

# KOMATSU®

## WA320-7

Tier 4 Interim Engine

# WA320

### NET HORSEPOWER

165 HP @ 2100 rpm  
123 kW @ 2100 rpm

### OPERATING WEIGHT

33,731–33,984 lb  
15,300–15,415 kg

### BUCKET CAPACITY

3.7–4.2 yd<sup>3</sup>  
2.8–3.2 m<sup>3</sup>



PHOTOS MAY INCLUDE OPTIONAL EQUIPMENT



## ENGINE

Model..... Komatsu SAA6D107E-2\*  
 Type ..... Water-cooled, 4-cycle  
 Aspiration..... Turbo-charged, after-cooled, cooled EGR  
 Number of cylinders..... 6  
 Bore ..... 107 mm **4.21"**  
 Stroke ..... 124 mm **4.88"**  
 Piston displacement..... 6.69 ltr **408 in<sup>3</sup>**  
 Governor ..... All-speed, electronic  
 Horsepower:  
   SAE J1995..... Gross 127 kW **170 HP**  
   ISO 9249 / SAE J1349 ..... Net 123 kW **165 HP**  
   Rated rpm ..... 2100 rpm  
   Max power - ISO 14396 ..... 129 kW **173 HP** @ 1900 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 4 Interim and EU stage 3B emissions certified



## TRANSMISSION

Transmission..... Hydrostatic, 1 pump, 2 motors with speed range select

Travel speed	Forward	Reverse
<b>1st</b>	1.0 - 13.0 km/h <b>0.6 - 8.1 mph</b>	1.0 - 13.0 km/h <b>0.6 - 8.1 mph</b>
<b>2nd</b>	13.0 km/h <b>8.1 mph</b>	13.0 km/h <b>8.1 mph</b>
<b>3rd</b>	18.7 km/h <b>11.6 mph</b>	18.7 km/h <b>11.6 mph</b>
<b>4th</b>	38.0 km/h <b>23.6 mph</b>	38.0 km/h <b>23.6 mph</b>

Measured with 20.5-R25 tires



## AXLES AND FINAL DRIVES

Drive system ..... Four-wheel drive  
 Front ..... Fixed, semi-floating  
 Rear ..... Center-pin support, semi-floating, 24° 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  
 Secondary brake ..... Parking brake is commonly used



## STEERING SYSTEM

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



## HYDRAULIC SYSTEM

Steering system:  
 Hydraulic pump ..... Piston pump, in common with loader control  
 Capacity ..... 180 ltr/min **47.6 U.S. gal/min** at rated rpm  
 Relief valve setting ..... 20.6 MPa 210 kgf/cm<sup>2</sup> **3,000 psi**  
 Hydraulic cylinders:  
   Type ..... Double-acting, piston type  
   Number of cylinders ..... 2  
   Bore x stroke ..... 70 mm x 453 mm **2.76" x 17.8"**

Loader control:  
 Hydraulic pump ..... Piston pump, in common with steering system  
 Capacity ..... 180 ltr/min **47.6 U.S. gal/min** at rated rpm  
 Relief valve setting ..... 30.4 MPa 310 kgf/cm<sup>2</sup> **4,410 psi**  
 Hydraulic cylinders:  
   Type ..... Double-acting, piston type  
   Number of cylinders—bore x stroke:  
     Lift cylinder ..... 2- 120 mm x 729 mm **4.7" x 28.7"**  
     Bucket cylinder ..... 1- 150 mm x 558 mm **5.9" x 22"**  
 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 ..... 1.9 sec  
   Lower (Empty) ..... 3.5 sec

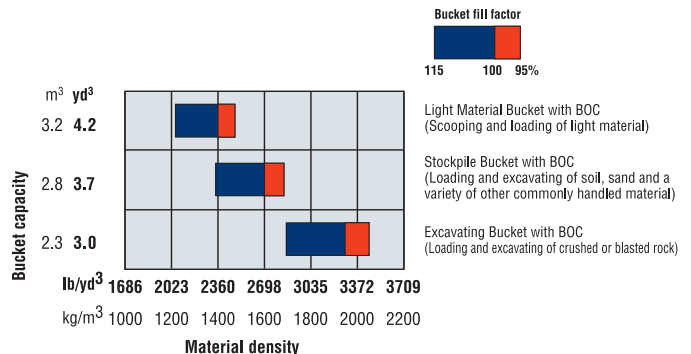


## SERVICE REFILL CAPACITIES

Cooling system ..... 23 ltr **6.1 U.S. gal**  
 Fuel tank ..... 245 ltr **64.7 U.S. gal**  
 Engine ..... 23 ltr **6.1 U.S. gal**  
 Hydraulic system..... 90 ltr **23.7 U.S. gal**  
 Axle front ..... 27 ltr **7.1 U.S. gal**  
 Axle rear..... 25.5 ltr **6.7 U.S. gal**  
 Transfer case ..... 5.8 ltr **1.5 U.S. gal**

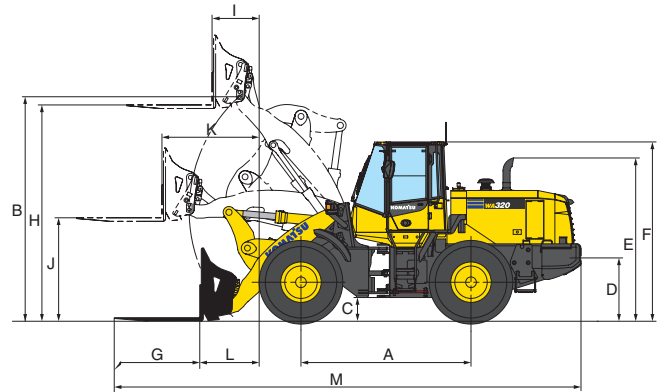
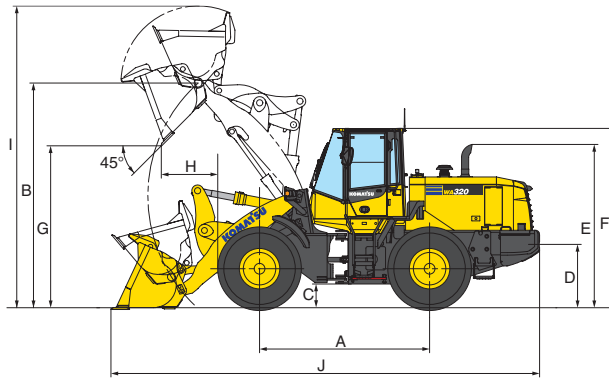


## BUCKET SELECTION GUIDE





## DIMENSIONS



Standard tire 20.5-R25(L3)

Tread	2050 mm	<b>6'9"</b>
Width over tires	2590 mm	<b>8'6"</b>
A Wheelbase	3030 mm	<b>9'11"</b>
B Hinge pin height, maximum	4005 mm	<b>13'2"</b>

C Ground clearance	425 mm	<b>1'5"</b>
D Hitch height	1085 mm	<b>3'7"</b>
E Overall height, top of the stack	2910 mm	<b>9'7"</b>
F Overall height, ROPS cab	3200 mm	<b>10'6"</b>

## BUCKET

	Stockpile Bucket with pin on bucket	Light Material Bucket with pin on bucket
	Bolt-on Cutting Edge	Bolt-on Cutting Edge
Bucket capacity: heaped	2.8 m <sup>3</sup> <b>3.7 yd<sup>3</sup></b>	3.2 m <sup>3</sup> <b>4.2 yd<sup>3</sup></b>
struck	2.4 m <sup>3</sup> <b>3.1 yd<sup>3</sup></b>	2.8 m <sup>3</sup> <b>3.7 yd<sup>3</sup></b>
Bucket width	2740 mm <b>9'0"</b>	2740 mm <b>9'0"</b>
Bucket weight	1330 kg <b>2,932 lb</b>	1445 kg <b>3,186 lb</b>
G Dumping clearance, max. height and 45° dump angle*	2880 mm <b>9'5"</b>	2745 mm <b>9'0"</b>
H Reach at max. height and 45° dump angle*	1000 mm <b>3'3"</b>	1110 mm <b>3'8"</b>
Reach at 2130 mm (7') clearance and 45° dump angle*	1595 mm <b>5'3"</b>	1620 mm <b>5'4"</b>
Reach with boom and bucket level*	2500 mm <b>8'2"</b>	2665 mm <b>8'9"</b>
I Operating height (fully raised)	5375 mm <b>17'8"</b>	5465 mm <b>17'11"</b>
J Overall length (bucket on ground)	7635 mm <b>25'0"</b>	7800 mm <b>25'7"</b>
Loader clearance circle (bucket at carry, outside corner of bucket)	12620 mm <b>41'5"</b>	12715 mm <b>41'9"</b>
Digging depth: 0°	165 mm <b>6.5"</b>	165 mm <b>6.5"</b>
10°	375 mm <b>1'3"</b>	410 mm <b>1'4"</b>
Static tipping load: straight	11630 kg <b>25,640 lb</b>	11740 kg <b>25,882 lb</b>
40° full turn	9610 kg <b>21,186 lb</b>	9730 kg <b>21,451 lb</b>
Breakout force	16470 kgf <b>36,310 lb</b>	14130 kgf <b>31,151 lb</b>
Operating weight	15300 kg <b>33,731 lb</b>	15415 kg <b>33,984 lb</b>

\* At the end of tooth or 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 tire size and attachments.

## FORK

		With Quick Coupler
Static tipping load - boom level:	straight	8310 kg <b>18,320 lb</b>
	fork level, tine center	7120 kg <b>15,697 lb</b>
Operating weight	40° full turn	15080 kg <b>33,246 lb</b>
G Fork tine length		1524 mm <b>5'0"</b>
H Ground to top of tine at maximum lift		3855 mm <b>12'7"</b>
I Reach at maximum lift		840 mm <b>2'9"</b>
J Ground to top of tine - boom and tine level		1845 mm <b>6'0"</b>
K Reach - boom and tine level		1730 mm <b>5'8"</b>
L Reach - tine level on ground		1060 mm <b>3'6"</b>
M Overall length - tine level on ground		8320 mm <b>27'3"</b>
Operating load		3560 kg <b>7,849 lb</b>

Operating load per SAE J1197 (Feb. 1991), 50% of static tipping load.

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



## WEIGHT CHANGES

Tires or attachments	Change in operating weight		Change in tipping load				Width over tires		Ground clearance		Change in vertical dimensions	
			Straight		Full turn							
	kg	lb	kg	lb	kg	lb	mm	ft in	mm	ft in	mm	ft in
20.5-25-12PR (L2)	-165	-364	-105	-231	-95	-209	2585	8'6"	425	1'5"	0	0
Remove additional counterweight	-250	-551	-440	-970	-80	-176	0	0	0	0	0	0



## STANDARD EQUIPMENT

- 2-spool valve for boom and bucket control
- Alternator, 60 A
- Auto shift transmission with mode select system
- Automatic hydraulic-driven fan with automatic reverse rotation
- Back-up alarm
- Batteries, 92 Ah/12V (2), 680 CCA
- Battery disconnect
- Boom kick-out, in-cab adjustable
- Bucket positioner
- Color rear view camera and monitor
- Counterweight, standard and additional
- Electronically Controlled Suspension System (ECSS)
- Engine, Komatsu SAA6D107E-2 diesel
- Engine shut-off system, electric
- Equipment Management Monitoring System (EMMS)
  - Lights (central warning, brake oil pressure, engine oil pressure, parking brake, cooling fan reverse, KDPF restriction, seat belt caution, Komtrax message)
  - Gauges (Engine water temperature, ECO, Fuel level, HST oil temperature, speedometer/tachometer), variable speed display
- Front fenders
- Fuel pre-filter with water separator
- Horn, electric
- Hydrostatic transmission
- Komatsu SmartLoader Logic
- Komatsu Auto Idle Shutdown
- KOMTRAX® Level 4
- Lift cylinders and bucket cylinder
- Lights
  - Back-up light
  - Stop and tail light
  - Turn signal lamps, 2 front and 2 rear with hazard switch
  - Working lights, halogen, 2 front cab mount
  - Working lights, halogen, 2 front fender mount
  - Working lights, halogen, 2 rear grill mount
- Loader linkage with standard lift arm
- Multifunction mono-lever loader control with transmission F/R switch
- Parking brake, electric
- Radiator, wider core
- Radiator mask, swing up
- Rear view mirrors, outside (2) inside (2)
- Rims for 20.5-R25 tires
- ROPS/FOPS Cab Level 2
  - 2 x DC12V electrical outlets
  - Ashtray
  - Auto air conditioner
  - Cigarette lighter, 24V
  - Color LCD/TFT multi-monitor
  - Cup holder
  - Floor mat
  - Operator seat, reclining, air suspension type, heated
  - Radio, AM/FM with AUX input jack
  - Rear defroster, electric
  - Seatbelt, 2-point retractable, 76mm 3" width
  - Space for lunch box
  - Steering wheel, tilt and telescopic
  - Sun visor, front window
  - Windshield washer and wiper, front with intermittent
  - Windshield washer and wiper, rear
- Service brakes, wet disc type
- Starting motor, 5.5 kW
- Transmission speed ranges, 4 forward and 4 reverse
- Vandalism protection kit, padlocks for battery box (2)



## OPTIONAL EQUIPMENT

- 3-spool valve (will utilize integrated proportional control switch included in the multi-function mono-lever) and piping
- Auxiliary steering (SAE)
- Cutting edge (bolt-on type)
- Limited slip differential (F&R)
- Quick coupler
- Rear full fenders
- Various tire options, radial and bias
- Various bucket options