

## STANDARD EQUIPMENT

- GENERAL**
- ACCU-TRAC suspension system
  - Air conditioning
  - All-hydraulic braking
  - Allison M6610 transmission
  - Automatic transmission shifting
  - ISO decals
  - LED taillights
  - Load/dump brake
  - Body up and down cushioning
  - Body up speed restriction
  - Body prop cable
  - Bolt-on nose cone bushing
  - Continuous heated body
  - Cooling system sight gauge
  - Cooling system surge tank
  - Dagger clamps (rear wheels)
  - Driveline guard, front
  - Electric horns
  - Electric start
  - Electronic belt protection
  - Fan guard
  - Fenders
  - Fixed steering stops
  - Front brake cut-off switch
  - Fuel tank sight gauge
  - Guard rails
  - HID headlights
  - Hoist interlock
  - Hoist tank sight gauge
  - ISO decals
  - LED taillights
  - Load/dump brake
  - Mirrors right and left, hand adjustable
  - Mud flaps
  - NEOCON suspension struts
  - Park brake, dry disc
  - Park brake interlock
  - Radiator grill guard
  - Reverse alarm
  - Rock ejector bars
  - Steering accumulator
  - Steering tank sight gauge
  - Swing-out grille
  - Tires, 24.00R35(\*\*)E4
  - Tire guards, bolt-on
  - Tow points, front/rear
  - Transmission guard
  - Transmission sight gauge
  - Two-speed reverse

- CAB**
- Acoustical lining
  - Air filtration/replaceable element
  - Ash tray
  - Cab interior light
  - Cigar lighter, 12-volt
  - Door locks
  - Foot rest (left and right)
  - Heater and defroster 26,000 btu
  - Integral ROPS/FOPS cab
  - ISO driver envelope
  - Liquid Crystal Display (CONTRONIC II)
  - Clutch pressure
  - Distance traveled
  - Engine oil pressure
  - Fuel gauge
  - Gear selection
  - Integrated transmission diagnostics
  - Load counter
  - Service intervals, job site adjustable
  - Total engine hours
  - Total idle hours
  - Voltmeter
  - Modular instrumentation
  - Quick connect test ports
  - Roll down windows
  - Rubber floor mat
  - Safety glass
  - Seat, mechanical 6 position
  - Seat belts retractable (operator/trainer)
  - Sun visor
  - Tilt/telescopic steering wheel
  - Tinted glass all windows
  - Trainer seat
  - 12-volt 50 amp circuit
  - 12-volt accessory connection
  - Windshield washer
  - Windshield wiper, intermittent

- GAUGES AND INDICATORS**
- CONTRONIC II monitoring and alarm system, multi-function indicator lights:
- Air filter restriction
  - Alternator
  - Body up
  - Brake system low pressure
  - Central warning
  - Converter temperature
  - Coolant level
  - Cooling temperature
  - Do not shift
  - Engine oil pressure
  - Engine service
  - Engine shut down
  - High beam indicator
  - Hydraulic filter
  - Park brake applied
  - Retard oil temperature
  - Steering filter
  - Steering pressure
  - Steering temperature
  - Transmission filter
  - Transmission malfunction
  - Transmission oil pressure
  - Turn signals/hazard
  - Brake temperature
  - Converter temperature
  - Coolant temperature
  - Hourmeter (LCD)
  - Speedometer
  - Steering/brake pressure
  - Tachometer

- MACHINE LIGHTS**
- Back-up lights (2)
  - Clearance lights (2)
  - High intensity headlights (HID) (4)
  - Stop & tail (2)
  - Turn signals and four-way flashers

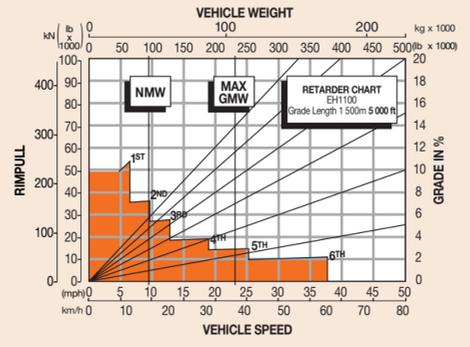
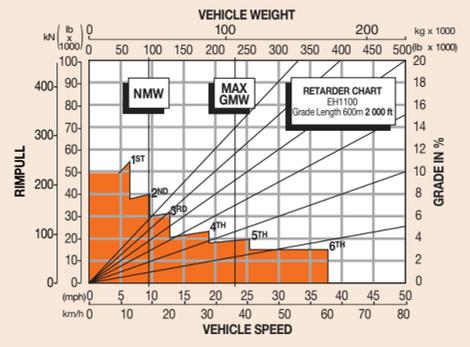
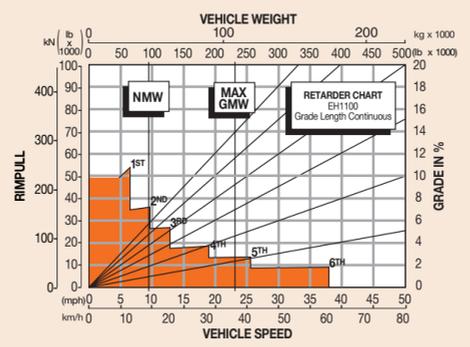
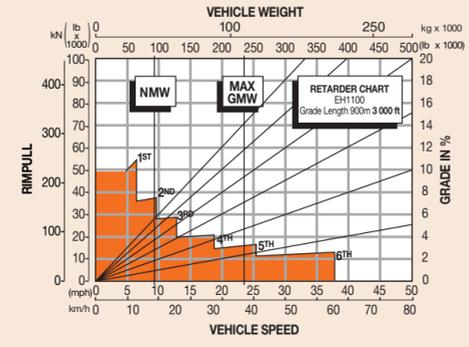
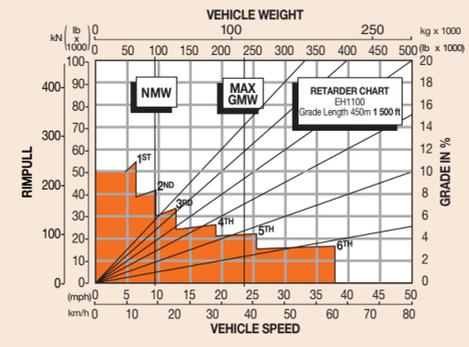
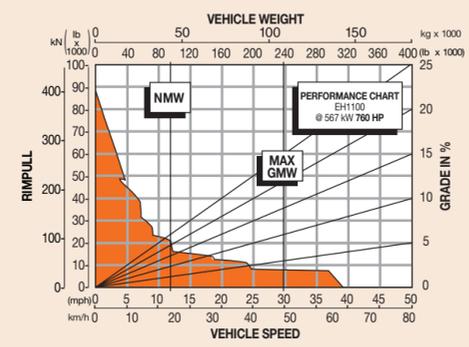
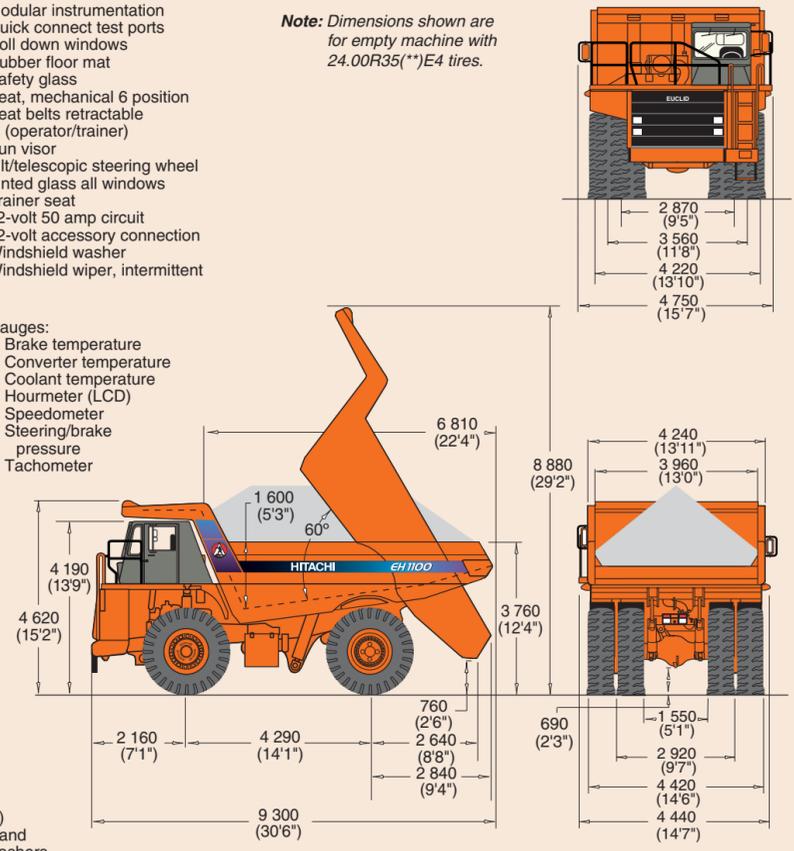
## OPTIONAL EQUIPMENT

- Air suspension seat
- ACTIVE TRACTION CONTROL (ATC) w/ELECTRONIC DOWNHILL SPEED CONTROL (EDSC)
- Body liners (400 BHN) plates light or heavy duty
- Body sideboard extensions
- Canopy spill guard extension
- Cold start aid
- Differential, 3.15:1 ratio
- Park brake, dry disc
- Park brake interlock
- Radiator grill guard
- Reverse alarm
- Rock ejector bars
- Steering accumulator
- Steering tank sight gauge
- Swing-out grille
- Tires, 24.00R35(\*\*)E4
- Tire guards, bolt-on
- Tow points, front/rear
- Transmission guard
- Transmission sight gauge
- Two-speed reverse
- Engine heater (coolant)
- Extra reverse alarm
- Fast fueling, fuel only
- HAULTRONIC II load monitoring system
- Hoodsides
- Lube system, automatic
- Lube system, centralized
- Muffler, deck mounted
- Radio & tape player
- Starter lock-out switch
- Tires (size, type & rating)
- Unit sound suppression

Standard and optional equipment may vary from country to country. Special options provided on request. All specifications are subject to change without notice.

Note: Dimensions shown are for empty machine with 24.00R35(\*\*)E4 tires.

unit:mm (ft in)



## NOTES:

- Diagonal lines represent total resistance (Grade % plus rolling resistance %). Charts based on 0% rolling resistance, standard power of engine, standard tires and gearing unless otherwise stated.
- Find the total resistance on diagonal lines on right-hand border of rimpull or retarder chart.
  - Follow the diagonal line downward and intersect the NMW or GMW weight line.
  - From intersection, read horizontally right or left to intersect the rimpull or retarder curve.
  - Read down for machine speed.

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. Before use, read and understand Operator's Manual for proper operation.

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# EH1100

Nominal Payload with Standard Equipment  
59.0 tonnes (65.0 tons)

Maximum GMW  
108 409 kg (239 000 lb)

Engine  
Detroit Diesel 12V Series 2000  
Rated Power 567 kW (760 HP)

# Specifications: EH1100



## ENGINE

Model Type	Detroit Diesel 12V Series 2000 4 Cycle
Aspiration	Turbocharged/Aftercooled
Rated Power @2 100 min <sup>-1</sup> (rpm)	
Gross power (SAE J1995)	567 kW (760 HP)
Net power (SAE J1349)	541 kW (725 HP)
Maximum Torque @1 200 min <sup>-1</sup> (rpm)	
	3 308 N·m (337 kgf·m, 2 440 lbf·ft)
No. Cylinders	12
Bore & Stroke	130 x 150 mm (5.12 in x 5.91 in)
Displacement	23.9 L (1 458 in <sup>3</sup> )
Torque Rise	28.4%
Starting	Electric



## TRANSMISSION

Allison M6610, remote-mounted, planetary type, with integral torque converter features automatic lockup in all ranges for improved fuel economy. Allison Commercial Electronic Control provides shift logic, as well as park brake interlock, hoist interlock and built in diagnostics. Trim Boost Soft Shift provides smooth shifting to help reduce operator fatigue. Six fully automatic forward speeds and two selectable reverse speeds allows the operator more flexibility in any application.

### Maximum Speeds @ Governed Engine Speed with standard 24.00R35(\*\*)E4 tires

Gear	Ratio	Standard		Optional	
		3.73:1 Differential	3.15:1 Differential	km/h (mph)	km/h (mph)
1	4.00	10.2 (6.3)	12.1 (7.5)	12.1 (7.5)	12.1 (7.5)
2	2.68	15.2 (9.4)	17.9 (11.1)	17.9 (11.1)	17.9 (11.1)
3	2.01	20.2 (12.6)	24.0 (14.9)	24.0 (14.9)	24.0 (14.9)
4	1.35	30.1 (18.7)	35.6 (22.1)	35.6 (22.1)	35.6 (22.1)
5	1.00	40.6 (25.3)	48.3 (30.0)	48.3 (30.0)	48.3 (30.0)
6	0.67	61.3 (38.1)	72.6 (45.1)	72.6 (45.1)	72.6 (45.1)
R1	5.12	8.0 (5.0)	9.5 (5.9)	9.5 (5.9)	9.5 (5.9)
R2	3.46	11.9 (7.4)	14.2 (8.8)	14.2 (8.8)	14.2 (8.8)



## DRIVE AXLE

Full floating axle shafts, Hitachi Model 2354 differential and single reduction planetary at each wheel. Balanced life gear design maximizes gear life.

Optional Active Traction Control (ATC) available.

Ratios	Standard	Optional
Differential	3.73:1	3.15:1
Planetary	5.80:1	5.80:1
Total Reduction	21.63:1	18.27:1
<b>Maximum Speeds</b>		
with 24.00R35(**)E4 Tires	61.3 km/h 38.1(mph)	72.6 km/h 45.1(mph)



## TIRES

<b>Standard – Front and Rear</b>	<b>Rim Width</b>
24.00R35(**)E4 Radial	432 mm (17 in)
Optional tires, brands and treads available.	

Certain job conditions may require higher TKPH(TMPH) 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 lighting and accessories system. 75-ampere alternator with integral transistorized voltage regulator. Two 900-ampere, cold cranking, 12-volt, maintenance-free, heavy-duty batteries connected in series.

Standard CONTRONIC II monitoring and central warning system with built-in diagnostics. Standard Liquid Crystal Display.



## BODY CAPACITY

Struck (SAE)	m <sup>3</sup> (yd <sup>3</sup> )
Heap 3:1	27.5 (36)
Heap 2:1 (SAE)	35.3 (46)
	39.0 (51)

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



## WEIGHTS

	kg	(lb)
Chassis with Hoist	32 080	(70 725)
Body	10 746	(23 690)
Net Machine Weight	42 826	(94 415)

Maximum GMW with Std. Tires	108 409	(239 000)
[24.00R35(**)E4]		
Including Options, 50% Fuel, Operator & Payload Not to Exceed.		

Weights given are for standard options, standard body and tires. Net machine weight changes will directly effect the payload. Material density will determine body volume figures.

Payload with Standard Equipment	65.6 tonnes (72.3 tons)
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**Note:** Nominal Payload on front cover shows 90% of Payload with Standard Equipment.

Weight Distribution	FRONT	REAR
Empty	49%	51%
Loaded	32%	68%

<b>Major Options</b>		
Approximate change in Net Machine Weight:	kg	(lb)
Body Liners - complete - 400 BHN Steel	2 767	(6 100)
Body Liners - Floors & Corners - 400 BHN Steel	1 769	(3 900)



## STEERING SYSTEM

Closed-center, full-time hydrostatic power steering system using two double-acting cylinders, pressure limit w/unload piston pump and brake actuation/steering system reservoir. An accumulator provides supplementary steering in accordance with SAE J1511/ISO 5010. Tilt/telescopic steering wheel with 35° of tilt and 57.15 mm (2.25") telescopic travel is standard.

Steering Angle	39°
Turning Diameter (SAE)	19.28 m (63'3")
Steering Pump Output	
(@ 2100 min <sup>-1</sup> (rpm))	95.7 L/min (25.3 gpm)
System Pressure	18 961 kPa (2 750 psi)



## HYDRAULIC SYSTEM

Two (2) Hitachi two-stage cylinders, double-acting in second stage, internal cushion (extend and retract), inverted and outboard mounted. Separate Hoist/Brake Cooling reservoir and independent tandem gear pump. Electronic control valve mounted on reservoir. Hoist lever mounted on left of seat. Equipped with body up speed restriction and reverse inhibit while hoisting.

Body Raise Time	11.1 s
Body Float Down Time	14.0 s
Body Power Down Time	11.0 s
Brake Cooling Pump Output	176 L/min (47 gpm)
Hoist Pump Output	468 L/min (123 gpm)
System Relief Pressure	17 237 kPa (2 500 psi)



## BRAKE SYSTEM

Brake system complies with SAE J1473/ISO 3450.

All-hydraulic actuated braking system providing precise braking control and quick system response. The Hitachi brake controller has a unique variable front to rear brake proportioning that maximizes the stopping performance under all road conditions.

**Service**  
All-hydraulic actuated front disc brakes and rear oil-cooled wet disc.

<b>Front Axle - Dry Disc</b>		
Disc Diameter Each (2 discs/axle)	68.6 cm	(27 in)
Brake Surface Area Per Axle	4 129 cm <sup>2</sup>	(640 in <sup>2</sup> )
Lining Area Per Axle	2 787 cm <sup>2</sup>	(432 in <sup>2</sup> )
Brake Pressure (Max.)	15 859 kPa	(2 300 psi)

<b>Rear Axle - Oil-Cooled Wet Disc</b>		
Brake Surface Area Per Axle	59 616 cm <sup>2</sup>	(9 240 in <sup>2</sup> )
Brake Pressure (Max.)	4 826 kPa	(700 psi)

**Secondary**  
Two independent circuits within the service brake system provide back-up stopping capability. System is manually or automatically applied to stop machine within prescribed braking distance.

**Parking**  
Dry disc mounted on differential input shaft. Controlled by a toggle switch on the dash. Automatically applied if brake hydraulic pressure is lost.

Size (Diameter)	558 mm	(22 in)
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**Retarder**  
Foot-operated valve controls all-hydraulic actuation of oil-cooled wet disc brakes on rear axle. System provides modulated pressure to rear brakes for constant speed control.

Continuous	656 kW	(880 HP)
Intermittent	1 268 kW	(1 700 HP)

**Load/Dump Brake Apply**  
Through activation of a switch by the operator, a solenoid is energized, sending full brake pressure to apply the rear Wet Disc brakes. For use during the load and dump cycles.



## WET DISC BRAKE

The Hitachi wet disc brake is engineered for long service life even in the most extreme environments. The wet disc brakes are located on the rear axle and provide service braking, secondary braking, and retarding. The brakes are a multi-plate design, and continuously oil-cooled. The sealed design protects against environmental contamination for prolonged service life. The wet disc brake is designed with automatic retraction to prevent drag. Separate pedals activate the service braking and retarding functions.



## COMMAND CAB III

**COMMAND CAB III**  
Integral ROPS/FOPS (Rollover Protection Structure) is standard in accordance with SAE J1040/ISO 3471. Double wall construction of 11 gauge inner and outer steel panels, lends itself to a more structurally sound cab. Foam rubber lining material along with foam rubber-backed carpeting and multiple layered floor mat act to absorb sound and control interior temperature. A properly maintained cab from Hitachi, tested with doors and windows closed per work cycle procedures in SAE J1166, results in an operator sound exposure Leq (Equivalent Sound Level) of 79 dB(A). A three-point rubber iso-mount arrangement to the deck surface minimizes vibration to the operator compartment.



**Excellent Serviceability**  
A removable front panel allows easy access to service brake valves, retarder valve and heater assembly. The upper dash utilizes four (4) removable panels that house gauges and customer options, each individually accessible. A removable panel located behind the seat provides easy access to the shifting control, CONTRONIC II, and all electrical junction points.

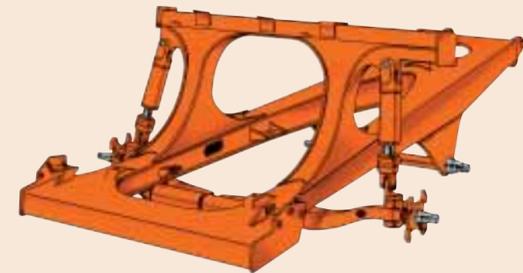
**Comfort and Ease of Operation**  
A wrap-around style dashboard positions controls within easy reach and visual contact. A full complement of easy-to-read gauges, CONTRONIC II monitoring and warning system with Liquid Crystal Display (LCD), a spacious environment, six-way adjustable mechanical seat, tilt/ telescopic steering wheel, filtered ventilation, door locks, and a padded trainer seat, all contribute to operator convenience and comfort.



## SUSPENSION

**Front and Rear Suspension**  
For years, Hitachi haulers have enjoyed an industry-wide reputation for superior suspension systems. That experience and knowledge has now been pushed to the next level, to develop the truly advanced ACCU-TRAC suspension for the EH1100. To make sure it was fine tuned to the limit, Lotus Engineering, a world leader in suspension design, was contracted to review the entire system to assure optimized ride and handling performance.

The new ACCU-TRAC suspension system features independent trailing arms for each front wheel with NEOCON struts, containing energy absorbing gas and compressible NEOCON-E™ fluid, mounted between the king pins and the frame. This arrangement allows a wider front track that provides a better ride, improved stability and a reduced turning circle. The rear axle housing has an A-frame mounting. The rear NEOCON struts are mounted in a more vertical position which allows a more pure axial loading and reduces the tractive and braking forces transmitted to the nose cone.



NEOCON struts outperform competitive strut designs by improving isolation, stability, and control. Improved isolation means reduced impact loading on the structural members of the machine and greater operator comfort, resulting in longer equipment life and increased productivity. Improved stability means more consistent dynamic response of the machine to fluctuating load energy, resulting in predictable machine performance. And improved control means better machine maneuverability.

The Hitachi frame and ACCU-TRAC suspension system are designed to work in unison to provide maximum structural integrity and operator comfort. The fabricated rectangular frame rail construction provides superior resistance to bending and torsional loads while eliminating unnecessary weight. The unique ACCU-TRAC independent trailing arm suspension absorbs haul road input, minimizing suspension-induced frame twisting while providing independent tire action. NEOCON ride struts are mounted with spherical bushings, eliminating extreme sidewall forces by ensuring a purely axial input to the ride strut. The wide track stance of the ACCU-TRAC suspension system and the long wheel base assure a more stable, comfortable ride.



## FRAME

Full fabricated box section main rails with section height tapered from rear to front. Wider at the rear to support the loads and narrower at the front to allow for engine accessibility. One piece top and bottom flanges that eliminate cross member tie in joints and provide a large exposed center area for access to major components. Large radii at frame junctions are blended and ground to minimize stress concentrations. Weld joints are oriented longitudinally to the principal flow of stress for greater durability and more strength. Frame utilizes 345 MPa (50,000 psi) yield high strength low alloy steel that is robotically welded to ensure consistently high quality welds.



## BODY

Flat chute type, sloped floor, continuously exhaust heated. High tensile strength 400 BHN abrasion-resistant alloy steel is used in thickness of:

	mm	(in)
Floor	18	(0.71)
Front	10	(0.39)
Sides	8	(0.31)
Canopy	6	(0.24)
<b>Optional Body Liners (Light Duty)</b>		
Floor & Top Rails	10	(0.39)
Sides & Front	6	(0.24)
<b>Optional Body Liners (Heavy Duty)</b>		
Floor	13	(0.51)
Sides & Front	8	(0.31)
Sides & Front	10	(0.39)

The horizontal stiffener design of the Hitachi body minimizes stress concentrations in any one area. Load shocks are dissipated over the entire body length. The closely spaced floor stiffeners provide additional protection by minimizing distance between unsupported areas.



## SERVICE CAPACITIES

	L	(US gal)
Crankcase (incl. filters)	71.9	(19.0)
Transmission (incl. filters)	87.1	(23.0)
Cooling System	234.7	(62.0)
Fuel Tank	700.2	(185.0)
<b>Hydraulic</b>		
Hoist System	174.1	(46.0)
Steering System	98.4	(26.0)
Drive Axle	118.8	(31.4)
Windshield Washer	5.7	(1.5)