Help at hand for intermittent wiring faults

In November, Astronics launched its new ARCSAFE wiring fault detection system, which the company says is designed to 'quickly and preemptively locate hard-to-find intermittent shorts and opens in complex aircraft wiring'.

Leann Hurst, manager of marketing and communications for Astronics AES, explained: "New technology incorporated in Astronics' ARCSAFE system product line not only detects typical open and shorted wiring, it also locates intermittent faults associated with wiring insulation defects or failures".

A patented non-destructive inspection (NDI) technique – pulse arrested spark discharge (PASD) – allows the ARCSAFE system to accurately locate breached insulation, chaffing and insulation cracks within inches of the damage. Location is depicted on a three-dimensional display of the aircraft for pinpoint accuracy.

Ever wanted a detachable cabin?

Aircraft innovation is never ending. Back in the Korean War, a ride on an air ambulance could mean being strapped into an open litter on the outside of a Bell 47. Technology has moved on – these days patients generally have the luxury of travelling inside the cabin, being loaded aboard either while you're landed or picked up by winch.

So, what's next? Olive Engineering says it has the answer – a cross between a helicopter and a lift, where the whole passenger cabin can be winched to the ground.

CEO Nehemia Cohen told *Waypoint* he believes the Elcopter 'represents one of the most significant milestones in the history of helicopters since Leonardo da Vinci unveiled his saucer-shaped gondola in the 15th century'.

Cohen, an aeronautical engineer with decades of R&D experience in aviation, said the idea for Elcopter grew out of his engineering studies at the Technion-Israel Institute of Technology. It was just two years ago, however, that he formed a company to commercialise the idea.

The patent-pending design 'divides' a standard helicopter in two. Using cables and winches, a detachable, secure autonomous 'cabin' descends from the fuselage. While the helicopter hovers, the pilot – or someone inside the cabin – can navigate the cabin independently. 'Advanced electro-optical tracking' guides the unit and allows 'pinpoint navigational accuracy' by locking on to a target location.

Olive says the Elcopter design overcomes stability problems through its 'independent thruster system' to maintain horizontal stability, and a winch to control vertical motion. Depending on the helicopter type and configuration, the cabin could hold 'between six and 30 people', becoming a portable medevac, SAR, or equipment storage unit.

According to Cohen, the Elcopter will give 'new opportunities for helicopter-based rescue operations': "We can access everywhere, from densely populated urban settings to rugged mountainous terrains, to ships, to canyons." Now, why didn't Leonardo think of that?

AW139 nose gear door kit approved

DART Helicopters, the US-based sales, marketing and manufacturing company, has announced that its subsidiary, Apical Industries Inc., has received Federal Aviation Authority approval for its Nose Landing Gear Door Kit for AB139/AW139 helicopters. Further approvals from Transport Canada and the European Aviation Safety Agency (EASA) are pending.

According to DART, the Apical Nose Landing Gear Doors Kit provides a complete bolt-on solution that reduces drag and cabin noise associated with an open-front wheelhouse. The doors are built from a lightweight carbon-fibre material with closed cell foam cores, which, says the company, will improve service life and also resist water absorption. The doors are sold primed and ready for paint, while the machined linkage components come anodized, primed and painted in order to protect against corrosion. The doors can be installed as a stand-alone or replacement kit and use factory provisions found on all aircraft, so no permanent modifications need to be made to the airframe.

Certificate awarded to MD Explorer engine filter

The US Federal Aviation Administration (FAA) has awarded a Supplemental Type Certificate for a new inlet barrier filter (IBF) system for the MD900 Explorer series manufactured by MD Helicopters. Neil Jones has the details

The IBF system manufacturer Aerospace Filtration Systems, Inc. (AFS), a division of Donaldson Company, says the approval allows operators of MD900 Explorer series helicopters to achieve greater performance and maintenance benefits as well as improved engine protection. In particular, it means operators of MD900 helicopters will now be able to run them with no engine inlet imposed flight or gross weight restrictions, states AFS.

Inlet bypass capability is achieved using the existing MDHI bypass system, part of the Inlet Particle Separator (IPS) modification. In the case of the MD900, Donaldson/AFS already provide both the IPS and the IBF to MD Helicopters for production aircraft. The new IBF system is also available as a factory fit option on the MD900/902 Explorer.

The manufacturer is now in the process of seeking approval for the IBF design from the European Aviation Safety Agency, to allow the system to be targeted at non-US operators.