OPERATOR'S REPORT

ZAXIS 35U

From HITACHI

The "mini" in Hitachi mini excavator refers to size only, this is a big machine in a little package. The zero swing and great visibility combined with hydraulic pilot control levers insures operator comfort and high job efficiency. I pushed the ZX35U to its maximum and it did not falter, at maximum RPM it was smooth and quiet.

Hitachi has maintained their excavator excellence from the largest to the smallest. Servicing and engine checks are easily performed with a wide opening engine cover and one touch side covers. This machine is as good as it gets when it comes to smooth control, by this I mean the touch is very fine, all lever movements are instantly transferred to the digging arm. I was surprised to hear that hydraulic hammer piping was standard on the ZX35U, which is equipped with a 1.67m arm, also as standard. The lock lever shuts off all operations including travel and blade and as you hop on or off, it is activated with one action. The power plant is Izuzu and a three pump hydraulic system ensures smooth operation. Each track is driven by a high torque 2 speed axial piston motor through planetary reduction gears.

After years on a backhoe, I am too set in my ways to learn the excavator pattern. Before I could get my spanners out and change the hoses to suit my digging style, Peter Nicholls, Sales Engineer Light Equipment, from Hitachi flicked a lever and changed from excavator to backhoe pattern in a couple of seconds. To sum up the ZX35U - it is smooth, quiet and powerful! Full marks to Hitachi.

Regards, Peter Kelly

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ZAXIS35U

ENGINE

Model	Isuzu AA-3LD2
Type	Water-cooled, 4-cycle, 3-cylinder direct injection type diesel engine
Rated Power	22.5 kW (30.6 PS)
DIN 6271, net	at 2 450 min^{-1} (rpm)
Rated Power	23.0 kW (30.9 hp)
SAE J1349, net	at 2 450 min^{-1} (rpm)
Maximum torque	97 N-m (9.9 kgf- m)
	at 1 800 min^{-1} (rpm)
Piston displacement	1.496 L
Bore and stroke	83.1 mm x 92 mm
Battery	1 x 12 V, 52 Ah

HYDRAULIC SYSTEM

The Optimum Hydraulic System (OHS) uses three pumps for job efficiency and smooth combined operations.

Main pumps	Two variable displacement axial piston pumps
Maximum oil flow	2 x 40.8 L/min
Third pump	One gear pump
Maximum oil flow	26.8 L/min
Pilot pump	One gear pump
Maximum oil flow	9.9 L/min

Relief Valve Settings

Implement circuit	24.5 MPa (250 kgf/cm^2)
Swing circuit	20.6 MPa (210 kgf/cm^2)
Travel circuit	24.5 MPa (250 kgf/cm^2)
Pilot circuit	3.9 MPa (40 kgf/cm^2)

Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom raise, arm roll-in and roll-out circuits to absorb shocks at stroke ends.

Dimensions

	No.	Bore	Rod dia.	Stroke
Boom	1	80 mm	50 mm	566 mm *(540mm)*
Arm	1	75 mm	40mm	563 mm
Bucket	1	65 mm	40 mm	445 mm
Boom swing	1	85 mm	45 mm	517 mm
Blade	1	90 mm	45 mm	130 mm

Note: The figure in ( ) shows the stroke for 4-pillar canopy version and cab version.

OPERATING WEIGHT

	(Rubber shoes)	(Grouser shoes)
4-pillar canopy version	3 550 kg	3 620 kg
Cab version	3 610 kg	3 680 kg

CONTROLS

Hydraulic pilot control levers for all operations.

SWING MECHANISM

High-torque, axial piston motor with planetary reduction gear.

Swing circle is single-row, shear-type ball bearing with induction-hardened internal gear. Internal gear and pinion are immersed in lubricant. Swing parking brake is spring-set/ hydraulic-released disc type. Swing shockless valve built in swing motor absorbs shocks when stopping swing, ensuring smooth stops.

Swing speed 9.0 min^{-1} (9.0 rpm)

UNDERCARRIAGE

Tracks

Tractor-type undercarriage. Forged track frame using carefully selected materials. Side frame welded to track frame.

Numbers of Rollers on Each Side

Upper roller	1
Lower rollers	4

Traction Device

Each track driven by a high-torque, 2-speed axial position motor through planetary reduction gear, allowing counter-rotation of the tracks. Travel shockless relief valve built in travel motor absorbs shocks when stopping travel, ensuring smooth stops.

Travel speeds (rubber shoes)	High: 0 - 4.5 km/h
	Low : 0 - 3.2 km/h
Travel speeds (grouser shoes)	High: 0 - 4.4 km/h
	Low : 0 - 3.1 km/h
Gradeability	30 degrees (58%) continuous

WEIGHTS AND GROUND PRESSURE

Equipped with 1.27 m arm and 0.11 m^3 (PCSA heaped) bucket

	Operating weight	Ground pressure
4-Pillar cab version		
300 mm rubber shoes	3 490 kg	30 kPa (0.31 kgf/cm^2)
300 mm grouser shoes	3 560 kg	31 kPa (0.32 kgf/cm^2)
Cab version		
300 mm rubber shoes	3 550 kg	30 kPa (0.31 kgf/cm^2)
300 mm grouser shoes	3 620 kg	31 kPa (0.32 kgf/cm^2)

FRONT-END ATTACHMENTS

Backhoe Buckets

ISO 7451 capacity	Width		No. of teeth	Weight	Use	
	Without side cutters	With side cutters			1.27 m Std. arm	1.67 m Long arm
0.055 m^3	300mm	350mm	3	61 kg	A	A
0.065 m^3	350mm	400mm	3	64 kg	A	A
0.08 m^3	400mm	450mm	3	67 kg	A	A
0.09 m^3	450mm	500mm	4	71 kg	A	A
0.10 m^3	500mm	550mm	4	74 kg	A	A
0.11 m^3	550mm	600mm	4	78 kg	A	B
0.13 m^3	600mm	650mm	4	82 kg	B	C
0.14 m^3	650mm	700mm	4	85 kg	C	D
0.15 m^3	700mm	750mm	4	88 kg	C	D
Arm crowd force					19.1 kN (1950 kgf)	16.7 kN (1700 kgf)
Bucket digging force					27.4 kN (2800 kgf)	

A: General digging
B: Light-duty digging
C: Loading
D: Not recommended

Boom swing angle

4-pillar canopy version	Left 66°, Right 66°
Cab version	Left 51°, Right 51°

STANDARD EQUIPMENT

Engine
- Water-separator for engine fuel system

Hydraulic System
- Hydraulic pilot type control levers
- Pilot control shut-off levers
- Anti-drift valve for front attachments
- Two-speed travel system
- Swing parking brake
- Hydraulic piping for breaker
- Travel parking brake

Canopy (Cab)
- Two work lights
- Heater**
- Windshield wiper**
- Wrist rest
- 12V outlet
- Air cleaner inner element
- 2-way control lever pattern selector valve *(Excavator/Backhoe loader)*
- Evacuation hammer**
- Seat belt*

*Note: * For 4-pillar canopy and cab versions*
***For cab versions*

Undercarriage
- 300 mm rubber shoes
- Semi-long stay blade

Front Attachments
- 2.45 m boom
- 1.67 m arm
- 0.11 m³ hoe bucket
- Bucket clearance adjusting device
- O-ring type pin-seals for hoe bucket
- HN bushing

OPTIONAL EQUIPMENT

Engine
- Auto idling system

Hydraulic system
- Hydraulic P.T.O. port
- Swing motion alarm device with lamp
- Travel motion alarm device

Canopy (Cab)
- Air cooler***
- Windshield washer***
- FOPS top guard***

*Notes: ** For 4-pillar canopy versions*
****: For cab version*

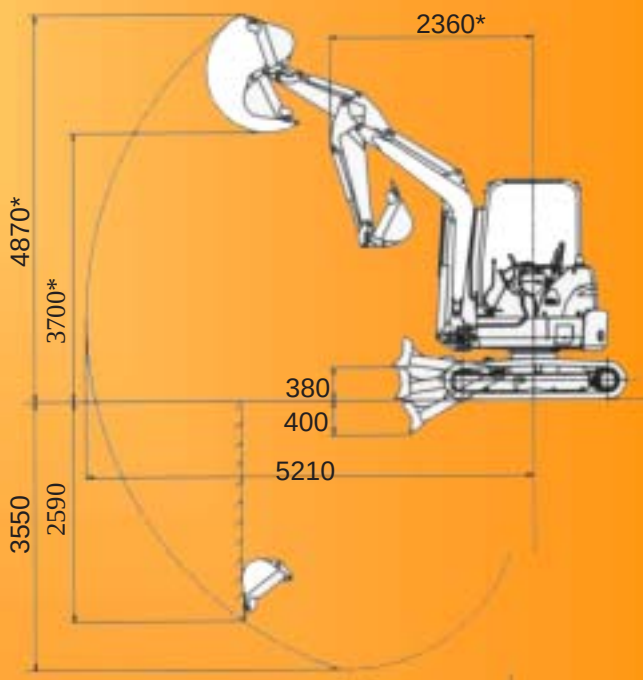
Undercarriage
- 300 mm grouser shoes
- 400 mm triangle shoes
- 400 mm grouser shoes
- 300 mm pad crawler shoes

Front Attachments
- 1.27 m arm
- Backhoe buckets *(see table)*

Counterweight
- Weight-added counterweight (260 kg added)

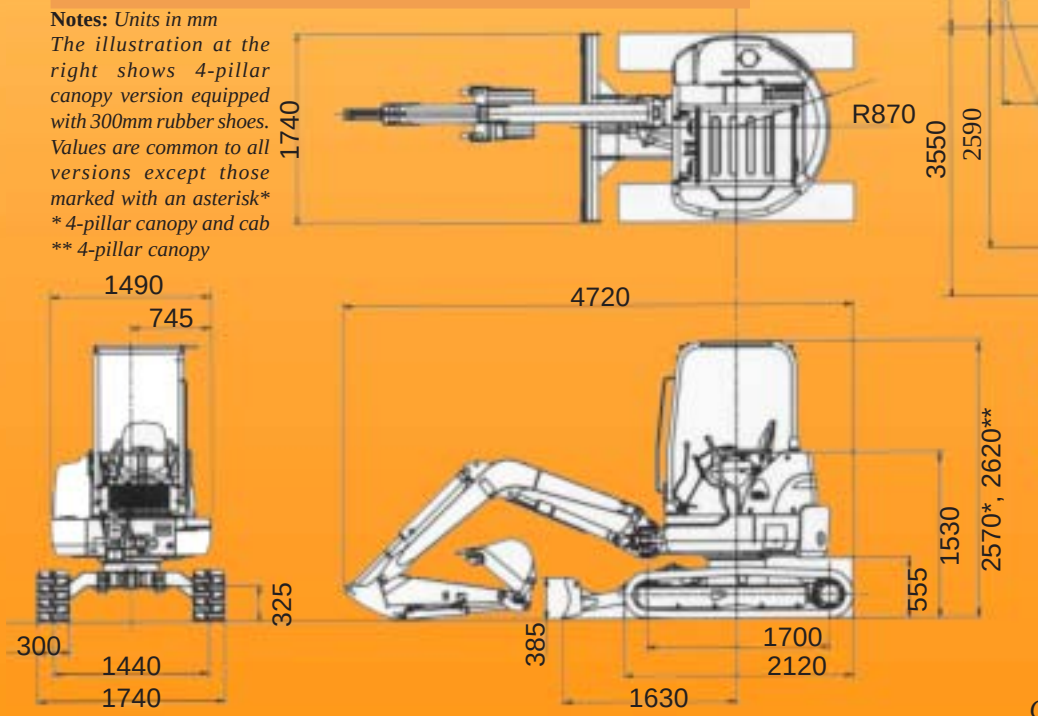
WORKING RANGES

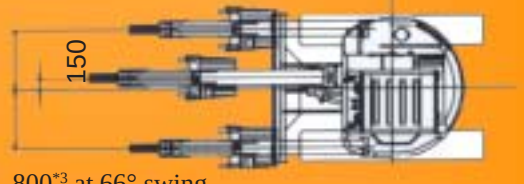
Notes: *Units in mm*
The illustration at the right shows 4-pillar canopy version equipped with 0.11 m³ bucket, 1.67m arm and 300mm rubber shoes.
*Values are common to all versions except those marked with an asterisk**
** 4-pillar canopy and cab*
*** 4-pillar canopy*



DIMENSIONS

Notes: *Units in mm*
The illustration at the right shows 4-pillar canopy version equipped with 300mm rubber shoes.
*Values are common to all versions except those marked with an asterisk**
** 4-pillar canopy and cab*
*** 4-pillar canopy*





800*3 at 66° swing
(680*4 at 51° swing)

680*3 at 66° swing
(580*4 at 51° swing)

★ ***For further information or to arrange a test drive, please contact your local HITACHI Dealer***

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