GD655-5

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

OPERATING WEIGHT
15495 kg 34,160 lb

BLADE LENGTH
3.71 m 12 ft

Photo may include optional equipment.
**Walk-Around**

**The New Transmission Includes a Non-stall Function,**

a great improvement on the conventional reputable GD655-3, 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.

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**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 PCV (Pilot Check Valve)
  See page 6.
- Aggressive moldboard angles are possible with a long wheel base.
  See page 6.

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**Excellent Operator Environment**

- Environment friendly Komatsu SAA6D107E-1 engine complies with EPA Tier 3, EU Stage 3A emission.
  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 GD655-3.
  See page 8.

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**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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**Easy Serviceability**

- Easy radiator cleaning with a reversing fan
  See page 7.
- Easy fueling from the ground level
  See page 7.

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Photo may include optional equipment.
ECOLOGY FEATURES

Komatsu Technology

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 and Auto Reversing Cooling Fan
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 GD655-3 typical test data)

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 gears in automatic mode, shifting is automatic in speeds five through eight. The operator sets the maximum speed and the transmission then shifts 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.

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.

Superior Transmission with a New Function
Combination of manual mode and auto mode is very effective for avoiding engine stalling which leads to low speed smooth operation.

Electronic Overspeed Protection
helps prevent engine and transmission damage from premature downshifting and grade-induced overspeeding.
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 window 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.

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 ensure 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 precise 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 is allowed from the ground.
- Engine oil, hydraulic oil and coolant drains are in place and 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.

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

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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.

Disconnect Switch

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

Maintenance Features
A Comfortable Houseroom of Class’s Greatest Wide Cab

**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. (SAE J1040, J2311)

**Excellent Visibility from cab**
Exceptional visibility by hexagonal cab with front Y shape pillar and rear layout side pillar (patent pending) 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.

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

**Excellent Visibility**
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.

**Safety Machine**
Cab is low profile enclosed ROPS/FOPS. (SAE J1040, J2311)
**ENGINE**

Model: KOMATSU SAA6D107E-1

- **Aspiration:** Turbocharged and air to air aftercooled
- **Number of cylinders:** 6
- **Bore:** 107 mm
- **Stroke:** 124 mm
- **Displacement:** 6.69 ltr
- **Gross horsepower (Manual mode):** 590 HP@2000 rpm

<table>
<thead>
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<th>Gear</th>
<th>Forward</th>
<th>Reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>3.4 km/h</td>
<td>2.1 mph</td>
</tr>
<tr>
<td>2nd</td>
<td>5.0 km/h</td>
<td>3.1 mph</td>
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<tr>
<td>3rd</td>
<td>7.0 km/h</td>
<td>4.3 mph</td>
</tr>
<tr>
<td>4th</td>
<td>10.2 km/h</td>
<td>6.3 mph</td>
</tr>
<tr>
<td>5th</td>
<td>15.4 km/h</td>
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<td>7th</td>
<td>30.6 km/h</td>
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</tr>
<tr>
<td>8th</td>
<td>44.3 km/h</td>
<td>27.5 mph</td>
</tr>
</tbody>
</table>

**TRANSMISSION AND TORQUE CONVERTER**

- **Hydraulic power steering providing stopped engine steering meeting SAE J83 and J1151.**
- **Minimum turning radius:** 7.4 m
- **Maximum steering range, right or left:** 49°
- **Articulation:** 25°

**FUEL TANK**

- **Capacity:** 109.9 U.S. gal
- **Includes lubricants, coolant, full fuel tank:** 15495 kg

**OIL TANK**

- **Capacity:** 57.7 U.S. gal
- **Includes lubricants, coolant, full fuel tank:** 11290 kg

**STOCKS**

- **Maximum system pressure:** 20.6 MPa
- **Maximum set pressure:** 3.4 MPa

**INSTRUMENTS**

- **Gauges:**
  - Fuel
  - Oil pressure
  - Coolant temperature
  - Speedometer
  - Tachometer
  - Odometer
  - Hour meter

**HYDRAULICS**

- **A-shaped, u-section press formed and welded construction for maximum strength with a replaceable drawbar.**
- **Dimensions:** 3710 x 645 x 19 mm
- **Arc radius:** 329 mm
- **Cutting edge:** 152 x 16 mm

**OPERATING WEIGHT (approximate)**

- **Total:** 15495 kg
- **On rear wheels:** 11290 kg
- **On front wheels:** 4205 kg
- **With rear mounted ripper and front push plate:** 17425 kg
- **Circle reverse housing:** 7 t

**WHEELS, FLOOR, AND FRAMES**

- **Front Frame Structure - Height:** 300 mm
- **Front Frame Structure - Width:** 300 mm
- **Front Frame Structure - Thickn.:** 14 mm

**MOLDBOARD**

- **Hydraulic power shift fabricated from high carbon steel.**
- **Maximum cutting depth:** 615 mm
- **Maximum blade angle, right or left:** 50°
- **Blade tip angle:** 40° forward, 5° backward

**ELECTRIC**

- **Monitoring system with diagnostics:**
  - Gauges:
    - Standard: artculation, engine coolant temperature, fuel level, meter, T/M shift indicator, engine tachometer, torque converter oil temperature
    - Warning lights:
      - Standard: battery charge, brake oil pressure, blade float, brake oil pressure, inching temperature, directional indicator, engine oil pressure, hydraulic oil temperature, heater signal, tilt arm lock, parking brake, differential lock, torque converter oil temperature, eco, P mode, fan reverse, rpm sat, high beam, working lights

**GEARS**

- **Transmission:**
  - Joysticks:
    - Right:
      - Gear 1-3: 820 mm 26°
      - Gear 4-6: 820 mm 28°
    - Left:
      - Gear 4-6: 2000 mm 67°
      - Gear 1-3: 2000 mm 67°
  - Circle reversing control hydraulic rotation: 360°

**STROKE**

- **480 mm x 80 mm:** 19.0 mph
- **210 x 25 mm:** 8.37 m/s
- **210 mm:** 8.37 m/s
- **210 x 25 mm:** 8.37 m/s

**FRAME**

- **Front Frame Structure - Height:** 300 mm
- **Front Frame Structure - Width:** 300 mm
- **Front Frame Structure - Thickn.:** 14 mm

**CIRCUIT**

- **Single piece rolled ring forging. Six circle support shoes with replaceable wear surface.**
- **Diameter (outside):** 1530 mm
- **Circle reversing control hydraulic rotation:** 360°

**TRANSMISSION AND LOCK-UP**

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

**STEERING**

- **Hydraulic power steering provided stopping engine steering meeting SAE J83 and J1151.

**CHASSIS**

- **Model:** KOMATSU SAA6D107E-1
- **Engine:** 200 HP@2000 rpm
- **Cooling system:** 12385 kg
- **Crankcase:** 11370 kg
- **Transmission:** 119.9 U.S. gal
- **Final drive:** 11.9 U.S. gal
- **Hydraulic system:** 18.2 U.S. gal
- **Circle reverse housing:** 1.8 U.S. gal

**REFERENCES**

- **SAE J53 and J1151.
- A-shaped, u-section press formed and welded construction for maximum strength with a replaceable drawbar ball.
- 480 mm x 80 mm.
- 19.0 mph.
- 8.37 m/s.
DIMENSIONS

A  Height: Low profile cab: 3200 mm 10'6"
B'  Center of front axle to counterweight (Pusher) 527 mm 1'8"
C  Cutting edge to center of front axle 2580 mm 8'6"
D  Wheel base to center of tandem 6680 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 2060 mm 6'9"
J  Width of tires 2485 mm 8'2"
K  Width of standard moldboard 3710 mm 12'2"
L*  Width of optional moldboard 4320 mm 14'2"
M*  Ripper beam width 2305 mm 7'7"
N  Articulation, left or right 25°

*optional
Engine and Related Items
- Double element air cleaner and dust indicator.
- Engine: Komatsu SAA6D107E-1, EPA Tier 3 certified, turbocharged and air-to-air aftercooled, standard VHPC, 145-218 net horsepower.
- Fuel line pre-filter.
- Hood-sides for engine compartment.
- Air intake extension.

Electrical Systems
- Alarm, back-up.
- Alternator, 60 amp, 24V.
- Battery, extreme duty, 1146 cca each.
- Dome light, cab.
- Horn, electric.
- Lights: back-up, stop, tail, directional, headlight (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, ego, 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 (SAE J1040, J2311) 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.
- 12V (10A) 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: 14.00-24 (G2) tubeless bias tires on 9" 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: 3710 mm x 645 mm x 19 mm 12’2” x 2’1” x 0.75” with replaceable end bits.
- Hydraulic blade side shift and hydraulic tilt with 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.

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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