

Central Alaska Metalworks Inc. introduces a

FAST & EASY

Solution for ice & snow removal from airfield lighting canisters



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In the field of aviation, whether civil or military, cold weather climates present significant challenges for the personnel charged with maintaining airfield lighting systems. Fully functioning airfield lights can mean the difference between life and death. Nowhere is this truer than in Alaska's rural towns and remote villages, the majority of which are accessible only by air. When there's a medical crisis, emergency aircraft depend on an airport with working lights. Shutting down an airport because of runway light failure caused by ice-filled in-pavement runway lights is not an option.



Patents Pending

The ThawHead™: Grand Prize Winner of the 2015 University of Alaska Arctic Innovation Competition

HISTORY

In Alaska and other Northern climates, airport maintenance personnel face extreme cold and short days. Repairing ice-filled light canisters in such harsh conditions can be miserable work. When the Alaska Department of Transportation, Northern Region, decided to procure equipment or a "system" that enabled more efficient winter lighting maintenance and repairs at Alaska's rural airports, they went to Cameron Gackstetter of Fairbanks Alaska. Cameron had expertise in building custom equipment and a reputation for "thinking outside of the box." They needed a portable, self-contained unit small enough to be reasonably transportable to Alaska's rural airports in the winter.

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The Thaw Rig™

PROBLEM

When airfield runway lighting systems fail during the winter, access to wiring and transformers inside the lighting base "cans" is frequently impossible because they're filled with ice and frozen debris. The ice can be chipped out, but it may damage canister components. This lengthy, tedious operation also exposes maintenance personnel to frigid temperatures for substantial periods of time.

SOLUTION

At 40 inches tall, 11 inches in diameter and less than 40 pounds, The ThawHead™ is a portable apparatus that, when connected to a standard pressure washer, is placed on top of the exposed, ice-filled canister. Phase one, the thawing stage, directs targeted jets of high-pressure hot water through nozzles in the

base of The ThawHead™ to break up the frozen material. Rotation of the apparatus, combined with adjustable water pressure, allows the operator to control the thawing rate as desired. Phase two, the evacuation stage, involves moving the base of The ThawHead™ off to the side, detaching the evacuation wand and inserting it into the melted slurry. Through a unique vortex action, the slurry is swiftly suctioned out through the discharge hose to the designated area or receptacle. Total time to empty an ice-filled canister averages 15 minutes: a significant improvement over current methods.

Designed for use in cold climates, The Thaw Rig is the optional self-contained support system for The ThawHead™. Within this trailer's well-insulated walls are the pressure washer, generator, water pump, electric heater, battery charger, polyethylene water tank, antifreeze storage tank and The ThawHead™ apparatus itself. Designed to be towed behind an ATV or a snowmobile, The Thaw Rig™ generates its own heat and electricity. The complete unit fits in a CASA cargo airplane rear door.