

FLYING THE EVANS VP-1

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FROM THE FLOW of correspondence arriving in San Diego recently, it seems that considerable Volksplane flying is about to begin. Dozens of airplanes are being built and at least three new Volksplanes are known to have already flown. Chris Johnson from Akron, Ohio was the first in the air with a flight on June 4, 1970. Paul Cochran flew his Volksplane two weeks later from the mile-high city of Denver, Colorado, proving not only that the airplane can be built in nine months but that Volksplaning need not be limited to sea-level airports. Shortly after the Oshkosh Fly-In, Dick Hodgkins, skipper of the Volksplane Squadron, flew his airplane from his headquarters in Austin, Texas.

Dick's group now has over 400 members, and he reports in his newsletter that a good many airplanes are in work. Homebuilders from 23 countries are constructing the little airplane, and that is quite a response for an airplane first offered to builders in April, 1969. Since so many projects are now in the construction phase and approaching completion, we thought it might be timely to report on some of the flight experience we have had with the prototype Volksplane, the Evans VP-1. We have been flying it for over

two years now, and it has provided us with a tale or two worth telling.

Nine pilots have flown the airplane for over 250 hours with most of the flying done by Bud Evans, Charlie Ackerman (Volksplane engine expert), Walt Mooney (first Volksplane pilot), and myself. Walt flew the airplane for the first time on September 6, 1968 from the Ramona, California airport. After initial flight-testing by Walt, and some minor modifications by Bud, the "production" version of the Volksplane evolved, and a rather extensive flight evaluation program was begun. In a nutshell, we found that the airplane can fly to over 10,000 ft., cruise at air speeds up to 95 mph, land at 50 mph, climb at 500 fpm, fly cross-country legs of 200 miles, and operate from any reasonably flat field that is 1000 - 1500 ft. long.

It is easy to fly, it has good inherent stability, and it controls with a solid steady feel. The large fully flying tail surfaces provide an abundance of pitch and yaw control, and the ailerons provide ample roll control. During evaluation testing the airplane was flown at gross weights up to 750 lbs. with both the 1200-cc. and 1500-cc. engines turning 54 x 24, 54 x 30, 54 x 32, and 54 x 36 propellers. As might be expected with four aero engineers keeping book on the little airplane, a lot of flight data was acquired covering all facets of performance, flight characteristics, and maneuverability. For anyone interested in more detail on this subject, the flight data and the procedures

developed for operating the airplane have been condensed into the form of a pilot's handbook.

Along with the "work" of measuring the VP-1 as an airplane, there has been the delightful need for showing it about at various air shows. Here is where the Volksplane's true character seems to emerge much more clearly than in a lot of statistics. We now know, for instance, that the VP-1 attracts a lot of attention wherever it lands, but until its debut at the 1969 Rockford Fly-In it was simply the culmination of three years of hard work guided by a conviction that homebuilders would accept a small airplane designed for the utmost in construction simplicity. The interest shown in the airplane at Rockford was tremendous, and this response was to be a pretty good barometer of what was to come in the months ahead.

The Volksplane's next big event came a month later on Labor Day, 1969 at Southern California's Orange County Air Show. After our arrival at the Orange County Raceway, a drag strip serving as an airport for the day, the crowd soon started to gather around the airplane. Because of the interest shown in the VP-1, we were invited to fly a hop to demonstrate its prowess in the air. It was a little later that we learned our spot was between acts by Art Scholl and Mira Slovak. These men are two of the finest aerobatic pilots in the world, and their acts were the highlight of the air show. Being asked to fill a spot between



Author Bill Beatty is seated comfortably in the VP-1 prototype. With prior time in Navy training and combat types, he finds the VP-1 tops them all for pure "fun" flying.

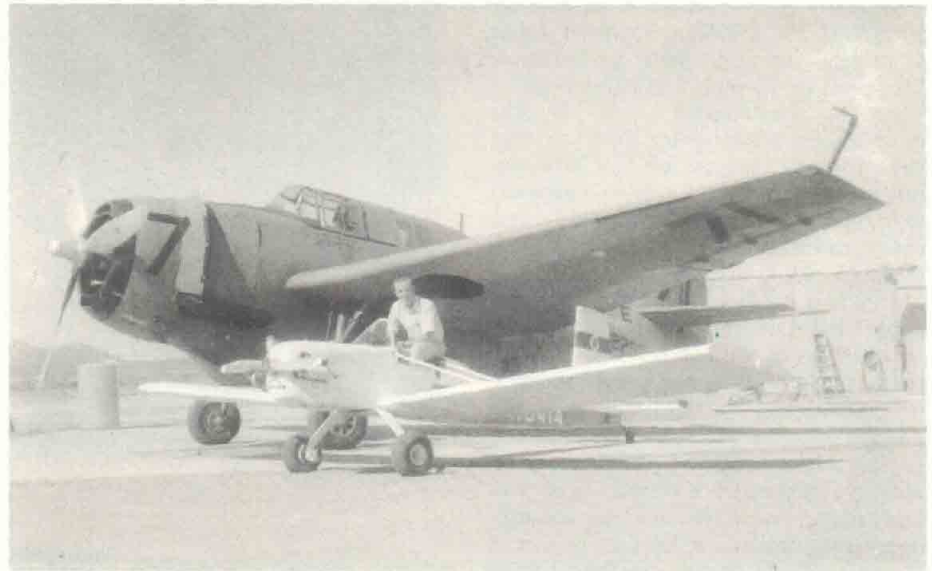
Scholl's hammerheads and Slovak's lomchevaks places a strain on a Sunday pilot that can only be described as shattering. However, this was a great opportunity to show the Volksplane and one not about to be refused.

As flight time approached, I can recall looking down the narrow drag strip and noticing how the crowded grandstands on either side seemed to shrink it in width. Then looking respectfully up to the flag of our country, whipping gayly in the wind 90 degrees to the runway, I would like to think it was the sight of "Old Glory" that choked me up but I'm afraid it was the direction she was pointing. However, with the wind a-blowing and thousands of people watching, that big vertical tail of the Volksplane did the job as we went zipping down the runway with a little rudder kicking along the way to keep it from joining the crowd. What our routine lacked in the spectacular we seemed to gain in crowd association because here was an airplane and a routine that every pilot in the stands could see himself flying. A couple of steep wing-overs showed how well the Volksplane turns and maneuvers and a landing approach over a 75-ft. runway obstruction showed how the airplane can be landed short should the need arise. We seemed to make a lot of friends that day, and we hope to see some of them soon flying their own airplanes.

Not long after the Orange County Air Show we set a speed record for Volksplanes that as yet remains unchallenged — 195 mph! This is a rather remarkable speed for an open-cockpit airplane powered with 53 hp and it could only be accomplished with a considerable assist from the elements. The event started with take-off from the Volksplane's home base at Ramona on a beautifully warm but windy day. Our mission was to fly east about 40 miles across San Diego's coastal mountains to investigate reports of high winds blowing through the inland desert. Several friends had chosen this particular weekend to take their campers and trail bikes out exploring, and it seemed an appropriate time to pay them a friendly visit in case they were being buried in sand. The wind at take-off was 25 mph out of the east, a condition that is a bit unusual in Southern California. Our prevailing wind is from the west. When our usually stationary Pacific High wanders a bit, we get a circulation reversal that brings our wind from the desert. This gives us what we call a Santa Ana or "devil wind," a condition of dry, easterly winds of fairly high velocity. During the fall and winter months this condition can develop rather suddenly and, with all



Loading up with "regular" in the middle of the Borrego Desert, this dry lake bed — Ocotillo Wells — is one of the gas stops regularly made with the VP-1. All the facility that is needed is 1,000 ft. of landing strip and a nearby automobile gas station.



Bud Evans and his VP-1 just before sliding in and taking a ride. Behind the "Volksplane" is a TBM water bomber.



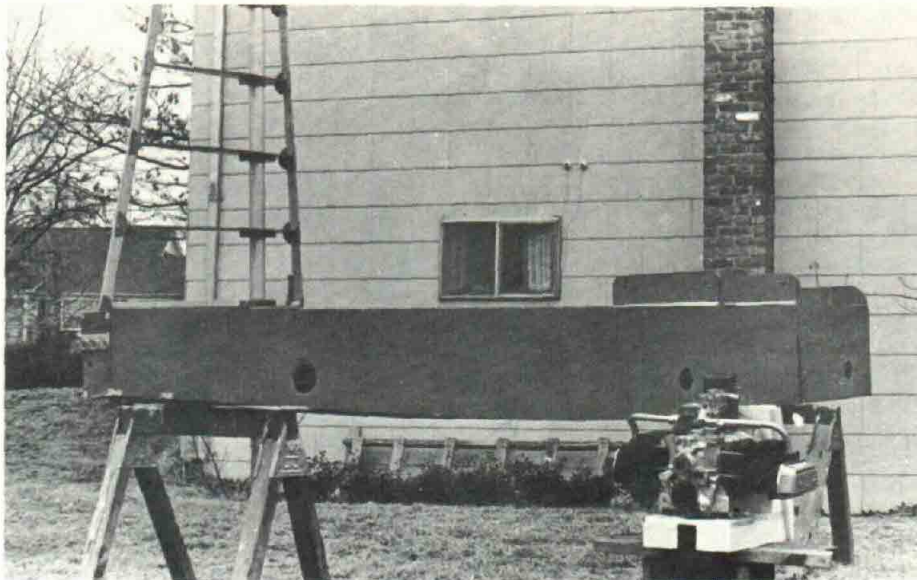
The Evans VP-1 over the Laguna Mountains at an altitude of 10,140 ft., about the service ceiling for the airplane operating with a 1500-cc. engine at a gross weight of 725 lbs.

EVANS VP-1

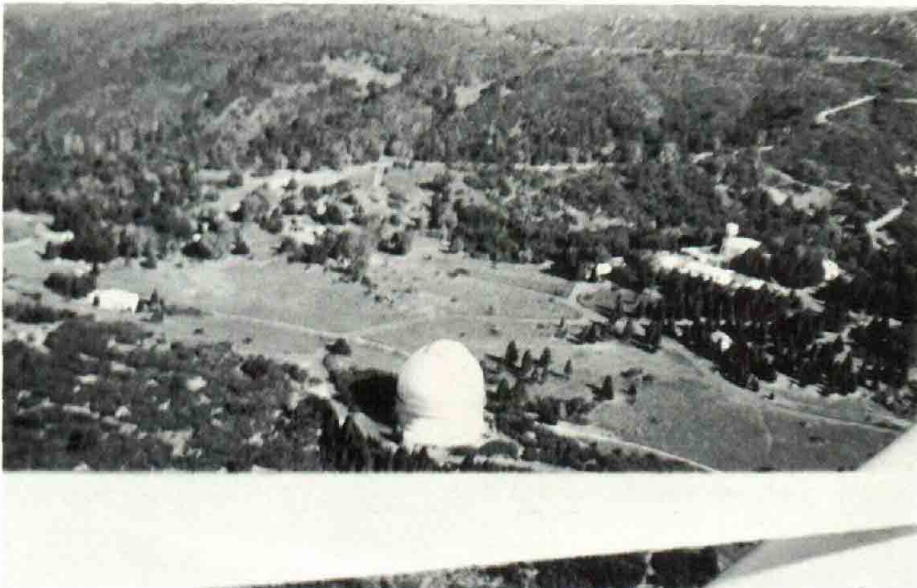
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due respect for the U. S. Weather Service, sometimes unannounced. Such was the case on this weekend.

After departing the airport, I climbed on an easterly heading planning to level off at 8000 ft., a comfortable altitude for crossing the 5000-ft. mountains. Holding at 65 mph, our usual climb air speed, progress over the ground seemed a little slow but not unexpected in the prevailing wind conditions. Enjoying a scene that included the Pacific Ocean to the west, the Palomar Observatory and San Jacinto Mountains to the north, the Laguna Mountains and Mexico to the south, and a peek over the Vallecito Mountains ahead to the desert and the Salton Sea, I was less than diligent in monitoring the flight's progress and, after a time, was a bit surprised to find 30 minutes had elapsed and I had not yet covered the 15 miles to the mountain crestline. A check showed the ground speed was practically nil, and as I slowly approached the crestline town of Julian it reduced to zero. With an indicated air speed of 75 mph I had flown into a 75-mph headwind and I was maintaining a stationary position over the ground. Because of the local topography, however, I was in a leeward flow spilling over the mountain crest that produced a fairly steady downdraft. I soon found that with full power and holding 75 mph indicated I could maintain my position but with an altitude loss of about 100 ft./min. Increasing the air speed provided some progress over the ground, but the descent rate increased and altitude was rapidly becoming a precious commodity. Although hovered flight was fascinating, because of the steadily decreasing altitude it became apparent I was soon to make the first VTOL landing on Julian's main street unless I made the traditional 180 and got the



Joseph L. Zaremba (EAA 54860) of 1391 W. Pulaski St., Riverhead, N.Y., has completed the rudder, fuselage, and engine conversion for his Volksplane, and he has approval to cover. A fiberglass fairing extending to the rudder, and possibly a canopy, will be installed.



This view of the Palomar Observatory illustrates the Volksplane's good downward visibility for a low-wing airplane. The cockpit is well forward and provides the pilot with a good look in front of the wing.



Flown for the first time in February was this Volksplane, N-10VP, built by G. Michael Even (EAA 52512) of 912 Shorewood Court, Lake of the Woods Estates, Dunlap, Ill. The engine is a 40 hp conversion out of a 1964 Volkswagen. The craft is painted Daytona white and has a black German cross over a red fuselage band. While it appears to follow the plans in every respect, it does not have the turnover bar around the windshield.

blazes out of there. As I turned and started down the leeward slope with the throttle open and holding redline (120 mph), the Volksplane moved out like a screaming banshee. The 120 mph indicated plus 75 mph of windage added up to a ground speed of 195 mph and, at 1500 ft. over the tree tops in an open cockpit, the ride was pretty spectacular. The 15.5 mile distance back to Ramona and calmer winds was covered in six minutes flat for an average ground speed of 155 mph. Although the original flight plan for the day had been altered by nature from a routine visit to the desert, it had become a good check-out of the Volksplane in heavy wind and, in some areas, strong turbulence. The airplane controlled well throughout the flight and showed no signs of wear from the experience.

We had a chance to try the VP-1 out on cross-country flying in February, 1970 when Bud was invited to show his airplane at the Tucson, Arizona Annual Winter Fly-In at Marana Air Park. This was an extremely well organized and well conducted fly-in, and Tucson in February is highly recommended to all sport pilots within range. Weather conditions for the whole trip were clear, warm, and smooth. The route covered 350 miles each way and the total flight time was 9.5 hrs. Corrected for wind and flight delays, these figures show we cruised at 75 mph true air speed with a fuel consumption of 2.7 gph. We used automobile regular and aviation grades 80/87 and 100/130 for fuel with no noticeable variation in consumption or engine performance. These fuels had all been used before on local flight tests, but this was our first oppor-

tunity to evaluate them on full-duration cross-country flights.

The Volksplane proved to be a delightful cross-country airplane. The unobstructed visibility from the cockpit provides a clear view of the passing landscape and the openness of the cockpit makes the ride very refreshing. There is no problem with drowsiness while flying the Volksplane that is so common in flying closed-cabin airplanes.

The flight to Tucson and back was, in general, pretty routine. It was made without the use of a radio but with the assistance of Flight Service and VFR flight plans. Our longest leg was on the return flight when we flew from Gila Bend, Arizona to Brawley, California, a distance of 160 miles, in two hours. Our longest time in the air occurred on the outbound leg to Yuma, Arizona because of a slight problem developing. Two hours after departing Ramona with Flight Service's best wishes for a happy trip, we arrived at Yuma only to find our destination — Marsh Field — had been plowed under to make room for a freeway. This came as quite a shock since there had been no indication of the field's closing in the flight-advisory literature and Flight Service had even quoted a surface wind for Marsh prior to departure from Ramona. Establishing that the field was in the process of becoming a freeway without the benefit of radio took a few minutes as did proceeding to an alternate, Somerton, an uncontrolled field a few miles south of Yuma. With the assistance of two friendly and curious cropdusters whose airplanes were being loaded, we closed out with Flight service and

obtained permission to land at the Marine-controlled Yuma International. By the time we arrived at our tie-down for the night we logged 2.7 hours. This was our longest flight on the 1500-cc. engine, and with a fuel capacity of 8.0 gals. this is about as long as the airplane should be flown. In addition to a good endurance figure for the airplane, this flight also taught us that AIM's and NOTAM's apparently cover maintenance and changes to an airport but not the complete destruction of one.

As one can see, we have kept the VP-1 pretty busy for the past two years and we have had a lot of fun doing it. Bud Evans began work in 1966 to design a safe, economical airplane that was easy to build and to fly. Flight experience with the VP-1 has proven that he did a fine job.

This article would be incomplete without acknowledging the excellent engineering job Bud did in designing an airplane that brings a new version of simplicity into sport aviation and opens flying to many who previously found it too complicated or costly. The Volksplane plans reflect his 30 years of aircraft-design experience.

One aspect of the Volksplane that has surely exceeded Bud's fondest wish for his airplane is the magnificent fun of flying it. Cruising about in the open above your wings in a little airplane you seem to be wearing is an experience that has to be tried to be appreciated. Here is an airplane that can provide, for all who wish to try, a truly sport brand of flying.

(NOTE: Flying the EVANS VP may be purchased from J. W. Beatty of 3932 Kenosha Avenue in San Diego, California 92117; price \$3.50 pp.)

BOOK REVIEW

By L. Paul Soucy

CONQUEST OF LINES AND SYMMETRY

Duane Cole has again produced an excellent book on the art of aerobatics. Appropriately titled "CONQUEST OF LINES AND SYMMETRY," it is a perfect sequel to "ROLL ROUND A POINT," the book from which my son Gene, National Aerobatic Champion, developed his interest and learned the basic maneuvers of aerobatic flight.

Written in two parts — basic and advanced — it is the most comprehensive book I have seen on the subject of aerobatics. Indeed, it is the only book to date that unveils the mysteries of vertical and out side maneuvers.

With the idea in mind that every reader is a potential aerobatic flight instructor, Duane breaks down each maneuver into the most minute detail. Yet, with the most complex maneuvers, he does this in a descriptive manner that anyone can understand. The innovation of showing

various errors and the resultant improper execution will be an invaluable aid to the future aerobat in his attempt to analyze poorly done maneuvers.

Like Duane's previous books, "CONQUEST OF LINES AND SYMMETRY" is highlighted by personal experiences and, like his other publications, this one stresses safety. By pointing out the inadequacies of modern flight training and exposing the dangers of unusual attitudes to the inadequately trained pilot, he has made the book valuable reading to everyone who flies.

Published by Ken Cook Transnational, "CONQUEST OF LINES AND SYMMETRY" sells for \$5.50 at aviation book stores. Add \$0.25 for handling when ordering direct from Duane Cole at 201 Lester Street, Burleson, Texas 76028.

EDITOR'S NOTE: EAA Headquarters has received many fine comments on the value of Duane Cole's book in the better understanding of precision flying.