

“NOT MANY PEOPLE
ARE ABLE TO STAND
ON THE TARMAC
AND WATCH A FULLY
LOADED AIRCRAFT TAXI
TAKE OFF AND SAY I
DID THAT!”
KEN NEWTON





Exceeding Expectations

TAE IS A LEADING ENGINEERING SERVICE PROVIDER AND AUSTRALIA'S LEADING MILITARY GAS TURBINE MAINTENANCE, REPAIR AND OVERHAUL (MRO) OPERATION.

Employing approximately 300 people across seven Australian sites, TAE provides aviation maintenance and engineering service solutions covering gas turbine engines, civil and military transport aircraft, fast jets, helicopters and general aviation aircraft.

TAE, founded in 2000, has striven to build a reputation based firmly on quality, safety and dependability. Add to this the company's willingness to exceed expectations, not just to meet them. Its growing reputation has it providing services to organisations both within Australia and internationally.

By using cutting-edge technology, leading aeronautical engineers, aviation technicians and tradespeople, TAE's commercial and military MRO operation prides itself on being able to complete maintenance, manufacturing and repair projects as required by customers.

TAE supports Australia's regional and major airline operators by providing quality inspections, repairs, overhauls, fault diagnosis, warranty repairs, new installations and design recommendations for a vast range of airframe, engine and avionics maintenance for aircraft operators.

TAE boasts a reputation as a specialist aerospace manufacturer, offering small to medium manufacturing runs ideal for outsourcing parts manufacturing. The company also holds capability to perform large production runs, centred on its highly specialised aluminium vacuum brazing (AVB) technology. AVB represents the pinnacle of aluminium-joining systems. Applied to components with extensive internal passages, the technique is superior because it results in an extremely clean part with no residual corrosive flux or other contaminants. TAE provides a build-to-

print service for such items as cooled electronic housings, cold plates and heat exchangers.

A large selection of quality support and test equipment products is offered to a broad range of industries. By providing an assortment of design, fabrication, maintenance and logistic support services, TAE is able to provide customers with a comprehensive end-to-end process from design to final delivery.

TAE is the leading gas turbine engine MRO in Australia, making available a variety of services to support its customers. These clients comprise regional and major airline operators, as well as military operators. TAE's core business is gas turbine engines, and to support this core business a partnership with repair workshops, the warehouse and suppliers is a necessity.

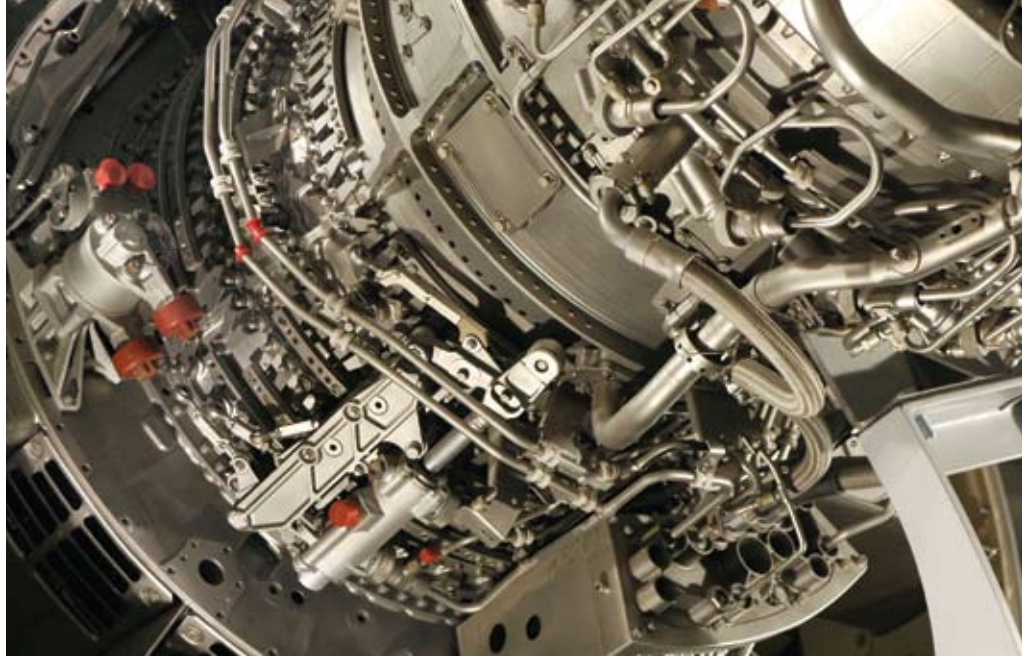
MATERIALS AND LOGISTICS SUPPORT

Ken Newton, TAE's Warehouse Group Leader, believes it is essential to provide the best possible support to both internal and external customers. "I have a unique view within the logistics and supply chain world," he says. "Not many people are able to stand on the tarmac and watch a fully loaded aircraft taxi and take off and say I did that!" (This statement was made in reference to the logistical support provided by TAE to the Royal Australian Air Force (RAAF) by maintaining the Pratt & Whitney TF30 gas turbine engine used to power the F-111 aircraft.) TAE also supports the RAAF's fleet of F-18/A aircraft by providing engineering, repair and overhaul services for the General Electric F404 engine.

To ensure that these services are ▶



VACUUM BRAZING IS A HIGH-END, FLUXLESS JOINING TECHNOLOGY RESULTING IN PARTS WITH EXTREMELY STRONG JOINTS AND WITH NO RESIDUAL CORROSIVE AGENTS.



provided to customers on time, on budget and as quality products, the use of key suppliers is paramount to TAE's success. "Our suppliers, whether they are providing calibration services, breakdown spares or expendables, are a major link in our supply chain," says Ken. "Without a strong relationship, or the ability for our suppliers to use their expertise to ensure a quality product, TAE would not be the success story it is in the aviation industry."

One of the many services offered to customers by TAE is the 'end-to-end' processes of the Support Equipment Maintenance (SEM) section. From engineering advice through to a finished product, SEM provides strong support to all internal and external customers. "A strong relationship with our suppliers enables TAE to have continuous communications with both the supplier and our customer to ensure seamless

processing of customer jobs," comments Terry Lubomirski, Repair Services Group Leader.

Strong collaboration between customers and suppliers results in a trusting relationship, which in turn involves both companies working towards a common goal. This allows suppliers to offer TAE any known alternative solutions or products. This trusting relationship results in customer-supplier satisfaction, enabling future cooperation and potential outsourcing partnerships.

TAE, where possible, utilises local and domestic suppliers to satisfy customer requests. The use of local suppliers and industry enables TAE to maintain a strong relationship in local areas. This practice supports industry within Australia – which, given the economic crisis, is essential. When asked why it makes use of local and domestic suppliers, Geoff Weston, Inventory Controller, states, "The use of local and domestic suppliers assists TAE in maintaining low lead times and strong communication channels, which is a key element of customer satisfaction."

The use of local suppliers also positions TAE well within the local community. "We are Australia's first choice aerospace engineering services group. To remain

in this position, we need to be forefront in the minds of all our customers and suppliers," explains Ken. TAE is also a strong supporter of local charities, regularly participating in the 'Relay for life', and has undertaken fund-raising activities to support the Prostate Cancer Council.

SPECIALTY SERVICES

A more specialised area of support offered to customers is the aluminium vacuum brazing process mentioned earlier. Vacuum brazing is a high-end, fluxless joining technology resulting in parts with extremely strong joints and with no residual corrosive agents. It is a process in which aluminium plates are joined together using an aluminium filler material that has a melting point just below that of the base plates. The plates and filler metal are assembled prior to loading into the vacuum furnace. Once a high level of vacuum is reached, the parts are heated to their 'solidus-liquidus' temperature at which the filler metal is fused into the closely mated parallel surfaces of the aluminium plates through capillary action. The attributes of the vacuum brazing process include uniform heating, tight temperature control, no post-cleaning processes, and process repeatability.

Compared with other metallurgical techniques for joining aluminium, vacuum furnace brazing offers numerous technical advantages:

- High-strength, void-free, leak-free joints approaching parent metal strength
- Consistently reproducible results with tight tolerance joining surfaces
- Uniform thermal conductivity
- Extremely clean parts with no residual corrosive flux due to the flux-free



- process (unlike dip brazing)
- Ability to fill long, otherwise-inaccessible joints
- Minimal distortion due to uniform heating and cooling
- No surface deterioration during processing

Single-process production of complex assemblies with multiple joints can also lower costs while increasing product quality. With high yields for complex fabrications, vacuum brazing is the preferred joining process for manufacturing high-performance aluminium cold plates, liquid-cooled electronics and heat exchangers.

TAE is Australia's leading gas turbine MRO and a leading engineering service provider – none of which is possible without the support of suppliers and back shop support. Through the creation of collaborative relationships with our suppliers, TAE is able to enhance established trusting relationships. This in turn reduces lead times, allowing suppliers to offer known alternative solutions, and ensures that the products and services on offer satisfy the stringent quality controls associated with the aviation industry.

Collaborative relationships enable TAE to place specific requests against their suppliers, such as specialised orders or pre-cut and machined raw material. This results in reduction of waste and saves costs for TAE and its customers, as well as reducing the impact upon the environment. By accepting invitations to visit TAE's operation at Amberley, suppliers are able to obtain a sound working knowledge of the back shop processes undertaken at TAE, enabling informed decision-making and a streamlined ordering process. All of this results in customer satisfaction and repeat business.

In recognition of TAE's reputation, and with evidence supporting the quality of products and support services, TAE has been awarded a myriad of certifications. Visit www.tae.com.au for contact details and to discover the full spectrum of products, services, certifications and approvals.

ABOUT THE AUTHOR

Ken Newton has been employed by TAE as the Warehouse Group Leader for three years and is based at TAE's Amberley military gas turbine MRO and aerospace manufacturing operation. Ken has been employed in the logistics and supply chain industry for 25 years and in the aviation industry for 16 years.



Solutions in Vertical Storage

- Inhouse / 3PL Distribution
- WIP Buffer Storage
- Spare Parts Storage
- Maintenance Parts Storage
- Tools / Jigs / Die Storage

**KARDEX
VCA**

1300 555 101

www.kvca.com.au

Kardex VCA Pty Ltd, Pearce Street, Wodonga, VIC, 3690