

# WA600-1

## WHEEL LOADER



Photo shown may include optional equipment.

## KOMATSU VANGUARD SERIES

- *Komatsu components throughout the machine assure years of reliability and high-performance service.*
  - *Adjustment-free wet disc brakes for steady braking and extended service life.*
  - *Electronic Display and Monitoring System for minimized maintenance.*
  - *Oil-lubricated pin and sealed loader linkage pin for extended maintenance intervals.*
  - *A large breakout force with Z-bar loader linkage and fuel-efficient, powerful Komatsu S6D170 turbocharged diesel engine for high productivity.*
  - *Fingertip control with Electrically Controlled Transmission.*
  - *A tiltable steering wheel and fully adjustable suspension seat.*
  - *Reduced operating effort through Pilot Operated Control (POC).*
- Flywheel horsepower: 415 HP (310 kW) at 2000 RPM*  
*Bucket capacity: 5.4 m<sup>3</sup> (7.0 cu.yd)*  
*Operating weight: 39200 kg (86,420 lb)*



## Enhanced comfort in the cab



**Spacious, comfortable cab (optional):** The use of a cab with expansive tinted glass relaxes the operator and improves his visibility. Ergonomically arranged instruments, control levers and pedals boost operating efficiency. The cab is mounted on the rear frame with rubber pads to minimize noise and vibration.

## Highly responsive and maneuverable



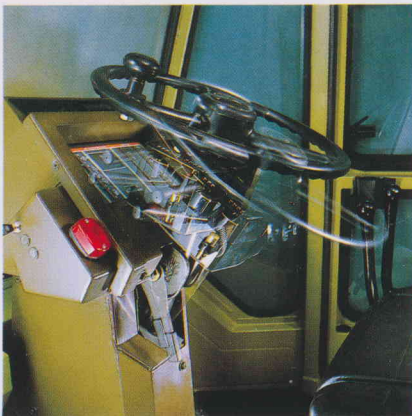
**Fingertip control** is realized with the electrically controlled transmission, assuring responsive, light-touch manipulation of the speed control and direction change levers provided on the side of the steering column.

### **Smooth, light-touch steering and work equipment control:**

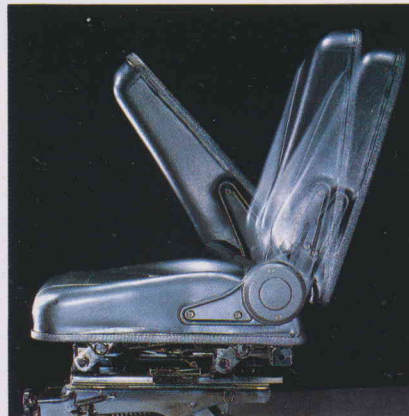
The demand valve system guarantees light-touch steering at all times. Pilot Operated Control (POC) through a pilot operated control valve assures light-touch work equipment control and excellent fine control.



## An efficient operating environment



**The steering wheel smoothly tilts** within a 100 mm (4") range, offering ideal steering conditions for every operator.



### **Oil-suspension seat:**

The seat is up/down and fore/aft adjustable with cushion hardness also varying according to the operator.

### **High component reliability:**

All components are designed and manufactured by Komatsu for maximum reliability and performance.



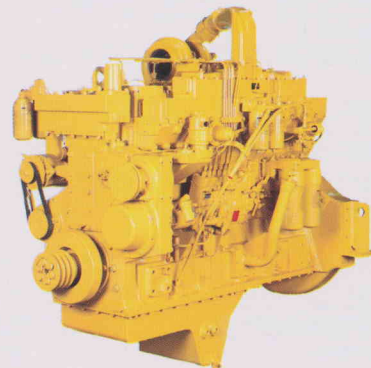
## High performance for more production

**Outstanding bucket and loader performance:** Powerful breakout force, high dumping clearance, large dumping reach and smooth, fast movement enable the WA600-1 to achieve outstanding bucket and loader performance for high productivity.

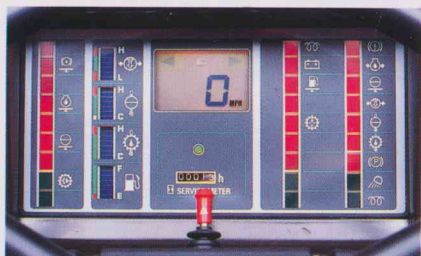


**High machine stability:** A center-pin-supported rear axle and large oscillation angle maintain level operation on even the roughest surfaces. This, plus a long tread and large static tipping load, give the WA600-1 high stability for efficient digging/carrying operations.

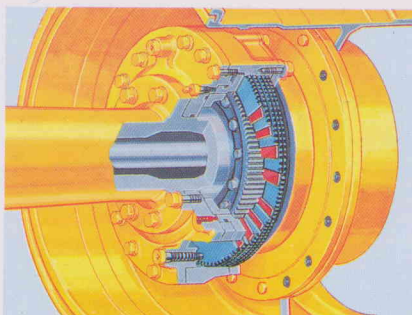
**The Komatsu S6D170 diesel engine** delivers a lugging 415 HP (310 kW). The engine power is well matched with the torque converter and transmission, boosting operating efficiency.



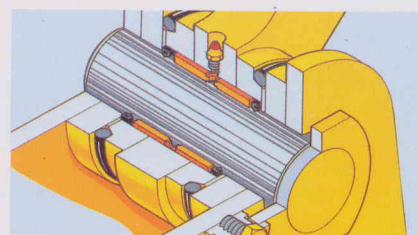
## Minimum maintenance for less downtime



**The electronic display and monitoring system:** All important checkpoints are monitored and the operator is alerted through the sophisticated display panel in the event of a malfunction or emergency. The Electric System for Safety promotes foolproof operation.



**Wet, multiple-disc brakes** are adjustment-free. Sure braking performance is maintained even when the machine is operated on muddy terrain. Extended disc life contributes to the high brake durability.



**Sealed loader linkage pins and oil-lubricated pins** need less maintenance. Bucket hinge pins are sealed-oil lubrication for extended refilling intervals of 2000 hours. Bucket linkage pins are lubricated and protected by dust seals and cord rings as are all loader linkage pins. As a result, lubrication intervals are greatly extended.



# SPECIFICATIONS



## ENGINE

The Komatsu S6D170 is a 4-stroke, water-cooled, overhead valve, direct-injection turbocharged diesel engine. It includes six cylinders with a 170 mm (6.7") bore x 170 mm (6.7") stroke and a 23.15 ltr. (1,412 cu.in) piston displacement. Flywheel horsepower:

415 HP (310 kW) at 2000 PRM (SAE J1349)

421 PS (310 kW) at 2000 PRM (DIN 6270 NET)

Direct-injection fuel system. All-speed mechanical governor. Gear-pump-driven force-lubrication with full-flow filters. All filters are spin-on type for easy maintenance. Dry-type air cleaner with automatic dust evacuator. 24 V/15 kW (7.5 kW x 2) electric starting motors. 24 V/50 A alternator. 2 x 12 V/200 Ah batteries.



## TRANSMISSION

3-element, single-stage, single-phase torque converter. Full powershift, planetary-gear type transmission. A modulating function assures shockless speed and directional changes without braking. An electrically controlled transmission allows fingertip control with speed and directional change levers. A neutral safety circuit allows starting only when the speed control lever is in neutral.

Travel speed km/h (MPH)

	Forward	Reverse
1st	0— 7.4 ( 4.6)	0— 8.2 ( 5.1)
2nd	0—12.7 ( 7.9)	0—13.9 ( 8.6)
3rd	0—21.0 (13.0)	0—23.0 (14.3)
4th	0—32.9 (20.4)	0—35.2 (21.9)



## AXLES & FINAL DRIVES

Four-wheel drive system. A full-floating front axle is fixed to the front frame. Center-pin-supported, full-floating rear axle with a large oscillation of  $\pm 13^\circ$ . A spiral bevel gear for reduction, a straight bevel gear for differential and a planetary gear for final reduction.



## BRAKES

**Service brakes:** Air-over-hydraulic, wet, multiple-disc brakes actuate all four wheels. Two brake pedals provided. The right for normal braking; the left offers not only normal braking but also braking + transmission neutralizing in case the transmission cut-off switch is turned on.

**Parking brake:** Dry disc type, air released, spring applied on front axle pinion shaft.

**Emergency brake:** The parking brake is automatically actuated as an emergency brake when air pressure goes below the rated value.



## TIRES

Front and rear: 65/35-33-24PR (L-4)

Rims: 28.00 x 33 WTB



## STEERING SYSTEM

Center-pivot frame articulation. Mechanical follow-up type, full-hydraulic power assisted steering independent of engine RPMs. A wide articulation angle of  $40^\circ$  on each side for a minimum turning radius of 8105 mm (26'7") at the outside corner of the bucket.



## BOOM & BUCKET

Z-bar loader linkages are made of high-tensile-strength steel for maximum rigidity and offer powerful excavation. Rap-out loader linkage design enables shock dumping to fall off sticky materials. Sealed loader linkage pins with dust seals and cord rings and sealed-oil lubricated bucket hinge pins extend greasing intervals. The bucket is also made of high-tensile-strength steel. Bucket corner teeth not only minimize bucket wear but also increase penetrating force.



## BUCKET CONTROLS

Little effort is required to operate the bucket and boom control levers, assuring smooth, responsive bucket/boom action. In addition, the bucket positioner and the boom kickout device facilitate repeated digging/loading operations. Pilot Operated Control (POC) assures light-touch work-equipment control.

**Control positions:**

Boom ..... Raise, hold, lower and float  
Bucket ..... Tilt-back, hold and dump



## HYDRAULIC SYSTEM

Two gear pumps for loader control.

**Capacity** (discharge flow) at engine 2000 PRM:

Loader pump ..... 652 ltr. (172.2 U.S. gal)/min.

Pilot pump ..... 37 ltr. ( 9.8 U.S. gal)/min.

Steering pump ..... 233 ltr. ( 61.6 U.S. gal)/min.

**Relief valve setting** ..... 210 kg/cm<sup>2</sup> (3000 PSI/20.6 MPa)

**Control valves:**

A double-spool type control valve and a steering valve with a demand valve.

Hydraulic cylinders	Number of cylinders	Bore	Stroke
Boom lift	2	255 mm ( 8.9")	1130 mm (44.5")
Bucket	1	280 mm (11.0")	680 mm (26.8")

**Hydraulic cycle time**

Rated load in bucket

Raise ..... 8.5 sec.

Dump ..... 2.4 sec.

Lower (empty) ..... 4.3 sec.



## SERVICE REFILL CAPACITIES

Cooling system ..... 135 ltr. ( 35.7 U.S. gal)

Fuel tank ..... 610 ltr. (161.1 U.S. gal)

Engine ..... 43 ltr. ( 11.4 U.S. gal)

Brake oil ..... 8 ltr. ( 2.1 U.S. gal)

Hydraulic system ..... 217 ltr. ( 57.3 U.S. gal)

Differential, final drive case ..... 110 ltr. ( 29.1 U.S. gal)  
(each front and rear)

Torque converter and  
transmission ..... 110 ltr. ( 29.1 U.S. gal)



## OPERATING WEIGHT

Operating weight, including rated capacity of lubricant, coolant, full fuel tank, 65/35-33-24PR (L-4) tires, 5.4 m<sup>3</sup> (7.0 cu.yd) SAE heaped capacity bucket and other standard equipment ..... 39200 kg (86,420 lb)

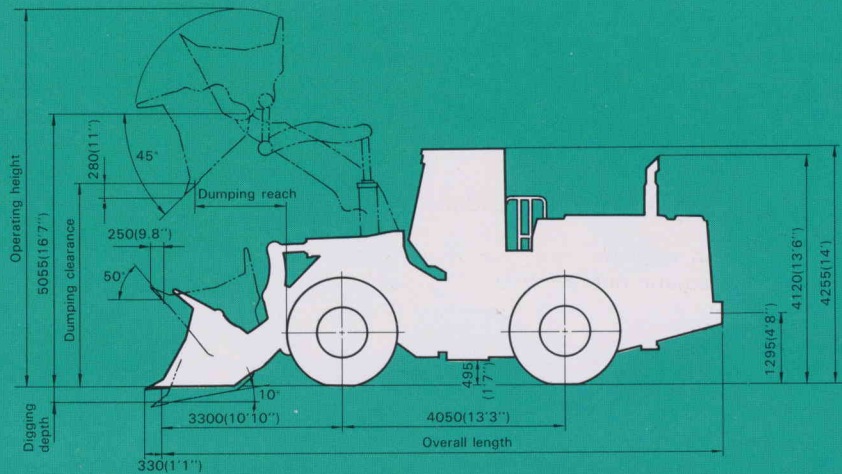


## DIMENSIONS

Unit: mm (ft.in)

Dimensions vary with tires

Tire size and code	65/35-33-24PR (L-4)	65/35-33-24PR (L-5)	29.5-29-28PR (L-4)
Tread	2650 mm ( 8'8")	2650 mm ( 8'8")	2650 mm ( 8'8")
Width over tires	3570 mm (11'9")	3570 mm (11'9")	3480 mm (11'5")
Change in vertical dimension	0	+10 (0.4")	-45 mm (1.8")
Change in reach	0	0	+30 mm (1.2")
Change in digging depth			
0°	0	-10 (0.4")	+45 mm (1.8")
10°	0	-10 (0.4")	+45 mm (1.8")
Change in overall length			
Bucket on ground	0	+10 (0.4")	+40 mm (1.6")
Bucket at carry	0	-5 (0.2")	+30 mm (1.2")



ROPS cab is optionally available.

Bucket type		Straight edge	Spade nose
Usage		Excavation	Excavation
Bucket capacity	SAE rated	5.4 m <sup>3</sup> (7.0 cu.yd)	5.4 m <sup>3</sup> (7.0 cu.yd)
	Struck	4.6 m <sup>3</sup> (6.0 cu.yd)	4.6 m <sup>3</sup> (6.0 cu.yd)
Bucket width		3685 mm (12'1")	3685 mm (12'1")
Static tipping load	Straight	27750 kg (61,180 lb)	27390 kg (60,380 lb)
	Full turn	24335 kg (53,650 lb)	24015 kg (52,940 lb)
Dumping clearance, max. height and 45° dump angle		3775 mm (12'5")	3585 mm (11'9")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		3455 mm (11'4")	3590 mm (11'9")
Reach at max. height and 45° dump angle		1640 mm (5'5")	1815 mm (5'11")
Reach with arm horizontal and bucket level		4190 mm (13'9")	4450 mm (14'7")
Operating height (fully raised)		6970 mm (22'10")	7055 mm (23'2")
Overall length	Bucket on ground	10210 mm (33'6")	10480 mm (34'5")
	Bucket at carry	10180 mm (33'5")	10375 mm (34')
Turning radius (bucket at carry, outside corner of bucket)		8105 mm (26'7")	8105 mm (26'7")
Digging depth	0°	35 mm (1.4")	45 mm (1.8")
	10°	285 mm (11.2")	345 mm (1'2")
Lifting capacity (SAE carry)		41500 kg (91,490 lb)	41000 kg (90,390 lb)
Breakout force (bucket cylinder)		45450 kg (100,200 lb)	38440 kg (84,740 lb)
Rated load		9720 kg (21,430 lb)	9720 kg (21,430 lb)
Operating weight		39200 kg (86,420 lb)	39430 kg (86,930 lb)

- All dimensions, weights and performance values based on SAE J-732c and J-742b standards.
- Concerning increases or decreases according to tire size, refer to the table in DIMENSIONS.
- Static tipping load and operating weight shown include 65/35-33-24PR (L-4) tubeless tires without ballast in rear, lubricants, coolant, full fuel tank and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Use either tire ballast or counterweight, not both. Add the following weight changes to operating weight and static tipping load.

## Weight changes

Tires and options	Change in operating weight	Change in tipping load	
		Straight	Full turn
65/35-33-24PR (L-4) tubeless tires	0/*+2700 kg (5,952 lb)	0/*+3805 kg (8,389 lb)	0/*+3355 kg (7,396 lb)
65/35-33-24PR (L-5) tubeless tires	+1140 kg (2,513 lb)/ *+3840 kg (8,466 lb)	+805 kg (1,775 lb)/ *+4610 kg (10,163 lb)	+710 kg (1,565 lb)/ *+4065 kg (8,962 lb)
29.5-29-28PR (L-4) tubeless tires	-670 kg (1,477 lb)/ *+1375 kg (3,031 lb)	-470 kg (1,036 lb)/ *+2070 kg (4,564 lb)	-415 kg (915 lb)/ *+2125 kg (4,685 lb)
ROPS canopy	+800 kg (1,764 lb)	+655 kg (1,444 lb)	+630 kg (1,389 lb)
Steel cab	+310 kg (683 lb)	+215 kg (474 lb)	+215 kg (474 lb)
Front fenders	+92 kg (203 lb)	+35 kg (77 lb)	+35 kg (77 lb)
Bucket teeth (bolt-on type)	+328 kg (723 lb)	-420 kg (926 lb)	-420 kg (926 lb)
Bucket teeth (weld-on tip type)	+372 kg (820 lb)	-475 kg (1,047 lb)	-475 kg (1,047 lb)

\* Filled with CaCl<sub>2</sub> in rear tires.



## STANDARD EQUIPMENT

**Engine and cooling system:** Starter. Alternator. Preheater.

**Electrical components:** Head lights (2). Rear working lights (2). Brake lamp or tail lamp. Turn indicators (front and rear). Electric display/monitoring system.

**Gauges:** Fuel level. Coolant temperature. Torque converter oil temperature. Speedometer. Service meter. Air pressure.

**Pilot lamps:** Engine preheating. High-beam. Working light. Turn indicators. Parking brake applied. Transmission cut-off.

**Monitor lights:** Engine oil level. Brake oil level. Coolant level.

**Caution lamps:** Battery charging. Fuel level. Oil filters clogging (engine, transmission). Transmission oil filter clogging.

**Caution lamps with alarm:** Engine oil pressure. Coolant level. Coolant temperature. Torque converter oil temperature. Air pressure. Parking and neutral. Brake line failure.

**Others:** Sight gauges (hydraulic reservoir level, brake oil level). Dust indicator. Emergency brake. 65/35-33-24PR (L-4) tires. Bucket positioner. Boom kickout. General-purpose bucket, 5.4 m<sup>3</sup> (7.0 cu.yd). Tire inflation kit. Suspension seat.

## OPTIONAL EQUIPMENT

ROPS canopy

Steel cab

Air conditioner

Heater and defroster

Windshiled wiper and washer

Floor mat

Sun visor

Fire extinguisher

Front fender

Vandalism protection kit

Emergency steering

Backup alarm

Front working lights (2), cab-mount type

Electric fan

Rearview mirrors

Room mirror

Seat belt

Tool kit

Ordinary spare parts

### Work equipment:

Bucket teeth (weld-on tip type)

Bucket teeth (bolt-on type)

Bucket corner teeth

3-spool control valve

Hydraulic adaptor kit

5.4 m<sup>3</sup> (7.0 cu.yd) spade nose bucket

### Tires:

65/35-33-24PR (L-5) tubeless

29.5-29-28PR (L-4) tubeless



This specification sheet may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require. Materials and specifications are subject to change without notice.

**KOMATSU**

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