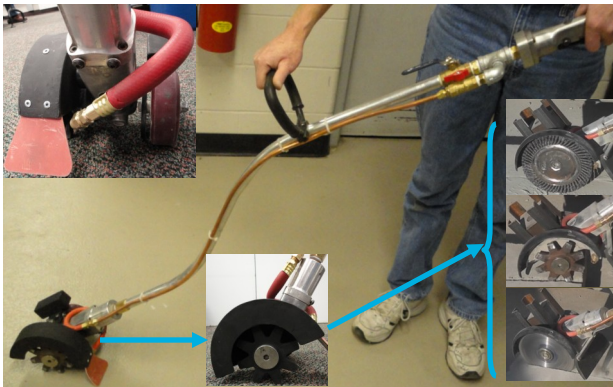


Multi-function Crack Cleaning Device

The need for the multi-function crack cleaning device was initiated based on the practical request of the Nebraska Department of Roads (NDOR) for a tool to be developed that efficiently prepares pavement cracks and joints for sealing. NDOR was particularly interested in the tool's ability to remove de-icing chemical buildup that forms on the crack and prevents sealant adhesion. The traditional procedures for preparing roadway joints and cracks for sealing/filling — which include air blasting, sanding, routing, and hot air blasting — are largely ineffective, labor intensive, or dangerous. The simple and innovative design of this new tool is an air powered rotary wire brushing system with onboard air nozzles that blow out the pavement crack behind the wire brush. Incorporating a pneumatically powered rotary motor allows for a seamless connection between existing maintenance vehicles' air compressor systems, which reduces the need for further retrofit costs and eliminates the need to haul flammable liquids.

Innovative Versatile Crack Cleaning Device



- **Replaceable Brush Design**
A low cost alternative to simply and effectively prepare pavement cracks and joints for sealing or filling.
- **Angle-adjustable air nozzle and Debris Guard**
The debris guard is designed not only for the safety and protection of the operator, but also for passing vehicles and pedestrians. The adjustable nozzle trajectory using a funnel is designed to blow out debris away from the crack to the side of the roadway no matter what the direction the device is moving.

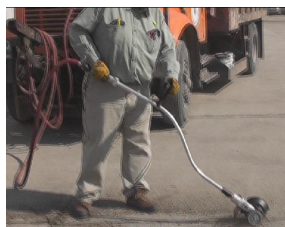
Field Test with industry roads maintenance personnel

The crack cleaning device has been tested a number of times by actual industry roads maintenance personnel at NDOR and the City of Omaha in Nebraska. From such testing, its high potential for significantly improving the current crack/joint sealing practices was recognized. A continuous improvement process according to industry feedback, including the nation's largest roadway maintenance equipment/material supplier CRAFCO Inc., proved to be an invaluable method of creating such a practical device.



First Field Test with NDOR

Second Field Test with NDOR



Field Test with the City of Omaha Urban Maintenance Crew

Goal

Contact for Commercialization or Start-up Business



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