DUMP TRUCK

- Model Code: EH3500ACII
- Nominal Payload with Standard Equipment: 168 tonnes (185 tons)
- Maximum GMW with Standard Tires: 325 000 kg
- Engine: Cummins QSK50
  Rated Power: 1 491 kW (2 000 HP)
Refined engineering and advanced Hitachi AC Drive system technology has created hauling capability well recognized in the surface mining industry.

The EH3500ACII continues to prove itself as an exceedingly capable and reliable solution to mine applications worldwide.

**AC Drive Proven Performance & Economic Advantages**

The Hitachi engineered AC drives make your hauler a more valuable asset in your mining operation. Better performance, higher availability, and significant reductions in maintenance and operating costs - result in a lower cost per tonne and a higher return on your investment.

**High-Powered Engine**

The Cummins QSK50 engine with 1,491 kW provides excellent reliability and low fuel consumption while meeting the emission regulation of U.S. EPA Tier 2.

**Long Frame Life**

A fabricated box section and rectangular frame rail construction provides superior resistance to bending and torsional loads. One-piece top and bottom flanges eliminate cross member tie-in joints and provide a larger exposed center area for access to major components.

**Tough Body**

The Hitachi horizontal stiffener design minimizes stress concentrations by dissipating load shocks over the entire body length. Closely spaced stiffeners provide additional protection by minimizing distances between unsupported areas.

<table>
<thead>
<tr>
<th>Well Matched: EH3500ACII &amp; Excavators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator</td>
</tr>
<tr>
<td>Front</td>
</tr>
<tr>
<td>Bucket</td>
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<tr>
<td>Passes</td>
</tr>
</tbody>
</table>

BH: Backhoe  LD: Loading shovel
Hitachi AC drive technology, provides superior performance with higher top speeds, better gradeability and stronger retardation. These features increase productivity and availability, and reduce operating and maintenance cost. Lower maintenance costs are achieved with use of brushless motors and elimination of contactors. The Hitachi AC motors do not have commutators, reducing costs and allowing the truck to achieve higher speeds. Less downtime and higher speeds result in more production and lower cost per tonne. Hitachi AC drive systems power not only rigid haul trucks, but also electric train locomotives worldwide.

Full retarding capability

Hitachi AC drive systems provide more rim pull than a comparable DC system. Full retarding capability means the truck can be almost fully stopped without applying the service brakes.

The AC drive traction motors

Hitachi’s Double Path Tandem Planetary Design provides high efficiency. The 1st stationary planetary carrier and new lubricant cooling filtration system provide lower operating temperatures - longer lubricant life, better component life.

AC DRIVE CONTROL

Brake Blending, which combines service brakes with electric retarders, is applied automatically through the AC drive system to stop the hauler. Brake blending also allows the driver to stop the hauler with the retarder pedal only, and acts as a hill-hold brake for sure hill-climbing.

Auto Cruise Control keeps vehicle speed constant within the set range by limiting the minimum vehicle speed.

Auto Retarding Control keeps vehicle downhill speed constant within the set range by limiting the maximum vehicle speed.

Slip-Slide Control (Optional) reduces slipping and sliding by regulating the traction motor torque for stable travel.
Ease of Operation

Superior Suspension
The Hitachi trailing arm 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 to 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 trailing arm suspension 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 trailing arm suspension design allows the front struts to be removed and installed without removing the front brakes or tires. This means fewer tools and less labor time are required, resulting in less downtime and higher productivity.

The new HI-TECH ROPS/FOPS cab has been newly equipped with a Hitachi controller and a large centrally mounted, color Liquid Crystal Display (LCD) as used in Hitachi large sized excavators. Double wall construction of 11 gauge inner and outer steel panels produces a more structurally sound cab. A three-point rubber ISO-mount arrangement minimizes vibration to the operator compartment.

HI-TECH ROPS/FOPS CAB

THE FAST FILLING SYSTEM

The fast filling system, provided standard on the left side of the radiator, allows direct access at ground level for fast feeding of lubricants, grease, hydraulic oil and engine oil. (Couplers are optional.)

Note: Shown is the machine with the door open.
**SPECIFICATIONS**

**ENGINE**
- Model: Cummins QSK50
- Type: 4-Cycle
- Aspiration: Turbocharged & low temperature aftercooled
- Emission Certification: U.S. EPA Tier 2
- Gross Power: 1 491 kW (2 000 HP)
- Net Power: 1 398 kW (1 874 HP)
- Nm: 37 00R57 (E4) Neutral
diameter: 686 mm (27 in)
- Bore & Stroke: 159 x 159 mm
- Displacement: 993 L
- Starting: 24 Volt Electric

**ELECTRICAL DRIVE**
- HITACHI AC-Drive System
  - Planetary Ratio: 35.2
  - Maximum Speed: 56 km/h

**ELECTRICAL SYSTEM**
- Standard - Front and Rear: 157 remorse engine driven alternator.
- Optional - Front and Rear: 2 hitachi three-stage, double-acting cylinders with electronic control actuation (SAE J1995). Both dry and rear disc are automatically applied when loss of pressure is detected.

**TIRES**
- Standard - Front and Rear: 37 00R57 (E4) Radial
  - Optional - Front and Rear: 42/90R57 (E4) Radial
  - Certain job conditions may require higher TPIH/TIMH to maintain maximum production. Hitachi recommends evaluating the job conditions and consulting the tire manufacturer to make proper tire selection.

**WEIGHTS**
- With Standard 37 00R57 Tires
  - Chassis with Hoist: 113 250 kg
  - Body: 26 750 kg
  - Net Machine Weight: 140 000 kg
  - Net Axle Weights: 69 820 kg
  - Maximum GMW [37 00R57(E4)]: 325 000 kg
  - Including Options, 50% Fuel, Operator & Payload: 102 050 kg
  - Rear Axle (69 %): 222 850 kg
  - Application Payload Limit with Standard Equipment: 185 tonnes (204 tons)

**WEIGHTS**
- With Optional 42/90R57 Tires
  - Chassis with Hoist: 115 250 kg
  - Body: 26 750 kg
  - Net Machine Weight: 142 000 kg
  - Net Axle Weights: 67 880 kg
  - Rear Axle (52 %): 74 120 kg
  - Maximum GMW [42/90R57(E4)]: 327 000 kg
  - Including Options, 50% Fuel, Operator & Payload: 102 680 kg
  - Rear Axle (69 %): 224 320 kg

**HYDRAULIC SYSTEM**
- Two (2) Hitachi three-stage, double-acting cylinders, with electronic control actuation 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 hotel valve. The electrical controller is mounted to the operator’s seat.
  - Body Raise Time: 17.5 s
  - Body Down Time (Float): 13.0 s

**BRAKE SYSTEM**
- Brake systems meet or surpass SAE J3450.
- Service
  - All hydraulic actuated braking systems provide precise braking control and quick system response. The system is pressure proportioned, front to rear, for improved slippery road control.
  - Two spring on, hydraulic off armature disc brake heads provide effective parking. The braking system complies with J/ISO 3450.

**SUSPENSION**
- Front Suspension
  - Independent trailing arm for each front wheel. NECOON struts containing energy-absorbing gas and compressible NEOCON(TM) fluid are mounted between the trailing arms and frame. Variable damping and rebound features are included.
  - Rear Suspension
    - A “A” frame structure, integral with axle housing, links the drive axle to frame at a forward center point with a pin and spherical bushing. A track rod provides lateral stability between the frame and drive axle. Heavy-duty rear-mounted NECOON struts containing energy-absorbing gas and compressible NEOCON-E fluid suspend the drive axle from the frame. An integral rebound feature is included.
**FRAME**

Fully 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 improving truck stability and allowing 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 minimize stress concentrations. Welded joints are oriented longitudinally to the principal flow of stress for greater durability and more strength.

**BODY**

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

- Floor: 19 mm
- Front: 10 mm
- Sides: 10 mm
- Canopy: 6 mm
- Corners: 12 mm

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

**SERVICE CAPACITIES**

<table>
<thead>
<tr>
<th>Component</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Accumulator</td>
<td>70 L</td>
</tr>
<tr>
<td>Crankcase (includes Rotor)</td>
<td>200 L</td>
</tr>
<tr>
<td>Cooling System</td>
<td>531 L</td>
</tr>
<tr>
<td>Fuel Tank</td>
<td>2 950 L</td>
</tr>
<tr>
<td>Hydraulic System</td>
<td>789 L</td>
</tr>
<tr>
<td>Planetary Drives</td>
<td>176 L</td>
</tr>
<tr>
<td>Front Wheels</td>
<td>17 L</td>
</tr>
<tr>
<td>Windshield Washer</td>
<td>20 L</td>
</tr>
</tbody>
</table>

**STANDARD EQUIPMENT**

**GENERAL**
- Automatic lubrication System (Lincoln)
- Battery isolation switch
- Body prop pins
- Deck mounted muffler
- Diagonal front ladder
- Electric horn
- Engine access steps (6)
- Fast fluid filling system provision

**SERVICE CAPACITIES**

- Fast fuel filling system provision
- Ground level engine shutdown switch (4)
- Load weighing system
- Operator arm and grid box guards
- Rims for 37.00R57 tires and optional 42.90R57 tires
- Suction port shut off valve at hydraulic tank

**FRAME**

- Back-up light X 2
- Deck light X 2
- Engine compartment light X 2

**MACHINE LIGHTS**

- Halogen headlight X 8
- Back-up light X 2
- Halogen headlight X 1
- Rear axle compartment light X 1

**NOTES:** Dimensions shown are for an empty machine with 37.00R57 tires.
These specifications are subject to change without notice. Illustrations and photos show standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features. Before use, please read and understand the Operator’s Manual for proper operation.