

sabre[®]



ARMORED CARBIDE SNOWPLOW BLADE

EVOLUTION
EDGES™

A DIVISION OF CHEMUNG SUPPLY



Outline

- Introduction & Company History
- Carbide Plow Blades
- Steel Cover Blades
- Sabre Blade
- Sabre Photos
- New Innovations



Evolution Edges



Manufacturer & Distributor of Snow Plow Wear Parts

- *Steel Blades*
- *Carbide Blades*
- *Rubber Blades*
- *Hybrid Blades*
- *Wear Shoes*
- *Curb Guards*
- *Custom Parts*

A Division of Chemung Supply Corporation

- *Founded in 1931*
- *Based in Elmira, NY*
- *Premier Municipal Supply Distributor*



Built Blades



- **2016:** Built Blades, LLC. was founded in Fairport, NY and the patent for the Sabre blade was filed.
- **2016-2020:** Sabre blade spread across 18 States (DOT, County, Town, Village, & Private).
- **2020:** Built Blades, LLC. & patents acquired by Evolution Edges (A Division of Chemung Supply Corporation) based in Elmira, NY.
- **2022:** the Sabre Blade is being used across 31 states, including 25 DOTs - more innovations on the way.





Carbide History

- Carbide Inserts = Tungsten Carbide Powder (WC) mixed with metallic Cobalt and sintered to shape.
- First discovered in the 1920s and used in various industries; cutting tools, mining equipment, armor piercing ammunition, jewelry, and even nuclear neutron deflectors.
- Commercially introduced in Wear Parts industry around the 1970s.
- Global Consumption
 - 1930 = 10 Tons
 - 2021 = 79,000 Tons
- 80% of Global WC Consumption is mined in China.



Carbide Plow Blades

- Carbide inserts are wear-resistant, but brittle.
- Carbide inserted blades can provide 10-20x more wear life than steel blades, if the inserts remain intact.
- Plowing impacts can fracture the inserts, causing them to fall out of the blade and result in premature wear.



Carbide & Cover Blade

- To protect carbide inserts from impacts, steel cover blades are commonly used in conjunction with carbide blades.
- Steel cover blades cover the entire length of the plow, and need to be handled by multiple people or by machine.

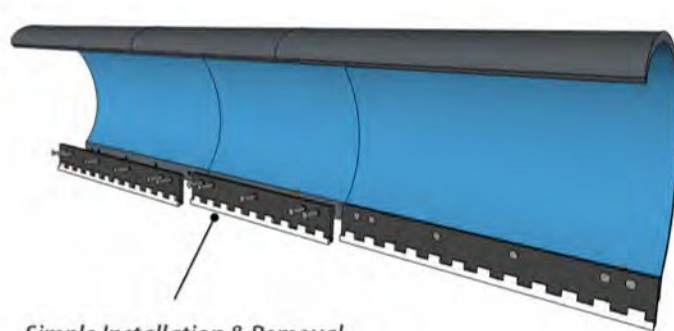


Sabre Blade

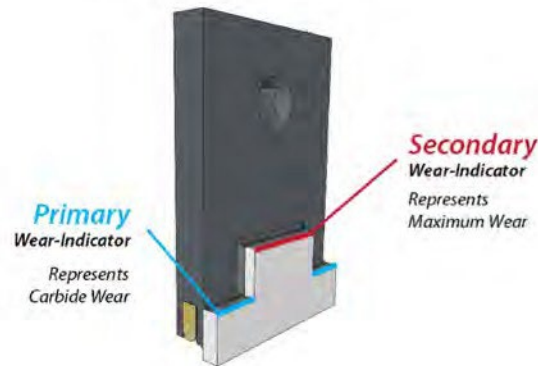


U.S. Patent# 10,138,607

- The Sabre is a carbide blade with a built-in cover plate.
- Compared to standard cover blades, Sabre's Hardox is:
 - 2X more abrasion-resistant
 - 3X more impact-resistant
- The crenelated plate is fully-welded to the frame.
 - 30" of Weld / Ft.
- Built-in Wear Indicators
 - 7 Wear Indicators / Ft.

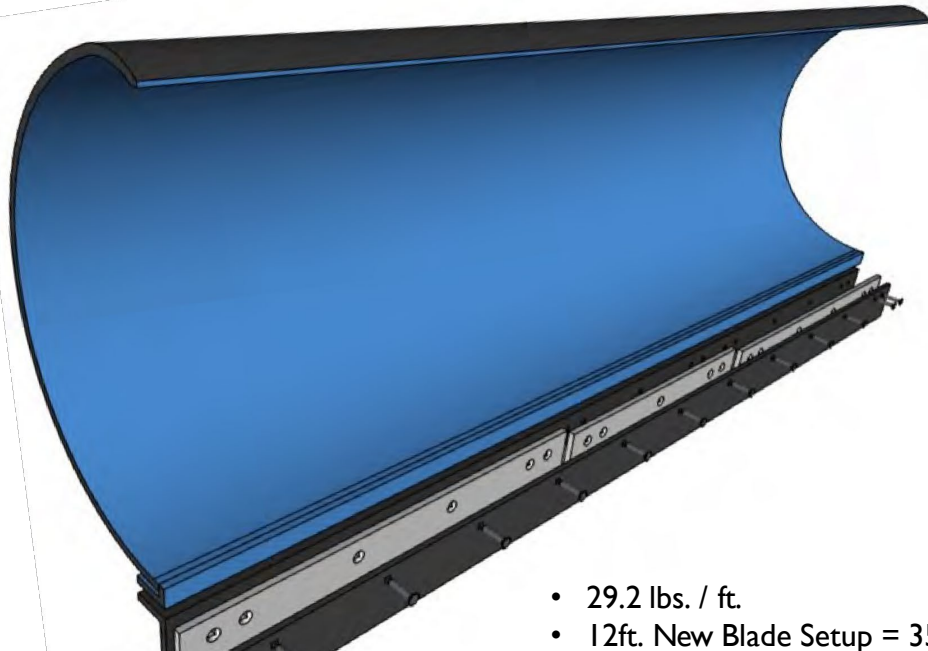


- Non-Interlocking Blades allow for use on sectional trip plows.



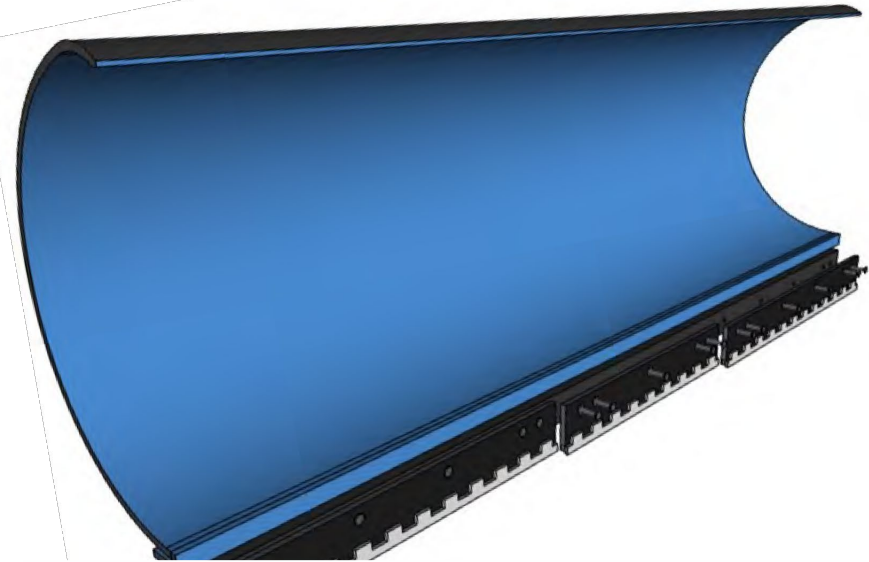
Carbide & Cover Blade vs. Sabre

Carbide & Cover Blade



- 29.2 lbs. / ft.
- 12ft. New Blade Setup = 350 lbs.
- 12ft. Blade Waste = 256.8 lbs.
- 12ft. Cover Blade = 154 lbs.

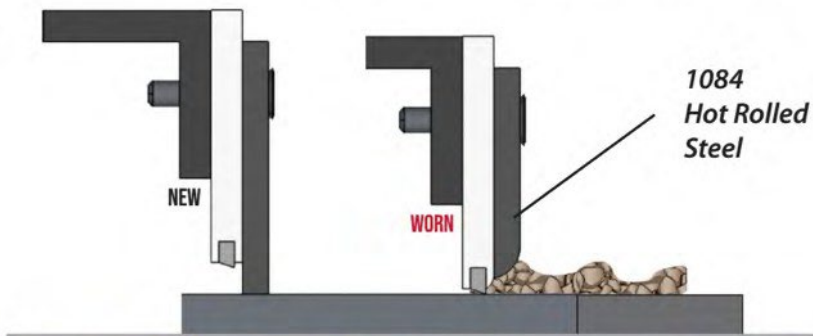
sabre®



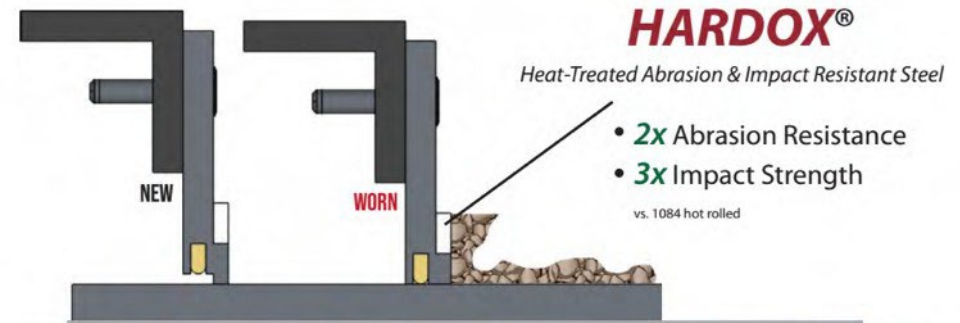
- 17.3 lbs. / ft.
- 12ft. Sabre = 207.6 lbs.
- 12ft. Blade Waste = 144 lbs.
- 4ft. Sabre = 69.2 lbs.

Carbide Protection

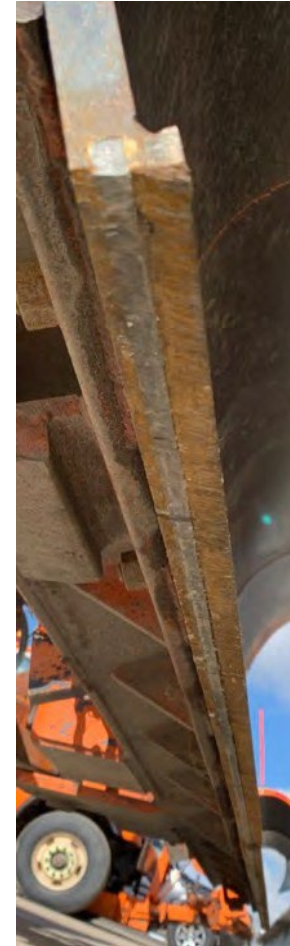
Carbide & Steel Cover Blade



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Carbide Protection

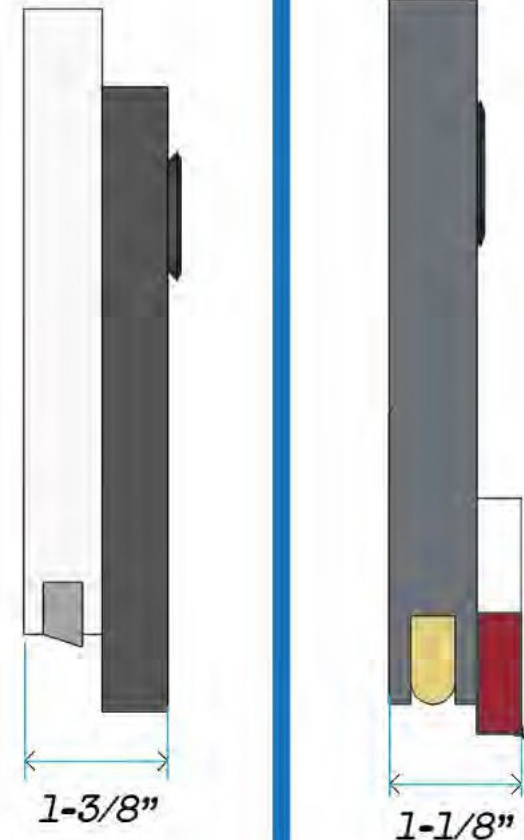


Cutting Ability

- The Sabre's Hardox cover plate delivers superior abrasion and impact protection with a smaller footprint.
- Sabre's 3/8" armor is 25% thinner than its 5/8" steel cover blade counterpart.
- Thinner blade = better cut = less salt

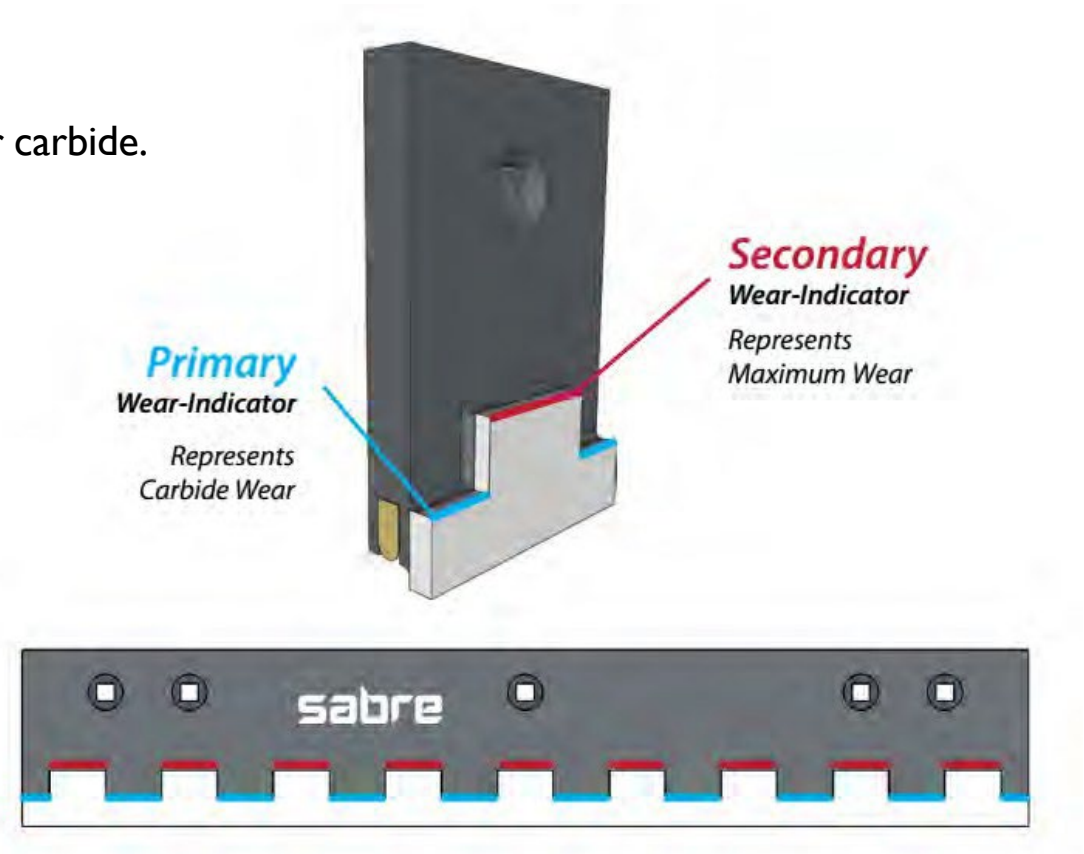


Hardox cover plate is 2x more abrasion resistant than steel, helping keep a sharper leading edge.



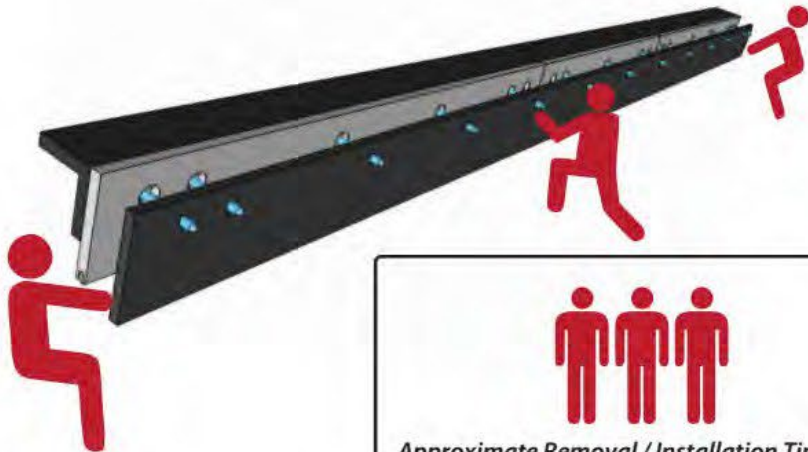
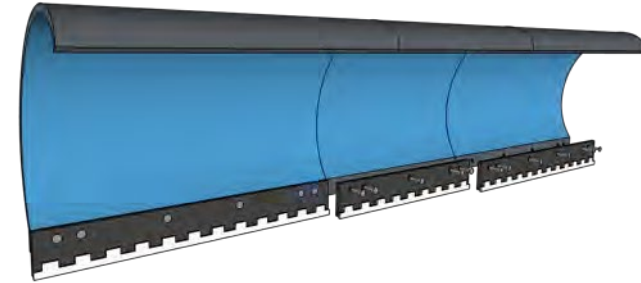
Wear Indicators

- Quick, safe, and accurate.
- No more guesswork, no more climbing under plow to “feel” for carbide.
- Pinpoint uneven wear patterns and fix them.



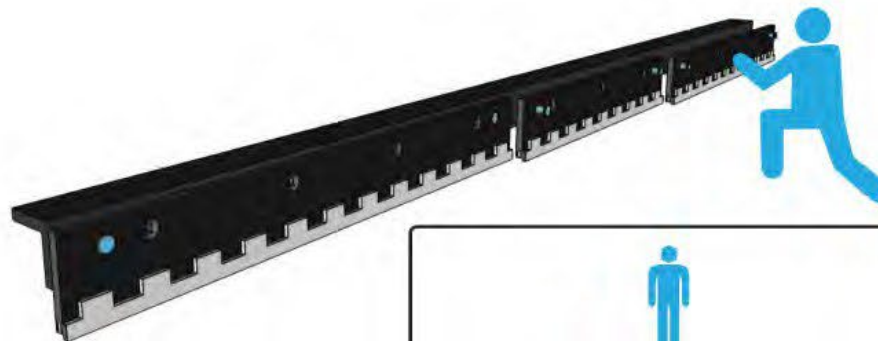
Safer & Faster Installation

- Sectional Sabre blades can be handled by one person.
 - 4ft. Sabre Blade = **69lbs.**
- Cover blades require multiple people and/or equipment to handle.
 - 12ft Cover Blade = **154 lbs.**
(5/8"x6")




Approximate Removal / Installation Time
3 Worker @ 1 Hour = 3 Man Hours

INSTALLATION




Approximate Removal / Installation Time
1 Worker @ 3/4 Hour = 3/4 Man Hour
75% Less Time vs.
Carbide & Steel Cover Blade

Storage

- Sabre blades are built in 3 foot & 4 foot lengths.
- Easily stackable, and can be shipped with up to 45 blades per pallet.



*Represents Approx. (40) 11ft. Cover Blades
Approx. Dimensions : 140"x48"x24"*



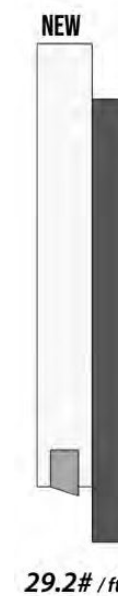
*Represents (100) 11ft. Blade Setups
Approx. Dimensions : 140"x33"x36"*

Storage

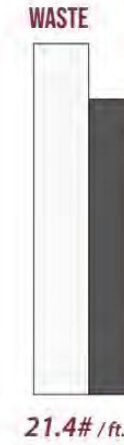


Waste

- Fully-welded cover plate allows for All wear material (carbide & hardox) to be used in life cycle.
- Sectional Sabre blades are easier to dispose / recycle than full length cover blades.



New 11ft. Blade / 321.2 lbs.
11ft. Blade Waste / 235.4 lbs.



New 11ft. Blade / 190.3 lbs.
11ft. Blade Waste / 132 lbs.



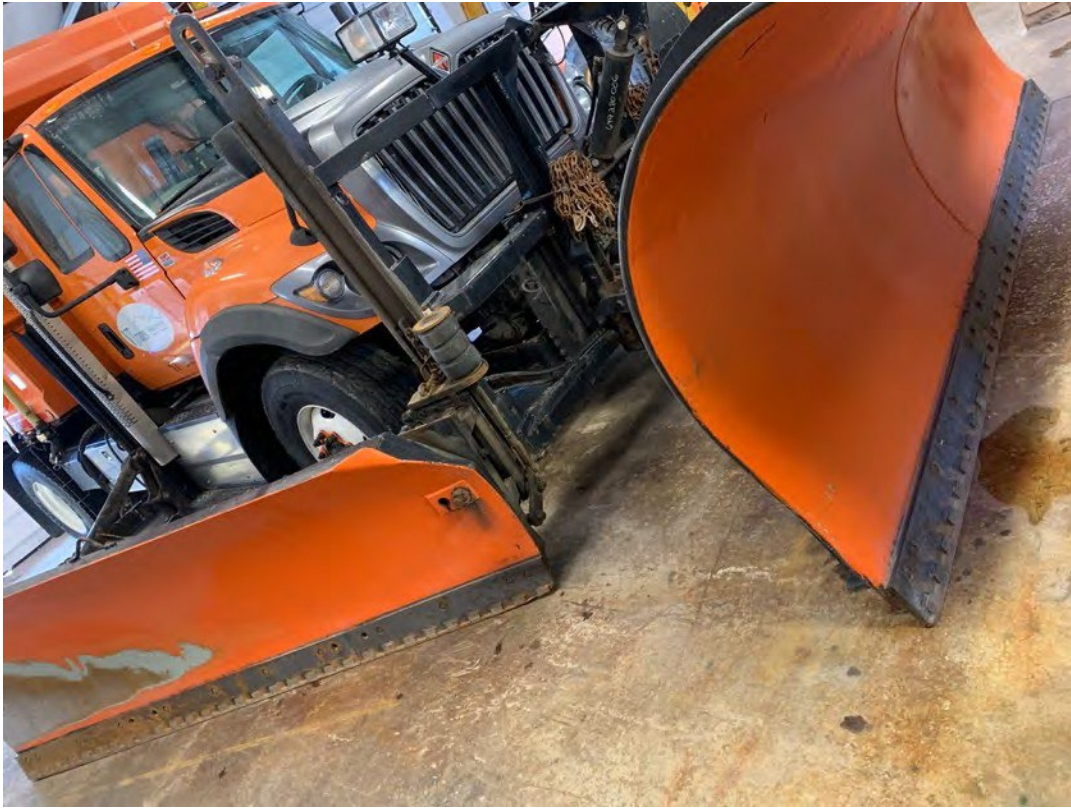
Cover Blade Waste



Sabre Field Photos



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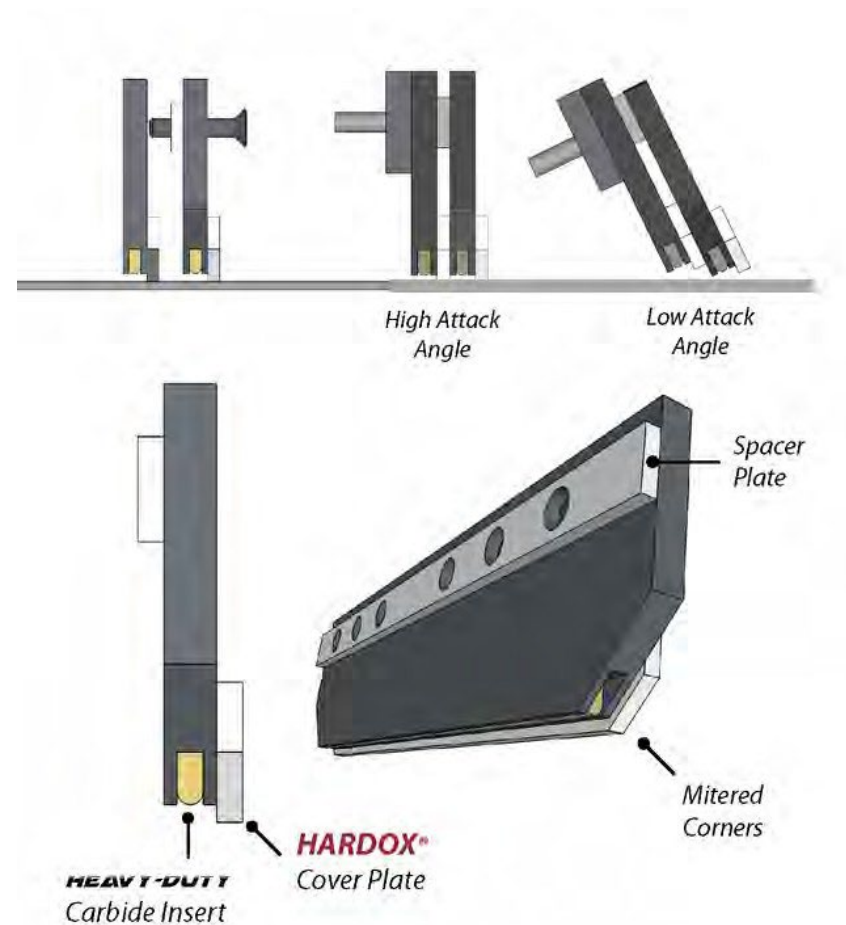
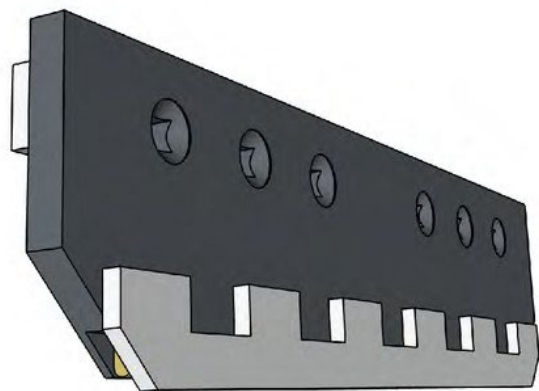
Sabre Field Photos



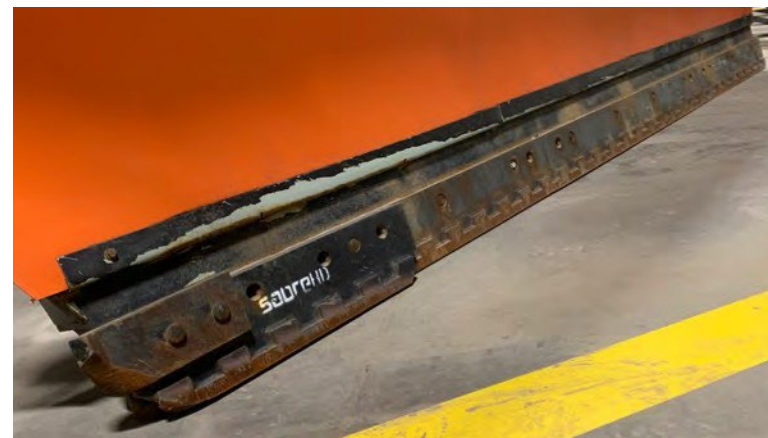
Sabre Field Photos



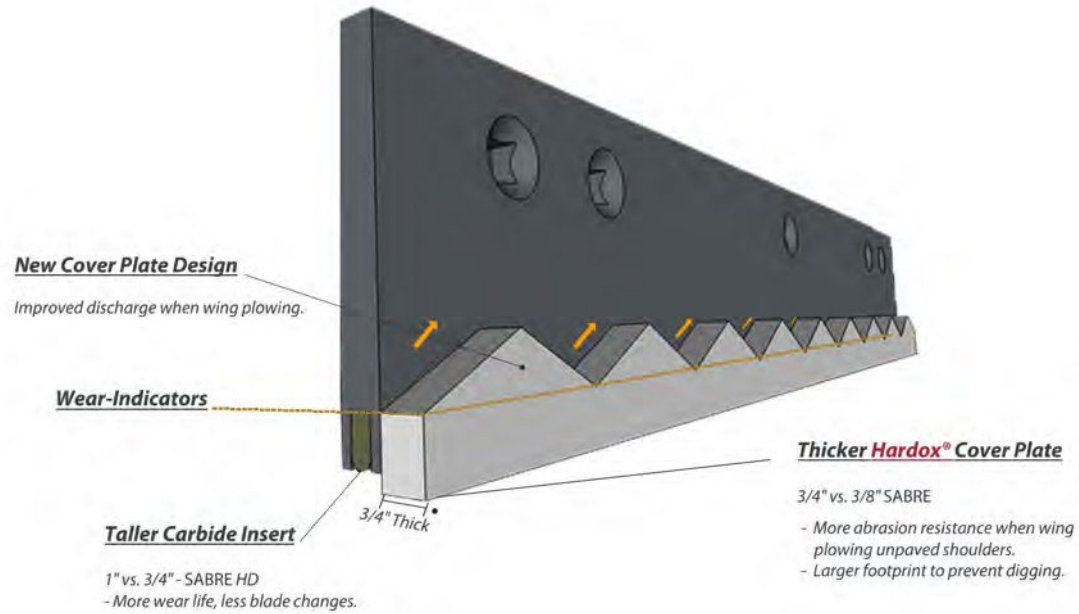
Sabre Wear Plates



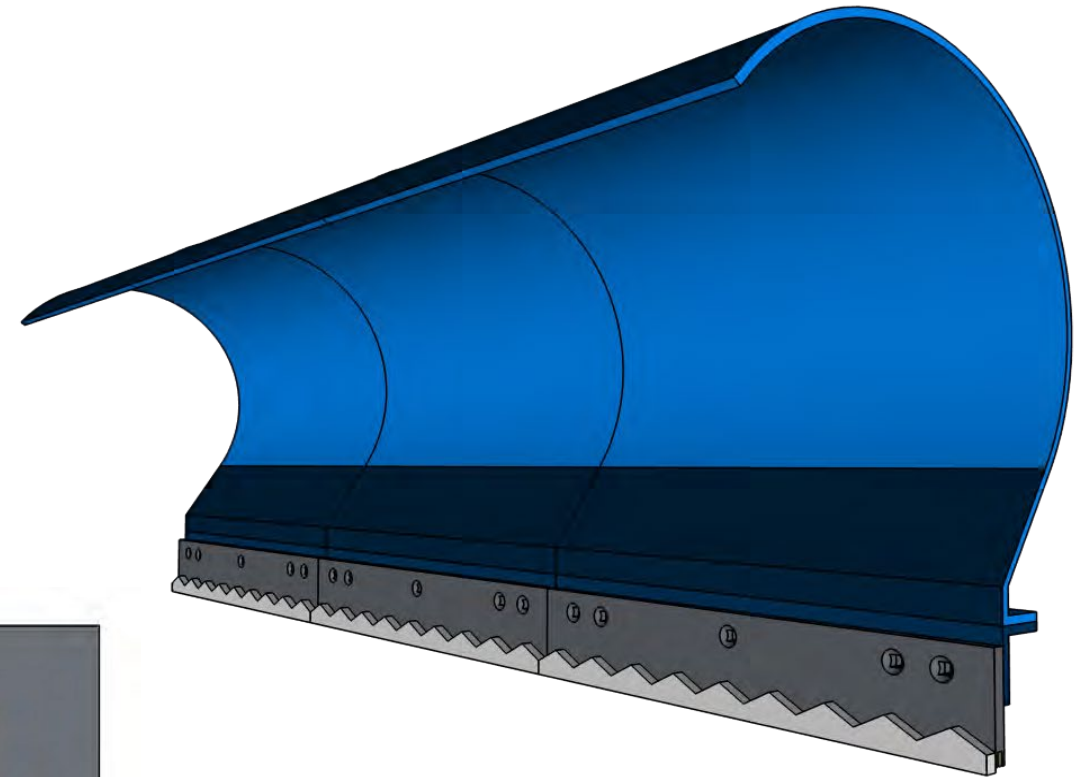
Sabre Wear Plates



Sabre Wing Blade



➔
**Direction of Travel
(Wing Plows Only)**

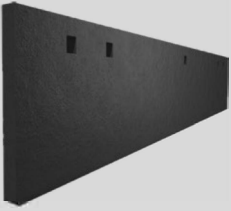


Sabre Wing Blade



EVOLUTION OF SNOWPLOW CUTTING *fd* B E S



						
	Steel	Carbide	Steel-Faced Carbide	sabre	sabre Wing	sabreVST
Steel Type	1084 High Carbon	1020 or A36	1020+ 1084	1020+ Hardox® 450	1020+ Hardox® 450	1020+ Hardox® 450
Initial Cost	\$	\$\$	\$\$\$	\$\$\$+	\$\$\$\$	\$\$\$\$
Durability						
Blade Height	6"	6"	6"	6"	6"	6"
Blade Thickness	5/8"	3/4"	1-3/8"	1-1/8"	1-1/2"	1-1/2"
Carbide Height	N/A	5/8"	5/8"	3/4"	1"	3/4"
Carbide Shape	N/A	Trapezoid	Trapezoid	Bull-Nose	Bull-Nose	Bull-Nose
Attack Angle	N/A	65°	65°	55° - 90°	80°-90°	55° - 90°
Wear Indicators	N/A	N/A	N/A	Carbide+ Mold Board	Carbide+ Mold Board	Carbide+ Mold Board
Pounds/Foot	12.8	16.4	29.2	17.3	21.6	25.0
Notes	• Very Frequent Replacement	• Susceptible to Damage	• Difficult to Replace	• Long Life • Easy Replacement	• Long Life • Easy Replacement • Streamlined Armor Plate For Wing	• Long Life • Easy Replacement • Quiet In-Cab

Contact



A DIVISION OF CHEMUNG SUPPLY

SAVE TIME AND MONEY

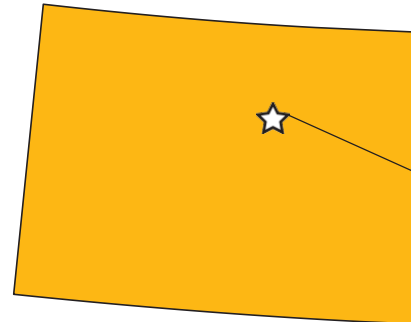
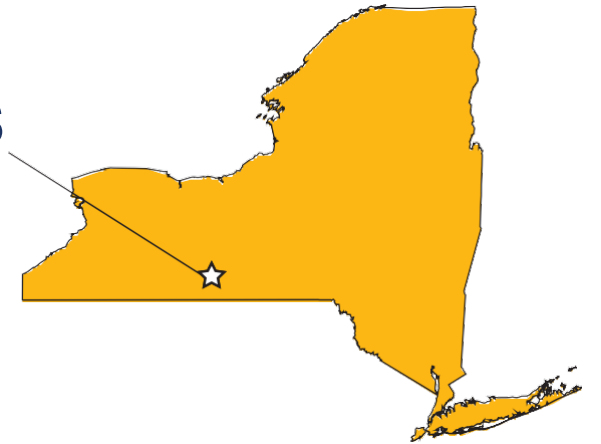
No bidding needed! Our cooperative purchasing contracts with Onondaga and NASPO provide the opportunity to purchase Sabre products without having to duplicate the bidding process because it has already been done for their members.

**ONONDAGA
CONTRACT**
Bid #0010660



NASPO
ValuePoint
SUPPLIER PARTNER
Contract #47643

EVOLUTION EDGES
HEADQUARTERS
Elmira, New York



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