

INTRODUCTION TO THE VULTEE V-1A - CONTINUED

Part I - GENERAL DESCRIPTION, by Gregory C. Kohn

In response to Mr. Larkins request for additional information on the Vultee V-1A in his "Introduction To The Vultee V-1A" (Volume 1 page 7), it is essential that the differences between the original V-1 and the final version of this outstanding monoplane the V-1A be understood. To the uninformed there may seem little if any difference at all between the two craft with the exception of a minor change in rudder and landing gear cover design. Actually there is much more to it. The following technical description will give the Vultee fan an insight into this outstanding design.

The overall dimensions of the Vultee V-1A were increased over the V-1. Whereas the span of the first model was 48', the V-1A is 50'. Overall length has been increased from 35' 6" to 37', and the wheel tread has been extended from 10' 2" to slightly over 12'. The cross-sectional dimensions have also been increased. The fuselage width and height were formerly 56" and 62" respectively, the corresponding figures are now 58" and 68". Certain external modifications in line are in evidence, particularly around the nose. The forward sloping V-type windshield has been retained, but the roof over the pilot's head has been rounded off a little more in the interest of reduced drag and greater cockpit space. In structure, however, the new fuselage is of the same type as the old. It is a true monocoque without longitudinal stringers made up of a series of overlapping flat sheets whose long dimensions run transverse to the longitudinal axis. Each panel is laid over transverse U-section diaphragms, lapping over the panel immediately behind it. Inasmuch as the panels are relatively short in proportion to the total length of the fuselage, it is not necessary to preform them, making for ease in manufacture, and, more important, for simple and inexpensive maintenance in the field.

The cantilever wing is set into the fuselage so that the bottom surface is tangent to the fuselage. The wing is in three parts, a center section which supports the landing gear and gasoline tanks and two outer panels bolted to the center section. The outboard wing panels are of the shell type. The main member comprises a corrugated upper and lower covering separated by a girder type front spar and a corrugated web type rear spar. Smooth Alclad is riveted over the corrugated inner sheets. The entire wing is rendered accessible for inspection by the removal of the leading edge sections which are built as units and attached to the front spar. (This will answer the question as to how the many Ping Pong balls were put into the wings of the "Lady Peace" for flotation insurance.)

The tail surfaces, like the wing, are of the shell type of construction. Both fin and stabilizer are built integral with the fuselage. The small tab in the trailing edge of the rudder (adjustable on the ground only) takes care of the necessary trimming in yaw, and trailing tabs in the elevator, controlled from a handwheel in the cockpit, provide the necessary longitudinal trim.

The landing gear is substantially the same design as in the earlier model. The main wheels are supported on single-box girder struts built up of duralumin. The upper end is fastened to a segment of worm gear, and the lower end contains the shock absorber and stub axle. To retract, the wheels are simply folded inboard into recesses in the under part of the center section. The regular retracting mechanism is

electrically operated, but the usual auxiliary hand control is also available. The covers, which close over the wheel opening after the wheel has been retracted, have been redesigned, however, so that when the gear is in, the bottom surface of the wing is perfectly smooth without breaks or projections. The tail wheel is partially retractable and works automatically with the main gear. As in the first model also, landing lights are built into the wheel wells and are totally enclosed when the landing gear is retracted. Auxiliary wing leading-edge lights are also installed.

Split trailing edge flaps extend inboard from the aileron to well under the fuselage. The flaps are controlled by the same electric motor and auxiliary hand crank which operates the retracting gear. A small sliding gear transmission switches the drive from the flap to the landing wheels. Either the landing gear or the flap may be operated electrically, or by the auxiliary hand crank, or both can be operated together, one by the hand crank and the other by the electric motor. An indicator in the cockpit shows the position of the flap, and stop switches are provided to limit the motion up or down.

The power plant is a Wright Cyclone Model F, developing 730 h.p. The engine mount is assembled on accurate jugs and attached to fittings on the fire-wall by means of precision-ground bolts. All connections and controls are standardized, and are quickly detachable. It is thus possible to interchange engine mounts with any V-1A transport in a very short time.

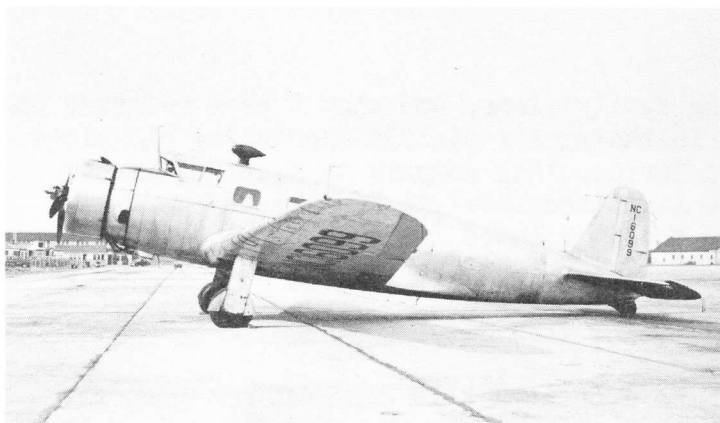
The cockpit is regularly arranged for one pilot although there is space for two if desired. It is soundproof as well as the passenger cabin. Provision is made for direct-controlled radio in the cockpit, beside the pilot. The passenger cabin is arranged for eight people, with four chairs on each side of a 12 inch aisle. By means of sound insulation (Seapack) and noise filters in all ventilators and heater openings the average noise level has been reduced to about 68 decibels.

With the Cyclone the ship shows a high speed of 235 m.p.h., cruises (75% power) at 215 m.p.h. and lands with flaps down at 60 m.p.h. Climb at sea level is 1,000 feet per minute; absolute ceiling 22,000 feet; service ceiling 20,000 feet. General specifications: length overall 37'; height 10' 2"; span 50'; wing area (including ailerons) 384 sq. ft.; weight empty (1 pilot) 5,332 lbs.; payload (8 passengers and 289 lbs baggage and mail) 1,649 lbs.; gross weight 8,500 lbs. The weight figures include complete Western Electric two-way radio, two airway type three minute flares, and complete lavatory equipment. With 206 gallons of gasoline the normal range is 1,000 miles.

Part II - NEW YORK-LONDON-MOSCOW AIRLINES INC., by Gregory C. Kohn

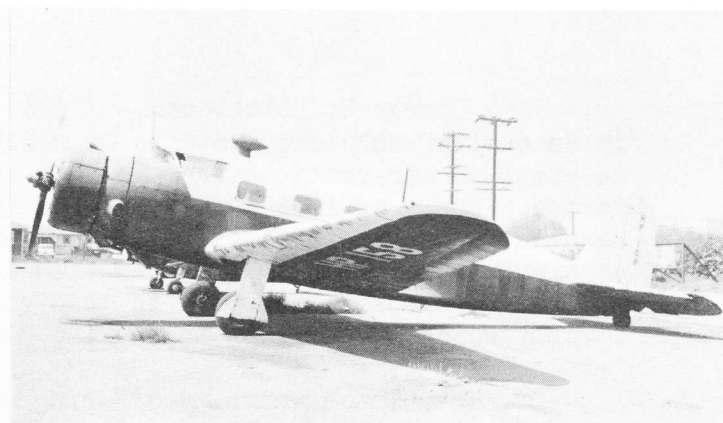
Referring to D. A. S. McKay's letter and list of American entries in the 1934 MacRobertson Race as published in Volume 1. pages 96-97, I have the following to offer.

Mr. McKay, in reference to the Vultee V-1A entered by the New York, London, Moscow Airline as entry #50, ended his statement with a simple "who were they?" in parentheses. William Courtenay in his book Airman Friday, published in London in 1936, has given the only explanation to this mystery Airline that has been uncovered to date, and since he seems to have had some connection with it, the following excerpt from his book should be authentic. Mr. Courtenay was an aviation correspondent during this period.



1. V-1A Special, c/n 25 (1946)

Ed Deigan



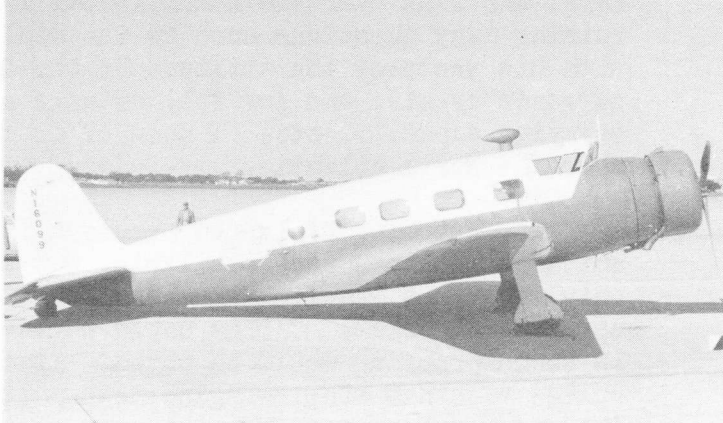
2. c/n 25, HP-158 (1955)

Chalmers Johnson



3. c/n 25, NC-158 (1957)

L.S.Smalley



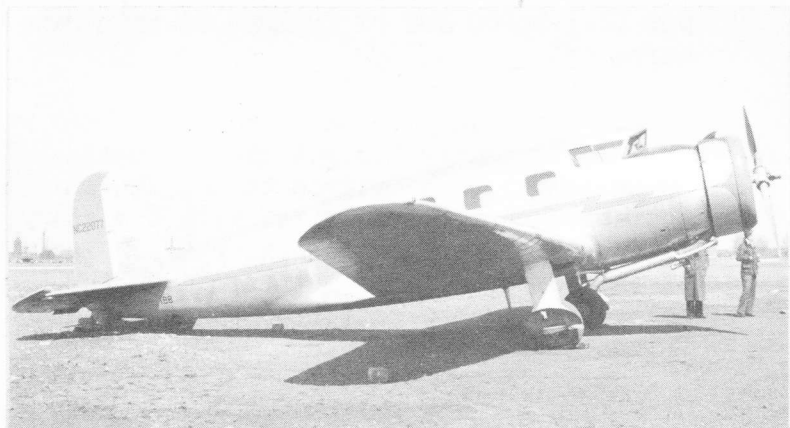
4. c/n 25, N-16099 (Nov 1957)

Mitch Mayborn



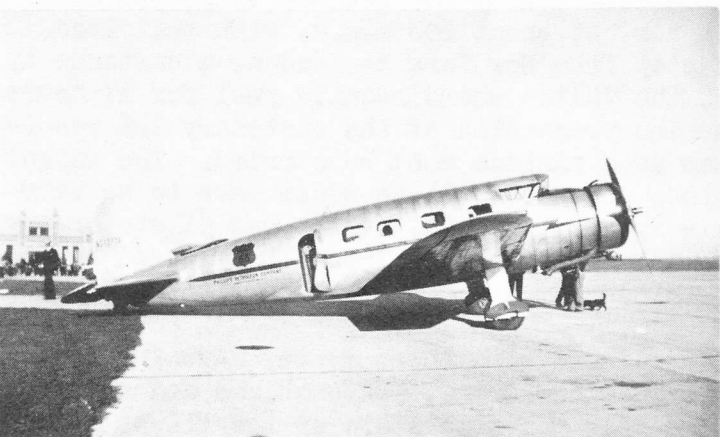
5. V-1A Special, c/n 18

W.T.Iarkins



6. V-1A, c/n 16, NC-22077

Bill Schneider



7. V-1A, c/n unknown, NC-13774

(Leo Kohn)



8. V-1A, c/n 8, NR-13770

John C. Mitchell

"Mr. George R. Hutchinson, of 'flying family' fame, and whom I have referred to in an earlier chapter, wrote to me early in the summer of 1934 announcing his plans to start an air route between America and Europe. His company in fact was already formed. Known as 'New York-London-Moscow Air Lines Inc.' it had already entered a machine in the England-Australia Air Race then projected for October, 1934. The machine was a Vultee V-1A fitted with a 735 h.p. Wright Cyclone engine. It was given its racing number - No. 50 - in this great classic and was entered on behalf of the company which had offices at 70 Pine Street, New York City.

Mr. Hutchinson wrote me offering me the appointment as European manager of the proposed air service. I rather fancied this. To be in on the ground floor of the first air line over the Atlantic was full of interesting possibilities. I wrote him raising many questions such as the diplomatic and administration problems concerned with his venture; the attitude of the General Post Office in America towards carriage of goods by air; and for full details of the machine he proposed to use, its range, carrying capacity, etc. I knew of no machine then ready which could take a pay-load over the North Atlantic.

Mr. Hutchinson planned purely a freight service and actually the plan, supposing suitable machines were available, was a sound one. A machine which carried freight only would not require all the elaborate equipment and adornments of the passenger-carrying aircraft. Cabins could be bare and several hundreds of pounds weight spent in sound-proofing could be saved. It transpired that Mr. Hutchinson proposed to use Vultee machines single-engine-transporters for his route. He proposed to carry 1,000 lbs. of pay-load each trip. He proposed to charge 4s. per ounce and since there are sixteen ounces per lb.; this would yield a revenue of 3 Pounds 4 shillings 0 pence per lb.; 1,000 lbs of freight at this rate would be worth 3,200 Pounds. (English currency)

It certainly seems to me that there was the germ of an idea in the plan. Mr. Hutchinson evidently thought so. In fact, before the scheme proceeded any further than these tentative overtures to me, the starting date of the first flight was announced. Whereupon we broke in first with the story in the Evening Standard (August 6th, 1934) all about the proposed service which would bring New York and London within 18 hours of each other. Later I turned down the idea of joining the company as I was for one thing by no means satisfied about the details sent to me, or the ability of the Vultee to carry the load.

This machine weighs 5,382 lbs empty and 8,500 lbs fully laden. That leaves 3,118 lbs for fuel and oil, pilots and the freight. The 735 h.p. engine cruising at say 70% of its full throttle would consume about thirty-two gallons of petrol each hour. The machine would cruise in 'still air' at about 200 m.p.h. with full load. Since Mr. Hutchinson proposed to fly non-stop from New York to London, a distance by Great Circle course of about 3,400 miles, the Vultee would require fuel for 17 hours to cover the 3,400 miles in 'still air'. The precaution of the customary 25% reserve would mean that fuel for about 4,200 miles as a minimum must be carried. The weight of all this would be about 4,125 lbs., since some 550 gallons would have to be carried. So far we have not allowed for the weight of the oil, or the two pilots or any pay-load and yet without them the machine is already almost 1,000 lbs. loaded beyond its normal category Certificate of Airworthiness.

No doubt Mr. Hutchinson would, on being faced with these facts, have arranged refuelling landings at Montreal, Canada, or Harbour Grace, Newfoundland and at Baldonnell, Dublin. This would have reduced this non-stop stage of the flight from

3,400 miles to about 2,200 miles. He would still have needed fuel for about 3,000 miles to be on the safe side. Even then some 450 gallons would have to be carried. This would weigh approximately 3,375 lbs. and the machine would still be about 250 lbs. overloaded before crew, oil and pay-load were added. An examination of these figures reveals that the fast Vultee, excellent machine as it is for air line or feeder line duties, was never intended for serious trans-atlantic work.

There was no doubt however, that a freight service would attract traffic, firstly as a novelty for the advertisement and publicity which enterprising people and business houses would secure by shipping the first Atlantic freight by heavier-than-air machines. In some way my name must have been communicated to some of those who were eager to send the first packages. Consignments of silk stockings and other goods from Paris began to arrive at Croydon Airport addressed to me for dispatch by the first of the 'New-York-London-Moscow Air Lines Inc.' machines on the west-bound service. The Customs officials at Croydon Airport communicated with me to ascertain my intentions regarding the disposal of this freight. It was most embarrassing. I remember there was some of it addressed to Lady Cevendish (Miss Astaire, who won fame with her brother Fred Astaire on the stage). I had it all returned to the senders.

Still, there it was. The first consignments of freight for the Atlantic aeroplane service were actually sent to me by these enthusiasts. But the line died still-born, and I never heard any more about it. Nor did 'New York-London-Moscow Air Lines Inc.' send their 'Vultee' in the MacRobertson Air Race from England to Australia in October, 1934, as projected."

Note: The Vultee referred to in the above story is c/n 8, NR-13770, and the plane was at one time covered with various trademarks of individual companies who no doubt contributed something towards this first transatlantic air line venture.

Part III - VULTEE V-1A, c/n 22, NC-14256, by Gregory C. Kohn

Additional information on the Vultee V-1A which was entered in the 1934 MacRobertson Race as entry #64 has been uncovered. This plane was first mentioned on page 97 of Volume I of the AAHS Journal and was later elaborated upon in Volume 2 page 61.

As I pointed out in my letter, on page 61, the Vultee entered as #64 is listed in the official Race program as a Cord Vultee. This plane never showed up at the starting line of the race for reasons as yet unknown.

Continued research has suggested that this specific plane may yet have reached England some time after the MacRobertson Race had been completed. On pages 561 and 563 of the November 28, 1935 issue of Flight, the Official organ of the Royal Aero Club of England, there appears two photographs of a Vultee V-1A which was sent to England for demonstration purposes by Mr. Cord. This plane was housed at Hanworth and was flown by Mr. Lee Smith. The photos do not show the registration numbers of the plane, nor is it identified in any other way other than it being the property of Mr. Cord. There is no mention of the disposition of the aircraft.

There appears to have been yet another Vultee V-1A in England some time later although it has not been identified. Its existence is mentioned in William Courtenay book Airman Friday during the time of the arrival of the Vultee V-1A "Lady Peace" on September 3, 1936. "Lady Peace" was flown from New York to England by Dick Merrill and Harry Richman. Courtenay writes of the arrival of the "Lady Peace" as follows:

"By 4 p.m., when they (Merrill and Richman) were already overdue, a Canadian owner of a similar machine, took off with a view to picking up messages from the fliers by his wireless."

This can then be construed to mean that there was a third Vultee V-1A in England (Mr. Cord's machine, the "Lady Peace", and the plane owned by the Canadian) or it sets up the possibility that the Vultee that was shipped to England was purchased by a Canadian residing in England.

It remains for one of our English members of AAHS to uncover the further activities of the plane that was shipped to England by Mr. Cord, and to accurately identify it. The possibility exists that this plane is the same one listed as c/n 22, NC-14256, in Bill Larkins original Vultee listing which appeared in the first issue of the AAHS Journal. It is also possible that this plane is the elusive MacRobertson Race entry #64. It may also be the same plane owned by the Canadian as mentioned above.

Part IV - VULTEE V-1A, XA-DIL, by Adolfo Villasenor M.

One Vultee V-1A was registered in Mexico, wearing the licence XA-DIL, as owned by Mr. Pablo Salinas Shields, who later sold the plane to the pilot Jesus Valezzi Esparza. XA-DIL became XB-MEA when purchased by Valezzi and he used it widely for some time until its final destruction somewhere in Baja California.

The official file on this plane is incomplete, but the following data may make sense to someone: Engine Wright Cyclone R-1829 F-52 890 H.P., serial No. 28783. Model I-AD series 18 M.F.D. I wonder if this airplane was the former NC-14252 owned by George P. Fuller of San Francisco?

In addition, I remember another V-1A ended its career at our Mexico City Central Airport about 1939-40. This one was a Vultee with a U.S. License.

Part V - VULTEE V-1A Special, c/n 25, N-16099, by Mitch Mayborn

The enclosed photograph shows the Vultee V-1A that was on exhibit at our local air show held in November 1957 at Love Field, Dallas, Texas. (Fig. 4, page 27)

This is the plane that was used in the motion picture TARNISHED ANGELS, and was formerly based in the Los Angeles area. It is now the property of Lt. Col. E. K. Nold of Dallas.

CORRECTION

Regarding the statement on page 198 of Volume 2 that AAA preceded EAA, Paul Poberezny, President of EAA, would like to point out that "EAA was originally formed as a local group of homebuilders in September of 1951 and monthly meetings were held until March 1952 at which time I went to Korea as a pilot with the USAF. Upon my return I got the boys together and held a re-organization meeting January 23, 1953 at Curtiss Wright Airport and it has boomed ever since."