

WA350-1

WHEEL LOADER



ROPS canopy and steel cab are options.
Photo shown may include other optional equipment.

KOMATSU VANGUARD SERIES

- *Komatsu-built components throughout the machine assure years of reliability and high-performance service.*
- *Fingertip control with a smooth, electrically controlled transmission provide high maneuverability.*
- *A tiltable steering wheel and an optional, fully adjustable suspension seat offer ideal conditions for every operator.*
- *An electronic display and monitoring system allows monitoring from the operator's compartment.*
- *The electric system for safety promotes foolproof operation.*
- *Wet disc brakes ensure highly reliable operation.*
- *Torque proportioning differentials minimize tire slippage for extended tire life.*
- *Outstanding performance boosts productivity.*

Flywheel horsepower: 163 HP (121 kW) at 2200RPM Bucket capacity: 2.7 m³ (3.5 cu.yd)

Operating weight: 14330kg (31,590 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.



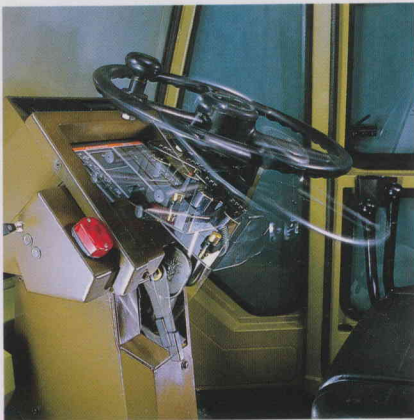
Smooth, light-touch steering: The demand valve system guarantees light-touch steering at all times. An advanced hydraulic design in the steering circuit gives the WA350-1 a smooth steering action and maximizes operator comfort while minimizing soil spillage.

Enhanced comfort in the cab

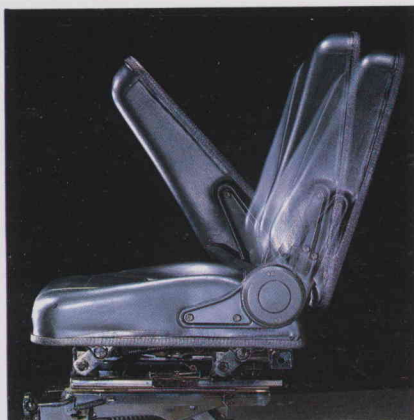


Spacious, comfortable cab (optional): The use of a cab with expansive tinted glass relaxes the operator and improves his visibility. Ergonomically arranged instruments, control levers and pedals boost operating efficiency. The cab is mounted on the rear frame with rubber pads to minimize noise and vibration.

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 (optional): 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.

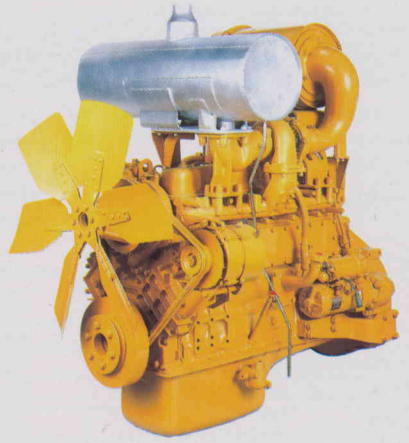
High performance for more production

Outstanding bucket and loader performance: Powerful breakout force, high dumping clearance, large dumping reach and smooth, fast movement enable the WA350-1 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 WA350-1 high stability for efficient digging/carrying operations.

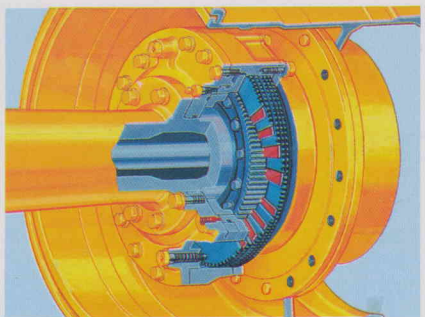
The Komatsu S6D110 diesel engine delivers a lugging 163 HP (121 kW). This dynamically balanced 6-cylinder engine assures quiet, economical operation.



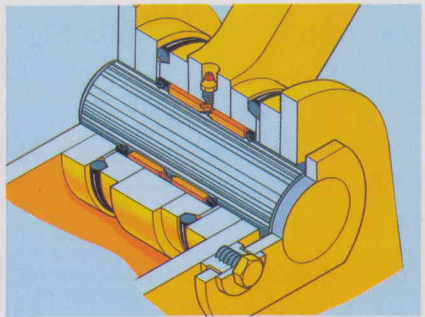
Minimum maintenance for less downtime



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. The torque proportioning differential minimizes tire slippage for extended tire life.



Sealed loader linkage pins need less maintenance. Bucket hinge and 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 S6D110, is a 4-stroke, water-cooled, overhead valve, direct-injection turbocharged diesel engine. It includes six cylinders with a 110 mm (4.3") bore x 125 mm (4.9") stroke and a 7.13 ltr. (435 cu.in) piston displacement.

Flywheel horsepower:

163 HP (121 kW) at 2200 RPM (SAE J1349)
165 PS at 2200 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 for longer element service. 24 V/7.5 kW electric starting motor. 24 V/25 A alternator. 2 x 12 V/150 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)	0-7.7 (4.8)
2nd	0-12.4 (7.7)	0-13.1 (8.1)
3rd	0-20.5 (12.7)	0-21.7 (13.5)
4th	0-33.3 (20.7)	0-34.8 (21.6)



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 $\pm 13^\circ$. A spiral bevel gear for reduction and a planetary gear for final reduction. Front and rear torque proportioning differentials of the straight bevel gear minimizes tire slippage, especially on soft terrain.



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 differential 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: 20.5-25-12PR (L-2). Rims: 17.00 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 6285 mm (20'7") 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 extend greasing intervals. The bucket is also made of high-tensile-strength steel. Bucket corner teeth (optional) 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 (optional) facilitate repeated digging/loading operations.

Control positions:

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



HYDRAULIC SYSTEM

Tandem gear pumps for steering and loader control.

Capacity (discharge flow) at engine 2200 RPM:

Steering and loader 276 ltr. (72.9 U.S. gal)/min.

Relief valve setting:

Steering and loader 210 kg/cm² (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	150 mm (5.91")	713 mm (28.07")
Bucket	1	180 mm (7.09")	488 mm (19.21")



SERVICE REFILL CAPACITIES

Cooling system 52 ltr. (13.7 U.S. gal)

Fuel tank 240 ltr. (63.4 U.S. gal)

Engine 18 ltr. (4.8 U.S. gal)

Brake oil tank 7 ltr. (1.8 U.S. gal)

Hydraulic system 76 ltr. (20.1 U.S. gal)

Differential and final drive case (each side) 45 ltr. (11.9 U.S. gal)

Torque converter and transmission 53 ltr. (14.0 U.S. gal)



OPERATING WEIGHT

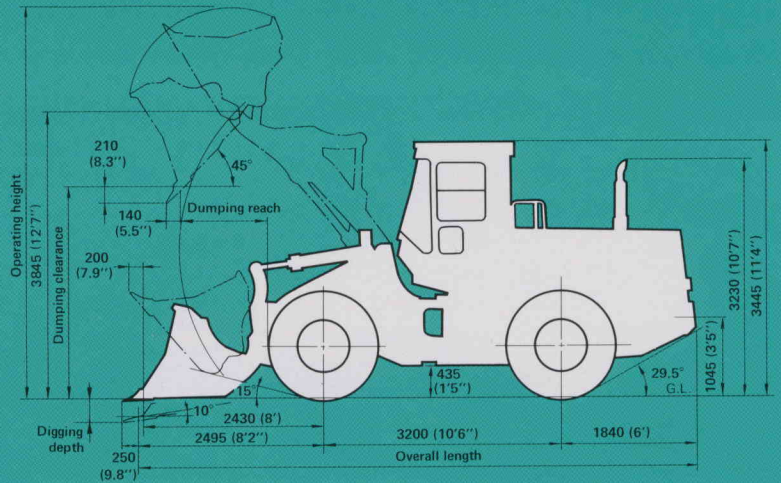
Operating weight, including rated capacity of lubricant, coolant, full fuel tank, 20.5-25-12PR tires, 2.7 m³ (3.5 cu.yd) capacity bucket and other standard equipment: 14330 kg (31,590 lb)



DIMENSIONS

Dimensions vary with tires

Tire size and code	20.5-25-12PR (L-2)	23.5-25-12PR (L-2)
Tread	2110 mm (6'11")	2110 mm (6'11")
Width over tires	2655 mm (8'9")	2720 mm (8'11")
Change in vertical dimension	0	+ 50 mm (2")
Change in reach	0	- 60 mm (2.4")
Change in digging depth		
0°	0	- 50 mm (2")
10°	0	- 50 mm (2")
Change in overall length		
Bucket on ground	0	- 40 mm (1.6")
Bucket at carry	0	- 35 mm (1.4")



Usage		Stockpile	Excavation	Excavation	Light material
Bucket type		Straight edge	Straight edge	Spade nose	Straight edge
Bucket capacity	SAE rated	m ³ (cu.yd)	2.7 (3.5)	2.4 (3.1)	3.5 (4.6)
	Struck	m ³ (cu.yd)	2.3 (3.0)	2.0 (2.6)	3.2 (4.2)
Bucket width		mm (ft.in)	2740 (9')	2740 (9')	2740 (9')
Bucket weight		kg (lb)	1265 (2,790)	1280 (2,820)	1570 (3,460)
Static tipping load	Straight	kg (lb)	11885 (26,200)	11635 (25,650)	11530 (25,420)
	Full turn	kg (lb)	9905 (21,840)	9695 (21,370)	9605 (21,180)
Dumping clearance, max. height and 45° dump angle		mm (ft.in)	2850 (9'4")	2905 (9'6")	2800 (9'2")
Reach at 2130 mm (7') cut edge clearance and 45° dump angle		mm (ft.in)	1650 (5'5")	1625 (5'4")	1745 (5'9")
Reach at max. height and 45° dump angle		mm (ft.in)	1180 (3'10")	1130 (3'8")	1230 (4')
*Reach with arm horizontal and bucket level		mm (ft.in)	2400 (7'10")	2320 (7'7")	2465 (8'1")
Operating height (fully raised)		mm (ft.in)	5240 (17'2")	5165 (16'11")	5250 (17'3")
Overall length	Bucket on ground	mm (ft.in)	7535 (24'9")	7455 (24'6")	7600 (24'11")
	Bucket at carry	mm (ft.in)	7470 (24'6")	7460 (24'6")	7495 (24'7")
Turning radius (bucket at carry, outside corner of bucket)		mm (ft.in)	6285 (20'7")	6265 (20'7")	6300 (20'8")
*Digging depth	0°	mm (in.)	67 (2.6)	67 (2.6)	67 (2.6)
	10°	mm (in.)	270 (10.6)	260 (10.2)	285 (11.2)
Lifting capacity (SAE carry)		kg (lb)	13610 (30,000)	13705 (30,210)	13560 (29,890)
Breakout force (bucket cylinder)		kg (lb)	15290 (33,710)	16490 (36,350)	14435 (31,820)
Rated load		kg (lb)	4320 (9,520)	4320 (9,520)	4320 (9,520)
Operating weight		kg (lb)	14330 (31,590)	14340 (31,610)	14410 (31,770)

- All dimensions, weights and performance values based on SAE J-732C and J742b standards.
- Concerning increases or decreases according to tire size, refer to the table in DIMENSIONS.
- Static tipping load and operating weight shown include 20.5-25-12 PR (L-2) 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
20.5-25-12 PR (L-2) tubeless tires	0/*676 kg (1,490 lb)	0/*1088 kg (2,399 lb)	0/*903 kg (1,991 lb)
23.5-25-12 PR (L-2) tubeless tires	701 kg (1,545 lb)/ *1763 kg (3,887 lb)	564 kg (1,243 lb)/ *2274 kg (5,013 lb)	468 kg (1,032 lb)/ *1887 kg (4,160 lb)
Canopy	63.5 kg (140 lb)	65 kg (143 lb)	55 kg (121 lb)
ROPS canopy	480 kg (1,058 lb)	540 kg (1,190 lb)	450 kg (992 lb)
Steel cab	287 kg (633 lb)	280 kg (617 lb)	235 kg (518 lb)
Headguard	141 kg (311 lb)	140 kg (309 lb)	115 kg (254 lb)
Front half fenders	59 kg (130 lb)	25 kg (55 lb)	20 kg (44 lb)
Rear half fenders	34.6 kg (76 lb)	45 kg (99 lb)	35 kg (77 lb)
Bucket teeth (unitized)	144 kg (317 lb)	-200 kg (-441 lb)	-200 kg (-441 lb)
Bucket teeth (tip type)	162 kg (357 lb)	-225 kg (-496 lb)	-225 kg (-496 lb)
Bolt-on edges	213 kg (470 lb)	-295 kg (-650 lb)	-295 kg (-650 lb)
Counterweight (for loggers)	435 kg (959 lb)	1075 kg (2,370 lb)	890 kg (1,962 lb)
Additional counterweight	300 kg (661 lb)	770 kg (1,698 lb)	640 kg (1,411 lb)

*Filled with CaCl₂ liquid 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). Electronic display/monitoring system.

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

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

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

Caution lamps: Battery charging. Fuel level.

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

Others: Sight gauges (hydraulic reservoir level, transmission oil level and brake oil level). Dust indicator. Emergency brake. 20.5-25-12PR (L-2) tires. Bucket positioner. General-purpose bucket, 2.7 m³ (3.5 cu.yd).

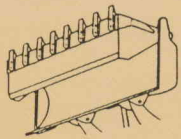
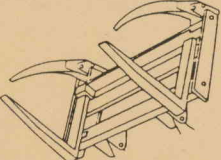

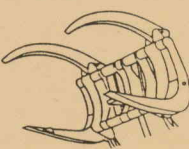
OPTIONAL EQUIPMENT

ROPS canopy
Canopy
Steel cab
Seatbelt
Air conditioner
Heater and defroster
Windshield wiper and washer
Floor mat
Sun visor
Car radio
Fire extinguisher
Suspension seat
Front fender
Rear half fender
Tire inflation kit
Vandalism protection kit
Emergency steering
Backup alarm

Back lamp
Front working lights
Rear-view mirrors

Work equipment:
Bucket teeth (unitized)
Bucket teeth (tip type)
Bucket corner teeth
Bolt-on cutting edges
Boom kickout
3-spool control valve
Hydraulic adaptor kit
Log clamp
Lumber grapple
Lumber fork
Dumping fork
Multipurpose bucket

Tires:
20.5-25-16PR (L-3) tubed
20.5-25-16PR (L-2) tubed
20.5-25-16PR (L-3) tubed with side steel breaker
20.5-25-12PR (L-3) tubed with steel breaker
23.5-25-12PR (L-3) tubed
23.5-25-12PR (L-2) tubeless
23.5-25-12PR (L-3) tubed with side steel breaker
23.5-25-12PR (L-3) tubed with steel breaker.

MULTIPURPOSE BUCKET	LUMBER GRAPPLE	DUMPING FORK	LOG CLAMP
 <p>A bucket/blade combination usable as a bucket, blade, scraper or clamshell for all-around loading, topsoil stripping and debris cleaning.</p> <p>Operating weight . . . 14700 kg (32,410 lb) Bucket capacity . . . 2.4 m³ (3.1 cu.yd) Rated load 3800 kg (8,380 lb) Dumping reach . . . 1140 mm (3'9") Dumping clearance 2790 mm (9'2") Bucket width 2775 mm (9'1")</p>	 <p>Ideal for loading/hauling square lumber.</p> <p>Operating weight . . . 13460 kg (29,670 lb) Rated load 6100 kg (13,450 lb) Dumping reach . . . 2065 mm (6'9") Dumping clearance 2730 mm (8'11") Max. lifting height 3685 mm (12'1") Fork width 2250 mm (7'5")</p>	 <p>Suitable for handling small-diameter/short-length logs.</p> <p>Operating weight . . . 14780 kg (32,580 lb) Rated load 6100 kg (13,450 lb) Dumping reach . . . 2180 mm (7'2") Dumping clearance 2605 mm (8'7") Max. lifting height 3635 mm (11'11") Fork width 2100 mm (6'11")</p>	 <p>Having strengthened forks and arms, it is able to clamp logs firmly to carry or load onto trucks.</p> <p>Operating weight . . . 15060 kg (33,200 lb) Rated load 6100 kg (13,450 lb) Dumping reach . . . 1895 mm (6'3") Dumping clearance 2955 mm (9'8") Max. lifting height 3800 mm (12'6") Top clamp min. closure dia. 900 mm (2'11")</p>

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

EQUIPEMENT FÉDÉRAL QUÉBEC LIMITÉE
895, MONTÉE DE LIESSE
MONTRÉAL, QUÉBEC H4T 1R1
VENTES - PIÈCES - SERVICE
(514) 341-4590 ou sans frais 1-800-361-1412

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