

# EH ACII Series

■ EH3500ACII

■ EH4000ACII



# HITACHI

ALWAYS | PRODUCTIVE



# Built to last.

## Best in the field.

Hitachi ACII Series Trucks are built to match the rugged, long-lived durability of Hitachi mining shovels and backhoes. That means a 60- to 100,000-hour life with good maintenance. Period.

The truck frame is still the strongest in its class. The unique trailing-arm suspension pioneered by Euclid minimizes frame stress and fatigue while providing lower tire wear and better steering. Now, vertical integration of Hitachi engineering and parts has led to new designs and updates of previous features, for improved productivity and reliability.

The Hitachi-designed and -built AC-drive system utilizes the world-proven Insulated-Gate Bipolar Transistor (IGBT) drive technology. Hitachi is the only truck available with a drive system designed and built by the same company as the truck.









# Flexible support meets your needs.



## **Hitachi trucks are supported by a local dealer organization fully backed by Hitachi.**

The level of support depends on the specific needs of your operation. Of course, through the warranty period mechanics literally stand by to ensure each truck delivers full satisfaction. Beyond the warranty period your Hitachi dealer is ready to provide training, parts management, component rebuilds, and on-demand mechanic services. Your dealer can also supply the ongoing support of a full Maintenance and Repair Contract (MARC) at a competitive cost.

Hitachi also provides parts backup at strategic parts depots. Hitachi factory support managers are assigned to specific mines and provide oversight to help ensure performance regardless of the level of support chosen by the mine. Hitachi's Global e-Service (GeS) allows access to vital machine health and operating information via the GeS website through a daily satellite download of truck information. The monitoring system can also be interfaced with various mine-management systems for real-time data transfer (optional).





■ A customized MARC program on your truck fleet can be provided through the local Hitachi dealer network. A MARC program can provide a low-cost option for maintaining your fleet while maximizing performance.









# Integrated.

## Hitachi designed from the ground up.

The new ACII trucks have a number of design improvements that make them the best value yet. Truck and excavator design and manufacturing are located together in the new Rinko manufacturing complex for enhanced integration of all mining product knowledge.

- Significantly enhanced knowledge transfer is resulting in many efficiencies, such as utilization of common, proven parts.
- Introduction of the advanced Hitachi IGBT AC-drive system — extensively tested for these models and based on over 30 years of Hitachi experience in AC-propulsion systems.
- Liquid-cooled IGBT modules (inverter and chopper). Grid resistors, alternator, and traction motors are forced-air cooled. The final drive gear oil is circulated, air-cooled, and filtered prior to being directed back to strategic locations within the final drives.
- An improved payload-monitoring system with enhancements to better handle rugged loading conditions.
- A new cab with improved operator comfort and safety, plus simpler maintenance.
- An updated Tier 2 engine that is not only emission compliant but also provides improved performance.



■ The all-new Rinko facility in Hitachi City uses a sophisticated demand flow technology manufacturing system so that each truck is built to order using proven, assembly-line methods and fixtures.

■ ACII Series trucks feature the right combination of Euclid expertise with Hitachi attention to high performance, reliability, and durability.



# At a glance.

## WELL-MATCHED TO HITACHI EXCAVATORS:

■ **EH3500ACII** 111.0 m<sup>3</sup> (145.0 yd.<sup>3</sup>)

■ **EX2500-6**

Shovel – 15.0-m<sup>3</sup> (19.6-yd.<sup>3</sup>) loads in 7 passes

Backhoe – 15.0-m<sup>3</sup> (19.6-yd.<sup>3</sup>) loads in 7 passes

■ **EX3600-6**

Shovel – 22.0-m<sup>3</sup> (28.8-yd.<sup>3</sup>) loads in 5 passes

Backhoe – 21.0-m<sup>3</sup> (27.5-yd.<sup>3</sup>) loads in 5 passes

■ **EX5500-6**

Shovel – 27.0-m<sup>3</sup> (35.5-yd.<sup>3</sup>) loads in 4 passes

Backhoe – 29.0-m<sup>3</sup> (38.0-yd.<sup>3</sup>) loads in 3-4 passes

■ **EH4000ACII** 140.0 m<sup>3</sup> (183.0 yd.<sup>3</sup>)

■ **EX2500-6**

Shovel – 15.0-m<sup>3</sup> (19.6-yd.<sup>3</sup>) loads in 9 passes

Backhoe – 15.0-m<sup>3</sup> (19.6-yd.<sup>3</sup>) loads in 9 passes

■ **EX3600-6**

Shovel – 22.0-m<sup>3</sup> (28.8-yd.<sup>3</sup>) loads in 7 passes

Backhoe – 21.0-m<sup>3</sup> (27.5-yd.<sup>3</sup>) loads in 6 passes

■ **EX5500-6**

Shovel – 27.0-m<sup>3</sup> (35.5-yd.<sup>3</sup>) loads in 5 passes

Backhoe – 29.0-m<sup>3</sup> (38.0-yd.<sup>3</sup>) loads in 5 passes

**Body (SAE 2:1); Bucket (SAE)**

### ■ **CONTROL CABINET:**

Well-laid-out design of the water-cooled, high-speed IGBT controls requires less space on the truck. Individual grid resistors provide easier maintenance and improved cooling.

### ■ **MACHINE MONITORING:**

Hitachi monitoring system provides load-weight, AC-drive, and diesel-engine operational information, downloadable to a PC or transferred by satellite to the Internet.

### ■ **SUSPENSION:**

Loaded or empty, exclusive Neocon strut system, front trailing-arm suspension, and superior steering design provide stable, precise operator control.



A large orange Hitachi EH3500 ACII haul truck is shown from a low angle, highlighting its massive size and heavy-duty construction. The truck is positioned on a gravel surface, and its large, treaded tires are prominent. The body of the truck is a bright orange color, and the model name "EH3500 ACII" is clearly visible on the side. The background is a clear blue sky with some light clouds. White lines connect the text boxes to specific parts of the truck: one line points to the upper body, another to the side, and others to the tires and engine compartment.

#### ■ AC PROPULSION:

Hitachi IGBT AC propulsion provides faster torque curve for greater acceleration, higher speeds under load, and retardation to nearly 0 mph.

#### ■ LOAD SYSTEM:

Payload-monitoring system is fully integrated to the MIC (and therefore your Mine Management System\*) for prompt reporting of tons moved, cycle times, cycle count, and distance.

*\*Requires optional equipment.*

#### ■ HYDRAULICS:

Improved hydraulic hoist performance with fast raise and lower. Hoist-raise calibration feature can be programmed to cut out the cylinder extension prior to reaching full extension. It also controls the body-lowering speed to ensure maximum cylinder life.

#### ■ ENGINE:

The Tier 2, V-16 configuration has increased torque output, is served with ground-level fast-fill of lubricant, and is easily accessed.

#### ■ UPTIME:

High availability results from a strong frame, long-lasting suspension, cooled and lubricated AC-drive system, and excellent engine options.

#### ■ VISIBILITY:

Visibility from the cab is enhanced via added mirrors, cameras for blind spots, backup and tire lights, and brighter headlamps.





■ The AC-control cabinet is lockable and pressurized to reduce dust.

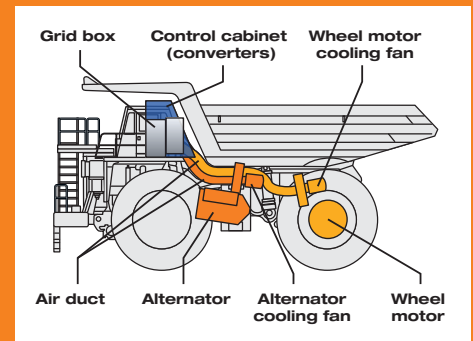


# Hitachi AC technology.

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.



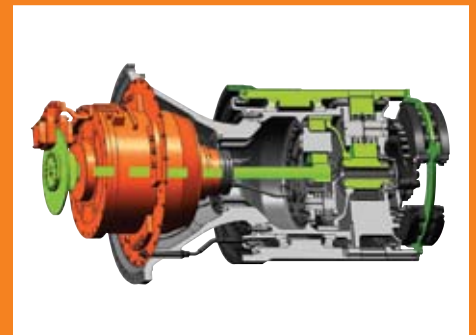
■ Extensive cooling efforts ensure higher availability.



■ 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.



# Convenience.

**Innovative features  
deliver high productivity  
and uptime.**

## **AUTO CRUISE/AUTO RETARD**

This feature allows your operator to set an appropriate speed for the level portions of the haul road so that a consistent, safe speed is easily maintained. Same with the level of retardation on the downhill portions. The electronic control is easy to set. It's safe and easily overridden.



■ Auto-cruise, auto-retard, and slip/slide control mean a safer truck.

## **SLIP/SLIDE CONTROL**

The split second a tire starts to spin, this control reduces torque to the appropriate wheel motor to keep the operation stable.

## **SERVICE-BRAKE BLENDING**

Electronic controls blend the braking action of the truck's service brakes to the dynamic retardation of the IGBT AC system so that there is one pedal and a smooth braking action all the way to a complete stop. Hill-hold brake feature is also included as part of the service-brake blending.





■ **EASY-ACCESS LADDER:**  
A new, easy-access  
diagonal ladder provides  
a safe, easy-to-use way  
to access the cab.



#### **SIGHT GLASSES FOR A DOUBLE-CHECK**

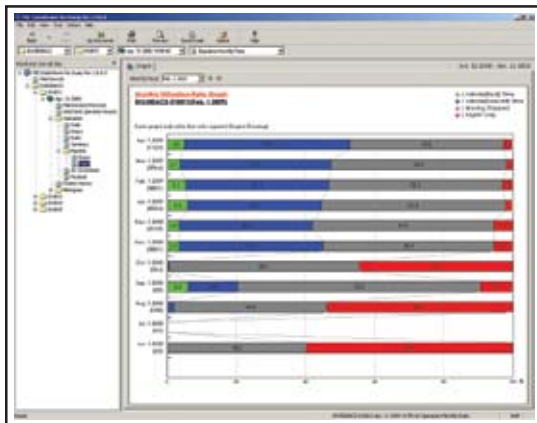
Simple sight glasses on the fuel and hydraulic fluid systems allow for a simple pre-shift confirmation that the levels are not below minimums.

#### **FAST-FILL SYSTEM**

This station allows ground-level feeding of grease, hydraulic oil, and engine oil for fast, simple topping-off between shifts. A Lincoln auto-lube system virtually eliminates daily lubrication requirements.

#### **AC SYSTEM PROTECTION**

There are multiple controls in place to ensure the AC system provides trouble-free reliability. They include grid dry motor control that keeps the grid system dry in cold or wet conditions. A blower control cools the alternator and wheel motors in hot conditions. And an auxiliary alternator control stabilizes alternator output voltage regardless of engine speed.



■ **WINDR SERVICE TOOL:**  
The WinDr service tool allows downloads of a wide variety of information to a technician's laptop for diagnosing performance issues. The Machine Information Center (MIC) data will soon be available by satellite up-link for review anywhere through the internet.



# Hitachi quality.


One of the most outstanding legacies of the thousands of Euclid trucks successfully performing throughout the world is the proprietary front trailing-arm suspension. This system is still the best front suspension offered on any haul truck. It delivers excellent maneuverability at all speeds and keeps wheel movement restricted to the vertical plane, which in turn minimizes tire scuffing and premature tire wear.

The frame bulk typically found with the traditional "horse collar" needed to mount a suspended king-pin is nonexistent, providing greater engine access.



Use of the trailing-arm layout allows service to the struts or even removal of the strut without removal of the wheel, which reduces downtime and repair cost.

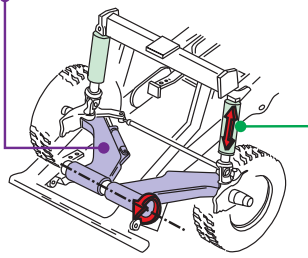
The proprietary Neocon strut used with the trailing arm and rear suspension improves operator and component isolation, and provides better hauler stability and predictable operational control. The media used within the strut, Neocon-E™, is silicone based, environmentally friendly, and charged with helium gas. The Neocon strut system responds favorably, whether the truck is traveling empty or loaded, in a wide range of ambient temperatures.

A large photograph showing two workers in hard hats and safety gear working on the front suspension of a large orange Hitachi haul truck. One worker is standing and looking at the suspension, while the other is leaning over the truck, possibly adjusting or inspecting a component. The truck is parked on a gravel surface, and the background shows more of the truck's body and some industrial equipment.

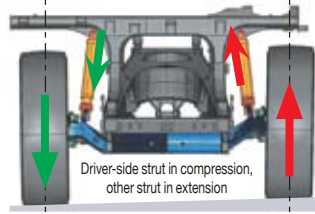
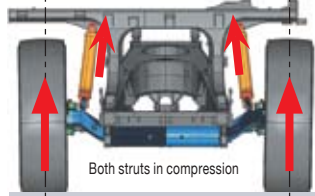
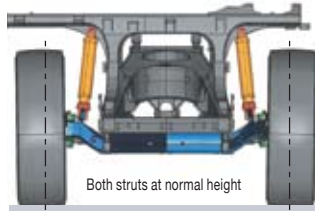
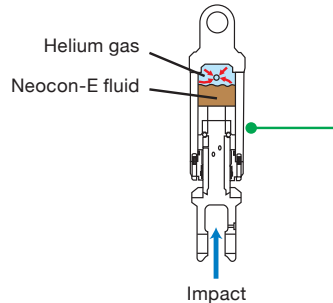
■ Maintenance is fast and simple with the Hitachi front trailing arm suspension system. Steering geometry can be kept in spec with one adjustment. Front suspension strut replacement takes less time than "Suspended King Pin" type suspension system.



### Trailing-arm suspension (front)



### Neocon strut (front/rear)



With no horizontal deflection

### Spindle

Each is controlled by a hydraulic steering cylinder and rotates around the kingpin and the outer end of the trailing arm to position the wheels for steering. The spindles are attached by one simple tie rod.

### Kingpin

Retains the spindle to the trailing arm. Spindle rotates around the kingpin, which is locked in position.

### Trailing Arm

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

### Neocon Strut

The energy-absorption and -release component of the trailing-arm suspension system. Pinned to ball bushings at the frame and at the top of each trailing arm to prevent bending movements from transferring to the strut. Receives only axial input.

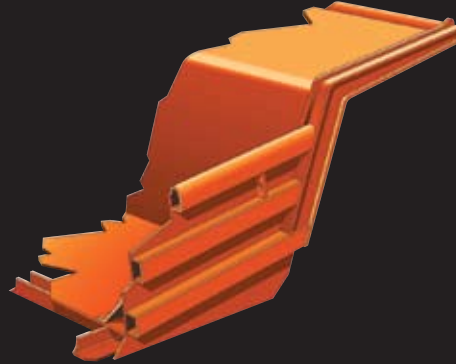


## Solid engineering.



### Updated frame for longer life:

The new frame design has fully fabricated box-section main rails, with the section height tapered from rear to front. One-piece top and bottom flanges eliminate cross member tie-in joints and provide a large exposed center area for access to major components. A large radii minimizes stress concentrations, and all welds are made longitudinally to reduce the opportunity for stress cracks with the same high-quality welding technology as Hitachi excavators.



### Improved body design:

The updated body is stiffer, features a six-percent-steeper floor pitch to reduce spillage, and a more solid, well-cushioned body-to-frame support. The hoist system is automatically programmed to stop before stroke end for reduced shock. A sophisticated new network of sensors, including an angle sensor to calculate changes in the truck's center of gravity and the resulting ratio changes between the front and back suspensions, provides greater accuracy in measuring payload weight compared to conventional systems.



### Rugged cab:

The new cab structure builds on past successes while providing improved safety, durability, operator comfort, and instrumentation. The frame is stronger, yet a three-point isolation-mount design allows additional independent motion from the truck frame. It is certified ISO 3471 and SAE J1040. A fully adjustable operator seat is standard, along with updated operator controls. Heat/cool capacities have been increased. A large LCD display monitor provides more complete operational information as well as access to troubleshooting fault and alarm information.



**We are passionate as ever about this industry.  
We are dedicated to building the best equipment in the  
world, and we continue to support and improve them.**



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