EQUIPMENT

STANDARD EQUIPMENT

ENGINE
• Meets EPA Tier II non-road emissions regulations
• H/F mode control
• E mode control
• SOA alternator
• Dry-type air double filters with evacuator valve (with safety element)
• Cartridge-type engine oil filter
• Cartridge-type fuel filter
• Radiator and oil cooler with dust protective net
• Radiator reserve tank
• Fan guard
• Isolation-mounted engine
• Auto-idle system
• Auto-acceleration system

HYDRAULIC SYSTEM
• Work mode selector
• Engine speed sensing system
• E/P control system
• Power boost
• Boom mode selector system
• Quick warm-up system for pilot circuit
• Shockless valve in pilot circuit
• Boom-arm reduced drift valve
• Control valve with main relief valve
• Extra auxiliary port in control valve
• Suction filter
• Full-flow filter
• Pilot filter

CAB
• CRES (Center pillar Reinforced Structure) design
• All-weather sound-suppressed steel cab
• Tinted (bronze color) glass windows
• 6 fluid-filled electric mounts
• Upper and lower front windows and left side windows that open
• Intervalent windshield retractable wipers
• Front window washer
• Deluxe suspension cloth seat with 4” (100 mm) adjustable armrests with lumbar support
• Footrest
• Electric double horn
• 12 V-40 W, 5 amp, cellular phone outlet
• AUX-IN stereo with digital clock
• Auto-idle system
• Auto-acceleration system

MONITOR SYSTEM
• Meters:
  - Hourmeter
  - Trip meter
  - Engine coolant temperature gauge
  - Fuel gauge
• Warning lamps:
  - Alternator charge
  - Engine oil pressure
  - Engine overheat
  - Air filter restriction
  - Minimum fuel level
• Alarm buzzers:
  - Engine oil pressure
  - Engine overheat

LIGHTS
• 2 working lights

UPPERSTRUCTURE
• Undercover
• 20,200 lb (9,070 kg) counterweight
• Fuel level float
• Hydraulic oil level gauge
• Tool box
• Utility space
• Upper and lower front window guard
• Window vandal protection covers
• Protection screens for cab front, rear and side
• Load-lowering control device
• Tropical door – left hand side
• Low pressure return line
• Undercarriage frame opening guard
• Lockable machine covers
• Tool kit

FRONT ATTACHMENTS
• Flanged pin
• Bucket clearance adjust mechanism
• Monolithically cast bucket link A
• Centralized lubrication system
• Dust seal on all bucket pins

OPTIONAL EQUIPMENT
• 9’ 6” (2.9 m) arm
• 11’ 2” (3.4 m) arm
• 12’ 10” (3.9 m) arm
• 16’ 1” (4.9 m) arm
• 9’ 6” (2.9 m) ME arm
• 10’ 8” (3.3 m) ME boom
• 21’ 0” (6.4 m) boom
• Heavy-duty boom
• Less boom end arm
• 30” (750 mm) triple grouser shoes
• 30” (750 mm) triple grouser shoes
• Counterweight removal system
• Auxiliary hydraulic lines
• Auxiliary hydraulic and electric pilot controls
• Hydraulic filter restriction indicator kit
• Simple panel control system
• Bucket-stitching general purpose, heavy-duty, heavy-duty high capacity, track loading, heavy-duty high capacity, track loading, heavy-duty plate tip, side cutters and teeth
• Hydraulic bucket material clamps
• Hydraulic coupler
• Heavy-duty coupler
• Seat belt, 3” (76 mm) non-retractable
• Alternate pilot control pattern
• Cab extension harness
• Secondary exit top hatch
• Ripper
• Upper and lower front guard
• Wireless control protection covers
• Protection screens for cab front, rear and side
• Lubrication control device
• Tropical door – left hand side
• Load-lowering control device
• Underarmage framing guard
• Load-lowering control device
• Tool kit

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.
**Durable**
Extensive steps have been taken to improve basic performance and overall durability.

**Versatile**
No job is too tough for the Zaxis 450LC.

**Rigid Undercarriage**
A reshaped box design with X-beams helps disperse stress and boosts the overall rigidity of the entire undercarriage.

**High-Power Engine**
The Isuzu AA-6WG1TQA generates:
- 307 hp @ 1700 rpm (226 kW/min^-1) in P mode
- 314 hp @ 1800 rpm (231 kW/min^-1) in HP mode
and meets EPA Tier II non-road emission regulations.

**Multi-function Operations**
The Zaxis 450LC continues the Hitachi tradition of smooth, multi-functioning excavators. Executing combined operations such as simultaneous swinging and traveling are easy with Zaxis.

**Safety, Comfort, and Convenience**
The operator’s compartment is designed for both comfort and operating efficiency.

**Machine Information Center**
The Machine Information Center captures and stores vital machine performance data such as engine speeds, hydraulic temperatures, pump pressures, alarms and faults, hours of operation, and more. The data is downloadable through a Palm™ Pilot and is transferred to your PC. Special PC software interprets the data and generates valuable machine performance reports and graphs highlighting machine utilization, performance history, and more to help users improve productivity and profit.
Higher Productivity
Zaxis uses the latest technologies to achieve lower total operational costs while boosting productivity. The bucket digging force (SAE:PCSA) is an impressive 53,028 lbf (24,054 kgf). H/P mode increases production 5% over the EX450 while using 8% less fuel.

Cab Comfort
The Auto-control air conditioner allows you to set a specific temperature, then forget it. Bi-level air ducts are positioned throughout the cab to promote even airflow. A reshaped X-beam track frame, D-type frame and rigid cab bed work together with the 6 silicone-filled rubber cushions to reduce noise and vibration.

Lower Operating Costs
Strengthened components, longer lubrication intervals, reduced fuel consumption, 4,000-hour hydraulic oil and 10,000-hour hydraulic oil filters extend Zaxis durability while reducing running and repair costs.

Work Mode Selection
Four work modes include:
General Purpose, Trench Digging, Attachment, and Precision.

MIC (Machine Information Center)
Zaxis excavators monitor and store a variety of operational data. This includes: alarms given, error records, hours of operation, engine speed distribution, average pump pressure distribution for digging and travel, radiator coolant temperature, fuel level, swing, travel and front operators, and more. This data can be downloaded in the field to a palm-type computer, then uploaded onto your office PC for analysis.

Cab Safety
The CRES (Center pillar Reinforced Structure) rigid cab is designed with safety in mind. The closed-section pillar and reinforcing members at central areas withstand vertical and horizontal external forces. This can help reduce the potential of operator injury in the event of an accident.

Operator Command
For increased productivity in heavy-duty operations, select the H/P mode to automatically boost engine output. Pressing the power boost switch yields an additional increase in power.

Boom Mode Selector
The Boom Mode switch allows you to dampen the amount that the body can be lifted or pulled by the front of the machine. This reduces vibration and shock while contributing to a longer component service life.

Auto Acceleration
Engine speed is automatically controlled in response to the amount of lever operation. This helps reduce fuel consumption, especially during light-load work, up to 15%.

ENGINE
Model: Isuzu AA-6WG1TQ
Type: 4-cylinder water-cooled, direct injection
Aspiration: Turbocharged
No. of cylinders: 6
Rated power SAE J1349, net: 314 hp (231 kW) @ 1,800 rpm (min⁻¹)
P mode: 307 hp (226 kW) @ 1,700 rpm (min⁻¹)
Max. torque: 940 ft•lb (1,300 kgf•m) @ 1,500 rpm (min⁻¹)
Piston displacement: 957.1 in³ (15.85 L)
Bore and stroke: 3.79” x 6.60” (97 mm x 154 mm)
Battery: 2 x 12 V 170 AH
Governor: Mechanical speed control with stopping motor

HYDRAULIC SYSTEM
Work mode selector allows operator to choose between Digging mode, Attachment mode, and Precision or Heavy Lift mode.
Engine speed sensing system.
Main pumps: 2 variable displacement axial piston pumps
Max. oil flow: 2 x 95.1 US gpm (365 L/min), 79.3 lpm (90 mm²/sec)
Pilot pump: 1 gear pump
Max. oil flow: 8.2 US gpm (31 L/min, 6.9 lpm)

Hydraulic Motors
Travel: 2 axial piston motors with parking brake
Swing: 2 axial piston motors

Valve Setting Values
Implement circuit: 4,140 psi (30 kgf/cm²)
Swing circuit: 4,050 psi (28.5 kgf/cm²)
Travel circuit: 4,580 psi (32 kgf/cm²)
Pilot circuit: 570 psi (40 kgf/cm²)
Boost circuit: 4,620 psi (32.5 kgf/cm²)

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

CAB DESIGN
The powerful engine and hydraulic system work together to bring the maximum amount of excavating forces to the toughest of job sites.
A full line of buckets is offered to meet a wide variety of applications. Tooth selection includes either the John Deere Fangg tooth or Tiger, Twin Tiger, Flare, or Star tooth. Replaceable cutting edges are available through Hitachi parts. Optional side cutters add 6" (150 mm) to bucket widths.

### ZAXIS450LC

#### Dimensions

- **Arm Dig Force**: ZAXIS450LC
- **Bucket Weight**: ZAXIS450LC
- **Bucket Capacity**: ZAXIS450LC

#### Backhoe Buckets

- **Bucket Width**: ZAXIS450LC
- **Bucket Diameter**: ZAXIS450LC
- **Arm Dig Force**: ZAXIS450LC

#### Specifications

<table>
<thead>
<tr>
<th>Type/Bucket</th>
<th>Bucket Width</th>
<th>Bucket Capacity</th>
<th>Weight</th>
<th>Bucket Diameter</th>
<th>Arm Dig Force</th>
<th>Arm Dig Force</th>
<th>Arm Dig Force</th>
<th>Arm Dig Force</th>
<th>Arm Dig Force</th>
<th>Bucket Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>General-Purpose</td>
<td>54&quot; (1 370 mm)</td>
<td>390&quot; (10 960 mm)</td>
<td>8,290 lb (3 760 kg)</td>
<td>236,000 lb</td>
<td>2,215 lb (1,005 kgf)</td>
<td>53,028 lbf</td>
<td>43,816 lbf</td>
<td>40,505 lbf</td>
<td>51,013 lbf</td>
<td>40,026 lbf</td>
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#### Working Ranges

<table>
<thead>
<tr>
<th>Arm Length</th>
<th>Bucket With</th>
<th>Bucket Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>235&quot; (7 000 mm)</td>
<td>54&quot; (1 370 mm)</td>
<td>390&quot; (10 960 mm)</td>
</tr>
</tbody>
</table>

#### Notes

- Excluding track shoe lug.
- Equipped with 235" (7.0 m) boom and 11'2" (3.4 m) arm.

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*All capacities are SAE heaped ratings.*
### Lifting Capacities

1. Ratings are based on SAE J1097.
2. Lifting capacity of the ZAXIS Series does not exceed 75% of tipping load with the machine on firm, level ground.
3. The load point is a hook (not standard equipment) located on the back of the bucket.
4. Indication load limited by hydraulic capacity.

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Load point height</th>
<th>ZAXIS450LC</th>
<th>ZAXIS450LC</th>
<th>ZAXIS450LC</th>
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<tbody>
<tr>
<td></td>
<td>Load radius</td>
<td>5 ft</td>
<td>10 ft</td>
<td>15 ft</td>
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<tr>
<td></td>
<td>Max. reach</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boom 23'5&quot;</td>
<td>0 (Ground)</td>
<td>20.7</td>
<td>39.5</td>
<td>58.2</td>
</tr>
<tr>
<td>Arm 9'6&quot;</td>
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<td>39.5</td>
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<tr>
<td>Bucket PSA : 2.96 yd³</td>
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<tr>
<td>Shoe 35°</td>
<td>-10°</td>
<td>20.7</td>
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<td>58.2</td>
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<tr>
<td>ZAXIS450LC</td>
<td>15°</td>
<td>20.7</td>
<td>39.5</td>
<td>58.2</td>
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<tr>
<td></td>
<td>20°</td>
<td>20.7</td>
<td>39.5</td>
<td>58.2</td>
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<tr>
<td></td>
<td>25°</td>
<td>20.7</td>
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<td>Boom 23'5&quot;</td>
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<td>39.5</td>
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</tr>
<tr>
<td>Arm 11'2&quot;</td>
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<td></td>
<td>Max. reach</td>
<td></td>
<td></td>
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<tr>
<td>Boom 23'5&quot;</td>
<td>0 (Ground)</td>
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<td>39.5</td>
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</tr>
<tr>
<td>Arm 12'10&quot;</td>
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<td>39.5</td>
<td>58.2</td>
</tr>
<tr>
<td>Bucket PSA : 2.47 yd³</td>
<td>0 (Ground)</td>
<td>20.7</td>
<td>39.5</td>
<td>58.2</td>
</tr>
<tr>
<td>Shoe 35°</td>
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<td>15 ft</td>
</tr>
<tr>
<td></td>
<td>Max. reach</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boom 23'5&quot;</td>
<td>0 (Ground)</td>
<td>20.7</td>
<td>39.5</td>
<td>58.2</td>
</tr>
<tr>
<td>Arm 16'1&quot;</td>
<td>0 (Ground)</td>
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<td>39.5</td>
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</tr>
<tr>
<td>Bucket PSA : 1.76 yd³</td>
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<tr>
<td>Shoe 35°</td>
<td>-10°</td>
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<td>25°</td>
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</tbody>
</table>
## BACKHOE

### Basic machine without sidewalk

<table>
<thead>
<tr>
<th>Shoe width Overall width*</th>
<th>Weight</th>
<th>A Overall length</th>
<th>B Overall height</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot; (600 mm) 10'8&quot; (3 240 mm)</td>
<td>69 500 lb (31 500 kg)</td>
<td>12'10&quot; (3.7 m)</td>
<td>11'5&quot; (3.5 m)</td>
</tr>
<tr>
<td>30&quot; (750 mm) 10'8&quot; (3 240 mm)</td>
<td>71 200 lb (32 300 kg)</td>
<td>11'10&quot; (3.6 m)</td>
<td>11'1&quot; (3.4 m)</td>
</tr>
<tr>
<td>35&quot; (900 mm) 10'10&quot; (3 290 mm)</td>
<td>72 700 lb (33 000 kg)</td>
<td>11'11&quot; (3.6 m)</td>
<td>11'1&quot; (3.4 m)</td>
</tr>
</tbody>
</table>

Note: LC-type undercarriage retracted

### Basic machine fitted with boom and no sidewalk

<table>
<thead>
<tr>
<th>Shoe width Overall width*</th>
<th>Weight</th>
<th>A Overall length</th>
<th>B Overall height</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot; (600 mm) 10'8&quot; (3 240 mm)</td>
<td>66 400 lb (29 400 kg)</td>
<td>10'6&quot; (3 210 mm)</td>
<td>2'7&quot; (790 mm)</td>
</tr>
<tr>
<td>30&quot; (750 mm) 10'8&quot; (3 240 mm)</td>
<td>68 200 lb (30 200 kg)</td>
<td>10'6&quot; (3 210 mm)</td>
<td>2'7&quot; (790 mm)</td>
</tr>
<tr>
<td>35&quot; (900 mm) 10'10&quot; (3 290 mm)</td>
<td>63 700 lb (28 900 kg)</td>
<td>10'6&quot; (3 210 mm)</td>
<td>2'7&quot; (790 mm)</td>
</tr>
</tbody>
</table>

Note: LC-type undercarriage retracted

### Basic machine with front and sidewalk

### TRANSPORTATION SPECIFICATIONS

| Arm & Bucket
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A Bucket PCSA heaped</td>
<td>Weight</td>
<td>A Overall length</td>
</tr>
<tr>
<td>11'2&quot; (3.4 m)</td>
<td>2.41 yd³ (2.07 m³)</td>
<td>3 800 lb (1 725 kg)</td>
</tr>
<tr>
<td>11'2&quot; (3.4 m)</td>
<td>2.47 yd³ (2.07 m³)</td>
<td>8 600 lb (3 855 kg)</td>
</tr>
<tr>
<td>11'2&quot; (3.4 m)</td>
<td>2.47 yd³ (2.07 m³)</td>
<td>11'2&quot; (3.4 m)</td>
</tr>
</tbody>
</table>

Note: * 1 H-arm

### Counterweights

- **ZAXIS450LC**

  - **Weight**
    - **A Overall length**: 39'1" (11 910 mm)
    - **B Overall height**: 11'5" (3.49 m)
  - **Arm length**
    - 9'6" (2.9 m)
    - 11'2" (3.4 m)
    - 12'10" (3.7 m)
    - 16'1" (4.9 m)

- **Sidewalk**: 66 lb (30 kg)

- **Counterweight**: 20 100 lb (9 120 kg)