

KOMATSU®

WA470-6

With Tier 3 Engine and Large-Capacity Torque Converter

NET HORSEPOWER
203 kW **272 HP** @ 2000 rpm

OPERATING WEIGHT
23520–23655 kg
51,850–52,150 lb

BUCKET CAPACITY
3.8–5.2 m³ **5.0-6.8 yd³**

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Photo may include optional equipment.

WALK-AROUND

Komatsu-integrated design offers the best value, reliability, and versatility. Hydraulics, powertrain, frame, and all other major components are engineered by Komatsu. You get a machine with components designed to work together for higher production, greater reliability, and more versatility.

High Productivity & Low Fuel Consumption

- High performance SAA6D125E-5 engine
- Low fuel consumption
- Dual-mode engine power select system
- Automatic transmission with shift timing select system
- Large-Capacity Torque Converter
- Lock-up Torque Converter (option)
- Variable displacement piston pump & Closed-Center Load Sensing System (CLSS)

Excellent Operator Environment

- Automatic transmission with Electronically Controlled Modulation Valve (ECMV)
- Electronic transmission control levers
- Variable transmission cut-off system
- Telescopic/tilt steering column
- Fingertip control levers
- Low-noise design cab
- Pillar-less large ROPS/FOPS Level 2 integrated cab
- Easy entry/exit, rear-hinged doors



Easy Maintenance

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

KOMTRAX®

KOMTRAX sends machine location, Service Meter Reading (SMR) and operation maps to a secure website utilizing wireless technology. Machines also relay error codes, cautions, maintenance items, fuel levels, and much more.

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
- Sealed DT electrical connectors

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Environmentally Friendly

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

HIGH PRODUCTIVITY & LOW FUEL CONSUMPTION



Komatsu's new "ecot3" engines are designed to deliver optimum performance under the toughest of conditions,

while meeting the latest environmental regulations. This engine is EPA Tier 3, EU Stage 3A and Japan emissions certified; "ecot3" - ecology and economy combine with Komatsu technology to create a high performance engine without sacrificing power or productivity.

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 EPA Tier 3 emission regulations certified without sacrificing power or machine productivity.

Low Fuel Consumption

The fuel consumption is greatly reduced because of the low noise, high-torque engine, and the large-capacity torque converter. This matched combination provides 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

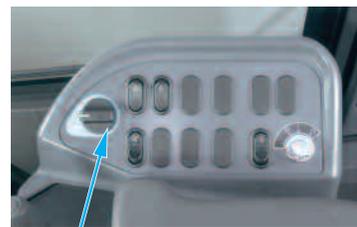
Eco Indicator

The Eco Indicator will inform the operator when the machine is maximizing fuel efficiency.



Automatic Transmission with Mode Select System

This operator controlled system allows the selection of manual shifting or two levels of automatic shifting modes



Shift mode selection dial

(low and high). The operator can match the machine's operating requirements with optimum performance efficiency. This system is controlled with a dial on the right control panel.

- **Manual:** The transmission is fixed to the gear speed selected with the gear lever.
- **Auto Low:** Low mode provides smooth gear shifting at low engine speeds suitable for general excavating and loading while offering reduced fuel consumption.
- **Auto High:** High mode provides maximum rim pull and fast cycle times by shifting the transmission at high engine speeds. This mode is suitable for hill-climb and load & carry operations.

Large-Capacity Torque Converter

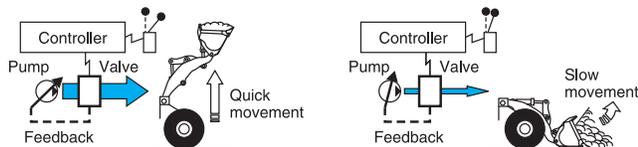
The newly designed drive train has a large-capacity torque converter for optimal efficiency. Improved acceleration enhances operation not requiring full throttle. High travel speeds can be achieved even on grades or steep ramps in hopper feeding applications. This significantly assists in improving productivity and also provides improved value for load & carry applications.



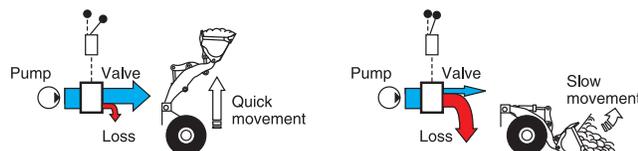
Variable Displacement Piston Pump and CLSS

New design variable displacement piston pump combined with the Closed-center Load Sensing System (CLSS) delivers hydraulic flow just as the job requires preventing wasted hydraulic flow. Minimized waste loss contributes to better fuel economy.

- **New Variable Displacement Piston Pump:** The pump delivers only necessary amounts minimizing waste loss.



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



Dumping Clearance and Reach

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

Dumping Clearance: 3185 mm 10'5"

Dumping Reach: 1235 mm 4'1"

(4.2 m³ 5.5 yd³ bucket with B.O.C.E.)

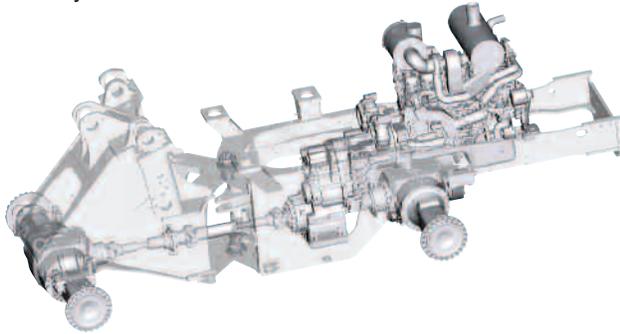
Lock-Up Torque Converter (option)

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 lock-up torque converter from 2nd to 4th gear. This optional feature allows the operator to turn the system on/off with a switch located on the right-side control panel.

RELIABILITY

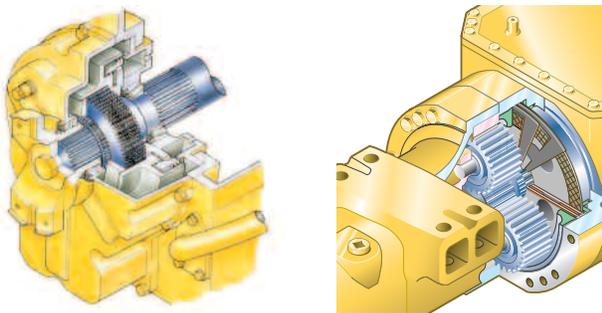
Komatsu Components

Komatsu manufactures the axles, engine, torque converter, transmission and hydraulic units 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

result in low maintenance costs and high reliability. The wet disc service and parking brakes are fully sealed and adjustment-free to reduce contamination, wear and maintenance. Added reliability is designed into the braking system by the use of two independent hydraulic circuits providing hydraulic backup. If the brake oil pressure drops, a warning lamp flashes and an alarm sounds intermittently. If the brake pressure continues to drop, the parking brake is automatically applied.



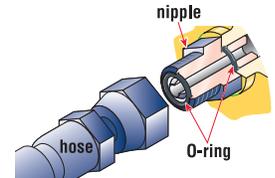
High-Rigidity Frames and Loader Linkage

The front and rear frames along with the loader linkage have high rigidity to withstand repeated twisting and bending loads to the loader body and linkage. Both the upper and lower center pivot bearings use tapered roller bearings for increased durability.



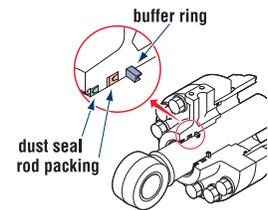
Flat Face-to-Face O-Ring Seals

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



Cylinder Buffer Rings

Buffer rings are installed to the head-side of all-hydraulic cylinders to lower the load on the rod seals, prolong cylinder life and maximize overall reliability.



Sealed DT Connectors

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



EASY MAINTENANCE



Photo may include optional equipment.

Equipment Management Monitoring System (EMMS)

Komatsu's new main monitor keeps the operator informed of all machine functions at a glance. The monitor is located in front of the operator and displays



different machine functions including fluid/filter change intervals and troubleshooting memory display functions. The main gauges are analog type for easy viewing and other functions utilize lighted symbols or LCD readouts.

Maintenance Control and Troubleshooting Functions

- **Action code display function:** If an abnormality occurs, the monitor displays action details on the character display at the bottom center of the monitor.
- **Monitor function:** The controller monitors engine oil level and pressure, coolant temperature, air cleaner clogging, etc. If the controller finds abnormalities, the error is displayed on the LCD.
- **Replacement time notice function:** The monitor informs replacement time of oil and filters on the LCD when replacement intervals are reached.
- **Trouble data memory function:** The monitor stores abnormality data for effective troubleshooting.

Full Side-Opening Gull-Wing Engine Doors

Ground level engine service and daily service checks are made easy with the gas spring assisted full side-opening gull-wing doors.

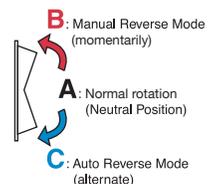


Ease of Radiator Cleaning

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).



OPERATOR ENVIRONMENT

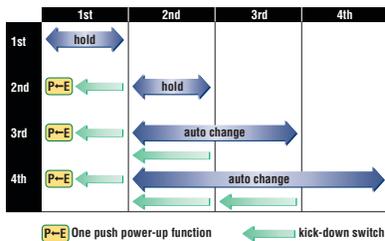
Easy Operation

Automatic Transmission with Electronically Controlled Modulation Valve (ECMV)

The transmission automatically selects the proper gear speed based on travel speed, engine speed, and other travel conditions. The ECMV system engages the clutch smoothly when shifting and 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 downshifts the transmission from



second to first when beginning the digging cycle. The transmission 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:** If 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.

Electronic Transmission Control Levers

The Komatsu two-lever electronic shift control levers provide



easy gear selection and directional changes. The transmission levers can be operated without removing the operator's hand from the steering wheel, allowing improved comfort and control. 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.

Variable Transmission Cut-Off

The operator can select the transmission cut-off pressure desired for the left brake pedal using the switch located on the right-side control panel.

- Lower pedal angle (higher cutoff pressure) disengages the transmission at heavier applied braking force to prevent the machine from rolling back in ramp loading and stockpile operations.
- Higher pedal angle (lower cut-off pressure) disengages the transmission at lighter braking force enabling smooth, fine control braking in truck loading operation.



- 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 Arm Rest

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



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

Telescopic/Tilt Steering Column

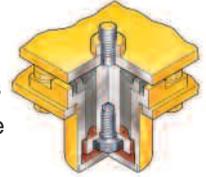
The operator can both tilt and telescope the steering wheel to allow maximum comfort and control. The two-spoke steering wheel allows maximum visibility of the monitor panel and the forward work environment.



Low-Noise Design

Noise level at operator's ear: 72 dB(A)

Dynamic noise level (outside): 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, and comfortable operating environment. Pressurization in the cab helps keep dirt out, further enhancing the operator's comfort.



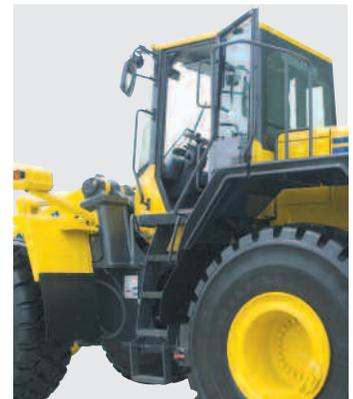
Pillar-Less Large Cab

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. The front mounted air conditioner was introduced to increase seat reclining and backwards seat adjustment.

Rear-Hinged Full Open Cab Doors

Entry and exit into the new Komatsu cab starts with sloped staircase type steps and handrails. The large cab doors are rear-hinged to open fully offering easy entry/exit.



WA470-6 WHEEL LOADER

SPECIFICATIONS



ENGINE

Model Komatsu SAA6D125E-5*
 Type Water-cooled, 4-cycle
 Aspiration Turbocharged, aftercooled, cooled EGR
 Number of cylinders 6
 Bore x stroke 125 mm x 150 mm **4.9" x 5.9"**
 Piston displacement 11.04 ltr **674 in³**
 Governor all-speed, electronic
 Horsepower
 SAE J1995 Gross 204 kW **273 HP**
 ISO 9249/SAE J1349 Net 203 kW **272 HP**
 Hydraulic fan at maximum speed Net 191 kW **256 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

Torque converter:
 Type 3-element, single-stage, single-phase
 Transmission:
 Type Full-powershift, countershaft type
 Travel speed: km/h **mph**
 Measured with 26.5-25 tires

	1st		2nd		3rd		4th	
Forward	7.6	4.7	13.1	8.1	22.9	14.2	36.2	22.5
Reverse	7.9	4.9	13.5	8.4	23.6	14.7	37.3	23.2



AXLES AND FINAL DRIVES

Drive system Four-wheel drive
 Front Fixed, semi-floating
 Rear Center-pin support, semi-floating, 26° total oscillation
 Reduction gear Spiral bevel gear
 Differential gear Conventional type
 Final reduction gear Planetary gear, single reduction



BRAKES

Service brakes Hydraulically actuated, wet disc brakes actuate on four wheels
 Parking brake Wet disc brake
 Emergency brake Parking brake is commonly used



STEERING SYSTEM

Type Articulated type, full-hydraulic power steering
 Steering angle 35° each direction (40° end stop)
 Minimum turning radius at the center of outside tire 6630 mm **21'9"**



HYDRAULIC SYSTEM

Steering system:
 Hydraulic pump Piston pump
 Capacity 195 ltr/min **51.5 U.S. gal/min** at rated rpm
 Relief valve setting 24.5 MPa 250 kgf/cm² **3,555 psi**
 Hydraulic cylinders:
 Type Double-acting, piston type
 Number of cylinders 2
 Bore x stroke 90 mm x 441 mm **3.5" x 17.3"**
 Loader control:
 Hydraulic pump Piston pump
 Capacity 260 ltr/min **68.7 U.S. gal/min** at rated rpm
 Relief valve setting 34.3 MPa 350 kgf/cm² **4,980 psi**
 Hydraulic cylinders:
 Type Double-acting, piston type
 Number of cylinders—bore x stroke:
 Boom cylinder 2- 140 mm x 764 mm **5.5" x 30.0"**
 Bucket cylinder 1- 160 mm x 575 mm **6.3" x 22.6"**
 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 5.4 sec
 Dump 1.6 sec
 Lower (Empty) 3.7 sec

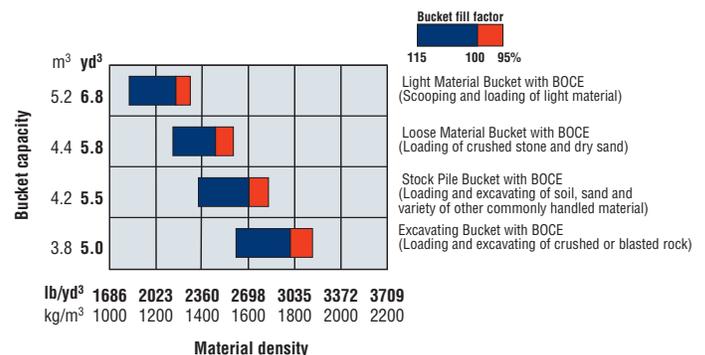


SERVICE REFILL CAPACITIES

Cooling system 61 ltr **16.1 U.S. gal**
 Fuel tank 413 ltr **109.1 U.S. gal**
 Engine 38 ltr **10.0 U.S. gal**
 Hydraulic system 173 ltr **45.7 U.S. gal**
 Axle Front 60 ltr **15.9 U.S. gal**
 Rear 56 ltr **14.8 U.S. gal**
 Torque converter and transmission 65 ltr **17.2 U.S. gal**

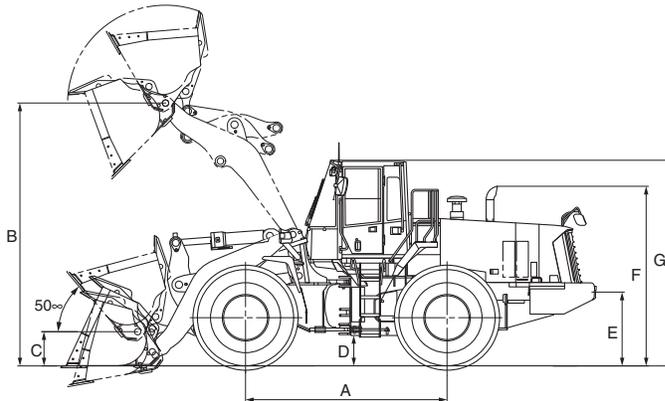


BUCKET SELECTION GUIDE





DIMENSIONS



Tread	2300 mm	7'7"
Width over tires	3010 mm	9'11"
A Wheelbase	3450 mm	11'4"
B Hinge pin height at Max. height:	Standard Boom	4360 mm
	High Lift Boom	4870 mm
C Hinge pin height at carry position:	Standard Boom	585 mm
	High Lift Boom	715 mm
D Ground clearance	525 mm	1'9"
E Hitch height	1240 mm	4'1"
F Overall height, top of stack	3080 mm	10'1"
G Overall height ROPS cab	3500 mm	11'6"

Measured with 26.5 – R25 (L3) tires

	Standard Boom				High Lift Boom
	General Purpose Buckets		Loose Material Bucket	Light Material Bucket	General Purpose Bucket
	Stockpile	Excavating			
	Bolt-on Cutting Edges				
Bucket capacity: heaped	4.2 m ³ 5.5 yd³	3.8 m ³ 5.0 yd³	4.4 m ³ 5.8 yd³	5.2 m ³ 6.8 yd³	3.8 m ³ 5.0 yd³
struck	3.5 m ³ 4.6 yd³	3.2 m ³ 4.2 yd³	3.9 m ³ 5.1 yd³	4.5 m ³ 5.9 yd³	3.2 m ³ 4.2 yd³
Bucket width	3170 mm 10'5"				
Bucket weight	2050 kg 4,519 lb	2150 kg 4,740 lb	2110 kg 4,652 lb	2185 kg 4,817 lb	2150 kg 4,740 lb
Dumping clearance, max. height and 45° dump angle*	3185 mm 10'5"	3235 mm 10'7"	3055 mm 10'0"	3035 mm 9'11"	3750 mm 12'4"
Reach at max. height and 45° dump angle*	1235 mm 4'1"	1185 mm 3'11"	1365 mm 4'6"	1385 mm 4'7"	1330 mm 4'4"
Reach at 2130 mm (7') clearance and 45° dump angle*	1980 mm 6'6"	1950 mm 6'5"	2050 mm 6'9"	2060 mm 6'9"	2410 mm 7'11"
Reach with arm horizontal and bucket level*	2750 mm 9'0"	2680 mm 8'10"	2935 mm 9'8"	2960 mm 9'9"	2960 mm 9'9"
Operating height (fully raised)	5960 mm 19'7"	5875 mm 19'3"	5960 mm 19'7"	6185 mm 20'4"	6415 mm 21'1"
Overall length	9000 mm 29'6"	8930 mm 29'4"	9185 mm 30'2"	9210 mm 30'3"	9560 mm 31'4"
Loader clearance circle (bucket at carry, outside corner of bucket)	15290 mm 50'2"	15260 mm 50'1"	15390 mm 50'6"	15400 mm 50'6"	15780 mm 51'9"
Digging depth: 0°	80 mm 3.2"	80 mm 3.2"	80 mm 3.2"	80 mm 3.2"	215 mm 8.5"
10°	315 mm 1'0"	305 mm 1'0"	345 mm 1'2"	350 mm 1'2"	440 mm 1'5"
Static tipping load: straight	19475 kg 42,935 lb	19385 kg 42,735 lb	19420 kg 42,815 lb	19355 kg 42,670 lb	16425 kg 36,210 lb
40° full turn	16750 kg 36,930 lb	16670 kg 36,750 lb	16700 kg 36,820 lb	16645 kg 36,695 lb	14125 kg 31,140 lb
Breakout force	192 kN 19600 kgf 43,160 lb	203 kN 20710 kgf 45,660 lb	168 kN 17140 kgf 37,790 lb	165 kN 16840 kgf 37,130 lb	186 kN 19018 kgf 41,927 lb
Operating weight	23520 kg 51,850 lb	23620 kg 52,075 lb	23580 kg 51,985 lb	23655 kg 52,150 lb	24720 kg 54,500 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, additional counterweight, 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 CHANGES

Attachments	Operating weight		Tipping load straight		Tipping load full turn	
	kg	lb	kg	lb	kg	lb
Remove additional counterweight	-400	-880	-1070	-2,358	-930	-2,050



STANDARD EQUIPMENT

- 2-spool valve for boom and bucket controls
- 12 V converter
- Air conditioner
- Alternator, 50 A
- Auto shift transmission with mode select system
- Back-up alarm
- Back-up lamp
- Batteries, 150 Ah/12 V x 2
- Counterweight, standard and additional
- Directional signal
- Electronically Controlled Suspension System (ECSS)
- Engine, Komatsu SAA6D125E-5 diesel
- Engine shut-off system, electric
- Fan, auto reversing, hydraulic driven
- Floor mat
- Hard water area arrangement (corrosion resister)
- KOMTRAX®
- Lift cylinders and bucket cylinder
- Main monitor panel with Equipment Management Monitoring System (EMMS)
- Proportional Pressure Control (PPC) two lever, fingertip
- Radiator mask, lattice type
- Rearview mirrors for cab
- Rear window washer and wiper
- ROPS/FOPS Level 2 cab
- Seat belt, 76 mm 3" wide retractable
- Seat, air suspension with automatic weight adjustment
- Service brakes, wet disc type
- Starting motor, 7.5 kW/24 V
- Steering wheel, tiltable, telescopic
- Sun visor
- Rims for 26.5-25 tires
- Transmission, 4 forward and 4 reverse speed ranges
- Vandalism protection kit



OPTIONAL EQUIPMENT

- 3-spool valve
- AM/FM stereo radio cassette
- Auxiliary steering (SAE)
- Cutting edge (bolt-on type)
- Engine pre-cleaner with extension
- High-lift boom
- Joystick steering
- Lock-up clutch torque converter
- Limited slip differential (F&R)
- Mono lever loader control with transmission F/R switch
- Rear full fenders

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