

GD825A-2 KOMATSU



**Flywheel
Horsepower**
280 HP
209 kW

Blade Length
16'2"
4928 mm

Operating Weight
58,250 lb
26 420 kg



GD825A-2
SPECIFICATIONS

MOTOR GRADER

The GD825A Motor Grader – fulfilling Komatsu's commitment to deliver top performance, unsurpassed reliability, and sound economics.

The GD825A tackles demanding applications in severe conditions. Exceptional drawbar pull, maneuverability and a wide speed range make it the premiere machine for heavy-duty haul road maintenance and repair.

Superior stability and productivity come from the well balanced front-to-rear weight distribution. With 30% of the total machine weight on the front wheels, the GD825A experiences reduced side slip for better steering control under heavy load conditions. The balanced weight distribution also provides powerful down-pressure at the cutting edge to easily penetrate tough haul roads, enhancing blade performance.

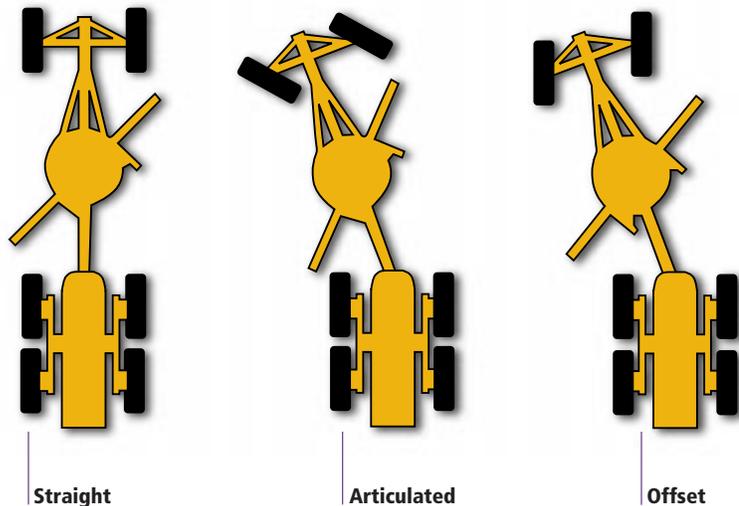


Frame

Durable, welded steel plate, box-sectioned front and rear frames are designed for long life in tough working conditions. The 25° frame articulation, controlled by hydraulic cylinders on either side of the frame, offers a minimum turning radius of 25'11" (7.9 m) for excellent maneuverability and flexibility on the job. Basic frame positions include:

- Straight – for efficient long-pass grading
- Articulated – for tight turning
- Offset – for locating drive wheels on prepared (stable) ground

Double-wall, reinforced gooseneck adds strength and rigidity where the stress of loads and shocks is concentrated. The box-section design extends the life of the frame in heavy-duty haul road applications.





Blade Rotation

Fast blade rotating speed facilitates quick blade angle changes for exceptional productivity. **A long shoulder reach and hydraulic blade control** match the GD825A to the most demanding applications. And the operator can position the blade cutting angle at up to 90° left or right, without leaving the cab.

Circle Slip Clutch

A **standard circle slip clutch** protects circle shoes and teeth from damage by allowing the blade to turn or “walk” over buried rocks or similar objects, reducing downtime and expense.

Circle Guide Shoes

Six adjustable circle guide shoes with brass inserts ensure precise blade operation, low shoe wear, and smooth blade rotation.

Engine

The **Komatsu designed and built S6D140E diesel engine** delivers a hefty 280 hp (209 kW). The engine’s **dependable** power and high torque output combine with a substantial operating weight to produce the kind of drawbar pull needed to handle tough, compacted haul roads.

A proven direct injection fuel system lowers fuel consumption and increases efficiency.

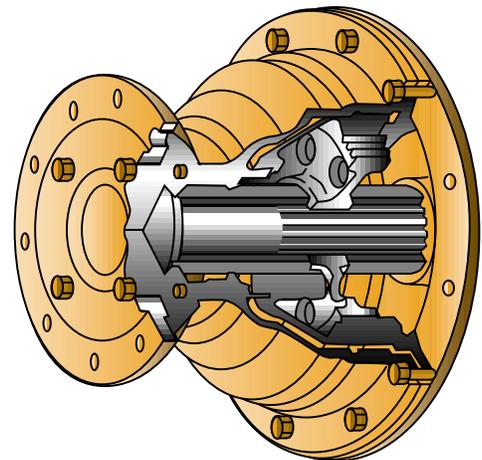


Transmission

The **Komatsu HYDROSHIFT® Transmission** distributes the engine’s power over a wide range of speeds. Eight forward and reverse speeds match all job conditions from haul road grading to cleanup applications. The electrically controlled transmission features contactless switches to reduce maintenance and increase reliability by eliminating mechanical wear or corrosion.

Differential

A **heavy-duty differential** is standard on the GD825A-2 to handle large loads. Tapered roller bearings support the oversized pinion gears and cross joint to absorb driveline stresses. Force lubrication prevents heat buildup and increases reliability. Lock/unlock capability offers superior traction in poor underfoot conditions.



Brakes

Wet, multiple-disc brakes, located on all tandem wheels, are oil-cooled and sealed from contamination to provide adjustment-free, long-lasting performance even when operating in muddy conditions.

The result of Komatsu's "human-engineered" approach to cab design is readily apparent: comfort, convenience, and efficient operation for outstanding productivity.

Operator's Compartment

Ergonomically designed operator's compartment mounted to the rear frame maximizes performance and efficiency. Even in the offset position, the operator's compartment faces forward and provides a natural position to view blade and machine operation. Rubber mounts between the compartment and frame and control valves isolated from the cab floor reduce noise and vibration. Operator performance is also enhanced by:

- Suspension seat (with three adjustable positions) and armrest
- Tilttable console unit with equipment levers and steering wheel for optimum positioning
- Ample interior space and large glass area provide an excellent field of vision
- Clearly visible, conveniently located instruments and controls



Conveniently located speed and direction controls offer light-touch, low effort shifting.

Display

The electronic display and monitoring system, located directly on the steering post for excellent visibility, continuously tracks the performance of all critical operating systems and alerts the operator in the event of a system malfunction before costly damage occurs.



Electronic display and monitoring system continuously monitors all operating systems, keeping the operator well-informed of machine conditions.

Load Sensing System

The Closed-center Load Sensing System (CLSS) provides precise, responsive implement control at any engine rpm and reduces fuel consumption. One variable capacity piston pump drives the work equipment and steering system. Only the necessary amount of oil is supplied to the hydraulic cylinders. Lever effort is constant and predictable regardless of load or engine speed.

Ground Speed

A hand throttle plus foot throttle/heel decelerator and inching pedal provide the operator with smooth and precise control of ground speed.

Elevating Cab

Komatsu's exclusive elevating cab not only provides a comfortable place to work, it **simplifies maintenance and repair**. By raising the cab 2'4" (710 mm), hydraulic piping and control linkage can be inspected – even on the job site – without disconnection.



Elevating cab provides convenient accessibility for easy maintenance and repair functions.



Functional, roomy cab offers the operator a comfortable environment with exceptional visibility to the work area.



Engine

Standard

Make and model **Komatsu S6D140E**
 Fuel Diesel
 Number of cylinders 6
 Operating cycle 4 stroke
 *Flywheel power **280 hp** 209 kW @ 2100 rpm

*Flywheel power is the rated power at the engine flywheel minus the average accessory losses. Accessories include fan and charging alternator. Rating(s) represent gross engine performance in accordance with SAE J1349 conditions.



Transmission

The Komatsu HYDROSHIFT® Transmission utilizes planetary gears and hydraulically actuated, force-lubricated multiple-disc clutches. A single lever completes both speed shifting and direction changes. Inching pedal allows precise finishing operation and smooth machine starts. Eight forward and reverse speeds match all job requirements. Gearshift lock device prevents accidental machine starts. Engine starts only when the shift lever is set in the park position.

Travel speeds (at rated engine rpm):

Gear	Forward		Reverse	
	mph	km/h	mph	km/h
1st	2.5	4.0	2.7	4.3
2nd	3.4	5.4	3.6	5.8
3rd	5.0	8.0	5.3	8.5
4th	7.1	11.5	7.6	12.2
5th	9.8	15.8	10.5	16.9
6th	13.3	21.4	14.2	22.8
7th	19.5	31.3	20.8	33.4
8th	27.9	44.9	29.8	47.9

Max. drawbar pull **31,790 lb** 14 420 kg



Electrical system

12-volt Batteries

Two 12-volt batteries in series/parallel. 200 ampere-hour capacity with disconnect switch.

Alternator 24-volt, 50 amp

Starter 24-volt, 11 kW



Final Drive

Double-reduction final drives consisting of a spiral bevel gear with electric-over, hydraulically controlled differential lock/unlock device and planetary gear. Roller-chain tandem drives for four rear wheels. Tandem case pivots up to 15°, assuring high machine stability and positive traction during operation.



Axles

Front

Reverse Elliot-type front
 Center ground clearance **2'3"** (680 mm)
 Oscillation angle 32°(total)
 Front wheel lean (to each side) 14.5°

Rear

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



Tires / Rims

Front and rear tires 23.5 x 25-12PR (L3) tires
 Rims 13.00 VA x 25 TB
 Inflation pressure **37 psi** (2.6 kg/cm²)



Steering

Full-hydraulic orbit-roll-type steering control system with two steering cylinders directly actuated on the knuckle arm.
 Steering angle (max.) 50° (front wheels, left and right)
 Frame articulation angle 25° (left and right)
 Turning radius (min.) **25'11"** 7.9 m (frame articulated)



Braking System

Service brakes

Rear Air-actuated, wet, multiple disc brakes on four rear wheels. Sealed for adjustment-free operation.
 Two, crossed brake lines.

Parking brake Mechanical, dry, disc-type, mounted on transmission output shaft. Spring-applied and air-released.



Frames

Box-sectioned front and rear frames are welded steel plate construction and connected with an articulation pin. One-piece frame design for the front frame in which hydraulic piping is installed offers excellent front visibility for precise operations. Frames are articulated by two hydraulic cylinders.

Front (WxH) **1'2" x 1'4"** 350 mm x 400 mm



Blade Range

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

Lift (max. above ground) **1'7"** 490 mm

Drop (max. below ground) **2'3"** 680 mm

Shoulder reach (max.)

Left **7'10"** 2400 mm

Right **7'10"** 2400 mm

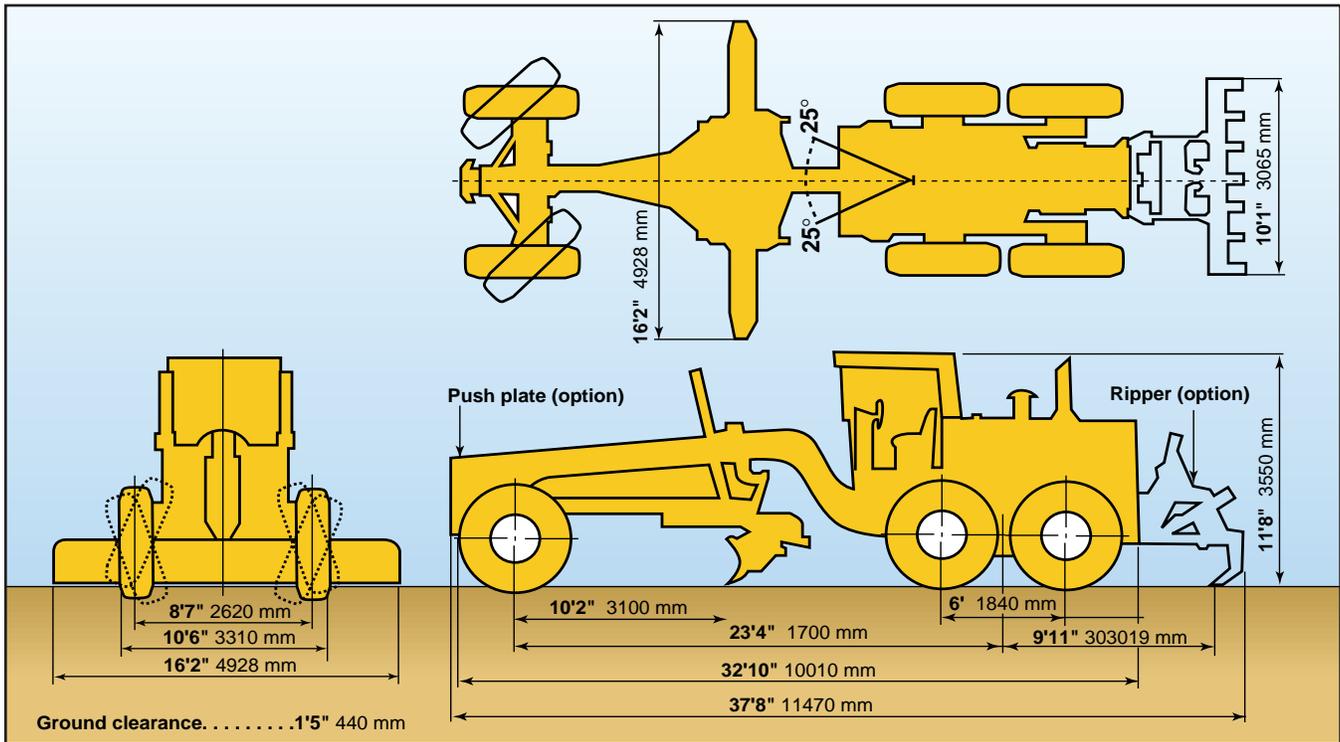
Bank cutting angle (max.) 90°

Hydraulic blade tip

Forward 49°

Backward 5°

Cutting angle 25.5° - 84°



Blade Equipment

Drawbar

A-shaped, U-section press-formed and welded construction for maximum strength.

Circle

Hydraulically controlled, internal gear-type circle with six guide shoes for smooth 360° rotation.

Circle diameter (outer)**5'10"** 1775 mm

Moldboard

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

Length x height x thickness.....**16'2" x 2'7" x 0.98"**
4928 mm x 800 mm x 25 mm

Blade base.....**10'2"** 3100 mm

Blade load.....**30,250 lb** 13 720 kg

Cutting edges

Curved-type cutting edges meet SAE J739b.

No. of cutting edges.....**2**

Length x height x thickness.....**8' x 10" x 1"**
2438 mm x 254 mm x 25 mm



Operating Weight (approximate)

Includes rated capacity of lubricant, coolant, full fuel tank, hydraulic equipment, operator, **16'2"** 4928 mm blade and 23.5 x 25-12PR (L3) rock-type tires, optional ROPS canopy and steel cab (low-profile type) and the standard equipment.

On front axle**17,570 lb** 7970 kg

On rear axle.....**40,680 lb** 18 450 kg

Total weight.....**58,250 lb** 26 420 kg



Hydraulic System

Pumps

Steering/work equipment (piston-type).....**73.4 gal** 278 L

Transmission (gear-type)**35.1 gal** 133 L

Differential (gear-type)**4.5 gal** 17 L

Motor

Piston-type (for blade rotation)**66 hp** 49 kW

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 valves: two, 5-spool-type control valves for work equipment controls. Relief valve built into control valve for sure control.

Relief valve setting:

Work equipment.....**3,560 psi** 250 kg/cm²

Steering.....**2,490 psi** 175 kg/cm²

Transmission.....**440 psi** 31 kg/cm²



Service Capacities

Coolant.....**15.3 gal** 58 L

Fuel tank**132.1 gal** 500 L

Engine.....**10 gal** 38 L

Transmission.....**6.6 gal** 25 L

Tandem case (each side)**50.2 gal** 190 L

Final drive case**16.6 gal** 63 L

Hydraulic oil.....**21.1 gal** 80 L



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.

No. of shanks (max. 7 shanks installable)	3
Digging depth (max.)	1'7" 480 mm
Lift above ground (max.)	2'3" 675 mm
Digging width (max.)	9'9" 2980 mm
Additional weight (including front push-plate)	5,700 lb 2585 kg

ROPS canopy and steel cab*

Includes cigarette lighter and ash tray, dome light, sun visor, front window washer and front and rear wipers, seat belt, right and left outside and interior rear view mirrors.

Low-profile	
Weight	2,205 lb 1000 kg
Installed height	11'8" 3550 mm
Full-height	
Weight	2,470 lb 1120 kg
Installed height	12'4" 3750 mm

*ROPS canopy or ROPS cab must be ordered for all machines.

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Standard Equipment

Engine and transmission:

- Diesel engine **280 hp** 209 kW
- Starting motor, 24 V/11 kW
- Alternator 24 V/50 A
- Batteries 2 x 12 V/200 Ah
- Corrosion resistor
- Dry-type air cleaner with automatic dust ejector and precleaner
- Pusher-type fan
- Engine side covers
- Muffler
- Hand throttle
- Accelerator, decelerator and inching pedals
- HYDROSHIFT® Transmission
- Lock/unlock differential
- Transmission underguard

Meters, gauges, and monitoring systems:

- Service meter
- Air pressure gauge
- Water temperature gauge
- Fuel gauge
- Dust indicator
- Blade bank pin retract indicator
- Electronic display monitoring system (for final drive oil temperature, engine oil pressure, coolant level, coolant

- temperature, air pressure, alternator charging, engine oil level, hydraulic oil level, engine preheating)
- Speedometer

Moldboard:

- Blade sideshift, hydraulic
- Blade tip control, hydraulic
- **16'2"** 4928 mm blade
- Cutting edges, two **8'** 2438 mm
- Side edges, reversible
- End bits, overlay
- Circle drive slip clutch

Brakes:

- Oil-disc brakes for four rear wheels (foot-operated)
- Dry, disc-type parking brake (hand-operated)

Tires:

- 23.5 x 25-12PR (L3) tires (front and rear)

Other Standard Equipment

- Adjustable console and work equipment control levers
- 5-way adjustable seat
- Horn

- Back-up alarm
- Stop and tail lamps
- Panel lamp
- Pilot check valves for blade lift, blade tipping, front wheel leaning, drawbar sideshift and frame articulation cylinders
- Front working lights (4)
- Rear working lights (2)
- Rearview mirror
- Vandalism protection kit
- Blade accumulator
- Rear drawbar
- Headlights
- Back-up light

Optional Equipment

- 23.5 x 25-12 PR (L2) tires
- 18.00 x 25-12 PR (G3) tires
- Air conditioner with heater/defroster
- Heater and defrosters
- Push plate
- Blade extension **2'** 610 mm
- Float position blade control
- Auxiliary steering
- Window wiper, door, lower
- ROPS canopy, * full-height
- ROPS canopy, * low-profile

*ROPS canopy or ROPS cab must be ordered for all machines.



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