

# GD615A-1

## MOTOR GRADER



Model shown may include optional equipment

### ***KOMATSU: The Quality is Standard.***

**FLYWHEEL HORSEPOWER: 140HP @ 2500 RPM.**

**OPERATING WEIGHT: 13830kg (30,495 lb). BLADE LENGTH: 3660mm (12')**

- Powerful, fuel efficient Komatsu S6D110 diesel
- 52° frame articulation and 32° front axle oscillation for excellent maneuverability
- Optimal weight distribution and long wheelbase provide superior stability
- Rear frame-mounted operator's compartment for visibility, safety and superior machine balance
- Electronic microprocessor-controlled monitoring system for operator efficiency
- Circle drive slip clutch absorbs rotational forces on the blade
- Wet, multiple disc differential clutch lock/unlock operated from the cab while on the go
- Proportional flow control valve for 70% fine control range
- Steering console and control levers are individually adjustable
- Wet, multiple disc brakes perform well even on deep, muddy terrain.

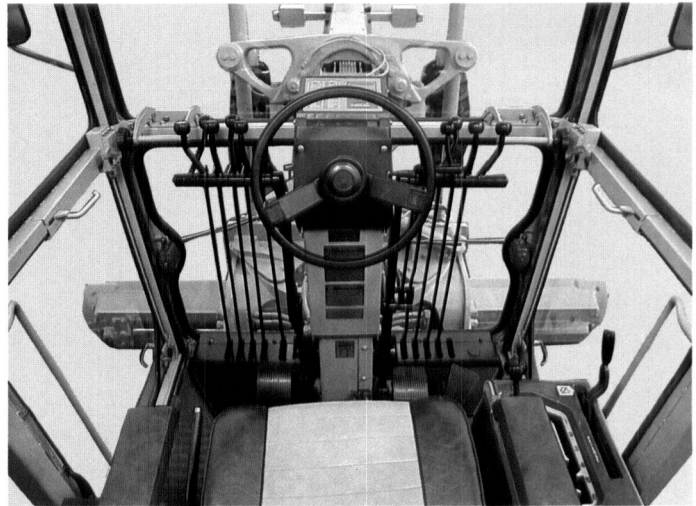
## Efficient Operating Environment



**Rear mounted, sound suppressed cab** — provides excellent visibility and plenty of work space. Instead of the conventional unitized ROPS cab, the GD615A is equipped with a separate cab and externally-mounted ROPS. This enables slim cab pillars and means plenty of interior cab space and improved overall vision. Tinted glass windows reduce glare and keep the cab cooler in hot weather. The front window can be swung up and out of the way for unimpeded forward visibility.

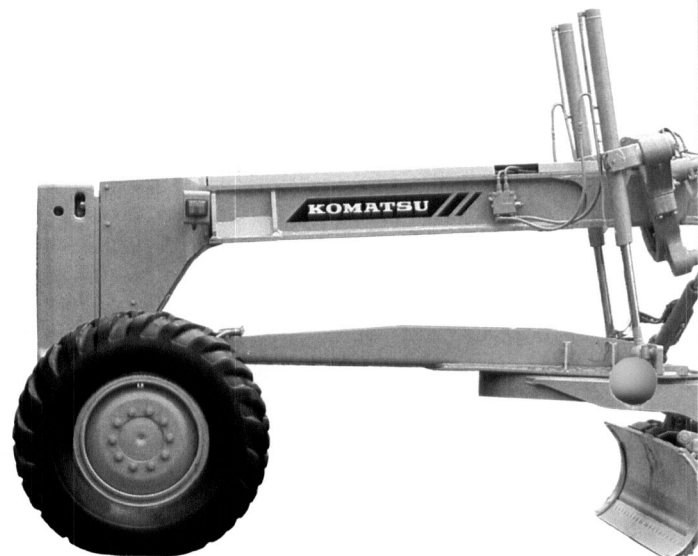


**Tiltable steering console and work equipment levers** — tilt separately so the operator can adjust them for operation from a seated or upright position. The steering wheel also tilts for added comfort. Plenty of leg room for any size operator.



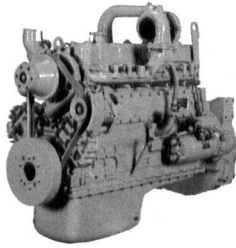
**Controls are arranged for optimum production** — based on frequency of use. Short-stroke levers and low-effort controls make operation easy. Large glass area allows excellent view of the blade during grading operations. Hand throttle plus foot throttle/heel decelerator and inching pedal allow the operator complete control of ground speed. Hydroshift transmission gives the convenience of a power shift and the efficiency of a direct drive. Optional equipment like blade accumulator and moldboard float add even further to operator convenience. The accumulator allows a set blade pressure to be maintained without manipulation of the blade control levers. Blade float allows the blade to follow uneven terrain.

**A deluxe-suspension seat** with adjustable armrests slides fore and aft in 7 steps over 140 mm (5.5") and can be raised or lowered anywhere within a range of 75 mm (3"). Cushion hardness can also be adjusted to suit the operator. This seat gives more comfort and ensures the perfect operating position for the operator.

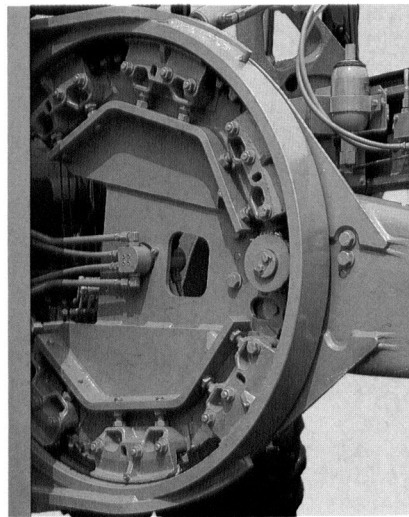


## Maximum Productivity

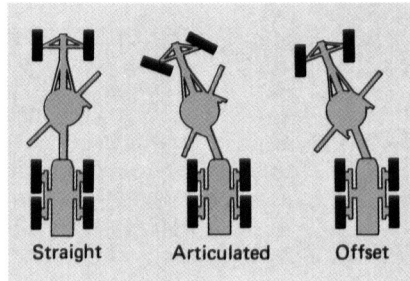
**Weight is optimally distributed on the front and rear wheels** — making it possible to dig harder ground while maintaining high machine stability. This prevents sideslipping, provides exceptional operating stability and allows larger blade loads.



**Komatsu S6D110 turbo-charged diesel engine** — offers high power and maximum fuel economy. This engine delivers a powerful 140 FHP at 2500 RPM, and its high torque rise makes even the toughest digging easy. A direct-injection fuel system contributes to reduced fuel consumption.



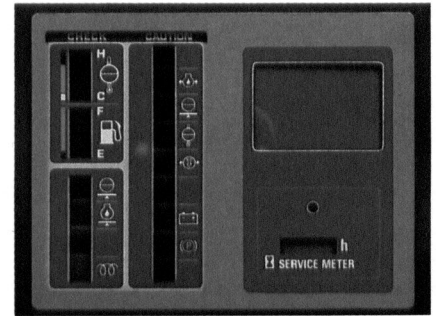
**Six circle guide shoes for optimum blade operation.** Guide shoes ensure precise blade operation, low shoe wear, smooth blade rotation and increased torque.



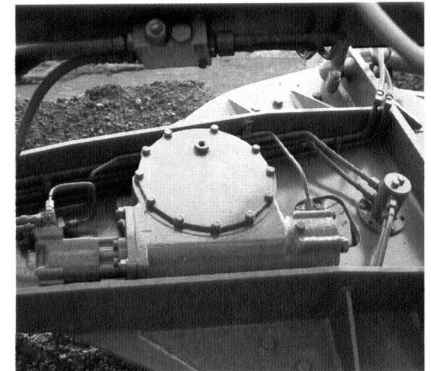
**Full frame articulation** — of 52° provides the GD615A with a turning radius of 6.7 m (22') which is best in its class. Three basic operating postures are available to meet varying needs.



## Minimum Maintenance



**Electronic display and monitoring system** — reduces downtime, increases machine availability. An easy-to-read LCD monitor is provided on the steering post, making checks before and during operation easy.



**Circle drive slip clutch** — protects circle shoes and teeth from damage. Should a large rotational force be placed against the blade (as when striking a buried rock) the clutch will slip and the rotational load will be absorbed.

**Wet multiple-disc brakes and lock/unlock differential** — deliver smoother, safer operation. Powerful, wet multiple-disc brakes employed on all tandem wheels prevent heat build-up during frequent, heavy-duty braking action. The lock/unlock differential includes a wet multiple-disc clutch that can be smoothly locked or unlocked even when the machine is being steered. This feature facilitates ditch digging and refilling work that requires operation in a very straight line. Traction is also aided when working in soft terrain.



## HYDRAULIC CONTROL UNIT

**Hydraulic pumps:** Tandem gear pump powers the work equipment and steering system.

Capacity (work equipment) . . .106 ltr. (28 U.S. gal)/min.

Steering . . . . . 39 ltr. (10.3 U.S. gal)/min.

One gear pump for HYDROSHIFT transmission

Capacity . . . . .88 ltr. (23.3 U.S. gal)/min.

**Hydraulic motor:** Orbit-type hydraulic motor of 32 HP (24 kW) output power is used for blade rotation.

**Hydraulic cylinders:** Double-acting piston type hydraulic cylinders: two for blade lifting, one for drawbar sideshifting, one for blade sideshifting, one for front wheel leaning, one for blade tipping, two for front wheel steering and two for frame articulation. Pilot check valves assure positive cylinder action (excluding a blade sideshift cylinder).

**Control valve:** 10-spool type control valves for work equipment controls. Relief valve built into control valve for sure control.

**Relief valve setting:**

Work equipment . . . . .200 kg/cm<sup>2</sup> (2844 psi)

Steering . . . . .175 kg/cm<sup>2</sup> (2489 psi)

Transmission . . . . . 30 kg/cm<sup>2</sup> ( 427 psi)



## COOLANT & LUBRICANT CAPACITY

Coolant . . . . . 34 ltr. ( 6.9 U.S. gal)

Fuel tank. . . . .227 ltr. (60 U.S. gal)

Engine . . . . . 27 ltr. ( 7.1 U.S. gal)

Transmission . . . . . 42 ltr. (11.1 U.S. gal)

Tandem case (each side) . . . . . 75 ltr. (19.8 U.S. gal)

Final drive case . . . . . 13 ltr. ( 3.4 U.S. gal)

Hydraulic oil . . . . . 68 ltr. (18 U.S. gal)



## OPERATING WEIGHT (approximate)

Operating weight, including rated capacity of lubricant, coolant, full fuel tank, hydraulic equipment, operator, 3660 mm (12') blade and 14.00-24-12PR (G-2) traction-type tires, ROPS, cab (low-profile type) and standard equipment.

On front wheels . . . . .4030 kg ( 8,885 lb)

On rear wheels . . . . . 9800 kg (21,610 lb)

Total weight. . . . .13830 kg (30,495 lb)

## STANDARD EQUIPMENT

**ENGINE AND TRANSMISSION:** Engine preheating. Pusher type fan. Engine side covers. Muffler. Hand throttle. Accelerator, decelerator and inching pedals. HYDROSHIFT transmission.

**METERS, GAUGES AND MONITORING SYSTEM:** Service meter. Water temperature gauge. Fuel gauge. Dust indicator. Electronic display monitoring system (for engine oil pressure, coolant level, air pressure, alternator charging, engine oil level, engine preheating).

**MOLDBOARD:** Hydraulic blade sideshift and hydraulic blade tip control, 3660 mm (12') blade, reversible side edges. Overlay end bits. Circle drive slip clutch.

**BRAKES:** Foot-operated wet multiple-disc brakes on four rear wheels. Hand-operated, internal expanding type parking brake.

**TIRES:** 14.00-24-12PR (G-2) traction-type tires (front and rear).

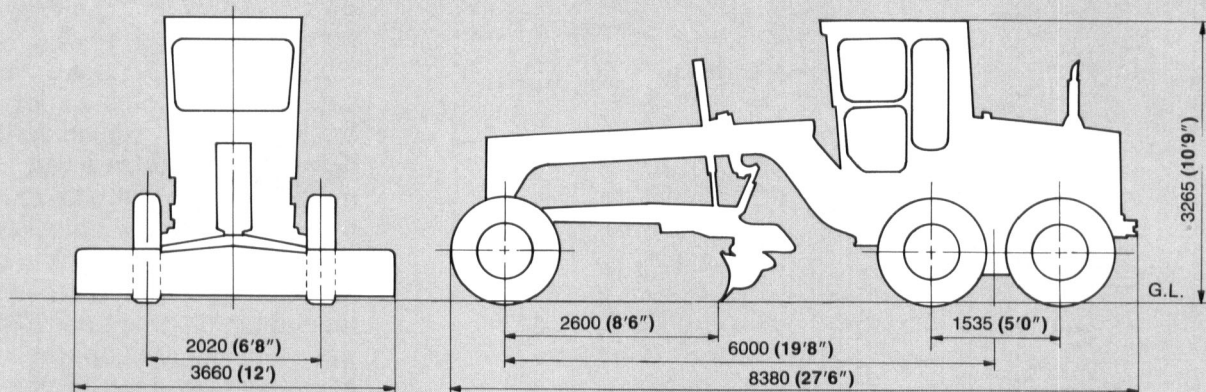
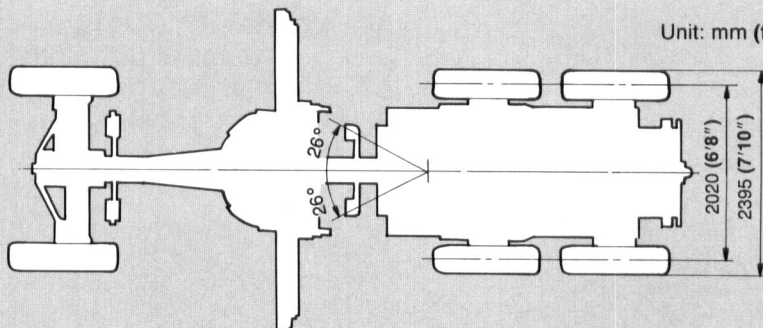
**OTHERS:** Adjustable console and work-equipment control levers. Adjustable power steering wheel. Adjustable suspension seat. Seat belt. Horn. Backup alarm. Stop and tail lamps. Front working lights (2), head lights (2), turn signal lamps, stop and tail lamps. Panel lamp. Pilot check valves for blade lift, blade tipping, front wheel leaning, drawbar sideshift and frame articulation cylinders. Rear drawbar. 2 service spools for additional equipment. Vandalism protection locks.



## DIMENSIONS

(with low profile ROPS and cab)

Unit: mm (ft.in)



Ground clearance . . . . . 360 mm (1'2")

# SPECIFICATIONS



## ENGINE

Komatsu S6D110, 4-cycle, water-cooled, overhead-valve, turbocharged diesel engine with 6 cylinders, 110 mm (4.33") bore x 125 mm (4.92") stroke and 7.13 ltr. (435 in<sup>3</sup>) piston displacement.

Flywheel horsepower:

**140 HP** (104 kW) at 2500 RPM (SAE J1349)

Direct-injection for fuel economy. Mechanical all-speed governor. Gear pump-driven force lubrication with spin on full-flow filter. Dry-type air cleaner with automatic dust evacuator, built-in precleaner and dust indicator for extended element service intervals. 24 V/7.5 kW electrical starting system. 24 V/35 A alternator. 2 x 12 V/150 Ah batteries.



## HYDROSHIFT TRANSMISSION

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

### Travel speed (at rated engine RPM)

	1st	2nd	3rd	4th	5th	6th
Forward						
km/h	3.4	6.1	10.8	14.2	25.5	44.6
(MPH)	(2.1)	(3.8)	(6.7)	(8.8)	(15.8)	(27.7)
Reverse						
km/h	4.2	7.5	13.1	17.3	31.1	54.4
(MPH)	(2.6)	(4.7)	(8.1)	(10.8)	(19.3)	(33.8)

Max. drawbar pull. . . . . 7610 kg (16,780 lb)



## FINAL DRIVE

Final drive consists of spiral bevel gear with electric over hydraulic wet disc differential clutch. Roller-chain tandem drives for four rear wheels. Tandem case oscillates  $\pm 13^\circ$ , assuring high machine stability and positive traction during operation.



## AXLES

**Front axle:** Reverse Elliot-type front axle with a center ground clearance of 610 mm (2') and oscillation angle of  $\pm 16^\circ$  assures stable machine travel. Hydraulic controlled front wheel leans  $20^\circ$  to each side.

**Rear axle:** Full-floating rear axle is made of forged heat-treated steel.



## WHEELS

Front and rear tires . . . . . 14.00-24-12PR (G-2)  
traction-type tubeless tires  
Rims . . . . . 8.00TG x 24 (SDC)



## STEERING

Full-hydraulic, orbit-roll type steering control system with two steering cylinders directly actuated on the knuckle arm. Maximum steering angle of front wheels is  $49^\circ$ , left and right.

Frame articulation angle . . . . .  $26^\circ$ , left and right  
Min. turning radius (frame articulated) . . . . . 6.7 m (22')



## BRAKES

**Service brakes:** Foot-operated, wet multiple-disc brakes are air-actuated on 4 rear wheels and sealed for adjustment-free operation. Two crossing brake lines for sure braking.

**Parking brake:** Mechanical, internal-expanding type actuated on transmission output shaft.



## FRAMES

Frames are articulated by two hydraulic cylinders. Box-sectioned front and rear frames are steel-plate-welded and connected with an articulation pin. One-piece-frame design for the front frame offers excellent front visibility for more precise operation.

Front frame section (width x height) . . . . . 280 x 300 mm  
(11.0" x 11.8")



## BLADE EQUIPMENT

**Drawbar:** A-shaped, welded construction for maximum strength.

**Circle:** Hydraulically controlled internal gear type circle with six guide shoes for smooth  $360^\circ$  rotation.

Circle diameter (outer) . . . . . 1300 mm (4'3")

**Moldboard:** Box-section construction with wear-resistant steel. Hydraulic blade sideshift and tip control. Reversible edges and overlay end bits are attached.

Length x height x thickness . . . . . 3660 x 645 x 22 mm  
(12' x 2'1" x 0.87")

Blade base . . . . . 2600 mm (8'6")

Blade load . . . . . 6855 kg (15,110 lb)

**Cutting edges:** Curved type cutting edges meet SAE standard J739b.

No. of cutting edges . . . . . 2

Length x height x thickness . . . . . 1829 x 152 x 16 mm  
(6' x 6.0" x 0.63")



## BLADE RANGE

All blade movements and positions can be hydraulically controlled from the operator's seat.

Max. lift above ground . . . . . 450 mm (1'6")

Max. drop below ground . . . . . 535 mm (1'9")

Max. shoulder reach:

Left . . . . . 2000 mm (6'7")

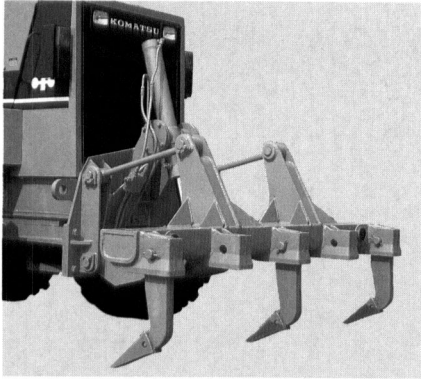
Right . . . . . 2000 mm (6'7")

Max. bank cutting angle . . . . .  $90^\circ$

Hydraulic blade tip . . . . .  $40^\circ$  forward,  $5^\circ$  backward

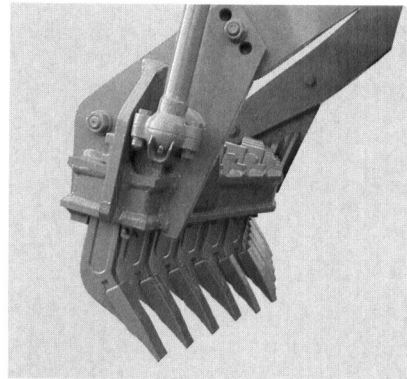
Cutting angle . . . . .  $27^\circ \sim 77^\circ$

## ATTACHMENTS



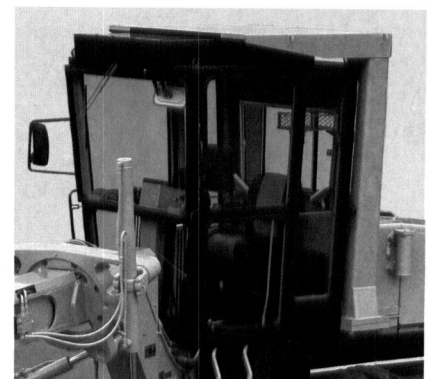
**Rear-mounted ripper:** Four parallel linkage type. With hydraulically controlled raise and lower functions, this ripper can be used to dig out rocks or hard ground not removable by a scarifier. (Requires front pusher plate/counterweight).

Number of shanks . . . . .3 (5 max)  
 Max. digging depth . . . . .465 mm (1'6")  
 Max. lift above ground . . .550 mm (1'10")  
 Max. digging width . . . .2210 mm (7'3")  
 Overall width . . . . .2305 mm (7'6")  
 Additional length of  
 ripper . . . . .1275 mm (4'2")  
 Overall length with ripper and  
 push plate . . . . .9770 mm (32'1")  
 Additional weight of  
 ripper . . . . .1105 kg (2,430 lb)



**Scarifier:** Ideal for removing old pavement, or digging hard or ill-conditioned ground that has numerous stones and rocks.

No. of shanks . . . . .11  
 Additional weight . . .695 kg (1,530 lb)  
 Scarifier base . . . . .970 mm (3'2")  
 Digging width . . . . .1325 mm (4'4")  
 Lift above ground . . . .320 mm (1'1")



### ROPS AND CAB

ROPS meets ISO3471, SAEJ1040c and SAEJ396c standards. Cab includes windshield washer and wiper, room lamp, floor mat, and inside rear view mirror.

#### Low profile type

Cab weight . . . . .390 kg (860 lb)  
 ROPS weight . . . . .410 kg (900 lb)  
 ROPS installed height . . .3305 mm (10'10")

#### Full height type

Cab weight . . . . .410 kg (900 lb)  
 ROPS weight . . . . .430 kg (950 lb)  
 ROPS installed height . . .3505 mm (11'6")

## OPTIONAL EQUIPMENT

- Air conditioner w/heater and defroster
- Air dryer
- Articulation indicator
- Blade 13'
- Blade 14'
- Blade accumulator
- Blade extension 2' left or right
- Blade float control system

- Cab accessories
  - Cab flood lights
  - Sun visor
  - Rear window wiper
  - Left and right door wiper
  - Pressurizer
- Dozer blade, front
- Emergency steering
- Heater and defroster

- Pusher plate/counterweight (used in lieu of front weight) 1205 kg (2,650 lb)
- Rear underview mirror
- Speedometer
- Tires 13.00 x 24-10PR tubeless
- Tires 13.00 x 24-12PR tubeless
- Tires 14.00 x 24-10PR tubeless
- Tires 17.50 x 25-12PR tubeless
- Tool kit
- Transmission underguard

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Materials and specifications are subject to change without notice.

**KOMATSU**

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