DUMP TRUCK HD405-6/HD605-5

KOMATSU

Model shown may include optional equipments.

HD405-6/HD605-5

Payload Capacity: **40 metric tons**/45,2 U.S. tons.
Max. Vehicle Weight: **73,175 kg** 161,320 lb.

Payload Capacity: **60 metric tons**/69,4 U.S. tons
Max. Vehicle Weight: **108,075 kg** 238,261 lb.

Excellent Productivity & Fuel Economy

- High-output Komatsu engine with low fuel consumption
  HD405: Komatsu SAA6D140E engine
  HD605: Komatsu SAA6D170E engine
- 7-speed, fully automatic K-ATOMiCS (Komatsu Advanced Transmission with Optimum Modulation Control System) transmission
- Oil-cooled multiple-disc retarder & optional exhaust retarder

Operator Comfort & Safety

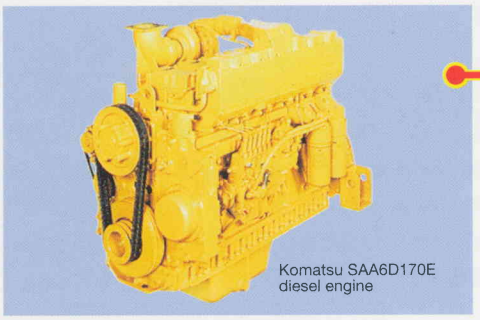
- K-ATOMiCS transmission provides smooth acceleration and deceleration
- Hydropneumatic suspension for a smoother ride
- Wide and sound-suppressing cab gives comfortable operator environment
- Keeping a constant downhill travel speed (ARSC, Option)

More Uptime

- Sturdy, refined frame and tough body for quarry
- Monitoring system for operational safety and reliability
- Adjustment-free caliper discs used for front wheel brakes

Model shown may include optional equipment.

EXCELLENT PRODUCTIVITY & FUEL ECONOMY


Komatsu SAA6D170E diesel engine

High-output Komatsu Engine:

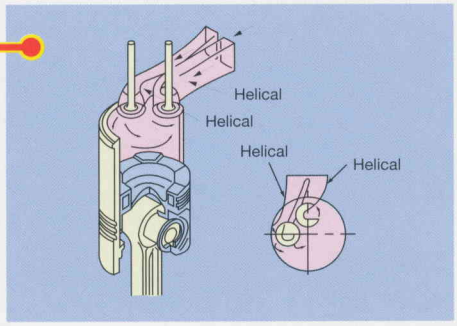
The power plant with turbocharger and aftercooler develops the largest output.

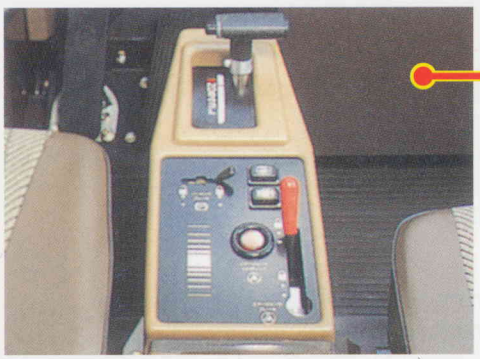
HD405: SAA6D140E
15.2 liter/488 HP (364 kw) at 2000 RPM

HD605: SAA6D170E
23.15 liter/715 HP (533 kw) at 2000 RPM

Low fuel-consuming engine:

High injection pressure creates an ideal fuel-air mixture for better combustion efficiency, while the ductile cast-iron pistons greatly reduce friction loss. For even more combustion efficiency, each cylinder has four valves - two for intake, two for exhaust. The two helical intake ports produce optimum swirl for excellent combustion. The exhaust gas is smoothly and quickly ejected from the combustion chamber through the exhaust ports. All this helps to make the Komatsu-built engine fuel efficient.



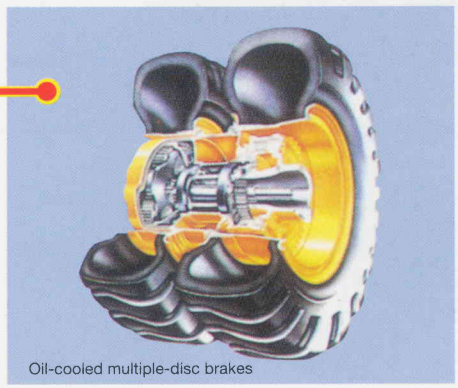

K-ATOMiCS (Komatsu Advanced Transmission with Optimum Modulation Control System)

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.

Oil-cooled multiple-disc retarder and optional exhaust retarder:

The truck can be decelerated without frequent use of the brakes, allowing you to travel safer at higher speeds, even down long, steep slopes.


Oil-cooled multiple-disc brakes

A MORE STABLE RIDE IN A MORE MANOEUVRABLE TRUCK

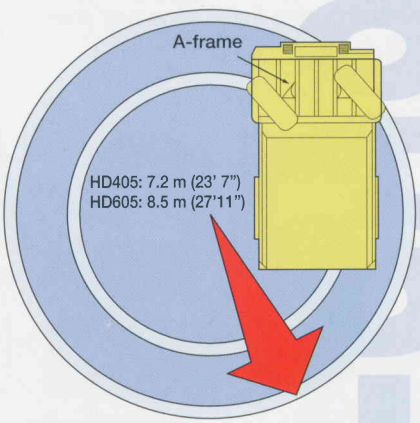
Long wheelbase and wide tread:

With an extra-long wheelbase, a wide tread and an exceptionally low center of gravity, the HD405/HD605 hauls the load at higher speed for higher production, and delivers excellent driving comfort over rough terrain.

Big body: A wide target area makes for easy loading with minimal soil spillage and more efficient hauling.

Small turning radius:

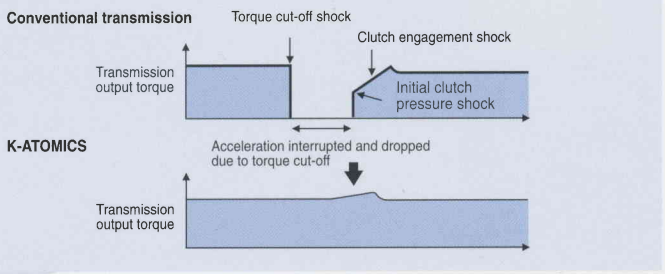
The MacPherson strut type front suspension has a special A-frame between each wheel and the main frame. The wider space created between the front wheels and the main frame increases the turning angle of the wheels. The larger this turning angle, the smaller the turning radius of the truck.



ENHANCED OPERATING COMFORT

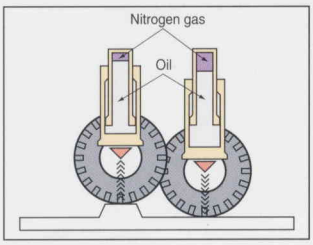
K-ATOMiCS—smooth acceleration/deceleration:

An electronically controlled valve is provided for each clutch pack in the transmission, allowing independent clutch engagement / disengagement. Moreover, it enables an ideal change in clutch modulation pressure and torque cut-off timing in response to traveling conditions. The result is smooth shifting and responsive acceleration.



Hydropneumatic suspension:

All four wheels have hydropneumatic suspension with a fixed throttle damper control valve that greatly reduces pitching, rolling and bouncing over rough terrain.



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.

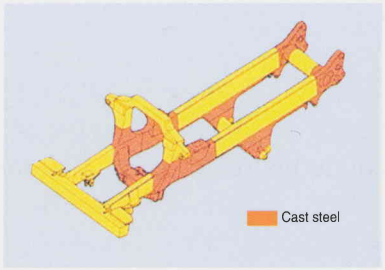
See Everything in Quiet Comfort:

Wide windows in the front, side and back, plus plenty of space in the richly upholstered interior, give you a quiet, comfortable environment from which to see and control every aspect of your work.

MORE UPTIME

Sturdy, refined frame:

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

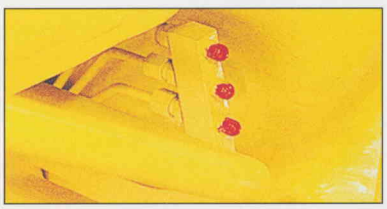


Adjustment-free brakes:

The front service brakes are adjustment-free caliper disc type.

Easy maintenance:

Greasing points have been centralized at three locations. Fuel and engine oil filters are also located together on the left-hand remote mount, for easy, remote inspection from the ground.



Reliable hydraulic system:

The oil cooler is installed below the retarder, improving the reliability of the hydraulic system during sudden temperature rises. Further, in addition to the main filter, a 52-micron line filter is set at the entrance to the transmission control valve. This system helps prevent secondary faults.

Excellent footwork and durable power line:

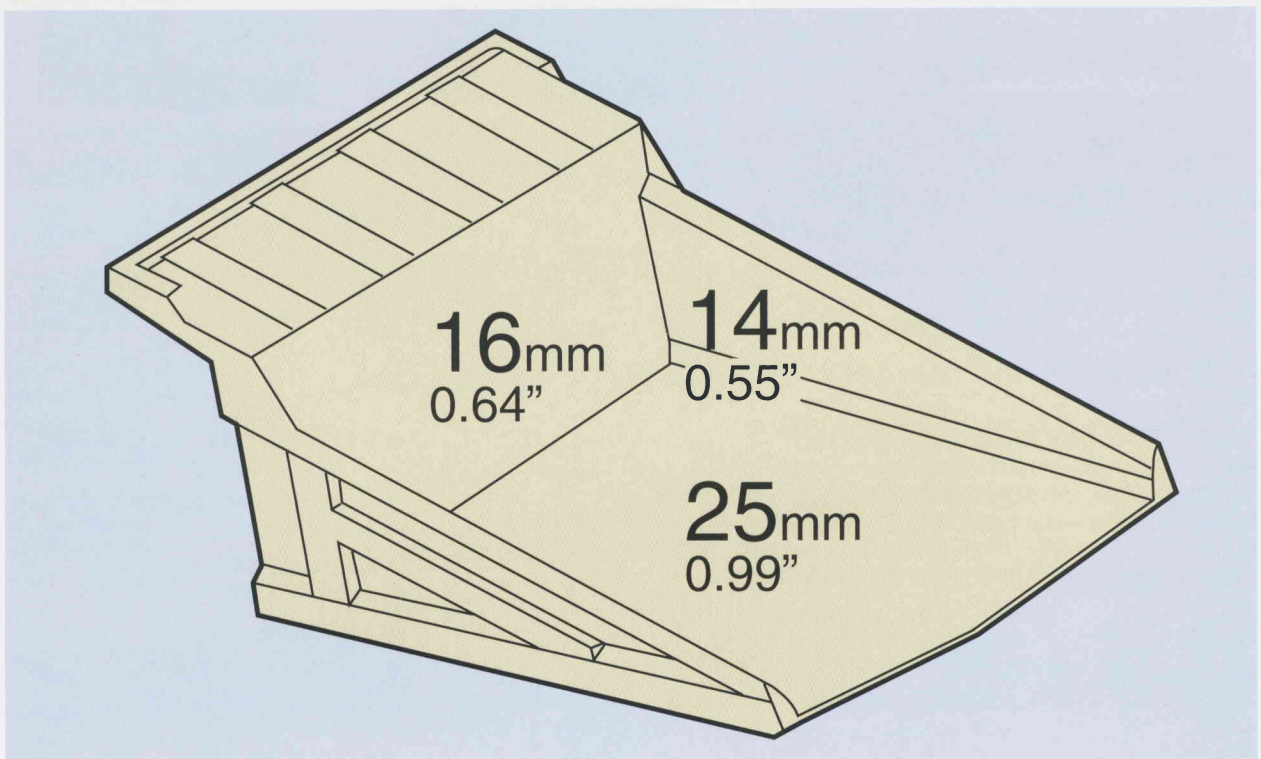
By adopting electronic modulation on all shifting points, peak torque when shifting is reduced, raising the endurance of the power line.

Electronic devices for excellent operation:

In the harness connection, a dual-lock connector is used to prevent loosening from vibrations and contact failure. Also, the base boards for controllers and other devices are fixed by molding (with resin), realizing high resistance to water, dust and vibration.

NEW ULTRA-HARD, WEAR-RESISTANT, HIGH-TENSILE-STRENGHT STEEL PLATES

Komatsu and leading Japanese steel makers have developed a new ultra-hard, wear-resistant steel with a tensile strength of 160kg/mm^2 (227,500 psi), making it the hardest and most wear-resistant steel ever developed for dump truck bodies. The material is up to 25% harder than that used in previous Komatsu dump trucks, with about 2.5 times the hardness of widely used liner materials and a Brinell hardness rating of 500. By adopting the material in thicker plates, we have enhanced both productivity and durability. Further, our dump trucks have large capacity bodies, ideal front and rear weight balance on tires and high maximum loading capacities.



HD405-5:

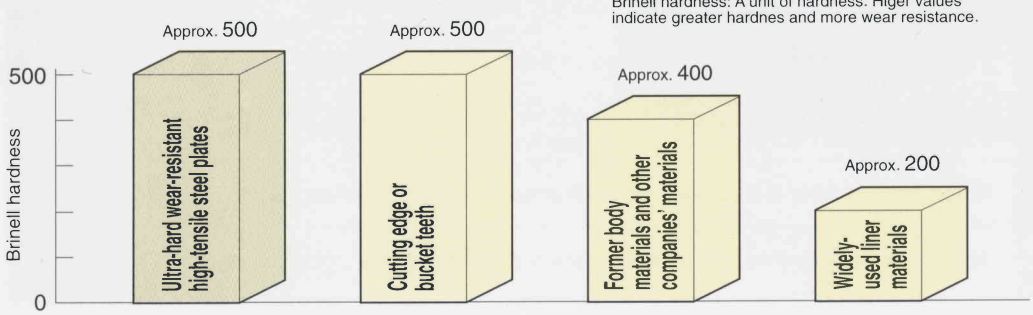
Struck	20 m^3 26.2cu.yd
Heaped(2:1)	27.3 m^3 35.7cu.yd

HD605-5:

Struck	29 m^3 37.9cu.yd
Heaped(2:1)	40 m^3 52.3cu.yd

New ultra-hard wear-resistant high-tensile steel, comparable in hardness to the cutting edge or bucket teeth

Brinell hardness: A unit of hardness. Higer values indicate greater hardnes and more wear resistance.



25% Harder
(Compared to Komatsu's conventional materials)

HD405-5/HD605-5

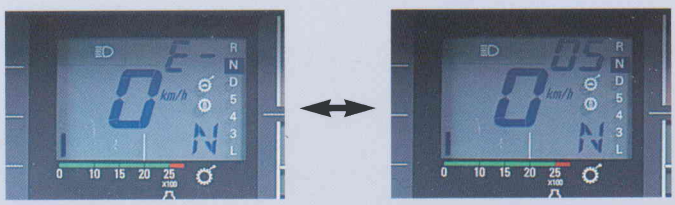
ADVANCED MONITORING SYSTEM

Vehicle monitoring system makes operation easier

The electronic display panel shows current vehicle condition. In abnomality, the action code and service code are displayed. Thus, vehicle management is easier and the working efficiency is higher. At the same time the monitoring data is saved to be used for later troubleshooting.

Action code display function

If an abnomality on the truck occurs, an "E" appears on the electronic display panel with the appropriate action code, which notifies the operator how to deal with the abnomality. The operator never misses a abnomality and can take the proper corrective action.



Messages interchange once every second

Service code display and memory function

The contents of each controller are displayed on the electronic display panel in service codes. The stored vehicle information can be downloaded to a personal computer (service tool). This enables a quick response to problems and shortens maintenance time. This also shows the truck's current condition and facilitates management.

* HD405 OPTION ** HD405/605 OPTION

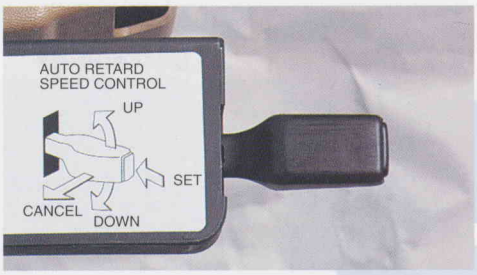
PROTECTION FUNCTIONS SUPPORTED BY ELECTRONIC CONTROL

Item	Function
Downshiff inhibitor	Even if the driver downshifts accidentally, a speed appropriate to the current gear is automatically set, preventing over-runs.
Over-run inhibitor	When descending grades, if the vehicle's speed surpasses the maximum for the current gear, the rear brakes automatically operate, preventing over-runs.
Reverse inhibitor	The vehicle is prevented from moving backward when operating the body.
Forward/Reverse shift inhibitor	This device makes it impossible to shift from forward to reverse when the vehicle's speed surpasses 4 km/hour.
Anti-hunting system	When running near a shift point, smooth automatic shifting takes place.
Neutral safety	The engine is prevented from starting when the shift lever is not in neutral.

OPTIONS TO UPDATE THE VALUE

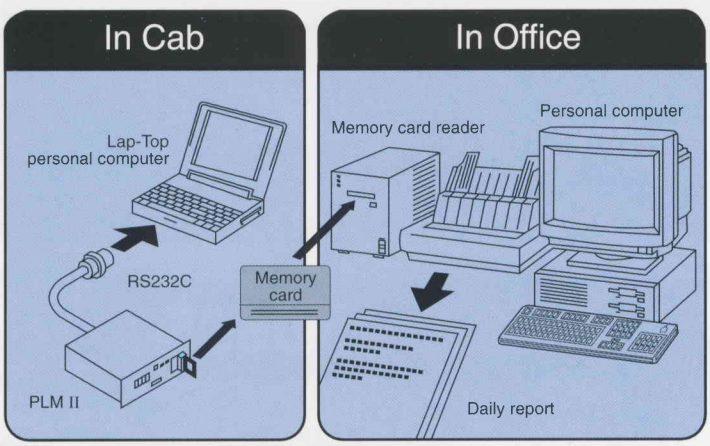
Keeping a constant downhill travel speed Auto Retarding Speed Control (ARSC)

In addition to standard exhaust retarder, ARSC is available as an option. This allows you to simply set the downhill travel speed and go down slopes at a constant speed. As a result, you can concentrate on steering. The speed can be set at increments of 1 km/h per one click (± 5km/h of maximum speed setting) to match the optimum speed for the slope. Also, since the retarder cooling oil temperature is always monitored, the speed is automatically lowered to prevent overheating.



PLMII (IC card type payload meter)

This system allows the production volume and the working conditions on the dump truck to be analyzed and controlled directly via a personal computer. It can store up to 2900 working cycles.



* The memory card, card reader and software for data processing are optionally available.

Engine exhaust retarder:

The retarder capacity is increased by 30%, so faster speed is permitted on the downward slope. This improves safety and hauling performance.

Three-mode hydropneumatic suspension (optional):

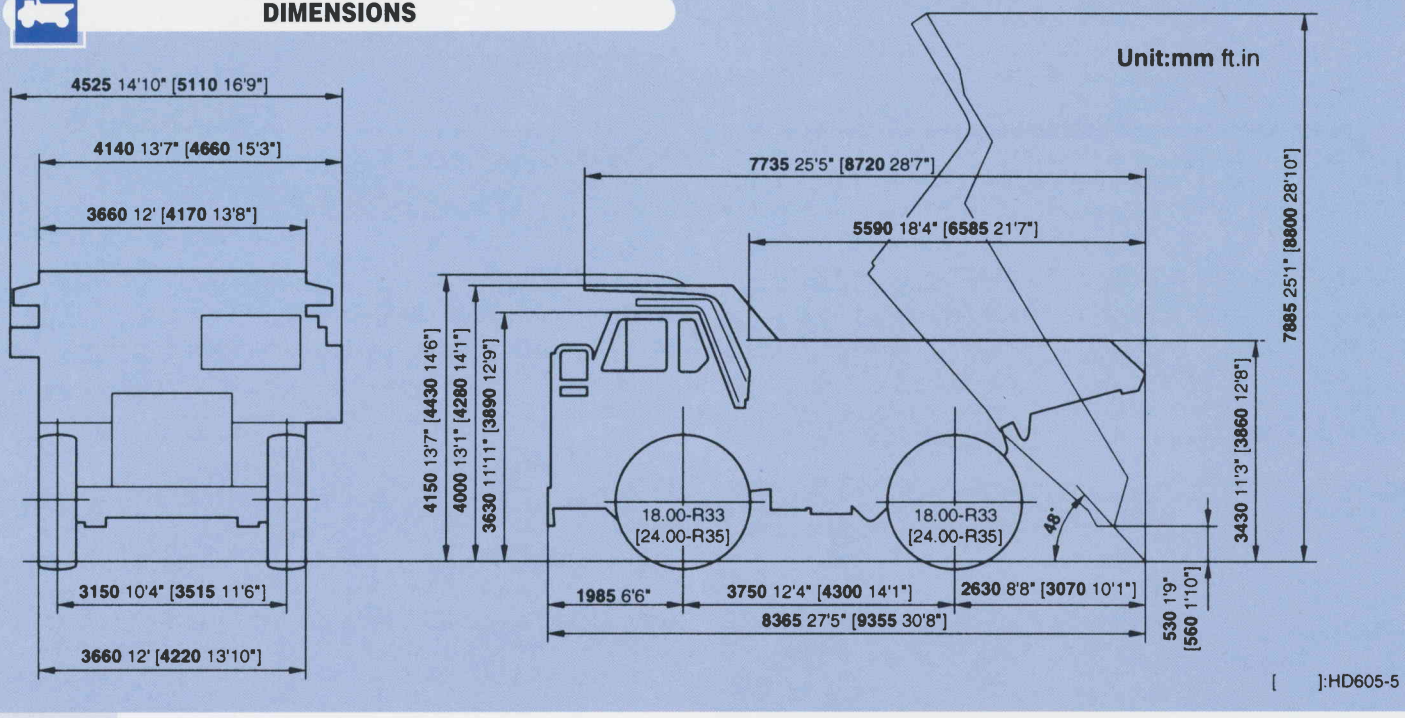
To further enhance driving comfort, automatic three-mode suspension is as an option available. This enables the operator to select one of three cushioning effects (SOFT, NORMAL or HARD), depending on road conditions, for improved damping control.

ABS (Anti-lock brake system)

Using its outstanding electronics technology, Komatsu is the first in the industry to introduce ABS on construction machinery. This system prevents the tire lock under slippery condition while applying service brake and gives safety drive of the truck.

DIMENSIONS

DIMENSIONS



SPECIFICATIONS

HD405-6/HD605-5

ENGINE

Model ..... HD405: KOMATSU SAA6D140E
HD605: KOMATSU SAA6D170E
Type ..... Water-cooled, 4-cycle
Aspiration ..... Turbocharged and aftercooled
No. of cylinders 6
Bore x stroke ..... HD405: **140 mm x 165 mm** 5.50" x 6.50"
HD605: **170 mm x 170 mm** 6.69" x 6.69"
Piston displacement ..... HD405: **15.23 ltr.** 930 cu.in
HD605: **23.15 ltr.** 1413 cu.in
Performance:
Gross horsepower ..... HD405: **508 HP** 379 kW
HD605: **739 HP** 551 kW
Flywheel horsepower ..... HD405: **488 HP** 364 kW (SAE J1349)
HD605: **715 HP** 533 kW (SAE J1349)
Rated RPM ..... 2000 RPM
Max. torque. . HD405: **221 kg-m** 1600 ft-lb/**2.17 kN-m** at 1400 RPM
HD605: **309 kg-m** 2235 ft-lb/**3.03 kN-m** at 1400 RPM
Fuel system ..... Direct injection
Governor ..... HD405: Max.-min. control
Governor ..... HD605: Electrical, all speed control
Lubrication system:
Lubrication method ..... Gear pump, force-lubrication
Filter ..... Full-flow type
Air cleaner ..... Dry type with double elements and precleaner, plus dust indicator

TRANSMISSION

Torque converter 3-elements, 1-stage, 2-phase
Lockup clutch ..... Wet, single-disk crutch
Transmission ..... Full-automatic, planetary gear type hydraulically actuated
Speed range ..... 7 speeds forward and one reverse
Foward ..... Torque converter drive in 1st gear, direct drive in 1st lockup and all higher gears
Reverse ..... Torque converter drive
Shift control ..... Electronic shift control with automatic clutch modulation in all gear
Max. travel speed ..... **70 km/h** 43.5 MPH

AXLES AND FINAL DRAVES

Final drive type ..... Planetary
Rear axle ..... Full-floating
Rations:
Differential HD405: 3.125
HD605: 3.267
Planetary HD405: 4.737
HD605: 5.143

SUSPENSION

Independent, hydropneumatic suspension cylinder with fixed throttle to dampen vibration.

STEERING

Type ..... Fully hydraulic power steering with two double-acting cylinder
Emergency steering ..... Manual control
Min. turning radius ..... HD405: **7.2 m** 23'70"
Min. turning radius ..... HD605: **8.5 m** 27'11"

BRAKES

Service brakes:
- Front ..... Air-over-hydraulic, caliper disc type
- Rear ..... Air-over-hydraulic, oil-cooled, multiple-disc type

Parking brake ..... Spring applied, caliper disc type actuates on drive shaft.
Retarder ..... Air-over-hydraulic, oil-cooled, multiple-disc type, rear breakes act as retarders
Emergency brake ..... An emergency relay valve automatically actuates the service brakes and parking brake when air pressure drops below the rated level. Manual operation is also possible.

FRAME

Type ..... Box-sectioned construction
Main frame material ..... High-tensile-strength steel plate

BODY

Structure ..... V-shape body
Material ..... **160kg/mm²** 227.500 PSI high-tensile-strength steel
Heating ..... Exhaust heating
Material thickness:
- Floor ..... **25 mm** 0.99"
- Front ..... **16 mm** 0.64"
- Sides ..... **14 mm** 0.55"

Target area (inside length x width) ..... HD405: **5590 mm x 3380 mm** 18'4" x 11'1"
HD605: **6585 mm x 3870 mm** 21'7" x 12'8"

BODY HOIST

Hoist cylinder ..... Twin, 2-stage telescopic type
Hydraulic pump capacity ..... HD405: **255 ltr./min.** 67.4 U.S. gal/min
HD605: **366 ltr./min.** 96.7 U.S. gal/min
Relief valve setting ..... HD405: **210 kg/cm²** 3,000 PSI/20.6 MPa
HD605: **210 kg/cm²** 3,000 PSI/20.6 MPa
Hoist time ..... HD405: 10 sec.
HD605: 10 sec.

CAPACITY

Standard body:
- Struck ..... HD405: **20 m³** 26.2 cu.yd
  HD605: **29 m³** 37.9 cu.yd
- Heaped (2:1, SAE) ..... HD405: **27.3 m³** 35.7 cu.yd
  HD605: **40.0 m³** 52.3 cu.yd

Payload, maximum ..... HD405: **41 metric tons** 45.2 U.S. tons
HD605: **63 metric tons** 69.4 U.S. tons

WEIGHT (approximate)

Empty weight ..... HD405: **32910 kg** 72553 lb
Gross vehicle weight with 40 metric ton (44 short ton) payload ..... **73175 kg** 161320 lb
Empty weight ..... HD605: **47825 kg** 105434 lb
Gross vehicle weight with 60 metric ton (66 short ton) payload ..... **108075 kg** 238261 lb
Not to exceed Max. gross vehicle weigth, including options, fuel and payload.

Notes: 1. Remain under max. gross vehicle weigth and ton-kilometers per hour, which are determined by tires.
2. Select tires that are appropriate for vehicle operating conditions.

Weight distribution:

Empty, front axle	HD405:	45%	HD605:	44.5%
rear axle	HD405:	55%	HD605:	55.5%
Loaded, front axle	HD405:	32%	HD605:	32.0%
rear axle	HD405:	68%	HD605:	68.0%

CAB AND ROPS

Dimensions comply with ISO 3471 and SAE J1040-1988c ROPS (Roll-Over Protective Structure) standards.
The cab is mounted on rubber pads and well insulated.

TIRES

Standard, front end rear ..... HD405: 18.00-R33★★RADIAL
HD605: 24.00-R35★★RADIAL

SERVICE REFILL CAPACITIES

Coolant	HD405:	**106 ltr.**	28.0 U.S. gal
	HD605:	**171 ltr.**	45.2 U.S. gal
Fuel tank	HD405:	**500 ltr.**	132.1 U.S. gal
	HD605:	**780 ltr.**	206.1 U.S. gal
Engine oil	HD405:	**37 ltr.**	9.8 U.S. gal
	HD605:	**52 ltr.**	13.7 U.S. gal
Torque converter, transmission and retarder cooling	HD405:	**90 ltr.**	23.8 U.S. gal
Torque converter, transmission	HD605:	**69 ltr.**	18.2 U.S. gal
Differential	HD405:	**45 ltr.**	11.9 U.S. gal
	HD605:	**95 ltr.**	25.1 U.S. gal
Final drive (left and right)	HD405:	**26 ltr.**	6.9 U.S. gal
	HD605:	**63 ltr.**	16.6 U.S. gal
Hydraulic system	HD405:	**129 ltr.**	34.1 U.S. gal
	HD605:	**238 ltr.**	62.9 U.S. gal
Suspension (total)	HD405:	**43.8 ltr.**	11.6 U.S. gal
	HD605:	**56.4 ltr.**	15.0 U.S. gal

STANDARD EQUIPMENT HD405-6

Engine :
- Engine, Komatsu SAA6D140E, low emission
- Alternator, 50-ampere
- Batteries, 2X12-volt 170 ah
- Starting motor, 1X11.0-kW

Body :
- Body 27m³, quarry
- Spill guard, 150 mm

Cab :
- Cab, steel, sound suppression type
- Electronic display/monitor system
- Seat, suspension type with reclining and headrest, fabric material
- Seat, passenger fabric material
- Steering wheel, tiltable & telescopic
- Seat belt, 78 mm width
- Seat belt, 50 mm width for passenger seat
- Heater and defroster
- Cigarette lighter and Ashtray
- Sun visor, additional
- Windows and windshield glass tinted safety glass

Lighting system :
- Back-up light
- Headlights with dimmer switch
- Stop and tails light and turn signals
- Hazard light system
- Work lights, RF and LH side
- Side markers

Safety :
- Back-up alarm
- Brakes with brake oil flow control valve
- Emergency brake: actuates all service brakes(front, rear and parking, 3 way)
- Catwalk with hand rails
- Hand rails for platform
- Roll-over protective structure (ROPS)
- Mud guards (frame mounted front)
- Horn, air
- Ladders, LH and RH side
- Rear view mirrors
- Under view mirror
- Emergency steering, automatic

Others :
- Electric circuit breaker, 24 volt
- Hot area arrangement (-20°C thru +50°C)
- Tool kit
- Spare parts for first service
- Cap & overhall
- Vandalism protection
- Engine side covers
- 18.00 - R33 TL strengthened rims

OPTIONAL EQUIPMENT HD405-6

Cab :
- Air conditioner
- Radio, AM/FM with cassette

Body :
- Spill guard 250 mm (145kg)

Tire :
- 18.00 R33 tires (radial)

Lighting system :
- Fog lights
- Light amber beacon
- Engine room light

Safety :
- Anti-lock brake system (ABS)
- Automatic spin regulator (ASR) (together with ABS)
- Front brake cut-off system
- Retarder, engine exhaust
- Roll-over protective structure with Fops

Gauge :
- Payload meter I printer type
- Payload meter II IC card type
- Revograph
- Revograph / Tachograph
- Tachograph

Guard :
- Engine under guard [25kg]
- Transmission under guard [95kg]
- Propeller shaft guard, front [15kg]
- Propeller shaft guard, rear [25kg]
- Platform guard, RH side [35kg]

Arrangements :
- Batteries for cold area arrangement
- Cold area arrangement (-30°C thru 40°C)
- Poor fuel (contained water) arrangement
- Poor fuel (contamination) arrangement
- Sandy and dusty area arrangement

Others :
- Body positioner
- Air dryer
- Air gun
- Alcohol injector
- Alternator, 75-ampere
- Auto greasing system
- Centralised greasing
- Fire extinguisher
- Coolant temperature alarm and light
- Differential (lock type)
- Dump position alarm & warning light
- Engine oil & coolant heater, electric
- Fast fill coupler for fuel tank
- First aid kit
- Exhaust box and muffler(with body heat)
- Muffler (no body heat)
- Radiator shutter, canvas type
- Suspensions, automatic mode selection
- Auto retard speed control system
- Max speed control (F4, F5, F6)
- Transmission shift control(at body-up)
- Pull hook, rear

[ ] *shows the amount of increased weight*

STANDARD EQUIPMENT HD605-5

Engine :
- Engine, Komatsu SAA6D170E, low emission, electronic governor
- Alternator, 50-ampere
- Batteries, 2X12-volt 200 ah
- Starting motor, 2X7.5-kW

Body :
- Body 40m³ quarry
- Spill guard, 300 mm

Cab :
- Cab, steel, sound suppression type
- Electronic display/monitor system
- Seat, suspension type with reclining and headrest, fabric material
- Seat, passenger fabric material
- Steering wheel, tiltable & telescopic
- Seat belt, 78 mm width
- Seat belt, 50 mm width for passenger seat
- Heater and defroster
- Cigarette lighter and Ashtray
- Sun visor, additional
- Windows and windshield glass tinted safety glass

Lighting system :
- Back-up light
- Headlights with dimmer switch
- Stop and tails light and turn signals
- Hazard light system
- Work lights, RF and LH side
- Side markers

Safety :
- Back-up alarm
- Brakes with brake oil flow control valve
- Emergency brake: actuates all service brakes(front, rear and parking, 3 way)
- Catwalk with hand rails
- Hand rails for platform
- Roll-over protective structure (ROPS)
- Mud guards (frame mounted front)
- Horn, air
- Ladders, LH and RH side
- Rear view mirrors
- Under view mirror
- Emergency steering, automatic

Others :
- Body positioner
- Electric circuit breaker, 24 volt
- Hot area arrangement (-20°C thru +50°C)
- Tool kit
- Spare parts for first service
- Vandalism protection
- PM. Service connectors
- Engine side covers
- Tire guards, for use with tire size 24.00
- Automatic idling setting
- 24.00R35 rims

OPTIONAL EQUIPMENT HD605-5

Cab :
- Air conditioner
- Radio, AM/FM with cassette

Tire:
- 24.00 R35 tires

Lighting system :
- Fog lights
- Light amber beacon
- Engine room light

Safety :
- Additional rear view mirror (RH)
- Anti-lock brake system (ABS)
- Automatic spin regulator (ASR) (together with ABS)
- Fire extinguisher
- Front brake cut-off system
- Retarder, engine exhaust
- Roll-over protective structure with Fops [100kg]
- High speed control (F4, F5, F6)
- Transmission shift control (at body-up)

Gauge :
- Payload meter I printer type
- Payload meter II IC card type
- Revograph
- Revograph / Tachograph
- Tachograph

Guard :

• Engine under guard	[65kg]
• Transmission under guard	[80kg]
• Propeller shaft guard, front	[15kg]
• Propeller shaft guard, rear	[40kg]
• Platform guard, RH side	[55kg]

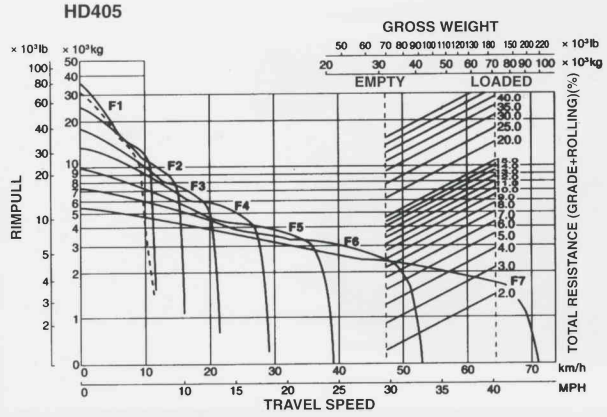
Arrangements :
- Cold area arrangement (-30°C thru 40°C)
- Poor fuel (contained water) arrangement
- Poor fuel (contamination) arrangement
- Sandy and dusty area arrangement

Others :
- Air dryer
- Air gun
- Alcohol injector
- Alternator, 75-ampere
- Auto greasing system
- Centralised greasing
- Batteries, 2X12 Volt 200ah large capacity
- Coolant temperature alarm and light
- Differential lock
- Dump position alarm & warning light
- Engine oil & coolant heater, electric
- Fast fill coupler for fuel tank
- First aid kit
- Exhaust box and muffler(with body heat)
- Muffler (no body heat)
- Radiator shutter, canvas type
- Suspensions, automatic mode selection
- Auto retard speed control system

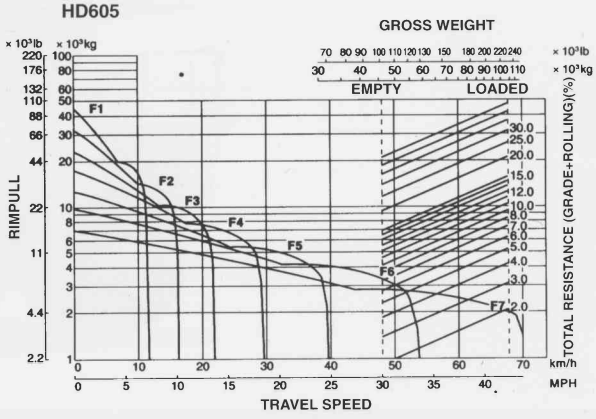
[ ] *shows the amount of increased weight*

HD405-6/HD605-5

HD405



HD605



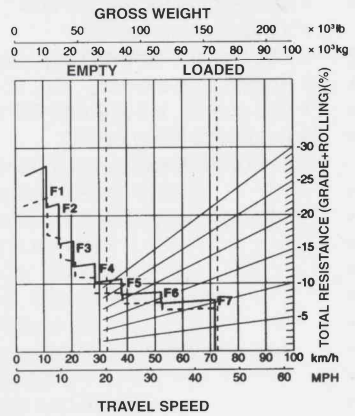
TRAVEL PERFORMANCE

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.

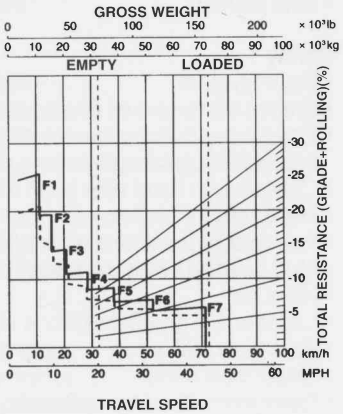
BRAKE PERFORMANCE

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.

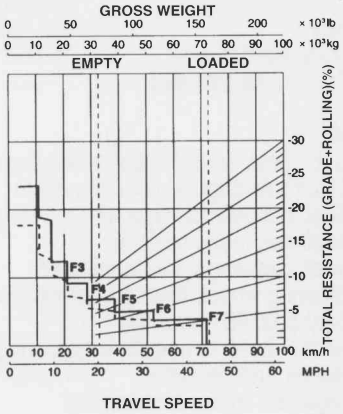
HD405
Grade distance: 900 m (2950 ft)



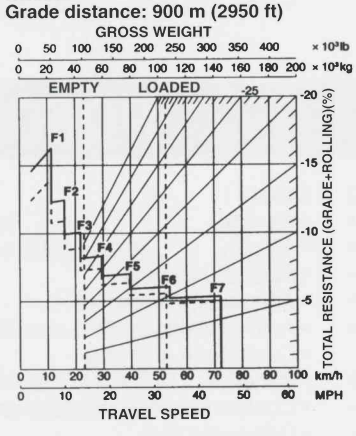
HD405
Grade distance: 450 m (1480 ft)



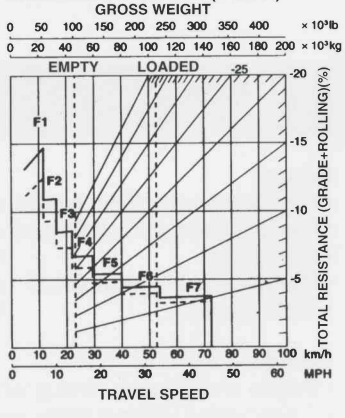
HD405
Grade distance: Continuous Descent



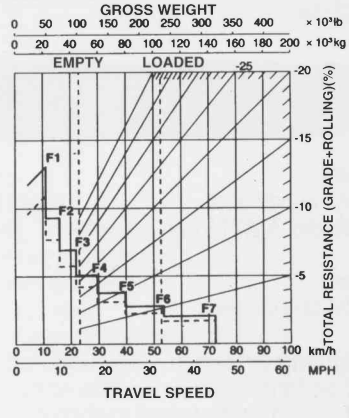
HD605
Grade distance: 900 m (2950 ft)



HD605
Grade distance: 450 m (1480 ft)



HD605
Grade distance: Continuous Descent



Performance line: Solid lines... Exhaust retarder (OPTION)

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.

KOMATSU

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