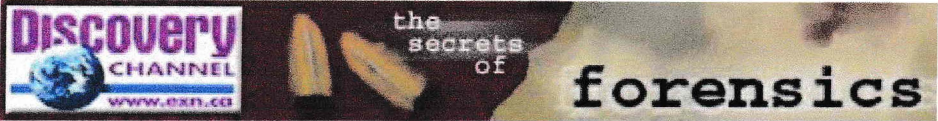




Canada Aviation Museum



Milestones

The Hangar

Image Gallery

AvroArrow

**Milestones**

- [Aviation News](#)
- [Aircraft](#)
- [Aviators](#)
- [Flight School](#)
- [Television](#)
- [Feedback](#)
- [Events](#)
- [3D](#)
- [Links](#)
- [Site Map](#)

## Avro 504



The original Avro 504 had been designed in 1913 by Sir Alliot Verdon-Roe, and entered the British Royal Flying Corps as a standard Service machine. The aircraft had a top speed of 82 mph. (132 km/h), could climb to 10,000 feet in 19 minutes and could stay aloft for three hours. Early in the war the 504 strafed the enemy and bombed the zeppelin sheds at Freidrichshafen, but it soon became clear it wasn't destined to compete with the faster, meaner planes then being rolled out, such as the Fokker E.III. Because of its ability to operate at the "extreme height" of 13,000 ft (3960 m) it was relegated to the role of anti-zeppelin patrol plane.

It did, however, make an admirable trainer airplane and was developed in this way by Major R.R. Smith-Barry, along with his personal instruction method. In this incarnation it made a significant impact all over the world, and laid the foundations for formal flyer training that would last another 30 years. Ultimately, the Avro 504 was built in Australia, Belgium, Canada, Japan and the USSR, with production continuing until 1933. Estimates vary as to how many were made, ranging from 6,350 to over 10,000.

The advantages that the 504 had over previous trainers were numerous. The Curtiss JN-4, envisaged as a trainer, was difficult to fit with a rotary engine. This was seen as vital to familiarize flying students. To deal with this problem the 504K (the three museum examples are of this type) was introduced in 1917, and sported a new type of universal engine mount which consisted of two bearer plates that could accommodate any sort of engine. The 504K was variously fitted with the 100



fly the arrow online  
**AT EXN.CA**

### The Concorde's increasing problems

Until yesterday's tragic crash, the Concorde had never suffered a fatal accident. But some recent problems have raised questions about the supersonic jet's ability to keep on flying

### Canadian technology a source of national pride

exn.ca spent Canada Day in Ottawa at the Canada Aviation Museum and found the

vehicles on display reminded us of a proud history, but the volunteers who flew them are what brings that history to life

#### **Reflections from Space -- Dave Williams**

In an exclusive exn.ca interview at the Canada Aviation Museum, Canadian astronaut Dave Williams looks back on his historic flight on the Space Shuttle Columbia.

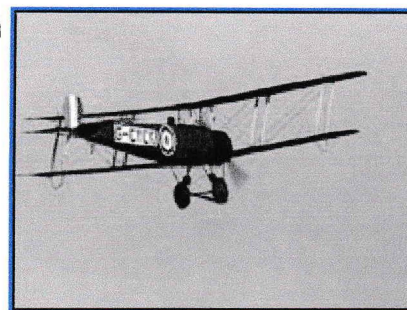
#### **The new GPS accuracy: what the U.S. military isn't saying**

Highly accurate GPS signals have been available to the public for years -- so the new "unscrambled" transmissions may have a deeper military significance

tip engine 21 horsepower, the 110 hp Le Rhône 9C, and the 130 hp Clerget 9B engine.

Another advantage was the ease with which students and instructors could communicate in the cockpit, thanks to the "Gosport Speaking Tube". It was more robust than the delicate Farman trainer, and more manoeuvrable than the heavy BE2c.

The 504's relatively light weight in comparison to its wing size prevented the plane from dropping dramatically when power was reduced, and the "forgiving" quality of its controls were ideal for training. So too was the skid that could be outfitted under the nose, designed to prevent tipping during landing.



The 504 had the distinction of quite a few "firsts". It was the first airplane to strafe troops on the ground, and the first to run a bombing raid over Germany. It also had the dubious honour of being the first Allied airplane to be downed by enemy ground fire. It was the first airplane to run a commercial bush flight in Canada when it ferried two passengers from Winnipeg to Le Pas, Manitoba in 1920, and the first to make a winter flight to James Bay in 1922.

The Turnbull variable pitch propeller found on the Museum's exhibit floor model 504K played a great role in the advancement of aviation world-wide, and was a uniquely Canadian invention. It was the handicraft of Wallace Rupert Turnbull of Rothesay, New Brunswick, who had built an early wind tunnel in an abandoned barn near his home. To increase lateral stability Turnbull had early advocated the inclination of each wing tip upward from its center section to its tip, creating the dihedral angle that was to greatly influence later design. His controllable pitch propeller allowed the pilot to control the pitch or angle of the blades at all times during flight, enabling variation in the amount of thrust pushed back over the wings. In particular, this made take-offs much easier, and was used widely around the world.

### **Museum examples:**

C-CYCK - This airplane was built in England in 1918 and, after passing through the hands of several owners, was purchased and restored by the RCAF, which subsequently flew it in Centennial celebrations during 1966-67. Acquired by the museum in 1968, it is one of several aircraft in the collection



powered by rotary engines.

G-CYEI -- This reproduction was built by No. 6 Repair Depot, RCAF, and used by the RCAF for training and flying displays during Centennial celebrations. It was acquired by the museum in 1969 and is on loan for static display at the Western Canada Aviation Museum in Winnipeg, Manitoba.

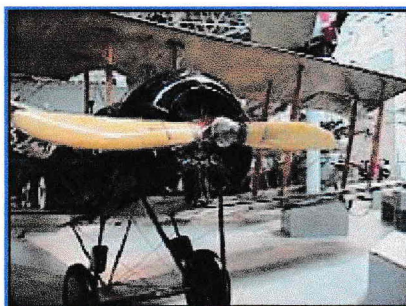
G-CYFG -- After passing through the hands of several American owners, this Avro 504K was purchased and restored by the RCAF and subsequently passed to the museum for static displays.

---

### Multimedia



George Neil, the original test pilot on the De Havilland Beaver, has flown the Avro 504K many times. **Click on the image** and listen to him compare its performance with the Sopwith Pup and Camel



The famous Turnbull variable pitch propellor. **Click on the image** and take a closer look at the propellor, and a **video tour of the cockpit**.

### Avro 504 Gallery



---

## Specifications

**Period:** World War I

**Uses:** Training / Utility

**First Flight:** 1913

**Manufacturer:** A.V. Roe and Co. Ltd., Great Britain

**Wing Span:** 36 ft (11 m)

**Length:** 29 ft 5 in (9 m)

**Height:** 10 ft 5 in (3.2 m)

**Weight, Empty:** 1,231 lb (560 kg)

**Weight, Gross:** 1,830 lb (830 kg)

**Cruising Speed:** 75 mph (121 km/h)

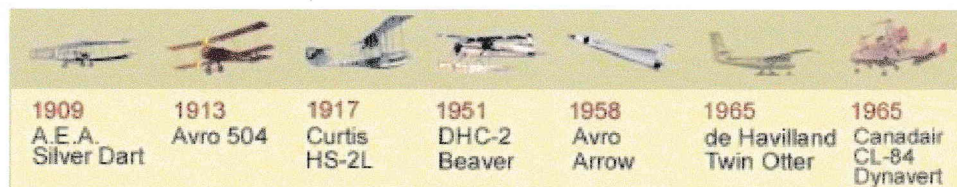
**Maximum Speed:** 95 mph (153 km/h)

**Rate of Climb:** 3,500 ft (1,070 m)/5 min

**Service Ceiling:** 16,000 ft (4,877 m)

**Range:** 250 mi (402 km)

**Power Plant:** one Clerget 9B, 130-hp, rotary engine



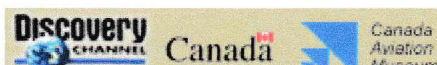
---

[Aviation News](#) | [Aircraft](#) | [Aviators](#) | [FlightSchool](#) | [Avro Arrow](#)

[Aviation Television on the Discovery Channel](#)

[Feedback](#) | [Events](#) | [3D](#) | [Awards](#) | [Links](#) | [Site Map](#)

Flightdeck is produced through the active partnership of  
exn.ca / Discovery Channel Canada and the Canada Aviation Museum.





The exn.ca Universe

Browse exn.ca

[ [Science Today](#) | [Technology](#) | [Animals](#) | [FlightDeck](#) | [Space](#) | [Outdoors](#) |  
[Weather](#) | [History](#) | [About Us](#) | [TV Schedule](#) ]

Problems or Questions? Email the [Webmaster](#)

Copyright © 2953285 Canada Inc. cob Discovery Channel Canada 2000. All rights reserved.