WA320-3

KOMATSU

BUCKET CAPACITIES
3.0 - 4.2 yd³
2.3 - 3.2 m³

WA320-3

WHEEL LOADER

ACTION

Specifications

ENGINE

- Model ..... Komatsu S6D114E-1
- Type ..... Direct-Injection
- Aspiration ..... Turbocharged
- No. of cylinders 6
- Bore x Stroke ..... **4.5"** 114 mm x **5.3"** 135 mm
- Piston displacement ..... **505 in³** 8.27 ltr.
- Governor ..... All-speed mechanical

Horsepower Rating @ 2380 RPM

	HP	kW
Gross power	**173**	129
Net Power	**162**	121

SAE J1349
Meets 1997 EPA emission regulations.

Gear pump-driven force-lubrication with full-flow filters. All filters are spin-on type for easy maintenance. Dry, 2-stage Cyclopac® air cleaner for longer element service intervals. **24V**/7.5 kW electric starting motor; **24 V**/50 A alternator, 2 x **12 V**/150 AH batteries.

TRANSMISSION

3-element, single-stage, single-phase torque converter. Full powershift, countershaft type transmission. A modulating function assures smooth speed and directional changes. 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. The transmission kickdown switch allows the operator to downshift from second to first gear without taking a hand off the work control levers.

Travel Speed*	Forward	Reverse
1st	**4.7 MPH** 0-7.5 km/h	**4.8 MPH** 0- 7.8 km/h
2nd	**7.5 MPH** 0-12 km/h	**7.8 MPH** 0-12.5 km/h
3rd	**13.0 MPH** 0-21 km/h	**13.7 MPH** 0-22 km/h
4th	**21.1 MPH** 0-34 km/h	**21.7 MPH** 0-35 km/h

* with 20.5-25-12PR (L2)

AXLES & FINAL DRIVES

Four-wheel drive system. Semi-floating front axle is fixed to the front frame. Center-pin supported, semi-floating rear axle has 30° of oscillation. Spiral bevel gear for reduction and planetary gear for final reduction. Front and rear torque proportioning axles minimize tire slippage on soft or wet terrain.

BRAKES

Service brakes: Hydraulically actuated, inboard-mounted, wet disc brakes actuate all four wheels. Two brake pedals are provided. Either can be used for normal braking; however, the left pedal can also be used for braking and transmission neutralizing simply by actuating a switch.

Parking brake: Spring applied, hydraulically released wet disc type located inside the transmission case (adjustment-free).

STEERING SYSTEM

Center-pivot frame articulation. Full-hydraulic power assisted steering independent of engine RPMs. A wide articulation angle of 40° on each side allows a minimum turning radius of **19'8"** 6005 mm at the outside corner of the bucket with bolt-on cutting edge.

BOOM & BUCKET

Z-bar loader linkage is designed for maximum rigidity and offers powerful breakout. Rap-out loader linkage design enables shock dumping for removing sticky materials. Sealed loader linkage pins with dust seals extend greasing intervals. The bucket is made of high-tensile-strength steel.

BUCKET CONTROLS

The use of a PPC hydraulic control valve offers lighter operating effort for the work equipment control levers. The reduction in the lever force and travel make it easy to operate the work equipment.

Control positions:

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

HYDRAULIC SYSTEM

The dual hydraulic speed system makes it possible to reduce cycle times.

- Powerful rim pull is maintained when entering the pile, so the digging capacity is increased.
- Boom speed is increased while raising the boom to minimize cycle time.

Capacity (discharge flow) @ engine 2380 RPM

Loader Pump	**43.6 gal/min**	165 ltr./min
Steering Pump	**20.3 gal/min**	77 ltr./min
Switch Pump	**20.3 gal/min**	77 ltr./min
Pilot Pump	**12.9 gal/min**	49 ltr./min
(Gear Type Pumps)		

Relief valve setting:

Loader	**3000 PSI**	210 kg/cm²

Control valves:

A 2-spool type control valve and a steering valve with a demand valve provides optimum flow.

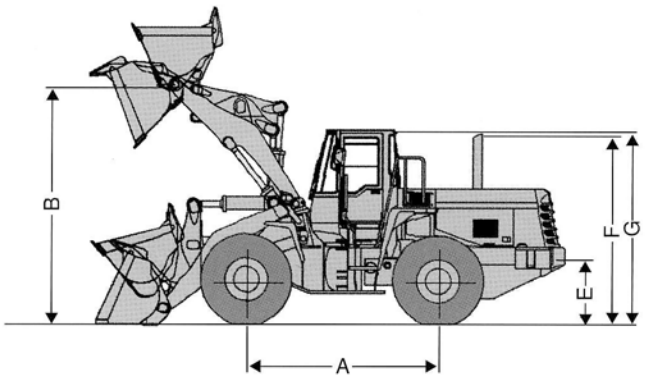
Hydraulic cylinders	Number of cylinders	Bore	Stroke
Boom	2	**5.5"** 140mm	**2'3"** 703 mm
Bucket	1	**6.3"** 160mm	**1'7"** 489 mm
Steering	2	**2.8"** 70 mm	**1'6"** 460 mm

Hydraulic cycle time (rated load in bucket): Total **10.3 sec.** Raise ... **5.8 sec.**/Dump .... **1.2 sec.**/Lower (empty) **3.3 sec.**

SERVICE REFILL CAPACITIES

Cooling system	**7.9 gal**	30 ltr.
Fuel tank	**58.4 gal**	221 ltr.
Engine	**5.1 gal**	19 ltr.
Hydraulic system	**30.6 gal**	116 ltr.
Axle (each front & rear)	**6.6 gal**	25 ltr.
Torque converter and transmission	**10.5 gal**	40 ltr.

Dimensions



Tires		20.5-25-12PR(L2)
Tread	**6'9"**	2050 mm
Width over tires	**8'6"**	2585 mm
A Wheelbase	**9'11"**	3030 mm
B Hinge pin height, max. height	**12'6"**	3815 mm
C Hinge pin height, carry position	**1'6"**	450 mm
D Ground Clearance	**1'4"**	400 mm
E Hitch Height	**3'11"**	1190 mm
F Overall Height, top of stack	**10'5"**	3220 mm
G Overall Height, ROPS Cab	**10'10"**	3315 mm

Bucket Type		General Purpose w/Bolt-on Cutting Edge		Excavating w/Bolt-on Cutting Edge		Light Material w/Bolt-on Cutting Edge	
Bucket Capacity	SAE Rated	**3.3 yd³**	2.5 m³	**3.0 yd³**	2.3 m³	**4.2 yd³**	3.2 m³
	Struck	**2.8 yd³**	2.1 m³	**2.6 yd³**	2.0 m³	**3.7 yd³**	2.8 m³
Bucket Width		**9'0"**	2740 mm	**9'0"**	2740 mm	**9'0"**	2740 mm
Bucket Weight		**2,723 lb**	1235 kg	**2,910 lb**	1320 kg	**3,153 lb**	1430 kg
Static Tipping Loads	Straight	**25,441 lb**	11540 kg	**25,254 lb**	11455 kg	**24,394 lb**	11065 kg
	Full Turn (40°)	**22,046 lb**	10000 kg	**21,859 lb**	9915 kg	**21,087 lb**	9565 kg
Dump Clearance, max. height and 45° dump angle		**9'4"**	2840 mm	**9'5"**	2865 mm	**8'7"**	2625 mm
Reach at **7'** 2130 mm 45° dump angle		**4'11"**	1490 mm	**4'10"**	1475 mm	**5'2"**	1585 mm
Reach at max. height and 45° dump angle		**3'4"**	1005 mm	**3'1"**	950 mm	**3'11"**	1190 mm
Reach with arm horizontal and bucket level		**7'6"**	2275 mm	**7'4"**	2225 mm	**8'5"**	2560 mm
Operating Height	Fully raised	**16'10"**	5120 mm	**16'6"**	5020 mm	**17'4"**	5295 mm
Overall Length	Bucket ground	**23' 8"**	7215 mm	**23'7"**	7195 mm	**24'8"**	7530 mm
	Bucket at carry	**23' 8"**	7210 mm	**23'7"**	7195 mm	**24'3"**	7400 mm
Turning Radius*		**19'10"**	6040 mm	**19' 9"**	6040 mm	**20'0"**	6110 mm
Digging Depth	0°	**3.5"**	90 mm	**3.5"**	90 mm	**3.5"**	90 mm
	10°	**11"**	285 mm	**11"**	275 mm	**1'1"**	335 mm
Breakout Force		**28,770 lb**	13050 kg	**30,887 lb**	14010 kg	**23,080 lb**	10450 kg
Operating Weight		**29,443 lb**	13355 kg	**29,630 lb**	13440 kg	**29,873 lb**	13550 kg

- Static tipping load and operating weight shown include lubricants, coolant, full fuel tank, ROPS cab, front fenders, optional counterweight, 20.5-25-12PR (L2) tubeless tires and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. **Do not use tire ballast with optional counterweight.** Add the following weight changes to operating weight and static tipping load.

Weight Changes

Tire & Options	Change in Operating Weight				Change in Static Tipping Load							
					Straight				Full Turn (40°)			
	No Ballast		Ballast		No Ballast		Ballast		No Ballast		Ballast	
	lb	kg	**lb**	kg	**lb**	kg	**lb**	kg	**lb**	kg	**lb**	kg
17.5-25-12PR(L2)	**-364**	-165	**+66**	+30	**-287**	-130	**-309**	-140	**-254**	-115	**-187**	-85
17.5-25-12PR(L3)	**-121**	-55	**+309**	+140	**-99**	-45	**-121**	-55	**-88**	-40	**-22**	-10
20.5-25-12PR(L2)	**0**	0	**+772**	+350	**0**	0	**+496**	+225	**0**	0	**+518**	+235
20.5-25-12PR(L3)	**+408**	+185	**+1,179**	+535	**+320**	+145	**+816**	+370	**+287**	+130	**+805**	+365
Opt. Cwt. Removed	**-717 lb**		-325 kg		**-1,830 lb**		-830 kg		**-1,521 lb**		-690 kg	
ROPS Canopy (instead of cab)	**-375 lb**		-170 kg		**-342 lb**		-155 kg		**-265 lb**		-120 kg	

- All dimensions, weights and performance values based on SAE J-732C and J-742B standards. * Turning Radius measured with bucket at carry position, outside corner of bucket.