

STARS ship enterprise

THE AIR RESCUE SERVICE OF THE CANADIAN PROVINCE OF ALBERTA DISCUSSES ITS ACQUISITION OF THE LATEST AGUSTAWESTLAND AW139



PHOTOS COURTESY OF MARK MENNIE

The current STARS BK 117 was a joint development between MBB and Kawasaki. A version of the BK 117 is produced as the EC 145

“the STARS AW139 can carry two critical patients, and even three patients should the need arise”

BY BART GOEMANS

In October 2008, the Alberta Shock Trauma Air Rescue Society (STARS) in Canada unveiled the first of its two AW139s to the air-medical community at the annual Air Medical Transport Conference (AMTC), held in Minneapolis, USA.

Beginning in 1999, the road to acquiring the advanced technology aircraft has not been a short one. The journey began with a vision of the future of pre-hospital patient care, and was focused by increasing annual mission volumes due to a growing and aging population. The AW139 will help respond to growing needs.

The STARS aviation team spent several years researching various aircraft before deciding the AW139 would meet the requirements of Alberta's challenging topography (including the Rocky Mountains) and climate (harsh winters and hot summers). The AW139's powerful twin engines, extended flight range, and hoisting ability were essential features.

As a non-profit, charitable organization, STARS looked to industry and private donors to provide the funding to acquire these aircraft. After a successful multi-year capital campaign, the order was placed with AgustaWestland.

The next steps involved researching and developing partnerships for an air-medical interior that would provide excellence in airborne critical care, and it was developed in collabora-

tion with LifePort Inc. The AW139's flat floor and ceiling provide maximum cabin space (8m²), giving medical crew easier access to patients.

With a crew configuration of two pilots, a flight nurse, paramedic, and an emergency physician who provides medical advice and referral, the STARS AW139 can carry two critical patients, and even three patients should the need arise. The interior's stretcher system is a 16G rated tracking and pivoting system that enables patient loading from either side door. The craft will also have liquid oxygen for patients and a crew oxygen system, and features a carbon-fiber medical floor. Additional equipment includes ultrasound and a moveable medical credenza. The combination of the aircraft's abilities and the advanced medical interior captured great attention in Minneapolis.

STARS' AW139 will be configured with Western Avionics' CommuniCube EMS module. The CommuniCube operates as a wireless server and can transmit patient information to and from a hospital, as well as displaying patient vitals. This CommuniCube will also enable STARS to communicate with a doctor back at base, via a real-time video link within the helicopter. Currently, all mission consultations are facilitated through the STARS Emergency Link Centre, a 24-hour advanced communications center.

The AW139 is estimated to be 25% faster than the current fleet, with an extended non-



Air bypass

The organization, Aerospace Filtration Systems anticipates FAA supplemental type certification (STC) for its AgustaWestland AW139 inlet barrier filter (IBF) system.

AgustaWestland and Aerospace Filtration engineers worked together to design the IBF system for the AW139.

According to Aerospace Filtration, the AW139 IBF system features low-drag conformal fairings with dual filter assemblies mounted on the existing engine doors to

create a sealed intake plenum. The system was designed using 3D solid models of the current engine inlet doors provided by AgustaWestland.

Although Aerospace Filtration's STC will make the IBF system available on the open market, AgustaWestland is working on certifying the filter system so that it can be offered as an option on new AW139s. The AW139 system includes an alternative inlet air bypass system activated by a cockpit switch.

refueled flight range. When it becomes fully operational before the end of the year, it will become the first AW139 in service in the air-medical community in Canada. The AW139s will eventually replace some of the five Eurocopter BK-117s used currently within Alberta and eastern British Columbia. STARS will continue to operate with night vision goggles on the AW139, helping to provide the life-saving service 24 hours a day, seven days a week. ■

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