KOMATSU®

GD675-5

HORSEPOWER
Gross: 165 kW 221 HP / 2100 rpm
Net: 163 kW 218 HP / 2100 rpm

OPERATING WEIGHT
15955 kg 35,175 lb
(with ripper **17885 kg** 39,430 lb)

BLADE LENGTH
4.32 m 14 ft

ecot3

GD 675

MOTOR GRADER

Photo may include optional equipment.

WALK-AROUND

The New Transmission Includes a Non-stall Function,

a great improvement on the conventional reputable GD675-3,
now realizing smoother operation at low speed.

See page 5.

Economical Fuel Consumption by Two Mode Operation

Decreased by 20% compared with Komatsu's conventional model typical test data.

See page 4.

Operator Friendly Cab

(Excellent visibility, low operation noise)

See pages 8 and 9.

Excellent Operator Environment

- Komatsu SAA6D107E-1 engine is EPA Tier 3 and EU Stage 3A emissions certified.

  See page 4.
- Excellent visibility of the moldboard and front by the hexangular cab with front Y pillar and rear layout side pillar.

  See page 9.
- Low operating noise
  The dynamic noise is lowered significantly compared with the GD675-3.

  See page 8.

Economy Features

- Selectable working mode, <P mode> and <E mode>

  See page 4.
- Operator can choose <Auto mode> or <Manual mode>.

  See page 5.

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BLADE LENGTH
4.32 m 14 ft

Excellent Performance

- Smooth operation without the engine stalling at low speed and maximize productivity

  See page 5.
- Excellent blade controllability with multifunctional control valves with float and Pilot Check Valve (PCV)

  See page 6.
- Aggressive moldboard angles are possible with a long wheel base.

  See page 6.

Easy Serviceability

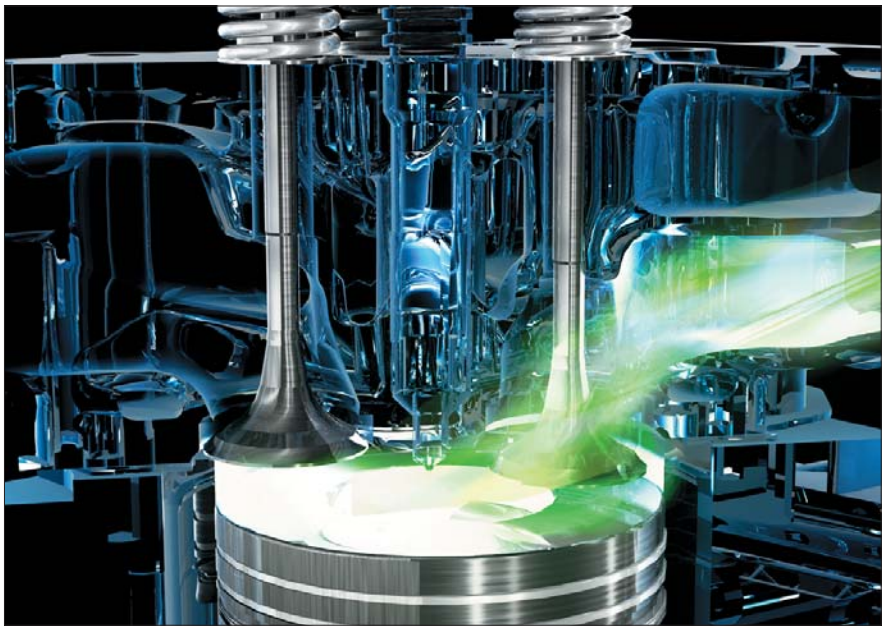
- Easy radiator cleaning with a reversing fan

  See page 7.
- Easy fueling from the ground level

  See page 7.

Photo may include optional equipment.

ECOLOGY FEATURES



Komatsu Technology

Komatsu develops and produces all major components, such as engines, electronics and hydraulic components in house.
Since all components can be matched, efficiencies are increased achieving high levels of productivity and ecology.
With this "Komatsu Technology", and through customer feedback, Komatsu is achieving great advancements in technology.
The result is a new generation of high performance and environment friendly machines.

High Performance SAA6D107E-1 Komatsu Engine

Electronic heavy duty common rail fuel injection system provides optimum combustion of fuel. This system also provides fast throttle response to match the machine's powerful tractive effort and fast hydraulic response.

NET: **163kW** 218HP

Low Emission Engine

This engine is EPA Tier 3 emission regulation and EU Stage 3A emission regulation certified, without sacrificing power or machine productivity.

Hydraulic Driven Cooling Fan with Reverse

Reduce power loss in case of low temperature and reduce engine noise.

Outstanding Fuel Economy

A significant reduction in fuel consumption is achieved by the control of the engine speed.

Fuel consumption decreased by 20%
(compared with GD675-3 typical test data)

2 Mode 3 Stage VHPC

The system allows selection of the appropriate mode between two modes <P mode> or <E mode> according to each working condition. The mode is easily selected with a switch in the operator's cab.

• P mode
Greater productivity can be attained by taking full advantage of high output power. It is appropriate for job sites where the motor grader meets high resistance.

• E mode
This mode is selected for maximum economy and lighter work applications.

This feature provides the appropriate power and better fuel consumption.

kW (HP)

	P		E	
	AUTO	MANU.	AUTO	MANU.
F1	**134** (180)	**134** (180)	**108** (145)	**108** (145)
F2				
F3	**149** (200)			
F4		**149** (200)	**134** (180)	**134** (180)
F5				
F6				
F7	**163** (218)	**163** (218)	**149** (200)	**149** (200)
F8				
R1	**134** (180)	**134** (180)	**108** (145)	**108** (145)
R2				
R3	**149** (200)	**149** (200)	**134** (180)	**134** (180)
R4				

DUAL MODE TRANSMISSION

Converter Drive: Designed to Provide Power and Performance

Komatsu Power Shift Transmission

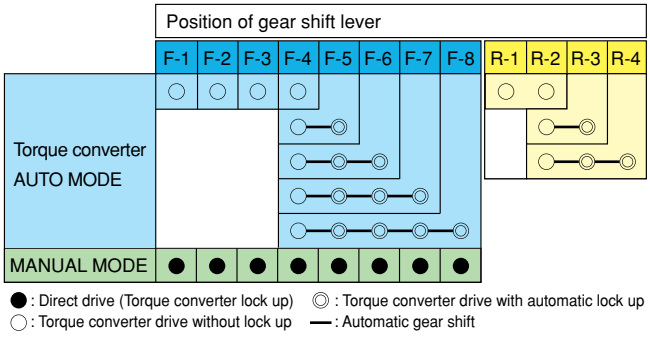
is designed and built specifically for Komatsu graders. The transmission provides on-the-go, full power shifting as well as inching capability and automatic shifting in the higher ranges.

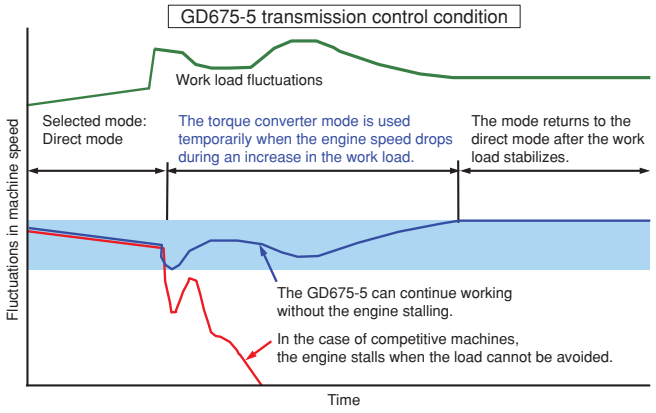
Lock-up Torque Converter (Auto Mode)

or direct drive (manual mode), the operator chooses the optimum transmission set-up for the job at hand. If power for tough grading or low speed fine control is required, the operator can select the auto mode. With the torque converter, the operator has tremendous tractive effort and control. More importantly, you can achieve fine control at low speed without shifting or using an inching pedal. Auto mode is available in gears 1-8. If high transport speed or high speed for snow removal is needed, the operator can select manual drive. The operator has the best of both worlds.

Gear Selections

Eight forward speeds and four reverse speeds give the operator a wide operating range. With four gear when in auto mode, shifting is automatic in speeds five through eight. The operator sets the maximum gear for operation and the transmission then shift automatically between gears four though eight up to the operator selected maximum gear.





Electronic Transmission Control

produces smooth shifting, which enables the operator to maintain a uniform grading surface if shifting is required. Smooth shifts also extend the life of the transmission by placing less stress on transmission clutches. A single lever controls direction, speed and parking brake.

Electronic Overspeed Protection

helps prevent engine and transmission damage from premature downshifting and grade-induced overspeeding.

Low Effort Inching Pedal

gives the operator precise control of machine movement. This is especially important for operators who have previous experience with operating a manual mode motor grader.

ADVANCED CONTROL FEATURES

Power on Demand

Normally, the variable displacement pump idles at low output. When it senses a load requirement, the pump supplies quick flow and pressure to match the demand. The result is less hydraulic system heat, quick response and lower fuel consumption. The bottom line is greater efficiency.

Implement Control Valves

Designed and built by Komatsu specifically for motor graders. The valves are direct acting and provide outstanding operator "feel" and predictable system response for precise implement control. To help maintain exact blade settings, lock valves are built into the hydraulic circuits. Relief valves are also incorporated into selected circuits to protect the cylinders from over-pressurization.

Low Operating Effort

Implement controls are designed to reduce operator fatigue. They feature short lever throws and effort in both directions. Properly spaced control levers and short lever throws allow the operator to use multiple controls with one hand.

Balanced Flow

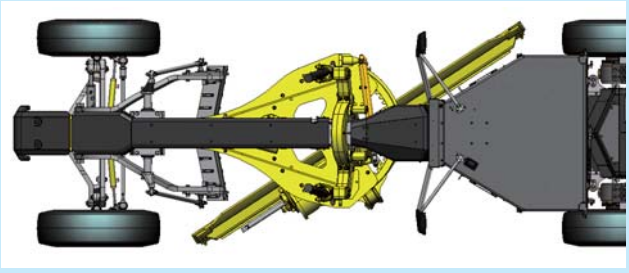
When the operator uses several controls at the same time, flow is proportional to ensure several implements can operate simultaneously.

Constant Implement Speed

Implement speed is constant regardless of engine speed because of the large pump output and proportional flow control function.

Versatile Moldboard Geometry

Komatsu graders feature a versatile moldboard geometry. Save time and money when pulling ditches by throwing the windrow to the right, not into the roadway - without narrowing the road bed. It's made possible by Komatsu's extraordinary reach and aggressive blade angle. Ample clearance between the heel of the blade and main frame, even with the toe sharply angled down.



Aggressive moldboard angle

Blade Angle

A long wheel base allows the operator to obtain an aggressive moldboard angle. This large blade angle permits material to roll more freely along the blade,which reduces power requirements. This is particularly helpful in dry soil or clay or for snow and ice removal.

Rugged Construction

The A-frame drawbar is U-shape welded construction. A one-piece forged circle is built to stand up to high stress loads. To reduce wear, teeth are induction hardened in the front 180 deg. of the circle. For maximum support, the circle is secured to the drawbar by six support shoes.

Optional Protection System

Blade lift accumulators absorb shocks when the moldboard contacts immovable objects. This option is especially useful in rough grading and rocky areas. It provides precious control while allowing relief from vertical impact loads. This option is most useful in applications where hidden objects are frequently encountered.

MAINTENANCE FEATURES

Superior Serviceability

Easy Access to Service Areas

- Large hinged lockable doors are standard and provide easy access to the engine and radiator service points. Spin-on filters can be changed quickly.
- The fuse panel is located in the cab. Circuits and fuse sizes are clearly identified.
- The tandem oil check point is conveniently located at the end of the tandem.
- The service meter is located in the electronic monitoring system.
- Refueling from the ground is easy.
- Engine oil, hydraulic oil and coolant drains are in the place maintained easily.

Easy Radiator Cleaning with a Reversing Fan

Dust stuck to radiator and cooler fin is blown off with reversal of the hydraulic drive fan.

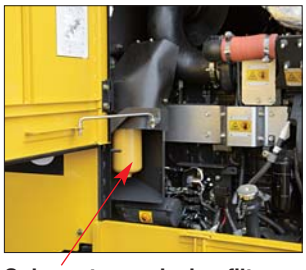
Power Train Components

With a modular design, you can remove the engine, transmission or final drives independently for quick service.

Character Display is Easy to See

During normal operation, the service meter/odometer is displayed in this area. If an abnormality or machine overload occurs, or if machine maintenance and inspection are required, action codes appear on the display to allow the operator to take appropriate action.

Tool box



Spin-on transmission filter

Adjustment-free Oil Disc Brakes

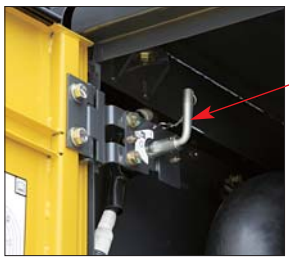
Komatsu designs and builds multiple-disc brakes that are completely sealed and adjustment-free. The brakes are immersed in oil, hydraulically actuated, and are located at each tandem wheel to eliminate brake loads on the power train and to facilitate servicing. A fully hydraulic brake system eliminates problems associated with air systems. The large braking surface provides dependable braking capability and increased life before a rebuild is required.

Friendly Environment

The engine and transmission are rubber-mounted to transmit less engine noise and vibration to the operator and extend component life. A lead-free aluminum core is used for the radiator to comply with global environmental requirements.

Disconnect Switch

For inspection and maintenance, the batteries can be disconnected with this switch when repairing the machine or checking batteries.



Disconnect switch

WORKING ENVIRONMENT

A Comfortable Houseroom of Class's Greatest Wide Cab

Operator ear dynamic noise level : 74 dB
(ISO 6396)

Roomy Interior

Extra leg and foot room create a spacious, open cab.The cab includes built-in storage space for personal items such as a lunch box, cup holder, and a coat hook.

Suspension Seat

The seat features fold-up armrests and a retractable seat belt. The seat follows the contour of the body and can be easily adjusted for optimal support and comfort.

Electric Throttle Control

The RPM mode select switch allows the operator to perfectly match the working condition by selecting between three modes: Auto, Off and Manual. The engine speed set by throttle switch is temporarily cancelled when operating the brake/acceleration pedal at Auto mode.

Electronic Monitoring System

Electronic monitoring system monitors important machine systems and provides the operator with a warning if an abnormality occurs.

Adjustable Control Console

The control console is adjustable backward and forward to facilitate entry and exit from the cab. The steering wheel also tilts to the operators preference.

Air Conditioner

Well-positioned air conditioning vents keep the operator comfortable through a wide range of outside conditions.

Safety Machine

Cab is low profile enclosed ROPS/FOPS.
(ISO 3471/ISO 3449)

ROPS Cab
(Equipped with defroster and intermittent wiper)

Excellent visibility from cab

Excellent Visibility

Exceptional visibility by hexangular cab with front Y shape pillar and rear layout side pillar helps increase operator confidence and productivity in all grader applications. The well positioned blade linkage provides an unobstructed view of the moldboard and front tires. The tapered engine hood provides good visibility to the rear of the machine, especially the rear ripper.

SPECIFICATIONS

ENGINE

Model . . . . . KOMATSU SAA6D107E-1
Type . . . . . Water-cooled,4-cycle,direct injection
Aspiration . . . . . Turbocharged and air to air aftercooled
Number of cylinders 6
Bore . . . . . **107 mm** 4.21"
Stroke . . . . . **124 mm** 4.88"
Piston displacement . . . . . **6.69 ltr** 408 in³
Gross horsepower (Manual mode)
P-mode
Gear 1-3 . . . . . **136 kW** 183 HP / 2000 rpm
Gear 4-6 . . . . . **151 kW** 203 HP / 2000 rpm
Gear 7-8 . . . . . **165 kW** 221 HP / 2100 rpm
E-mode
Gear 1-3 . . . . . **110 kW** 148 HP / 2000 rpm
Gear 4-6 . . . . . **136 kW** 183 HP / 2000 rpm
Gear 7-8 . . . . . **151 kW** 203 HP / 2000 rpm
Net flywheel horsepower* (Manual mode)
P-mode
Gear 1-3 . . . . . **134 kW** 180 HP / 2000 rpm
Gear 4-6 . . . . . **149 kW** 200 HP / 2000 rpm
Gear 7-8 . . . . . **163 kW** 218 HP / 2100 rpm
E-mode
Gear 1-3 . . . . . **108 kW** 145 HP / 2000 rpm
Gear 4-6 . . . . . **134 kW** 180 HP / 2000 rpm
Gear 7-8 . . . . . **149 kW** 200 HP / 2000 rpm
Max. torque . . . . . **941 Nm** 96.0 kg.m 694 lb.ft / 1450 rpm
Torque rise . . . . . 31 %
Fan speed . . . . . Max. 1500 rpm
Air cleaner . . . . . 2-stage, dry-type
Electrical . . . . . 24 volt with 60 amp alternator
Battery . . . . . 2, low maintenance plus, 12 volt, 1146 cca

* Net horsepower output for standard (SAE J1349) including air cleaner, alternator (Not charging), water pump, lubricating oil, fuel pump, muffler and fan running at minimum speed.
EPA Tier 3 and EU Stage 3A emissions certified.

TRANSMISSION AND TORQUE CONVERTER

Full power shift transmission with integral free wheeling stator torque converter and lock-up.

Speeds (At rated engine speed)

Gear	Forward	Reverse
1st	**3.4 km/h** 2.1 mph	**4.5 km/h** 2.8 mph
2nd	**5.0 km/h** 3.1 mph	**9.2 km/h** 5.7 mph
3rd	**7.0 km/h** 4.3 mph	**20.3 km/h** 12.6 mph
4th	**10.2 km/h** 6.3 mph	**40.3 km/h** 25.0 mph
5th	**15.4 km/h** 9.6 mph	
6th	**22.3 km/h** 13.9 mph	
7th	**30.6 km/h** 19.0 mph	
8th	**44.3 km/h** 27.5 mph	

TANDEM DRIVE

Oscillating welded box section . . . . . **520 mm** x **202 mm** 1'8" x 8"
Side wall thickness: Inner . . . . . **22 mm** 0.87"
Outer . . . . . **19 mm** 0.75"
Wheel axle spacing . . . . . **1525 mm** 5'0"
Tandem oscillation . . . . . 11° forward, 13° reverse

FRONT AXLE

Type . . . . . Solid bar construction welded steel sections
Ground clearance at pivot . . . . . **620 mm** 2'0"
Wheel lean angle, right or left . . . . . 16°
Oscillation, total . . . . . 32°

REAR AXLE

Alloy steel, heat treated, full floating axle with lock/unlock differential.

WHEELS, FRONT AND REAR

Bearings . . . . . Tapered roller
Tires . . . . . 17.5R25, tubeless
Tire rims (Demountable) . . . . . 13" one-piece rims

STEERING

Hydraulic power steering providing stopped engine steering meeting ISO 5010.

Minimum turning radius . . . . . **7.4 m** 24'3"
Maximum steering range, right or left . . . . . 49°
Articulation . . . . . 25°

BRAKES

Service brake . . . . . Foot operated, sealed oil disc brakes, hydraulically actuated on four tandem wheels, **13691 cm²** 2122 in² total braking surface
Parking brake . . . . . Manually actuated, spring applied, hydraulically released caliper

FRAME

Front Frame Structure -Height . . . . . **300 mm** 11.8"
Front Frame Structure -Width . . . . . **300 mm** 11.8"
Front Frame Structure -Thickness . . . . . **14 mm** 0.55"

DRAWBAR

A-shaped, u-section press formed and welded construction for maximum strength with a replaceable drawbar ball.

Drawbar frame . . . . . **210 x 25 mm** 8.3"x 1"

CIRCLE

Single piece rolled ring forging. Six circle support shoes with replaceable wear surface. Circle teeth hardened on front 180˚ of circle.

Diameter (Outside) . . . . . **1530 mm** 5'0"
Circle reversing control hydraulic rotation . . . . . 360°

MOLDBOARD

Hydraulic power shift fabricated from high carbon steel. Includes replaceable metal wear inserts, cutting edge and end bits.
Cutting edge and end bits are hardened.

Dimensions . . . . . **4320 x 645 x 19 mm** 14'2" x 2'1" x 0.75"
Arc radius . . . . . **329 mm** 1'1"
Cutting edge . . . . . **152 x 16 mm** 6" x 0.63"

BLADE RANGE

Circle center shift: Right . . . . . **590 mm** 1'11"
Left . . . . . **590 mm** 1'11"
Moldboard side shift:
Right . . . . . **1125 mm** 3'8"
Left . . . . . **1125 mm** 3'8"
Maximum shoulder reach outside rear tires (Frame straight)
Right . . . . . **2500 mm** 8'2"
Left . . . . . **2500 mm** 8'2"
Maximum lift above ground . . . . . **480 mm** 1'7"
Maximum cutting depth . . . . . **615 mm** 2'0"
Maximum blade angle, right or left . . . . . 90°
Blade tip angle . . . . . 40° forward, 5° backward

HYDRAULICS

Load-sensing closed center hydraulics with variable displacement piston pump. short stroke/low effort direct acting control valves with preselected maximum flow setting to each function. Double acting anti-drift check valves on blade lift, tip, circle shift, articulation, and leaning wheels.

Output (At engine rated rpm) . . . . . **200 ltr/min** 52.8 U.S.gal/min
Standby pressure . . . . . **3.4 MPa** 35 kg/cm² 500 psi
Maximum system pressure . . . . . **20.6 MPa** 210 kg/cm² 3,000 psi

INSTRUMENT

Electric monitoring system with diagnostics:
Gauges:
Standard . . . . . articulation, engine coolant temperature, fuel level, speed meter, transmission shift indicator, engine tachometer, torque converter oil temperature
Warning lights/Indicator:
Standard . . . . . battery charge, brake oil pressure, blade float, brake oil pressure, inching temperature, directional indicator, engine oil pressure, hydraulic oil temperature, heater signal, lift arm lock, parking brake, differential lock, torque converter oil temperature, eco, P mode, fan reverse, rpm set, high beam, working lights
Optional . . . . . blade accumulator

CAPACITIES (REFILLING)

Fuel tank	**416 ltr**	109.9 U.S. gal
Cooling system	**24.9 ltr**	6.6 U.S. gal
Crank case	**23.1 ltr**	6.1 U.S. gal
Transmission	**45 ltr**	11.9 U.S. gal
Final drive	**17 ltr**	4.5 U.S. gal
Tandem housing (Each)	**57 ltr**	15.1 U.S. gal
Hydraulic system	**69 ltr**	18.2 U.S. gal
Circle reverse housing	**7 ltr**	1.8 U.S. gal

OPERATING WEIGHT (APPROXIMATE)

Includes lubricants, coolant, full fuel tank

Total	**15955 kg**	35,175 lb
On rear wheels	**11580 kg**	25,530 lb
On front wheels	**4375 kg**	9,645 lb

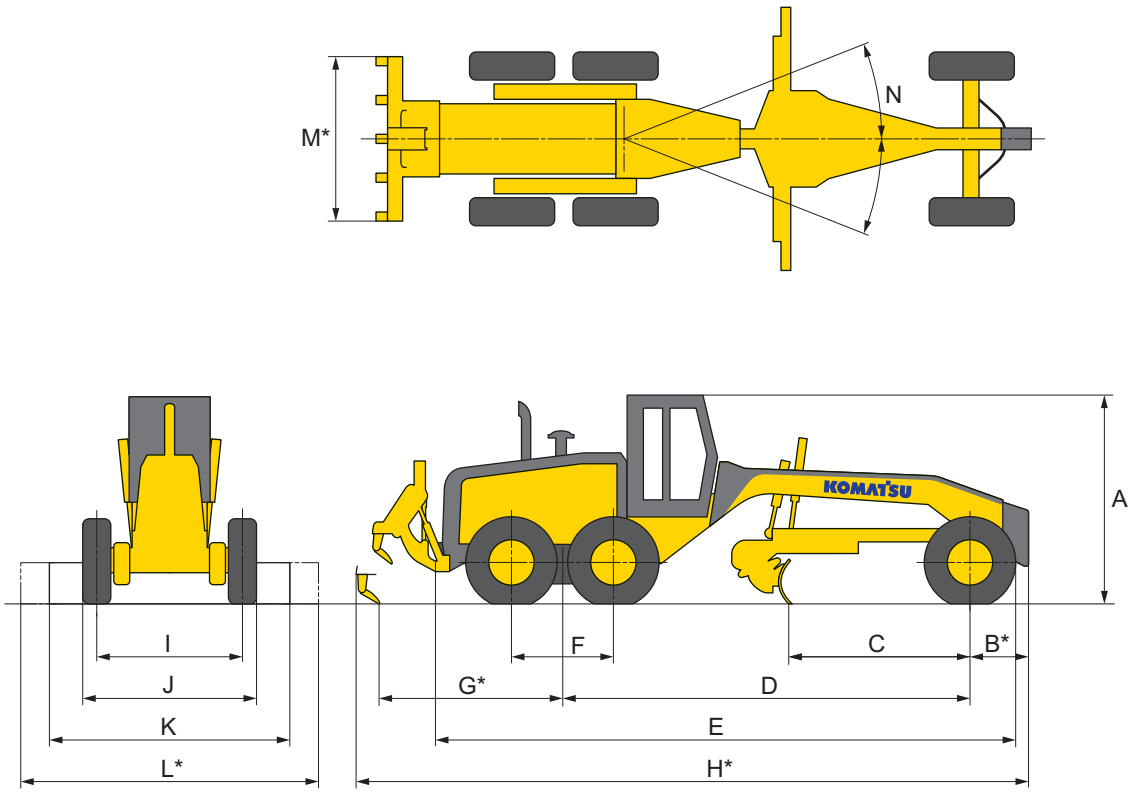
With rear mounted ripper and front push plate:

Total	**17885 kg**	39,430 lb
On rear wheels	**12675 kg**	27,945 lb
On front wheels	**5210 kg**	11,485 lb

With front mounted scarifier:

Total	**16600 kg**	36,595 lb
On rear wheels	**11660 kg**	25,705 lb
On front wheels	**4940 kg**	10,890 lb

DIMENSIONS



A	Height: Low profile cab:	**3200 mm**	10'6"
B*	Center of front axle to counterweight (Pusher)	**927 mm**	3'0"
C	Cutting edge to center of front axle	**2580 mm**	8'6"
D	Wheel base to center of tandem	**6480 mm**	21'3"
E	Front tire to rear bumper	**9205 mm**	30'2"
F	Tandem wheelbase	**1525 mm**	5'0"
G*	Center of tandem to back of ripper	**2780 mm**	9'1"
H*	Overall length	**10575 mm**	34'8"
I	Track of gauge	**2160 mm**	7'1"
J	Width of tires	**2630 mm**	8'8"
K	Width of standard moldboard	**4320 mm**	14'2"
L*	Width of optional moldboard	**4320 mm**	14'2"
M*	Ripper beam width	**2305 mm**	7'7"
N	Articulation, left or right	25°	

*Optional

STANDARD EQUIPMENT

Engine and Related Items
- Double element air cleaner and dust indicator.
- Engine: Komatsu SAA6D107E-1, turbocharged and air-to-air aftercooled, standard VHPC, 145-218 net horsepower
- Cooling fan, hydraulic driven with reverse
- Fuel line pre-filter
- Hood-sides for engine compartment
- Air intake extension

Electrical Systems
- Alarm, back-up
- Alternator, 60 A/24 V
- Battery, extreme duty, 1146 cca each
- Dome light, cab
- Horn, electric
- Lights: back-up, stop, tail, directional, headlights (2 halogen type, front bar mounted)
- Work lamps: front (4), rear (2)
- Speedometer
- Indicators: parking brake, differential lock, blade float, lift arm lock, high beam, eco, engine P mode, cooling fan reverse, rpm set, engine oil pressure, battery charge, brake oil pressure, differential oil temperature

Operator Environment
- Cab: low profile enclosed ROPS/FOPS (ISO 3471/ISO 3449) with safety tinted glass windows with wiper and washer
- Air conditioner (R134a)
- Console, adjustable with instrument panel monitoring system
- Mirrors: interior cab, right and left exterior mirrors
- Seat, deluxe adjustable cloth with retractable seat belt
- Sound suppression, cab and floor mat
- Wipers, front, doors, and rear
- 12 V (10 A) power port

Power Train
- Dual mode transmission (8F-4R) power shift, direct drive and torque converter with auto shift
- Axle, rear full floating, planetary type
- Service brakes, fully hydraulic wet disc
- Brake, parking, spring applied, hydraulic release, disc type
- Differential, lock/unlock
- Tires and rims: 17.5R25 tubeless bias tires on 13" rims (6)

Work Equipment and Hydraulics
- Circle, drawbar mounted, 360˚ rotation hydraulic blade lift and circle side shift
- Circle slip clutch
- Hydraulic system, closed center, load sensing
- Moldboard: **4320 mm x 645 mm x 19 mm** 14'2" x 2'1" x 0.75" with replaceable end bits, through hardened cutting edges **152 mm x 16 mm** 6" x 0.63", hydraulic blade side shift and hydraulic tilt with anti-drift check valves. Maximum moldboard angle position 90˚ right & left
- Steering, full hydraulic with tilt steering wheel plus leaning front wheels and frame articulation w/anti-drift check valves
- 9 section hydraulic control valve
- Blade lift float detent style, LH and RH

Other Standard Equipment
- Painting, Komatsu standard color scheme
- Steps and handrails, rear, right, and left side
- Vandalism protection includes lockable access to fuel tank, battery cover, and engine side covers
- Tool box with lock
- Fuel tank, ground level access
- Battery disconnect switch

OPTIONAL EQUIPMENT

- Accumulators, anti-shock for blade lift
- 10 section hydraulic control valve
- Cab mount work lamps (4)
- General toolkit
- Pre-cleaner, Turbo II
- Pusher plate, additional
- Additional heater
- AM/FM radio
- Moldboard, **4320 mm x 645 mm x 25 mm** 14'2" x 2'1" x 0.98" with replaceable end bits, through-hardened cutting edges **152 mm x 16 mm** 6" x 0.63"
- Tires and rims: 14.00-24(G2) tubeless bias tires on 9" rims (6)
- Front blade
- Ripper, assembly, rear mounted
  —Ripper depth maximum **440 mm** 1'5"
  —Ripper shank holders 5
  —Penetration force **87 kN** 8870 kgf (at rear weight **12675 kg** 27,945 lb)
- Ripper shanks and points, 2 additional
- Scarifier, assembly, 11-shank type
- Scarifier, shanks and points (9) for ripper
- Warning light, amber colored rotating beacon, cab roof mounted
- Alternator, 90 A/24 V

Ripper

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.

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M E M O

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