



50
Years

Aviation in Krugersdorp

Sydney Vine

Sydney Vine came to South Africa (Pretoria) in May of 1910:

He was the mechanic and chauffeur for the Rolls Royce motor car of the Governor General, Lord Herbert Gladstone who was the first Governor General of the Union of South Africa.

His Hobby with Flight:

As a hobby he was fascinated with flight he gathered all the available science at the time and built his own aircraft. In 1911 he completed a Bi Plane and unable to afford an engine his aircraft a glider was controlled solely by weight shift and he carried out many successful flights.

In his spare time he also pursued his aviation interests:

He left the government service and joined Penny's Garage and then during WW1 served in a technical capacity in the SA Aviation Corps. He initially set up a garage in Randfontein

Then went farming at the farm "Droogheuwel" in the region and also set up an engineering business..

A - Framed glider which Sydney built in 1930 called "Flip."

He befriended the mathematics master at Krugersdorp High School, Mr P M Goedvolk and carried out research together which led to the completion of this glider. It was based off a glider called a RFD Dagling. Using a winch of his own design he taught himself to fly.

It was around this time at Waterval near Krugersdorp when the landscape of the Krugersdorp environs was first observed from the air by Mr Sydney Vine.



Advanced Glider called Avis:

In 1931 Mr Vine and Mr Goedvolk produced a more advanced Glider which they named **Avis**. They carried out more flights at Waterval; however this Glider was destroyed by a Whirlwind.

Wing Design based on the study of Vultures:

The wing design on the "Avis" was based on data obtained from the study of vultures in the Magaliesburg. Weighing 365lbs, it had a span of 52ft 6" and a wing area of 230 sq/ft.

Design allowed for varying of the wing camber:

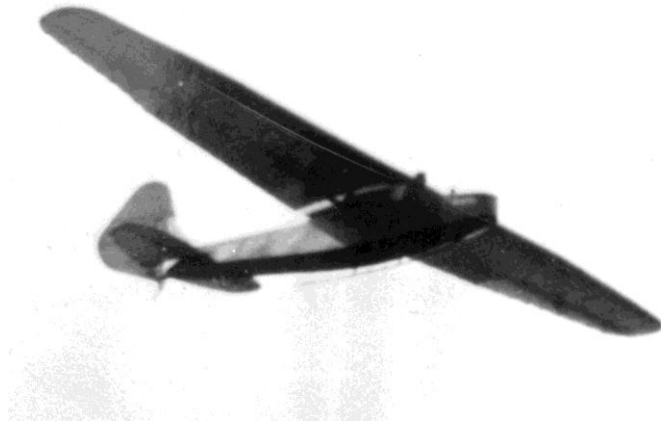
Its wing design was unusual in having a flexible trailing edge with top and bottom surfaces not attached to each other at the rear. The camber of the wing could thus be varied in flight, for high lift or speed as required. "Avis" first flight took place at Sterkfontein Koppies along the Muldersdrift ridge in 1935, an endurance of 17 minutes and 12 seconds being achieved.



The Avis 2 Glider circa 1935 Muldersdrift Ridge at the Sterkfontein Koppies



**Avis 2 Glider in flight 1935 Muldersdrift
Ridge at the Sterkfontein Koppies**



The Altis V 1



Vine & Goedvolk were also designed a series of light single seat aircraft all named “*Altis*”. The first one, the Altis V 1 powered by a 32hp Bristol Cherub 2 cylinder engine appeared in 1932. A mid wing monoplane with fixed undercarriage; it was notable in having a rudder and elevators only, no evidence of any ailerons being fitted. It may indeed have incorporated Vine’s variable camber wing. Taken to Baragwanath for trials, it was registered as ZS-ADV on 10 December 1932.

Its life was short however and it was damaged beyond repair in a crash at Baragwanath on 6 January 1933.

Bristol Cherub Engine.

General characteristics

Type: 2-cylinder air-cooled, horizontally opposed, left-hand tractor

Bore: 3.54 in (90 mm)

Stroke: 3.8 in (96.5 mm)

Displacement: 75 in³ (1.228 L)

Width: 25.6 in (650 mm)

Dry weight: 98 lb (39.5 kg)

Components

Valve train: Overhead valve

Oil system: Dry sump

Cooling system: Air-cooled



The Altis V 2

Vine built an improved version, the Altis V2 during 1933. Looking very similar to the V1, it incorporated combined ailerons and flaps (flaperons) extending for $\frac{3}{4}$ of the wingspan inwards into the wing. Power unit was now a 40hp ABC Scorpion. It was registered as ZS-AEO on 25 December 1933.

A thin ply skin replaced the fabric of the V1 and the wings were of full cantilever construction.

A four gallon fuel tank was fitted under the pilot's seat. Being lower than the carburettor, the petrol cap was airtight and the pilot had to periodically pump air into the tank to pressurise the fuel system in order to keep the engine running. A weak link was the ABC Scorpion engine that was not reliable and often stopped running.



Vine sold the Altis V2 to Tom Zeederberg who flew it for some years until passed to another owner, a Mr. Boyce. Though stored at Grand Central during WWII, its eventual fate is not known and it was cancelled from the register on 21 June 1947.

The Altis V 3

Vine's last Aircraft



Vine's last aeroplane in the Altis series was the V3. This was a completely different design, being a low wing monoplane with a geodetic monospar wing. It also was fitted with a 40hp ABC Scorpion motor and was registered as ZS-AEV on 28 August 1934.

It was eventually sold to a German glider pilot in South Africa, Mr. A. Ziss. When South Africa went to war in 1939, German Nationals were interned for the duration of the war. Mr. Ziss was interned at Andalusia (today Jan Kempdorp). The Altis V3 was housed in Hangar 1 at Rand Airport.

After the war there was some correspondence between the Dept of Defence and Mr Ziss who naturally wanted his aircraft back. It seemed that the aircraft had disappeared.

The relevant file in the archives unfortunately ends without the outcome being resolved.

Vine went on after WWII to develop a two man powered aircraft. The first was written off in an accident at Robertson Fields, near Krugersdorp on 17 May 1962, while the second is believed to have survived for some years – but all traces of it has since been lost. His engineering company still remains in Krugersdorp to this day.