C-130A – AGENT OF TRANSFORMATION

‘The successful execution of the lift portion of Enduring Freedom spotlighted the value of logistics as a weapon system…’

Ben Lambeth

In public perception, the modern fighter aircraft portrays sophisticated technology and revolutionary changes in air power and air forces, while transport and maritime aircraft seem staid and, at best, evolutionary. From the beginning, air shows have been filled with stunning demonstrations of new and better fighters (and occasionally bombers) reinforcing the belief that new fighters are the agents of change for an air force. The introduction of the Mirage III in 1963 and the F-111C in 1968, is commonly considered to be the beginning of the RAAF’s transformation into a world-class, modern air force. Both these aircraft had state-of-the-art engines and airframes and both were equipped with advanced and complex weapons and avionics. They demanded from the RAAF highly trained, specialist aircrew and technicians generated by a disciplined and dedicated training organisation. If transformation of an air force is characterised by these traits then the transformation of the RAAF started well before the introduction of the Mirage III. It can be said that the introduction of the C-130A into RAAF service in 1958 first demonstrated these traits and started the RAAF’s transformation.

The massive improvement in performance of the C-130A over the C-47, which was then the workhorse of the RAAF, was a revolutionary change for the airlift community. With its greater speed, range and payload the C-130A immediately influenced the way in which the ADF and other national agencies met the Government’s requirements, with the impact being felt from the national strategic to the tactical level.

For a resource-constrained post-war air force whose training habits were somewhat informal and not overly systematic, the first RAAF C-130A crews experienced a cultural shock when they came across the disciplined, modern and technology-enabled USAF training system. Earlier, conversion to the C-47 was somewhat more haphazard, as noted in AIRMSHL SD Evans’ autobiography. ‘Is there a course I have to do before I go flying?’ asked the then Flight Sergeant Evans. ‘No, go and get a set of pilot notes…’ was the response. On the introduction of the ‘C-130A method’ there was realisation that this was the future for the RAAF training system. Soon USAF-style conversion courses were established in Australia, leaving behind the older informal ways. The extensive use of simulators by the USAF airlift community was a model the RAAF also adopted for its C-130A conversion training. With both the Sabre and C-130A programs successfully using simulators, the RAAF was spurred to adopt simulator-based training for other aircraft, notably for the P-3B, C-130E and F-111. Training was leading the transformation of the RAAF.

While the task of loading a Dakota was complex and labour-intensive, the sophisticated loading systems of the C-130A demanded a quantum increase in aircrews’ knowledge and skills. It was realised that to make best use of its load carrying capacity specialist knowledge was needed, and the RAAF rapidly qualified selected personnel as loadmasters on the new airlifter. This concept ultimately resulted in the formal introduction of the Loadmaster mustering in 1983. The aircraft’s systems were similarly generations ahead of its predecessors, and the Allison T-56 turbo-prop engine was the first turbo-prop used on a military transport. To manage the new engines and systems, a new generation of flight engineers were required with skills over and above those of their World War II era forebearers. The move to more specialised aircrew was a
taste of things to come–effective application of air power demands deep professional mastery at all levels.

In comparison with the C-47’s performance, the C-130A offered previously unimagined capabilities. The Dakota, whose contribution to the Allied victory in World War II is unquestionable, was nevertheless an aircraft that reflected the design and performance of the 1930s. The new levels of speed, reach and payload—all enduring characteristics of air power–provided by the C-130A forced massive changes to planning and operational concepts across the ADF.

With a cruise speed over twice that of the C-47 and a greatly enhanced range, the ADF now had much greater flexibility in reacting to emerging challenges. The long distances within Australia and the region had always been a significant, and limiting, factor in the ADF’s reactive capability. The C-130A’s speed now markedly reduced reaction times.

The fivefold increase in load capacity of the C-130A, in relation to the C-47, fundamentally altered the ADF’s concepts of strategic air movement. Passenger numbers increased from 28 in the Dakota to 92 for a C-130 (and more if combat loaded) and allowed military forces to arrive quicker and with more combat power at an operational location. For the ADF, contemplating operations in infrastructure-poor South-East Asia or PNG, the C-130A was a boon for planners and deployed forces alike. In the 1950s, Australia’s commitments in the region were extensive, which included administering PNG, and contributing to SEATO, Commonwealth Strategic Reserve, and the Malayan Emergency. The performance of No 36 Squadron’s 12 C-130As provided the nation, for the first time, a true strategic airlift capability to match those demands.

The C-130 had a truck-height cargo floor and the ability to lower the cargo ramp in flight. Later, the 463 L pallet and parachute-extracted, air drop system were introduced making airlift itself a force multiplier. The 463 L system subsequently became the basis for the concept of roll-on, roll-off airlift cargo systems. The C-130 fuselage cross-section was designed around loads, which helped reduce the time needed to prepare and load cargos. For deployed forces materiel now arrived not only quicker but also in a state that allowed more rapid use at the destination.

Most airlift specialists of the day understood that the C-130A would transform their part of the RAAF but little did they realise that the aircraft and its capabilities would directly affect the whole of the RAAF, the ADF and parts of the Government. With the advent of modern training systems and specialist trades the transformation of the RAAF into a modern and capable force had begun. The C-130A did not simply evolve RAAF airlift but revolutionized it in a way not seen again for many years. Within the Australian military, the aircraft’s performance opened up a new range of operational possibilities. With such a platform, the RAAF, and hence Australia, was now able to react more rapidly to evolving situations.

For the non-military agencies of Government dealing with Humanitarian Assistance and Disaster Relief (HADR), the C-130A’s capabilities offered the means to positively influence the region. In times of need the C-130A could reach the troubled area quicker and carrying more relief supplies than before. The image of the C-130A reflected what the Government sought to project—a modern, strong, reliable and non-threatening neighbouring nation.

The C-130A was the first agent of transformation in the post-World War II RAAF at all levels, from tactical military missions to influencing strategic decisions in providing Australian aid into the region. It brought about changes in RAAF practices that would affect personnel, training, logistics and operational employment, all of which would be replicated in the induction of future aircraft.

Key Points

- The C-130A initiated the transformation of the RAAF’s training, personnel organisation and operational practices even before the introduction of the Mirage III and F-111.
- The revolutionary leap in airlift capability enabled by the C-130A provided the ADF with a quantum improvement in operational capabilities.
- The C-130A offered Government opportunities to increase Australia’s influence and image within the region, particularly in the provision of HADR.