

# KOMATSU®

## HD1500-5

**MAXIMUM GVW**  
249478 kg **550,000 lb**  
**GROSS HORSEPOWER**  
1048 kW **1,406 HP**



Photo may include optional equipment.

MECHANICAL DRIVE TRUCK

# HD1500-5 MECHANICAL DRIVE TRUCK

## SPECIFICATIONS



### ENGINE

Model . . . . . Komatsu SDA12V160  
 Fuel . . . . . Diesel  
 Number of cylinders . . . . . 12  
 Operating cycle . . . . . 4 stroke  
 Rated brake power @ 1900 rpm\* . . . . . 1109 kW **1,487 HP**  
 Flywheel power @ 1900 rpm\*\* . . . . . 1048 kW **1,406 HP**  
 Maximum torque @ 1300 rpm . . . . . 697 kg/m **5,041 lb ft**  
 Bore . . . . . 159 mm **6.26"**  
 Stroke . . . . . 190 mm **7.48"**  
 Displacement . . . . . 45 L **2,746 in³**  
 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 m² **41.3 ft²**



### ELECTRICAL SYSTEM

Batteries . . . . . Four 12 volt, 220 amp/hr, batteries in series/parallel  
 Alternator . . . . . 260 amp **24 volt**  
 Cranking Motor . . . . . 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 127 mm **5"** 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 m³ **71 yd³**  
 Heaped capacity (2:1) . . . . . 78 m³ **102 yd³**  
 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.

Standard Komatsu body weight . . . . . 19100 kg **42,108 lb**



### 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 horsecollar.

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

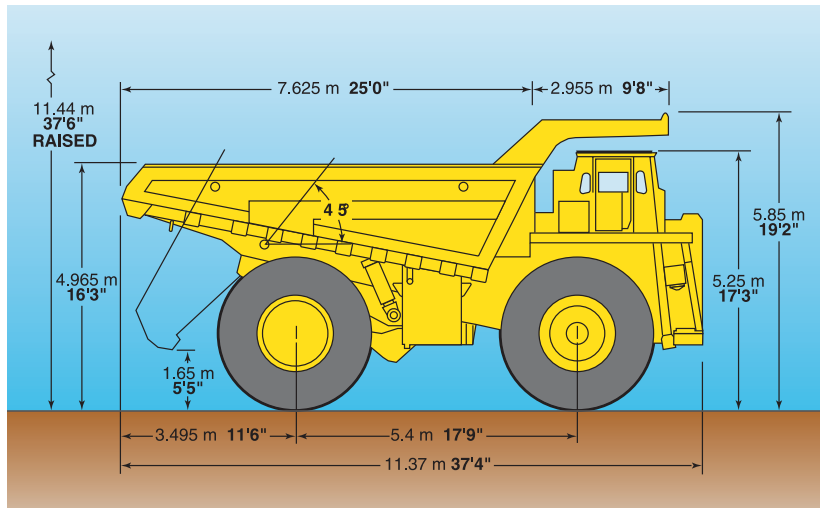


### BRAKING SYSTEMS

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 cm² **24,668 in²**  
 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, 3-caliper dry 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 supplied by accumulator.

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

**HYDRAULIC SYSTEM**

Reservoir ..... 576 L **152 U.S. gal**  
 Filtration ..... In-line replaceable elements  
   Suction ..... Single, full flow, 100 mesh  
   Hoist and steering ..... Dual, full-flow. β12 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

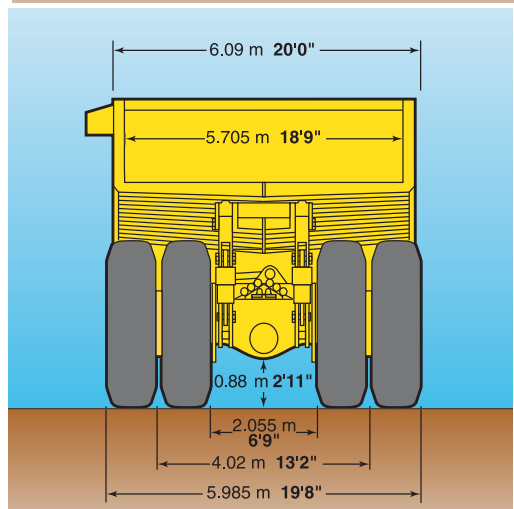
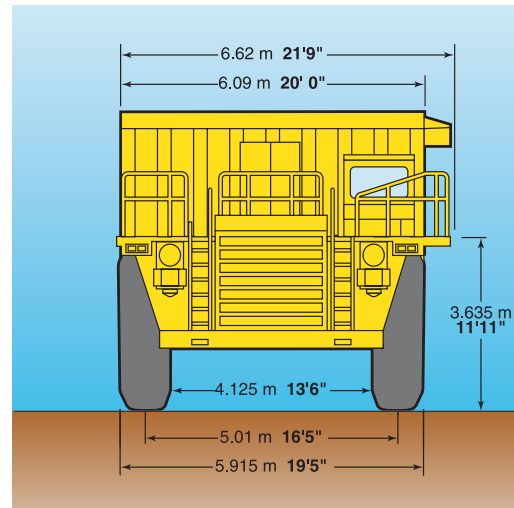
**Hoist times**

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

**Pumps**

Hoist ..... Tandem gear-type with output of 818 lpm **216 gpm** @ 1900 rpm and 17240 kPa **2,500 psi**  
 Steering and brake apply ..... Piston pump at 221 lpm **58.5 gpm** @ 1900 rpm and 18960 kPa **2,750 psi**  
 Transmission ..... Gear pump at 439 lpm **116 gpm** @ 1900 rpm and 3450 kPa **500 psi**  
 Brake cooling ..... Tandem gear pump at 707 lpm **186.8 gpm** @ 1900 rpm and 3450 kPa **500 psi**

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

\* Includes lube oil filters

**WEIGHT DISTRIBUTION**

**Empty vehicle weight** (wet, 100% fuel, no options, std Komatsu body, std tires)

|            |           |                   |     |
|------------|-----------|-------------------|-----|
| Front axle | 50554 kg  | <b>111,450 lb</b> | 49% |
| Rear axle  | 52095 kg  | <b>114,850 lb</b> | 51% |
| Total EVW  | 102649 kg | <b>226,300 lb</b> |     |

**Gross vehicle weight** (Nominal)

|                  |           |                     |     |
|------------------|-----------|---------------------|-----|
| Front axle       | 82328 kg  | <b>181,500 lb</b>   | 33% |
| Rear axle        | 167150 kg | <b>368,500 lb</b>   | 67% |
| Total            | 249478 kg | <b>550,000 lb</b>   |     |
| Nominal payload* | 146829 kg | <b>323,700 lb</b>   |     |
|                  |           | <b>162 U.S. ton</b> |     |

\*Nominal payload is defined by Komatsu America Corporation's payload policy documentation. In general, the nominal payload must be adjusted for the specific vehicle configuration and site application. The figures above are provided for basic product description purposes. Please contact your Komatsu distributor for specific application requirements.





## 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 volt**
- Electric windows (both doors)
- Glass, tinted
- Heater/defroster

- Instrumentation (gauge and monitor):
  - speedometer
  - tachometer
  - engine coolant temperature
  - brake oil temperature
  - fuel level
  - shift indicator
  - hourmeter
  - odometer
  - torque converter temperature
  - warning lights (16 function)
- Insulated and sound-suppressed
- Radio, AM/FM/cassette
- Seat, air suspension (driver)
- Seat, passenger
- Seat belts 76 mm 3" retractable
- 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
- ROPS cab (integral 4-post)
- 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

(Optional equipment may change operating weight).

Weights listed are approximate change from operating weight.

|   |         |                |
|---|---------|----------------|
| Hub odometer, miles or kilometers . . . . .       | 2 kg    | <b>5 lb</b>    |
| Automatic electronic traction aid (ASR) . . . . . | 18 kg   | <b>40 lb</b>   |
| Automatic three-mode suspension . . . . .         | 100 kg  | <b>220 lb</b>  |
| Disabled truck quick connects . . . . .           | 13.5 kg | <b>29.8 lb</b> |
| Kim Hot Start . . . . .                           | 16 kg   | <b>35 lb</b>   |
| Fast fill fuel, Wiggins left-hand side. . . . .   | 2 kg    | <b>5 lb</b>    |

|   |         |                  |
|---|---------|------------------|
| Fast oil change, Wiggins (engine) . . . . .   | 7 kg    | <b>15 lb</b>     |
| Service center, Wiggins left-hand side . . . . .                                      | 36 kg   | <b>80 lb</b>     |
| Muffler, deck-mounted . . . . .   | 50 kg   | <b>110 lb</b>    |
| Fire extinguisher . . . . .   | 14 kg   | <b>30 lb</b>     |
| Body liners   |         |                  |
| —19 mm floor, 9 mm side, front and rear half of canopy (400 Brinnell Steel) . . . . . | 8320 kg | <b>18,340 lb</b> |

\*Available factory installed or non-installed. All other options and accessories listed are available factory installed only.

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