

# WINGS

AUTUMN 2024  
VOLUME 76 NO.1

## NASA QUESST

QUIETENING THE SONIC BOOM

### MQ-4C TRITON

RAAF'S NEW SEE AND  
STRIKE CAPABILITY

### SMART AND FAST

AUTONOMOUS SYSTEMS AND  
HYPERSONIC WEAPONS

### FLYING DOCTORS

GETTING AN AEROMEDICAL  
SERVICE OFF THE GROUND

AUS \$14.95 (Incl. GST)



AIR FORCE ASSOCIATION MAGAZINE  
- ESTABLISHED 1943 -

# MANAGING EDITOR'S MESSAGE



**FIRSTLY, MAY I EXTEND A SINCERE THANK YOU** to Ron Haack for his efforts as *Wings* managing editor, along with all the *Wings* team. Ron has contributed significantly with his time and effort for many years and has set the bar high. He leaves big shoes to fill but I look forward to working with our managing director and the *Wings* team to continue to develop the high-quality magazine. Ron's corporate knowledge will not be lost to *Wings* as he now becomes involved in a distribution role. All the best Ron and many thanks.

Thanks also to Michael Nelmes, who is also departing, for his valuable contribution. Michael Musumeci has accepted the historian role and we welcome him to the team. Peter Ring has provided entertaining articles on management and leadership but, unfortunately, he will not continue in the role. His efforts are greatly appreciated.

I bring to *Wings* a background as a RAAF aerospace engineer with experience in a broad range of roles and environments. I look forward to working with the *Wings* team.

In this edition, we bring a further article on the X-planes, a focus on UAVs, autonomous systems, space and some interesting history-related articles. Visit our website, [wingsmagazine.org](http://wingsmagazine.org) or subscribe to receive a regular copy in the mail and to read previous editions.

**Rob Amos, *Wings* managing editor**

## EDITORIAL DEADLINES

*Wings* welcomes submissions and letters to the editor. Please send submissions to: [managing.editor@wingsmagazine.org](mailto:managing.editor@wingsmagazine.org), including your name and details. Submissions may be edited for length and clarity. We cannot guarantee all material will be published.

EDITION	DEADLINE
Winter 2024 (June)	1 April
Spring 2024 (September)	17 July



AIR FORCE ASSOCIATION



# CONTENTS

## WINGS AUTUMN 2024 VOLUME 76/NO.1

- 4 **WELCOME MESSAGES**
- 5 **PRESIDENT'S DESK**
- 6 **MILITARY AVIATION**
- 12 **ASSOCIATION NEWS**
- 16 **INDUSTRY NEWS**
- 22 **QUIETENING THE SONIC BOOM**  
NASA's X-59 QueSST
- 26 **THE RED BLIZZARD**  
The Soviet Buran space shuttle
- 32 **SMART & FAST**  
Autonomous systems and hypersonics
- 38 **CENTREFOLD**
- 40 **24/7 EYES IN THE SKY**  
RAAF's unmanned MQ-4C Triton
- 44 **CIVIL AVIATION NEWS**
- 46 **DRONES JOIN THE SAR TEAM**  
UAVs aid search and rescue
- 48 **DOCTORS FROM THE SKY**  
History of the Flying Doctors
- 54 **OFF YOU GO – GOOD LUCK!**  
Seat-of-the-pants flying training
- 60 **A BRIEF HISTORY OF TEST FLYING**  
From WWI to today
- 65 **EVENTS CALENDAR 2024**  
What's on in aviation
- 66 **CADETS NEWS**
- 70 **PERSONAL FINANCE**
- 71 **LAST FLIGHT**
- 74 **BOOK REVIEWS**



The Wings Autumn 2024 Edition continues to present our regular features, including: military aviation news, association news, industry news, civil aviation news, cadets and Australian Air League news, along with a personal finance article, book reviews and last flight.

The cover story in this edition focuses on Quietening the Sonic Boom, the story of the NASA X-59 QueSST (Quiet Supersonic Transport) design that aims to reduce the sonic boom with the aim of reducing it to a soft thump.

The article, Off You Go – Good Luck, on seat of the pants flying training, highlights the early efforts and endeavours of one of Australia's aviation pioneers.

A Brief History of Test Flying, from WW1 to today, outlines the history of test flying and the professional skills and knowledge required.

The Red Blizzard, the story of the Russian Space Shuttle, follows the story of Inventing the (US) Space Shuttle in the previous edition of Wings. The article highlights the similarities

in the US and Russian programs, but also highlights some significant technology differences.

24/7 Eyes in the Sky is the story of the RAAF's unmanned MQ-4C Triton UAV, a cooperative development between Defence and the US Navy. Autonomous systems and hypersonics are the focus of the Smart and Fast article which looks at some UAVs and hypersonic vehicles of known interest to the ADF.

The pioneering spirit is displayed in the story of Doctors from the Sky. The far-sighted proposal in 1928 became a reality, supported by contributions from aeromedical pioneers. A modern day story, titled Drones Join the SAR Team, highlights how UAVs aid search and rescue in today's environment.

The Events Calendar is a new addition and identifies key aviation events over the next 12 months. It is aimed at those involved in aviation, aviation enthusiasts and those interested in specific events.