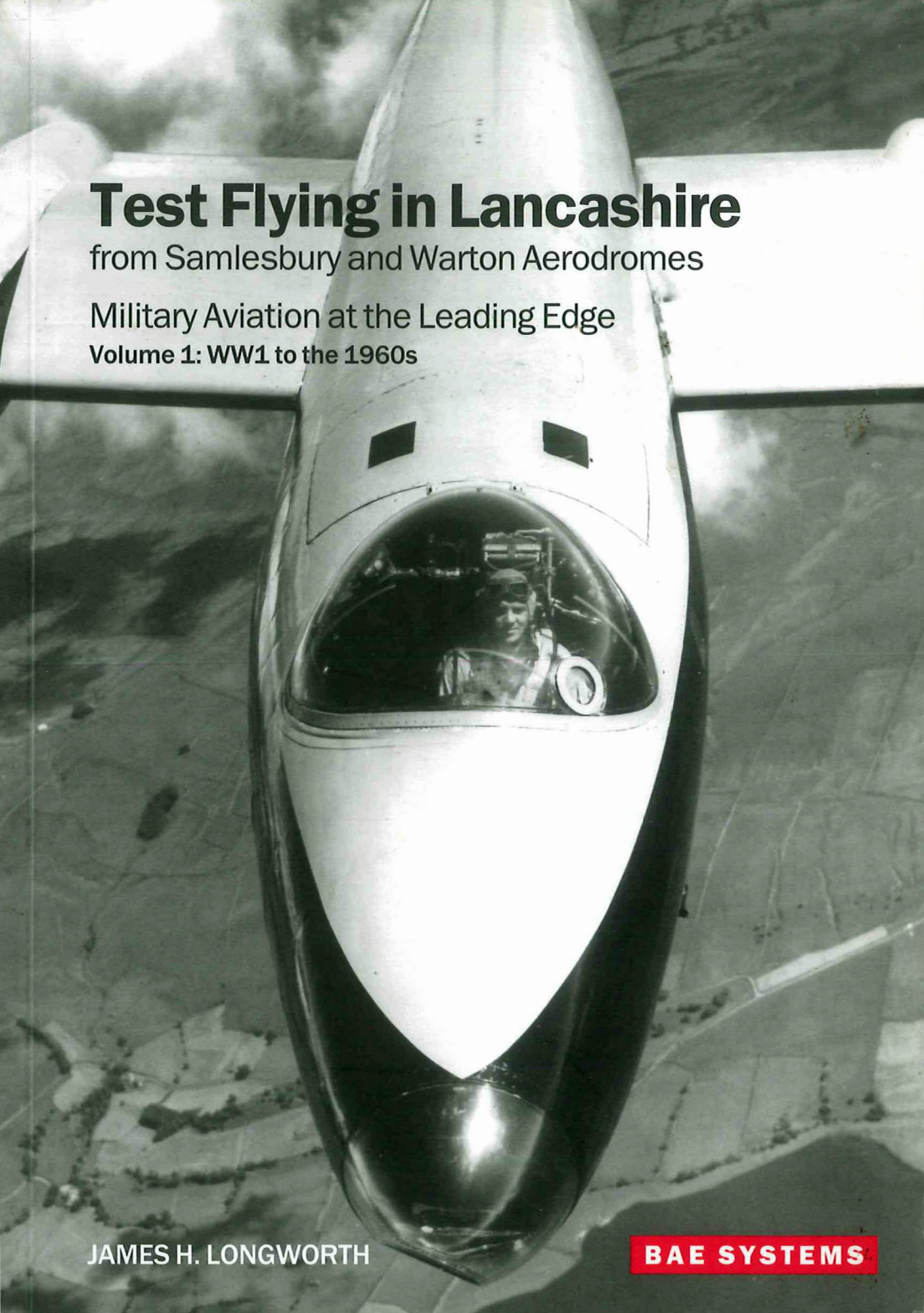
Test Flying in Lancashire

from Samlesbury and Warton Aerodromes

Military Aviation at the Leading Edge

Volume 1: WW1 to the 1960s



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BAE SYSTEMS

DEDICATION

To the memory of Brian Tomlinson, Bob Fairclough and Keith Emslie, BAE Systems Heritage Department, Warton.

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Front Cover: Close-up of Roland Prosper Beamont (RPB) in the first Canberra B.2 prototype VX165, *taken from the tail turret of a Lancaster of the Royal Aircraft Establishment (without telephoto lens) by Charles A. Sims,* The Aeroplane, *on 25 July 1950 (via BAE Systems)*

ABOUT BAE SYSTEMS

BAE Systems is a global defence, aerospace and security company employing around 93,500 people worldwide. Our wide-ranging products and services cover air, land and naval forces, as well as advanced electronics, security, information technology, and support services.

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FOREWORD

Such is the long and distinguished record of test flying associated with BAE Systems' plants at Samlesbury and Warton near Preston in Lancashire that an account of its development requires little by way of justification.

However, during the preparation of my previous book *Triplane to Typhoon*, published in 2005 by Lancashire County Developments Ltd on behalf of Lancashire County Council, with the support of BAE Systems, it was evident that by concentrating primarily on the aircraft themselves, limitations of space inevitably left much of the human story of test flying, both experimental and production, prior to release and entry into service of the aircraft, largely unrecorded. *Test Flying in Lancashire* now seeks to fill that gap. Today, test flying in Lancashire, enacted most dramatically by daily sorties of the Eurofighter Typhoon from BAE Systems' Warton Aerodrome, is the highly visible manifestation of a large, long-established world-class advanced technology industry with proven capability in design, manufacture and assembly of the most advanced aircraft in the world. The aerospace industry in Lancashire and the North West now supports, directly and indirectly, some 60,000 jobs and has a turnover of £7 billion, making up over a third of UK aerospace production. As well as BAE Systems it includes other 'primes' such as Rolls-Royce and Airbus, with a supply chain of hundreds of small and medium-sized enterprises across the region and beyond.

Moreover, an account of test flying in the area has been motivated, at least in part, by the 65th Anniversary of the start of experimental test flying at the former English Electric Company's site at Warton Aerodrome. That most significant event took place on 28 August 1947 with the first flight by the company's then newly-appointed first Chief Experimental Test Pilot, Wg/Cdr Roland Prosper Beamont, of an eleven-month research programme conducted at Warton using a borrowed Gloster Meteor fighter as an experimental trials aircraft. Ever since then, in fact from around 1940, there has been unbroken continuity of aircraft manufacturing, final assembly and test flying in Lancashire, involving such aeronautical icons as the Hampden, Halifax, Vampire, Canberra, P.1/Lightning, TSR2, Jet Provost/Strikemaster, Jaguar, Tornado, EAP, Hawk, Harrier, Nimrod MRA4 and Typhoon.

In compiling the story of test flying in Lancashire, it has not been my intention to repeat in detail all the material contained in previously published aviation titles, particularly the many books written by Wg/Cdr Beamont himself, or indeed others dealing with the life and times of key figures notably Wg/Cdr James 'Jimmy' Dell. These and other related books will be listed in a bibliography in due course. Rather, my intention has been to produce a comprehensive framework of the main events, detailed where appropriate with previously unpublished information, an objective that has been aided by access to many, though not all, of the flight logs of the key

persons involved. The considerable amount of information that has come to light has proved too much for a single volume. This therefore, the first of a series, starts by briefly outlining events from the earliest days of aircraft production by Messrs Dick, Kerr & Co and the English Electric Aircraft Department at Preston and Lytham during WW1 and in the 1920s, before looking in more detail at Samlesbury and Warton from WW2 up to the 1960s. Accounts of later decades will in due course bring the story up to date. It is the intention later to compile a detailed index.

Inevitably, the volume of text devoted to particular people varies according to the amount of information that has come to light. What follows therefore is not necessarily a measure of the full worth or contribution made by specific individuals. In that respect it does not represent a value judgement either by myself or BAE Systems. Indeed I hope that its circulation among a wide readership will itself 'tease out' further information and memories suitable for publication in the future. I would be most grateful to have any such material sent to me at the BAE Systems Heritage Department, Warton, the full address of which is on the back cover of this publication.

Together with a few innocuous but hopefully moderately amusing anecdotes, I have restricted content to those factual events that I have been able to draw from the archives or that have been presented to me. As with most professions, test flying anecdotes are legion and any that have strayed towards the nocuous or controversial – doubtless all apocryphal anyway! – have nevertheless been left out of the narrative, albeit with some regret.

What follows is my own perspective on the history of test flying at Samlesbury and Warton, taking into account all the assistance, information and material I have received. Any content that might be construed as comment or opinion, unless specifically attributed, should therefore be considered mine, not necessarily reflecting any official policy or view held by BAE Systems plc.

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INTRODUCTION

For seven decades, from the dawn of the jet age to the present day, test flying at the former English Electric Company's Samlesbury and Warton Aerodromes, near Preston in Lancashire [from 1960 the British Aircraft Corporation (BAC), 1977 British Aerospace (BAe) and, since 2000, BAE Systems] has been at the centre of the development of the UK military aircraft industry.

Today, test flying in Lancashire continues at the leading edge of an industry that attracts more superlatives than most other forms of man's economic activity, notably in terms of the scale, output and value, technology and skills, and the sheer spectacle of its products, underpinning the area's manufacturing economy and making Lancashire one of the world's great centres of aerospace. Its story has been compiled from information held in the BAE Systems Heritage Department archive at Warton, notably from house journals, press releases and aircrew *curricula vitae*, together with flight logs and other material made available by many of the personnel referred to, and from a wide range of other sources, the totality of which is either already within the public domain or otherwise compliant with regulations restricting the publication of sensitive or classified information.

The narrative is one of men and machines entering unexplored realms of speed and altitude, encountering issues of compressibility, critical Mach number, 'shock stall' and the 'dreaded sound barrier' sensationalised so direfully by the Press and Cinema in an era well before that of sophisticated predictive computer simulation. Inspired, intuitive, yet often unproven advances in aircraft design, supported by formative developments in aerodynamic and structural testing, materials technology and manufacturing were coupled with the most demanding and courageous experimental test flying. With Lancashire at its centre, the story also extends far beyond the North West of England, encompassing long-range intercontinental record-breaking flights, world altitude and speed records, delivery of aircraft to markets worldwide in support of UK exports, and not least the securing of the country's air defences.

The very origins of test flying by English Electric and its successors in Lancashire can however be traced back even before the Second World War, before the development of Samlesbury and Warton Aerodromes, to the period of the previous great conflict of 1914-18. Briefly, for completeness and context, those early beginnings are as follows: