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The Middle Seat: Big, Bad Machine in Boston Keeps Runways Clear at Logan

BY SCOTT MCCARTNEY

If you want to keep an airport open through a massive snow storm, you better get a big shovel. And that's what Boston's Logan Airport has.

Logan, which was spared heavy snow Wednesday, hasn't officially closed the airport since the Blizzard of '78, thanks in part to a massive snow mover called Vammas.

Manufactured in Finland and used by only a couple of airports in North America, the 68-foot-long machine has a huge blade on the front for plowing, a giant sweeper brush in its midsection and a blower in its tail that spits out air at 451 miles per hour. A staggered line of 10 Vammas machines can clean a runway down to bare pavement in about 10 to 20 minutes, depending on how heavy the snow is.

"It's a pretty unique piece of equipment," said Gary Tobin, director of facilities for the Massachusetts Port Authority, which operates Logan.

A double whammy of two major snow storms in one week buried much of the East Coast, closing airports, forcing cancellation of thousands of flights and disrupting the plans of hundreds of thousands of travelers. At many airports, the snow overwhelmed efforts to keep runways safe and open, and impassable roads meant neither workers nor travelers could get there. Like schools, airports simply closed down for entire days.

Most airports aren't equipped to handle several feet of snow at once. But Boston, which typically gets about four feet of snow each year, attacks the white stuff with a vengeance. "Snow removal is an art," said Thomas Kinton, chief executive of Massport. "No one airport is the same in fighting Mother Nature in the winter."

In recent years, airports have become better equipped at battling bliz-

zards because of a de-icing chemical called potassium acetate (airports can't use salt because it's corrosive to airplanes) and because of improved plowing technology like the Vammas.

The Vammas rolls when runways get one-quarter inch of slush, one-half inch of wet snow or one inch of dry snow. Runways are closed when they have more than half an inch of slush or wet snow, two inches of dry snow or any report from a pilot describing braking action as "poor" or "nil." The Vammas machines clear it, and flights resume.

Each Vammas gets a nickname painted on the side, usually reflecting its assigned driver. Kevin Finn, the lead driver of the Vammas conga line, has named his the "Flying Finn." The Vammas, which Logan started putting in operation in 1998, operate by computer and a joy stick, and the long machine pivots so it can turn in tight radius, much like a hook-and-ladder fire truck. "What the plow misses the broom gets. What the broom misses the blower gets," Mr. Finn said.

Logan has a special vehicle to measure the friction on the surface of a runway -- key for planes to be able to brake without skidding. Airport managers patrol the field during storms and monitor pilot reports of braking trouble. Electricians follow plows and fix runway lights that get broken.

Sometimes, officials take airline pilots out to runways in cars to let them stand on the surface and see whether it is slippery. Portable snow melters are positioned over drains and snow is dumped into giant vats to be melted so it doesn't stack up in terminal areas and block gates. The airport tries to keep two runways and associated taxiways open during storms, but when snow is coming down hard, crews focus on keeping one runway open.

Though safety is airlines' first concern, passenger bookings play a role in deciding whether to cancel flights. This past week was lightly booked, making it easier to cancel flights and reaccommodate customers. But passenger loads will be heavy in Boston beginning Thursday because of a school-vacation period. To compensate for cancellations Wednesday, several airlines planned to fly extra trips into and out of Boston on Thursday.

At a planning meeting with airline-station managers Wednesday morning, Ed Freni, the Massachusetts Port Authority's aviation director, had airport officials run through plans for the day, then polled airlines on how many flights they planned to cancel, how many planes would be on the ground overnight and other contingencies. They reviewed plans for helping airlines get people off planes that sit for long periods.

The forecast for the airport was for heavy, wet snow -- the most difficult to move. That, coupled with high winds, had officials concerned. But because of Logan's snow prowess, most airlines planned to operate at least two flights an hour into the afternoon at the forecasted peak of the storm, and bring in enough planes late in the day to have a full flight schedule Thursday morning. "Keep communicating with us," Mr. Freni said at the end of the meeting, "and good luck." (See related letter: "Letters to the Editor: Blow, Blow, Thou Winter Wind . . ." -- WSJ Feb. 20, 2010)