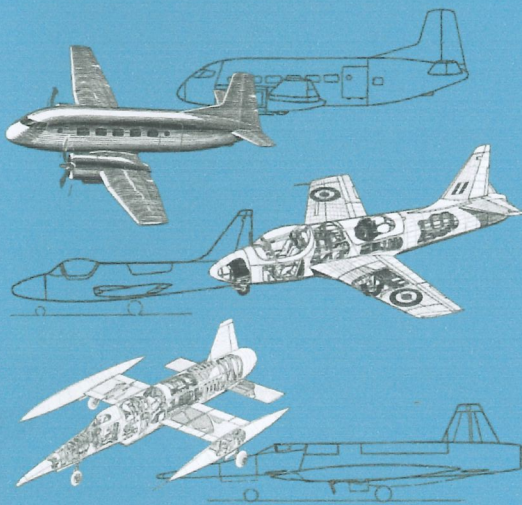




The AHSA is pleased to announce the publication of an exciting new book by AHSA member Joe Vella – *Aircraft Projects of Commonwealth Aircraft Corporation*.

Aircraft Projects of the Commonwealth Aircraft Corporation



Joe Vella

Joe began writing this book in 1983 when he was invited by the management of CAC to conduct an independent review and compilation of the company's historical archives. When the company was taken over by Hawker de Havilland in July 1985 the official impetus for a company history evaporated. But Joe continued with his writing and tried unsuccessfully to attract interest from publishers.

The hand-typed manuscript languished in storage for many years until the concept of self-publishing and print-on-demand came into vogue. With some encouragement and mentoring in desktop publishing software, Joe decided to move down this path and so the typed manuscript was scanned and optical-character-recognition employed to convert the files to editable text. The manuscript was also extended to cover the years beyond the takeover by Hawker de Havilland and other entities, a period not included in the original work.

The finished book is an invaluable reference to the aircraft projects commenced by CAC – a total of 106 projects are described. These include projects which were brief conceptual works all the way to projects which entered series production. The political and economic context of

the projects is also explained. The projects are outlined in chronological order, making the book easy to follow. A major feature of the book are 114 line drawings prepared by Joe specifically for this publication, which illustrate the projects and complement the many CAC factory drawings also included. Data tables covering performance and dimensions for most of the project also complement the narrative.

The book contains 408 pages, including a comprehensive index. Chapters in the book are as follows:

- i. Introduction: A brief company history (29 pages)
- 1) Build-up to war
- 2) First-generation jet fighters
- 3) Basic trainer thinking
- 4) Fast jets and Sabre prospects
- 5) Winjeel derivatives, private aircraft venture and naval work
- 6) Supersonic trainer/attack aircraft
- 7) Commuter aircraft, helicopters and naval exports
- 8) System upgrades, MB326H concepts and submarine detection
- 9) Light transports and light military support aircraft
- 10) Advanced and basic trainer aircraft concepts – a last fling
- 11) Post company merger projects
- 12) Aero engine work

(317 pages for the above chapters)

The book also includes comprehensive appendices:

- 1) CAC Company Data
- 2) The Government's Control of the Aircraft Industry
- 3) CAC Logos
- 4) Selected Design & Program Management Personnel (brief biographies)
- 5) An Explanation of Constructor Number Revisions
- 6) Design Families
- 7) Organisation Charts
- 8) Factory Layout
- 9) Contract Number List (As issued by CAC)
- 10) Production Aircraft List (As issued by CAC)
- 11) Aircraft Constructor Numbers
- 12) CAC Project and Drawing Number Systems
- 13) Design Origin Background

(18 pages for the above appendices)

Also included is a 23-page photographic addenda of images collected during the editing of the book. A comprehensive index is also included.

The book is available through online bookstores for a recommended retail price of \$65. ISBN 9780645185904. Also available through the public libraries standard book acquisition sources.

A sample page is shown below:

P144 / P148 TWIN ENGINE BOMBER-RECONNAISSANCE AIRCRAFT
October 1938

Released on October 23, 1938 this company specification covered a twin engine, three aircrew aircraft intended to perform day bomber, night bomber, reconnaissance and dive bombing roles.

The layout of P144 was of a low set wing on top of which was located a narrow fuselage with a long glass house cabin. This cabin had a similar but longer arrangement of sliding canopy sections as used on the Wirraway. Like the Wirraway the retracted main wheels were housed in fairings in the leading of the wing ahead of the front spar. The fuselage ended in a twin finned tail arrangement.

For the observation / bombing role a glazed gondola formed part of the lower mid fuselage structure below and to the rear of the wing. Two Pratt & Whitney engines powered the aircraft. The wing trailing edge was an unbroken straight line with any form of sweep. Armament

Specifications	P148 Twin Engine Bomber-Reconnaissance Aircraft
Powerplant	Two Pratt and Whitney R-1340 Wasp radial engines of 700 hp each at TO
Performance	Max speed at 11,000 ft 236 kts Cruise speed at 15,000 ft 214 kts Max range at 15,000 ft 1,080 nm Range day bomber/recon (9,886 lb) 880 nm Range night bomber/recon (9,968 lb) 880 nm Range day bomber (10,131 lb) 780 nm Range night bomber (10,213 lb) 700 nm Range dive bomber (9,022 lb) 750 nm
Weights	Normal loaded 9,500 lb Max loaded 11,000 lb
Dimensions	Wing span 54 ft Wing area 350 sq ft Length 32 ft 2 ins Height 11 ft
Armament	One Vickers m/g with 400 rounds & two Lewis m/g's with 700 rpg
Retrospective Designation	XP6

Specifications P148 Twin Engine-Bomber Reconnaissance Aircraft

Powerplant: Two Pratt & Whitney R-1830 51C3-G Twin Wasp radial engines of 1,200 hp each.

Performance: Max speed at 5,000 ft 273 kts
Cruise speed at 15,000 ft 253 kts
Range at econ cruise speed 1,080 nm

Weights: Normal 10,500 lb
Max loaded 12,500 lb

Dimensions: Wing span 54 ft 6 ins
Wing area 363 sq ft
Length 34 ft 2 ins
Height 11 ft

Armament: Two Vickers M/V m/g's with 500 rpg
Two Vickers 'K' flexible mount m/g's
37 mm cannon possible option.
1,000 lb bomb load

Retrospective Designation: XP7

was to be a single Vickers machine gun with 400 rounds of ammunition and two flexible mount Lewis guns with 700 rpg. The disposition of these guns was to have been in the rear of the upper crew compartment and in the gondola. Fuel provision was for 220 gallons.

P148

The P144 specification was quickly followed on February 2, 1939 by that for P148. The dive bombing role had been discarded, the wing span increased by 6 inches and the engines changed to the P & W Twin Wasp, effectively almost doubling the built-in engine power. The wings now had taper on the trailing edge and the armament provision revised. There were to be two forward firing Vickers Mk V machine guns with 500 rpg and two Vickers 'K' machine guns on flexible mounts in the extended cabin. Four underwing bomb carriers were to each carry a 250 lb bomb. Consideration was to be given for the installation of a 37 mm cannon.

Bibliography: P144 / P148 Twin Engine Bomber
Commonwealth Aircraft Corporation (undated), Engineering Report A48 (A8), Provisional Specification for Twin-Engine Bomber-Reconnaissance Aircraft (Twin Row Wasp Engines).

P147 SINGLE ENGINE TWO-PLACE MULTI-GUN FIGHTER AIRCRAFT
February 1939

On June 23, 1938 the Secretary of the Air Board requested from CAC the performance figures resulting if a Wirraway was to be fitted with a twin Wasp radial engine. Wackett sent back a favourable reply on 5 July with an outline specification prepared by Herbert Knight for a two seater fighter having two fixed 0.303 inch machine guns, a flexible gun operated by the observer and an estimated all-up weight of some 6,250 lb.

This information was upgraded and re-issued seven months later on February 1, 1939 for an aircraft now equipped with four Vickers Mk V machine guns in the outer wings, a flexible gun in the rear

Specifications P147 Single Engine Two Place Multi-Gun Fighter Aircraft

Powerplant: One Pratt and Whitney R-1830 51C3-G Twin Wasp geared radial of 1,200 hp at TO at 2,700 rpm, 1,050 hp at 7,500 ft & a cruise rating of 700 hp at 15,000 ft at 1,325 rpm

Performance: Max speed at 5,000 ft 250 kts
Cruise speed at 15,000 ft 218 kts
Max rate of climb 3,700 ft/min
Endurance at cruise speed 2 hrs
Range at economical speed 650 nm

Weights: Empty 4,752 lb
Normal gross (inc 92 gall of fuel) 6,325 lb

Dimensions: Wing span 43 ft
Length 28 ft 6 ins

Armament: Four 0.303 in wing mounted Vickers Mk V m/g's with 500 rpg. One 0.303 in Vickers 'K' flexible mounted m/g in the rear cockpit with 600 rounds.

Retrospective Designation: XP8

P149 TWIN ENGINE FIGHTER AIRCRAFT
April / May 1939

P149 and P150 shared a near common configuration layout and a basically identical gun installation.

P149 was issued on April 12, 1939 and it was a brief for a twin engine, two place interceptor and convoy escort fighter. There was a choice of two radial engine type, the Pratt & Whitney R-1830 51C3-G Twin Wasp or the Bristol Taurus III.

The outline of P149 depicted a narrow fuselage terminating in a twin finned tail assembly as in the P148 Proposal, a shorter glass house two crew compartment and retaining the similar main undercarriage wheel storage arrangement. Four fixed forward firing Vickers Mk V machine guns with 500 rpg were located in the outer wing panels. The Vickers 'K' machine gun on a flexible mount with its 400 rounds of ammunition in the rear of the crew glass house was intended to offer some minimal rearward defence. The ventral gondola was deleted and crew reduced to two.

Specifications	P149 Twin Engine Fighter Aircraft
Powerplant	Two Pratt & Whitney R-1830 51C3-G Twin Wasp radial engines of 1,100 hp each at TO or Two Bristol Taurus III radial engines of 950 hp at TO
Performance	Max speed at 9,000 ft 301 kts Cruise speed at 700 hp per engine at 16,000ft 291 kts Range at econ cruise speed 1,200 nm
Weights	Interceptor: Empty 7,366 lb A/UW 9,470 lb Convoy Escort: Empty 7,868 lb A/UW 10,913 lb
Dimensions	Wing span 50 ft Wing area 314 sq ft Length 32 ft 9 ins Height 10 ft
Armament	Four Vickers Mk V m/g's with 500 rpg. One Vickers 'K' flexible mount m/g with 400 rounds
Retrospective Designation	XP9

For interception, the internal fuel was to be kept to 110 gallons whilst the long range convoy escort was to have up to 290 gallons. It is not known which engine installation is depicted in P149.

Bibliography: P149 Twin Engine Fighter
Commonwealth Aircraft Corporation (1939), Engineering Report A111 (A11), (April/May 1939), Preliminary Specification for Twin-Engine Fighter Aircraft.