



## ‘Aviation Tales’ Newsletter: March 2025.



*A really ‘interesting’ visitor to our Paraparaumu airport.*

*Thanks Stu.*

### **ZK-PHN**

‘Captured’ recently at Paraparaumu Airport by fellow aviation enthusiast “Stu” is this very smart looking private jet. PHN is an Embraer 500 Phenom 100, Serial: 50000250.

I look forward to having a closer look at this aircraft should it pay a return visit.

### **The month of March has been:**

Well, March!

The Kapiti Coast has been in ‘transition’ weather wise and in the spirit of “Crowded House” we will just have to take the weather with us!

I have over the last few months, been on the learning curve as a budding book writer/publisher and am pleased to say I am happy with my endeavours so far.

I am looking forward to my ‘Aviation Tales’ “book launch” during the afternoon of March 30<sup>th</sup>.

## Recent Aviation Events



At least 18 people were injured after a plane crash at Canada's Toronto Pearson International Airport.

The Delta Air Lines flight with 80 people on board from Minneapolis ended upside down on the runway, with passenger and crew still hanging in their seats.

The airport CEO Deborah Flint credited the "textbook response" of first responders for ensuring no lives were lost.

The incident comes less than three weeks after an American Airlines aircraft collided midair with a US Army Black Hawk helicopter while on approach to Washington DC's Reagan National Airport,

During a recent Monday afternoon, 'Delta Airlines' Flt 4819 attempting a landing at Toronto airport during an unusually heavy snow storm with gusty winds crashed in a way that can only be described as "*Unusual.*"

The aircraft (A Bombardier CRJ900 ) went sideways down the runway, shedding a wing from adjacent the fuselage , flipping over and remaining on the snow-covered runway upside-down.

Miracle of miracles. The crew and passengers survived relatively unscathed and as one passenger commented, 'they were hanging down like bats.'

Not surprisingly, "injuries were received when seat belts were undone and all tumbled to the ceiling and the contents of the overhead bins...."

"You don't want that wing ripping the fuselage in half," a spokesman for the passengers said.

"You want to make sure that wing breaks away as it's supposed to let that aircraft slowly come to a stop and that really saved a lot of lives."



## Aviation Personalities



Just a few months ago, during August, we saw a remarkable anniversary of an iconic British jet fighter.

I can scarcely believe it was 70 years since the prototype of the English Electric Lightning (WG760) took to the skies with Mr Roland Beaumont at the controls.

I remember as a boy back in Scotland (Circa 1965) being taken to RAF Leuchars to watch the 'jets' taking off and landing. I was certainly impressed.

The designer: W.E.W. 'Teddy' Petter

William Edward Willoughby "Teddy" Petter was born on 8 August 1908 in Highgate, London, the son of Sir Ernest Willoughby Petter (co-founder of Westland Aircraft Works) and Angela Emma Petter (née Petter).

Because his father spent much time in London, Teddy's early childhood was spent mostly with his mother, from whom he inherited a strong religious conviction and firm ethical principles.

He was educated at Marlborough College in Wiltshire then Gonville and Caius College, Cambridge.

During his first two years at Cambridge he focused his studies on subjects relevant to oil engines, the traditional product of Petters Limited, but in his third year he concentrated on aerodynamics and aircraft engineering.

During 1929 he was awarded a first class in the mechanical sciences tripos and shared the John Bernard Seely prize in aeronautics.

Petter joined Westland Aircraft Works as a graduate apprentice in 1929 and for the next 2 ½ years he worked his way through every department.

In May 1932 he was appointed personal assistant to the managing director, Robert Bruce, who did not welcome the appointment and ignored him, leaving Petter spare time to modify and compete an Austin 7 car.

His father appointed Teddy Petter to the board in May 1934, making him technical director (at the age of 26) in preference over more experienced engineers such as Arthur Davenport and Geoffrey T. R. Hill.

Though uninterested in early pioneering aircraft, Petter did take an interest in one, the 'autogyro'.

Westland's earlier attempt in this field, the C.29, had failed, he instigated collaboration with another autogyro designer, Frenchman Georges Lepère. This resulted in the CL.20, construction of which began in August 1934, with both Petter and Davenport supervising detail design and manufacture.



Though raised to the board by his father, certain business decisions by Ernest Petter infuriated Teddy.

During July 1935 Ernest Petter convened a shareholders meeting to propose a merger with British Marine Aircraft for the purpose of expanding Westland's workshops.

This proposal was thwarted by Teddy and Peter Acland who threatened to resign.

But in July 1938 Ernest Petter sold the controlling shares in Westlands to John Brown Ltd, forming Westland Aircraft Limited as a separate company, with Eric Mensforth brought in to share the managing directorship with Peter Acland.

“Teddy saw the loss of family control of the company as the loss of his birthright.”

The Air Ministry was initially reluctant to award Westland contracts due to Petter's inexperience, but after significant lobbying, the Air Ministry added Westland to the list of bidders for Specification A.39/34 army co-operation aircraft.

Petter started the design by interviewing the Army Cooperation pilots and ground crew. Based on this information, he placed pilot visibility, the ability to take off and land in small spaces, and ease of ground maintenance as the prime requirements.

The resulting design, the Westland Lysander, was clearly an evolution of Westland's high-winged monoplane designs, but Petter incorporated a number of innovative features including extensive use of extruded sections throughout the airframe, something that would be a feature in his future designs.



The early flight testing of the 'Lysander' revealed attitude control problems that the wind tunnel tests had not predicted.

Later, when these problems had been addressed by a larger, variable-incidence tailplane, it was realised that if a landing was aborted and the throttle opened up fully, the Lysander could rear up and stall!

While Penrose and RAF test pilots lobbied for modifications, Petter refused because redesign would affect production!

Enter the **Westland Whirlwind**, a low winged twin-engine aircraft employing the latest technology, designed to meet Air Ministry specification F.37/35, which called for a single-seat cannon-armed fighter, at least 40 mph faster than a contemporary bomber and not less than 330 mph at 15,000 ft.

To obtain this performance Petter and Davenport chose to minimise drag; the two Rolls-Royce Peregrine engines were fitted in closely streamlined nacelles, and their radiators were fitted inside the wing inboard sections.

To reduce the landing distance the wing incorporated automatic Handley Page slats coupled to the Fowler Flaps, with the radiator gills also coupled to the flap control.



The prototype first flew in September 1938, and while it was one of the fastest and most heavily armed fighters of its era, its development was problematic and protracted.

The engines overheated, the hydraulic engine controls were imprecise, the slats slammed open, and production was slow.

‘Teddy’ Petter was frustrated by its lack of operational status in the RAF and during November 1940, he wrote a memo to Sholto Douglas stating.

"The Whirlwind is probably the most radically new aeroplane which has ever gone into service... New ideas I am afraid, even with the greatest care, always mean a certain amount of teething trouble... I really do not think these troubles have been any worse than they were on, say, the Spitfire... "

By 1942 Westland was building mostly Spitfires under contract. One of the problems with the early marks of Spitfire was variability of longitudinal stability, leading to aircraft getting dangerously out of control and contributing to the risk of structural failure.

Petter made a significant contribution to improving the longitudinal stability of the Spitfire because he was the first to appreciate that aerodynamic modification to the elevator could provide additional stability.

On his own initiative he had Penrose collect flight test ‘stick force’ data and trim curves on a Spitfire at various centre of gravity loadings, then produced a prototype elevator with a bulged aerodynamic section, which produced a 'remarkable' improvement in stability, later being known as the 'Westland Elevator'.

During 1940, motivated by the threat of high-altitude bombers such as the Junkers Ju86P, the Air Ministry issued a specification for a high-altitude interceptor, F.4/40, followed by a revision F.7/41 in 1941. Petter submitted two designs.

His second submission was a conventional design, describing it as 'a logical development of the successful Whirlwind...'. This was selected and became the Welkin.



Specification F.7/41 required a minimum speed to 415mph at 33,000ft with a maximum ceiling of 42,000ft. The Air Ministry also wanted low altitude manoeuvrability and a +9G ultimate load factor. While the cabin pressurisation was innovative and worked well, the heat from the compressor 'was like sitting in an oven'.

By 1944 English Electric was established as a leading manufacturer of modern aircraft, both in terms of quantity and quality. This success was certainly due in part to the drive of the ‘Preston’ Lancashire site general manager, Arthur Sheffield.



In 1945, Petter proposed a study contract to the MAP for a high-speed, high-altitude bomber to an updated specification (B.3/45). This was granted in June allowing Petter and Page to establish the basic B.3/45 configuration. To facilitate the need for an internal bomb bay, Petter chose engines that could be mounted nacelles in the wings.

During October 1945 the Ministry of Supply issued an updated specification for the B.3/45, to which English Electric responded immediately.



This led to the successful design of the Canberra bomber.

despite the lack of enthusiasm for manned supersonic flight in postwar Britain, Petter made provisional sketches for a supersonic fighter in 1946, and in 1948 Handel Davis, visited Teddy Petter in Warton to discuss experimental supersonic development work under specification ER.103.

This proposal was submitted in the November and in January 1949 the project was designated P.1 by English Electric. On 29 March 1949 MoS granted approval for English Electric to start the detailed design, develop wind tunnel models and build a full-size mock-up.

To achieve Mach 2 the wing sweep was increased to 60° with the ailerons moved to the wingtips. In late 1949 low-speed wind tunnel tests showed that a vortex was generated by the wing which caused a large downwash on the tailplane; this issue was solved by lowering its height below the wing.



By late 1949 the basic configuration of the 'Lightning' was fixed.

During June of 1953 Petter presented his manifesto on his light fighter design at the Paris Air show.

In this paper, titled "Design for Production", Petter compared a 2500 kg light fighter with a 7500 kg standard fighter and concluded that although the weight ratio was 3:1, four times as many light fighters could be manufactured for the same cost.

He explained how the fuselage, wing structure, engine and services could all be simplified.



The Gnat first flew on 18 July 1955 and was demonstrated to be a capable aircraft.

At this time however the Macmillan government was rationalising the aircraft industry and made the order for Gnat Trainers conditional on Folland merging with the Hawker Siddeley group. Such a merger would effectively make Petter subordinate to Sir Sidney Camm, with whom Petter had a good relationship, but the working relationship would be intolerable.

At the same time, his wife, Claude, was showing the early signs of Parkinson's disease.

These two factors prompted Petter to announce his resignation to the Hawker Siddeley board on 11 November 1959, leaving Folland in the December.

Sadly, Teddy Petter, CBE, FRAeS died from complications from a chronic stomach ulcer during May 1968 and was buried in Béruges, Poitou-Charentes, France.

It seems he certainly was an inspired aircraft designer although a fiercely shy, very private individual, not an easy man to know or to work with.

He played a prominent part in the design of the Lysander, Whirlwind fighter, Welkin, Canberra, the concept of Lightning fighter and latterly the Folland Gnat fighters and trainers.

With that range of aircraft to his credit he has to rank in the same range of designers as Sidney Camm, R. J. Mitchell and Roy Chadwick.





## Restoration News

Any Bf 109G-6 that makes it back to airworthiness attracts my attention.

This particular 'Gustav' was originally part of the Luftwaffe's JG-54 unit and was recovered from Lake Swiblo during 1992 and is possibly Wrk Nr 410077.

Flown by the Technical Officer of Stab/JG54; research continues into the circumstances of this wartime loss.

### **Enter: Mid-West Aircraft Restorations.**

“We are immensely proud to share the story of one of our most challenging restoration projects: the World War II Messerschmitt Bf 109G-6.

This venture marked a significant departure from our renowned expertise with North American Aviation's P-51 Mustang fighters.

The project not only restored a historical aircraft but also showcased our team's adaptability and commitment to excellence.”

This particular Bf 109G-6, originally part of the Luftwaffe's JG-54 unit, has a remarkable history. Built at Messerschmitt's Erla facility in 1943 and saw action on the Eastern Front.

During 1944, after sustaining battle damage, it was forced to land on a frozen lake near the Estonian-Russian border.

The pilot managed to escape, but the aircraft was intentionally damaged by retreating German forces and eventually sank in the lake, where it lay forgotten for decades.



The featured Bf 109G-6 as recovered from Lake Swiblo.

Rediscovered and then recovered during 1990 following the Soviet Union's opening to the West, it changed hands several times. Traversing many continents, this aircraft became part of the restoration programme with 'Midwest Aero Restorations' in the USA.

“Dr. Bruce Winter, an experienced pilot and warbird enthusiast, entrusted us with the restoration of this unique Bf 109.”

“Our team embarked on this journey with a commitment to authenticity, sourcing original German-spec materials and components globally.

Renowned experts such as Lynn Ritger, Floyd Werner, and Mark Sheppard provided invaluable insights, ensuring historical accuracy in every aspect of the restoration.

Our restoration journey was both intricate and enlightening. From constructing new tooling to sourcing rare parts, we left no stone unturned in our quest to revive this particular Bf 109G-6.”



A wing assembly jig in use before and during the restoration process.

“The team also paid meticulous attention to details, including the paint scheme, where we collaborated closely with experts to replicate the original World War II colours and patterns.”

The engine rebuild, a critical aspect of the project, was masterfully handled by Mike Nixon and his dedicated team at Vintage Aero Engines, further enhancing the aircraft's authenticity.



The quality of the engine restoration work is quite amazing.

The culmination of our efforts was the successful test flight, expertly conducted by renowned warbird pilot Mr Steve Hinton.

His insights and experience with the aircraft underlined the unique flying characteristics of the Bf 109G-6, differentiating it from other fighters like the Mustang.

“This project was not just a restoration; it was a revival of a piece of history, allowing us to connect with the experiences of World War II pilots.”



“As we reflect on this monumental project, we feel a deep sense of accomplishment and pride. Our journey with the Bf 109G-6 exemplifies our dedication to preserving aviation history and our unwavering commitment to craftsmanship and authenticity.

This restoration stands as a testament to the passion and expertise of our team at Midwest Aero Restorations and our valuable collaborators.”





## Tail Piece



Looks like it was the day of the aircraft re-weigh. Tails up.



Yep! Quite a tail.

- ❖ Do you have any interesting aviation topics you would like to have researched for a future newsletter edition?
- ❖ Do any of the articles you have read in this newsletter edition require further explanation?

*Please get in touch.*

This month's motivational statement:

“Look closely. The beautiful may be small.”

(Immanuel Kant)

The ‘Aviation Tales’ newsletter is produced monthly.

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