

# Fairchild PT-19

## PT-19



Fairchild PT-19

<b>Role</b>	Trainer
<b>Manufacturer</b>	Fairchild Aircraft
<b>Designer</b>	Armand Thiebolt
<b>First flight</b>	15 May 1939
<b>Introduction</b>	1940
<b>Primary users</b>	United States Army Air Corps United States Army Air Forces Royal Canadian Air Force Royal Air Force
<b>Number built</b>	6,397

The **Fairchild PT-19** (company designation Fairchild M62) was an American Fairchild Aircraft monoplane primary trainer aircraft that served with the United States Army Air Forces, RAF and RCAF during World War II. It was a contemporary of the Kaydet biplane trainer and was used by the USAAF during Primary Flying Training as the introductory pre-solo phase trainer for introducing new pilots to flying before passing them on to the more agile Kaydet. As with other USAAF trainers of the period, the PT-19 had multiple designations based on the power plant installed.

## Design and development

The PT-19 series was developed from the Fairchild M-62 when the USAAC first ordered the aircraft in 1940 as part of its expansion program. The cantilever low-wing monoplane with fixed landing gear and tail wheel design was based on a two-place, tandem seating, open cockpit arrangement. The simple but rugged construction included a fabric-covered welded steel tube fuselage. The remainder of the aircraft used plywood construction, with a plywood-sheathed center section, outer wing panels and tail assembly. The use of an inline engine allowed for a narrow frontal area which was ideal for visibility while the widely set-apart fixed landing gear allowed for solid and stable ground handling.

The M-62 first flew in May 1939, and won a fly-off competition later that year against 17 other designs for the new Army training airplane. Fairchild was awarded its first Army PT contract for an initial order on 22 September 1939.

The original production batch of 275 were powered by the inline 175 hp Ranger L-440-1 engine and designated the **PT-19**. In 1941 mass production began and 3,181 of the **PT-19A** model, powered by the 200 hp L-440-3, were made by Fairchild. An additional 477 were built by Aeronca and 44 by the St. Louis Aircraft Corporation. The **PT-19B**, of which 917 were built, was equipped for instrument flight training by attaching a collapsible hood to the front cockpit.

When a shortage of engines threatened production, the **PT-23** model was introduced, which was identical except for the 220 hp Continental R-670 radial power plant. A total of 869 PT-23s were built as well as 256 of the **PT-23A**, which was the instrument flight-equipped version. The PT-23 was manufactured in the US by Fairchild, Aeronca, St. Louis Aircraft

Corporation and Howard Aircraft Corporation and in Canada by Fleet Aircraft Corporation as well as Fabrica do Galeao in Brazil.

During 1943, USAAF Training Command received a number of complaints about durability issues with the plywood wings of the PT-19 and the PT-23 when exposed to the high heat and/or humidity of training bases located in Texas and Florida. Maintenance officers at the USAAF overhaul depots had been forced to order replacement of the wooden wing sections after only two to three months' active service because of wood rot and ply separation issues. Subsequent to this incident, the USAAF incorporated a demand for all-metal wing sections on all future fixed-wing training aircraft.

The final variant was the **PT-26** which used the L-440-7 engine. The Canadian-built versions of these were designated the **Cornell** for use by the Royal Air Force Empire Air Training Scheme in Canada and Rhodesia.

## **Operational history**

Compared to the earlier biplane trainers, the Fairchild PT-19 provided a more advanced type of aircraft. Speeds were higher and wing loading more closely approximated that of combat aircraft, with flight characteristics demanding more precision and care. Its virtues were that it was inexpensive, simple to maintain and, most of all, virtually vice-less. The PT-19 truly lived up to its nickname, the Cradle of Heroes. It was one of a handful of primary trainer designs that were the first stop on a cadet's way to becoming a combat pilot. Thousands of the PT-19 series were rapidly integrated into the US and Commonwealth training programs, serving throughout World War II and beyond. Even after their retirement in the late 1940s, a substantial number found their way onto the US civil register. There are 98 airworthy world-wide today.



## **MAPS PT-19A/M62-A Serial Number 43-31365**

The MAPS PT-19 was manufactured under contract to Fairchild Aviation Corporation, based in Farmingdale and East Farmingdale, New York at the Aeronca Corporation facility in Middletown, Ohio. It was accepted by the Army Air Forces on December 1, 1942 and flown to its first duty station Alabama at Van de Graff Field near Tuscaloosa, Alabama (now Tuscaloosa Regional Airport).

The Civil Aeronautics Administration designated van de Graff Field as an intermediate field (#59). It operated as a United States Army Air Forces primary (phase 1) pilot training field by a detachment of the 51st Flying Training Group (Air Training Command) headquartered at Greenville Army Airfield, Mississippi. Pilot training at van de Graff was provided under contact by the Alabama Institute of Aeronautics, Inc.

On June 2, 1944, the PT-19 was transferred for a short period to the Clarksdale Auxiliary Field – one of two sub-base of the 2154<sup>th</sup> Air Base Unit headquartered at Fletcher Field near Clarksdale, Mississippi.

Fletcher Field, was opened on 5 July 1942 and used by the United States Army Air Forces as a contract basic flying training airfield. It was operated by the 2154th Air Base Unit, Contract Elementary Flying School (AAFFTC), Clarksdale School of Aviation.

On September 22, 1943, the airframe was re-assigned permanently to the Fletcher facility. It remained at that station for the duration of the war. It was sold after the aircraft was phased out of service in the late 1940's.

The next record available on the history of 43-31365 came on September 4, 1959 when the aircraft was issued and Airworthiness Certificate for a private owner when he received the aircraft. It was registered to a new owner from Westlake, Ohio on September 20, 1968.

On April 1, 2002, the PT-19 started to arrive for restoration. The Fairchild PT-19A Cornell (Serial # 43-31365) was a gift to MAPS by a donor from Cleveland, Ohio.

## **Variants**



Fairchild PT-19 - Ranger L-440-1 Engine (Aircraft # 40-2418)

### **PT-19**

Initial production variant of the Model M62 powered by 175hp L-440-1, 270 built.

### **PT-19A**

As the PT-19 but powered by a 200hp L-440-3 and detailed changes, re-designated T-19A in 1948, 3226 built.

### **PT-19B**

Instrument training version of the PT-19A, 143 built and six conversions from PT-19A.



Fairchild PT-19B

**XPT-23A**

A PT-19 re-engined with a 220hp R-670-5 radial engine.

**PT-23**

Production radial-engined version, 774 built.

**PT-23A**

Instrument training version of the PT-23, 256 built.

**PT-26**

PT-19A variant with enclosed cockpit for the Commonwealth Air Training Scheme, powered by a 200hp L-440-3, 670 built for the Royal Canadian Air Force as the Cornell I.

**PT-26A**

As PT-26 but with a 200hp L-440-7 engine, 807 built by Fleet as the Cornell II.

**PT-26B**

AS PT-26A with minor changes, 250 built as the Cornell III.

**Cornell I**

RCAF designation for the PT-26.

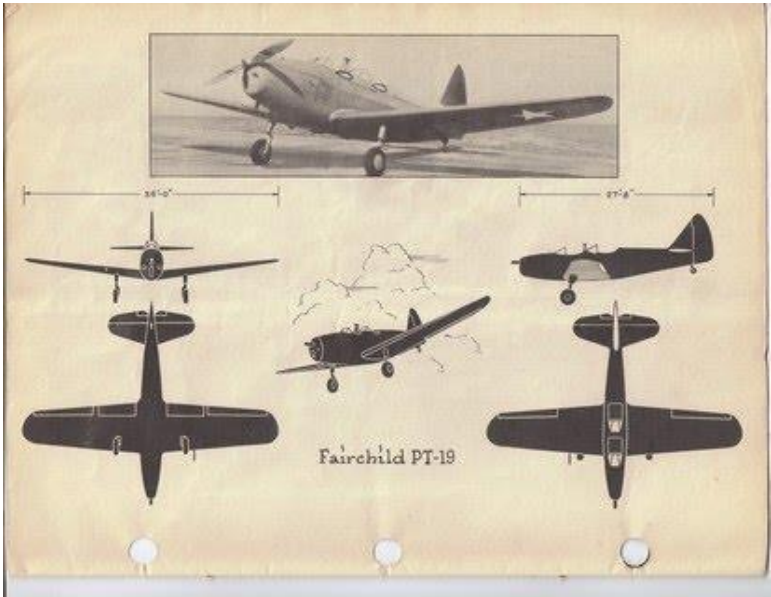
**Cornell II**

RCAF designation for the PT-26A.

**Cornell III**

RCAF designation for the PT-26B.

## General characteristics (PT-19)



- Crew: two, student and instructor
- Length: 28 ft. (8.53 m)
- Wingspan: 36 ft. (10.97 m)
- Height: 10 ft. 6 in (3.20 m)
- Loaded weight: 2,545 lb. (1,154 kg)
- Power plant: 1 × Fairchild Ranger L-440-3, 200 hp
- Performance
- Maximum speed: 132 mph (212 km/h)
- Range: 430 mi (692 km)
- Service ceiling: 15,300 ft. (4,663 m)