

SNOW+ICE

GUIDE

How to select the proper snowplow for your equipment.

BY RANDY STRAIT

LESSTIME. LESS LABOR. Fewer overhead costs. These days, it seems every company must do more with less. While “less” is the operative word, it’s the “more” that counts. More efficiency. More productivity. And most importantly, more profit.

To get more, companies are becoming more resourceful. The snow and ice management business is no stranger to the efficiency crunch, as it’s had to be more efficient every year to keep up with everything from government liability regulations to skyrocketing salt prices. The outside business environment, combined with other factors, makes it crucial to not just plow snow, but to plow it thoroughly and effectively. Whether you’ve been in the plowing business for one month or 10 years, there have never been more reasons to re-examine efficiencies in your operation.

Acquiring the proper snow plow is among the most important steps in starting up or improving a snow and ice management operation. The right plow will move more snow, increase operator ease and safety, and reduce repair expenses — not to mention costly downtime. In addition, the right



Containment plows, or snow pushers, typically include side panels to keep snow contained, reducing the need for follow-up plowing as well as potential damage.

A FLURRY OF *choices*

plow has a positive impact on the life of the machine powering it, whether it’s a small skid steer or larger loader.

Many contractors get hung up on size. But it’s more than a matter of size; snow plows now offer numerous advancements and features designed to maximize efficiency.

With so many options, from different moldboard and hitch designs to cutting blades and side panels, deciding on features can be overwhelming. But evaluating how each feature can improve your bottom line will help you choose the right plow.

Sizing it up

Snow plows are available in many styles and sizes. Equipment-mounted plows, commonly referred to as containment plows or box plows, typically range in size from 6 ft. for smaller machines such as skid steers to 30 ft. for larger equipment such as wheel loaders.

Plow size primarily affects how much snow is removed and with what precision. Longer, one-piece containment plows move larger quantities of snow the first time but leave a lot behind because they ride on the highest ground.

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Newer “drop-and-go” hitch designs enhance the life of plow components and let the plow and machine ride evenly along the pavement.



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No pavement is completely level. Roads tend to be higher in the center and gradually slope downward on each side; parking lots have both raised and depressed areas throughout. A longer plow rests at the highest point on a surface floating over lower areas, which might mean leaving behind inches of snow that require follow-up plowing.

On the other hand, a shorter plow is more concentrated and precise. Operators are able to better target areas and clear more snow with less follow-up. Shorter plows are also ideally suited for common, smaller pieces of equipment in a fleet, such as skid steers and compact loaders.

But smaller plows mean more passes are needed to remove the same amount of snow. Outsourcing or adding a pick-up plow to handle follow-ups might be required, as shorter plows still miss small areas like dips in roads or parking lots.

Independent and group effort

Sectional moldboard designs consist of several pieces that together form one large surface area, allowing large amounts of snow to be removed in a single pass. What’s unique about these styles is the way the sections operate to also provide precise, efficient removal.

Nearly every plow on the mar-

ket offers a trip edge feature. As an obstacle is encountered, the plow “trips,” or lifts slightly to clear the object without damaging the plow. But when the plow lifts up, it misses a whole pile of snow. Sectional moldboard plows offer the same concept, but on an individual basis. Rather than the whole plow width tripping, only the individual section encountering an obstacle trips, leaving virtually no snow behind and eliminating the need for follow-up plowing. Not only does this reduce fuel and labor costs, plowing a clean lot the first time will also eliminate any liability issues and costs resulting from slip-and-fall claims.

The independent movement of each “mini plow” provides further efficiency and plowing precision by essentially letting the entire plow contour to any given surface. On sloped roads, the outer pieces rest at lower points, while those toward the center rise up as the pavement does. The same is true in parking lots. As the plow approaches a depressed or elevated area, the section will respond to the change in elevation and adjust itself accordingly. This ensures virtually no snow is left behind, and essentially eliminates the need for a pick-up mounted plow or salting.

In addition to providing better clearing performance, the individual

tripping action helps prevent damage to the plow and machine if a small obstacle is encountered. For larger, rigid objects such as curbs, consider a plow with mechanical side panels to help prevent damage.

Panel of experts

Most containment-style plows are built with side panels, or wings, attached to both ends of the moldboard. The panels keep snow contained and prevent it from rolling off the sides, but they also pose major challenges.

Imagine a loader plowing full speed on a city street using a model with fixed side panels. The snow is deep and blowing across both lanes, so the driver can’t see that he’s approaching a concrete median on his left side. When he eventually hits it, something will absorb the impact, whether it’s the plow, the machine — or the operator.

To address this serious problem, some manufacturers offer plows with mechanical side panels, which respond to impact from major obstructions such as curbs and medians. Rather than hit these objects head-on, the side panels lift up and go over them, clearing even tall obstacles and reducing damage to the equipment, plow and, most importantly, the operator.

Get hitched

Newer hitch designs take stress off the operator and enhance the life of plow components. Plows are picked up and dropped down hundreds of times each night. Typical hitch designs force the operator to manually adjust the plow each time it’s dropped, making for a time-consuming, frustrating process, especially for inexperienced operators. Newer “drop-and-go” hitch designs adjust the plow automatically. The hitch design ensures the plow will lie correctly, extending plow life and ensuring a clean surface.

These hitches also let the plow and machine move independently of one another. As stated, rarely is pavement perfectly level.

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Take a parking lot, for example. Because the plow leads the way, it's going to reach a raised point in the pavement before the machine does. Normally in this situation, the plow will rest on the higher ground and lean slightly forward. The action lifts the machine up off its front wheels, creating drag, while

putting weight on only two tires. Over time, this will result in uneven tire wear and more frequent replacement issues.

With newer hitches, the plow can lift up and adjust to the pavement while the machine stays balanced on all four tires, keeping even wear on the tires and the plow. Especially when

combined with sectional moldboard styles, this movement further lets the plow continuously adjust to changes in the pavement for optimum plowing efficiency and reduces the need for follow-up plowing.

These types of hitch designs also prevent premature wear on the plow's shoes. Side panels, whether fixed or mechanical, include smooth, flat pieces called shoes that ride along the surface. Commonly made of steel, the shoes are designed to last several years. But their lifespan can be cut short with premature wear, a common occurrence with typical hitch designs that require manual adjustment. "Drop-and-go" styles are designed to lay flat and ensure the shoes do as well, leading to even wear and less replacement for the operator.

Together, these features significantly enhance performance and minimize maintenance expense. But the plow cutting edge affects both the machine's performance and the plow's total lifecycle cost, and should therefore be carefully considered.

Cutting edge counts

Every plow has a cutting edge. Designed to scrape and clean away compacted snow and ice, cutting edges further reduce the need for re-plowing and salting.

Ideal for cutting through and scraping snow and ice, steel cutting edges prove to be more effective and more durable than rubber options. On the down side, replacement of steel edges can be significantly more expensive, but that shouldn't necessarily be a deterrent. Together with sectional moldboards, steel cutting edges are effective and can be replaced in one section rather than across the entire length of the plow. This significantly reduces maintenance costs, while providing all the benefits of the steel edge. **LM**

STRAIT is president of Arctic Snow & Ice Control Products (ArcticSnowAndIce.com).



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Parallel design

Henke's new Parallel Lift Plow is designed to remain parallel to the ground in transport or in angling positions. It can be completely removed from the truck hydraulically, leaving only a flat plate. The truck hitch and power reversing and lifting mechanisms remain with the plow. The plow features an inverted "J" shaped, 43-in. high moldboard with 10 vertical ribs. The moldboard is available in steel or polymer in 10-, 11- and 12-ft. lengths. *HenkeMfg.com*



Electric start

Ariens' Sno-Tek single-stage snow thrower is powered by a 205cc Briggs and Stratton engine and features a 22-in. clearing path. A Quick Chute deflector rotates 200 degrees, so operators can keep snow off previously cleared areas. The single-stage Sno-Tek is easy to start, and the aluminized Lo-Tone muffler resists corrosion while minimizing noise. The 86-lb. unit can discharge snow up to 40 ft. and features a two-year limited consumer warranty. *Ariens.com*

Multi-tasking machines

The **Gravelly Rapid M** and **Rapid E** two-wheel tractors are powerful all-in-one machines, featuring five different attachments: snow blower, blade, brush, mowing deck and car pusher. Both models feature a hydrostatic drive system and pistol-grip controls to make operation easy. Operator-friendly controls and handle with tool-less height adjustments and side-to-side adjustments helps to make short work of any job. Available with a two-year warranty. *Ariens.com*



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Move large volumes

The Boss BX-12 is the first box plow designed for professionals seeking to remove large volumes of snow in a single pass. Easily attaching to a loader or backhoe, it features a 12-ft.-wide sectioned trip edge, featuring segmented cutting edges that allow each 8-in. cutting edge segment to trip individually. This keeps the remaining cutting edges in contact with the surface and pushing snow for maximum efficiency. Articulating end plates are self-leveling to keep the scraping edge surface closely in contact with the pavement, reducing wear and tear on the shoe heel and the impact felt when an obstruction is struck. During plowing operations, the Quickhitch system's vertical hitch float lets the box plow slide up and down, also reducing wear and tear on the tractor, operator and plow. BossPlow.com



Zero-turn maneuverability

Grasshopper's zero-turn FrontMount power units serve as the heart of a complete snow removal system comprising commercial snowthrowers, dozer blades (pictured), rotary brooms and V-plows. Applying zero-turn maneuverability to snow removal saves time and labor so each operator can accomplish more work in less time. Grasshopper's exclusive QuikConverter implement system lets you install and remove implements in minutes without tools. An optional winter enclosure (for 700 and 900 Series) and 16,000 BTU/hr heater (for liquid-cooled models) protect operator from the elements for enhanced comfort and efficiency. ThrowMoreSnow.com

Tow-behind

SnowEx's new SP-7000 Tow Pro spreader features a 1.4-cu.-yd. capacity. It tows behind tractors and UTVs with a lawn and garden hitch, eliminating the need to mount a large spreader in the truck bed. This helps maximize the truck's utility by freeing the bed to carry additional spreading materials or peripheral pieces of equipment, such as walk-behind spreaders and snow blowers. It's designed for treating parking lots and garages, college campuses, private roadways, and other off-highway uses. With an 18-in., stainless steel spinner, the unit can spread material up to 30 ft. wide. For maximum control of the spread pattern, the spinner can be tilted between 0° and 15° downward. TrynexFactory.com



Save time and energy

John Deere's Frontier SB2176 snow blower has a quick-attach feature, allowing operators to mount the blower without removing the John Deere 400 Series' loader. The blower is driven by an independent, hydraulic three-point hydraulic power pack that attaches to the rear of the tractor. Self-contained and driven by the tractor's rear PTO, it is also Category 1- and iMatch-compatible. It features a 76-in. working width and automatic auger speed control to prevent clogs. Six anti-scalp wheels are located at all four corners and the front center position of the deck. The cutting edge is replaceable, and the steel skid shoes are adjustable and replaceable. Deere.com



Clean sweep

Ranging in width from 96 to 120 in., **Case Construction Equipment's** new angle brooms enable Case wheel loaders to sweep streets and parking lots, clean up jobsites and remove snow from jobsites. Angle broom models are available for Case 521D and E, 621D and E, 721D and E, and 821E wheel loaders. The brooms feature durable poly-wire brushes, broom heads that adjust 30° left or right and an integrated nozzle for applications requiring water for dust control. The brooms attach to the CNH Quick Coupler (JRB-compatible) for wheel loaders. Quick-change hydraulic fittings enable the operator to attach and detach the broom without disrupting hydraulic lines. CaseCE.com

Adaptable plow

With its ability to switch between a rubber edge and steel trip edge, the new Switchblade containment plow can handle changing weather and jobsite conditions without having to change plows. Its steel edge features **Pro-Tech's** patented IST technology, which includes a steel edge mounted on a specially blended memory urethane. When an obstruction is hit, the edge flexes and snaps back to its original angle in a smooth, non-shocking trip action. Because the new design uses a cutting edge that spans the entire width of the unit, the Switchblade eliminates snow trails at its sides. A total of 12 models are available. ProTechCorp.com

