



# Road Salt Symposium 2019

## Heavy Metal: Ice Breakers and Underbodies

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# A lot more than Salt and Sand



# Mechanical Snow Removal Tools

- Plow Trucks
- Motor graders
- Tow Plows
- Ice Breakers
- Snow Blowers
- From NASCAR...
  - Jet Driers ;-)



# Step 1: “Keeping it thin”

- Plow during storm events as frequently as possible
- In windy situations our primary tool is scraping
- Reduces bare lane regain time required when storm ends
- Reduces chemical usage



# Plows: Blades here, there and everywhere

- Standard Truck has at least 3 blades
  - Front plow
  - Underbody plow (the workhorse)
  - Wing
- Dual wing
- Tow Plow



# Truck Build Options

<b>Chassis (Select One)</b>	
Single Axle - Class 33	\$ 106,703
<b>Tandem Axle with Engine Brake - Class 35</b>	<b>\$ 130,998</b>
<b>Tandem Only Options</b>	
<b>Tow Plow</b>	
<b>Wing Plow (Select One)</b>	
<b>9ft RH Rear (single or tandem)</b>	<b>\$ 11,164</b>
9ft LH Rear (single or tandem)	\$ 11,164
9ft Dual Rear (tandem option only)	\$ 23,460
11ft RH Rear (tandem option only)	\$ 12,175
11ft LH Rear (tandem option only)	\$ 12,175
11ft Dual Rear (tandem option only)	\$ 25,475
<b>Underbody Plow (Standard on all trucks)</b>	
<b>Hydraulic Accessories</b>	
Single wing slurry pump valve section	\$ 725
Single wing dual auger sander	\$ 2,140
Single wing Tow plow valve section (Tandem option only)	\$ 10,810
Single wing slurry pump / Tow plow valve sections (Tandem option only)	\$ 12,735
Dual wing (Tandem option only)	\$ 4,815
Dual wing / slurry pump valve sections (Tandem option only)	\$ 11,345
Dual wing / Tow plow valve sections (Tandem option only)	\$ 13,055
Dual wing / slurry pump / Tow plow valve sections (Tandem option only)	\$ 16,375
<b>Sander (Select One)</b>	
<b>Falls 6" Dual Spinners</b>	<b>\$ 5,983</b>
Falls 9" Dual Spinners	\$ 6,140
Falls 6" Split Auger/ Dual spinner	\$ 10,470
Kline 9" Slurry Sander (District installation)	\$ 16,910
Monroe Tailgate/Sander (District installation)	\$ 11,655

<b>Front Plow (Select One)</b>	
<b>12ft Power Reversible - Falls PR1243E1</b>	<b>\$ 9,085</b>
12ft Power Reversible - Falls PR1243E1 / Stainless steel mold board	\$ 10,020
12ft Rev RH High Discharge - Falls ROX12	\$ 10,210
12ft Rev RH High Discharge - Falls ROX12 / Stainless steel mold board	\$ 11,565
12ft Rev LH High Discharge - Falls ROX12	\$ 10,210
12ft Rev LH High Discharge - Falls ROX12 / Stainless steel mold board	\$ 11,565
12ft Rev High Discharge - Falls XPR12	\$ 10,210
12ft Rev High Discharge - Falls XPR12 / Stainless steel mold board	\$ 11,565
12ft Rev RH Plow (closed end) - Falls FX312RE1	\$ 9,540
12ft Rev RH Plow (closed end) - Falls FX312RE1 / 411H (7ga.) mold board	\$ 10,940
12ft Rev LH Plow (closed end) - Falls FX312RE1	\$ 10,420
12ft Rev LH Plow (closed end) - Falls FX312RE1 / 411H (7ga.) mold board	\$ 11,815
12ft Rev RH Plow (open end) - Falls FX312RE1	\$ 9,540
12ft Rev RH Plow (open end) - Falls FX312RE1 / 411H (7ga.) mold board	\$ 10,940
12ft Rev LH Plow (open end) - Falls FX312RE1	\$ 10,420
12ft Rev LH Plow (open end) - Falls FX312RE1 / 411H (7ga.) mold board	\$ 11,815
12ft Rev RH Plow (closed end) - Falls FX412	\$ 9,540
12ft Rev RH Plow (closed end) - Falls FX412 / Stainless steel mold board	\$ 12,185
12ft Rev LH Plow (closed end) - Falls FX412	\$ 9,540
12ft Rev LH Plow (closed end) - Falls FX412 / Stainless steel mold board	\$ 12,185
12ft Rev RH Plow (open end) - Falls FX412	\$ 9,540
12ft Rev RH Plow (open end) - Falls FX412 / Stainless steel mold board	\$ 12,185
12ft Rev LH Plow (open end) - Falls FX412	\$ 9,540
12ft Rev LH Plow (open end) - Falls FX412 / Stainless steel mold board	\$ 12,185
12ft Rev Polly Plow - (FRINK) EVEREST RAC 3351	\$ 19,810
12ft Rev Polly Plow - HENDERSON RSP-FLEX-12	\$ 14,890

- Carbide Steel
- Rubber (w/ carbide inserts)
- Rubber (w/ ceramic inserts)
- Specialty blades
- Scarifying blades
  - use with caution!



# MnDOT's Newest Heavy Metal tool – The Ice Breaker









# Ice Breaker





# Ice Breaker

- A rolling drum with 1,400+ points
- Normally recommended for > 1" compaction/ice
- Using on compaction as thin as ¼"
- No damage (some scuffing)
- Takes place of front plow
- Up to 25-30 mph



# Jumpstart Treatment



# Keeping the snow off the road

- Greatly expanding use of snow fence
  - Corn rows / round bales
  - Living snow fence
  - Structural snow fence



# Thank you

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