



**ROYAL  
AERONAUTICAL  
SOCIETY**  
AUSTRALIAN DIVISION  
SYDNEY BRANCH

**JUNE 2020**

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**NEWSLETTER**

**Webinar**

**“Australian Aerospace  
Innovation”**



Advanced Composite Manufacturing Solutions

**Presented by  
Quickstep  
Holdings Ltd**

Date: **Wednesday, 3<sup>rd</sup> June, 2020**

Time: **18:30 hours (sharp)**

Registration for the Webinar is required in advance.  
To register please click on the following link:

<https://raesjun20.eventbrite.com.au>

(Please note that Sydney Branch members will be given first access to register by Friday 29<sup>th</sup> May, before registration opens Australia wide.)

After registering, you will receive a confirmation email containing information about joining the webinar. Additionally, 10 minutes before the commencement of the Webinar a reminder will be automatically sent to all who had registered.



**Mark Burgess, Chief Executive Officer & Managing Director, Quickstep Holdings Ltd**

Mark joined Quickstep on 8 May 2017. With over 20 years' experience in the global aerospace and defence industry. His

successful delivery of profitable growth and complex projects in advanced technology businesses has led to significant employer, customer and industry recognition. Mark has held leadership roles of increasing responsibility for British and American companies across Europe, North America, the Middle East and Asia. After a 16 year career in BAE Systems covering sales, contracts, project and general management Mark joined Honeywell in 2013 as Vice President Asia Pacific. In this most recent role Mark had operational and P&L responsibility for Honeywell's defense, space and commercial helicopter business division in Asia. Mark has extensive experience of governance and stakeholder management, working with public, private and not-for-profit sectors. He has managed several successful post acquisition integration projects and has held numerous board positions on subsidiaries and international joint ventures. Mark holds a degree in Politics and Economics from the University of Hull and has completed several post graduate studies in business and operations management.



**Krishna Oruganti, Technology & Engineering Manager, Quickstep Technologies Pty Ltd**

As Technology and Engineering Manager at Quickstep, Krishna's role

is to support the business by introducing new technology. This can be for a product, a process or even a piece of equipment.

After graduating from RMIT University with a Master's degree in Mechanical & Manufacturing Engineering, Krishna Oruganti spent most of his career in Automotive Design, Product & Process development and high volume manufacturing across Australia, North America, Thailand & China. Krishna's first worked with Plexicor Australia (later acquired by Futuris Group) where he held various product development & manufacturing roles for various Automotive interior components. As the lead engineer within Futuris Australia's interiors team, Krishna was responsible for introducing various products and new technologies for automotive interiors across Thailand, Australia and North America supporting and establishing Futuris' global expansion into new & emerging markets. After a period acting as the Engineering leader, Krishna was appointed as the Program and Commercial Manager supporting the development and introduction of composite roof liners for Tesla motors and was part of Futuris's Advanced Engineering & Global development team. Since joining Quickstep five years ago Krishna has been instrumental in leading the development and implementation of new technology.



**David Doral, Chief Technical Officer, Head of Engineering, Quickstep Holdings Ltd**  
As Executive General Manager of Engineering & Technology at Quickstep, David works across two distinct but overlapping areas of the business. He helps

shape company direction by researching and assessing technology that the company might invest in and work with on future projects. And he manages all Quickstep engineering resources, including our extensive engineering team.

David has been actively involved in the aerospace industry since the mid-1990s when he graduated from Universidad Politecnica de Madrid, with a Bachelor of Engineering and Masters of Engineering, specifically, in aerospace engineering.

He started his career with Aernnova's composites division in Spain and spent several years working

as a senior aerostructures engineer between Boeing (Seattle and Sydney) and Airbus (Madrid and Ankara). During this time, he participated in the development of the most relevant aircraft programs launched at the time, including the Airbus A380, Boeing 777-300ER, Airbus A400M and Embraer E170.

Following his MBA program graduation at INSEAD he migrated with his wife to Australia. After several years managing R&D programs to automate industrial processes, David returned to Europe and to the aerospace industry.

At AERTEC Solutions, an AIRBUS Tier 1 supplier, he contributed to the expansion and internationalisation of the company as their senior manager in the manufacturing engineering division. David then joined MTorres in Spain as a plant manager, where he also led development of composites automation technology for aircraft assembly lines, robotic cells and cutting-edge composite manufacturing systems. He has also been working on aviation electrification lately, a potentially revolutionary development for the industry.

**Synopsis:** **"It is never more important than in times of crisis to double-down on investment in technology innovative solutions and prepare for the future."**

**Mark Burgess, Chief Executive Officer & Managing Director, Quickstep Holdings Ltd**

Quickstep is a leading composite component manufacturer, ready to support your composite needs, with our advanced composite solutions capabilities. The experience and passion for innovation in our extensive team allows us to engineer sophisticated, commercially viable solutions to manufacturing challenges.

Quickstep began as a family business in Perth in 2001. At an early stage, we developed an innovative method of carbon fibre composite parts production, called 'Qure'. This meant lighter, premium-quality components – and faster, cost-effective production. Innovation remains at the core of Quickstep. We are now a highly accredited and globally recognised leader in advanced parts manufacturing and processes for multiple sectors:

- capable of almost all facets of composite manufacturing
- specialists in defence and commercial aerospace and other advanced applications
- 16,000 sqm state of the art composite manufacturing plant in Sydney
- global R&D centre of excellence in Geelong, west of Melbourne
- business development and supply chain management presence in Texas
- a proven track record in safety, quality, reliability, service and delivery

**Agenda:** **18:27** Registration to join the Webinar  
**18:32** Welcome by Mr David Cox FRAeS, Chair of the Sydney Branch  
**18:35** Business overview and importance of innovation to Quickstep  
 Innovation in manufacturing, with particular emphasis on automation and digitisation  
 Case study: F-35 flare housing manufacturing  
**19:35** Q&A **19:45** Finish

**Working on Boeing Aircraft – Peter Marosszeky FRAeS**

*The author's experience of working on Boeing Aircraft for 56 years – a most interesting and rewarding times. Peter Marosszeky is a Fellow of the Society and has been an elected member of the Society's Sydney Branch Committee since 2005.*

With over 56 years of the most interesting and rewarding times working on Boeing aircraft, a career that has taken me through various fascinating and rewarding roles from station engineer with Pan American to supervisor line maintenance, manager engineering and maintenance operations with American airlines, manager engineering and maintenance South Pacific with United Airlines then to

Qantas as manager maintenance and engineering at Qantas Link and then general manager maintenance and engineering for the new start-up low cost international carrier, Australian Airlines. Going onto being an academic at the University of NSW and a consultant to industry with Aerospace Developments Pty. Ltd. and a volunteer engineer with the Historic Aircraft Restoration Society, the largest repository of warbirds and historic flying aircraft in Australia...it has been interesting.

**Boeing Story 1:** The focus of this story is the work of the Boeing Aircraft on Ground (AOG) team and the remarkable feats of recovery and ingenuity in the repair and return to service of aircraft that have been involved in accidents. Over the years I have had the good fortune of being associated with the recovery of other broken aircraft. This was the first and most memorable event, the aborted take-off and subsequent crash of Pan Am flight 81201 in Sydney, December 1<sup>st</sup>. 1969.



**The BASI analysis of the accident:** The BASI Report provided extensive details of the accident and the conclusions are reflected below as the causes of this unfortunate event:

26.

### 3 - CONCLUSIONS

1. The flight crew were properly qualified for the flight.
2. The aircraft was airworthy.
3. The aircraft was inadvertently loaded 6,800 lb in excess of the flight planned weight, primarily as a result of use of a defective hydrometer.
4. During the take-off roll, and shortly after  $V_1$  speed had been attained, the aircraft struck seagulls and Number 2 engine sustained a compressor stall as a result of bird ingestion.
5. The take-off was abandoned after  $V_1$  but the over-run was not inevitable.
6. All engines developed full reverse thrust during the deceleration.
7. The aircraft and its systems were capable of normal operation.
8. The effective point of commencement of take-off was displaced some 320 feet from the threshold as a result of the rolling start technique employed from a side entry to the runway together with progressive application of thrust.
9. The head wind component encountered by the aircraft was significantly less than that forecast and that used in the take-off computations.
10. The increased gross weight of the aircraft resulted in the aircraft travelling 200 feet further than it would have travelled had it been loaded as planned.
11. The crew actions in the abandoned take-off procedures were timely in respect of throttle closure, application of reverse thrust and actuation of speed brakes but the evidence indicates that there may have been a delay in application of wheel brakes beyond that delay assumed in the accelerate/stop certification performance calculations.
12. The probable cause of the accident was that, in the circumstances of an abandoned take-off, the aircraft could not be brought to a stop within the nominally adequate runway length because of an error in the calculation of load, a reduction in wind velocity from that forecast and the use of rolling start and braking techniques which would not ensure most effective use of the available runway length.

### Aircraft history

The aircraft was a Boeing 707-321B, Serial Number 20029, and had been owned and operated by Pan Am since its manufacture. The aircraft was delivered to Pan Am on the 4<sup>th</sup>. March 1969 and the Certificate of Aircraft Registration was issued on the 27<sup>th</sup>. March 1969. The aircraft had flown a total of 3,044 hours since new and had flown 930 hours since the last equalised service and 79 hours since the last Terminal Service. There was no evidence in the aircraft records of any engineering deficiencies which could have been relevant to the accident and all reported deficiencies had been corrected.

### Aircraft Recovery

Sydney is the main base for Qantas they were not only the prime support organization for most airlines they were also managers of the Crash Aircraft Recovery Kit, along with professional and experienced engineers.

Pan Am headquarters in New



York was advised of the accident and promptly issued instructions. Mr. Bill Hertle Pan Am supervisor maintenance San



San Francisco Base was sent down the next day to assume control of the operation and to act as the liaison with Boeing AOG team. The salvage took approximately nine days and with the use of the recovery equipment and heavy lifting machinery. Qantas had



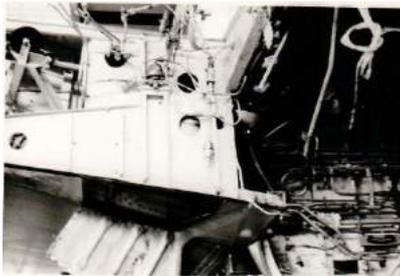
assigned Hangar 191 to position the aircraft for the repair work to be carried out. On December 12<sup>th</sup>. The Boeing assessment team had arrived and made out a work scope for the repair of the aircraft, the details were published and included in the contract between Boeing and Pan Am.

### The Boeing Aircraft on Ground (AOG) incident repair team

For further information refer: [www.boeing.com/news/frontiers/archive/](http://www.boeing.com/news/frontiers/archive/)

The team was led by Mr. George Lansing who had overall authority of the contract and the Boeing team that consisted of 53 technicians, engineers and specialist support people (60 planned initially) including:

- Travel agent and logistics coordinator
- Equipment, tooling and drill sharpening specialist
- Catering and hotel coordinator
- Ground transport coordinator
- Engineers
- Technicians
- Sheet metal mechanics.



The team was a specialist crew chosen for their skills in aircraft recovery. The opportunity to work with this team provided an invaluable experience for future roles, not to mention experiencing the discipline of team work and camaraderie between the team members. Teams were to operate two 11 hour shifts working 7 days with a bus assigned for transportation to and from the Chevron Hotel located at Kings Cross and Hangar 191 at the

Qantas jet Base. The senior Boeing people had an Avis rent a car provided for their transport requirements.

All the parts required for the repair came from the Boeing production line including the specialist tooling and equipment, scaffolding was supplied by the local manufacturer Hills Co. Pty. Ltd. Any sundry items were provided on loan from Qantas. In the Qantas agreement with Pan Am it was agreed that no work was to be planned or undertaken by Qantas unless special circumstances arose, the exception to this was the repair of



three of the engines in the Qantas Engine Overhaul Centre under their FAA Station Approval including testing in the Jet Engine Test Cell. The fourth engine was deemed serviceable.

The cooperation and coordination between the Boeing team, Qantas Engineering and Pan Am staff was exceptional, there were some freight and logistic issues where nine boxes of equipment went missing during shipment, however these were eventually located and shipped to Sydney.



**The Test Flight:** The aircraft was released from the Hangar on January 28<sup>th</sup>, 1970 and after pre-flight checks were performed a test crew undertook a test flight under the control of the Boeing test pilot, the following telex sums up the aircraft's performance:

QL SYDMMPA CPY SYDOWPA  
.HNLOOPA 291855 HNLXTPA  
FOR HERTLE/BILL ANC CREW

COMMENDATIONS ON A GOOD JOB. AIRCRAFT HANDLED WELL IN CONSIDERABLE MODERATE CAT AND PRECISION CRUISING TECHNIQUE VS FUEL CONSUMPTION INDICATES RIGGING EXCELLENT. DURING TAKEOFF SYD CMA NECESSARY TO RECYCLE GEAR LEVER TWICE TO RAISE NOSE GEAR. SUSPECT SEQUENCE VALVE DUE LIGHT INDICATIONS. OVERALL PERFORMANCE VERY GOOD.

CONGRATULATIONS AND THANKS /S/RED HORT

=MGP1855CLK =291922

### Release to Service

The final status message read:

QF NYCMJPA CPY NYCOXPA NYCOLPA MIAMCPA SFOMMPA SFOMUPA SYDMMPA SYDOAPA  
.SYDMMPA 290811 SYDXTPA

N892 REPAIR STATUS SIXTY TWO AND FINAL STOP A/C DEPARTED TRIP 812229 ON TIME AT 0744  
STOP TTS 59 DAYS 9 HOURS AND 04 MINUTES STOP

SEA GULL HERTLE =JS0820H

**On reflection:** The commitment, teamwork, and producing the same level of high-quality work provided a valuable insight into the quality and design of Boeing aircraft.

**Boeing Story 2:** This experience proved valuable two years later when one of the first Pan Am 747s (N652PA) serving Sydney landed long and became bogged off the cross-wind runway, just short of a major sewer viaduct narrowly avoiding a potential disaster. The strength of the 747 design meant there was no structural damage and we only had to replace two damaged nose wheel tyres.



The aircraft returned to service the next day and continued a 35-year career with Pan Am and other airlines.

Peter Marosszeky FRAeS

## 2019 Annual General Meeting

### Royal Aeronautical Society Australian Division Sydney Branch Inc

Date: **Wednesday 24<sup>th</sup> June 2020**

Time: **Commencing 18:00 hours - sharp**

The Sydney Branch Committee invites Members to attend the 2019 AGM which will be held via a Zoom Webinar. Registration for the 2019 AGM Webinar is required in advance.

To register please click on the following link:  
[https://us02web.zoom.us/webinar/register/WN\\_4rSvjwIAT9WJiloFLq0mPg](https://us02web.zoom.us/webinar/register/WN_4rSvjwIAT9WJiloFLq0mPg)

After registering, you will receive a confirmation email containing information about joining the webinar. Additionally, 10 minutes before the commencement of the 2019 AGM Webinar a ten minute reminder will be automatically sent to all who had registered.



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