



Te Matataua

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The Misunderstood 757 The NZDF's Strategic Airlifter



Number 40 Squadron's 757-2K2 aircraft are often seen in the media carrying the New Zealand Prime Minister around the world, or bringing the royal family to our country. Thus, to many New Zealanders, the Very Important Person (VIP) role is seen as the primary, or for some, the sole role of the 757-2K2. This edition of Te Matataua explores the capability and utility of the RNZAF 757-2K2 aircraft, which is far greater than what the media portrays.

New Zealand, as a remote nation of islands, is dependent on air and sea transportation for trade and transit of people to the wider world. Therefore, our aircraft must be capable of flying long distances and be able to carry a useful load. As the RNZAF fleet is relatively small, it requires aircraft that are multi-role; with cabins that can be quickly changed to carry cargo or personnel, or both at the same time.

One of the primary roles of the RNZAF is Air Mobility, which is national and international military air transportation to project and sustain deployed forces. The aircraft used for this are the Boeing 757-2K2 and C-130 Hercules. The role of the 757-2K2 is strategic airlift, which is the ability to transport personnel and materiel - all items necessary for the equipment, maintenance, operation and support of military activities - inter-theatre (between New Zealand and a theatre of operations).

Tactical airlift by contrast, generally uses smaller aircraft for intra-theatre operations, flying within a theatre of operations, for which the RNZAF uses the C-130 aircraft. A useful picture of the distinction is the hub-and-spoke model, where the 757-2K2 uses its speed, range and capacity to transport large loads to a distribution hub, which is then debarked into tactical aircraft or land vehicles for transport into the area of operations.

Strategic airlift also works in reverse, bringing troops and materiel back to New Zealand from a theatre of conflict. For this phase of conflict, the 757-2K2 can be configured for medical evacuation of wounded personnel. It has the ability to carry specialised medical equipment fixed to roll-on roll-off pallets designed to support patients requiring critical care or with high needs. 757-2K2 seating provides comfortable transport to less critically wounded personnel.

The Aero-Medical Evacuation (AME) capability can also be used in support of disaster relief efforts.



757-2K2 AME High-needs pallet set-up

The New Zealand Government uses a 'whole of government' approach in support of security, prosperity and response to natural disasters. Therefore, the 757-2K2 is also tasked to support government agencies such as: the Prime Minister's office (VIP flights), NZ Antarctic programme (transporting people and equipment to Antarctica), Ministry of Civil Defence (transport of aid and equipment, disaster relief personnel, evacuation of injured and displaced persons), and transporting police, customs, firemen, Department of Conservation personnel amongst others.

The 757 is a twin engine, mid-size, narrow body, medium-range aircraft purchased by the RNZAF in 2003, and converted into a multi-role aircraft in 2007 by: fitting a large cargo door on the upper deck; modifying the floor to hold 11 aircraft pallets; provision of internal air stairs; engine thrust upgrade; provision of VIP seating; and improved navigation and communication equipment.

The upgraded aircraft, re-designated as a 757-2K2, can carry 22 tonnes of cargo or up to 160 personnel, with a maximum range of 7400km (less with heavy loads) at 850km/h cruising speed.

It is the capacity, range and speed that define the 757-2K2, as it can transport larger loads more quickly and efficiently than propeller aircraft. In fact, the 757-2K2 aircraft can carry five more pallets, 5 tonnes extra payload and flies 300km/h faster than the C-130, though its range is broadly equal. This means providing more frequent movements of greater payload across the globe over a time span compared with the C-130.

As the roots of the 757-2K2 are from a commercial airliner, it does require more airport support than a military design airlifter. For example, it can only operate from formed runways and taxiways and requires high-lift airport cargo handling equipment to load pallets.

Commonly used 757-2K2 configurations in support of military air operations include the following (pallets/seats):

- Passenger: 18 business class seats and 142 Economy class seats.
- Configuration 2/138: Troop configuration: ≈100 troops in full military order including their packs, body armour and field stores for a deployment.
- Configuration 4/108: Cargo such as C-130 and P-3K2 engines and propellers, and ≈100 passenger seats as required.
- Configuration 7/54: RNZAF Squadron deployed support: ≈50 personnel, an aircraft engine and propeller plus pallets of aircraft spares and equipment
- Configuration 11/3: 11 Pallets of cargo.

Whenever 40 Squadron or 5 Squadron deploy their C-130 and P-3K2 aircraft overseas, they use

the 757-2K2 to transport personnel, spares and equipment. For example, when 5 Squadron deploys to an exercise in Europe, the 757-2K2 can move all the Squadron's kit and personnel without the need to use the services of civilian air freight or commercial airlines. This also frees up 40 Squadron's C-130 aircraft to focus on the tactical missions, rather than being used to undertake strategic airlift duties.



757-2K2 configured for cargo

Transporting explosives around the world is normally carried out using military transport, or specialist commercial carriers; but, they can be expensive and infrequent. Recently, the 757-2K2 was tasked to transport missiles from Norway to New Zealand, and also to carry ten pallets of ammunition from Australia to New Zealand.

In December 2004 the 757 was tasked to rapidly deploy to Phuket, Thailand with a disaster victim identification team and an emergency response team to assist in the tsunami recovery.

The Christchurch earthquake of 2011 saw the 757-2K2 transport urban search and rescue teams and provide an air bridge, evacuating victims and tourists from Christchurch to Wellington.

During summer, the 757-2K2 is often used to transport passengers and freight to the ice runway at McMurdo Sound. It can carry up to 120 passengers and their bags to Antarctica.

Key Points

- **The 757-2K2 is a multi-role 20 tonne class strategic airlifter.**
- **It is the fastest and heaviest payload lifter of all RNZAF aircraft.**
- **It can be configured in many ways to carry cargo, passengers, troops or evacuees.**

Disclaimer: The views in Te Matataua are not necessarily those of the RNZAF

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