

## SPECIFICATIONS



### ENGINE

Model ..... Komatsu SSDA16V160E-2  
 Type ..... Water-cooled, 4-cycle  
 Aspiration ..... Turbocharged and aftercooled  
 Number of cylinders ..... 16  
 Bore x stroke ..... **159 mm x 190 mm** 6.26" x 7.48"  
 Piston displacement ..... **60.0 ltr** 3661 in<sup>3</sup>  
 Governor ..... Electronic fuel control  
 Engine power  
 at rated engine speed ..... 1800 rpm  
 ISO 14396 ..... **1411 kW** 1892 HP  
 ISO 9249 (net engine power) ..... **1316 kW** 1765 HP  
 Fan drive method for radiator cooling ..... Mechanical  
 Fuel system ..... Modular common rail system direct injection  
 Lubrication system:  
 Method ..... Screw pump, forced lubrication  
 Filter ..... Full-flow  
 Air cleaner ..... Dry-type with double elements and automatic dust evacuation with dust indicator on monitor



### TRANSMISSION

Torque converter:  
 Type ..... 3-element, single-stage, single-phase  
 Transmission:  
 Type ..... Full-powershift, planetary type with modulated clutch  
 Travel speed: **km/h** mph  
 Measured with 60/80 R57 tires

	1st	2nd	3rd
Forward	<b>6.1</b> 3.8	<b>11.1</b> 6.9	<b>18.7</b> 11.6
Reverse	<b>6.3</b> 3.9	<b>11.4</b> 7.1	<b>19.3</b> 12.0



### AXLES AND FINAL DRIVES

Drive system ..... Four-wheel drive  
 Front ..... Fixed, full-floating  
 Rear ..... Center-pin support, full-floating,  
 16° total oscillation  
 Reduction gear ..... Spiral bevel gear  
 Differential gear ..... Straight bevel gear  
 Final reduction gear ..... Planetary gear, double reduction, oil bath



### BRAKES

Service brakes ..... Hydraulically actuated,  
 wet, multi-disc brakes actuated on four wheels.  
 Parking brake ..... Wet, multi-disc, hydraulically-released, spring  
 applied in the transmission.  
 Emergency brake ..... Parking brake is commonly used



### STEERING SYSTEM

Type ..... Articulated type, full-hydraulic power steering  
 Steering angle ..... 40° each direction  
 Turning radius outside corner of bucket and teeth ... **14330 mm** 47'0"



### BUCKET CONTROLS

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



### HYDRAULIC SYSTEM

Rated capacity (discharge flow) @ 1800 engine rpm  
 Loader pump ..... **1018 ltr/min** 269 gal/min  
 Steering pump ..... **633 ltr/min** 167 gal/min  
 Switch pump ..... **633 ltr/min** 167 gal/min  
 Relief valve setting ..... **31.4MPa 320 kg/cm<sup>2</sup>** 4,550 psi  
 Control valves ..... A double spool closed-center hydraulic valve and a steering valve combined with a demand valve to provide optimum flow.

Hydraulic Cylinders	Number of Cylinders	Bore	Stroke
Boom	2	<b>360 mm</b> 14.2"	<b>1835 mm</b> 72.2"
Bucket	2	<b>300 mm</b> 11.8"	<b>985 mm</b> 38.8"
Steering	2	<b>225 mm</b> 8.9"	<b>660 mm</b> 26.0"

Control positions:  
 Boom ..... Raise, hold, lower, and float  
 Bucket ..... Tilt-back, hold, and dump  
 Hydraulic cycle time (rated load in bucket)  
 Raise ..... 14.8 sec  
 Dump ..... 3.2 sec  
 Lower (Empty) ..... 5.3 sec



### ROPS / FOPS & CAB

Structure complies with ISO 3471 ROPS (Roll-Over Protective Structure) standards, as well as ISO 3449 FOPS (Falling Object Protective Structure) standards. The cab is mounted on viscous damping mounts and is well insulated.



### SERVICE REFILL CAPACITIES

Cooling system ..... **500 ltr** 132 U.S. gal  
 Fuel tank ..... **5100 ltr** 1,347 U.S. gal  
 Engine ..... **280 ltr** 74 U.S. gal  
 Hydraulic system ..... **1300 ltr** 343 U.S. gal  
 Differential, final drive (each axle) ..... **670 ltr** 177 U.S. gal  
 Torque converter and transmission ..... **350 ltr** 92 U.S. gal  
 Brake oil ..... **75 ltr** 20 U.S. gal  
 Brake cooling ..... **290 ltr** 77 U.S. gal

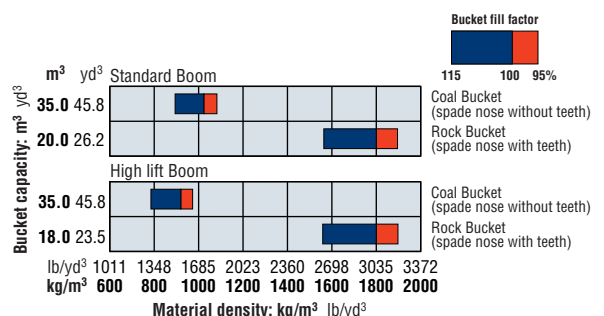


### TIRES

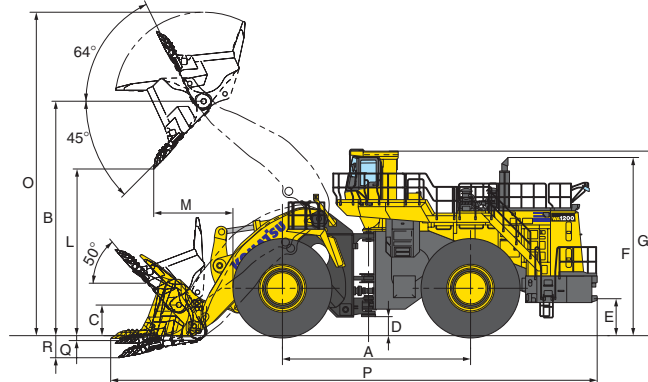
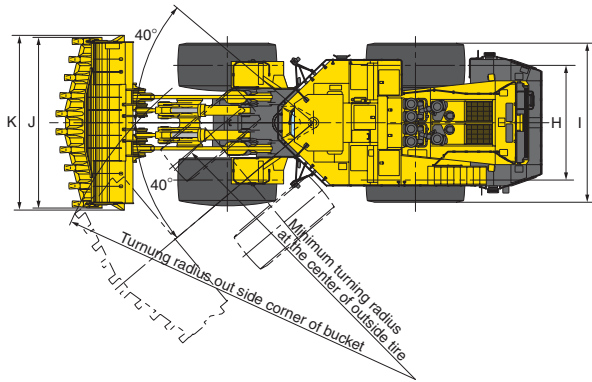
Select proper tires based on job requirements.  
 Standard rim size ..... 47.00-57/5.0  
 Standard tire size ..... 60/80 R57



### BUCKET SELECTION GUIDE



**DIMENSIONS**



	Standard boom (6200 mm 20'3")				High lift boom (6780 mm 22'2")			
	60/80 R57		58/85-57-84PR		60/80 R57		58/85-57-84PR	
H Tread	4300 mm	14'1"	4300 mm	14'1"	4300 mm	14'1"	4300 mm	14'1"
I Width over tires	5820 mm	19'1"	5720 mm	18'9"	5820 mm	19'1"	5720 mm	18'9"
A Wheelbase	7100 mm	23'4"	7100 mm	23'4"	7100 mm	23'4"	7100 mm	23'4"
B Hinge pin height, max. height	8850 mm	29'0"	8855 mm	29'1"	9540 mm	31'4"	9545 mm	31'2"
C Hinge pin height, carry position	1150 mm	3'9"	1150 mm	3'9"	1350 mm	4'5"	1350 mm	4'5"
D Ground clearance	760 mm	2'6"	765 mm	2'6"	760 mm	2'6"	765 mm	2'6"
E Hitch height	1415 mm	4'8"	1420 mm	4'8"	1415 mm	4'8"	1420 mm	4'8"
F Overall height, top of the stack	6735 mm	22'1"	6740 mm	22'1"	6735 mm	22'1"	6740 mm	22'1"
G Overall height, ROPS cab	6970 mm	22'10"	6975 mm	22'11"	6970 mm	22'10"	6975 mm	22'11"

	Standard boom (6200 mm 20'3")				High lift boom (6780 mm 22'2")			
	60/80 R57		58/85-57-84PR		60/80 R57		58/85-57-84PR	
	Rock Bucket Spade nose with teeth	Coal Bucket Spade nose without teeth	Rock Bucket Spade nose with teeth	Coal Bucket Spade nose without teeth	Rock Bucket Spade nose with teeth	Coal Bucket Spade nose without teeth	Rock Bucket Spade nose with teeth	Coal Bucket Spade nose without teeth
Bucket capacity: heaped	20.0 m <sup>3</sup>	35.0 m <sup>3</sup>	20.0 m <sup>3</sup>	35.0 m <sup>3</sup>	18.0 m <sup>3</sup>	35.0 m <sup>3</sup>	18.0 m <sup>3</sup>	35.0 m <sup>3</sup>
	26.2 yd <sup>3</sup>	45.8 yd <sup>3</sup>	26.2 yd <sup>3</sup>	45.8 yd <sup>3</sup>	23.5 yd <sup>3</sup>	45.8 yd <sup>3</sup>	23.5 yd <sup>3</sup>	45.8 yd <sup>3</sup>
struck	17.2 m <sup>3</sup>	30.2 m <sup>3</sup>	17.2 m <sup>3</sup>	30.2 m <sup>3</sup>	15.0 m <sup>3</sup>	30.2 m <sup>3</sup>	15.0 m <sup>3</sup>	30.2 m <sup>3</sup>
	22.5 yd <sup>3</sup>	39.5 yd <sup>3</sup>	22.5 yd <sup>3</sup>	39.5 yd <sup>3</sup>	19.6 yd <sup>3</sup>	39.5 yd <sup>3</sup>	19.6 yd <sup>3</sup>	39.5 yd <sup>3</sup>
J Bucket width	6400 mm	6400 mm	6400 mm	6400 mm	6400 mm	6400 mm	6400 mm	6400 mm
	21'0"	21'0"	21'0"	21'0"	21'0"	21'0"	21'0"	21'0"
K Bucket width with tire protector	6550 mm	-	6550 mm	-	6550 mm	-	6550 mm	-
	21'6"	-	21'6"	-	21'6"	-	21'6"	-
Bucket weight	22780 kg	24620 kg	22780 kg	24620 kg	22400 kg	24620 kg	22400 kg	24620 kg
	50,220 lb	54,280 lb	50,220 lb	54,280 lb	49,380 lb	54,280 lb	49,380 lb	54,280 lb
L Dumping clearance, max. height and 45° dump angle	6305 mm	6310 mm	6310 mm	6315 mm	7065 mm	6990 mm	7070 mm	6995 mm
	20'8"	20'8"	20'8"	20'9"	23'2"	22'11"	23'2"	22'11"
M Reach at max. height and 45° dump angle	2890 mm	3030 mm	2890 mm	3030 mm	2930 mm	3135 mm	2930 mm	3135 mm
	9'6"	9'11"	9'6"	9'11"	9'7"	10'3"	9'7"	10'3"
O Operating height (fully raised)	12205 mm	12980 mm	12210 mm	12985 mm	12785 mm	13660 mm	12790 mm	13665 mm
	40'1"	42'7"	40'1"	42'7"	41'11"	44'10"	42'00"	44'10"
P Overall length (bucket ground)	18310 mm	18405 mm	18305 mm	18400 mm	18945 mm	19140 mm	18940 mm	19135 mm
	60'1"	60'5"	60'1"	60'4"	62'2"	62'10"	62'2"	62'9"
Loader clearance circle *1 (bucket at carry, outside corner of bucket)	28660 mm	28640 mm	28660 mm	28640 mm	29230 mm	29300 mm	29230 mm	29300 mm
	94'0"	94'0"	94'0"	94'0"	95'11"	96'2"	95'11"	96'2"
Q Digging depth: 0°	250 mm	145 mm	245 mm	140 mm	250 mm	145 mm	245 mm	140 mm
	9.8"	5.7"	9.6"	5.5"	9.8"	5.7"	9.6"	5.5"
R 10°	785 mm	700 mm	780 mm	695 mm	770 mm	685 mm	765 mm	680 mm
	30.9"	27.6"	30.7"	27.4"	30.3"	27.0"	30.1"	26.8"
Static tipping load: straight	121930 kg	120530 kg	122530 kg	121130 kg	110950 kg	108850 kg	111550 kg	109450 kg
	268,800 lb	265,730 lb	270,130 lb	267,050 lb	244,580 lb	239,970 lb	245,920 lb	241,300 lb
40° full turn	107060 kg	105830 kg	107580 kg	106350 kg	97410 kg	95570 kg	97940 kg	96100 kg
	236,000 lb	233,320 lb	237,180 lb	234,460 lb	214,760 lb	210,700 lb	215,920 lb	211,860 lb
Breakout force	1275 kN	1029 kN	1275 kN	1029 kN	1236 kN	1000 kN	1236 kN	1000 kN
	130000 kgf	105000 kgf	130000 kgf	105000 kgf	126000 kgf	102000 kgf	126000 kgf	102000 kgf
	286,600 lb	231,500 lb	286,600 lb	231,500 lb	277,780 lb	224,800 lb	277,780 lb	224,800 lb
Operating weight	216400 kg	217800 kg	217220 kg	218620 kg	218300 kg	219700 kg	219150 kg	220550 kg
	477,100 lb	480,200 lb	478,900 lb	482,000 lb	481,300 lb	484,400 lb	483,150 lb	486,250 lb

\*1 Measured with bucket at carry position, outside corner of bucket

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 canopy, air conditioner, bucket and operator. Machine stability and operating weight are affected by counterweight, or ballast, tire size, and other attachments.

Use either counterweight or ballast, not both. Apply the following weight changes to operating weight and static tipping load.



## WEIGHT CHANGES

Tires or attachments	Operating weight		Tipping load straight				Tipping load full turn				Width over tires		Ground clearance		Change in vertical dimensions	
			STD Boom		Hi-lift Boom		STD Boom		Hi-lift Boom							
	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	mm	ft in	mm	ft in	mm	ft in
60/80 R57	0	0	0	0	0	0	0	0	0	0	5820	19'1"	760	2'6"	0	0
58/85-57-84PR	+820	+1810	+600	+1320	+540	+1190	+520	+1150	+470	+1040	5720	18'9"	765	2'6"	+5	+0.2"



## ENVIRONMENT

Engine emissions . . . . . Fully complies with EPA Tier II exhaust emission regulations  
Noise levels  
LpA operator ear . . . . . 73 dB(A) (ISO 6396 dynamic test)

Vibration levels (EN 12096:1997)\*  
Hand/arm . . . . . 2,5 m/s<sup>2</sup> (uncertainty K = 0,46 m/s<sup>2</sup>)  
Body . . . . . 0,5 m/s<sup>2</sup> (uncertainty K = 0,29 m/s<sup>2</sup>)  
\* for the purpose of risk assessment under directive 2002/44/EC, please refer to ISO/TR 25398:2006.



## STANDARD EQUIPMENT

- 2-spool valve for boom and bucket controls
- **6200 mm** 20'4" boom
- Alternator, **140 A/24 V**
- AM/FM radio
- Air conditioner, heater, defroster & pressurizer
- Automatic greasing system
- Automatic transmission F3 / R3
- Axles, full floating
- Back-up alarm
- Back-up light
- Batteries, **160 Ah/12 V** x 6
- Battery disconnect switch
- Boom kick-out, automatic and adjustable
- Brakes:
  - Service: wet, multiple-disc
  - Parking: wet, multiple-disc
- Bucket positioner
- Cab with ROPS/FOPS canopy
- Converter, **2.5 amps** 12 volt
- Counterweight, standard
- Dualmode active working system
- Electronic display/Multi Monitor
- Emergency brake
- Emergency engine stop switches
- Emergency steering (SAE)
- Engine, Komatsu SSDA16V160E-2 diesel
- EPC fingertip control levers with automatic leveler and positioner
- Fenders, front and left rear
- Floor mat
- Hard water area arrangement (corrosion resister)
- Horn, electric
- KOMTRAX Plus
- Lights
  - Backup light
  - Head lights (4 front)
  - Stop and tail
  - Turn signal with hazard switch (2 front, 2 rear)
  - Working lights (6 front, 8 rear)
  - Access stairs and service area light
- Load meter
- Power windows
- Rear access stairs
- Rearview mirror and rear underview mirror mounted to radiator guard
- Rims, 47.00-57/5.0
- Room mirror
- Seat belt, **76 mm** 3" with retractor
- Seat, air suspension with reclining
- Starting motor, **9.0 kW/24 V** x 2
- Steering, full hydraulic power (joystick steering control)
- Sun visor
- Tire saver (modulation clutch controlled)
- Vandalism protection kit
- Water separator
- Wiggins fast fuel fill
- Wiggins fast oil fill
- Wind washer, front and rear
- Wipers, front and rear, front intermittent



## OPTIONAL EQUIPMENT

- Boom
  - **6780 mm** 22'2" boom
- Buckets
  - **20.0 m<sup>3</sup>** 26.2 yd<sup>3</sup> spade nose rock
  - **18.0 m<sup>3</sup>** 23.5 yd<sup>3</sup> spade nose rock (both with ESCO loadmaster system teeth and wear shrouds)
  - **35.0 m<sup>3</sup>** 45.8 yd<sup>3</sup> coal
- Cab glass with internal heat element (front and rear)
- Cold weather arrangement
- Fire extinguisher
- Front fender handrails
- Hensley teeth
- HID working lights
- LED turn signal
- Power train guard
- Radiator core protective grid
- Rear view monitor
- Rims
  - 44.00-57/6.0
  - 47.00-57/6.0
  - 52.00-57/6.0
- Service center
- Trainer seat
- Yellow rotating lamp

# KOMATSU

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