KOMATSU
THE QUALITY IS STANDARD

KOMATSU Vanguard SERIES

WA500-1

WHEEL LOADER

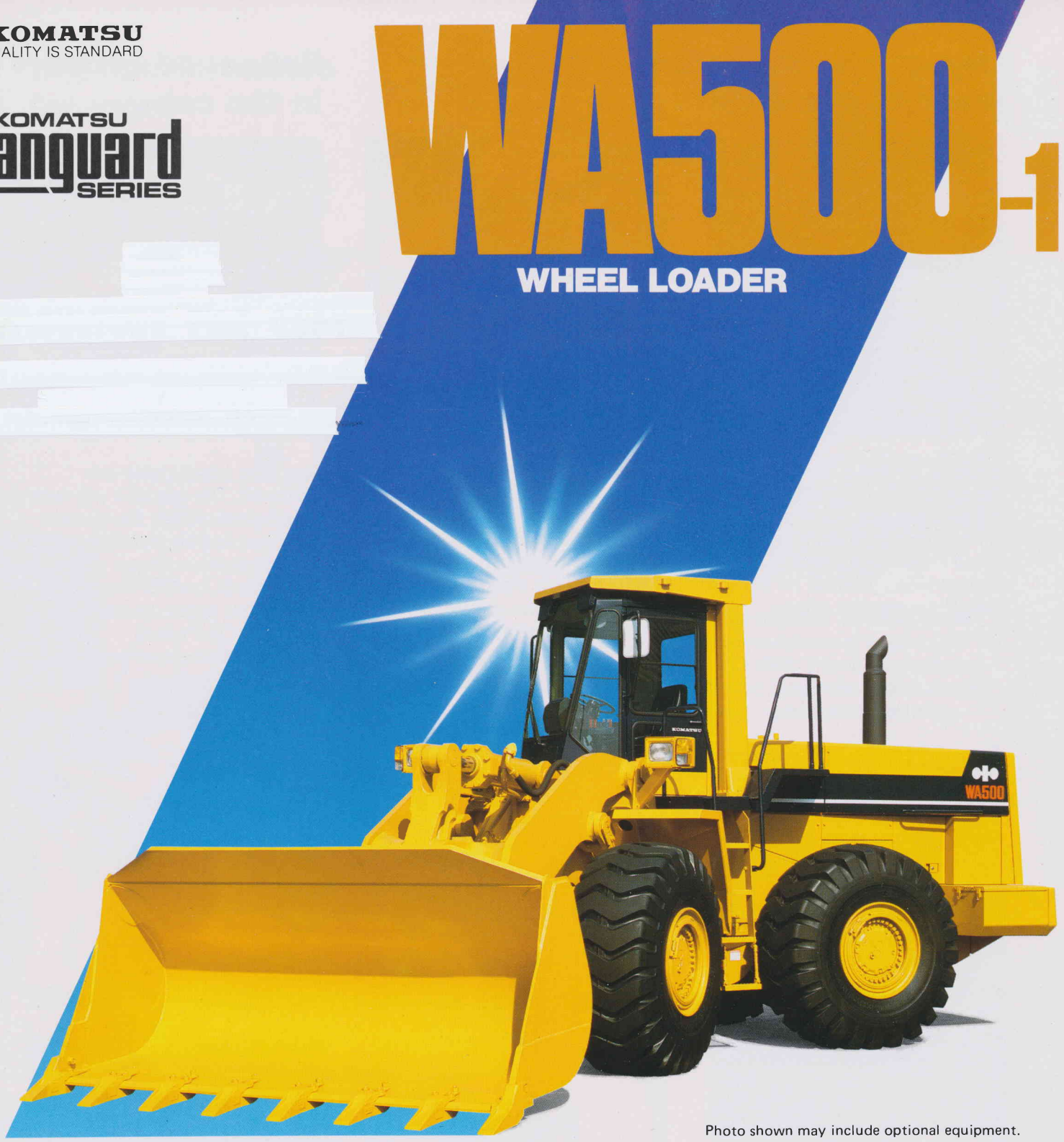


Photo shown may include optional equipment.

KOMATSU NEW WA SERIES

- *A large breakout force with Z-bar loader linkage and fuel-efficient, powerful Komatsu S6D140 diesel engine for high productivity.*
- *Komatsu components used throughout the machine maximize reliability.*
- *Adjustment-free wet disc brakes for steady braking.*
- *Electronic Display and Monitoring System for minimized maintenance.*
- *Oil-lubricated pin and sealed loader linkage pin for extended maintenance intervals.*
- *Fingertip control with Electrically Controlled Transmission.*
- *Tilting steering wheel and fully adjustable suspension seat.*
- *Pilot Operated Control (POC) assures light-touch work-equipment control.*

Flywheel horsepower: 291 HP (217 kW) at 2100 RPM Bucket capacity: 4.0 m^3 (5.2 cu.yd)
Operating weight: 24950 kg (55,000 lb)

Highly responsive and maneuverable

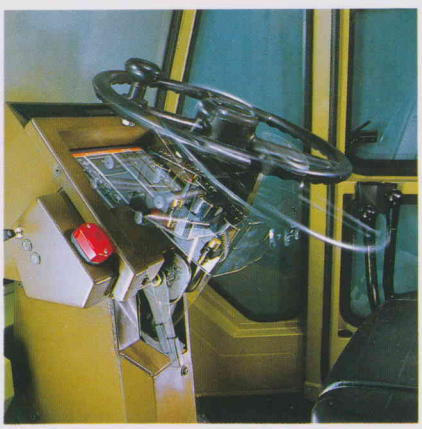
Fingertip control is realized with the electrically controlled transmission, assuring responsive, light-touch manipulation of the speed control and direction change levers provided on the side of the steering column.

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.

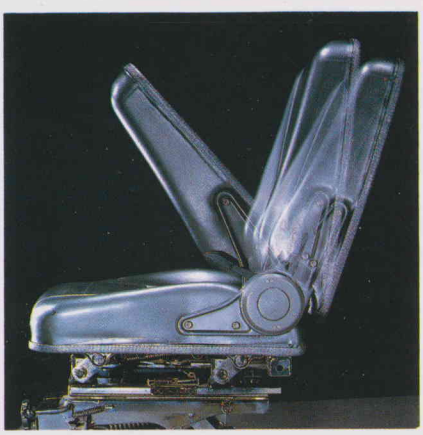
Enhanced comfort in the cab

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.

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

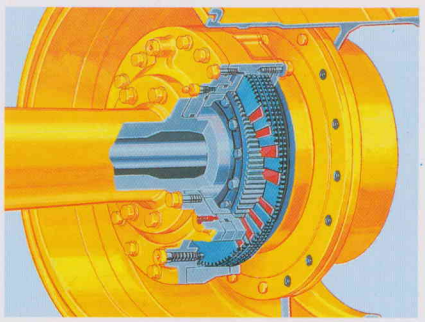
Outstanding bucket and loader performance: Powerful breakout force, high dumping clearance, large dumping reach and smooth, fast movement enable the WA500-1 to achieve outstanding bucket and loader performance for high productivity.

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 wheelbase, wide tread and large static tipping load, give the WA500-1 high stability for efficient digging/carrying operations.

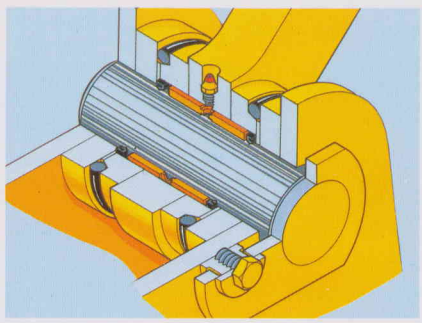
The Komatsu S6D140 diesel engine delivers a lugging 291 HP (217 kW). This dynamically balanced 6-cylinder engine assures quiet, economical operation.

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.



Sealed loader linkage pins need less maintenance. Bucket hinge pins are sealed-oil lubrication. 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 S6D140 is a 4-stroke, water-cooled, overhead valve, direct-injection turbocharged diesel engine. It includes six cylinders with a 140 mm (5.5") bore x 165 mm (6.5") stroke and a 15.2 ltr. (928 cu.in) piston displacement.
Flywheel horsepower:
291 HP (217 kw) at 2100 RPM (SAE J1349)
295 PS at 2100 RPM (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/11 KW electric starting motor. 24 V/35 A alternator. 2 x 12 V/170 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 directional control lever is in neutral.

Travel speed km/h (MPH)

	Forward	Reverse
1st	0–7.3 (4.5)	0–7.8 (4.8)
2nd	0–12.6 (7.8)	0–13.4 (8.3)
3rd	0–21.1 (13.1)	0–22.5 (14.0)
4th	0–34.2 (21.3)	0–36.4 (22.6)

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 ±15°. A spiral bevel gear for reduction 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: 26.5-25-20PR (L-3)
Rims: 22.00 x 25

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° on each side for a minimum turning radius of 7195 mm (23'7") 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 2100RPM:
Loader pump . . . . . 217 ltr. (57.3 U.S. gal)/min.
Switch pump . . . . . 217 ltr. (57.3 U.S. gal)/min.
Steering pump . . . . . 171 ltr. (45.2 U.S. gal)/min.
Relief valve setting . . . . . 210 kg/cm^2 (2990 PSI/20.6 MPa)
Control valves:
A 2-spool type control valve and a steering valve with a demand valve.

Hydraulic cylinders	Number of cylinders	Bore	Stroke
Boom	2	200 mm (7.9")	825 mm (32.5")
Bucket	1	225 mm (8.9")	565 mm (22.2")

Hydraulic cycle time
Rated load in bucket
Raise . . . . . 7.3 sec.
Dump . . . . . 1.7 sec.
Lower (empty) . . . . . 3.5 sec.

SERVICE REFILL CAPACITIES

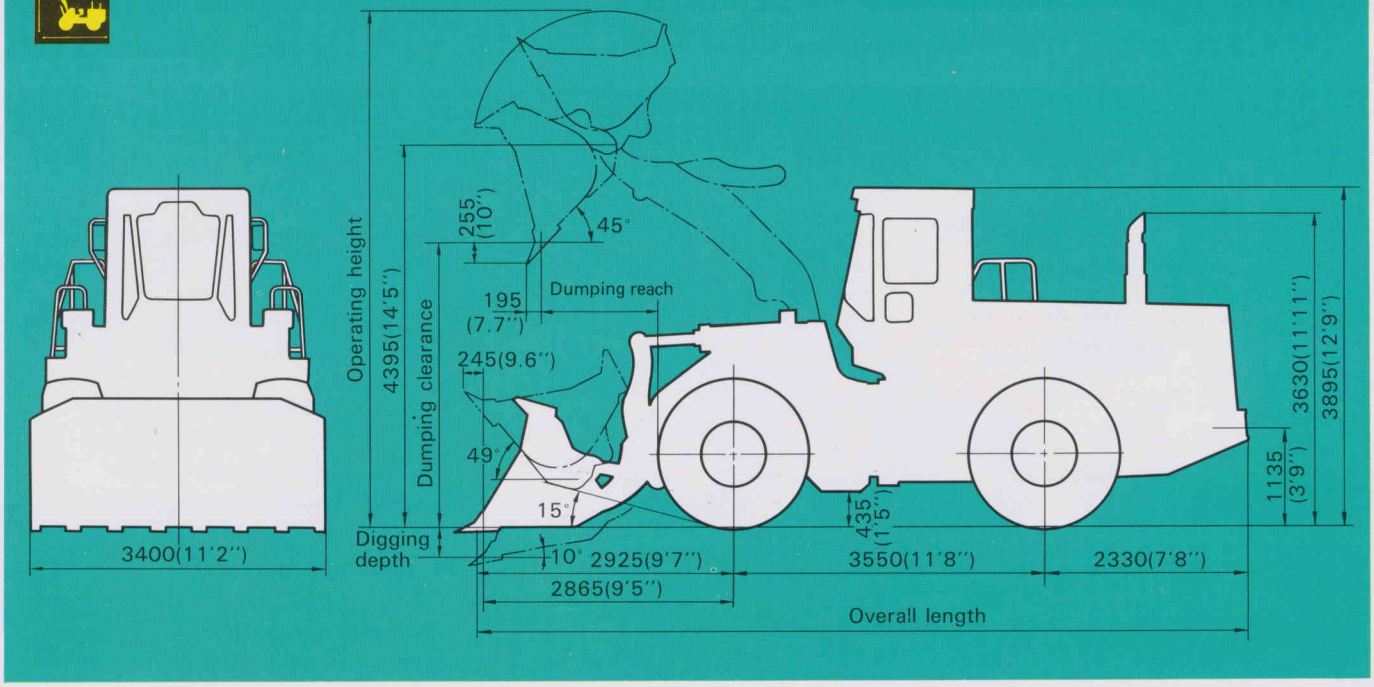
Cooling system . . . . . 80 ltr. (21.1 U.S. gal)
Fuel tank . . . . . 435 ltr. (114.9 U.S. gal)
Engine . . . . . 32 ltr. (8.5 U.S. gal)
Brake oil . . . . . 3 ltr. (0.8 U.S. gal)
Hydraulic system . . . . . 150 ltr. (39.6 U.S. gal)
Axle (each front and rear) . . . . . 75 ltr. (19.8 U.S. gal)
Torque converter and transmission . . . . . 62 ltr. (16.4 U.S. gal)

OPERATING WEIGHT

Operating weight, including rated capacity of lubricant, coolant, full fuel tank, 26.5-25-20PR (L-3) tires, 4.0 m^3 (5.2 cu. yd) capacity bucket and other standard equipment: 24950 kg (55,000 lb)

DIMENSIONS

Unit: mm (ft.in)



Bucket type		Straight edge	Spade nose
Usage		Excavation	Excavation
Bucket capacity	SAE rated	4.0 m^3 (5.2 cu.yd)	4.0 m^3 (5.2 cu.yd)
	Struck	3.3 m^3 (4.3 cu.yd)	3.3 m^3 (4.3 cu.yd)
Bucket width		3400 mm (11'2")	3400 mm (11'2")
Static tipping load	Straight	18020 kg (39,730 lb)	17550 kg (38,690 lb)
	Full turn	15560 kg (34,300 lb)	15040 kg (33,160 lb)
Dumping clearance, max. height and 45° dump angle		3275 mm (10'9")	3110 mm (10'2")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		2115 mm (7'1")	2305 mm (7'7")
Reach at max. height and 45° dump angle		1320 mm (4'4")	1465 mm (4'10")
Reach with arm horizontal and bucket level		2730 mm (8'11")	2950 mm (9'8")
Operating height (fully raised)		5945 mm (19'6")	6215 mm (20'5")
Overall length	Bucket on ground	8805 mm (28'11")	9035 mm (29'8")
	Bucket at carry	8745 mm (28'8")	8890 mm (29'2")
Turning radius (bucket at carry, outside corner of bucket)		7175 mm (23'6")	7175 mm (23'6")
Digging depth	0°	115 mm (4.5")	125 mm (4.9")
	10°	340 mm (13.4")	385 mm (15.2")
Lifting capacity (SAE carry)		23500 kg (51,810 lb)	22700 kg (50,040 lb)
Breakout force (bucket cylinder)		27000 kg (59,520 lb)	22700 kg (50,040 lb)
Rated load		7200 kg (15,870 lb)	7200 kg (15,870 lb)
Operating weight		24950 kg (55,000 lb)	25365 kg (55,920 lb)

- All dimensions, weights and performance values based on SAE J-732b standards.
- Concerning increases or decreases according to tire size, refer to the table in DIMENSIONS.
- Static tipping load and operating weight shown include 26.5-25-20PR (L-3) 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
26.5-25-20PR (L-3) tubeless tires	0/*+1390 kg (3,064 lb)	0/*+2045 kg (4,511 lb)	0/*+1810 kg (3,990 lb)
ROPS canopy	+570 kg (1,257 lb)	+520 kg (1,146 lb)	+500 kg (1,102 lb)
Steel cab	+310 kg (685 lb)	+260 kg (573 lb)	+255 kg (562 lb)
Front half fenders	+100 kg (220 lb)	+35 kg (77 lb)	+35 kg (77 lb)
Rear half fenders	+175 kg (386 lb)	+175 kg (386 lb)	+160 kg (353 lb)
Bucket teeth (unitized)	+285 kg (628 lb)	−370 kg (816 lb)	−370 kg (816 lb)
Bucket teeth (tip type)	+315 kg (694 lb)	−410 kg (904 lb)	−410 kg (904 lb)

* Filled with $CaCl_2$ liquid.

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

Others: Sight gauges (hydraulic reservoir level, brake oil level). Dust indicator. Emergency brake. 26.5-25-20PR (L-3) tires. Bucket positioner. Boom kickout. General-purpose bucket, 4.0 m^3 (5.2 cu.yd). Tire inflation kit. Suspension seat.

OPTIONAL EQUIPMENT

ROPS canopy
Canopy
Steel cab
Seatbelt
Air conditioner
Heater and defroster
Windshield wiper and washer
Floor mat
Sun visor
Fire extinguisher
Front fender
Rear half fender
Vandalism protection kit
Emergency steering
Backup alarm
Front working lights (2)
Rear-view mirrors
Room mirror
Electric fan

Work equipment:
Bucket teeth (unitized)
Bucket teeth (tip type)
Bucket corner teeth
Bolt-on cutting edges
3-spool control valve
Hydraulic adaptor kit
Log clamp
4.0 m^3 (5.2 cu.yd) rock bucket

Tires:
29.5-25-22PR (L-3)

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.

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