ZW series

WHEEL LOADER

- **Model Code**: ZW550
- **Operating Weight**: 45,780 kg - 46,610 kg
- **Bucket Capacity**: ISO Heaped: 6.0 - 10.0 m$^3$
- **Engine Power**: 377kW (506HP)

(Standard and optional equipment may vary by country, so please consult your Hitachi dealer for details)
Introducing the Productive Wheel Loaders:

**ZW Series**

Top-Class Production with High Dependability

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**High Productivity**
- Computer-controlled engine
- Improved impul control and acceleration
- Power mode and fuel-efficient mode
- Advanced hydraulic cooling fan
- Load-sensing hydraulic steering system
- Idle management system
- Outboard wet disc brakes
- Limited slip differential (LSD) (Optional)
- Lock-up torque converter (Optional)
- Active traction control
- Efficient loading system (ELS)

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**Comfortable Cab**
- High visibility
- ROPS/FOPS (Optional)
- Full-auto air conditioner/heater
- Single shift lever
- Fully adjustable suspension seat
- Machine operation diagnostic module (MODM)
- Assortment of accessories
- Directional switch (Optional)
- Down-shift switch
- Adjustable steering column
- Adjustable clutch cut-off timing
- Lift arm auto-leveler
- Shift hold switch (Optional)

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**High Durability and Dependability**
- Strong lift arms and bucket
- Sealed bucket hinge pins
- Buffer rings for hydraulic cylinders
- Extended greasing intervals of universal joints
- Full box-section track frame
- Wet disc parking brakes
- Ride control system (Optional)

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**Easy Maintenance**
- Easy access to engine and filters
- Halogen head lights
- LED Brake and tail lights (Optional)
- DT connectors

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**Specifications**

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- The engine complying with the Emission Regulations EU Stage III A

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Note: Pictures may or may not include standard and optional equipment specified individually by country.
Extra Power and Performance for Top-Class Productivity

Computer-Controlled Engine

The Engine Control Module (ECM) provides essential operating data for efficient fault diagnosis and troubleshooting. The Cummins diagnosis tools also provide key engine data for quick, accurate analysis. The Cummins In-Line Combustion Solution, provided to meet the EPA Tier III Emission Regulation, makes engine design simple, and permits economical maintenance.

Advanced Hydraulic Cooling Fan

Hydraulic cooling fan speed varies with changes in operating temperatures to reduce noise and fuel consumption. The automatic reversible fan comes standard with a manual override that swings open for easy cleaning of radiators.

Improved Rimpull Control and Acceleration

The powertrain is designed for more efficient operation in various applications. Improved torque control and matching between engine and torque converter deliver higher performance.

Load-Sensing Hydraulic Steering System

The load-sensing hydraulic steering system boosts steering force, when needed, in the main hydraulic circuit. This makes possible the full use of pump torque for higher job efficiency.

Power Mode and Fuel-Efficient Mode

There are two engine modes — Power mode and Fuel-Efficient mode. Select the Power mode to boost power for higher production, and the Fuel-Efficient mode for fuel economy.

Idle Management System

The idles management system keeps engine speed low during long-time idling for fuel saving. This system also increases engine speed for quick warming-up of the ZW550 in cold weather.

Outboard Wet Disc Brakes

The outboard-mounted, sealed wet disc brakes produce plenty of braking force, and keep out dirt. Dual lines are independently provided for front and rear axles for added safety.

Limited Slip Differential (LSD) (Optional)

The Limited Slip Differential (LSD) effectively yields big traction force to suit job needs.

Lock-Up Torque Converter (Optional)

The lock-up clutch in the torque converter allows direct drive in the top speed range. This remarkably increases fuel efficiency in long haul, load-and-carry operation, and hill climbing.

Active Traction Control

Wheel slippage can be significantly reduced by superior traction control that adjusts engine speed automatically to suit ground conditions, avoiding spinning of the machine.

Efficient Loading System (ELS)

The Efficient Loading System (ELS) can increase traction force during digging while reducing fuel consumption. This achieves more production with less fuel.

Note: Pictures may or may not include standard and optional equipment specified individually by country.
Single Shift Lever
The single shift lever with twist grip is provided on the steering column for the convenience of handling.

Fully Adjustable Suspension Seat
The suspension seat is fully adjustable for riding comfort, reducing operator fatigue and increasing operator’s productivity.

Directional Switch (Optional)
The directional switch is located next to control levers for easy travel direction changing. The operator does not need to left hand off the steering wheel.

Down-Shift Switch
The down-shift switch, mounted on the lift arm control lever, allows the operator to make easy downshifting from the 2nd to 1st gear.

Adjustable Clutch Cut-off Timing
Clutch cut-off timing can be adjusted to suit job needs, like efficient operation on level ground, and surefooted operation on gradient.

Lift Arm Auto-Levels
The lift arm can be automatically raised and lowered to the preset level. High and low lift arm kickouts can be programmed, using switches inside the cab.

Adjustable Steering Column
The steering column is tiltable and telescopic to suit operator’s build for comfortable positioning and operation.

Shift Hold Switch (Optional)
The shift hold switch, located on the control lever, allows the operator to hold the transmission in the current range when in the auto mode.

High Visibility
The cab gives good visibility with inside and outside rear view mirrors. The front windshield is a flat glass mounted with rubber gaskets for easy replacement. The cab rests on viscous mounting to absorb shocks and noise for operator comfort.

Outer ROPS/FOPS (Optional)
The outer ROPS/FOPS structure is adopted to protect the operator from injury in the case of an accident. ROPS: Roll-Over Protective Structure, FOPS: Falling Object Protective Structure.

Full-Auto Air Conditioner/Heater
The air conditioner/heater is controlled automatically and thermostatically to enhance operator comfort. Air vents promote good air circulation inside, and defrosting all the year around. The cab is pressurized to keep out dirt.

Machine Operation Diagnostic Module (MODM)
The Machine Operation Diagnostic Module (MODM) delivers important operating data for efficient operation, maintenance and troubleshooting.

Adjustable Clutch Cut-off Timing
Clutch cut-off timing can be adjusted to suit job needs, like efficient operation on level ground, and surefooted operation on gradient.

Assortment of Accessories
An assortment of accessories, including radio, glove box, cup holder and storage compartment, are conveniently located inside.
**Durable and Dependable**

**Strong Lift Arms and Bucket**

The strong lift arms and linkage yield high production during digging, loading and hauling. Big bucket breakout force and optimum bucket rollback bring about high production and good load retention. Buckets are designed and shaped for efficient scooping-up and loading. Bolt-on cutting edges are easy to replace. The bucket leveler and boom kickout come standard.

**Sealed Bucket Hinge Pins**

The bucket hinge pins are hermetically sealed to retain grease inside for longer service life.

**Buffer Rings for Hydraulic Cylinders**

Hydraulic cylinders utilize buffer rings for better sealing with less leakage.

**Extended Greasing Intervals of Universal Joints**

Universal joints are hermetically sealed to extend greasing intervals up to 12,000 hours, simplifying maintenance and increasing durability.

**Full Box-Section Track Frame**

The track frame is box-section structured to resist twisting loads.

**Ride Control System (Optional)**

The ride control system can reduce pitching and bouncing when traveling on rough terrain and snow road. This system automatically controls the movement of machine to reduce shocks and vibration.

**Wet Disc Parking Brake**

The advanced wet disc parking brake is utilized for dependable braking.

**Easy Access for Quick Servicing**

**Easy Access to Engine and Filters**

Machine covers open wide for easy access to the engine and filters for efficient servicing and inspection. Filters and grease fittings are grouped for the convenience of replacement and lubrication.

**DT Connectors**

Sealed Deutsch DT connectors are used throughout the electrical system to reduce corrosion and ensure positive connection.

**Halogen Head Lights**

Front and rear working lights are bright halogen lamps for safer night-shift operation.

**LED Brake and Tail Lights (Optional)**

The rear tail lights are long-life LED lamps that are very bright and durable.

**Buffer Rings for Hydraulic Cylinders**

Hydraulic cylinders utilize buffer rings for better sealing with less leakage.
**SPECIFICATIONS**

**ENGINE**
- Model: Cummins QSK19
- Type: 4-cycle water cooled, direct injection
- Aspiration: Turbocharger and intercooled
- No. of cylinders: 6
- Maximum power:
  - SAE J1349/ISO 9240, net: 360 kW (483 HP)
- Rated power:
  - SAE J1349/ISO 9240, net: 350 kW (470 HP)
- Batteries: 12 X 12 V / 754 CCA, 176 Ah
- Air cleaner: Two element dry type with restriction indicator

**TIRES**
- Tire size: 35 / 65-33-24PR (L4)

**BRAKES**
- Service brakes: Outboard mounted fully hydraulic 4 wheel wet disc brake. Front & rear independent brake circuit.

**STEERING SYSTEM**
- Type: Articulated frame steering
- Steerng mechanism: Completely hydraulic power steering
- Steerng angle: Each direction 40°; total 80°
- Cylinders: Two double-acting piston type
  - No. x Bore x Stroke: 2 x 110 mm x 720 mm
  - Minimum turning radius at the centerline of outside tire: 7.045 mm
  - Trunnion support

**HYDRAULIC SYSTEM**
- Lift arm and bucket are controlled by independent control lever:
  - Lift arm controls: Four position valve; Raise, hold, lower, float
  - Bucket control with automatic bucket return to dig control:
    - Three position valve; Roll back, hold, dump
- Main pump / Steer pump: Fixed displacement type gear pump
- Charging pump / Fan pump / Brake and adjust pump: Fixed displacement type gear pump
- Hydraulic cylinders:
  - Type: Two lift arm and two bucket, double acting type
  - No. x Bore x Stroke: Arm: 2 x 225 mm x 132 mm
  - Bucket: 2 x 190 mm x 767 mm
- Filters: Full flow 28 micron return filter in reservoir
- Hydraulic cycle times:
  - Lift arm raise: 8.4 s
  - Lift arm lower: 5.0 s
  - Bucket dump: 1.7 s
  - Total: 15.5 s

**SERVICE REFFIL CAPACITIES**
- Fuel tank: 660.0 liters
- Engine coolant: 155.0 liters
- Engine oil: 66.0 liters
- Torque converter & transmission: 90.0 liters
- Front axle differential & wheel hubs: 180.0 liters
- Rear axle differential & wheel hubs: 180.0 liters
- Hydraulic reservoir tank: 225.0 liters

**AXLE AND FINAL DRIVE**
- Drive system: Four-wheel drive system
- Front & rear axle: Full-floating
- Front axle:
  - Standard type: Forward / Reverse
  - Travel speed: 1st: 7.4 / 8.2
  - 2nd: 13.5 / 14.8
  - 3rd: 21.6 / 23.6
  - 4th: 36.0 / -

**POWER TRAIN**
- Transmission: Torque converter, planetary gear type with powershift with computer-controlled automatic shift and manual shift features included.
- Torque converter:
  - Three element, single stage, single phase
- Main clutch:
  - Wet hydraulic, multi-disc type
- Cooling method:
  - Forced circulation type
- Travel speed:
  - Forward: 7.4 / 8.2
  - Reverse: 3.6 / 4.1

**DIMENSIONS & SPECIFICATIONS**

**BUCKET SELECTION GUIDE**

**WEIGHT CHANGE**

**Note:** All dimensions, weight and performance data based on SAE J646-1:1997, SAE J1338/ISO and ISO 7648-2

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### ELECTRICAL
- Alternator, 75 ampere and 24 volts
- Back up alarm
- Brake and tail lights
- Electric starter
- Halogen headlights with high and low beams (2 front)
- Halogen working lights (4 front and 2 rear)
- Turn signals with four-way flasher

### GAUGES AND INDICATORS
- Air cleaner warning lamp
- Auto shift indicator lamp
- Battery charge lamp
- Brake pressure warning lamp
- Engine coolant temperature gauge and warning lamp
- Engine oil pressure warning lamp
- Fuel level gauge
- High beam indicator lamp
- Hour meter
- Neutral indicator lamp
- Parking brake indicator lamp
- Tachometer
- Torque converter oil temperature gauge and warning lamp
- Transmission control warning lamp
- Transmission clutch cut-off switch
- Working light indicator lamp

### POWER TRAIN
- Active traction control
- Air filter double elements
- Auto shift transmission
- Conventional differentials (front/rear)
- Cummins QSK19 diesel engine
- Extended greasing intervals of universal joints
- Full hydraulic enclosed wet multi-disc brakes
- Hydraulic operated cooling fan
- Tires, 35/65-33-24PR L4

### OPERATOR ENVIRONMENT
- Adjustable operator seat with mechanical suspension
- Ash tray
- Cigarette lighter
- Coat hook
- Cup holder
- Down-shift switch
- Electric dual horns
- Front and rear wiper and washers
- Full automatic air conditioner
- Lockable doors with sliding windows by regulator handles (left and right)
- Machine Operation Diagnostic Module (MODM)
- Rear view mirrors (interior and exterior)
- Rubber floor mat
- Soft cab (left and right doors open, walk-through design)
- Storage compartment
- Sun visor
- Telescopic and tilt steering wheel
- Tinted safety glass (tempered glass)
- Transmission clutch cut-off adjust switch
- Two-lever for two-spool control valve

### OTHERS
- Bucket auto leveler
- Drawbar, with rocking pin
- Efficient loading system (ELS)
- Handrails
- Ladders, left and right
- Lift arm auto leveler
- Loading linkage, sealed Z-bar type dual cylinders
- Power & Fuel efficient mode
- Secondary brake
- Wet disc parking brake

### BUCKET
- Rock bucket (V-edge) with weld-on teeth and segments: 6.2 m³ (ISO heaped)

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**Note:**

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<thead>
<tr>
<th>ROPS (Roll Over Protective Structure)</th>
<th>Conforms to ISO 3471:1994</th>
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<tr>
<td>FOPS (Falling Objects Protective Structure)</td>
<td>Conforms to ISO 3449:1992 Level II</td>
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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 color and features. Before use, read and understand the Operator’s Manual for proper operation.