KOMATSU

GD655-3
With Tier 3 Engine

FLYWHEEL HORSEPOWER
GD655 134 kW 180 HP
VHPC 149 kW 200 HP

OPERATING WEIGHT
17145 kg 37,801 lb

BLADE LENGTH
3.71 m 12 ft

Photo may include optional equipment.
**Electronic monitor**
with self-diagnostic function.

**Tinted glass reduces** glare, adding to operator comfort.

**A simple** blade suspension system
allows good forward visibility.

**Stable work equipment speeds**
are unaffected by engine speed.

**Low front nose**
provides good visibility.

**A wide working range**
is accomplished through versatile blade geometry.

**Bronze alloy guides**
on blade and circle provide long service life.

**Dual Mode Transmission**
Operator can choose torque converter drive or direct drive to maximize productivity.

The lock-up torque converter provides smooth power for grading and speed for roading or snow removal.

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KOMTRAX™
KOMTRAX sends machine location, Service Meter Readings (SMR), and operation maps to a secure website utilizing wireless technology. Machines also relay fuel level.
**Excellent visibility**
- Front and rear glass is angled to prevent dust build-up.
- Rear window has electric defroster and wiper and washer as standard equipment.

**Komatsu SAA6D114E-3**
* turbocharged and aftercooled diesel provides 134 kW **180 HP** to 149 kW **200 HP** for demanding applications. This engine is EPA Tier 3 and EU stage 3A emissions certified, without sacrificing power or machine production.

**Brakes** are adjustment-free hydraulically operated wet type multiple-disc.

**Access to all engine maintenance items is easy with wide hinged compartment doors.**

Wheel spin is reduced with the **manual lock/unlock differential.**
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 and EU Stage 3A certified. "ecot3" - ecology and economy combine with Komatsu technology to create a high performance engine without sacrificing power or productivity.

Komatsu SAA6D114E-3 Engine
The turbocharged and aftercooled heavy duty high-pressure common rail fuel injection SAA6D114E-3 engine provides excellent power and fuel efficiency. Output is 134 kW 180 HP (149 kW 200 HP in higher gears) providing excellent tractive effort with good fuel economy. This engine is EPA Tier 3 and EU stage 3A certified without sacrificing power or machine productivity.

Electronic Overspeed Protection
Helps prevent engine and transmission damage from premature downshifting and grade-induced acceleration.

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.

Komatsu Power Shift Transmission
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
The operator chooses the optimum transmission setup for the job at hand; lock-up torque converter or direct drive. If power for tough grading or low speed fine control is required, the operator can select the torque converter mode. With the torque converter, the operator has tremendous tractive effort and fine control at low speed without shifting or using an inching pedal. Torque converter drive is available in gears 1-4. If high speed is needed for transport or snow removal, the operator can select direct drive. With both torque converter and direct drive available, operators have the best of both worlds . . . at their fingertips.

Gear Selections
Eight forward speeds and four reverse speeds give the operator a wide operating range. With four gear selections below 6 mph, the operator can precisely match working speeds to job conditions for maximum productivity in earthmoving applications. Gears five, six, and seven provide optimal speed range for snow removal operations. When in torque converter mode, shifting is automatic in speeds five through eight. The operator sets the maximum gear for operation and the transmission then shifts automatically between gears four through eight up to the operator selected maximum gear.

Low Effort Inching Pedal
Gives the operator, when in direct drive (manual mode), precise control of machine movement. This is especially important for operators who have previous experience with operating a direct drive motor grader.
Closed Center Load-sensing System (CLSS) with Proportional Flow Hydraulic System

**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. They 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 low 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 versatile moldboard geometry. Save time and money when pulling ditches by throwing the windrow to the right, not into the roadway—without narrow the road bed. It’s made possible by Komatsu’s extraordinary reach. Plus, there is generous clearance between the heel of the blade and main frame, even with the toe sharply angled down.

Extra-long lift cylinders let the moldboard reach 815 mm \(2'8"\) below grade.

**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° of the circle. For maximum support, the circle is secured to the drawbar by six support shoes.

**Replaceable Metal Wear Inserts**

Replaceable metal wear inserts are located between the drawbar and circle and the support shoes and circle. This wear system helps keep components tight for fine grading and allows easy replacement. Komatsu also uses replaceable metal wear items in the following areas:

- Circle and moldboard tip bracket bearings
- Moldboard slide rail

**Cylinder Socket Dust Seals**

Blade Lift and Drawbar Sideshift Cylinder sockets have dust seals to prevent dust from entering the sockets and causing wear.

**Circle Drive Slip Clutch**

Helps protect the drawbar, circle and moldboard from horizontal shocks when an object is hit near the toe or heel of the blade.

**Optional Protection Systems**

- **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.
Excellent Visibility

Exceptional visibility helps increase operator confidence and productivity in all grader applications. Well positioned blade linkage provide an unobstructed view of the moldboard and front tires. The tapered engine hood provides good visibility of the rear of the machine, especially the rear ripper.

Quiet Cab
With the doors closed, the quiet environment keeps the operator alert and focused.

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, coffee cup, and a coat hook.

Suspension 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.

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. In warm weather, the operator can get cold air flow towards the back even when the front lower window is opened.
Serviceability

Easy Access to Service Areas
- Large hinged doors are standard and provide easy access to the engine and radiator service points. Spin-on oil filters can be changed quickly.
- Lubrication points for the articulation joint are remote-mounted.
- Fuse panel is located in the cab. Circuits and fuse sizes are clearly identified.
- Tandem oil check point is conveniently located at the end of the tandem.
- Service meter is located in the electronic monitoring system.

Power Train Components
Features a modular design so you can remove the engine, transmission or final drives independently for quick service.

Character Display
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.

Adjustment-Free Oil Disc Brakes
Komatsu designs and builds multiple-disc brakes that are completely sealed and adjustment-free. The brakes are oil bathed, 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, electricity flow from batteries can be shut off with this switch when repairing the machine or checking batteries.
**ENGINE**

Model: Komatsu SAA6D114E-3  
Type: Water-cooled, 4-cycle, direct injection  
Aspiration: Turbocharged and air-to-air aftercooled  
Number of cylinders: 6  
Bore: 114 mm  
Stroke: 135 mm  
Piston displacement: 8.27 ltr  

**HYDRAULICS**

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

<table>
<thead>
<tr>
<th>Gear</th>
<th>Forward</th>
<th>Reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>3.3 km/h</td>
<td>2.1 mph</td>
</tr>
<tr>
<td>2nd</td>
<td>4.7 km/h</td>
<td>2.9 mph</td>
</tr>
<tr>
<td>3rd</td>
<td>6.7 km/h</td>
<td>4.2 mph</td>
</tr>
<tr>
<td>4th</td>
<td>9.7 km/h</td>
<td>6.0 mph</td>
</tr>
<tr>
<td>5th</td>
<td>14.6 km/h</td>
<td>9.1 mph</td>
</tr>
<tr>
<td>6th</td>
<td>21.2 km/h</td>
<td>13.2 mph</td>
</tr>
<tr>
<td>7th</td>
<td>29.1 km/h</td>
<td>18.1 mph</td>
</tr>
<tr>
<td>8th</td>
<td>42.2 km/h</td>
<td>26.2 mph</td>
</tr>
</tbody>
</table>

Service brakes: Foot operated, sealed oil disc brakes, hydraulically actuated on four tandem wheels, 13338 cm² 2067 in² total braking surface  
Parking brake: Manually actuated, spring applied, hydraulically released caliper with transmission interlock  

**TRANSMISSION AND TORQUE CONVERTER**

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

Output: 194 ltr/min 51 U.S. gal/min  
Standby pressure: 3.4 Mpa 500 psi  
Maximum system pressure: 20.6 Mpa 3000 psi  

**MOLDBOARD**

Hydraulic power shift fabricated from high carbon steel. Includes replaceable end bits. Cutting edge is through hardened.

Dimensions: 3710 x 660 x 22 mm 12" x 26" x 7/8"  
Arc radius: 432 mm 17"  
Cutting edge: 152 mm x 16 mm 6" x 5/8"  
Replaceable/reversible end bits: 152 mm x 16 mm 6" x 5/8"

**BLADE RANGE**

| Blade tip angle | 40° forward, 5° backward |
| Circle center shift: | 625 mm 24.11" |
| Moldboard side shift: | 820 mm 32.3" |
| Maximum shoulder reach outside rear tires (frame straight): | 2000 mm 78.7" |
| Maximum cutting depth: | 815 mm 32.1" |
| Maximum blade angle, right or left: | 90° |

**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 60.2"  
Circle reversing control hydraulic rotation: 360°

**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 1.0"
OPERATOR’S COMPARTMENT

Pivoting control console and tilt steering wheel. Deluxe cloth covered seat and backrest with swing-up armrests. Large glass area for all-around visibility. Rear window electric defroster and rear windshield wiper.

CAPACITIES (REFILLING)

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Refill</th>
<th>US Gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel tank</td>
<td>340 ltr</td>
<td>89.8</td>
</tr>
<tr>
<td>Cooling system</td>
<td>39.5 ltr</td>
<td>10.4</td>
</tr>
<tr>
<td>Crank case</td>
<td>30 ltr</td>
<td>7.9</td>
</tr>
<tr>
<td>Transmission</td>
<td>45 ltr</td>
<td>11.9</td>
</tr>
<tr>
<td>Final drive</td>
<td>14 ltr</td>
<td>3.7</td>
</tr>
<tr>
<td>Tandem housing (each)</td>
<td>83 ltr</td>
<td>21.9</td>
</tr>
<tr>
<td>Hydraulic system</td>
<td>45 ltr</td>
<td>26.4</td>
</tr>
<tr>
<td>Circle reverse housing</td>
<td>5 ltr</td>
<td>1.3</td>
</tr>
<tr>
<td>With slip clutch</td>
<td>7 ltr</td>
<td>1.8</td>
</tr>
</tbody>
</table>

OPERATING WEIGHT (APPROXIMATE)

Includes lubricants, coolant, full fuel tank, 546 kg 1,200 lb front weight:
- Total: 15400 kg 33,951 lb
- On rear axle: 11300 kg 24,912 lb
- On front axle: 4100 kg 9,039 lb

With front mounted scarifier:
- Total: 16040 kg 35,361 lb
- On rear axle: 11405 kg 25,142 lb
- On front axle: 4635 kg 10,219 lb

With rear mounted ripper and front push plate:
- Total: 17145 kg 37,801 lb
- On rear axle: 12400 kg 27,362 lb
- On front axle: 4745 kg 10,449 lb

INSTRUMENT

Electric monitoring system with diagnostics:
- Gauges:
  - Standard: articulation, engine coolant temperature, fuel level, speed meter, T/M shift indicator, torque converter oil temperature, hourmeter
  - Warning lights:
    - Standard: battery charge, blade float, brake oil pressure, directional indicator, engine oil pressure, heater signal, lift arm lock, parking brake, differential lock and torque converter oil temperature
    - Optional: blade accumulator, differential oil temperature, high beam, working lights
### Motor Grader GD655-3

#### Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Low Profile Cab</th>
<th>High Profile Cab</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Height:</td>
<td>3120 mm</td>
<td>3350 mm</td>
<td>10' 3&quot;</td>
</tr>
<tr>
<td></td>
<td>Low Profile Cab:</td>
<td></td>
<td></td>
<td>11' 0&quot;</td>
</tr>
<tr>
<td></td>
<td>High Profile Cab:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Center of front axle to counterweight</td>
<td>1075 mm</td>
<td>3' 6&quot;</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Cutting edge to center of front axle</td>
<td>2600 mm</td>
<td>8' 6&quot;</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Wheel base to center of tandem</td>
<td>6070 mm</td>
<td>19'11&quot;</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Front tire to rear bumper</td>
<td>8715 mm</td>
<td>28' 7&quot;</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Tandem wheelbase</td>
<td>1535 mm</td>
<td>5' 0&quot;</td>
<td></td>
</tr>
<tr>
<td>G*</td>
<td>Center of tandem to back of ripper</td>
<td>2750 mm</td>
<td>9' 0&quot;</td>
<td></td>
</tr>
<tr>
<td>H*</td>
<td>Overall length</td>
<td>10280 mm</td>
<td>33' 9&quot;</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Track of gauge</td>
<td>2130 mm</td>
<td>7' 0&quot;</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>Width of tires</td>
<td>2550 mm</td>
<td>8' 4&quot;</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Width of standard moldboard</td>
<td>3710 mm</td>
<td>12' 0&quot;</td>
<td></td>
</tr>
<tr>
<td>L*</td>
<td>Width of optional moldboard</td>
<td>4320 mm</td>
<td>14' 0&quot;</td>
<td></td>
</tr>
<tr>
<td>M*</td>
<td>Ripper beam width</td>
<td>2305 mm</td>
<td>7' 7&quot;</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Articulation, left or right</td>
<td></td>
<td></td>
<td>23°</td>
</tr>
</tbody>
</table>

*option
**STANDARD EQUIPMENT**

**Engine and Related Items**
- Accelerator and electric throttle control
- Double element air cleaner and dust indicator
- Engine, Komatsu SAA6D114E-3, EPA stage 3 emissionized, turbocharged and air-to-air aftercooled, standard VHPC, 180-200 net horsepower
- Fuel line pre-filter
- Hood-sides for engine compartment

**Electrical Systems**
- Alarm, back-up
- Alternator, 90 amp, 24V
- AM/FM radio with cassette
- Batteries, 2 x 12V 1146 cca each
- Dome light, cab
- Horn, electric
- Lights, back-up, stop, tail, directional, headlights (2 halogen type, front cab mounted)
- Warning lights, parking brake, differential lock, blade float, engine oil pressure, battery charge, brake oil pressure, transmission system electric circuit monitor, lift arm lock, differential oil temperature, high beam front lamp
- Working lights (2 front for blade, and 2 additional for rear)

**Operator Environment**
- Air conditioning with heater/defroster
- Cab, low profile enclosed ROPS/FOPS level 2
- Console, adjustable with instrument panel, electronic monitoring system
- Mirrors, interior cab, right and left exterior mirrors
- Seat, deluxe suspension adjustable cloth with retractable seat belt
- Sound suppression, cab and floor mat
- Wipers, upper front and rear (2 speed)

**Power Train**
- Axle, rear full floating, planetary type
- Service brakes, fully hydraulic oil disc
- Brake, parking, spring applied, hydraulic release, disc type
- Differential, lock/unlock, rear
- Tires and rims: 17.5R25 radials on 13" three-piece rims
- Transmission, full power shift with torque converter (8F-4R) and lock-up

**Work Equipment and Hydraulics**
- Circle, drawbar mounted, 360˚ rotation
- Hydraulic blade lift and circle side shift
- Circle slip clutch
- Float system, electric for blade
- Hydraulic system, closed center, load sensing
- Hydraulic blade side shift and hydraulic tilt w/anti-drift check valves. Maximum moldboard angle position 90˚ right & left
- Steering, full hydraulic w/tilt steering wheel plus leaning front wheels and frame articulation w/anti-drift check valves
- 8-station control valve bank

**Other Standard Equipment**
- Circle slip clutch
- Hydraulic blade side shift and hydraulic tilt w/anti-drift check valves. Maximum moldboard angle position 90˚ right & left
- Steering, full hydraulic w/tilt steering wheel plus leaning front wheels and frame articulation w/anti-drift check valves
- 8-station control valve bank

**OPTIONAL EQUIPMENT**
- Accumulators, anti-shock for blade lift
- Cab, high profile with ROPS/FOPS level 2
- Counterweight, additional 190 kg 420 lb
- Headlights and directional signals, bar mounted ILO cab mounted)
- Hitch, rear—not w/ripper
- Hydraulic control valves — right (1 additional)—left (2 additional)
- Independent blade float, RH and LH
- Less standard counterweight
- Moldboard, 3710 mm x 660 mm x 22 mm 12' x 26" x 7/8" with replaceable end bits, through-hardened cutting edges
- Moldboard 4320 mm x 660 mm x 22 mm 14' x 26" x 7/8"
- No-spin rear differential
- Overlay end bits
- Pre-cleaner, Turbo II
- Pusher plate, additional—1099 kg 2,422 lb
- Ripper, assembly, rear mounted
- Ripper shanks and points, 2 additional
- Scarifier, assembly, 11-shank type
- Scarifier, shanks and points (11)
- Tires and rims, 14.00-24 10TL (G2) tubeless bias tires on 10" rims (6)
- Tool box w/lock
- Warning light, amber colored rotating beacon, cab roof mounted
- 12V converter

**ALLIED ATTACHMENTS**
- 2D and 3D automatic machine control systems — TOPCON

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