ZW-5A series

ZW180

HITACHI

Reliable solutions

ZW180

Model Code: ZW180-5A
Max. Engine Power: 125 kW (168 HP)
Operating Weight: 14 370 - 14 860 kg
Bucket ISO Heaped: 2.2 - 3.3 m³
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A 10% Fuel Saving

The “Active Engine Control System” can reduce fuel consumption by 10%, while enhancing controllability and productivity.

Active Engine Control System for Digging

Here are some fuel-saving techniques: avoiding rapid start of travel, and eliminating energy losses during excavation through variable displacement hydraulic pumps.

Monitor indication items:
- Clock
- Oil replacement intervals
- Travel speed
- Mileage
- Hour meter

Active Engine Control System for Economical Operation and Easy Control

The “Active Engine Control System” plays a key role achieving a 10% fuel saving. Strategically positioned sensors detect movements throughout the machine and adjust engine speed accordingly to eliminate energy losses to maximize fuel conservation. This delivers smooth, fuel-efficient operation.

A 10% Fuel Saving

The “Active Engine Control System” can reduce fuel consumption by 10%, while enhancing controllability and productivity.

2 Selectable Work Modes: Standard and Power Modes

Standard mode is preselected and enough for ordinary work that requires constant power, such as loading. Power mode is selectable when extra power is needed.

- **Power Mode**
  - Select this mode when extra power is needed, such as climbing a steep slope or getting the job done quickly.

Quick Power Switch (QPS)

Pressing the Quick Power Switch on the lever selects the Power mode. When switching forward/reverse, or when a reduction in traction is detected, the Standard mode resumes automatically. The Quick Power Switch helps save more fuel compared to operation when the Power mode is constantly selected.

ECO Mark Indicator for Fuel-Efficient Operation

The ECO mark indicator turns on when fuel-efficient operation is activated. This function encourages operators to utilize fuel-efficient operation.

10%* Fuel Saving

* Compared to the conventional ZW180

NEW Technology to Cut Fuel Consumption

Here are some fuel-saving techniques: avoiding rapid start of travel, and eliminating energy losses during excavation through variable displacement hydraulic pumps.

NEW Active Engine Control System

The Active Engine Control System chooses optimal traction power and breakout force for smooth digging while improving fuel efficiency, utilizing data collected from the sensors on the machine.

NEW Active Engine Control System for Digging

Choosing optimal traction power and breakout force

- Increased operating efficiency
- Reduced fuel consumption

Excessive traction power by too much pedal depression

- Reduced operating efficiency
- Increased fuel consumption

Active engine control

Conventional

NEW 2 Selectable Work Modes: Standard and Power Modes

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  - Select this mode when extra power is needed, such as climbing a steep slope or getting the job done quickly.

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NEW ECO Mark Indicator for Fuel-Efficient Operation

The ECO mark indicator turns on when fuel-efficient operation is activated. This function encourages operators to utilize fuel-efficient operation.
Enhanced Controllability

Hitachi analyzed various wheel loader operations including digging, approach to a dump truck, operation after dumping and travel. This led to the development of strategies to improve wheel loader controllability.

**New Transmission with 5 speed gears**

The new transmission comes standard with the Auto mode* that can automatically select an optimum gear according to the load, thereby reducing fuel consumption. Especially, the new transmission has 5 speed gears which can keep fuel efficient engine rpm more easily compared to the conventional transmission with 4 speed gears.

* AUTO1 (1st-5th gear) and AUTO2 (2nd-5th gear) are selectable using travel mode selector.

**Lift Arm Auto Leveler (Optional)**

This restriction valve suppresses the shaking of the machine when the lift arm stops to improve operator comfort and avoid load spills.

**Shift Change Delay Mode (Optional)**

Shift change delay mode is provided to avoid an excessive rise in travel speed during digging and loading. When moving forward with the lift arm up, the second gear is kept for four seconds to prevent over-speed. When reversing, the second gear is kept for five seconds. These delays to third gear help to keep fuel consumption down ensuring smooth loading.

**Lift Arm Auto Leveler (Optional)**

The lift arm can be automatically stopped at an preset level for efficient truck-loading, and lowering the bucket after dumping. The operator can concentrate on traveling without worrying about the lift arm.

**PICK UP**

**Levers for Easy Operation**

In order to offer more efficient and comfortable operation, a new type of lever is employed to suit both fingertip control and grip control.

* A variety of lever patterns are available depending on job needs and operator’s preference.

**Speed-responding Clutch Cut-off System**

Clutch cut-off timing is adjusted by sensing travel speed and pedal depression for smooth, efficient truck loading. The Flat mode, Slope mode and OFF are selectable by switch control according to job requirements.

**Clutch cut position switch**

**Shift change delay mode**

- **Holds 2nd gear for 4 seconds** when moving forward with the lift arm up.
- **Holds 2nd gear for 5 seconds** when reversing.

**Lift Arm Auto Leveler**

The lift arm can be automatically stopped at an preset level for efficient truck-loading, and lowering the bucket after dumping. The operator can concentrate on traveling without worrying about the lift arm.
Operator-Friendly Features to Improve Operator Comfort

The cab is both comfortable and functional with a series of features aimed at reducing operator fatigue.

**Bi-Level Auto Air Conditioner**

This auto air conditioner has bi-level control function: warming at foot space and cooling at overhead. The pressurized cab shuts out dust, keeping the cab interior clean. In dusty environments, optional external double-filters are available for the air conditioner.

**Panoramic Cab**

The spacious panoramic cab offers near all-round visibility through pillar-less bonded windows. The seat and steering wheel can be adjusted to suit the operator, keeping the operator in an optimum position. In-cab noise is suppressed further. Even when the going gets tough, the operator can feel comfortable with less fatigue.

**Tiltable Steering Wheel**

The steering wheel is tiltable to fit the wheel to the operator for comfortable operation.

**Comfort-Designed Suspension Seat**

The mechanical suspension seat absorbs shocks and vibration from the machine in order to reduce operator’s physical stresses to the operator.

* The air suspension seat is available as an option.

**AM/FM Radio with 2 Speakers**

The AM/FM radio has an auto-tuning feature and the 2 speakers stereo system provides excellent sound quality. The player pocket can hold a cell phone.

* An AUX port (stereo mini jack) is an option for connection with a mobile music player for entertainment during breaks.

**Rearview Monitor (Optional)**

The rearview monitor allows the operator to see the rear of the machine, including a view behind the counterweight. This rearview monitor enhances safe operation.
Hitachi Global Online Network, a parts supply system, is linked with CPD (Central Parts Depot), overseas depots and dealers abroad to deliver on-line parts information, including in-stock parts, order receptions, shipments and delivery period of over one million parts and components.

Robust Frame

The main frame and its joins are thoroughly strengthened. The box-section structure is adopted around center pins, where concentrated forces are applied, for reinforcement. Frame plate thicknesses are optimally determined by 3D stress analysis.

Simplified Maintenance

The engine cover swings up to provide a wide service space. Filters are concentrated for easy inspection and servicing from the ground.

Wide Fin Pitch Radiator (Optional)

Wide fin pitch radiator is available for use in dusty environments, where there are large amounts of airborne debris, to avoid dust clogging and overheating as a result. Air blowing is easy and simple.

New

Automatic Reversible Cooling Fan (Optional) to Reduce Dust Deposits

The automatic reversible cooling fan is available to keep the radiator clean at all times. The cooling fan is automatically self-reversed every 30 minutes to blow dust off the radiator. The cover swings up for efficient air blowing.

Parts and Service

Parts

Hitachi Global Online Network, a parts supply system, is linked with CPD (Central Parts Depot), overseas depots and dealers abroad to deliver on-line parts information, including in-stock parts, order receptions, shipments and delivery period of over one million parts and components.

Genuine Hitachi Parts

Genuine Hitachi parts, meeting Hitachi stringent quality standards, are guaranteed according to Hitachi warranty standards. The use of genuine Hitachi parts, including engine, fuel, hydraulic oil and filters, may slash running costs, and extend machine life.

Service

ConSite

ConSite is a full-package service menu which is designed for Hitachi’s machines used around the world. We closely monitor and support each machine working at each job site from various aspects, ensuring the best-tuned machines that are accommodated for the site condition and meet your specific needs.

Technical Training

On-site servicing matters despite locations to keep the machine at peak performance and reduce downtime. Technical Training Center (TTC), located in Japan, educates and trains service technicians and service support personnel coming from Hitachi dealers and factories on the globe according to the international training programs.
**AXLE AND FINAL DRIVE**

- **Drive system**: Four-wheel drive system
- **Front & rear axle**: Semi-floating
- **Frame**: Fixed to the front frame
- **Rear**: Trunnion-type support
- **Reduction and differential gear**: Two-stage reduction with conventional differential gear
- **Oscillation angle**: Total 24° (+12°/−12°)
- **Final drives**: Heavy-duty planetary, mounted outboard

**TIRES**

- **Tire size**: 20.5-25-12PR (L3)
- **Optional**: Refer to standard & optional equipment list

**BRAKES**

- **Semiaxes**: Outboard-mounted fully hydraulic 4-wheel wet disc brake
- **Parking brakes**: Spring applied, hydraulically released, dry disc type with external output shaft

**STEERING SYSTEM**

- **Type**: Articulated frame steering
- **Steering angle**: Each direction 40°; total 80°
- **Cylinders**: Double-acting piston type
- **No. x Bore x Stroke**: 2 x 70 mm x 442 mm

**HYDRAULIC SYSTEM**

- **Arms and buckets are controlled by independent control lever**
- **Arm controls**: Four position valve; Raise, hold, lower, float
- **Bucket controls with automatic bucket return-to-dig control**
- **Three position valve**: Raise, hold, dump

**POWER TRAIN**

- **Transmission**: Engine speed (rpm)
- **Engine output**: (kW)
- **Engine torque**: (Nm)

**SPECIFICATIONS**

**BUCKET SELECTION GUIDE**

- **Bucket capacity**: ESH - Fithed, 2.8
- **ISO struck**: 2.4
- **General purpose**: 2.9
- **Rock bucket**: 2.2
- **Tipping load (kg)**: 2.7

**DIMENSIONS & SPECIFICATIONS**

**DIAGRAM**

- **Overall length**: 11,910 mm
- **Overall width**: 4,740 mm
- **Overall height**: 3,760 mm


* Stiff tipping load and opening weight marked with **include** 20.5-25-12PR (L3) tires (no ballast) with lubricants, full fuel tank, 1,350 kg counter weight, Non ROPS cab and operator.

**WEIGHT CHANGE**

<table>
<thead>
<tr>
<th>Option item</th>
<th>Operating weight (kg)</th>
<th>Tipping load (kg)</th>
<th>Overall width (mm)</th>
<th>Overall height (mm)</th>
<th>Overall length (mm)</th>
</tr>
</thead>
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<tr>
<td>Tire</td>
<td>20.5-25-12PR (L3)</td>
<td>+30</td>
<td>+10</td>
<td>+20</td>
<td>+10</td>
</tr>
<tr>
<td></td>
<td>20.5-25-16PR (L3)</td>
<td>+180</td>
<td>+140</td>
<td>+120</td>
<td>+10</td>
</tr>
<tr>
<td></td>
<td>20.5-26R (L3)</td>
<td>+420</td>
<td>+400</td>
<td>+160</td>
<td>+10</td>
</tr>
</tbody>
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**BUCKET SELECTION GUIDE**

- **NPS**: 60 kg Counter weight: +310
- **NPS**: 120 kg Counter weight: +730
- **NPS**: 180 kg Counter weight: +115

**BRAKES**

- **Parking brakes**: Spring applied, hydraulically released, dry disc type with external output shaft

**STANDARD ARM**

- **Operating weights**: (kg)
EQUIPMENT

OPERATOR’S STATION

- Adjustable steering column
- Airbag, clipper lighter
- Radio
  - AM/FM radio
  - AM/FM radio with AUX for digital audio player
- Auto control air conditioner
  - with single intake filter
  - with double intake filter
- Cab
  - Non ROPS / FOPS cab
  - ROPS (ISO14159), FOPS (ISO3446)
- Coat hook
- Front/Rear deflector
- Glove compartment
- Rear view camera & monitor
- Rear view mirrors
  - Inside (2)
  - Outside (2)
  - Outside (heated, 2)
- Retractable seat belt, 50mm
- Rubber floor mat
- Seat
  - Air suspension seat with headrest and heater: fabric, high back, angle, fore-aft position, reclining angle, seat adjustable for armrest angle, damper, fore/aft position, headrest height and angle, inclination of the seat, lumbar support, reclining angle, seat depth and weight-height.
- Storage
  - Cup holder
  - Digital audio player holder
  - Document holder
  - P/N & color box
  - Seatback pocket
- Sun visor
- Textured steering wheel with spinners knob
- Safety glass (tempered)
- Sun visor
- Textured steering wheel with spinners knob
- Steering oil low pressure

COOLING SYSTEM

- Fan
  - Cooling fan with heat sensing
  - Automatic reversible cooling fan with heat sensing
- Fan guard
- Radiator
  - Standard fin pitch radiator
  - Wide fin pitch radiator

LIGHTS

- Brake & tail lights
- Clearance lights
- Headlights
- Rotating lamp
- Turn signals with hazard switch
- Work lights
  - Front lights on cab (2)
  - Rear lights on rear grille side cover (2)
- Additional front lights on cab (2)
- Rear lights on cab (2)

POWER TRAIN

- Automatic transmission with load sensing system
- Clutch cut position switch

ENGINE

- Ram cap
- Pre-cleaner (ISO-68 net)
- Pre-cleaner (ISO-Oil)
- Air filter double elements
- Cartridge-type engine oil filter
- Cartridge-type fuel pre-filter
- Cartridge-type fuel main filter
- Engine oil remote drain

MONITORING SYSTEM

- Gauge: coolant temperature, fuel, transmission oil temperature
- Indicator lights: air filter restriction, brake oil low pressure, clearance lights, control lever lock, discharge warning, emergency steering, engine warning, fan relays, fuel filter relays, forward/reverse selector switch, high beam, hydraulic oil temperature, maintenance, parking brake, power mode, preheat, seat belt, service, transmission oil temperature, transmission warning, turn signal, water separator, work light
- LCD monitor display: clock, ECO, F-INS/REV position, hold, hour meter, submeter, replacement interval, risk control, speedometer
- Warning lights: brake oil low pressure, engine oil low pressure, overheat, steering oil low pressure

BRAKE SYSTEM

- Front & rear independent brake circuit
- Outboard mounted fully hydraulic 4 wheel seat disc
- Pedal
  - Single brake pedal
  - Double LH & RH brake pedal
- Spring set Hydraulic released parking brake

HYDRAULIC SYSTEM

- Bucket auto leveler (Automatic return to dig control)
  - Control lever
    - for 2 spools control value
    - 2 levers
  - Multifunction lever (MF lever)
    - for 3 spools control value
    - MF lever & AUX lever for 3rd function
    - 2 levers & AUX lever for 3rd function
  - Inside layout pattern (Bucket - liftarm - 3rd)
  - Inside layout pattern (Bucket - liftarm - 4th)
- Outside layout pattern (Bucket - liftarm - 3rd)
  - Outside layout pattern (Bucket - liftarm - 4th)
- Inside layout pattern (3rd - bucket - 4th arm)
- Outside layout pattern (Bucket - 4th - 3rd)

TIRES

- 20.5-25-12PR (L3)
- 20.5-25-15PR (L3)

MISCELLANEOUS

- Articulation lock bar
- Safety guard (Road type)
- Bucket cylinder guard
- Counter weight
  - 1 350 kg counter weight
  - 1 680 kg counter weight
- Drawbar with towing pin
- Emergency steering
- Fenders
  - for 20.5-25-12PR
  - for 20.5-25-15PR
  - for front & half covered rear fenders
  - for front & full covered rear fenders with mud flaps
  - for front & half covered rear fenders with mud flaps
- Global e-service
- Lift arm
  - Standard LH arm
  - High RH arm
  - Lift & tie down hooks
- On board information controller
- Filter cover
- Battery cover with locking bracket
- Lockable engine cover
- Lockable fuel refilling cap
- Theft prevention system

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

Hitachi Construction Machinery cannot be held liable for theft, any system will just minimize the risk of theft.
Built on the foundation of superb technological capabilities, Hitachi Construction Machinery is committed to providing leading-edge solutions and services to contribute as a reliable partner to the business of customers worldwide.

Reducing Environmental Impact by New ZW
Hitachi makes a green way to cut carbon emissions for global warming prevention according to LCA*. New ZW utilizes many technological advances, including the new standard mode which optimizes fuel efficiency. Hitachi has long been committed to recycling of components, such as aluminum parts in radiators and oil coolers. Resin parts are marked for recycling.

*Life Cycle Assessment – ISO 14040

Hitachi Environmental Vision 2025
The Hitachi Group released the Environmental Vision 2025 to curb annual carbon dioxide emissions. The Group is committed to global production while reducing environmental impact in life cycles of all products, and realizing a sustainable society by tackling three goals — prevention of global warming, recycling of resources, and enhancement of ecosystem.

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.