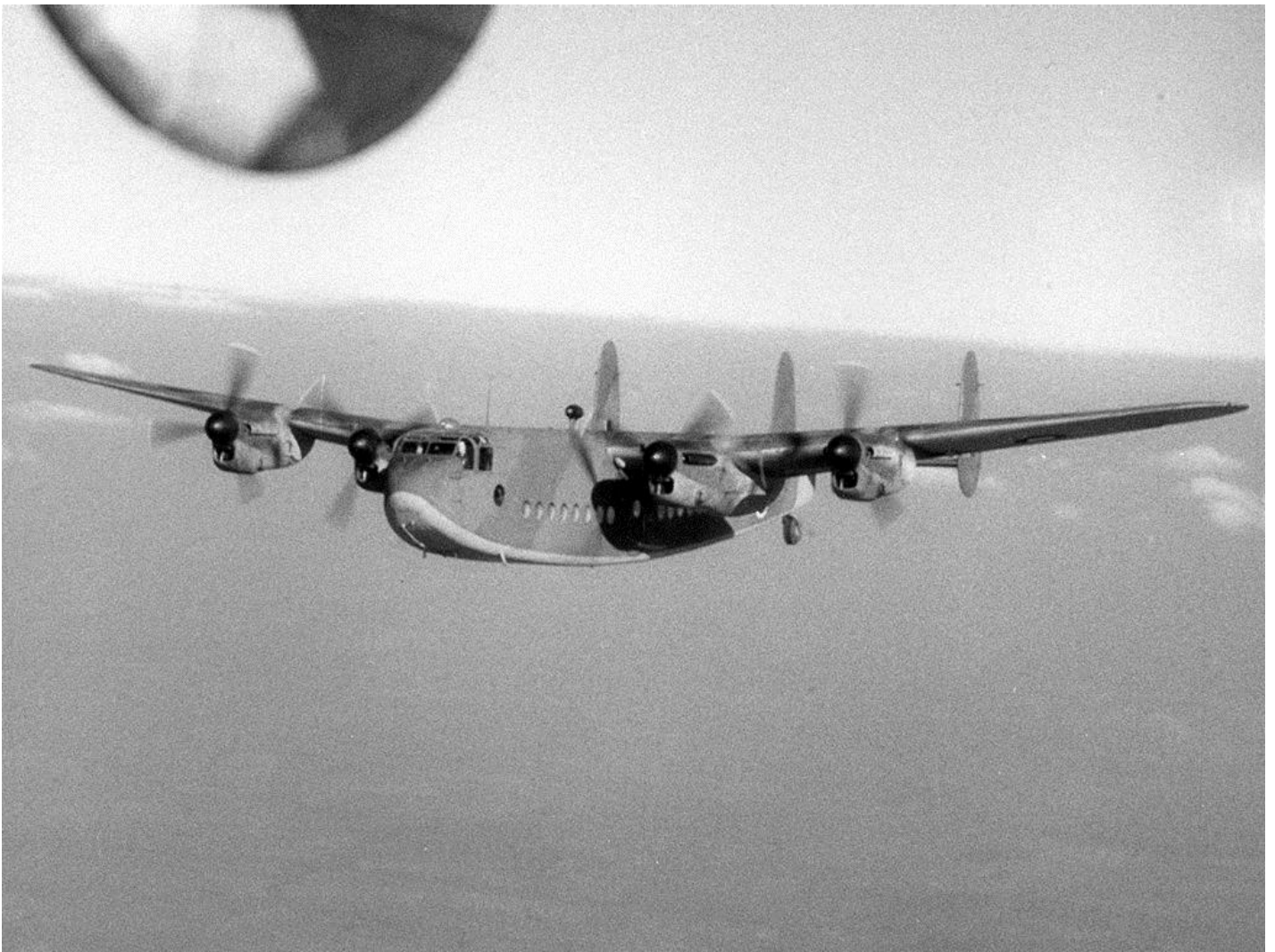


Avro 685 York



Avro York civil

L'étude du type 685 (désignation constructeur Avro) a débuté en 1941. Il fallait une bonne dose d'optimisme aux ingénieurs d'Avro pour travailler sur un projet d'avion civil pour l'après-guerre, alors que l'horizon de la Grande Bretagne était des plus sombre à l'époque. Avro voyait dans ce nouvel avion non seulement un cargo militaire, de bonne capacité et avec une grande autonomie, mais aussi, et surtout, un appareil civil pour se placer dès la fin de la guerre, et ne pas laisser le marché aux constructeurs US. Le dessin mariait la voilure, les moteurs, le train d'atterrissage et les empennages du Lancaster, avec un nouveau fuselage, plus ventru et de section carré. Alors que sur le Lancaster, la voilure était implantée en position mi-haute, afin de dégager de la hauteur sous la soute à bombes pour son chargement, sur le Type 685, l'aile était en position haute, les longerons passant au-dessus de la cabine, et dégagant de ce fait un espace sans obstacle. Si les deux prototypes avaient une double dérive, directement importée du Lancaster, à partir du troisième York, une troisième dérive, centrale, fut ajoutée, pour rétablir la stabilité longitudinale. Le prototype LV 626 fit son premier vol le 5 juillet 1942, et devant les bonnes caractéristiques de vol, le Ministère britannique de la production aéronautique lançait un Operational Requirement OR 113, pour 4 prototypes, régularisant a posteriori l'initiative privée de l'Avro. La production fut lente à se mettre en place, du fait des difficultés d'approximativement et de l'absolue priorité donnée au Lancaster. Le premier York de série ne devait être délivré qu'en février 1944. Mais une fois lancée, la chaîne de construction fut rapide, puisque le dernier exemplaire fut livré en avril 1948. Au total, incluant les prototypes, 258 York furent produits par Avro en Grande Bretagne et un au Canada, par Victory Aircraft. Le York est un quadrimoteur de transport à aile haute, entièrement métallique, à l'exception des gouvernes, entoilées. L'empennage, hérité du Lancaster, est tri dérive, de forme ovales très allongée. Le fuselage est de section carrée et peut emporter un maximum de 56 passagers, en 14 rangées de 4. L'équipage technique comporte deux pilotes, un radio et un navigateur, auxquels peut se joindre un steward pour les passagers. Les versions pour vols au long cours n'emportaient généralement que 21 passagers, en 7 rangées de 3 fauteuils. Alternativement, il peut transporter un charge marchande de 5 400 kg.



[Avro York I de la RAF en vol](#)

Train d'atterrissage classique, le train principal rentrant dans les fuseaux moteurs internes, et la roulette de queue restant fixe. Le York est motorisé par quatre Rolls-Royce Merlin de 1620 hp au décollage et 1280 shp en puissance maximale continue, des T24 sur les modèles initiaux, puis des 500 et 502 sur les derniers exemplaires. Ils entraînent des hélices tripales à pas variable De Havilland Hydromatic. Les 15 réservoirs de carburant (7 dans chaque aile, et un central) emportent un total de 11 250 l, autorisant plus de 4500 km d'autonomie. Le troisième prototype, LV 633 fut transformé comme avion VIP pour l'usage du Premier Ministre Winston Churchill, avec un aménagement luxueux et des hublots carrés plutôt que circulaires. Baptisé « Ascalon », il servit au transport ministériel jusqu'en 1946, date à laquelle il fut transféré à Singapour, comme avion personnel du commandant en chef de la RAF en Extrême Orient. Il fut remplacé par MW 295 « Ascalon II », qui fut le dernier York de la RAF, n'étant retiré du service qu'en mars 1957. D'autres York servirent à d'autres personnalités : MW 140 fut l'appareil du Duc de Gloucester, Gouverneur-Général d'Australie, il fut le seul York de la RAAF. MW 102 fut l'appareil de Lord Mountbatten vice-roi des Indes. Le Général de Gaulle reçut en cadeau de Churchill un York (MW 169), qui lui servi notamment lors de sa tournée américaine de 1945. Un dernier York, MW 104, fut utilisé par le leader sud africain Jan Smuth, puis transféré à la SAAF, comme 4999. Mais la grande majorité des York servirent dans la RAF, qui reçut 208 exemplaires de série, en plus des 4 prototypes. Ils servirent tant en transports de troupes qu'en cargo. Le Sqd 511 fut la première unité à être entièrement équipée du York, dès début 1945, et au total 10 Squadrons en furent dotés. Lors du pont aérien de Berlin, en 1948, les York de la RAF transportèrent plus de 200 000 t d'approvisionnements dans la ville assiégée, en près de 60 000 vols. La majeure partie des York de la RAF furent envoyés à la ferraille en 1952, mais une quarantaine fut revendu sur le marché civil.



[Avro York de la RAF](#)

Durant et après guerre, la BOAC utilisa plus d'une trentaine de York sur ses services vers l'Afrique du Sud, l'Inde et le Pakistan, l'Égypte et l'Afrique de l'Est (Mombasa et Dar es Salaam). Les vols vers l'Afrique du Sud étaient opérés en conjonction avec SAA (South African Airways), et comportaient des services de luxe, avec 12 couchettes. Les derniers York furent radiés des registres de la BOAC en 1950. A partir de fin 1946, les York assurèrent des vols vers l'Amérique du Sud, aux couleurs de BSAA (British South America Airways, 12 exemplaires neufs) et FAMA (Flota Aerea Mercante Argentina, 3 exemplaires neufs). Mais ces services furent de courte durée, car en 1949 BSAA fut absorbée par la BOAC et FAMA par Aerolineas Argentinas. Ce fut surtout sur le marché de l'occasion que le York connu le succès auprès de compagnie charters, telles Skyways, Air Charter Ltd, Hunting, Scottish Aviation, et Dan Air. La plupart de ces compagnies opéraient pour le compte du Ministère britannique de la Défense, transportant des troupes aux quatre coins de l'Empire. De fait, certains appareils, bien que civils, reçurent un nouveaux serial numbers de la RAF, dans la série des TS et des WW. D'autres York furent utilisés par des compagnies étrangères, dont Air Liban, Middle East Airlines, Aden Airways, Arab Airways (Jordanie), Saudi Arabia, Trans Méditerranéen. D'autres furent utilisés dans le grand nord canadien, lors de la construction de la ligne de radar de détection avancée DEW Line. Son vaste fuselage, sa proximité avec le sol, et sa position faiblement inclinée au sol rendait les chargements/déchargement plus faciles, et de ce fait il était apprécié des compagnies cargo. Le York fut très peu utilisé par d'autres forces aériennes, car, à l'exception des avions VIP, seule l'Aéronavale utilisa 5 York entre 1954 et 1962, au sein de l'escadrille 31S, basée à Dugny (codes en PA-x, pour Paris). Il est possible, mais non prouvé que la Fuerza Aerea Argentina ait utilisé un York, ex Aerolineas Argentinas. Deux exemplaires sont conservés : TS 798 (ex BOAC G-AGNV), peint aux couleurs du LV 633 « Ascalon », au RAF Museum de Cosford, et MW 232, G-ANTK, de Dan Air, à l'Imperial War Museum de Duxford. Ce fut cet avion qui réalisa le dernier vol d'un Avro York, le 13 avril 1964, lors d'un vol cargo Le Bourget – Heathrow.

Source : <https://aviationsmilitaires.net/v3/kb/aircraft/show/78/avro-685-york>

The **Avro York** was a British transport aircraft developed by [Avro](#) during the [Second World War](#). The design was derived from the [Avro Lancaster heavy bomber](#), several sections of the York and Lancaster being identical. Due to the importance of Lancaster production, York output proceeded slowly until 1944, after which a higher priority was placed upon transport aircraft. The York saw service in military and civilian roles with various operators between 1943 and 1964. In civilian service, [British South American Airways](#) (BSAA) and [British Overseas Airways Corporation](#) (BOAC) were the largest users of the type. In military service, large numbers of Yorks were used for air-supply missions during the [Berlin Blockade](#) 1948–49. A number of the type were used as [air transports of heads of state and government](#); [VIPs](#) who flew on Yorks included British Prime Minister [Winston Churchill](#), French General [Charles de Gaulle](#), Indian [Governor-General Lord Mountbatten](#) and [South African Prime Minister Jan Smuts](#).

Development

Origins

During 1941, [Avro](#) elected to begin development of a new civil-orientated transport aircraft.^[1] In the midst of an uncertain stage of the Second World War, Britain's aircraft industry was preoccupied by urgent wartime demands, not only to produce military aircraft, but to design increasingly capable models as well. The company's decision to embark on this venture was considered to be ambitious, especially as the development project operated with no official backing early on.^[1] The project may well have been influenced by a shortage of transport aircraft, as well as by the formation of the [British Overseas Airways Corporation](#) (BOAC), in 1940, to run all of the nation's overseas civil air routes. However, according to aviation author Donald Hannah, there was little incentive and few materials available for the construction of transport aircraft, it was impossible to predict when the war would end and, thus, when large-scale demand for civil aircraft would return.^[1] [Roy Chadwick](#), Avro's chief designer, had foreseen a need for a transport aircraft that was powered by four engines and would be capable of flying for long distances. The design, which was designated as the *Type 685*, had its origins in the company's then-newly developed four-engined bomber, the [Avro Lancaster](#), which had made its first flight only earlier that year.^[1] The *Type 685* paired various elements of the Lancaster, such as its wings, tail assembly and [undercarriage](#) and [Rolls-Royce Merlin](#) engines, with a new square-section fuselage that provided double the internal capacity of the Lancaster. The two aircraft also substantially differed in external appearance.^[1] In February 1942, Chadwick submitted his drawings to Avro's experimental department. Within five months, the company refined the design and had quickly assembled an initial prototype. On 5 July 1942, the York prototype, *LV626*, conducted its [maiden flight](#) from [Ringway Airport, Manchester](#).^[1] It had initially been fitted with the twin fins and [rudders](#) of the Lancaster but the increased fuselage side area forward of the wing compared to the Lancaster necessitated fitting a third central fin to retain adequate control and directional stability; the third fin was fitted as standard on subsequent production aircraft.^{[2][3]} Flight trials of *LV626* were quickly transferred to [RAF Boscombe Down](#). In response to the prototype's favourable performance during trials, the [Air Ministry](#) issued an order for three more prototypes of various configurations to be built along with an initial production batch under [Specification C.1/42](#), part of Operational Requirement OR.113 for a new transport aircraft.^[1] The prototypes were used to test various adaptations and potential roles for the aircraft. *LV626*, the first prototype, was rebuilt to the *C.II standard*, the principal modification of which was the installation of [Bristol Hercules VI radial engines](#) in place of the Merlins; it was later decided to standardise on the Merlin engine, leaving this as the sole Hercules-powered York.^[3] The fourth prototype, *LV639*, was furnished as a [paratroop transport](#), complete with ventral dropping doors. However, flight testing found that the York was unsuited to this role, due to the [slipstream](#) wash drawing the parachutes towards the fixed [tailwheel](#), posing an entanglement risk.^[3]

Production

Production of the York proved difficult to speed up, due to shortages of key materials. Moreover, Avro was also obliged to place a high priority on the manufacturing and refinement of the Lancaster.^[1] Officials had also judged that there was no requirement for large numbers of Yorks at that time.^[4] By the end of 1943, only the four prototypes and three production aircraft had been manufactured, but production was scheduled to rise to three aircraft per month throughout 1944.^[5]

Early production Yorks were principally used as a VIP transport aircraft; notably, the third prototype, LV633 being luxuriously fitted out and becoming the personal transport of Winston Churchill.^[3]



RAF York

On 25 March 1943, [RAF Transport Command](#) had been formed, which soon established a clear requirement for the strengthening of Britain's air transport forces; the York became the first British aircraft to be used in quantity by Transport Command. The first RAF production order consisted of 200 aircraft; while a further 100 were ordered under a second order placed shortly after.^[5] Throughout 1944, the majority of Yorks produced were passenger transport aircraft, a batch of both pure [freighters](#) and [combined passenger/freighter](#)-configured Yorks were also manufactured.^[5] Several early production aircraft intended for RAF service were instead diverted to BOAC, who had otherwise received little in the way of similar aircraft prior to delivery of the first York in April 1944.^[5] Initial assembly and testing of production Yorks, which were principally destined for service with the [Royal Air Force](#) (RAF) at that time, was performed at Ringway, reaching its peak in 1945; these activities later being transferred to facilities in [Yeadon](#), [Leeds](#) and [Woodford, Cheshire](#), where work was undertaken at a slower pace.^{[2][5]} Only eight aircraft of the second order for 100 aircraft were produced; in April 1948, the final York, *PE108*, was completed.^[5] Abroad, a single pattern aircraft was completed by [Victory Aircraft](#) in Canada; however, no further orders were received. Victory had tooled up for the manufacture of 30 aircraft and had built parts for five aircraft, but, ultimately, only one would be completed around the time that the war came to an end.^[6] This aircraft would later be purchased by Skyways Ltd.^[7]

Design

The Avro York was a high-wing cantilever monoplane, using an all-metal construction, with many similarities to the Lancaster from which it was derived. The wings used a two-spar structure, which housed seven internal fuel tanks between the spars, containing 2,478 imperial gallons (11,270 L; 2,976 US gal).^[8] The outboard panels of the wings were tapered on both edges and were furnished with detachable tips. The wings featured all-metal [hydraulically](#)-actuated split [trailing edge flaps](#) and carry the four [Rolls-Royce Merlin](#) engines in four underslung nacelles attached to the front wing spar.^[8] Each engine drove a three-bladed constant-speed fully [feathering](#) metal [propeller](#), manufactured by [de Havilland Hydromatic](#). The fuselage was of a semi-[monocoque](#) construction, complete with a flush-[rivetted](#) skin, and was built in five separate sections.^[8]

In a typical passenger configuration, the York could accommodate a 21-seat three-abreast arrangement split between the fore and aft cabins. The main entrance door was set between the two cabins, along with [cloakrooms](#) and [lavatory](#), and a kitchen and [baggage hold](#) was located at the rear of the cabin.^[9] Emergency exits were present in the ceiling of each cabin. Passengers were subjected to very noisy conditions due to the aircraft's engines,^[10] but from a pilot's perspective, the York was reasonably pleasant to fly.^[11]

Operational history

Military



BOAC York operating a freight schedule at [Heathrow](#) in 1953

In 1945, [No. 511 Squadron](#) became the first squadron to be fully equipped with Yorks; eventually a total of ten squadrons of [RAF Transport Command](#) were wholly or partially equipped with the York.^[5] In military service, the York was used on all of the [trunk routes](#) operated by Transport Command, such as the critical [England–India](#) route. Overall, 208 Yorks were manufactured for the RAF.^[5] During the [Berlin Airlift](#), RAF Yorks from seven different squadrons flew over 58,000 sorties to provide the city with vital supplies between 1948 and 1949.^[5] In total, in excess of 1,000,000 tons was carried by the York fleet;^[12] the type had borne close to half of the British contribution, alongside other aircraft such as the [Douglas Dakota](#) and [Handley Page Hastings](#). Following the end of the Airlift, the RAF retired much of its York fleet; around 40 of these were sold onto civilian operators while many others were scrapped due to the onset of [corrosion](#).^[13] During the 1950s, numerous military contracts were issued to civilian York operators.^[14] In 1954, the French [Aéronavale](#) procured five Yorks from the British Air Ministry and operated the type at [Le Bourget](#) for around a year.^[10]

Civilian



[Air Charter](#) York taking off from [London Stansted](#) in 1955 on a trooping flight to the [Suez Canal Zone](#)

On 21 February 1944, the first civilian York (G-AGJA), initially built for the RAF as MW103, received its [airworthiness certificate](#), thus clearing its delivery shortly thereafter to the [British Overseas Airways Corporation](#) (BOAC).^[5] On 22 April 1944, the York inaugurated an initial UK-[Morocco-Cairo](#) route. Following the diversion of the first five RAF production Yorks to BOAC, it was decided to allocate a further 60 to the airline^[5] but in fact only 25 more were delivered to BOAC.^[15] Early BOAC operations were conducted in close collaboration with [No. 216 Group RAF](#); this led to some early Yorks bearing a confusing combination of both civilian registrations and military external markings.^[5] Flights were soon established to [Johannesburg, South Africa](#), in conjunction with [South African Airways](#); Yorks assigned to this route fitted with a total of 12 sleeping berths in addition to passenger seating due to the journey time.^[16] The majority of BOAC's York fleet were fully furnished passenger airliners or as combi passenger-cargo aircraft.^[5] In the post-war years, BOAC expanded its use of the York considerably, such as on its [Cairo to Durban](#) service, which had previously been operated by [Shorts flying boats](#).^[17] Other airlines also adopted the type, such as its use by [British South American Airways](#) (BSAAC) on their routes to the Caribbean and South America, prior to their merger into BOAC in September 1949.^[18] On 7 October 1952, BOAC withdrew its Yorks from passenger services, retaining the type for freight operations.^[7] BOAC's Yorks continued to operate freight schedules until November 1957 when the last example was withdrawn.^[18] After disposal by BOAC and BSAAC, their York fleets were purchased by several UK independent airlines and operated on both passenger and freight flights; these service often included long-distance trooping flights to [Jamaica](#) and other UK garrisons.^[19] The largest York operator out of the independents was Skyways.^[20] In 1964, the last Yorks were retired from service by Skyways and [Dan Air](#). When the [Distant Early Warning Line](#) (Dew Line) was being constructed in Canada in the late 1950s, the York was introduced as a freighter by Associated Airways to support the initiative, these being used later in ordinary airline service.^[10] At least one of the Yorks, *CF-HAS*, was retained, and was in service with [Transair](#) as late as 1961.

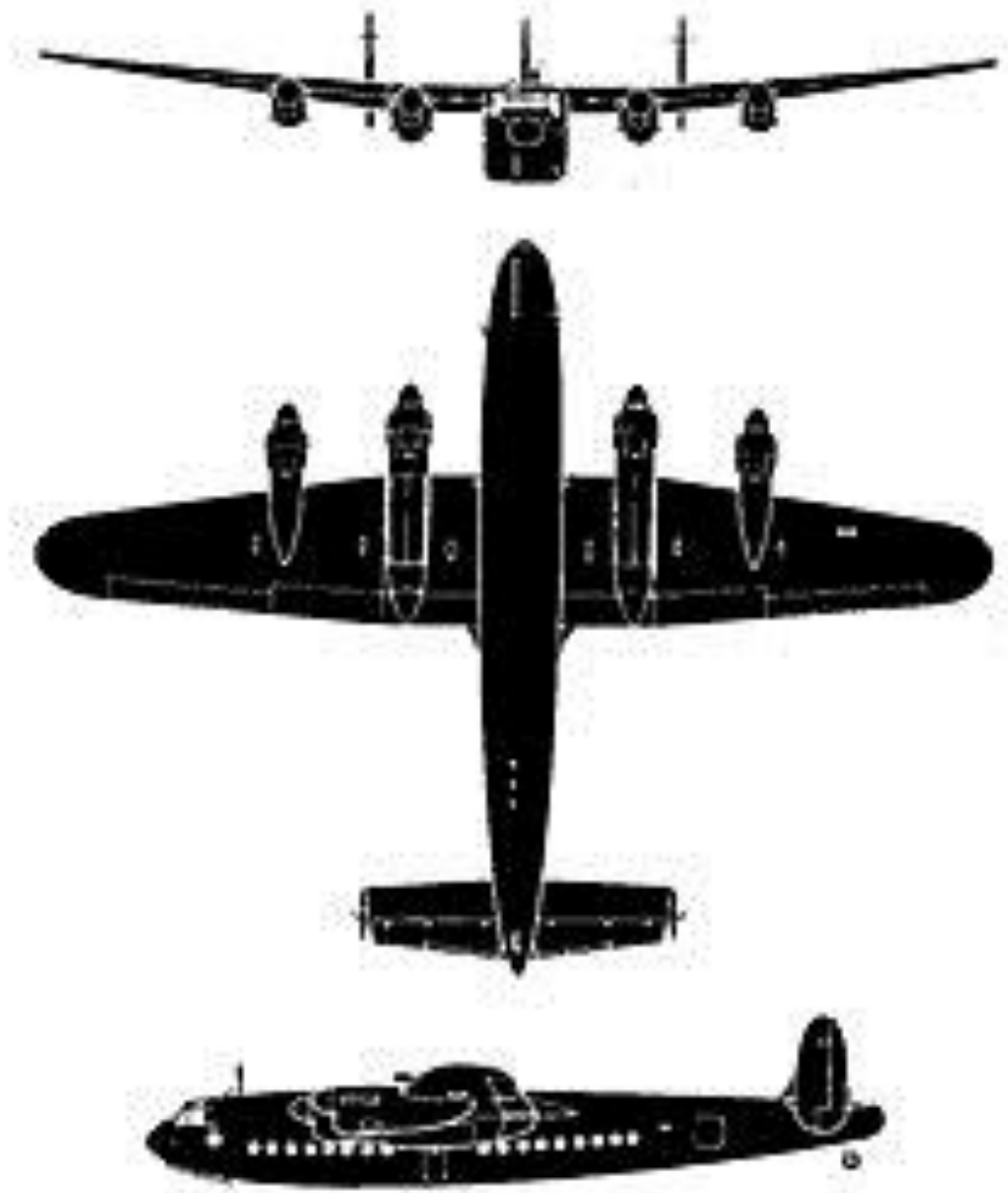
VIP service



Members of the [Governor-General's Flight RAAF](#) in front of the Vice-Regal Avro York in June 1945

The Avro York was, like its Lancaster and Lincoln stablemates, a versatile aircraft. One of the prototypes, *LV633, Ascalon*, was custom-built as the personal transport and flying conference room for Prime Minister [Winston Churchill](#). *Ascalon* was to be fitted with a special pressurised "egg" so that VIP passengers could be carried without their having to use an [oxygen mask](#). Made of aluminium alloy, the enclosure had eight perspex windows to reduce [claustrophobia](#). It also had a telephone, an instrument panel, drinking facilities and an ashtray with room for cigars, a [thermos flask](#), newspapers and books. Testing at [RAE Farnborough](#) found the "egg" to work satisfactorily. Avro said it was too busy with the new Lancaster IV ([Avro Lincoln](#)) work so it was never installed in *Ascalon*. It was considered for installation in the successor aircraft, a [Douglas C-54B](#) but the contractor [Armstrong Whitworth](#) decided it was impractical and the project was shelved. The whereabouts of "Churchill's Egg" is not known.^[21] *MW140, Endeavour*, flew to [Australia](#) in 1945 to become the personal aircraft of [the Duke of Gloucester](#), Australia's Governor-General.^[22] It was operated by the [Governor-General's Flight](#) from 1945 to 1947; it was the [Royal Australian Air Force](#)'s only York.^[22] Another York, *MW102* was fitted out as a "flying office" for the use of the [Viceroy of India](#) and C-in-C [South East Asia Command](#), [Lord Mountbatten](#). During its first major overhaul by Avro at Manchester (Ringway) in 1945, the aircraft was repainted a light duck egg green, a shade intended to cool down the aeroplane, instead of its former normal camouflage colour scheme. [South African](#) leader [Jan Smuts](#) also used a York as his personal transport. [Air Chief Marshal](#) Sir [Trafford Leigh-Mallory](#) was killed on 14 November 1944, while flying to his new posting in [Ceylon](#) to take command of Allied air operations in the Pacific, when York *MW126* struck a ridge in the [French Alps](#) in a blizzard, 30 miles (48 km) south of [Grenoble, France](#). His wife Dora and eight aircrew also died. The wreckage was found by a villager in June 1945.

Specifications (Avro York)



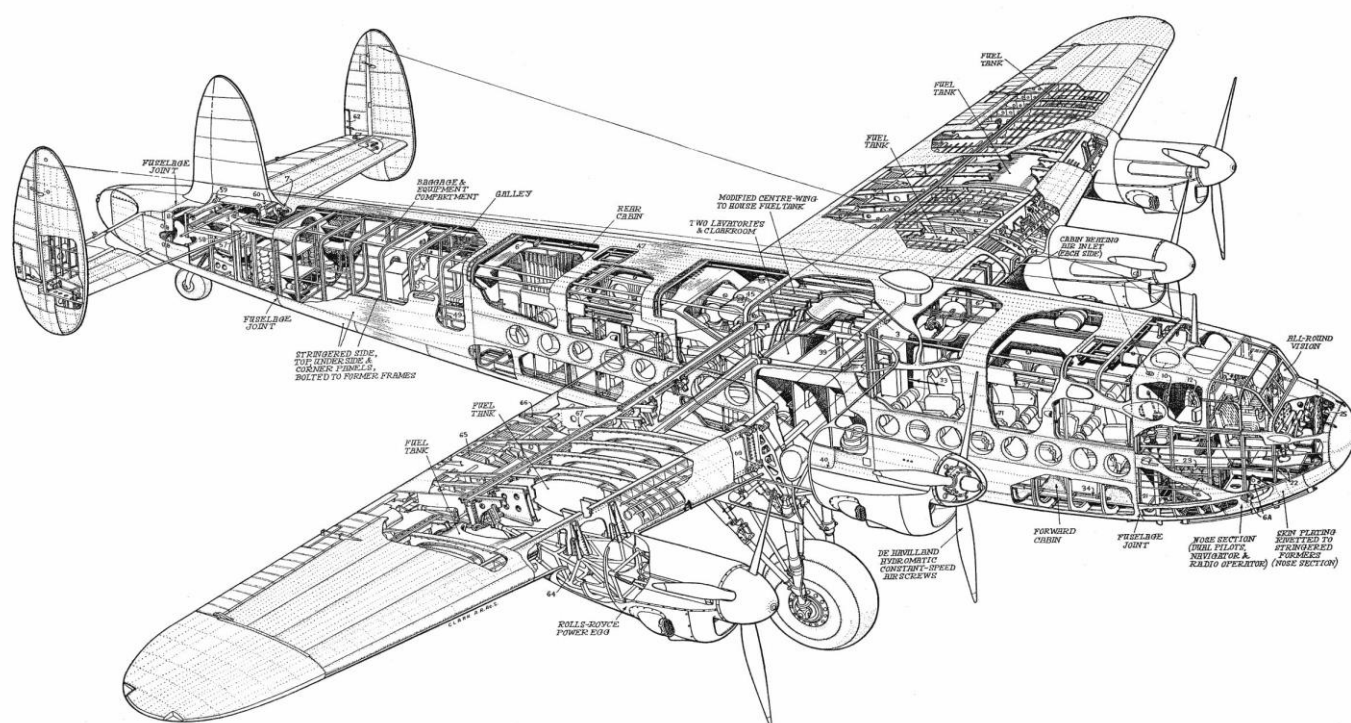
Avro York

General characteristics

- **Crew:** 5 (two pilots, navigator, wireless operator, cabin steward)
- **Capacity:** 56 passengers
- **Length:** 78 ft 6 in (23.93 m)
- **Wingspan:** 102 ft 0 in (31.09 m)
- **Height:** 16 ft 6 in (5.03 m)
- **Wing area:** 1,297 sq ft (120.5 m²)
- **Empty weight:** 40,000 lb (18,144 kg)
- **Gross weight:** 65,000 lb (29,484 kg)
- **Powerplant:** 4 × [Rolls-Royce Merlin 24](#) V-12 liquid-cooled piston engines, 1,280 hp (950 kW) each
- **Propellers:** 3-bladed constant-speed propellers

Performance

- **Maximum speed:** 298 mph (480 km/h, 259 kn)
- **Range:** 3,000 mi (4,800 km, 2,600 nmi)
- **Service ceiling:** 23,000 ft (7,000 m)
- **Rate of climb:** 820 ft/min (4.2 m/s)
- **Wing loading:** 54 lb/sq ft (260 kg/m²)
- **Power/mass:** 0.079 hp/lb (0.130 kW/kg)



LV626, first York prototype converted to C.II configuration with Bristol Hercules VI radial engines.



Source : https://en.wikipedia.org/wiki/Avro_York