

CT4B **AIRTRAINER**

(BAE Systems Trainer – RAAF)

X-Plane 9.70

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Data for this project came from a range of sources including the **TYPE CERTIFICATE DATA SHEET No A-10**

Thanks Jamie for directing this request to me.

The Cockpit animations were create by and with many thanks to SeaRider (X-Plane.Org)
<http://forums.x-plane.org/index.php?showuser=18078>

and

Animated flight controls pack V1

<http://forums.x-plane.org/index.php?app=downloads&showfile=11260>

Pilot object from **Pilot Collection 1.1** by Bertrand AUGRAS for XPFR

<http://forums.x-plane.org/index.php?app=downloads&showfile=6187>

Modifications including paint designs are welcome however a courtesy email or PM (X-Plane.org) would be welcomed with appropriate credits.

Installation:

Copy the entire aircraft folder into the aircraft folder in your X-Plane Aircraft folder, any subdirectory as desired

Revision Information

Nil

History

<http://www.aerospace.co.nz/aircraft/ct-4/development-history>

The CT-4 Airtrainer was born out of two situations that occurred in the early 1970's.

Firstly the failure of the T6/24 Airtourer to meet the Royal Australian Air Force (RAAF) requirement for a basic trainer. Secondly the foresight of the AESL management of the time to exercise an already held option on the production rights to the Victa Aircruiser and adapt it into what we know as the CT-4 Airtrainer.

The adaptation was no small task as the Aircruiser was a non-aerobatic 4 place touring aircraft. However AESL, being a small, energetic and flexible company, achieved the task in short time. The first CT-4 Airtrainer s/n 001 ZK-DGY successfully first flew in February 1972 in time to meet RAAF tender requirements.

The major difference between the Aircruiser and the CT-4 Airtrainer was the many structural changes required to make the CT-4 aerobatic and able to withstand the "G" loadings associated with aerobatic operation.

More visible changes, such as a lifting "jettisonable" canopy, revised seating and interior, were also undertaken amongst many other minor changes.

In summary it was much more than a "facelift" and a whole new Aircraft type had resulted.

History tells us that the effort and the risks were worth it and AESL secured a RAAF contract to supply 37 aircraft. This order was quickly followed by another from the Royal Thai Air Force for 24 aircraft.

These orders prompted the merger of AESL with Air Parts (NZ) Ltd and with the involvement of the New Zealand Government, New Zealand Aerospace Industries was formed (but that's another story).

Production soon got underway under the NZASIL banner in 1973 with the RTAF order being the first down the newly formed production line as CT-4A models.

The RAAF order followed the RTAF order down the production line also as CT-4As the first in December 1974 and continuing throughout 1975, ending with s/n 063.

A further order from a Swiss company named Breco had been secured for 14 Aircraft and these immediately followed the last RAAF Aircraft down the line. These aircraft were designated CT-4B but were not the same as the civil CT-4Bs that were produced at a later date.

They were in fact destined for Rhodesia (Zimbabwe) which was UN sanctioned at the time and the NZ Government prevented their export and consequently they were never delivered (although paid for).

The Royal New Zealand Air Force was next to sign up for CT-4s with an order for 13 aircraft. These were produced in 1976 ending with s/n 090. Although initially they were to be CT-4D models the aircraft were data plated as CT-4B, however technically they were neither as they were not built to the Type Certificate but to a RNZAF specification.

Then the orders had run out and continuous production ceased at s/n 090.

When NZASIL announced the termination of CT-4 production the RNZAF in 1978 saved the day by ordering a further 6 aircraft as attrition airframes.

Things were quiet CT-4 production wise until 1981 when the RAAF, looking to expand their fleet of CT-4A Airtrainers, opted to purchase the Breco CT-4B aircraft that had been in storage since manufacture.

These aircraft went down the production line once again retaining their original serial numbers to be converted from the Breco CT-4B specification into the RAAF CT-4A specification.

The last aircraft was completed in May 1982 and that seemed to be it for CT-4 production. However, although NZASIL had produced its last example it wasn't the end.

Production resurfaced under the PAC banner in 1990 when the RAAF decided to civilianise its basic training and sell off the majority of CT-4A Airtrainers.

The contract to provide this training was awarded to BAe/Ansett in NSW (now BAe Systems Australia) who in 1990 ordered 12 CT-4 Airtrainers to undertake the task. These were produced as civil CT-4B models during 1991 and 1992. The RTAF, aware that the CT-4 was back in production, placed an order for 6 CT-4B models and these were produced after the BAe/Ansett airframes taking total production to-date to 114.

Specifications

Type

Two-seater fully aerobatic training aircraft.

Wings

Low-wing monoplane.

Bellanca B wing section.

Dihedral 4° 30'.

Incidence 0° at root, -3° at tip.

Structure consists of two laminated Sitka spruce spars, mahogany plywood and spruce ribs and mahogany plywood skin covered with Dacron.

Ailerons and electrically-actuated flaps are Dacron-covered wooden structures.

Dimensions External

Wing span: 26 ft (7.92 m)

Length overall: 23.48 ft (7.16 m)

Height overall: 8.5 ft (2.59 m)

Wheel track: 9.75 ft (2.74 m)

Wheelbase: 5.45 ft (1.66 m)

Propeller diameter: 6 ft 3 in (1.9 m)

Areas

Wings, gross: 129 ft² (7.92 m²)

Ailerons (total): 11.56 ft² (3.52 m²)

Trailing-edge flaps (total): 22.60 ft² (3.52 m²)



Weights

Weight empty: 1780 lb (807 kg)

Max T/O weight: 2600 lb (1180 kg)

Performance

Max never-exceed speed	207 knots IAS
Max cruising speed (75% power)	147 knots
Cruising speed (65% power):	120 knots
Stalling speed, wheels and flaps down	45 knots CAS
V _x (best angle of climb)	75 knots
V _y (Best rate of climb)	95 knots
Max demonstrated crosswind component	20 knots
Range, standard fuel, 75% power	521 nm

Straight and Level	120 KIAS - Clean	23" MAP @ 2,600 RPM	Fuel flow 70 lb/hr
Straight and Level	95 KIAS - Clean	18 – 20" MAP @ 2,600 RPM	
Best Range Configuration	105 KIAS	25" MAP @ 2,200 RPM	Fuel flow 52 lb/hr
Maximum Endurance Configuration	80 KIAS - Clean	20" MAP @ 2,000 RPM	Fuel flow 43 lb/hr

Links and Information

<http://www.aerospace.co.nz/>

[http://www.caa.govt.nz/aircraft/Type Cert Data Sheets/A-10 PAC CT4.pdf](http://www.caa.govt.nz/aircraft/Type%20Cert%20Data%20Sheets/A-10%20PAC%20CT4.pdf)

Comments and feedback welcome
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