

EH3500ACII SPECIFICATIONS



TARGET GMOW: 681,200 LB (309 000 KG)

RATED POWER: 2,000 HP (1491 KW)

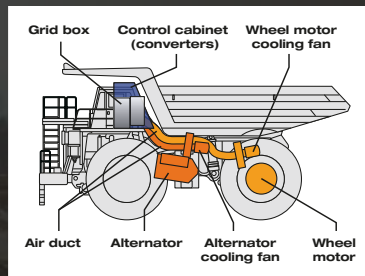
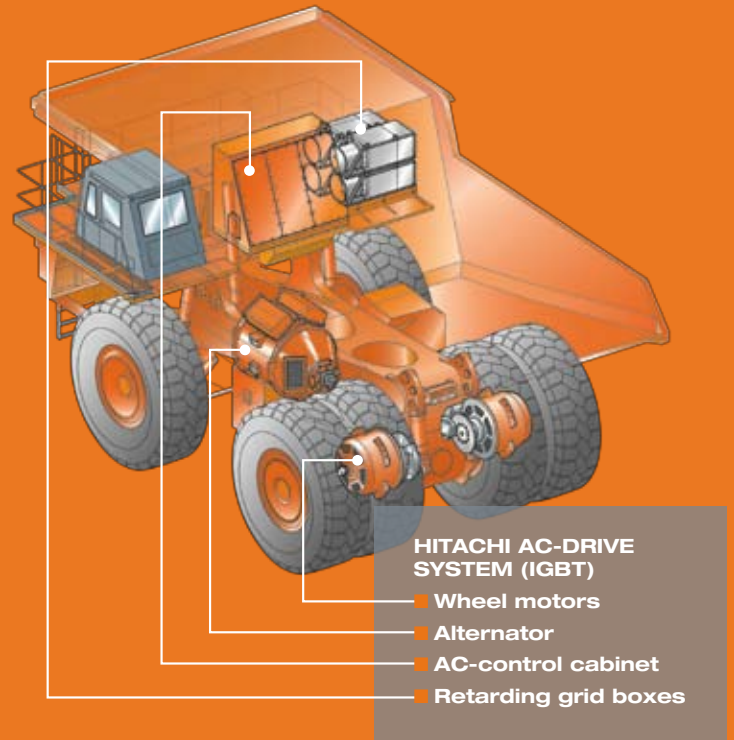
HITACHI

HITACHI AC TECHNOLOGY

Hitachi has been at the forefront of both Gate Turn Off (GTO) and IGBT propulsion technology for over 30 years. Our GTO and IGBT systems are powering Japan's famous bullet trains as well as similar trains throughout the world. Now, this IGBT expertise has been channeled into these Hitachi AC-drive trucks.

Unlike all other competitors, the entire AC-drive system is designed, built, and supported by the same company — Hitachi.

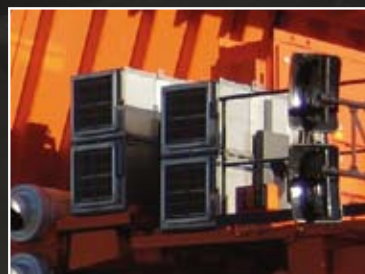
The new-generation Hitachi IGBT system outperforms previous and competitive systems through its simplicity, improved efficiency, and enhanced dependability. It couples the best GTO features with higher torque, faster acceleration, smoother retardation, and lower operating costs. All system components are manufactured by Hitachi in Japan under strict quality standards.



■ Extensive cooling efforts ensure higher availability.



■ AC wheel motors are oil-cooled with coolers located in the rear axle box.

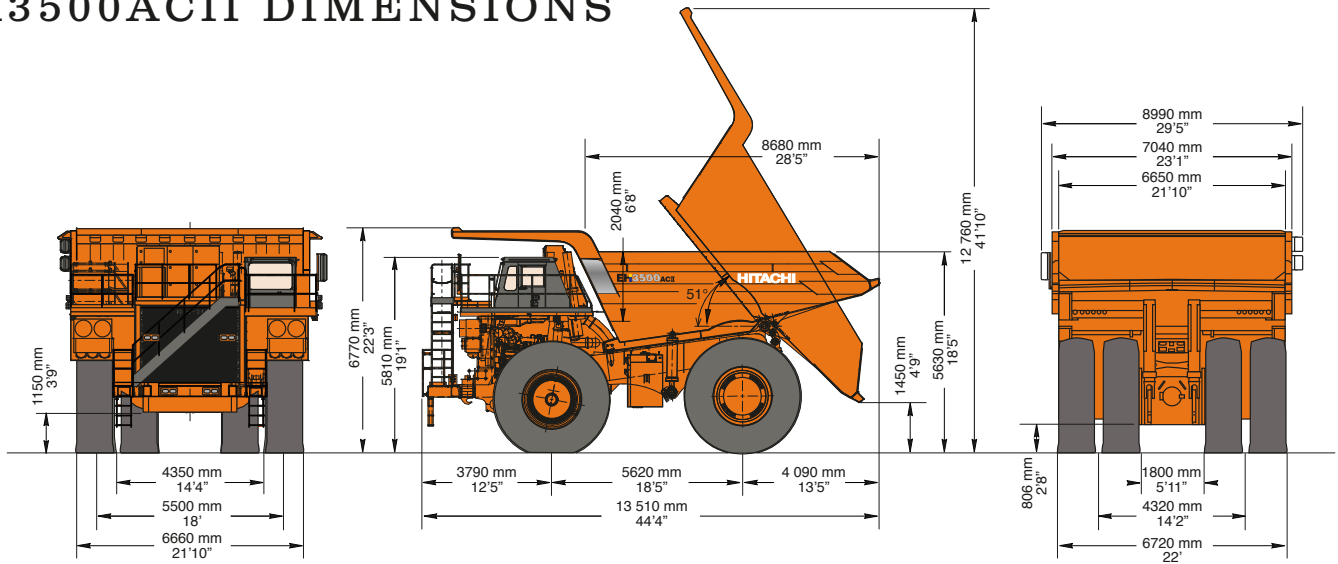


■ Retarding grid boxes are Hitachi built. Each is equipped with an inverter-controlled variable-speed cooling fan.



■ Double-path tandem-planetary design provides longer lubricant life, lower operating temperatures, and improved component life.

EH350ACII DIMENSIONS



STANDARD EQUIPMENT

General

- AC drive system control cabinet, liquid cooled
- AC drive system control cabinet, lockable
- AC drive system, Auto-cruise control
- AC drive system, Auto-retarding control
- AC drive system, Brake-blending control
- Automatic lubrication system (Lincoln)
- Battery isolation switch
- Body prop pins
- Camera
 - Rear-view camera
 - Side-view camera (RHS)
- Deck-mounted muffler
- Diagonal front ladder
- Electric controlled hoist system
- Electric horns
- Engine access step (2)
- Engine shutdown switch, beside engine (2)
- Engine shutdown switch, ground level
- Engine shutdown switch, inside rear axle
- Fast fluid-filling system provision
- Fast fuel-filling system provision
- Fuel/Water separator
- IGBT-controlled blower fan motors (2)
- IGBT-controlled grid fan motors (4)
- Load weighing system
- Mirrors
 - Rear view mirrors (4)
 - Front view mirror (LHS)
 - Front view mirror (RHS)
- NEOCON suspension struts
- Operator arm and grid box guards
- Rims, available for 37.00R57 and 42/90R57 tires
- Suction port shut-off valve at hydraulic tank
- Supplementary braking system, accumulators
- Supplementary steering system, accumulators
- Tire guard
- Tow hooks, front
- Tow lugs, rear
- Tire guard

Cab

- Accessory connection, 12-volt
- Air conditioning
- Air-suspension seat for operator, 6-position
- AM-FM radio

- Auxiliary outlet, 12-volt
- Engine shutdown switch
- Camera monitor
- Engine shutdown switch
- Heater and defroster
- Integral ROPS/FOPS cab
- LCD system monitor
- Load and dump switch
- Seat belts, retractable (operator/trainer)
- Tinted safety glass, with roll-down windows
- Trainers seat

Display Monitor Indicators and Gauges

- Brake/steering hydraulic oil pressure gauge
- Central warning indicator
- Clock
- Coolant temperature gauge
- Drive-related warning indicator
- Engine oil pressure gauge
- Engine-related warning indicators
- Engine stop warning indicator
- Fuel gauge
- Hour meter
- Hydraulic-related warning indicators
- Indicate HCM code
- Indicate message
- Indicate SAE code
- Light indicators
- Load meter
- Shift-lever position indicator
- Speedometer (Odometer included)
- Stop valve warning indicator
- Tachometer
- Turn signal indicator
- Wheel motor temperature gauge

Machine Lights

- Backup lights (2)
- Clearance lights (4)
- Deck lights (2)
- Engine compartment lights (2)
- Halogen headlight (8)
- Ladder light
- Rear-axle compartment light

OPTIONAL EQUIPMENT

- Additional grid box (1)
- Auxiliary dump connection
- Auxiliary steer connection
- Body liners (400BHN)
- Body prop cable
- Body sizes **
- Continuous heated body
- Extreme cold-weather package, includes KimHot coolant and oil-pan heater, and a fan clutch **
- Fast fluid-filling system couplers
- Fast fuel-filling system coupler
- Halogen front tire light (2)
- Heated mirrors
- HID headlight (4)
- HID headlight (8)
- High-altitude grid box **
- Loadweight displays
- Mild cold-weather package, includes KimHot coolant and oil pan heater **
- Spare rim
- Trolley-assist configuration **

**engineered on request

EH3500ACII SPECIFICATIONS

ENGINE

Model	Cummins QSK50C
Configuration	4-cycle diesel, 16 cylinders
Emission Certification	U.S. E.P.A. Tier 2
Aspiration	Turbocharged and low-temperature aftercooled
Rated Output @ 1,900 rpm	
Gross (SAE J1995)	2,000 hp (1 491 kW)
Net	1,874 hp (1 398 kW)
Maximum Torque	5,806 lbs•ft (7871 N•m) @1,500 rpm (min ⁻¹)
Bore and Stroke	6.25 in. x 6.25 in. (159 mm x 159 mm)
Piston Displacement	3,069 cu. in. (50.3 liters)
Starting	Electric

HITACHI AC-DRIVE SYSTEM

AC-Control Cabinet

Model	aDi800-A-00
Rectifier	
Number of Units	1
Rated Capacity	1,796 hp (1340 kW)
Inverter	
Number of Units	2
Rated Capacity Per Unit	858 hp (640 kW, 800 kVA)
Chopper	
Number of Units	2
Rated Capacity Per Unit	1,743 hp (1300 kW)
Equipped with reliable water-cooling system	
Pressurized cabinet to reduce dust	
Equipped with lockable doors for safety	
Equipped with small inverters to provide grid motors and blower motors with adequate AC current	
Uniquely constructed for rigid-truck application	

Alternator

Model	YEFFC10UP-CD
Number of Units	1
Capacity	1,609 hp (1200 kW, 1500 kVA) @ 1,900 rpm
Equipped with an auxiliary alternator that provides AC current to grid motors, blower motors, and control-cabinet coolant pump	
Air cooled by AC-drive blower	

AC-Wheel Motor

Model	EFFO-KK
Number of units	2
Capacity per unit	831 hp (620 kW)
Air cooled by AC-drive blower	

Retarding Grid Box

Model	CPS-625DD
Number of modules	4
Capacity per unit	838 hp (625 kW) (3 min.)
Equipped with inverter-controlled variable-speed cooling fan	

Planetary Ratio	35.2:1
Maximum Speed	34.8 mph (56 km/h)

TIRES

Standard – Front and Rear, Rim Width	37.00 R57(**) E4 Radial	27 in. (686 mm)
Optional – Front and Rear, Rim Width	42/90 R57(**) E4 Radial	27 in. (686 mm)

Certain job conditions may require higher TMPH (TKPH) in order to maintain maximum production. Hitachi recommends evaluating the job conditions and consulting the tire manufacturer to make proper tire selection.

ELECTRICAL SYSTEM

Twenty-four volt system. 175-ampere engine-driven alternator. Four 12-volt, heavy-duty batteries connected in series/parallel.

BODY

Struck (SAE)	96.8 yd ³ (74 m ³)
Heap 3:1	129.4 yd ³ (99 m ³)
Heap 2:1 (SAE)	145.1 yd ³ (111 m ³)

Body capacity and payload subject to change based on customer specific material density, options, and application.

WEIGHTS (Approximate)

Net machine weight stated below includes standard equipment.

Net machine weight changes will directly affect the Nominal Payload.

	37.00 R57(**) E4 (standard) Tires	42/90 R57(**) E4 (optional) Tires
Chassis with Hoist	251,870 lb. (114 250 kg)	256,280 lb. (116 250 kg)
Body	58,974 lb. (26 750 kg)	58,974 lb. (26 750 kg)
Net Machine Weight, includes operator and 100% fuel.	310,850 lb. (141 000 kg)	315,260 lb. (143 000 kg)
Nominal Payload	185 tons (168 tonnes)	185 tons (168 tonnes)
Target GMOW	681,200 lb. (309 000 kg)	685,600 lb. (311 000 kg)
Axle Weights		
Front Axle, Empty (48%)	149,250 lb. (67 700 kg)	151,240 lb. (68 600 kg)
Rear Axle, Empty (52%)	161,600 lb. (73 300 kg)	164,020 lb. (74 400 kg)
Front Axle, Loaded (31%)	211,200 lb. (95 790 kg)	212,500 lb. (96 410 kg)
Rear Axle, Loaded (69%)	470,000 lb. (213 210 kg)	473,100 lb. (214 590 kg)

STEERING SYSTEM

Closed-center, full-time hydrostatic power-steering system using two double-acting cylinders, pressure-limit with unload piston pump, and brake actuation/steering system reservoir.

Accumulator provides supplementary steering in accordance with ISO 5010 and SAE J1511.

Tilt/telescopic steering wheel with 35 deg. of tilt and 2.25 in. (57.2 mm) telescopic travel is standard.

Turning Diameter (SAE)	89 ft. 6 in. (27.3 m)
Steering Pump Output	97.6 gpm (380 L/min.)
System Operating Pressure	3,000 psi (21 MPa)

HYDRAULIC SYSTEM

Two (2) Hitachi three-stage, double-acting cylinders, with electronic-controlled cushioning in retraction and extension, containing dual rod seals and urethane-energized scrapers, inverted and outboard mounted.

A tandem piston pump combines with four-position electronic pilot-controlled hoist valve. The electrical controller is mounted to the operator's seat.

Body Raise Travel	59 deg.
Body Raise Time (at 1,900 rpm)	17.5 sec.
Body Down Time (Float)	13.0 sec.
Hoist Pump Output (at 1,900 rpm)	200 gpm (760 L/min.)
System Relief Pressure	3,390 psi (23.4 MPa)

HI-TECH ROPS/FOPS CAB

ROPS complies with ISO3471 and SAE J1040-May 94, FOPS complies with ISO3449.

A three-point rubber ISO-mount arrangement minimizes vibration to the operator compartment.

A new Hitachi system monitor diagnoses all onboard controls including the Hitachi drive system and engine. Data links offer complete integration, while a single color Liquid Crystal Display (LCD) clearly details machine functions. Downtime is minimized with faster and more reliable troubleshooting and analysis. A new Hitachi load-weighting system offers benefits such as better equipment utilization on the jobsite, accurate unit and fleet production results, and benchmark unit statistics against fleet results. Cycle time, distance, and cycle count can all be measured and recorded to further improvement of job productivity. The Hitachi load-weighting system is fully integrated with the Hitachi vehicle monitoring system and display interface, avoiding potential failure or error common in aftermarket systems.

EXCELLENT SERVICEABILITY

A removable front cover of the cab allows easy access to the service brake valve and heater connections. A removable cover located behind the seat provides easy access to the electric components, Hitachi controller, and all electrical junction points.

COMFORT AND EASE OF OPERATION

New wrap-around-style dashboard means controls are within easy reach and visual contact.

A full complement of easy-to-read gauges, automobile-type color LCD monitor and warning system, a spacious environment, six-way adjustable operator's air seat, tilt/telescopic steering wheel, and filtered adjustable air vents, all contribute to operator safety and comfort.

BODY

The body has been made to the flat-floor, sloped-tail chute design.

An extended canopy protects the service deck area. High-tensile-strength 400 BHN abrasion-resistant alloy steel is used in thicknesses indicated below:

Floor	.75 in. (19 mm)
Front Plate	.39 in. (10 mm)
Sides	.39 in. (10 mm)
Canopy	.24 in. (6 mm)
Corners	.47 in. (12 mm)

High-strength 100,000 psi (690 N/mm²) alloy steel is also used for the canopy side members and floor stiffeners. The body is rubber-cushioned on the frame.

Optional Body Liners

Floor & Corners	.47 in. (12 mm)
Sides & Front	.24 in. (6 mm)
Canopy	.24 in. (6 mm)

Special plate thicknesses and partial plates are available.

SERVICE CAPACITIES

Main Accumulator	18.5 gal. (70 L)
Crankcase (includes filters)	52.8 gal. (200 L)
Cooling System	140.3 gal. (531 L)
Fuel Tank	779.3 gal. (2950 L)
Hydraulic System	208.4 gal. (789 L)
Planetary Drives	46.5 gal. (176 L)
Front Wheels	4.5 gal. (17 L)
Windshield Washer	5.2 gal. (20 L)

BRAKE SYSTEM

Brake system complies with ISO 3450 (SAE J1473). An all-hydraulic-actuated service braking system provides precise braking control and quick system response. The system is pressure proportioned, front to rear, for improved slippery road control.

FRONT AXLE (DRY DISC)

Disc Diameter, Each (2 discs/axle, 3 calipers/disc) 50 in. (121.7 cm)

REAR AXLE (DRY DISC)

Disc Diameter, Each (2 discs/axle, 3 calipers/disc) 43 in. (109 cm)

SECONDARY

Dual independent hydraulic circuits within the service brake system provide fully modulated reserve braking capability. Both front and rear dry disc are automatically applied when loss of pressure is detected.

PARKING

Two spring on, hydraulic off armature disc brake heads provide effective parking.

The braking system complies with ISO 3450 (SAE J1473).

RETARDER

Superior retardation to zero speed on grades is achieved through AC-wheel motors in conjunction with four Hitachi resistor-grid packages. Service brake blending occurs at speeds below .3 mph (.5 km/h).

Maximum dynamic retarding (Standard) 3,755 hp (2800 kW)

LOAD/DUMP BRAKE APPLY

Through activation of a switch by the operator, a solenoid is energized, sending full brake pressure to apply the rear dry disc brakes. For use during the load and dump cycles.



BASIC COMPONENT WEIGHTS

INFORMATION FOR BUILDING SHIPPING LOADS (DOES NOT INCLUDE BODY OR TIRES)

SKID/CASE	DESCRIPTION	WEIGHT	DIMENSIONS:		
			Length	Width	Height
#1 Steel Skid:	Frame with engine,	66,048 lb. (29 959 kg)	32 ft. 3 in. (983 cm)	11 ft. 2 in. (340 cm)	11 ft. (335 cm)
#2 Steel Skid:	Front Axle,	26,303 lb. (11 931 kg)	21 ft. 7 in. (657 cm)	8 ft. 11 in. (273 cm)	5 ft. 2 in. (157 cm)
#3 Steel Skid:	Cab Support,	5,287 lb. (2398 kg)	21 ft. 9 in. (663 cm)	3 ft. 10 in. (116 cm)	4 ft. 10 in. (147 cm)
#4 Steel Skid:	Cab,	5,412 lb. (2455 kg)	8 ft. 9 in. (266 cm)	5 ft. 7 in. (170 cm)	7 ft. 10 in. (240 cm)
#5 Steel Skid:	Left Fender,	948 lb. (430 kg)	6 ft. 6 in. (197 cm)	4 ft. 9 in. (145 cm)	4 ft. 1 in. (125 cm)
#6 Steel Skid:	Right Fender,	1,032 lb. (468 kg)	6 ft. 6 in. (197 cm)	5 ft. 1 in. (155 cm)	3 ft. 10 in. (117 cm)
#7 Steel Skid:	Deck (R1),	2,130 lb. (966 kg)	6 ft. 4 in. (193 cm)	3 ft. 7 in. (110 cm)	5 ft. 5 in. (165 cm)
#8 Steel Skid:	Deck (R2),	3,045 lb. (1381 kg)	9 ft. 6 in. (290 cm)	6 ft. 11" in. (210 cm)	5 ft. 3 in. (160 cm)
#9 Steel Skid:	Left Front Step,	617 lb. (280 kg)	5 ft. 4 in. (163 cm)	2 ft. 9 in. (85 cm)	5 ft. 3 in. (160 cm)
#10 Steel Skid:	Control Cabinet,	6,834 lb. (3100 kg)	9 ft. 9 in. (296 cm)	5 ft. 2 in. (157 cm)	8 ft. (245 cm)
#11 Steel Skid:	Fuel Tank,	2,683 lb. (1217 kg)	5 ft. 10 in. (178 cm)	4 ft. 11 in. (150 cm)	7 ft. 5 in. (226 cm)
#12 Steel Skid:	Oil Tank,	3,862 lb. (1752 kg)	5 ft. 3 in. (161 cm)	3 ft. 11 in. (120 cm)	5 ft. 11 in. (180 cm)
#13 Steel Skid:	CLY Hoist,	2,271 lb. (1030 kg)	6 ft. 1 in. (185 cm)	2 ft. 6 in. (77 cm)	2 ft. (60 cm)
#14 Steel Case:	Chamber,	551 lb. (250 kg)	7 ft. 5 in. (226 cm)	3 ft. 8 in. (113 cm)	2 ft. 5 in. (73 cm)
#15 Steel Skid:	Rear Deck,	1,991 lb. (903 kg)	11 ft. 2 in. (340 cm)	4 ft. 3 in. (130 cm)	2 ft. 9 in. (85 cm)
#16 Steel Case:	Misc. Filters, Manuals,	2,513 lb. (1140 kg)	7 ft. 5 in. (226 cm)	3 ft. 9 in. (115 cm)	3 ft. 8 in. (111 cm)
#17 Steel Case:	Misc. Bolts,	1,548 lb. (702 kg)	3 ft. 8 in. (113 cm)	3 ft. 8 in. (113 cm)	1 ft. 10 in. (55 cm)
#18 Steel Case:	Misc. Brackets, Covers,	794 lb. (360 kg)	7 ft. 6 in. (226 cm)	3 ft. 9 in. (115 cm)	2 ft. 5 in. (74 cm)
#19 Steel Skid:	Accumulator (2),	1,226 lb. (556 kg)	4 ft. 5 in. (135 cm)	4 ft. 5 in. (135 cm)	3 ft. 8 in. (113 cm)
#20 Steel Skid:	Front Strut,	2,374 lb. (1077 kg)	7 ft. 7 in. (230 cm)	2 ft. 7 in. (78 cm)	2 ft. 2 in. (67 cm)
#21 Steel Skid:	Ejector, Ladders,	1,313 lb. (595 kg)	15 ft. 10 in. (483 cm)	2 ft. 9 in. (84 cm)	4 ft. 11 in. (149 cm)
#22 Steel Case:	Rubber & Piping,	529 lb. (240 kg)	7 ft. 5 in. (226 cm)	3 ft. 9 in. (115 cm)	2 ft. 5 in. (73 cm)
#23 Steel Skid:	Accumulator (1),	825 lb. (374 kg)	8 ft. 4 in. (255 cm)	1 ft. 3 in. (37 cm)	1 ft. 8 in. (50 cm)
#24 Steel Skid:	Rim (1) – Rear, Wheel Out,	3,175 lb. (1440 kg)	5 ft. 11 in. (180 cm)	5 ft. 11 in. (180 cm)	3 ft. 10 in. (118 cm)
#25 Steel Skid:	Rim (1) – Rear, Wheel Out,	3,175 lb. (1440 kg)	5 ft. 11 in. (180 cm)	5 ft. 11 in. (180 cm)	3 ft. 10 in. (118 cm)
#26 Steel Skid:	Rim (1) – Rear, Wheel In,	3,175 lb. (1440 kg)	5 ft. 11 in. (180 cm)	5 ft. 11 in. (180 cm)	3 ft. 10 in. (118 cm)
#27 Steel Skid:	Rim (1) – Rear, Wheel In,	3,175 lb. (1440 kg)	5 ft. 11 in. (180 cm)	5 ft. 11 in. (180 cm)	3 ft. 10 in. (118 cm)
#28 Steel Skid:	Rim (1) – Front, Wheel,	3,175 lb. (1440 kg)	5 ft. 11 in. (180 cm)	5 ft. 11 in. (180 cm)	3 ft. 10 in. (118 cm)
#29 Steel Skid:	Rim (1) – Front, Wheel,	3,175 lb. (1440 kg)	5 ft. 11 in. (180 cm)	5 ft. 11 in. (180 cm)	3 ft. 10 in. (118 cm)
#30 Steel Skid:	Support, Step,	646 lb. (293 kg)	6 ft. 7 in. (200 cm)	3 ft. 1 in. (95 cm)	2 ft. 11 in. (88 cm)
#31 Steel Skid:	Misc. Hand Rails,	1,550 lb. (703 kg)	12 ft. 10 in. (390 cm)	5 ft. 7 in. (170 cm)	5 ft. 4 in. (162 cm)
#32 Steel Skid:	Muffler,	825 lb. (374 kg)	7 ft. 7 in. (230 cm)	3 ft. 9 in. (115 cm)	3 ft. (92 cm)
#33 Steel Skid:	Travel Device,	26,312 lb. (11 935 kg)	10 ft. 1 in. (308 cm)	5 ft. 5 in. (164 cm)	6 ft. 1 in. (185 cm)
#34 Steel Skid:	Travel Device,	26,312 lb. (11 935 kg)	10 ft. 1 in. (308 cm)	5 ft. 5 in. (164 cm)	6 ft. 1 in. (185 cm)

EXCAVATOR MATCH

PASSES TO FILL EH3500ACII*

EX2500-6 Excavator		EX3600-6 Excavator		EX5500-6 Excavator	
Shovel	Backhoe	Shovel	Backhoe	Shovel	Backhoe
19.6-cu.-yd. (15 m ³) Bucket**	19.6-cu.-yd. (15 m ³) Bucket***	27.5-cu.-yd. (21 m ³) Bucket**	28.8-cu.-yd. (22 m ³) Bucket***	35.3-cu.-yd. (27 m ³) Bucket**	37.9-cu.-yd. (29 m ³) Bucket***
7 Passes	7 Passes	5 Passes	5 Passes	4 Passes	3 to 4 Passes

*SAE 2:1 145-cu.-yd. (111 m³).

**Bucket Capacity (SAE 2:1 heaped).

***Bucket Capacity (SAE 1:1 heaped).

OUR NAME LOOKS GOOD ON ORANGE.

It's our color. It's our brand. New product-support initiatives and our strengthened dealer network are more proof that we are as passionate as ever about this industry. We are dedicated to building the best equipment in the world and keeping it painted Hitachi Orange.

HITACHI

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Specifications and design subject to change without notice.

