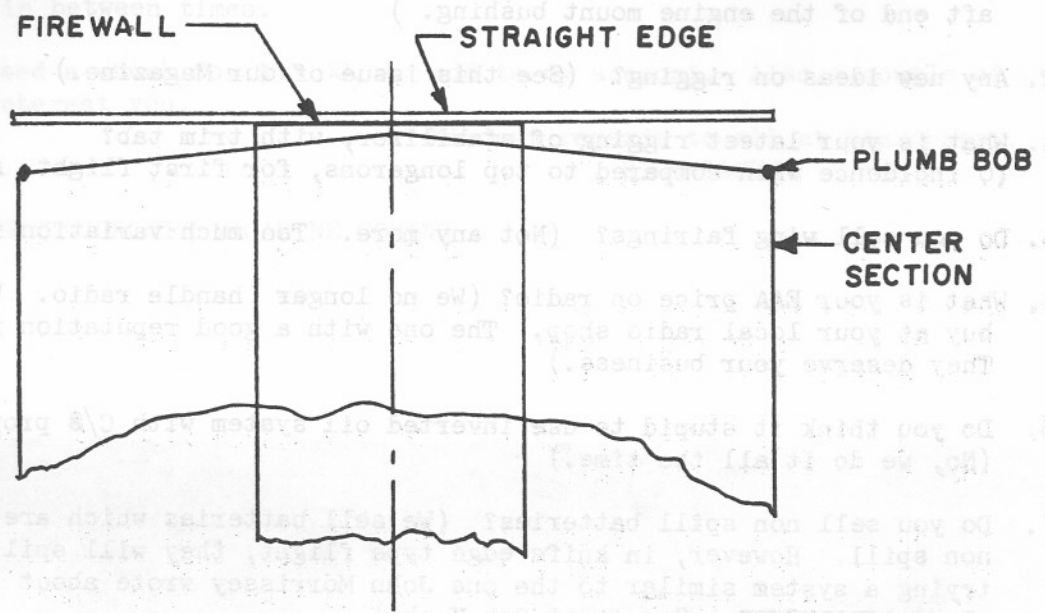
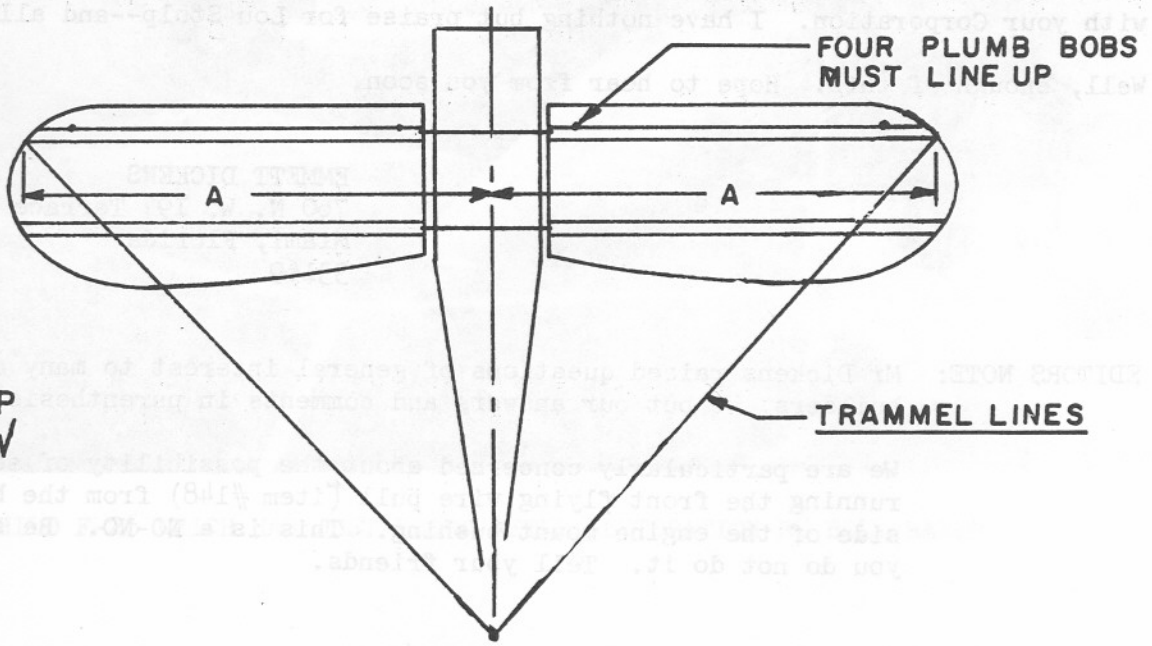


FIG. 1



VIEW LOOKING DOWN

FIG. 2



TOP VIEW

FIG. 3

PIREPS PAGE

June 11, 1977

Dear Jim,

I need help on a couple of items before my rigging starts. I am about ready for FAA precover inspection.

1. Where does fitting #148 go? Behind the firewall, or forward of the firewall and between the firewall and engine mount leg?
(It goes forward of the firewall and behind mount leg. Cut a slot in the flange of firewall to let #148 stick out. Under no conditions should it attach to the aft end of the engine mount bushing.)
2. Any new ideas on rigging? (See this issue of our Magazine.)
3. What is your latest rigging of stabilizer, with trim tab?
(0 incidence when compared to top longerons, for first flight. Adjust as req'd.)
4. Do you sell wing fairings? (Not any more. Too much variation in fits.)
5. What is your EAA price on radio? (We no longer handle radio. We suggest you buy at your local radio shop. The one with a good reputation for service. They deserve your business.)
6. Do you think it stupid to use inverted oil system with C/S prop?
(No, we do it all the time.)
7. Do you sell non spill batteries? (We sell batteries which are advertised as non spill. However, in knife edge type flight, they will spill acid. We are trying a system similar to the one John Morrissey wrote about in our new two place ACRODUSTER. See it at Osh Kosh.)

This is about the end of six years on my STARDUSTER TOO, but a lot of time was spent on helping my son with his PA-12. He is now in flight training with the Navy. It was time well spent.

The STARDUSTER is a beautiful airplane, and it has been a pleasure doing business with your Corporation. I have nothing but praise for Lou Stolp--and all of you.

Well, enough of this. Hope to hear from you soon.

EMMETT DICKENS
760 N. W. 197 Terrace
Miami, Florida
33169

EDITORS NOTE: Mr Dickens raised questions of general interest to many of our builders. We put our answers and comments in parenthesis.

We are particularly concerned about the possibility of someone running the front flying wire pull (item #148) from the back side of the engine mount bushing. This is a NO-NO. Be sure you do not do it. Tell your friends.

5 Erskine Ave
Cheltenham, Victoria, 3192
Australia

Dear Hanako and Jim,

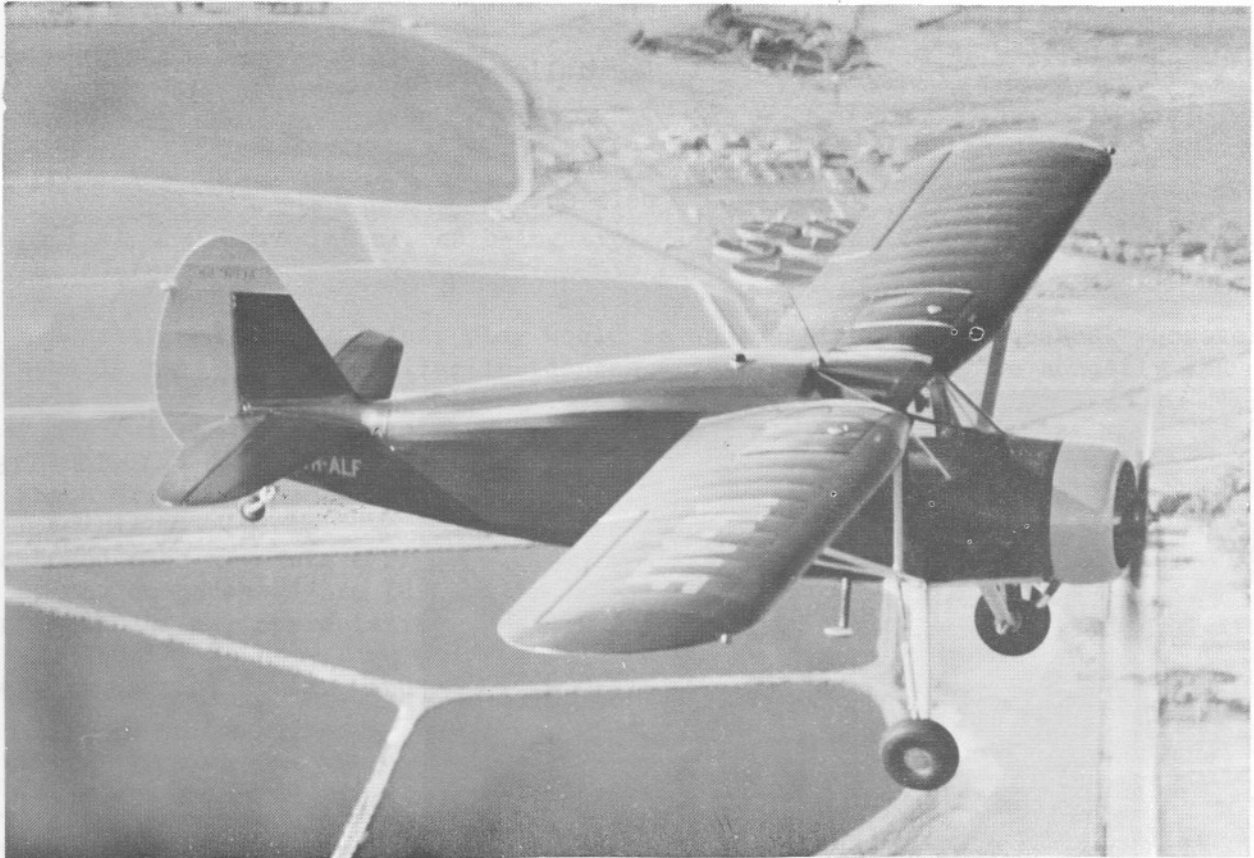
First, let me apologise for not writing sooner. I have had a lot of business problems (have been working on an expansion program), and consequently, have not been working on my project.

My other aircraft (auster) is in need of re-rag, so I have taken it home, and now have it stripped down, and the tail feathers sandblasted, urethane painted, and ceconite covered. The wings are next. I have been doing a little work on my motor mount in between times.

I have enclosed a check for \$50.00, to add to my account. Also a couple of photos that might interest you.

Kindest regards to all at Starduster,
BILL BAKER

P.S. KEEP THE STARDUSTER MAGAZINE COMING



A FAIRCHILD F-26 WHICH HAS JUST FLOWN AFTER RESTORATION BY BILL BAKER

18 North 14th Street
 Fishawaka, IN 46544
 6 June 1977

Dear Mr. Osborn,

Stolp Starduster Corporation
 4301 A Twining
 Riverside, CA 92509

Dear Mr. Osborn:

Please send me a copy of your Acroduster 1 brochure. This little machine has intrigued me for some time now and I can wait no longer to find out more about it. I understand that you sell the aircraft only in a very complete kit form. This approach appeals to me since I really don't have the time to scrounge for parts anymore.

Enclosed: personal check for \$5 to cover costs as advertised.

Regardless of whether or not I build an Acroduster, I wish you the best of luck with your design. It would be most encouraging to witness a true challenger to the Pitts--held niche in competitive aerobatics.

Cordially yours,

Jeff Coppes
 Jeff Coppes



A STEEN SKYBOLT WITH
 AN OLDSMOBILE V-8
 ENGINE---
 SEEN AT WATSONVILLE

1 June 1977

Dear Sirs,

Last August I made an order when I flew down there. I took some of the stuff with me when I flew back, and you shipped the rest of the items to me.

One of the things I took back was a tail wheel. Then you inadvertantly shipped me another one. I am returning the extra tail wheel in this box. I would have shipped it sooner, but I just unpacked your shipment the other day, after moving to a new shop.

It seems that I also lost the sheet of plans that covered the rudder section. If you could send them on the me, I would be most grateful. I am building an ACRODUSTER TOO.

I also need to renew my subscription to your magazine. If you could bill me for these, at the address below, I would appreciate it very much.

Yours sincerely,

CRAIG L. WIESE
609 Coloma Street
Folsom, California
95630

We publish the above letter, as being typical of the quality of people that build our airplanes.

Such honesty and sense of fair play would be unusual in many businesses. However, we usually have several similar incidences a year. This is why we honestly and without prejudice hold Homebuilders in general, and STARDUSTER builders in particular as outstanding examples of people with unusual amounts of honesty and integrity.

We thank Craig, and we greatly appreciate his returning the extra tail wheel we shipped him by mistake. We were happy to send him the replacement for the lost plans and also give him a free years subscription to STARDUSTER MAGAZINE. This in no way compensates him for his thoughtfulness and trouble, but is a small expression of our appreciation.

Thank you again, Craig. And good luck on your project.

JIM OSBORNE

June 20, 1977

Dear Jim,

Thanks for putting the picture of my STARDUSTER 1 in your April, 1977 issue of the STARDUSTER MAGAZINE. It is a real fun-to-fly airplane. I'll try to send you a better picture of it later.

I have now started an Acroduster Too. I bought the plans from Michael A. Martin. He decided to build a Stearman, instead. I think the plans are S/N 153. I think I have all the updates, but if you have any more, I would appreciate it if you would send them to me instead of Michael.

My ACRODUSTER TOO will not be exactly to plans, as I am going to lengthen the fuselage and wingspan a small amount. It will be something between an ACRODUSTER TOO and a STARDUSTER TOO. Preliminary C. G. calculations looks like it will be O.K. if I sweep the top wing a little bit more. In any case, I'm in the building mood again, and will be needing all kinds of things between now and then, so put me on your active builder list, and reactivate my file.

Sincerely,

Karl E. Barkman



A BEAUTIFUL STARDUSTER TOO, OWNED BY MELVIN SHIRTS, OF PHOENIX, ARIZONA. IT HAS 180 H.P., C/S PROP, AND IS REPORTED TO FLY REAL NICE.

SEEN AT THE MERCED, CALIF.
FLYIN--JUNE 1977-----



A BEAUTIFUL P-40 E, CONVER-
TED TO CARRY TWO PEOPLE.



A B-51 D, SPORTING "D"
DAY INVASION STRIPES AND
THE NICKNAME OF "STUMP
JUMPER".



THE FAMOUS B-25, FLOWN
INTO IMMORTALITY BY THE
EQUALLY FAMOUS JIMMY
DOLITTLE. PROBABLY THE
MOST CAPABLE AND COMPETENT
MEDIUM BOMBER TO COME
OUT OF WWII.

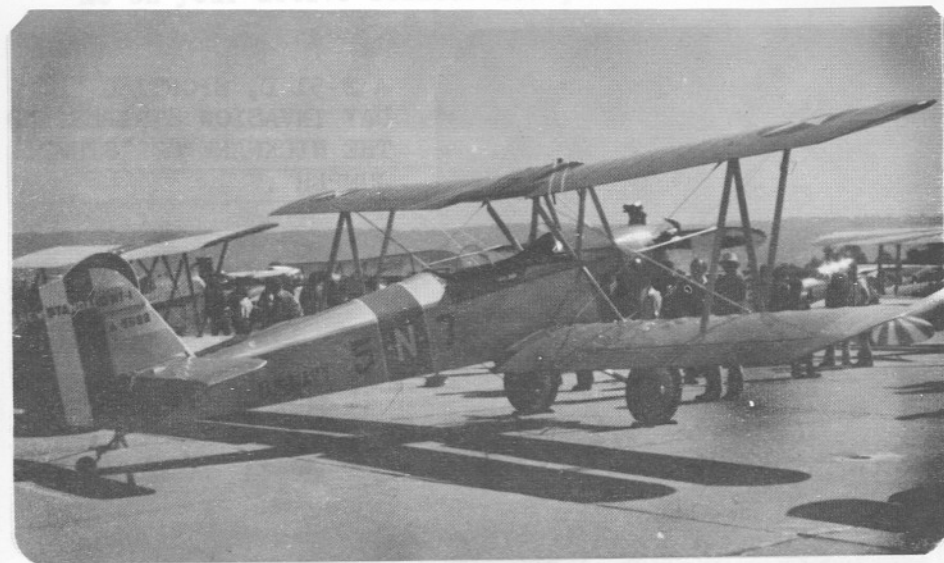


SEEN AT WATSONVILLE, CA.,
FLYIN-MAY, 1977-----

JIM NISSAN STARTS HIS AUTH-
ENTIC JENNY- 90% ORIGINAL.

PROBABLY THE MOST AUTHENTIC
AND BEAUTIFUL PRE 1920
AIRPLANE FLYING TODAY.

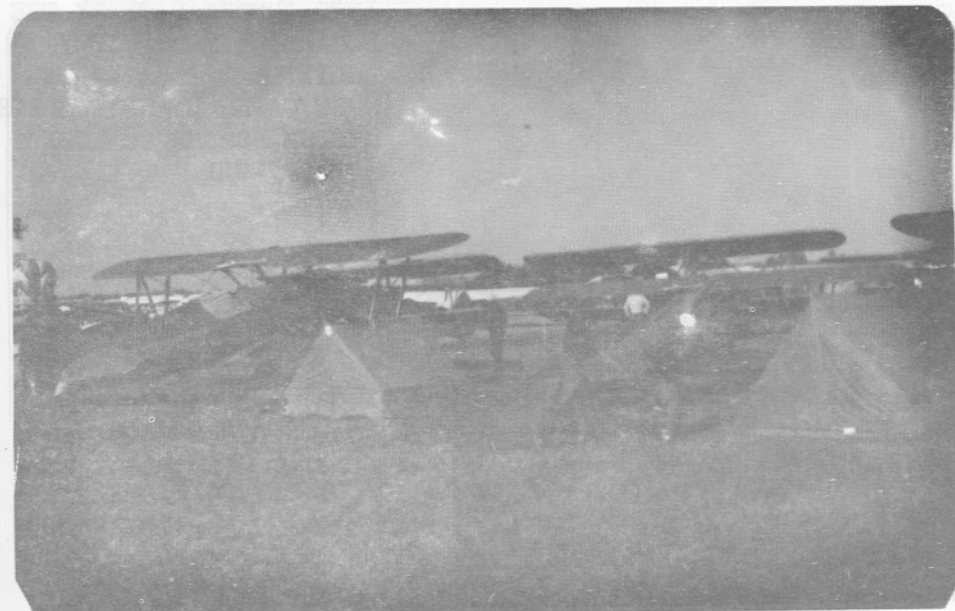
THIS AIRPLANE IS COMPLETE
WITH ORIGINAL TAILSKID,
INSTRUMENTS, AND HAND
STARTED OX5 ENGINE.



THE "NEW" STANDARD,
CIRCA 1929.

TWO SEATS IN ONE
OVAL COCKPIT DISTINGUISH
THIS RARE AND UNUSUAL
AIRPLANE.

BASED AT MERCED, CALIF.

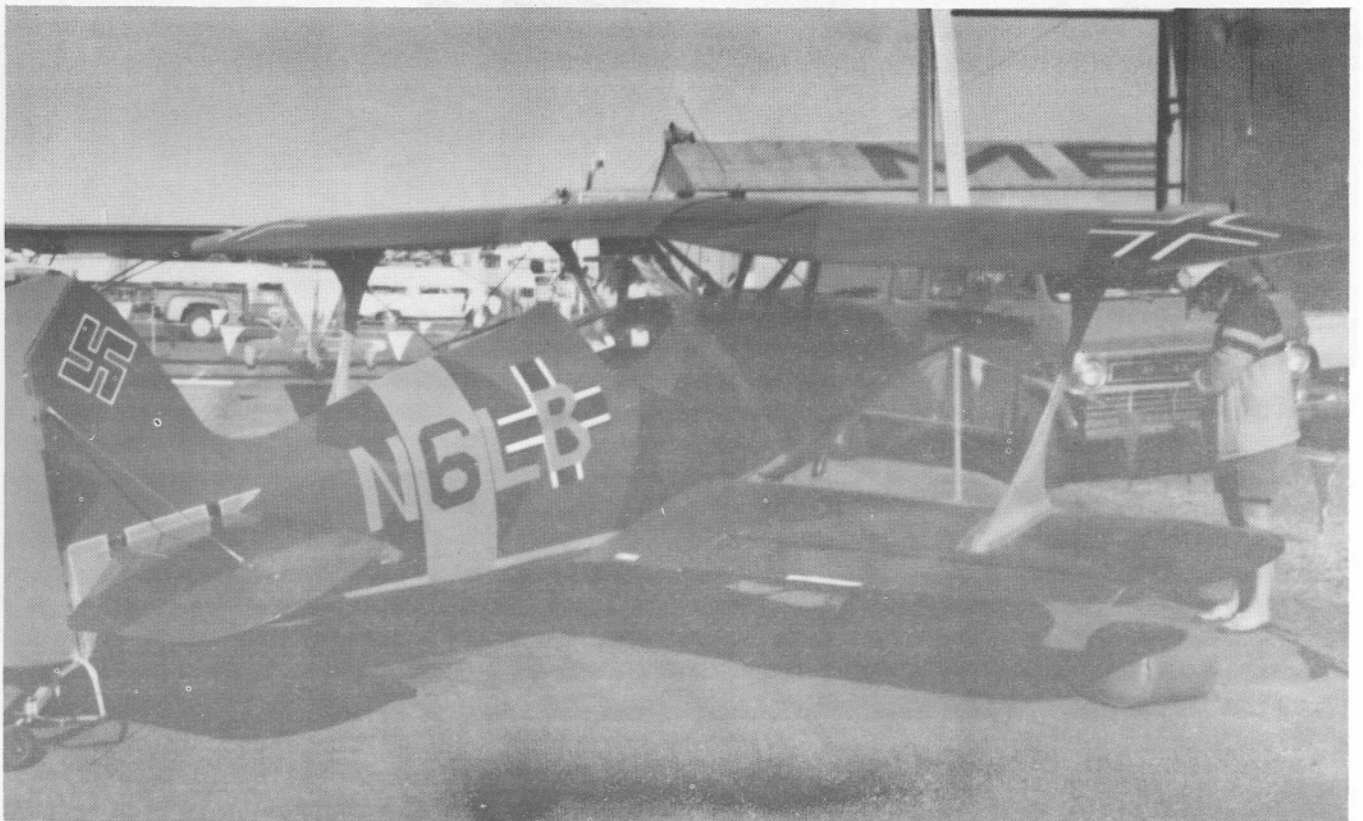


A SIGHT TO GLADDEN THE
HEARTS OF GRASS ROOTS
FLYING FANS.

AN EARLY MORNING SCENE
AT THE WATSONVILLE FLYIN.



A nice STARDUSTER 1, in the old U. S. ARMY AIR CORPS colors and markings. Owned and built by Leonard P. Barrett, of Mount Shasta, California. It was finished in 1975, and now has approximately 140 hours on engine and airframe.



Another nice Starduster 1, this time finished in World War II Luftwaffe colors and markings. Seen and photographed at the Merced flyin, in June of 1977.

June 7, 1977 SONVILLE, CA., 1977---

Dear Jim,

I thought you and Eric and the rest of your fine crew might like these shots I took when I last visited you.

I have finished the lower left wing panel, and hope to have the right done before Oshkosh. I did all the work myself, and it really wasn't difficult. Of course, having you guys so close helped tremendously.

If anyone wants an unsolicited testimonial about how easy it is to build a wing, you can refer them to my experience.

I'm serving my two weeks active duty with the Navy Reserve, as a Jet Engine Mechanic, so, unfortunately, I won't get to see you at our Chapter 40 meeting. I know you'll be a big attraction since there are so many enthusiasts of Starduster airplanes in the San Fernando Valley Chapter.

See you at Oshkosh, but I'm sure I'll be out your way before then.

Many thanks,
Diana "ACE" Abramson



A PICTURE OF JIM GILSON, OF SAN FERNANDO, CHAPTER 40, SWINGING THE PROP ON HIS BEAUTIFUL NEW STARDUSTER TOO. HE IS FLYING THE TIME OFF AT MOJAVE AIRPORT, CA. HIS WIFE, JEAN, IS AT THE CONTROLS. JIM HAS PROMISED TO HAVE THIS BEAUTY AT OSHKOSH.

9 June 1977

Gentlemen:

Enclosed are two pictures of my STARDUSTER TOO. This aircraft is equipped with 160 H. P., electric start, and weighs 1124 lbs empty. That's one of your fiber glass spinners, and the front baffle is made of stainless steel.

The new style tail wheel spring works great. I enjoy your magazine, and hope to see you at Osh Kosh.

Sincerely,

JON NACE



EDITORS NOTE: Jon sent in two beautiful pictures. The other one is on our front cover. This STARDUSTER is not only outstanding in appearance, it has something very unusual on it. Something we have never seen on any other STARDUSTER TOO.

WHAT MAKES THIS TOO SO OUTSTANDING IS THE ABSENCE OF LARGE LETTERS ON THE SIDES. We give up, Jon. How did you do it? Is it applicable to all TOO's, or just to yours.

If small letters could be applied to all our biplanes, it would be a great boon to their appearance. It appears that Jon has invoked the rule allowing Antique Aircraft to sport small numbers. Since the STARDUSTER TOO is very similar in appearance to many antique biplanes, perhaps that rule could be invoked to cover STARDUSTER TOO's. It appears to have worked once. Perhaps it can work again. Congratulations, Jon.

June 11, 1977

Dear Sirs,

Please send me the information packet on the STARDUSTER TOO.

The first light plane I ever rode in belonged to a Cropduster who lived next door when I was a little kid. It was an N3N with a 450 H.P. engine. That was in 1949 when I was about 6 years old, and it was the most fun I had until I got older, and discovered sex.

I rebuilt an Airmoeker C-3 (1934) basket case when I was in High School. I've built two boats in wood and fiberglass. I have, for some time now, made my living as a welder. I built the chassis for a NHRA Record Dragster back in 1969, and have done work on cars that have run at Riverside.

I feel I could build your design readily enough. I'm sending \$2.00 for the Info.

Thanks,

BOYD ANNAS
1522 S. Monterey
Ontario, California

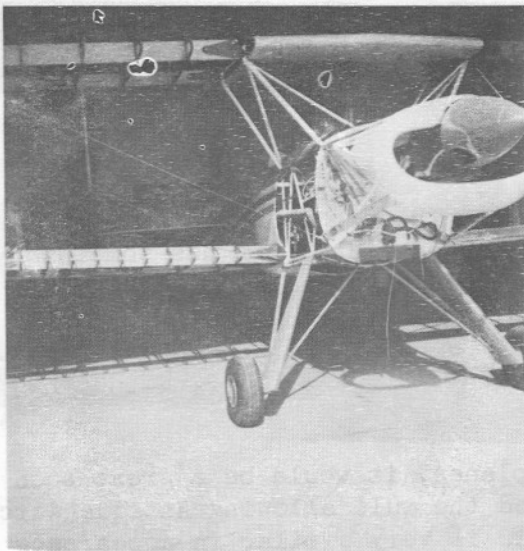
June 15, 1977

Dear Eric,

I enclose a couple of photos of my SA 300, C-GT00. I started this project in February, 1976, and got this far with it. The fuselage is basically done. The two bottom wings are nearing completion, but the two top wings need some more work, I also need an engine and a prop. It sure is a lot of work for one to take on, but if it flies good, I won't complain.

Yours truly,

JOHN BARNESLEY
Box 911
Assiniboia, Sask.





A STARDUSTER TOO WHICH HAS HAD SEVERAL OWNERS. OUR LAST OWNER OF RECORD IS LOU DAVIS, OF ASPEN, COLORADO. ENGINE IS LYC 180 H.P., WITH C/S PROP.





CHUCK STROHACKER AND HIS GERGEOUS BLACK AND YELLOW STARDUSTER TOO. THIS "TOO" IS POWERED WITH AN 10360 CONTINENTAL ENGINE, AND TURBOCHARGED AS WELL.



THIS OUTSTANDING PINK FLYBABY WAS PERSONALLY BUILT, AND IS FLOWN BY GAIL TURNER. SHE WON THE LARGE TROPHY SHE IS HOLDING, AT MERCED, FOR HER EXCELLENT CONSTRUCTION.

Classified Ads

ADVERTISING CLOSING DATE: JANUARY 1, APRIL 1, JULY 1, OCTOBER 1.
CLASSIFIED ADVERTISING RATE: \$3.00 PER COLUMN INCH-MINIMUM CHARGE \$3.00
MAKE CHECKS PAYABLE TO STOLP STARDUSTER CORP. THANK YOU.

FOR SALE

IN STOCK-IMMEDIATE DELIVERY- (3) ACRODUSTER TOO BASIC FUSELAGES- PER PLANS, SHEET 2. A GOOD FOUNDATION ON WHICH TO BUILD- ONLY \$850.00

IN STOCK-IMMEDIATE DELIVERY-(3) COMPLETE WELDED ASSEMBLIES, STEEN SKYBOLT. INCLUDES FORMERS, BRACKETS, AND STANDOFFS. ALSO TRIM CONTROL AND SHOCK CORDS. ONLY \$2950.00 COMPLETE.

IN STOCK-IMMEDIATE DELIVERY- (3) STARDUSTER TOO COMPLETE WELDED ASSEMBLIES INCLUDES FORMERS, BRACKETS, AND STANDOFFS. ALSO TRIM CONTROL, AND SHOCK CORDS. ONLY \$2950.00 COMPLETE.

IN STOCK-IMMEDIATE DELIVERY. (2) STARDUSTER TOO BASIC FUSELAGES. PER PLANS, SHEET 11. A GOOD FOUNDATION ON WHICH TO BUILD. ONLY \$795.00

BUILD AND FLY THE WORLDS EASIEST-TO-BUILD, AND BEST PERFORMING BIPLANE- THE ACRODUSTER 1. BENDING & SHEARING OPERATIONS PERFORMED FOR YOU.
BROCHURE-\$5.00
COMPLETE KIT-\$5500.00

FACTORY NEW STEWART WARNER OIL COOLERS- CERTIFIED FOR AIRCRAFT USE- GUARANTEED- LIST PRICE \$146.00 OUR PRICE, ONLY \$95.00

LIGHT WEIGHT, STAINLESS STEEL EXHAUST SETS FOR LYCOMING ENGINES- IMMEDIATE DELIVERY- ONLY \$195.00

"STARDUSTER" DECALS FOR STARDUSTER TOO ACRODUSTER TOO V-STAR STARLET ONLY \$1.00 EACH

BUY YOUR NEW LYCOMING ENGINE FROM STARDUSTER, AT THE WORLDS LOWEST PRICE FOR HOME-BUILDERS. ALSO BIG DISCOUNTS ON HARTZELL AND SENSENICH PROPS.

AILERON BEARING INSERTS BETTER CONTROL FEEL- LONGER LIFE- ENABLES YOU TO FEEL AIR LOADS BETTER ROLLER BEARINGS, NOT FRICTION-
DIA: O.D. 5/8"
I.D. 1/4"
WIDTH: 3/16"
SET OF 8: ONLY \$25.00

GET QUALITY, PRICE, AND SERVICE- BUY "STARDUSTER"

FIBER GLASS SLEEVING VARNISH COATED-ANTI CHAFE PROTECT YOUR WIRING- MAKE YOUR FAA INSPECTOR HAPPY ONLY \$1.00 PER 3' LENGTH

SHRINK TUBING- CLEAR PLASTIC TUBING 1/2" I.D. SHRINKS TO 1/4" DIA WITH THE APPLICATION OF HEAT. GREAT FOR SMALL WIRE BUNDLES- USED BY MOST AIRPLANE MANUFACTURERS ONLY .75 PER 3' LENGTH.

HYDRAULIC OIL-FOR AIRPLANE BRAKE SYSTEMS- THE BEST THERE IS: ONLY \$1.95/ QUART

NEW STARDUSTER SLIDING CANOPY KIT- FITS ALL STARDUSTER AIRPLANES WHICH HAVE BUBBLE WINDSHIELD- INCLUDES BUBBLE, RAILS, HARDWARE, INSTRUCTIONS- ONLY \$200.00

NEW STRAIGHT WINDSHIELDS- HIGHER QUALITY- BIGGER RADIUS EASIER TO CONTOUR AND FIT TO OUR AIRPLANES- ONLY \$27.00

SPINNERS FOR FIXED PITCH PROPELLERS-14" BASE BY 18" LONG- FIBERGLASS, WITH ALUMINUM BACK AND FRONT PLATES- SURPLUS, FROM GRUMMAN AMERICAN CORPORATION. ONLY \$57.50

BUY "STARDUSTER"



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