KOMATSU®

GD663A-2

GD
663A

HORSEPOWER
Net: 116 kW 155 HP / 2200 min^{-1}
134 kW 180 HP / 2200 min^{-1}
(with turbocharger)

OPERATING WEIGHT
13620 kg
(with ripper 15255 kg)

BLADE LENGTH
3.71 m

Photos may include optional equipment.


KOMATSU

HIGH RELIABILITY

- High Strength Main Frame
- Unrivaled KOMATSU Engine
- Efficient Transmission
- Dirt Resistant Parking Brake
- Simply Designed Final Drive and Tandem Drive
- Durable Front Axle
- Reliable Hydraulic Systems

HIGH PRODUCTIVITY

- Ideal Weight Distribution
- Wide Blade Range for Versatile Operations

ENHANCED OPERATOR COMFORT

- Excellent Visibility
- ROPS/FOPS Guard (ISO 3471/ISO 3449)

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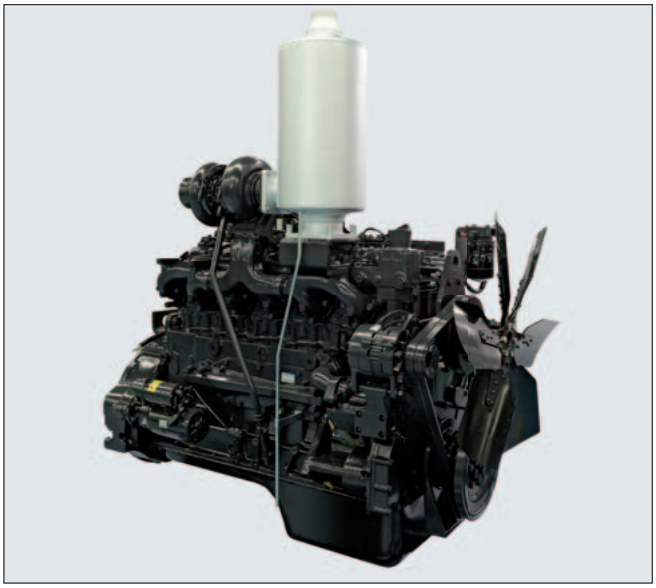
High Strength Main Frame and Tough Power Train Make It Easy to Complete Heavy-duty Jobs

High Strength Main Frame

The main frame is a flanged box section structure. Side plates have been added to increase strength and thereby improve durability.
This durable structure guards against bending and twisting forces generated by the load on the blade.

Unrivaled KOMATSU Engine

The job-proven KOMATSU 6D125 and S6D125 with turbocharger diesel engine delivers a healthy 116 kW (155 HP) and 134 kW (180 HP) more than enough for any tasks. The torque rise increases by 30% in the 155 HP engine, and by 13% in the 180 HP engine to give the machines unrivaled performance in heavy duty work.



Efficient Transmission

The HYDROSHIFT transmission is controlled by a single lever for ease of use, and is designed to minimize engine power loss in all F6 to R6 gears.

Dirt Resistant Parking Brake

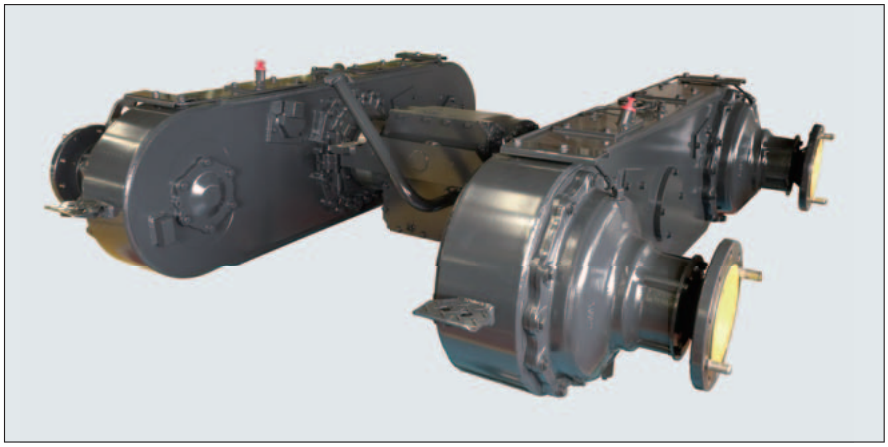
The parking brake is installed on the transfer shaft in a positioned higher than on conventional machines, thereby preventing mud, soil, and water from contaminating it.

Simply Designed Final Drive and Tandem Drive

The full-floating type axle is superior in durability because bending moment does not affect the drive shaft.

- **Final Drive**
  The final reduction gear has a simple structure - a one-stage reduction of the spiral bevel gear.

- **Tandem Drive**
  The power transmitting between the rear axle and wheel shafts is a roller-chain-drive-type. Roller chains are double strand to obtain strength of its structure.
  The wheel shaft and wheel hub are of a monolithic structure. Thus the GD663A series has high reliability.



Durable Front Axle

The front axle is a Reverse-Elliot type, in which the wheel shaft revolves.
The axle diameter is enlarged to increase durability. The pitman arm is higher off the ground than on conventional types, which facilitates travel over rocks or other obstacles.

Reliable and Efficient Hydraulic System Provides Powerful and Fine Blade Control

The hydraulic circuits for the work equipment employ a highly reliable one-pump with a flow-divider system that reduces mechanical friction loss.
Pilot check valves are provided on blade lift, tire leaning, and articulation and drawbar side shift circuit mechanisms, thus preventing the GD663A from hydraulic drift. The GD663A provides high accuracy surface finishing - a vital role of the motor grader.

HIGH PRODUCTIVITY

Ideal Weight Distribution Enables the Blading of Harder Ground with Excellent Machine Stability

The GD663A weight distribution provides superior performance in any grader works. Ideal weight on the front wheel, which gives an ideal value for efficient grader operations by eliminating the side-slip of the front wheel. Accordingly turning and digging operations can be performed with outstanding stability.

Wide Blade Range and Frame Articulation Make This Machine Ready for Versatile Operations

GD663A moldboard geometry provides large shoulder reach, blade lift height and digging depth, which facilitates various kinds of work. Bank cut pin control can be carried out easily from the operator compartment. Long wheel base gives aggressive blade angle for versatile operations to the operators, also wide steering and articulation angle enables short turning radius with 7.1 m.

ENHANCED OPERATOR COMFORT

The Roomy Operator Compartments Giving Comfortable Space

Exceptional visibility by quadrangle cab with slim front and side pillar helps increase operator confidence and productivity in all grader applications. The well positioned blade linkage provides and unobstructed view of the moldboard and front tires.

ROPS/FOPS Guard

The cab guard is designed to ensure ROPS/FOPS (ISO 3471/ ISO 3449) certification.

KOMATSU TOTAL SUPPORT

Komatsu Total Support

To keep your machine available and minimize operation cost when you need it, Komatsu Distributor is ready to provide variety of support before and after procuring the machine.

Fleet recommendation

Komatsu Distributor can study customer job site and provide the most optimum fleet recommendation with detailed information to meet all of your application needs when you are considering to buy new machines or to replace the existing ones from Komatsu.

Product support

Komatsu Distributor secure the certain quality of machine will be delivered.

Parts availability

Komatsu Distributor is available for emergency inquiry by the customers for genuine, quality guaranteed Komatsu parts.

Technical support

Komatsu product support service (Technical support) are designed to help customer. Komatsu Distributor offers a variety of effective services how much Komatsu is dedicated to the maintenance and support of Komatsu machine.

- Preventive Maintenance (PM) clinic
- Oil & Wear analysis program

Repair & maintenance service

Komatsu Distributor offers quality repair service, periodical maintenance, and maintenance service to the customer, utilizing and promoting Komatsu developed programs.

SPECIFICATIONS

ENGINE

Model . . . . . Komatsu 6D125
Type. . . . . Water-cooled, 4-cycle, overhead-valve, diesel injection
Aspiration . . . . . Natural aspiration
No. of cylinders 6
Bore. . . . . 125 mm
Stroke . . . . . 150 mm
Piston Displacement . . . . . 11.05 L
Horsepower
SAE J1349 . . . . . Net 116 kW 155 HP/2200 min^{-1}
Maximum torque . . . . . 667 Nm 68 kgm/1350 min^{-1}
Torque rise 30%
Fan speed . . . . . Max. 1760 min^{-1}
Air cleaner . . . . . 2-stage, dry-type
Governor . . . . . All-speed, mechanical

Model . . . . . Komatsu S6D125
Type. . . . . Water-cooled, 4-cycle, overhead-valve, diesel injection
Aspiration . . . . . Turbocharged
No. of cylinders 6
Bore. . . . . 125 mm
Stroke . . . . . 150 mm
Piston Displacement . . . . . 11.05 L
Horsepower
SAE J1349. . . . . Net 134 kW 180 HP/2200 min^{-1}
Maximum torque . . . . . 667 Nm 68 kgm/1350 min^{-1}
Torque rise 13%
Fan speed . . . . . Max. 1760 min^{-1}
Air cleaner . . . . . 2-stage, dry-type
Governor . . . . . All-speed, mechanical

TRANSMISSION AND TORQUE CONVERTER

The Komatsu HYDROSHIFT transmission consists of planetary gears and hydraulically actuated and force-lubricated multiple-disc clutches, assuring light-touch, effort-minimizing shifting. Both speed shifting and direction changes are completed by a single lever. With the inching pedal, precise finishing operation and smooth machine starts are ensured. A super wide range of 6 forward and 6 reverse speeds match all job requirements. Accidental machine starts are prevented by a gearshift lock device. The engine starts only when the shift lever is set in the neutral position.

Speeds (at rated engine speed)

Gear	Forward	Reverse
1st	3.7 km/h	4.5 km/h
2nd	6.6 km/h	8.1 km/h
3rd	11.3 km/h	13.8 km/h
4th	15.5 km/h	18.9 km/h
5th	27.6 km/h	33.6 km/h
6th	47.2 km/h	57.6 km/h

TANDEM DRIVE

Oscillating welded box section. . . . . 580 mm x 221 mm
Side wall thickness: Inner/outer . . . . . 22 mm/19 mm
Wheel axle spacing. . . . . 1535 mm
Tandem oscillation . . . . . 13° up and down
Drive chain pitch (double strand type) . . . . . 31.75 mm
Ground clearance . . . . . 320 mm

FRONT AXLE

Type. . . . . Solid bar construction welded steel sections
Ground clearance at pivot. . . . . 630 mm
Wheel lean angle, right or left . . . . . 20°
Oscillation, total. . . . . 32°

REAR AXLE

Alloy steel, heat treated, full floating axle.

WHEELS, FRONT AND REAR

Bearings . . . . . Tapered roller
Tires. 14.00-24-10PR (G-2)
Tire rims. . . . . 9.00 TG x 24 (SDC)

STEERING

Full-hydraulic orbital valve type steering control system with two or one steering cylinders are directly actuated on the knuckle arm.
Minimum turning radius (frame articulated) . . . . . 7.1 m
Maximum steering range, right or left. . . . . 49°
Articulation . . . . . 26°

BRAKES

Service brake . . . . . Air actuated multiple-disc
Parking brake . . . . . Mechanical internal expanding type actuated on transmission shaft.

FRAME

Front Frame Structure
Height . . . . . 300 mm
Width. . . . . 280 mm
Side . . . . . 14 mm
Upper, Lower. . . . . 25 mm

DRAWBAR

A-shaped, u-section press formed and welded construction for maximum strength with a replaceable drawbar ball.
Drawbar frame. . . . . 210 x 16 mm

CIRCLE

Single piece rolled ring forging. Four circle support shoes for smooth rotation. Circle teeth hardened on front 180° of circle
Diameter (outside) . . . . . 1350 mm/1410 mm
Circle reversing control hydraulic rotation . . . . . 360°

MOLDBOARD

Box-section constructed with wear-resistant steel. Hydraulic blade side shift and manual tip control. Reversible side edges and overlay end bits are attached.
Dimensions . . . . . 3710 mm x 645 mm x 19 mm
Arc radius . . . . . 329 mm
Cutting edge . . . . . 152 mm x 16 mm
Replaceable/Reversible side edges
. . . . . 495 mm x 228 mm x 27 mm
Blade pull
Base GVW . . . . . 7840 kg
With ripper GVW. . . . . 8840 kg
Blade down pressure
Base GVW . . . . . 6720 kg
With ripper GVW. . . . . 7390 kg

BLADE RANGE

Moldboard side shift:
Right . . . . . 815 mm
Left . . . . . 815 mm
Maximum shoulder reach outside rear tires (frame straight)
Right . . . . . 2000 mm
Left . . . . . 2000 mm
Maximum lift above ground . . . . . 450 mm
Maximum cutting depth . . . . . 535 mm
Maximum blade angle, right or left . . . . . 90°
Blade tip angle . . . . . 40° forward, 5° backward

HYDRAULICS

Hydraulic pumps:
Tandem gear pump for work equipment steering control
Capacity. . . . . 82 L/min + 41 L/min
Relief valve setting:
Work equipment . . . . . 19.6 MPa 200 kg/cm^2
Steering . . . . . 17.2 MPa 175 kg/cm^2

INSTRUMENT

Gauges:
Standard engine coolant temperature, speedometer
Warning lights/Indicator:
Standard battery charge, engine oil pressure, heater signal, parking brake, air cleaner clogging

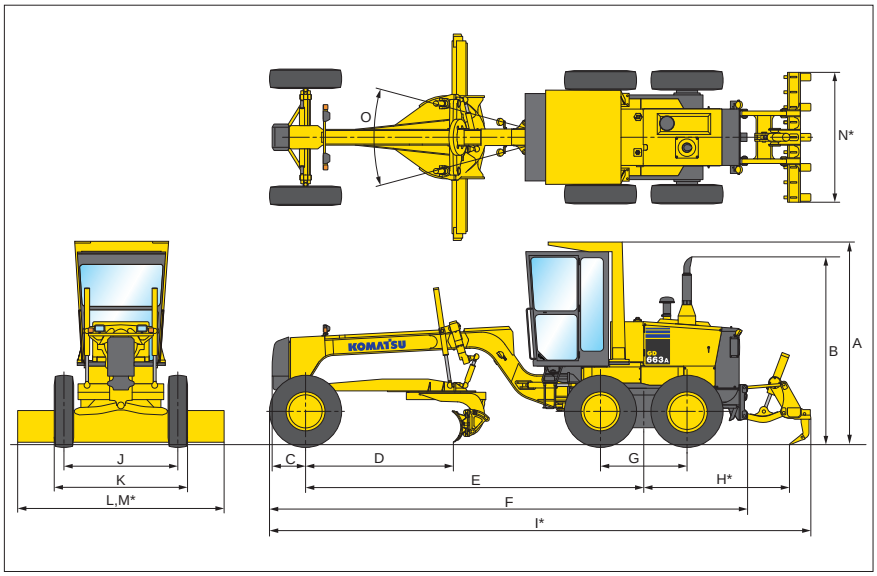
CAPACITIES (REFILLING)

Fuel tank . . . . . 285 L
Cooling system . . . . . 50 L
Transmission . . . . . 35 L
Final drive . . . . . 16 L
Tandem housing (each). . . . . 35 L
Hydraulic system. . . . . 30 L
Circle reverse housing. . . . . 4 L

OPERATING WEIGHT (APPROXIMATE)

Operating weight, including rated capacity of lubricant, coolant, full fuel tank, hydraulic equipment, operator, 3710 mm blade, 14.00-24-10PR (G-2), traction-type tires, and the standard equipment.
Total. . . . . 13620 kg
On rear wheels . . . . . 9800 kg
On front wheels . . . . . 3820 kg
With rear mounted ripper and front push plate:
Total . . . . . 15255 kg
On rear wheels . . . . . 11055 kg
On front wheels . . . . . 4200 kg
With front mounted scarifier:
Total . . . . . 14330 kg
On rear wheels . . . . . 9895 kg
On front wheels . . . . . 4435 kg

DIMENSIONS



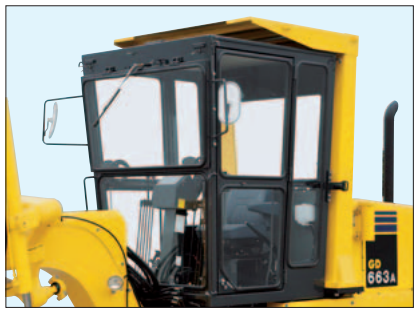
A	Height: Cab	**3505 mm**
B	Height: Muffler	**3130 mm**
C	Center of front axle to counterweight (Pusher)	**596 mm**
D	Cutting edge to center of front axle	**2600 mm**
E	Wheel base to center of tandem	**6000 mm**
F	Front tire to rear bumper	**8500 mm**
G	Tandem wheelbase	**1535 mm**
H*	Center of tandem to back of ripper	**2590 mm**
I*	Overall length	**9568 mm**
J	Track of gauge	**2070 mm**
K	Width of tires	**2470 mm**
L	Width of standard moldboard	**3710 mm**
M*	Width of optional moldboard	**4320 mm**
N*	Ripper beam width	**2305 mm**
O	Articulation, left or right	**26°**

*Optional

Attachments and Optional Equipment

Front blade:
This is an indispensable work tool for volume push - carry operations and for facilitating difficult spreading jobs involving large heaps of materials unloaded from dump trucks.
Type.....Front arc, box section type, hydraulically controlled.
Blade length ..... 2524 mm
Blade height ..... 850 mm
Max. lift above ground ..... 548 mm
Max. drop below ground..... 157 mm

Scarifier: This attachment digs up hard ground, like asphalt, old pavement and frozen surfaces, which are not removable by the blade. The number of teeth can be changed according to ground hardness.
Middle, V-type
Working width..... 1325 mm
Scarifying depth, maximum..... 240 mm
Scarifier shank holders 11
Scarifier shank holders spacing.... 130 mm
Rear
Working width..... 2161 mm
Scarifying depth, maximum..... 169 mm
Scarifier shank holders 9
Scarifier shank holders spacing.... 267 mm



Steel cab:
Additional weight..... 310 kg
Installed height ..... 3360 mm
Includes from windshield washer and wiper.
ROPS/FOPS: Meets ISO 3471 ROPS and ISO 3449 FOPS standard.

Ripper:
Ripping depth, maximum..... 435 mm
Ripper shank holders 5
Ripper shank holder spacing ..... 534 mm
Penetration force.....7722 kg, 76 kN
Pryout force.....12700 kg, 124 kN
Machine length increase,beam raised ... 765 mm

STANDARD EQUIPMENT

Engine and Transmission:
- Accelerator and inching pedals
- Air compressor (with air drier)
- Automatic dust evacuator
- Corrosion resistor
- Dry-type air cleaner with built-in centrifugal pre-cleaner
- Engine key stop system
- Hand throttle
- HYDROSHIFT transmission
- Muffler
- Pusher type fan
- 116 kW (155 HP) / 134 kW (180HP) diesel engine
- 24 V/7.5 kW starting motor
- 24 V/35 A alternator
- 2 x 12 V/140 Ah batteries

Meter and Gauges:
- Air cleaner clogging indicator
- Battery discharge warning lamp
- Dust indicator
- Engine oil pressure warning lamp
- Engine-preheat indicator
- Instrument panel lamp
- Parking brake warning lamp
- Service meter
- Speedometer (km/h indication)
- Water temperature gauge

Moldboard:
- Blade manual tip control
- Hydraulic blade sideshift
- Reversible end bits and overlay end bits
- 3710 mm blade with two 6 feet cutting edges
- 90°bank cut structure

Brakes:
- Foot operated air actuated oil-disc brakes for four rear wheels
- Hand operated, internal-expanding type parking brake

Tires and Rims:
- 14.00-24-10PR (G-2) traction-type tubed tires (front and rear)
- Single piece rims

Other Equipment:
- Adjustable console
- Adjustable seat
- Back-up alarm
- Back-up lights
- Engine side covers
- Front weight
- Guard, operator's compartment
- Head lights, front mounted
- Horn
- Mark & plate, English
- Operator guard
- Panel lamp
- Pilot check valves for blade lift, front wheel leaning, drawbar sideshift and frame articulation cylinders
- Rear tow hitch
- Rear-view mirrors
- Sandy and dusty terrain arrangement (air cleaner intake pipe extension, brushless alternator with hardened pulley, starting switch with dust cover)
- Stop and tail lamps
- Turn signal lamps (front and rear)
- Working lights

OPTIONAL EQUIPMENT

Lighting System:
- Hazard light
- Inspection light
- Licence-plate lights
- Warning beacon

Mirrors:
- Rear under-view mirror
- Rear-view mirror, cab center mount

Engine and Power Train:
- Differential, lock-unlock
- Large capacity alternator (50 A)
- Large capacity batteries (200 Ah)
- Large capacity starting motor (11 kW)
- No-spin differential
- Suction type fan
- Transmission-under guard
- Water separator

Tires and Rims:
- Traction type tubed and tubeless tires
- 14.00-24-10PR (G-2)
- 14.00-24-12PR (G-2)
- 14.00-24-14PR (G-2)
- 14.00-24-16PR (G-3)
- 17.50-25-12PR (G-2)
- Multi piece rims

Operator's Compartment:
- Air conditioner
- Ashtray/cigarette lighter
- Floor mat
- Heater/defroster
- Room lamp
- ROPS (ISO 3471) column
- ROPS (ISO 3471) canopy
- Seat belt (78 mm width)
- Steel cab
- Windshield wiper, rear

Work Equipment:
- Blade cylinder guards
- Front blade
- Hydraulic blade tip control
- Push plate, front mounted
- Ripper
- Scarifier (11 teeth type)
- 12' blade with 203 mm x 16 t edge
- 13' blade
- 13' blade with 203 mm x 19 t edge
- 14' blade

Other Equipment:
- Cold area arrangement (-30˚C)
- Engine oil pan and coolant heater
- Fire extinguisher
- Fuel tank, radiator and hydraulic tank cap lock
- High altitude arrangement
- Horn, additional
- Hydraulic jack
- Rain cap for exhaust pipe
- Tire inflation kit
- Vandalism protection

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