



**Dealer Training Kit
2020/21**



INDEX

Page 3-6 What is a containment plow?/Why use it?

Page 7-12 Sno Pusher Product line

Page 13-14 Sno Pusher Parts

Page 15-17 Prime Mover Information

Page 18 Operation

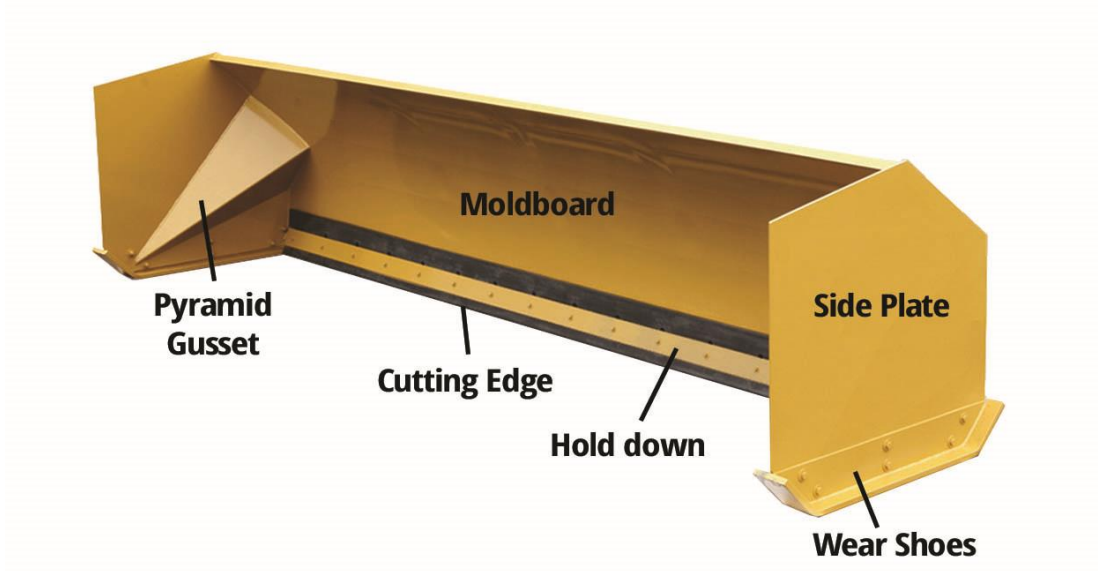
Page 19 Turf Pusher Product Line and Operation

Page 21-23 Sales Training

Page 25 Appendix



WHAT IS A CONTAINMENT PLOW?



- Moldboard encapsulated at each end with side plates designed to contain snow
- Does not angle, moves snow forward
- Maximized for use on Loaders, Compact Wheel Loaders, Backhoes, Skid-Steers, Compact Tractors, and UTV's
- Up to 500% more efficient than truck plows



WHY USE A CONTAINMENT PLOW

1. Gain efficiencies over truck plows (see appendix 1)

Snow Depth	Plow Truck Productivity
2"	45 minutes or .75 hours
4"	60 minutes or 1.0 hours
6"	75 minutes or 1.25 hours
8"	90 minutes or 1.5 hours
10"	105 minutes or 1.9 hours
12"	120 minutes or 2.0 hours

Truck plow, 8' blade, 1 acre lot

Snow Removal Equipment	Average Sno Pusher Productivity
Bobcat Skid-steer w/ 8ft. Pusher	.5 acres / hr to 1.8 acres / hr
Bobcat Skid-steer w/ 10ft. Pusher	.6 acres / hr to 1.9 acres / hr
4WD Backhoe w / 10ft .Pusher	1.0 acres / hr to 2.3 acres / hr
4WD Backhoe w / 12ft .Pusher	1.2 acres / hr to 2.5 acres / hr
4WD Backhoe w / 14ft .Pusher	1.4 acres / hr to 2.8 acres / hr
Small Payloader w 16 ft. Pusher	1.8 acres / hr to 3.7 acres / hr
Large payloader w 20 ft Pusher	2.7 acres / hr to 5.5 acres / hr
Large Payloader w 24 ft Pusher	3.2 acres / hr to 5.9 acres / hr

Pro-Tech Sno Pusher productivity

2. Enhanced Profitability
 1. Fewer operators required
 2. Fewer equipment hours required
 3. Fewer machines to maintain and set up prior to season
 4. The ability to more jobs in less time (greater revenue)
 5. Lower capital and maintenance costs
 6. Per Push Profit increased
 7. Clear more parking spaces due to stacking
3. Optimize prime movers during winter months
 1. Interchangeable between machines
 2. Minimal operator training



WHAT PRIME MOVERS CAN CONTAINMENT PLOWS CONNECT TO?

Wheel Loader	Compact Wheel Loader	Backhoe	Skidsteer
 A large yellow wheel loader with a large front bucket.	 A smaller yellow wheel loader with a black bucket.	 An orange backhoe loader with a front bucket and a rear-mounted backhoe arm.	 A white skidsteer loader with a black bucket and red tires.



PRO-TECH CONTAINMENT PLOW LINES

Sno Pusher



Turf Pusher





SNO PUSHER PRODUCT LINE

Rubber Edge



	Model	Sizes
COMPACT	SPC	6', 7', 8', 9', 10'
SKID-STEER	SPS	6', 8', 10', 12'
BACKHOE	SPB	10', 12', 14'
COMPACT WHEEL LOADER	SPM	8', 10', 12'
LOADER	SPL	10', 12', 14', 16', 18', 20', 24', 30'

Perfect for:

- Most types of snowfall
- Surfaces sensitive to steel edges

Pullback



	Model	Sizes
SKID-STEER		6', 8', 10', 12'

Perfect for:

- Pulling snow away from loading docks, and other tight areas
- Surfaces sensitive to steel edges



Foldout



	Model	Sizes
LOADER	FPL	14', 16', 18'

Perfect for:

- Driving from site to site, folds for easy transport
- Sites that require difficult navigation
- Most types of snowfall
- Surfaces sensitive to steel edges

Super Duty



	Model	Sizes
LOADER	SDL	10', 12', 14', 16', 18', 20', 24', 30'

Perfect for:

- Use on large prime movers (4+ yd bucket capacity)
- Construction or Agricultural applications
- Extremely large properties (airports, distribution centers)

Low Profile



	Model	Sizes
LOADER	LPL	18'

Perfect for:

- Clearing under fifth wheel pins of parked trailers or other obstacles
- Windrowing
- Distribution Centers



V Plow



	Model	Sizes
SKIDSTEER/ COMPACT TRACTOR	VPS	40", 48", 60", 72"

Perfect for:

- Clear long stretches of side walk and pathways
- Durable, simple construction offers minimal maintenance compared to other expensive options
- Design splits and windrows snow



ADDITIONAL PRODUCTS

These are products that are not in inventory but can be custom built. Call Pro-Tech for quote.

Fork Tube Sno Pusher



The rubber edge Fork Tube Sno Pusher is available for fork trucks in widths from 6 to 14'. The fork tube receivers are 3" x 8", and protrude through the moldboard 17.5". The Fork Tube Sno Pusher is built on the same chassis as our backhoe models and provides all the same features and benefits as our standard Sno Pusher.

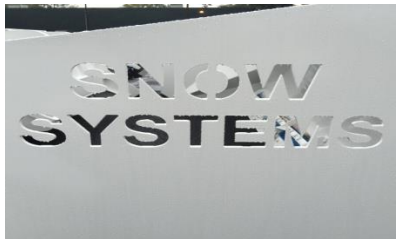


CUSTOM OPTIONS

Pro-Tech has a skilled team of engineers, designers and fabricators that can design and manufacture custom Sno Pushers.



Couplers: Pro-Tech can fabricate a number of custom connections for a wide variety of prime movers. Some that we have provided in the past include; Volvo, JRB, CAT IT, ACS, Balderson, CAT Fusion, and the new Pro-Tech Bucket Clamp. Sno Pushers can also come without any connection, also known as a "blank back", which allows customers to add their own connection.



Sideplate Branding: Take your company branding to the next level, even number your fleet using Pro-Tech's sideplate plasma cutting services. Pro-Tech engineers will work with you to decide on the best design to help promote your brand.



Paint: Pro-Tech can provide your customers with many custom paint colors.



Wear Shoes: Choose to have a set of our specialty shoes added to your custom Sno Pusher.



EXPECTED SERVICE AREAS



Rubber Edge

The back corner of the rubber cutting edge should be set at between a 1/8" – 1/4" below the bottom of the wear shoes for optimal performance. As the rubber cutting edge wears customers can adjust the bolts and hold down to achieve the suggested setting. The rubber cutting edge can also be reversed and flipped resulting in a total of 4 cutting edges that can be used.

Wear Shoes

Pro-Tech's wear shoes are abrasion and impact resistant and made from through-hardened steel. While extremely durable the shoes will eventually need to be replaced. To prolong the life of the shoe customers should run the shoes level at all times and minimize down pressure to the Sno Pusher. A common sign of not running the Sno Pusher level is excessive wear on either the front or back of the shoe. A shoe that is worn below at or below a 1/4" thickness should be changed.



Posts Connection (For Loader and Backhoe Models)

Posts are reinforced but overtime can become damaged from excessive force of bucket pressing down on posts. While uncommon it is possible to see posts begin to “spread” due to the flexing of the bucket within the receiver.

Side Panels

Side panels can sometimes bend or cave in if hitting large fixed objects at a high rate of speed. While inconvenient, this bending can actually benefit the operator by having the Sno Pusher absorb the force of impact rather than the loader arms. Under certain situations, side panels and posts can also be replaced.



PARTS OVERVIEW

Standard Wear Shoes

Our standard wear shoes are made from abrasion resistant steel and are heat treated with a process that hardened the material, meaning the hardness of the shoe goes deep into the core of the material, rather than remaining at the surface. Our standard wear shoes are also impact resistant, meaning that have an elasticity factor which allows them to flex on impact without breaking or cracking.

- Extremely abrasion resistant
- Impact resistant
- Hardened
- Provides consistent wear and long life

Pro-Tech Rubber

Our rubber, is formulated (SBR extruded rubber) to have the correct combination of hardness, stiffness and flexibility - which combined with our Sno Pusher design, provides the optimum snow clearing performance for rubber edged units. Other manufacturers or after market suppliers tend to focus on rubber hardness alone, which can limit the amount of flex the rubber has, which actually reduces the ability of the rubber to effectively clear snow.

- Formulated specifically for use with a Sno Pusher
- Flexible, yet resilient
- Excellent for clearing wet, slushy snow
- Provides consistent wear and long life

Super Duty Shoe

Our Super Duty shoes are blue and made from premium materials and are nearly double the Brinell rating of our standard shoes. They are also through -hardened to ensure a consistent, even wear.

- Provides the highest wear characteristics and longest life
- Double the Brinell rating of our standard wear shoes
- Slower wear results in less frequent shoe replacement



UHMW Shoe

Our UHMW shoe is a polyethylene padded shoe which is ideal for surfaces too sensitive for steel shoes. The poly material is slick, which minimizes friction and wear to the plowing surface. The pads are replaceable.

- This shoe has a polyethylene pad bolted on to the bottom of it
- Great in applications where a steel bottomed shoe will damage the plowing surface i.e. parking garage, expansion joints

Extended or Self Leveling Shoe

Our self-leveling shoes are designed to keep your Sno Pushers level to the plowing surface with an extra 16 inches of length. Keeping the unit level will result in a prolonged cutting edge and shoe life. Self-leveling shoes are available in both standard and Super Duty material.

- Keeps the Sno Pusher level and balanced, creating an even amount of pressure throughout the length of the shoe
- Eliminates excess down pressure on the back of the shoe
- Increased surface area increases the lifespan of the shoe
- Excellent for new equipment operators

Level Gauge

- This handy tool attaches to the Sno Pusher and lets the operator know that the unit is level, to optimize snow removal
- Save dollars on wear shoe replacement by avoiding uneven wear on Sno Pushers
- Bolt on design

Binder Kits

- Come with heavy duty transport chain, hooks, binders
- Quick attach system with binder kit safer than direct connect. Sudden impact to a Sno Pusher will break binder kit chain, instead of loader arms on a direct connection.



PRIME MOVER INFORMATION

General guidelines. Always consider type of storm, length of push, operator experience and condition of machine if someone would like to put something larger on their prime mover.

Loader	Backhoe	Skid-Steer	
			
SPL – Rubber Edge 10', 12', 14', 16', 18', 20', 24', 30'	SPB – Rubber Edge 10', 12', 14'	SPS – Rubber Edge 6', 8', 10', 12'	
ISL – Steel Edge 10', 12', 14', 16', 18'	ISB – Steel Edge 10, 12', 14'	ISS – Steel Edge 6', 8', 10', 12'	
FPL – Fold Out 14, 16, 18'		PBS – Pull Back 6', 8', 10', 12'	
SDL – Super Duty 10', 12', 14', 16', 18', 20', 24', 30'		VPS-VPlow 40", 48", 60", 72"	
Low Profile 18'			

Compact Wheel Loader

SPM – Rubber Edge 8', 10', 12'

Sno Pushers and associated prime movers



PRIME MOVER HP AND WEIGHT RANGE

RUBBER EDGE

Loader

	10'	12'	14'	16'	18'	20'	24'	30'
HP	75-100	100-110	120-125	125-135	140-170	170-200	170-200	170-200
Weight	13-17,500	13-17,500	16-20,000	25-30,500	30,000	40,000	40,000	40,000

Compact Wheel Loader

	8'	10'	12'
HP	60-100	60-100	80-125
Weight	12-20,000	12-20,000	16-20,000

Backhoe

	10'	12'	14'
HP	50-80	70-90	85-100
Weight	12-15,000	15,000	16-18,000

Skid-steer

	6'	8'	10'	12'
HP	36-46	46-70	70+	85+
Weight	5-5,400	5.5-7,000	7-8,000	Call to confirm



PULLBACK

Skid-steer

	8'	10'
HP	75+	85+
Weight	5.5-7,000	7-8,000

FOLDOUT

Loader

	14'	16'	18'
Minimum Machine Application	Loader - 1.5yd	Loader - 2.5yd	Loader - 3.5yd
Weight	3450	3650	3850

SUPER DUTY

Loader

	10'	12'	14'	16'	18'	20'	24'	30'
Minimum Machine Application	Loader - 4yd	Loader 4+yd	Loader - 4.5yd+	Loader - 4.5yd+	Loader - 4.5yd+	Loader - 4.5yd+	Loader - 4.5yd+	Loader - 4.5yd+
Weight	2800	3300	3800	4300	4800	5400	6400	8400

LOW PROFILE

Loader

	10'
HP	120+
Weight	16,500

V Plow

Skidsteer

	40"	48"	60"	72"
HP	25	40-60	60-80	80+
Weight	228LBS	465	510	582



OPERATION

Attaching Sno Pushers to Equipment (see Appendix 2):

- It is vital to give every customer an owner's manual and user guide.
- Grab hooks should be welded on back corner of bucket.
- Bucket should be centered on posts, chains tightened and parallel to ground (should still have a little give).

Operating Rubber Edge Sno Pushers (see Appendix 3):

- When operating, unit should be:
 - Level to ground
 - Have no down pressure from the machine
 - ▶ Float position if available
 - Have the back rubber edge about ¼" below the wear shoe



Turf Pusher Product Line

6' and 8' Turf Pusher Models



Model	SP06T	SP08T
Width	72"	96"
Height	28"	28"
Capacity	3yd	4yd
Weight	318lbs	408lbs
HP Range	30HP	40HP

Summary

The Pro-Tech Turf Pusher is the first snow pusher designed specifically for clearing sports turf fields. This lightweight but durable snow pusher smoothly glides over turf and field covers. Customers can now keep their sports turf fields operational at all times during the winter. The Turf Pusher takes seconds to connect, saving time and minimizing labor associated with hydraulics and couplers. Multiple connection types are also available ([Toro](#), [Bobcat](#), [John Deere](#), etc.). Unlike conventional plows and brooms, the Turf Pusher has no moving parts, which minimizes or can even eliminate the time spent repairing equipment.

Components

Connection

- Multiple connection types are available including Bobcat and Polaris UTV connections
- In 2017, the Turf Pusher will come with a pin-on coupler.

Cutting Edge

- The Turf Pusher's rounded edge smoothly glides over the surface with minimal displacement to crumb rubber
- Should not be used on any other surface other than turf!!!

Chassis

- Slot and tab construction provides for maximum durability
- No stacking restrictions
- Low profile provides for great visibility

Technology

- Delivers real time feedback to the operator on plow position and down pressure.
- Increases efficiency and scraping consistency



OPERATION

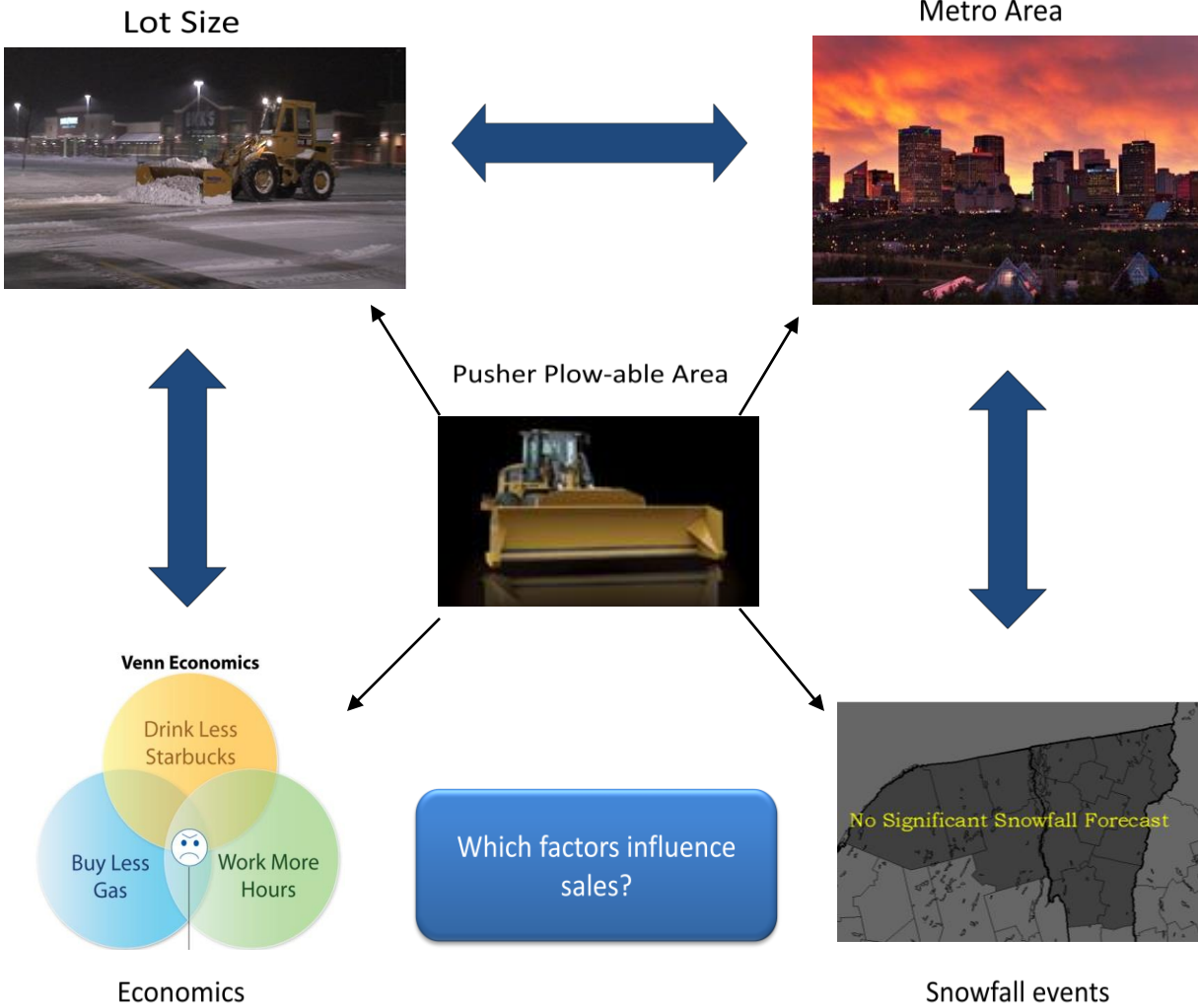
OPERATING THE UNIT

The Pro-Tech Turf Pusher™ is designed with features to provide safe and efficient snow removal from the turf field.

To ensure your unit will provide you with years of service with minimal maintenance follow these simple instructions:

1. Once the Turf Pusher is properly attached to your machine the pipe glide system **MUST** be inspected to ensure that it is free from any sharp edges or debris prior to each use.
2. To level the unit set it down and adjust the curl of your bucket, making sure that the top of the side plates are parallel to the plowing surface. Then lift the Turf Pusher 1/8" to 1/4" off the ground
3. **DO NOT** apply down force to the unit while plowing. This will considerably shorten the life of the Turf Pusher and could possibly damage the turf surface. Down pressure is **NOT** necessary for proper plowing.
4. After plowing, the Turf Pusher must be placed on a clean non-abrasive surface to avoid damaging the pipe glide system.

SALES TRAINING-WHAT FACTORS INFLUENCE SALES?





SALES TRAINING-SNO PUSHER

How to sell vs. competition

- Most of Pro-Tech's competition are regional "mom and pop" welding shops
 - Only a handful of nationally competing companies
 - Few have full product lines

Areas to compare

- Sidewall support
- Structural support
- Welds - Pro-Tech fully welds all units, which ensures strength and durability and also reduces corrosion from inside/out.

- Generally, competition will have similar retail prices. Without looking at the quality factors, look closer at the total transaction cost:
 - Actual freight/shipping cost
 - On time delivery
 - Do they have the unit in stock? If not, what are the lead times?
 - Cost of ownership

How to sell parts

- Standard shoes
 - Extremely abrasion resistant
 - Impact resistant
 - Hardened
 - Provides consistent wear and long life

- Rubber
 - Pro-Tech Rubber (SBR extruded) – correct combination of hardness, stiffness and flexibility
 - Formulated specifically for Sno Pusher use
 - Flexible, yet resilient
 - Excellent for clearing wet, heavy snow
 - Provides consistent wear and long life



SALES TRAINING-TURF PUSHER

How to Sell vs. Competition

- There is currently very little competition for the Turf Pusher, which is one of the reasons the product is seeing substantial growth.
- For many years, sports teams either decided to not clear snow from their turf fields or use "hodge podge" solutions such as PVC pipe on the bottom of a truck plow. These inadequate solutions put the turf field at risk of being damaged

Areas to highlight

- There are no moving parts to the Turf Pusher meaning minimal maintenance is required.
- Turf sports fields are a very expensive investment and many turf manufacturers warn that customers risk voiding their warranty unless clearing snow with equipment specifically designed for that application.
- The rounded edge smoothly glides over turf and field covers with minimal displacement of crumb rubber. Crumb rubber is fine pieces of recycled rubber that are used as "filler" in artificial turf fields.
- The robust, fully welded chassis allows for the stacking of snow.
- A number of professional sports teams and top tier colleges trust and use the Turf Pusher on their fields.



Appendix

1. Snow Removal Productivity Study
2. Attaching and Operating the Unit-Pro-Tech Sno Pusher
3. Attaching and Operating the Unit-Pro-Tech Turf Pusher
4. Sno Pusher Product Specs/Charts



Appendix 1:

Using Containment Plows to Improve Productivity & Operations



Snow Removal Productivity Study

General Guidelines for Truck Plow Productivity

Plow Trucks with an 8-foot blade can clear one acre of area, with no obstructions, no light poles, no intrusive curbs, and mostly wide-open area, as follows:

Snow Depth	Plow Truck Productivity
2"	45 minutes or .75 hours
4"	60 minutes or 1.0 hours
6"	75 minutes or 1.25 hours
8"	90 minutes or 1.5 hours
10"	105 minutes or 1.9 hours
12"	120 minutes or 2.0 hours

It should be taken into account that the above information on production values for trucks equipped with plows is for open area plowing only and does not take into account plowing large open areas. It is also for a one-acre area. Plow trucks can only "roll" snow so far before the truck stops moving the windrow and the windrow begins moving the truck. Production ratios for truck plowing drop significantly once areas larger than one acre are used.

General Guidelines for Sno Pusher Productivity

Snow Removal Equipment	Average Sno Pusher Productivity
Bobcat Skid Steer w/8 ft. Pusher	.5 acres / hr to 1.8 acres / hr
Bobcat Skid Steer w/10 ft. Pusher	.6 acres / hr to 1.9 acres / hr
4WD Backhoe w/10 ft. Pusher	1.0 acres / hr to 2.3 acres / hr
4WD Backhoe w/12 ft. Pusher	1.2 acres / hr to 2.5 acres / hr
4WD Backhoe w/14 ft. Pusher	1.4 acres / hr to 2.8 acres / hr
Small Payloader w/16 ft. Pusher	1.8 acres / hr to 3.7 acres / hr
Large Payloader w/20 ft. Pusher	2.7 acres / hr to 5.5 acres / hr
Large Payloader w/24 ft. Pusher	3.2 acres / hr to 5.9 acres / hr



These production values are “averages” and take into account the highs and lows. The values noted above show the high and low production rates ascertained during snow clearing operations. Small, easy lots to plow bring different production rates than large, difficult lots. All lots tracked had some concrete islands around the perimeter; at least two entrance/exit driveways, and a cruise lane up near the buildings. The absence of any obstacles within a given lot area will definitely increase the production rates, just as the presence of additional obstacles will lower the production rates. The proper sizing of the pushers for the lots to be cleared is paramount to gaining maximum snow clearing efficiency for each unit selected.

PRODUCTION DATA

The graph on the following pages shows the finished production figures we have extrapolated from the available data. Additional information is contained in the pages after the graphs.

Lot Size & Difficulty	Size Pusher	Equipment	Acres/Hour
SMALL A	8' Pusher	Skid-steer	1.8
SMALL A	10' Pusher	Skid-steer	1.8
SMALL A	14' Pusher	Backhoe	2.8
SMALL A	16' Pusher	Small Payloader	3.7
SMALL A	20' Pusher	Large Payloader	5.5
SMALL A	30' Pusher	Large Payloader	NA
SMALL B	8' Pusher	Skid-steer	1.5
SMALL B	10' Pusher	Skid-steer	1.8
SMALL B	12' Pusher	Backhoe	1.4
SMALL B	14' Pusher	Backhoe	0.9
SMALL B	16' Pusher	Small Payloader	1.7
SMALL B	20' Pusher	Large Payloader	NA
SMALL B	30' Pusher	Large Payloader	NA
SMALL C	8' Pusher	Skid-steer	1.1
SMALL C	10' Pusher	Skid-steer	1.4
SMALL C	12' Pusher	Backhoe	1.2



SMALL C	14' Pusher	Backhoe	0.9
SMALL C	16' Pusher	Small Payloader	1.0
SMALL C	20' Pusher	Large Payloader	NA
SMALL C	30' Pusher	Large Payloader	NA

PRODUCTION DATA -- MEDIUM LOT SIZE & DIFFICULTY

Lot Size & Difficulty	Size Pusher	Equipment	Acres/Hour
MEDIUM A	8' Pusher	Skid-steer	1.8
MEDIUM A	10' Pusher	Skid-steer	2.3
MEDIUM A	12' Pusher	Backhoe	2.7
MEDIUM A	14' Pusher	Backhoe	3.1
MEDIUM A	16' Pusher	Small Payloader	3.4
MEDIUM A	20' Pusher	Large Payloader	4.6
MEDIUM A	30' Pusher	Large Payloader	NA
MEDIUM B	8' Pusher	Skid-steer	0.7
MEDIUM B	10' Pusher	Skid-steer	0.9
MEDIUM B	12' Pusher	Backhoe	1.1
MEDIUM B	14' Pusher	Backhoe	1.3
MEDIUM B	16' Pusher	Small Payloader	1.3
MEDIUM B	20' Pusher	Large Payloader	1.5
MEDIUM B	30' Pusher	Large Payloader	NA
MEDIUM C	8' Pusher	Skid-steer	0.8
MEDIUM C	10' Pusher	Skid-steer	1.0
MEDIUM C	12' Pusher	Backhoe	1.0



MEDIUM C	14' Pusher	Backhoe	1.0
MEDIUM C	16' Pusher	Small Payloader	1.1
MEDIUM C	20' Pusher	Large Payloader	NA
MEDIUM C	30' Pusher	Large Payloader	NA

PRODUCTION DATA -- LARGE LOT SIZE & DIFFICULTY

Lot Size & Difficulty	Size Pusher	Equipment	Acres/Hour
LARGE A	8' Pusher	Skid-steer	0.8
LARGE A	10' Pusher	Skid-steer	1.0
LARGE A	12' Pusher	Backhoe	1.5
LARGE A	14' Pusher	Backhoe	2.0
LARGE A	16' Pusher	Small Payloader	2.7
LARGE A	20' Pusher	Large Payloader	4.0
LARGE A	30' Pusher	Large Payloader	6.4
LARGE B	10' Pusher	Skid-steer	0.9
LARGE B	12' Pusher	Backhoe	1.2
LARGE B	14' Pusher	Backhoe	1.4
LARGE B	16' Pusher	Small Payloader	1.8
LARGE B	20' Pusher	Large Payloader	2.7
LARGE B	30' Pusher	Large Payloader	5.0
LARGE C	8' Pusher	Skid-steer	0.5
LARGE C	10' Pusher	Skid-steer	0.6
LARGE C	12' Pusher	Backhoe	0.9
LARGE C	14' Pusher	Backhoe	1.1



LARGE C	16' Pusher	Small Payloader	1.2
LARGE C	20' Pusher	Large Payloader	1.3
LARGE C	30' Pusher	Large Payloader	NA

SPECIFIC PARTS OF THE DATA GIVEN:

The sites are broken into three “types” and sizes: small, medium and large. This is a very subjective categorization, as we did not feel it prudent to narrow the “sizing” with specific square footage. This sizing is left open to interpretation, but is generally thought that a “small” site would encompass bank branches, drug store sites, small plazas and the like. “Medium” sites would include retail strip plazas, industrial parking lots, office parking lots, and the like. “Large” sites would be reserved for lots with more than 5000 parking spaces, large mall parking lots, and very large industrial sites.

Difficulty ratings were broken down into A, B and C. Sites designated as “A” would have no obstructions, no light poles, have adequate area to stockpile snow, have no curbs to impede the loader/pusher at the end of the run, and generally not seem difficult to clear. A site designated as “B” might have some landscaped islands in the parking lot, curbs around the perimeter, some other obstacles to work around, or have the possibility of cars in the lot during off-peak hours. The most difficult sites to clear would be designated as “C” lots and include any lot with gas pumps, fill caps, fencing immediately around the perimeter or a considerable number of obstacles to clear around.

These difficulty ratings are most definitely subjective. However, what is difficult for some might just be irritating for others. It was felt that some sort of rating system was required to obtain accurate production values as it does take time to work around poles, obstacles, etc. and such time must be considered in the final analysis. Thus, operators were asked to “rate” the sites they worked on and this information was compiled separately. After compilation, a review of the different opinions put forth by the operators show a pattern and the difficulty ratings were extrapolated from this data.

While some might argue the validity of these “ratings”, readers of this study must keep in mind that this was done during the storms. No two storms are alike. Wind direction and subsequent drifting can make a “B” site feel like a “C” site. Such is the problem with the snow removal industry inasmuch as every storm is different from the previous storm, and from the next storm to come.



Appendix 2:

Attaching and Operating the Unit-Sno Pusher



Step 1:

- Drive cutting edge of bucket into post receptacles



Step 2:

- Bucket will come to rest against the 12" structural steel channel reinforcement
- The upper posts will fit inside the bucket and should be centered. The lower posts will be positioned under the bucket.



Step 3:

- Grab hooks are to be welded to the side or back corners of the bucket.
- The hooks, the segments of chain, the clevis' and the binder are all included in the kit. Welding on a bucket is normal in this aspect of the industry and equipment world.





- Attach one section of transport chain to the left side using a 3/8" clevis.
- Drop other end of chain to left side of bucket. Leave enough slack for centering.
- Repeat on right side. Leave enough slack in the chain to attach the ratchet binder and allow centering.
- Once both chains are in place, lift off ground. Tighten the ratchet binder
- Add/remove slack in chains to center. Once centered, tighten chains





Appendix 3:

Attaching and Operating the Unit-Turf Pusher



Pro-Tech Turf Pusher™ Owner's Guide



SPT Model

WARNING:

Do not get under the unit. Take precautions to properly secure unit. Do not rely solely upon the hydraulics of your machine.

OPERATING THE UNIT

The Pro-Tech Turf Pusher™ is designed with features to provide safe and efficient snow removal from the turf field.

To ensure your unit will provide you with years of service with minimal maintenance follow these simple instructions:

1. Once the Turf Pusher is properly attached to your machine the pipe glide system **MUST** be inspected to ensure that it is free from any sharp edges or debris prior to each use.
2. To level the unit set it down and adjust the curl of your bucket, making sure that the top of the side plates are parallel to the plowing surface. Then lift the Turf Pusher 1/8" to 1/4" off the ground
3. **DO NOT** apply down force to the unit while plowing. This will considerably shorten the life of the Turf Pusher and could possibly damage the turf surface. Down pressure is **NOT** necessary for proper plowing.
4. After plowing, the Turf Pusher must be placed on a clean non-abrasive surface to avoid damaging the pipe glide system.

ATTACHING THE UNIT:

OEM Quick Coupler

If your Pro-Tech Turf Pusher™ (SPT) is equipped with the manufacturer's OEM Quick Coupler. Figure 1

1. Remove the bucket from your machine.
2. Drive machine into the adapter located on the back of the Turf Pusher.
3. Engage the locking pins.



Figure 1

Hooks and Pins

If your Pro-Tech Turf Pusher™ (SPT) is equipped with hooks and pins for a John Deere bucket connection. Figure 2

1. Remove the bucket from your tractor.
2. Drive machine into the adapter located on the back of the Turf Pusher.
3. Clip the lower pins in place with standard cotter pins.



Figure 2

OPERATING TIPS

1. Remove the snow as early as possible to avoid hard packed conditions.
2. Remove snow by driving machine across the field perpendicular to the length of the field. Figure 3

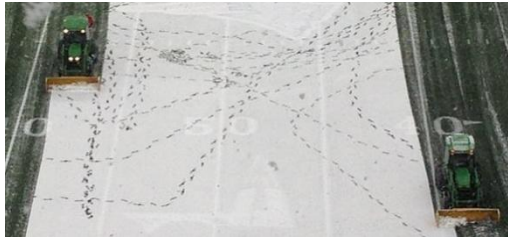


Figure 3

3. If snow is deep, take smaller cuts on each pass to minimize spillage.
4. Do not try to scrape any ice or hard packed snow from the field. This may cause damage to the turf.

MAINTENANCE & STORAGE

Your Pro-Tech Turf Pusher™ requires minimal service to remain in top condition. Follow these simple guidelines to ensure proper plowing and long life:

The storage of the turf pusher is crucial to keeping the unit in proper operating condition for many years.

Properly clean the unit before storage and remove dirt, debris, salt, etc. to extend paint life.

Check the contact edge of the pipe glide system to make sure it is free from any sharp edges or debris. Paint any exposed steel surfaces to keep the unit free from corrosion.

NEVER allow the Turf Pusher to be placed on stone, gravel, or any other abrasive surface. Only store the Turf Pusher on a clean non-abrasive surface to avoid damaging the pipe glide system.

Failure to follow any of these guidelines may result in damage to turf or any other plowed surface this unit was designed for.

LIMITED 3 YEAR WARRANTY

Pro-Tech will repair or replace any Turf Pusher proven to be defective in materials or workmanship for three years after the purchase date, in accordance with the following terms and conditions:

1. Pro-Tech reserves the right to determine whether a unit will be repaired or replaced.
2. Transfer of ownership to any party other than those mentioned on the original, returned warranty card or online registration will completely void this warranty.
3. All shipping and handling charges for returned units must be prepaid by the owner and received at the Pro-Tech facility FOB.
4. Shipping and handling charges may be avoided by submitting photographic evidence clearly showing the problem area and/or details of mechanical failure. (Note: We reserve the right to have a factory representative evaluate any problem(s) in the field.)

Pro-Tech makes no other warranty of any kind, either expressed or implied, including warranties pertaining to merchantability and fitness for a particular purpose.

This warranty is intended to provide you with specific rights; you may also have other rights which vary both internationally and domestically, as well as from state to state.

Warranty Coverage Procedure

1. Call Pro-Tech directly to discuss product information:
 - Serial #, Purchase Date, Proof of Purchase, Product Registration; product registered with Pro-Tech
2. Describe the nature of the warranty claim.

3. Provide digital photographs illustrating the failure.
4. Pro-Tech will determine if failure falls within the 3 year warranty. If it does, Pro-Tech will offer corrective options. If it does not, Pro-Tech will offer repair and cost options.

Exceptions to Warranty

1. Any damage occurring as a result of misuse, negligence, accidental impact. Turf Pusher is not warranted for use or storage on asphalt, gravel, or dirt surfaces.
2. Any non-factory repair or alteration deemed detrimental to the functionality of the Turf Pusher upon inspection by a Pro-Tech engineer will void all warranties specific or implied.
3. Pro-Tech will not be held liable for any personal damage that occurs as a result of use. This includes, but is not limited to: Injury, death, loss of use, income or profit loss, property loss/damage.

PRODUCT REGISTRATION

In order for your new Turf Pusher to be covered under warranty you must register it with Pro-Tech. To register:

1. Please visit www.snopusher.com to register your unit online.



Appendix 4:

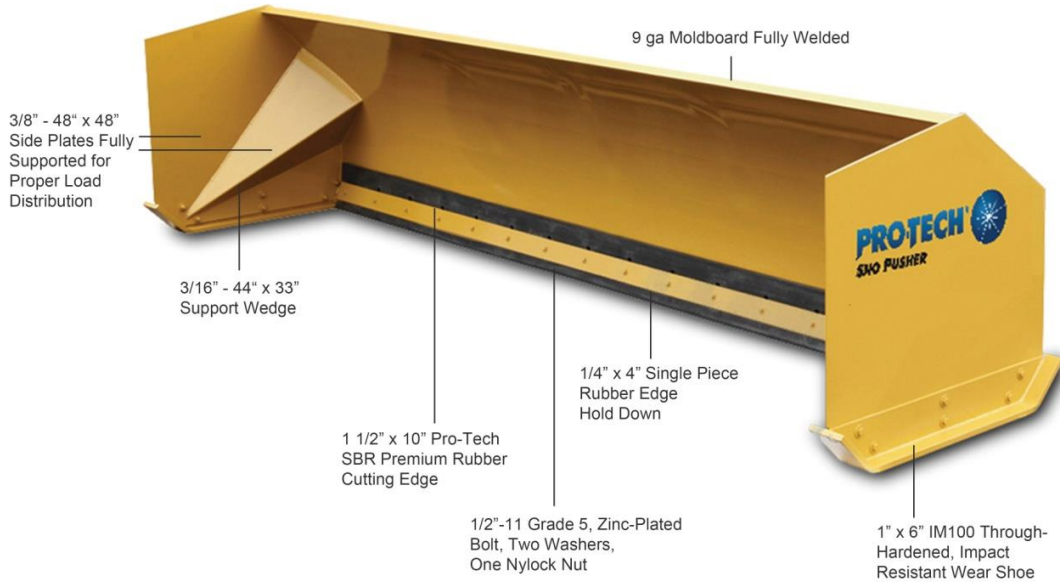
Product Specs/Charts



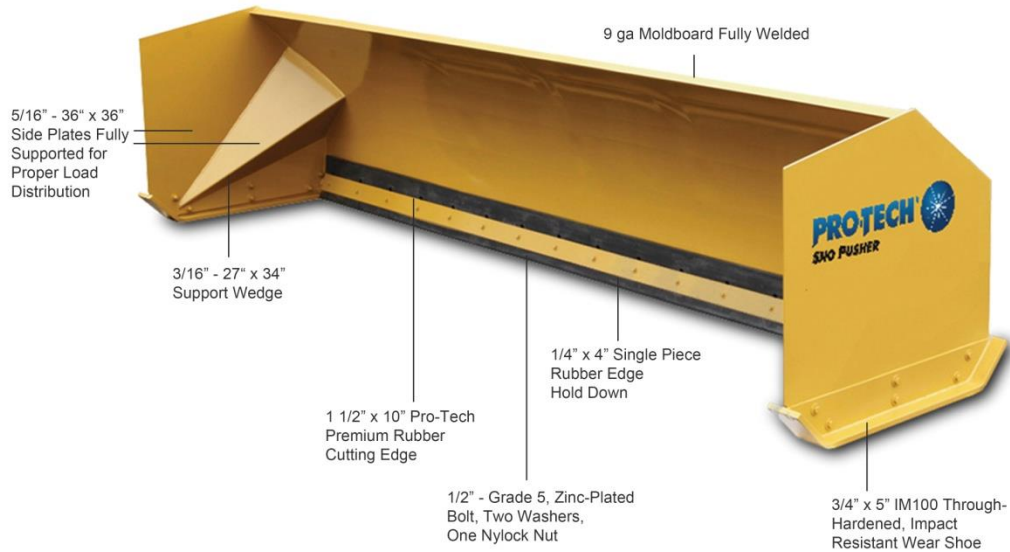
Sno Pusher Overview

FRONT

12' Rubber Edge Loader Model

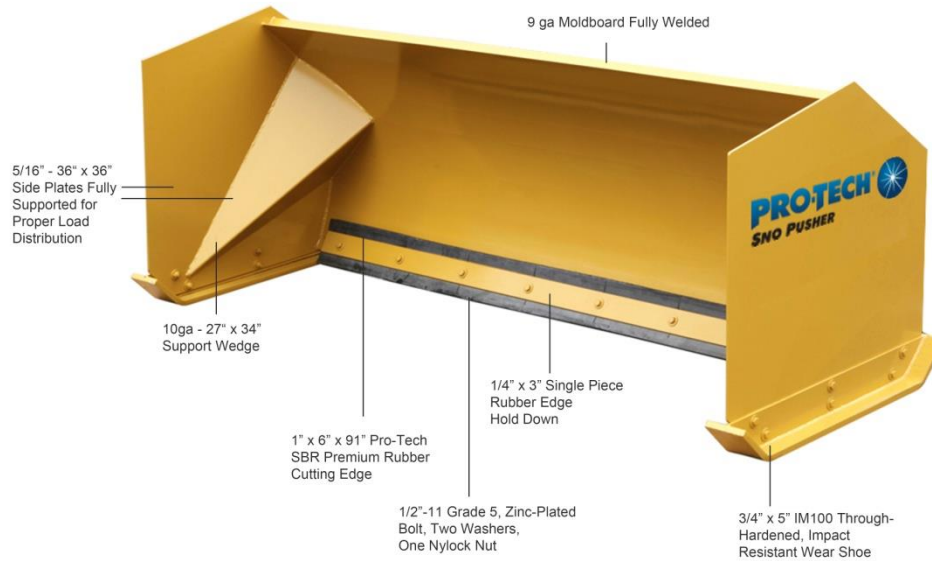


10' Rubber Edge Backhoe Model/ 10' Compact Wheel Loader Model





8' Rubber Edge Skid-steer Model



Sno Pusher Rubber: Our Rubber, which is formulated to have the correct combination of hardness, stiffness and flexibility - which combined with our Sno Pusher design, provides the optimum snow clearing performance for rubber edged units. Other manufacturers or after market suppliers tend to focus on rubber hardness alone, which can limit the amount of flex the rubber has, which actually reduces the ability of the rubber to effectively clear snow.

- Formulated specially for Sno Pusher use
- Flexible, yet resilient. Provides consistent wear and long life
- Excellent for clearing wet, slushy snow

Pro-Tech Wear Shoes: Our standard wear shoes are made from abrasion resistant steel and are heat treated with a process that hardened the material, meaning the hardness of the shoe goes deep into the core of the material, rather than remaining at the surface. Our standard wear shoes are also impact resistant, meaning that have an elasticity factor which allows them to flex on impact without breaking or cracking.

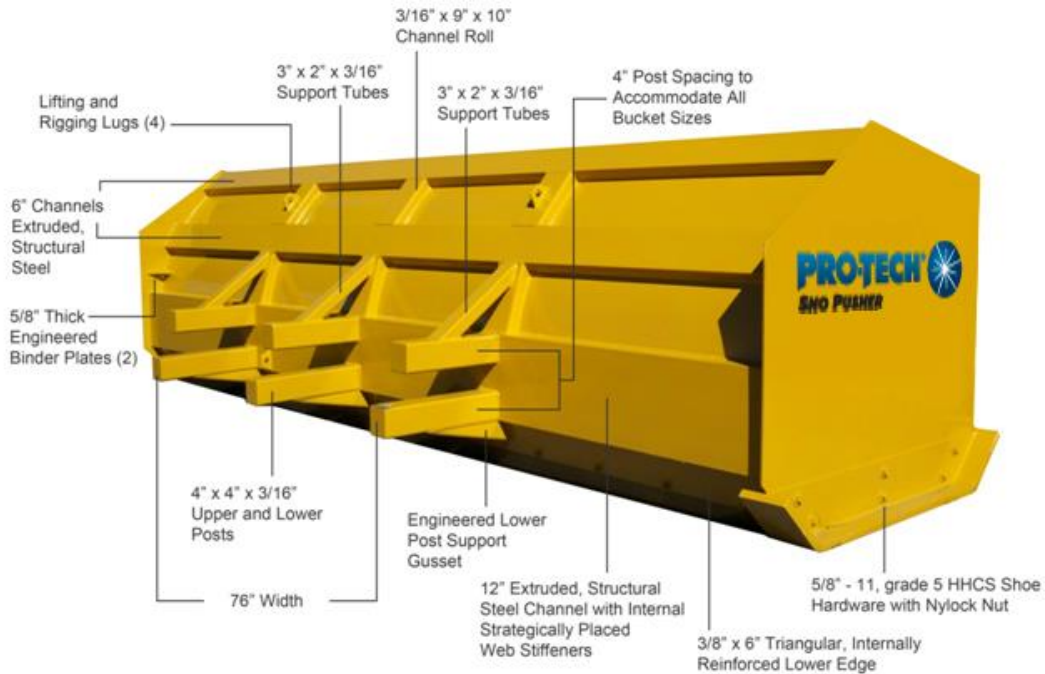
- Extremely abrasion resistant, Impact resistant, Hardened
- Provides consistent wear and long life
- Within 9 Brinell from center to outside of wear shoe

BACK

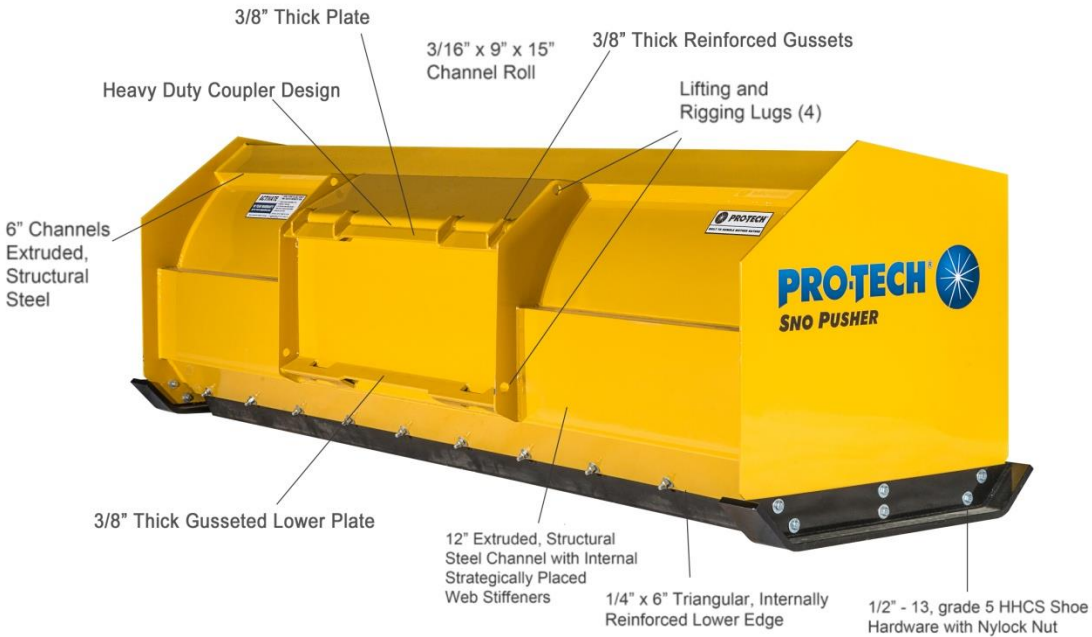
Pro-Tech Manufacturing and Distribution, Inc.
Dealer Training Kit



12' Rubber Edge Loader Model

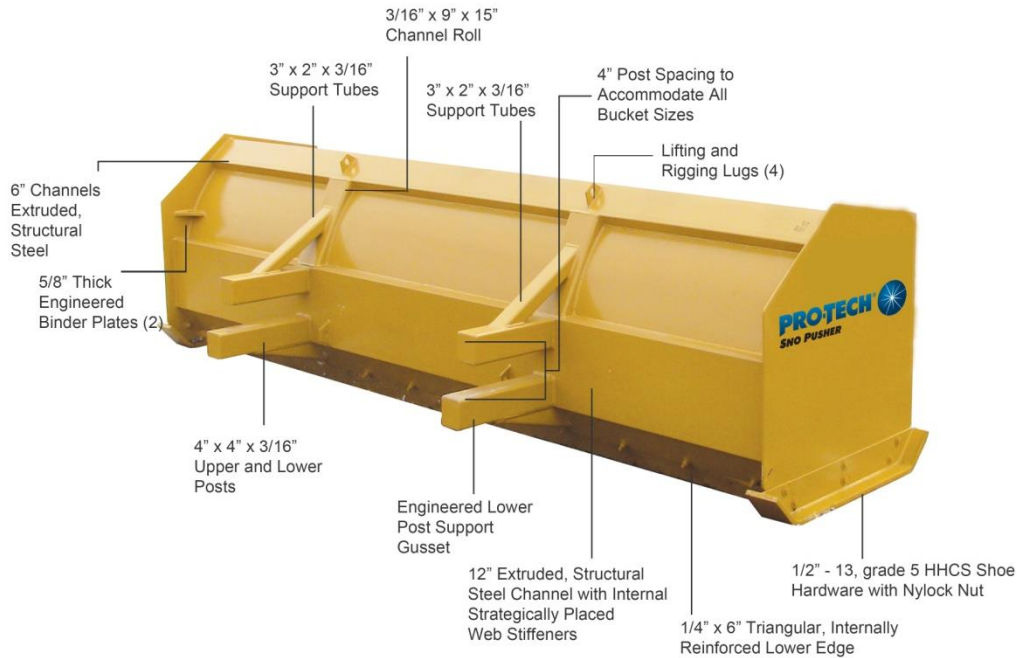


10' Compact Wheel Loader Model

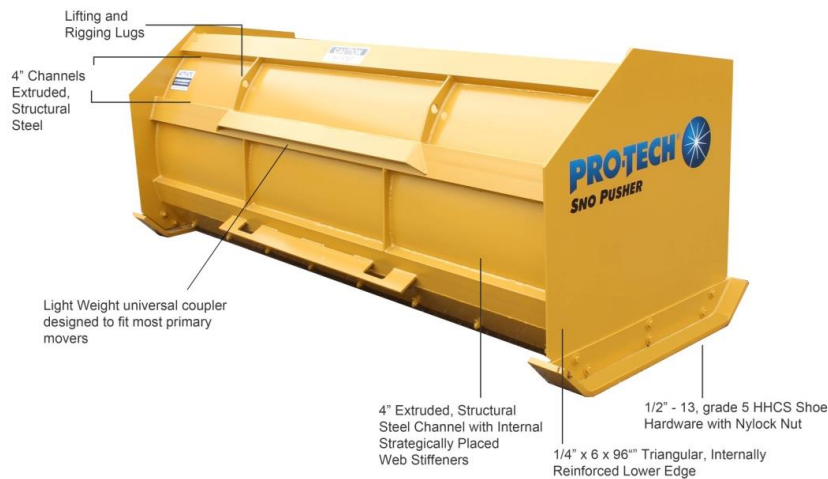




10' Rubber Edge Backhoe Model



8' Rubber Edge Skid-steer Model



Sno Pusher Chassis: The rubber and steel hold down are bolted through our engineered lower edge, not the moldboard, keeping the rubber at the ultimate angle of attack and providing maximum moldboard strength. This also minimizes the tendency of the rubber to ride up. The chassis reinforcement is extruded, structural steel channels. This fully welded chassis configuration ensures maximum strength and durability and limits damage to the post receptacle area.

Sno Pusher Welding: Each unit is rotated into proper position during the manufacturing process to guarantee the best welding quality and penetration. All units are fully welded. The welding wire is high quality ER70-S-6, one of the highest quality wires in its class. The Welding gas is a custom mix (88% Carbon Dioxide, 12% Argon) to optimize tensile strength.

Sno Pusher Paint: Each unit is acid washed to clean & seal the steel and to promote the adhesion of the primer coat. The primer is applied to a 1.5 to 2.0 mil thickness, protecting the raw steel and promoting the adhesion of the top coat. Top coat is an "alkyd" liquid paint applied to a 1.5 to 2.0 mil thickness, is a 75-80 gloss, and provides UV protection. The overall mil thickness is 3.0 to 4.0, qualified using a one thousand hour salt spray test.