

BABCOCK SCANDINAVIAN AIR AMBULANCE

AW169 STRETCHER INSTALLATION



Photo by Johan Rydham ©2018

Babcock Scandinavian Air Ambulance required a stretcher solution for their new Leonardo AW169 aircraft. It had to comply with medical transport best practices and it had to meet the high operational standards the company and crew demands. A solution was needed quickly to get their aircraft into operational service to meet the increasing demand for service. Heli-One was approached to develop a solution and within a month, had prototyped, installed, tested and certified a new stretcher installation to meet operational & crew needs.

Hooks raised from inside the plate engage the stretcher.



Quick locks under red covers enable fast removal and installation.

**STRETCHER
BASE PLATE**

Stretcher base locks in to existing seat tracks and is nearly flush to the floor.

HIGHLIGHTS:

- Proposal to delivery within **1 month**
- Base plate **integrates with existing cabin** infrastructure
- Minimal crew requirements: **installation and removal within minutes**
- One-piece installation
- Multi-purpose use
- Qualified for **20Gs**
- Alfa Europe Premium stretcher has multiple functions, high ergonomic adjustability and high patient comfort

THE CUSTOMER

Babcock Scandinavian Air Ambulance services the wider Scandinavia region with patient transport between hospitals/medical facilities. They have a fleet of fixed- and rotor-wing aircraft and are replacing their Airbus AS365s with Leonardo AW169s. These medium twin aircraft are ideally-suited to EMS and rescue missions. The operator performs around 9,500 helicopter EMS missions and attends to around 14,000 patients every year. The centralization of specialist care to certain hospitals, combined with the terrain and distance between facilities, has resulted in an increase in the demand for EMS services.

THE ISSUE

Medical transport best practices dictate that heart attack patients' torsos must be elevated to 45 degrees. Elevation promotes lung expansion as gravity pulls the diaphragm downward, allowing for expansion and ventilation. The stretcher originally installed in the newly delivered AW169 did not take into account patient transport requirement and was too high off the cabin floor. The AW169 has a lower cabin ceiling and with the original stretcher, the patient's head would come into contact with the ceiling at 30 degrees elevation. As a result, Babcock needed to find a new solution for this aircraft.



THE SOLUTION

Heli-One was asked to propose a solution in a very short tight timeline and was able to deliver the installation within a month. The Design team repurposed a SAR/EMS solution originally designed for the H225 which utilized a Teflon-coated base plate. The new installation would now consist of a 1" base plate which is affixed to the existing AW169 seat tracks. The stretcher would be locked in place, and being nearly flush to the floor – would allow for ample room for patient positioning and flexibility. The plate has snap-lock attachments that connects to the floor/seat tracks and can be installed and removed in minutes with minimal crew involvement.

The base plate has a Teflon-coating which allows for the stretcher to be easily installed. It can also be repurposed to handle cargo and there are attachment points for straps. The stretcher has various options for positioning and has been qualified for 20Gs.

A plastic 3D prototype was printed for initial evaluation and testing. This type of rapid prototyping allows for changes to be made quickly without the time intensive process of custom milling a test plate. A similar process was utilized for other EMS/SAR cabin configurations in different customer aircraft including the H225, AS332, and S-92. After the testing phase, the final aluminum base was milled in-house and certified for mission-use. The final solution was delivered within a month and the customer was able to start air medical transport services with their new AW169 aircraft a few days into 2018.

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