

HOMEBUILT

JOURNAL OF THE EXPERIMENTAL AIRCRAFT ASSOCIATION OF SOUTHERN AFRICA



VOLUME 2 — NUMBER 2

1st QUARTER 1975

ON THE COVER.

Bill Keil lifting off on the maiden flight of Z.S.-U.H.D. - a Stewart "HEADWIND"
BUILT AT KRUGERSDORP by Nic. de Jong and Bill Keys.

STATEMENT OF POLICY

The Experimental Aircraft Association of Southern Africa is a body representing individuals involved in the construction and operation of homebuilt aircraft and the restoration of antique aircraft.

Subscriptions of R4.00 per year include affiliated membership of the Aero Club of South Africa and a quarterly issue of "Homebuilt".

CORRESPONDENCE

All correspondence to the Association should be addressed as follows:

The Secretary, E.A.A. of S.A.,
Gerald Scott,
P.O. BOX 787,
BOKSBURG.
1460.

FROM THE TEMPORARY EDITOR.

I want to apologise for the delay in getting this issue Homebuilt out to you; this is the first time I have attempted to edit a magazine and I realise now what difficulties and disappointments beset Steve when he had this task.

From my short experience it is obvious that he must have had to scratch for material for 'Homebuilt' and this actually is now my theme.

Homebuilt cannot and never will improve in quality unless ALL members submit for publication - So please get down to it for the next issue.

Thanks,

RON. JOHNSTONE.

CHAIRMAN'S REPORT.

Yes, we do apologise for missing out an issue of "HOMEBUILT". Your Committee has had three Meetings to try and find ways of encouraging members to write articles for our Magazine, but try as we may, we have not had any success. It is truly disappointing, particularly when one considers that there are so many exciting things to write about. The new "K.R.2", which seems to have caught the imagination of everyone - the many "Pitts" that are nearing completion, and so on. There are more Homebuilt Projects in the making in our country than in many of the larger Countries in the World.

E.A.A. has certainly blossomed this year. Chapter 322 and 514. have record attendances at their Monthly Meetings. If the Oil Crisis has put somewhat of a damper on our flying, it certainly has had the opposite effect on our building.

In September issue of "HOMEBUILT", I asked that we make 1975 a recruiting year and I am pleased to report that we have had a number of "would-be" E.A.A. members write us and phone us for Membership Forms. To-day we boast almost 300 members in Southern Africa, quite an achievement when you consider that, only two years ago, there were a handful of Homebuilt Aeroplanes flying and we could get most of the active E.A.A. members into Mike Spence's workshop for our Monthly Meetings.

Thanks to the efforts of Alec Saul and his very active Springs Club, we, in the Transvaal, have had several "breakfast fly-ins". I have found the experience enlightening and enjoyable. The pride of ownership of a homebuilt aeroplane by many of our members is something to behold.

Before I close, I would like to make another appeal for safety. As more and more Homebuilt aircraft take to the air, the sceptics will multiply - "those crazy fools will break their necks", they will say. Let us prove them wrong. We are serious people, people with a common interest, an interest in building our own aeroplanes - aeroplanes that will allow us to be free and to fly like "Jonathan Livingston Seagull".

I ask only one thing of E.A.A. Members - let us obey the laws of flying. If we are to see our hobby grow, we, above all others, must set the example by not taking any chances, no matter how small.

I am sure the time has come for the formation of further Chapters in Natal, the Eastern Province, and the Free State. May I be bold enough to suggest that some enterprising, young Homebuilders take up the challenge and see how many would-be builders are interested enough to start an E.A.A. Chapter in their area.

E.C. WOODS.

A small cannibal child pointed to an aeroplane flying overhead and asked his mother what it was. "It's a little like lobster," she explained. "You only eat what's inside."

A MESSAGE TO ALL MEMBERS FROM THE
SECRETARY OF E.A.A. HEADQUARTERS.

G. SCOTT.

All persons wishing to correspond with Headquarters in connection with homebuilt matter should, please write to me at my address below as a lot of correspondence is still being addressed to our previous stalwart secretary, Steve, in PMB.

I am negotiating with the local P.O. to rent a post box and probably early in the new year this will be accomplished. Having a definite address should minimise the chances of correspondence going astray.

Folks, on the matter of correspondence I would like to thank the few members who have sent in articles for HOMEBUILT. Come-along chaps YOUR magazine can and will only reach the levels which you expect it to reach by contributing YOUR article. Perhaps everyone is not aware of the trophy presented annually to the person who submits the article which is published in HOMEBUILT and judged the best. The trophy is THE KEN LARKIN FLOATING TROPHY.

If this does not stir you to take pen in hand and write YOUR article then have a chat to the past holders of this trophy — this will merely change your mind.

As it is now approaching the festive season all those busily engaged in their projects will no doubt begin to down tools until next year when I am sure they will begin anew with renewed vigour to perhaps complete their bird in time for the next annual fly-in (where it could possibly win the trophy for the best homebuilt aircraft on display). As you can see we are just yearning to present all these prizes.

In lighter vein appearing on page 3 is an article which was flitched from Western Aviation who in turn snatched it from Aerospace Safety which I am sure will be appreciated by homebuilders (especially sheet metal workers). Don't laugh too much as I have seen sheet metal work carried out which could accommodate the fasteners shown.

In closing, on behalf of your Headquarters Committee I would like to take this opportunity of wishing each and everyone a Merry Christmas Happy New Year and many pleasant building and flying (and article writing) hours in 1975.

SAMOLOT — PZL-102-13 — ZS-UDI.

By Kobus Roos.

All my life I have wanted to fly and I eventually reached the dizzy heights of learning to fly in the SAAF, only to be deprived of my wings by a week due to being hospitalized for a heart operation.

In 1972 I was found to be medically fit and still yearned to fly, however, my life as a farmer took up all of my time until I renewed my licence at Rand Airport.

With a renewed licence in my pocket I started looking around for a suitable aircraft. I was shown the PZL-102-13 and its owner agreed to sell it to me.

This plane has a most interesting history and I'll pass it on to all you EAA members.

It was picked by a Polish Colonel (when Russia took over) who flew it to England. After obtaining his freedom the Colonel sold the plane to a RAF pilot who immigrated to South Africa. The plane was not flown out but delivered by ship and after a time the ex-RAF pilot sold it to a private pilot who in turn sold it to me making me the very proud owner of the 'KOS' aircraft.

For its low 235 hours since new, it has had two different colour schemes, one on top of the other, the last being silver with a red nose. This started to bleach which made the machine look like a 1928 model and when it was parked amongst other beautifully painted planes people thought the 'KOS' was an antique, this prompted me to repaint the plane.

On removing the silver paint I found underneath the most beautiful colour scheme, in red white and black which was the original paint, with all the registration letters and inscriptions in Polish. The original paint was rubber based and as tough as Good Year itself — it took weeks to get down to bare metal. The control surfaces are fabric covered and these were in excellent condition.

Now that the painting has been done and the plane once again flying, I am aware of an increase in speed — no doubt due to the decrease in weight and smoother finish plus a new spinner.

Some details of the plane are as follows :-

It was used as a primary trainer with semi aerobatics permitted. Duration of inverted flight 16 seconds with a standard Marvel Schebler.

The engine is a Continental C90-12F turning an S90-2 propeller.

In closing let me say thank you for allowing me to introduce my aeroplane — PZL which stands for POLSKIE ZAKLADY LOTNIEZE.



Chapter 322 annual award presentation NOV., 1974. for HOMEBUILDERS GOLD BADGE & WINGS.

l. to r. sitting: Bill Keil, Norman Ryan, Cortney Jane.

l. to r. standing: Barry Walker, Don Daniels, Phil Laubser, Mrs. Penny Johnston, Bill Keys, Nic de Jong, Horst Fischer, Stane Jane, Erik Williams, Neils de Graaf, Peter Fuchs.

The presentation was given by Mrs. Penny Johnson.

CHIPMUNK T. 10 — ZS — IGA.

BY ALEC SAUL.

The re-building of this Aircraft was the result of another Chipmunk ZS-DIM being flown into the wind-sock pole on Good Friday 1969 badly damaging the wings and fuselage.

I immediately wrote to Shackletons, in England, for spares but they could not supply the necessary parts; so the re-building was temporarily shelved.

Whilst in Durban, on holiday, I received an urgent phone call from Ronnie Saxe who was in Beira, telling me that he had found a Chipmunk fuselage and wings there and had taken an option on the parts.

That of course ended my holiday in Durban as I set off immediately by car, for Beira. After much trouble and numerous phone calls I eventually located the

owner in Lourenco Marques and clinched the deal for all the parts. Local packing and shipping companies gave me quotes — these were so exorbitant that I decided to return home and either borrow or build a trailer.

After examining numerous trailers I decided the only thing to do would be to build one suitable for transporting the fuselage and wings. This is when Oscar and Eddie Poulsen of Travelite Caravans came to the rescue as they lent me all the bits and pieces and the trailer was built by Nick Kruger of Nigel.

Three of us, Nick Kruger, John Lumgain and I left Benoni at 1 a.m. on a Saturday morning and headed for Beira, via Umtali arriving at our destination at 11 a.m. on Sunday. We wasted no time in loading all the parts and set off for home, experiencing a spot of trouble with the customs in PEA and Beit Bridge arriving back at Benoni at 5 p.m. on Wednesday.



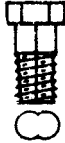






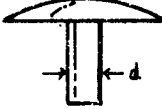





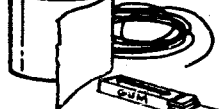
Obviously the first thing to be done now, was to strip the whole lot, prior to cleaning, repainting and re-covering. All this being done under the supervision of the G.E. who was signing out the Log Book entry.

All this involved a lot of hard work before IGA was finally passed as airworthy but it was worth every bit of it as the result was a perfect Chipmunk.

ASM Presents

SPECIAL PURPOSE FASTENERS

... a modest compendium of aircraft engineering marvels (to be carefully shielded from the eyes of the ever-watchful QC guys):

ECCENTRIC BOLT  <p>For use in hole where countersink is not concentric with hole.</p>	EDGE MARGIN RIVET  <p>Used for short edge margin. Rotate rivet to obtain the greatest edge margin.</p>	BINOCULAR BOLT  <p>Designed for double drilled holes.</p>	FLARE BOLT  <p>Best for holes oversize on one side. Note: nut starts hard, goes easy.</p>
WYE BOLT  <p>For holes double-drilled on one side only.</p>	U-JOINT BOLT  <p>Use in crooked and/or offset holes. Recommend use of tapered washer.</p>	TELESCOPIC BOLT  <p>Proposed solution for situations where grip length is unknown.</p>	DOUBLE COUNTERSINK BOLT  <p>For use where under-structure was countersunk in error.</p>
OFFSET BOLT  <p>For use where holes are offset and will not align.</p>	COVER-UP RIVET  <p>Head is 6 X Diameter</p> <p>For use in assembly having hole in one part really screwed up.</p>	RIVET BUTT  <p>Diameter And Height To Conform To MIL SPEC.</p> <p>For installation in hard-to-buck spots. Insert short rivet and glue special butt to opposite side.</p>	NAIL BOLT  <p>Tapered fluted shank to be hammered into loused up plate nut that's too hard to replace.</p>
MULTIPURPOSE RIVET  <p>An old standby that continues to serve unique individual needs.</p>	PERMANENT BOLT  <p>The one-way bolt for use in areas where access is not to occur until after your transfer.</p>	FILLER HEADS  <p>For covering unsightly holes left by missing bolts or rivets, when you cannot find proper replacement items in stock.</p>	JURY FASTENERS  <p>Time tested remedies for many broken birds (often precedes the breaking).</p>

(Snatched from "Western Aviation," who filched it from the Iowa Aeronautics Commission's "Aviation Bulletin." Our thanks to all concerned.)

"We in turn have borrowed this item courtesy of "AEROSPACE SAFETY"

KNOW YOUR ALCLAD.

CONTRIBUTED BY CHAPTER 514.

Aluminum is the worlds most abundant metal and one of the most suitable structural materials for the building of aircraft.

Aluminum alloys are given as 3003, 6061, 2024 and 7075. The letter and numbers following the alloy designation give you the condition of the alloy. The 0 condition means a fully annealed, soft condition. T3, T4 and T6 stand for varying degrees of heat treatment.

Alclad means the Aluminum alloy has a thin coating of pure Aluminum, .003 thick, over the alloy. This is for corrosion protection and contributes nothing to the strength of the material. It scratches very easily and due to the necessity of handling when cutting, no manufacturer of the material will warrant it again'st scratches. These scratches are however, provided they are not deep, easy to polish out with an electric eraser. The bare alloys are much harder and resist scratching much better than the alclad materials.

USES ARE AS FOLLOWS:

- 3003 — Very soft material, used for petrol tanks, fairings, or other non structural uses, where compound curvature is required.
- 2023 — Hard strong material, used for primary structure in the T3 or T4 condition. Easy to work with. The most suitable all round structural material. Not weldable.
- 6061 — Lower strength structural alloy. Use in the T4 or T6 condition. Highest strength alloy that can be welded.
- 7075 — The strongest structural aluminum. Use in the T6 condition. More sensitive to notches and rough edges than 2024-T3. Considerably harder to drill holes in.

FOR YOUR INFORMATION:

TYPICAL MECHANICAL PROPERTIES.

TYPE	TENSILE STRENGTH (P.S.I.)	YIELD STRENGTH (P.S.I.)
2024-0 Alclad	26,000	11,000
2024-T3 Alclad	65,000	45,000
3003-0 Bare	16,000	6,000
6061-T4 Bare	18,000	8,000
6061-5 Bare	35,000	21,000

WEIGHT/SQUARE FOOT	—	POUNDS
SIZE	2024	6061
.016	.230	
.020	.288	.282
.025	.360	.353
.032	.461	.452
.040	.576	.564
.050	.720	.706
.063	.907	.889
.071	1.02	1.00
.080	1.15	1.13
.090	1.30	1.27
.100	1.44	1.41
.125	1.80	1.76
.160	2.30	2.26
.190	2.74	2.68
.250	3.60	3.53

CHAPTER 514 REPORT:

Well attended monthly meetings — matched by a steady growth in membership, confirms the fact that our Chapter is alive, well and very active. While the fuel crisis still hangs over sport flying activities like the proverbial sword of Damocles, it certainly has not dampened the enthusiasm of members in the pursuit of their various projects.

The strange looking contraption taking shape in a shed in the corner of Scotty Stewart's garden, on closer inspection, is a finely built BD-4 fuselage. Scotty expects to have the BD-4 completed and flying by the end of 1975. Ted Phelps' Tiger Moth restoration — The envy of all that have seen it, is near completion and should be flying by mid-year. Bi-plane fever has certainly struck the West Rand with a vengeance. Vice-chairman, Ron Crause is patiently awaiting the arrival of his Acroduster Too wing kit from the U.S.A while Tom Bruce and his charming wife Christine are known to be studying their set of Acroduster Too plans with a view to commencing building operations in the not too distant future. Vic. Dobson, another avid supporter of the Bi-plane, is quietly going about the business of constructing a Starduster Too in his mondeor workshop. Vic. expects to move to the Northern Suburbs in the near future and which will land him right among a hot bed of Biplane fiends.

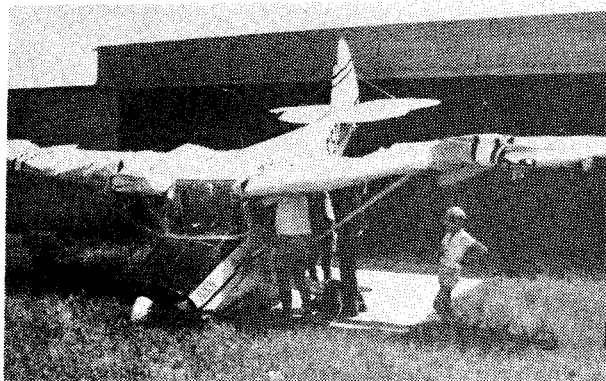
While all this activity is afoot, sight has not been lost of the needs of the newcomer to our Chapter. The recent aquisition by our Chapter of Piper Colt ZS-CSD which was badly damaged in a ground handling accident, will provide plenty of opportunity for members to gain knowledge in the various aspects of aircraft construction. While the re-construction of the Colt is taking place, work is also expected to commence on our own

EAA hangar at Krugersdorp airfield, so as to house the various aircraft which will require an address within eighteen months. Once established, the hangar is expected to become the home base for much of the EAA activity on the West Rand. Workshop and administrative space is planned along with the hangar. The support and encouragement the Chapter has received from both the Krugersdorp Municipality and the local flying club bodes well for the future of the EAA in the area.

Should you be resident on the West Rand and interested in the activities of our Chapter, you are cordially invited to either attend our monthly meetings which are held on the second Wednesday evening of each month at the White Horse Inn Hotel, Fontainebleau or to make contact with our Vice-chairman, Ron Crause. Home Phone number 46-4046 early evenings only please.

CHAPTER 514'S PIPER COLT - A GROUP PROJECT.

By: A.'BUCK' GOUGH-JONES, HON. CHAIRMAN.



When an irresistible force meets an immovable object - ZS-CSD pictured prior to the removal of its wings.

The concept of a group project within a chapter is not new to the EAA and is practised successfully by a number of overseas Chapters. The aim of the group project is to provide existing members and in particular, new members, the opportunity of obtaining expertise in the various fields of aircraft construction/re-construction, be it home-built or factory built aircraft. Apart from this aspect, the group project draws the members of a Chapter closer together and hence the spirit of the EAA's credo is engendered - a mutual love of sport aviation. Group projects also provide

additional benefits in the form of publicity for the Chapter in its drive for new membership as well as creating the image of the EAA being very much a practical operation.

Confident that these aims are shared by the majority of Chapter 514 members, Piper Colt ZS-CSD was purchased by the Chapter for R1,000. The finance was made available by utilising a bridging operation. In other words, the required amount of money is raised from among the membership on the basis of an interest free loan for a certain period of time. The re-imbursement of the individual member is eventually made as a result of fund raising activities. The group project provides the motivation for the Chapter membership to raise funds for specific objectives i.e. initial purchase of aircraft, purchase of required spare parts and payment of inspections/supervision carried out by D.C.A. licensed persons. Chapter 514's project will in all probability be sold once it has been completed but the decision to do so usually remains the right of the membership or the committee appointed by the membership to control the project.

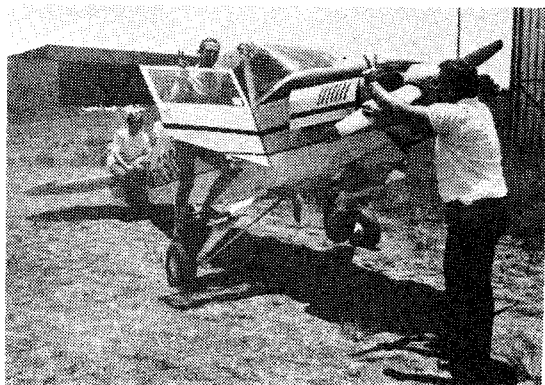
The offer of R1,000 was not considered excessive for the purchase of ZS-CSD when account is taken of the high cost of aircraft components. The O-290 Lycoming 135 HP engine (74 hours SMOH) is alone worth at least six hundred rand. Instrumentation, V.H.F. radio and other salvageable items more than account for the balance and therefore, if the aircraft were to be scrapped, the investment would still be worthwhile. However, Chapter 514 is not in the scrap business and ZS-CSD will be rebuilt.



Human vultures picking away at the carcass.

While badly damaged, the Colt is not beyond repair. Both wings will have to be replaced. The nose wheel is repairable. While the engine is not damaged beyond a cracked carb. The prop will have to be replaced. ZS-CSD was incidentally, damaged in a ground handling accident — the aircraft was hand started without the use of wheel chokes and ran into the back of a hanger hence the type of damage the wings sustained.

The decision to leave the aircraft in or take it out of the certified category still remains the subject of a discussion which will take place shortly. The pro's and con's will be weighed and on these rests the decision as to what route will be taken. I am sure you will agree that whatever we decide to do our group project will provide many hours of pleasure for our members whether they be old hands or newcomers.



*Switches on, throttle set — Contact!
Or the development of a link (SIC) trainer.
l. to. r Paul Botha carries out anchor duties,
while Jack Ashbury, about to climb in to the
cockpit, acknowledges visual communication with
Ron Crause positioned at the sharp end.*

Naturally we would appreciate any guidance that licensed engineers within the EAA of S.A. would care to give us. We feel sure that not only will they enjoy assisting us but will derive a sense of satisfaction in having contributed their knowledge and ability to the project. Donations of either cash or replacement parts will be most welcomed. The name of individuals and or business houses assisting in the restoration will be recorded in a book which will eventually be kept in the EAA of S.A. archives.

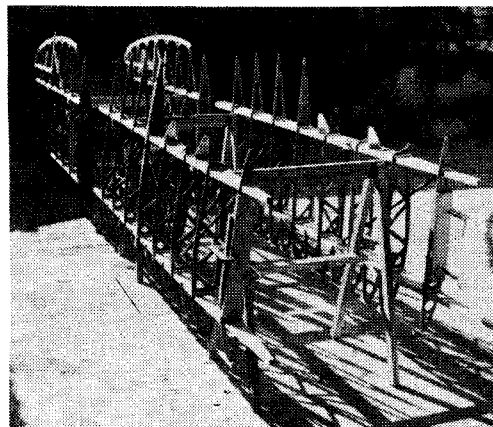
Progress reports and acknowledgements of donations will appear in future issues of 'HOMEBUILT'. Should you be at all interested

in our project and care to either join the restoration group or share your expertise with us, you will find a warm welcome awaits you. Remember, no contribution is too small. For any further information you may require, please contact our Vice-Chairman, RONNIE CRAUSE, HOME TELEPHONE 46-4046.

BUILD YOUR OWN BI-PLANE.

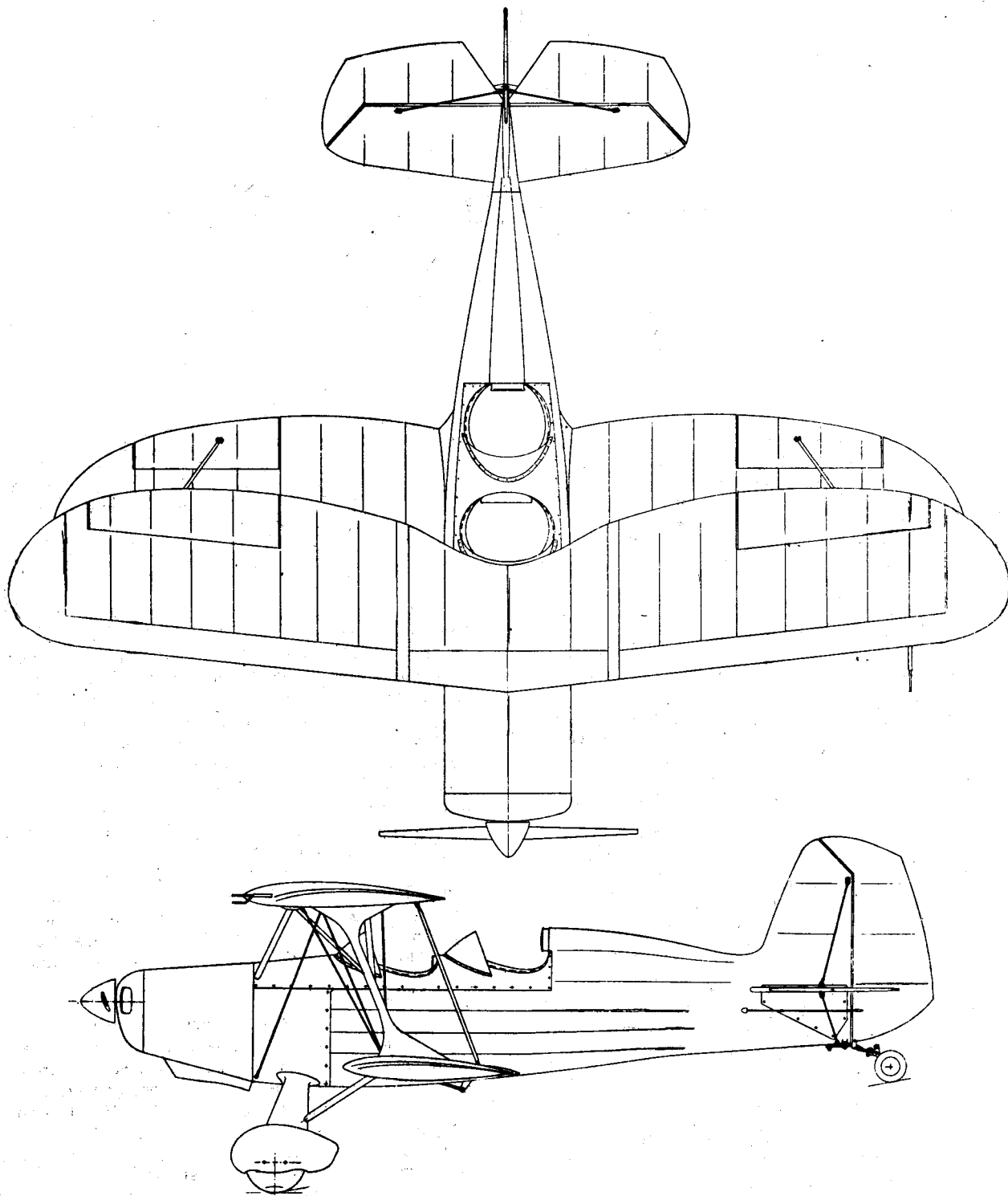
BY A.'BUCK' GOUGH-JONES.

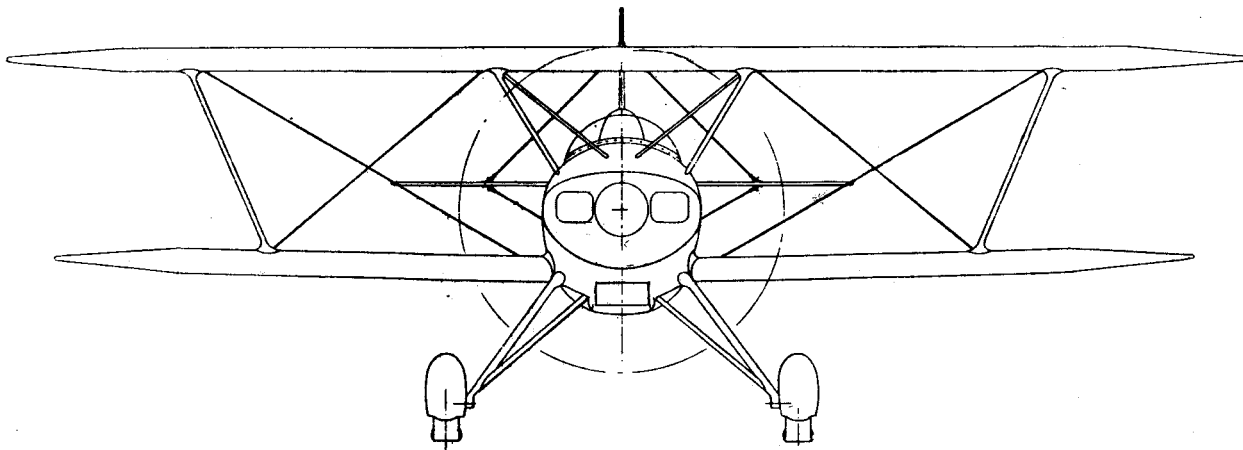
Given the chance, what aviation buff worth his salt would miss the opportunity of owning and flying a Bi-plane? Very few, for the biplane has an aura about it that is unmatched by the average modern day 'SPAM CAN' creasing our airspace. Much of the appeal of a Bi-plane doubtless lies in the glamour of open cockpit flying; donning a helmet and goggles and taking off into the blue. Close your eyes for a second and you could well be flying over the fields of France on a world war 1 patrol with your eyes sweeping the skies for any sign of the 'BOCHE' Perhaps your dreams take you into the world of the BARNSTORMER — performing breath taking aerobatics over the heads of an admiring crowd.



*Patience, perserverance and eighteen months of
spare time labour are illustrated in this photo-
graph of Vic Dobson's Starduster Too wing set.*

Whatever your dreams, you eventually awake to the reality that the enjoyment of a Bi-plane can only be experienced if you have your own. The problem is however, that with the increasing interest being shown in Bi-planes it is becoming difficult to obtain one of the better known classics whether it be the venerable Tiger Moth, Stampe, Bucker Jungmann or Stearman. The cost of purchasing one of these classics, in good condition, can be quite prohibitive too. What then is the alternative? None other





then to build your own Bi-plane. Put off by the prospect? Don't be, for many an individual with average ability and a reasonable home workshop has built himself a Bi-plane let alone all the other designs which are available to the homebuilder. Provided the desire is strong enough within you, you can do it!

Take Vic Dobson for example. Vic, a member of Chapter 514 decided that he wanted a Bi-plane. The fact that he had owned a Tiger Moth certainly helped in his decision to build a Bi-plane which, while retaining many of the characteristics he had come to know and respect in the Tiger Moth, would enjoy more power thus permitting him to embrace a greater range of aerobatic manoeuvres. His choice - the Starduster Too. Designed by Lou Stolp of Flabob Airport, Riverside, California, the Starduster Too was built to fill a need



Vic Dobson - a member of Chapter 514, admires his handiwork; A partially completed Starduster Too wing.

for a reasonably sized two-place, open sport Bi-plane. The popularity of the design is born out by the increasing number of Starduster Too's which turn up each year at the Oshkosh EAA conventions - Twenty-six at 1974 gathering. Stressed to 9 G ultimate, positive and negative, the stability of the design is good and the light wing loading makes landing speeds and short-field operation outstanding.

The main structure of the airplane is built of 4130 steel tubing and sheet stock and has no machined fittings or other complicated bends which is an advantage for the average homebuilder with limited machine equipment at his disposal. The wings have spruce spars and the ribs are made of 1/4 inch plywood. Using a modified M-6 airfoil, construction of the Starduster Too has been kept as simple as possible and it performs well. Usually powered by a Lycoming O-369 A1A 180 HP engine, the design can handle engines within the 125 to 260 HP range as well. Utilising the 180 HP engine, speeds of over 150 MPH can be attained at 5,000 ft with the stall at under 50 MPH. The upper span of the wing is 20 ft while the lower wing measures out at 20 ft. 5 ins. Wing area is 162 sq. ft. incidence, 1 degree on the lower wing. Dihedral, 1 1/2 degrees on the lower wing. Empty weight, 1000 lbs.

Working in his spare time, Vic has over a period of eighteen months completed 80% of the wing structure. While the 4130, rigging wire and spruce were imported from the U.S.A., the majority of components have been obtained locally. Cost to date, R1,200. Vic, like so many homebuilders, is an avid scrounger and believes that when his Starduster Too is finally completed at the end of this year, it will have cost him R3,500 - a low figure indeed to outlay for such a fine Bi-plane. Take heart then you Bi-plane fanatics, you can after all have your very own Bi-plane and at no great cost to yourself, provided you go the homebuilt way.

SIX HOURS SOLO IS ENOUGH!?

This anonymously written tale found its way here via USAF and PanAm. No known author beyond that to thank for this relaxing tale from the world of flight. We have not yet asked Eric Hartwell for his comments.

Ed.

It was a typical day in Oregon. Low ceilings, with drizzle and about enough visibility to see the radiator ornament as I drove towards the airport. I had just soloed the day previously, and wasn't about to let the weather deter me from another exciting experience at the controls of an airplane. I admit I was pretty proud of my accomplishment and had invited my next door neighbour to ride with me. I planned to fly to a neighbouring town about 300 km away where I knew there was a good restaurant.

On the way to the airport, my neighbour, John Williams, expressed some worry about the trip.

'Don't worry about a thing,' I reassured him, 'I understand their hamburgers are excellent.'

When we arrived at the field, the drizzle had turned to a hard rain. This concerned me a little, as I was wearing my brown and white shoes, and my mother had warned me about getting them muddy. We checked with the local operator and found that my regular airplane, a Cessna 120, was down for repairs. The operator was a good-hearted fellow though, and, when he saw my disappointment, he assigned me another one, which turned out to be a Piper Apache.

'It's practically the same as a 120', he told me when I discovered there was an extra engine. 'Just remember you have to pull the gear up.'

After a pre-flight check of the airplane (I noticed the tail wheel was missing but didn't say anything to the operator for fear he would cancel the trip), we then climbed aboard and began looking for the starter. Just then the operator came running out to tell me there were severe thunderstorms at my destination and warned me to be careful. I assured him I was not afraid of thunderstorms.

The take-off was uneventful, but we did use what seemed to be a lot of runway for an airplane with two engines. (I learned later we had taken off downwind with the parking brake on). We climbed into a solid overcast about 400 feet. This was a bad disappointment as I knew John would have been interested in the scenery. The air was pretty smooth, though; and, except for the ice that kept forming over the windshield, there was little to see.

For a pilot with only six hours, I thought I handled the controls pretty smoothly, although for some strange reason, things occasionally flew out of my pockets up to the roof. John didn't seem to notice. In fact, he kept staring ahead with a sort of glassy expression. I guess he was afraid of the height, as some non-pilots are.

After about an hour I began to be concerned over the fact that I could not see anything. It was going to be difficult to spot other traffic around the airport at our destination, and I hoped the other planes would use a little good sense and keep a sharp eye in such bad weather. It was obvious that I was going to have to get down lower if I wanted to see anything; it was too bad that the altimeter was so unreliable. It kept winding and unwinding rapidly, and I guess it just hadn't been kept in good repair.

Anyway following this plan, I began to come down. Just then the left engine quit. No warning — nothing. It just quit! John made a sort of gurgling noise then, and it was about the first thing he had said since we left. I explained that there was nothing to worry about, as we had another engine that we hadn't even used yet. So I started the right engine, and John felt better after that and he went to sleep.

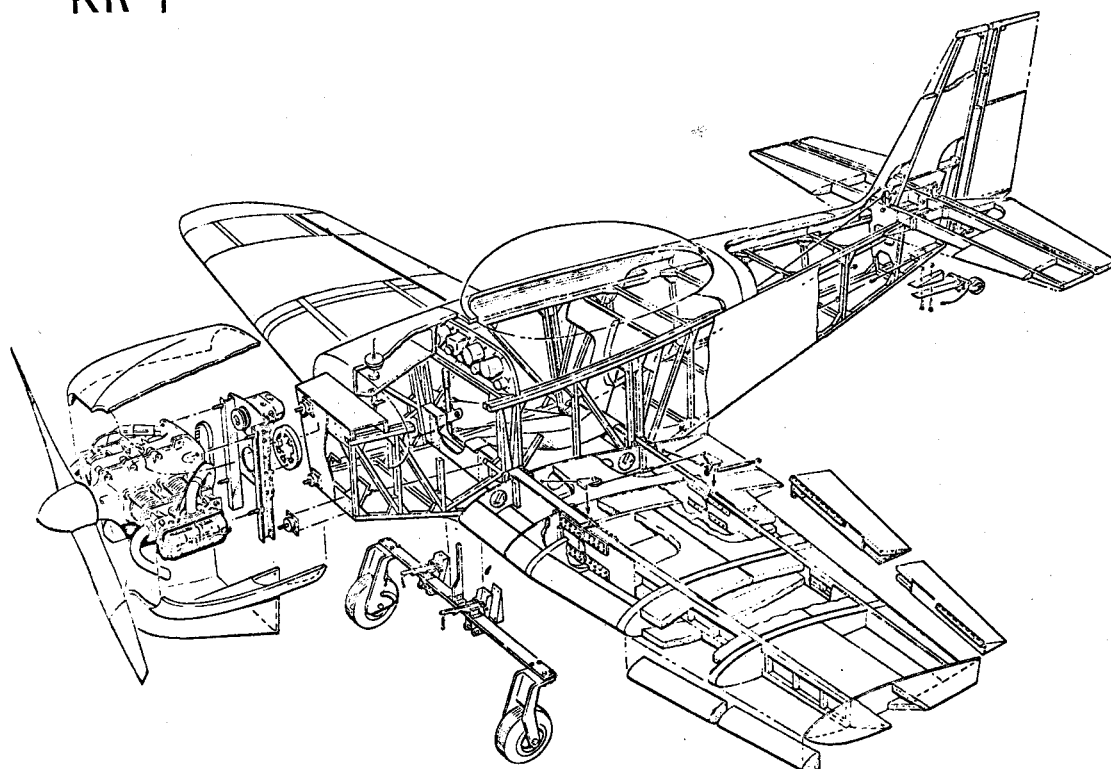
Well, pretty soon we did get down far enough so that I could see the ground. It was rather dark under the clouds, and if it wasn't for the lightning flashes, it would have been hard to find any good landmarks. Then I spotted a highway and remembered that there was a highway near the airport we were headed towards so I followed it. It was difficult to read signs in all that rain, and I had to stay pretty low. Several cars ran off the road when we passed them and I could see it was true about flying being a lot safer than driving.

After a while, we did find the airport, but I had to fly around the tower a few times to make sure it was the right one. I didn't want to make a mistake and have everyone know I was just a student pilot. They were very hospitable at the airport and flashed all sorts of coloured lights as a welcome. So I landed and slid up to the parking area. (The operator should have mentioned that you had to put the gear down again). Everybody there was pretty excited. It was easy to see that they had never seen a Piper Apache before. John was still sleeping soundly, and I had to have help to carry him into the restaurant.

Well, I certainly learned about flying from that, and I want to pass on some good advice to other student pilots:

'Don't believe everything you hear — the food was lousy!'

KR-1



100 MILES PER GALLON!!

Glancing through the air magazines of 5 years ago and today's, it is striking how incredibly far the art of home building has progressed.

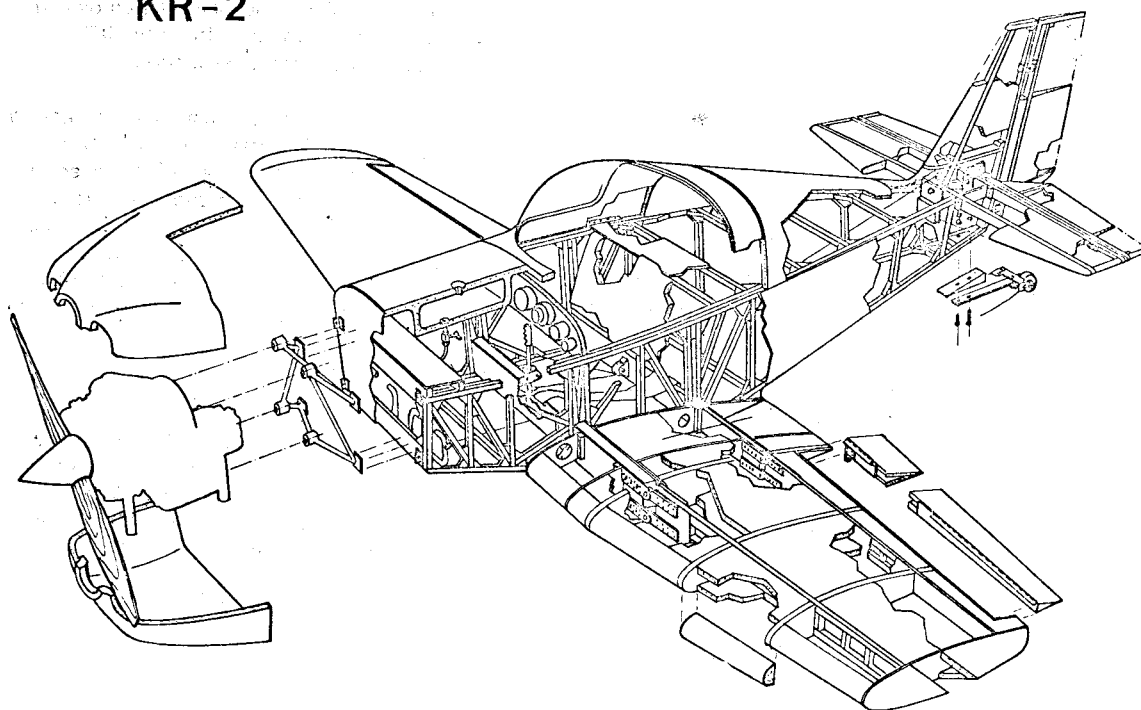
There was a time when the term 'home-built' meant an aeroplane so slow that it could'nt outrun an asthmatic humming bird. It was typical that a home-built could'nt handle both ends of the speed spectrum; it was either ranch-handling dude or a slow rather motherly machine.

But times have changed. In the past few years several designs have appeared that have raised the eyebrows. One of them is the Ken Rand design KR-1 and KR-2. Both planes are similar only the KR-2 carries one more passenger than the KR-1.

Not only that you can form curves very easily but concave shapes also provide no problem. Foam sandwich was first developed in the U.S.A. for radar screens and it proved so strong that the home-built designer Ken Rand tried it first on his KR-1 three years ago and since then its reputation amongst home builders has mushroomed.

But, it is not only the foam fabric/resin method that gives such performance. It is also the Ken Rand super-simple approach. The aircraft is designed such that no machining or welding is required in building the airframe. All parts can be made and assembled with ordinary tools. Furthermore, the KR-1 and KR-2 wings can be folded up easily to permit storage of the aircraft at home, which is a big money saver of today's airport fees.

KR-2



With 78 square feet of wing area the KR-2 is slightly smaller than most home-builts, but even so it doesn't look exotic compared with the performance it gives.

The cruising speed with an 1800cc VW engine is 230 km/h and that is just as fast as many commercial planes. The empty weight is unbelievable.

Only 400 lbs. And what makes an aeroplane so superlight? Ken's answer is Dynel and Polyurethane foam and spruce glued together with epoxy. Not only is this material cheap compared with others, but it is also super simple to work with. All you have to do is glue the foam sheets on to the front and the rear spar, take some sandpaper, sand to the required shape, take Dynel and cover it with epoxy. Foam Fabric/Resin sandwich seems to be an almost ideal material for aircraft construction. Not only

To make things even easier for the home-builder we have now developed kits for the KR-2 WHICH include the complete fuselage top canopy, petrol to engine conversion and under cowlings which saves at least 200 working hours.

For any home-builder who wants something SPECIAL but can't spend a fortune, here is the plane he is looking for.

FOR SALE

JODEL D9 R2500 o.n.o. contact N. Ryan
or H. Fisher TEL 55-6939

SPECIAL REPORT

1. A homebuilt aircraft can normally be constructed for far less than the price of any new factory-built aircraft. Costs range from about R1 000 for an elementary VW-powered single seater to about R5 000 for a well equipped two-seater powered by a conventional aircraft motor.
2. The original builder is permitted to carry out all regular inspections and maintenance on his aircraft.
3. The knowledge and satisfaction gained during the course of construction are beyond measure.
4. When a homebuilt aircraft is ready for its first flight, it is brand new and usually fully paid for.
5. The choice of aircraft types is far wider than in the case of factory-built machines. Where in the country can one buy a new biplane these days — or a small single seater, for that matter?

On the debit side one must bear in mind that:—

1. Building an aircraft requires a tremendous amount of time — usually between 1000 and 3000 manhours of labour.
2. A fair-sized building space is necessary.
3. The completed aircraft may not be used for flight training or for financial reward.
4. A valid third-party insurance is compulsory and this usually costs approximately R40 per aircraft seat per year.

As a hobby, aircraft homebuilding is most rewarding and is becoming increasingly popular in this country. A great deal of technical knowledge is not a prerequisite and successful homebuilts have emerged from the garages and attics of people in all walks of life. One thing that is essential, though, is heaps of enthusiasm and a lot of determination. The end product of these is normally a magnificent homebuilt aircraft and a very proud builder.

INVATATION

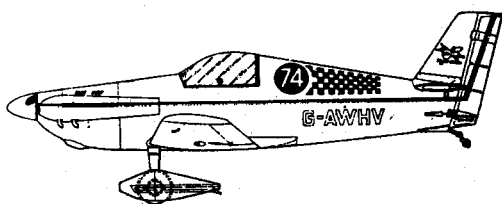
The Rhodesia Skydivers Club will be holding the International Skydiving Competition over the weekend 12th, 13th and 14th July 1975 at Charles prince Airport, Salisbury.

Every year we have had some special feature (last year the "Mainstay Balloon"). Our intention was at first to get a Pitts Special to come up here for an aerobatic display, unfortunately Mr. E.C. Woods will be in the U.S.A. However, we would still like to sponsor an aerobatic aircraft, but would be willing to sponsor fuel for a few home-builds etc. to give a display up here.

I would be grateful if any pilots/owners interested would contact me at the address below. Furthermore, if any pilot/owners are interested in travelling up to Rhodesia for a "fun" weekend, with displays, we would welcome them and try to obtain free accommodation for them, and possibly fuel as well.

RHODESIA SKY DIVERS
P.O.Box 950,
Salisbury,
Rhodesia.

200 mph plus Midget Racer



HOME BUILDERS! We're your pals!

*SOME OF THE EQUIPMENT
WE CAN OFFER INCLUDES:*

- HARDWARE
- 4130 TUBING
- STEEL PLATING
- RANDOLF PAINTS
- DOPES, FABRICS,
- INSTRUMENTS
- AVIONICS TO SUIT
YOUR NEEDS
- WHEELS & BRAKE PARTS
- ALCLAD SHEETING
- LYCOMING ENGINE PARTS,
ETC, ETC, ETC.

FOR THE FIRST HALF OF
THIS YEAR, WE WILL
GIVE E.A.A. MEMBERS A
10% DISCOUNT
ON PARTS PLUS A
FURTHER 2½% DISCOUNT
FOR CASH FOR ANY
ORDER IN EXCESS OF
R20,00.

Contact:

**PLACO PARTS
DIVISION**

**RAND AIRPORT
PHONE: 51-7722, 51-6762**

EMCO-STAR



comprises:

Circular Saw, 200mm —
Band Saw — Fret Saw —
Sabre Saw — Lathe —
Belt Sander — Disc Sander.
Further attachments are
available; e.g., 205mm.
Planer/Thicknesser
Mouldinghead,
Mortise attachment, etc.

ONLY R44 deposit and R17 per month

FOR MORE INFORMATION, CONTACT:

**INTERNATIO
(PTY) LTD.**

JOHANNESBURG
31 Delvers Street
(Cor. Main St.)
P.O. Box 3980
Phone 21-6541

SENSATIONAL **KR-2**

- * VW POWERED
- * 2 SEATS
- * 230km CRUISING SPEED
- * RETRACTABLE LANDING GEAR
- * FOLDABLE WINGS

Which other homebuild offers you
more?

KITS AND PLANS AVAILABLE
FROM:

H-HUEMER ENTERPRISES

**16 PERCY STREET
YEOVILLE
JOHANNESBURG**

AVIATION INSURANCE BROKERS

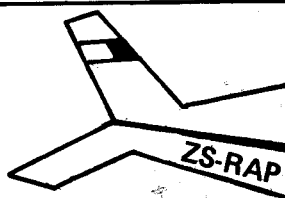
R.W. SUTCLIFFE (PTY) LTD.

INSURANCES FOR:

- Aircraft
- Ultra Light Aircraft
- Pilots
- Parafoils
- Third Party Liabilities
- Gliders
- Balloons
- Parachutists
- Equipment
- Passenger Liabilities

* * *

75 Salisbury House, Smith Street,
Phone: 316994 / 316998
P.O. Box 1603 : Durban.



Republic

Aircraft

Parts (Pty) Ltd.

(Eddie Pelcher)

The "one-stop" parts organisation based at

Wonderboom

*Personal contact with
all servicing facilities
throughout Southern*

Africa

*We sell parts
wherever aircraft are used;
we specialise in supplying &
obtaining, if necessary, the
requirements for homebuilts*

Special 10% discount to E.A.A. Members.

Large stocks of Ceconite fabric in three grades plus Super Seam aircraft cement, stabbing cord and tapes now on hand.

Large variety of Pilot's requirements for beginners and professionals. (Charts, Computers etc., etc.) Now arrived: Most popular sizes 4130 Round Steel Tubing.

Large stocks of 600x6 6 and 8 ply tyres now arrived from overseas for direct sale to private owners only. Tyres are F.A.A. approved and pre-balanced.

This offer is good while stocks last.

We also have a few Lycoming 150 hp run-out motors at special prices.

3M SOUTH AFRICA (PTY) LTD.

**MANUFACTURERS OF AVIATION
QUALITY**

**ADHESIVES
ABRASIVES
DECORATIVE MARKING AND
STRIPING FILMS**

**FOR THAT EXTRA HIGH CLASS FINISH TO YOUR
"HOME-BUILT"**

OFFICES AT: JOHANNESBURG • CAPE TOWN • PORT ELIZABETH
EAST LONDON • BLOEMFONTEIN • PRETORIA • DURBAN • WINDHOEK

