

# PRO-TECH SNO PUSHER<sup>®</sup>

## SWITCHBLADE<sup>®</sup> LOADER (SBL), BACKHOE (SBB) & SKIDSTEER (SBS) MODELS

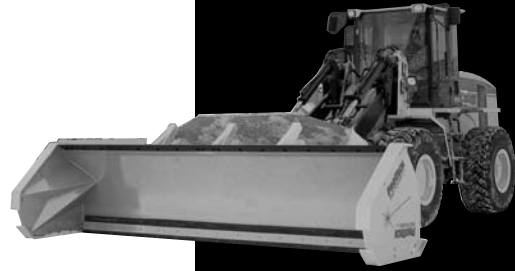
### Operating your SBL, SBB or SBS Unit

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

1. Once the Sno Pusher is properly attached to your machine it **MUST** be leveled **BEFORE** plowing.
2. To level the unit set it down and adjust the curl of your bucket, making sure that **BOTH** wear shoes are resting squarely on your plowing surface. In addition, Pro-Tech also sells a level gauge and self-leveling shoes that assist in keeping the unit level.
3. To ensure proper contact drive your machine forward approximately 20', check surface area under your machine to ensure that plowing area is clean. If your plowing area is not completely clear, feel free to loosen the tension of binder(s) to allow your Sno Pusher to vertically adjust for maximum surface contact.

**IMPORTANT: Binders must be properly tightened prior to transportation or high speed use for SBL and SBB models.**

4. DO NOT apply down force to the unit while plowing. This will considerably shorten the life of your wear shoes and this is NOT necessary for proper plowing.



# USER'S GUIDE

SwitchBlade<sup>®</sup> Loader (SBL), Backhoe (SBB) & Skidsteer (SBS)

# Attaching your Sno Pusher SBL & SBB Models

(See next page for illustrations)

Attaching the Sno Pusher to your machine is made easy with Pro-Tech's Quick Change™ Design.

1. Drive the cutting edge of machine's bucket into the post receptacle on the back of the Sno Pusher. (Figure 1)

The 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.

2. Attach the chains and binders to secure the Sno Pusher to your machine.

## Installing the Binder Kit

(See next page for illustrations)

1. Grab hooks are to be welded to the side or back corners of your machine's bucket.

The location you choose MUST allow chains to be positioned parallel to the ground when attached. This will ensure easy centering of the Sno Pusher to your machine.

2. Attach one section of transport chain to the left side of the Sno Pusher using a 3/8" clevis.

Drop opposite end of this chain into grab hook on the left side of the bucket. Leave enough slack in the chain to allow centering of the unit.

3. Attach additional section of transport chain to the right side of the Sno Pusher using a 3/8" clevis. (Figure 2)

Drop opposite end of this chain into grab hook on the right side of the bucket. Leave enough slack in the chain to attach the ratchet binder and allow centering of the unit.

4. Now that both chains are in place, lift the Sno Pusher off the ground by raising the bucket then tighten the ratchet binder.

Add or remove slack in the chains to center the Sno Pusher on your machine. Once centered, chains MUST be tightened with the binders.

**CAUTION:** Do not use the lift hooks located at the top and rear of the Sno Pusher for chain attachment. These hooks are designed for lifting the unit only and not for plowing.

### ***For SBL, Binder Kit Includes:***

2 – 10' sections of 3/8" P-70  
Transport Chain

2 – 5/16" Grab Hooks

1 – 3/8" CM Heavy Duty Ratchet Binder

2 – 3/8" Clevis Attachments

### ***For SBB, Binder Kit Includes:***

2 – 5' sections of 3/8" P-70  
Transport Chain

2 – 5/16" Grab Hooks

1 – 3/8" CM Heavy Duty Ratchet Binder

2 – 3/8" Clevis Attachments

# Attaching your Sno Pusher SBS Model

Your Pro-Tech Sno Pusher® Skidsteer Model (SPS) is equipped with the manufacturer's OEM Quick Coupler

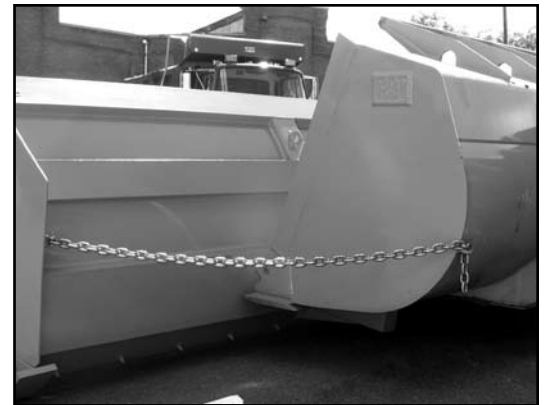
1. Remove the bucket from your skid-steer
2. Drive machine into the adapter located on the back of the Sno Pusher.
3. Engage the locking pins.



**Figure 1**



**Figure 2**



**Figure 3**

# Flipping the Switchblade from one edge to the other for Loaders (SBL) and Backhoes (SBB)

Loosen and remove the chain binder (Figure 1). Reattach binder chains to bucket hooks closer to the end of the chain to create slack (chains should be loose enough to clear your bucket over the Switchblade but tight enough to create tension in the chain to tip it on its other side). Slowly raise the bucket so the Switchblade tips forward (Figure 2) and rests on its nose (Figure 3). Drive the loader forward so the Switchblade flips to the desired cutting edge (Figure 4). Once the pusher is resting on its shoes, unhook the chains and drive around to the other side of the unit and hook into the other post receptacle (Figure 5).

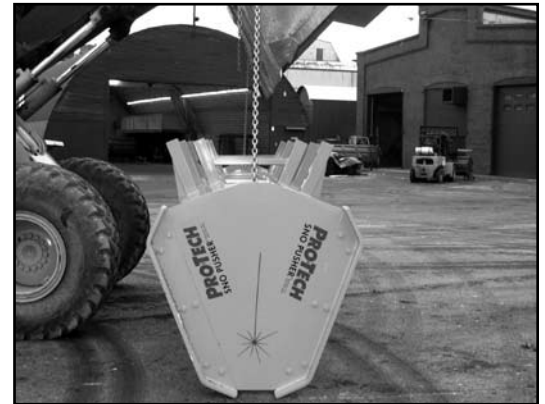
**WARNING:** It is unsafe to raise the Switchblade into the air. It must be touching the ground at all times.



**Figure 1**



**Figure 2**



**Figure 3**



**Figure 4**



**Figure 5**

## Flipping the Switchblade from one edge to the other for Skid steers (SBS)

While locked into one side of the pusher (Figure 6), raise skid steer arms and set Switchblade on its nose (Figure 7). Unlock pins from coupler and pull away from Switchblade (Figure 8). Come around the other side of it and lock pins on the coupler closest to you (Figure 9). Lower skid steer arms and you are now ready to plow with the other edge (Figure 10).



**Figure 6**



**Figure 7**



**Figure 8**



**Figure 9**



**Figure 10**

# Maintenance

Pro-Tech's Switchblade offers the unique ability to remove snow using either a rubber cutting edge or steel cutting edge depending on the weather and surface conditions. Please follow the instructions below for both rubber and steel edge maintenance.

## RUBBER

The heavy duty rubber cutting edge on every Sno Pusher is both reversible and adjustable. On the SPL and SPB models this rubber is 1½" x 10" thick and on the SPS models the rubber is 1" x 6". To ensure several years of service perform periodic inspections and adjustments following these simple guidelines:

**IMPORTANT:** A warm piece of rubber is much easier to adjust than one that is cold. It is highly recommended that your machine be placed in a warm place whenever making adjustments.

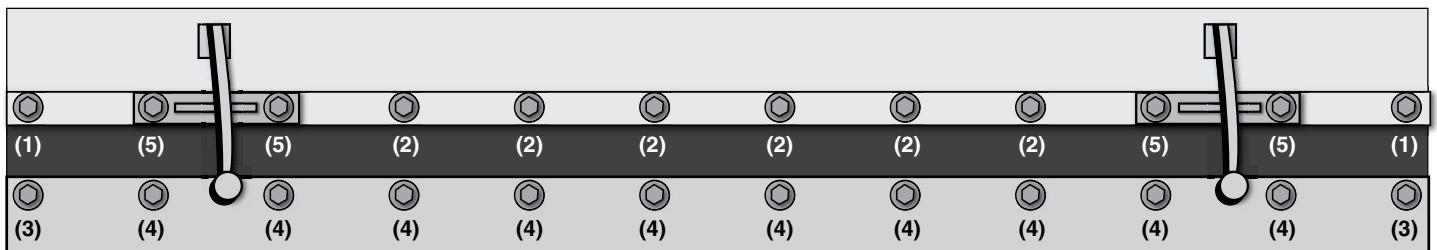
1. Always begin by placing the Sno Pusher on a smooth, flat surface when making any adjustments. Then place a ¼ inch object under the wear shoes to raise the Sno Pusher a ¼ inch above the level surface.
2. Loosen all bolts fastening the rubber to the Sno Pusher. It is NOT necessary to completely remove the bolts.
3. Using a large mallet or pry bar, adjust the rubber so that the rear, bottom edge just touches the ground.
4. Once rubber is properly positioned begin tightening the bolts. Starting in the center, work toward the side plates tightening the bolts enough to create a substantial bow in the 4" flatstock hold down.

**IMPORTANT:** We recommend using a ¾" impact gun to ensure proper bolt torque (120 ft-lb).

## STEEL \*Caution\*

### Installing Poly Spring, Cutting Edge and Tensioner

- Affix poly spring to lower edge of unit using 3/4" hardware and 2" wide hold down. Place tensioners in proper locations using 3/4" hardware. Do not tighten any hardware at this stage.
- Affix steel cutting edge to bottom of poly spring using 3/4" hardware. Do not tighten hardware at this stage.
- Begin tightening all hardware using the following procedure and torque specifications:



#### STEP:

- (1) Tighten first at 130 ft/lb
- (2) Tighten second at 160 ft/lb
- (3) Tighten third at 130 ft/lb

#### STEP:

- (4) Tighten fourth at 160 ft/lb
- (5) Tighten fifth at 240 ft/lb

*NOTE: Check for proper torque at all locations upon completion of step 5. Especially at locations labeled (1).*

## ADJUSTING THE TENSIONERS

The steel cutting edge comes adjusted to the proper tension from the factory. Once cutting edges are properly broke in, i.e. a sharp leading edge or as cutting edges wear, it may be necessary to adjust tensioners (shown in figure 3) to maintain proper cutting edge down force. To adjust the tensioners loosen the jam nut and turn adjusting screw clockwise to force the cutting edge down and into contact with the plowing surface. Do not over adjust, cutting edge should be even with bottom of the wear shoes. Additionally, if too much down force is applied , through either the adjustment of tensioners or poly spring wear, the tensioners can be backed off to reduce down force. Adjust all tensioners equally.

## WEAR SHOES

Every Sno Pusher is equipped with two High-carbon Alloy Wear Shoes that are bolted-on and replaceable to provide seasons of use by offering superior protection against wear and tear. When replacement is required, follow these guidelines:

1. Raise your Sno Pusher off the ground and secure the unit under the lower, rear receptacle posts and the side plate reinforcement angles using dunnage or jack standards.
2. Loosen all six bolts fastening the wear shoe to the unit and carefully remove.

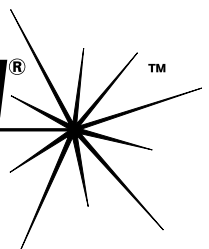
**IMPORTANT:** Wear shoes are very heavy, please use caution during the removal and installation.

3. Position new wear shoe on left side and right side.
4. Install bolts, washers and locking nuts. Tighten bolts slightly, only enough to ensure that they won't fall off.
5. Lower unit on level surface and torque bolts (120 ft-lb) securely into place.

**Be sure to always use Pro-Tech replacement parts.**

RP1000 – SBL Binder Kits  
RP1001 – SBB Binder Kits  
RP2010 – Standard wear shoe for SBL (Rubber side)  
RP2050 – Super Duty wear shoe for SBL (Rubber side)  
RP2090 – Self Leveling shoe for SBL (Rubber Side)  
RP2011 – Standard wear shoe for SBB, SBS (Rubber Side)  
RP2051 – Super Duty wear shoe for SBB, SBS (Rubber Side)  
RP2091 – Self Leveling shoe for SBB, SBS (Rubber Side)  
RP2777 – Wear Shoe, Left Side, SBL (Steel Side)  
RP2785 – Wear Shoe, Right Side, SBL (Steel Side)  
RP2778 – Wear Shoe, Left Side, SBB/SBS (Steel Side)  
RP2786 – Wear Shoe, Right Side, SBB/SBS (Steel Side)  
RP2202 – 10' Rubber Cutting Edge for SBB/SBL  
RP2203 – 12' Rubber Cutting Edge for SBB/SBL  
RP2204 – 14' Rubber Cutting Edge for SBB/SBL  
RP2205 – 16' Rubber Cutting Edge for SBL  
RP2206 – 18' Rubber Cutting Edge for SBL  
RP2207 – 20' Rubber Cutting Edge for SBL  
RP2250 – 6' Rubber Cutting Edge for SBS  
RP2252 – 8' Rubber Cutting Edge for SBS  
RP2254 – 10' Rubber Cutting Edge for SBS  
RP2255 – 12' Rubber Cutting Edge for SBS  
RP2766 – 6' Steel Cutting Edge for SBS  
RP2767 – 8' Steel Cutting Edge for SBS  
RP2759 – 10' Steel Cutting Edge for SBS/SBB/SBL  
RP2760 – 12' Steel Cutting Edge for SBS/SBB/SBL  
RP2761 – 14' Steel Cutting Edge for SBL/SBB  
RP2762 – 16' Steel Cutting Edge for SBL  
RP2763 – 18' Steel Cutting Edge for SBL  
RP2764 – 20' Steel Cutting Edge for SBL  
RP2757 – 6' Spring for SBS  
RP2758 – 8' Spring for SBS  
RP2750 – 10' Spring for SBS/SBB/SBL  
RP2751 – 12' Spring for SBS/SBB/SBL  
RP2752 – 14' Spring for SBB/SBL  
RP2753 – 16' Spring for SBL  
RP2754 – 18' Spring for SBL  
RP2755 – 20' Spring for SBL  
RP2469 – IST Tensioner  
RP1200 – Level Gauge

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