KOMATSU®

HD325-7

GROSS HORSEPOWER
386 kW 518 HP

NET HORSEPOWER
371 kW 498 HP

MAXIMUM GVW
69280 kg 152,740 lb

Off-Highway Truck
**Productivity Features**

- High performance Komatsu SAA6D140E-5 engine
  - Net horsepower **371kW** 498HP
- Mode selection system
  - (Variable horsepower at Economy mode)
- Automatic idling setting system (AISS)
- 7-speed, fully automatic K-ATOMiCS transmission
- Fully hydraulic controlled wet multiple-disc brakes and retarder
  - Retarder absorbing capacity (Continuous descent) **662kW** 887HP
- Long wheelbase and wide tread
- Large high strength body
  - Heaped capacity **24m³** 31.4yd³
- Small turning radius **7.2m** 23'7"
- Automatic retard speed control (ARSC) (Option)
- PLM II (Payload meter II) (Option)

**Harmony with Environment**

- Komatsu SAA6D140E-5 engine
  - North American EPA Tier 3 and EU stage 3A emission certified for 2006
- Low operation noise
- Lead-free radiator
- Brake cooling oil recovery tank

**GALEO**

*Genuine Answers for Land & Environment Optimization*
Operator Environment
- Wide, spacious cab with excellent visibility
- Ergonomically designed cab
- Easy-to-see instrument panel
- Ideal driving position settings
- K-ATOMICS with "Skip-shift" function
- Hydropneumatic suspension
- Built-in ROPS/FOPS
- Viscous cab mounts
- Electric body dump control lever
- Supplementary steering and secondary brakes
- Three-mode hydropneumatic suspension (Automatic suspension) (Option)

Reliability Features
- Komatsu components
- High-rigidity frame
- Rigorous dump body design
- Reliable hydraulic system
- Sealed DT Connectors
- Pedal-operated secondary brake
- ABS (Antilock brake system) (Option)
- ASR (Automatic spin regulator) (Option)

Easy Maintenance
- Advanced monitoring system
- Wet multiple-disk brakes and fully hydraulic braking system
- Extended oil change interval
- Centralized arrangement of filters
- Flange type rim
- Electric circuit breaker
- Centralized greasing points (Option)
Komatsu technology

Komatsu develops and produces all major components, such as engines, electronics and hydraulic components, in house.
With this "Komatsu Technology," and adding customer feedback, Komatsu is achieving greater advancements in technology.
To achieve both high levels of productivity and economical performance, Komatsu has developed the main components with a total control system.
The result is a new generation of high performance and environment friendly machines.

High performance Komatsu SAA6D140E-5 engine
This engine delivers faster acceleration and higher travel speeds with high horsepower per ton. Advanced technology, such as Common Rail Injection system (CRI), air to air aftercooler, efficient turbo-charger, and heavy duty cooled EGR enables the engine to be North American EPA Tier 3 and EU stage 3A emission certified. High torque at low speed, impressive acceleration, and low fuel consumption ensure maximum productivity.

Mode selection system
The system allows selection of the appropriate mode between two modes: <Power mode> or <Economy mode> according to each working condition. The mode is easily selected with a switch in the operator’s cab.

Power mode
Great productivity can be attained by taking full advantage of high output power. It is appropriate for job sites where larger production uphill-hauling is required.

Economy mode (Variable horsepower)
The engine power automatically changes depending on loaded or unloaded conditions always to use an optimum speed gear. It is appropriate for light work on flat ground.

Automatic Idling Setting System (AISS)
This system facilitates quick engine warm-up and cab cooling/warming. When setting the system ON, engine idle speed is kept at 945 rpm when coolant temperature is 50°C 122°F or lower. Speed automatically returns to 725 rpm when coolant temperature reaches 50°C 122°F.

7-speed, fully automatic K-ATOMICS transmission
The K-ATOMICS (Komatsu Advanced Transmission with Optimum Modulation Control System) automatically selects the optimum gear according to vehicle speed, engine speed and the shift position you’ve chosen. The result: the best gear for any driving situation.

Automatic Retard Speed Control (ARSC)(Option)
ARSC allows the operator to simply set the downhill travel speed and go down slopes at a constant speed. As a result, the operator can concentrate on steering. The speed can be set at increments of 1 km/h 0.6 MPH per click (±5 km/h 3.1 MPH of maximum speed adjustment) to match the optimum speed for the slope. Also, since the retarder cooling oil temperature is always monitored, the speed is automatically lowered.
Fully hydraulic controlled wet multiple-disc brakes and retarder

Wet multiple-disc brakes ensure highly reliable and stable brake performance. The large-capacity, continuously cooled, wet-multiple disc brakes also function as a highly responsive retarder which gives the operator greater confidence at higher speeds when travelling downhill.

- Retarder Absorbing Capacity (continuous descent): 662 kW 887 HP
- Brake Surface Area (rear): 50,847 cm² 7,881 in²

Long wheelbase and wide tread

With an extra-long wheelbase, a wide tread and an exceptionally low center of gravity, the HD325-7 hauls the load at higher speed for more production, and delivers superior driving comfort over rough terrain.

Large high strength body

A wide target area makes for easy loading with minimal soil spillage and more efficient hauling. The body is built of 130 kg/mm² 184,900 PSI wear-resistant high-tensile steel with a Brinell hardness of 400.

The V-shape design also increases structural strength, and provides excellent load stability.

Small turning radius

The MacPherson strut type front suspension has a special A-frame between each wheel and the main frame. The wider space created between the front wheels and the main frame increases the turning angle of the wheels. The larger this turning angle, the smaller the turning radius of the truck.

PLM II (Payload Meter II) (Option)

PLM II allows the production volume and the working conditions on the dump truck to be analyzed and controlled directly via a personal computer. The system can store up to 2900 working cycles.
Wide, spacious cab with excellent visibility
Wide windows in the front, side and back, plus plenty of space in the richly upholstered interior, provide quiet, comfortable environment from which to see and control every aspect of operation. Front under view mirrors and side under view mirrors have been added to improve safety.

Ergonomically designed cab
The ergonomically designed operator’s compartment makes it very easy and comfortable for the operator to use all the controls. The result is more confident operation and greater productivity.

Easy-to-see instrument panel
The instrument panel makes it easy to monitor critical machine functions. In addition, a caution light warns the operator of any problems that may occur. Problems are recorded in the monitor and indicated as service codes. This makes the machine very friendly and easy to service.

Ideal driving position settings
The 5-way adjustable operator seat and the tilt-telescopic steering column create an optimum driving posture, for increased driving comfort and more control over the machine’s operations. The suspension seat dampens vibrations transmitted from the machine and reduces operator fatigue as well as holding the operator securely to assure confident operation. 78mm 3” width seat belt is provided as standard equipment.

Hydropneumatic suspension for all terrains
The hydropneumatic suspension assures a comfortable ride even over rough terrain and ensures maximum productivity and operator confidence.
K-ATOMICS with “Skip-shift” function
An electronically controlled valve is provided for each clutch pack in the transmission for independent clutch engagement/disengagement. It enables an ideal change in clutch modulation pressure and torque cut-off timing in response to travel conditions. This system and newly added “skip-shift” function ensure smooth shifting and responsive acceleration.

“Skip-shift” function
Optimum travel speed automatically selected in response to angle of ascent. Reduced frequency of downshift and smoother operation are provided.

Built-in ROPS/FOPS
These structures conform to ISO3471 and SAE J1040 ROPS standards, and ISO 3449 and SAE J231 FOPS standards.

Viscous cab mounts
Viscous mounts reduce the noise transmitted to the cab and achieve a quiet 77 dB(A) noise level.

Electric body dump control lever
The low effort lever makes dumping easy. A positioning sensor is installed for dump body control which significantly reduces the shock made by the lowering of the dump body.

Three-mode hydropneumatic suspension (Automatic suspension) (Option)
Suspension mode is automatically switched to one of three stages (soft, medium and hard) according to load and operating conditions, for a more comfortable and stable ride.

Supplementary steering and secondary brakes
Supplementary steering and secondary brakes are standard features.
Steering: ISO 5010, SAE J1511, SAE J53
Brakes: ISO 3450, SAE J1473
Komatsu components

Komatsu manufactures the engine, torque converter, transmission, hydraulic units, and electrical parts on this dump truck. Komatsu dump trucks are manufactured with an integrated production system under a strict quality control system.

High-rigidity frame

Cast-steel components are used in the main frame for high-stress areas where loads and shocks are most concentrated.

Sealed DT connectors

Main harnesses and controller connectors are equipped with sealed DT connectors providing high reliability, water resistance and dust resistance.

ABS (Antilock braking system) (Option)

Using its outstanding electronics technology, Komatsu is the first in the industry to introduce ABS on construction machinery. This system prevents the tires from locking, thus minimizes skidding under slippery conditions while applying the service brake.

ASR (Automatic spin regulator) (Option)

ASR automatically prevents the rear tires on either side from slipping on soft ground for optimal traction.

Rigorous dump body design

The standard dump body is made of 130 kg/mm² 184,900 PSI high-tensile-strength steel for excellent rigidity and reduced maintenance cost. The V-shape design also increases structural strength. The side and bottom plates of the dump section are reinforced with ribs for added strength.

Pedal-operated secondary brake

If there should be a failure in the foot brake, the parking brake and front disc brakes are activated as pedal operated secondary brake. In addition, when hydraulic pressure drops below the rated level, the parking brake is automatically actuated.

Reliable hydraulic system

The oil cooler is installed in the radiator lower tank, improving the reliability of the hydraulic system during sudden temperature rises. Further, in addition to the main filter, a 25-micron line filter is at the entrance to the transmission control valve. This system helps to prevent secondary faults.

Lead-free radiator

In addition to compliance with emission regulations, a lead-free aluminum core is adopted for the radiator to comply with global environmental requirements.

Flat face-to-face O-ring seals

Flat face-to-face O-ring seals are used to securely seal all hydraulic hose connections and to prevent oil leakage.

Brake cooling oil recovery tank

To protect environment, a tank is installed to recover brake cooling oil in the event of brake floating seal leakage.

Protection functions supported by electronic control

<table>
<thead>
<tr>
<th>Item</th>
<th>Function</th>
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<tbody>
<tr>
<td>Downshift inhibitor</td>
<td>Even if the driver downshifts accidentally, a speed appropriate to the current gear is automatically set, preventing over-runs.</td>
</tr>
<tr>
<td>Over-run inhibitor</td>
<td>When descending grades, if the vehicle's speed surpasses the maximum for the current gear, the rear brakes automatically operate, preventing over-runs.</td>
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<tr>
<td>Reverse inhibitor</td>
<td>The vehicle is prevented from moving backward when operating the body.</td>
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<tr>
<td>Forward/Reverse shift inhibitor</td>
<td>This device makes it impossible to shift from forward to reverse when the vehicle's speed surpasses 4 km/hour.</td>
</tr>
<tr>
<td>Anti-hunting system</td>
<td>When running near a sharp point, smooth automatic shifting takes place.</td>
</tr>
<tr>
<td>Neutral safety</td>
<td>The engine is prevented from starting when the shift lever is not in neutral.</td>
</tr>
</tbody>
</table>
Advanced monitoring system
The Komatsu advanced monitoring system identifies maintenance items, reduces diagnostic times, indicates oil and filter replacement hours and displays abnormality codes. This monitor system helps to maximize machine production time.

Flange type rim
Flange type rims provide easy removal/installation for the tires.

Wet multi-disc brakes and fully hydraulic braking systems mean lower maintenance costs and higher reliability. Wet disc brakes are fully sealed to keep contaminants out, reducing wear and maintenance. Brakes require no adjustments for wear, meaning even lower maintenance. Added reliability is designed into the braking system by the use of three independent hydraulic circuits providing hydraulic backup should one of the circuits fail. Fully hydraulic braking systems eliminate the air system so air bleeding is not required, and water condensation that can lead to contamination, corrosion and freezing is eliminated.

Electric circuit breaker
A circuit breaker is adopted in important electric circuits that should be restored in a short time when a problem occurs in the electrical system.

Centralized greasing points (Option)
Greasing points are centralized at three locations.

Extended oil change intervals
In order to minimize operating costs, oil change intervals have been extended:
- Engine oil 500 hours
- Hydraulic oil 4000 hours

Centralized arrangement of filters
The filters are centralized so that they can be serviced easily.
**ENGINE**

Model: KOMATSU SAA6D140E-5
Type: Water-cooled, 4-cycle
Aspiration: Turbo-charged, air-to-air after-cooled cooling EGR
Number of cylinders: 6
Bore x stroke: 140 mm x 165 mm 0.5" x 6.5"
Piston displacement: 15.24 ltr. 930 in³
Horsepower: SAE J1995 Gross 366 kW 518 HP
ISO 9249 / SAE J1349 Net 371 kW 498 HP
Rated rpm: 2,000 rpm
Fan drive type: Mechanical
Maximum torque: 2167 N·m 221 kg·m 1600 lb·ft
Fuel system: Direct injection
Governor: Electronically controlled
Lubrication system: Gear pump, force-lubrication
Filter: Full-flow type
Air cleaner: Dry type with double elements and pre-cleaner, plus dust indicator

**TRANSMISSION**

Torque converter: 3-elements, 1-stage, 2-phase
Transmission: Full-automatic, planetary type
Speed range: 7 speeds forward and 1 reverse
Lockup clutch: Wet, single-disk clutch
Forward: Torque converter drive in 1st gear, direct drive in 1st, 2nd, and 3rd
Reverse: Torque converter drive
Shift control: Electronic shift control with automatic clutch control in all gears
Maximum travel speed: 70 km/h 43.5 mph

**AXLES**

Rear axle: Full-floating
Final drive type: Planetary gear
Ratios: Differential 3.125
Planetary 4.737

**SUSPENSION SYSTEM**

Independent, hydro-pneumatic suspension cylinder with fixed stroke to dampen vibration
Effective cylinder stroke (front suspension): 250 mm 9.8"
Rear axle oscillation: Oil stopper 6.8°
Mechanical stopper 8.1°

**STEERING SYSTEM**

Type: Fully hydraulic power steering with two double-acting cylinder
Supplementary steering: Manual control (meets ISO 5010, SAE J1531, and SAE J53)
Minimum turning radius: 7.2 m 23.77"
Maximum steering angle: ± 43°

**CAB**

Dimensions comply with ISO 3471 and SAE J1040-1986c ROPS (Roll-Over Protective Structure) standards.

**MAIN FRAME**

Type: Box-sectioned structure

**BRAKES**

Brakes meet ISO 3450 and SAE 1473 standards.

Service brakes:
- Front: Fully hydraulic control, caliper disc type
- Rear: Fully hydraulic, oil-cooled, multiple-disc type
Parking brake:
- Spring applied, caliper disc type
Retarder:
- Oil-cooled, multiple-disc rear brakes act as retarder
Secondary brake:
- Manual pedal operation
When hydraulic pressure drops below the rated level, parking brake is automatically actuated.

**BODY**

Capacity:
- 18 m³ 23.5 yd³
- 24 m³ 31.4 yd³
Payload:
- 36.5 metric tons 40 U.S. tons (rated)
- 32 metric tons 35 U.S. tons
Material:
- 130 kg/m² 184,900 psi high-tensile-strength steel
Structure:
- V-shape body
Material thickness:
- Bottom 19 mm 0.75"
- Front 12 mm 0.47"
- Sides 9 mm 0.35"
Target area (inside length x width):
- 5500 mm x 3360 mm 18′ x 11′
Dumping angle:
- 48°
Height at full dump:
- 7925 mm 26′ 6"
Heating:
- Exhaust heating

**HYDRAULIC SYSTEM**

Hoist cylinder:
- Twin, 2-stage telescopic type
Relief pressure:
- 20.6 MPa 210 kg/cm² 2,990 PSI
Hoist time:
- 10 sec

**WEIGHT (APPROXIMATE)**

Empty weight:
- 31600 kg 69,700 lb
Gross vehicle weight with 32 metric ton (35 U.S. ton) payload:
- 63600 kg 140,390 lb
Max. gross vehicle weight:
- 69200 kg 152,740 lb
Not to exceed max. gross vehicle weight, including options, fuel and payload.
Weight distribution:
- Empty: Front axle 51.7%
- Loaded: Front axle 33%
- Rear axle 67%

**TIRES**

Standard tires:
- 18.00-33-32PR

**SERVICE REFILL CAPACITIES**

Fuel tank:
- 484 ltr. 127.9 U.S. Gal
Engine oil:
- 50 ltr. 13.2 U.S. Gal
Torque converter, transmission and retarder cooling:
- 90 ltr. 23.8 U.S. Gal
Differential:
- 45 ltr. 11.9 U.S. Gal
Final drives (total):
- 30 ltr. 7.9 U.S. Gal
Hydraulic system:
- 129 ltr. 34.1 U.S. Gal
Suspension (total):
- 44.2 ltr. 11.7 U.S. Gal
TRAVEL PERFORMANCE

To determine travel performance: Read from gross weight down to the percent of total resistance. From this weight-resistance point, read horizontally to the curve with the highest obtainable speed range, then down to maximum speed. Usable rimpull depends upon traction available and weight on drive wheels.

BRAKE PERFORMANCE

To determine brake performance: These curves are provided to establish the maximum speed and gearshift position for safer descents on roads with a given distance. Read from gross weight down to the percent of total resistance. From this weight-resistance point, read horizontally to the curve with the highest obtainable speed range, then down to maximum descent speed the brakes can safely handle without exceeding cooling capacity.
STANDARD EQUIPMENT

ENGINE:
- AIISS (Automatic Idling Setting System)
- Alternator, 50A/24V
- Batteries, 2 x 12V/170Ah
- Engine, Komatsu SAA6D114E-5
- Mode selection system
- Starting motor, 1 x 11.0 kW
- Space for lunch box
- Steering wheel, tilt and telescopic
- Sunvisor
- Laminated glass, front
- Two doors, left and right
- Windshield washer and wiper (with intermittent feature)

CAB:
- Ashtray
- Cigarette lighter
- Cup holder
- Electronic hoist control system
- Electronic maintenance display/monitoring system
- Operator seat, reclining, suspension type with retractable 78 mm 3" width seat belt
- Passenger seat
- Power window (L.H.)
- POPS cab with FOPS, sound suppression type

SAFETY EQUIPMENT:
- Alarm, backup
- Catwalk with hand rails
- Coolant temperature alarm and light
- Front brake cut-off system
- Hand rails for platform
- Horn, electric
- Ladders, left and right hand sides
- Overrun warning system
- Rearview mirrors and underview mirrors
- Supplementary steering

LIGHTING SYSTEM:
- Back-up light
- Hazard lights
- Headlights with dimmer switch
- Indicator, stop and tail lights

GUARD AND COVERS:
- Exhaust thermal guard
- Fire protective covers
- Drive shaft guard (front and rear)

OTHER:
- Electric circuit breaker, 24V
- Side markers

TIRES:
- 18.00-33-39PR

OPTIONAL EQUIPMENT

CAB:
- Air conditioner
- Heater and defroster
- Power window (R.H.)
- Radio, AM/FM
- Radio, AM/FM with cassette
- Seat belt, 50 mm 2" width
- Seat belt, 78 mm 3" width for passenger seat
- Seat, fabric materials
- Sun visor, additional

LIGHTING SYSTEM:
- Back-up lights, additional
- Fog lights
- Work light, RH and LH sides

TIRES:
- 18.00 - 33 tires
- 18.00 R39 tires

SAFETY:
- Automatic spin regulator (ASR)
- Antilock brake system (ABS)
- Automatic retard speed control (ARSC)
- Supplementary steering, automatic
- Rear view camera and monitor

ARRANGEMENT:
- Batteries for cold area arrangement
- Cold area arrangement
- Sandy and dusty area arrangement

GUARD:
- Engine under guard [25 kg 50 lb]
- Platform guard, right hand side [35 kg 00 lb]
- Transmission under guard [95 kg 210 lb]

OTHERS:
- Alternator, 75 A
- Centralized greasing
- Engine side covers
- Fast fill coupler for fuel tank
- Fire extinguisher
- Gas charge tool
- Gas spring for engine hood
- Muffler (no body heating type)
- Payload meter II, memory card type
- PM service connectors
- Pull hook, rear
- Radiator shutter canvas type
- Spare parts for first service
- Tool kit
- Vandalism protection

[ ] shows the amount of increased weight

Standard equipment may vary for each country, and this specification sheet may contain attachments and optional equipment that are not available in your area. Please consult your Komatsu distributor for detailed information.

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