

ZAXIS | DASH-5 ULTRASHORT-CLASS EXCAVATORS

# ZX135US-5

75 kW (97 hp)

# ZX135US



**HITACHI**

<b>Engine</b>		<b>ZX135US-5</b>	
Manufacturer and Model	Isuzu 4JJI		
Non-Road Emissions Standard	EPA Interim Tier 4/EU Stage IIIB		
Net Rated Power (ISO 9249)	72 kW (97 hp) at 2,000 rpm		
Cylinders	4		
Displacement	3.0 L (182 cu. in.)		
Off Level Capacity	70% (35 deg.)		
Aspiration	Turbocharged, air-to-air charge-air cooler		
<b>Cooling</b>			
Direct-drive, suction-type fan			
<b>Powertrain</b>			
2-speed propel with automatic shift			
<b>Maximum Travel Speed</b>			
Low	3.4 km/h (2.1 mph)		
High	5.5 km/h (3.4 mph)		
Drawbar Pull	11 000 kg (24,251 lb.)		
<b>Hydraulics</b>			
Open center, load sensing			
<b>Main Pumps</b>			
2 variable-displacement axial-piston pumps			
Maximum Rated Flow	105 L/m (28 gpm) x 2		
<b>Pilot Pump</b>			
One gear			
Maximum Rated Flow	32.9 L/m (8.7 gpm)		
Pressure Setting	3930 kPa (570 psi)		
<b>System Operating Pressure</b>			
<b>Circuits</b>			
Implement	34 336 kPa (4,980 psi)		
Travel	34 336 kPa (4,980 psi)		
Swing	32 300 kPa (4,685 psi)		
Power Boost	36 300 kPa (5,265 psi)		
<b>Controls</b>			
Pilot levers, short-stroke, low-effort hydraulic pilot controls with shutoff lever			
<b>Cylinders</b>			
	<b>Bore</b>	<b>Rod Diameter</b>	<b>Stroke</b>
<b>Boom (2)</b>	105 mm (4.1 in.)	70 mm (2.8 in.)	995 mm (39.2 in.)
<b>Arm (1)</b>	115 mm (4.5 in.)	80 mm (3.2 in.)	1127 mm (44.4 in.)
<b>Bucket (1)</b>	100 mm (3.9 in.)	70 mm (2.8 in.)	875 mm (34.5 in.)
<b>Electrical</b>			
Number of Batteries (12 volt)	2		
Battery Capacity	300 CCA		
Alternator Rating	50 amp		
Work Lights	2 halogen (one mounted on boom, one on frame)		
<b>Undercarriage</b>			
<b>Rollers (each side)</b>			
Carrier Rollers	1		
Track Rollers	7		
Shoes, Triple Semi-Grousers (each side)	44		
<b>Track</b>			
Adjustment	Hydraulic		
Guides	Front idler		
Chain	Sealed and lubricated		
<b>Ground Pressure</b>			
	<b>Without Blade</b>	<b>With Blade</b>	
Rubber Crawler Pads, 500 mm (20 in.)	43 kPa (6.24 psi)	46 kPa (6.67 psi)	
<b>Triple Semi-Grouser Shoes</b>			
600 mm (24 in.)	36 kPa (5.22 psi)	38 kPa (5.51 psi)	
700 mm (28 in.)	31 kPa (4.50 psi)	33 kPa (4.79 psi)	

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<b>Swing Mechanism</b>	<b>ZX135US-5</b>
Swing Speed	13.3 rpm
Swing Torque	34 000 Nm (25,000 lb.-ft.)

## Serviceability

<b>Refill Capacities</b>	
Fuel Tank	220 L (58 gal.)
Cooling System	20 L (21.1 qt.)
Engine Oil with Filter	17 L (18 qt.)
Hydraulic Tank	60 L (15.9 gal.)
Hydraulic System	125 L (33 gal.)
<b>Gearbox</b>	
Swing	3.2 L (3.4 qt.)
Propel (each)	4 L (4.2 qt.)

## Operating Weights

With full fuel tank; 79-kg (175 lb.) operator; 914-mm (36 in.), 0.50-m<sup>3</sup> (0.65 cu. yd.), 414-kg (913 lb.) general-purpose bucket; 3.01-m (9 ft. 11 in.) arm; and 3650-kg (8,047 lb.) counterweight

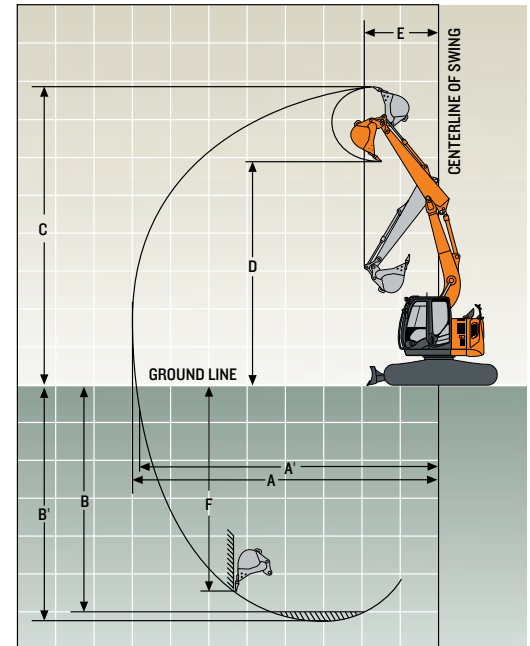
	Without Blade	With Blade
Rubber Crawler Pad, 500 mm (20 in.)	13 900 kg (30,617 lb.)	14 900 kg (32,819 lb.)
<b>Triple Semi-Grouser Shoes</b>		
600 mm (24 in.)	13 700 kg (30,176 lb.)	14 700 kg (32,379 lb.)
700 mm (28 in.)	13 900 kg (30,617 lb.)	14 900 kg (32,819 lb.)

## Component Weights

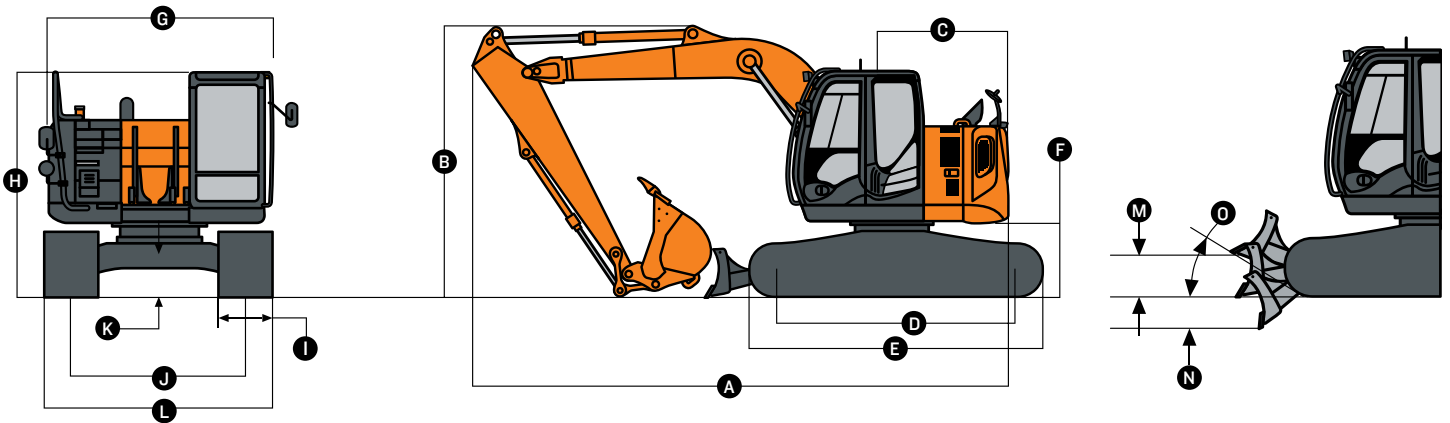
<b>Undercarriage</b>		
Rubber Crawler Pad, 500 mm (20 in.)	4639 kg (10,218 lb.)	5577 kg (12,284 lb.)
<b>Triple Semi-Grouser Shoes</b>		
600 mm (24 in.)	4439 kg (9,778 lb.)	5516 kg (12,150 lb.)
700 mm (28 in.)	4639 kg (10,218 lb.)	5732 kg (12,626 lb.)
<b>One-Piece Boom (with arm cylinder)</b>		
	951 kg (2,095 lb.)	
<b>Arm with Bucket Cylinder and Linkage</b>		
2.52 m (8 ft. 3 in.)	431 kg (949 lb.)	
3.01 m (9 ft. 11 in.)	501 kg (1,104 lb.)	
<b>Boom-Lift Cylinders (2), Total Weight</b>		
	232 kg (511 lb.)	
<b>914-mm (36 in.), 0.50-m<sup>3</sup> (0.65 cu. yd.) Bucket</b>		
	414 kg (913 lb.)	
<b>Counterweight, Standard</b>		
	3650 kg (8,047 lb.)	

## Operating Dimensions

	2.52 m (8 ft. 3 in.)	3.01 m (9 ft. 11 in.)
<b>Arm Length</b>		
<b>Arm Digging Force</b>		
SAE	65 kN (14,611 lb.)	59 kN (13,167 lb.)
ISO	67 kN (15,066 lb.)	60 kN (13,521 lb.)
<b>Bucket Digging Force</b>		
SAE	85 kN (19,015 lb.)	85 kN (19,015 lb.)
ISO	96 kN (21,480 lb.)	96 kN (21,480 lb.)
<b>A</b> Maximum Reach	8.38 m (27 ft. 6 in.)	8.86 m (29 ft. 1 in.)
<b>A'</b> Maximum Reach at Ground Level	8.24 m (27 ft.)	8.72 m (28 ft. 7 in.)
<b>B</b> Maximum Digging Depth	5.49 m (18 ft.)	5.98 m (19 ft. 7 in.)
<b>B'</b> Maximum Digging Depth at 2.44-m (8 ft.) Flat Bottom	5.27 m (17 ft. 3 in.)	5.79 m (19 ft.)
<b>C</b> Maximum Cutting Height	9.29 m (30 ft. 6 in.)	9.69 m (31 ft. 9 in.)
<b>D</b> Maximum Dumping Height	6.83 m (22 ft. 5 in.)	7.22 m (23 ft. 8 in.)
<b>E</b> Minimum Swing Radius	1.49 m (4 ft. 11 in.)	1.49 m (4 ft. 11 in.)
<b>F</b> Maximum Vertical Wall	4.73 m (15 ft. 6 in.)	5.19 m (17 ft.)



Machine Dimensions	ZX135US-5
<b>A</b> Overall Length with Arm	
2.52 m (8 ft. 3 in.)	7.37 m (24 ft. 2 in.)
3.01 m (9 ft. 11 in.)	7.39 m (24 ft. 3 in.)
<b>B</b> Overall Height with Arm	
2.52 m (8 ft. 3 in.)	2.79 m (9 ft. 2 in.)
3.01 m (9 ft. 11 in.)	2.78 m (9 ft. 1 in.)
<b>C</b> Rear-End Length/Swing Radius	1.49 m (4 ft. 11 in.)
<b>D</b> Distance Between Idler/Sprocket Centerline	2.88 m (9 ft. 5 in.)
<b>E</b> Undercarriage Length	3.58 m (11 ft. 9 in.)
<b>F</b> Counterweight Clearance	840 mm (33 in.)
<b>G</b> Upperstructure Width	2.48 m (8 ft. 2 in.)
<b>H</b> Cab Height	2.79 m (9 ft. 2 in.)
<b>I</b> Track Width with Triple Semi-Grouser Shoes	600 mm (24 in.) / 700 mm (28 in.)
<b>J</b> Gauge Width	1.99 m (6 ft. 6 in.)
<b>K</b> Ground Clearance	410 mm (16 in.)
<b>L</b> Overall Width	
Rubber Crawler Pad, 500 mm (20 in.)	2.49 m (8 ft. 2 in.)
Triple Semi-Grouser Shoes	
600 mm (24 in.)	2.59 m (8 ft. 6 in.)
700 mm (28 in.)	2.69 m (8 ft. 10 in.)
<b>M</b> Blade Lift Height	460 mm (18 in.)
<b>N</b> Blade Cut Below Grade	540 mm (21 in.)
<b>O</b> Blade Lift Angle	29 deg.
Blade	
Length	2.51 m (8 ft. 3 in.)
Height	460 mm (18 in.)
Width	
Rubber Crawler Pad, 500 mm (20 in.)	2490 mm (8 ft. 2 in.)
Triple Semi-Grouser Shoes	
600 mm (24 in.)	2490 mm (8 ft. 2 in.)
700 mm (28 in.)	2690 mm (8 ft. 10 in.)



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## Lift Charts

## ZX135US-5

**Boldface** type indicates hydraulically limited capacity; **lightface** type indicates stability-limited capacities, in kg (lb.). Machine equipped with 414-kg (913 lb.) bucket and standard counterweight; and situated on firm, level, uniform supporting surface. Total load includes weight of cables, hook, etc. Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine. All lift capacities are based on ISO 10567 (with power boost).

Load Point Height	1.5 m (5 ft.)		3.0 m (10 ft.)		4.5 m (15 ft.)		6.0 m (20 ft.)		7.5 m (25 ft.)	
	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side
<b>With 2.52-m (8 ft. 3 in.) arm and 600-mm (24 in.) triple semi-grouser shoes, blade on ground</b>										
4.5 m (15 ft.)			3550 (7,850)	3550 (7,850)	3550 (7,750)	3500 (7,500)	3200 (6,500)	2100 (4,500)		
3.0 m (10 ft.)			6250 (13,400)	6250 (13,400)	4350 (9,450)	3300 (7,100)	3600 (7,900)	2050 (4,350)		
1.5 m (5 ft.)			6450 (15,850)	5750 (12,350)	5350 (11,500)	3050 (6,600)	4000 (8,650)	1950 (4,150)		
Ground Line			5750 (13,400)	5450 (11,750)	5850 (12,700)	2900 (6,250)	4200 (9,150)	1850 (4,000)		
-1.5 m (-5 ft.)	4350 (9,800)	4350 (9,800)	8750 (18,950)	5450 (11,700)	5750 (12,450)	2850 (6,100)	4000 (8,600)	1850 (3,950)		
-3.0 m (-10 ft.)	8250 (18,650)	8250 (18,650)	7100 (15,250)	5550 (11,900)	4750 (10,150)	2900 (6,200)				
<b>With 3.01-m (9 ft. 11 in.) arm and 500-mm (20 in.) rubber crawler pad, blade on ground</b>										
4.5 m (15 ft.)					3100 (6,700)	3100 (6,700)	3000 (6,400)	2150 (4,650)		
3.0 m (10 ft.)			4900 (10,250)	4900 (10,250)	3900 (8,500)	3400 (7,300)	3350 (7,250)	2100 (4,450)		
1.5 m (5 ft.)			8050 (17,300)	5950 (12,850)	4950 (10,750)	3150 (6,750)	3800 (8,200)	1950 (4,200)	2150 (3,700)	1300 (2,800)
Ground Line			6250 (14,550)	5550 (11,900)	5700 (12,350)	2950 (6,300)	4100 (8,900)	1850 (4,000)		
-1.5 m (-5 ft.)	3800 (8,500)	3800 (8,500)	8250 (18,950)	5450 (11,650)	5800 (12,550)	2850 (6,100)	4100 (8,850)	1800 (3,900)		
-3.0 m (-10 ft.)	6850 (15,450)	6850 (15,450)	7800 (16,750)	5550 (11,800)	5150 (11,050)	2850 (6,150)	3350 (7,300)	1850 (4,000)		
-4.5 m (-15 ft.)			5050 (10,500)	5050 (10,500)	2900 (6,200)	2900 (6,200)				
<b>With 3.01-m (9 ft. 11 in.) arm and 600-mm (24 in.) triple semi-grouser shoes, blade on ground</b>										
4.5 m (15 ft.)					3100 (6,700)	3100 (6,700)	3000 (6,400)	2100 (4,550)		
3.0 m (10 ft.)			4900 (10,250)	4900 (10,250)	3900 (8,500)	3350 (7,200)	3350 (7,250)	2050 (4,400)		
1.5 m (5 ft.)			8050 (17,300)	5900 (12,650)	4950 (10,750)	3100 (6,650)	3800 (8,200)	1950 (4,150)	2150 (3,700)	1300 (2,750)
Ground Line			6250 (14,550)	5450 (11,700)	5700 (12,350)	2900 (6,200)	4100 (8,900)	1850 (3,950)		
-1.5 m (-5 ft.)	3800 (8,500)	3800 (8,500)	8250 (18,950)	5350 (11,500)	5800 (12,550)	2800 (6,000)	4100 (8,850)	1800 (3,800)		
-3.0 m (-10 ft.)	6850 (15,450)	6850 (15,450)	7800 (16,750)	5400 (11,650)	5150 (11,050)	2800 (6,000)	3350 (7,300)	1800 (3,900)		
-4.5 m (-15 ft.)			5050 (10,500)	5050 (10,500)	2900 (6,200)	2900 (6,200)				
<b>With 3.01-m (9 ft. 11 in.) arm and 700-mm (28 in.) triple semi-grouser shoes, blade on ground</b>										
4.5 m (15 ft.)					3100 (6,700)	3100 (6,700)	3000 (6,400)	2150 (4,600)		
3.0 m (10 ft.)			4900 (10,250)	4900 (10,250)	3900 (8,500)	3400 (7,300)	3350 (7,250)	2050 (4,450)		
1.5 m (5 ft.)			8050 (17,300)	5950 (12,800)	4950 (10,750)	3150 (6,750)	3800 (8,200)	1950 (4,200)	2150 (3,700)	1300 (2,800)
Ground Line			6250 (14,550)	5550 (11,900)	5700 (12,350)	2950 (6,300)	4100 (8,900)	1850 (4,000)		
-1.5 m (-5 ft.)	3800 (8,500)	3800 (8,500)	8250 (18,950)	5450 (11,650)	5800 (12,550)	2850 (6,100)	4100 (8,850)	1800 (3,900)		
-3.0 m (-10 ft.)	6850 (15,450)	6850 (15,450)	7800 (16,750)	5500 (11,800)	5150 (11,050)	2850 (6,100)	3350 (7,300)	1850 (4,000)		
-4.5 m (-15 ft.)			5050 (10,500)	5050 (10,500)	2900 (6,200)	2900 (6,200)				

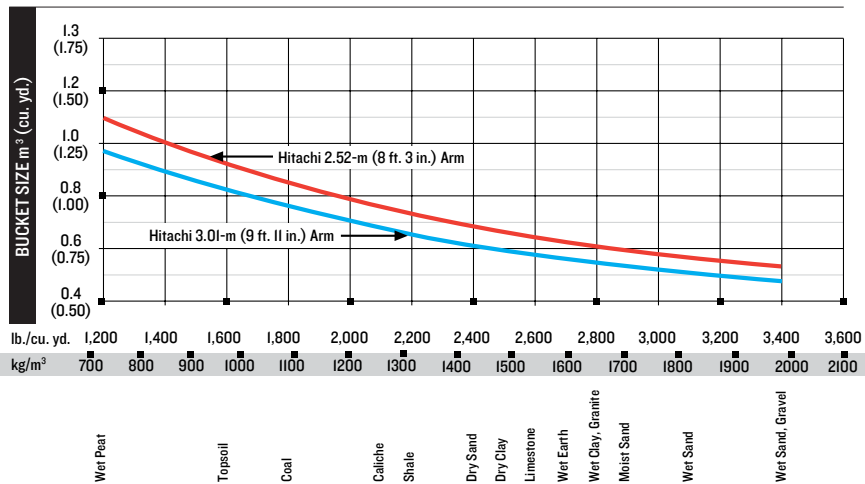
### Buckets

### ZX135US-5

A full line of buckets is offered to meet a wide variety of applications. Digging forces are with power boost. Buckets are equipped with ESCO teeth standard. Replaceable cutting edges and a variety of teeth are available through dealer parts. Optional side cutters add 150 mm (6 in.) to bucket widths. Capacities are SAE heaped ratings.

Type Bucket	Bucket Width		Bucket Capacity		Bucket Weight		Bucket Dig Force		Arm Dig Force 2.52 m (8 ft. 3 in.)		Arm Dig Force 3.01 m (9 ft. 11 in.)		Bucket Tip Radius		Number of Teeth
	mm	in.	m <sup>3</sup>	cu. yd.	kg	lb.	kN	lb.	kN	lb.	kN	lb.	mm	in.	
Heavy Duty Plate Lip	610	24	0.37	0.48	460	1,014	84.6	19,015	65.0	14,611	58.6	13,167	1328	52.27	4
	760	30	0.50	0.65	522	1,150	84.6	19,015	65.0	14,611	58.6	13,167	1328	52.27	4
	915	36	0.62	0.81	589	1,297	84.6	19,015	65.0	14,611	58.6	13,167	1328	52.27	5
	1067	42	0.76	0.99	631	1,390	84.6	19,015	65.0	14,611	58.6	13,167	1328	52.27	5
Ditching	1500	60	0.63	0.83	457	1,007	121.9	27,411	72.7	16,337	64.6	14,529	921	36.25	0

### Bucket Selection Guide\*



\*Contact your Hitachi dealer for optimum bucket and attachment selections. These recommendations are for general conditions and average use. Does not include optional equipment such as thumbs or couplers. Larger buckets may be possible when using light materials, for flat and level operations, less compacted materials, and volume loading applications such as mass-excavation applications in ideal conditions. Smaller buckets are recommended for adverse conditions such as off-level applications, rocks, and uneven surfaces. Bucket capacity indicated is SAE heaped.

# DASH-5

## ADDITIONAL EQUIPMENT

Key: ● Standard ▲ Optional or special kit

### I35 Engine

- Auto-idle system
- Automatic belt-tension device
- Batteries (2 – 12 volt)
- Coolant recovery tank
- Dual-element dry-type air filter
- Electronic engine control
- Enclosed fan guard (conforms to SAE J1308)
- Engine coolant to –37 deg. C (–34 deg. F)
- Fuel filter with water separator
- Full-flow oil filter
- Turbocharger with charge air cooler
- Cool-on-demand hydraulic-driven fan
- 500-hour engine-oil-change interval
- 70% (35 deg.) off-level capability
- Programmable auto shutdown
- ▲ Engine-oil-sampling valve
- ▲ Severe-duty fuel filter

### Hydraulic System

- Reduced-drift valve for boom down, arm in
- Auxiliary hydraulic valve section
- Spring-applied, hydraulically released automatic swing brake
- Auxiliary hydraulic-flow adjustments through monitor
- Auto power lift
- 5,000-hour hydraulic-oil-change interval
- ▲ Hydraulic-oil-sampling valve
- ▲ Auxiliary hydraulic lines
- ▲ Auxiliary pilot and electric controls
- ▲ Hydraulic filter restriction indicator kit
- ▲ Load-lowering control device
- ▲ Single-pedal propel control
- ▲ Control pattern-change valve

### Undercarriage

- Planetary drive with axial piston motors
- Propel motor shields
- Spring-applied, hydraulically released automatic propel brake
- Track guides, front idler
- 2-speed propel with automatic shift
- Upper carrier roller (1)
- Sealed and lubricated track chain
- ▲ Triple semi-grouser shoes, 600 mm (24 in.)
- ▲ Triple semi-grouser shoes, 700 mm (28 in.)
- ▲ Rubber crawler pads, 500 mm (20 in.)
- ▲ Undercarriage with blade

### I35 Upperstructure

- Right-hand, left-hand, and counterweight mirrors
- Vandal locks with ignition key: Cab door / Service doors / Toolbox
- Debris screening
- Remote-mounted engine oil and fuel filters

### Front Attachments

- Centralized lubrication system
- Dirt seals on all bucket pins
- Less boom and arm
- Oil-impregnated bushings
- Reinforced resin thrust plates
- Tungsten carbide thermal coating on arm-to-bucket joint
- ▲ Arm, 2.52 m (8 ft. 3 in.)
- ▲ Arm, 3.01 m (9 ft. 11 in.)
- ▲ Attachment quick-couplers
- ▲ Boom cylinder with plumbing to mainframe less boom and arm
- ▲ Buckets: Ditching / Heavy duty / Heavy-duty high capacity / Side cutters and teeth
- ▲ Material clamps

### Operator's Station

- Meets ISO 12117-2 for ROPS
- Adjustable independent-control positions (levers-to-seat, seat-to-pedals)
- AM/FM radio
- Auto climate control/air conditioner/heater/pressurizer
- Built-in Operator's Manual storage compartment and manual
- Cell-phone power outlet, 12 volt, 60 watt, 5 amp
- Coat hook
- Deluxe suspension cloth seat with 100-mm (4 in.) adjustable armrests
- Floor mat
- Front windshield wiper with intermittent speeds
- Gauges (illuminated): Engine coolant/Fuel
- Horn, electric
- Hour meter, electric
- Hydraulic shutoff lever, all controls
- Hydraulic warm-up control
- Interior light
- Large cup holder
- Machine Information Center (MIC)
- Mode selectors (illuminated): Power modes (3) / Travel modes (2 with automatic shift) / Work mode (1)

### I35 Operator's Station (continued)

- Multifunction, color LCD monitor with: Diagnostic capability / Multiple-language capabilities / Maintenance tracking / Clock / System monitoring with alarm features: Auto-idle indicator, engine air cleaner restriction indicator light, engine check, engine coolant temperature indicator light with audible alarm, engine oil pressure indicator light with audible alarm, low-alternator-charge indicator light, low-fuel indicator light, fault code alert indicator, fuel-rate display, wiper-mode indicator, work-lights-on indicator, and work-mode indicator
- Motion alarm with cancel switch (conforms to SAE J994)
- Power-boost switch on right console lever
- Auxiliary hydraulic control switches in right pilot lever
- SAE 2-lever control pattern
- Seat belt, 51 mm (2 in.), retractable
- Tinted glass
- Transparent tinted overhead hatch
- Hot/cold beverage compartment
- ▲ Hydraulic oil filter restriction indicator light
- ▲ Protection screens for cab front, rear, and side
- ▲ Seat belt, 76 mm (3 in.), non-retractable
- ▲ Window vandal-protection covers

### Electrical

- 50-amp alternator
- Blade-type multi-fused circuits
- Positive-terminal battery covers
- ZXLink™ wireless communication system (available in specific countries; see your dealer for details)
- ▲ Rearview camera

### Lights

- Work lights: Halogen / One mounted on boom / One mounted on frame
- ▲ 2 lights mounted on cab / One mounted on right side of boom

See your Hitachi dealer for further information.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at test conditions specified per ISO 9249. No derating is required up to 3050-m (10,000 ft.) altitude. Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on a unit with 914-mm (36 in.), 0.50-m<sup>3</sup> (0.65 cu. yd.), 414-kg (913 lb.) general-purpose bucket; 3.01-m (9 ft. 11 in.) arm; 3650-kg (8,047 lb.) counterweight; 700-mm (28 in.) triple semi-grouser shoes; full fuel tank; and 79-kg (175-lb.) operator.

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