

JETGALA

LIFE BEYOND FIRST CLASS



EMBRAER'S LINEAGE 1000E

SKYACHT BY EDDIE SOTTO
SOVIET NIGHT WITCHES
METROJET DINING
VINTAGE JET ART
AEROMOBIL
SKYE SH09

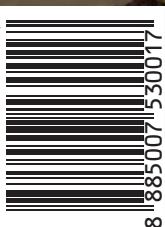
19

February – April 2014

THE NEW PORSCHE 911 GT3 & 911 TURBO S

BIGHORN REVELSTOKE | SUITE MACAU
SKELETON WATCHES | LUBIN PARFUM
GALERIES BARTOUX | AMERICA'S CUP

AUSTRALIA: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
CANADA: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
FRANCE: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
GERMANY: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
HONG KONG: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
INDONESIA: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
ITALY: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
JAPAN: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
KOREA: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
MALAYSIA: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
MEXICO: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
NETHERLANDS: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
NEW ZEALAND: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
RUSSIA: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
SINGAPORE: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
SOUTH AFRICA: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
SPAIN: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
SWITZERLAND: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
TAIWAN: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
THAILAND: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
UNITED KINGDOM: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA
USA: ENRICA, ENRICA, ENRICA, ENRICA, ENRICA, ENRICA



JETGALA



CONTENT

EDITOR Katrina Balmaceda
 AVIATION EDITOR Rainer Sigel
 EDITORIAL EXECUTIVE Charmaine Tai
 EDITORIAL ASSISTANT Charmaine Tay
 ART DIRECTOR | DESIGNER Sylvia Weimer (Spacelab Design, Sydney)

CONTRIBUTORS

Jim Gregory
 Jennifer Henricus
 Jeff Heselwood
 Kee Hua Chee
 Christel Lee
 James Nicholls
 Jim Simon
 Steve Slater
 Alex Unruh

COMPANY

PUBLISHER Rainer Sigel
 MANAGING DIRECTOR Michelle Tay
 ASSISTANT MANAGER, BUSINESS DEVELOPMENT Gynn Lee
 CIRCULATION & PRODUCTION MANAGER Caroline Rayney
 OFFICE MANAGER Winnie Lim
 MARKETING ASSISTANT Anne Goh

CONTACT

120 Lower Delta Road #13-11
 Cendex Centre, Singapore 169208
 T: +65 6273 0620 F: +65 6273 0632

EMAILS

ADVERTISING business@oriental-publishing.com
 EDITORIAL content@oriental-publishing.com
 EVENTS events@oriental-publishing.com
 CIRCULATION circulation@oriental-publishing.com
 ADMINISTRATION office@oriental-publishing.com

WEBSITES

MAGAZINES www.jetgala.com | www.solitairemagazine.com
 GROUP www.orientalmediagroup.com
 SINGAPORE www.oriental-publishing.com
 VIETNAM www.oriental-ltd.com

DIGITAL EDITIONS & DOWNLOADS www.jetgala.com/digital-editions
 FACEBOOK www.facebook.jetgala.com (Luxury News)
 LINKEDIN www.linkedin.jetgala.com (Aviation News)
 TWITTER www.twitter.jetgala.com (Aviation News)
 INSTAGRAM instagram.com/jetgalamagazine#
 RSS www.rss.jetgala.com (Aviation News)

JETGALA is published quarterly and circulated throughout the Asia-Pacific. Opinions expressed are those of the contributors and not necessarily endorsed by the Publisher.

COPYRIGHT NOTICE: All rights, including copyright, in the content of this publication are owned or controlled by Oriental Publishing Pte Ltd, Singapore. You are not permitted to copy, broadcast, download, store in any medium, transmit, show or play in public, adapt or change in any way the content of this publication for any other purpose whatsoever without the prior written permission of Oriental Publishing Pte Ltd, Singapore.

TRADEMARK NOTICE: The masthead logo 'JETGALA' is a Registered Trademark of Oriental Publishing Pte Ltd, Singapore. All rights are cumulatively reserved by Oriental Publishing Pte Ltd, Singapore. Their protection will be pursued to the full extent of the law.

Printed by KHL Printing Co, Singapore
 MICA/P/074/06/2013
 KDN PPS 1775/10/2012 (022810)

PHOTO CREDITS

COVER PHOTOGRAPHY: Paul Westlake
 MODEL: Chelsea Scanlan / Chadwick Models
 MAKEUP: Wayne Chic
 PHOTOGRAPHER'S ASSISTANT: J.P Westlake
 SECTION OPENER WINGS Image courtesy of SottoStudios / LA
 SECTION OPENER LUXE Image courtesy of Porsche Automobil Holding SE
 SECTION OPENER AIRBORNE Image courtesy of Gulfstream Aerospace Corp



www.orientalmediagroup.com



Jennifer Henricus is a lifestyle and travel writer who enjoys tracking international trends in architecture, interior design and fashion. The globetrotter lived in Hong Kong, London and Melbourne before finally settling back in her hometown, Colombo, Sri Lanka. She is happiest when sharing her city's secrets with visiting friends.



Kee Hua Chee hails from Malaysia and is one of Asia's most flamboyant writers. The frequent flyer has an interest in all things glamorous, and is often seen in over-the-top costumes at various events. He has also rubbed shoulders with royalty, including Prince Charles, Prince Andrew, Prince Edward and Prince Albert of Monaco.



Jim Gregory, based in Wichita, Kansas, is an aviation expert with international experience. He has worked as a public relations executive for a number of companies including Boeing, Raytheon Aircraft, and Learjet. He has written articles on private flying published in a number of aviation publications.



Steve Slater is best known across Asia as the 'voice' of Formula One, having worked as a commentator for ESPN Star Sports TV for more than a decade. Away from the race track, he is an enthusiastic vintage aircraft pilot and restorer, as well as an author of several books on aviation and automotive history.



With an international photographic pedigree established over a 25-year career, **Paul Westlake's** fashion credentials continue to grow as he shoots for international fashion and lifestyle magazines. A regular with shooting celebrities such as Shakira, Miranda Kerr and Naomi Watts, he brings a depth of experience and creative flair to each shoot.

3D-PRINTED AIRCRAFT

by Jim Simon

PRINTED WINGS

FROM IDEA TO FLIGHT IN DAYS



COULD SOMETHING AS COMPLEX AND POWERFUL AS AN AIRCRAFT COME STRAIGHT OUT OF A PRINTER?

Visionaries in the fields of aviation and education seem to think so. Three-dimensional printing has provided quantum leaps to various industries — from dentistry to jewellery, from cars to food — thanks to its expediency, low cost and, most of all, design flexibility.

Also called ‘laser sintering’, 3D printing generates fully functional parts directly from computer-aided designs. It eliminates the expensive and time-consuming tooling process that heavy manufacturing has relied upon for generations. It is no surprise that the technology has already attracted investment from such aviation giants as Rolls-Royce and GE Electric, who even foresee the potential to design and build jet engines using 3D manufacturing.

To prove this point, a small group of visionary engineers at the University of Southampton has built an unmanned aerial vehicle (UAV) through this process. The SULSA (Southampton University Laser Sintered Aircraft) can fly nearly 45 km on a single charge, thanks to its electric-powered engine, light weight, and two-metre wingspan. More intriguing is that the plane, once ‘printed’, can be assembled in mere minutes without using any bolts, screws or nuts, as the parts are made to perfectly fit together.

SULSA was entirely printed on an EOS nylon laser sintering machine, which built the aircraft layer by layer. The design can be stretched or resized. Professor Jim Scanlan, from



This UAV experiment uses an elliptical wing form, which is traditionally difficult to manufacture but was easily produced through 3D printing

“LASER SINTERING REMOVES THE MANUFACTURING CONSTRAINT ASSOCIATED WITH SHAPE COMPLEXITY”

the University’s Computational Engineering and Design Research group, says the process allows engineers to revisit historical techniques and ideas that were previously deemed unfeasible. One such idea is a geodetic airframe, used on the Vickers Wellington bomber in the early 1900s. Scanlan explains: “This form of structure is very stiff and lightweight, but very complex. If it was manufactured conventionally, it would require a large number of individually tailored parts that would have to be bonded or fastened at great expense.”

Professor Andy Keane, part of the same group, notes that SULSA uses an elliptical wing form, similar to that seen on the *Spitfire*. “The *Spitfire* wing was recognised as an extremely efficient design, but it was notoriously difficult and expensive to manufacture. Again, laser sintering removes the manufacturing constraint associated with shape complexity, and in the SULSA aircraft there is no cost penalty in using an elliptical shape,” he says. Both Scanlan and Keane lead the SULSA project.

While SULSA focusses on UAV applications, the technology promises potential benefits for the private jet market. It’s not only about savings for both manufacturers and consumers; it’s about more personal service and ground-breaking design. Imagine building spare parts on demand by accessing designs housed in a central database via the Internet, and ‘printing’ them out. Or customising aircraft like never before to meet a customer’s functional and personal requirements — even from the conceptualisation stage, a far stretch though it may be. There are, after all, some unconventional designs today just waiting to leap off the drawing board. 

