



**HITACHI**

WHEELED EXCAVATORS

DASH 3

ZAXIS

190W-3

220W-3

# WHEELS OF PROGRESS ROLL IN STYLE FOR LESS

## DASH 3

### IMPROVEMENTS

The wheels of progress are always turning at Hitachi. Our latest Dash-3 wheeled excavators are packed with improvements designed to provide more efficient power, greater productivity, more comfortable cab environment, and reduced operating expenses. Mobile and maneuverable, our wheeled excavators can quickly cruise from spot to spot under their own power and are more pavement friendly. Wider axles result in increased stability for the ZX220W-3; the short wheelbase of the ZX190W-3 is perfect in tight quarters.

#### Check it out

- *Increased maximum travel speed*
- *Greater acceleration performance*
- *Reduced operating expenses*
- *Excellent visibility*
- *Enhanced Boom Recirculation System*
- *Three engine modes (E, P, H/P), one work mode*
- *Auto Axle Lock System*
- *Brake Holding System*
- *No-play disk brake*
- *Optional two-piece boom*
- *Optional blade, including new flat bottom*
- *Optional outriggers*

### BETTER PERFORMANCE

We've taken advantage of the need to meet Tier-3 engine certification to make a number of other substantial changes to give you the best performance possible. We've increased the maximum travel speed, provided greater acceleration performance, and widened the oscillation angle of the axles for a smoother ride over rougher terrain. You can customize your machine with a variety of boom, blade, outrigger, and bucket options.

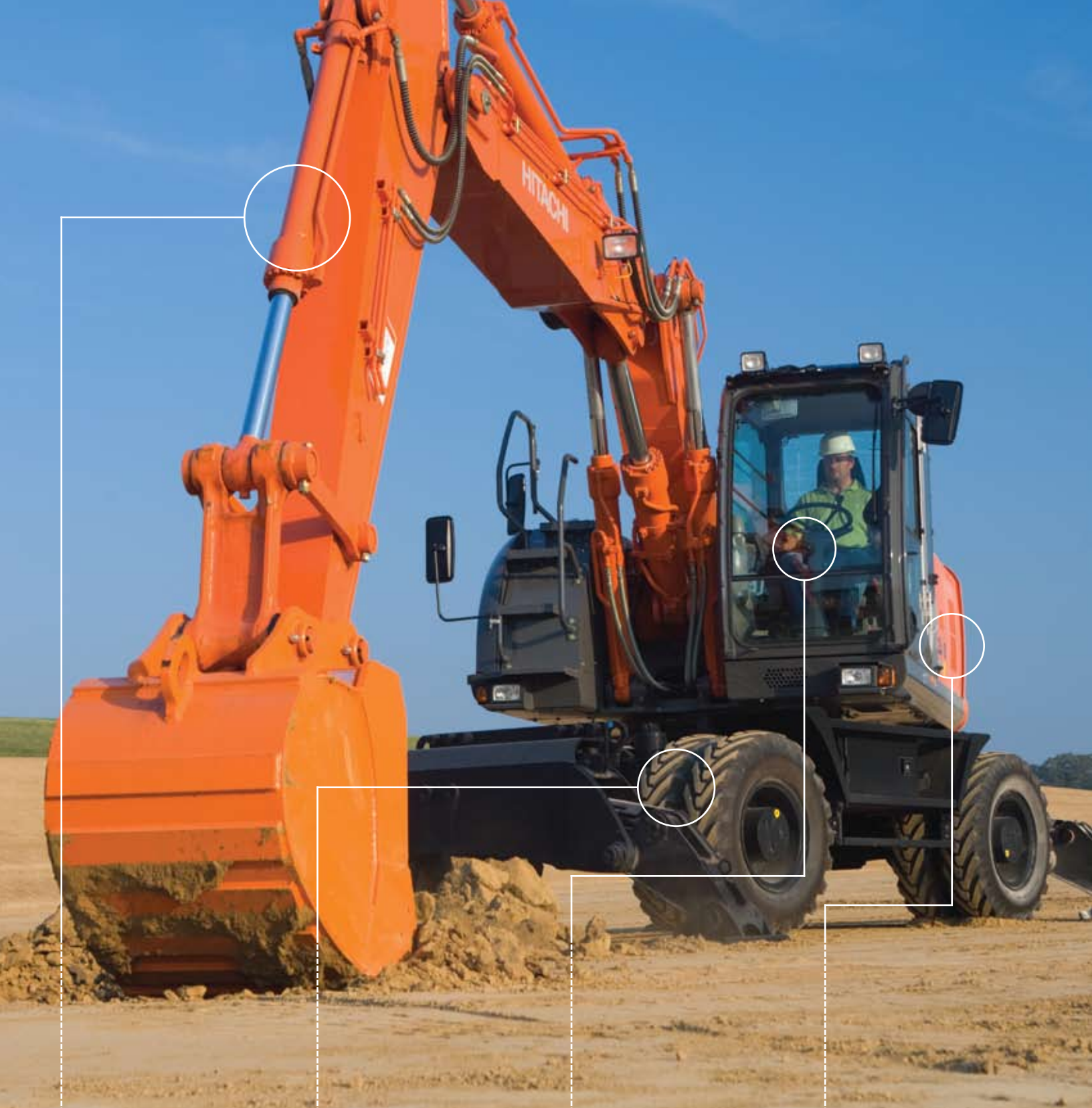
### MATCHED ENGINE AND HYDRAULICS

Our wheeled models use a gutsy and powerful four-cylinder Isuzu engine. The very durable overhead camshaft design, coupled with its common-rail-type fuel-injection system and cooled EGR system, generates big time horsepower, reduces particulate matter, is extraordinarily fuel efficient, and is very long-lived.

The updated HIOS III hydraulic system is a perfect match to the engine. It uses regenerative hydraulics to give you faster, stronger operation of the arm, and more responsive control of front attachments.

### BETTER MULTIFUNCTION OPERATIONS

More speed, less waste. No brand of excavators can execute multifunction operations as smoothly and as quickly as Hitachi. Period.



#### ■ **PRODUCTIVE HYDRAULICS:**

Dash-3 hydraulics are smarter and more responsive to bucket resistance. Movements are steady and sure. Regenerative flow on key cylinders means faster down movements, extremely fine control, and multitasking.

#### ■ **EASY DRIVABILITY:**

A wider axle-oscillation angle handles rough terrain and newly developed tires lower noise and vibration for superior travel stability. The 190W-3's short wheelbase with its short swing radius is perfect in close quarters.

#### ■ **IMPROVED CAB:**

Bigger, quieter, more accessible with better legroom and more visibility — what's not to love? A large multilingual monitor keeps the operator up-to-date on machine performance and diagnostics.

#### ■ **MORE EFFICIENT ENGINE:**

The 4-cylinder, Tier-3-certified Isuzu engine is extremely powerful, rugged, and very fuel-efficient.

# PRECISION WITH LESS EFFORT

## Operational Features

### IMPROVED HYDRAULICS FOR MORE PRODUCTION

Controllability has always been a Hitachi hallmark. Now, with the HIOS III hydraulic system, any job feels like less work. The hydraulic boosting system helps get it done using regenerative hydraulics.

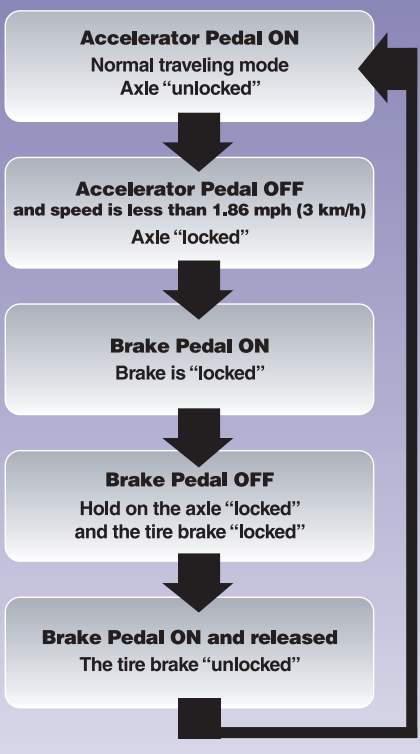
And what's really impressive is that HIOS III takes advantage of the increase in hydraulic performance and engine horsepower without sacrificing our characteristic smoothness and multifunction capabilities. Engine performance and hydraulic flow are perfectly balanced for fast, smooth, and precise operations.

Low-flow assist hydraulics come standard — perfect for applications that use bucket-tilt or bucket-swinger attachments. Dealer-installed high-pressure, high-flow auxiliary packages are also available.

### HOLDING STEADY

The Auto Axle Lock System is a real boon to operators. Removing the foot from the accelerator at a speed of less than 1.86 mph (3 km/h) fixes or locks the front axle automatically. The Brake Holding System works with the brake pedal. When pressed down once, the brake holds until the next time the pedal is pressed. Need even more stability? Optional outriggers and a blade can be added. The outrigger can provide up to 2.36 in. (60 mm)

#### ACCELERATOR/BRAKE OPERATION FLOW



lifting height than the previous model. Outriggers can be activated together or independently to level the machine.

### NO COASTING

Operators will love the swing performance of our new Dash-3s. The swing dampener valve, shockless valve, and reduced swing-bearing-gear backlash enable the operator to stop the upperstructure precisely at the intended point, without jolts or yawing.

### TWO-PIECE BOOM OPTION

Need a lower profile or more boom maneuverability? The two-piece boom option decreases overall traveling height, making it more operator-friendly around low hanging obstacles like branches, signs and wires. This option also extends the maximum cutting height, allows you to work close up, and depending on the arm length chosen, can extend digging reach and depth.





The oscillation angle has been increased by 16 percent over the conventional, improving surface holding performance on rough roads.



The tires feature an improved tread pattern and cross-section form, lowering vibration and noise while in motion.

## HAVE WHEELS, WILL TRAVEL

Uneven terrain doesn't intimidate our wheeled excavators. We've increased the oscillation angle by 16 percent over previous models. This improved surface-holding performance on rough roads results in more stable driving and safer operations. We've also integrated the transmission with the rear axle and installed it in an upper position for more efficient power transfer and better ground clearance.

Our wheeled models sport fancy yet practical black footwear — new tires developed in cooperation with Bridgestone. The tires feature an improved tread pattern and cross-section form, lowering vibration and noise while in motion. They also improve stability of the units during operation. Standard solid-rubber spacers between the heavy-duty dual tires keep mud and debris out for longer tire life.

## NEED FOR SPEED?

Our wheeled excavators can zip around at speeds up to 21.7 mph (35 km/h), depending on the model. Thanks to the overhead camshaft four-cylinder engine and the improved power train, the maximum travel speed and acceleration performance have increased dramatically: by 17 and 15 percent respectively on the 190W-3; by 10 and 11 percent on the 220W-3.



## IMPROVED EFFICIENCY

The new engine increases airflow to the cylinders to boost combustion efficiency. Use of the common-rail-type fuel-injection system means fuel-injection pressure, timing, and volume can be precisely regulated by electronic control for efficient combustion. Isuzu also has the industry's first cooled Exhaust Gas Recirculation (EGR) system, which lets part of the exhaust gas mix with suction air for recombustion. An isochronous-controlled electronic governor maintains a constant speed despite changes in engine load, reducing fuel consumption and noise in no-load and light-duty operations. When traveling on inclines, fuel consumption can be lowered by up to 29 percent compared to the previous models, depending on conditions.

The overall result is a lot more horsepower, a lot fewer emissions, and low fuel consumption.



**Isuzu Tier-3-certified engines are cleaner, more powerful, and more fuel efficient.**

# LOWER FUEL CONSUMPTION, MORE TORQUE Engine

## DASH-3 EXCLUSIVE ISUZU TIER-3-CERTIFIED ENGINE

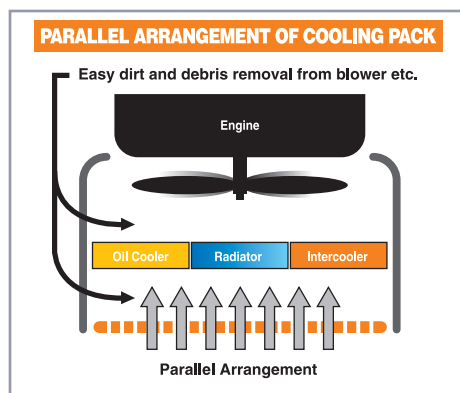
With fuel prices on the rise, fuel-efficient equipment is a must. Hitachi excavators, with their fuel-thrifty Isuzu engines, have traditionally been the most fuel-efficient option on the market. The all-new and improved Isuzu Tier-3-certified engines are super powerful, compact, and more fuel efficient than ever.

Isuzu Tier-3-certified engines for Hitachi excavators are a new design — they're better, and they simply operate cleaner. How?

The Exhaust Gas Recirculation (EGR) system reduces fuel consumption with an isochronous-controlled

electronic governor and a common-rail-type fuel-injection system.

Exhaust gas is partially mixed with suction air to reduce the concentration of oxygen in the combustion chamber. This lowers the temperature in the cylinder, which reduces fuel consumption



Oil cooler, radiator, and intercooler are laid out in parallel for easier clean-out around the engine.

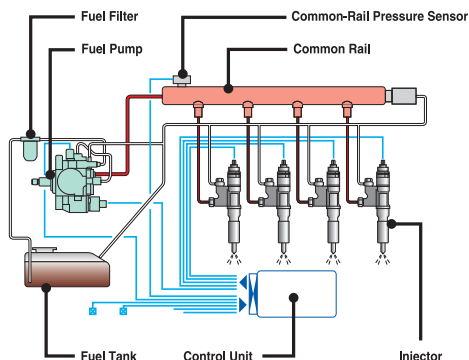
and NOx levels. The EGR system's cooler lowers exhaust gas temperatures for complete combustion, reducing particulate matter.

The electronic governor provides isochronous engine-speed control. The engine speed is kept constant, despite the load to the engine. Unlike a conventional mechanical governor, isochronous control is free from wasteful speed increases when the load to the engine is reduced to a minimum. This effectively reduces fuel consumption and noise under no-load or light-load operations.

The engine also features good cold-weather starting ability and can run at higher altitudes without adjustment.

## COMMON-RAIL-TYPE FUEL-INJECTION SYSTEM

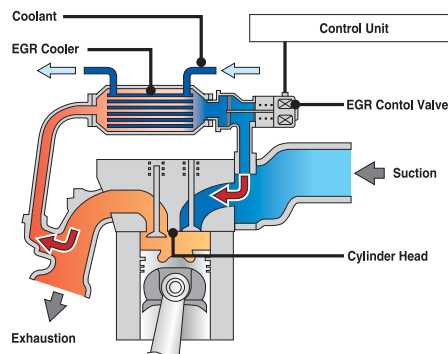
Eliminating differences in suction pressure among cylinders through common rail.



The common rail is designed to uniformly distribute pressurized fuel to the electronic injectors.

## COOLED EGR SYSTEM

Exhaust gas is partially recycled for recombustion to reduce emissions such as NOx, while yielding high output.



The cooled EGR system lets part of the exhaust gas mix with suction air for efficient recombustion.

# IMPROVED OPERATOR CONTROL, MOST COMFORTABLE IN ITS CLASS

## C a b



### LARGER

Operators, rejoice! The CRES II cab is larger, has more foot room, and comes with a wider, more comfortable seat. There is more visibility to the front and 47-percent more glass to the right. The right downward view and the rear view are improved as well. Fully automatic air conditioning is standard. And the machine is quieter inside and out, thanks to a low-noise-design suppression muffler, a high-efficiency cooling fan with curved blades to reduce air resistance and air flow, a new tread design on the tires, and isochronous control of the engine speed to restrict it during no-load and light-duty operations.



A wider seatback, more legroom, and 47-percent more glass on the right side mean a safer and more productive workday. An optional air-suspension heated seat is also available.



The large transparent hatch provides excellent visibility overhead. Sliding windows on the front and side enable direct communication between the operator and other workers.



Use the foot-operated angle adjustment lever to move the steering tilt column to whatever position is most comfortable for the operator.



Multilanguage widescreen color LCD monitor provides easily accessible maintenance, attachment, and operational information.



Short-throw levers mean fingertip control. Lever stroke is decreased by 10 percent. Note convenient cup holder.



The FNR (Forward-Neutral-Reverse) switch is located on the right operation lever. Easily switch between forward and reverse with the right hand without compromising complex operations or driving.

## CONTROLS

Short-throw levers mean fingertip control with less effort. Independently mounted armrests keep them always in the right position. Joystick controllers are pre-fitted for auxiliary lines, so it's easy and inexpensive to add auxiliary hydraulics. The smooth two-speed transmission only shifts within certain travel-speed parameters — protecting both operator and drivetrain. Three engine modes and one work mode makes it easy to be productive. And there are several customizable levers and switches, enabling the operator to be as ergonomically efficient as possible.

## MONITOR SYSTEM

An all-new monitor package lets you see larger gauges and more information by simply pushing a button.

The screens provide instant informational records such as engine speed, temperature, and average fuel consumption from the on-board monitoring system. There is also a convenient plug-in for downloading this same information to a PDA or laptop computer.



# RELIABILITY and UPTIME Serviceability

Behind every Zaxis we build is the mining legacy of Hitachi. Ask anybody in the mining industry and they'll tell you Hitachi leads the field for high production, high uptime, and low operating costs. We put that same engineering expertise into every Zaxis we make.

## **BUILT RIGHT**

From our ultra-dependable, fuel-sipping Isuzu diesel engine to our rugged D-channel side frames, the 190W-3 and 220W-3 are built tough for unsurpassed reliability. The chassis has been redesigned, strengthening the frame. New HN bushings containing HITASOL (solid molybdenum-based lubricant) to enhance durability and extend grease intervals for the boom-arm joint and the arm cylinder mounting area. Reinforced resin thrust

plates increase boom lube intervals to 500 hours. Welded bulkheads within the boom resist torsional stress for long-term durability. The WC (tungsten-carbide) coating creates an extremely wear-resistant surface to protect the all-important arm-bucket joint, reducing jerking and extended wear life.

## **EASE OF MAINTENANCE**

When it comes to maintenance, Hitachi makes it easy. Large service doors provide wide-open access to daily checkpoints. Easy-access, remote-mount oil and fuel filters can be changed without crawling under the machine or removing access panels, reducing service time. Oil cooler, radiator, and intercooler are laid out in parallel for easier clean-out around the engine. The air conditioner

condenser can be opened for easy cleaning of the condenser and the radiator located behind. Double fuel filters with water separator prevent clogging in the fuel line.

Extended service intervals — 500 hours engine oil, 5000 hours hydraulic oil — let you work longer between changes. The fan belt is four times more durable than before. And we've even moved the air conditioner filter to the cab door side, making it easier to reach and change out.

The MIC (Machine Information Center) and widescreen color LCD monitor with on-board diagnostics help you make timely decisions about machine upkeep, maximizing uptime, productivity, and profits.

# A HISTORY OF ACHIEVEMENTS, POISED FOR THE FUTURE

## Success

### A DEALER FOR THE LONG HAUL

Hitachi excavators are world-class — so are our dealers. That's why a dealership must meet a number of exacting requirements in customer satisfaction, service, and tech support before it can carry the Hitachi line.

### STRONG SUPPORT

Parts play an integral role in maintaining productivity and value. Non-emergency parts are stored in two national parts centers. Eleven field depots warehouse thousands of parts classified as "critical" — those parts needed to maintain and keep machines running.

Hitachi also offers remanufactured hydraulic and cylinder components that equal or beat OEM standards. They are tested and certified for correct performance, then backed by a one-year/1,500-hour warranty for both parts and labor when installed by a Hitachi dealer.

### MAKING THE DEAL

Your Hitachi dealer is focused on building a strong relationship with you. You can count on him for helpful assistance when it comes to specing the best product for the best price. He can also offer a variety of attractive financing agreements. And whether your service needs are in



Thousands of critical parts needed to keep a machine running are kept on hand.

the field or the shop, his staff of well-trained, well-equipped technicians will do the job right in a timely manner and at a fair price. Partnership for the long haul — that's the focus of your local Hitachi dealer.



# ZAXIS 190W-3 SPECIFICATIONS

## Engine

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| Manufacturer and Model .....          | Isuzu 4HK1X                       |
| Non-Road Emission Standards .....     | certified to EPA Tier-3 emissions |
| Cylinders .....                       | 4                                 |
| Displacement .....                    | 317 cu. in. (5.2 L)               |
| SAE Net Rated Power @ 2,000 rpm ..... | 159 hp (119 kW)                   |
| Off-Level Capacity .....              | 67%                               |
| Aspiration .....                      | turbocharged and intercooled      |

## Cooling

Direct-drive, suction-type fan

## Powertrain

Two-speed propel with creeper mode and automatic shift

### Maximum Travel Speed

|                   |                                                                                          |
|-------------------|------------------------------------------------------------------------------------------|
| Creeper .....     | 1.6 mph (2.6 km/h)                                                                       |
| Low .....         | 5.3 mph (8.5 km/h)                                                                       |
| High .....        | 21.7 mph (35.0 km/h)                                                                     |
| Front Axle .....  | all-wheel drive; can be locked hydraulically in any position                             |
| Oscillation ..... | ±7 deg.                                                                                  |
| Brakes .....      | maintenance-free wet-disc brakes on front and rear axles; fully hydraulic service brakes |

## Hydraulics

Auxiliary hydraulic flow adjustable through monitor

|                               |                                            |
|-------------------------------|--------------------------------------------|
| Main Pumps .....              | 2 variable-displacement axial-piston pumps |
| Pump Flow (maximum x 2) ..... | 49.9 gpm (189 L/m)                         |
| Pilot Pump .....              | one gear                                   |
| Maximum Rated Flow .....      | 7.3 gpm (27.7 L/m)                         |
| System Relief Pressure .....  | 566 psi (3900 kPa)                         |

### System Operating Pressure

|                          |                                                                                     |
|--------------------------|-------------------------------------------------------------------------------------|
| Implement Circuits ..... | 4,975 psi (34 300 kPa)                                                              |
| Travel Circuits .....    | 4,975 psi (34 300 kPa)                                                              |
| Swing Circuits .....     | 4,699 psi (32 400 kPa)                                                              |
| Controls .....           | pilot levers, short stroke, low effort; hydraulic pilot controls with shutoff lever |

## Cylinders

Heat-treated, chrome-plated, polished cylinder rods, hardened steel (replaceable bushings) pivot pins

|                                     | Bore             | Rod Diameter     | Stroke             |
|-------------------------------------|------------------|------------------|--------------------|
| Monoblock Boom (2) .....            | 4.7 in. (120 mm) | 3.3 in. (85 mm)  | 41.3 in. (1050 mm) |
| 2-Piece Boom (2) .....              | 4.7 in. (120 mm) | 3.3 in. (85 mm)  | 38.6 in. (980 mm)  |
| Positioning (2), 2-Piece Boom ..... | 6.7 in. (170 mm) | 4.3 in. (110 mm) | 26.4 in. (670 mm)  |
| Arm (1) .....                       | 4.9 in. (125 mm) | 3.5 in. (90 mm)  | 54.0 in. (1371 mm) |
| Bucket (1) .....                    | 4.1 in. (105 mm) | 3.0 in. (75 mm)  | 41.7 in. (1060 mm) |

## Electrical

|                                     |                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------|
| Voltage .....                       | 24 volt                                                                              |
| Number of Batteries (12 volt) ..... | 2                                                                                    |
| Alternator Rating .....             | 50 amp                                                                               |
| Lights (6) .....                    | headlights (2), top of cab (2), rear of cab (1), and boom (1)                        |
| Driving Lights .....                | headlights (2), turn signals and hazard lights, brake lights, and side-marker lights |

## Swing Mechanism

|                    |                            |
|--------------------|----------------------------|
| Swing Speed .....  | 12.2 rpm                   |
| Swing Torque ..... | 29,800 lb.-ft. (40 403 Nm) |

## Serviceability

### Sight Gauges

### Refill Capacities

|                             |                         |
|-----------------------------|-------------------------|
| Fuel Tank .....             | 77 gal. (290 L)         |
| Cooling System.....         | 6 gal. (22 L)           |
| Engine Oil with Filter..... | 6 gal. (23 L)           |
| Hydraulic Tank.....         | 45 gal. (170 L)         |
| Hydraulic System.....       | 63 gal. (240 L)         |
| Swing Drive .....           | 7.3 qt. (6.9 L)         |
| Transmission Pump .....     | 1 qt. (0.95 L)          |
| Transmission.....           | 3 qt. (2.8 L)           |
| <b>Axle</b>                 |                         |
| Front .....                 | 2.5 gal. (9.5 L)        |
| Rear .....                  | 3.7 gal. (14 L)         |
| Front and Rear Hubs.....    | 2 x 2.6 qt. (2 x 2.5 L) |

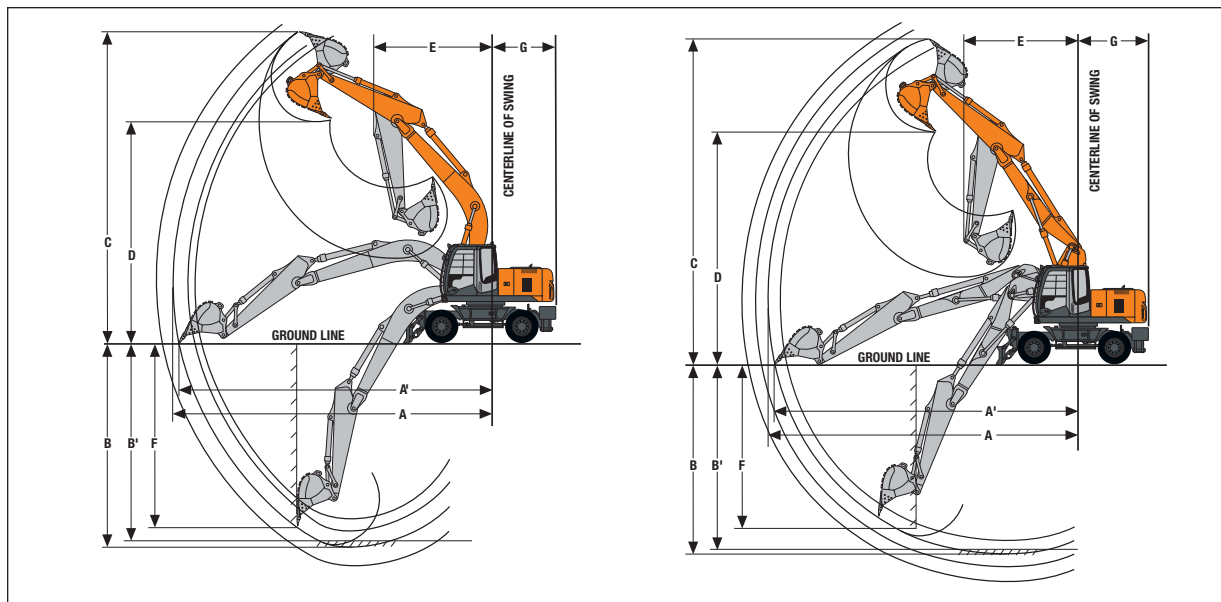
## Operating Weights

With Full Fuel Tank; 175-lb. (79 kg) Operator;  
0.92-cu.-yd. (0.7 m<sup>3</sup>), 35-in. (900 mm),  
1,345-lb. (610 kg) General-Purpose Bucket;  
8-ft. 11-in. (2.71 m) Arm; Standard Gauge;  
and 8,929-lb. (4200 kg) Counterweight

|                                     | <i>Monoblock Boom</i>  | <i>2-Piece Boom</i>    |
|-------------------------------------|------------------------|------------------------|
| Front and Rear Outrigger .....      | 44,029 lb. (19 971 kg) | 45,636 lb. (20 700 kg) |
| Front Blade and Rear Outrigger..... | 43,211 lb. (19 600 kg) | 44,974 lb. (20 400 kg) |

## Operating Dimensions

|                                                    | <i>Monoblock Boom</i>  | <i>2-Piece Boom</i>    |
|----------------------------------------------------|------------------------|------------------------|
| Arm Force .....                                    | 18,465 lb. (82.1 kN)   | 18,509 lb. (82.3 kN)   |
| Bucket Digging Force .....                         | 22,916 lb. (101.9 kN)  | 22,916 lb. (101.9 kN)  |
| <b>Lifting Capacity Over Front at Ground Level</b> |                        |                        |
| 20-ft. (6.1 m) Reach .....                         | 13,563 lb. (6152 kg)   | 12,699 lb. (5760 kg)   |
| <b>A</b> Maximum Reach.....                        | 31 ft. 5 in. (9.58 m)  | 31 ft. 1 in. (9.48 m)  |
| <b>A'</b> Maximum Reach at Ground Level .....      | 30 ft. 10 in. (9.40 m) | 30 ft. 6 in. (9.30 m)  |
| <b>B</b> Maximum Digging Depth .....               | 19 ft. 2 in. (5.83 m)  | 19 ft. 5 in. (5.93 m)  |
| <b>B'</b> Maximum Digging Depth at                 |                        |                        |
| 8-ft. (2.44 m) Flat Bottom .....                   | 18 ft. 6 in. (5.64 m)  | 18 ft. 10 in. (5.74 m) |
| <b>C</b> Maximum Cutting Height .....              | 30 ft. 4 in. (9.25 m)  | 32 ft. 4 in. (9.85 m)  |
| <b>D</b> Maximum Dumping Height .....              | 21 ft. 2 in. (6.45 m)  | 22 ft. 10 in. (6.95 m) |
| <b>E</b> Minimum Swing Radius .....                | 11 ft. 5 in. (3.48 m)  | 9 ft. 10 in. (3.00 m)  |
| <b>F</b> Maximum Vertical Wall .....               | 17 ft. 3 in. (5.26 m)  | 17 ft. 3 in. (5.26 m)  |
| <b>G</b> Tail Swing Radius .....                   | 7 ft. 7 in. (2.32 m)   | 7 ft. 7 in. (2.32 m)   |

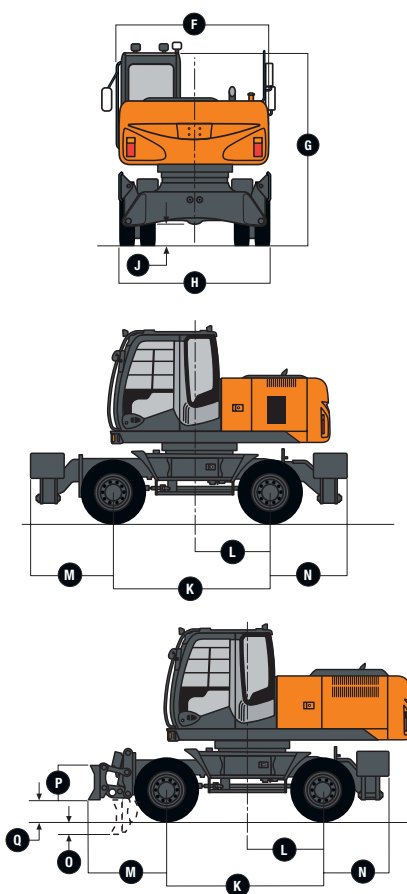


## Machine Dimensions

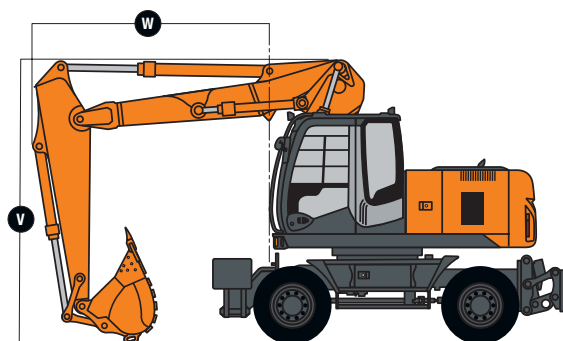
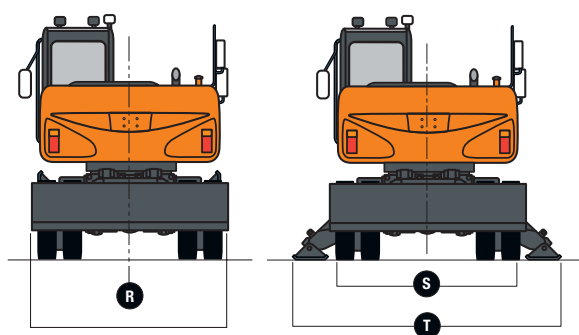
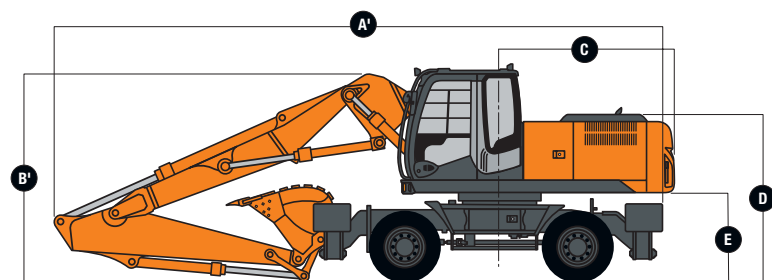
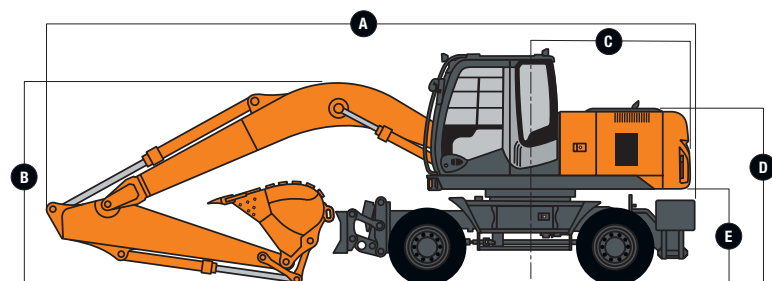
With standard gauge. Dimensions are provided for both the front and rear outrigger configuration, and for the front blade and rear outrigger configuration.

|                                                                                   | Monoblock Boom        | 2-Piece Boom           |
|-----------------------------------------------------------------------------------|-----------------------|------------------------|
| <b>A</b> Overall Length (with 8-ft. 11-in. [2.71 m] arm) .....                    | 29 ft. 6 in. (8.98 m) | —                      |
| <b>A'</b> Overall Length (with 8-ft. 11-in. [2.71 m] arm) .....                   | —                     | 28 ft. 10 in. (8.80 m) |
| <b>B</b> Overall Height of Boom (with 8-ft. 11-in. [2.71 m] arm) .....            | 10 ft. 3 in. (3.13 m) | —                      |
| <b>B'</b> Overall Height of Boom (with 8-ft. 11-in. [2.71 m] arm) .....           | —                     | 10 ft. 6 in. (3.21 m)  |
| <b>C</b> Rear-End Swing Radius .....                                              | 7 ft. 7 in. (2.32 m)  | 7 ft. 7 in. (2.32 m)   |
| <b>D</b> Engine Cover Height .....                                                | 7 ft. 8 in. (2.35 m)  | 7 ft. 8 in. (2.35 m)   |
| <b>E</b> Counterweight Clearance .....                                            | 4 ft. 1 in. (1.24 m)  | 4 ft. 1 in. (1.24 m)   |
| <b>F</b> Overall Width of Upperstructure .....                                    | 8 ft. (2.45 m)        | 8 ft. (2.45 m)         |
| <b>G</b> Overall Height of Cab .....                                              | 10 ft. 3 in. (3.13 m) | 10 ft. 3 in. (3.13 m)  |
| <b>H</b> Overall Width of Tires .....                                             | 8 ft. 4 in. (2.54 m)  | 8 ft. 4 in. (2.54 m)   |
| <b>J</b> Minimum Ground Clearance .....                                           | 14 in. (0.35 m)       | 14 in. (0.35 m)        |
| <b>K</b> Wheelbase .....                                                          | 8 ft. 8 in. (2.65 m)  | 8 ft. 8 in. (2.65 m)   |
| <b>L</b> Swing Center to Rear Axle .....                                          | 3 ft. 9 in. (1.15 m)  | 3 ft. 9 in. (1.15 m)   |
| <b>M</b> Front Overhang                                                           |                       |                        |
| Front and Rear Outrigger .....                                                    | 4 ft. 6 in. (1.38 m)  | 4 ft. 6 in. (1.38 m)   |
| Front Blade and Rear Outrigger .....                                              | 4 ft. 4 in. (1.32 m)  | 4 ft. 4 in. (1.32 m)   |
| <b>N</b> Rear Overhang .....                                                      | 3 ft. 7 in. (1.09 m)  | 3 ft. 7 in. (1.09 m)   |
| <b>O</b> Maximum Blade Lower .....                                                | 9 in. (0.22 m)        | 9 in. (0.22 m)         |
| <b>P</b> Overall Height of Blade .....                                            | 23 in. (0.59 m)       | 23 in. (0.59 m)        |
| <b>Q</b> Maximum Blade Raise .....                                                | 15 in. (0.37 m)       | 15 in. (0.37 m)        |
| <b>R</b> Overall Width of Blade .....                                             | 8 ft. 4 in. (2.53 m)  | 8 ft. 4 in. (2.53 m)   |
| <b>S</b> Overall Width with Outrigger Retracted .....                             | 8 ft. 1 in. (2.47 m)  | 8 ft. 1 in. (2.47 m)   |
| <b>T</b> Overall Width with Outrigger Extended .....                              | 11 ft. 3 in. (3.44 m) | 11 ft. 3 in. (3.44 m)  |
| <b>V</b> Overall Height of Boom (traveling, with 8-ft. 11-in. [2.71 m] arm) ..... | 13 ft. (3.97 m)       | 13 ft. (3.97 m)        |
| <b>W</b> Front Overhang (traveling, with 8-ft. 11-in. [2.71 m] arm) .....         | 17 ft. 3 in. (5.26 m) | 17 ft. 3 in. (5.26 m)  |

ZAXIS 190W-3



ZAXIS 190W-3



## Lifting Capacities

**Boldface italic** type indicates hydraulic-limited capacities; lightface type indicates stability-limited capacities, in lb. (kg). Ratings at bucket lift hook; machine equipped with 0.92-cu.-yd. (0.7 m<sup>3</sup>), 35-in. (900 mm) wide, 1,345-lb. (610 kg) bucket; 8-ft. 11-in. (2.71 m) arm; and standard gauge; and situated on firm, uniform surface. Total load includes weight of cables, hook, etc. Figures do not exceed 87% of hydraulic capacities or 75% of weight needed to tip machine. All capacities are based on SAE J1097.

| Load Point<br>Height                                         | 10 ft. (3.05 m) |                 | 15 ft. (4.57 m) |               | 20 ft. (6.10 m) |               | 25 ft. (7.62 m) |              |
|--------------------------------------------------------------|-----------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|--------------|
|                                                              | Over Front      | Over Side       | Over Front      | Over Side     | Over Front      | Over Side     | Over Front      | Over Side    |
| With monoblock boom and rear outriggers and front blade down |                 |                 |                 |               |                 |               |                 |              |
| 20 ft. (6.10 m)                                              |                 |                 |                 |               | 8,003 (3630)    | 8,003 (3630)  |                 |              |
| 15 ft. (4.57 m)                                              |                 |                 |                 |               | 9,538 (4327)    | 9,538 (4326)  | 7,018 (3184)    | 7,018 (3183) |
| 10 ft. (3.05 m)                                              |                 |                 | 14,935 (6775)   | 14,935 (6774) | 11,377 (5161)   | 10,211 (4632) | 9,563 (4338)    | 6,993 (3172) |
| 5 ft. (1.52 m)                                               |                 |                 | 18,141 (8229)   | 15,168 (6880) | 12,813 (5812)   | 9,674 (4388)  | 10,152 (4605)   | 6,743 (3059) |
| Ground Line                                                  |                 |                 | 19,027 (8631)   | 14,507 (6580) | 13,563 (6152)   | 9,271 (4205)  | 10,403 (4719)   | 6,533 (2963) |
| -5 ft. (-1.52 m)                                             | 13,594 (6166)   | 13,594 (6166)   | 17,860 (8101)   | 14,342 (6505) | 13,189 (5982)   | 9,081 (4119)  | 9,868 (4476)    | 6,432 (2918) |
| -10 ft. (-3.05 m)                                            | 18,739 (8500)   | 18,739 (8500)   | 15,119 (6858)   | 14,448 (6554) | 11,373 (5159)   | 9,104 (4130)  |                 |              |
| -15 ft. (-4.57 m)                                            |                 |                 | 10,159 (4608)   | 10,159 (4608) |                 |               |                 |              |
| With monoblock boom and 4 outriggers down                    |                 |                 |                 |               |                 |               |                 |              |
| 20 ft. (6.10 m)                                              |                 |                 |                 |               | 8,003 (3630)    | 8,003 (3630)  |                 |              |
| 15 ft. (4.57 m)                                              |                 |                 |                 |               | 9,538 (4326)    | 9,538 (4326)  | 7,018 (3183)    | 7,018 (3183) |
| 10 ft. (3.05 m)                                              |                 |                 | 14,935 (6774)   | 14,935 (6774) | 11,377 (5161)   | 11,377 (5161) | 9,563 (4338)    | 8,182 (3711) |
| 5 ft. (1.52 m)                                               |                 |                 | 18,141 (8229)   | 18,032 (8179) | 12,813 (5812)   | 11,365 (5155) | 10,152 (4605)   | 7,926 (3595) |
| Ground Line                                                  |                 |                 | 19,027 (8631)   | 17,337 (7864) | 13,563 (6152)   | 10,947 (4965) | 10,403 (4719)   | 7,710 (3497) |
| -5 ft. (-1.52 m)                                             | 13,594 (6166)   | 13,594 (6166)   | 17,860 (8101)   | 17,162 (7785) | 13,189 (5982)   | 10,751 (4877) | 9,868 (4476)    | 7,606 (3450) |
| -10 ft. (-3.05 m)                                            | 18,739 (8500)   | 18,739 (8500)   | 15,119 (6858)   | 15,119 (6858) | 11,373 (5159)   | 10,775 (4887) |                 |              |
| -15 ft. (-4.57 m)                                            |                 |                 | 10,159 (4608)   | 10,159 (4608) |                 |               |                 |              |
| With 2-piece boom and rear outriggers and front blade down   |                 |                 |                 |               |                 |               |                 |              |
| 20 ft. (6.10 m)                                              |                 |                 |                 |               | 7,303 (3313)    | 7,303 (3313)  |                 |              |
| 15 ft. (4.57 m)                                              |                 |                 |                 |               | 7,841 (3557)    | 7,841 (3557)  | 6,472 (2936)    | 6,472 (2936) |
| 10 ft. (3.05 m)                                              |                 |                 | 11,722 (5317)   | 11,722 (5317) | 9,352 (4242)    | 9,352 (4242)  | 8,353 (3789)    | 7,288 (3306) |
| 5 ft. (1.52 m)                                               | 18,202 (8256)   | 18,202 (8256)   | 15,785 (7160)   | 15,608 (7080) | 11,210 (5085)   | 10,138 (4599) | 9,210 (4178)    | 7,165 (3250) |
| Ground Line                                                  | 24,017 (10 894) | 24,017 (10 894) | 18,200 (8255)   | 15,606 (7079) | 12,699 (5760)   | 10,163 (4610) | 9,967 (4521)    | 6,936 (3146) |
| -5 ft. (-1.52 m)                                             | 26,247 (11 905) | 26,247 (11 905) | 18,771 (8514)   | 15,950 (7235) | 13,335 (6049)   | 10,175 (4615) | 10,250 (4649)   | 6,656 (3019) |
| -10 ft. (-3.05 m)                                            | 27,351 (12 406) | 27,351 (12 406) | 19,256 (8734)   | 16,144 (7323) | 13,699 (6214)   | 9,650 (4377)  |                 |              |
| -15 ft. (-4.57 m)                                            | 27,351 (12 406) | 27,351 (12 406) | 17,375 (7881)   | 15,448 (7007) |                 |               |                 |              |
| With 2-piece boom and 4 outriggers down                      |                 |                 |                 |               |                 |               |                 |              |
| 20 ft. (6.10 m)                                              |                 |                 |                 |               | 7,303 (3313)    | 7,303 (3313)  |                 |              |
| 15 ft. (4.57 m)                                              |                 |                 |                 |               | 7,841 (3557)    | 7,841 (3557)  | 6,472 (2936)    | 6,472 (2936) |
| 10 ft. (3.05 m)                                              |                 |                 | 11,722 (5317)   | 11,722 (5317) | 9,352 (4242)    | 9,352 (4242)  | 8,353 (3789)    | 8,353 (3789) |
| 5 ft. (1.52 m)                                               | 18,202 (8256)   | 18,202 (8256)   | 15,785 (7160)   | 15,785 (7160) | 11,210 (5085)   | 11,210 (5085) | 9,210 (4178)    | 8,323 (3775) |
| Ground Line                                                  | 24,017 (10 894) | 24,017 (10 894) | 18,200 (8255)   | 17,815 (8081) | 12,699 (5760)   | 11,538 (5234) | 9,967 (4521)    | 8,105 (3676) |
| -5 ft. (-1.52 m)                                             | 26,247 (11 905) | 26,247 (11 905) | 18,771 (8514)   | 18,104 (8212) | 13,335 (6049)   | 11,855 (5377) | 10,250 (4649)   | 7,847 (3559) |
| -10 ft. (-3.05 m)                                            | 27,351 (12 406) | 27,351 (12 406) | 19,256 (8734)   | 18,926 (8585) | 13,699 (6214)   | 11,374 (5159) |                 |              |
| -15 ft. (-4.57 m)                                            | 27,351 (12 406) | 27,351 (12 406) | 17,375 (7881)   | 17,375 (7881) |                 |               |                 |              |

## Buckets

A full line of buckets is offered to meet a wide variety of applications. Digging forces are with power boost. Replaceable cutting edges are available through Hitachi parts. Optional side cutters add 6 inches (150 mm) to bucket widths.

| Type Bucket     | Bucket Width |      | Bucket Capacity |                | Weight |     | Bucket Dig Force |       | Arm Dig Force         |      | Bucket Tip Radius |      | No. Teeth |
|-----------------|--------------|------|-----------------|----------------|--------|-----|------------------|-------|-----------------------|------|-------------------|------|-----------|
|                 | in.          | mm   | cu. yd.         | m <sup>3</sup> | lb.    | kg  | lb.              | kN    | 8 ft. 11 in. (2.71 m) | lb.  | mm                | mm   |           |
| General-Purpose | 30           | 762  | 0.79            | 0.60           | 1,432  | 650 | 22,762           | 101.3 | 18,465                | 82.1 | 58.0              | 1473 | 4         |
| High Capacity   | 36           | 914  | 1.00            | 0.76           | 1,621  | 735 | 22,762           | 101.3 | 18,465                | 82.1 | 58.0              | 1473 | 5         |
|                 | 42           | 1067 | 1.22            | 0.93           | 1,790  | 812 | 22,762           | 101.3 | 18,465                | 82.1 | 58.0              | 1473 | 5         |
|                 | 48           | 1219 | 1.43            | 1.09           | 1,976  | 896 | 22,762           | 101.3 | 18,465                | 82.1 | 58.0              | 1473 | 6         |
| Heavy-Duty      | 24           | 610  | 0.52            | 0.40           | 1,197  | 543 | 22,916           | 101.9 | 18,509                | 82.3 | 57.61             | 1463 | 4         |
| Plate Lip       | 30           | 762  | 0.71            | 0.54           | 1,369  | 621 | 22,916           | 101.9 | 18,509                | 82.3 | 57.61             | 1463 | 4         |
|                 | 36           | 914  | 0.90            | 0.69           | 1,559  | 707 | 22,916           | 101.9 | 18,509                | 82.3 | 57.61             | 1463 | 5         |
|                 | 42           | 1067 | 1.09            | 0.83           | 1,731  | 785 | 22,916           | 101.9 | 18,509                | 82.3 | 57.61             | 1463 | 5         |
|                 | 48           | 1219 | 1.29            | 0.99           | 1,921  | 871 | 22,916           | 101.9 | 18,509                | 82.3 | 57.61             | 1463 | 6         |
| Heavy-Duty      | 24           | 610  | 0.56            | 0.43           | 1,424  | 646 | 22,762           | 101.3 | 18,465                | 82.1 | 58.0              | 1473 | 4         |
| High Capacity   | 30           | 762  | 0.76            | 0.58           | 1,593  | 723 | 22,762           | 101.3 | 18,465                | 82.1 | 58.0              | 1473 | 4         |
|                 | 36           | 914  | 0.97            | 0.74           | 1,782  | 808 | 22,762           | 101.3 | 18,465                | 82.1 | 58.0              | 1473 | 5         |
|                 | 42           | 1067 | 1.19            | 0.91           | 1,951  | 885 | 22,762           | 101.3 | 18,465                | 82.1 | 58.0              | 1473 | 5         |
| Ditching        | 60           | 1524 | 1.14            | 0.87           | 1,271  | 577 | 31,720           | 141.1 | 20,505                | 91.2 | 41.62             | 1057 | 0         |

# ZAXIS 220W-3 SPECIFICATIONS

## Engine

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| Manufacturer and Model .....          | Isuzu 4HK1X                       |
| Non-Road Emission Standards .....     | certified to EPA Tier-3 emissions |
| Cylinders .....                       | 4                                 |
| Displacement .....                    | 317 cu. in. (5.2 L)               |
| SAE Net Rated Power @ 2,000 rpm ..... | 159 hp (119 kW)                   |
| Off-Level Capacity .....              | 70%                               |
| Aspiration .....                      | turbocharged and intercooled      |

## Cooling

Direct-drive, suction-type fan

## Powertrain

Two-speed propel with creeper mode and automatic shift

### Maximum Travel Speed

|                   |                                                                                          |
|-------------------|------------------------------------------------------------------------------------------|
| Creeper .....     | 1.8 mph (2.9 km/h)                                                                       |
| Low .....         | 4.6 mph (7.4 km/h)                                                                       |
| High .....        | 17.1 mph (27.5 km/h)                                                                     |
| Front Axle .....  | all-wheel drive; can be locked hydraulically in any position                             |
| Oscillation ..... | ±7 deg.                                                                                  |
| Brakes .....      | maintenance-free wet-disc brakes on front and rear axles; fully hydraulic service brakes |

## Hydraulics

Auxiliary hydraulic flow adjustable through monitor

|                               |                                            |
|-------------------------------|--------------------------------------------|
| Main Pumps .....              | 2 variable-displacement axial-piston pumps |
| Pump Flow (maximum x 2) ..... | 49.9 gpm (189 L/m)                         |
| Pilot Pump .....              | one gear                                   |
| Maximum Rated Flow .....      | 7.3 gpm (27.7 L/m)                         |
| System Relief Pressure .....  | 566 psi (3900 kPa)                         |

### System Operating Pressure

|                          |                                                                                     |
|--------------------------|-------------------------------------------------------------------------------------|
| Implement Circuits ..... | 4,975 psi (34 300 kPa)                                                              |
| Travel Circuits .....    | 4,975 psi (34 300 kPa)                                                              |
| Swing Circuits .....     | 4,192 psi (28 900 kPa)                                                              |
| Controls .....           | pilot levers, short stroke, low effort; hydraulic pilot controls with shutoff lever |

## Cylinders

Heat-treated, chrome-plated, polished cylinder rods, hardened steel (replaceable bushings) pivot pins

|                                     | Bore             | Rod Diameter    | Stroke             |
|-------------------------------------|------------------|-----------------|--------------------|
| Monoblock Boom (2) .....            | 4.7 in. (120 mm) | 3.3 in. (85 mm) | 48.6 in. (1235 mm) |
| 2-Piece Boom (2) .....              | 4.9 in. (125 mm) | 3.3 in. (85 mm) | 40.3 in. (1024 mm) |
| Positioning (2), 2-Piece Boom ..... | 5.3 in. (135 mm) | 3.7 in. (95 mm) | 34.4 in. (875 mm)  |
| Arm (1) .....                       | 5.3 in. (135 mm) | 3.7 in. (95 mm) | 58.1 in. (1475 mm) |
| Bucket (1) .....                    | 4.5 in. (115 mm) | 3.1 in. (80 mm) | 41.7 in. (1060 mm) |

## Electrical

|                                     |                                                                                      |
|-------------------------------------|--------------------------------------------------------------------------------------|
| Voltage .....                       | 24 volt                                                                              |
| Number of Batteries (12 volt) ..... | 2                                                                                    |
| Alternator Rating .....             | 50 amp                                                                               |
| Lights (6) .....                    | headlights (2), top of cab (2), rear of cab (1), and boom (1)                        |
| Driving Lights .....                | headlights (2), turn signals and hazard lights, brake lights, and side-marker lights |

## Swing Mechanism

|                    |                            |
|--------------------|----------------------------|
| Swing Speed .....  | 12.2 rpm                   |
| Swing Torque ..... | 43,789 lb.-ft. (59 370 Nm) |

## Serviceability

### Sight Gauges

### Refill Capacities

|                             |                         |
|-----------------------------|-------------------------|
| Fuel Tank .....             | 94 gal. (355 L)         |
| Cooling System.....         | 7 gal. (26 L)           |
| Engine Oil with Filter..... | 6 gal. (23 L)           |
| Hydraulic Tank.....         | 53 gal. (200 L)         |
| Hydraulic System.....       | 90 gal. (340 L)         |
| Swing Drive .....           | 7.3 qt. (6.9 L)         |
| Transmission Pump .....     | 1 qt. (0.95 L)          |
| Transmission.....           | 3 qt. (2.5 L)           |
| <b>Axle</b>                 |                         |
| Front .....                 | 2.5 gal. (9.6 L)        |
| Rear .....                  | 3.7 gal. (13.1 L)       |
| Front and Rear Hubs.....    | 2 x 2.6 qt. (2 x 2.5 L) |

## Operating Weights

With Full Fuel Tank; 175-lb. (79 kg) Operator;  
0.92-cu.-yd. (0.7 m<sup>3</sup>), 35-in. (900 mm),  
1,345-lb. (610 kg) General-Purpose Bucket;  
9-ft. 7-in. (2.91 m) Arm; Standard Gauge,  
and 8,929-lb. (4200 kg) Counterweight

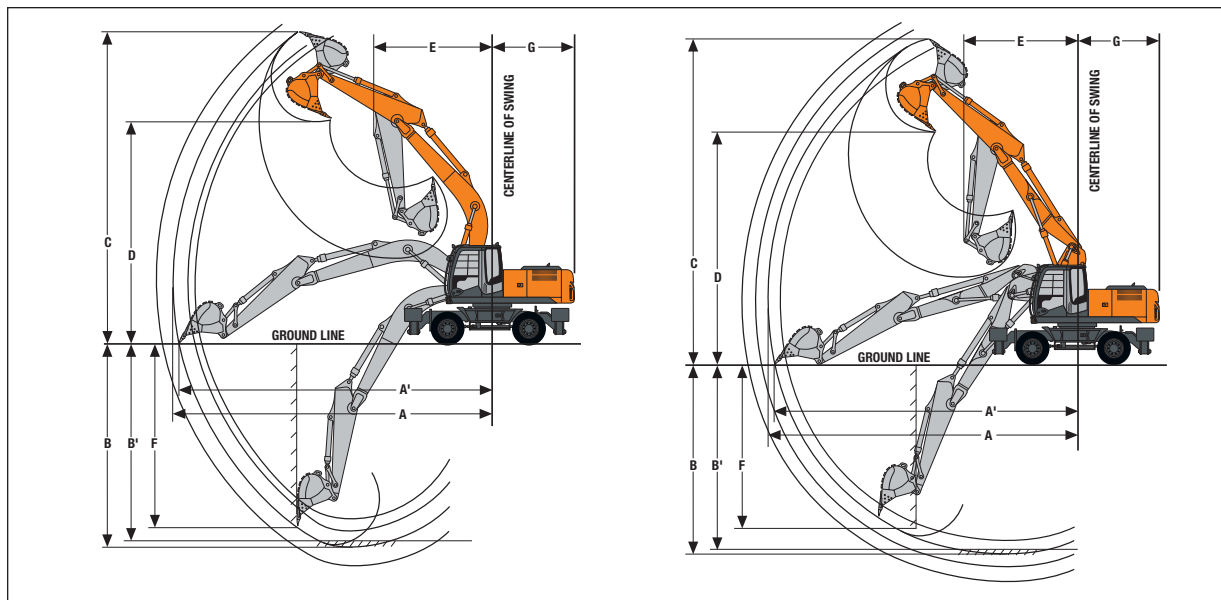
|                                     | <i>Monoblock Boom</i>  |
|-------------------------------------|------------------------|
| Front and Rear Outrigger .....      | 49,888 lb. (22 629 kg) |
| Front Blade and Rear Outrigger..... | 49,207 lb. (22 320 kg) |

|       | <i>2-Piece Boom</i>    |
|-------|------------------------|
| ..... | 52,003 lb. (23 588 kg) |
| ..... | 51,368 lb. (23 300 kg) |

## Operating Dimensions

|                                               | <i>Monoblock Boom</i>  |
|-----------------------------------------------|------------------------|
| Arm Force .....                               | 22,930 lb. (101.9 kN)  |
| Bucket Digging Force .....                    | 29,000 lb. (128.9 kN)  |
| Lifting Capacity Over Front at Ground Level   |                        |
| 20-ft. (6.1 m) Reach* .....                   | 16,190 lb. (7344 kg)   |
| <b>A</b> Maximum Reach.....                   | 33 ft. 4 in. (10.17 m) |
| <b>A'</b> Maximum Reach at Ground Level ..... | 32 ft. 8 in. (9.96 m)  |
| <b>B</b> Maximum Digging Depth .....          | 20 ft. 8 in. (6.29 m)  |
| <b>B'</b> Maximum Digging Depth at            |                        |
| 8-ft. (2.44 m) Flat Bottom .....              | 20 ft. 1 in. (6.11 m)  |
| <b>C</b> Maximum Cutting Height .....         | 33 ft. 5 in. (10.19 m) |
| <b>D</b> Maximum Dumping Height .....         | 24 ft. 1 in. (7.35 m)  |
| <b>E</b> Minimum Swing Radius .....           | 11 ft. 3 in. (3.43 m)  |
| <b>F</b> Maximum Vertical Wall .....          | 18 ft. 4 in. (5.60 m)  |
| <b>G</b> Tail Swing Radius .....              | 9 ft. (2.75 m)         |

|       | <i>2-Piece Boom</i>    |
|-------|------------------------|
| ..... | 22,873 lb. (101.7 kN)  |
| ..... | 28,904 lb. (128.6 kN)  |
| ..... | 15,669 lb. (7107 kg)   |
| ..... | 32 ft. 8 in. (9.96 m)  |
| ..... | 32 ft. (9.75 m)        |
| ..... | 19 ft. 11 in. (6.08 m) |
| ..... | 19 ft. 8 in. (5.99 m)  |
| ..... | 34 ft. 8 in. (10.56 m) |
| ..... | 25 ft. (7.63 m)        |
| ..... | 11 ft. 10 in. (3.60 m) |
| ..... | 17 ft. 3 in. (5.25 m)  |
| ..... | 9 ft. (2.75 m)         |

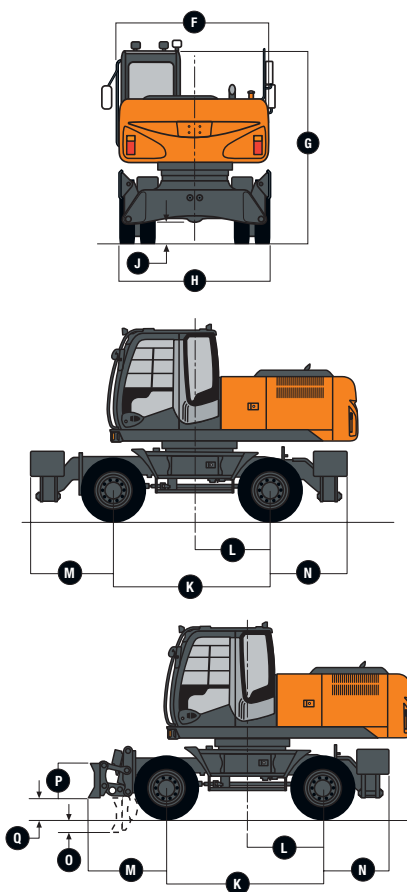


## Machine Dimensions

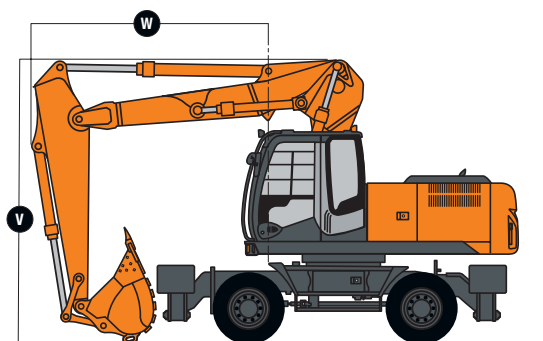
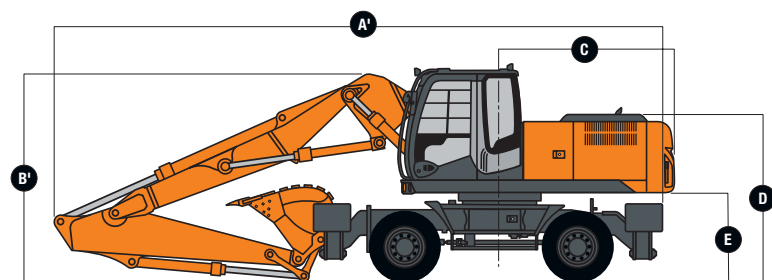
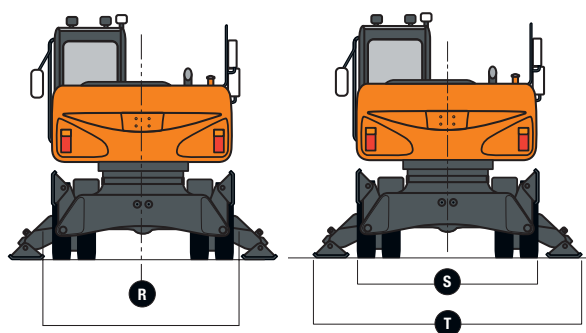
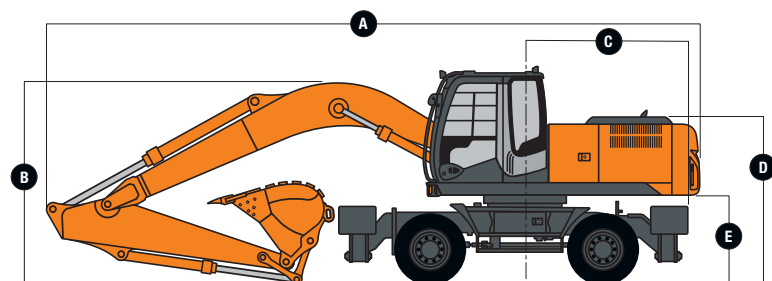
With standard gauge. Dimensions are provided for both the front and rear outrigger configuration, and for the front blade and rear outrigger configuration.

|                                                                                  | Monoblock Boom         | 2-Piece Boom          |
|----------------------------------------------------------------------------------|------------------------|-----------------------|
| <b>A</b> Overall Length (with 9-ft. 7-in. [2.91 m] arm) .....                    | 31 ft. 10 in. (9.70 m) | —                     |
| <b>A'</b> Overall Length (with 9-ft. 7-in. [2.91 m] arm) .....                   | —                      | 30 ft. 7 in. (9.32 m) |
| <b>B</b> Overall Height of Boom (with 9-ft. 7-in. [2.91 m] arm) .....            | 9 ft. 10 in. (2.99 m)  | —                     |
| <b>B'</b> Overall Height of Boom (with 9-ft. 7-in. [2.91 m] arm) .....           | —                      | 11 ft. 1 in. (3.39 m) |
| <b>C</b> Rear-End Swing Radius .....                                             | 9 ft. (2.75 m)         | 9 ft. (2.75 m)        |
| <b>D</b> Engine Cover Height .....                                               | 8 ft. 3 in. (2.52 m)   | 8 ft. 3 in. (2.52 m)  |
| <b>E</b> Counterweight Clearance .....                                           | 4 ft. (1.23 m)         | 4 ft. (1.23 m)        |
| <b>F</b> Overall Width of Upperstructure .....                                   | 8 ft. 1 in. (2.47 m)   | 8 ft. 1 in. (2.47 m)  |
| <b>G</b> Overall Height of Cab .....                                             | 10 ft. 5 in. (3.17 m)  | 10 ft. 5 in. (3.17 m) |
| <b>H</b> Overall Width of Tires .....                                            | 8 ft. 11 in. (2.73 m)  | 8 ft. 11 in. (2.73 m) |
| <b>J</b> Minimum Ground Clearance .....                                          | 13 in. (0.33 m)        | 13 in. (0.33 m)       |
| <b>K</b> Wheelbase .....                                                         | 9 ft. (2.75 m)         | 9 ft. (2.75 m)        |
| <b>L</b> Swing Center to Rear Axle .....                                         | 4 ft. 3 in. (1.30 m)   | 4 ft. 3 in. (1.30 m)  |
| <b>M</b> Front Overhang                                                          |                        |                       |
| Front and Rear Outrigger .....                                                   | 4 ft. 6 in. (1.38 m)   | 4 ft. 6 in. (1.38 m)  |
| Front Blade and Rear Outrigger .....                                             | 4 ft. 5 in. (1.36 m)   | 4 ft. 5 in. (1.36 m)  |
| <b>N</b> Rear Overhang .....                                                     | 3 ft. 7 in. (1.09 m)   | 3 ft. 7 in. (1.09 m)  |
| <b>O</b> Maximum Blade Lower .....                                               | 8 in. (0.22 m)         | 8 in. (0.22 m)        |
| <b>P</b> Overall Height of Blade .....                                           | 24 in. (0.60 m)        | 24 in. (0.60 m)       |
| <b>Q</b> Maximum Blade Raise .....                                               | 15 in. (0.38 m)        | 15 in. (0.38 m)       |
| <b>R</b> Overall Width of Blade .....                                            | 8 ft. 4 in. (2.53 m)   | 8 ft. 4 in. (2.53 m)  |
| <b>S</b> Overall Width with Outrigger Retracted .....                            | 8 ft. 1 in. (2.47 m)   | 8 ft. 1 in. (2.47 m)  |
| <b>T</b> Overall Width with Outrigger Extended .....                             | 11 ft. 3 in. (3.44 m)  | 11 ft. 3 in. (3.44 m) |
| <b>V</b> Overall Height of Boom (traveling, with 9-ft. 7-in. [2.91 m] arm) ..... | 13 ft. 1 in. (4.00 m)  | 13 ft. 1 in. (4.00 m) |
| <b>W</b> Front Overhang (traveling, with 9-ft. 7-in. [2.91 m] arm) .....         | 11 ft. 6 in. (3.50 m)  | 11 ft. 6 in. (3.50 m) |

ZAXIS 220W-3



ZAXIS 220W-3



## Lifting Capacities

**Boldface italic** type indicates hydraulic-limited capacities; lightface type indicates stability-limited capacities, in lb. (kg). Ratings at bucket lift hook; machine equipped with 0.92-cu.-yd. (0.7 m³), 35-in. (900 mm) wide, 1,345-lb. (610 kg) bucket; 9-ft. 7-in. (2.91 m) arm; and standard gauge; and situated on firm, uniform surface. Total load includes weight of cables, hook. Etc. Figures do not exceed 87% of hydraulic capacities or 75% of weight needed to tip machine. All capacities are based on SAE J1097.

| Load Point Height                                            | 10 ft. (3.05 m) |                 | 15 ft. (4.57 m) |                 | 20 ft. (6.10 m) |               | 25 ft. (7.62 m) |               | 30 ft. (9.14 m) |              |
|--------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|-----------------|---------------|-----------------|--------------|
|                                                              | Over Front      | Over Side       | Over Front      | Over Side       | Over Front      | Over Side     | Over Front      | Over Side     | Over Front      | Over Side    |
| With monoblock boom and rear outriggers and front blade down |                 |                 |                 |                 |                 |               |                 |               |                 |              |
| 25 ft. (7.62 m)                                              |                 |                 |                 |                 | 6,811 (3089)    | 6,811 (3089)  |                 |               |                 |              |
| 20 ft. (6.10 m)                                              |                 |                 |                 |                 | 8,666 (3931)    | 8,666 (3931)  | 8,119 (3683)    | 8,119 (3683)  |                 |              |
| 15 ft. (4.57 m)                                              |                 |                 |                 |                 | 9,977 (4525)    | 9,977 (4525)  | 9,355 (4243)    | 9,355 (4243)  |                 |              |
| 10 ft. (3.05 m)                                              |                 |                 | 16,422 (7449)   | 16,422 (7449)   | 12,223 (5544)   | 12,223 (5544) | 10,365 (4701)   | 9,454 (4288)  |                 |              |
| 5 ft. (1.52 m)                                               |                 |                 | 21,418 (9715)   | 20,122 (9127)   | 14,594 (6620)   | 12,917 (5859) | 11,549 (5239)   | 9,125 (4139)  | 7,843 (3558)    | 6,771 (3071) |
| Ground Line                                                  |                 |                 | 23,383 (10 606) | 19,465 (8829)   | 16,190 (7344)   | 12,452 (5648) | 12,442 (5644)   | 8,864 (4021)  |                 |              |
| -5 ft. (-1.52 m)                                             | 13,824 (6270)   | 13,824 (6270)   | 23,032 (10 447) | 19,348 (8776)   | 16,584 (7522)   | 12,254 (5558) | 12,636 (5732)   | 8,738 (3963)  |                 |              |
| -10 ft. (-3.05 m)                                            | 22,679 (10 287) | 22,679 (10 287) | 21,063 (9554)   | 19,509 (8849)   | 15,576 (7065)   | 12,293 (5576) | 11,494 (5214)   | 8,808 (3995)  |                 |              |
| -15 ft. (-4.57 m)                                            |                 |                 | 16,922 (7676)   | 16,922 (7676)   | 12,226 (5546)   | 12,226 (5546) |                 |               |                 |              |
| With monoblock boom and 4 outriggers down                    |                 |                 |                 |                 |                 |               |                 |               |                 |              |
| 25 ft. (7.62 m)                                              |                 |                 |                 |                 | 6,811 (3089)    | 6,811 (3089)  |                 |               |                 |              |
| 20 ft. (6.10 m)                                              |                 |                 |                 |                 | 8,666 (3931)    | 8,666 (3931)  | 8,119 (3683)    | 8,119 (3683)  |                 |              |
| 15 ft. (4.57 m)                                              |                 |                 |                 |                 | 9,977 (4525)    | 9,977 (4525)  | 9,355 (4243)    | 9,355 (4243)  |                 |              |
| 10 ft. (3.05 m)                                              |                 |                 | 16,422 (7449)   | 16,422 (7449)   | 12,223 (5544)   | 12,223 (5544) | 10,365 (4701)   | 10,008 (4540) |                 |              |
| 5 ft. (1.52 m)                                               |                 |                 | 21,418 (9715)   | 21,418 (9715)   | 14,594 (6620)   | 13,701 (6215) | 11,549 (5239)   | 9,676 (4389)  | 7,843 (3558)    | 7,194 (3263) |
| Ground Line                                                  |                 |                 | 23,383 (10 606) | 20,775 (9423)   | 16,190 (7344)   | 13,232 (6002) | 12,442 (5644)   | 9,413 (4270)  |                 |              |
| -5 ft. (-1.52 m)                                             | 13,824 (6270)   | 13,824 (6270)   | 23,032 (10 447) | 20,656 (9369)   | 16,584 (7522)   | 13,030 (5910) | 12,636 (5732)   | 9,286 (4212)  |                 |              |
| -10 ft. (-3.05 m)                                            | 22,679 (10 287) | 22,679 (10 287) | 21,063 (9554)   | 20,820 (9444)   | 15,576 (7065)   | 13,070 (5928) | 11,494 (5214)   | 9,357 (4244)  |                 |              |
| -15 ft. (-4.57 m)                                            |                 |                 | 16,922 (7676)   | 16,922 (7676)   | 12,226 (5546)   | 12,226 (5546) |                 |               |                 |              |
| With 2-piece boom and rear outriggers and front blade down   |                 |                 |                 |                 |                 |               |                 |               |                 |              |
| 25 ft. (7.62 m)                                              |                 |                 |                 |                 | 5,924 (2687)    | 5,924 (2687)  |                 |               |                 |              |
| 20 ft. (6.10 m)                                              |                 |                 |                 |                 | 6,726 (3051)    | 6,726 (3051)  | 6,385 (2896)    | 6,385 (2896)  |                 |              |
| 15 ft. (4.57 m)                                              |                 |                 |                 |                 | 7,793 (3535)    | 7,793 (3535)  | 8,289 (3760)    | 8,289 (3760)  |                 |              |
| 10 ft. (3.05 m)                                              |                 |                 | 12,523 (5680)   | 12,523 (5680)   | 10,127 (4594)   | 10,127 (4594) | 9,323 (4229)    | 9,323 (4229)  |                 |              |
| 5 ft. (1.52 m)                                               |                 |                 | 18,714 (8489)   | 18,714 (8489)   | 13,042 (5916)   | 13,030 (5910) | 10,848 (4921)   | 9,356 (4244)  |                 |              |
| Ground Line                                                  | 27,552 (12 497) | 27,552 (12 497) | 23,032 (10 447) | 20,086 (9111)   | 15,669 (7107)   | 12,968 (5882) | 12,395 (5622)   | 9,374 (4252)  |                 |              |
| -5 ft. (-1.52 m)                                             | 32,465 (14 726) | 32,465 (14 726) | 25,013 (11 346) | 20,459 (9280)   | 17,429 (7906)   | 13,309 (6037) | 13,538 (6141)   | 9,032 (4097)  |                 |              |
| -10 ft. (-3.05 m)                                            | 34,618 (15 702) | 34,618 (15 702) | 25,610 (11 617) | 21,411 (9712)   | 18,140 (8228)   | 13,007 (5900) |                 |               |                 |              |
| -15 ft. (-4.57 m)                                            | 34,624 (15 705) | 34,624 (15 705) | 26,284 (11 922) | 20,878 (9470)   |                 |               |                 |               |                 |              |
| With 2-piece boom and 4 outriggers down                      |                 |                 |                 |                 |                 |               |                 |               |                 |              |
| 25 ft. (7.62 m)                                              |                 |                 |                 |                 | 5,924 (2687)    | 5,924 (2687)  |                 |               |                 |              |
| 20 ft. (6.10 m)                                              |                 |                 |                 |                 | 6,726 (3051)    | 6,726 (3051)  | 6,385 (2896)    | 6,385 (2896)  |                 |              |
| 15 ft. (4.57 m)                                              |                 |                 |                 |                 | 7,793 (3535)    | 7,793 (3535)  | 8,289 (3760)    | 8,289 (3760)  |                 |              |
| 10 ft. (3.05 m)                                              |                 |                 | 12,523 (5680)   | 12,523 (5680)   | 10,127 (4594)   | 10,127 (4594) | 9,323 (4229)    | 9,323 (4229)  |                 |              |
| 5 ft. (1.52 m)                                               |                 |                 | 18,714 (8489)   | 18,714 (8489)   | 13,042 (5916)   | 13,042 (5916) | 10,848 (4921)   | 9,849 (4467)  |                 |              |
| Ground Line                                                  | 27,552 (12 497) | 27,552 (12 497) | 23,032 (10 447) | 21,208 (9620)   | 15,669 (7107)   | 13,637 (6186) | 12,395 (5622)   | 9,921 (4500)  |                 |              |
| -5 ft. (-1.52 m)                                             | 32,465 (14 726) | 32,465 (14 726) | 25,013 (11 346) | 21,562 (9780)   | 17,429 (7906)   | 13,939 (6323) | 13,538 (6141)   | 9,576 (4344)  |                 |              |
| -10 ft. (-3.05 m)                                            | 34,618 (15 702) | 34,618 (15 702) | 25,610 (11 617) | 22,566 (10 236) | 18,140 (8228)   | 13,794 (6257) |                 |               |                 |              |
| -15 ft. (-4.57 m)                                            | 34,624 (15 705) | 34,624 (15 705) | 26,284 (11 922) | 22,215 (10 077) |                 |               |                 |               |                 |              |

## Buckets

A full line of buckets is offered to meet a wide variety of applications. Digging forces are with power boost. Replaceable cutting edges are available through Hitachi parts. Optional side cutters add 6 inches (150 mm) to bucket widths.

| Type Bucket     | Bucket Width |      | Bucket Capacity |      | Weight |     | Bucket Dig Force |       | Arm Dig Force        |       | Bucket Tip Radius |      | No. Teeth |
|-----------------|--------------|------|-----------------|------|--------|-----|------------------|-------|----------------------|-------|-------------------|------|-----------|
|                 | in.          | mm   | cu. yd.         | m³   | lb.    | kg  | lb.              | kN    | 9 ft. 7 in. (2.91 m) | lb.   | kN                | in.  | mm        |
| General-Purpose | 30           | 762  | 0.79            | 0.60 | 1,432  | 650 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 4         |
| High Capacity   | 36           | 914  | 1.00            | 0.76 | 1,621  | 735 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 5         |
|                 | 42           | 1067 | 1.22            | 0.93 | 1,790  | 812 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 5         |
|                 | 48           | 1219 | 1.43            | 1.09 | 1,976  | 896 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 6         |
| Heavy-Duty      | 24           | 610  | 0.52            | 0.40 | 1,197  | 543 | 29,099           | 129.4 | 22,924               | 102.0 | 57.61             | 1463 | 4         |
| Plate Lip       | 30           | 762  | 0.71            | 0.54 | 1,369  | 621 | 29,099           | 129.4 | 22,924               | 102.0 | 57.61             | 1463 | 4         |
|                 | 36           | 914  | 0.90            | 0.69 | 1,559  | 707 | 29,099           | 129.4 | 22,924               | 102.0 | 57.61             | 1463 | 5         |
|                 | 42           | 1067 | 1.09            | 0.83 | 1,731  | 785 | 29,099           | 129.4 | 22,924               | 102.0 | 57.61             | 1463 | 5         |
|                 | 48           | 1219 | 1.29            | 0.99 | 1,921  | 871 | 29,099           | 129.4 | 22,924               | 102.0 | 57.61             | 1463 | 6         |
| Heavy-Duty      | 24           | 610  | 0.56            | 0.43 | 1,424  | 646 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 4         |
| High Capacity   | 30           | 762  | 0.76            | 0.58 | 1,593  | 723 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 4         |
|                 | 36           | 914  | 0.97            | 0.74 | 1,782  | 808 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 5         |
|                 | 42           | 1067 | 1.19            | 0.91 | 1,951  | 885 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 5         |
|                 | 48           | 1219 | 1.39            | 1.06 | 2,139  | 970 | 28,904           | 128.6 | 22,873               | 101.7 | 58.0              | 1473 | 6         |
| Ditching        | 60           | 1524 | 1.14            | 0.87 | 1,271  | 577 | 40,279           | 179.2 | 25,271               | 112.4 | 41.62             | 1057 | 0         |

## Equipment

Key ● Standard Equipment ▲ Optional or Special Equipment

### 190 220 Engine

- ● Certified to EPA Tier-3 emissions
- ● Auto-idle system
- ● Coolant recovery tank
- ● Dual element dry-type air filter
- ● Enclosed fan guard (conforms to SAE J1308)
- ● Engine coolant to -34°F (-37°C)
- ● Fuel filter with water separator
- ● Full-flow oil filter
- ● Radiator trash screen
- ● Turbocharger with charge air cooler
- ● Underhood muffler with vertical curved end exhaust stack

### Hydraulic System

- ● Reduced-drift valve for boom down, arm in
- ● Auxiliary hydraulic valve section
- ● Spring-applied, hydraulically released automatic swing brake
- ● Brake valves for travel circuits
- ● Individual control of outriggers
- ▲ ▲ Auxiliary hydraulic lines
- ▲ ▲ Auxiliary pilot and electric controls
- ● Hydraulic filter restriction indicator kit
- ● Low-flow/medium-pressure-assist hydraulics

### Undercarriage

- ● Brakes, four wheel, maintenance free, wet disc
- ● Creeper speed range
- ● Front axle, oscillating, lockable
- ▲ ▲ Front blade and rear outriggers (2)
- ▲ ▲ Outriggers (4)
- ● Parking brake
- ● Dual traction-type tires, 10.00-20, 16 PR with spacer
- ● Toolbox on left chassis

### Upperstructure

- ● Right- and left-hand mirrors
- ● Vandal locks with ignition key: Cab door / Fuel cap / Service doors

### 190 220 Front Attachments

- 18-ft. 0-in. (5.5 m) monoblock boom with 8-ft. 11-in. (2.71 m) arm
- 18-ft. 8-in. (5.68 m) monoblock boom with 9-ft. 7-in. (2.91 m) arm
- ▲ Variable-geometry, two-piece boom with 8-ft. 11-in. (2.71 m) arm
- ▲ Variable-geometry, two-piece boom with 9-ft. 7-in. (2.91 m) arm
- ● Centralized lubrication system
- ● Dirt seals on all bucket pins
- ▲ ▲ Buckets: Ditching / General purpose / General-purpose high capacity / Heavy duty / Heavy-duty high capacity / Side cutters and teeth

### Operator's Station

- ● Adjustable independent control positions (levers-to-seat, seat-to-pedals)
- ● AM/FM radio
- ● Auto climate control/air conditioner, 20,000 Btu/hr. (5.9 kW) with heater and pressurizer
- ● Built-in Operator's Manual storage compartment and manual
- ● Cell-phone power outlet, 12 volt, 60 watt, 5 amp
- ● Coat hook
- ● Deluxe suspension cloth seat with 4-in. (100 mm) adjustable armrests
- ● Floor mat
- ● Front windshield wiper with intermittent speeds
- ● Gauges (illuminated): Engine coolant / Fuel / Brake pressure
- ● Horn, electric
- ● Hourmeter, electric
- ● Hydraulic shutoff lever, all controls
- ● Hydraulic warm-up control
- ● Interior light
- ● Large cup holder
- ● Machine Information Center (MIC)
- ● Mode selectors (illuminated): Power modes – three / Work mode – one

### 190 220 Operator's Station (continued)

- ● High/low travel mode with creeper range
- ● Monitor system with alarm features: Auto-idle light / Brake pressure audible alarm / Engine air cleaner restriction indicator light / Engine coolant temperature indicator light with audible alarm / Engine oil pressure indicator light with audible alarm / Low alternator charge indicator light / Low fuel indicator light / Speedometer / Trip meter / Wiper mode indicator / Work lights on indicator / Work mode indicator
- ▲ ▲ Monitor system with alarm features: Hydraulic oil filter restriction indicator light
- ● Motion alarm with cancel switch (conforms to SAE J994)
- ● Power-boost switch on right control lever
- ● SAE two-lever control pattern
- ● Seat belt, 2 in. (51 mm), retractable
- ▲ ▲ Seat belt, 3 in. (76 mm), non-retractable
- ● Tinted glass
- ● Transparent tinted overhead hatch
- ● Tilting steering column
- ● Sun visor
- ● Windshield washer/wiper with constant and intermittent speeds
- ▲ ▲ 24- to 12-volt D.C. radio converters, 10 amp
- ▲ ▲ Window vandal protection covers

### Electrical

- ● 50-amp alternator
- ● Blade-type multi-fused circuits
- ● Positive terminal battery covers
- ▲ ZXLink™ wireless communication system
- ZXLink™ Ultimate wireless communication system with 3 years of service

### Lights

- ● Headlights (2)
- ● Work lights, top of cab (2), rear of cab (1), and boom (1)
- ● Turn signals / Hazard lights
- ● Brake lights
- ● Side marker lights

## Control Owning and Operating Costs

Customer Personal Service (CPS) is part of Hitachi's proactive, fix-before-fail strategy on machine maintenance that will help control costs, increase profits, and reduce stress. Included in this comprehensive lineup of ongoing programs and services are:

**Fluid analysis program** – tells you what's going on inside all of your machine's major components so you'll know if there's a problem before you see a decline in performance. Fluid analysis is included in most extended coverage and preventive-maintenance agreements.

**Component life-cycle data** – gives you vital information on the projected life span of components and lets you make informed decisions

on machine maintenance by telling you approximately how many hours of use you can expect from an engine, transmission, or hydraulic pump. This information can be used to preempt catastrophic downtime by servicing major components at about 80 percent of their life cycle.

**Preventive Maintenance (PM) agreements** – give you a fixed cost for maintaining a machine for a given period of time. They also help you avoid downtime by ensuring that critical maintenance work gets done right and on schedule. On-site preventive maintenance service performed where and when you need it helps protect you from the expense of catastrophic failures and lets you avoid waste-disposal hassles.

**Extended coverage** – gives you a fixed cost for machine repairs for a given period of time so you can effectively manage costs. Whether you work in a severe-service setting or just want to spread the risk of doing business, this is a great way to custom-fit coverage for your operation. And an extended coverage contract also travels well because it's backed by Hitachi and is honored by all Hitachi construction dealers.

**Customer Support Advisors (CSAs)** – Hitachi believes the CSA program lends a personal quality to Customer Personal Service (CPS). Certified CSAs have the knowledge and skills for helping make important decisions on machine maintenance and repair. Their mission is to help you implement a plan that's right for your business and take the burden of machine maintenance off your shoulders.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions per ISO9249. No derating is required up to 10,000-ft. (3050 m) altitude. Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on units with 0.92-cu. yd. (0.7 m³), 35-in. (900 mm) buckets; full fuel tank; and 175-lb. (79 kg) operator; an 8-ft. 11-in. (2.71 m) arm on the 190W-3; and a 9-ft. 7-in. (2.91 m) arm on the 220W-3.

# HITACHI