

# WINGS

CANADA'S  
NATIONAL  
AVIATION  
MAGAZINE



FOR  
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YEARS

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## SMARTER IN THE FIGHT

Today's airlines joust for position

### Vintage planes dousing flames

A position report on Air Spray

### Striking back with avian radar

High-tech solutions to a  
soaring problem



NOV/DEC 2009

PM 40065710 \$6.00



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Perimeter Aviation is the first North American carrier to purchase the Amazon Stair Climber.

# PERIMETER TRANSPORTS WITH EASE

## ELEVATING WHEELCHAIR PATIENTS TO NEW LEVELS

BY JAMES CARELESS

**W**innipeg's Perimeter Aviation flies to places most Canadians have never heard of. It serves remote locations like Gods River, Red Sucker Lake and Oxford House, plus more familiar Manitoba towns such as Thompson.

Although Perimeter Aviation flies Dash 8s, it has to rely on smaller Beech 99s and Fairchild Metro II/IIIs to serve these more remote destinations. The reason: "It is common for these isolated communities

to have little more than a 3,000- to 3,400-foot runway made of crushed granite and a very small terminal," says Mark Wehrle, Perimeter Aviation's president. "These are not places where you can land big or even medium-sized aircraft."

Adding to Perimeter Aviation's challenges is the nature of its business. Besides scheduled passenger and charter services, the airline provides medevac transportation for isolated First Nations communities. The company flies both emergency and non-emergency patients throughout

northern Manitoba and parts of northwestern Ontario. Given the low level of medical care in these areas, patients have to travel to major urban areas to get the sophisticated treatments they need.

"These communities often lack roads, which means that air is the only way in or out," Wehrle says. "So when patients need to be transported – including those needing wheelchairs – Perimeter Aviation is their only option."

When it comes to wheelchair-bound patients, the problem is that Perimeter Aviation is flying conventional fixed-wing aircraft, not air ambulances. As a result, getting remotely located patients with mobility issues where they need to go is a real challenge, especially because the flight crew has to get them up the aircraft stairs without the aid of a loading bridge. "Like many airlines in our position, we have tried everything from having strong crew members carry them in their arms, to specially modified chairs that still require two crew members to lift them vertically," Wehrle says. "None of these solutions are optimal either in terms of patient safety or the physical strain on our crew."

After struggling with this problem for years, Perimeter Aviation appears to have found a solution. It is called the Amazon Stair Climber. Made in Europe and sold by BKD Aerospace Industries, the Amazon is a fully mechanized chair that can literally climb up and down a narrow aircraft stairway, without requiring the crew to do anything but steady it.

### The Stair Climber explained

At first glance, the Amazon Stair Climber looks unremarkable. It appears to be a straight-backed metal chair with side-mounted wheels and back handles, plus a rectangular box mounted underneath the seat by the larger back wheels. This box is where the Amazon's secret lurks. Inside is a battery-powered, heavy-duty piston. It has the strength to push down a large rubber-tipped foot housed within that lifts the entire chair up (or down) to the next stair. Upon arriving at the stair, the Amazon sits securely until the piston has finished another cycle, again moving it up or down one more step. All the crew member has to do is steady the device from behind. (When the chair is in motion, a second crew member holds onto its footrest to provide extra stability.) Once the stairs are dealt with, the wheels on the Amazon allow the passenger to be wheeled down a narrow aircraft aisle.

"The Amazon Stair Climber weighs only 75 pounds [34 kilograms], yet it can raise or lower a 350-pound [159-kilogram] man up 15 to 20 aircraft stairs," says Bill Carter, BKD Aerospace Industries' VP of North American and International Sales. "When not in use, the Amazon can be carried

onboard an aircraft or kept within the terminal. Its battery can run for 300 trips, carrying an average weight of 180 pounds [82 kilograms]. However, since the Amazon uses a lead acid battery, you can plug it in for recharging at any time, without having to fully discharge the unit first."

According to Carter, European air regulations have mandated the use of this device by airlines across that continent. "However, in North America, there is no such requirement," he tells *Wings*. "This is why Perimeter Aviation is the first North American carrier to purchase this product."

In support of this product, BKD Aerospace provided Perimeter Aviation with on-site staff training, to ensure that everyone knows how to use the equipment. "It takes about 2.5 hours to master it," Carter says.

### A better solution

Perimeter Aviation jumped at the chance to purchase its first two Amazons, after learning about them during a sale presentation. "We have been trying to find a better way of moving mobility-challenged passengers for years," explains Mark Wehrle. "But this is not an easy problem to solve."

In the past, the airline has built custom carrying chairs, to try and give passengers a safer, more secure ride. "But carrying a 250-pound [113-kilogram] person up the stairs of a Beech 99 is difficult even with this rig, because you have to have two staff



## WHEELCHAIR PATIENT TRANSPORT WILL CEASE TO BE THE RISKY, BACK-BREAKING TASK THAT IT IS TODAY.

members do the lifting," he notes. "The result can be injury to the crew due to back strain. This is not something they signed up for when they entered flying school." Other solutions include forklifts, or building of long temporary ramps wherever possible. But neither are really good solutions, let alone something that can be practically carried aboard an aircraft.

"The Amazon Stair Climber appears to be the solution we are looking for," Wehrle notes. "That's why we bought two of them to start."

### Trial by snow, mud and gravel

Perimeter has been using its two new

they can't take it, we will find out. But we sure hope that they can."

If the first two units pass the test, Perimeter will add more Stair Climbers to its fleet. They will be carried on both large and small aircraft; even the Beech 99. With the help of this new equipment, wheelchair patient transport will cease to be the risky, back-breaking task that it is today.

"We want to provide our mobility-challenged passengers with the safest, most comfortable and reassuring transport that we can, no matter where we are flying to," Wehrle says. "The Amazon Stair Climber looks like it will let us do a better job of this than ever before." | **W**



The Amazon Stair Climber weighs only 75 pounds [34 kilograms], yet it can raise or lower a 350-pound [159-kilogram] man up 15 to 20 aircraft stairs. TOP: A medevac flight over Whale Cove, Nunavut.

### PERIMETER AT A GLANCE

Perimeter Aviation operates 34 aircraft in Manitoba and Ontario, including Dash 8s, Fairchild Metro IIs and IIIs, and Beech 99s. The company also has a six-seater Merlin IIIA with leather interior. One of its Metro III is dedicated to cargo flights.

The company has bases in Winnipeg and in Thompson, Man.

Perimeter Aviation's AeroMed Air Ambulance Services operates 24 hours a day using Fairchild Metro IIs. AeroMed has four medevac bases at Thompson, Cross Lake, Gods Lake Narrows, and Island Lake. According to the company, its air ambulances can reach any community in Manitoba within one hour.

Perimeter Aviation offers multi-engine instrument training using PFC Elite simulators, Beechcraft Travelair aircraft and Bendix/King KLN 90B GPS.

The company has its own maintenance services division serving its fleet as well as outside customers.