KOMATSU®

WA320-6

NET HORSEPOWER
125 kW **167 HP** @ 2000 rpm

OPERATING WEIGHT
14330 - 14545 kg
31,590 - 32,070 lb

BUCKET CAPACITY
2.3 - 3.2 m^3 **3.0 - 4.2 yd^3**

WA 320

WHEEL LOADER

Photo may include optional equipment.

Courtesy of Machine.Market

WALK-AROUND

Excellent Operator Environment

- HST traction control switch
- Electronically controlled directional lever
- Tiltable steering column
- Low-noise designed cab
- Pillar-less large ROPS/FOPS Level 2 cab-integrated
- Easy entry/exit, rear-hinged doors

High Productivity & Low Fuel Consumption with Hydrostatic Transmission

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

KOMTRAX™

KOMTRAX equipped machines can send location, SMR and operation maps to a secure website utilizing wireless technology. Machines also relay error codes, cautions, maintenance items, fuel levels, and much more.

Environmentally Friendly

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

WA320-6

NET HORSEPOWER
125 kW **167 HP** @ 2000 rpm

OPERATING WEIGHT
14330 - 14545 kg
31,590 - 32,070 lb

BUCKET CAPACITY
2.3 - 3.2 m^3
3.0 - 4.2 yd^3

Increased Reliability

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

Photo may include optional equipment.

Easy Maintenance

- Equipment Management Monitoring System (EMMS)
- Easy access, gull-wing type engine side doors
- Automatic reversible fan
- KOMTRAX™

HIGH PRODUCTIVITY AND LOW FUEL CONSUMPTION

High Performance 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.

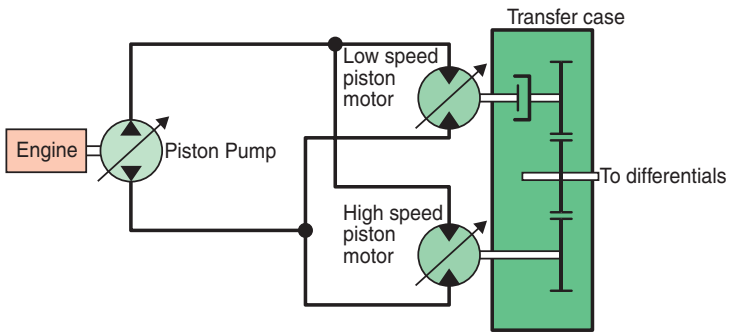
Eco Indicator

The eco indicator will help an operator to achieve energy savings.

Hydrostatic Transmission (HST)

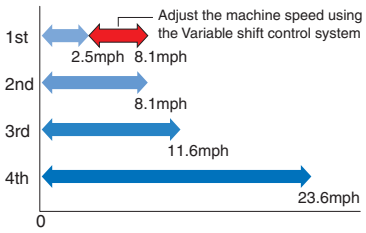
Electronically-Controlled HST Using a 1-Pump, 2-Motor System

- The 1-pump, 2-motor system allows high-efficiency and high tractive effort. Engine power is transmitted hydraulically to a transfer case, then mechanically 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 drag on the system.
- An inching pedal gives the operator excellent simultaneous control of 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 the accelerator to increase flow to the equipment hydraulics. Depressing the inching pedal further will activate the service brakes.

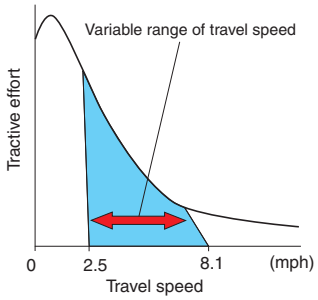


Electronically-Controlled HST with Variable Shift Control System

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.

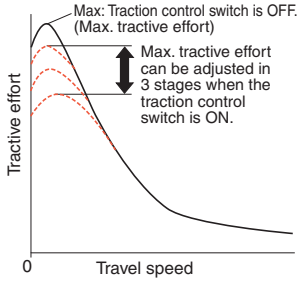


The variable shift switch allows the operator to adjust machine speed in applications such as confined V-loading. When in 1, the operator can adjust travel speed using the variable shift switch to match machine speed and hydraulics to the distance travelled. This feature is also useful when powering a broom or snowblower.



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 torque proportioning differentials, or optional limited slip differentials this system provides the following benefits.



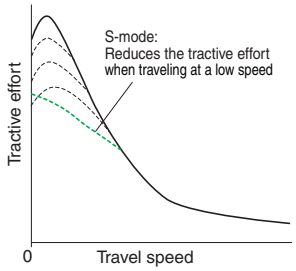
- Facilitates operation on soft ground where the tires of the machine are apt to slip.
- Eliminates excessive bucket penetration and reduces tire slippage during stockpile loading to improve the work efficiency.

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



Max. Traction Switch

Max. traction switch is located on the work equipment control lever. When the traction control switch is at the 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 stockpile 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

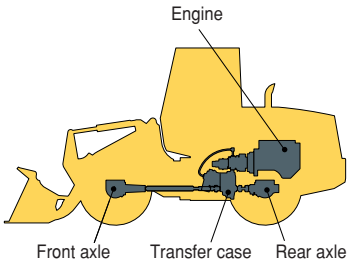
The long lift arms provide high dumping clearances and maximum dumping reach. The operator can even level loads on the body of a dump truck easily and efficiently.

Dumping Clearance: 2850 mm **9'4"**
Dumping Reach: 1035 mm **3'5"**
(2.8 m^3 **3.7 yd^3** bucket with B.O.C.E.)

INCREASED RELIABILITY

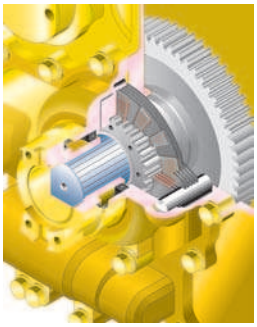
Komatsu Components

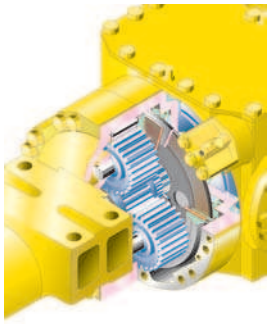
Komatsu manufactures the engine, transfer case, axles, and hydraulic components on this wheel loader. Komatsu loaders are manufactured with an integrated production system under a strict quality control system.



Wet Multi-disc Brakes and Fully Hydraulic Braking System

This means 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 new parking brake is also an adjustment-free, wet multi-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.





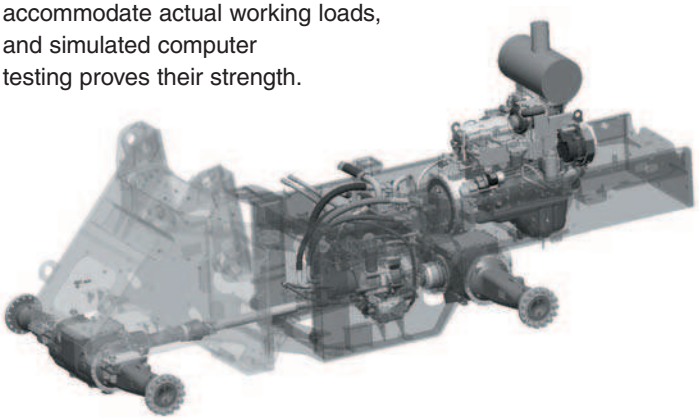
Overrun Reduction System

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.

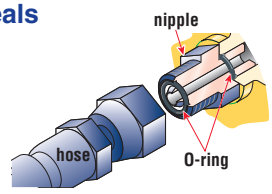
High-rigidity Frames and Loader Linkage

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



Flat Face-to-Face O-Ring Seals

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

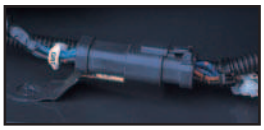


Cathion Electrodeposition Primer Paint/ Powder Coating Final Paint

Cathion 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.

Equipment Management Monitoring System (EMMS)

Monitor is mounted in front of the operator for easy viewing, 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 pressing a switch on the control panel.

Automatic Reversible Fan

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

B: Manual Reverse Mode
A: Normal Rotation Mode
C: Auto Reverse Mode

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.

Multi-function Loader Control Lever with Forward & Reverse Switch

A new multi-function control lever integrated with forward and reverse switch 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, and reversible fan setting.

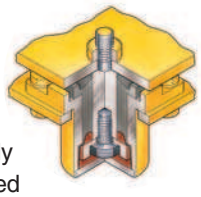
1:Speed range selector switch 2:Variable shift switch
3:Traction control switch 4:Max. traction switch
5:Fan reverse switch

Courtesy of Machine.Market

Comfortable Operation

Low-noise Design

Noise level at operator's ear: 70 dB(A)
Dynamic noise level (outside): 106 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

The large cab doors are rear-hinged to open fully, offering easy entry/exit. Exit from the cab is easily accomplished by having steps in view of the operator. Sloped hand rails help guide the foot on to the first step.

Photos may include optional equipment.

Courtesy of Machine.Market

SPECIFICATIONS

ENGINE

Model . . . . . .Komatsu SAA6D107E-1
Type . . . . . .Water-cooled, 4-cycle
Aspiration . . . . . .Turbocharged, aftercooled
Number of cylinders 6
Bore x stroke . . . . . 107 mm x 124 mm **4.21" x 4.88"**
Piston displacement . . . . . 6.69 ltr **408 in³**
Governor . . . . . All-speed, electronic
Horsepower
SAE J1995 . . . . . .Gross 127.3 kW **171 HP**
ISO 9249/SAE J1349 . . . . . .Net 125 kW **167 HP**
Hydraulic fan at maximum speed . . . . . .Net 117 kW **156 HP**
Rated rpm . . . . . 2000 rpm
Fan drive method for radiator cooling . . . . . .Hydraulic
Fuel system . . . . . .Direct injection
Lubrication system:
Method . . . . . .Gear pump, force-lubrication
Filter . . . . . Full-flow type
Air cleaner . . . . . .Dry type with double elements and dust evacuator, plus dust indicator

EPA Tier 3 and EU Stage 3A emissions certified.

TRANSMISSION

Type . . . . . .Hydrostatic, 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 system . . . . . .Four-wheel drive
Front . . . . . .Fixed, semi-floating
Rear . . . . . .Center-pin support, semi-floating, 30° total oscillation
Reduction gear . . . . . .Spiral bevel gear
Differential gear . . . . . .Torque proportioning
Final reduction gear . . . . . .Planetary gear, single reduction

BRAKES

Service brakes . . . . . .Hydraulically actuated, wet disc brakes actuate on four wheels
Parking brake . . . . . .Wet, multi-disc brake on transfer output shaft
Emergency brake . . . . . .Parking brake is commonly used

STEERING SYSTEM

Type . . . . . .Full-hydraulic power steering
Steering angle . . . . . 38.5° each direction (40° end stop)
Minimum turning radius at
the center of outside tire . . . . . 5380 mm **17'8"**

HYDRAULIC SYSTEM

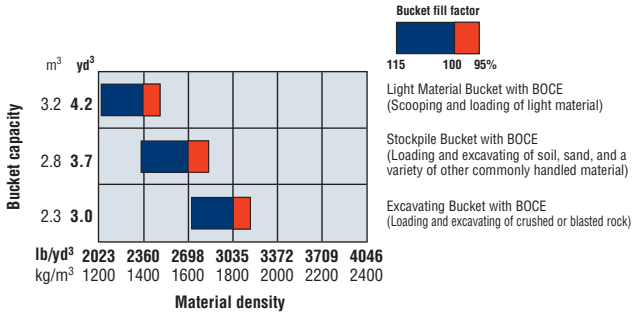
Steering system:
Hydraulic pump . . . . . .Gear type pump
Capacity . . . . . 172 ltr/min **45.4 U.S. gal/min** at rated rpm
Relief valve setting . . . . . 20.6 MPa 210 kgf/cm² **2,990 psi**
Hydraulic cylinders:
Type . . . . . .Double-acting, piston type
Number of cylinders 2
Bore x stroke . . . . . 70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

Loader control:
Hydraulic pump . . . . . .Gear 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:
Type . . . . . .Double-acting, piston type
Number of cylinders—bore x stroke:
Boom cylinder . . . . . 2- 140 mm x 740 mm **5.5" x 29.1"**
Bucket cylinder . . . . . 1- 160 mm x 532 mm **6.3" x 20.9"**
Control valve . . . . . 2-spool type
Control positions:
Boom . . . . . .Raise, hold, lower, and float
Bucket . . . . . .Tilt-back, hold, and dump
Hydraulic cycle time (rated load in bucket)
Raise . . . . . 6.1 sec
Dump . . . . . 1.2 sec
Lower (Empty) . . . . . 3.3 sec

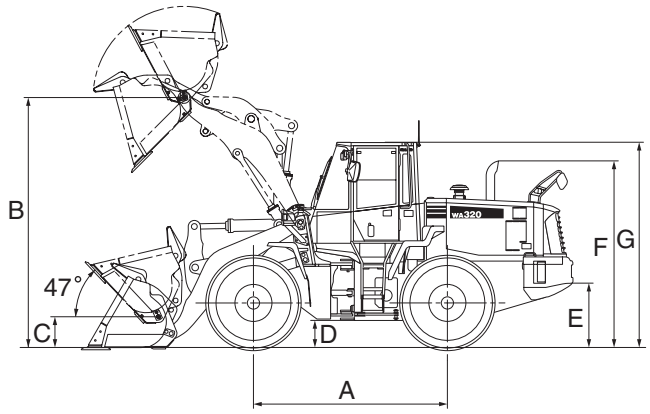
SERVICE REFILL CAPACITIES

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**
Transfer case	6.5 ltr	**1.7 U.S. gal**

BUCKET SELECTION GUIDE



DIMENSIONS



	Tread		2050 mm	**6'9"**
	Width over tires		2585 mm	**8'6"**
A	Wheelbase		3030 mm	**9'11"**
B	Hinge pin height max. height	Standard Boom	3905 mm	**12'10"**
		High Lift Boom	4545 mm	**14'10"**
C	Hinge pin height carry position	Standard Boom	480 mm	**1'7"**
		High Lift Boom	645 mm	**2'1"**
D	Ground clearance		425 mm	**1'5"**
E	Hitch height		1095 mm	**3'7"**
F	Overall height, top of the stack		2975 mm	**9'1"**
G	Overall height, ROPS cab		3200 mm	**10'6"**

Measured with 20.5-25-12PR (L3) tires, ROPS/FOPS Level 2 cab

	Stockpile Bucket	Excavating Bucket	Light Material Bucket	High Lift Boom Stockpile Bucket
	Bolt-On Cutting Edges	**Bolt-On Cutting Edges**	**Bolt-On Cutting Edges**	**Bolt-On Cutting Edges**
Bucket capacity: heaped	2.8 m^3 **3.7 yd^3**	2.3 m^3 **3.0 yd^3**	3.2 m^3 **4.2 yd^3**	2.3 m^3 **3.0 yd^3**
struck	2.4 m^3 **3.1 yd^3**	2.0 m^3 **2.6 yd^3**	2.8 m^3 **3.7 yd^3**	2.0 m^3 **2.6 yd^3**
Bucket width	2740 mm **9'0"**	2740 mm **9'0"**	2685 mm **8'10"**	2740 mm **9'0"**
Bucket weight	1230 kg **2,712 lb**	1195 kg **2,634 lb**	1410 kg **3,110 lb**	1195 kg **2,634 lb**
Dumping clearance, max. height and 45° dump angle*	2850 mm **9'4"**	2955 mm **9'8"**	2715 mm **8'11"**	3595 mm **11'10"**
Reach at max. height and 45° dump angle*	1035 mm **3'5"**	930 mm **3'1"**	1170 mm **3'10"**	950 mm **3'1"**
Reach at 2130 mm **7'** clearance and 45° dump angle*	1580 mm **5'2"**	1530 mm **5'0"**	1640 mm **5'5"**	2080 mm **6'10"**
Reach with arm horizontal and bucket level*	2420 mm **7'11"**	2275 mm **7'6"**	2610 mm **8'8"**	2785 mm **9'2"**
Operating height (fully raised)	5325 mm **17'6"**	5135 mm **16'10"**	5405 mm **17'9"**	5775 mm **18'11"**
Overall length	7515 mm **24'8"**	7370 mm **24'2"**	7705 mm **25'3"**	8005 mm **26'3"**
Loader clearance circle (bucket at carry, outside corner of bucket)	12520 mm **41'1"**	12440 mm **40'10"**	12580 mm **41'3"**	12660 mm **41'6"**
Digging depth: 0°	85 mm **3.3"**	85 mm **3.3"**	85 mm **3.3"**	131 mm **5.2"**
10°	296 mm **11.7"**	275 mm **10.8"**	330 mm **1'1"**	316 mm **1'1"**
Static tipping load: straight	12535 kg **27,635 lb**	12750 kg **28,110 lb**	12610 kg **27,800 lb**	9520 kg **20,090 lb**
40° full turn	11140 kg **24,560 lb**	11360 kg **25,045 lb**	11215 kg **24,725 lb**	8460 kg **18,650 lb**
Breakout force	129 kN 13180 kgf **29,060 lb**	148 kN 15140 kgf **33,380 lb**	111 kN 11280 kgf **24,870 lb**	133 kN 13000 kgf **29,980 lb**
Operating weight	14370 kg **31,680 lb**	14330 kg **31,590 lb**	14545 kg **32,070 lb**	14550 kg **32,080 lb**

* At the end of B.O.C.E.

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 AND DIMENSION CHANGES

	Change in Operating Weight		Change in Tipping Load				Width Over Tires		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**	2585 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**								

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, 150 Ah/2 x 12 V
- Bucket positioner
- Counterweight, standard and additional (520 kg **1,146 lb**)
- Deluxe suspension seat
- Directional signal
- Electronically Controlled Suspension System (ECSS)
- Engine, Komatsu SAA6D107E-1 diesel
- Engine shut-off system, electric
- Floor mat
- Fuel pre-filter with water separator
- Hydraulic-driven fan with auto-reverse rotation
- KOMTRAX™
- Lift cylinders and bucket cylinder
- Loader linkage with standard lift arm
- Main monitor panel with Equipment Management Monitoring System (EMMS)
- Mono-lever loader control with transmission F/R switch
- Radiator mask, lattice type
- Rear defroster (electric)
- Rear view mirrors, inside (2), outside (3)
- Rear window washer and wiper
- Rims for 20.5-25 tires
- ROPS/FOPS Level 2 cab
- Seat belt, 76 mm **3"** retractable
- Service brakes, wet disc type
- Starting motor, 5.5 kW/24 V
- Steering wheel, tiltable
- Sun visor
- Transmission speed ranges, 4 forward and 4 reverse

OPTIONAL EQUIPMENT

- 3-spool valve
- AM/FM stereo radio cassette
- Bucket, excavating 2.3 m^3 **3.0 yd^3**
- Bucket, light material 3.2 m^3 **4.2 yd^3**
- Bucket, stockpile 2.8 m^3 **3.7 yd^3**
- Bucket teeth (bolt-on type)
- Cutting edge (bolt-on, reversible)
- Engine pre-cleaner with extension
- High lift boom arrangement
- JRB bucket (general purpose) for use with coupler with BOCE 2.7 m^3 **3.5 yd^3**
- JRB construction forks for use with coupler 1524 mm **60"**
- JRB extendable boom (3 section) for use with coupler
- JRB hydraulic quick coupler
- JRB utility forks for use with coupler 1372 mm **54"**
- Limited slip differential (F&R)
- Rear full fenders
- ROPS canopy
- Secondary steering (SAE)
- Wide core radiator

AESS757-01

Printed in USA D08(5M)CCi 08/09 (EV-1)

KOMATSU®

www.KomatsuAmerica.com