

# KOMATSU®

## HD785-5

**MAXIMUM GVW**  
166468 kg **367,000 lb**

**NET HORSEPOWER**

777 kW **1,042 HP**



Photo may include optional equipment.

MECHANICAL DRIVE TRUCK

# HD785-5 MECHANICAL DRIVE TRUCK

## SPECIFICATIONS



### ENGINE

Make and model ..... Komatsu SAA12V140ZE-2  
 Fuel ..... Diesel  
 Number of cylinders ..... 12  
 Operating cycle ..... 4 stroke  
 \*Rated brake power ..... 807 kW **1082 hp** @ 2000 rpm  
 \*\*Flywheel power ..... 777 kW **1042 hp** @ 2000 rpm  
 Maximum torque ..... 4631 N•m **3415 lb-ft** @ 1400 rpm  
 Bore ..... 140 mm **5.5"**  
 Stroke ..... 165 mm **6.5"**  
 Displacement ..... 30.5 liters **1861 in<sup>3</sup>**  
 Weight (dry) ..... 2998 kg **6610 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

Radiator with system capacity of 228 liters **60 gal.** Steering oil and air conditioning cooler mounted in front of radiator. Transmission cooler in bottom tank of radiator. 1346 mm **53"** fan. Air-to-air engine aftercooler mounted in front of radiator.

Radiator frontal area ..... 2.0 m<sup>2</sup> **21.3 ft<sup>2</sup>**



### ELECTRICAL SYSTEM

Batteries ..... Four 12-volt batteries in series/parallel  
 Alternator ..... 24 volt, 75 A  
 Cranking motor ..... One 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	10.6 km/h	<b>6.6 mph</b>	Gear 5	35.9 km/h	<b>22.3 mph</b>
Gear 2	14.9 km/h	<b>9.3 mph</b>	Gear 6	48.9 km/h	<b>30.4 mph</b>
Gear 3	19.9 km/h	<b>12.4 mph</b>	Gear 7	64.7 km/h	<b>40.2 mph</b>
Gear 4	26.7 km/h	<b>16.6 mph</b>	Reverse	11.4 km/h	<b>7.1 mph</b>



### TIRES / RIMS

Rock service, tubeless, radial tires

Standard tire\* ..... 27.00-R49

Standard five (5) piece rim

495 mm x 1244 mm x 102 mm **19.5" x 49" x 4"** rim assembly with 102 mm **4"** 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 ..... 3.47 : 1  
 Planetary ..... 6.50 : 1  
 Total reduction ..... 22.54 : 1



### BODY

Struck capacity ..... 38.6 m<sup>3</sup> **50.5 yd<sup>3</sup>**

Heaped capacity (2:1) ..... 60.1 m<sup>3</sup> **78.7 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.

Standard Komatsu body ..... 16287 kg **35,906 lb**



### CAB

Deluxe cab, engineered to provide superb working comfort, excellent visibility and maximum production efficiency. Features include tinted safety-glass, fully adjustable air suspension operator's seat with seat belt, fresh air heater/defroster, air conditioning (134A refrigerant), insulation and temperature control, convenient gauge arrangement, left- and right-hand external mirrors, and operator windshield sun visor.



### FRAME

Box-section main rails, proportioned to accommodate relative bending and torsion loads, are connected by tubular cross member, an integral front bumper and rugged, continuous horsecollar. Cross members to frame joints use large radii to minimize stress. The frame rails and other structural plates are fabricated from 344.75 mPa **50,000 psi** yield strength steel. Castings at the rear cross members incorporate the body pivot, body-up pins, and rear suspension strut pivots, as well as the Panhard attachment.



### BRAKING SYSTEMS

Meets SAE J1473 DEC84 and ISO 3450-1985 standards up to 166468 kg GVW **367,000 lb.**

Service Brakes

Front: Air-over-hydraulic actuated dual caliper disc.

Braking surface ..... 1935 cm<sup>2</sup> **300 in<sup>2</sup>**

Rear: Air-over-hydraulic, oil-cooled, multi-disc-type brakes act as both service and retarder brakes. Brakes are sealed for protection from environmental contaminants.

Braking surface ..... 80 290 cm<sup>2</sup> **12,445 in<sup>2</sup>**

Automatic Emergency Braking System

Automatically applied prior to air system pressure dropping below level required to meet secondary stopping requirements.

Manual Emergency Braking System

In the event of failure of the brake pedal, the service brakes can be manually applied by an operator switch located on the console.

Retarding

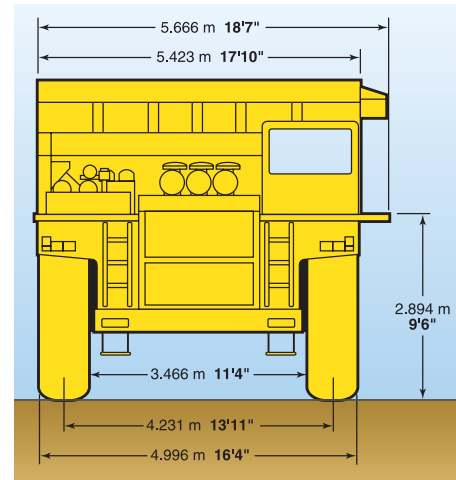
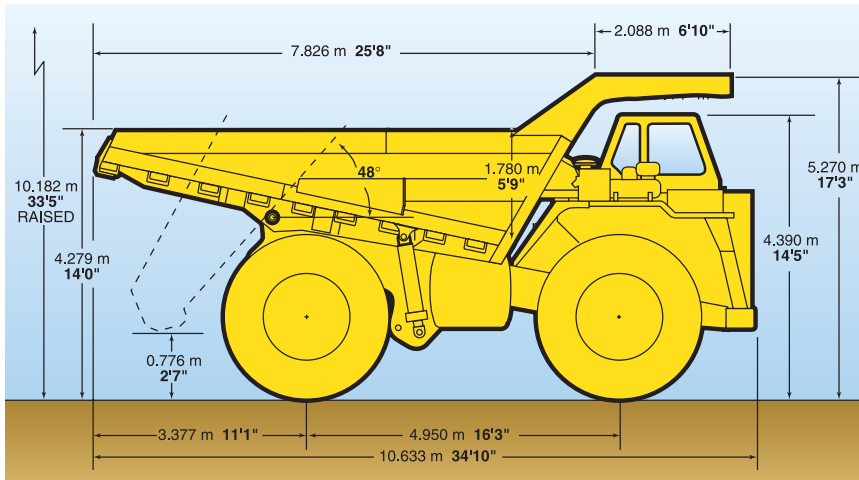
Constant speed control is provided by a hand-operated lever for the retarder function, which provides modulated engagement of rear brakes only.

Parking Brake

Spring-applied, air-released, dry dual caliper disc brake mounted on the input yoke to the differential.



## DIMENSIONS



All dimensions are with 60 m<sup>3</sup> 78 yd<sup>3</sup> body. Vertical dimensions are for standard empty vehicle.



## SERVICE CAPACITIES

Crank case	.....	140 L	<b>37 U.S. gal</b>
Cooling system	.....	228 L	<b>60 U.S. gal</b>
Fuel tank	.....	1250 L	<b>330 U.S. gal</b>
Hydraulic (steer/hoist)	.....	248 L	<b>66 U.S. gal</b>
Hydraulic (brake cooling)	.....	366 L	<b>97 U.S. gal</b>
Transmission			
Sump only	.....	102 L	<b>27 U.S. gal</b>
Sump plus ext. filters, lines, etc.	.....	125 L	<b>33 U.S. gal</b>
Final drive	.....	260 L	<b>69 U.S. gal</b>



## SUSPENSION

Variable rate, hydro-pneumatic independent suspension with integral rebound control. Suspension stroke front and rear is 194 mm 7 5/8".

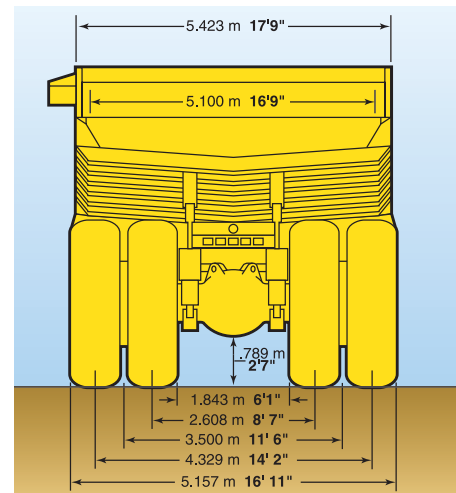
Maximum front stroke ..... 320 mm **12.6"**

Maximum rear stroke ..... 127 mm **5.0"**



## HYDRAULIC SYSTEM

Oil reservoir tanks			
Steering/hoist	.....	145 L	<b>38.3 U.S. gal</b>
Brakes	.....	248 L	<b>65.5 U.S. gal</b>
Filtration	.....	In-line replaceable elements	
Suction	.....	Single, full flow, 100 mesh	
Hoist and steering	.....	Dual, full-flow.	
		β12 rating = 200.	
Hoist	.....	Two 2-stage cylinders. Mechanical-hydraulic control provides quick response.	
Hoist times			
Raise	.....	12 sec	
Lower	.....	(power down) 13 sec	
Lower	.....	(float) 19 sec	
Pumps			
Hoist/steering	.....	Gear pump at 636 lpm <b>168 gpm</b>	
		@ 2000 rpm and 18 340 kPa <b>2660 psi</b>	
Brake Cooling	.....	Gear pump at 1001 lpm <b>264 gpm</b>	
		@ 2000 rpm	



## STEERING SYSTEM

Steering

Full hydraulic power steering with twin double acting cylinders provide constant rate steering. Manual and automatic emergency steering.

Turning circle diameter (SAE) ..... 19.8 m **65'**

Steering angle (left or right) ..... 45°



## WEIGHT DISTRIBUTION

<b>Empty vehicle weight</b> (wet, 100% fuel, no options, std Komatsu body, std tires)			
Front axle	.....	33835 kg	<b>74,593 lb</b> 48%
Rear axle	.....	36655 kg	<b>80,810 lb</b> 52%
Total EVW	.....	70490 kg	<b>155,403 lb</b>
<b>Gross vehicle weight</b> (Nominal)			
Front axle	.....	54935 kg	<b>121,110 lb</b> 33%
Rear axle	.....	111533 kg	<b>245,890 lb</b> 67%
Total	.....	166468 kg	<b>367,000 lb</b>
Nominal payload*	.....	95980 kg	<b>211,597 lb</b>
			<b>106 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 (3); air cleaner restriction indicator; cold weather start (grid heater) engine belly guard; engine pre-lube; electric starter (1)
- Seven-speed automatic transmission
  - electronic control
  - body-up reverse interlock
  - body-up shift inhibitor
  - downshift/reverse shift interlock
  - neutral start switch
  - programmable maximum range select
  - transmission belly guard
- Torque converter (electronic lock-up control)

### CAB

- Air conditioning (R134A)
- Heater/defroster
- Instrumentation
  - air pressure monitor & warning lights
  - battery charge warning light
  - body up light
  - brake oil temperature gauge & warning light
  - coolant level monitor and warning light
  - coolant temp. gauge & warning light
  - emergency steering light
  - engine oil pressure monitor & warning light
  - fuel level gauge & warning light

- hour meter
- park brake switch & light
- shift indicator
- speedometer (digital)
- tachometer (digital)
- transmission oil temperature gauge & warning light
- transmission filter clogging light
- Seat - air suspension (driver)
- Seat - passenger
- Sliding windows
- Steering wheel - tilt & telescoping
- Operator sun visor
- Windshield - tinted, laminated safety glass
- Windshield wiper & washer

### ELECTRICAL SYSTEM

- Alternator - 24V, 75A
- Batteries (4) - 12V, 1450 CCA
- Circuit breaker protection

### LIGHTING

- Back-up light - rear (1)
- Back-up lights - deck-mounted (2)
- Clearance lights - front
- Headlights - halogen (4)
- Hi-low beam selector
- Instrument panel lights with dimmer control
- Retarder lights (2)
- Stop and tail lights (2)
- Turn signals

### SAFETY

- Body up safety pins (2)
- Back-up warning alarm
- Brake cut-off switch, front axle
- Cab guard (on canopy)
- Drive line protector (front and rear)
- Emergency steering system - automatic & manual
- Emergency brake system - automatic & manual
- Engine fan and pulley guards
- Fire safety shield (behind engine)
- Handrails - right, left and center
- Horn, air
- Ladders - right and left
- Mirrors - right, left and front
- Mud flaps
- Parking brake - 2 calipers, spring-applied
- Rock ejectors
- Skid-resistant coating on walkways
- Vandalism protection

### OTHER

- Body mounting group
- Dual air dryers
- Hydraulic reservoirs (separate)
- Two hooks, front - tow pin, rear
- Operation, Parts and Maintenance manuals (1 set)
- Rims (6), 19.5 x 49



## OPTIONAL EQUIPMENT

Weights listed are approximate change from operating weight.

### ENGINE EXHAUST

- Muffler - deck mounted . . . . . 50 kg **110 lb**

### BODY

- Liner - 16 mm floor, 9 mm front & side . . . . . 6350 kg **14,000 lb**

### ENGINE/RADIATOR

- Rockford fan clutch . . . . . 92 kg **203 lb**
- Exhaust dynamic retarder . . . . . 68 kg **150 lb**

### CONVENIENCE & SAFETY

- Battery disconnect . . . . . 5 kg **10 lb**
- Electronic traction control/retard speed control. . 136 kg **300 lb**
- Fire extinguisher - 20 lbs . . . . . 14 kg **30 lb**
- Fog lights . . . . . 2 kg **5 lb**
- Ground level engine shutdown . . . . . 7 kg **15 lb**
- ROPS/FOPS (Cantilevered canopy over cab) . . 840 kg **1850 lb**
- Retarder & brake light (cab-mounted). . . . . 2 kg **5 lb**

### SERVICING

- Wiggins fast fill fuel (right-hand side) . . . . . 2 kg **5 lb**
- Wiggins Service Center (right-hand side). . . . . 20 kg **45 lb**  
-clustered fast fill connections for engine oil, coolant, and transmission oil
- Wiggins fast lube oil change (engine). . . . . 5 kg **10 lb**  
-this system is included in the Wiggins Service Center option
- Centralized greasing . . . . . 9 kg **20 lb**  
-clustered grease fittings at the rear of truck
- Automatic lube system (60 lbs capacity). . . . . 159 kg **350 lb**

### COLD WEATHER PROTECTION

- Kim Hot Start . . . . . 16 kg **35 lb**  
(engine oil, coolant, transmission oil)

### AUXILIARY EQUIPMENT

- Komatsu Payload Weighing System (PLMII) . . . . 27 kg **60 lb**

### DECALS

- Spanish markings . . . . . 0 kg **0 lb**

### CAB ACCESSORIES

- AM/FM radio cassette w/ashtray & lighter . . . . . 0kg **0 lb**
- Passenger sun visor

