

# KOMATSU®

## HM400-2

### With Tier 3 Engine

**GROSS HORSEPOWER**

338 kW 453 HP

**NET HORSEPOWER**

327 kW 438 HP

**MAXIMUM GVW**

69040 kg 152,200 lb

**HM**  
**400**

ARTICULATED DUMP TRUCK



Photo may include optional equipment

# WALK-AROUND

*The HM400-2 with the new EPA Tier 3 and EU Stage 3A emission certified “ecot3” engine offers all around maximum productivity with more horsepower and many features that enhance efficiency, while reducing maintenance costs. From rough terrain construction sites to landfills, the HM400-2 has the competitive advantage.*

### **Wide, spacious cab with excellent visibility**

- The wide cab offers a comfortable operator and passenger environment
- Viscous mounts support the cab while absorbing vibrations and noise
- Low-noise cab through improved sealing with integrated floor  
Interior noise level **76 dB(A)**
- Additional front under view mirrors provide superior visibility
- Air suspension seat is standard
- Power windows
- Electric heated rear window

### **High performance and environment-friendly SAA6D140E-5 “ecot3” engine**

- Gross horsepower 338 kW **453 HP**
- North American EPA Tier 3 and EU Stage 3A emission certified for 2006
- Engine power mode selection system realizes both greater productivity and improved fuel economy
- Higher engine output and torque improve productivity in all applications

**Tiltable cab** can be tilted rearward **32°** to provide easy service.

### **Fully hydraulic articulated steering**

- Light and easy operation
- Minimum turning radius **8.7 m 28'7"**
- Tilt and telescoping steering column fits any operator



### **Hydro-pneumatic trailing arm suspension for all terrains.**

The hydro-pneumatic suspension in both front and rear suspensions assures a comfortable ride even over rough terrain and keeps the tires on the ground at all times.



KOMTRAX equipped machines can send location, SMR and operation maps to a secure website utilizing wireless technology. Machines also relay error codes, cautions, maintenance items, fuel levels, and much more.



**GROSS HORSEPOWER**  
338 kW **453 HP** @ 2000 rpm

**NET HORSEPOWER**  
327 kW **438 HP** @ 2000 rpm

**MAXIMUM GVW**  
69040 kg **152,200 lb**

***Komatsu designed, electronically controlled transmission for a comfortable ride.***

F6-R2 counter-shaft type transmission with K-ATOMiCS (Komatsu Advanced Transmission with Optimum Modulation Control System). Transmission shift hold button optimizes the operator control or the transmission will automatically shift through all gears.

***Easy-to-load body***

- Heaped capacity 22.3 m<sup>3</sup> **29.2 yd<sup>3</sup>**
- Low loading height 2970 mm **9'9"**
- High strength body constructed of thick wear-resistant steel having 400 Brinell hardness



Photo may include optional equipment



***Interaxle & differential locks provide excellent traction in rough terrain.***

The oil-cooled multiple-disc interaxle lock and differential locks can be turned on and off during travel. In addition, the differential locks can lock up all three axle's differentials 100% for maximum traction.

***High capacity, reliable, continuously cooled, wet type multiple-disc brake and retarder combination***

- Fully hydraulic controlled wet multiple-disc service brakes
- Retarder Absorbing Capacity (continuous descent) 472 kW **633 HP**



Komatsu's highly productive, innovative technology, environmentally friendly machines built for the 21st century.

# PRODUCTIVITY FEATURES

*The combination of high horsepower and an efficient engine with low emissions delivers maximum productivity at the lowest cost.*



Komatsu's new "ecot3" engines are designed to deliver optimum performance under the toughest of conditions, while meeting the latest environmental regulations. This engine is Tier 3 EPA, EU Stage 3A and Japan emissions certified. "ecot3" - ecology and economy combined with Komatsu technology to create a high performance engine without sacrificing power or productivity.

### High-Performance Komatsu SAA6D140E-5 Engine

The Komatsu 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, and an efficient turbo-charger 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.

### Engine Power 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 the truck meets high resistance.

#### Economy mode

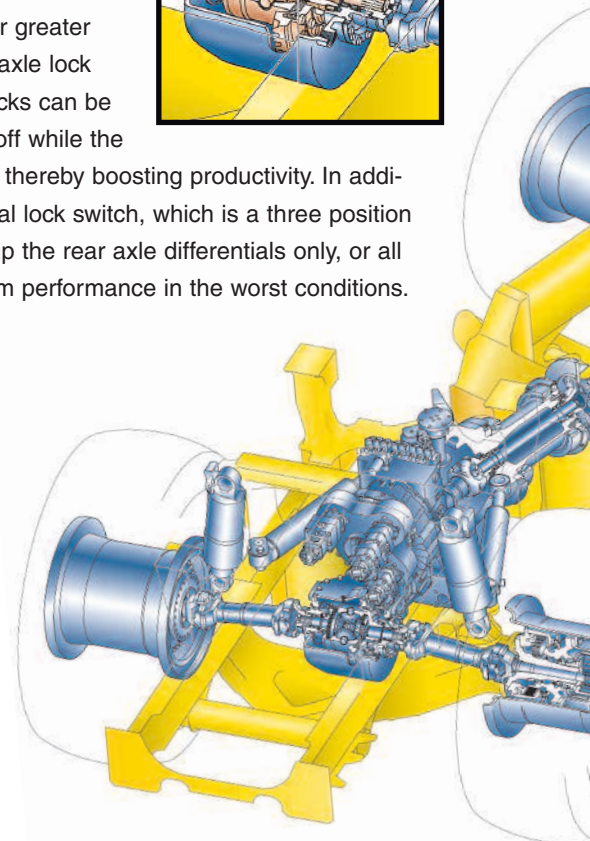
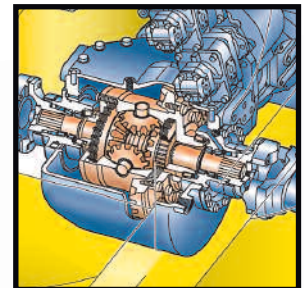
Engine speeds for the maximum horsepower output and the downshift and upshift speeds are set to a lower level. It is appropriate for light work on the flat ground.

### Komatsu-Designed Electronically Controlled Countershaft Transmission

The Komatsu designed Electronically Controlled Transmission with K-ATOMiCS has been a success in Komatsu's rigid dump trucks. The electronic clutch modulation system ensures proper clutch pressure when the clutch is engaged. The total control system controls both the engine and transmission by monitoring the vehicle conditions. This high technology system assures smooth shifts without shock and maximizes power train life.

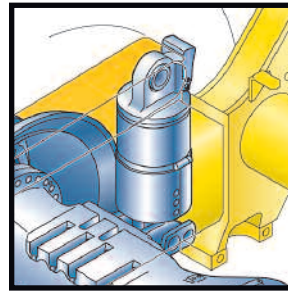
### Komatsu-Designed Interaxle and Differential Locking Systems

The full-time six-wheel drive system reduces slippage. A wet multiple-disk interaxle clutch also locks the three axles in unison for greater traction. The interaxle lock and differential locks can be switched on and off while the truck is travelling, thereby boosting productivity. In addition, the differential lock switch, which is a three position switch, can lock up the rear axle differentials only, or all axles for maximum performance in the worst conditions.



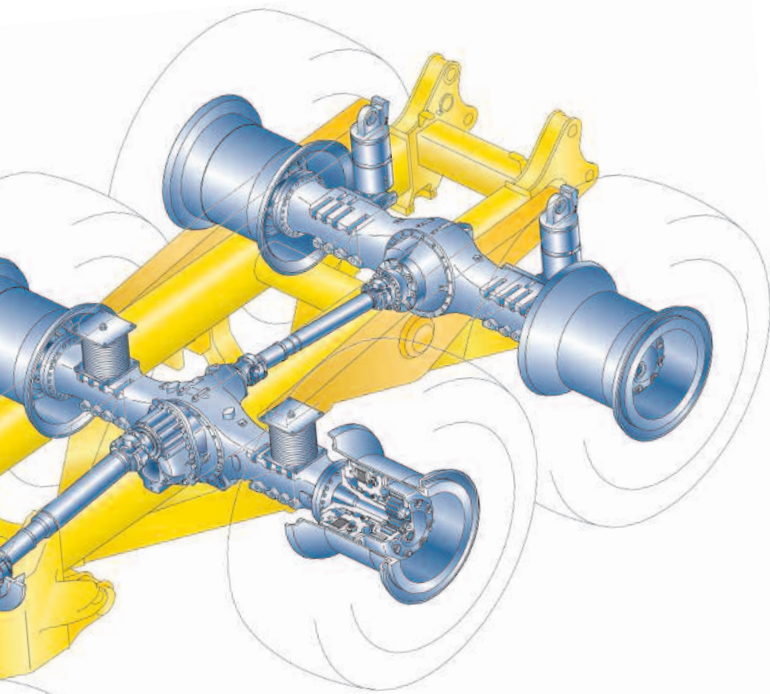
**Hydro-Pneumatic Trailing Arm Suspension**

The hydro-pneumatic suspension has been proven on Komatsu's rigid dump trucks. The front axle hydro-pneumatic suspension employs a "De Dion" type design. The suspension is a trailing arm design which allows the truck to ride smoothly. The rear-axles are mounted on a dynamic equalizer structure equipped with hydro-pneumatic suspension. The entire vehicle's hydro-pneumatic suspension delivers a comfortable ride and maximizes productivity.



**Large Capacity Body and Box Section Frame Structure**

The 22.3 m<sup>3</sup> 29.2yd<sup>3</sup> heaped capacity body is among the highest capacity in its class. The low loading height of 2970 mm 9'9" enables easy loading. The body is built of high strength wear-resistant steel with a Brinell hardness of 400, and the body shape provides excellent load stability and retains the load. Rugged enough for the toughest jobs, the HM400's frame is designed using a rigid box structure with connecting torque tubes made of high strength low alloy steel.



**Hydraulically Controlled Wet Multiple-Disc Brakes and Retarder**

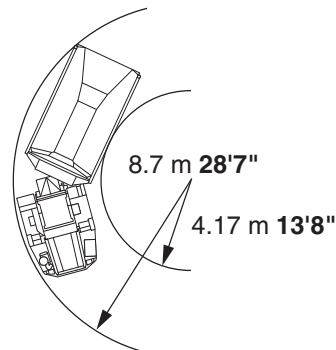
Wet multiple-disc brakes have been proven on Komatsu dump trucks and wheel loaders ensuring highly reliable and stable brake performance. The large-capacity, continuously cooled, wet-multiple disc brakes also function as a highly responsive retarder which gives the operator greater confidence at higher speeds when travelling downhill.

Retarder Absorbing Capacity (continuous descent):

472 kW 633 HP

**Articulated Steering**

Fully hydraulic articulated steering offers low-effort operating performance and maneuverability. A minimum turning radius of only 8.7 m 28'7" provides ability to work in tight areas.





# EASY MAINTENANCE

*The Komatsu cab is a state-of-the-art, wide comfortable cab. The low level of vibration and noise, plus the excellent visibility, ensure maximum productivity from the operator.*

### Low-noise Designed Cab

Integrated cab and floor provide an airtight cab. Engine compartment is also sealed. The low noise and sound insulated muffler/exhaust pipe contribute to reducing sound levels. The combined features offer a quiet and comfortable operator environment.

### Wide, Spacious Cab with Excellent Visibility

The wide cab provides a comfortable space for the operator and a full size buddy seat. Large electrically operated windows and the operator's seat positioned to the left side ensures superior visibility.

### 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 by operators for greater productivity.

The front under view mirrors are increased to three from one, and the rear view mirrors increased to four from two.

Newly employed laminated glass in the windshield assures safe operation. In addition, electric heated rear window facilitates defrosting.



### 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. This Komatsu on-board monitoring system makes the machine very friendly and easy to service.

### Steering Wheel and Pedals

Low effort pedals reduce operator fatigue when working continuously for long periods. The tiltable, telescoping steering column enables operators to maintain the optimum driving position at all times.



### Built-In ROPS/FOPS

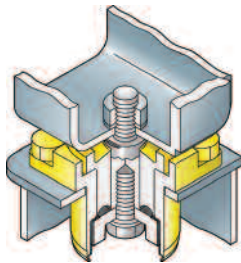
These structures conform to ISO 3471.

### Hydro-Pneumatic Suspension for All Terrains

The hydro-pneumatic suspension, for both front and rear axles, assures a comfortable ride even over rough terrain and ensures maximum productivity and operator confidence.

### Viscous Cab Mounts

Viscous mounts reduce the noise transmitted to the cab and achieve a quiet 76 dB(A) noise level



### Air Suspension Seat Is Standard

The air suspension, fabric-covered seat which is adjustable to the operator's weight is provided as standard. The air suspension seat dampens vibrations transmitted from the truck and reduces operator fatigue as well as holding the operator securely to assure confident operation.

### Electric Body Dump Control Lever

The low effort lever makes dumping easier than ever.

### Supplementary Steering and Secondary Brakes

Supplementary steering and secondary brakes are standard features.

Steering: ISO 5010-1992, SAE J1511

Brakes: ISO 3450-1996, SAE J1473





# EASY MAINTENANCE

*The HM400-2 has been designed to keep service time down and productivity up with a reduced number of grease points, easy access to filters, and longer intervals between oil changes.*

### Tiltable Cab

The cab can be tilted rearward 32° to provide easy maintenance/service for the engine and transmission.

**Note:** An external hydraulic pump is required to tilt the cab or a service crane can be used after easily removing only eight bolts. The hydraulic cylinder to tilt the cab is standard.

### Fewer Grease Points

The number of grease points are minimized by using maintenance-free rubber bushings.

### Extended Service Intervals

In order to minimize operating costs, service intervals have been extended:

- Engine oil 500 hours
- Transmission oil 1000 hours
- Engine oil filter 500 hours
- Transmission oil filters 1000 hours

### Guards

The following guards are provided as standard:

- Protective grille for rear window
- Engine underguard
- Heavy duty transmission underguard
- Propeller shaft guards
- Exhaust thermal guard
- Fire prevention covers
- Rear tire guard





# SPECIFICATIONS



## ENGINE

Model . . . . . Komatsu SAA6D140E-5  
 Type . . . . . Water-cooled, 4-cycle  
 Aspiration . . . . . Turbo-charged, after-cooled, cooled EGR  
 Number of cylinders . . . . . 6  
 Bore . . . . . 140 mm **5.51"**  
 Stroke . . . . . 165 mm **6.50"**  
 Piston displacement . . . . . 15.2 ltr **928 in<sup>3</sup>**  
 Horsepower  
     SAE J1995 . . . . . Gross 338 kW **453 HP**  
     ISO 9249 / SAE J1349 . . . . . Net 327 kW **438 HP**  
     Rated rpm . . . . . 2000 rpm  
 Fan drive type . . . . . Mechanical  
 Maximum torque . . . . . 213 kg•m **1,541 lb. ft**  
 Fuel system . . . . . Direct injection  
 Governor . . . . . Electronically controlled  
 Lubrication system  
     Method . . . . . Gear pump, force-lubrication  
     Filter . . . . . Full-flow type  
 Air cleaner . . . . . Dry type with double elements and  
     precleaner, plus dust indicator

EPA Tier 3 certified



## TRANSMISSION

Torque converter . . . . . 3-elements, 1-stage, 2-phase  
 Transmission . . . . . Full-automatic, counter-shaft type  
 Speed range . . . . . 6 speeds forward and 2 reverse  
 Lockup clutch . . . . . Wet, single-disk clutch  
 Forward . . . . . Torque converter drive in 1st gear,  
     direct drive in 1st lockup and all higher gears  
 Reverse . . . . . Torque converter drive and direct drive in all gear  
 Shift control . . . . . Electronic shift control with automatic  
     clutch modulation in all gear  
 Maximum travel speed . . . . . 58.5 km/h **36.4 mph**



## AXLES

Full time all wheel drive with 100% differential lock in all axles.  
 Final drive type . . . . . Planetary gear  
 Ratios:  
     Differential . . . . . 3.417  
     Planetary . . . . . 4.941



## SUSPENSION SYSTEM

Front . . . . . Hydro-pneumatic suspension  
 Rear . . . . . Combined hydro-pneumatic  
     and rubber suspension system



## STEERING SYSTEM

Type . . . . . Articulated type, fully hydraulic power steering  
     with two double-acting cylinders  
 Supplementary steering . . . . . Automatically actuated,  
     electrically powered  
 Minimum turning radius, wall to wall . . . . . 8.7 m **28'7"**  
 Articulation angle . . . . . 45° each direction



## BRAKES

Service brakes . . . . . Full-hydraulic control, oil-cooled  
     multiple-disc type on all wheels  
 Parking brake . . . . . Spring applied, caliper disc type  
 Retarder . . . . . Front and center axle brakes act as retarder



## MAIN FRAME

Type . . . . . Articulated type, box-sectioned  
     construction on front and rear  
     Connected by strong torque tubes.



## BODY

Capacity:  
     Struck . . . . . 16.5 m<sup>3</sup> **21.6 yd<sup>3</sup>**  
     Heaped (2:1, SAE) . . . . . 22.3 m<sup>3</sup> **29.2 yd<sup>3</sup>**  
 Payload . . . . . 36.5 metric tons **40 U.S. tons**  
 Material . . . . . 130 kg/mm<sup>2</sup> **185,000 psi**  
     high tensile strength steel  
 Material thickness:  
     Bottom . . . . . 16 mm **0.63"**  
     Front . . . . . 8 mm **0.31"**  
     Sides . . . . . 12 mm **0.47"**  
 Target area  
     (inside length x width) . . . . . 5629 mm x 3194 mm **18'6" x 10'6"**  
 Heating . . . . . Exhaust heating (option)



## HYDRAULIC SYSTEM

Hoist cylinder . . . . . Twin, 2-stage telescopic type  
 Relief pressure . . . . . 20.6 Mpa **210 kg/cm<sup>2</sup> 2,990 psi**  
 Hoist time . . . . . 12 sec



## CAB

Dimensions comply with ISO 3471 and SAE J1040-1988c ROPS  
 (Roll-Over Protective Structure) standards



## WEIGHT (APPROXIMATE)

Empty weight . . . . . 32,460 kg **71,560 lb**  
 Gross vehicle weight . . . . . 69,040 kg **152,200 lb**  
 Weight distribution:  
     Empty: Front axle . . . . . 55.1%  
         Center axle . . . . . 22.8%  
         Rear axles . . . . . 22.1%  
     Loaded: Front axle . . . . . 29.0%  
         Center axle . . . . . 35.7%  
         Rear axles . . . . . 35.3%



## TIRES

Standard tire . . . . . 29.5 R25



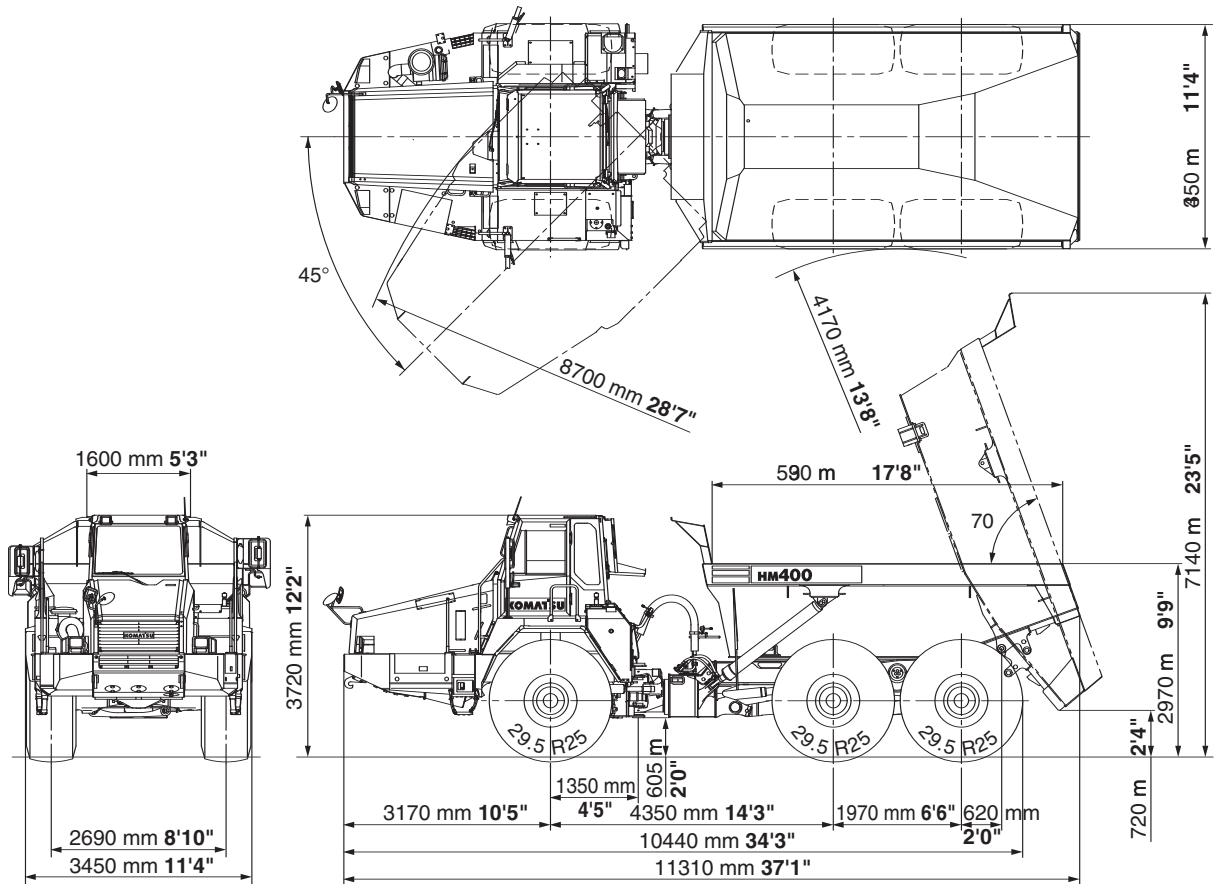
## SERVICE REFILL CAPACITIES

Fuel tank . . . . . 493 ltr. **130.8 U.S. Gal**  
 Engine oil . . . . . 50 ltr. **13.2 U.S. Gal**  
 Torque converter, transmission and  
     retarder cooling . . . . . 115 ltr. **30.4 U.S. Gal**  
 Differentials (total) . . . . . 97 ltr. **25.6 U.S. Gal**  
 Final drives (total) . . . . . 33 ltr. **8.7 U.S. Gal**  
 Hydraulic system . . . . . 180 ltr. **47.6 U.S. Gal**  
 Suspension (total) . . . . . 20.4 ltr. **5.4 U.S. Gal**

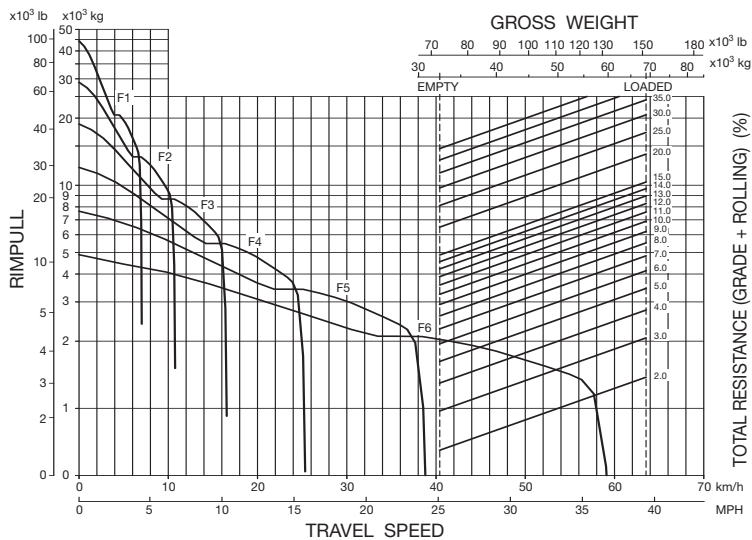
# HM400-2 ARTICULATED DUMP TRUCK



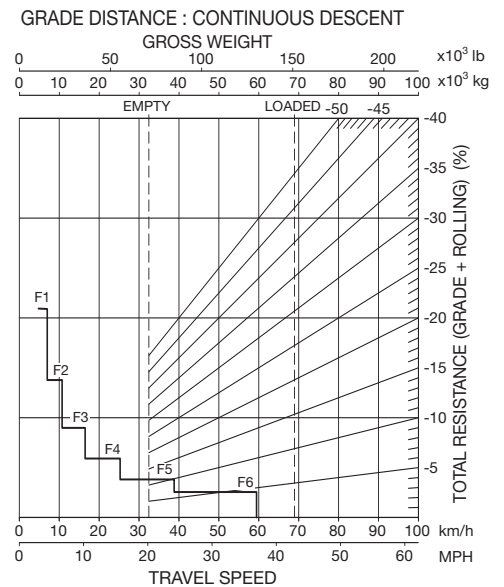
## DIMENSIONS



## TRAVEL PERFORMANCE



## BRAKE PERFORMANCE







## STANDARD EQUIPMENT FOR BASE MACHINE

### ENGINE

- Alternator, 50A/24V
- Air cleaner, dry type with double elements and precleaner, plus dust indicator
- Batteries, 170 Ah/2 x 12V
- Electric governor
- Engine, Komatsu SAA6D140E-5, turbocharged and air-to-air aftercooled, high pressure common rail injection system, 2006 NA Tier 3 certified, diesel
- Exhaust muffler with stack
- Full-automatic F6 R2 transmission with K-ATOMiC shift control and automatic T/C lockup
- Starting motor, 11.0 kW
- Separator, fuel/water

### CAB

- 12 volt outlet port
- Air conditioner/heater/defroster, electronically controlled
- Ashtray and cigarette lighter
- Cup holder
- Dual entry
- Electronic hoist control system
- Electronic maintenance display/monitoring system
- Floor mat
- Heater rear window
- Power windows
- Radio AM/FM with cassette
- Rear window guard
- Seat, air suspension, reclining (fabric)

- Seat belt, passenger and operator, 78 mm 3", retractable
- Storage space under seat and right armrest
- Sun visor, front window
- Tilt and telescopic steering wheel
- Tilt cab arrangement for easy serviceability
- Tinted glass
- Windshield washer and wiper (front and rear)

### LIGHTING SYSTEM

- Back-up light
- Hazard light system
- Headlights with dimmer switch
- Stop, tail and turn signal lights
- Working lights, front

### GUARD AND COVERS

- Engine oil pan
- Driveline guards, front and rear
- Transmission underguard
- Mudguards for front and rear tires
- Exhaust/muffler thermal guard

### MONITORING SYSTEM

- Instrument panel (digital display with service meter and odometer, fuel gauge, speedometer, tachometer, coolant temperature, torque converter oil temperature, retarder oil temperature)
- Warning light and alarm system (parking brake, dump body float, fuel, secondary

steering, coolant temperature, torque converter oil temperature, retarder oil temperature, battery charge, steering oil temperature, engine oil pressure, retarder oil pressure, tilt caution, engine system, transmission system, retarder system)

### OTHER STANDARD EQUIPMENT

- Alarm, backup
- Body, 22.3 m<sup>3</sup> 29.2 yd<sup>3</sup>
- Centralized greasing
- Differential lock in all axles, clutch type with electric controls
- Electric circuit breaker, 24 volt
- Hand rails for platform
- Horn, electric
- Hydropneumatic suspension, front and rear
- Interaxle lockup, clutch type
- KOMTRAX
- Ladders, left and right hand side
- Payload, dump counter
- Provision for tailgate
- Rearview mirrors
- Rearview mirrors, additional, left- and right-hand side
- Retarder/brake system, continuously cooled
- Rims for 29.5 x 25 tires (set of 6)
- Steering system, automatic electric supplemental
- Under view mirror, front



## OPTIONAL EQUIPMENT

### BODY

- Delete body
- Body exhaust heating kit
- Tail gate

### LIGHTING SYSTEM

- Fog lights
- Side work lights, left and right side

### OTHER

- Alternator, 75A/24V

### TIRES

- Bridgestone . . . 29.5R25 VLT
- Michelin . . . . . 29.5R25 XADN  
. . . . . 29.5R25 XADT
- Goodyear . . . . 875/65 R29 GP4D



## ALLIED ATTACHMENTS

- Automatic lubrication
- Body liners, steel and poly
- Body sideboards - 203 mm 8" high
- Tailgate field kit



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