SELECTION OF THE C-130 HERCULES

The venerable C-130 Hercules has been part of the RAAF inventory since 1958. Its introduction into service provided a significant boost to Australia’s strategic lift capability. In the early 1950s, the World War II vintage C-47 Dakota, with its limited performance, had formed the core of the Air Force’s airlift capability. Given Australia’s strategic environment and the transit distances involved, it became obvious that the Dakota could not meet evolving operational needs. The result was the setting up of an Air Board focused on identifying a suitable replacement.

The essential requirement was that the selected aircraft—in suitable numbers—had to be capable of moving a battalion, including equipment, in one lift, supplemented where necessary by civil aircraft if available. While the notion of ‘jointery’ was in its infancy, the Air Board members recognised that the selected aircraft also had to meet the wider requirements of the Navy and the Army. However, meeting the Navy and Army expectations needed continuous refinement of the selection process. For example, at one point, albeit briefly, the selected aircraft was expected to be used for glider towing and the specifications had to be altered accordingly.

There was one aspect upon which all Air Board members agreed and that was that the selected aircraft had to be more comfortable for crew and passengers than the Dakota. Pressurisation, heating and cooling throughout the aircraft and more discrete facilities than the Dakota’s ‘thunderbox’ were deemed necessary for the replacement aircraft. Perhaps the most significant operational disadvantage with the Dakota was that it was not a high-wing aircraft, and its side cargo door had major limitations.

The primary characteristics laid down for the replacement were a step change from the performance of the Dakota and were not easily met by the available contenders. In September 1954, the Prime Minister, Robert Menzies, directed that an RAAF mission (led by a two star) be conducted to review possible replacements for the Dakota. The mission was to report back within four months of receiving their directive. During the same review, the mission members were also required to recommend suitable aircraft to fulfill the RAAF’s new medium bomber requirement (Vulcan or Victor recommended), fighter (F-104 recommended), and jet trainer aircraft (Vampire Mk 33 recommended).

Similar to today’s tender evaluation process, the likely airlift contenders were a mix of ‘paper’ designs as well as developmental and in-production aircraft, albeit from only two nations—the United States and the United Kingdom. While the number of UK options reflected the size of the then UK aerospace industry, in many ways the options also reflected the somewhat stagnant state of many of the UK companies. The US, on the other hand, had aircraft in production that were designed during World War II, and another that used those experiences to leapfrog the other contenders. The RAAF had started to move away from relying on UK aircraft, especially in the fighter world, but the habit of buying British was still strong, and it would take an exceptional aircraft to overcome this mindset.

The UK industry at this time was struggling to produce aircraft capable of meeting the RAF and wider Commonwealth’s needs. The RAAF mission examined

The Mission unanimously recommends the purchase of the LOCKHEED C.130 (HERCULES).

Air Vice-Marshall A.M. Murdoch, CBE, 1954 Aircraft Mission Leader

C-47B Dakota A65-084 taking off
both ‘paper’ and in-production UK aircraft, even broadening their search to include other options at a later date. A few UK contenders made the final list, which are briefly described below:

**Bristol Type 195.** While only a design study (four engines, high-winged aircraft using many elements from the Britannia), the mission members nevertheless assessed that the Type 195 would meet the RAAF’s requirements if it ever went into production. However, with an uncertain production status, it was deemed incapable of meeting the RAAF’s schedule.

**Blackburn Beverley.** The Beverley simply failed to come close to the RAAF’s requirements, with its speed, payload and operating ceiling well below expectations. The lack of pressurisation and a fixed undercarriage was a throwback to the previous generation of aircraft.

**Short PD 16/1.** Looking very much like an early Armstrong-Whitworth Argosy, this was another ‘paper’ design offered to the mission members that was quickly discounted given the other options available.

In contrast, The USAF was developing a series of aircraft that met the demands of full spectrum airlift supported by a mature, vibrant industry that was moving to meet the growing needs of a Cold War USAF. The US contenders were:

**Fairchild C-119.** The C-119 was a successful attempt to produce a tactical transport aircraft which would replace the both the C-46 and C-47 in USAF service. However, it too failed to meet the RAAF’s requirements, notably being unpressurised, with poor speed, range and payload.

**Chase C-123.** While reviewed by the mission members, the C-123 was unlikely to fulfill RAAF requirements as the aircraft was designed around a shorter-range platform used for air assault missions into unprepared airfields in the forward combat area. Again the speed, range and payload performance was below those needed by the RAAF.

**C-130A with Rolls-Royce Engines.** Lockheed had undertaken an assessment of the practicality and benefits of fitting a C-130 with Rolls-Royce engines. While some improvements in performance would be expected, the drawback of operating an orphan fleet quickly removed this option.

**Lockheed C-130A.** The mission members were impressed with the performance of the C-130A and with the USAF orders. The aircraft easily met the RAAF load carrying and performance demands, and the mission quickly went ahead with the recommendation to government to acquire the aircraft.

The Air Staff mission met its deadline and unanimously recommended the C-130A as ‘being the only transport aircraft that conforms to all the important features of the Air Staff requirement.’ Of note was the UK reaction—shortly after the RAAF’s decision to acquire the C-130, Blackburn offered an unsolicited proposal of the Blackburn Beverley B107 (four radial piston-engined, high-winged aircraft), apparently at the behest of, Sir John Slessor. However, the selection of the C-130A sounded a death knell for the expectation that Australia would simply buy what the UK produced. The RAAF wanted 12 aircraft to meet its requirement but the now familiar tale of rationalisation experts providing advice reared its head. Senior bureaucrats held the view that six would be enough, and that any further aircraft procurement should be delayed. Fortunately this was overruled and 12 C-130A aircraft were ordered, making the RAAF the second operator of the C-130 after the USAF. With the purchase of the C-130, the RAAF obtained a modern airlift capability that set the standards for future developments in this important role.

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**Key Points**

- The requirements for the Dakota replacement forced the RAAF out of its habit of buying British.
- The C-130A was clearly the most advanced and capable transport aircraft of the 1950s, superior to all other Western transport aircraft and the subsequent iterations of the aircraft confirmed its earlier selection.
- The C-130A provided the RAAF with a global airlift capability in line with Australia’s geostrategic requirements and the concept of expeditionary operations.

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