

# KOMATSU®

## WA470-6

### HORSEPOWER

Gross: 204 kW 273 HP / 2000 min<sup>-1</sup>

Net: 203 kW 272 HP / 2000 min<sup>-1</sup>

### BUCKET CAPACITY

3.6–5.2 m<sup>3</sup>

ecot3

WA  
470

WHEEL LOADER



Photo may include optional equipment.

# WALK-AROUND

## *High Productivity & Low Fuel Consumption*

- High performance Komatsu SAA6D125E-5 engine
- Low fuel consumption
- Dual-mode engine power select system
- Large-capacity torque converter
- Automatic transmission with shift timing select system
- Lock-up torque converter (Optional)
- Variable displacement piston pump & Closed-center load sensing system (CLSS)

See pages 4 and 5.

## *Excellent Operator Environment*

- Automatic transmission with Electronic Controlled Modulation Valve
- Electronic controlled transmission lever
- Variable transmission cut-off system
- Telescopic / tilt steering column
- Fingertip control levers
- Low-noise designed cab
- Pillar-less large ROPS/FOPS (ISO 3471/ISO 3449) integrated cab
- Easy entry/exit, rear-hinged door

See pages 8 and 9.



## *Harmony with Environment*

- U.S. 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 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 main structure paint
- Sealed connectors for electrical connections

See page 6.

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Photo may include optional equipment.

### ***Easy Maintenance***

- 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 SAA6D125E-5 Engine

Electronic Heavy Duty Common Rail fuel injection system provides optimum combustion of fuel. This system also provides fast throttle response to match the machine's powerful tractive effort and fast hydraulic response.

Net: 203 kW 272 HP

### Low Emission Engine

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

### Low Fuel Consumption

The fuel consumption is reduced greatly because of the low-noise, high-torque engine and the large-capacity torque converter with maximum efficiency in the low-speed range.

### Dual-Mode Engine Power Select System

This wheel loader offers two selectable operating modes—E and P. The operator can adjust the machine's performance with the selection switch.

- **E Mode:** This mode provides maximum fuel efficiency for general loading.
- **P Mode:** This mode provides maximum power output for hard digging operation or hill climb.



Dual mode engine power selection switch



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

### Large-capacity Torque Converter

Newly designed drive train has a large-capacity torque converter for optimal efficiency. The WA470-6 has plenty of acceleration without the need for full throttle and it can achieve high travel speeds, even on grades or steep ramps leading to feed hoppers. This significantly assists productivity and also delivers great value for load-and-carry operations.

### Automatic Transmission with Mode Select System

This operator controlled system allows the operator to select manual shifting or two levels of automatic shifting (low, and high). Auto L mode is for fuel saving operation with the gear shift timing set at lower speeds than Auto H mode.



Shift mode selection switch

Therefore Auto L mode keeps the engine in a relatively low rpm range for fuel conservation while yielding adequate tractive force by depressing the accelerator pedal.

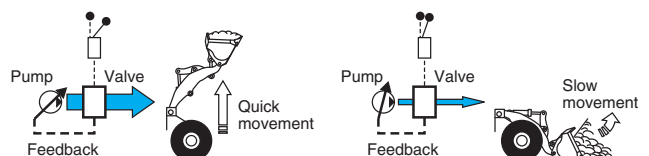
### Lock-up Torque Converter (Optional)

The Komatsu designed lock-up torque converter provides increased production efficiency, reduced cycle times and optimum fuel savings in load & carry or hill-climb operations. The operator can engage the system from 2nd to 4th gear. This optional feature allows the operator to activate the system on/off with a switch located on the right-side control panel.

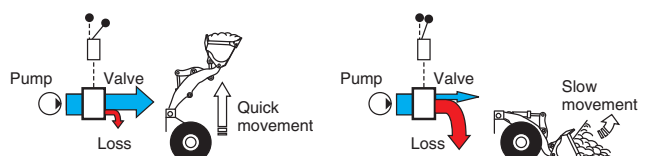
### Variable Displacement Piston Pump & Closed-center Load Sensing System (CLSS)

New design variable displacement piston pump combined with the Closed-center load sensing system delivers hydraulic flow just as the job requires preventing wasted hydraulic pressure. Minimized waste loss contributes to better fuel economy.

- **New variable displacement piston pump:** The pump delivers only necessary amounts minimizing waste loss.



- **Fixed displacement piston pump:** The pump delivers the maximum amount at any time and the unused flow is disposed.







#### 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: 3185 mm

Dumping reach: 1235 mm

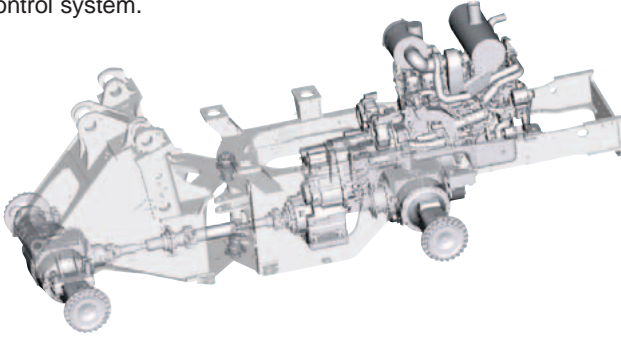
(4.2 m<sup>3</sup> bucket with bolt on cutting edge)



## INCREASED RELIABILITY

### Komatsu Components

Komatsu manufactures the engine, torque converter, transmission, hydraulic units, electric parts, on this wheel loader. Komatsu loaders are manufactured with an integrated production system under a strict quality control system.

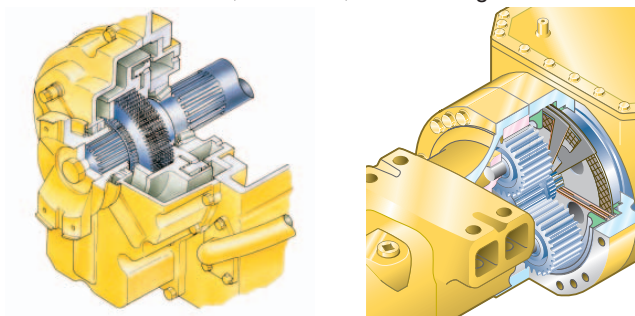


### Wet Multiple-disc Brakes and Fully Hydraulic Braking System

This means lower maintenance costs and higher reliability. Wet multiple-disc brakes are fully sealed. Contaminants are kept out, reducing wear and maintenance. Brakes require no adjustments for wear, meaning even lower maintenance. The new 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. Provides hydraulic backup should one of the circuits fail.

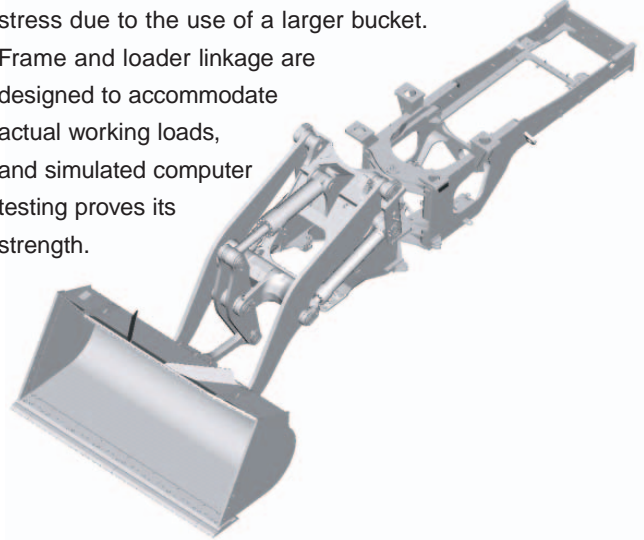
Fully hydraulic brakes mean no air system to bleed, or the condensation of water in the system that can lead to contamination, corrosion, and freezing.



### High-rigidity Frames and Loader Linkage

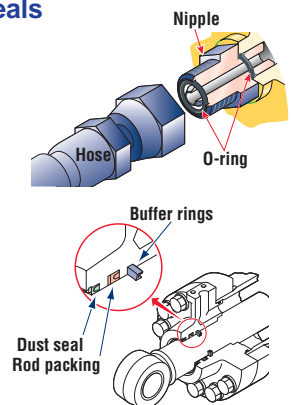
The front and rear frames and the loader linkage have more torsional rigidity to secure resistance against increased stress due to the use of a larger bucket.

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 and to prevent oil leakage. In addition, buffer rings are installed to the head side of the all-hydraulic cylinders to lower the load on the rod seals and maximize the reliability.



### 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 sheet metal parts. This process results in a beautiful rust-free machine, even in the most severe environments. Some external parts are made of plastic providing long life and high impact resistance.

### Sealed Connectors

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



# EASY MAINTENANCE



Photo may include optional equipment.

## Equipment Management Monitoring System

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 abnormality occurs, the monitor displays action details on the character display at the bottom center of the monitor.
- **Monitor function:** Controller monitors engine oil level, pressure, coolant temperature, air cleaner clogging, etc. If controller finds abnormalities, the error is displayed on Liquid Crystal Display (LCD).
- **Replacement time notice function:** Monitor informs replacement time of oil and filters on 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.

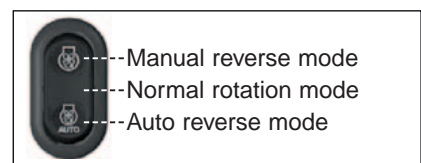


## Ease of Radiator Cleaning

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

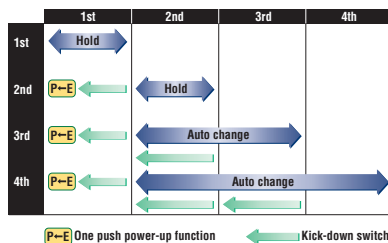
## Easy Operation

### Automatic Transmission with Electronic Controlled Modulation Valve

Automatic transmission with Electronic Controlled Modulation Valve automatically selects the proper gear speed based on travel speed, engine speed, and other travel conditions. The Electronic Controlled Modulation Valve system engages the clutch smoothly to prevent lags and shocks when shifting. This system provides efficient machine operation and a comfortable ride.

- **Kick-down switch:**

Consider this valuable feature for added productivity. With the touch of a finger, the kick-down switch automatically downshifts from second to first when beginning the digging cycle. It automatically upshifts from first to second when the direction control lever is placed in reverse. This results in increased rim pull for better bucket penetration and reduced cycle times for higher productivity.



- **One push power-up function:** The kick-down switch also functions as a power-up switch in first gear. The first time the kick-down switch is depressed it functions as a kick-down switch and gear speed is reduced. When the machine is in E operation mode and first gear, pressing the kick-down switch a second time changes the operation mode to P allowing increased power for heavy digging operation. The operation mode returns to E when machine gear speed changes or direction changes to reverse.

- **Hold switch:** Auto shift is selected and if the operator turns on this switch when the lever is at the 3rd or 4th gear speed position, the transmission is fixed to that gear speed.

### Electronically Controlled Transmission Lever



#### Easy shifting and directional changes

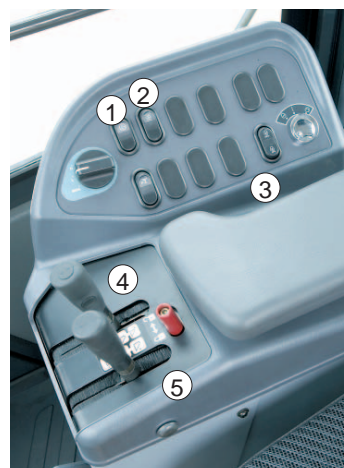
with Komatsu two-lever electronic shifting. Change direction or shift gears with a touch of the fingers without removing the shifting hand from the steering wheel. Solid state electronics and conveniently located direction and gear shift controls make this possible. Automatic shifts in ranges two through four keep production high and manual shifting at a minimum.

Automatic shifts in ranges two through four keep production high and manual shifting at a minimum.

### Variable Transmission Cut-off System

The operator can continuously adjust the transmission cut-off pressure desired for the left brake pedal using switch located on the right-side control panel. The operator can improve the working performance by setting the cut-off pressure properly depending on working condition.

- High cut-off pressure for digging operations.
- Low cut-off pressure for truck-loading operations.



- 1: Cut-off ON/OFF switch
- 2: Cut-off adjustment switch
- 3: Fan reverse ON/OFF switch
- 4: Boom control
- 5: Bucket control





## Comfortable Operation

### Fingertip Work Equipment Control Levers with Large Size Arm Rest

New Pressure Proportional Control (PPC) control levers are used for the work equipment. The operator can easily operate the work equipment with fingertip control, reducing operator fatigue and increasing controllability. The PPC control lever



column can be slid forward or rearward and the large size arm rest can be adjusted up or down to provide the operator with a variety of comfortable operating positions.

### Telescopic/Tilt Steering Column

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

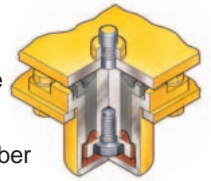


### Low-noise Design

Noise at operator's ear noise level (ISO 6396:2008): 72 dB(A)

Dynamic noise level (outside) (ISO 6395:2008): 112 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, dustproof with pressurizing, and comfortable operating environment. Also, exterior noise is lowest in this class.



### 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 cab area is the largest in its class providing maximum space for the operator. Increased seat slide adjustment to backward by introducing front mounted air conditioner unit.

### Rear-hinged Full Open Cab Door

The cab door hinges are installed to the rear side of the cab providing a large opening angle for the operator to enter and exit. The steps are designed like a staircase, so that the operator can get on and off the cab easily.



# SPECIFICATIONS



## TRANSMISSION

## AXLES AND FINAL DRIVES

## DIMENSIONS

## BRAKES

## STEERING SYSTEM

## HYDRAULIC SYSTEM

## SERVICE REFILL CAPACITIES

		Standard Boom	High Lift Boom
	Tread	2300 mm	
	Width over tires	3010 mm	
A	Wheelbase	3450 mm	
B	Hinge pin height, max. height	4360 mm	4870 mm
C	Hinge pin height, carry position	585 mm	730 mm
D	Ground clearance	525 mm	
E	Hitch height	1240 mm	
F	Overall height, top of the stack	3080 mm	
G	Overall height, ROPS cab	3500 mm	



## DIMENSIONS

Standard Boom		Stockpile Bucket			Excavating Bucket			Rock Bucket (Spade nose)	Loose Material Bucket		Light Material Bucket
		Bolt on Cutting edges	Teeth and Segments	Teeth	Bolt on Cutting edges	Teeth and Segments	Teeth	Teeth	Bolt on Cutting edges	Bolt on Cutting edges	Bolt on Cutting edges
Bucket capacity:	heaped ISO rated	4.2 m <sup>3</sup>	4.2 m <sup>3</sup>	3.9 m <sup>3</sup>	3.8 m <sup>3</sup>	3.8 m <sup>3</sup>	3.6 m <sup>3</sup>	3.6 m <sup>3</sup>	4.4 m <sup>3</sup>	4.65 m <sup>3</sup>	5.2 m <sup>3</sup>
	heaped 110% Fill factor	4.6 m <sup>3</sup>	4.6 m <sup>3</sup>	4.3 m <sup>3</sup>	4.2 m <sup>3</sup>	4.2 m <sup>3</sup>	4.0 m <sup>3</sup>	4.0 m <sup>3</sup>	4.8 m <sup>3</sup>	5.1 m <sup>3</sup>	5.7 m <sup>3</sup>
	struck	3.5 m <sup>3</sup>	3.5 m <sup>3</sup>	3.3 m <sup>3</sup>	3.2 m <sup>3</sup>	3.2 m <sup>3</sup>	3.1 m <sup>3</sup>	3.1 m <sup>3</sup>	3.9 m <sup>3</sup>	4.0 m <sup>3</sup>	4.5 m <sup>3</sup>
Bucket width		3170 mm	3190 mm	3190 mm	3170 mm	3190 mm	3190 mm	3170 mm	3170 mm	3170 mm	3170 mm
Bucket weight		2050 kg	2100 kg	1970 kg	2150 kg	2200 kg	2070 kg	2165 kg	2100 kg	2170 kg	2185 kg
Dumping clearance, max. height and 45° dump angle*		3185 mm	3060 mm	3060 mm	3235 mm	3110 mm	3110 mm	2975 mm	3055 mm	3105 mm	3035 mm
Reach at max. height and 45° dump angle*		1235 mm	1335 mm	1335 mm	1185 mm	1285 mm	1285 mm	1435 mm	1365 mm	1315 mm	1385 mm
Reach at 2130 mm clearance and 45° dump angle		1935 mm	1975 mm	1975 mm	1905 mm	1950 mm	1950 mm	2035 mm	2010 mm	2060 mm	2020 mm
Reach with arm horizontal and bucket level		2755 mm	2910 mm	2910 mm	2685 mm	2840 mm	2840 mm	3040 mm	2940 mm	2870 mm	2965 mm
Operating height (fully raised)		5960 mm	5960 mm	5960 mm	5875 mm	5875 mm	5875 mm	5875 mm	5960 mm	6040 mm	6185 mm
Overall length		8825 mm	8980 mm	8980 mm	8755 mm	8910 mm	8910 mm	9210 mm	9010 mm	8940 mm	9035 mm
Loader clearance circle (35°) (bucket at carry, outside corner of bucket)		15280 mm	15380 mm	15380 mm	15240 mm	15340 mm	15340 mm	15280 mm	15370 mm	15340 mm	15380 mm
Digging depth:	0°	80 mm	100 mm	100 mm	80 mm	100 mm	100 mm	85 mm	80 mm	80 mm	80 mm
	10°	315 mm	360 mm	360 mm	305 mm	350 mm	350 mm	370 mm	345 mm	345 mm	350 mm
Static tipping load:	straight	18525 kg	18695 kg	18875 kg	18385 kg	18565 kg	18745 kg	18515 kg	18345 kg	18380 kg	18305 kg
	40° full turn	15920 kg	16095 kg	16275 kg	15785 kg	15965 kg	16145 kg	15915 kg	15745 kg	15780 kg	15700 kg
Breakout force		192 kN	198 kN	207 kN	203 kN	209 kN	220 kN	190 kN	168 kN	176 kN	165 kN
Operating weight		23265 kg	23310 kg	23180 kg	23415 kg	23455 kg	23325 kg	23410 kg	23460 kg	23420 kg	23510 kg

High Lift Boom		Excavating Bucket		
		Bolt on Cutting edges	Teeth and Segments	Teeth
Bucket capacity:	heaped ISO rated	3.8 m <sup>3</sup>	3.8 m <sup>3</sup>	3.6 m <sup>3</sup>
	heaped 110% Fill factor	4.2 m <sup>3</sup>	4.2 m <sup>3</sup>	4.0 m <sup>3</sup>
	struck	3.2 m <sup>3</sup>	3.2 m <sup>3</sup>	3.1 m <sup>3</sup>
Bucket width		3170 mm	3190 mm	3190 mm
Bucket weight		2150 kg	2200 kg	2070 kg
Dumping clearance, max. height and 45° dump angle*		3750 mm	3625 mm	3625 mm
Reach at max. height and 45° dump angle*		1330 mm	1430 mm	1430 mm
Reach at 2130 mm clearance and 45° dump angle		2410 mm	2455 mm	2455 mm
Reach with arm horizontal and bucket level		2960 mm	3115 mm	3115 mm
Operating height (fully raised)		6415 mm	6415 mm	6415 mm
Overall length		9490 mm	9645 mm	9645 mm
Loader clearance circle (35°) (bucket at carry, outside corner of bucket)		15780 mm	15880 mm	15880 mm
Digging depth:	0°	215 mm	235 mm	235 mm
	10°	440 mm	485 mm	485 mm
Static tipping load:	straight	16175 kg	16335 kg	16495 kg
	40° full turn	13710 kg	13870 kg	14030 kg
Breakout force		186 kN	191 kN	201 kN
Operating weight		24930 kg	24970 kg	24840 kg

\* At the end of tooth or bolt on cutting edge (B.O.C.).

All dimensions, weights, and performance values based on ISO 7131 and 7546 standards.

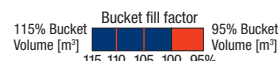
Static tipping load and operating weight shown include lubricant, coolant, full fuel tank, ROPS cab, and operator. Machine stability and operating weight affected by counterweight, tire size, and other attachments.

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



## BUCKET SELECTION GUIDE

The size and type of the bucket should be properly selected depending on the density of the material and the expected bucket fill factor. Depending on the conditions, Komatsu buckets may perform more than rated capacity thanks to powerful boom linkage, efficient bucket shape and high rim-pull.



Expected density and maximum possible fill factor for each material

Material	Potential Fill factor [%]	Material density : kg/m <sup>3</sup>			
		1200	1400	1600	1800
Earth/Clay	Up to 115				
Sand /Gravel	Up to 115				
Aggregate	Up to 110				
Rock	Up to 100				

Standard Boom

Type of Bucket	Rated Bucket Volume	Material density : kg/m <sup>3</sup>			
		1200	1400	1600	1800
Light Material with B.O.C.	5.2 m <sup>3</sup>	6.0 m <sup>3</sup>		4.9 m <sup>3</sup>	
Loose Material with B.O.C.	4.65 m <sup>3</sup>	5.3		4.4	
Loose Material with B.O.C.	4.4 m <sup>3</sup>	5.1		4.2	
Stockpile with B.O.C. / Teeth & Segments	4.2 m <sup>3</sup>	4.8		4.0	
Stockpile with Teeth	3.9 m <sup>3</sup>	4.5		3.7	
Excavating with B.O.C. / Teeth & Segments	3.8 m <sup>3</sup>	4.4		3.6	
Excavating with Teeth / Rock Bucket	3.6 m <sup>3</sup>	4.1		3.4	

High Lift Boom

Excavating with B.O.C. / Teeth & Segments	3.8 m <sup>3</sup>	4.4		3.6	
Excavating with Teeth	3.6 m <sup>3</sup>	4.1		3.4	





## WEIGHT CHANGES

Tires or attachments	Operating weight	Tipping load straight	Tipping load full turn	Width over tires	Ground clearance	Change in vertical dimensions
	kg	kg	kg	mm	mm	mm
26.5R25 (L-3)	0	0	0	3010	525	0
26.5-25-16PR (L-3)	-305	-225	-200	3010	525	0
26.5-25-20PR (L-3)	-240	180	-160	3010	525	0
26.5-25-20PR (L-5)	+520	+390	+340	3010	525	0
Install additional counterweight	+380	+905	+755			



## STANDARD EQUIPMENT

### ENGINE/POWER TRAIN

- Air cleaner with dust indicator
- Engine pre-cleaner
- Engine, Komatsu SAA6D125E-5 diesel
- Parking brake, electric
- Service brakes, wet disc type
- Transmission, 4 forward and 4 reverse

### ELECTRICAL SYSTEM

- Alternator, 24 V/75 A
- Back-up alarm
- Back-up lights
- Batteries, 2 x 12 V/136 Ah
- Battery disconnect switch
- Directional signal
- Engine shut-off system, electric
- Front work lamps, LH and RH side
- Hazard lamps
- Rear work lamps, LH and RH side
- Starting motor, 24 V/11 kW
- Stop and tail lamps, and turn signal lamps

### HYDRAULIC SYSTEM

- 2-spool valve for boom and bucket controls
- Hydraulic-driven fan with reverse rotation
- Lift cylinders and bucket cylinder

### CAB

- Air conditioner
- Ashtray
- Automatic shift transmission with mode select system
- Cigarette lighter
- Cup holder
- DC 12 V electrical outlets
- Electronically controlled transmission lever
- Floor mat
- FNR selector switch
- Front wiper (with washer and intermittent)
- Horn, electric
- Main monitor panel with Equipment Management Monitoring System
- Pillar cover
- Rear view mirror for cab
- Rear window washer and wiper
- ROPS/FOPS (ISO 3471/ISO 3449) cab

- Seat belt
- Seat, air suspension type with reclining
- Steering wheel, tiltable, telescopic
- Sun visor

### WORK EQUIPMENT

- Boom kick-out
- Bucket positioner
- Counterweight, standard
- Loader linkage with standard boom

### OTHER EQUIPMENT

- Coolant filter
- Electronically Controlled Suspension System
- Front fenders
- Fuel pre-filter with water separator
- Handrails for platform
- Hard water area arrangement
- Hydraulic oil filter
- Radiator
- Radiator mask, lattice type
- Rear under view mirror
- Tires (26.5R25 L-3) and rims



## OPTIONAL EQUIPMENT

### ENGINE/POWER TRAIN

- Brake cooling system
- Limited slip differential (F&R)
- Lock-up clutch torque converter
- Secondary steering (ISO 5010)

### ELECTRICAL SYSTEM

- Batteries, large capacity, 2 x 12 V/140 Ah
- Batteries, Maintenance free, 2 x 12 V/136 Ah
- Rotating light

### HYDRAULIC SYSTEM

- 3-spool valve with lever and piping
- Hydraulic-driven fan with automatic reverse rotation

### CAB

- AM/FM radio
- Joystick steering
- Rear view monitoring system
- Road meter

### WORK EQUIPMENT

- Additional counterweight (380 kg)
- Bucket teeth (bolt on type)
- Bucket teeth (tip type)
- Cutting edge (bolt on type)
- High lift boom
- Segmented edges
- Various bucket options

### OTHER EQUIPMENT

- Cool & heat box
- Fire extinguisher
- Large fuel pre-filter with water separator
- Power train guard
- Spec for highlands area (4600 m)
- Spec for sandy area
- Tool box
- Tool kit
- Various tire options, radial and bias
- Wheel stopper

Up to 30 % blended biodiesel fuel and paraffine fuel can be used. Please consult your Komatsu distributor for detail.

<https://home.komatsu/en/>

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