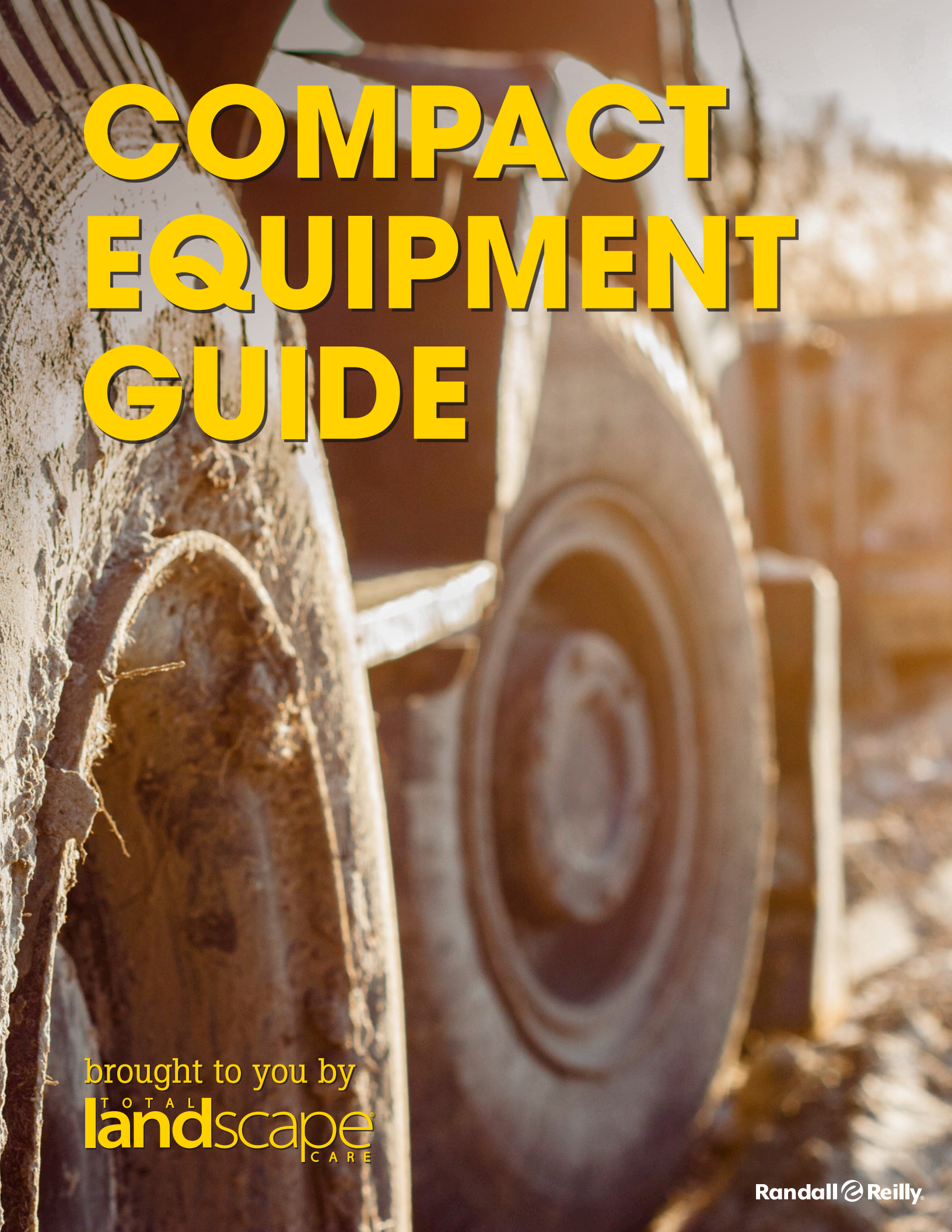

COMPACT EQUIPMENT GUIDE

brought to you by TOTAL landscape CARE

Randall Reilly

The Compact Equipment Guide is a white paper designed to highlight the benefits of various compact equipment and help landscape contractors select the right pieces of equipment for their operation. It also includes a comprehensive look at popular compact equipment specs.

2 skid steers

8 radial–lift vs. vertical–lift skid steers

Specs

22 compact excavators

36 skid steers

44 toolcarriers

46 track loaders

52 wheel loaders

The skid steer market is far from dead

BY RICHARD RIES

Some would say skid steers have run their course, and that compact track loaders (CTLs) have replaced them. "Fake news!" cry the manufacturers, and they have the facts to prove it.

True, CTL sales have soared, but depending on the manufacturer and the size category, skid steer sales have at least held steady and, in many cases, have slightly increased.

There are two important factors to keep in mind regarding this shift in sales volume that seems to put skid steers at a disadvantage. First, CTLs are still relatively new. As more customers are discovering the advantages of tracks in certain applications, more tracked units are being sold.

"After customers with legacy machines replace their skid steer loaders with compact track loaders, the rapid growth of compact track loader adoption over skid steers will likely start levelling out," says Kevin Scotese, Volvo skid steer product manager. He says that since the service life of a skid steer loader is 5,000 hours, many legacy machines will be due for replacement soon, "adding to the probability that market share erosion will level off after those machines are replaced."

The second factor is that the shift in sales volume is almost exclusively a North American market phenomenon. Globally, skid steer sales far eclipse compact track loader sales, says Gregg Zupancic, product marketing manager, John Deere. "Outside of North America, CTL sales are spotty and number around 2,000 units per year, while skid steers are in the 20,000- to 30,000-unit range."

Zupancic says it's understandable that CTLs are stealing the limelight; Deere's sales in 2016 were about 60 percent CTLs and 40 percent skid steer loaders. "But the trend line for skid steer sales over the past five years is up" as of Nov. 1.

New Holland's L234 features the Super Boom design, which improves the rear visibility.

The John Deere 332G has a bucket breakout force of 13,904 foot-pounds.

Speedier?

Another bit of conventional wisdom is that skid steers preserve their market share in part because they're faster than CTLs. Marketwide, that's true. Skid steers typically can travel 10 to 12 mph, while the top speed of CTLs is 7 to 10 mph. But not so fast, say some OEMs. Buck Storlie, testing and reliability leader with ASV, points out the company makes compact track loaders with travel speeds of 11 mph.

Some OEMs suggest that customers ask themselves, "How important is speed anyway?" Certain applications, such as sweeping and snow removal, favor faster speeds. Randy Tinley, product manager of skid steer and compact track loaders with JCB, says scraping operations are also better at higher speeds, but those are mostly found in ag (mucking out barns, for example) and less often in construction.

Lift-and-carry and traveling from site to site also emphasize speed. But for a large percentage of tasks, including loading and running attachments where the machine is stationary, top travel speed is not a factor. Examples of static operations with attachments include concrete pumps, stump grinders, chippers and augers, says Eric Dahl, product manager, Bobcat.

Now that we've killed the two most common myths, what truths remain?

Where skid steers lead

First on the list of great truths about skid steers is that they're preferred for work on hard surfaces. And, yes, they're faster. "And there are applications where the work may take place in the dirt, but the machine travels over pavement to get from one part of the job to another," says Brent Coffey, loader product manager with Wacker Neuson. "The skid steer is the machine that covers the distance the quickest and handles both situations, work and travel, with equal ease."

With the right tires, skid steers are also the machine of choice in places where debris can damage equipment, such as demolition, recycling and waste handling. Brian Rabe, regional training manager for Manitou Americas (parent company of Gehl and Mustang), says skid steers have better shock absorption. "In applications with sharp bumps and in rocky conditions, skid steers provide better operator comfort than would be had in a compact track loader."

The Wacker Neuson SW17 is a radial-lift machine that has a hinge pin height of 118.1 inches and dump reach of 34.1-inches.

They're also preferred for snow removal, whether using a snowplow, snow blower or snow pusher, because they provide greater traction. Snow removal is relevant to, at most, half of all skid steer customers, and then only for a certain portion of the year. But to those customers, a skid steer's snow capabilities means it can generate additional revenue instead of sitting idle for months.

With their amazing maneuverability – such as being able to counter-rotate and execute spin turns – skid steers shine in tight jobsites. "The skid steer is the original poster child for jobsite mobility and remains dominant in that role," says Hugo Chang, wheel loader and compact product manager at LiuGong.

This maneuverability results from the weight bias on a skid steer, which is typically around 30/70 front/rear unloaded; the reverse ratio is true with a full bucket. Dahl says this imbalance means one set of wheels, the front or rear, is bearing less weight than the other set at any time. This makes tight turns easier, reduces tire scrub and minimizes surface damage.

Tracks on a CTL can be counter-rotated, but it's not a good idea. "To maximize the service life of tracks and undercarriage components, a CTL should be operated like a dozer with long, sweeping turns," says Tharen Peterson, brand marketing manager, New Holland Construction.

Maximum maneuverability is also essential in applications that require precise positioning of attachments, such as breakers and sweepers, notes Dahl.

George MacIntyre, global product portfolio manager, light equipment, Case Construction, says industry data reveals several areas where skid steers are preferred over CTLs by a margin of 3-to-1. Among them are scrap, waste, recycling, industrial material handling, and mine and quarry. "Demolition, agriculture, and state and municipal markets also use more skid steers, but by a smaller margin," he says.

MacIntyre adds that skid steers are better for clearing, cleaning and back-dragging. Operators tend to put a lot of downforce on the attachment – whether broom, bucket or blade – shifting much of the weight to the rear of the machine. Tracks want to be evenly loaded; wheels are more tolerant of this type of imbalance.

Coffey says some attachments still work best on a compact track loader, especially those requiring a heavy machine with superior stability, such as tree spades.

Cost control

"Anything done on wheels is more easily done on tracks," says Storlie. That comment from ASV's testing and reliability leader, is no surprise; ASV has a long, proud history with compact track loaders. But it's not just machine ability that matters to customers; it's also profitability. "If the same job can be done by either a CTL or skid steer in the same amount of time," Storlie explains, "the skid steer will be cheaper."

When comparing track and wheeled machines with similar engine and hydraulic specs, the CTL will cost up to 20 percent more. Skid steers also use less fuel and

require significantly less maintenance. Radial-lift skid steers, with their simpler lift mechanisms, maximize the differential in both initial and ongoing costs. "Compact track loaders, on average, cost 5 to 10 percent more to operate and maintain," says Scotese.

A key component in the O&O cost difference is the expense of maintaining an undercarriage and replacing tracks. "Tracks remain highly engineered," says Chang, "while skid steer tires have almost become commoditized and have a well-established supply chain."

Because of their lighter weight, skid steers can reduce transport costs, says Scotese. The required ratings of the trailers and tow vehicles used for transport may be lower, and the combined rating may make a CDL unnecessary.

Peterson says, though, that as skid steers get larger and more expensive, the difference in initial investment between the biggest skid steer models and some compact track loaders is decreasing.

Narrowing the gap

Even in areas where CTLs have clear advantages, owners of skid steers can take steps to narrow the performance gap. Over-the-tire tracks (OTTs) can provide many of the benefits of a dedicated track machine and can yield lower ground pressure for a skid steer than a comparable CTL, says Dahl. That's because the skid steer weighs less than the CTL. The weight difference is enough that the ground-pressure advantage remains in place despite the difference in track-on-ground surface area between the two machines.

Dahl says customers who need tracks all the time have switched from skid steers to compact track loaders, greatly reducing the demand for over-the-tire tracks. The availability of CTLs from rental houses has also cut into demand by making them readily available to customers who need them only occasionally. But for customers who need tracks seasonally, OTTs are a cost-effective solution.

But Zupancic warns there are potential issues with over-the-tire tracks. They can collect rocks, scraps of lumber and other debris that may break tire beads and may even break a chain. The machine can walk out of its tracks on counter-rotation, especially with rubber tracks. Steel tracks can cut tire sidewalls.

Jorge De Hoyos, Kubota senior product manager of skid steers and compact track loaders, says installing tracks over solid and semi-solid tires can overstress parts of the skid steer. That's because these types of tires may not offer enough flex, and the weight and shock load of the tracks are passed directly to the chain tank walls of the undercarriage.

Storlie notes that all ASV skid steers are designed to accept over-the-tire tracks. Fender clearance, wheel bearings and hub design accommodate the additional size and weight of add-on tracks. ASV acquired Loegering in 2004 and offers Loegering tracks.

Tinley says that while track options are mostly limited to width, tires offer many options. While various widths are also available with tires, tread patterns are a more important part of the package, as are solid, semi-solid and pneumatic options.

Tire chains are also available. While chains don't improve flotation, they add traction and weight and can improve performance in sloppy conditions.

Bolt-on counterweights also enhance SSL performance, and the same counterweight has a bigger effect on the capacity of a skid steer than a CTL. This is because the same weight is a higher percentage of the machine's own weight. Zupancic points out that solid and semi-solid tires also add weight; the elongated holes in semi-solid tires provide some cushioning.

Ultimately, the performance level of a skid steer comes down to operator skill, says MacIntyre. "Operators need to maintain situational awareness of jobsite conditions and plan ahead. They need to know how to get un-stuck. They should read the owner's manual, which will give guidance on managing hills, slopes and other obstacles."

Even so, says Peterson, the advantages CTLs offer are unique to them and cannot be fully replicated on a skid steer, regardless of the skill of the operator. tlc

Side by Side:

Radial-lift vs. vertical-lift skid steers

BY TOM JACKSON

As far as capability and ability to get the job done, there is virtually no difference between radial-lift and vertical-lift skid steers. In terms of application however, it is necessary to split hairs a bit. In general, both versions of the skid steer are able to perform jobs such as loading, clearing debris and leveling or clearing of work sites.

The applications

At first glance, the specific lift capabilities of each machine aren't easy to spot.

The vertical-lift machine and the radial-lift machine are similar. Just looking at the machines, you wouldn't be able to tell the difference. You see the difference in the swing arc geometry of the machine from about 3 feet off the ground to full height.

Once it begins to raise, the radial-lift arm swings out in an arc before reaching its peak height. The vertical-lift machine loader arm raises straight up. The result is that each machine is suited for a particular type of job.

Radial-arm skid steers are good for excavating, grading and digging below grade. Vertical-lift machines are ideal for material handling. An example is taking pallets or bricks off of a truck and placing them around the jobsite. If you are loading a lot of dirt into a dump truck, the vertical-lift skid steer is the machine for the job.

When making the decision to purchase or rent, it is best to plan ahead.

The biggest criterion for any customer is to match the machine to the needs of each individual application. Landscapers have to assess if they are doing most of their work at ground level, pushing material, back filling, leveling dirt, etc.

Breakout force and attachments

The bucket breakout forces for each machine don't change significantly because it only comes into play when the arm is positioned less than 3 feet from the ground.

The lift arm breakout forces may change when the arm is raised because the actual dynamics of the machine change once the loader arms are raised above 3 feet.

What about price?

While both machine configurations can be useful in a variety of applications, the difference in price depends on who you ask. The radial-lift machines and the vertical-lift machines for some manufacturers are in different weight classes, so the prices will be different. With other manufacturers, the vertical-lift machine will be slightly more expensive because it has more parts in its loader arm.

In conclusion

The major difference between the radial-lift and vertical-lift skid steer is the geometry of each lift arm.

A radial-lift machine will perform the same job as a vertical-lift machine, it's just that one happens to be better suited for each job. Some contractors will still use a vertical-lift machine excavating and some will use a radial-lift machine with forks lifting pallets. tlc

Just looking at the machines, you wouldn't be able to tell the difference. **You see the difference** in the swing arc geometry of the machine from about 3 feet off the ground to full height.

As CTL market matures, OEMs step up their game

BY RICHARD RIES

For years, CTLs grabbed market share by being the new kids on the block and offering lots of wow factor. But as their newcomer status fades, OEMs are shifting strategies to maintain growth in a maturing market.

For starters, they're offering better warranties to stay competitive, which can sometimes lead to warranty wars. "A big part of the move to longer warranties is to match or exceed what other OEMs are offering," says Lee Padgett, product manager, Takeuchi-US. "In order to compete in this competitive market, manufacturers have to provide incentives, including longer warranties."

What compelled expanded coverage initially? Primarily two factors. One was the improved quality of components. "Our track warranty on compact track loaders was two years, 1,000 hours," says Buck Storlie, ASV testing and reliability leader. "It is now two years, 1,500 hours. We were getting no claims at 1,000 hours."

The second driver was customer demand. "Customers accept that they have to pay more for Tier 4 Final machines," says Gregg Zupancic, product marketing manager, John Deere Construction and Forestry. "They understand those machines come with inherent advantages compared to older models. But they also want assurance their higher investment will have better protection." Zupancic says customers also like the more stable O&O costs afforded by longer warranties.

Brent Coffey, loader product manager, Wacker Neuson, says the company also touts the higher residual values of longer warranties, which provide coverage into the second life of the machine. The company now offers a 3/4/5 warranty: three years, 3,000 hours bumper-to-bumper; four years, 4,000 hours on the drivetrain and hydraulics; and five years, 5,000 hours on the electrical system. With typical yearly use of 600 to 1,000 hours, at least some of the warranty coverage can remain in place for the second owner depending on when the original purchaser sells the loader.

But the Wacker Neuson warranty showcases the need to understand the terms of these longer warranties. OEMs didn't start with one year, 1,000 hours full-machine coverage and then simply multiply everything by two or three or more. Warranties are better overall, but most are better in some areas than others. Manufacturers aren't being deceptive; each is leveraging unique strengths to offer a better warranty while minimizing the risk of higher warranty claims and costs. For example, ASV expanded its track warranty, while its full-machine warranty remains one year, unlimited hours. Deere went from one year, unlimited hours (with occasional promotional offers for enhanced coverage) to two years, 2,000 hours.

Boosting power

There's been a steady escalation of horsepower with several manufacturers now offering 100 horsepower and up. This is true of most compact equipment where "customers always want more performance from the same size package," says Mike Fitzgerald, loader product specialist, Bobcat. Their newest CTL is the 100-horsepower T870. "They want to get more done with the same size machine. They understand the relationship between power and fuel usage, but they know their increased fuel costs will be more than offset with increased production."

The 210T and 215T are the small-platform models of JCB compact track loaders. The 210T is a radial-lift machine and the 215T a vertical-lift. Both feature 74-horsepower JCB by Kohler engines.

In some cases, customers are replacing other equipment, notably small dozers and compact wheel loaders, with high-horsepower compact track loaders, says Jorge De Hoyos, product manager, compact track and skid steer loaders, Kubota. "Higher horsepower, higher lift capacities and improved undercarriage design combine to make this possible."

Many customers want more power to make use of new, larger attachments. As the catalog of attachments grows, much of that growth is in tools with high hydraulic demands such as mulchers, planers, rock saws and brush cutters. Recent advances in hydraulic design are not enough in themselves to power these attachments; increased horsepower has been required, as well. "The relationship between engine horsepower and

engine speeds and hydraulic horsepower cannot be overlooked," says De Hoyos. "More engine horsepower leads to more hydraulic horsepower as long as the hydraulic components are properly matched."

Kevin Coleman, product expert, Caterpillar, says horsepower and hydraulic system performance are just two parts of a three-part equation. The other is attachment design. "You're going to get the greatest productivity when the performance characteristics of the host machine and the work tool attachment are matched. This match is best achieved when the loader and the attachment are engineered by the same manufacturer."

Storlie points to flow sharing on ASV models as a key feature in their performance. The pump puts out 53 gallons per minute, but the system uses only 45 of that, so 8 gpm can be redirected to other loader functions with no loss of attachment speed.

Horsepower is a key spec for customers, says Zupancic. "Different customers focus on different specs, but they all focus on horsepower, and it typically takes prominence in their selection process."

Given that, will the horsepower race continue indefinitely? Probably not. "We're still 'compact equipment,'" says Fitzgerald, "and there are limits to the size of the machines."

Tier 4 Final machines of 75 horsepower and greater are already pushing the boundaries. Because they have more stringent emissions requirements than do machines of less than 75 horsepower, these bigger models require bulky aftertreatment systems and proportionately larger cooling packages.

If there's an upper limit, what will it be? Zupancic says around 120 horsepower will be the cap. "That's the most you can get from the 3.3- to 3.5-liter engines that fit this platform." To hit, say, 150 horsepower would require significantly more displacement, something in the 4.5-liter size. The size of the engine plus its required cooling package would simply not fit in a compact footprint.

Lars Arnold, global product manager, Volvo Construction Equipment, says there's an upper limit imposed by efficiency and productivity. "Once you get above 100 horsepower, you're probably better off with a dedicated machine rather than trying to force a CTL into that application."

George MacIntyre, Case product director of landscaping and agriculture and product manager for CTLs and SSLs, says, "While customers are demanding more power, it may not actually be what they want. What they really want is productivity, which relies most on hydraulic horsepower." MacIntyre points out that the formula for hydraulic horsepower makes no mention of engine input horsepower. (The formula is power = psi

x gpm / 1,714.) MacIntyre says Case has two high-flow options. The standard high flow uses a gear pump, and the enhanced high-flow uses a piston pump.

While sales of the Case CTL, the 90-horsepower TV380, have been solid, MacIntyre says there's a lot of interest in models below 75 horsepower. "Customers don't want to deal with the demands of DEF and higher heat rejection if they don't have to use a larger machine in their applications." He says that in many cases there's a minimal return in going to a higher horsepower machine, whether that's from 74 to 90 horsepower or 90 to 110 horsepower.

Randy Tinley, SSL/CTL product manager at JCB, says it's better to focus on rated operating capacity. "Our large-frame compact track loaders offer ROCs from 2,500 pounds all the way up to 3,695 pounds for the Teleskid model with the telescopic boom. That's plenty for most applications, and all those machines have JCB EcoMax engines rated at 74 horsepower."

Telematics and other features

While telematics have become standardized in larger equipment, in compact equipment there's quite a variety of offerings. Basic telematics are standard equipment on Bobcat CTLs, but the information is available only to the dealer and is used mainly for preventative maintenance and repair; there is no upgrade option for customers at this time. Cat machines come with telematics that provide machine hours and location. "A more comprehensive solution is available with additional functionality to help customers better manage their assets," says Coleman. Wacker Neuson provides no telematics as standard; they offer one optional telematics system that is their most advanced, "and because it's open architecture with no proprietary coding, it integrates easily with rental houses' and contractors' fleet management systems," says Coffey.

Ryan Anderson, SSL/CTL product specialist at New Holland Construction, says contractors show the least interest in telematics. "Right now, telematics on CTLs seem to be used mainly by rental houses for maintaining and locating large rental fleets and by equipment dealers servicing recreational customers," Anderson says.

JCB builds eight models of traditional CTLs plus the 3TS-8T Teleskid tracked loader with telescopic boom. Customers can spec LiveLink Lite or LiveLink Full as an option when ordering any of the models. In addition, JCB offers its Yellow Series on five of those models, including the Teleskid. The package of features includes LiveLink Lite, in the same way auto manufactures offer trim packages that combine popular features. The Yellow Series is the

The Kubota SVL95-2 has 96.4 gross horsepower and an operating weight of 11,299 pounds.

The radial-lift Cat 239D is powered by a Cat C2.2 CRDI engine rated at 67.1 gross horsepower and 153 pound-feet of torque.

most popular configuration for these five models.

Coleman says that historically telematics have been used to transmit information from the field to an office. "In the future, telematics will enable communication from the office to the machine, to update software, for example."

Manufacturers are adding features that enhance productivity and comfort in the many applications and with the many work tools typically associated with CTLs. Deere CTLs come standard with EH Joystick controls. This basic setup is left stick drive, right stick boom, ISO pattern only. Above that is the EH Joystick Performance package with selectable control patterns, creep mode, control of system response characteristics and more. The top-level EH Boom Performance package includes all the other features and adds return-to-dig, return-to-carry, and boom height kickout, each of which is programmable. Deere also offers onboard grade indication, "like an electronic bubble level," says Zupancic.

Arnold says Volvo has made changes throughout its CTLs. Some are big. The single-sided boom is stronger and more rigid. The cab can now be tilted forward without first raising the arm, and the new tilt cylinder location provides best-in-class cylinder protection. The cab door has a wider opening angle for easier access. The attachment plate has replacement wear plates, and the cycle time to change attachments has been reduced. Some changes are more subtle. The wiper motor has been repositioned to the side for better visibility. A cab air vent ("burp valve") makes it easier to close the door on the tightly sealed cab.

Padgett points to the 5.7-inch color monitor in Takeuchi CTLs. In addition to displaying machine vitals, the monitor provides access for adjusting auxiliary hydraulic flow and selecting attachment presets, and it shows the view from the rearview camera that is standard on most models.

Market stabilizes

Upheaval in the market is fading. There will continue to be a rebalancing of CTLs, and skid steers and other machines will get drawn into the mix. But the market is trending toward stability with sales of all categories of equipment rising. De Hoyos says the big determinants – underfoot conditions and initial investment level – are now well understood by customers when they're choosing between tracks and tires. "Kubota makes two models in each product line, covering the largest portion of each market," he says.

One wrinkle has been the increasing power available in stand-on and walk-behind compact utility loaders. Will they pose a threat to CTL market share? "Utility loaders are capable machines," says Coleman, "and provide a unique solution for customers requiring smaller equipment in tight spaces. But they come with limitations, such as the size of the load they can handle, the number of attachments they can use and the lack of a quiet operator station with heat and air conditioning." He says that while such machines have a secure place in the market, "they won't likely displace larger 'sit-down' loaders." tlc

The evolving compact excavator:

New ways to use this lower-cost, multipurpose tool

BY RICHARD RIES

Though still used for just excavating, compact excavators are being deployed on a variety of tasks, as owners seek greater value from these versatile machines.

Some compact excavator owners are getting inventive and OEMs are getting inventive, too.

Volvo offers a Steelwrist tiltrotator, with plus-and-minus 45 degrees of tilt and 360 degrees of rotation, on excavators of 3.5 tons and over.

John Comrie, Volvo Construction Equipment product mangager, says many Volvo customers find "they can do a lot more with a combination of a skid steer or mini track loader paired with a mini excavator, than with one mid-sized backhoe."

The ability to rotate 360 degrees gives compact excavators greater versatility than backhoe loaders while offering comparable digging and lifting performance and the ability to use a full range of tools and attachments, he says. Backhoes have enjoyed the advantage of higher travel speed, but Comrie points out the Volvo EW60E wheeled compact excavator can now reach 19 mph.

"In the smaller size class, it's rare to see just a machine and a bucket," says Todd Dohnal, dealer development manager for Kobelco USA. "Typically, the unit will have an array of attachments."

"Excavators do not just dig holes these days," he adds. "They have become one of the most versatile pieces of equipment on the jobsite."

A plethora of attachments

Dohnal says the challenge for manufacturers will be to keep up with hydraulic requirements of this expanding catalog of tools and attachments.

It appears, though, that OEMs are up to the task.

For example, most Kubota models allow programming of up to five hydraulic flow rates for specific attachments. The operator can select a rate by pushing a button. Load-sensing hydraulics and hydraulic regeneration circuitry further improve speed, power and precision.

"Over 95 percent of compact excavators are purchased with thumbs, breakers, mowers, augers, tilt buckets or trench compactors," says Jeff Jacobsmeyer, Kubota product manager.

The Link-Belt 80 X3 SA is available with several auxiliary hydraulic options including single-acting with

The Bobcat E42 offers a clamp-ready, extendable-arm configuration that provides additional length when fully extended.

pedal or proportional joystick control, multifunction with proportional joystick or combination hydraulics with proportional joysticks. The latter option provides multifunction and rotate auxiliary hydraulics and can be configured to adjust pressure settings from inside the cab.

Hydraulic quick-connects are options on most models and standard equipment on some. Up to four hydraulic circuits are available.

Tom Connor, product specialist at Bobcat, says they now offer a thumb, also known as a clamp, on their 2-ton E20 to meet demand. Thumbs have been available on larger models for some time.

Conner says Bobcat is also seeing lots of demand for flail mowers for compact excavators. Bobcat offers two mowers: a 30-inch model for excavators of 3 to 4 tons and a 40-inch model for the 4- through 8.5-ton classes. The same ballast counterweights offered with the long-arm option on their compact excavators are available for use with flail mowers.

Justin Lantin, product marketing manager at Komatsu, says operators are also getting more use out of blades. They're still vital for stabilizing while digging and for backfilling, but they are also being used for grading and cleanup, bringing more efficiency to the jobsite.

Komatsu partners with attachments manufacturer Werk Brau. This streamlines the spec'ing process for customers and reduces freight costs compared to buying the machine from one source and the tools and attachments from another, he says.

Warranty war

Along with becoming more inventive, OEMs are getting more competitive, especially when it comes to warranties for compact excavators.

One of the first things you'll notice about the current crop of compact excavators is that there is no "standard" standard warranty. They come in a variety of combinations: one year, two years, three years; 1,800 hours, 2,000 hours, 3,000 hours, 10,000 hours, unlimited hours.

=Extended warranties are also available, and several manufacturers offer custom warranties covering specific systems or components for a certain number of months or hours, as requested by the customer. Some OEMs offer the same warranty they have for years, while others

The Kubota KX033-4 features a digging depth of 12 feet, 2 inches and a digging reach of 18 feet, 3 inches.

changed their warranties just this year. Still others say they're considering making changes soon.

It's crucial that customers negotiate the best warranty value for their needs.. You don't know until you ask what's on the table. You should also closely inspect warranty terms on the sales agreement. Make sure it says you're getting what you think you're getting. The warranty that's enforceable is not based on conversations you had with the dealer's representative but on what's written in the sales agreement.

So why all the different warranty offers?

Manufacturers that have recently increased coverage say this better reflects the reliability and durability of current models.

"Compact excavators typically stay healthier longer than other types of compact equipment," says Chris Ballentine with New Holland. "While compact track loaders and skid steer loaders see use that borders on abuse, compact excavators are used more conservatively."

Modern designs and materials have further enhanced their durability.

But another reason for all the action stems from a warranty war in compact equipment. In a crowded, noisy marketplace full of seemingly similar machines, OEMs are struggling to differentiate their offerings. Tweaking warranties is one way to do that.

Telematics are often part of the warranty package. System costs have dropped and the technology is scalable, so lower-cost telematics can be included in the price of lower-cost equipment.

Link-Belt offers RemoteCARE GPS-enabled telematics subscriptions free for the life of their machines. RemoteCARE has all the aspects of a basic telematics package, including PM tracking, machine health reports and machine location.

Takeuchi added two years of Takeuchi Fleet Management telematics to their warranty package in August 2016. Coverage is free for all current excavators.

The goal is to "increase uptime by better scheduling service and improve utilization by understanding how the machine is being used in the field," says Lee Padgett, product manager at Takeuchi. "TFM also helps protect assets from misuse and theft through the use of geofencing."

Strong demand in good times and bad

Worldwide demand for compact equipment of all types is growing, and compact excavators are no exception.

"China is a very hot market for excavators," says Dohnal. "Many manufacturers, including Kobelco, produce units specifically for the Chinese market since it's among the big markets outside the emissions regulations that have dramatically influenced North America, Europe and Oceana."

How does that affect the U.S. market?

"This puts a heavy demand on components," says Dohnal. "It's a challenge for manufacturers to keep pace with demand, to manage the cycle. Lead times have increased."

Connor, with Bobcat, says the biggest influence on compact excavators is the housing market. That's good news because it adds stability.

"With housing, as it relates to compact excavators, there is no bad time," he says. "When the market is strong, new construction creates demand. When the market is soft, remodeling and landscaping drive sales." He says commercial construction such as strip malls also puts a lot of compact excavators to work.

And with a recent tumultuous ride in the stock market, customers are a bit uneasy, which could also make compact excavators more popular.

"An uncertain economic climate means businesses need to do more with less," says Ballentine, with New Holland. "Their equipment needs to do the same."

The rental market also continues to gobble up a large percentage of the compact excavators produced, as it always has.

The traits that make compact excavators ideal for rental are also finding favor with owner-operators: low initial and ongoing costs and ease of transport, says Jonny Spendlove, product marketing manager for Hitachi and John Deere.

The Deere 35G features auto-idle that slows engine speed when the pilot-control levers are momentarily released – for reduced fuel consumption and noise.

Spendlove says that in the United States there's a trend away from rental toward owning. He's also seeing a move toward the larger end of the compact spectrum. Some of this is the result of jobsite demands and some the result of a desire to run larger or more resource-hungry attachments. But for the most part, it's just a desire to move more dirt more efficiently.

He notes that despite their versatility, compact excavators' usage rates are lower than other compact machinery. They're often on trailers between jobs or working in lower-hour applications such as landscaping.

But Spendlove says it's important that customers take advantage of the attachment offerings for compact excavators.

"While compact excavators might not always have the same utilization rates as larger equipment," he says, "their versatility and ability to use a wide range of attachments make them valuable on a jobsite." tlc

			WEIGHT		PERFORMANCE							
	Make	Model	Operating weight (metric tons)	Operating weight (lbs)	Arm (stick) length used for dimensions & forces (ft/in)	Max dig depth (ft/in)	Max depth of vertical wall (ft/in)	Reach @ ground level (ft/in)	Dump height (ft/in)	Boom swing, right/left (deg)	Bucket digging force (lbs)	
>0 TO 1.5 METRIC TON OPERATING WEIGHT												
	Coyote	CE08	0.76	1,676	2′ 2.9″	5′ 1″	3′ 8.9″	9′ 0.5″	6′ 7.1″	87°/47°	1,874	
	Kubota	K008-3T4	1	2,200	2′ 6.4″	5′ 8″	4′ 6.1″	9′ 11″	6′ 8″	60°/55°	2,200	
	Caterpillar	300.9D	1.02	2,250	2′ 11″	5′ 8″	4′ 5″	9′ 11″	6′ 8″	56°/55°	2,000	
	Wacker Neuson	803	1.05	2,319	2′ 11″	5′ 9″	4′ 8″	9′ 11″	6′ 7″	56°/55°	2,001	
	Gehl	M08	1.065	2,348	—	4′ 7″	4′ 1.6″	8′ 10″	6′ 5″	45°/90°	2,360	
	Mustang	80M	1.065	2,348	—	4′ 7″	4′ 1.6″	8′ 10″	6′ 5″	45°/90°	2,360	
	Yanmar	SV08-1B	1.065	2,348	2′ 2″	5′ 4″	4′ 2″	8′ 11″	6′ 9″	45°/90°	2,360	
	Takeuchi	TB210R	1.08	2,370	—	5′ 9.1″	4′ 10″	10′ 9.4″	6′ 11.5″	85°/85°	2,581	
	Caterpillar	300.9D VPS	1.09	2,400	2′ 11″	5′ 8″	4′ 5″	9′ 11″	6′ 8″	56°/55°	2,000	
NEW	Bobcat	E10	1.1	2,593	2′ 8″	6′ 0″	4′ 6″	10′ 2″	6′ 0″	64°/67°	1,865	
	Kubota	U17	1.22	3,703	3′ 7.4″	7′ 8″	6′ 3″	12′ 8.4″	8′ 0″	58°/65°	3,417	
	Coyote	CE15	1.46	3,219	—	7′ 1.6″	5′ 0.4″	11′ 11.1″	7′ 1.8″	80°/50°	3,237	
>1.5 TO 2 METRIC TONS OPERATING WEIGHT												
	Coyote	CE15 Extendible Track	1.52	3,351	7′ 8.5″	7′ 8.5″	5′ 9.7″	12′ 6.4″	7′ 7.1″	80°/50°	3,237	
	Wacker Neuson	ET16	1.61	3,564	3′ 1″	7′ 11″	5′ 11″	12′ 6″	8′ 2″	49°/73°	3,192	
	Kato	17VX-3	1.62	3,583	3′ 1″	7′ 0″	5′ 10″	12′ 4″	8′ 5″	80°/55°	5,447	
	Caterpillar	301.7D CR	1.69	3,725	3′ 7″	8′ 2″	5′ 8″	13′ 1″	8′ 5″	57°/65°	3,190	
	Case	CX17C	1.7	3,910	3′ 2″	7′ 3″	4′ 4″	10′ 8″	8′ 5″	54°/70°	3,490	
	Hyundai	R17Z-9A	1.7	3,747	3′ 8″	7′ 7″	6′ 3″	12′ 9″	8′ 7″	54°/70°	3,490	
	Kubota	KX018-4	1.7	3,747	3′ 6.9″	7′ 7″	6′ 7.9″	12′ 9″	7′ 9.7″	60°/75°	3,594	
	New Holland	E17C	1.7	3,910	3′ 2″	7′ 3″	4′ 4″	12′ 6″	8′ 5″	70°/54°	3,490	
	Caterpillar	301.4C	1.71	3,770	3′ 1″	7′ 3″	4′ 10″	11′ 11″	7′ 11″	49°/73°	3,597	
	Hitachi	ZX17U-5	1.71	3,790	3′ 1″	7′ 2″	—	—	8′ 3″	50°/70°	3,597	
	John Deere	17G	1.72	3,790	3′ 1″	7′ 2″	—	—	8′ 3″	50°/70°	3,597	
	Wacker Neuson	EZ17	1.72	3,801	3′ 1″	8′ 2″	6′ 1″	13′ 2″	8′ 4″	57°/65°	4,204	
	Gehl	Z17 GEN:2	1.74	3,836	—	7′ 2.6″	6′ 0″	12′ 2″	8′ 7.5″	65°/42°	3,417	
	Kobelco	SK17SR-5E	1.74	3,836	3′ 1″	7′ 3″	6′ 1″	12′ 2″	8′ 8″	65°/42°	2,833	
	Mustang	170Z NXT2	1.74	3,836	—	7′ 2.6″	6′ 0″	12′ 2″	8′ 7.5″	65°/42°	3,417	
	Yanmar	ViO17-A	1.74	3,836	—	7′ 7″	6′ 1″	12′ 2″	8′ 8″	42°/65°	3,418	
	Sany	SY16C	1.75	3,858	3′ 8″	7′ 9″	7′ 3″	13′ 1″	8′ 8″	51°/64°	3,417	
	Rhino Equipment	REX18	1.8	3,880	—	6′ 6″	10′ 3.6″	11′ 10.8″	6′ 9.6″	180°	2,563	
	Takeuchi	TB216	1.8	3,902	—	7′ 10″	6′ 9.0″	13′ 5″	8′ 10.5″	50°/80°	4,250	
	Takeuchi	TB216H	1.94	4,277	—	7′ 10″	6′ 9.0″	13′ 5″	8′ 10.5″	50°/80°	4,250	

BUCKET	ENGINE			HYDRAULICS		DIMENSIONS			
Bucket capacity, SAE heaped min-max (cu ft)	Engine make	Engine model	Net hp	Total flow of main pumps, implement & swing (gpm)	Max relief valve pressure (psi)	Transport length (ft/in)	Transport height (ft/in)	Transport width (ft/in)	Tail overhang over side (in)
—	Kubota	D722	9.9	5.4	2,346	9′ 6.7″	6′ 8.8″	2′ 5.5″	22″
0.3-0.78	Kubota	D722-E4	10.1	5.6	2,418	9′ 0″	7′ 4″	2′ 10″	10″
0.49-0.95	Yanmar	3TNV74F	13	6	2,465	9′ 0″	4′ 11″	2′ 5″-2′ 10″	12.5″
0.36-0.80	Yanmar	3TNV74F	15.4	5.6	2,466	9′ 3″	4′ 8″	2′ 4″	12″ or 16″
.8-1.3	Yanmar	2TE67L-BV4 Tier IV	10.3	5.2	2,625	8′ 6″	7′ 7″	—	—
.8-1.3	Yanmar	2TE67L-BV4 Tier IV	10.3	5.2	2,625	8′ 6″	7′ 7″	—	—
0.7-1.4	Yanmar	2TE67L-BV4	10.3	5.2	2,625	8′ 6″	7′ 3″	2′ 3″	11.5″
—	Kubota	D722-E4B	11.7	5.9	2,680	9′ 8.3″	7′ 2.2″	2′ 5.4″	—
0.49-0.95	Yanmar	3TNV74F	13	6	2,465	9′ 0″	4′ 11″	2′ 5″-2′ 10″	12.5″
0.3-0.8	Kubota	D722-E4B	9.9	5.3	2,765	9′ 2″	7′ 3″	2′ 3″-3′ 6″	0″
0.49-1.5	Kubota	D902-E4	15.2	12.25	3,129	11′ 7″	7′ 8″	4′ 1″	0″
—	Mitsubishi	L3E	16.1	12.45	2,698	12′ 2.5″	7′ 3.8″	3′ 3.4″	25″
—	Mitsubishi	L3E	16.1	12.45	2,698	12′ 3.2″	7′ 5″	3′ 4.2″	19″
0.87-1.8	Yanmar	3TNV80F	17.7	9.1	2,901	12′ 0″	7′ 7″	3′ 3″	23″
—	Yanmar	3TNV70	13.42	12.2	3,000	11′ 1″	7′ 6″	3′ 3″	1″
0.6-3.11	Yanmar	3TNV80F	17.7	19.3	3,480	11′ 8″	7′ 9″	3′ 3″-4′ 3″	0″
0.04	Kubota	D902 Tier 4 Final	16	13	3,270	11′ 5″	7′ 7″	4′ 3″	0″
1.35	Kubota	D902	15.8	16	3,270	11′ 4″	7′ 7″	3′ 2″	0″
0.49-1.5	Kubota	D902-BH-E4	15.2	12	3,130	12′ 2.1″	7′ 7.7″	4′ 3.2″	16.5″
0.87-1.8	Kubota	D902	15.8	17	3,270	11′ 5″	7′ 7″	3′ 3″	—
0.6-3.11	Yanmar	3TNV80F	17.7	9.2	2,900	12′ 0″	7′ 6″	3′ 3″-4′ 3″	23″
0.6-1.4	Yanmar	3TNV74F	14.5	13.1	—	11′ 6″	7′ 10″	3′ 3″	0″
—	Yanmar	3TNV74F	14.5	—	—	11′ 6″	7′ 10″	4′ 2″	—
0.87-1.8	Yanmar	3TNV80F	17.2	10.5	3,481	11′ 9″	7′ 9″	3′ 3″	0″
—	Yanmar	3TNV74F-SPBV Tier IV	14.5	15.4	2,132	11′ 4″	7′ 6″	—	—
1.77	Yanmar	3 TNV 74	15	15.3	2,987	11′ 4″	7′ 7″	4′ 2″	0″
—	Yanmar	3TNV74F-SPBV Tier IV	14.5	15.4	2,132	11′ 4″	7′ 6″	—	—
1.4-3.2	Yanmar	3TNV74F-SPBV	14.5	12.7	2,986	11′ 4″	7′ 7″	3′ 1″	0″
1.5	Yanmar	3TNV74F	15	12.7	3,553	11′ 7″	7′ 11″	3′ 2″; 4′ 5″	9″
1.4	Yanmar	3TNV82A	25	18	2,321	7′ 9.6″	7′ 4.8″	3′ 7.2″	—
—	Yanmar	3TNV74	15.0	13.45	3,046	12′ 8.3″	7′ 4.8″	3′ 3″	16.7″
—	Yanmar	3TNV74	14.9	13.4	3,046	13′ 6.8″	7′ 4.8″	4′ 2″	27″

			WEIGHT		PERFORMANCE							
	Make	Model	Operating weight (metric tons)	Operating weight (lbs)	Arm (stick) length used for dimensions & forces (ft/in)	Max dig depth (ft/in)	Max depth of vertical wall (ft/in)	Reach @ ground level (ft/in)	Dump height (ft/in)	Boom swing, right/left (deg)	Bucket digging force (lbs)	
>1.5 TO 2 METRIC TONS OPERATING WEIGHT (continued)												
	Volvo	EC20D	1.95	4,300	3′ 5″	7′ 5″	6′ 6″	13′ 0″	8′ 8″	75°/55°	4,107	
	Caterpillar	301.7D	1.98	4,365	3′ 11″	7′ 11″	5′ 4″	12′ 9″	8′ 7″	48°/77°	4,226	
	Bobcat	E20	2.0	4,306	4′ 2″	8′ 6″	6′ 11″	14′ 0″	8′ 8″	60°/80°	4,684	
	Wacker Neuson	ET20	2	4,420	3′ 5″	8′ 10″	6′ 1″	13′ 10″	9′ 4″	48°/77°	4,226	
>2 TO 3 METRIC TONS OPERATING WEIGHT												
	Hyundai	R25Z-9AK	2.43	5,360	3′ 8″	7′ 11″	4′ 9″	14′ 3″	9′ 7″	50°/75°	4,740	
NEW	Kubota	U27-4	2.5	5,625	4′ 3″	9′ 3.6″	7′ 8″	15′ 4″	10′	55°/75°	5,765	
	Volvo	ECR25D	2.5	5,235	3′ 5″	8′ 1″	6′ 11″	14′ 2″	9′ 2″	56°/72°	4,554	
	Bobcat	E26	2.6	5,666	3′ 7″	8′ 10″	5′ 11″	14′ 9″	9′ 9″	60°/60°	4,991	
	Case	CX26C	2.6	5,520	3′ 8″	7′ 11″	4′ 9″	12′ 4″	9′ 7″	50°/75°	4,740	
	New Holland	E26C	2.6	5,850	3′ 8″	7′ 11″	4′ 9″	14′ 3″	9′ 7″	75°/50°	4,740	
	Coyote	CE25	2.65	5,843	—	8′ 6.4″	6′ 1.2″	14′ 10.5″	9′ 11.1″	80°/50°	5,530	
	Sany	SY26U	2.68	5,908	4′ 3″	9′ 3″	8′ 6″	15′ 11″	10′ 2″	64°/46°	5,418	
	Yanmar	ViO25-6A	2.68	5,919	4′ 7″	10′ 4″	8′ 2″	15′ 9″	9′ 1″	47°/74°	5,171	
	Kobelco	SK25SR-6E	2.69	5,930	4′ 1″	9′ 2″	8′ 2″	15′ 7″	9′ 7″	74°/47°	4,546	
NEW	Case	CX30C	2.73	6,020	3′ 8″	8′ 2″	6′ 10″	14′ 0″	9′ 7″	50°/75°	4,520	
NEW	Volvo	EC27D	2.73	6,019	4′ 11″	8′ 2″	8′ 6″	15′ 4″	10′ 6″	53°/72°	5,528	
	Hitachi	ZX26U-5	2.77	6,110	3′ 10″	8′ 6″	—	—	10′ 6″	60°/70°	4,994	
	John Deere	26G	2.77	6,110	3′ 10″	8′ 6″	—	—	10′ 0″	60°/70°	4,994	
	Kato	25V4	2.8	6,175	3′ 7″	8′ 3″	6′ 0.5″	14′ 5″	9′ 6″	50°/80°	5,698	
	Kubota	KX71-3ST4	2.8	6,305	4′ 5.2″	9′ 9″	6′ 5″	16′	10′ 5″	60°/80°	6,350	
	Kubota	KX71-3S	2.8	6,305	4′ 5.2″	9′ 9″	6′ 5″	16′	10′ 5″	80°/60°	6,305	
	Gehl	Z25	2.82	6,217	—	9′ 8″	7′ 9″	15′ 9″	9′ 1.4″	74°/47°	—	
	Mustang	250Z	2.82	6,217	—	9′ 8″	7′ 9″	15′ 9″	9′ 1.4″	74°/47°	—	
	Wacker Neuson	EZ28	2.85	6,283	3′ 5″	9′ 0″	8′ 1″	15′ 4″	9′ 9″	50°/75°	5,058	
	JCB	8029CTS	2.87	6,321	4′ 3″	10′ 0″	6′ 10″	15′ 3″	10′ 7″	60°/45°	5,170	
	Takeuchi	TB230	2.9	6,360	—	9′ 3.6″	7′ 1.2″	15′ 10.9″	10′ 7.2″	58°/78°	6,471	
	Caterpillar	302.7D	2.95	6,500	4′ 1″	8′ 10″	7′ 0″	15′ 4″	10′ 0″	50°/75°	5,058	
	Hyundai	R30Z-9AK	3.0	6,625	3′ 8″	8′ 2″	6′ 10″	14′ 10″	9′ 6″	50°/75°	4,520	
NEW	New Holland	E30C	3.0	6,306	3′ 8″	8′ 2″	6′ 10″	15′ 3″	9′ 7″	75°/50°	4,520	

BUCKET	ENGINE			HYDRAULICS		DIMENSIONS			
Bucket capacity, SAE heaped min-max (cu ft)	Engine make	Engine model	Net hp	Total flow of main pumps, implement & swing (gpm)	Max relief valve pressure (psi)	Transport length (ft/in)	Transport height (ft/in)	Transport width (ft/in)	Tail overhang over side (in)
1-2.75	Volvo	D0.9A	—	12.7	3,045	9′ 4″	7′ 10″	3′ 4″	—
0.6-3.11	Yanmar	3TNV80F	17.7	19.3	2,900	12′ 8″	7′ 6″	3′ 3″-4′ 3″	20.5″
0.5-3.1	Kubota	D722-E4B	13.3	11.0	3,350	12′ 1″	7′ 6.4″	3′ 3″-4′ 6″	0″
0.87-1.8	Yanmar	3TNV80F	17.2	19.3	2,901	13′ 3″	7′ 6″	4′ 3″	23″
2.43-4.86	Kubota	D1305	23.2	12.5	3,130	13′ 3″	8′ 2″	4′ 11″	0″
0.49-3.4	Kubota	D1105-BH	20	20.3	3,129	13′ 6″	7′ 11″	4′ 11″	1.5″
0.097	Volvo	D1.1A	—	17.7	3,626	12′ 11″	8′ 4″	4′ 11″	0″
1.3-2.9	Kubota	V1505-E4B	22.5	21.7	3,480	14′ 2″	7′ 10.9″	5′ 1″	0.0″
0.07	Kubota	D1305 Tier 4 Final	23	14.6	3,410	13′ 3″	8′ 2″	4′ 11″	0″
1.4-2.8	Kubota	D1305	23.2	21.60	3,410	13′ 3″	8′ 2″	4′ 11″	—
—	Mitsubishi	S3L2	25.6	23.6	2,988	14′ 6″	7′ 6.7″	4′ 9.1″	25″
2.1	Yanmar	3TNV80F-SPSY	19.6	19	3,553	14′ 1″	8′ 0″	5′ 1″	0″
1.9-4.8	Yanmar	3TNV80F-SXNBV	20.4	21.4	2,987	13′ 5″	8′ 2″	4′ 11″	0″
2.84	Yanmar	3 TNV 80	20.4	24.4	2,987	13′ 6″	8′ 4″	4′ 11″	0″
0.08	Kubota	Kubota D1305 Tier 4 Final	23.2	12.5	3,410	13′ 9″	8′ 2″	5′ 1″	0″
2.6	Volvo	D1.1A	—	17.2	3,626	12′ 6″	8′ 3″	4′ 5″	—
1.3-4.4	Yanmar	3TNV80F	20	20.1	—	13′ 9″	8′	4′ 11″	0″
—	Yanmar	3TNV80F	20	15.8	—	13′ 9″	8′ 0″	4′ 11″	—
-	Kubota	D1305-E4B	23.6	20.4	3,000	13′ 1″	8′ 1″	5′ 1″	0″
1.9-4.25	Kubota	V1505-BH	23.1	21.8	3,129	14′ 11.1″	7′ 11″	4′ 11″	13.5″
1.9-4.2	Kubota	V1505-BH	24.4	21.8	3,129	14′ 11.1″	7′ 11″	4′ 11″	13.5″
—	Yanmar	3TNV80F Tier 4	19.7	13.6	2,987	13′ 5″	8′ 3.6″	4′ 11.1″	—
—	Yanmar	3TNV80F Tier 4	19.7	13.6	2,987	13′ 5″	8′ 3.6″	4′ 11.1″	—
1.78-6.64	Yanmar	3TNV80F	21.2	23.6	3,263	14′ 0″	7′ 11″	5′ 2″	0″
—	Perkins	403F-15	22.1	25.4	3,408	13′ 5″	7′ 10″	4′ 11″	18″
—	Yanmar	3TNV88F	24.4	24.2	3,046	15′ 0.9″	8′ 3.9″	4′ 9.5″	23″
0.97-6.11	Yanmar	3TNV80F	20.7	23.6	3,263	14′ 1″	7′ 11″	5′ 2″	0″
2.43-4.86	Kubota	D1305	23.2	14.4	3,130	13′ 9″	8′ 2″	5′ 1″	0″
1.5-2.7	Kubota	D1305	23.2	27.1	3,411	13′ 9″	8′ 2″	5′ 1″	5″

			WEIGHT		PERFORMANCE							
	Make	Model	Operating weight (metric tons)	Operating weight (lbs)	Arm (stick) length used for dimensions & forces (ft/in)	Max dig depth (ft/in)	Max depth of vertical wall (ft/in)	Reach @ ground level (ft/in)	Dump height (ft/in)	Boom swing, right/left (deg)	Bucket digging force (lbs)	
>3 TO 3.5 METRIC TONS OPERATING WEIGHT												
	Hitachi	ZX30U-5	3.10	6,850	3′ 10″	9′ 2″	—	—	10′ 6″	62°/72°	6,110	
	Komatsu	PC30MR-5	3.1	6,836	4′ 1″	9′ 1″	7′ 10″	16′ 1″	11′	50°/80°	6,631	
	Caterpillar	303E CR	3.2	7,780	4′ 2″	9′ 0″	6′ 5″	15′ 9″	10′ 4″	50°/80°	6,385	
	Kato	30V4	3.2	7,100	4′ 11″	9′ 4″	8′ 1″	17′ 4″	11′ 1″	50°/80°	7,180	
	Bobcat	E32	3.3	7,183	4′ 4″	10′ 3″	7′ 0″	16′ 4″	11′ 0″	55°/75°	6,968	
	Case	CX33C	3.3	7,110	4′ 3″	9′ 11″	6′ 8″	14′ 3″	10′ 9″	50°/75°	6,900	
	Coyote	CE35	3.3	7,122	—	10′ 3.2″	7′ 6.2″	16′ 7.4″	11′ 7.4″	80°/50°	6,769	
NEW	John Deere	30G	3.3	7,220	3′ 10″	9′ 2″	—	—	9′ 11″	62°/72°	—	
	New Holland	E33C	3.3	7,110	4′ 3″	9′ 11″	6′ 8″	16′ 7″	10′ 9″	75°/50°	6,900	
	New Holland	E30B	3.32	7,319	4′ 4″	9′ 3″	7′ 9″	16′ 6″	11′ 3″	60°/70°	5,418	
	Kubota	KX033-4	3.4	7,420	5′	10′ 6″	7′ 4″	16′ 10″	11′ 7″	70°/48°	8,138	
NEW	Takeuchi	TB235-2	3.4	7,418	—	10′ 7.8″	8′ 2.2″	17′ 2.9″	11′ 9.5″	—	9,127	
	Kobelco	SK30SR-6E	3.47	7,670	4′ 4″	9′ 3″	7′ 9″	17′ 1″	11′ 3″	60°/70°	5,420	
	Bobcat	E35	3.5	7,699	4′ 4″	10′ 3″	7′ 0″	17′ 2″	11′ 0″	55°/75°	6,968	
NEW	Kubota	KX033-4 Angle Blade	3.5	7,781	5′	10′ 6″	7′ 4″	16′ 10″	11′ 7″	70°/48°	8,138	
>3.5 TO 4 METRIC TONS OPERATING WEIGHT												
	Hitachi	ZX35U-5	3.52	7,760	4′ 4″	10′ 0″	—	—	11′ 4″	62°/72°	6,085	
	John Deere	35G	3.52	7,760	4′ 4″	10′ 0″	—	—	11′ 4″	62°/72°	6,085	
	Volvo	EC35D	3.53	7,782	5′ 7″	12′ 3″	9′ 3″	18′ 8″	11′ 6″	56°/76°	7,394	
	Yanmar	ViO35-6A	3.58	7,905	4′ 6″	11′ 3″	8′ 5″	17′ 3″	11′ 2″	43°/65°	7,171	
	Bobcat	E35	3.6	7,909	4′ 4″	10′ 3″	7′ 0″	17′ 2″	11′ 0″	55°/75°	6,968	
	Kubota	U35-4	3.6	8,129	4′ 4.2″	9′ 10.8″	6′ 7.3″	16′ 1.3″	11′ 0.7″	45°/71°	7,924	
	Kubota	U35-4 Angle Blade	3.6	8,129	4′ 4.2″	9′ 8.9″	6′ 7.3″	16′ 11.3″	11′ 0.7″	45°/71°	7,924	
	Coyote	CE35R	3.62	7,980	—	10′ 3″	7′ 6.2″	16′ 8″	10′ 7″	75°/55°	6,767	
	Kato	35N-4	3.62	7,983	4′ 2″	10′ 4″	8′ 0″	16′ 3″	10′ 10″	50°/90°	7,662	
	Hyundai	R35Z-9	3.65	8,050	4′ 3″	10′ 3″	7′ 2″	17′ 1″	11′ 3″	50°/75°	6,900	
	Kato	35V4	3.67	8,100	5′ 2″	11′ 1″	9′ 0″	18′ 2″	11′ 7″	50°/80°	7,688	
	Case	CX37C	3.7	7,990	4′ 3″	10′ 3″	7′ 2″	14′ 11″	11′ 3″	50°/75°	6,900	
	Komatsu	PC35MR-5	3.7	8,324	5′ 8″	11′ 4″	10′ 3″	18′ 1″	12′ 5″	55°/75°	6,721	
	New Holland	E37C	3.7	8,300	4′ 3″	10′ 3″	7′ 2″	17′ 1″	11′ 3″	75°/50°	6,900	
	Gehl	Z35 Gen:2	3.72	8,214	—	10′ 8″	7′ 11″	17′ 3.5″	11′ 2″	75°/45°	5,643	
	Mustang	350Z NXT2	3.72	8,214	—	10′ 8″	7′ 11″	17′ 3.5″	11′ 2″	75°/45°	5,643	
	New Holland	E35B	3.72	8,212	4′ 4″	10′	8′ 1″	17′ 1″	11′ 5″	60°/70°	5,418	

BUCKET	ENGINE			HYDRAULICS		DIMENSIONS			
Bucket capacity, SAE heaped min-max (cu ft)	Engine make	Engine model	Net hp	Total flow of main pumps, implement & swing (gpm)	Max relief valve pressure (psi)	Transport length (ft/in)	Transport height (ft/in)	Transport width (ft/in)	Tail overhang over side (in)
1.3-4.4	Yanmar	3TNV88F-EPHB	23	20.2	—	14′ 7″	8′ 2″	5′ 1″	0″
1.78-5.31	Komatsu	3D88E-7	24.4	18.3	3,118	15′ 0″	8′ 3″	5′ 1″	0.6″
1.7-8.2	Cat	C1.3	23.5	23.1	3,553	14′ 8″	8′ 2″	5′ 1″	5″
—	Yanmar	3TNV88	22.8	25.8	3,554	14′ 6″	8′ 1″	5′ 1″	0″
1.8-6.2	Kubota	D1703-M-DI-E4B	24.1	26.7	3,553	15′ 3″	8′	5′ 1″	13.8″
0.09	Yanmar	3TNV88F-ESHYB Tier 4 F	24	19.8	3,560	15′ 3″	8′ 2″	5′ 1″	0″
—	Mitsubishi	S3L2	28.6	28.8	2,987	16′ 5″	7′ 7.9″	5′ 2.2″	24″
—	Yanmar	3TNV88F	23	20.2	—	14′ 7″	8′ 2″	5′ 1″	—
2.2-6.4	Yanmar	3TNV88F	23.7	27.70	3,560	15′ 3″	8′ 2″	5′ 1″	4″
2.2-6.4	Yanmar	3TNV88F-E Tier 4 Final	23.1	20.3	3,336	15′ 6″	8′ 3″	5′ 1″	—
1.9-6.6	Kubota	D1703M-DI-4	23.9	26.5	3,553	15′ 6″	8′ 1″	5′ 1″	18.7″
—	Yanmar	3TNV88F	24.4	28.6	3,553	16′ 0.9″	8′ 2.8″	5′ 2.2″	—
3.18	Yanmar	3 TNV 88	23	20	3,335	15′ 6″	8′ 3″	5′ 1″	0″
1.8-6.2	Kubota	D1703-M-DI-E4B	24.1	26.7	3,553	15′ 10″	8′	5′ 10″	0″
1.9-6.6	Kubota	D1703M-DI-4	23.9	26.5	3,553	15′ 6″	8′ 1″	5′ 1″	18.7″
1.3-5.9	Yanmar	3TNV88F	23.3	26.2	—	15′ 3″	8′ 2″	5′ 1″	0″
—	Yanmar	3TNV88F	23.3	36.4	—	15′ 3″	8′ 2″	5′ 9″	—
3.24	Volvo	D1.7A	—	27.2	3,481	17′ 10″	8′ 2″	5′ 10″	—
1.9-4.8	Yanmar	3TNV88F-ESBV	24.4	26.5	3,205	15′ 8″	8′ 1″	5′ 9″	0″
1.8-6.2	Bobcat	1.8L Bobcat	31.2	29.1	3,553	15′ 10″	8′	5′ 10″	0″
1.9-4.25	Kubota	D1703M-DI-E4	23.9	26.5	3,556	15′ 7″	8′ 1.2″	5′ 6.9″	2.01″
1.9-4.25	Kubota	D1703M-DI-E4	23.9	26.5	3,556	15′ 7″	8′ 1.2″	5′ 6.9″	2.01″
—	Mitsubishi	S3L2	27.0	28.8	2,987	15′ 4″	8′ 1″	5′ 6.0″	12″
—	Yanmar	3TNV88F	26.7	27.7	2,987	16′ 2″	8′ 1″	5′ 1″	25″
0.14	Yanmar	3TNV88F	23.7	26.5	3,270	15′ 9″	8′ 2″	5′ 9″	0″
—	Yanmar	3TNV88	27.8	25.8	3,554	15′ 0″	8′ 1″	5′ 10″	0″
0.11	Yanmar	3TNV88F-ESHYB Tier 4 F	24	19.8	3,560	15′ 9″	8′ 2″	5′ 9″	0″
1.78-5.31	Komatsu	3D88E-7	24.4	18.3	3,118	15′ 10″	8′ 3″	5′ 9″	6.8″
2.2-6.4	Yanmar	3TNV88F	23.7	27.70	3,560	15′ 9″	8′ 2″	5′ 9″	—
—	Yanmar	3TNV88F-ESBV Tier IV	23.9	29.4	3,060	15′ 8″	8′ 1″	—	—
—	Yanmar	3TNV88F-ESBV Tier IV	23.9	29.4	3,060	15′ 8″	8′ 1″	—	—
2.2-6.4	Yanmar	3TNV88F-E Tier 4 Final	23.1	17.9	3,336	15′ 9″	8′ 3″	5′ 7″	—

			WEIGHT		PERFORMANCE							
	Make	Model	Operating weight (metric tons)	Operating weight (lbs)	Arm (stick) length used for dimensions & forces (ft/in)	Max dig depth (ft/in)	Max depth of vertical wall (ft/in)	Reach @ ground level (ft/in)	Dump height (ft/in)	Boom swing, right/left (deg)	Bucket digging force (lbs)	
>3.5 TO 4 METRIC TONS OPERATING WEIGHT (continued)												
	Wacker Neuson	3503	3.73	7,941	4′ 5″	11′ 7″	7′ 9″	18′ 0″	12′ 6″	45°/80°	6,812	
	Sany	SY35U	3.78	8,333	4′ 7″	10′ 2″	8′ 10″	17′ 11″	11′ 4″	64°/51°	6,834	
	Caterpillar	303.5E CR	3.8	8,540	5′ 1″	10′ 5″	8′ 1″	17′ 5″	11′ 11″	50°/80°	7,420	
	Caterpillar	303.5E2	3.8	8,540	5′ 1″	10′ 5″	8′ 1″	17′ 5″	11′ 11″	50°/80°	7,420	
	LiuGong	9035EZTS	3.8	8,510	4′ 4″	10′ 1″	8′ 3″	17′ 3″	10′ 10″	60°/55°	4,496	
	Wacker Neuson	EZ38	3.85	8,488	4′ 11″	11′ 0″	8′ 7″	17′ 10″	11′ 4″	55°/70°	7,194	
	Kobelco	SK35SR-6E	3.88	8,555	4′ 6″	10′ 0″	8′ 1″	17′ 7″	11′ 5″	60°/70°	7,216	
	Takeuchi	TB240	3.9	8,570	—	11′ 4.4″	8′ 8.9″	18′ 2.3″	12′ 6.7″	58°/76°	9,959	
	Volvo	ECR40D	3.9	8,554	5′ 7″	11′ 3″	9′ 3″	18′ 8″	11′ 6″	76°/56°	7,394	
>4 TO 5 METRIC TONS OPERATING WEIGHT												
	Caterpillar	304E2 CR	4.07	8,980	5′ 4″	11′ 2″	8′ 4″	17′ 11″	12′ 1″	50°/80°	8,500	
	Caterpillar	304.5E2 XTC	4.10	9,040	5′ 4″	11′ 2″	8′ 4″	17′ 11″	12′ 1″	50°/80°	8,500	
	Kubota	KX040-4	4.1	9,195	5′ 3″	11′ 3.6″	7′ 4.8″	17′ 10.8″	12′ 9.5″	55°/70°	9,535	
	Bobcat	E42	4.2	9,246	4′ 7″	10′ 6″	8′ 1″	17′ 3″	12′ 3″	50°/75°	9,183	
	Rhino Equipment	REX35	4.2	8,377	—	10′ 1″	9′ 9.6″	16′ 8.4″	11′ 6″	—	4,946	
	XCMG	XE35U	4.2	9,259	—	9′ 11.34″	7′ 4.14″	—	12′ 2.64″	50°/75°	6,204	
	Kubota	KX040-4 Angle Blade	4.3	9,545	5′ 3″	11′ 2.6″	7′ 4.8″	17′ 9″	12′ 9.5″	55°/70°	9,535	
	Coyote	CE45	4.46	9,834	—	11′ 9.1″	9′ 3.8″	18′ 5.6″	12′ 7.9″	80°/50°	9,922	
NEW	JCB	45Z-1	4.48	9,879	4′ 9″	11′ 7″	6′ 5″	18′ 8″	13′ 1″	70°/55°	8,543	
	Kubota	KX040-4 6-in-1 Blade	4.5	9,900	5′ 3″	11′ 2.6″	7′ 4.8″	17′ 9″	12′ 9.5″	55°/70°	9,535	
	Bobcat	E45	4.6	10,077	4′ 7″	10′ 10″	8′ 4″	18′ 7″	11′ 11″	50°/75°	7,650	
	Kobelco	SK45SRX-6E	4.67	10,300	5′ 1″	11′ 3″	9′ 3″	19′ 2″	13′ 5″	59°/70°	6,990	
	Yanmar	ViO45-6A	4.72	10,417	4′ 9″	12′ 3″	9′ 7″	18′ 10″	12′ 1″	68°/68°	8,858	
	Hitachi	ZX50U-5	4.79	10,560	4′ 6″	11′ 7″	—	—	13′ 4″	60°/80°	8,267	
	JCB	48Z-1	4.79	10,564	4′ 9″	11′ 7″	6′ 5″	18′ 8″	13′ 1″	70°/55°	8,543	
	Bobcat	E50	4.8	10,677	5′ 0″	11′ 7″	9′ 3″	19′ 6″	12′ 9″	50°/75°	8,977	
	Gehl	Z45 GEN:2	4.9	10,814	—	11′ 7.8″	7′ 9.7″	18′ 10″	12′ 1″	68°/68°	6,497	
	Kato	45V4	4.9	10,802	5′ 3″	11′ 8″	8′ 8″	19′ 7″	12′ 6″	50°/90°	9,854	
	Komatsu	PC45MR-5	4.9	11,001	5′ 7″	11′ 11″	10′ 1″	19′ 4″	13′ 2″	50°/85°	7,628	
	Mustang	450Z NXT2	4.9	10,814	—	11′ 7.8″	7′ 9.7″	18′ 10″	12′ 1″	68°/68°	6,497	
	John Deere	50G	4.92	10,847	4′ 6″	11′ 7″	—	—	13′ 4″	60°/80°	8,267	

BUCKET	ENGINE			HYDRAULICS		DIMENSIONS			
Bucket capacity, SAE heaped min-max (cu ft)	Engine make	Engine model	Net hp	Total flow of main pumps, implement & swing (gpm)	Max relief valve pressure (psi)	Transport length (ft/in)	Transport height (ft/in)	Transport width (ft/in)	Tail overhang over side (in)
1.78-6.64	Perkins	404F-22	40.0	30.1	3,481	17′ 1″	7′ 10″	5′ 4″	23″
1.9-6.0	Yanmar	3TNV88F-ESSY	24.4	23	3,553	16′ 2″	8′ 3″	5′ 8″	0″
1.7-8.2	Cat	C1.8	31.6	23.1	3,553	15′ 8″	8′ 2″	5′ 10″	0″
1.7-8.2	Cat	C1.7	23.5	27.4	3,553	15′ 8″	8′ 2″	5′ 10″	0″
2.5-3.9	Yanmar Tier 4	3TNV88F-ESLY	23.2	24.4	3,553	15′ 9″	8′ 2″	5′ 7″	0″
1.78-6.64	Yanmar	3TNV88F	24.4	31.1	3,481	15′ 9″	8′ 2″	5′ 9″	0″
3.88	Yanmar	3 TNV 88	23.1	28.2	3,335	15′ 10″	8′ 3″	5′ 7″	0″
—	Yanmar	4TNV88C	35.8	30.6	3,481	16′ 8.2″	8′ 2.6″	5′ 8.5″	19.5″
0.07-0.2	Volvo	D1.7A	—	27.2	3,481	15′ 8″	8′ 2″	5′ 10″	—
1.7-8.2	Cat	C2.4	40.2	25.1	3,553	16′ 2″	8′ 2″	6′ 4″	0″
1.7-8.2	Cat	C2.4	40.2	25.1	3,553	16′ 2″	8′ 2″	6′ 4″	0″
1.9-6.6	Kubota	D1803-CR-TE4	40.9	24.4	3,556	16′ 8.2″	8′ 1.8″	5′ 6.9″	17.7″
1.8-6.2	Bobcat	2.4L Bobcat	40.9	26.2	3,625	16′ 8″	8′ 2.7″	5′ 8.8″	16.9″
4.2	Yanmar	4TNV88-BSBKC	34	24.2	3,697	16′ 4.6″	8′ 0″	5′ 3″	—
0.14	Yanmar	3TNV88F	24.4	24.31	3,191	16′ 1.44″	8′ 3.45″	5′ 7.86″	—
1.9-6.6	Kubota	D1803-CR-TE4	40.9	24.4	3,556	16′ 8.2″	8′ 1.8″	5′ 6.9″	17.7″
—	Kubota	V2403	43.3	43.1	3,129	18′ 6.6″	8′ 0.1″	6′ 0.8″	24″
—	JCB by Kohler	KDI 1903 T4F	44.8	33.3	3,133	17′ 6″	8′ 4″	6′ 4″	0″
1.9-6.6	Kubota	D1803-CR-TE4	40.9	24.4	3,556	16′ 8.2″	8′ 1.8″	5′ 6.9″	17.7″
2.7-9.3	Bobcat	2.4L Bobcat	40.9	26.2	3,625	17′ 7″	8′ 3.6″	6′ 5.2″	0″
4.94	Yanmar	4 TNV 88	37	26.4	3,335	17′ 4″	8′ 4″	6′ 5″	7.5″
2.3-7.4	Yanmar	4TNV88C-PBV	39	32.1	3,547	17′ 5″	8′ 4″	6′ 4.5″	0″
2.1-8.3	Yanmar	4TNV88C	35.9	31.7	—	17′ 11″	8′ 4″	6′ 1″	0″
—	JCB by Kohler	KDI 1903 T4F	44.8	33.3	3,133	17′ 6″	8′ 4″	6′ 4″	0″
2.7-9.3	Bobcat	2.4L Bobcat	47.7	36.6	3,625	18′ 3″	8′ 3.6″	6′ 5.2″	0.6″
—	Yanmar	4TNV88C-PBV Tier IV	37.7	35.1	3,133	17′ 5.4″	8′ 4″	—	—
—	Kubota	V2403DI	44	43.4	3,554	17′ 3″	8′ 4″	6′ 5″	0″
3.0-6.3	Komatsu	4D88E-7	38	40.1	3,844	17′ 6″	8′ 4″	6′ 5″	3.1″
—	Yanmar	4TNV88C-PBV Tier IV	37.7	35.1	3,133	17′ 5.4″	8′ 4″	—	—
—	Yanmar	4TNV88C	35.9	54.8	—	17′ 11″	8′ 4″	6′ 7″	—

			WEIGHT		PERFORMANCE							
	Make	Model	Operating weight (metric tons)	Operating weight (lbs)	Arm (stick) length used for dimensions & forces (ft/in)	Max dig depth (ft/in)	Max depth of vertical wall (ft/in)	Reach @ ground level (ft/in)	Dump height (ft/in)	Boom swing, right/left (deg)	Bucket digging force (lbs)	
>5 TO 6 METRIC TONS OPERATING WEIGHT												
	New Holland	E55Bx	5.13	11,309	5′ 6″	12′ 9″	10′ 3″	20′ 0″	14′ 3″	60°/70°	6,992	
	Komatsu	PC55MR-5	5.2	11,618	5′ 5″	12′ 4″	9′ 11″	19′ 11″	13′ 9″	50°/85°	8,774	
	Wacker Neuson	EZ53	5.24	11,554	4′ 9″	12′ 4″	9′ 6″	20′ 0″	12′ 7″	61°/65°	8,565	
	Caterpillar	305E2 CR	5.28	11,645	5′ 9″	12′ 0″	8′ 7″	19′ 0″	12′ 10″	50°/80°	10,050	
	Kato	55V4	5.35	11,800	6′ 1″	12′ 6″	9′ 7″	20′ 4″	13′ 0″	50°/90°	10,850	
	JCB	55Z-1	5.36	11,860	5′ 1″	12′ 7″	6′ 8″	19′ 8″	14′ 0″	70°/55°	9,442	
	Kobelco	SK55SRX-6E	5.38	11,860	5′ 5″	12′ 10″	10′ 4″	20′ 6″	14′ 3″	59°/70°	11,128	
	Yanmar	ViO55-6A	5.38	11,850	5′ 5″	13′ 6″	9′ 7″	20′ 2″	13′ 3″	68°/68°	10,184	
	Coyote	CE55	5.4	11,905	—	12′ 3″	9′ 6″	19′ 0″	12′ 7.9″	80°/50°	9,922	
	Kubota	U55-4	5.4	11,915	5′ 2″	11′ 1.2″	4′ 11.6″	19′ 6″	13′ 2.3″	55°/70°	11,177	
	Kubota	U55-4 Angle Blade	5.4	11,915	5′ 2″	11′ 10″	4′ 11.6″	19′ 6″	13′ 2.3″	55°/70°	11,177	
	Sany	SY50	5.40	11,905	4′ 11″	11′ 3″	8′ 1″	19′ 3″	12′ 6″	54°/58°	7,306	
	JCB	57C-1	5.48	12,087	5′ 11″	13′ 4″	7′ 4″	20′ 1″	14′ 7″	70°/55°	9,442	
	Kubota	KX057-4	5.5	12,200	6′ 0″	12′ 9.6″	5′ 7″	20′	13′ 9″	55°/70°	11,177	
	Kubota	KX057-4 Angle Blade	5.5	12,200	6′ 0″	12′ 8.2″	5′ 7″	20′	13′ 9″	55°/70°	11,177	
	Takeuchi	TB260	5.5	12,125	—	12′ 9.4″	9′ 9.4″	20′ 6.9″	13′ 10.1″	55°/78°	12,756	
	Gehl	Z55	5.55	12,247	—	12′ 9.5″	8′ 4.8″	20′ 1.7″	13′ 3.4″	68°/68°	7,464	
	Mustang	550Z	5.55	12,247	—	12′ 9.5″	8′ 4.8″	20′ 1.7″	13′ 3.4″	68°/68°	7,464	
	Caterpillar	305.5E2 CR	5.56	12,250	6′ 0″	12′ 8″	8′ 11″	19′ 9″	13′ 5″	50°/80°	11,445	
	Bobcat	E55	5.6	12,004	6′ 4″	12′ 10″	10′ 6″	20′ 0″	13′ 7″	50°/75°	8,977	
	Kato	55N4	5.64	12,447	6′ 1″	13′ 5″	10′ 9″	21′ 0″	13′ 7″	50°/90°	11,071	
	Hyundai	R55-9A	5.65	12,460	5′ 3″	12′ 6″	10′ 6″	19′ 9″	13′ 3″	50°/80°	9,550	
	Case	CX57C	5.7	12,050	5′ 3″	12′ 6″	10′ 6″	17′ 0″	13′ 3″	50°/80°	9,550	
	Kato	60V4	5.7	12,595	6′ 1″	13′ 3″	10′ 6″	21′ 2″	13′ 9″	50°/80°	12,100	
	New Holland	E57C	5.7	12,050	5′ 3″	12′ 6″	10′ 6″	19′ 9″	13′ 3″	80°/50°	9,550	
	Volvo	ECR58D	5.8	12,830	5′ 1″	11′ 7″	7′ 7″	19′ 2″	13′ 3″	70°/60°	7,780	
	Volvo	EC60E	5.8	12,830	5′ 3″	12′ 2″	9′ 6″	19′ 7″	13′ 7″	70°/60°	9,720	
	LiuGong	906D	5.9	13,007	5′ 3″	12′ 9″	9′ 8″	19′ 11″	13′ 7″	—	9,217	
	Case	CX60C	6	12,940	4′ 10″	11′ 9″	10′ 0″	16′ 8″	12′ 10″	50°/70°	9,190	
	New Holland	E60C	6.0	12,940	4′ 10″	11′ 9″	10′ 0″	24′ 11″	12′ 10″	70°/50°	9,190	

	BUCKET	ENGINE			HYDRAULICS		DIMENSIONS			
	Bucket capacity, SAE heaped min-max (cu ft)	Engine make	Engine model	Net hp	Total flow of main pumps, implement & swing (gpm)	Max relief valve pressure (psi)	Transport length (ft/in)	Transport height (ft/in)	Transport width (ft/in)	Tail overhang over side (in)
	3.0-7.8	Yanmar	4TNV88C- PYB Tier 4 Final	37.4	26.36	3,336	18′ 0″	8′ 3″	6′ 5″	11.7″
	3.0-6.3	Komatsu	4D88E-7	38	40.1	3,844	18′ 3″	8′ 4″	6′ 5″	3.1″
	3.0-9.8	Perkins	404F-22T	58.9	28.4	3,336	18′ 1″	8′ 5″	6′ 6″	0″
	2.1-11.7	Cat	C2.4	40.2	35.2	3,553	17′ 4″	8′ 4″	6′ 6″	4″
	—	Kubota	V2403DI	44	43.4	3,554	17′ 6″	8′ 4″	6′ 5″	0″
	—	JCB by Kohler	KDI 1903 T4F	44.8	33.3	3,133	18′ 1″	8′ 4″	6′ 4″	0″
	5.64	Yanmar	4 TNV 88	37.4	38.2	3,335	18′ 1″	8′ 4″	6′ 5″	11.4″
	2.3-7.4	Yanmar	4TNV88CT-PBV	47.6	33.7	3,547	18′ 4″	8′ 4″	6′ 6″	0″
	—	Kubota	V2403	43.3	45.8	3,129	19′ 0″	8′ 3″	6′ 0″	24″
	3.0-8.5	Kubota	V2607-CR-E4	47.6	39.4	3,980	18′ 1″	8′ 4.4″	6′ 5.2″	2.6″
	3.0-8.5	Kubota	V2607-CR-E4	47.6	39.4	3,980	18′ 1″	8′ 4.4″	6′ 5.2″	2.6″
	3.5-6.7	Yanmar	4TNV88C-PSY	39.0	29	3,553	17′ 8″	8′ 8″	6′ 5″	0″
	—	JCB by Kohler	KDI 1903 T4F	44.8	33.3	3,133	18′ 0″	8′ 4″	6′ 4″	13″
	3.0-8.5	Kubota	V2607-CR-E4	47.6	39.4	3,980	18′ 1.3″	8′ 4.4″	6′ 5.2″	2.6″
	3.0-8.5	Kubota	V2607-CR-E4	45.2	39.4	3,980	18′ 1.3″	8′ 4.4″	6′ 5.2″	2.6″
	—	Yanmar	4TNV86CT	47.6	45.3	3,480	18′ 2.5″	8′ 5.4″	6′ 6.7″	11.9″
	—	Yanmar	4TNV86CT Tier IV	44.9	36.9	3,553	18′ 3.7″	8′ 4″	—	—
	—	Yanmar	4TNV86CT	44.9	36.9	3,553	18′ 3.7″	8′ 4″	—	—
	2.1-11.7	Cat	C2.4	44.1	38.4	3,553	17′ 11″	8′ 4″	6′ 6″	6″-10″
	2.7-9.3	Bobcat	2.4L Bobcat	47.7	36.6	3,625	17′ 2″	8′ 4″	6′ 5.2″	13.4″
	—	Yanamr	4TNV98C-PIK	63.8	46.3	3,000	19′ 3″	8′ 5″	6′ 7″	28″
	2.43-6.48	Yanmar	4TNV98C	65.1	38.7	3,130	19′ 4″	8′ 4″	6′ 4″	28″
	0.18	Yanmar	4TNV98C Tier 4 Final	65	30.6	3,410	19′ 4″	8′ 4″	6′ 4″	27″
	—	Kubota	V2403DI	44	43.4	3,554	18′ 1″	8′ 4″	6′ 5″	0″
	3.0-9.8	Yanmar	4TNV98C	65.1	42.50	3,410	19′ 4″	8′ 4″	6′ 2″	19″
	0.08-0.24	Volvo	D2.6H	47	33	3,410	18′ 3″	8′ 7″	6′ 7″	0″
	0.09-0.35	Volvo	D2.6H	57	32	3,270	19′ 0″	8′ 6″	6′ 4″	—
	6.3-11.3	Yanmar Tier 4	4TNV94L-BVLY	45.2	40.1	3,553	13′ 7″	8′ 8″	6′ 3″	28″
	0.18	Yanmar	4TNV98C Tier 4 Final	63	29	3,410	18′ 3″	8′ 4″	6′ 6″	3″
	3.0-9.8	Yanmar	4TNV98C	63	40.50	3,410	18′ 3″	8′ 4″	6′ 6″	3.5″

			WEIGHT		PERFORMANCE							
	Make	Model	Operating weight (metric tons)	Operating weight (lbs)	Arm (stick) length used for dimensions & forces (ft/in)	Max dig depth (ft/in)	Max depth of vertical wall (ft/in)	Reach @ ground level (ft/in)	Dump height (ft/in)	Boom swing, right/left (deg)	Bucket digging force (lbs)	
>6 TO 8 METRIC TONS OPERATING WEIGHT												
	Wacker Neuson	ET65	6.08	13,399	6′ 6″	13′ 6″	8′ 9″	21′ 0″	13′ 5″	63°/67°	11,398	
	Hyundai	R60CR-9A	6.1	13,450	4′ 10″	11′ 9″	10′ 0″	19′ 9″	12′ 11″	50°/70°	9,190	
	Sany	SY60	6.10	13,448	5′ 7″	13′ 0″	10′ 5″	20′ 7″	13′ 4″	40°/75°	10,116	
	Hitachi	ZX60USB-5	6.14	13,547	4′ 11″	12′ 4″	—	—	13′ 8″	60°/80°	9,237	
	John Deere	60G	6.15	13,547	4′ 11″	12′ 4″	—	—	13′ 8″	60°/80°	9,237	
	Doosan	DX63-3	6.25	13,779	6′ 3″	13′ 6″	11′ 3″	20′ 5″	13′ 11″	50°/70°	9,731	
	Bobcat	E63	6.3	13,779	6′ 3″	13′ 6″	11′ 3″	20′ 5″	14′ 0″	50°/70°	9,731	
	JCB	67C-1	6.69	14,740	6′ 7″	13′ 4″	9′ 7″	21′ 2″	13′ 10″	60°/60°	10,611	
	Rhino Equipment	REX70	6.8	14,991	—	13′ 2.9″	11′ 5″	10′ 0″	23′ 6″	—	11,684	
	Sany	SY75C	7.28	16,050	6′ 9″	14′ 7″	13′ 7″	21′ 4″	18′ 0″	—	10,836	
	Caterpillar	307E2	7.38	16,270	5′ 6″	13′ 4″	11′ 11″	20′ 3″	17′	—	11,375	
	Case	CX75C SR	7.43	16,200	5′ 7″	13′ 7″	11′ 11″	20′ 7″	17′ 4″	—	12,800	
	Coyote	CE75	7.75	16,600	5′ 5.4″	13′ 2.3″	10′ 9.7″	21′ 4.9″	14′ 9.4″	—	—	
	Kobelco	SK75SR-3E	7.76	17,100	5′ 7″	13′ 8″	14′ 3″	21′ 3″	17′ 6″	—	14,658	
	Link-Belt	75X3 MSR (Tier 4 Final)	7.90	17,400	5′ 7″	13′ 7″	11′ 11″	20′ 7″	17′ 4″	—	12,800	
>8 TO 10 METRIC TONS OPERATING WEIGHT												
	Komatsu	PC78US10	8.05	17,747	7′ 5″	15′ 5″	13′ 1″	22′ 3″	18′ 3″	—	11,982	
	Hitachi	ZX75US-5	8.142	17,952	6′ 11″	15′ 1″	13′ 10″	22′ 2″	18′ 1″	—	10,476	
	Kubota	KX080-4s	8.2	18,280	6′ 10.7″	15′ 1.1″	12′ 7.6″	23′ 6.3″	17′ 2.7″	60°/70°	14,660	
	Kato	85V4	8.21	18,770	6′ 10″	15′ 1′	15′ 2″	22′ 9″	11′ 13″	50°/80°	14,730	
	Gehl	Z80 GEN:2	8.22	18,136	—	14′ 4.4″	12′ 10.3″	23′ 5.1″	15′ 2.7″	57°/60°	8,356	
	Mustang	800Z NXT2	8.22	18,136	—	14′ 4.4″	12′ 10.3″	23′ 5.1″	15′ 2.7″	57°/60°	8,356	
	Yanmar	ViO80-1A	8.23	18,136	5′ 5″	15′ 4″	12′ 11″	23′ 5″	15′ 2″	57°/60°	15,849	
	Hyundai	R80CR-9A	8.25	18,190	5′ 6″	13′ 7″	11′ 9′	22′ 5″	15′ 6″	—	10,890	
	John Deere	75G	8.27	18,221	6′ 11″	15′ 1″	13′ 10″	22′ 2″	18′ 1″	—	10,476	
	Link-Belt	75X3 MSR Offset Boom	8.28	18,300	5′ 9″	13′ 11″	10′ 11″	20′ 10″	17′ 5″	—	12,800	
	JCB	85Z-1	8.3	18,298	6′ 11″	12′ 2″	9′ 8″	22′ 6″	16′ 6″	55°/60°	12,837	
	Caterpillar	308E2 CR SB	8.42	18,560	7′ 3″	15′ 5″	11′ 8″	24′ 1″	16′ 5″	50°/60°	13,534	
	Kobelco	SK85CS-3E	8.49	18,700	6′ 2″	13′ 9″	12′ 8″	23′ 9″	16′ 2″	67°/62°	14,658	
	Takeuchi	TB280FR	8.5	18,810	—	14′ 11″	11′ 5.5″	23′ 7.2″	14′ 8.4″	30°/15°	16,335	
	Takeuchi	TB290	8.5	18,630	—	15′ 0″	12′ 6.4″	24′ 5″	17′ 3.1″	70°/60°	16,565	
	Link-Belt	80X3 Spin Ace (Tier 4 Final)	8.59	18,900	5′ 7″	13′ 9″	10′ 11″	22′ 9″	14′ 10″	—	12,800	
	Link-Belt	80X3 MSR Swing Boom	8.59	18,900	5′ 7″	13′ 9″	10′ 11″	22′ 9″	14′ 10″	—	12,800	

BUCKET	ENGINE			HYDRAULICS		DIMENSIONS			
Bucket capacity, SAE heaped min-max (cu ft)	Engine make	Engine model	Net hp	Total flow of main pumps, implement & swing (gpm)	Max relief valve pressure (psi)	Transport length (ft/in)	Transport height (ft/in)	Transport width (ft/in)	Tail overhang over side (in)
3.0-9.8	Perkins	404F-22T	58.6	45.6	3,481	20′ 2″	8′ 2″	6′ 5″	17″
2.43-6.48	Yanmar	4TNV98C	63	40.8	3,130	18′ 4″	8′ 4″	6′ 7″	4″
3.5-9.9	Yanmar	4TN98C	57.0	68	3,553	19′ 9″	9′ 3″	6′ 7″	25″
5.1-12.5	Yanmar	4TNV98C	53	38.0	—	18′ 11″	8′ 4″	6′ 7″	16.1″
—	Yanmar	4TNV98C	53	62.2	—	18′ 11″	8′ 4″	6′ 7″	—
2.2 -7.1	Yanmar	4TNV98C	58.6	34.9	3,625	18′ 7″	7′ 9″	6′ 5″	11.6″
2.7-9.3	Yanmar	4TNV98C	59.4	34.9	3,625	18′ 8″	8′ 4.4″	6′ 6″	11.6″
—	JCB by Kohler	KDI 1903 T4F	51.5	38	3,626	18′ 4″	8′ 6″	6′ 7″	15″
13.1	Cummins	B3.3	60	40.68	3,911	20′ 0″	8′ 3″	7′ 2.4″	—
3.0-12.2	Isuzu	AU-4LE2X	58	75	3,413	20′ 0″	8′ 11″	7′ 3″	25″
3.4-18.4	Cat	C2.4	50.6	36.5	4,133	19′ 11″	8′ 8″	7′ 3″	26″
0.21-0.59	Isuzu	AP-4LE2X Tier 4 Final	55	39	4,264	18′ 11″	9′ 1″	7′ 7″	0″
—	Mitsubishi	54S	55.5	53.7	3,698	20′ 6.3″	8′ 3.6″	7′ 2″	20″
3.78-12.42	Isuzu	4LE2X	55	47.2	4,260	19′ 2″	8′ 6″	8′ 0″	2.6″
0.24-0.71	Isuzu	AP-4LE2X	54	39.2	4,260	20′ 10″	9′ 1″	7′ 7″	2.5″
3.17-7.06	Komatsu	SAA4D95LE-6	65.5	42.2	3,844	20′ 7″	9′ 8″	7′ 8″	9″
0.31-0.64	Yanmar	4TNV98C	56.9	53	—	20′ 11″	8′ 10″	8′ 1″	2″
6.5-13.5	Kubota	V3307-DI-T4	62.3	44.6	3,974	21′ 2.9″	8′ 4″	7′ 2.6″	14″
—	Yanmar	4TNV98C	56.32	54.2	3,000	20′ 1″	8′ 9″	7′ 3″	3″
5.67-12.15	Yanmar	4TNV98C-WBV Tier IV	55.7	56.7	3,699	21′ 2.3″	8′ 9.9″	—	—
5.67-12.15	Yanmar	4TNV98C-WBV Tier IV	55.7	56.7	3,699	21′ 2.3″	8′ 9.9″	—	—
5.67-12.15	Yanmar	4TNV98C-WBV	56.9	51.3	3,698	21′ 2″	8′ 10″	7′ 5″	0″
4.86-9.99	Yanmar	4TNV98C	65.1	52.8	3,980	20′ 3″	8′ 8″	7′ 7″	4.5″
0.31-0.64	Yanmar	4TNV98C	56.9	53	—	20′ 11″	8′ 10″	8′ 1″	—
0.24-0.71	Isuzu	AP-4LE2X	54	39.2	4,260	21′ 4″	9′ 1″	7′ 7″	2″
—	JCB by Kohler	KDI 2504 T4F	60.8	41.8	4,351	19′ 2″	8′ 11″	7′ 7″	0″
3.4-18.4	Cat	C3.3B	65	36.5	4,133	20′ 10″	8′ 4″	7′ 7″	11″-16″
6.48-9.99	Isuzu	4LE2X	55	47.2	4,260	22′ 1″	8′ 6″	8′ 0″	16.7″
—	Yanmar	4TNV98CT	69.2	52.5	3,990	20′ 7.4″	8′ 11.4″	7′ 7″	4.8″
—	Yanmar	4TNV98CT	69.2	62.5	3,990	21′ 10.3″	8′ 4.5″	7′ 7″	19.5″
0.24-0.71	Isuzu	AU-4LE2X	54	39.2	4,260	21′ 10″	9′ 1″	7′ 7″	19″
0.24-0.71	Isuzu	AP-4LE2X	54	39.2	4,260	21′ 11″	9′ 1″	7′ 7″	19″

			WEIGHT		PERFORMANCE							
	Make	Model	Operating weight (metric tons)	Operating weight (lbs)	Arm (stick) length used for dimensions & forces (ft/in)	Max dig depth (ft/in)	Max depth of vertical wall (ft/in)	Reach @ ground level (ft/in)	Dump height (ft/in)	Boom swing, right/left (deg)	Bucket digging force (lbs)	
>8 TO 10 METRIC TONS OPERATING WEIGHT (continued)												
	Bobcat	E85	8.6	18,977	7′ 5″	15′ 6″	11′ 3″	23′ 6″	16′ 5″	61°/64°	16,269	
	Doosan	DX85R-3	8.6	18,960	7′ 5″	15′ 6″	12′ 4″	23′ 11″	16′ 4″	55°/70°	14,509	
	JCB	86C-1	8.6	18,960	7′ 5″	14′ 10″	10′ 9″	23′ 8″	18′ 1″	55°/60°	12,837	
	JCB	90Z-1	8.6	18,975	7′ 5″	13′ 6″	12′ 6″	24′ 7″	17′ 9″	55°/60°	12,837	
	LiuGong	909ECR	8.6	18,960	5′ 5″	13′ 5″	10′	22′ 6″	15′ 6″	55°/70°	14,163	
	Caterpillar	308E2 VAB	8.7	19,180	5′ 6″	14′ 1″	12′ 6″	25′	19′ 11″	50°/60°	12,927	
	Kubota	KX080-4s Angle Blade	8.7	19,200	6′ 10.7″	15′ 1.1″	12′ 7.6″	23′ 6.3″	17′ 2.7″	60°/70°	14,660	
	Wacker Neuson	ET90	8.71	19,202	7′ 5″	15′ 2″	11′ 5″	24′ 7″	17′ 4″	63°/67°	16,591	
	Hitachi	ZX85USB-5	8.729	19,244	6′ 11″	14′ 1″	13′ 3″	24′ 9″	16′ 8″	60°/60°	10,476	
	Komatsu	PC88MR-10	8.75	19,290	6′ 11″	15′ 0″	10′ 3″	23′ 5″	15′ 8″	53°/67°	11,982	
	Volvo	ECR88D	8.8	19,420	5′ 7″	13′ 7″	9′ 3″	22′ 4″	16′ 3″	70°/60°	12,860	
	John Deere	85G	8.87	19,564	6′ 11″	14′ 10″	13′ 3″	24′ 9″	16′ 8″	60°/60°	10,476	
	Case	CX80C	9	18,800	5′ 7″	13′ 9″	11′ 0″	22′ 9″	16′ 6″	—	12,800	
	Sany	SY95	9.18	20,238	5′ 6″	14′ 2″	10′ 1″	—	17′ 1″	—	14,298	
	JCB	100C-1	9.7	21,458	7′ 5″	14′ 11″	11′ 6″	24′ 5″	18′ 7″	55°/60°	16,231	
	Gehl	M100	9.77	21,550	—	14′ 10″	13′ 2″	24′ 3″	16′ 10″	60°/60°	12,216	
	Mustang	1000M	9.77	21,550	—	14′ 10″	13′ 2″	24′ 3″	16′ 10″	60°/60°	12,216	
	Yanmar	SV 100-2A	9.78	21,550	6′ 5″	15′ 9″	13′ 2″	24′ 3″	16′ 10″	60°/60°	17,083	

BUCKET	ENGINE			HYDRAULICS		DIMENSIONS			
Bucket capacity, SAE heaped min-max (cu ft)	Engine make	Engine model	Net hp	Total flow of main pumps, implement & swing (gpm)	Max relief valve pressure (psi)	Transport length (ft/in)	Transport height (ft/in)	Transport width (ft/in)	Tail overhang over side (in)
0.24-0.56	Bobcat	2.4L Bobcat	65	39.4	4,279	20′ 7″	8′ 8″	7′ 7″	13″
6.0-14.4	Yanmar	4TNV98C	58.6	45.9	4,279	20′ 6″	8′ 1″	7′ 6″	5.8″
—	JCB by Kohler	KDI 2504 T4F	60.8	41.8	4,351	21′ 1″	8′ 11″	7′ 7″	14″
—	JCB by Kohler	KDI 2504 T4F	70.3	39.1	4,351	21′ 7″	8′ 11″	7′ 7″	0″
9.8	Yanmar Tier 4	4TNV98C	59	51.8	4,554	8′ 11″	9′ 2″	7′ 10″	8.3″
3.4-18.4	Cat	C3.3B	65	36.5	4,133	19′	8′ 4″	7′ 7″	16″
6.5-13.5	Kubota	V3307-DI-T4	62.3	44.6	3,974	21′ 2.9″	8′ 4″	7′ 2.6″	14″
3.50-13.00	Deutz	TCD 2.9	73.7	46.4	4,351	23′ 4″	8′ 5″	7′ 5″	24″
0.4-0.66	Yanmar	4TNV98C	56.9	53	—	22′ 5″	8′ 7″	8′ 1″	10″
3.17-7.06	Komatsu	SAA4D95LE-6	65.5	42.2	3,844	21′ 1″	9′ 1″	7′ 7″	13″
0.1-0.44	Volvo	D2.6H	56	45	4,270	20′ 11″	8′ 11″	7′ 7″	—
0.40-0.66	Yanmar	4TNV98C-WHBW	56.9	53	—	22′ 5″	8′ 7″	7′ 9″	—
0.24-0.59	Isuzu	AP-4LE2X Tier 4 Final	55	39	4,264	21′ 11″	9′ 1″	7′ 7″	—
3.5-13.8	Yanmar	4TN98CT	72.1	95	3,989	21′ 6″	10′ 6″	7′ 5″	35″
—	JCB by Kohler	KDI 2504 T4F	70.3	39.1	4,351	22′ 6″	8′ 11″	7′ 7″	16″
—	Yanmar	4TNV98CT-VBV Tier IV	72	61.5	3,989	21 ‘4″	9′ 3″	—	—
—	Yanmar	4TNV98CT-VBV Tier IV	72	61.5	3,989	21′ 4″	9′ 3″	—	—
5.67-12.15	Yanmar	4TNV98CT-VBV	72	56.3	3,988	21′ 4″	9′ 3″	7′ 7″	6.7″

			PERFORMANCE						ENGINE		
	Make	Model	Rated operating load, standard (lbs)	Tipping load, standard (lbs)	Height to bucket pin (in)	Bucket breakout (lbs)	Lift type: Radial (R) or Vertical (V)	Arm lifting force (lbs)	Engine make	Engine model	
<1,125 LBS STANDARD RATED OPERATING LOAD											
	Bobcat	**S70**	700	1,512	94.5″	1,950	R	1,935	Kubota	D1005	
	Gehl	**R105**	1,050	2,100	108.1″	2,800	R	2,200	Yanmar	3TNV88C-KMS Tier 4	
	Mustang	**1050R**	1,050	2,100	108.1″	2,800	R	2,200	Yanmar	3TNV88C-KMS Tier 4	
1,251 TO <1,351 LBS STANDARD RATED OPERATING LOAD											
	Bobcat	**S450**	1,300	2,600	109.5″	2,776	R	2,765	Bobcat	1.8L	
	Case	**SR130**	1,300	2,600	112″	4,180	R	2,850	ISM	N844L-F	
	New Holland	**L213**	1,300	2,600	112″	4,180	R	—	ISM	N844L Tier 4F	
	Gehl	**R135**	1,350	2,700	109.6″	2,910	R	2,967	Yanmar	4TNV88C-KMS Tier 4	
	Mustang	**1350R**	1,350	2,700	109.6″	2,910	R	2,967	Yanmar	4TNV88C-KMS Tier 4	
1,351 TO <1,601 LBS STANDARD RATED OPERATING LOAD											
	Volvo	**MC60C**	1,495	2,989	118″	4,012	R	3,175	Kohler	KDI 1903 TCR - Tier 4F	
	Gehl	**R150**	1,500	3,000	119″	4,450	R	3,391	Yanmar	4TNV88C-KMS Tier 4	
	Mustang	**1500R**	1,500	3,000	119″	4,450	R	3,391	Yanmar	4TNV88C-KMS Tier 4	
	Rhino Equipment	**RS60-S**	1,543	3,499	118.4″	—	R	—	Rhino II	RS60-A4988PG	
	Caterpillar	**226D**	1,550	3,100	111″	3,983	R	3,343	Cat	C2.2 T	
	JCB	**155**	1,550	3,100	118″	4,012	R	3,902	Kohler	KDI 1903 TCR	
	John Deere	**312GR**	1,550	3,100	115.1″	5,000	R	4,500	Yanmar	4TNV86CT	
	Volvo	**MC70C**	1,550	3,100	118″	4,012	R	3,902	Kohler	KDI 1903 TCR - Tier 4F	
	Case	**SR160**	1,600	3,200	112″	5,270	R	3,310	ISM	N844LT-F	
	New Holland	**L216**	1,600	3,200	112″	5,270	R	—	ISM	N844LT Tier 4F	
	Wacker Neuson	**SW16**	1,600	3,200	118″	5,300	R	5,000	Kohler	KDI 1903 TCR	
1,601 TO <1,751 LBS STANDARD RATED OPERATING LOAD											
	ASV	**RS-50**	1,650	3,300	116″	4,750	R	4,750	Perkins	404D-22	
	Gehl	**R165**	1,650	3,300	119″	4,591	R	3,607	Yanmar	4TNV98C-NMS2 Tier 4	
	Mustang	**1650R**	1,650	3,300	119″	4,591	R	3,607	Yanmar	4TNV98C-NMS2 Tier 4	
	Yanmar	**S165R-1**	1,650	3,300	119″	—	R	—	Yanmar	4TNV98C-NMS2	
	Wacker Neuson	**SW17**	1,700	3,400	118″	5,300	R	5,000	Kohler	KDI 2504 TCR	
	Bobcat	**S550**	1,750	3,500	114.5″	5,470	R	3,995	Bobcat	2.4L	
	Case	**SR175**	1,750	3,500	122″	7,270	R	3,810	ISM	N844LTA-DI-F-50	
	JCB	**175**	1,750	3,500	118″	4,718	V	3,461	Kohler	KDI 1903 TCR	
	John Deere	**316GR**	1,750	3,500	115.1″	5,250	R	4,750	Yanmar	4TNV86CHT	

			HYDRAULICS		DIMENSIONS			WEIGHT
	Gross power (hp)	Net power (hp)	Standard pump flow (gpm)	Hydraulic pressure (psi)	Overall length w/ bucket (in)	Width over tires (in)	Height to top of ROPS (in)	Operating weight (lbs)
	23.5	22.5	9.8	3,000	97.3″	35.5″	71.4″	2,795
	34.7	33.1	14.5	2,750	114″	48.4″	70.3″	4,000
	34.7	33.1	14.5	2,750	114″	48.4″	70.3″	4,000
	49	46.7	16.7	3,300	124.9″	58.6″	77.8″	5,027
	48.8	45.8	17.5	3,050	125″	59.8″	75.5″	5,180
	49	46	17.5	3,046	119.2″	59.8″	75.5″	5,070
	46.3	44.5	17	3,000	120.3″	52.6″	75.1″	5,130
	46.3	44.5	17	3,000	120.3″	52.6″	75.1″	5,130
	48	47.2	18.5	3,335	137.4″	59.8″	78″	6,153
	46.3	44.5	17	3,000	122.1″	63.2″	76.7″	5,930
	46.3	44.5	17	3,000	122.1″	63.2″	76.7″	5,930
	61.2	61.2	16.1	3,124	132.3″	63.8″	82.3″	6,173
	67	66	18	3,336	127.3″	58.9″	79.8″	5,705
	56	—	18.5	3,335	137″	63″	78″	6,190
	51	48	17	3,250	128″	63″	77″	5,995
	56	55.7	18.5	3,335	137.4″	63″	78″	6,355
	60	57	18.4	3,050	125″	59.8″	75.5″	5,645
	60	57	18.4	3,046	119.2″	59.8″	75.5″	5,510
	56	56	20	3,500	135″	66″	82″	6,170
	50	—	17.1	3,335	136.6″	66″	77″	6,065
	69.9	68.4	18.9	3,000	122.1″	63.2″	76.7″	6,165
	69.9	68.4	18.9	3,000	122.1″	63.2″	76.7″	6,165
	69.9	68.4	18.9	3,000	122.1″	63.2″	76.7″	6,122
	74	74	20	3,500	135″	66″	82″	6,245
	61	58.2	17.1	3,500	133″	64.7″	77.8″	6,213
	67	64	20.6	3,050	134.3″	66.1″	77.7″	6,270
	56	—	18.5	3,335	139″	63″	78″	6,559
	65	61	17	3,450	128″	63″	77″	6,375

			PERFORMANCE						ENGINE		
	Make	Model	Rated operating load, standard (lbs)	Tipping load, standard (lbs)	Height to bucket pin (in)	Bucket breakout (lbs)	Lift type: Radial (R) or Vertical (V)	Arm lifting force (lbs)	Engine make	Engine model	
1,601 TO <1,751 LBS STANDARD RATED OPERATING LOAD (continued)											
	Volvo	MC85C	1,750	3,500	118″	4,718	V	3,461	Kohler	KDI 1903 TCR - Tier 4F	
1,751 TO <2,001 LBS STANDARD RATED OPERATING LOAD											
	John Deere	314G	1,760	3,520	120″	5,000	V	4,500	Yanmar	4TNV86CT	
	Rhino Equipment	RS50-S	1,763	3,307	113.5″	—	R	—	Rhino	A4988PG	
	Caterpillar	236D	1,800	3,600	122.9″	5,074	R	4,597	Cat	C3.3B DIT	
	New Holland	L218	1,800	3,600	120″	5,550	V	—	ISM	N844LT Tier 4F	
	Caterpillar	232D	1,850	3,700	118.1″	3,983	V	3,815	Cat	C2.2 T	
	Gehl	R190	1,900	3,800	120.5″	4,050	R	3,950	Yanmar	4TNV98C-NMS Tier 4	
	Mustang	1900R	1,900	3,800	120.5″	4,050	R	3,950	Yanmar	4TNV98C-NMS Tier 4	
	Volvo	MC95C	1,900	3,800	118″	4,718	V	3,461	Kohler	KDI 2054 TCR - Tier 4F	
	Yanmar	S190R-1	1,900	3,800	120.5″	—	R	—	Yanmar	4TNV98C-NMS	
	John Deere	318G	1,945	3,890	120″	6,000	V	5,250	Yanmar	4TNV86CHT	
	Bobcat	S570	1,950	3,900	119″	5,470	V	4,343	Bobcat	2.4L	
	Kubota	SSV65	1,950	3,900	121.5″	4,839	V	3,858	Kubota	V2607-CR-TE4	
	ASV	RS-60	2,000	4,000	118″	4,750	R	4,750	Perkins	404D-22T	
	New Holland	L220	2,000	4,000	121″	7,300	V	—	ISM	N844LT Tier 4F	
	Wacker Neuson	SW20	2,000	4,000	124″	5,300	V	5,000	Kohler	KDI 1903 TCR	
2,001 TO <2,201 LBS STANDARD RATED OPERATING LOAD											
	Bobcat	S590	2,100	4,200	119″	5,470	V	4,477	Bobcat	2.4L	
	Case	SR210	2,100	4,200	123″	7,270	R	4,570	FPT	F5H FL463 A*F001	
	JCB	210	2,100	4,200	118″	4,718	R	—	Kohler	KDI 1903 TCR	
	New Holland	L221	2,100	4,200	123″	7,270	R	—	FPT	F5H FL463 Tier 4F	
	Wacker Neuson	SW21	2,100	4,200	124″	5,300	V	5,000	Kohler	KDI 2504 TCR	
	Caterpillar	242D	2,150	4,300	121.1″	5,034	V	4,669	Cat	C3.3B DIT	
	Caterpillar	246D	2,150	4,300	124.2″	7,355	R	5,995	Cat	C3.3B DIT	
	JCB	215	2,150	4,300	118″	4,718	V	—	Kohler	KDI 1903 TCR	
	Bobcat	S630	2,180	4,360	121″	6,960	R	4,673	Bobcat	2.4L	
NEW	John Deere	320G	2,190	4,380	122″	6,000	V	3,725	Yanmar	4TNV98CT	
	Bobcat	S595	2,200	4,400	119″	5,740	V	4,630	Bobcat	2.4L	
	Gehl	R220	2,200	4,400	123″	5,600	R	4,200	Yanmar	4TNV98CT-NMS Tier 4	
	Mustang	2200R	2,200	4,400	123″	5,600	R	4,200	Yanmar	4TNV98CT-NMS Tier 4	
	Yanmar	S220R-1	2,200	4,400	123″	—	R	—	Yanmar	4TNV98CT-NMS	

			HYDRAULICS		DIMENSIONS			WEIGHT
Gross power (hp)	Net power (hp)	Standard pump flow (gpm)	Hydraulic pressure (psi)	Overall length w/ bucket (in)	Width over tires (in)	Height to top of ROPS (in)	Operating weight (lbs)
56	47.2	18.5	3,335	139″	63″	78″	6,724
51	48	17	3,250	128″	63″	77″	6,315
60	60	17	2,321	139.2″	67.2″	82.8″	6,834
74.3	73	20	3,336	137.3″	66″	82″	6,559
60	57	20.6	3,046	131.9″	66.1″	77.7″	5,930
67	66	18	3,336	127.3″	58.9″	79.9″	6,213
69.3	68.4	18.5	3,000	127″	66.5″	80″	6,880
69.3	68.4	18.5	3,000	127″	66.5″	80″	6,880
62	60.5	18.5	3,335	139″	63″	78″	7,054
69.3	68.4	18.5	3,000	127″	64.5″	80″	6,880
65	61	17	3,450	128″	63″	77″	6,475
61	58.2	17.1	3,500	133″	64.7″	77.8″	6,480
64	61.3	18	3,271	135.4″	66.5″	79.9″	6,790
60	—	17.1	3,335	136.6″	66″	77″	6,370
67	64	20.6	3,046	131.4″	69.1″	78.7″	6,470
56	56	20	3,500	135″	66″	82″	6,437
66	62.9	17.1	3,500	133″	65.2″	77.8″	6,593
74	68	24.2	3,050	133.7″	69.1″	78.7″	6,970
74	—	18.5	3,335	138″	63″	78″	6,885
74	68	24.2	3,046	129.6″	69.1″	78.7″	6,970
74	74	20	3,500	135″	66″	82″	6,512
74.3	73	20	3,336	137.3″	66″	83.1″	6,980
74.3	73	23	3,336/4,061	146″	66″	83.1″	7,424
74	—	18.5	3,335	138″	63″	78″	7,253
74	70.5	23	3,500	136.8″	72.1″	81.3″	7,610
69	66	21	3,250	136″	67″	81″	7,150
74	70.5	17.1	3,500	133″	65.2″	77.8″	6,793
72	70.7	23.5	3,300	136.5″	69.5″	81″	7,980
72	70.7	23.5	3,300	136.5″	69.5″	81″	7,980
72.0	70.7	23.5	3,300	136.5″	65.5″	81″	7,980

			PERFORMANCE						ENGINE		
	Make	Model	Rated operating load, standard (lbs)	Tipping load, standard (lbs)	Height to bucket pin (in)	Bucket breakout (lbs)	Lift type: Radial (R) or Vertical (V)	Arm lifting force (lbs)	Engine make	Engine model	
2,201 TO <2,701 LBS STANDARD RATED OPERATING LOAD											
	ASV	VS-60	2,300	4,600	118"	5,845	V	4,375	Perkins	404D-22T	
	LiuGong	CLG 385B	2,300	4,598	129"	6,699	R	4,566	Yanmar	4TNV98CT	
	Wacker Neuson	SW24	2,350	4,700	125"	6,717	R	5,768	Perkins	854 Tier 4f	
	Case	SR240	2,400	4,800	125.1"	8,680	R	5,530	FPT	F5H FL463 A*F001	
	Volvo	MC110C	2,454	4,908	125"	5,699	R	5,884	JCB	Dieselmax TCAE-55	
	JCB	250	2,526	5,055	125"	5,699	R	5,884	JCB	EcoMAX	
	ASV	RS-75	2,600	5,200	125"	5,020	R	7,100	Deutz	TD2.9L4	
	Gehl	R260	2,600	5,200	123"	5,640	R	4,700	Yanmar	4TNV98CT-NMS Tier 4	
	Mustang	2600R	2,600	5,200	123"	5,640	R	4,700	Yanmar	4TNV98CT-NMS Tier 4	
	Bobcat	S650	2,690	5,380	124"	6,960	V	5,490	Bobcat	2.4L	
	Kubota	SSV75	2,690	5,380	128.3"	5,884	V	4,850	Kubota	V3307-CR-TE4	
NEW	John Deere	324G	2,690	5,380	126"	8,750	V	5,250	Yanmar	4TNV98CT	
	Case	SR270	2,700	5,400	125.1"	8,677	R	6,069	FPT	F5B FL413 E*B002	
	Caterpillar	262D	2,700	5,400	124.9"	7,355	V	5,533	Cat	C3.3B DIT	
	Gehl	V270 GEN:2	2,700	5,400	130.3"	5,233	V	4,432	Yanmar	4TNV98CT-NMS Tier 4	
	Mustang	2700V NXT2	2,700	5,400	130.3"	5,233	V	4,432	Yanmar	4TNV98CT-NMS Tier 4	
	Yanmar	S270V-1	2,700	5,400	130.3"	—	V	—	Yanmar	4TNV98CT-NMS	
2,701 TO <3,150 LBS STANDARD RATED OPERATING LOAD											
	JCB	270	2,723	5,448	125"	5,699	V	5,884	JCB	EcoMAX	
	Volvo	MC115C	2,724	5,448	125"	5,699	V	5,884	JCB	Dieselmax TCAE-55	
	New Holland	L228	2,800	5,600	129.4"	8,620	V	—	FPT	F5H FL463 Tier 4F	
	Wacker Neuson	SW28	2,800	5,600	134"	6,717	V	6,862	Perkins	855 Tier 4f	
	Takeuchi	TS80R2	2,825	5,650	125"	5,845	R	7,080	Deutz	TD2.9L4	
	Case	SV300	3,000	6,000	130"	8,776	V	6,237	FPT	F5B FL413 E*B002	
	John Deere	330G	3,000	6,000	132"	9,350	V	7,000	Yanmar	4TNV94FHT	
	Volvo	MC135C	3,012	6,024	125"	7,187	V	5,809	JCB	Dieselmax TCAE-55	
	Bobcat	S740	3,100	6,200	132"	6,676	V	6,500	Bobcat	3.4L	
	JCB	3TS-8W	3,100	6,200	125"	6,543	R	—	JCB	EcoMAX	
3,150 LBS AND OVER STANDARD RATED OPERATING LOAD											
	JCB	300	3,186	6,369	125"	7,187	V	5,809	JCB	EcoMAX	
	Bobcat	A770	3,325	6,650	132"	6,531	V	7,035	Bobcat	3.4L	
	JCB	330	3,295	6,590	126"	7,187	V	5,809	JCB	EcoMAX	

			HYDRAULICS		DIMENSIONS			WEIGHT
	Gross power (hp)	Net power (hp)	Standard pump flow (gpm)	Hydraulic pressure (psi)	Overall length w/ bucket (in)	Width over tires (in)	Height to top of ROPS (in)	Operating weight (lbs)
	60	—	17.1	3,335	136.4″	66″	77″	6,660
	72	70	20.7	3,004	152″	73″	80″	8,250
	83.8	74.3	22.5	3,000	144″	72″	82″	7,865
	74	68	24.2	3,050	146.2″	69.6″	78.8″	7,400
	74	72.6	24	3,335	145.3″	72″	82″	7,954
	74	—	24	3,335	146″	72″	82″	7,789
	74	—	21.97	3,335	145″	72″	84″	7,425
	72	70.7	23.5	3,300	143″	69.5″	81″	8,200
	72	70.7	23.5	3,300	143″	69.5″	81″	8,200
	74	70.5	23	3,500	136.8″	72.1″	81.3″	8,061
	74.3	71.6	20.9	3,271	144.1″	71.8″	81.3″	8,157
	74	70	21	3,450	136″	67″	81″	7,700
	90	84	24.2	3,050	147.5″	69.6″	78.8″	8,117
	74.3	73	23	3,336/4,061	146.2″	66″	83.1″	8,011
	72	70.7	21.8	3,300	149.2″	69.5″	80.5″	8,100
	72	70.7	21.8	3,300	149.2″	69.5″	80.5″	8,100
	72.0	70.7	23.5	3,200	148″	69.5″	81″	8,150
	74	—	24	3,335	146″	72″	82″	8,067
	74	72.6	24	3,335	145.3″	72″	82″	8,232
	74	68	24.2	3,046	142.9″	69.6″	78.8″	8,245
	83.8	74.3	22.5	3,000	144″	72″	82″	8,283
	74	—	21.5	3,335	145.5″	72″	84″	7,950
	90	84	24.2	3,050	147.3″	69.6″	78.8″	8,655
	91	89	24	3,450	146″	78″	86″	9,900
	74	72.6	24	3,335	148.8″	72″	82″	9,054
	74	70.9	23	3,500	141.6″	72.1″	81.3″	8,794
	74	—	24	3,335	159″	72″	82″	9,859
	74	—	24	3,335	149″	72″	82″	8,889
	92	88.2	23	3,500	141.6″	74.7″	81.3″	9,623
	74	—	24	3,335	151″	74″	83″	9,189

			PERFORMANCE						ENGINE		
	Make	Model	Rated operating load, standard (lbs)	Tipping load, standard (lbs)	Height to bucket pin (in)	Bucket breakout (lbs)	Lift type: Radial (R) or Vertical (V)	Arm lifting force (lbs)	Engine make	Engine model	
3,150 LBS AND OVER STANDARD RATED OPERATING LOAD (continued)											
	Gehl	**V330 GEN:2**	3,300	6,600	131.2″	5,850	V	4,779	Yanmar	4TNV98CT-NMS Tier 4	
	Mustang	**3300V NXT2**	3,300	6,600	131.2″	5,850	V	4,779	Yanmar	4TNV98CT-NMS Tier 4	
	Bobcat	**S770**	3,350	6,700	132″	6,831	V	6,966	Bobcat	3.4L	
	Case	**SV340**	3,400	6,800	130″	9,531	V	6,816	FPT	F5B FL413 E*B002	
	Caterpillar	**272D2**	3,400	6,800	127.1″	7,443	V	6,074	Cat	C3.8 DITA	
	New Holland	**L234**	3,400	6,800	131.1″	9,323	V	—	FPT	F5H FL413 Tier 4F	
	ASV	**VS-75**	3,500	7,000	130″	5,920	V	6,325	Deutz	TD2.9L4	
	Takeuchi	**TS80V2**	3,500	7,000	130′	5,920	V	6,200	Deutz	TD2.9L4	
	John Deere	**332G**	3,600	7,200	132″	13,904	V	8,520	Yanmar	4TNV94FHT	
	Caterpillar	**272D2 XHP**	3,650	7,300	128.6″	7,362	V	6,085	Cat	C3.8 DITA	
	Bobcat	**S850**	3,950	7,900	144″	9,686	V	7,525	Bobcat	3.4L	
NEW	**Gehl**	**V420**	4,200	8,400	144″	9,040	V	6,060	Deutz	TCD36	
NEW	**Mustang**	**4200V**	4,200	8,400	144″	9,040	V	6,060	Deutz	TCD36	

			HYDRAULICS		DIMENSIONS			WEIGHT
	Gross power (hp)	Net power (hp)	Standard pump flow (gpm)	Hydraulic pressure (psi)	Overall length w/ bucket (in)	Width over tires (in)	Height to top of ROPS (in)	Operating weight (lbs)
	72	70.7	21.8	3,450	153.6″	72″	82.1″	9,010
	72	70.7	21.8	3,450	153.6″	72″	82.1″	9,010
	92	88.2	23	3,500	141.6″	72.1″	81.3″	9,314
	90	84	24.2	3,450	144″	69.6″	78.8″	9,100
	98	95	23	3,335/4,061	155.7″	72″	82.4″	8,768
	90	84	24.2	3,450	144″	76″	80.4″	8,900
	74	—	26	3,335	146″	72″	84″	8,740
	74	—	26	3,335	146″	72″	84″	8,965
	100	97	25	3,450	146″	78″	86″	10,000
	110	106	23	3,335/4,061	155.0″	76″	84″	9,255
	100	95.9	23	3,500	147.7″	79″	83.4″	10,237
	120.7	—	30.1	3,450	159″	81″	82″	11,665
	120.7	—	30.1	3,450	159″	81″	82″	11,665

compact track loader specs

			PERFORMANCE				ENGINE			
	Make	Model	Operating load, SAE J818, 35% of tipping load (lbs)	Operating load, 50% of tipping load (lbs)	Tipping load, standard (lbs)	Bucket breakout (lbs)	Engine make	Engine model	Gross power (hp)	
UP TO 2,599 LBS OPERATING LOAD @ 50% OF TIPPING LOAD										
	ASV	**RT-30**	950	665	1,900	2,240	Perkins	403D-15	32.7	
	Bobcat	**T450**	2,000	1,400	4,000	3,588	Bobcat	2.4L Bobcat	61	
	Caterpillar	**239D**	2,050	1,435	4,100	3,969	Cat	C2.2 T	67.1	
	JCB	**150T**	2,167	1,517	4,334	4,012	Kohler	KDI 1903 TCR	56	
	ASV	**RT-50**	2,285	1,600	4,570	4,000	Perkins	404D-22	50	
	Caterpillar	**249D**	2,300	1,610	4,600	3,963	Cat	C2.2 T	67.1	
	Gehl	**RT165**	2,357	1,650	4,715	4,230	Yanmar	4TNV98C-NMS2	69.9	
	Mustang	**1650RT**	2,357	1,650	4,715	4,230	Yanmar	4TNV98C-NMS2 Tier IV	69.9	
	Gehl	**RT175 GEN:3**	2,500	1,750	5,000	5,354	Yanmar	4TNV98C-NMSL	69.9	
	Mustang	**1750RT NXT3**	2,500	1,750	5,000	5,354	Yanmar	4TNV98C-NMSL Tier IV	69.9	
	Yanmar	**T175-1**	2,500	1,750	5,000	5,189	Yanmar	4TNV98C-NMSL	69.3	
2,600 TO <3,000 LBS OPERATING LOAD @ 50% OF TIPPING LOAD										
NEW	**Takeuchi**	**TL6R**	2,635	1,841	5,259	5,930	Kubota	V2403-CR-TE4B	65.2	
NEW	**JCB**	**210T**	2,650	1,855	5,298	4,718	Kohler	KDI 2504 TCR	74	
	Case	**TR270**	2,700	1,890	5,400	7,270	FPT	F5H FL463 A*F001	74	
	New Holland	**C227**	2,700	1,890	5,400	7,270	FPT	F5H FL463 Tier 4 Final	74	
	Volvo	**MCT85C**	2,714	1,900	5,429	4,718	Kohler	KDI2054 TCR	59.9	
	ASV	**RT-60**	2,715	1,900	5,430	4,000	Perkins	404D-22T	60	
	Caterpillar	**257D**	2,800	1,960	5,600	5,035	Cat	C3.3 DIT	74.3	
	Wacker Neuson	**ST28**	2,800	1,960	5,600	5,300	Kohler	KDI 2504 TCR	74	
	Bobcat	**T550**	2,850	1,995	5,700	5,470	Bobcat	2.4L Bobcat	66	
	Caterpillar	**259D**	2,900	2,030	5,800	5,035	Cat	C3.3 DIT	74.3	
	Caterpillar	**279D**	2,935	2,055	5,870	7,285	Cat	C3.3 DIT	74.3	
3,000 TO <4,000 LBS OPERATING LOAD @ 50% OF TIPPING LOAD										
	Bobcat	**T590**	3,000	2,100	6,000	5,470	Bobcat	2.4L Bobcat	66	
	Bobcat	**T630**	3,000	2,100	6,000	6,960	Bobcat	2.4L Bobcat	74	
	Gehl	**RT210 GEN:3**	3,000	2,100	6,000	6,631	Yanmar	4TNV98CT-NMSL	72	
	Mustang	**2100RT NXT3**	3,000	2,100	6,000	6,631	Yanmar	4TNV98CT-NMSL Tier IV	72	
	Yanmar	**T210-1**	3,000	2,100	6,000	5,492	Yanmar	4TNV98CT-NMSL	72.0	
NEW	**JCB**	**215T**	3,009	2,105	6,016	4,718	Kohler	KDI 2504 TCR	74	
	Takeuchi	**TL8**	3,010	2,105	6,020	6,856	Kubota	V3307CRT	74.3	
	John Deere	**317G**	3,035	2,125	6,070	6,000	Yanmar	4TNV86CHT	65	

	HYDRAULICS		DIMENSIONS			WEIGHT
Net power (hp)	Standard pump flow (gpm)	Hydraulic pressure (psi)	Overall length w/ bucket (in)	Height to top of ROPS (in)	Width over tracks (in)	Operating weight (lbs)
—	10	3,000	114″	72.5″	48″	3,600
58.2	16.7	3,300	126.6″	77.8″	55″	6,148
65.8	18	3,336	127.3″	80.1″	66″/69″	7,289
—	18.5	3,335	138″	80″	66″	7,972
—	17.4	3,000	128″	77″	60″	6,520
65.8	18	3,336	127.3″	80.3″	66″/69″	7,685
68.4	18.9	3,250	126.2″	77.5″	66″	8,020
68.4	18.9	3,250	126.2″	77.5″	66″	8,020
68.4	18.5	3,000	144.0″	82.8″	64.4″	8,605
68.4	18.5	3,000	144.0″	82.8″	64.4″	8,605
68.4	18.5	3,000	144″	82.8″	64.4″	8,605
—	17.8	2,988	131.1″	77.8″	60.2″	7,780
—	18.5	3,336	140″	80″	66″	8,865
68	24.2	3,050	129.6″	78.7″	65.9″	8,270
68	24.2	3,046	129.6″	78.7″	65.9″	8,270
60.5	18.5	3,335	139″	78.7″	12.6″	8,355
—	17.4	3,000	128″	77″	66″	6,930
73.2	20	3,335	137.3″	83.8″	66″	8,048
74	20	3,500	136.6″	83″	67.1″	7,829
62.9	17.1	3,500	133″	77.8″	67″	7,557
73.2	20	3,336	137.3″	83.1″	66″/69″	8,846
73	23	3,336/4,061	146.2″	83.2″	78″	9,893
62.9	17.1	3,500	133″	77.8″	67″	7,822
70.5	23	3,500	136.8″	81.3″	67″	8,655
70.7	21.8	3,000	148.4″	83.1″	69.5″	9,800
70.7	21.8	3,000	148.1″	83.1″	69.5″	9,800
70.7	21.8	3,000	152.3″	83.1″	69.5″	9,890
—	18.6	3,337	140″	80″	66″	9,098
—	18.4	3,046	135.1″	83.9″	65.4″	8,631
61	17	3,450	127.6″	78.5″	65.1″	8,195

			PERFORMANCE				ENGINE			
	Make	Model	Operating load, SAE J818, 35% of tipping load (lbs)	Operating load, 50% of tipping load (lbs)	Tipping load, standard (lbs)	Bucket breakout (lbs)	Engine make	Engine model	Gross power (hp)	
3,000 TO <4,000 LBS OPERATING LOAD @ 50% OF TIPPING LOAD (continued)										
NEW	**Gehl**	**RT215**	3,072	2,150	6,144	6,631	Yanmar	4TNV98CT-NMSL	72	
NEW	**Mustang**	**2150RT**	3,072	2,150	6,144	6,631	Yanmar	4TNV98CT-NMSL	72	
	Case	**TR310**	3,100	2,170	6,200	8,680	FPT	F5H FL463 A*F001	74	
	Wacker Neuson	**ST31**	3,100	2,170	6,200	5,300	Kohler	KDI 2504 TCR	74	
	Bobcat	**T595**	3,142	2,200	6,285	5,470	Bobcat	2.4L Bobcat	74	
	New Holland	**C232**	3,200	2,240	6,400	7,510	FPT	F5H FL463 Tier 4 Final	74	
	Volvo	**MCT110C**	3,214	2,250	6,428	5,884	JCB	Dieselmax TCAE-55	74	
	JCB	**250T**	3,215	2,250	6,428	5,699	JCB	EcoMAX TCAE-55	74	
	Kubota	**SVL75-2**	3,285	2,300	6,570	6,204	Kubota	V3307	74.3	
	Caterpillar	**277D**	3,290	2,303	6,580	7,285	Cat	C3.3 DIT	74.3	
	ASV	**VT-70**	3,325	2,328	6,650	4,950	Kubota	V2403-CR-TIE4	65	
	Case	**TR340**	3,400	2,380	6,800	8,700	FPT	F5B FL413 E*B002	84	
	New Holland	**C234**	3,400	2,380	6,800	8,700	FPT	F5H FL413 Tier 4 Final	90	
	Wacker Neuson	**ST35**	3,500	2,450	7,000	6,717	Perkins	854 Tier 4f	83.8	
	Gehl	**RT250 GEN:3**	3,571	2,500	7,143	8,384	Deutz	TD 3.6	74	
	Mustang	**2500RT NXT3**	3,571	2,500	7,143	8,384	Deutz	TD 3.6 Tier IV	74	
NEW	**John Deere**	**325G**	3,600	2,590	7,400	8,750	Yanmar	4TNV98CT	74	
	Takeuchi	**TL10V2**	3,600	2,522	7,205	6,520	Kubota	V3307CR-TE4B	74.3	
	Kato	**CL45**	3,627	2,536	7,254	8,010	Yanmar	4TNV98T	—	
	Bobcat	**T650**	3,670	2,570	7,343	6,960	Bobcat	2.4L Bobcat	74	
NEW	**New Holland**	**C237**	3,700	2,590	7,400	7,510	FPT	F5H FL463 Tier 4 Final	74	
	ASV	**RT-75**	3,786	2,650	7,571	5,800	Cummins	QSF2.8	74	
	ASV	**RT-75HD**	3,786	2,650	7,571	5,800	Cummins	QSF2.8	74	
	Case	**TV380**	3,800	2,660	7,600	8,776	FPT	F5B FL413 E*B002	90	
	Caterpillar	**289D**	3,800	2,660	7,600	7,291	Cat	C3.3 DIT	74.3	
	New Holland	**C238**	3,800	2,660	7,600	7,360	FPT	F5H FL413 Tier 4 Final	90	
	Volvo	**MCT125C**	3,995	2,796	7,991	7,187	JCB	Dieselmax TCAE-55	84	
	JCB	**250T**	3,996	2,600	7,991	7,187	JCB	EcoMAX TCAE-55	74	
4,000 LBS AND OVER OPERATING LOAD @ 50% OF TIPPING LOAD										
	Caterpillar	**287D**	4,000	2,800	8,000	7,291	Cat	C3.3 DIT	74.3	
	JCB	**300T**	4,314	3,000	8,628	7,187	JCB	EcoMAX TCAE-55	74	
	Volvo	**MCT135C**	4,314	3,019	8,628	7,187	JCB	Dieselmax TCAE-55	92	
NEW	**Takeuchi**	**TL12R2**	4,315	2,975	8,629	8,210	Kubota	V3800TIF4B-Turbo Cooled	111.3	

	HYDRAULICS		DIMENSIONS			WEIGHT
Net power (hp)	Standard pump flow (gpm)	Hydraulic pressure (psi)	Overall length w/ bucket (in)	Height to top of ROPS (in)	Width over tracks (in)	Operating weight (lbs)
70.7	21.8	3,000	148.4″	83.1″	69.5″	9,940
70.7	21.8	3,000	148.4″	83.1″	69.5″	9,940
68	24.2	3,050	129.6″	78.7″	74.3″	8,880
74	20	3,500	136.6″	83″	67.1″	8,095
70.5	17.1	3,500	133″	77.8″	72.9″	8,022
68	24.2	3,046	142.9″	80.4″	76″	9,630
72.6	24	3,335	145.3″	82″	18″	10,216
—	24	3,335	146″	82″	73″	10,051
68.8	17.4	3,185	140.8″	82″	68″	9,039
73	23	3,335/4,061	146.2″	83.2″	78″	9,293
—	23.0	3,300	141.5″	81.4″	65.6″	8,060
84	24.2	3,050	143.5″	80.4″	76.0″	10,000
84	24.2	3,046	143.5″	80.4″	76″	10,000
74.3	23	3,000	144″	82″	78″	9,827
70.7	24.9	3,000	157.8″	83.1″	69.5″	11,470
70.7	24.9	3,000	157.8″	83.1″	69.5″	11,470
70	19	3,450	136.3″	81″	71.5″	9,500
—	18.8	3,481	145″	89.4″	68.5″	10,270
83	21.9	3,000	146″	85″	—	10,100
70.5	23	3,500	136.8″	81.3″	72.9″	9,320
68	24.2	3,046	143.5″	80.4″	76″	9,630
—	35.7	3,300	148″	87″	70″	9,180
—	35.7	3,300	148″	90.5″	70″	9,180
84	24.2	3,050	143.2″	80.4″	76.0″	10,550
73	23	3,336/4,061	146.2″	83.2″	78″	10,533
84	24.2	3,046	144″	80.4″	76″	10,100
72.6	24	3,335	145.3″	82″	18″	10,756
—	24	3,335	146″	82″	78″	10,591
73	23	3,335/4,061	146.2″	83.2″	78″	9,929
—	24	3,335	149″	82″	78″	11,122
72.6	24	3,335	148.8″	82″	18″	11,827
—	23.2	3,481	159.3″	91″	77.2″	12,950

			PERFORMANCE				ENGINE			
	Make	Model	Operating load, SAE J818, 35% of tipping load (lbs)	Operating load, 50% of tipping load (lbs)	Tipping load, standard (lbs)	Bucket breakout (lbs)	Engine make	Engine model	Gross power (hp)	
4,000 LBS AND OVER OPERATING LOAD @ 50% OF TIPPING LOAD (continued)										
	John Deere	**331G**	4,429	3,100	8,857	10,325	Yanmar	4TNV94FHT	91.2	
	Wacker Neuson	**ST45**	4,500	3,150	9,000	6,717	Perkins	854 Tier 4f	83.8	
	Bobcat	**T740**	4,571	3,200	9,143	6,496	Bobcat	3.4L Bobcat	74	
	Gehl	**VT320**	4,571	3,200	9,143	9,901	Deutz	TD 3.6	114	
	Kubota	**SVL95-2s**	4,571	3,200	9,143	7,961	Kubota	V3800	96.4	
	Mustang	**3200VT**	4,571	3,200	9,143	9,901	Deutz	TD 3.6 Tier IV	114	
	Caterpillar	**299D2**	4,600	3,200	9,200	7,270	Cat	C3.8 DITA	98	
	Caterpillar	**297D2**	4,700	3,290	9,400	7,468	Cat	C3.8 DITA	98	
	Caterpillar	**299D2 XHP**	4,725	3,308	9,450	7,270	Cat	C3.8 DITA	110	
	Caterpillar	**297D2 XHP**	4,800	3,360	9,600	7,468	Cat	C3.8 DITA	110	
	Bobcat	**T770**	4,960	3,475	9,929	6,494	Bobcat	3.4L Bobcat	92	
	ASV	**RT-120**	5,050	3,535	10,100	6,720	Cummins	QSF3.8	120	
NEW	**Bobcat**	**T870**	5,200	3,650	10,871	8,733	Bobcat	3.4L Bobcat	100	
	JCB	**3TS-8T**	5,279	3,600	10,558	6,517	JCB	EcoMAX TCAE-56	75	
	John Deere	**333G**	5,285	3,700	10,570	13,750	Yanmar	4TNV94FHT	100	
	ASV	**RT-120 Forestry**	5,350	3,745	10,700	6,720	Cummins	QSF3.8	120	
	Takeuchi	**TL12V2**	5,868	4,107	11,737	7,874	Kubota	V3800TIF4B	111.3	

	HYDRAULICS		DIMENSIONS			WEIGHT
Net power (hp)	Standard pump flow (gpm)	Hydraulic pressure (psi)	Overall length w/ bucket (in)	Height to top of ROPS (in)	Width over tracks (in)	Operating weight (lbs)
88.5	23.5	3,450	146″	86.7″	78.9″	11,900
74.3	23	3,000	144″	82″	78″	10,245
70.9	23	3,500	141.6″	81.3″	78″	10,263
108	27	3,500	157″	82.9″	69.5″	11,610
87.0	23.1	3,553	154.6″	83.3″	80″	11,299
108	27	3,500	157″	82.9″	69.5″	11,610
95	23	3,335/4,061	154.7″	83.6″	76″/78″	11,275
95	23	3,335/4,061	155.2″	83.2″	78″	10,692
106	23	3,335/4,061	154.7″	83.6″	76″	11,608
106	23	3,335/4,061	155.2″	83.2″	78″	10,918
88.2	23	3,500	141.6″	81.3″	78″	10,465
—	45	4,061	157″	90″	71″	11,265
95.9	23	3,500	153.9″	83.6″	82.8″	12,925
—	25	3,336	159″	82″	78″	12,615
96.6	25	3,450	146″	86.7″	80.7″	12,100
—	45	4,061	163″	90″	73″	12,255
—	23.2	3,481	159.6″	94.8″	78″	13,040

compact wheel loader specs

			ENGINE			WEIGHT	BUCKET		
	Make	Model	Net engine power (hp)	Engine make	Engine model	Operating weight (lbs)	Bucket capacities, min-max (cu yds)	Reference: Bucket capacity (cu yds)	
0 TO <50 RATED NET HP									
NEW	**Avant**	**e5-Electric Avant**	—	Avant Electric	Lead Acid Battery	3,505	0.2-0.31	0/2	
	Avant	**220**	20	Kohler	CV640	1,540	0.16-0.20	—	
	Avant	**420**	20	Kubota	D722	2,270	0.27-0.51	—	
	Avant	**520**	20	Kubota	D722	2,910	0.27-0.51	—	
	Avant	**225**	25	Kohler	ECV730	1,540	0.16-0.20	—	
	Avant	**225LPG**	25	Kohler	PCV740	1,540	0.16-0.20	—	
	Avant	**528**	25	Kubota	D1105	3,130	0.27-0.51	—	
NEW	**Avant**	**530**	25	Kubota	D1105	3,220	0.27-0.51	—	
	Avant	**630**	25	Kubota	D1105	3,310	0.31-0.73	—	
	Giant	**D254SW**	25	Kubota	D902	2,420	0.2-0.5	—	
	Giant	**D254SW Tele**	25	Kubota	D902	2,420	0.2-0.5	—	
	Giant	**D263SW**	26	Kubota	D1105	3,250	0.2-0.95	—	
	Giant	**D263SW X-tra**	26	Kubota	D1105	3,350	0.2-0.95	—	
	KCM	**30ZV-2**	30	Kubota	D1803-MDI	6,800	.52	.52	
	Coyote	**C5B**	33	Perkins	403C-15	5,500	0.5	0.5	
	Avant	**635**	37.5	Kubota	V1505	3,370	0.31-0.91	—	
	Avant	**640**	37.5	Kubota	V1505	3,500	0.31-0.91	—	
	Takeuchi	**TW40**	39.4	Perkins	403D-15T	7,275	0.60-0.75	—	
NEW	**Caterpillar**	**903D**	40	Cat	C2.4	9,392	0.8-1.3	0.8	
	Yanmar	**V4-7**	40.9	Yanmar	4TNV88C-NKAH	8,322	0.65-0.91	0.65	
	Hitachi	**ZW50**	45	Kubota	V2403-MDI	9,250	0.78-1.0	0.78	
	Giant	**V452T HD**	45	Kubota	V1505-T	6,100	0.3-1.1	—	
	Giant	**V452T X-tra HD**	45	Kubota	V1505-T	6,100	0.3-1.1	—	
	Wacker Neuson	**5055**	47	Yanmar	4NNKAC	7,936	0.72-1.3	0.72	
	Kubota	**R530**	47.9	Kubota	V2607-CR-E4	9,303	0.85-1.0	0.85	
	Wacker Neuson	**WL 34**	48	Perkins	40F-22	7,548	0.78-1.25	0.78	
	Wacker Neuson	**WL 32**	48/60	Perkins	404F-22/404F-22T	7,496	0.5-1.0	0.5	
50 TO <60 RATED NET HP									
	Coyote	**C6**	52	Yanmar	4TNE80	8,377	0.75	0.75	
	Case	**21F Z**	55	FPT	F5H FL463 B*F001	11,272	0.9-1.31	0.9	
	New Holland	**W50C TC**	55	FPT	F5HFL463B	10,913	1.0	1.0	

PERFORMANCE				DIMENSIONS				TIRES
Breakout force (lbs)	Dump clearance, full height @ discharge (ft/in)	Bucket linkage type*	Total cycle time: raise, dump & lower (sec)	Length w/bucket on ground (ft/in)	Width over tires (ft/in)	Height to top of cab (ft/in)	Turning radius, bucket carry (ft/in)	Reference tire size
2,425	—	TE	—	—	—	6′ 6″	—	23x10.50-12
—	4′ 7″	TE	—	8′ 3″	3′ 3″	6′ 2″	2′ 11.8″	20x8.00-10
1,430	9′	TE	—	8′ 3″	3′ 5″	6′ 6″	2′ 10.6″	23x8.50-12
2,400	9′ 2″	TE	—	8′ 4″	3′ 9″	6′ 6″	3′ 3.2″	23x10.50-12
—	4′ 7″	TE	—	9′ 8″	3′ 3″	6′ 2″	2′ 11.8″	20x8.00-10
—	4′ 7″	TE	—	10′ 6″	3′ 3″	6′ 2″	2′ 11.8″	20x8.00-10
2,760	9′ 3″	TE	—	10′ 10″	3′ 9″	6′ 6″	3′ 3.2″	23x10.50-12
2,750	—	TE	—	—	—	6′ 6″	—	23x10.50-12; 26x12.00-12
2,760	9′ 4″	TE	—	10′ 10″	4′ 2″	6′ 10″	2′ 11.4″	26x12.00-12
2,425	9′ 9″	P	7	8′ 4″	3′ 0″-4′ 0″	6′ 9.5″	7′ 3″	—
2,290	10′ 9″	TE	7	8′ 4″	3′ 0″-4′ 0″	6′ 9.5″	7′ 3″	—
3,305	10′ 3″	P	7	10′ 0″	2′ 11″-4′ 1″	7′ 3.8″	7′ 4″	—
2,850	8′ 8″	P	7	10′ 0″	2′ 11″-4′ 1″	7′ 3.8″	8′ 1″	—
4,630	6′ 7.75″	Z	9.0	14′ 5.5″	4′ 11.25″	8′ 1.8″	11′ 10.25″	12.5/70-16
5,253	7′ 5″	Z	—	13′ 0″	—	7′ 6″	10′ 6″	10.0/75-15.3
2,760	9′ 4″	TE	—	10′ 10″	4′ 2″	6′ 10″	2′ 11.4″	26x12.00-12
2,760	9′ 4″	TE	—	10′ 10″	4′ 2″	6′ 10″	2′ 11.4″	26x12.00-12
4,878	7′ 0″	Z	8.5	15′ 5″	5′ 0″	7′ 10.5″	10′ 4″	31x15.5-15
6,205	7′ 6″	Z	8.8	15′ 9″	5′ 7″	8′ 3″	13′ 2″	33×15.5-16.5
6,085	7′ 11″	Z	9.5	14′ 6″	5′ 7″	8′ 5″	12′ 6″	15.5/60-18-8PR
5,500	7′ 9.7″	Z	8.5	16′ 3″	5′ 5.4″	8′ 5″	12′ 8.7″	15.5/60-18
5,950	11′ 7″	P	9	12′ 6″	3′ 7″-4′ 11″	7′ 6.5″	9′ 9″	—
5,290	10′ 0″	P	9	12′ 6″	3′ 7″-4′ 11″	7′ 6.5″	10′ 0″	—
6,294	8′ 8″	P	—	16′ 3″	5′ 8″	8′ 10″	8′ 10″	12.0-18
7,761	8′ 0″	Z	12.0	17′ 4″	5′ 8″	8′ 1″	11′ 1″	365/70 R18
8,768	8′ 0″	P/Z	—	16′ 2″	5′ 2″	7′ 8″	10′ 7″	15.5/55-18
9,082	7′ 11″	P/Z	—	15′ 7″	4′ 7″	7′ 8″	10′ 4″	31x15.5-15EM
7,100	7′ 9″	—	—	14′ 5″	4′ 8″	7′ 10″	—	10.0/65-
9,199	7′ 4.6″	Z	9.8	18′ 3″	5′ 9″	8′ 1″	12′ 2.6″	12.5-18
9,048	7′ 9″	P	—	17′ 0″	5′ 9″	8′ 1″	12′ 2″	12.5-18 PRMPT

***Bucket linkage type = Parallel (P); Telescopic extended (TE); Z-Bar (Z); Inverted Z-Bar (IZ); Versa-Boom (VB), High-Lift (HL)**

			ENGINE			WEIGHT	BUCKET		
	Make	Model	Net engine power (hp)	Engine make	Engine model	Operating weight (lbs)	Bucket capacities, min-max (cu yds)	Reference: Bucket capacity (cu yds)	
50 TO <60 RATED NET HP (continued)									
	New Holland	W50C ZB	55	FPT	F5HFL463B	11,111	1.0	1.0	
	Avant	755i	57	Kohler	KDI 1903 TCR	4,420	0.46-0.91	—	
	Avant	760i	57	Kohler	KDI 1903 TCR	4,640	0.46-0.91	—	
60 TO <70 RATED NET HP									
	Giant	V6004T	60	Kubota	V2403M-T	7,480	0.6-1.3	—	
	Giant	V6004T X-tra	60	Kubota	V2403M-T	7,260	0.6-1.3	—	
	Giant	V6004T Tele	60	Kubota	V2403M-T	8,470	0.6-1.3	—	
	Wacker Neuson	WL 38	60/74	Perkins/Deutz	404F-22T/TCD 2.9	9,259	.78-1.5	.78	
	Yanmar	V8	60	Deutz	TCD 2.9 L4	10,802	1.05-1.6	1.05	
	Hitachi	ZW80	61	Kubota	V3307-DI	12,220	1.0-1.18	1.18	
	JCB	407	61	JCB Diesel by Kohler	KDI 2504 TCR	11,162	1.0-1.8	1.0	
NEW	John Deere	204L	61	Yanmar	4TNV98	11,806	1.0-1.4	1.0	
	Kubota	R630	61.2	Kubota	V2607-CR-TE4	10,229	1.0-1.5	1.0	
	Coyote	C16	63	Perkins	704-30	10,852	—	1	
NEW	Volvo	L25H	63.4	Volvo	D2.6M	10,251	1.0-1.6	1	
NEW	Volvo	L20H	63.4	Volvo	D2.6M	11,222	.85-1.11	1.11	
NEW	John Deere	304L	64	Yanmar	4TNV98	12,778	1.0-2.1	1.0	
	LiuGong	CLG816G	64	Yanmar	4TNV98-ZPLYW	12,346	0.95-1.31	1.0	
	Gehl	650-4 post	64.4	Yanmar	4TNV98CT	9,080	0.75-1.67	0.75	
	Gehl	650-Cab	64.4	Yanmar	4TNV98CT	9,500	0.75-1.67	0.75	
	Mustang	608-4 post	64.4	Yanmar	4TNV98CT Tier IV	9,150	0.75-1.67	.75	
	Mustang	608-Cab	64.4	Yanmar	4TNV98CT Tier IV	9,500	0.75-1.67	.75	
	Waldon	4500B	65	Cummins	B 3.3	6,920	0.43-0.78	0.55	
	Waldon	5100	65	Cummins	B 3.3	7,100	0.41-1.0	0.62	
	SDLG	L918F	67	Deutz	TCD3.6 L4 (Tier 4F)	14,990	1.0-2.0	1.0	
70 TO <80 RATED NET HP									
	Case	221F	70	FPT	F5H FL463 A*F004	12,547	1.2-1.56	1.2	
	Case	321F	70	FPT	F5H FL463 A*F001	13,303	1.3-1.7	1.3	
	Coyote	C17	70	Deutz	BF4L1011F	11,840	—	1.5	
	John Deere	244K-II	70	Yanmar	4TNV98CT	12,060	1.0-1.4	1.0	

	PERFORMANCE				DIMENSIONS				TIRES
	Breakout force (lbs)	Dump clearance, full height @ discharge (ft/in)	Bucket linkage type*	Total cycle time: raise, dump & lower (sec)	Length w/bucket on ground (ft/in)	Width over tires (ft/in)	Height to top of cab (ft/in)	Turning radius, bucket carry (ft/in)	Reference tire size
	13,320	8′ 1″	Z	—	17′ 2″	5′ 9″	8′ 1″	12′ 2″	12.5-18 PRMPT
	3,750	10′	TE	—	12′ 6″	4′ 3″	6′ 9″	4′ 1.2″	320/60-12
	3,750	10′ 2″	TE	—	12′ 6″	4′ 9″	6′ 11″	4′ 1.2″	400/50-15
	7,840	12′ 5″	Z	10	14′ 2″	4′ 7″-5′ 5″	7′ 6.5″	10′ 9″	—
	7,320	10′ 7″	P	10	14′ 2″	4′ 7″-5′ 5″	7′ 6.5″	10′ 9″	—
	7,090	16′ 0″	TE	10	14′ 2″	4′ 7″-5′ 5″	7′ 6.5″	10′ 9″	—
	8,768	8′ 0″	P/Z	—	16′ 10″	5′ 1″	7′ 8″	10′ 9″	15.5/55-18EM
	10,318	8′ 4″	P	—	16′ 7″	6′ 1″	8′ 9″	13′ 8″	405/70 R18
	8,280	7′ 10″	Z	9.5	17′ 8″	6′ 3.7″	9′ 4.6″	14′ 10.7″	17.5/65-20
	9,419	8′ 2″	P	11.5	16′ 10″	5′ 8″	8′ 2″	13′ 8″	12.5-18
	9,190	8′ 0″	Z	11.4	17′ 4″	5′ 9″	7′ 11″	12′ 10″	365 / 70 R18
	10,415	8′ 3″	Z	11.8	17′ 0″	5′ 11″	8′ 2″	11′ 4″	405/70 R18
	9,300	8′ 4″	Z	—	16′ 1″	6′ 1″	—	6′ 5.5″	12.5-18
	8,206	8′ 2″	P	—	16′ 11″	5′ 11″	8′ 2″	12′ 7″	335/80R18
	8,206	8′ 2″	P	—	16′ 6″	5′ 11″	8′ 2″	12′ 9″	335/80R18
	11,839	8′ 7″	Z	13.5	18′ 1″	5′ 10″	8′ 0″	14′ 8″	405 / 70 R18
	10,341	7′ 5″	Z	8.6	18′ 3″	6′ 4″	9′ 4″	15′ 0″	16/70-20
	12,661	8′ 3″	Z	—	16′ 8″	5′ 5″	8′ 1″	11′ 11″	405 / 70-20
	12,661	8′ 3″	Z	—	16′ 8″	5′ 5″	8′ 1″	11′ 11″	405 / 70-20
	12,661	8′ 3″	Z	—	16′ 8″	5′ 5″	8′ 1″	11′ 11″	405 / 70-20
	12,661	8′ 3″	Z	—	16′ 8″	5′ 5″	8′ 1″	11′ 11″	405 / 70-20
	5,950	7′ 8″	Z	12	11′ 2.2″	4′ 0.3″	6′ 8.1″	8′ 8.5″	8-16.5
	5,000	8′ 3.7″	Z	12	12′ 3.8″	4′ 7.6″	7′ 2.3″	10′ 8″	10-16.5
	8,540	8′ 0″	Z	8.1	19′ 2″	7′ 0″	9′ 7″	16′ 6″	405/70-20
	10,959	8′ 0″	Z	11.3	19′ 3″	6′ 1.2″	8′ 7″	13′ 1.6″	365/70 R18
	10,076	8′ 2″	Z	11.3	19′ 6″	6′ 1.2″	8′ 10″	13′ 1.6″	365/80R20
	11,882	8′ 5″	IZ	—	17′ 8″	6′ 0″	—	13′ 2″	405/70R20
	10,792	8′ 4″	Z	8.7	17′ 4″	6′ 2″	8′ 11″	11′ 6″	365 / 70 R18

***Bucket linkage type = Parallel (P); Telescopic extended (TE); Z-Bar (Z); Inverted Z-Bar (IZ); Versa-Boom (VB), High-Lift (HL)**

			ENGINE			WEIGHT	BUCKET		
	Make	Model	Net engine power (hp)	Engine make	Engine model	Operating weight (lbs)	Bucket capacities, min-max (cu yds)	Reference: Bucket capacity (cu yds)	
70 TO <80 RATED NET HP (continued)									
	John Deere	**324K**	70	Yanmar	4TNV98CT	14,087	1.4-2.1	1.4	
	John Deere	**324K High-Lift**	70	Yanmar	4TNV98CT	14,087	1.0-2.1	1.0	
	New Holland	**W80C**	70	FPT	F5HFL463A	13,184	1.4	1.4	
	New Holland	**W80C HS**	70	FPT	F5HFL463A	13,184	1.4	1.4	
	JCB	**409**	71	JCB Diesel by Kohler	KDI 2504 TCR	13,296	1.3-2.1	1.3	
	Volvo	**L30G**	71.3	Volvo	D3.3D	12,125	1.2-2.0	1.3	
	Volvo	**L35G**	71.3	Volvo	D3.3D	13,779	1.3-2.0	1.6	
	Coyote	**C16-4**	73	Perkins	704-30	12,125	1.1	1.1	
	Takeuchi	**TW65 SERIES 2**	73	Deutz	TD2.9L4	11,354	1.05-1.3	—	
	Takeuchi	**TW80 SERIES 2**	73	Deutz	TD2.9L4	12,700	1.3	—	
	Volvo	**L45H**	73	Volvo	D4J	19,334	1.8-2.6	2.1	
	Caterpillar	**906M**	74	Cat	C3.3B DIT	12,331	1.0-1.6	1.2	
	Caterpillar	**907M**	74	Cat	C3.3B DIT	12,745	1.0-1.6	1.3	
	Caterpillar	**908M**	74	Cat	C3.3B DIT	14,026	1.2-2.0	1.4	
	Wacker Neuson	**WL 52**	74	Deutz	TCD 2.9	11,244	1.0-2.0	1.0	
	Wacker Neuson	**8085**	74	Deutz	TCD2.9	10,471	1.0-1.5	1.1	
	Yanmar	**V10**	74	Deutz	TCD 2.9 L4	12,786	1.31-2.03	1.31	
	Gehl	**750-4 post**	74.3	Deutz	TD 3.6 L	10,540	1.00-2.00	1.00	
	Gehl	**750-Cab**	74.3	Deutz	TD 3.6 L	10,540	1.00-2.00	1.00	
	Mustang	**708-4 post**	74.3	Deutz	TD 3.6 L4 Tier IV	10,540	1.00-2.00	1.00	
	Mustang	**708-Cab**	74.3	Deutz	TD 3.6 L4 Tier IV	10,920	1.00-2.00	1.00	
	Coyote	**C14-4**	75	Perkins	804C-33TT	11,464	1	1	
80 TO <90 RATED NET HP									
	Rhino Equipment	**RWL65**	80	Cummins	4BT3.3	16,854	1.3	1.3	
	Volvo	**L50H**	85	Volvo	D4J	20,900	2.0-2.6	2.2	
	Waldon	**6000C**	85	Cummins	B 3.3	9,000	0.75-1.25	1	
	Waldon	**7000**	85	Cummins	B 3.3	11,000	1.0-1.5	1.25	

PERFORMANCE				DIMENSIONS				TIRES
Breakout force (lbs)	Dump clearance, full height @ discharge (ft/in)	Bucket linkage type*	Total cycle time: raise, dump & lower (sec)	Length w/bucket on ground (ft/in)	Width over tires (ft/in)	Height to top of cab (ft/in)	Turning radius, bucket carry (ft/in)	Reference tire size
12,364	8′ 9″	Z	11.6	18′ 10″	6′ 11″	9′ 2″	12′ 5″	405 / 70 R20
12,813	10′ 4″	HL	11.6	19′ 6″	6′ 11″	9′ 2″	12′ 5″	405 / 70 R20
13,927	8′ 11″	Z	—	18′ 6″	6′ 1″	8′ 8″	13′ 1″	365/80 R20
13,927	8′ 11″	Z	—	18′ 6″	6′ 1″	8′ 8″	13′ 1″	365/80 R20
13,067	8′ 7″	P	12	17′ 11″	6′ 3″	8′ 8″	14′ 6″	16.0/70-20
13,713	8′ 5″	Z	11.5	17′ 4″	6′ 0″	9′ 0″	12′ 10″	405/70R18
13,601	8′ 9″	Z	10.2	17′ 9″	6′ 4″	9′ 0″	13′ 0″	405/70R18
13,450	8′ 8″	Z	—	16′ 4″	6′ 6″	9′ 0″	14′ 3″	14.5-20
11,600	8′ 1″	Z	10.8	17′ 3″	6′ 1.5″	8′ 10″	12′ 2″	15-19.5
13,960	8′ 6″	Z	11	18′ 3″	6′ 9″	8′ 11.5″	14′ 8″	400/170/R20
14,837	9′ 4″	TP	—	20′ 11″	7′ 1″	9′ 7″	15′ 6″	15.5-25
9,666	8′ 2″	P/Z	9.6	17′ 11″	6′ 0″	8′ 1″	14′ 6″	405/70 R18 SPT9
9,666	7′ 11″	P/Z	9.6	17′ 11″	6′ 0″	8′ 5″	14′ 8″	405/70 R18 SPT9
11,464	8′ 0″	P/Z	9.6	18′ 5″	6′ 6″	8′ 8″	14′ 10″	405/70 R20 SPT9
7,711	8′ 3″	Z	—	18′ 1″	6′ 1″	8′ 9″	11′ 3″	405/70R18
9,172	8′ 4″	P	—	17′ 4″	5′ 10″	8′ 1″	9′ 3″	12.5-20 MPT-04
12,365	8′ 8″	P	—	17′ 3″	6′ 5″	9′ 1″	14′ 7″	405/70 R20
13,020	8′ 11″	Z	—	17′ 2″	5′ 8″	8′ 2″	12′ 11″	405 / 70-20
13,020	8′ 11″	Z	—	17′ 2″	5′ 8″	8′ 2″	12′ 11″	405 / 70-20
13,020	8′ 11″	Z	—	17′ 2″	5′ 8″	8′ 2″	12′ 11″	405 / 70-20
13,020	8′ 11″	Z	—	17′ 2″	5′ 8″	8′ 2″	12′ 11″	405 / 70-20
11,331	8′ 6″	Z	—	16′ 3″	6′ 1″	8′ 8″	13′ 5″	12.5-18
12,813	8′ 3.2″	—	—	18′ 8.8″	6′ 7.1″	9′ 9.1″	14′ 11″	16/70-24-10PR
16,186	9′ 4″	TP	—	21′ 2″	7′ 2″	9′ 8″	15′ 7″	15.5-25
10,450	8′ 11″	Z	10.5	14′ 3.3″	5′ 3.5″	7′ 6.5″	11′ 7″	14-17.5
9,000	8′ 9″	Z	10.5	16′ 4″	5′ 3.5″	7′ 7″	12′ 9″	14-17.5

***Bucket linkage type = Parallel (P); Telescopic extended (TE); Z-Bar (Z); Inverted Z-Bar (IZ); Versa-Boom (VB), High-Lift (HL)**