

ZAXIS-3 series

HITACHI

**ZAXIS**  
**650LC**  
**670LCH**



## HYDRAULIC EXCAVATOR

- **Model Code** : ZX650LC-3 / ZX670LCH-3
- **Engine Rated Power** : 345 kW (463 HP)
- **Operating Weight** : ZX650LC-3 : 65 900 kg  
ZX670LCH-3 : 67 300 kg
- **Backhoe Bucket** : SAE, PCSA Heaped :  
ZX650LC-3 / ZX670LCH-3 : 2.5 - 3.5 m<sup>3</sup>  
CECE Heaped :  
ZX650LC-3 / ZX670LCH-3 : 2.2 - 3.1 m<sup>3</sup>

# The New Generation Hydraulic Excavators

The Hitachi ZAXIS-3 series new-generation hydraulic excavators are packed with a host of technological features - clean engine, Hitachi traditional hydraulic technologies, and strong undercarriage and front attachment, plus well matching of power and speed.

The ZAXIS-3 series can get the job done with proven productivity, durability, and reliability, especially in heavy-duty excavation and quarry operations.

- **Clean engine complies with the emission regulations EU Stage III A**
- **Low noise design complies with the EU noise regulation 2000 / 14 / EC, stage II**



### **Productivity**

Increased digging force  
Enhanced boom recirculation system  
Boom mode selector helps to reduce shaking and jerking of body during scraping operations.  
Larger-diameter front piping  
Combined operation of boom and arm  
New bucket regenerative system  
High power yet low fuel consumption  
Common rail type fuel injection system  
Cooled EGR system

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### **Durability and reliability**

Increased loading capacity of swing circle  
Enlarged upper and lower rollers, idlers and sprockets  
Strengthened track links  
Strengthened idler pedestal  
Improved idler bracket  
Pressed master pins  
Full track guard provided standard (ZAXIS 670LCH)  
Enlarged pins  
Strengthened arm and boom  
Strengthened H-bucket for heavy-duty  
Strengthened general-purpose bucket

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### **Operator comfort**

High visibility inside cab  
Short stroke levers  
Wide foot space  
Comfort designed seat  
Improved controllability and operator comfort

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### **Multi function monitor**

Maintenance support  
Attachment support system  
Multi-language selection  
Rear view camera  
Theft deterrent system  
Fuel consumption monitoring

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### **Maintenance**

Parallel arrangement of the cooling pack  
Conveniently located inspection points  
Extended maintenance intervals

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### **Safety measures**

CRES II cab  
(ZAXIS 650LC is standard equipped)  
H/R cab  
(ZAXIS 670LCH is standard equipped)  
Cab right guard  
Evacuation hammer  
Pilot control shut-off lever

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A quieter machine  
A recyclable machine

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# World-Class Productivity

To yield high production yet maintain low fuel consumption, such was the objective of the development of a new engine and hydraulic system for the ZAXIS 650LC/670LCH.

**Production: Approx 8% Increase**

(vs. Conventional Model)



## Advanced Hydraulic Technologies

### Increased Digging Force

6% more bucket digging force\*.

\* At power boost mode / vs. Conventional model

### Enhanced Boom Recirculation System

In combined operation of boom lower and arm, arm speed can be increased by approximately 15% over the conventional. Pressurized oil from boom cylinder bottom side is delivered to boom cylinder rod side to lower the boom, assisted by boom weight. Conventionally, pressurized oil from pump is delivered to boom cylinder rod side to lower the boom. The new system also allows efficient combined operation of swing and boom lower.



### Boom Mode Selector

The amount the body can be lifted or pulled by the front of machine can be ON or OFF selected. This helps to provide for more comfortable operation and contributes to longer component service life.



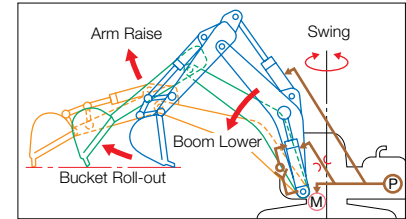
### Larger-Diameter Front Piping

Arm piping is increased in diameter to reduce hydraulic loss (theoretically 7%) for speedy front operation.

### Combined Operation of Boom and Arm

In combined operation of swing + boom lower + arm roll-out, or in leveling (boom lower + arm roll-out), arm roll-out speed can be increased greatly.

Here's why. A variable throttle, provided in the arm circuit, adjusts the flow when needed to reduce hydraulic loss in combined operation with arm roll-out.



### New Bucket Regenerative System

Swift bucket actions can be done in combined operation for excavation through the new bucket regenerative circuit. When the load to the bucket is light, pressurized oil from bucket cylinder rod side is delivered through a regenerative valve to bucket cylinder bottom side for the effective use of hydraulic energy.

## Development Concept of New Engine

### High Power Yet Low Fuel Consumption

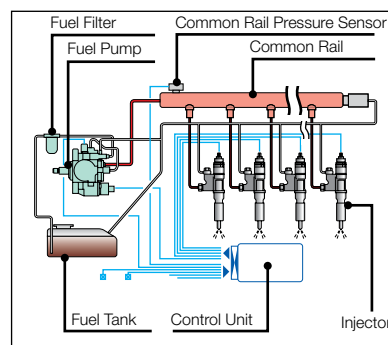
4% Increase in output (vs. Conventional model)

• 345 kW (463 HP) / 1 800 min<sup>-1</sup>

The new clean engine, complying with the emission regulations Tier 3 in US (EPA) and EU Stage III, can maintain low fuel costs by electronic control.

### Common Rail Type Fuel Injection System

Electronic control common rail type fuel injection system drives an integrated fuel pump at an ultrahigh pressure to distribute fuel to each injector per cylinder through a common rail. This enables optimum combustion to generate big horsepower, and reduce PM\* and fuel consumption.



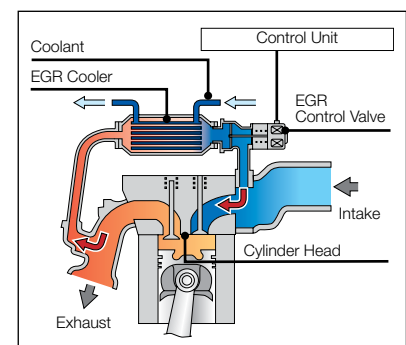
### Cooled EGR\*\* System

Exhaust gas is partially mixed with intake air to lower combustion temperature for reducing NOx and fuel consumption.

What's more, the EGR cooler cools down exhaust gas to increase air concentration for complete combustion, reducing PM\*.

\*Particulate Matter

\*\*Exhaust Gas Recirculation





# A Solid Base for a Long Life

Strengthened undercarriage for higher durability even in heavy-duty applications.



## Strengthened Undercarriage



### Increased Loading Capacity of Swing Circle

The swing circle ball bearing utilizes more balls to boost the loading capacity of the swing circle by approximately 7%, allowing stable swing even in tough operation\*.

### Enlarged Upper and Lower Rollers, Idlers and Sprockets

Upper and lower rollers are widened to increase contact areas, and idlers and sprockets are increased in diameter for more durability and mobility.

### Strengthened Track Links

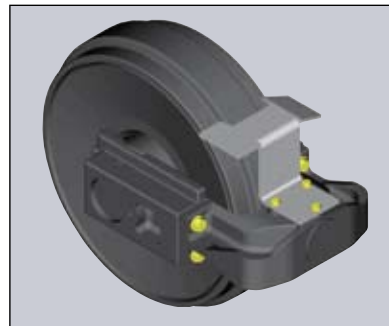
Track links are enlarged for higher strength, durability and reliability to allow tough operations on rough terrain.

### Strengthened Idler Pedestal

The bearing length of the idler pedestal is extended by approximately 84% to increase durability and service life\*.

### Improved idler bracket

The idler bracket is thickened for rigidity to prevent deformation and increase durability.



### Full Track Guard Provided Standard (ZAXIS 670LCH)

Full track guards are provided standard. Full track guards protect track links and lower rollers from damage and deformation. Moreover, they also keep out stones, preventing the overload to the undercarriage to reduce wear and damage.

### Pressed Master Pins

The master pin of each track link is pressed, instead of the master pin using a pin retention to avoid disengagement.



\* vs. Conventional model

## Strengthened Front Attachment

### Enlarged Pins

Pins, used throughout the front attachment, are increased in diameter for strengthening.



### Strengthened Arm and Boom

The arm and boom are strengthened by thickening and using stronger material.

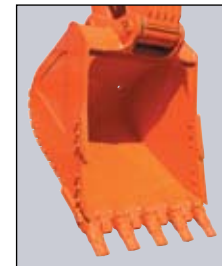
### Strengthened H-Bucket for Heavy-Duty

The heavy-duty bucket is reshaped, and bucket parts are strengthened to increase durability.



### Strengthened General-Purpose Bucket

Bucket teeth are reshaped as Super-V teeth for smooth penetration and higher production. Bushings are utilized at both ends of a bucket pin to eliminate clearances, preventing jerky operation.



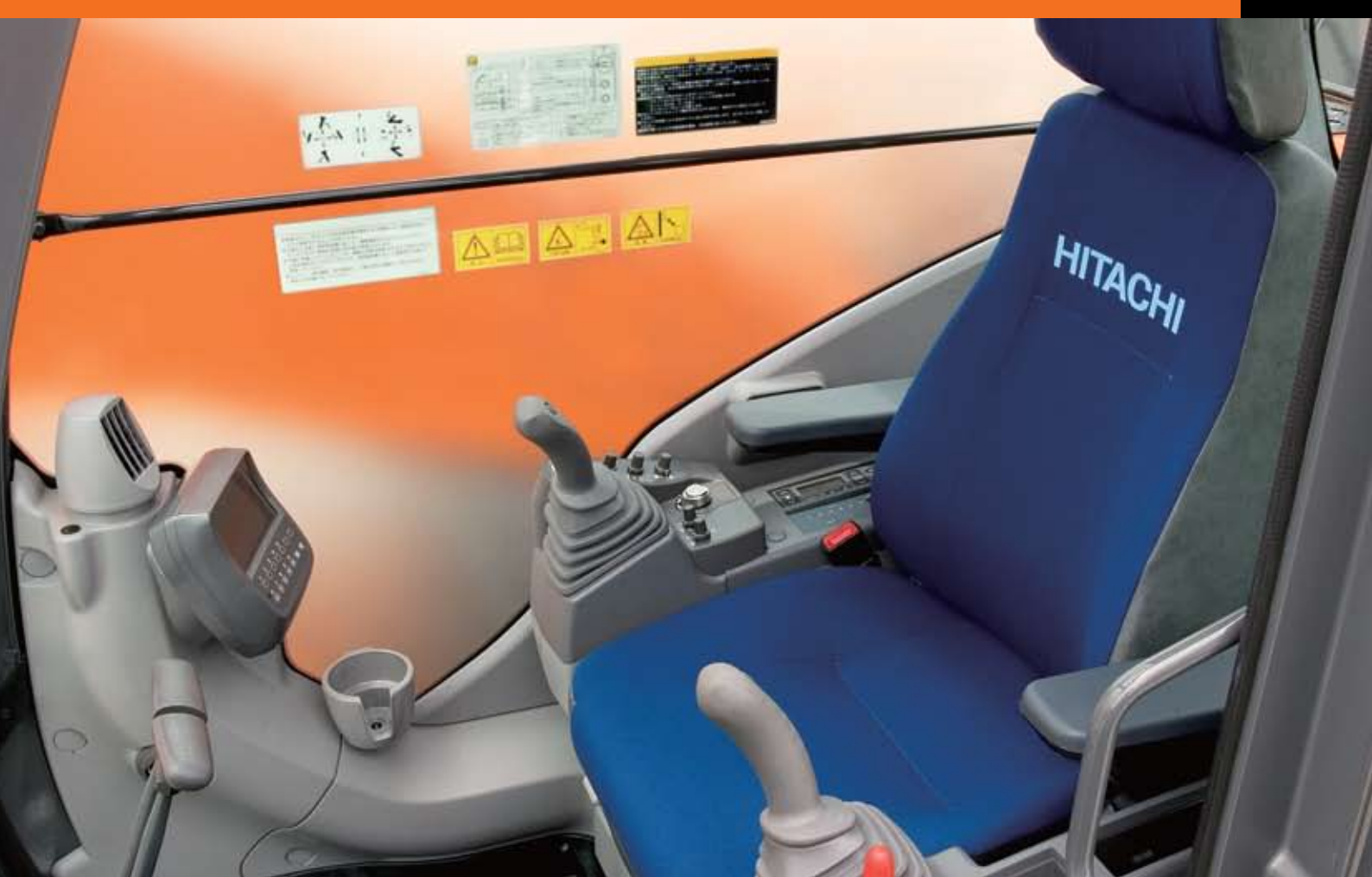


## A New Standard in Operator Comfort

The operator's seat of the ZAXIS-3 series gives the operator an excellent view of the jobsite. On the wide-screen colour LCD monitor the operator can see what is behind the machine. Ample legroom, short stroke levers and a large seat ensure optimum working conditions for the operator during long hours.







The ZAXIS-3 series cab has been redesigned to meet demands of customers. From the operator's seat the operator has an excellent view of the jobsite. On the widescreen colour LCD monitor the operator can see machine conditions and with the rear view camera, what is behind the machine. Ample legroom, short stroke levers and a suspension seat ensure optimum working conditions. The seat features horizontal, vertical adjustments and has a backrest contoured for comfort, with a HITACHI logo.



Wide adjustable armrests and a retractable seat belt are included. Short stroke levers allow for continuous operation with less fatigue. The cab is pressurized to keep out dust. Noise and vibrations are kept to a minimum due to the elastic mounts, filled with silicone oil, the cab rests on.

Visibility is improved especially for the right downward view. Sliding windows on the front (ZAXIS 650LC) and side enable direct communication between operator and other workers. Foot space has increased and travel pedals have been redesigned for easier operation.

A flat floor allows for easy cleaning. Ergonomic controls and switches, fully automatic air conditioner and a radio complete the package.

# Embedded Information Technology

The ZAXIS-3 series is equipped with a widescreen colour LCD monitor with adjustable contrast for day and night shifts. With the monitor the operator can check maintenance intervals, select work modes, monitor fuel consumption, and connect to the rear view camera. A theft deterrent system and multi-language selection is also available.

## Multi function monitor



The colour LCD monitor, located in the cab, indicates coolant temperature, fuel level, and maintenance data. It also allows one-touch adjustment of the attachment. The display can also be adjusted to day or night shift.

## Attachment support system (work mode selector)

Excavation: Work mode selection window

**Work Mode**

- Breaker 1:** Selected for small-flow breaker
  - Maximum Pump Flow Rate: 200.0 L/min
  - Maximum Engine Speed: 1700 rpm
  - Wipe Selector: [ ]
  - Accumulator: [ ]
  - 2-Speed Selector: OFF
  - Secondary Hydraulic: [ ]
  - Wash Selector: [ ]
- Breaker 2:** Selected for medium-flow breaker
  - Maximum Pump Flow Rate: 250.0 L/min
  - Maximum Engine Speed: 1700 rpm
  - Wipe Selector: [ ]
  - Accumulator: [ ]
  - 2-Speed Selector: OFF
  - Secondary Hydraulic: [ ]
  - Wash Selector: [ ]
- Breaker 3:** Selected for large-flow breaker
  - Maximum Pump Flow Rate: 280.0 L/min
  - Maximum Engine Speed: 1700 rpm
  - Wipe Selector: [ ]
  - Accumulator: [ ]
  - 2-Speed Selector: OFF
  - Secondary Hydraulic: [ ]
  - Wash Selector: [ ]

The work mode can be selected from the multi-function monitor inside the cab. Pump flow in the selected work mode can be monitored.

## Maintenance support

**Maintenance Settings**

- Engine Oil
- Engine Oil Filter
- Hydraulic Oil
- Hydraulic Oil Pilot Filter

**Hydraulic Oil**

- Maintenance Information Display:  ON  OFF
- Change interval: 500.0 h
- Remaining Hours: 0.0 h
- Previous Change Date: 2003/ 4/ 1 / 7000.0 h

Replacement timing of hydraulic oil and fuel filters is alerted to the operator through the LCD monitor according to the schedule preset by the user each time when turning the key switch. The scheduled maintenance can prevent the failure of the machine.

## Multi-language selection

**Language/言語**

- English
- Español
- Italiano
- Français

The menu allows selection from 12 languages.







**Rear view camera**



The widescreen colour LCD, teamed up with the rear view camera on the counterweight, provides rearward viewing.

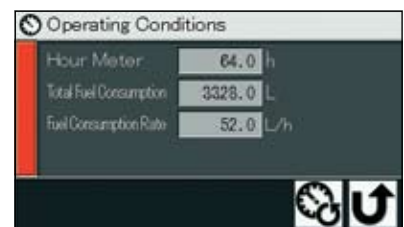
The rear view camera automatically works when traveling, and can also be manually turned on with a select switch on the monitor.

**Theft deterrent system**



The electronic immobiliser requires the entry of an encryption code to the multifunction monitor each time when starting the engine to prevent theft and vandalism.

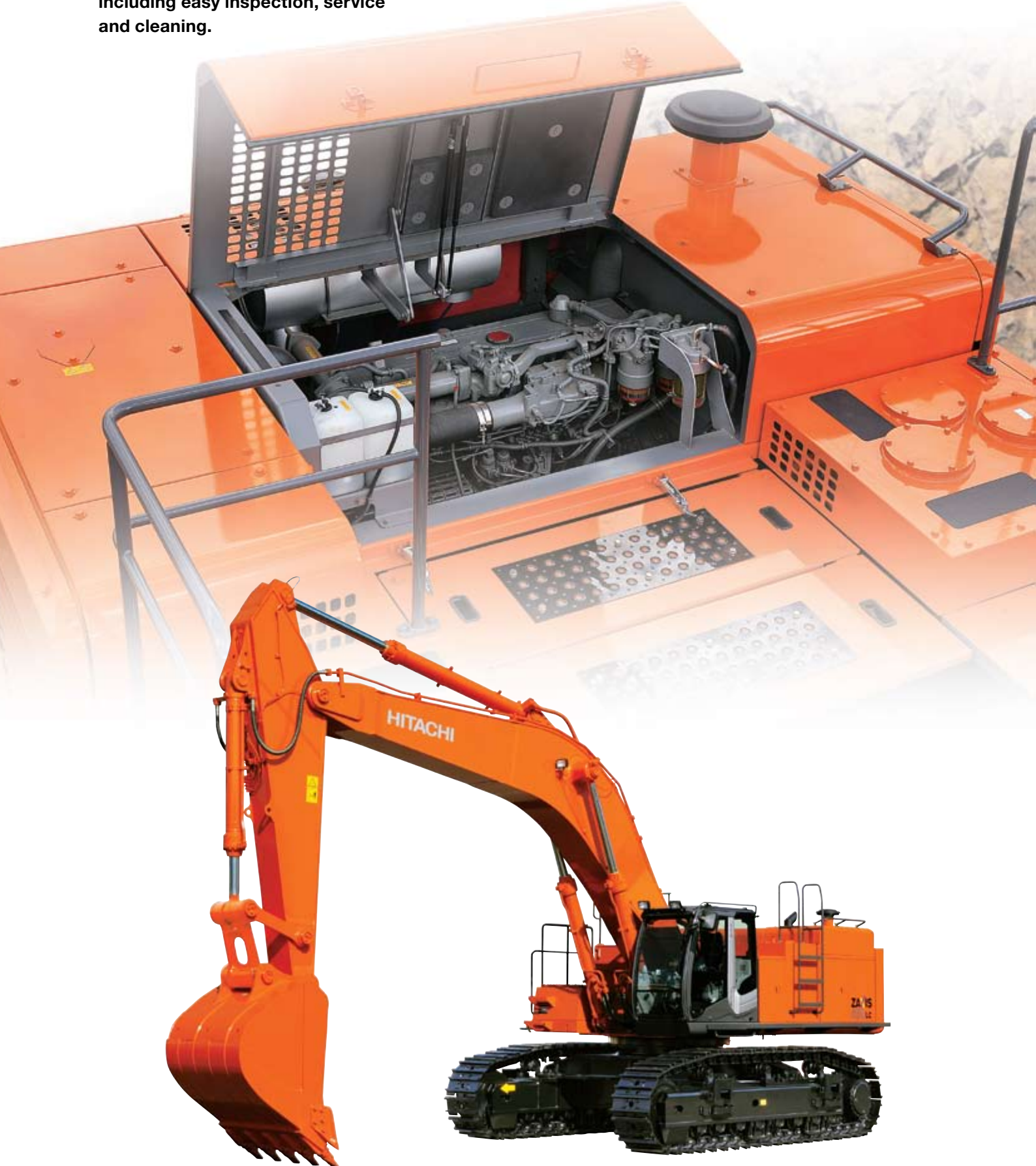
**Fuel consumption monitoring**



Fuel consumption per operating hour is computed, and the result is displayed on the LCD monitor. This information suggests refuelling timing, and guides energy-saving operation and efficient job management.

# Simplified Maintenance

Focusing on simplified maintenance, including easy inspection, service and cleaning.

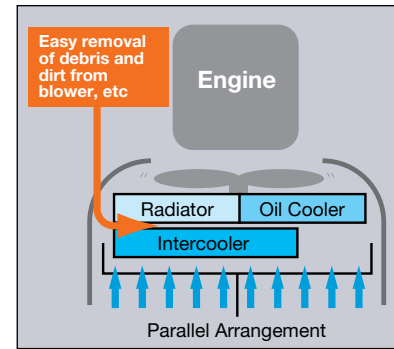




## Parallel Arrangement of the Cooling Pack



The radiator and oil cooler are laid out in a parallel arrangement, instead of the conventional in-line arrangement. This parallel arrangement is significantly easier to clean around the engine. The air conditioner condenser can be opened for easy cleaning of the condenser and the radiator located behind.



## Conveniently Located Inspection Point



In addition to a pre-filter, dual main fuel filters are provided standard to reduce clogging of the fuel line to the engine.

The engine oil pan is fitted with a drain coupler. When draining, an associated drain hose is connected to the drain coupler. The drain coupler is reliable, avoiding oil leakage and vandalism.

The sidewalk is widened from 340 mm (Conventional model) to 510 mm for smooth walking from cab to rear. The sidewalk is the field-proven split type that permits the detaching of its rear when traveling or operating on rough terrain.



The fresh air filter for the air conditioner is relocated to cab door side from conventional location behind the operator seat. This allows easy cleaning and replacement of the fresh air filter, like the air circulation filter inside the cab.

## Extended Maintenance Intervals

### Automatic Lubrication / Repositioned Bucket Lubricating Points

The front attachment is automatically lubricated, except for bucket lubricating points at the top of arm that are repositioned for side lubrication.

### Enlarged Fuel Tank

The fuel tank is enlarged, increasing the capacity from 740 liters (Conventional model) to 900 liters. Refueling intervals (when filled fully) extend from 16 to 17 hours.

### Extended Hydraulic Oil Filter Change Intervals

Hydraulic oil filter change intervals are extended from 500 hours (Conventional model) to 1000 hours to help reduce running costs.

# Safety Features

An array of safety devices for enhanced safety.



## Protecting the Operator from Tipping Accident

### CRES II Cab (ZAXIS 650LC Standard equipped)

The CRES II cab is designed to help with “just in case” protection for the operator. Safety in case of tipping is improved. The cab top can withstand nine-fold loading.



### H/R Cab (ZAXIS 670LCH Standard equipped)

The H/R cab utilizes the reinforced front window and FOPS\* at the roof for protection against falling objects. The front glass window, made of straight-laminated, is fixed to shut out dirt and debris. The cab provided with a full guard satisfies the OPG\*\*(Level II) cab requirements stipulated by ISO.

\*Falling Object Protective Structure  
\*\*Operator Protective Guards



## Additional Features

### Cab Right Guard



### Evacuation Hammer



### Pilot Control Shut-Off Lever



Other features include a retractable seat belt, evacuation hammer and emergency engine shut-off switch. A shut-off lever for pilot control helps to prevent unintentional movements.



# Environmental Features

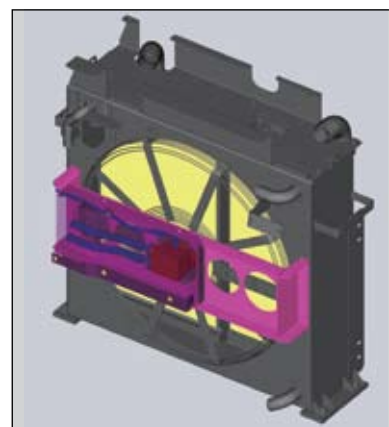
Hitachi acts responsibly when it comes to the environment.

## A Cleaner Machine

The ZAXIS-3 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 recombusted to reduce particulate matter (PM) output and lower nitrogen oxide (NOx) levels.

## A Quieter Machine

Engine noise is reduced by approximately 2 dB with the robust engine. It goes without saying that the engine meets the EU noise regulations. The engine cooling fan is a large 1 120 mm diameter variable-speed electrohydraulic fan. This fan automatically starts when temperature comes into the high temperature range, ensuring low noise operation. A proven large muffler is provided to reduce sound and exhaust emissions greatly.



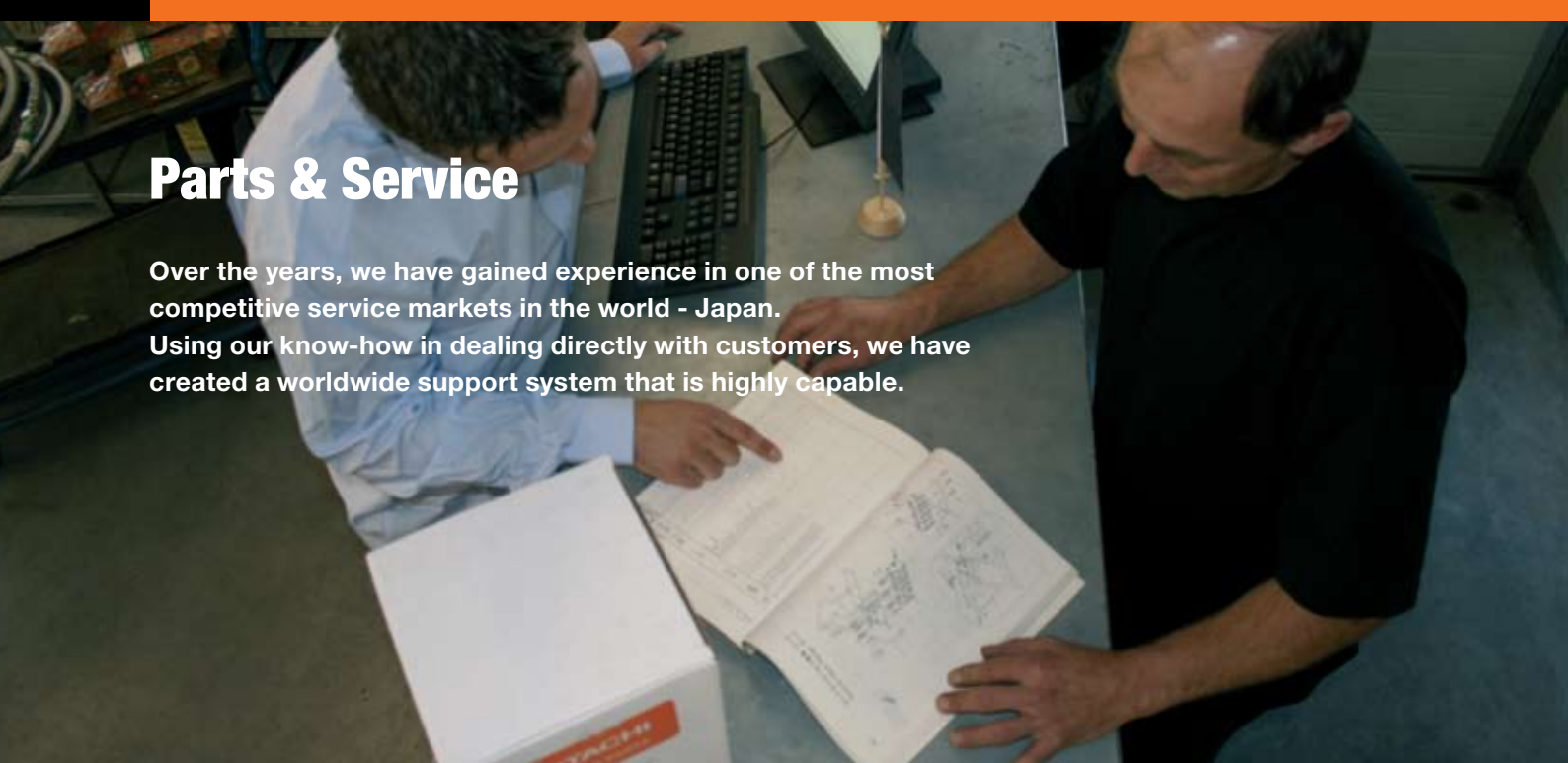
## A Recyclable Machine

Over 97% of the ZAXIS-3 series can be recycled. All resin parts are marked to facilitate recycling. The machine is completely lead-free. The radiator and oil cooler are made from aluminium and all wires are lead-less. In addition, biodegradable hydraulic oil is available for jobsites where special environmental care is required.



# Parts & Service

Over the years, we have gained experience in one of the most competitive service markets in the world - Japan. Using our know-how in dealing directly with customers, we have created a worldwide support system that is highly capable.



## Parts

HITACHI only offers genuine high quality parts. We guarantee that these parts have high performance and long life. We manage around 1 000 000 types of parts all around the world. They are designed and built to be the best match for your HITACHI equipment. HITACHI has a global parts distribution network that makes sure you get what

you need as quickly as possible. We have more than 150 dealers worldwide who provide the closest support for your needs. In most cases, your dealer will have the replacement part that you require. If a dealer does not have a certain part, he can order it from four fully stocked parts depots located across the world. These distribution

centres are all connected by an on-line system that gives them access to shared information on stocks, such as the number and type of available parts. The depots, which in turn are stocked by a parts center in Japan, minimize delivery time and enable you to get your parts as efficiently and quickly as possible.

## Service

Our goal is to “keep customer equipment at a maximum performance level”. To fulfil this goal, we have set more than 150 dealers all over the world. They have highly trained technicians, and provide a number of support programs. HITACHI provides a unique extended warranty program

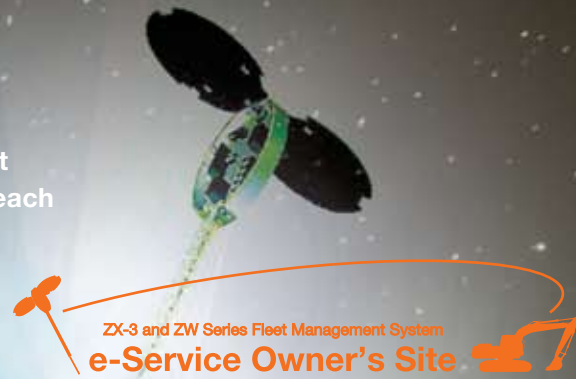
called HITACHI Extended Life Program, or HELP. To minimize downtime during troubleshooting, we developed a PDA based diagnostic system called “Dr. ZX”. To keep our customers’ equipment in top running shape, good service is indispensable. We believe personnel training is the key to providing the

best service. If you would like more information regarding parts and/or service, please ask your nearest HITACHI dealer. Not all programs and/or services are available in every market or region.



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

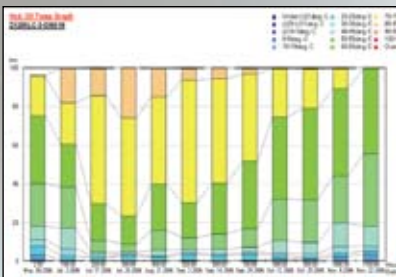
Reduce maintenance effort and costs for your machine fleet with e-Service Owner's Site; latest machine information of each of your machines available on-line, in your office.



## 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

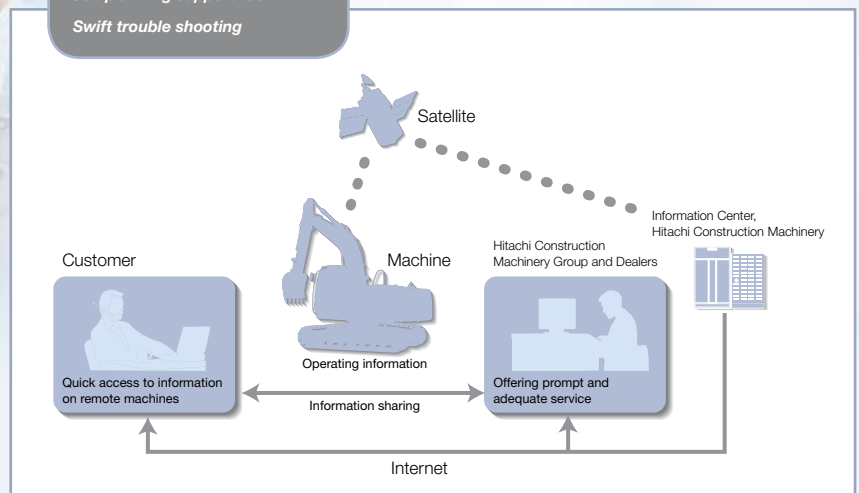
Enhanced service support from your local dealer

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.

# EQUIPMENT

## ZX670LCH-3

### ENGINE

Model .....	Isuzu AH-6WG1XYSA-02
Type .....	4-cycle water-cooled, direct injection
Aspiration .....	Turbocharged
No. of cylinders .....	6
Rated power	
ISO 9249,	H/P mode:
Without Fan net	345 kW (463 HP) at 1 800 min <sup>-1</sup> (rpm)
EEC 80/1269,	H/P mode:
Without Fan net	345 kW (463 HP) at 1 800 min <sup>-1</sup> (rpm)
Maximum torque .....	1 980 Nm (202 kgf·m) at 1 500 min <sup>-1</sup> (rpm)
Piston displacement ...	15.681 L
Bore and stroke .....	147 mm x 154 mm
Batteries .....	2 x 12 V / 170 Ah

### HYDRAULIC SYSTEM

- Work mode selector  
General purpose mode / Attachment mode
  - Engine speed sensing system
- |                        |  |
|------------------------|--|
| Main pumps .....       | 2 variable displacement axial piston pumps |
| Maximum oil flow ..... | 2 x 456 L/min                              |
| Pilot pump .....       | 1 gear pump                                |
| Max. oil flow .....    | 30 L/min                                   |

### Hydraulic Motors

Travel .....	2 axial piston motors with parking brake
Swing .....	2 axial piston motors

### Relief Valve Settings

Implement circuit .....	31.9 MPa (325 kgf/cm <sup>2</sup> )
Swing circuit .....	29.4 MPa (300 kgf/cm <sup>2</sup> )
Travel circuit .....	34.3 MPa (350 kgf/cm <sup>2</sup> )
Pilot circuit .....	3.9 MPa (40 kgf/cm <sup>2</sup> )
Power boost .....	34.3 MPa (350 kgf/cm <sup>2</sup> )

### Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

### Dimensions

	Quantity	Bore	Rod diameter
Boom	2	190 mm	130 mm
Arm	1	200 mm	140 mm
Bucket	1	180 mm	130 mm
Bucket (BE)	1	190 mm	130 mm

### Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing/travel motor drain lines.

### CONTROLS

Pilot controls. Hitachi's original shockless valve and quick warm-up system built in the pilot circuit.

Implement levers .....	2
Travel levers with pedals .....	2

### UPPERSTRUCTURE

#### Revolving Frame

Welded sturdy box construction, using heavy-gauge steel plates for ruggedness. D-section frame for resistance to deformation.

#### Swing Device

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion gear are immersed in lubricant. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed .....	9.5 min <sup>-1</sup> (rpm)
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#### Operator's Cab

Independent spacious cab, 1 005 mm wide by 1 795 mm high, conforming to ISO\* Standards. (OPG top guard fitted Level II (ISO 10262) compliant cab)

Reinforced glass windows on 4 sides for visibility. Reclining seat with armrests; adjustable with or without control levers.

\* International Standardization Organization

### UNDERCARRIAGE

#### Tracks

Tractor-type undercarriage. Welded track frame using selected materials. Side frame bolted to track frame. Lubricated track rollers, idlers, and sprockets with floating seals.

Track shoes with double grousers made of induction-hardened rolled alloy. Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

#### Numbers of Rollers and Shoes on Each Side

Upper rollers .....	3
Lower rollers .....	8
Track shoes .....	47
Full track guard .....	1

#### Travel Device

Each track driven by axial piston motor through reduction gear for counter rotation of the tracks. Sprockets are replaceable. Parking brake is spring-set/hydraulic-released disc type.

Automatic transmission system: High-Low.

Travel speeds .....	High : 0 to 4.9 km/h
	Low : 0 to 3.4 km/h

Maximum traction force .....	460 kN (46 920 kgf)
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Gradeability .....	35° (70%) continuous
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## WEIGHTS AND GROUND PRESSURE

Equipped with 7.8 m H-boom, 3.6 m H-arm, and 2.9 m<sup>3</sup> rock bucket.

Shoe type	Shoe width	Operating weight	Ground pressure
Double grouser	650 mm	67 300 kg	101 kPa (1.03 kgf/cm <sup>2</sup> )
	750 mm	67 900 kg	88 kPa (0.90 kgf/cm <sup>2</sup> )
	900 mm	68 800 kg	75 kPa (0.76 kgf/cm <sup>2</sup> )

Shoe for use 650 mm; Quarry ground, Dry riverbed, Solid ground  
750 mm; Mid-Solid ground, Soft ground  
900 mm; Soft ground

## SERVICE REFILL CAPACITIES

Fuel tank .....	900.0	liters
Engine coolant .....	57.0	
Engine oil .....	57.0	
Swing device (each side) .....	10.5	
Travel device (each side) .....	16.0	
Hydraulic system .....	680.0	
Hydraulic oil tank .....	380.0	

## BACKHOE ATTACHMENTS

Boom and arms are of all-welded, box-section design. A number of booms and arms are available. Bucket is of all-welded, high strength steel structure.

The ZX670LCH is a heavy duty type and can be equipped with a reinforced H-boom or BE-boom and H-arm or BE-arm.

### Backhoe Buckets

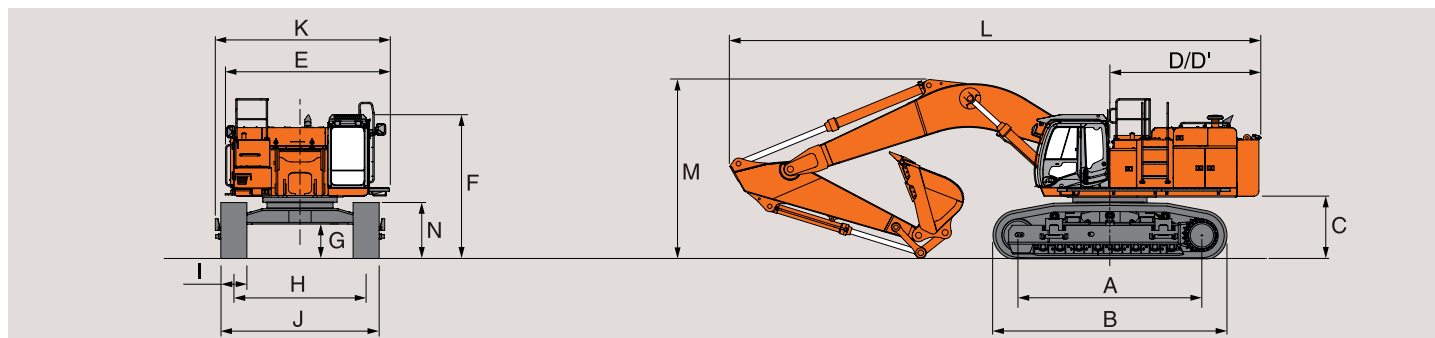
Capacity		Width mm		No of teeth	Weight	ZX670LCH-3	
SAE, PCSA heaped	CECE heaped	Without side cutters	With side cutters			6.8 m BE-boom	7.8 m H-boom
						2.9 m BE-arm	3.6 m H-arm
*1 2.9 m <sup>3</sup>	2.5 m <sup>3</sup>	1 680 mm	1 680 mm	5	2 850 kg	X	●
*1 3.3 m <sup>3</sup>	2.9 m <sup>3</sup>	1 790 mm	1 790 mm	5	3 120 kg	●	X
*2 1.5 m <sup>3</sup>	1.3 m <sup>3</sup>	–	1 310 mm	3	3 150 kg	X	●
*2 1.8 m <sup>3</sup>	1.6 m <sup>3</sup>	–	1 570 mm	3	3 750 kg	●	X
One-point ripper				1	1 800 kg	●	●

\*1 Rock bucket      ● Heavy-duty service  
\*2 Ripper bucket    X Cannot be installed

# SPECIFICATIONS / LIFTING CAPACITIES

ZX670LCH-3

## DIMENSIONS



Unit: mm

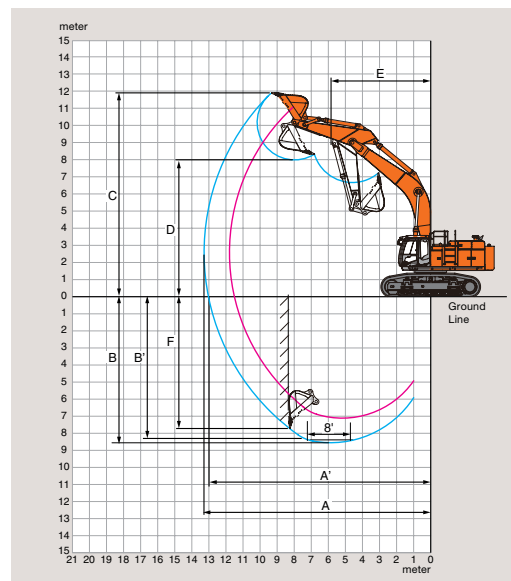
	ZX670LCH-3		
A Distance between tumblers	4 590		
B Undercarriage length	5 840		
*1 C Counterweight clearance	1 530		
D Rear-end swing radius	3 850		
D' Rear-end length	3 720		
E Overall width of upperstructure	4 100		
F Overall height of cab	3 590		
*1 G Min. ground clearance	860		
H Track gauge : Extended / Retracted	3 300 / 2 830		
I Track shoe width	G 650	G 750	G 900
J Undercarriage width : Extended / Retracted	3 950 / 3 480	4 050 / 3 580	4 200 / 3 730
K Overall width	4 340		
L Overall length	13 200		
*2 M Overall height of boom	4 460		
N Track height	1 390		

\*1 Excluding track shoe lug. G: Double grouser shoe

\*2 Equipped with 7.8 m H-boom and 3.6 m H-arm

## WORKING RANGES

Unit: mm



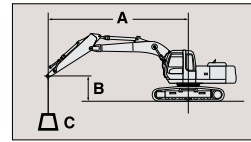
Arm length	ZX670LCH-3	
	6.8 m BE-boom	7.8 m H-boom
	2.9 m BE-arm	3.6 m H-arm
A Max. digging reach	11 800	13 280
A' Max. digging reach (on ground)	11 500	13 030
B Max. digging depth	7 120	8 560
B' Max. digging depth (8' level)	6 970	8 420
C Max. cutting height	11 190	11 940
D Max. dumping height	7 330	8 020
E Min. swing radius	5 240	5 780
F Max. vertical wall	5 280	7 720
Bucket digging force* ISO	369 kN (37 700 kgf)	324 kN (33 100 kgf)
Arm crowd force* ISO	332 kN (33 900 kgf)	286 kN (29 200 kgf)
Bucket digging force* SAE : PCSA	306 kN (31 200 kgf)	255 kN (26 000 kgf)
Arm crowd force * SAE : PCSA	297 kN (30 300 kgf)	246 kN (25 100 kgf)
Equipped bucket	3.3 m <sup>3</sup>	2.9 m <sup>3</sup>

Excluding track shoe lug \* At power boost



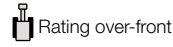
## Metric measure

The lifting capacity is defined by the overload alarm device set pressure.  
When the hydraulic pressure reaches the set pressure, the alarm buzzer sounds.  
Values in the table are with the overload alarm device switched off and with retracted bucket cylinder.



A: Load radius  
B: Load point height  
C: Lifting capacity

### ZX 670LCH-3 (WITHOUT BUCKET)



Unit: 1 000 kg

Conditions	B: Load point height m	A: Load radius																At max. reach		
		3.0 m		4.0 m		5.0 m		6.0 m		7.0 m		8.0 m		9.0 m		10.0 m		@ m		
BE-boom 6.8 m BE-arm 2.9 m Shoe 650 mm	8.0									*16.9	*16.9							*12.7	*12.7	7.9
	6.0							*19.7	*19.7	*18.1	*18.1	*17.1	15.5					*12.2	12.2	9.0
	4.0							*23.7	22.8	*20.6	18.1	*18.6	14.8	17.2	12.4			*12.4	11.3	9.5
	2.0							*27.1	21.3	*22.9	17.1	20.0	14.1	16.7	11.9			*13.4	10.9	9.6
	0(GROUND)					*34.1	27.2	*28.2	20.6	23.9	16.5	19.5	13.7	16.4	11.6			*15.3	11.2	9.2
	-2.0	*26.8	*26.8	*37.6	37.6	*31.6	27.2	*26.7	20.5	*22.7	16.4	*19.3	13.7					*17.8	12.8	8.4
	-4.0			*29.7	*29.7	*25.3	*25.3	*21.3	21.1									*17.2	*17.2	6.9
-6.0																				
H-boom 7.8 m H-arm 3.6 m Shoe 650 mm	9.0													*9.6	*9.6			*9.5	*9.5	9.0
	8.0													*13.1	*13.1			*9.3	*9.3	9.7
	6.0									*16.4	*16.4	*15.1	*15.1	*14.2	12.8	*13.5	10.8	*9.3	*9.3	10.5
	4.0					*28.4	*28.4	*22.7	22.4	*19.3	17.8	*17.1	14.6	*15.5	12.2	*14.4	10.4	*9.7	8.9	11.0
	2.0							*26.2	20.7	*21.9	16.7	*18.9	13.8	16.5	11.6	14.0	10.0	*10.6	8.5	11.1
	0(GROUND)					*21.2	*21.2	*27.5	19.9	*23.2	16.0	19.0	13.2	16.0	11.2	13.7	9.7	*12.1	8.7	10.8
	-2.0	*16.5	*16.5	*22.0	*22.0	*31.6	26.4	*26.7	19.8	*22.9	15.7	18.8	13.0	15.8	11.0	13.6	9.6	13.5	9.5	10.1
-4.0	*29.1	*29.1	*32.7	*32.7	*27.9	26.8	*24.0	20.0	*20.7	15.9	*17.8	13.2					*15.3	11.5	8.9	
-6.0					*20.7	*20.7	*17.7	*17.7									*14.7	*14.7	6.9	
H-boom 7.8 m H-arm 3.6 m Shoe 900 mm	9.0													*9.5	*9.5			*9.5	*9.5	9.0
	8.0													*13.1	*13.1			*9.3	*9.3	9.6
	6.0									*16.3	*16.3	*15.0	*15.0	*14.1	13.1	*13.4	11.0	*9.3	*9.3	10.5
	4.0					*28.3	*28.3	*22.6	*22.6	*19.3	18.2	*17.0	14.9	*15.5	12.5	*14.4	10.6	*9.7	9.0	10.9
	2.0							*26.2	21.2	*21.8	17.0	*18.9	14.1	*16.8	11.9	14.3	10.2	*10.5	8.7	11.0
	0(GROUND)					*21.1	*21.1	*27.4	20.4	*23.1	16.3	*19.4	13.5	16.3	11.4	14.0	9.9	*12.1	8.9	10.7
	-2.0	*16.4	*16.4	*21.9	*21.9	*31.6	27.0	*26.7	20.2	*22.8	16.1	19.2	13.3	16.2	11.3	13.9	9.8	13.5	9.7	10.0
-4.0	*29.1	*29.1	*32.7	*32.7	*27.9	27.4	*23.9	20.5	*20.6	16.2	*17.7	13.4					*15.2	11.7	8.8	
-6.0					*20.7	*20.7	*17.7	*17.7									*14.7	*14.7	6.9	

- Notes: 1. Ratings are based on ISO 10567.  
2. Lifting capacity of the ZAXIS Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.  
3. The load point is the center-line of the bucket pivot mounting pin on the arm.  
4. \*Indicates load limited by hydraulic capacity.  
5. 0 m = Ground.

# EQUIPMENT

## ZX670LCH-3

### STANDARD EQUIPMENT

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

#### ENGINE

- H/P mode control
- P mode control
- E mode control
- 50 A alternator
- Dry-type air double filter with evacuator valve (with air filter restriction switch for monitor)
- Cartridge-type engine oil filter
- Cartridge-type fuel filter
- Fuel pre-filter
- Radiator, oil cooler and intercooler with dust protective net
- Radiator reserve tank
- Fan guard
- Isolation-mounted engine
- Auto-idle system

#### HYDRAULIC SYSTEM

- Work mode selector
- Engine speed sensing system
- E-P control system
- Power boost
- Auto power lift
- Boom mode selector system
- Shockless valve in pilot circuit
- Control valve with main relief valve
- Extra port for control valve
- Suction filter
- Full-flow filter
- Pilot filter
- Drain filter
- Quick warm-up system for pilot circuit

#### CAB

- H/R cab
- OPG top guard fitted Level II (ISO10262) compliant cab
- All-weather sound suppressed steel cab
- Laminated straight glass front window
- 6 fluid-filled elastic mounts
- Left side window can be opened
- Intermittent windshield wipers
- Front window washer
- Adjustable reclining suspension seat with adjustable armrests
- Footrest
- Electric double horn
- AM-FM radio with digital clock
- Auto-idle selector
- Retractable seat belt
- Drink holder
- Cigarette lighter
- Ashtray
- Storage box
- Glove compartment
- Floor mat
- Short wrist control levers
- Auto control air conditioner
- Pilot control shut-off lever
- Engine shut-off switch
- Transparent roof with slide curtain
- Sun visor

#### MONITOR SYSTEM

- Display of meters: water temperature, hour, fuel rate, clock
- Other displays: work mode, auto-idle, glow, rearview monitor, operating conditions, etc
- Alarms: overheat, engine warning, engine oil pressure, alternator, minimum fuel level, air filter restriction, work mode, overload, etc
- Alarm buzzers: overheat, engine oil pressure, overload

#### LIGHTS

- 2 working lights
- 2 cab lights

#### UPPERSTRUCTURE

- 4.5 mm thickness undercover
- 11 100 kg counterweight
- Fuel level float
- Rear view camera
- 170 Ah batteries
- Hydraulic oil level gauge
- Tool box
- Utility space
- Rear view mirror (right & left side)
- Swing parking brake
- Ladder
- Electrical fuel refilling pump with auto-stop
- Auto-grease lubricator (without bucket and link pins)

#### UNDERCARRIAGE

- Travel parking brake
- Travel motor covers
- Hydraulic track adjuster
- Idler track guard
- Bolt-on sprocket
- Upper and lower rollers
- Reinforced track links with pin seals
- Full track guard
- 650 mm double grouser shoes

#### FRONT ATTACHMENTS

- Flanged pin
- Centralized lubrication system
- Dirt seal on all bucket pins
- 7.8 m H-boom and 3.6 m H-arm
- Damage prevention plate and square bars
- 2.9 m<sup>3</sup> (SAE, PCSA heaped) rock bucket (with dual type side shrouds)

#### MISCELLANEOUS

- Standard tool kit
- Lockable machine covers
- Lockable fuel filling cap
- Skid-resistant tapes, plates, handrails and sidewalk
- Travel direction mark on track frame
- Onboard information controller
- Theft deterrent system

## OPTIONAL EQUIPMENT

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

- Hose rupture valves
- Swing motion alarm device with lamps
- Travel motion alarm device
- Biodegradable oil
- Extinguisher
- Pre cleaner
- Additional 2 cab lights
- Attachment basic piping
- Accessories for breaker
- Accessories for breaker & crusher
- Accessories for 2 speed selector
- Sun visor
- 12 V power source
- Additional fuse box
- Overload alarm
- Front glass lower guard
- Front glass upper guard
- Counterweight removal device
- Suspension seat with heater
- Air suspension seat with heater
- Additional working light (boom right side)
- Track undercover
- Reinforced link B
- Fan reverse device
- 6.8 m BE-boom
- 2.9 m BE-arm
- 750 mm shoe with standard track guard
- 900 mm shoe with standard track guard



# EQUIPMENT

## ZX650LC-3

### ENGINE

Model .....	Isuzu AH-6WG1XYSA-02
Type .....	4-cycle water-cooled, direct injection
Aspiration .....	Turbocharged
No. of cylinders .....	6
Rated power	
ISO 9249,	H/P mode :
Without Fan net	345 kW (463 HP) at 1 800 min <sup>-1</sup> (rpm)
EEC 80/1269,	H/P mode :
Without Fan net	345 kW (463 HP) at 1 800 min <sup>-1</sup> (rpm)
Maximum torque .....	1 980 Nm (202 kgf·m) at 1 500 min <sup>-1</sup> (rpm)
Piston displacement ...	15.681 L
Bore and stroke .....	147 mm x 154 mm
Batteries .....	2 x 12 V / 170 Ah

### HYDRAULIC SYSTEM

- Work mode selector
    - General purpose mode / Attachment mode
  - Engine speed sensing system
- |                      |  |
|----------------------|--|
| Main pumps .....     | 2 variable displacement axial piston pumps |
| Maximum oil flow ... | 2 x 456 L/min                              |
| Pilot pump .....     | 1 gear pump                                |
| Maximum oil flow ... | 30 L/min                                   |

### Hydraulic Motors

Travel .....	2 axial piston motors with parking brake
Swing .....	2 axial piston motor

### Relief Valve Settings

Implement circuit .....	31.9 MPa (325 kgf/cm <sup>2</sup> )
Swing circuit .....	29.4 MPa (300 kgf/cm <sup>2</sup> )
Travel circuit .....	34.3 MPa (350 kgf/cm <sup>2</sup> )
Pilot circuit .....	3.9 MPa (40 kgf/cm <sup>2</sup> )
Power boost .....	34.3 MPa (350 kgf/cm <sup>2</sup> )

### Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

### Dimensions

	Quantity	Bore	Rod diameter
Boom	2	190 mm	130 mm
Arm	1	200 mm	140 mm
Bucket	1	180 mm	130 mm
Bucket (BE)	1	190 mm	130 mm

### Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line and swing/travel motor drain lines.

### CONTROLS

Pilot controls. Hitachi's original shock less valve and quick warm-up system built in the pilot circuit.

Implement levers .....	2
Travel levers with pedals .....	2

### UPPER STRUCTURE

#### Revolving Frame

Welded sturdy box construction, using heavy-gauge steel plates for ruggedness. D-section frame for resistance to deformation.

#### Swing Device

Axial piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion gear are immersed in lubricant. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed .....	9.5 min <sup>-1</sup> (rpm)
-------------------	-----------------------------

#### Operator's Cab

Independent spacious cab, 1 005 mm wide by 1 675 mm high, conforming to ISO\* Standards. (OPG top guard fitted Level II (ISO 10262) compliant cab) Reinforced glass windows on 4 sides for visibility. Openable front windows (upper and lower). Reclining seat with armrests; adjustable with or without control levers.

\* International Standardization Organization

### UNDERCARRIAGE

#### Tracks

Tractor-type undercarriage. Welded track frame using selected materials. Side frame bolted to track frame. Lubricated track rollers, idlers, and sprockets with floating seals.

Track shoes with double grousers made of induction-hardened rolled alloy. Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

#### Numbers of Rollers and Shoes on Each Side

Upper rollers .....	3
Lower rollers .....	8
Track shoes .....	47
Track guard .....	2

#### Travel Device

Each track driven by axial piston motor through reduction gears for counterrotation of the tracks. Sprockets are replaceable. Parking brake is spring-set/hydraulic-released disc type. Automatic transmission system: High-Low.

Travel speeds .....	High : 0 to 4.9 km/h
	Low : 0 to 3.4 km/h

Maximum traction force .....	460 kN (46 920 kgf)
------------------------------	---------------------

Gradeability .....	35° (70 %) continuous
--------------------	-----------------------

## WEIGHTS AND GROUND PRESSURE

Equipped with 7.8 m boom, 3.6 m arm and 2.9 m<sup>3</sup> bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Double grouser	650 mm	65 900 kg	99 kPa (1.01 kg/cm <sup>2</sup> )
	750 mm	66 500 kg	87 kPa (0.87 kg/cm <sup>2</sup> )
	900 mm	67 500 kg	73 kPa (0.75 kg/cm <sup>2</sup> )

Equipped with 6.8 m BE-boom, 2.9 m BE-arm and 3.5 m<sup>3</sup> bucket (SAE, PCSA heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Double grouser	650 mm	66 300 kg	100 kPa (1.02 kg/cm <sup>2</sup> )
	750 mm	67 000 kg	87 kPa (0.89 kg/cm <sup>2</sup> )
	900 mm	67 900 kg	74 kPa (0.75 kg/cm <sup>2</sup> )

Note: Depending on the jobsites conditions, 750 mm grouser shoe and 900 mm grouser shoe may not be recommended for rock, hard surface or forestry application.

## SERVICE REFILL CAPACITIES

Fuel tank .....	900.0	liters
Engine coolant .....	57.0	
Engine oil .....	57.0	
Pump drive .....	6.7	
Swing device (each side) .....	10.5	
Travel device (each side) .....	16.0	
Hydraulic system .....	680.0	
Hydraulic oil tank .....	380.0	

## BACKHOE ATTACHMENTS

Boom and arms are of all-welded, box-section design. A number of booms and arms are available. Bucket is of all-welded, high strength steel structure.

### Backhoe Buckets

Capacity		Width		No. of teeth	Weight	Recommendation		
SAE, PCSA heaped	CECE heaped	Without side cutters	With side cutters			ZX650LC-3		
					6.8 m BE-boom	7.8 m boom		
					2.9 m BE-arm	3.6 m arm	4.2 m arm	
2.50 m <sup>3</sup>	2.20 m <sup>3</sup>	1 480 mm	1 620 mm	5	2 150 kg	X	⊙	⊙
2.90 m <sup>3</sup>	2.50 m <sup>3</sup>	1 680 mm	1 820 mm	5	2 310 kg	X	⊙	—
3.50 m <sup>3</sup>	3.10 m <sup>3</sup>	1 800 mm	1 990 mm	5	2 980 kg	⊙	X	X
Applicable shoe type						650 mm Double grouser		
						750 mm Double grouser		
						900 mm Double grouser		

⊙ Suitable for materials with density of 1 800 kg/m<sup>3</sup> or less.

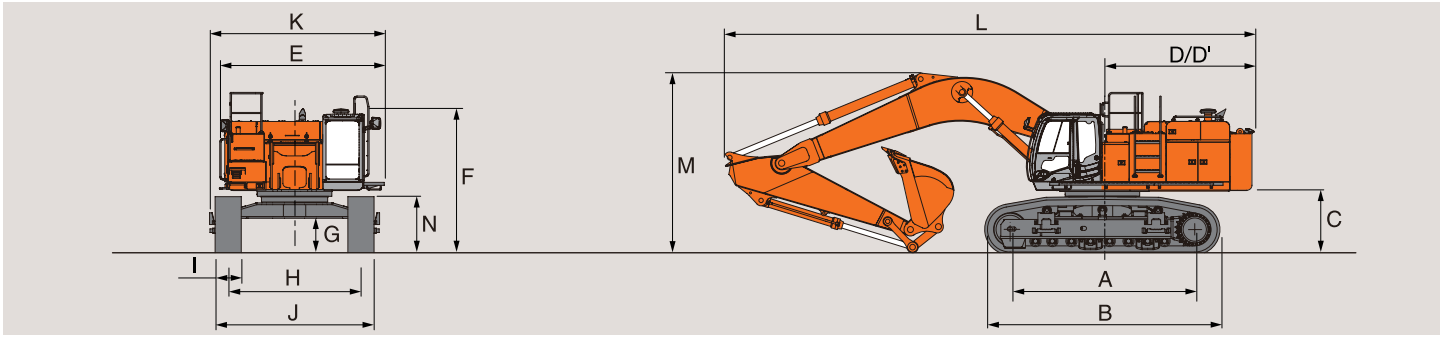
— Not applicable

X Cannot be installed

# SPECIFICATIONS / LIFTING CAPACITIES

ZX650LC-3

## DIMENSIONS



Unit: mm

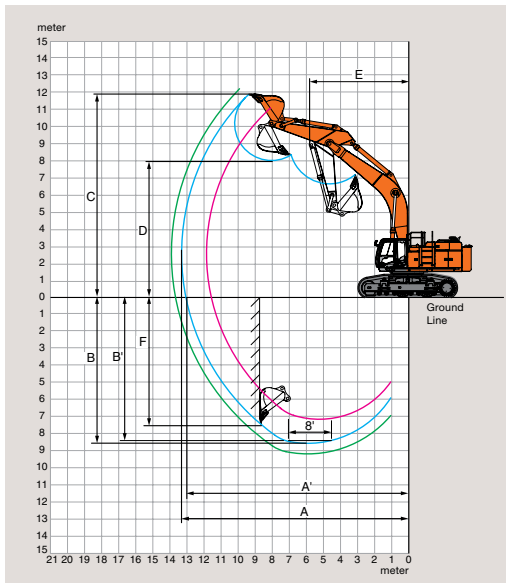
		ZX650LC-3		
A	Distance between tumblers	4 590		
B	Undercarriage length	5 840		
*1 C	Counterweight clearance	1 530		
D	Rear-end swing radius	3 850		
D'	Rear-end length	3 720		
E	Overall width of upperstructure	4 100		
F	Overall height of cab	3 450		
*1 G	Min. ground clearance	860		
H	Track gauge : Extended / Retracted	3 300 / 2 830		
I	Track shoe width	G 650	G 750	G 900
J	Undercarriage width : Extended / Retracted	3 950 / 3 480	4 050 / 3 580	4 200 / 3 730
K	Overall width	4 340		
L	Overall length	13 200		
*2 M	Overall height of boom	4 460		
N	Track height	1 390		

\*1 Excluding track shoe lug. G: Double grouser shoe

\*2 Equipped with 7.8 m boom and 3.6 m arm

## WORKING RANGES

Unit: mm



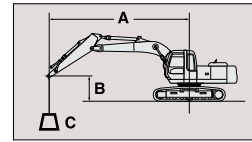
		ZX650LC-3		
		6.8 m BE-boom	7.8 m boom	
		2.9 m BE-arm	3.6 m arm	4.2 m arm
A	Max. digging reach	11 800	13 250	13 850
A'	Max. digging reach (on ground)	11 500	13 000	13 610
B	Max. digging depth	7 120	8 530	9 150
B'	Max. digging depth (8' level)	6 970	8 400	9 030
C	Max. cutting height	11 190	11 920	12 240
D	Max. dumping height	7 330	8 050	8 330
E	Min. swing radius	5 240	5 780	5 760
F	Max. vertical wall	5 280	7 380	8 180
Bucket digging force* ISO		369 kN (37 700 kgf)	324 kN (33 100 kgf)	324 kN (33 100 kgf)
Bucket digging force* SAE : PCSA		332 kN (33 900 kgf)	290 kN (29 600 kgf)	290 kN (29 600 kgf)
Arm crowd force* ISO		306 kN (31 200 kgf)	255 kN (26 000 kgf)	231 kN (23 600 kgf)
Arm crowd force* SAE : PCSA		297 kN (30 300 kgf)	247 kN (25 200 kgf)	224 kN (22 900 kgf)
Equipped bucket		3.5 m <sup>3</sup>	2.9 m <sup>3</sup>	2.5 m <sup>3</sup>

Excluding track shoe lug \* At power boost



## Metric measure

The lifting capacity is defined by the overload alarm device set pressure.  
When the hydraulic pressure reaches the set pressure, the alarm buzzer sounds.  
Values in the table are with the overload alarm device switched off and with retracted bucket cylinder.



A: Load radius  
B: Load point height  
C: Lifting capacity

### ZX650LC-3



Rating over-front



Rating over-side or 360 degrees

Unit: 1 000 kg

Conditions	Load Point height m	Load radius												At max. reach				
		3 m		4 m		6 m		8 m		10 m		11 m		@m				
BE-boom 6.8m BE-arm 2.9m Shoes 650mm	8															*12.7	*12.7	7.8
	6					*19.7	*19.7	*17.0	15.3							*12.2	*12.2	8.9
	4					*23.6	22.6	*18.5	14.6							*12.4	11.1	9.5
	2					*27.0	21.1	19.7	13.9							*13.3	10.7	9.5
	0(GROUND)					*28.1	20.3	19.3	13.5							*15.2	11.1	9.2
	-2	*26.8	*26.8	*37.5	*37.5	*26.6	20.2	19.2	13.5							*17.7	12.6	8.4
	-4			*29.6	*29.6	*21.3	20.8									*17.2	17.0	6.9
	-6																	
Boom 7.8m Arm 3.6m Shoes 650mm	9															*9.6	*9.6	9.0
	8															*9.4	*9.4	9.6
	6							*15.1	*15.1	*13.5	10.7					*9.4	*9.4	10.5
	4					*22.8	22.2	*17.1	14.5	14.4	10.3					*9.8	*9.8	10.9
	2					*26.3	20.6	*19.0	13.7	13.9	9.9	*11.7	8.6			*10.6	*10.6	11.0
	0(GROUND)					*27.6	19.8	18.9	13.1	13.6	9.6					*12.1	11.9	10.7
	-2	*16.5	*16.5	*22.0	*22.0	*26.8	19.6	18.6	12.9	13.5	9.5					13.4	13.1	10.0
	-4	*29.2	*29.2	*32.8	*32.8	*24.0	19.9	*17.8	13.1						*15.3	*15.3	8.8	
	-6					*17.8	*17.8								*14.8	*14.8	6.9	
Boom 7.8m Arm 4.2m Shoes 650mm	9															*8.1	*8.1	9.7
	8									*9.8	*9.8					*7.9	*7.9	10.3
	6							*14.1	*14.1	*12.8	10.8	*9.1	*9.1			*7.9	*7.9	11.1
	4					*21.2	*21.2	*16.2	14.7	13.8*	10.4	*12.4	8.9			*8.2	8.1	11.6
	2					*25.2	20.9	*18.3	13.8	14.0	9.9	12.1	8.6			*8.8	7.8	11.6
	0(GROUND)					*27.2	19.8	18.9	13.1	13.6	9.5	11.8	8.3			*9.9	7.9	11.3
	-2	*15.1	*15.1	*20.3	*20.3	*27.1	19.4	18.5	12.8	13.4	9.4					*11.8	8.5	10.7
	-4	*25.1	*25.1	*31.9	*31.9	*25.1	19.6	18.6	12.8						14.3	10.0	9.6	
	-6			*27.7	*27.7	*20.2	20.2								*14.4	13.7	7.8	

- Notes: 1. Ratings are based on ISO 10567.  
2. Lifting capacity of the ZAXIS Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.  
3. The load point is the center-line of the bucket pivot mounting pin on the arm.  
4. \*Indicates load limited by hydraulic capacity.  
5. 0 m = Ground.

# EQUIPMENT

## ZX650LC-3

### STANDARD EQUIPMENT

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

#### ENGINE

- H/P mode control
- P mode control
- E mode control
- 50 A alternator
- Dry-type air double filter with evacuator valve (with air filter restriction switch for monitor)
- Cartridge-type engine oil filter
- Cartridge-type fuel filter
- Fuel pre-filter
- Radiator, oil cooler and intercooler with dust protective net
- Radiator reserve tank
- Fan guard
- Isolation-mounted engine
- Auto-idle system

#### HYDRAULIC SYSTEM

- Work mode selector
- Engine speed sensing system
- E-P control system
- Power boost
- Auto power lift
- Boom mode selector system
- Shockless valve in pilot circuit
- Control valve with main relief valve
- Extra port for control valve
- Suction filter
- Full-flow filter
- Pilot filter
- Drain filter
- Quick warm-up system for pilot circuit

#### CAB

- CRES II cab
- OPG top guard fitted Level I (ISO10262) compliant cab
- All-weather sound suppressed steel cab
- Laminated round glass (green colour) front window
- 6 fluid-filled elastic mounts
- Openable windows ; upper and lower front, and left side
- Intermittent windshield wipers
- Front window washer
- Adjustable reclining suspension seat with adjustable armrests
- Footrest
- Electric double horn
- AM-FM radio with digital clock
- Auto-idle selector
- Retractable Seat belt
- Drink holder
- Cigarette lighter
- Ashtray
- Storage box
- Glove compartment
- Floor mat
- Short wrist control levers
- Auto control air conditioner
- Pilot control shut-off lever
- Engine shut-off switch
- Transparent roof with slide curtain
- Sun visor

#### MONITOR SYSTEM

- Display of meters: water temperature, hour, fuel rate, clock
- Other displays: work mode, auto-idle, glow, rearview monitor, operating conditions, etc
- Alarms: overheat, engine warning, engine oil pressure, alternator, minimum fuel level, air filter restriction, work mode, overload, etc
- Alarm buzzers: overheat, engine oil pressure, overload

#### LIGHTS

- 2 working lights

#### UPPER STRUCTURE

- Undercover
- 11 100 kg counterweight
- Fuel level float
- 170 Ah batteries
- Hydraulic oil level gauge
- Tool box
- Utility space
- Rearview mirror (right & left side)
- Swing parking brake
- Ladder
- Electric fuel refilling pump with auto-stop
- Auto-grease lubricator (Without bucket and link pins)

#### UNDERCARRIAGE

- Travel parking brake
- Travel motor covers
- 2 track guards and hydraulic track adjuster
- Idler track guard
- Bolt-on sprocket
- Upper and lower rollers
- Reinforced track links with pin seals
- 650 mm double grouser shoes

#### FRONT ATTACHMENTS

- Flanged pin
- Monolithically cast bucket link A
- Centralized lubrication system
- Dirt seal on all bucket pins
- 7.8 m boom and 3.6 m arm
- 2.9 m<sup>3</sup> (SAE, PCSA heaped) bucket

#### MISCELLANEOUS

- Standard tool kit
- Lockable machine covers
- Lockable fuel filling cap
- Skid-resistant tapes, plates, handrails and sidewalk
- Travel direction mark on track frame
- Onboard information controller
- Theft deterrent system

## OPTIONAL EQUIPMENT

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

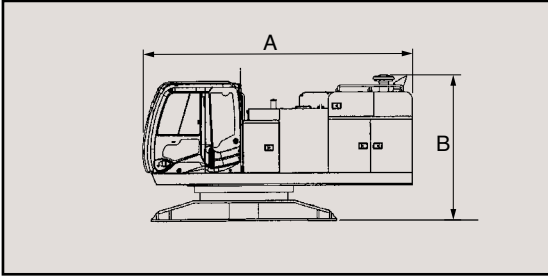
- H/R cab : OPG top guard fitted
- Level II (ISO10262) compliant cab (with 2 cab lights)
- Hose rupture valves
- Swing motion alarm device with lamps
- Travel motion alarm device
- Biodegradable oil
- Pre cleaner
- Additional 2 cab lights
- Rain guard for cab
- Attachment basic piping
- Accessories for 2 speed selector
- 12 V power source
- Additional fuse box
- Overload alarm
- Front glass lower guard
- Front glass upper guard
- Full track guard
- 750 mm double grouser shoe
- 900 mm double grouser shoe
- Suspension seat with heater
- Air suspension seat with heater
- Additional working light (Boom right side)
- Track under cover
- Counterweight removal device
- Reinforced link B
- Fan reverse device
- 7.8 m H-boom
- 6.8 m BE-boom
- 3.6 m H-arm
- 2.9 m BE-arm
- 4.2 m arm



# SPECIFICATIONS

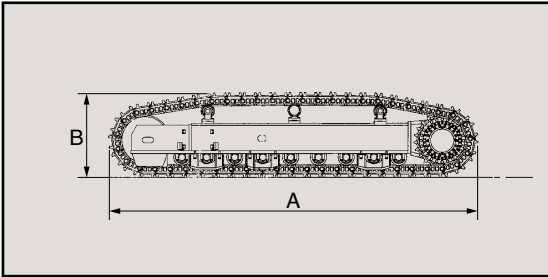
## TRANSPORTATION

### UPPERSTRUCTURE



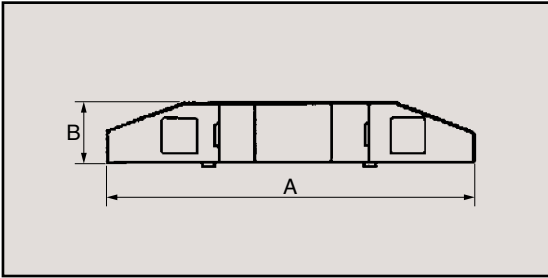
	A	B	Overall width	Weight
ZX650LC-3	5 060 mm	2 720 mm	3 470 mm	19 900 kg
ZX670LCH-3	5 060 mm	2 740 mm	3 470 mm	20 100 kg

### SIDE FRAME



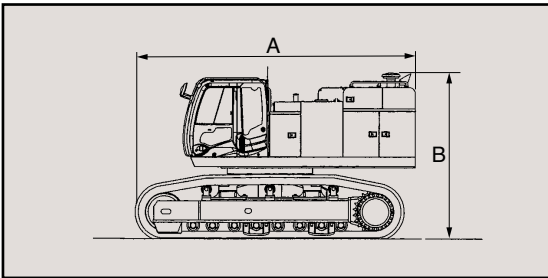
	Shoe width	A	B	Overall width*	Weight
ZX650LC-3	650 mm	5 840 mm	1 450 mm	1 250 mm	10 400 kg
	750 mm			1 250 mm	10 700 kg
	900 mm			1 320 mm	11 200 kg
ZX670LCH-3	650 mm	5 840 mm	1 450 mm	1 250 mm	10 600 kg
	750 mm			1 250 mm	10 900 kg
	900 mm			1 320 mm	11 400 kg

### COUNTERWEIGHT



A	B	Overall height	Weight
3 360 mm	590 mm	1 550 mm	11 100 kg

### BASIC MACHINE ( WITHOUT COUNTERWEIGHT )

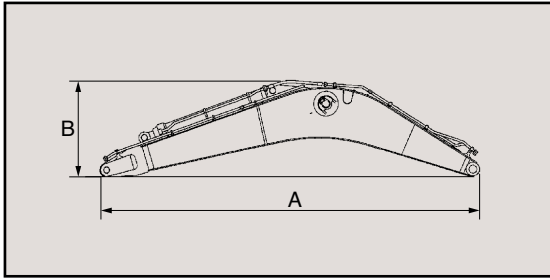


	Shoe width	A	B	Overall width*	Weight
ZX650LC-3	650 mm	6 100 mm	3 630 mm	3 480 mm	41 300 kg
	750 mm			3 580 mm	41 900 kg
	900 mm			3 730 mm	42 800 kg
ZX670LCH-3	650 mm	6 100 mm	3 640 mm	3 480 mm	41 900 kg
	750 mm			3 580 mm	42 600 kg
	900 mm			3 730 mm	43 500 kg

\* Notes: Undercarriage retracted

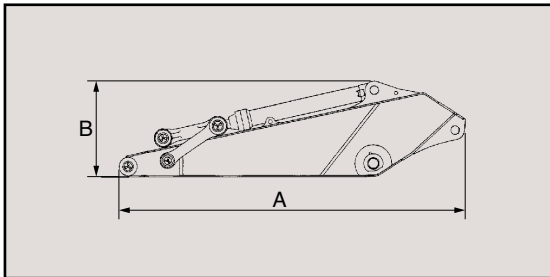
## TRANSPORTATION

### BOOM



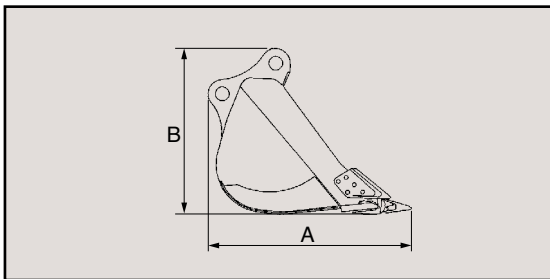
Boom	A	B	Overall width	Weight
6.8 m BE	7 140 mm	2 510 mm	1 390 mm	6 110 kg
7.8 m	8 130 mm	2 330 mm	1 390 mm	6 550 kg
7.8 m H	8 130 mm	2 330 mm	1 390 mm	6 560 kg

### ARM



Arm	A	B	Overall width	Weight
2.9 m BE	4 370 mm	1 690 mm	800 mm	3 820 kg
3.6 m	5 110 mm	1 440 mm	800 mm	3 620 kg
3.6 m H	5 110 mm	1 440 mm	800 mm	3 750 kg
4.2 m	5 710 mm	1 390 mm	800 mm	3 930 kg

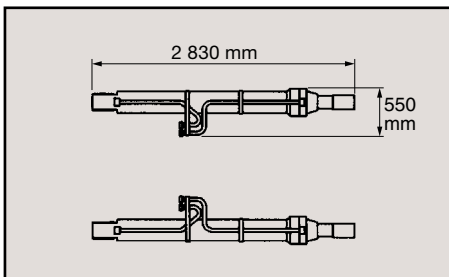
### BUCKET



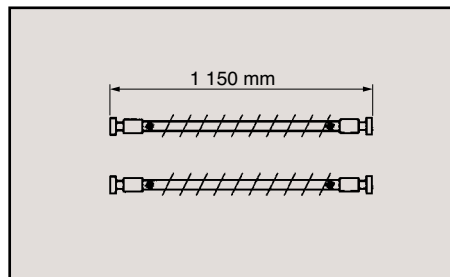
Arm		A	B	Overall width	Weight
SAE, PCSA heaped	CECE heaped				
2.5 m <sup>3</sup>	2.2 m <sup>3</sup>	2 220 mm	1 810 mm	1 620 mm	2 150 kg
2.9 m <sup>3</sup>	2.5 m <sup>3</sup>	2 220 mm	1 810 mm	1 820 mm	2 310 kg
3.5 m <sup>3</sup>	3.1 m <sup>3</sup>	2 250 mm	1 890 mm	1 990 mm	2 980 kg
*1.9 m <sup>3</sup>	2.5 m <sup>3</sup>	2 290 mm	1 770 mm	1 680 mm	2 850 kg
*1.3 m <sup>3</sup>	2.9 m <sup>3</sup>	2 250 mm	1 890 mm	1 790 mm	3 120 kg

\*1 Rock bucket

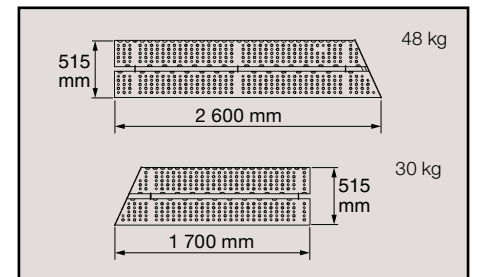
### BOOM CYLINDERS 550 kg X 2 Overall height: 410 mm



### HOSE OF BOOM CYLINDERS 7 kg X 2 / 10 kg X 2



### LEFT SIDEWALK Overall height: 150 mm



# ZAXIS650LC 670LCH

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.