

# KOMATSU®

## HD1500-5

MAXIMUM GVW  
249476 kg 550,000 lb

PAYLOAD  
136-149 t 150-164 U.S. ton

NET HORSEPOWER  
1048 kW 1,406 HP



MECHANICAL DRIVE TRUCK

## HD1500-5

# SPECIFICATIONS



## ENGINE

Model . . . . . Komatsu SDA12V160  
 Fuel . . . . . Diesel  
 Number of cylinders . . . . . 12  
 Operating cycle . . . . . 4 stroke  
 Rated brake power @ 1900 rpm\* . . . . . 1108 kW **1,486 HP**  
 Flywheel power @ 1900 rpm\*\* . . . . . 1048 kW **1,406 HP**  
 Maximum torque @ 1300 rpm . . . . . 5041 kg/m **4,285 lb ft**  
 Bore . . . . . 159 mm **6.26"**  
 Stroke . . . . . 190 mm **7.48"**  
 Displacement . . . . . 45 ltr **2,746 in<sup>3</sup>**  
 Weight (dry) . . . . . 5813 kg **12,815 lb**

\* Rated brake power is the output of the engine as installed in this machine, at governed rpm and with engine manufacturer's approved fuel setting. Accessory losses included are water pump, fuel pump, and oil pump.

\*\* Flywheel power is the rated power at the engine flywheel minus the average accessory losses. Accessories include fan and charging alternator. Rating(s) represent gross engine performance in accordance with SAE J1349 conditions.



## COOLING SYSTEM

L&M MESABI radiator assembly. Deaeration-type top tank.  
 Two pump-2 loop cooling circuit.

Radiator frontal area . . . . . 3.84 m<sup>2</sup> **41.3 ft<sup>2</sup>**



## ELECTRICAL SYSTEM

Batteries . . . . . Four 12-volt, 220 amp/hr, batteries in series/parallel  
 Alternator . . . . . 240 amp **24 V**  
 Starter . . . . . Two 24-volt



## TRANSMISSION

Komatsu seven-speed, electronically controlled, automatic powershift transmission. Rubber damper comfortably reduces harmful engine shock and vibration to the transmission. A lock-up system, consisting of a wet double-disc clutch, is actuated in F1-F7 gears for higher fuel savings. Electronic shift control with automatic clutch modulation in all gears and full diagnostics with memory. The transmission circuit uses a separate hydraulic circuit and cooler.

Komatsu torque converter is transmission-mounted and lock-up clutch is electronically controlled.

Maximum travel speed (empty, 2% rolling resistance)

Gear 1	11.0 km/h	<b>6.8 mph</b>	Gear 5	32.6 km/h	<b>20.3 mph</b>
Gear 2	14.6 km/h	<b>9.1 mph</b>	Gear 6	44.2 km/h	<b>27.5 mph</b>
Gear 3	19.5 km/h	<b>12.1 mph</b>	Gear 7	58.0 km/h	<b>36.0 mph</b>
Gear 4	24.5 km/h	<b>15.2 mph</b>	Reverse	10.6 km/h	<b>6.6 mph</b>



## TIRES / RIMS

Rock service, tubeless, radial tires

Standard tire\* . . . . . 33.00-R51

Standard five (5) piece rim

610 mm x 1295 mm x 127 mm **24" x 51" x 5"** patented Phase II New Generation rim assembly with patented 5" 127 mm double-forged flanges. Not interchangeable with other manufacturers' rims due to improved design for greater load support and longer fatigue life. Rated at 827 kPa **120 psi** cold inflation pressure

\* Tires should meet application requirements for tmph/tkph, tread, compound, inflation pressure, ply rating or equivalent, etc.



## FINAL DRIVE ASSEMBLY

Planetary gear-type final drive. Straight bevel gears for differential and matched spiral bevel gears for reduction.

Reduction ratio:  
 Differential . . . . . 2.647  
 Planetary . . . . . 7.235  
 Total reduction . . . . . 19.151



## BODY

Struck capacity . . . . . 54 m<sup>3</sup> **71 yd<sup>3</sup>**  
 Heaped capacity (2:1) . . . . . 78 m<sup>3</sup> **102 yd<sup>3</sup>**  
 Bottom plate . . . . . 1207 mPa **175,000 psi**  
 tensile-strength-steel, 19 mm **0.75"**, two-piece construction  
 Sides and front body plate . . . . . 1207 mPa **175,000 psi**  
 tensile-strength-steel, 12 mm **0.47"** front wall, 9 mm **0.35"**  
 side wall. Rugged bolster and sill construction. Body is rubber-cushioned on frame. Exhaust heated body is standard.



## CAB

Wide-visibility operator environment with integral 4-post ROPS/FOPS structure (meets SAE J1040 Apr88), deluxe interior, adjustable Isringhausen seat with lumbar support, passenger seat, R-12 insulation, tilt and telescoping steering wheel, electric windshield wipers with washer, tinted safety glass, power windows, panel-mounted circuit breakers, Komatsu Payload Weighing System, 55,000 Btu/hr heater and defroster, 21,600 Btu/hr air conditioning (134A refrigerant)



## FRAME

Welded box section frame, integral ROPS provisions, integral front bumper, rear tubular cross members, continuous frame rail beam with variable section, steel castings used in critical stress transition zones, continuous horseshoe collar.

Plate material . . . . . 344.5 mPa **50,000 psi** yield strength steel  
 Casting material . . . . . 226 mPa **33,000 psi** yield strength steel  
 Rail width . . . . . 225 mm **8.86"**  
 Rail depth (minimum) . . . . . 730 mm **28.75"**  
 Top and bottom plate thickness . . . . . 32 mm **1.25"**  
 Side plate thickness . . . . . 19 mm **0.75"**  
 Slope . . . . . 13°  
 Drive axle mounting . . . . . One high-mount and two low-mount drive links with sealed and lubed spherical bearing joints  
 Drive axle alignment . . . . . Swinging link between frame and axle housing



## BRAKING SYSTEMS

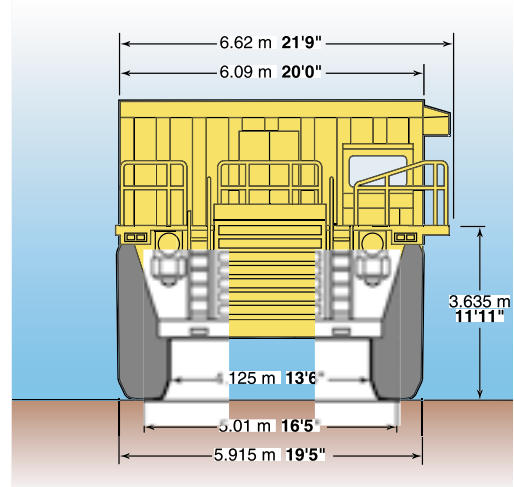
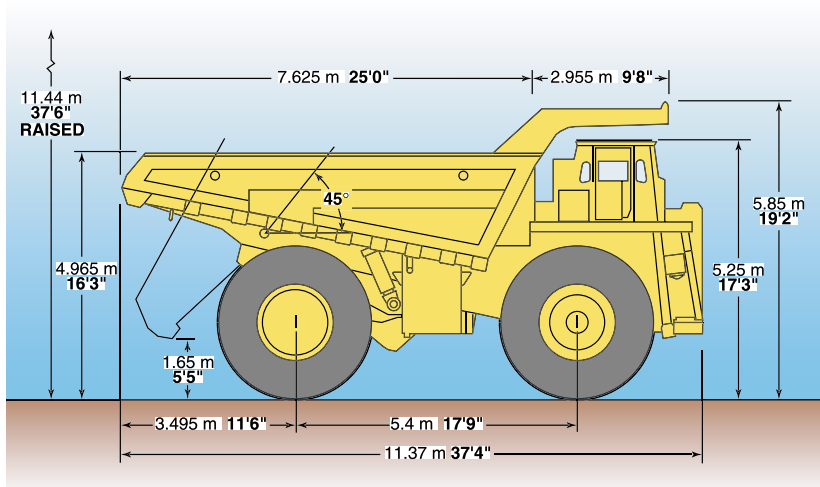
System meets SAE J1473 Dec84 and ISO 3450-1985 up to 249476 kg **550,000 lb** operating weight.

### Service brakes

Front/rear . . . . . Komatsu oil-cooled, all hydraulic-actuated disc brakes, front and rear, sealed from dirt and water  
 Braking surface . . . . . 159148 cm<sup>2</sup> **24,668 in<sup>2</sup>**  
 Emergency brakes . . . . . Automatically applied prior to hydraulic system pressure dropping below level necessary to meet secondary stopping requirements  
 Retarding . . . . . Hand-operated lever provides modulated engagement of both front and rear brakes  
 Parking brake . . . . . Spring-applied, oil-released, dry 3-head caliper disc mounted on input yoke to differential



### DIMENSIONS



All dimensions are with 54/78 m<sup>3</sup> 71/102 yd<sup>3</sup> body. Vertical dimensions are for standard empty vehicle—subtract 100 mm 4" for vehicle loaded to maximum GVW. Minimum ground clearance (at maximum GVW) 838 mm 2'9".



### SUSPENSION

Variable rate, hydropneumatic with integral rebound control.

- Maximum front stroke . . . . . 375 mm **14.76"**
- Maximum rear stroke . . . . . 140 mm **5.51"**
- Maximum rear axle oscillation . . . . . ±9.2°



### STEERING SYSTEM

Steering . . . . . Accumulator-assisted, twin double-acting cylinders provide constant rate steering. Emergency steering automatically applied by accumulator

- Turning circle diameter (SAE) . . . . . 24.4 m **80'**
- Steering angle (left or right) . . . . . 45°



### HYDRAULIC SYSTEM

- Reservoir . . . . . 576 ltr **152 U.S. gal**
- Filtration . . . . . In-line replaceable elements
- Suction . . . . . Single, full flow, 100 mesh
- Hoist and steering . . . . . Dual, full-flow. Beta 12 rating = 200
- Transmission . . . . . Dual high pressure
- Brake component cabinet . . . . . Above deck, easily accessible with diagnostic test connections
- Hoist . . . . . Two, 3-stage cylinders with new concept design and sealing system, internal cushion valve and over-center damping provide smooth, reliable dumping

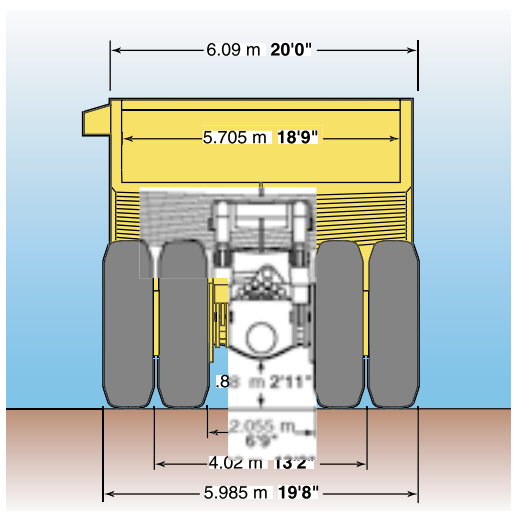
#### Hoist times

- Power up . . . . . 15 sec
- Power down . . . . . 15 sec

#### Pumps

- Hoist . . . . . Tandem gear-type with output of **213 U.S. gpm**  
805 ltr/min @ 1900 rpm and 18960 kPa **2,750 psi**
- Steering and brake apply . . . . . Piston pump at **58.5 U.S. gpm**  
221 ltr/min @ 1900 rpm and 18960 kPa **2,750 psi**
- Brake cooling . . . . . Tandem gear pump at  
1512 ltr/min **400 U.S. gpm**

NOTE: Komatsu trucks comply with SAE specifications for cab noise, ROPS, steering and braking. Cover photos and illustrations may show optional equipment. Materials and specifications subject to change without notice.



### SERVICE CAPACITIES

Crankcase*	193 ltr	<b>51 U.S. gal</b>
Cooling system	532 ltr	<b>140.6 U.S. gal</b>
Fuel tank	2120 ltr	<b>560 U.S. gal</b>
Hydraulic system	900 ltr	<b>238 U.S. gal</b>
Differential	297 ltr	<b>78 U.S. gal</b>
Final drive (total in 2 planetaries)	240 ltr	<b>63.5 U.S. gal</b>
Transmission	153 ltr	<b>40.5 U.S. gal</b>

\* Includes lube oil filters



### WEIGHT DISTRIBUTION

#### Empty vehicle

Front axle	49025 kg	<b>108,082 lb</b>
Rear axle	51437 kg	<b>113,399 lb</b>
Total (wet, 50% fuel)	100462 kg	<b>221,481 lb</b>

#### Loaded vehicle (at max GVW)

Front axle	82327 kg	<b>181,500 lb</b>
Rear axle	167149 kg	<b>368,500 lb</b>
Total	249476 kg	<b>550,000 lb</b>

**Payload\*** . . . . . 136–149 t **150–164 U.S. ton**

\*Payload is based upon the weight of additional optional equipment such as body liner.



## STANDARD EQUIPMENT

### POWERTRAIN:

- Air cleaner (2); battery disconnect; engine electronic control; engine electronic monitor; engine overspeed protection; engine pre-lube system; ether start aid; ground level shutdown; variable speed engine fan (electronic-over-hydraulic)
- Powertrain Management Control (PMC) (these items located in cab):
  - PMC controller
  - transmission controller
  - brake controller
  - Komatsu Payload Meter II
  - monitor display (LCD with backlight)
  - data download port
- Seven-speed automatic transmission:
  - electronic control
  - body-up reverse interlock
  - body-up shift inhibitor
  - downshift/reverse shift inhibitor
  - neutral start switch
  - programmable maximum range select
  - transmission belly guard
- Torque converter (electronic lockup control)

### CAB:

- Air conditioning (R134A)
- Ashtray and cigarette lighter, 12 V
- Electric windows (both doors)
- Glass, tinted
- Heater/defroster

### Instrumentation (gauge and monitor):

- speedometer
- tachometer
- engine coolant temperature
- convertor temperature
- brake oil temperature
- fuel level
- shift indicator
- hourmeter
- odometer
- warning lights (16 function)
- Insulated and sound-suppressed
- Radio, AM/FM/cassette
- ROPS cab (integral 4-post)
- Seat, air suspension (driver)
- Seat, passenger
- Seat belts, driver and passenger
- Steering wheel, tilt and telescoping
- Sun visor
- Windshield wiper and washer

### LIGHTING:

- Back-up light, rear (1)
- Back-up lights, deck-mounted (2)
- Clearance lights, front
- Engine service lights (2)
- Headlights, halogen (8)
- Hi-low beam selector
- Instrument panel lights
- Ladder lights, driver side
- Retarder lights (2)
- Stop and tail lights
- Turn signals

### SAFETY:

- Back-up warning alarm
- Body up safety cable
- Cab guard (on canopy)
- Drive line protector (front and rear)
- Emergency steering system, automatic
- Emergency brake system, automatic and manual
- Engine fan and pulley guards
- Exhaust pipe blanket
- Fire safety shield (behind engine)
- Ground level engine shutdown
- Handrails
- Horn, electric (2)
- Ladder, deck-to-transmission
- Ladders, right and left (front)
- Mirrors, right and left
- Mud flaps
- Parking brake (3 caliper, spring-applied)
- Reverse hoist interlock
- Rock ejectors
- Skid-resistant walkway on deck
- Windshield, laminated safety glass

### OTHER:

- Automatic lubrication system
- Body mounting group
- Fast fill fuel system (Wiggins) right-hand side of machine
- Operation, parts, and maintenance manuals (1 set)
- Rims (6), 24 x 51 (for 33 x 51 and 33R51 tires)
- Tow hooks, front
- Tow pin, rear



## OPTIONAL EQUIPMENT

Weights listed are approximate change from operating weight.

Hub odometer, miles or kilometers . . . . .	2 kg	<b>5 lb</b>	Service center, Wiggins left-hand side . . . . .	36 kg	<b>80 lb</b>
Automatic electronic traction aid . . . . .	18 kg	<b>40 lb</b>	Muffler, deck-mounted . . . . .	50 kg	<b>110 lb</b>
Automatic three-mode suspension . . . . .	100 kg	<b>220 lb</b>	Fire extinguisher . . . . .	14 kg	<b>30 lb</b>
Kim Hot Start . . . . .	16 kg	<b>35 lb</b>	Body liners		
Fast fill fuel, Wiggins left-hand side . . . . .	2 kg	<b>5 lb</b>	—19 mm floor, 9 mm side, front and rear half		
Fast oil change, Wiggins (engine) . . . . .	7 kg	<b>15 lb</b>	of canopy (400 Brinell Steel) . . . . .	8320 kg	<b>18,340 lb</b>



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