

KOMATSU®

WA320-6

HORSEPOWER
Gross: 127 kW 171 HP @ 2000 rpm
Net: 125 kW 167 HP @ 2000 rpm

BUCKET CAPACITY
2.1-3.2 m³ 2.7-4.6 yd³

ecot3

WA
320

WHEEL LOADER



Photo may include optional equipment.

WALK-AROUND

High Productivity & Low Fuel Consumption

- High performance Komatsu SAA6D107E-1 engine
- Low fuel consumption
- Electronically-controlled HST with variable shift control system
- Variable traction control system
- S-mode

See pages 4 and 5.

Excellent Operator Environment

- HST traction control switch
- Electrically controlled directional lever
- Tilttable steering column
- Low-noise designed cab
- Pillar-less large ROPS/FOPS cab-integrated
- Easy entry/exit, rear-hinged doors

See pages 8 and 9.



Harmony with Environment

- EPA Tier 3 and EU Stage 3A emissions certified
- Low exterior noise
- Low fuel consumption

Increased Reliability

- Reliable Komatsu designed and manufactured components
- Sturdy main frame
- Maintenance-free, fully hydraulic, wet multiple-disc service and parking brakes
- Hydraulic hoses use flat face O-ring seals
- Cation electrodeposition process is used to apply primer paint
- Powder coating process is used to apply on main structure
- Sealed DT connectors for electrical connections

See page 6.

HORSEPOWER

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BUCKET CAPACITY

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Photo may include optional equipment.

Easy Maintenance

- “EMMS” (Equipment Management Monitoring System)
- Easy access, gull-wing type engine side doors
- Automatic Reversible Fan (optional)

See page 7.

HIGH PRODUCTIVITY AND LOW FUEL CONSUMPTION



High Performance Komatsu SAA6D107E-1 Engine

Electronic Heavy Duty Common Rail fuel injection system provides optimum combustion of fuel.

This system also provides quick throttle response to match the machine's powerful tractive effort and quick hydraulic response.

Net: 125 kW 167 HP

Low Emission Engine

This engine is EPA Tier 3 and EU Stage 3A emissions certified, without sacrificing power or machine productivity.

Low Fuel Consumption

The high-torque engine and Hydrostatic Transmission (HST) with maximum efficiency in the low-speed range provide low fuel consumption.

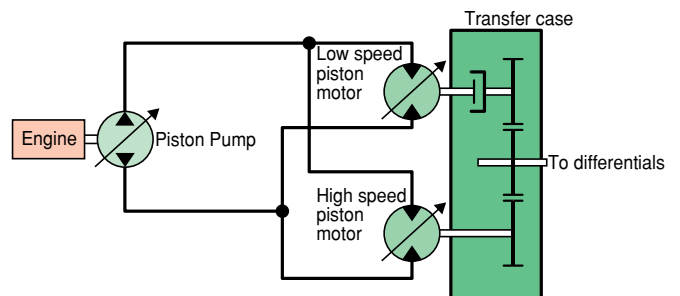
Eco Indicator

The eco indicator will help an operator to promote energy saving.



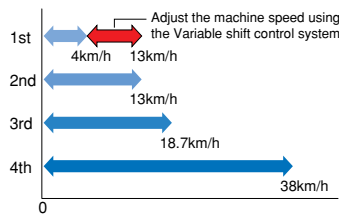
Electronically-controlled HST Using a 1-pump, 2-motor System

- The 1-pump, 2-motor system allows for high-efficiency and high tractive effort. Engine power is transmitted hydraulically to a transfer case, then manually out to the differentials and out to the four driving wheels.
- HST provides quick travel response and aggressive drive into the pile. The variable displacement system automatically adjusts to the tractive effort demand to provide maximum power and efficiency.
- Full auto-shifting eliminates any gear shifting and kick-down operation to allow the operator to concentrate on digging and loading.
- When high drive torque is needed for digging, climbing or initiating movement, the pump feeds both motors. This combination makes the loader very aggressive and quick.
- Under deceleration, the HST system acts as a dynamic brake on the mechanical drive system. The dynamic brake can hold the loader in position on most workable slopes. This can be an advantage in stockpiling and ramp loading.
- As the machine moves and gains ground speed, the torque demand decreases and the low speed motor is effectively removed from the drive system by a clutch. At this point, the flow is going to the high-speed motor and the low-speed motor is not causing a drag on the system.
- An inching pedal gives the operator excellent simultaneous control of his travel and equipment hydraulic speeds. By depressing the inching pedal, drive pump flow to the motors will decrease, reducing ground speed and allowing the operator to use his accelerator to increase flow to his equipment hydraulics. Depressing the inching pedal further will activate the service brakes.

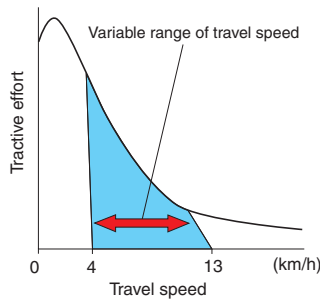


Electronically-controlled HST with Variable Shift Control System

The operator can choose between first, second, third or fourth maximum speeds by dialing the speed range selector switch. For v-cycles, the operator can set the speed control switch to 1 or 2, which provides aggressive digging, quick response and fast hydraulics. For load and carry, select 3 or 4 which still provides aggressive digging but with much faster travel speed.



The variable shift switch allows the operator to adjust his machine speed in applications such as confined v-loading. When in 1, the operator can adjust travel speed using the variable shift switch to match machine speed and hydraulics to the distance travelled.

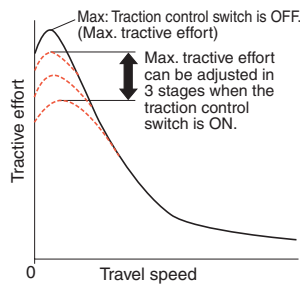


Variable Traction Control System

The tractive effort of the machine, when traveling at a low speed, can be reduced by using the traction control switch. Combined with the function of torque proportioning differentials, this system exerts the following effects.

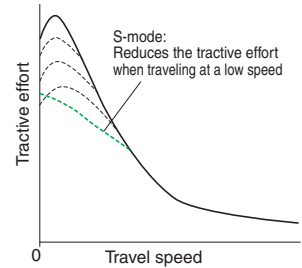
- Facilitates operation on soft ground where the tires of the machine are apt to slip.
- Eliminates excessive bucket penetration and reduces tire slippage during stockpile loading to improve the work efficiency.
- Reduces tire slippage to extend the life of tires.

Furthermore, the maximum tractive effort can be adjusted in three stages (one stage for conventional machines) when the traction control switch is ON. This allows the operator to select the optimum tractive effort for diversified road conditions.



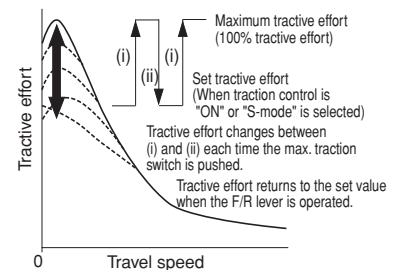
S-mode

Setting the switch to S-mode allows the machine to get the optimum driving force for operations on slippery road surfaces, like snow-removal on snow surface, resulting in reduced tire slippage and facilitation of the operation. Unexpected tire slippage on slippery road surface is suppressed by controlling the engine speed and HST motor when traveling at a low speed. (S-mode is effective only in forward traveling.)



Max. Traction Switch

Max. traction switch is located on the work equipment control lever. When traction control switch is at ON position or S-mode is selected, pushing this switch cancels the setting of the traction control temporarily and increases the tractive effort to its 100 % value. Then pushing the max. traction switch again or operating the F/R lever returns the tractive effort to the set value automatically. This switch is useful for operations such as piling up work where large tractive effort is required temporarily.



Accelerator Pedal Sensitive HST Control

Finely-tuned HST control according to the accelerator pedal angle reduces shocks and allows smoother traveling and better energy-saving operation.



Maximum Dumping Clearance and Reach

The long lift arms provide high dumping clearances and maximum dumping reach. The operator can even level loads on the body of a dump truck easily and efficiently.

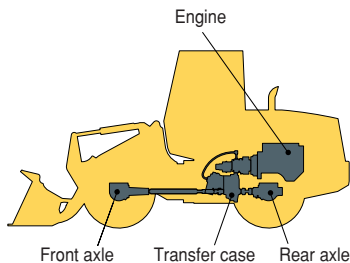
- Dumping Clearance:** 2850 mm 9'4"
- Dumping Reach:** 1035 mm 3'5"
- (2.8 m³ 3.7 yd³ bucket with B.O.C.)

INCREASED RELIABILITY

Komatsu Components

Komatsu manufactures the engine, transfer case and hydraulic components on this wheel loader.

Komatsu loaders are manufactured with an integrated production system under a strict quality control system.

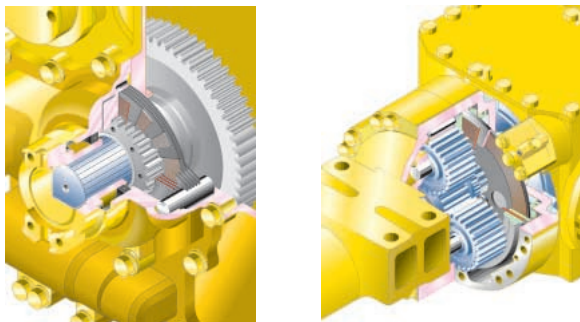


Wet Multiple-disc Brakes and Fully Hydraulic Braking System

mean lower maintenance costs and higher reliability. Wet disc brakes are fully sealed. Contaminants are kept out, reducing wear and resulting maintenance. Brakes require no adjustments for wear, meaning even lower maintenance. The parking brake is also an adjustment-free, wet multiple-disc for high reliability and long life.

Added reliability is designed into the braking system by the use of two independent hydraulic circuits, providing hydraulic backup should one of the circuits fail.

Fully hydraulic brakes mean no air system to bleed, and no condensation of water in the system that can lead to contamination, corrosion, and freezing.



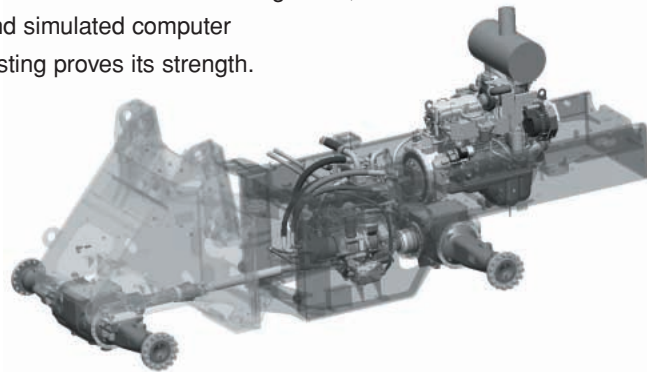
Overrun Prevention System

When the machine descends a slope of six degrees or less, maximum travel speed is automatically restricted to approximately **38 km/h 23 MPH**, for protection against damage of power train components and brakes by sensing the travel speed and controlling the discharge amount of the HST pump and motor. When the machine descends a steep slope and the travel speed reaches **36 km/h 22 MPH**, the caution lamp lights up to inform the operator to reduce the travel speed.

Note: When the machine descends a steep slope, the use of the service brake is necessary to limit travel speed.

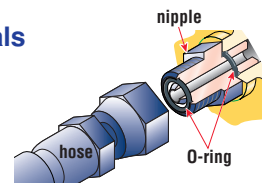
High-rigidity Frames and Loader Linkage

The front and rear frames and the loader linkage have got more torsional rigidity to provide resistance increased to stresses. Frame and loader linkage are designed to accommodate actual working loads, and simulated computer testing proves its strength.



Flat Face-to-face O-ring Seals

Flat face-to-face O-ring seals are used to securely seal hydraulic hose connections.



Cation Electrodeposition Primer Paint/ Powder Coating Final Paint

Cation electrodeposition paint is applied as a primer paint and powder coating is applied as topcoat to the exterior metal sheet parts. Some external parts are made of plastic providing long life and high impact resistance.

Sealed DT Connectors

Main harnesses and controller connectors are equipped with sealed DT connectors providing high reliability, water resistance and dust resistance.



EASY MAINTENANCE



Photo may include optional equipment.

EMMS (Equipment Management Monitoring System)

Monitor is mounted in front of the operator for easy view, allowing the operator to easily check gauges and warning lights.



A specially designed two-spoke steering wheel allows the operator to easily see the instrument panel.

Maintenance Control and Troubleshooting Functions

- **Action code display function:** If an abnormality occurs, the monitor displays action details on the character display at the center bottom of the monitor.
- **Monitor function:** Controller monitors engine oil pressure, coolant temperature, air cleaner clogging, etc. If the controller finds abnormalities, the error is displayed on the LCD.
- **Replacement time notice function:** Monitor informs replacement time of oil and filters on the LCD when replacement intervals are reached.
- **Trouble data memory function:** Monitor stores abnormalities for effective troubleshooting.

Gull-wing Type Engine Side Doors Open Wide

The operator can open and close each gull-wing type engine side door easily with the assistance of a gas spring to perform daily service checks from the ground.

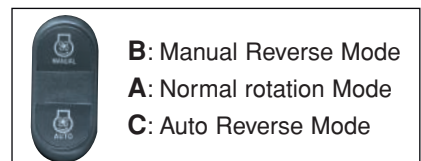


Ease of Radiator Cleaning

If the machine is operating in adverse conditions, the operator can reverse the hydraulic cooling fan from inside the cab by turning on a switch on the control panel.

Automatic Reversible Fan (optional)

The engine fan is driven hydraulically. It can be operated in reverse automatically. When switch is automatic position. The fan revolves in reverse for 2 minutes every 2 hours intermittently. (Default setting)



OPERATOR ENVIRONMENT

Easy Operation

Electronically Controlled Directional Lever

The operator can change direction with a touch of his fingers without removing his hand from the steering wheel. Solid state electronics makes this possible.



Tiltable Steering Column

The operator can tilt the steering column to provide a comfortable working position.



Easy-to-operate Loader Control Mono-lever

A new mono-lever using PPC (Proportional Pressure Control) allows the operator to easily operate the work equipment, to reduce operator fatigue and to increase controllability. The adjustable wrist rest provides the operator with a variety of comfortable operating positions.



Right-side Control Panel

The operator can select the speed range, maximum travel speed in 1st, tractive effort.



1:Speed range selector switch 2:Variable shift switch
3:Traction control switch 4:Max. traction switch
5:Fan reverse switch



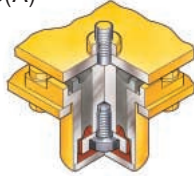
Comfortable Operation

Low-noise Design

Noise at operator's ear noise level : 70 dB(A)

Dynamic noise level (outside): 107 dB(A)

The large cab is mounted with Komatsu's unique ROPS/FOPS viscous mounts. The low-noise engine, hydraulically driven fan, and hydraulic pumps are mounted with rubber cushions, and the cab sealing is improved to provide a quiet, low-vibration, pressurized, and comfortable operating environment.



Pillar-less Large Cab

A wide pillar-less flat glass provides excellent front visibility. The wiper arm covers a large area to provide great visibility even on rainy days.

The large cab area

provides maximum space for the operator. The front mounted air conditioner was introduced to increase seat reclining and backward slide adjustment.

Rear-hinged Full Open Cab Doors

Entry and exit into the new komatsu cab starts with sloped staircase type steps and large diameter handrails for added comfort. The large cab doors are rear-hinged to open fully offering easy entry/exit and will not hamper visibility when operating the machine with the doors latched open.



Photo may include optional equipment.



SPECIFICATIONS



ENGINE

ModelKomatsu SAA6D107E-1
 TypeWater-cooled, 4-cycle
 AspirationTurbocharged, aftercooled
 Number of cylinders6
 Bore x stroke**107 mm x 124 mm** 4.21" x 4.88"
 Piston displacement**6.69 ltr** 408 in³
 GovernorAll-speed, electronic
 Horsepower
 SAE J1995Gross **127 kW** 171 HP
 ISO 9249/SAE J1349*Net **125 kW** 167 HP
 Rated rpm2000 rpm
 Fan drive method for radiator coolingHydraulic
 Fuel systemDirect injection
 Lubrication system:
 MethodGear pump, force-lubrication
 FilterFull-flow type
 Air cleanerDry type with double elements and
 dust evacuator, plus dust indicator

*Net horsepower at the maximum speed of radiator cooling fan is 117 kW 156 HP.

EPA Tier 3 and EU Stage 3A emissions certified.



TRANSMISSION

Transmission:
 TypeHydrostatic, 1 pump, 2 motors with speed range select
 Travel speed: **km/h** mph
 Measured with 20.5-25 tires

	1st	2nd	3rd	4th
Both Forward	4.0 - 13.0	13.0	18.7	38.0
and Reverse	2.5 - 8.1	8.1	11.6	23.6



AXLES AND FINAL DRIVES

Drive systemFour-wheel drive
 FrontFixed, semi-floating
 RearCenter-pin support, semi-floating,
 24° total oscillation
 Reduction gearSpiral bevel gear
 Differential gearTorque proportioning
 Final reduction gearPlanetary gear, single reduction



BRAKES

Service brakesHydraulically actuated,
 wet multiple-disc brakes actuate on four wheels
 Parking brakeWet, multiple-disc brake on transfer output shaft
 Emergency brakeParking brake is commonly used



STEERING SYSTEM

TypeFull-hydraulic power steering
 Steering angle38.5° each direction (40° end stop)
 Minimum turning radius at
 the center of outside tire**5380 mm** 17'8"



HYDRAULIC SYSTEM

Steering system:
 Hydraulic pumpGear type pump
 Capacity**172 ltr/min** 45.4 U.S. gal/min at rated rpm
 Relief valve setting**20.6 MPa** 210 kgf/cm² 2,990 psi
 Hydraulic cylinders:
 TypeDouble-acting, piston type
 Number of cylinders2
 Bore x stroke**70 mm x 453 mm** 2.8" x 17.8"

Loader control:
 Hydraulic pumpGear type pump
 Capacity**61 ltr/min** 16.1 U.S. gal/min
 Relief valve setting**20.6 MPa** 210 kgf/cm² 3,000 psi
 Hydraulic cylinders:
 TypeDouble-acting, piston type
 Number of cylinders—bore x stroke:
 Lift cylinder2- **140 mm x 740 mm** 5.5" x 29.1"
 Bucket cylinder1- **160 mm x 532 mm** 6.3" x 20.9"
 Control valve2-spool type
 Control positions:
 BoomRaise, hold, lower, and float
 BucketTilt-back, hold, and dump
 Hydraulic cycle time (rated load in bucket)
 Raise6.1 sec
 Dump1.2 sec
 Lower (Empty)3.3 sec

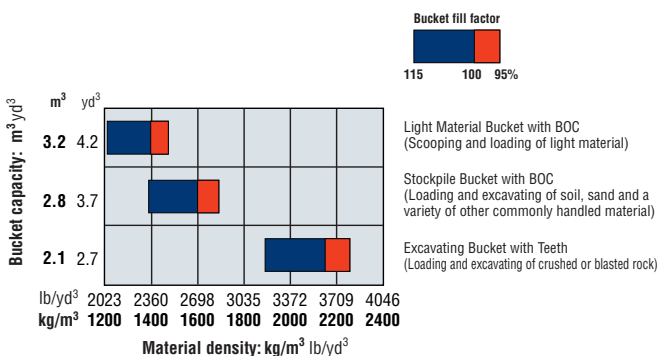


SERVICE REFILL CAPACITIES

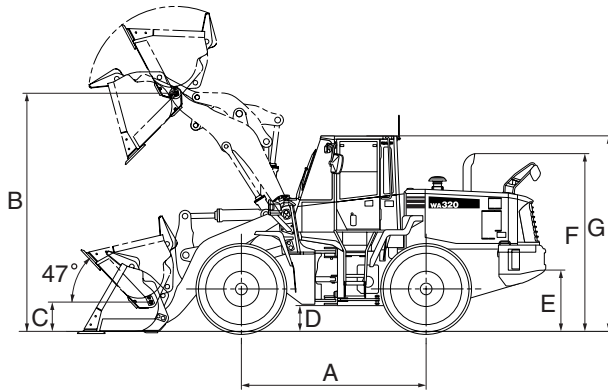
Cooling system**25 ltr** 6.6 U.S. gal
 Fuel tank**245 ltr** 64.7 U.S. gal
 Engine**23 ltr** 6.1 U.S. gal
 Hydraulic system**89 ltr** 23.5 U.S. gal
 Axle (each front and rear)**24 ltr** 6.3 U.S. gal
 Torque converter and transmission**6.5 ltr** 1.7 U.S. gal



BUCKET SELECTION GUIDE



 DIMENSIONS



Tread	2050 mm	6'9"
Width over tires	2590 mm	8'6"
A Wheelbase	3030 mm	9'11"
B Hinge pin height, max. height	3905 mm	12'10"
C Hinge pin height, carry position	480 mm	1'7"
D Ground clearance	425 mm	1'5"
E Hitch height	1095 mm	3'7"
F Overall height, top of the stack	2915 mm	9'7"
G Overall height, ROPS cab	3200 mm	10'6"

Measured with 20.5-25-12PR (L3) tires, ROPS/FOPS cab

	Stockpile Bucket		Excavating Bucket		Light Material Bucket	
	Bolt-On Cutting Edges	Teeth	Bolt-On Cutting Edges	Teeth	Bolt-On Cutting Edges	Teeth
Bucket capacity: heaped	2.8 m³	2.6 m³	2.3 m³	2.1 m³	3.2 m³	3.0 m³
	3.7 yd³	3.4 yd³	3.0 yd³	2.7 yd³	4.2 yd³	3.9 yd³
struck	2.4 m³	2.2 m³	2.0 m³	1.8 m³	2.8 m³	2.6 m³
	3.1 yd³	2.9 yd³	2.6 yd³	2.4 yd³	3.7 yd³	3.4 yd³
Bucket width	2740 mm 9'0"	2760 mm 9'1"	2740 mm 9'0"	2760 mm 9'1"	2685 mm 8'10"	2705 mm 8'10"
Bucket weight	1230 kg 2,712 lb	1125 kg 2,480 lb	1195 kg 2,634 lb	1090 kg 2,403 lb	1410 kg 3,110 lb	1305 kg 2,877 lb
Dumping clearance, max. height and 45° dump angle*	2850 mm 9'4"	2740 mm 9'0"	2955 mm 9'8"	2845 mm 9'4"	2715 mm 8'11"	2605 mm 8'7"
Reach at max. height and 45° dump angle*	1035 mm 3'5"	1125 mm 3'8"	930 mm 3'1"	1020 mm 3'4"	1170 mm 3'10"	1260 mm 4'2"
Reach at 2130 mm (7') clearance and 45° dump angle*	1580 mm 5'2"	1615 mm 5'4"	1530 mm 5'0"	1565 mm 5'2"	1640 mm 5'5"	1665 mm 5'6"
Reach with arm horizontal and bucket level*	2525 mm 8'3"	2670 mm 9'1"	2380 mm 7'10"	2525 mm 8'3"	2720 mm 8'11"	2865 mm 9'5"
Operating height (fully raised)	5325 mm 17'6"	5325 mm 17'6"	5135 mm 16'10"	5165 mm 16'11"	5405 mm 17'9"	5500 mm 18'1"
Overall length	7515 mm 24'8"	7660 mm 25'2"	7370 mm 24'2"	7515 mm 24'8"	7705 mm 25'3"	7850 mm 25'9"
Loader clearance circle (bucket at carry, outside corner of bucket)	12520 mm 41'1"	12620 mm 41'5"	12440 mm 40'10"	12540 mm 41'2"	12580 mm 41'3"	12690 mm 41'8"
Digging depth: 0°	85 mm 3.3"	100 mm 3.9"	85 mm 3.3"	100 mm 3.9"	85 mm 3.3"	100 mm 3.9"
	296 mm 1'0"	335 mm 1'1"	275 mm 11"	310 mm 1'1"	330 mm 1'1"	370 mm 1'3"
Static tipping load: straight	11520 kg 25,400 lb	11795 kg 26,005 lb	11735 kg 25,870 lb	11850 kg 26,125 lb	11595 kg 25,565 lb	11700 kg 25,795 lb
	10270 kg 22,640 lb	10550 kg 23,260 lb	10490 kg 23,130 lb	10600 kg 23,370 lb	10345 kg 22,810 lb	10450 kg 23,040 lb
40° full turn	10270 kg 22,640 lb	10550 kg 23,260 lb	10490 kg 23,130 lb	10600 kg 23,370 lb	10345 kg 22,810 lb	10450 kg 23,040 lb
	129 kN 13180 kgf 29,060 lb	115 kN 11700 kgf 25,795 lb	148 kN 15140 kgf 33,380 lb	130 kN 13210 kgf 29,125 lb	111 kN 11280 kgf 24,870 lb	109 kN 11080 kgf 24,430 lb
Operating weight	13850 kg 30,535 lb	13745 kg 30,305 lb	13810 kg 30,450 lb	13705 kg 30,215 lb	14025 kg 30,920 lb	13920 kg 30,690 lb

* At the end of tooth or B.O.C.

All dimensions, weights, and performance values based on SAE J732c and J742b standards.

Static tipping load and operating weight shown include lubricant, coolant, full fuel tank, ROPS cab, and operator. Machine stability and operating weight affected by counterweight, tire size, and other attachments.

Apply the following weight changes to operating weight and static tipping load.



WEIGHT CHANGES

	Change in Operating Weight		Change in Tipping Load				Width Over Tire		Ground Clearance		Change in Vertical Dimensions		Change in Reach	
			Straight		Full Turn									
20.5-25-12PR (L2)	-210 kg	-463 lb	-165 kg	-364 lb	-165 kg	-364 lb	2590 mm	8'6"	425 mm	1'5"	0 mm	0"	0 mm	0"
Install ROPS canopy (instead of cab)	-150 kg	-331 lb	-150 kg	-331 lb	-140 kg	-309 lb								
Additional counterweight	520 kg	1,146 lb	1015 kg	2,238 lb	870 kg	1,918 lb								



STANDARD EQUIPMENT

- 2-spool valve for boom and bucket controls
- Air conditioner
- Alternator, 60 A
- Automatic boom kickout
- Auto shift transmission with mode select system
- Back-up alarm
- Back-up lamp
- Batteries, **112 Ah**/2 x 12 V
- Bucket positioner
- Counterweight
- Directional signal
- Engine, Komatsu SAA6D107E-1 diesel
- Engine shut-off system, electric
- Fuel prefilter with water separator
- Hydraulic-driven fan with reverse rotation
- Lift cylinders and bucket cylinder
- Loader linkage with standard lift arm
- Main monitor panel with EMMS (Equipment Management Monitoring System)
- PPC fingertip control, mono lever
- Radiator mask, lattice type
- Rear defroster (electric)
- Rear view mirror
- Rear window washer and wiper
- ROPS/FOPS cab
- Seat, rigid type with reclining
- Seat belt
- Service brakes, wet disc type
- Starting motor, **5.5 kW**/24 V
- Steering wheel, tiltable
- Sun visor
- Tires (20.5-25-12PR, L3 tubeless) and rims
- Transmission, 4 forward and 4 reverse



OPTIONAL EQUIPMENT

- 3-spool valve
- Additional counterweight
- AM/FM radio
- AM/FM stereo radio cassette
- Bucket, excavating **2.3m³** 3.0 yd³
- Bucket, light material **3.2m³** 4.2 yd³
- Bucket, stockpile **2.8m³** 3.7 yd³
- Bucket teeth (bolt-on type)
- Bucket teeth (tip type)
- Cool & Heater box
- Cutting edge (bolt-on type)
- Deluxe suspension seat
- ECSS (Electronically Controlled Suspension System)
- Emergency steering (SAE)
- Engine pre-cleaner with extension
- Fire extinguisher
- Floor mat
- Front fenders
- High lift boom
- Limited slip differential (F&R)
- Log grapple
- Power train guard
- Rear full fender
- Rops canopy
- Tool kit
- Vandalism protection kit

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