ZW series

WHEEL LOADER

- Model Code: ZW550
- Operating Weight: 45 380 - 46 210 kg
- Bucket Capacity: ISO Heaped: 6.0 - 10.0 m³
- Max. Engine Output: 360 kW (483 HP)
Introducing the New Productive Wheel Loaders:

ZW Series

Top-Class Production with High Dependability
High Productivity
- Computer-controlled engine
- Improved rimpull 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 standards
- Full-auto air conditioner/heater
- Single shift lever
- Fully adjustable suspension seat
- Machine operation diagnostic module (MODM)
- Assortment of accessories
- Directional switch
- Down-shift switch
- Adjustable steering column
- Adjustable clutch cut-off timing
- Lift arm auto-leveler
- Shift hold switch

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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

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Easy Maintenance
- Easy access to engine and filters
- Multi-coat painting process
- Halogen head lights
- LED rear lights
- DT connectors

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Specifications
Page 10-12

- The new engine complying with the Emission Regulations EU Stage III A
- The advanced low-noise design complying with the coming EU noise regulation 2000/14/EU Stage II

Note: Pictures may or may not include standard and optional equipment specified individually by country.
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 idle 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.
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.

ROPS/FOPS Standards

This ROPS/FOPS canopy is adopted to protect the operator from injury in the case of an accident.

ROPS: Roll-Over Protective Structure, ISO3471
FOPS: Falling Object Protective Structure, ISO3449

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.
Comfortable

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.

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

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

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-Leveler
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.

Shift Hold Switch
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.

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.

Wet Disc Parking Brake

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

Full Box-Section Track Frame

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

Ride Control System

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

Multi-Coat Painting Process
Hitachi’s advanced multi-coat painting process, consisting of electro-deposition (ED) primer, baked melamine alkyd finish coat and fluoric super protection coat, is applied to sheet metal parts like covers, achieving durable and attractive finish with high resistance to corrosion and damage.

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

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

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

Model: Cummins QSK19
Type: 4-cycle water-cooled, direct injection
Aspiration: Turbocharger and intercooled
No. of cylinders: 6
Maximum power: Net ISO 9249, net = 360 kW (483 HP) at 1800 min⁻¹ (rpm)
Bore & stroke: 159 mm X 159 mm
Piston displacement: 18.87 L
Batteries: 2 X 12 V / 754 CCA, 176 Ah
Air cleaner: Two element dry type with restriction indicator

**POWER TRAIN**

Transmission: Torque converter, planetary gear type 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 / Reverse
1st: 7.4 / 8.2
2nd: 13.5 / 14.8
3rd: 21.6 / 23.6
4th: 36.0 / –

*With 35 / 65R33 (L4) tires

**AXLE AND FINAL DRIVE**

Drive system: Four-wheel drive system
Front & rear axle: Full-floating
Front: Fixed to the front frame
Rear: Trunnion support
Reduction and differential gear: Single bevel gear, single stage reduction conventional type
Oscillation angle: Total 26° (+13°, -13°)
Final drives: Heavy-duty planetary, mounted outboard

**TIRES**

Drive system: 35 / 65R33 (L5)

**BRAKES**

Service brakes: Inboard mounted fully hydraulic 4 wheel wet disc brake. Front & rear independent brake circuit.

**STEERING SYSTEM**

Type: Articulated frame steering
Steering mechanism: Completely hydraulic power steering
Steering 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: 7045 mm

**HYDRAULIC SYSTEM**

Lift arm and bucket are controlled by independent control lever.
Lift arm controls: Four position valve; Raise, hold, lower, float
Bucket controls with automatic bucket return-to-dig control: Three position valve; Roll back, hold, dump
Main pump / Steering pump: Fixed displacement type gear pump
Charging pump / Fan pump / Brake and assist 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 1 132 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: 15.1 s

**SERVICE REFILL CAPACITIES**

Fuel tank: 660.0 liters
Engine coolant: 155.0 liters
Engine oil: 61.0 liters
Torque convertor & transmission: 90.0 liters
Front axle differential & wheel hubs: 360.0 liters
Rear axle differential & wheel hubs: 360.0 liters
Hydraulic reservoir tank: 225.0 liters

**BUCKET SELECTION GUIDE**

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DIMENSIONS & SPECIFICATIONS

Arm type | Rock bucket | Standard arm | Coal bucket
--- | --- | --- | ---
| Rock bucket | General purpose | Round bottom | Round bottom

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<table>
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2. Static tipping load and operating weight marked with * include 35/65R33 (L5) tires (No ballast) with lubricants, standard counterweight, full fuel tank and operator.

WEIGHT CHANGE

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<tr>
<th>Option item</th>
<th>Operatingweight kg</th>
<th>Tipping load kgf</th>
<th>Overall width mm (outside tire)</th>
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<th>Overall length mm</th>
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<td>Full turn</td>
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<td>+380</td>
<td>+310</td>
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### ELECTRICAL
- Alternator, 75 ampere and 24 volts
- Back up alarm
- Brake and tail lights (LED)
- Electric starter
- Halogen headlights with high and low beams (2 front)
- Halogen working lights (4 front and 4 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 lamp
- Working light indicator lamp

### OPERATOR ENVIRONMENT
- Adjustable operator seat with air suspension and head rest
- Two-lever for two-spool control valve
- FNRI switch
- Down-shift switch
- Shift hold switch
- Transmission clutch cut-off adjust switch
- Ashtray
- Cup holder
- Cigarette lighter
- Machine Operation Diagnostic Module (MODM)
- Electric dual horns
- Rubber floor mat
- Front and rear wiper and washers
- Full automatic air conditioner
- Lockable doors with sliding windows by regulator handles (left and right)
- Rear view mirrors (interior and exterior)
- ROPS/FOPS canopy
- Steel cab (left and right doors open, walk-through design)
- Seat belt
- Storage compartment
- Sun visor
- Telescopic and tilt steering wheel
- Tinted safety glass (laminated glass)

### POWER TRAIN
- Active traction control
- Air filter double element
- Cummins QSK19 diesel engine
- Full hydraulic enclosed wet multi-disc brakes
- Automatic reversible hydraulic operated cooling fan
- Auto shift transmission
- Conventional differentials (front/rear)
- Low maintenance drive shafts
- Tires, 35/65R33 L5

### OTHERS
- Bucket auto leveler
- Lift arm auto leveler
- Drawbar, with rocking pin
- Efficient loading system (ELS)
- Handrails
- Ladders, left and right
- Loading linkage, sealed Z-bar type dual cylinders
- Secondary brake
- CE package
- Emergency steering system
- Ride control system, speed sensitive automatic
- Radio antenna and wiring, stereo speakers
- Mud guard for front fenders
- Vandalism protection kit

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

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Note: *: ROPS (Roll Over Protective Structure) Conforms to ISO 3471; 1994
**: FOPS (Falling Objects Protective Structure) Conforms to ISO 3449; 1992 Level II

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.