HITACHI

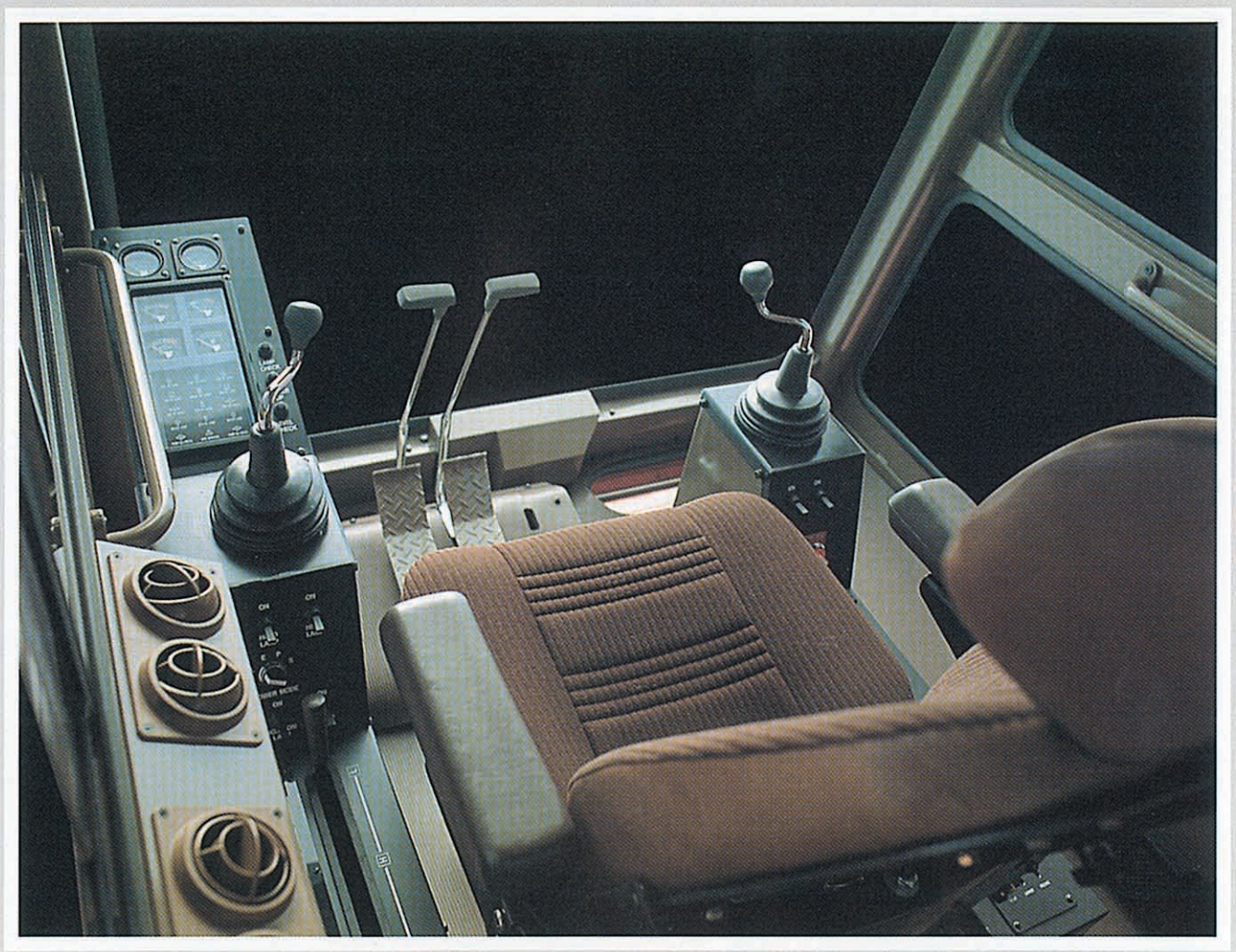
GIANT
SuperEX
EX3500

Rated engine HP(gross):1 312 kW(1 760 HP)
Operating weight
Loading shovel: 330 000 kg(728 000 lb)
Backhoe: 330 000 kg(728 000 lb)
Loading shovel bucket
PCSA heaped: 18.0–25.0 m³(23.5–32.7 cu yd)
Backhoe bucket
PCSA heaped: 17.0–25.0 m³(22.2–32.7 cu yd)
CECE heaped: 15.0–22.0 m³

Anybody can make a monster of a machine. One that will destroy its environment, its operator and eventually itself. Only Hitachi can create a gentle monster. One that cares about its operator and itself, yet has the tenacity to get the job done. Man and Machine in pleasant harmony has always been Hitachi's creed. The Super EX3500 is the latest refinement of this belief.

The Gentle Monster

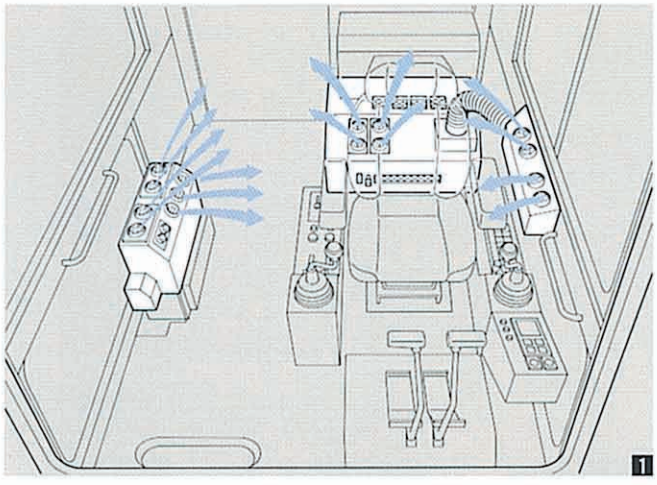
EX3500

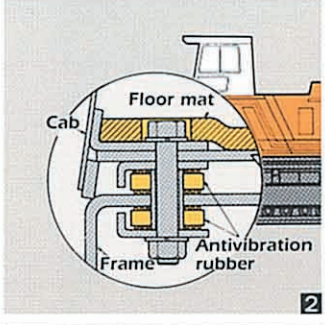


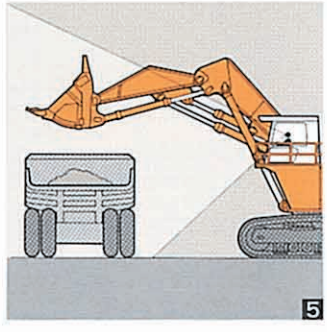
Super-Deluxe Operator's Seat — First-Class Comfort: The operator's seat is truly comfort-designed. Sit in the super-deluxe operator's seat and feel what we mean... first-class comfort. The world-renowned Bostrom seat gives superb operator comfort and durability. The seat can be fully adjusted to the weight and proportions of each operator. The seat moves up and down, as well as fore and aft. And its back-rest angle, seating angle and head-rest height are also adjustable.

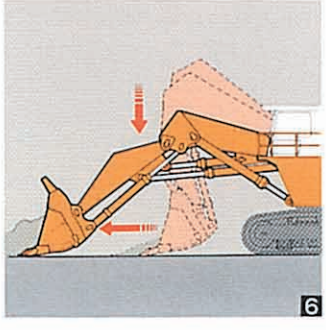
OPERATING EASE AND COMFORT

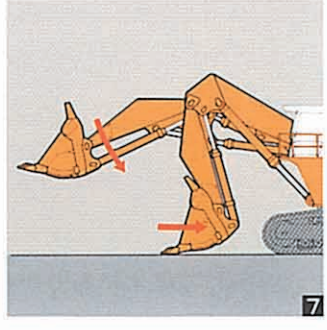
A truly productive machine calls for power and speed, as well as operating ease and convenience. The Super EX3500 is a new dimension in design. It is carefully designed, bearing these concepts in mind. Numerous elaborate measures attain an ultimate fusion of controllability and operator comfort.











1 Dual Air Conditioners for Pressurized, Air-Tight Cab: Using dual air conditioners — main and auxiliary — the cab pressure is higher than the surrounding atmosphere, sealing out dirt and keeping clean air in. Cooling capacity is ample, maintaining operator comfort in all seasons.

2 Roomy Cab with Headguard: The spacious cab is integrated with the headguard for increased shock resistance, ruggedness and durability. Double floor structure and shock-absorbing rubber effectively reduce shocks.

3 Easy-to-Read Monitors: Machine operating conditions can be checked at a glance with the logically arranged monitors.

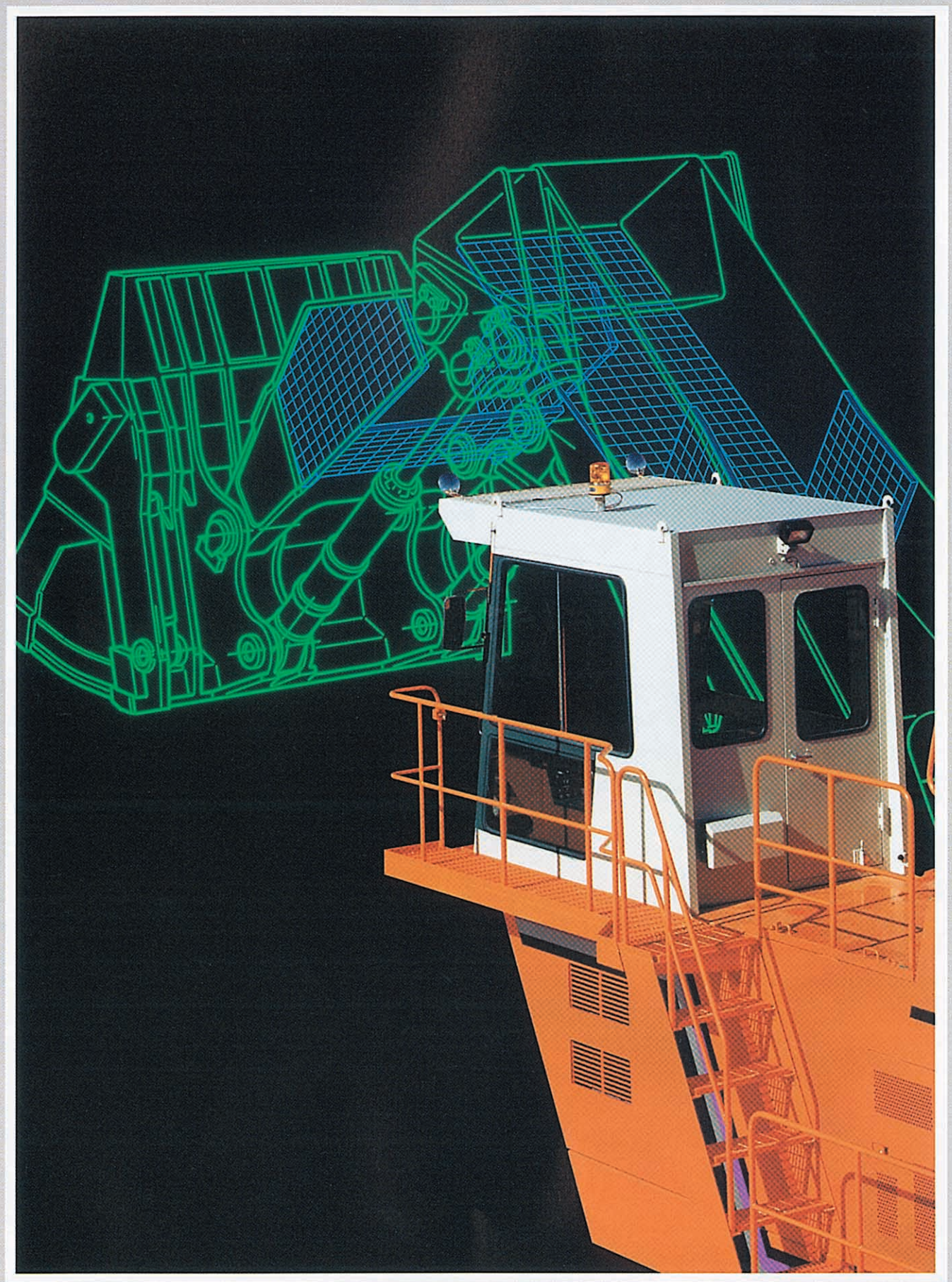
4 Intermittent Wipers: Upper/lower intermittent parallel link-type wipers are provided as standard for job efficiency in rainy weather.

5 High Operator Eye Level: The operator eye level is high, 6.09 m (20'0") in the high-mounted cab, giving excellent downward visibility and always keeping the vessel of the dump truck being loaded clearly in the operator's sight.

6 Auto-Leveling Crowd Mechanism: Hitachi's original Auto-Leveling Crowd Mechanism gives outstanding operating ease and maximum job efficiency, with one-lever control. This enhances productive leveling and cutting, with a minimum of track wear.

7 Double Arm Actions — Level Luffing and Circular Arc Retracting: The operator selects either arm actions: level luffing for efficient dumping onto a dump truck; or arc actions for speedy work.

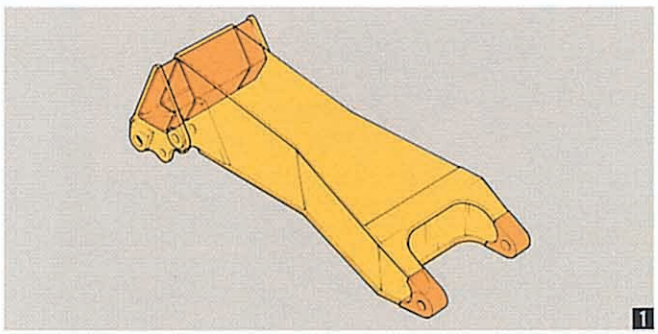
- Using 2 emergency engine stop switches — in the cab and engine room for dependable operation.
- Travel motion alarm interlocked with travel levers.
- 6-digit hourmeter can record nearly 100 000 hours.
- 12 V power supply for various electrical accessories.
- A hydraulic warm-up system assures easy starts in cold weather.



Shown with additional working lights and yellow beacon, commercially available.

LOGICALLY RUGGED, GIGANTIC BODY

Brute power calls for a big, tough body.
Hitachi's advanced technologies and years of experience are built into its body designs.
This means unmatched reliability and durability.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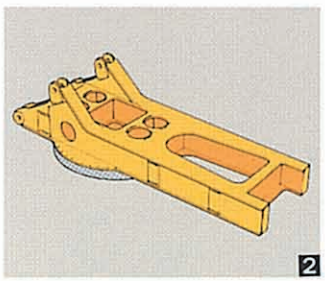
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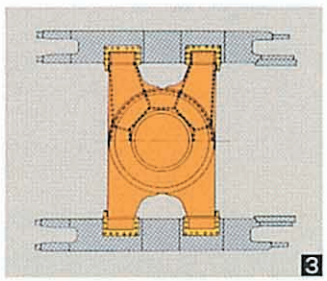
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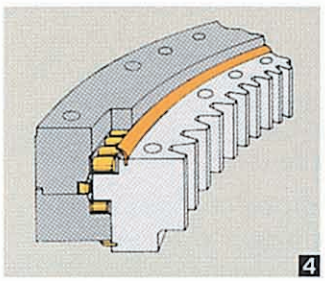
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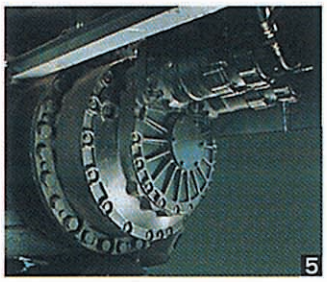
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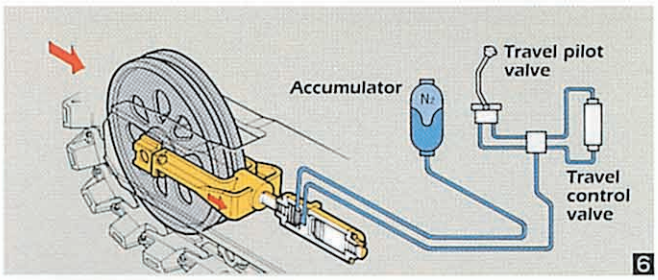

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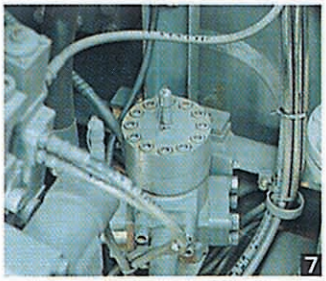
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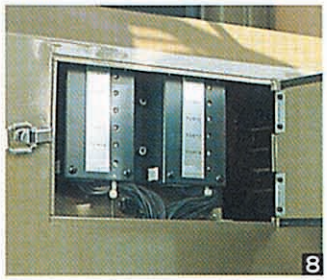
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1 Rugged Front Design: The boom and arm are full-box section, made of low-stress high-tensile steel, and reinforced with bulkheads.

2 Box-Section Main Frame: The main frame is also full box-section structure, with remarkable resistance to bending and torsional forces.

3 Sturdy Track Center Frame and Side Frames: The track center frame is a sturdy X-type structure. The side frames are firmly bolted to the track center frame, using both vertical and horizontal flanges.

4 Advanced Swing Circle Using Triple Rollers: The swing circle is an elaborate design: the heavy duty, triple-row cylindrical roller bearing with dirt seal, induction-hardened internal gear and pinion are immersed in lubricant to withstand vertical and horizontal loads. This enhances smooth swing.

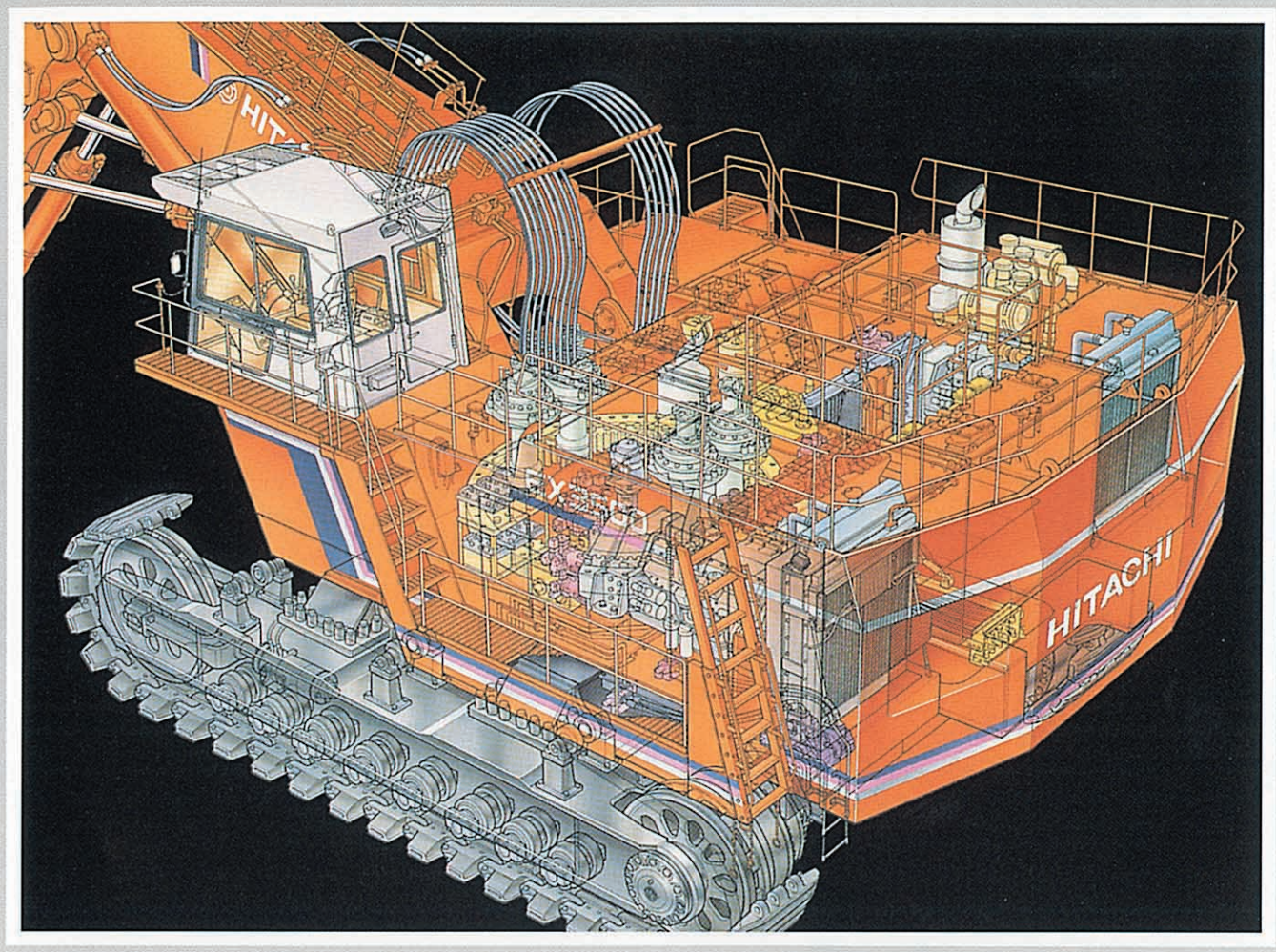
5 Elevated Compact Travel Motors: Compact travel motors are elevated for protection against rocks and stones.

6 Abnormal Track Tension Absorbing System Using Accumulators: Nitrogen gas-filled accumulators absorb abnormal track tension caused by earth, for example, when caught inside the track. If track tension exceeds a certain limit, travel is automatically stopped.

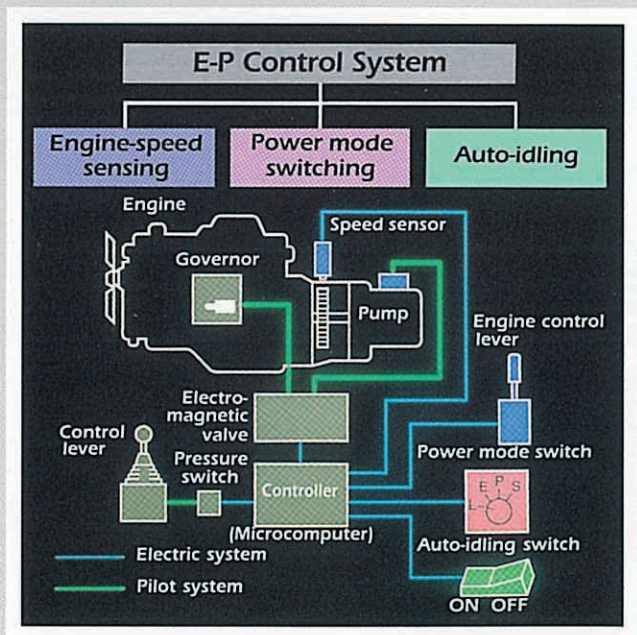
7 High-Pressure Line Filter: A high-pressure line filter next to the pump effectively eliminates contaminants.

8 Pump Contamination Sensor: This sensor always monitors the pump to warn of contamination. If contaminated, the sensor alerts the operator.

- Improved piping and wire harnesses for tough jobs.
- Bucket cylinder provided with damage protection structure.
- Spherical bearings with seals in boom cylinders absorb bending force.
- TIG (Tungsten Inert Gas) welded piping.
- Engine muffler and air cleaner provided outside the machine.

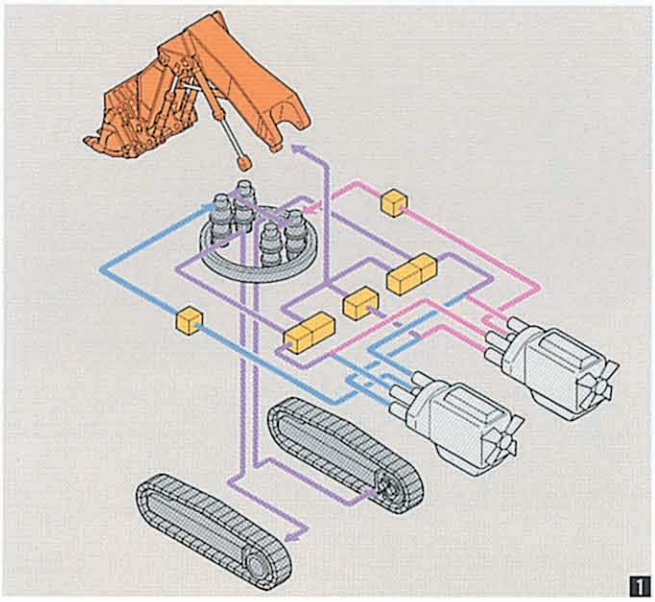


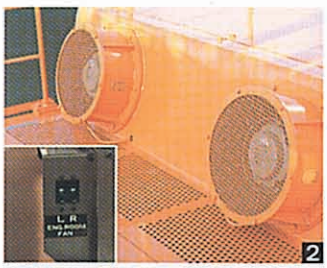
E-P Control System: The E-P control system, a Hitachi original, satisfies the two contradictory needs of high production and low fuel consumption. Its on-board computer regulates the engine output and pump delivery flow to suit each job. The electric engine speed-sensing control system regulates the pump by detecting changes in engine speed with each new load. This permits maximum use of engine horsepower.
For each job, you can select the four operation modes for your needs: S mode for heavy-duty operation, P mode for general, E mode for energy-saving and L mode for light-duty operation.

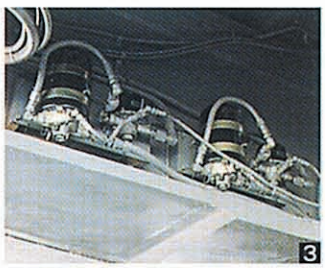


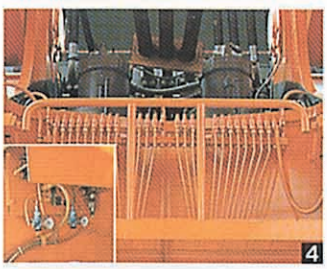
HITACHI TECHNOLOGICAL BREAKTHROUGHS

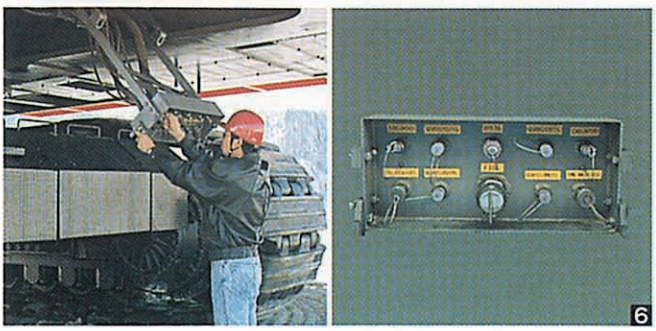
The technological edge in Giant EX, OHS (Optimum Hydraulic System), FPS (Fuel-saving Pump System), and more. The result is unmatched performance — brute power, speed and controllability.











1 OHS for Smooth Combined Operation: The OHS (Optimum Hydraulic System) gives the actuators a high degree of independence. The use of a hydraulic system with 6 main pumps and 2 swing pumps delivers smooth combined operations, such as swing/front for efficient leveling and digging while pressing the bucket to ditch side; swing/straight travel for efficient operation and travel in confined sites; and travel/front for work on blasted stones, climbing slopes and backfilling.

2 Ventilation Fan in Engine Room for Inspection and Servicing Convenience: The ventilation fan is newly provided in the engine room to quickly cool down the engine room for inspection and servicing convenience. Its switch is located behind the operator seat in the cab.

3 Air Drier Enhances Air Circuit Reliability: The air drier eliminates moisture inside the air piping for greater durability and reliability.

4 Auto Lubrication System (Option): The front joint pins and swing circle are automatically lubricated. This eliminates cumbersome daily lubrication.

5 Simple Grease Drum Replacement: No more cumbersome replacement of a grease drum. The compartment floor slides down to lower a drum for simple, effortless replacement.

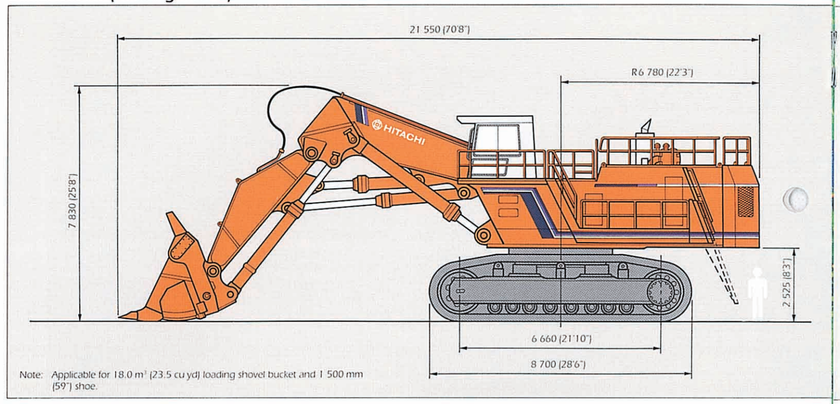
6 Centralized Lubrication System (Option) for Refueling from the Ground: The centralized lubrication system (Fast Filling System) allows replenishing and change of fuel, engine oil, hydraulic oil, etc. from the ground. There is no need to bring a pail can up to the machine.

- FPS (Fuel-saving Pump System) eliminates hydraulic energy waste.
- The auto-idling system reduces the engine speed for fuel economy when the lever is in neutral.
- The RMS (Relief-oil Minimizing System) minimizes pump delivery flow when hydraulic pressure is released.
- Catwalks (left and right) for convenience of inspection and servicing.
- Stop valves provided for convenience of transport and reassembly.
- Mechatronic analyzer and monitors for quick, easy machine diagnosis.

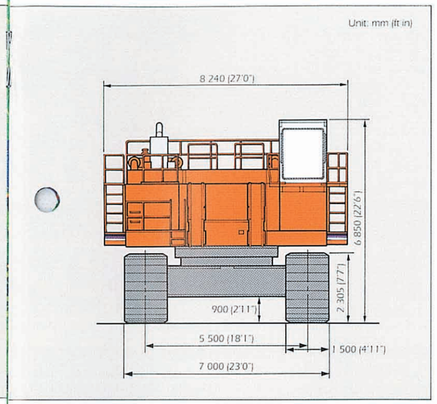
The Intelligent Machine — The Hitachi Super EX3500

LOADING SHOVEL

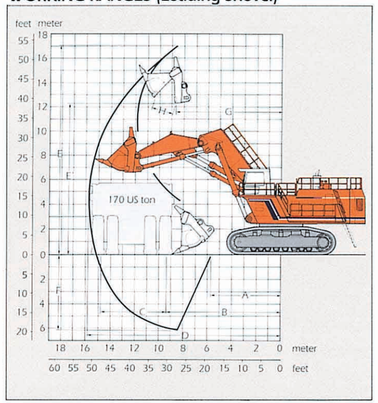
DIMENSIONS (Loading Shovel)



Note: Applicable for 18.0 m³ (23.5 cu yd) loading shovel bucket and 1 500 mm (59") shoe.



WORKING RANGES (Loading Shovel)



WORKING RANGE (Loading Shovel)

A. Min. digging distance		5 930 mm (19'5")
B. Min. level crowding distance		9 440 mm (30'11")
C. Level crowding distance		5 470 mm (17'11")
D. Max. digging reach		15 810 mm (51'10")
E. Max. cutting height		17 170 mm (56'4")
E'. Max. dumping height		12 420 mm (40'9")
F. Max. digging depth		6 060 mm (19'11")
G. Working radius at max. dumping height		8 250 mm (27'1")
H. Max. bucket opening width		2 400 mm (7'10")
Crowding force	18.0 m³ (23.5 cu yd)	1 177 kN (120 000 kgf, 264 000 lbf)
	25.0 m³ (32.7 cu yd)	1 177 kN (120 000 kgf, 264 000 lbf)
Breakout force	18.0 m³ (23.5 cu yd)	1 030 kN (105 000 kgf, 232 000 lbf)
	25.0 m³ (32.7 cu yd)	962 kN (98 000 kgf, 216 000 lbf)

Data in ▭ are those of the Coal bottom dump type bucket.

SPECIFICATIONS (Loading Shovel)

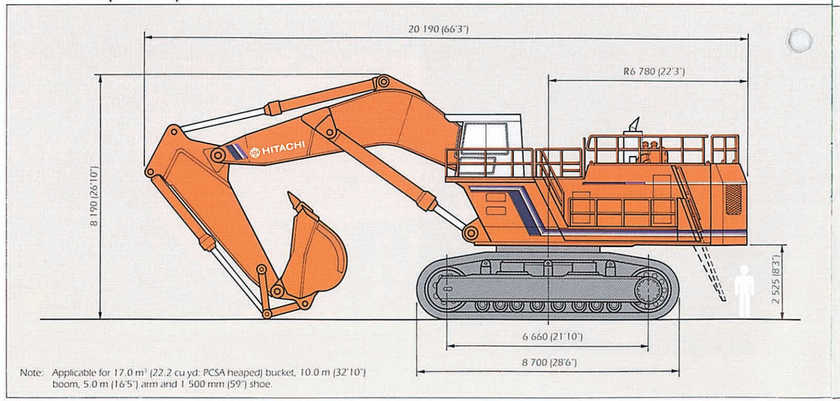
Operating weight	kg (lb)	330 000 (728 000)
Bucket capacity PCSA heaped	m³ (cu yd)	18.0 – 25.0 (23.5 – 32.7)
Shoe width	mm (in)	1 500 (59")
Ground pressure	kPa (kgf/cm², psi)	144.2 (1.47, 20.9)

BUCKETS (PCSA heaped)

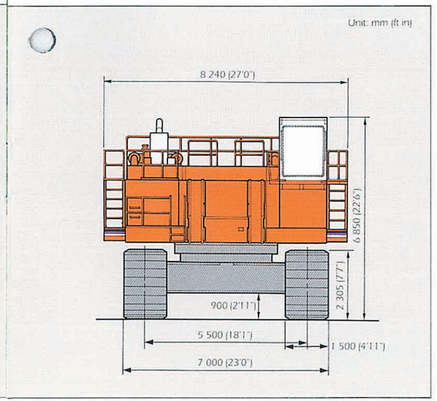
Capacity	Width	No. of teeth	Weight	Type
18.0 m³ (23.5 cu yd)	3 950 mm (13'0")	6	23 800 kg (52 500 lb)	Bottom dump type general purpose bucket
25.0 m³ (32.7 cu yd)	5 200 mm (17'1")	6	27 500 kg (60 600 lb)	Bottom dump type coal handling bucket

BACKHOE

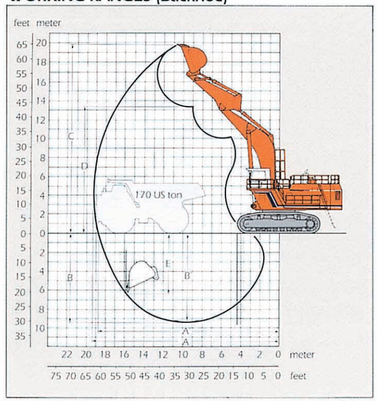
DIMENSIONS (Backhoe)



Note: Applicable for 17.0 m³ (22.2 cu yd; PCSA heaped) bucket, 10.0 m (32'10") boom, 5.0 m (16'5") arm and 1 500 mm (59") shoe.



WORKING RANGES (Backhoe)



WORKING RANGE (Backhoe)

Unit: mm (ft in)

	10.0 m (32'10")
Boom length	
Arm length	**5.0 m (16'5")**
A. Max. digging reach	19 400 (63'8")
A'. Max. digging reach (on ground)	18 860 (61'11")
B. Max. digging depth	9 340 (30'8")
B'. Max. digging depth (8' level)	9 200 (30'2")
C. Max. cutting height	19 780 (64'11")
D. Max. dumping height	13 300 (43'8")
E. Max. vertical wall	6 300 (20'8")
Digging force (arm cylinder)	912 kN (93 000 kgf, 205 000 lbf)
Digging force (bucket cylinder)	932 kN (95 000 kgf, 209 000 lbf)

SPECIFICATIONS (Backhoe)

Operating weight		kg (lb)	330 000 (728 000)
Bucket capacity	PCSA heaped	m³ (cu yd)	17.0 – 25.0 (18.3 – 5.6)
	CECE heaped	m³	15.0 – 22.0
Shoe width		mm (in)	1 500 (59")
Ground pressure		kPa (kgf/cm², psi)	144.2 (1.47, 20.9)

BACKHOE BUCKETS

Capacity		Recommendation
		10.0 m (32'10") boom
PCSA heaped	CECE heaped	5.0 m (16'5") arm
17.0 m³ (22.2 cu yd)	15.0 m³	◎
25.0 m³ (32.7 cu yd)	22.0 m³	○

◎ General for materials with density of 2 000 kg/m³ (3 370 lb/cu yd) or less.
○ Suitable for materials with density of 1 100 kg/m³ (1 850 lb/cu yd) or less.

LOADING SHOVEL/BACKHOE

MAIN SPECIFICATIONS

Model		EX3500-2
ENGINE		
Model		2 x Cummins KT38-C925
Type		Water-cooled, 4-cycle, V-type, 12-cylinders direct injection with turbocharger
Piston displacement	liter (cu in)	2 x 37.7 (2 300)
Flywheel horsepower		
DIN 6271 NET	kW (PS)	2 x 609 (829)
SAE J1349 GROSS	kW (HP)	2 x 656 (880)
Fuel tank capacity liter (US gal, Imp gal)		5 000 (1 321, 1 100)

Model		EX3500-2
HYDRAULIC SYSTEM		
Main pump		6-variable displacement bent-axis piston
Swing pump		2-variable displacement axis piston
Max. oil pressure	MPa (kgf/cm², psi)	29.4 (300, 4 270)
Max. oil flow ℓ/min (US gpm, Imp gpm)		6 x 550 (145.3, 121.0) 2 x 572 (151.1, 125.8)
Swing speed	min⁻¹ (rpm)	3.6 (3.6)
UNDERCARRIAGE		
Travel speed	km/h (mph)	2.4 – 1.8 (1.5 – 1.1)
Max. traction force	kN (kgf, lbf)	1 760 (179 500, 395 700)
Gradeability	deg (%)	30 (60)
Parking brake		Hydraulic with disc

STANDARD EQUIPMENT

●Tool kit ●Suspension seat ●Car radio ●Intermittent windshield wiper with window washer ●Defroster ●Rearview mirror ●Ashtray ●Cigar ligther ●Air horn ●6 working lights, cab light and access light ●2 engine room lamps ●Travel motion alarm device ●12-V power supply ●Pneumatic grease gun with hose reel ●Handrails and catwalks ●Hold-in type ladder with spring-type balancer ●Engine room cooling fan ●Sunvisor ●Air drier

OPTIONAL EQUIPMENT

●Auto-lubrication system (Lincoln) ●Fast-filling system ●Air conditioner unit ●Cooling unit ●Seat belt

BACKHOE LIFTING CAPACITIES

METRIC MEASURE

Rating over-side or 360 degrees / Rating over-front — Unit: 1 000 kg

Conditions	Load point height m	Load radius 12 m		14 m		16 m		At max. reach		
		◌	⊓	◌	⊓	◌	⊓	◌	⊓	@ m
Boom 10.0 m Arm 5.00 m Bucket PCSA: 17.0 m² CECE: 15.0 m² Shoes 1 500 mm	13			*26.8	*26.8			*14.1	*14.1	17.3
	12			*31.3	*31.3			*13.5	*13.5	17.8
	10	*33.1	*33.1	*35.5	*35.5			*12.7	*12.7	18.5
	8	*34.3	*34.3	*37.0	*37.0	*27.4	*27.4	*12.3	*12.3	18.9
	6	*42.1	*42.1	*41.3	*41.3	*34.4	*34.4	*12.2	*12.2	19.1
	4	60.1	*62.9	45.0	*49.9	34.2	*39.0	*12.5	*12.5	18.9
	2	56.5	*64.4	42.8	*51.7	33.0	*41.5	*13.2	*13.2	18.5
	0 (ground)	54.0	*63.0	41.2	*49.8	32.2	38.1	*14.4	*14.4	17.8
	−2	52.8	*58.0	40.4	*45.0	*28.3	*28.3	*13.6	*13.6	16.8
	−4	*48.5	*48.5	*35.1	*35.1					
	−5	*41.4	*41.4	*26.6	*26.6					

ENGLISH MEASURE

Rating over-side or 360 degrees / Rating over-front — Unit: 1 000 lb

Conditions	Load point height ft	Load radius 30 ft		40 ft		50 ft		At max. reach		
		◌	⊓	◌	⊓	◌	⊓	◌	⊓	@ ft in
Boom 32'10" Arm 16'5" Bucket PCSA: 22.2 cuyd Shoes 59"	40			*77.4	*77.4			*30.1	*30.1	58'1"
	30			*73.8	*73.8	*70.0	*70.0	*27.5	*27.5	61'5"
	25			*78.3	*78.3	*78.5	*78.5	*27.0	*27.0	62'3"
	20			*91.6	*91.6	*85.2	*85.2	*26.9	*26.9	62'7"
	15			*118.9	*118.9	84.7	*93.6	*27.3	*27.3	62'4"
	10			124.9	*138.1	81.9	101.1	*28.2	*28.2	61'8"
	5			119.8	*138.8	79.4	99.0	*29.7	*29.7	60'5"
	0 (ground)			116.0	*135.8	77.6	94.2	*31.9	*31.9	58'6"
	−5	*183.5	*183.5	113.7	*128.3	76.8	*85.2	*34.3	*34.3	56'0"
	−10	*162.7	*162.7	113.0	*115.5	*68.1	*68.1			
	−15	*135.0	*135.0	*95.8	*95.8					

Notes: 1. Ratings are based on SAE J1097.
2. Lifting capacity of the EX Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The load point is a hook (not standard equipment) located on the back of the bucket.
4. * Indicates load limited by hydraulic capacity.

ONLY HITACHI OUTDOES HITACHI

These specifications are subject to change without notice.
Illustrations may or may not include optional equipment and accessories, and all standard equipment.

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