

**LRRB**  
**Local Operational Research Assistance Program (OPERA) for**  
**Local Transportation Groups**  
**Field Report**

This report must include the underlined subject areas and supporting resources (i.e. photos, graphs, charts, etc.). The OPERA program will use this information in an annual report that will be shared with other local agencies within the state. We request that a short 5-10 minute demo or presentation be shared at the Spring Maintenance Training Expo.

**Date:** June 15, 2010

**Project Title:** Cushion Release Push Frame/Weight Transfer Kit

**Project Number:** 2009-03

**Agency:** City of Glenwood, Public Works

**Person Completing Report:** David Perryman

**Project Leader:** David Perryman

**Phone Number:** 320-634-5433

**Problem:** Snow left on sidewalk by blower bounce, operator safety

**Solution:** Addition of Cushion Release Push Frame/Weight Transfer Kit

**Procedure:** Purchase and install Push Frame & Weight Transfer Kit

**Results:** (Include what worked well and what didn't. Include any recommendations, changes or modifications you feel would improve the project. Discuss the results of the testing or evaluation; what methods were used to evaluate the project; estimates of possible or actual cost savings, reduction in materials, equipment or labor because of the use of this project.) See attached sheet

**Implementation:** On Oct. 1, 2009, the City installed the Cushion Release to its 1445 JD blower. Weight transfer kits were installed on Jan. 12, 2010

**Status:** Both items are in use on the 1445's. The Push Frame is only used in the winter, but the Weight Transfer Kits are used all year.

**Total Duration of Project:** October 1, 2009, through present date.

**Project End Date:** June 15, 2010 - End test period.

**Approximate Cost of Entire Project:** \$7,500.00

**Total OPERA Funds used for project:** \$5,000.00

Send and Email a completed report with pictures to: Mindy Carlson, CTS - 200 TSB, 511 Washington Ave. SE, Mpls. MN 55455, email [carlson@umn.edu](mailto:carlson@umn.edu). For questions about this report please contact Mindy Carlson at 612-625-1813.

**Project #2009-03**  
**Cushion Release Push Frame/Weight Transfer Kit**

**Results:**

The Cushion Release Push Frame worked very well. It not only eliminated the need to go over the area of blowing with a broom to get all the snow but saves time. The operators can speed up the operation in blowing time and eliminating the second pass.

Safety to the operator was an issue not thought about, but prior to the Push Frame, the operator would receive a "jolt forward" each time a crack or elevation difference was passed over. Now the Push Frame absorbs all the bounce.

We also found that repairs to equipment went down considerably over the test period. There were no bent cutting edges or broken pins after the Push Frame was installed.

The Weight Transfer Kits have been a good item for the heavier 4x4 1445 tractor. The traction control allows the operator to mow most areas without 4-wheel drive. On the lighter 4x2 1445 tractor, the Transfer Kit doesn't work as well but is still a benefit. It adjusts too much weight to the wheels and by doing so allows the mower deck to cut unevenly. We are still adjusting settings to try to correct this issue. The Weight Transfer works very well in the winter on icy sidewalks. It allows for complete traction of the equipment, helping the operator stay on task.

## Brief History

The idea for this invention was birthed during the winter of 2004-2005. The patent process was then started. The new trip system, an industry first, was put to use on the bucket of a hydraulic front end loader mounted on a 3/4 ton Dodge pickup. The loader's bucket could now strike immovable objects at operating speeds without damage to equipment or injury to the operator.

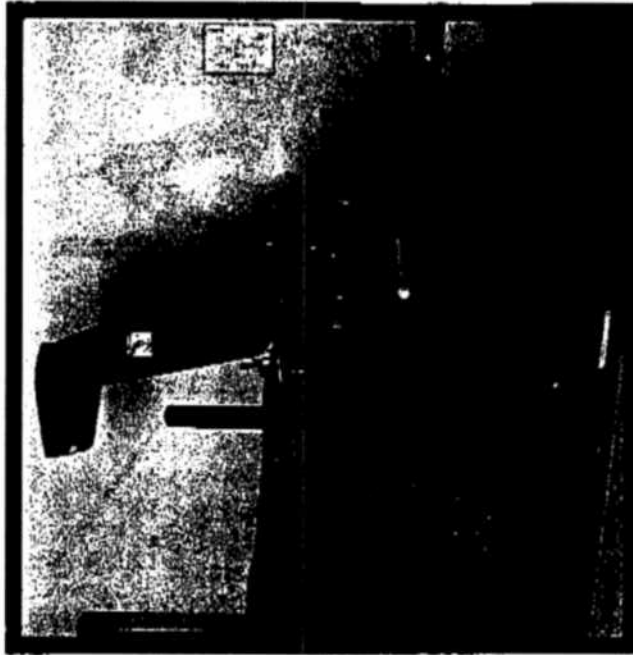
The City of Glenwood's (Minnesota) Public Works Director took notice of how this new technology was working and asked Inventor Grant Hanson if he could modify the City's commercial blower with this new technology. What you see here is the end result.



## Contact Information

Grant Hanson  
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Glenwood, MN 56334  
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[www. safeloader.com](http://www.safeloader.com)

# Cushion Release Push Frame for Snowblowers



Patent Pending

[www.safeloader.com](http://www.safeloader.com)

# An Industry First Trip System

- A snowblower that can continually scrape the surface as it blows—no more leaving a skim of snow.
- A snowblower that can safely operate at increased speeds—increasing productivity.
- A snowblower that sees less down time because of repairs.
- A snowblower that can often do the job in one pass. Following up with a power broom may become a thing of the past.
- Participant in the Minnesota State Highway Department OPERA competition.
- Perhaps most important, a sidewalk that has reduced the possibility of a bone breaking fall.



Consider what the  
Cushion-Release System  
could do for you: