

ZW series

HITACHI

ZW  
150



## WHEEL LOADER

- **Model Code:** ZW150
- **Operating Weight:** 12 150 - 12 750 kg
- **Bucket Capacity:** ISO Heaped: 1.9 - 2.6 m<sup>3</sup>
- **Max. Engine Output:** 107 kW (143 HP)

# Introducing the New-Generation Wheel Loaders:

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# ZW Series

## Light, Agile Footwork Plus Increased Productivity

The ZW150 is packed with numerous innovative technologies and mechanisms. The electronic control HST system makes possible light, agile footwork. Four work modes can be selected according to job needs, with best matching of traction force and breakout force. What's more, the ZW150 offers more impressive features: operating ease, enhanced safety, increased durability, and simplified maintenance.



### **Productivity**

Four work modes selectable to suit job needs

2-Motor HST system for powerful acceleration and higher travel speed (Maximum 39 km/h)

Throttle limit for higher fuel efficiency

Improved fundamental performance

Smooth speed shift by electronic control

High-torque engine

Torque proportional differential (Standard)

Limited slip differential (Optional)

Advanced speed selector for four maximum speeds

The first speed selector for efficient loading and operations in confined space

Inching pedal for easy positioning in confined space

Ride control system (Optional)

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### **Panoramic comfortable cab**

Bi-level auto air conditioner and pressurized cab

Front & rear defrosters

Low noise design

Panoramic cab

Enhanced upward visibility

Good rear visibility

Ergonomically positioned switches and controls

Air suspension seat

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### **Enhanced Durability**

Robust differential gears

Durable axles

Robust frame

Hydraulically operated cooling fan with heat-sensing system

Capacious hydraulic oil cooler

Protected fuel tank

Aluminum radiator and oil cooler

LED indicators and instruments

O-Ring Seal (ORS) joints and water-resistant electric connectors

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### **Easy Maintenance**

Conveniently located filters

Easy-to-replace air conditioning filters

HN bushings

Strategically located Fuel supply port

Easy-to-read monitor

Flat cab floor

Dirt-Less (DL) front frame

**Pages 12-13**

### **Safety**

Full fan guard

Emergency steering system

Mis-operation protection

ROPS / FOPS cab

Highly reliable dual-line brake system

Other safety features

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### **Environment**

Common rail fuel injection system

Hitachi Silent (HS) fan

Low noise engine

A recyclable machine

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### **e-Service Owner's site**

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### **Specifications**

**Pages 17-20**

- **The new engine complies with the Emission Regulations EU Stage III A**
- **The advanced low noise design complies with the EU noise regulation 2000 / 14 / EC, STAGE II**



*Note: Pictures may or may not include standard and optional equipment that are specified individually by countries.*

# Increased Productivity with Advanced HST System, an Hitachi Original Technology

Optimum traction force can be selected to suit job needs by electronic matching control. The HST system is further improved for increased job efficiency.

## Four work modes selectable to suit job needs



Work mode select switch

On the ZW150, four work modes are selectable according to job requirements and operator's preference. In each work mode, electronic matching control, originally developed by Hitachi, detects the pressure of the implement, and controls the torque of travel motor to best match traction force and breakout force. This increases production per unit of fuel.

**Normal Operation (Work P, N and L Modes)**

Efficient loading with optimum traction force to suit job needs

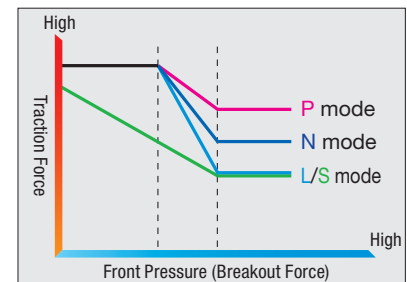
**Snow Plowing (Work S Mode)**

Efficient snow plowing with optimum traction force, reducing slippage on snow

## Four Work Modes

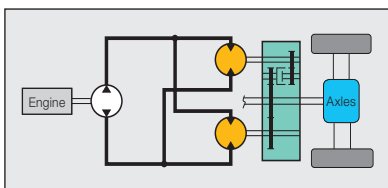
Work Modes	Materials to Be Handled
<b>P mode</b> (Scooping up and crowding)	<ul style="list-style-type: none"> <li>Relatively large crushed stones</li> <li>Concrete slag</li> <li>Stone with large specific gravity, clayey soil</li> </ul>
<b>N mode</b> (Normal operation)	<ul style="list-style-type: none"> <li>Small crushed stones</li> <li>Gravel</li> <li>Cobble</li> </ul>
<b>L mode</b> (Loading and light excavation)	<ul style="list-style-type: none"> <li>Sand</li> <li>Plastics, industrial wastes, chips</li> </ul>
<b>S mode</b> (Snow plowing and swamp operation)	<ul style="list-style-type: none"> <li>Snow</li> </ul>

## Matching Control



Traction force and front pressure are well balanced by work mode. If you need big traction force, select the P mode.

## 2-Motor HST System for Powerful Acceleration and Higher Travel Speed (Maximum 39 km/h)



The two-motor HST system is newly developed to achieve high-efficient operation in a wide speed range. For instance, at a low speed, two motors yield high traction torque, while at a high speed, a single motor allows for high travel speed of 39 km/h. Moreover, this system makes possible easy slope climbing and smooth acceleration/ deceleration with the accelerator pedal only.

## Throttle Limit for Higher Fuel Efficiency



Throttle limit switch

The throttle limit cuts maximum engine speed by 10% for higher fuel efficiency. For the HST system, maximum traction force is not reduced with the reduction in engine speed.

Throttle limit switch		*ON
Fuel consumption	(L/h)	88%
Production	(m <sup>3</sup> /h)	93%
Fuel efficiency	(m <sup>3</sup> /L)	106%

\*Index: 100 = Throttle limit switch OFF

Note: Data shown is Hitachi test data, and may vary depending on job conditions.



### Improved Fundamental Performance

#### ■ Ample Traction Force

Traction force	kN	100
Bucket breakout force	kN	98.8

#### ■ Ample Dumping Clearance and Reach (when 2.3 m<sup>3</sup> bucket with BOC is fitted)

Dumping clearance	2 810 mm
Dumping reach	980 mm

### Smooth Speed Shift by Electronic Control

Speed shift can be continuously made by electronic control through the 2-motor HST system comprising helical gears. This allows for speedy job-to-job travel with less soil spills in load-and-carry operation.

### High-Torque Engine

**Max. output: 107 kW (143 HP)**

**Max. torque: 587 N·m (60 kgf·m)**

The new engine is ruggedly designed to yield big torque with less vibration for increased durability. This facilitates climbing steep slopes and long uphill with limited speed drop. This engine is a clean engine that complies with the latest global emission regulations.

### Torque Proportional Differential (Standard)

The torque proportional differential adjusts driving forces to both wheels. When road resistances under both wheels are different, this feature minimizes slippage of a wheel on softer ground, unlike conventional differentials. This feature enables the ZW series to get out of swamps or rough terrain easily.

### Limited Slip Differential (Optional)

On snowy roads and rough terrain, the limited slip differential can work instead of the torque proportional differential. This delivers effective driving force to both wheels for enhanced grip and less slippage during travel.

# Agile Footwork for Increased Productivity

Fast, light footwork. Speed selection to suit job needs. Improved controllability and combined operations. Those bring about high productivity.

## Advanced Speed Selector for Four Maximum Speeds

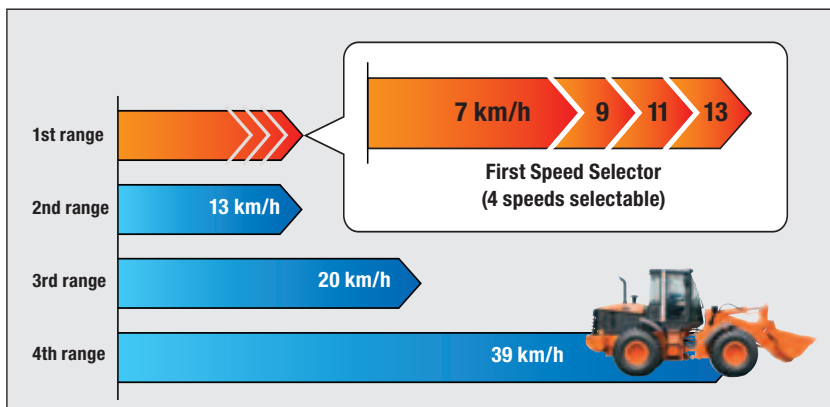


The fully automatic HST system is utilized for the selection of four maximum speeds according to job needs. Optimum speed can be selected with less shocks for smooth travel.

## The First Speed Selector for Efficient Loading and Operations in Confined Space



When the first speed range is selected, four travel speeds can be further selected to suit job needs and jobsite conditions. No need for skilful control of the accelerator and brake.



## Inching Pedal for Easy Positioning in Confined Space



The operator can easily control travel speed with the inching pedal, regardless of the accelerator pedal, by adjusting the delivery flow from the hydraulic pump. This eases positioning in loading operation.

## New Hydraulic Circuit for Smoothly Combined Operation



With the new parallel/tandem hydraulic circuit, the lift arm and bucket can be operated simultaneously. This is a new function to increase loading and excavating efficiency.

## Sophisticated Mechanisms for Higher Job Efficiency

### Float System

The float system lets the lift arm follow up road irregularities by using its self-weight only, without using its hydraulic circuit. This system is useful in soil-spill collecting during loading, and snow removing.

### Lift Arm Kick-Out System

The lift arm can automatically be raised up to the preset level. This function is convenient when loading onto a dump truck, and when operating at confined job sites with restricted working height.

### Bucket Auto Leveler

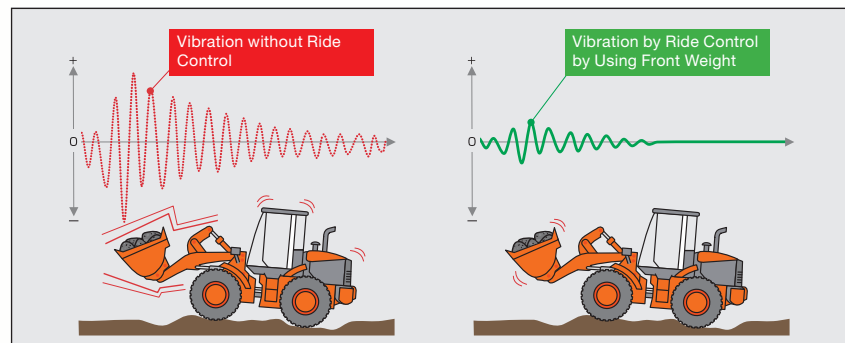
The bucket can automatically be leveled parallel to the ground after dumping the bucket. This can eliminate cumbersome bucket repositioning for efficient loading.

## Operator-Friendly Designs for Higher Job Efficiency

### Restriction Valve

The restriction valve can effectively reduce shocks when stopping the lift arm. The bucket does not have a shockless circuit to allow efficient mud removal.

### Ride Control System (Optional)



The ride control reduces pitching and bouncing during traveling on rough terrain and snow road by automatic control of the implement. Shocks and vibration can be well suppressed for riding comfort.



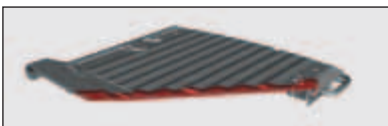


**Bi-Level Auto Air Conditioner and Pressurized Cab**



The bi-level air conditioner allows air conditioning at foot space and overhead simultaneously. Airflow volume and direction can automatically be adjusted according to the temperature setting. The pressurized cab shuts out dust and debris even in dusty environment.

**Hat (Resin Cab Roof)**



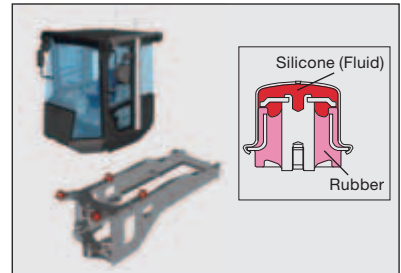
**Front / Rear Defrosters**



With the front and rear defrosters, airflow comes out from three front air outlets and two rear outlets to protect respective windows from fogging, keeping clear vision even in rain and cold weather.

The hollow hat is provided atop the cab to form an air space. This greatly helps reduce the temperature rise in the cab, and increases the cooling efficiency of the air conditioner.

**Shock-Dampened Cab**



The cab rests on fluid-filled elastic mounts to absorb shocks and vibration, and reduce resonance.

**Low Noise Design**

The cab is well sealed, and the new low-noise engine is utilized to reduce sound, along with the following measures:

- Hydraulically operated cooling fan with heat-sensing system
- Hitachi Silent (HS) fan
- Sound-absorbing materials inside engine cover and cab



# Operator-First Designs: Easy-to-Handle Controls for Operator Comfort



## Ergonomically Positioned Switches and Controls



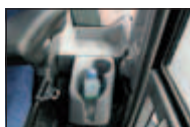
The switches for pre-operation setting are on the right console, and the switches for operation and travel on the front console. They are functionally laid out for ease of operation. The multi-functional joystick, integrated with different switches (including front control switches), is provided standard. Atop the joystick are the FNR switch and horn switch.

Note: Pictured includes options like a third function lever.

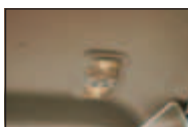
## An Array of Standard Accessories



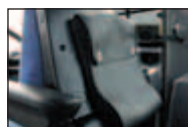
Hot and cool box



Large tray and drink holder



Interior light interacting with cab door



Seatback pocket



AM / FM stereo radio



Sun visor

## Panoramic Cab



The panoramic cab gives almost all-round visibility with the widened front glass window and pillar less cab rear corners. Front wheels are always in the operator's vision, enhancing safety and increasing loading efficiency.

## Enhanced Upward Visibility

The front curved glass window gives good upward visibility, so the operator can directly see the movement of the bucket for safer loading.

## Good Rear Visibility

The engine cover is low profile, and rounded for better rear visibility, so the operator can directly see the rear wheels and counterweight.

## Fingertip Control Levers (Optional)



The Fingertip control levers are optionally available.

## Air Suspension Seat



The air suspension seat can be adjusted in multiple ways: weight-height, fore-aft position, backrest tilt, and armrest angle, seat cushion length and angle, headrest height and angle adjustment, lumbar support. Seat heater is equipped as standard.

## Adjustable Steering Column

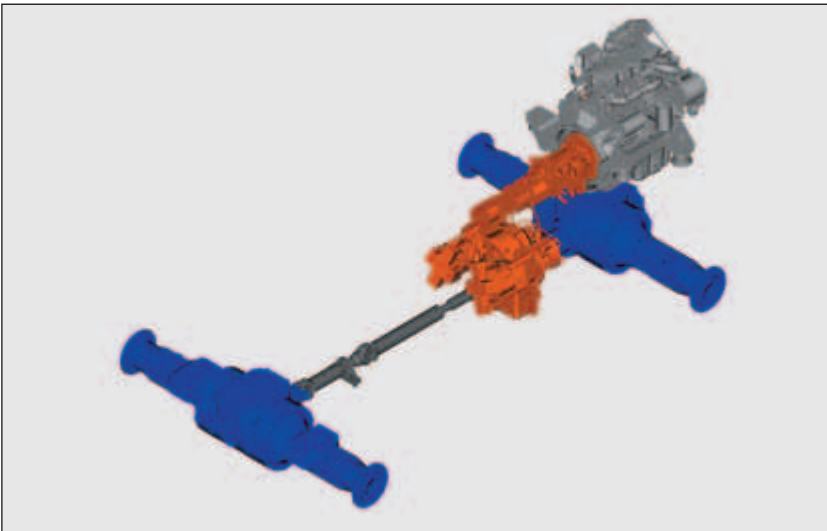


The steering wheel is tiltable and to suit operator of all builds for comfortable operation.

# Enhanced Durability

Durability is enhanced with a number of advanced mechanisms for long, continuous operation.

## Dependable Drive System



### Durable Axles

Front and rear axles are improved for durability. The axle housing is thickened for tough operation at quarries.

### Robust Differential Gears

Differential gears are thickened to increase rigidity.

### Improved Braking Ability

The brake is a wet-type multi-plate brake, and housed in the axle.

## Hydraulically Operated Cooling Fan with Heat-Sensing System

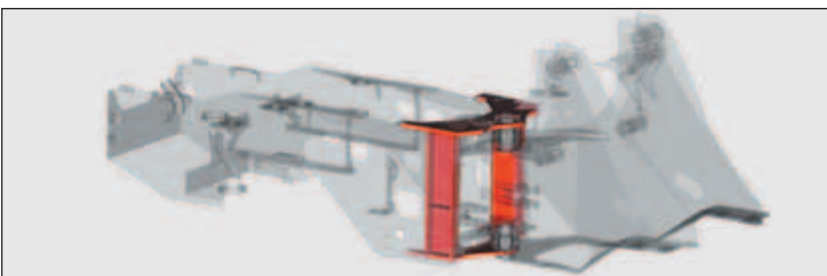


Fan speed can be adjusted depending on fluid temperature to effectively cool down coolant and hydraulic oil. The result is extended component service life and reduction in fuel consumption. The fan is also separate from the engine for easy servicing.

### Capacious Hydraulic Oil Cooler

The ample cooling capacity of the hydraulic oil cooler helps reduce oil temperature fluctuation, and extend service life of components.

## Robust Frame



The box-section frame is thickened and strengthened to resist torsion and increase durability. Center pins are widely spaced for higher resistance to torsion.

## Protected Fuel Tank



The large counterweight is arranged to protect the fuel tank from collisions with obstacles during operation.

### Aluminum Radiator and Oil Cooler



The radiator and oil cooler are made of aluminum instead of conventional steel or copper for corrosion prevention.

### LED Indicators and Instruments



On the indicators, monitors and alarms, many LEDs are utilized for longer service life resulting in less failure, enhancing the reliability.

### O-Ring Seal (ORS) Joints and Water-Resistant Electric Connectors



Numerous elaborate components are utilized for higher durability and reliability. The proven ORS joints and high-pressure hydraulic lines are utilized in the hydraulic system, and water-resistant wiring connectors in the electrical system.



# Reduced Running Costs

Running and maintenance costs are reduced greatly with concentrated inspecting points and durable components.



## Easy-to-Replace Air Conditioning Filters



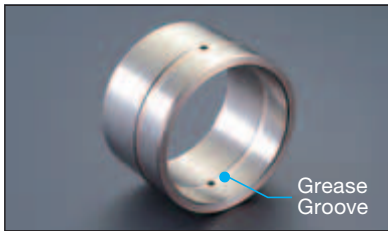
The fresh air filter can easily be replaced from the cab, and circulation air filter also replaced by detaching the drink holder.

## Conveniently Located Filters

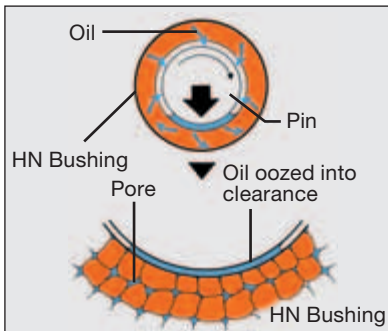
Fuel filter, fuel pre-filter with sedimentary function and engine oil filter are strategically located for the convenient daily inspection and servicing.



## HN Bushings



The HN bushing containing high-viscosity oil is provided at each joint to reduce grease consumption, extend lubrication intervals (100 to 500 hours), and increase durability.



The HN bushing, another example of innovative technology developed by Hitachi, features long life and high durability. High-viscosity oil is vacuum impregnated in sintered high-hardness metal. During operation oil oozes from the pores of the bushing into the clearance between pins and bushing providing lubrication.

## Easy-to-Read Monitor



With the easy-to-read monitor, the operator can see instructions for scheduled servicing and maintenance.

### **Monitor Indication Items:**

Clock, service intervals, travel speed, mileage, hour meter

### **Replacement Alerting:**

Engine oil / filter, fuel filter, hydraulic oil / filter, transmission oil / filter

## Hydraulically Operated Cooling Fan



The rotation of the hydraulically operated cooling fan with heat-sensing system is equipped as standard. The fan itself can swing open for easy cleaning.

## Flat Cab Floor



The cab floor is stepless (flat) for ease of cleaning.

## Strategically Located Fuel Supply Port



The fuel supply port is located for convenient fuel supply from the ground.

## Dirt-Less (DL) Front Frame



The DL front frame is shaped for easy removal of dirt, stones and snow.

# Safety-First Design

Achieving a High-Level of Safety in the Working Environment with an Array of Advanced Mechanisms.



## ROPS / FOPS Cab

The ROPS / FOPS cab is provided to protect the operator from injury in an accident.

*ROPS: Roll-Over Protective Structure: ISO 3471*

*FOPS: Falling Object Protective Structure: ISO 3449*

## Highly Reliable Dual-Line Brake System

The dual-line hydraulic brake system is utilized: even if one line fails, the other can work for braking. The brake is an enclosed wet single-plate type for reliable braking.

## Full Fan Guard



The cooling fan is enclosed by a full guard (metal net) to protect service technicians from injury during servicing and maintenance.

## Emergency Steering System

The emergency electric pump delivers the necessary oil pressure for power steering even in the case of an emergency. This allows normal steering at all times even if the engine fails.

## Mis-Operation Protection:

**Starting Engine:** The engine will start only when the Forward / Reverse lever is in neutral.

**Starting:** The transmission is disabled when the parking switch is in the ON position, even if selecting Forward or Reverse.

**Leaving from Operator Seat:** Control levers and Forward / Reverse lever are locked to prevent accidental operation.

**Stopping Engine:** The spring-set/ hydraulic-released parking brake is automatically applied even if failing to apply it.

## Other Safety Features



Retractable Seat Belt



Inclined Ladder

# Environmentally Friendly Design

## A Cleaner Machine

The ZW Series is equipped with a clean but powerful engine to comply with Tier 3 and Stage III A. An engine emission regulations effective in the U.S. EPA and European Union from 2006. Exhaust gas is partly re-combusted to reduce particulate matter (PM) output and lower nitrogen oxide (NOx) levels.

### Common Rail Type Fuel Injection System

In this fuel injection system complying with the Emission Regulations, one fuel pump runs to generate high pressure for distributing fuel to each injector per cylinder through a common rail. By electronic control, fuel injection volume and timing can be precisely regulated for efficient combustion and higher horsepower. This also reduces PM\* (diesel plume), fuel consumption and vibration.

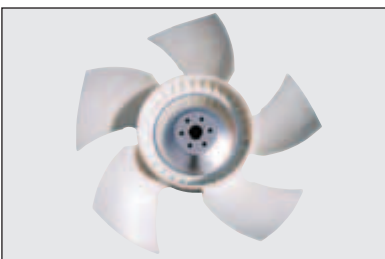
*\*Particulate matter*

*Important: The use of fuels other than diesel fuel (EN590) is prohibited. Otherwise, the engine may be damaged.*

## A Quieter Machine

A number of features make this machine quieter. First, isochronous control of the engine speed means a restriction of engine speed during no-load and light-duty operation to suppress sound. A fan with curved blades reduces air resistance and airflow noise. Third, a time-tested muffler suppresses engine noise significantly and reduces emissions. This advanced low noise design complies with the 2000 / 14 / EC, Stage II, directive effective in the European Union from 2006.

### Hitachi Silent (HS) Fan

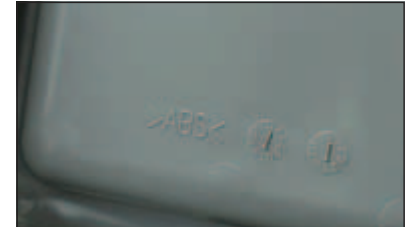


The HS fan is capable of reducing air resistance and air flow sound are utilized at the radiator and oil cooler for quieter operation.

### Low Noise Engine

Engine noise is effectively reduced by increasing engine mechanical strength with rigid cylinder block, and by utilizing the elaborate gear train on the flywheel side.

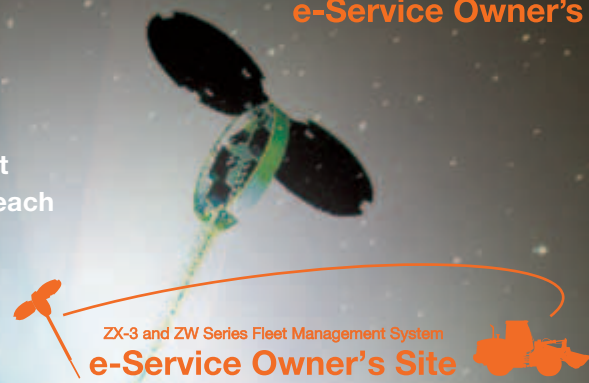
## A Recyclable Machine



Approximately 95% of the ZW Series can be recycled. The resin parts are marked to facilitate recycling. The machine is completely lead-free. The radiator and oil cooler are made from aluminum and all wires are lead-less. In addition, bio-degradable hydraulic oil is available for jobsites where special environmental care is required.

## Remote fleet management with e-Service Owner's Site

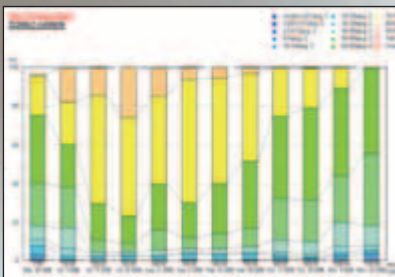
Reduce maintenance effort and costs for your machine fleet with e-Service Owner's Site; latest machine information of each of your machines available on-line, in your office.



### e-Service Owner's Site features

#### Operation

Remote access to all relevant machine operation information such as daily operating hours and machine fuel level as well as historically cumulated temperatures and pressures.



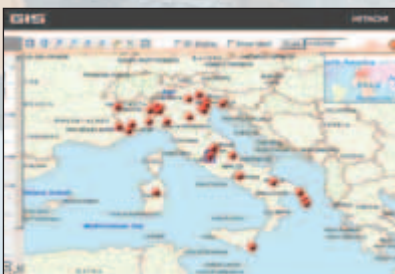
#### Maintenance

For each machine, maintenance history as well as recommended maintenance due is displayed in one view, allowing for accurate and efficient fleet maintenance management.



#### Location

In addition to any general GPS function, GIS (Geographical Information System) will not only show the geographical position of each machine with immediate serial number identification, it will also allow for dedicated multiple machine searches using specific operational information as search criteria.



*Check and monitor each of your machines from your office*

*Enhanced service support from your local dealer*

*Actual geographical location of each of your machines*

e-Service Owner's Site is an on-line fleet management tool offered by HCME to each of its customers. It will present all operational information and location of your machines on a PC in your office, giving you an up to date overview of your machines, allowing for full fleet control. Each machine will regularly send its operational data to a satellite and from there, via a ground station to a Hitachi server. The data collected in the server will then be processed and directed to each customer around the world. Your machine information will be available through a secure internet connection for you and your dealer. This communication chain is operational 24h a day, each day of the year. It will support your job planning, help you maintain your machine and allow for enhanced service and trouble shooting support by your local dealer, all directly contributing to reduce downtime and increase the cost performance of your fleet.

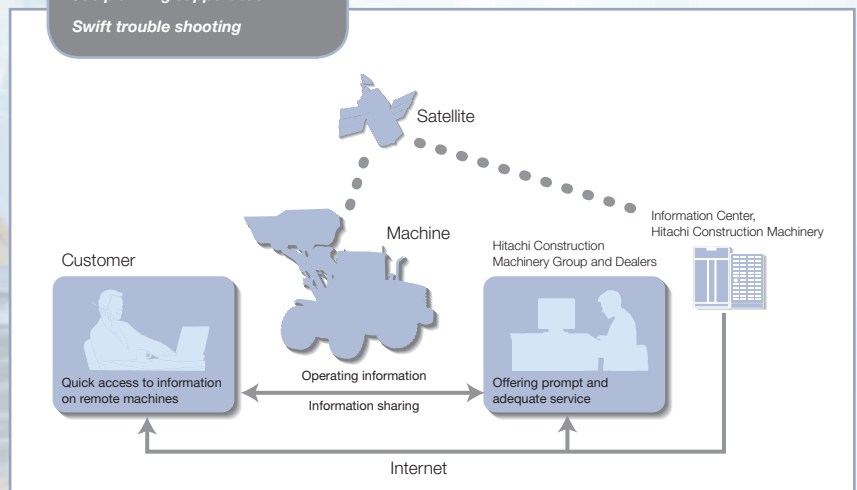
All new ZAXIS-3 and ZW machines supplied by HCME will have a satellite communication unit installed as standard\*, meaning each owner can directly enjoy the benefits of e-Service Owner's Site. Your local dealer will be able to give you access to e-Service Owner's Site.

*Optimizing fleet management*

*Accurate maintenance planning*

*Job planning support tool*

*Swift trouble shooting*



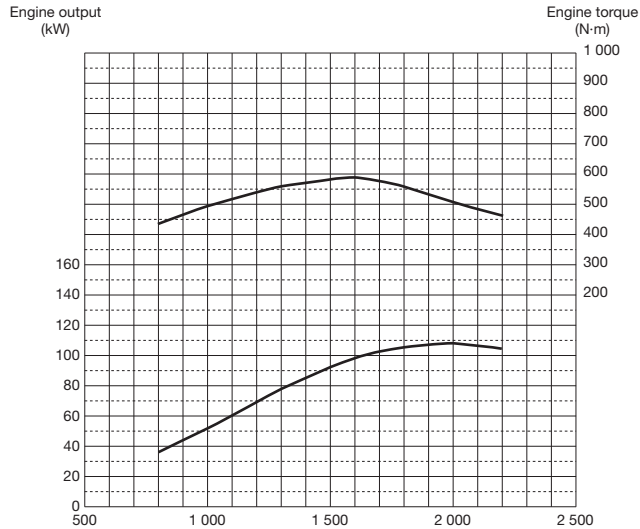
\* (1) Satellite communication may be forbidden by the local regulatory standards (including safety standards) and legal requirements of the particular country where you wish to use it. Please contact HITACHI dealer for details.  
 (2) Satellite communication basically allows for worldwide coverage. Contact your local dealer for the latest situation on actual satellite communication availability for your country or specific jobsite.  
 (3) If transmission of the satellite signal is hindered in any way, satellite communication may not be possible.



# SPECIFICATIONS

## ENGINE

Model .....	Cummins QSB4.5
Type .....	4-cycle water-cooled, direct injection
Aspiration .....	Turbocharger and charge air cooled
No. of cylinders .....	4
Maximum power	
ISO 9249,	
Without Fan net .....	107 kW (143 HP) at 2 000 min <sup>-1</sup> (rpm)
EEC 80/1269,	
Without Fan net .....	107 kW (143 HP) at 2 000 min <sup>-1</sup> (rpm)
Bore and stroke .....	107 mm x 124 mm
Piston displacement .....	4.46 L
Batteries .....	2 x 12 V 620 CCA, 80 Ah, 140-min rated reserve
Air cleaner .....	Two element dry type with restriction indicator



## POWER TRAIN

Transmission .....	Electrical-controlled 2 motor hydrostatic transmission with summation gear box Gear box: Fixed gear ratio, powershift countershaft type
Cooling method .....	Forced circulation type
Travel speed* (km/h) .....	Forward / Reverse
1st .....	7.0 / 7.0
2nd .....	13.0 / 13.0
3rd .....	20.0 / 20.0
4th .....	39.0 / 39.0

\* With 20.5R25 (L3) tires

## AXLE AND FINAL DRIVE

Drive system .....	Four-wheel drive system
Front & rear axle .....	Semi-floating
Front .....	Fixed to the front frame
Rear .....	Center pivot
Reduction and differential gear .....	Two stage reduction with torque proportioning differential
Oscillation angle .....	Total 20° (+10°, -10°)
Final drives .....	Heavy duty, planetary final drive

## TIRES (tubeless, nylon body)

Standard .....	20.5 R25 (L3)
Optional .....	Refer to standard & optional equipment list

## BRAKES

Service brakes .....	Inboard mounted fully hydraulic 4 wheel wet disc brake HST (Hydro Static Transmission) system provides additional hydraulic braking capacity
Parking brake .....	Automatic spring applied, hydraulically released, wet disc type

## STEERING SYSTEM

Type .....	Articulated frame steering
Steering mechanism .....	Fully hydraulic power steering with orbitrol
Steering angle .....	Each direction 40°; total 80°
Relief pressure .....	19.6 MPa (200 kgf/cm <sup>2</sup> )
Cylinders .....	Two double-acting piston type
No. x Bore x Stroke .....	2 x 65 mm x 419 mm
Minimum turning radius at the centerline of outside tire .....	4 960 mm

## HYDRAULIC SYSTEM

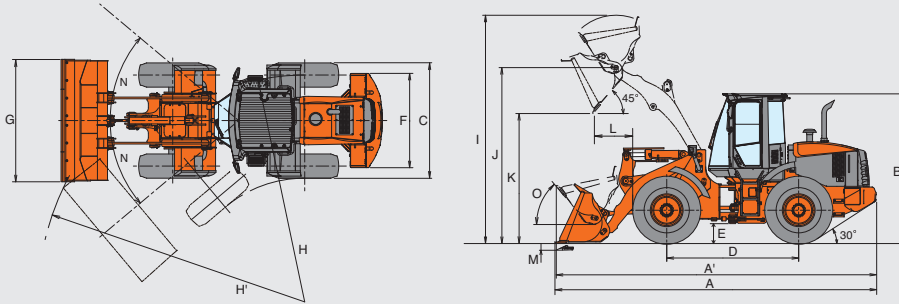
Arm and bucket are controlled by Multi Functional control lever	
Arm controls .....	Four position valve ; Raise, hold, lower, float
Bucket controls with automatic bucket return-to-dig controls .....	Three position valve ; Roll back, hold, dump
Main pump (Load & steer) .....	Gear type 171 L/min @2 200 min <sup>-1</sup> (rpm) at 20.6 MPa (210 kgf/cm <sup>2</sup> )
Relief pressure setting .....	20.6 MPa (210 kgf/cm <sup>2</sup> )
HST charging pump .....	Gear type 41 L/min @2 200 min <sup>-1</sup> (rpm) at 2.5 MPa (25 kgf/cm <sup>2</sup> )
Transmission charging pump .....	Gear type 17 L/min @2 200 min <sup>-1</sup> (rpm) at 1.96 MPa (20 kgf/cm <sup>2</sup> )
Fan pump .....	Gear type 30 L/min @2 200 min <sup>-1</sup> (rpm) at 11.8 MPa (120 kgf/cm <sup>2</sup> )
Hydraulic cylinders	
Type .....	Two arm and one bucket, double acting type
No. x Bore x Stroke .....	Arm: 2 x 125 mm x 760 mm Bucket: 1 x 150 mm x 495 mm
Filters .....	Full-flow 10 micron return filter in reservoir
Hydraulic cycle times	
Lift arm raise .....	6.7 s
Lower .....	3.1 s
Bucket dump .....	1.4 s
Total .....	11.2 s

## SERVICE REFILL CAPACITIES

Fuel tank .....	200.0 L
Engine coolant .....	25.0 L
Engine oil .....	14.0 L
Transmission gear box .....	10.0 L
Front axle differential & wheel hubs .....	27.0 L
Rear axle differential & wheel hubs .....	27.0 L
Hydraulic reservoir tank .....	80.0 L

# SPECIFICATIONS

## DIMENSIONS & SPECIFICATIONS



Lift arm			Standard								
			General purpose								
Bucket type			With bolt-on cutting edges	With bolt-on adaptor & teeth	With weld-on adaptor & teeth	With bolt-on cutting edges	With bolt-on adaptor & teeth	With weld-on adaptor & teeth	With bolt-on cutting edges	With bolt-on adaptor & teeth	With weld-on adaptor & teeth
			Bucket capacity	ISO heaped	m <sup>3</sup>	2.3	2.2	2.2	2.2	2.1	2.1
ISO struck	m <sup>3</sup>	1.9		1.8	1.8	1.8	1.8	1.8	2.2	2.1	2.1
A Overall length		mm	7 155	7 355	7 325	7 125	7 325	7 295	7 245	7 445	7 415
A' Overall length (Traveling figure)		mm	7 135	7 265	7 235	7 115	7 245	7 215	7 195	7 315	7 295
B Overall height (Top of cab)		mm	3 265								
C Width over tires		mm	2 500								
D Wheel base		mm	2 900								
E Ground clearance		mm	405								
F Tread		mm	1 930								
G Bucket width		mm	2 535								
H Turning radius (Centerline of outside tire)		mm	4 955								
H' Loader clearance circle, bucket in carry position		mm	5 830	5 890	5 880	5 830	5 880	5 870	5 860	5 910	5 910
I Overall operating height		mm	5 070	5 070	5 070	5 040	5 040	5 040	5 170	5 170	5 170
J Height to bucket hinge pin, fully raised		mm	3 835								
K Dumping clearance 45 degree, full height		mm	2 810	2 670	2 690	2 830	2 690	2 710	2 740	2 600	2 630
L Reach, 45 degree dump, full height		mm	980	1 100	1 120	960	1 080	1 100	1 040	1 170	1 180
Reach, 45 degree dump, 7 ft (2.13 m) clearance)		mm	1 500	1 540	1 570	1 490	1 530	1 560	1 530	1 570	1 590
M Digging depth (Horizontal digging angle)		mm	100	110	90	100	110	90	100	110	90
Bucket weight			1 010	960	940	990	940	920	1 060	1 010	990
Static tipping load *	Straight	kgf	9 210	9 320	9 340	9 230	9 340	9 370	9 150	9 250	9 280
	Full 40 degree turn	kgf	7 960	8 060	8 090	7 980	8 090	8 110	7 900	8 000	8 020
Breakout force		kN	98.8	104.2	104.5	101.9	107.6	107.9	90.5	95.0	95.3
		(kgf)	(10 070)	(10 630)	(10 660)	(10 390)	(10 970)	(11 000)	(9 230)	(9 690)	(9 720)
Operating weight *		kg	12 220	12 170	12 150	12 200	12 160	12 140	12 270	12 220	12 200

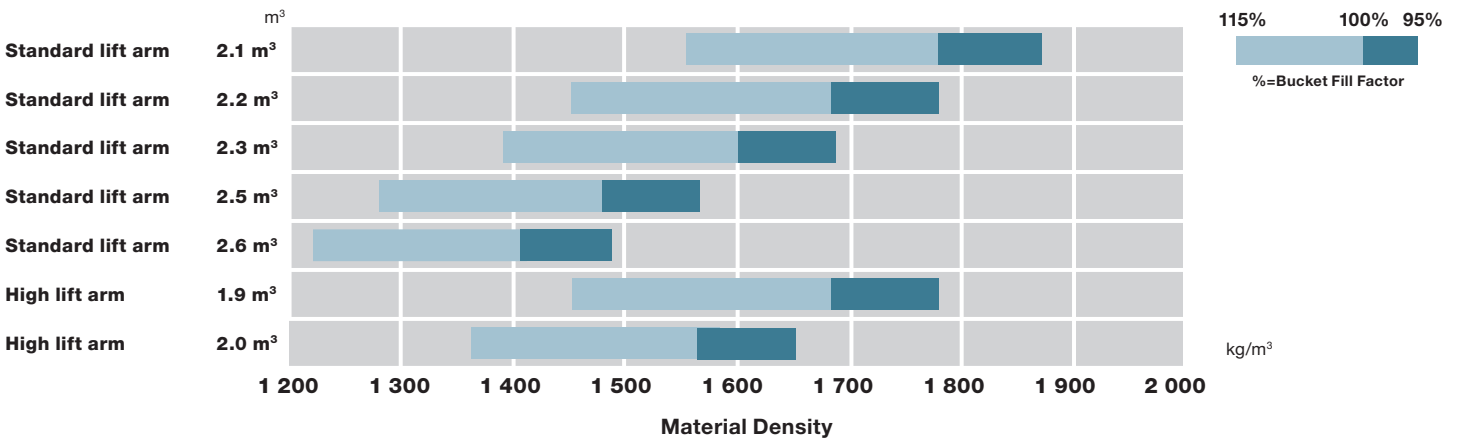
Lift arm			Standard								
			Flat bottom								
Bucket type			With bolt-on cutting edges	With bolt-on adaptor & teeth	With weld-on adaptor & teeth	With bolt-on cutting edges	With bolt-on adaptor & teeth	With weld-on adaptor & teeth	With bolt-on cutting edges	With bolt-on adaptor & teeth	With weld-on adaptor & teeth
			Bucket capacity	ISO heaped	m <sup>3</sup>	2.3	2.2	2.2	2.2	2.1	2.1
ISO struck	m <sup>3</sup>	1.9		1.8	1.8	1.8	1.8	1.8	2.2	2.1	2.1
A Overall length		mm	7 155	7 355	7 325	7 125	7 325	7 295	7 245	7 445	7 415
A' Overall length (Traveling figure)		mm	7 135	7 265	7 235	7 115	7 245	7 215	7 195	7 315	7 295
B Overall height (Top of cab)		mm	3 265								
C Width over tires		mm	2 500								
D Wheel base		mm	2 900								
E Ground clearance		mm	405								
F Tread		mm	1 930								
G Bucket width		mm	2 535								
H Turning radius (Centerline of outside tire)		mm	4 955								
H' Loader clearance circle, bucket in carry position		mm	5 830	5 890	5 880	5 830	5 880	5 870	5 860	5 910	5 910
I Overall operating height		mm	5 070	5 070	5 070	5 040	5 040	5 040	5 170	5 170	5 170
J Height to bucket hinge pin, fully raised		mm	3 835								
K Dumping clearance 45 degree, full height		mm	2 810	2 670	2 690	2 830	2 690	2 710	2 740	2 600	2 630
L Reach, 45 degree dump, full height		mm	980	1 100	1 120	960	1 080	1 100	1 040	1 170	1 180
Reach, 45 degree dump, 7 ft (2.13 m) clearance)		mm	1 500	1 540	1 570	1 490	1 530	1 560	1 530	1 570	1 590
M Digging depth (Horizontal digging angle)		mm	100	110	90	100	110	90	100	110	90
Bucket weight			1 100	1 050	1 030	1 080	1 030	1 010	1 150	1 100	1 083
Static tipping load *	Straight	kgf	9 100	9 220	9 240	9 130	9 240	9 260	9 030	9 140	9 160
	Full 40 degree turn	kgf	7 860	7 960	7 990	7 880	7 980	8 010	7 790	7 880	7 910
Breakout force		kN	98.5	103.9	104.2	101.6	107.3	87.0	90.2	94.7	95.0
		(kgf)	(10 040)	(10 600)	(10 630)	(10 360)	(10 940)	(8 870)	(9 200)	(9 660)	(9 690)
Operating weight *		kg	12 310	12 260	12 240	12 290	12 250	12 220	12 370	12 320	12 300

Lift arm			High lift arm					
			General purpose			Flat bottom		
Bucket type			With bolt-on cutting edges	With bolt-on adapter & teeth	With weld-on adapter & teeth	With bolt-on cutting edges	With bolt-on adapter & teeth	With weld-on adapter & teeth
			Bucket capacity	ISO heaped	m <sup>3</sup>	2.0	1.9	1.9
ISO struck	m <sup>3</sup>	1.6		1.6	1.6	1.6	1.6	1.6
A Overall length		mm	7 620	7 810	7 790	7 620	7 810	7 790
A' Overall length (Traveling figure)		mm	7 640	7 760	7 740	7 640	7 760	7 740
B Overall height (Top of cab)		mm	3 265			3 265		
C Width over tires		mm	2 500			2 500		
D Wheel base		mm	2 900			2 900		
E Ground clearance		mm	405			405		
F Tread		mm	1 930			1 930		
G Bucket width		mm	2 535			2 535		
H Turning radius (Centerline of outside tire)		mm	4 955			4 955		
H' Loader clearance circle, bucket in carry position		mm	6 030	6 090	6 080	6 030	6 090	6 080
I Overall operating height		mm	5 340	5 340	5 340	5 340	5 340	5 340
J Height to bucket hinge pin, fully raised		mm	4 200			4 200		
K Dumping clearance 45 degree, full height		mm	3 250	3 110	3 130	3 250	3 110	3 130
L Reach, 45 degree dump, full height		mm	1 100	1 230	1 240	1 100	1 230	1 240
Reach, 45 degree dump, 7 ft (2.13 m) clearance)		mm	1 910	1 970	1 990	1 910	1 970	1 990
M Digging depth (Horizontal digging angle)		mm	220	230	210	220	230	210
Bucket weight			960	910	890	1 040	990	970
Static tipping load *	Straight	kgf	7 880	7 980	8 000	7 790	7 890	7 910
	Full 40 degree turn	kgf	6 790	6 880	6 900	6 700	6 790	6 810
Breakout force		kN	102.3	108.5	108.7	102.0	108.2	108.4
		(kgf)	(10 430)	(11 060)	(11 080)	(10 410)	(11 040)	(11 050)
Operating weight *		kg	12 680	12 630	12 610	12 750	12 710	12 690

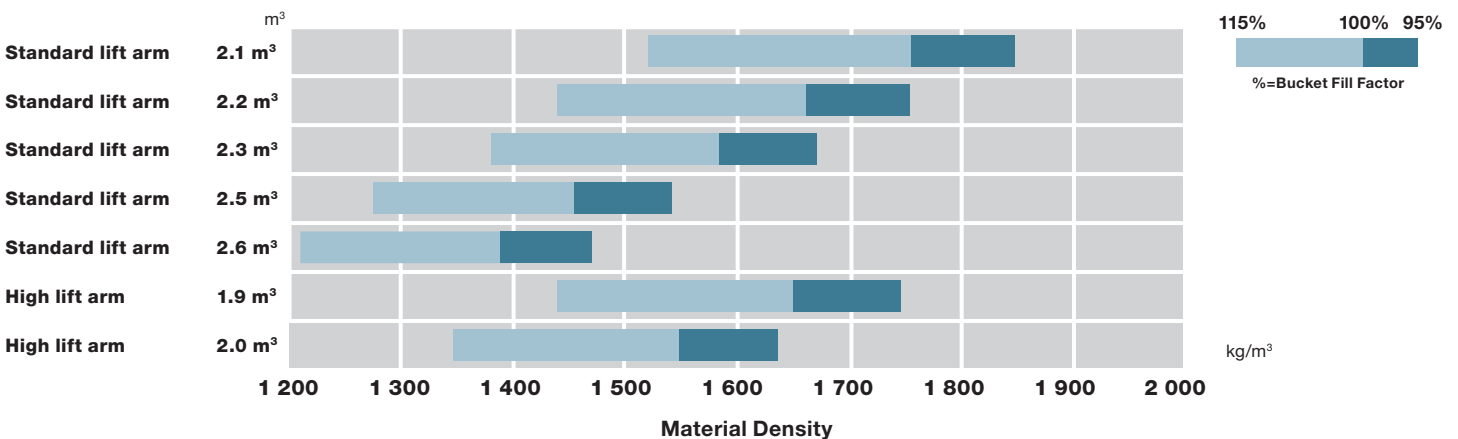
Note: 1. All dimensions, weight and performance data based on ISO 6746-1:1987, ISO 7137:1997 and ISO 7546:1983  
2. Static tipping load and operating weight marked with\* include 20.5R25 (L3) tires (No ballast) with lubricants, full fuel tank and operator.  
Machine stability and operating weight depend on counterweight, tire size and other attachments.

## BUCKET SELECTION GUIDE

### General purpose



### Flat bottom



# EQUIPMENT

## STANDARD EQUIPMENT

Standard equipment may vary by country, so please consult your Hitachi dealer for details.

### ENGINE

- Coolant recovery tank
- Hydraulically operated cooling fan with heat sensing system
- Fan guard
- Muffler, under hood with large exhaust stack
- Environmentally friendly engine oil drain
- Engine oil cooler
- Fuel Filter
- Quick-release fuel pre-filter with water separator function
- Air heater (For cold start)
- Air filter double element

### POWER TRAIN

- Electrically controlled HST system
- Torque proportioning differentials, front and rear

### HYDRAULIC SYSTEM

- Bucket auto leveler
- Lift arm kick-out system
- Float system
- Reservoir sight gauge
- Hydraulic filters, vertical mounting
- Multi-function joystick lever
- Two-spool main control valve
- O-Ring Seal joints

### ELECTRICAL

- 24-volt electrical system
- Standard batteries (2), 12-volt with 620 CCA, 80 Ah
- Alternator, 65 A and 24-volts
- Lights: Driving with guards / Turn signals with hazard switch / stop, tail and back-up lights
- Work lights on cab, front (2)
- Work lights, rear (2)
- Horn, with push button in center of steering wheel and switch on joystick lever knob or right console

- Reverse warning alarm
- Monitor and alarm system, multi-function electronic audible and visual warning include
- LCD monitor display: Speedometer / Clock / Hour-meter / Odometer / Replacement intervals / Ride control / Speed range
- Gauges: Engine coolant temperature / Fuel level
- Warning lights: Engine / Transmission / Discharge warning
- Indicator lights: Turn signals / High beam / Working lights / Service / Parking brake / Stop / Brake oil low pressure / Brake oil low level / Seat belt / Glow signal / Maintenance / Forward / Reverse switch / Water separator / Over heat / Engine oil low pressure / Air filter restriction / Hydraulic oil temperature
- 24-volt AM/FM stereo radio with clock

### OPERATOR'S STATION

- Cab
- ROPS\* / FOPS\*\* / Multi-plane isolation mounted for noise / Vibration reduction / Front and rear windshield washers / Safety glass
- Adjustable armrest
- Bi-level auto air conditioner and pressurize cab
- Front / Rear defroster
- Hot and cool box
- Sun visor
- Seat (Grammer), fabric, high back, air suspension, head-rest, seat heating, adjustable for weight-height, fore-aft position, backrest tilt, and armrest angle, seat cushion length and angle, headrest height and angle adjustment, lumbar support
- Seatback pocket
- Retractable seat belt, 50 mm
- Large tray and drink holder
- Rubber floor mat
- Adjustable steering column
- Steering wheel, textured with spinner knob

- Rear view mirrors, outside (2) and inside (2)
- Handrails and steps, ergonomically located and slip resistant
- Coat hook

### LOADER LINKAGE

- Z-bar loader linkage provides (High bucket breakout)

### BUCKETS AND ATTACHMENTS

- General purpose bucket with bolt-on cutting edges: 2.3 m<sup>3</sup> (ISO heaped)

### TIRES

- Radial ply: 20.5 R25 (L3)
- Multi-piece rims

### OTHERS

- Emergency steering system
- Fenders, front and rear
- Articulation locking bar
- Anti-vandal protection, includes lockable engine enclosure, and fuel fill
- Counterweight, built-in
- Drawbar, with rocking pin
- Lift and tie-down hooks
- Open type rear grill

## OPTIONAL EQUIPMENT

Optional equipment may vary by country, so please consult your Hitachi dealer for details.

### POWER TRAIN

- Limited slip differential

### HYDRAULIC SYSTEM

- Two-lever (Fingertip control type)
- Three-spool main control valve
- Third spool piping
- Two-lever and auxiliary lever for third function
- Multi-function joystick lever and auxiliary lever for third function
- Ride control system, automatic type

### ELECTRICAL

- Front Working Lamps on Cab (2)
- Rear Working Lamps on Cab (2)

### BUCKETS AND ATTACHMENTS

- High lift arm
- Buckets (See pages 18-19)

### OTHERS

- Full rear fender and mud guard
- Biodegradable hydraulic oil
- Cutting edge protection (German road homologation)
- Italian road homologation kit
- Rear license plate bracket
- Wheel blocks
- Additional counterweight for high lift spec (Set option with high lift arm)

Note: \*: ROPS (Roll Over Protective Structure) Conforms to ISO 3471:1994

\*\* : FOPS (Falling Objects Protective Structure) Conforms to ISO 3449:1992 Level all

Prior to operating this machine, including satellite communication system, in a country other than a country of its intended use, it may be necessary to make modifications to it so that it complies with the local regulatory standards (including safety standards) and legal requirements of that particular country. Please do not export or operate this machine outside the country of its intended use until such compliance has been confirmed. Please contact your Hitachi dealer in case of questions about compliance.

These specifications are subject to change without notice.

Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in colour and features. Before use, read and understand the Operator's Manual for proper operation.

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