

Must-Have Equipment Features and Options for Snow Removal Applications

Here's what contractors should look for in backhoe loaders, wheel loaders, compact wheel loaders and skid steers to operate most efficiently in snow removal applications.

Properly outfitting construction equipment for work in winter's harsh conditions can protect it, lower your total cost of ownership and ensure a safe and productive environment for both employees and machines.

In this article, we'll look at four of the most popular machine types used for snow removal applications – backhoe loaders, wheel loaders, compact wheel loaders and skid steers – and evaluate the proper attachments and other cold-weather considerations for each machine.

Backhoe Loaders

Backhoe loaders provide great torque, which allows them to handle extreme conditions and heavy, wet snow with ease. They work with a variety of attachments, including blades, sweepers, snow pushes and blowers. Their ability to lift snow into stockpiles and trucks make them an essential snow removal machine.

Suggested Features

We recommend that owners in northern climates operating throughout the winter select the manufacturer's cold weather package. Make sure the machine has front auxiliary hydraulics for added attachment versatility. Some backhoes, such as the new Tier 4 Final N Series, feature a cab-activated quick coupler that allows an operator to switch attachments without leaving the warmth of the cab.

Some manufacturers provide additional features that can be helpful in the winter months. CASE backhoes have an adjustable SmartClutch feature, which lets operators customize the feel of forward-to-reverse transitions to suit their preference. This is particularly helpful in snow removal applications where the operator is consistently shifting from forward to reverse. Smoother transitions are generally more comfortable and are ideal in larger parking lots where there are fewer obstacles, whereas a stiffer, more immediate transition may be necessary in more confined spaces and near other vehicles.

Ride Control is another important feature for backhoes. If the backhoe is regularly roaded from one parking lot to the next, or if the snow is being carried to a larger stockpile, Ride Control will cushion the movement of the loader arms and provide a smoother ride. (This feature is also available on wheel loaders and skid steers).

Cab Amenities

With the potential of long hours, a comfortable operator is essential for productive work. For starters, make sure that your machines have an enclosed cab with both heat and air conditioning. A heated seat is an additional feature that helps operators stay comfortable during long shifts. While heat is a no-brainer for working in frigid

temperatures, the AC is still important, as it's essential in eliminating humidity from the cab.

Light it Up

Snow removal is all about visibility – both for the operator and the people around the machine. Look for a backhoe that offers adjustable side lighting for improved visibility and jobsite awareness during nighttime operations.

Wheel Loaders and Compact Wheel Loaders

Wheel loaders are multipurpose machines that are great at moving large amounts of snow and ice due to their power, and the added visibility afforded by large floor-to-ceiling windows and a higher vantage point. Wheel loaders can use a variety of attachments including snowplows and pushes, buckets, snow blowers and even salt dispensers (though it's not common). Depending on the manufacturer, some compact wheel loaders can share attachments with skid steers for optimal fleet versatility.

Look for heat and heated air-ride seats to help operators stay comfortable inside the cab. Specialty tires are also recommended – CASE wheel loaders are available with Michelin SnoPlus tires and heavy-duty axles with a locking front differential for added traction on snowy or icy terrain.

Since snow removal often takes place at night or during a storm where visibility is an issue, look for floor-to-ceiling windows and a low rear hood to help improve sightlines. Also look for optional rearview cameras and additional lights to improve visibility for safer working conditions.

The Perfect Packages

Most manufacturers offer select packages to help keep equipment performing at its best in the winter months. Select CASE wheel loaders, for instance, are available with an optional cold weather package and a snow package.

The cold weather package is ideal for machines working in extreme temperatures down to -50 degrees Fahrenheit. It offers 2 HD batteries, low temp Hytran Ultra hydraulic oil, a hydraulic oil cooler bypass, hydraulic heat load valve, an engine block heater, an air-intake grid heater and fuel warmer, heated mirrors, a reversing fan to remove snow accumulation from the radiator, as well as wide fenders and side covers.

The pre-set snow package features six LED working lights for greater visibility during nighttime snow clearing, a cooling system with reversing fan, the choice of Snowplus or L2 radial Michelin tires and a five-speed transmission with lock-up torque converter that improves acceleration and hill climbing for faster cycle times.

Skid Steers

Another popular choice for snow removal is the skid steer. Along with their enclosed cabs with heat and heated air-ride seats, these machines can use a variety of attachments including low profile buckets, snow pushes, brooms and blades, and standard and high-flow snow blowers.

If you work in a region that encounters lots of snow, you should consider using a radial-lift skid steer over a vertical configuration. Radial lift machines are more proficient in groundwork and digging below grade – movements that relate most directly to snow removal applications.

Some skid steers on the market can also be outfitted with 1,000-amp cold-cranking batteries and different weight oils that are more conducive to cold weather applications.

The Right Package

Equipment manufacturers also offer packages that set up skid steers for optimal winter work. CASE offers a snow removal package for two of their skid steer models (the SR270 and SV300) with three different levels to optimize the machines for snow removal applications. The first package includes an enclosed cab with heat, a vinyl suspension seat, a manual coupler, a block heater to assist in cold starts, hydraulic self-leveling and Ride Control, and a four-corner LED strobe kit, interior mirror kit and side lamp for added visibility.

The package also comes with larger tires (14 X 17.5) for more speed and power while working on paved surfaces. Package two contains all the options in the first package, along with air conditioning, an air-ride heated seat and a heavy-duty hydraulic coupler. Package three comes with a high flow plus package, which contains front electric and high-flow hydraulics.

Additional Winter Maintenance Considerations

Before you start thinking about attachments and other cold weather accessories, make sure that your machine is properly maintained and performing at its best. No matter what types of machines you have in your fleet, you should always check the operator's manual for recommended winter maintenance practices. Pay close attention to the requirements and recommendations for fuel type, engine and hydraulic oil, air filtration and diesel exhaust fluid systems – failure to do so can result in costly downtime for your machine.

It is also important to follow the manufacturer's recommendations for cooling systems maintenance. Checking the coolant level regularly, and flushing and replacing the fluid at OEM-specified intervals will keep your cooling system running efficiently all winter.

Keep an eye on your machine's battery as well. The required current for a cold start can increase up to 200 percent at 0 degrees Fahrenheit, so make sure that your battery is in top condition by checking the electrolyte level and keeping the terminals clean. It is also important to keep your undercarriage free of snow and ice accumulation. We recommend that you inspect the undercarriage every day to prevent damage from mud, ice and debris build-up. Always keep the tires properly inflated, and inspect the tires daily for wear.

This winter, be sure to take the right steps to protect your operators, your equipment and your bottom line. Adjusting daily maintenance practices and outfitting your machines with the right attachments and accessories will help keep your operators comfortable, your machine running efficiently, and the jobsite a safe place to work.

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