EH series

HITACHI

EH750

Dump Truck

- **Model Code :** EH750-3
- **Nominal Payload with Standard Equipment :** 38.1 tonnes (42.0 tons)
- **Target Gross Machine Operating Weight :** 71 598 kg
- **Engine :** MTU Detroit Diesel Series 60
  Rated Power 391 kW (525 HP)

Hitachi Cutting Edge Technology Brings Best Performance and Comfort.

Hitachi Technologies

Hitachi Trucks, like Hitachi Excavators are designed and manufactured using cutting edge technology. Trucks designed by Hitachi using Hitachi Electronic devices result in great electrical system reliability, efficiency and control.

High-Powered Engine

Strong, reliable power is provided by the Detroit Diesel Series 60 diesel engine. This engine features the latest in diesel engine development providing low fuel consumption while meeting the emission regulations of U.S. EPA Tier 3 and EU Stage III.

Long Frame Life

Frame rails are tapered from front to rear to distribute the load evenly over the entire length of the chassis. In place of castings, cold rolled steel is used as it is known to be more homogeneous and easier to repair. Weld joints are oriented longitudinally to the principal flow of stress for strength and long life. Proven design and manufacturing methods with state-of-the-art ultrasonic testing ensure a quality product.

Unique Body Design

The single sloped floor evenly distributes material shedding during dumping. A continuously exhaust-heated body reduces carry-back of material, and muffles exhaust. Horizontal floor and side rail stiffeners distribute load shocks evenly over the entire body length, minimizing stress concentrations in any one area. Closely spaced floor stiffeners reduce wear due to impact loading.

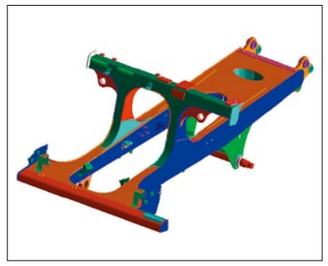
Well Matched: EH750-3 & Excavators

Excavator	ZX670LCH-3		ZX850-3	ZX870LCH-3	
Boom	6.8 m - BE Boom	7.8 m - H Boom	8.4 m - Boom	7.1 m - BE Boom	8.4 m - H Boom
Arm	2.9 m - BE Arm	3.6 m - H Arm	3.7 m - Arm	2.95 m - BE Arm	3.7 m - H Arm
Bucket Capacity (SAE, PCSA heaped)	3.3 m^3	2.9 m^3	3.5 m^3	4.3 m^3	3.5 m^3
Passes	8	9	7	6	7

Rugged Construction

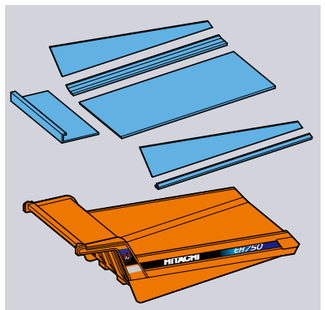
Technologically Advanced

The EH750-3 is designed to develop low cycle times and extra efficiency in the heavy duty applications of quarrying and construction. This truck provides low operating costs, unparalleled productivity and overall quality through its superior structure and systems design.



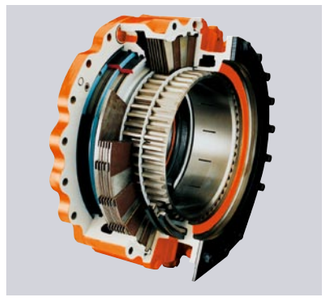
Robust Frame

Full fabricated box section main rails with section height tapered from rear to front. Narrow at the rear to support the load and wider at the front allowing truck stability and excellent engine access for servicing. 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 yield high strength low alloy steel that is robotically welded to ensure consistently high quality welds.



Reinforced Body

Built for quarry and construction applications, the EH750-3 body uses a 16 mm floor plate and 8 mm side plates made of 400 BHN high-tensile steel. This provides high resistance to wear and impact. A low loading height and large target area allow easy, quick loading by a variety of loading tools.



Fully Hydraulic Brake

The fully hydraulic brakes feature high reliability, durability and serviceability. Optimum brake force yields maximum available braking under tough ground conditions for best control. Unique variable front to rear brake proportioning maximizes stopping performance under slippery road conditions.

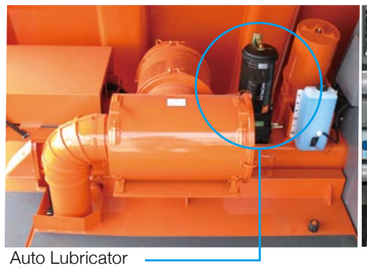
Ease of Operation

HI-TECH ROPS / FOPS Cab

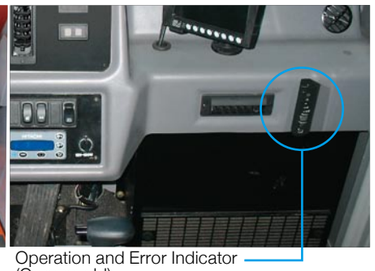
The new HI-TECH (Hitachi Technology) ROPS/FOPS Cab features a center integrated, “automotive” style dashboard that positions the display and controls within close view of the road ahead. The cab uses double-wall construction and a 3-point rubber iso-mount to absorb shocks and noise. The new high powered heater provides ample BTU's for all enviroments and working conditions. The new Hitachi controller, built by Hitachi and also used in excavators, will perform its function of processing input and output information with reliability during the most rigorous haul cycle.

Auto-Lubrication System (Optional)

A pump fed system automatically applies grease to lube points via plumbing. The lubricant is automatically delivered in time controlled and metered quantities to all connected lube points in the system.
A choice between the Groeneveld or the Lincoln lubrication system is available.



Auto Lubricator
(Groeneveld)



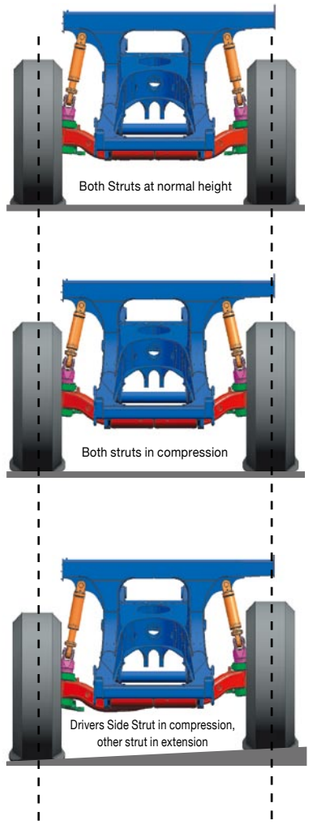
Operation and Error Indicator
(Groeneveld)

Superior Suspension

The Hitachi ACCU-TRAC suspension system delivers excellent maneuverability, even at higher speeds. The trailing arm layout offers greater ease of servicing while improving truck performance compared to suspended king-pin designs. The pivot mounting of the trailing arm design allows only axial input to the strut and allows wheel movement in the vertical plane only.

Features:

- Lateral forces that act on the front wheels are minimized, resulting in reduced tire scuffing.
- Dynamic friction (side-wall force) within the strut is low due to the features of the ACCU-TRAC design, allowing the use of a lighter strut engineered to a smaller diameter and longer stroke.
- The necessary frame bulk (horse-collar structure) needed to mount a suspended king-pin is non-existent.
- The elimination of the “horse-collar” member provides greater engine access.
- The NEOCON strut used with the ACCU-TRAC suspension, improves operator and component isolation, provides better hauler stability and predictable operational control.
- Locating the king-pin close to the wheel assembly and at a slight angle results in low “Dry Park Steering” effort.
- Development of the compressible media, NEOCON-E™ fluid (proprietary, silicone based, environmentally friendly) for use in the suspension strut with Helium gas, results in an improved energy absorption (isolation) system and an improved energy release (stability) system that responds favorably whether traveling empty or with payload in a wide range of ambient temperatures.



With no horizontal deflection

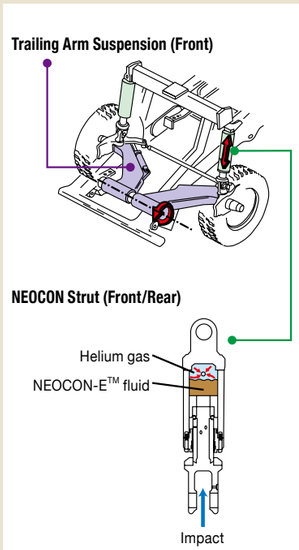
Spindle
Each spindle is controlled by a hydraulic steering cylinder, rotates around the king-pin and the outer end of the trailing arm to position the wheels for steering. The spindles are attached by one tie-rod.

King-Pin
Retains the spindle to the trailing arm. Spindle rotates around the king-pin, which is locked in position. The Neocon-E strut attaches to the top.

Trailing Arm
Main suspension member to which other suspension components are attached. The trailing arms hinge on a torque tube that is clamped to the front of the frame.

Neocon Strut
The energy absorption and release component of the ACCU-TRAC suspension system. Pinned to ball bushings at the frame and at the top of the king-pin to prevent bending movements from transferring to the strut. Receives only axial input.

The ACCU-TRAC suspension design allows the front struts to be removed and installed without removing the trailing arms, brakes or tires. This relates to fewer tools and less labour required to perform the repair, which aims to reduce the amount of hauler downtime, increasing productivity.



SPECIFICATIONS

ENGINE

Model	MTU Detroit Diesel Series 60
Configuration	4 Cycle, inline, 6 cylinder diesel
Emission Certification	U.S. EPA Tier 3, E.U. Stage IIIA
Aspiration	Turbocharged/Aftercooled
Rated Power	
SAE J1995, gross	391 kW (525 HP) at 2 100 min^{-1}(rpm)
SAE J1349, net	362 kW (486 HP) at 2 100 min^{-1}(rpm)
ISO 9249, net	362 kW (486 HP) at 2 100 min^{-1}(rpm)
EEC 80/1269, net	362 kW (486 HP) at 2 100 min^{-1}(rpm)
Maximum Torque	2 373 N·m (242 kgf·m) at 1 350 min^{-1}(rpm)
Piston Displacement	14 L
Bore and Stroke	133 x168 mm
Torque Rise	33 %
Starting	Electric

TRANSMISSION

Model	Allison H5610A
Design	Fully automatic, planetary type with integral lock-up converter
Mounting/Position	Remote from engine and rear axle for serviceability
Ranges	6 forward, 2 reverse
Control	Allison CEC2 electronics shift system with SEM (Shift Energy Management)

Maximum Speeds @Rated Engine Speed

		Final Drive
Differential		**3.13 : 1**
Planetary		**5.25 : 1**
Gear	**Ratio**	**km/h**
1	4.00	9.5
2	2.68	16.9
3	2.01	22.5
4	1.35	33.5
5	1.00	45.2
6	0.67	68.2
R1	5.12	6.8
R2	3.46	13.2

DRIVE AXLE

Model Differential	2052
Axle Design	Full floating axle shafts using a model 2052 differential and single reduction planetaries at each wheel
Traction Control	An optional electronic feature that includes the Electronic Downhill Speed Control feature

Differential and Final Drive Ratios

Ratios	
Differential	3.13 : 1
Planetary	5.25 : 1
Total Reduction	16.43 : 1
Maximum Speeds	
with 18.00 R33 tires	68.2 km/h

TIRES

Front	18.00 R33(**)E4 (Radial) [Standard]
Rear	18.00 R33(**)E4 (Radial) [Standard]
Rim Width	330 mm (13 in)

Optional tires and tread patterns may be available.

Note:
Certain job conditions may require higher rated TKPH (TMPH) tires 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 starting, lighting and accessories system.
Seventy ampere alternator with integral transistorized voltage regulator.
Two 12 V heavy duty batteries capable of 1300 cold cranking amps, each, at -17.8 degree C (0 degree F). A Hitachi solid state reprogrammable controller controls and monitors hauler systems, provides output information to control gauges and lights and incorporates connections for diagnostic tools.

BODY CAPACITY

	m^3
Struck (SAE)	20.8
Heap 3 : 1	25.4
Heap 2 : 1 (SAE)	27.7

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.

Chassis with Hoist	25 723 kg
Body	7 800 kg
Net Machine Weight	33 523 kg

The Net Machine Weight specification includes operator and 100 % fuel.

Nominal Payload	38.1 tonnes
Target GMOW	71 598 kg

The Nominal Payload specification is calculated using the Hitachi Loading Policy. Specific job site requirements may result in an adjustment to the Nominal Payload weight.
Consult your Hitachi dealer for a truck configuration which will match your haulage application.

Major Options
The following list of options are examples which will change the Nominal Payload.
- Automatic Fire Suppression System
- Body Liners, partial and heavy duty
- Deck Mounted Mufflers

Weight Distribution	**Front**	**Rear**
Empty	50 %	50 %
Loaded	34 %	66 %

STEERING SYSTEM

Closed-center, full-time hydrostatic steering system using two double-acting cylinders, pressure limit with unload piston pump and brake actuation/steering system reservoir. An accumulator provides supplementary steering in accordance with ISO 5010 (SAE J1511). The Operators steering wheel offers 35 degrees of tilt and 47.7 mm of telescopic travel.

Steering Angle	42 degrees
Turning Diameter: (SAE)	16.15 m
Steering Pump Output	95.71 L/min
System Pressure	18.9 MPa

HYDRAULIC SYSTEM

Two 2-stage, double-acting cylinders, with cushioning in retraction, inverted and outboard mounted. Separate Hoist/Brake Cooling reservoir and independent tandem gear pump. Control valve mounted on reservoir.

Body Raise Travel	60 degrees
Body Raise Time (at 2 100 min^{-1}(rpm))	11.5 seconds
Body Down Time (at idle)	15.5 seconds
Brake Cooling Pump Output (at 2100 min^{-1}(rpm))	200 L/min
Hoist Pump Output (at 2100 min^{-1}(rpm))	301 L/min
System Relief Pressure	17.2 MPa

BRAKE SYSTEM

Brake system complies with ISO 3450 (SAE J1473).

All-hydraulic actuated braking system provides precise braking control and quick system response. The 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 dry disc brakes, and rear wet disc brakes.

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.

Front Axle - Dry Disc

Disc Diameter Each (2 discs/axle)	673 mm
Brake Surface Area Per Axle	4 130 cm^2
Lining Area Per Axle	1 390 cm^2
Brake Pressure (Max.)	15.9 MPa

Rear Axle - Oil-Cooled Wet Disc

Brake Surface Area Per Axle	37 200 cm^2
Brake Pressure (Max.)	8.3 MPa

Secondary
Two independent circuits within the service brake system provide fully modulated reserve braking capability. System also incorporates automatic application when loss of pressure is detected.

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

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	484 kW	(649 HP)
Intermittent	969 kW	(1 300 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.

HI-TECH ROPS / FOPS CAB

Hi-Tech ROPS / FOPS Cab
ROPS complies with ISO 3471 and SAE J1040-May 94. FOPS complies with ISO 3449. Double wall construction of 11 gauge inner and outer steel panels, lends itself to a more structurally sound cab. Multiple layered floor mats 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 ISO 6394: 1998 (dBA), results in an operator sound exposure Leq (Equivalent Sound Level) of 81 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. A removable cover located behind the operators' seat provides easy access to the Transmission Contoller (TCU), Central Controller (CCU) and all electrical junction points.

Comfort and Ease of Operation
A flat panel style dashboard positions controls within easy reach and visual contact. A full complement of easy-to-read gauges, automobile type monitor with warning system, a spacious environment, multiple position adjustable seat, tilt/telescopic steering wheel, filtered cab ventilation and door locks all contribute to operator convenience, control and comfort.

SUSPENSION

Front and Rear Suspension
The 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. Improved control means better machine maneuverability.

The 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.

SPECIFICATIONS & EQUIPMENT

BODY

The body has been made to the flat floor, flat tail chute design.
The rear hinge has been designed to allow the hinge pin to float when the body is in the fully lowered position.
The weight of the body and payload is distributed across rubber body pads that are evenly spread across the length of the body rail-box that rests on the truck frame.
Thickness:

	mm	(in)
Floor	16	(0.63)
Front	8	(0.31)
Sides	8	(0.31)
Canopy	5	(0.20)
Optional Body Liners (Medium Duty)		
Floor & Corners	10	(0.38)
Sides & Front	6	(0.25)
End Protection	8	(0.31)
Optional Body Liners (Heavy Duty)		
Floor & Corners	13	(0.50)
Sides & Front	8	(0.31)
End Protection	8	(0.31)
Optional Partial Liner (Heavy Duty)		
Floor & Corners	13	(0.50)
End Protection	8	(0.31)
Optional Rock Cap		
Top of the Body Side Plate	10	(0.38)

High yield strength alloy steel is also used for canopy side members and floor stiffeners. The Hitachi horizontal stiffener design minimizes stress concentrations.
Load shocks are dissipated over the entire body length. Closely spaced stiffeners provide additional protection by minimizing distances between unsupported areas.

SERVICE CAPACITIES

	L
Crankcase (includes filters)	30.3
Transmission, Cooler and Lines	83.8
Cooling System	211.1
Fuel Tank	454
Hydraulics	
Hoist System	265
Steering System	112
Drive Axle	
Differential	55
Planetary Hub	24
Windshield Washers	5.7

STANDARD EQUIPMENT

GENERAL

- ACCU-TRAC suspension system
- All-hydraulic braking
- Allison H5610A automatic transmission
- Arm guard, body (left side only)
- Battery disconnect switch
- Body down cushioning
- Body down indicator
- Body up speed restriction
- Canopy spill guard
- Continuous body heating
- Cooling system sight gauge
- Cooling system surge tank
- DC - DC convertor
- Driveline guard, front
- Electric horns
- Electric start
- Electronic hoist
- Engine belt protection
- Fan guard
- Fenders
- 5 piece rims
- Fixed steering stops
- Front brake cut-off switch
- Front view mirror
- Fuel tank sight gauge
- Ground level auxiliary start (boost) receptacle
- Guard rails
- Hoist interlock
- Hoist tank sight gauge
- ISO decals
- Load/dump brake
- Mirrors, left and right, hand adjustable
- Mud flaps
- NEOCON-E suspension struts
- Park brake - dry disc
- Park brake interlock
- Radiator grille guard
- Rear view camera system
- Reverse alarm and light
- Rock ejector bars
- Steering accumulator
- Steering tank sight gauge
- Tires 18.00 R33
- Tow points, front
- Transmission guard
- Transmission sight gauge
- 24 volt to 12 volt converter
- Two speed reverse
- Water separator, included in fuel filter

CAB

- Air Conditioning
- Air filtration/replaceable element
- Ashtray
- Cab interior light
- Camera monitor
- Cigar lighter, 24 volt
- Door locks
- Drivers door window activation mechanical, trainers window fixed
- Foot rest, left
- Fuses
- Heater and defroster
- Integral ROPS/FOPS cab
- Integrated engine diagnostics connector
- Integrated transmission diagnostics connector
- ISO driver envelope
- Instrumentation cluster, electronic
- Quick connect hydraulic test ports
- Rubber floor mat
- Safety glass
- Seat belts, retractable (operator and trainer)
- Seat, mechanical, 3" lap belt
- Sunvisor
- Tilt/telescoping steering wheel
- Tinted glass, all windows
- Trainers seat
- 12 volt accessory connection
- Windshield washer
- Windshield wiper, intermittent

EQUIPMENT & DIMENSIONS

ELECTRONIC DISPLAY (Hitachi Monitoring Information)

Lights with ISO symbols

- Active Traction Control (optional)
- Battery charge
- Body up
- Brake system oil pressure
- Central warning (stop)
- Central warning (yellow caution)
- Electronic downhill speed control (optional)
- Engine coolant level
- Engine oil pressure
- Filter restrictions
- High beam
- Parking brake
- Payload red (optional)
- Payload yellow (optional)
- Retarder temperature
- Seat belt disconnected
- Steering oil pressure
- Transmission oil pressure
- Transmission oil temperature
- Turn signal/ hazard

LCD (Liquid Crystal Display)

- Adjustable units of measure
- Brake oil pressure
- Brake oil temperature
- Cumulative payload weight
- Date and time
- Engine coolant temperature
- Engine oil pressure
- Filter restrictions
- Hourmeter
- Load Count
- Odometer
- Park brake applied
- Speedometer
- Steering oil pressure
- Steering oil temperature
- System diagnostics
- Tachometer
- Transmission oil pressure
- Transmission oil temperature
- Transmission range selection
- Trip Odometer
- Voltmeter

GAUGES

- Engine coolant temperature
- Fuel gauge
- Speedometer
- Tachometer

MACHINE LIGHTS

- Amber turn signals and four-way flashers
- Back-up light
- Clearance light - front (2)
- Clearance light - rear (2)
- Halogen head lights (4)
- Stop & tail (2)

OPTIONAL EQUIPMENT

CAB

- Active Traction Control (ATC) w/ Electronic Downhill Speed Control (EDSC)
- Air suspension seat
- Air suspension seat, semi-active, w/ heat, w/ lumbar, 3 point seat belts
- AM-FM radio w/ CD and MP3
- Circuit Breakers in place of fuses
- Driver and trainer window activation mechanical
- Electric RHS and LHS power windows
- HAULTRONICS III load monitoring system
- Hill hold brake
- Satellite radio
- Speakers, antenna and wiring only

CHASSIS

- Additional backup lights - halogen, mudguard mounted
- Additional backup lights - HID, mudguard mounted
- Ansul fire suppression, manually actuated
- Back-up proximity sensor
- Body liners (400BHN) plates, medium, heavy duty or partial
- Canopy spill guard extension
- Cold weather package
  - Mild cold weather package (0 deg C to -20 deg C) (32 deg F to -4 deg F)
  - Extreme cold weather package (-20 deg C to -35 deg C) (-4 deg F to -31 deg F)
- Deck mounted, muffler
- Electrically heated mirrors
- Engine access step
- Engine compartment lights
- Extra reverse light on light mount bracket
- Fan clutch
- Fire extinguisher, deck mounted
- Fluid drain kit - FEMCO
- Fluid sampling points
- Fog lights
- Ground level engine shutdown
- Hi-lite green paint
- Lube system, centralized
- Lube system, Groeneveld
- Lube system, Lincoln
- Premium light package (HID headlights, LED marker lights)
- Rear driveline guard
- Rock cap
- Service center
- Side extentions
- Side Mudguards, mounted to cab deck
- Side view camera (RHS)
- Spare rim
- Tires (type & rating)
- Transynd transmission fluid
- Unit sound suppression, including fan clutch

MISCELLANEOUS

- Extra operators manual
- Extra parts manual - CD
- Extra parts manual - hardcopy
- Service Manual - CD
- Service Manual - hardcopy

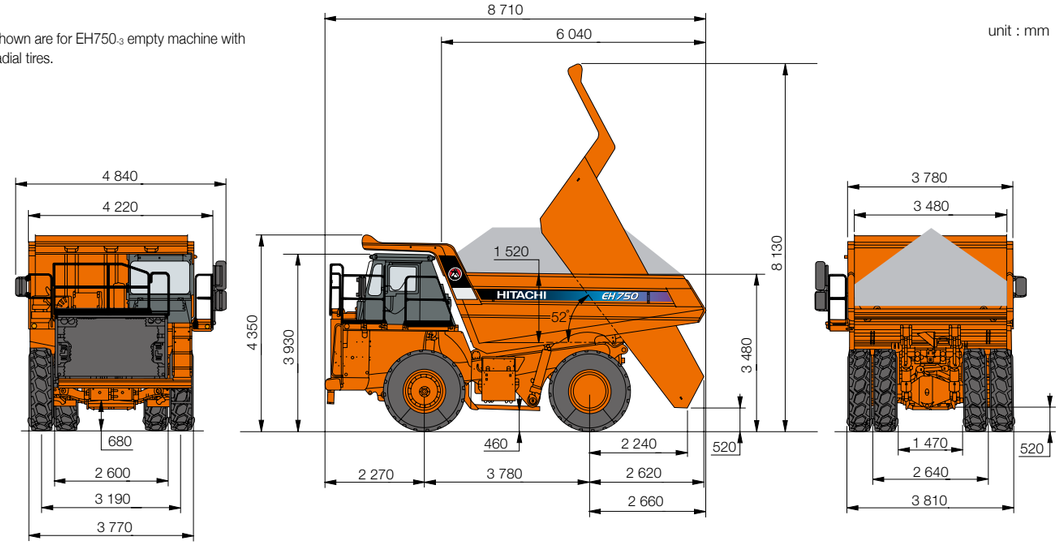
OPTIONAL EQUIPMENT WEIGHT

	kg
Body liners (400BHN) plates, medium	2 054
Body liners (400BHN) plates, heavy duty	2 657
Body liners (400BHN) plates, partial	1 966
Lube system, Groeneveld	120
Lube system, Lincoln	120
Rock Cap	229
Canopy spill guard extension	82

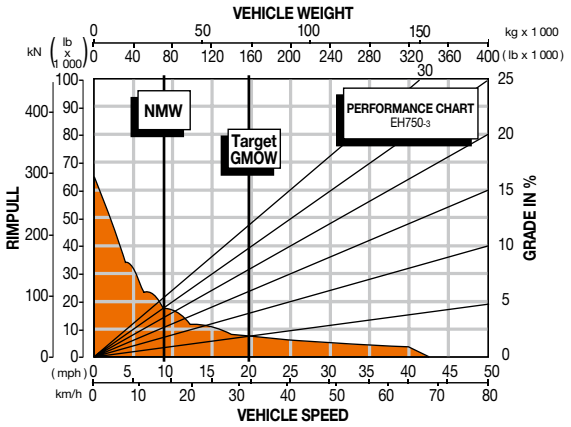
Standard and optional equipment may vary from country to country.
Special options provided on request. All specifications are subject to change without notice.

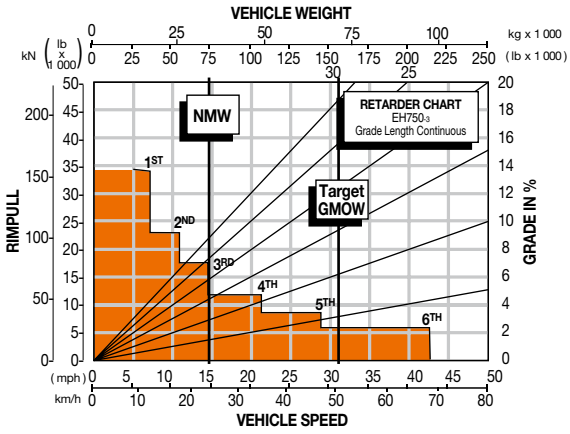
Note: Dimensions shown are for EH750-3 empty machine with 18.00 R 33(**)E4 Radial tires.

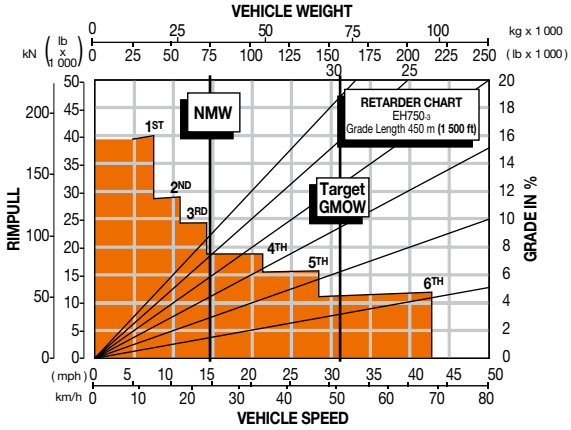
unit : mm

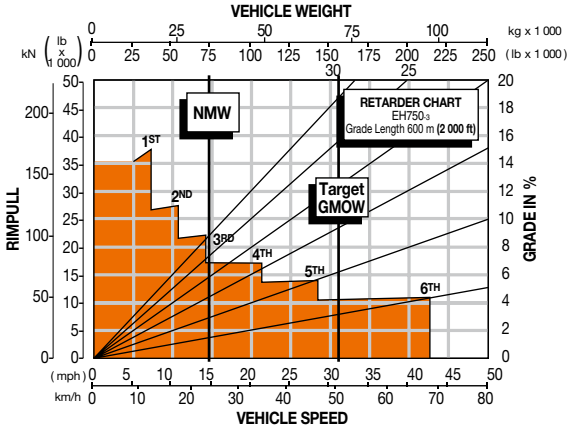


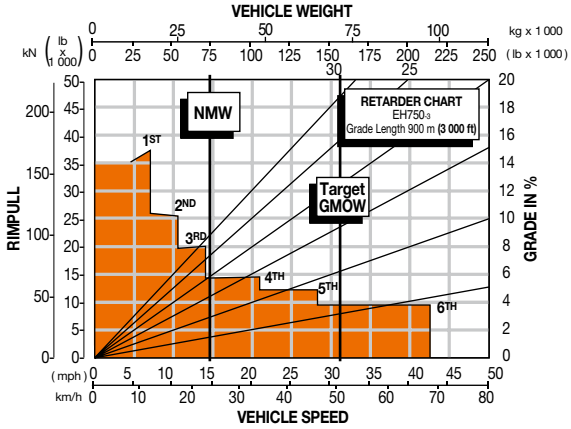
PERFORMANCE DATA

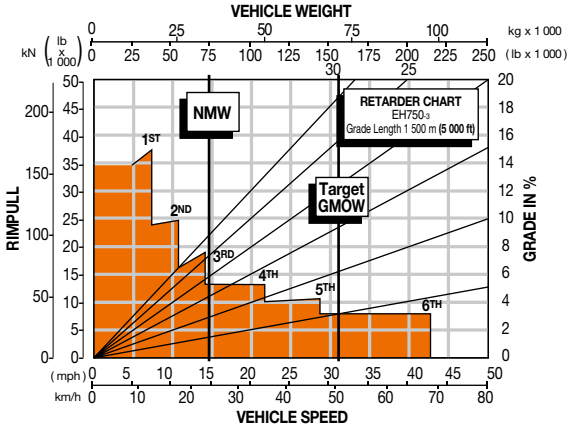












NOTES:

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.

1. Find the total resistance on diagonal lines on right-hand border of rimpull or retarder chart.
2. Follow the diagonal line downward and intersect the NMW or GMOW weight line.
3. From intersection, read horizontally right or left to intersect the rimpull or retarder curve.
4. 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 with some differences in color and features.
Before use, read and understand the Operator's Manual for proper operation.

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