# KOMATSU®

**WA250PT-5** 

**NET HORSEPOWER** 

100 kW **134 HP** @ 2000 rpm

**OPERATING WEIGHT** 

12061 - 12455 kg **26,590 - 27,459 lb** 

BUCKET CAPACITY

1.9 - 2.3 m³ **2.5 - 3.0 yd³** 





# PARALLEL TOOL CARRIER

# 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 whose components are designed to work together for higher production, greater reliability, and more versatility.

**Reduced operator noise** to 70 dB(A)

**Expanded main monitor** and troubleshooting display

**Larger cab** with new layout design



Extended service intervals

**Electronically controlled Hydrostatic Transmission** (**HST**) with variable shift control system

**Maintenance-free** fully hydraulic wet multi-disc service and mechanical wet multi-disc parking brakes

Traction control system

# **WA250PT-5**

# PARALLEL TOOL CARRIER

NET HORSEPOWER 100 kW 134 HP @ 2000 rpm

# **OPERATING WEIGHT**

12061 - 12455 kg **26,590 - 27,459 lb** 

# **BUCKET CAPACITY**

1.9 - 2.3 m<sup>3</sup> 2.5 - 3.0 yd<sup>3</sup>

Powerful yet efficient Komatsu SAA6D102E-2 *emissionized engine* 

# **Full side opening** gull-wing engine doors





# Side-by-side type coolers

for easy access and cleaning

Overrun protection system

**Ground level servicing** 

and fluid checks

Extremely low fuel consumption

Photos may include optional equipment.

# Flat face "O-Ring" hydraulic seals

for extended life

**Staircase-type steps** with large rear-hinged doors

Sealed DT electrical connectors

# PRODUCTIVITY FEATURES

# High Productivity and Low Fuel Consumption

# **Powerful Engine**

A powerful SAA6D102E-2 turbocharged air-to-air aftercooled diesel engine provides an output of 100 kW **134 HP** for the WA250PT-5. This engine is Tier 2 EPA, EU and Japanese emissions certified without sacrificing power or machine productivity.

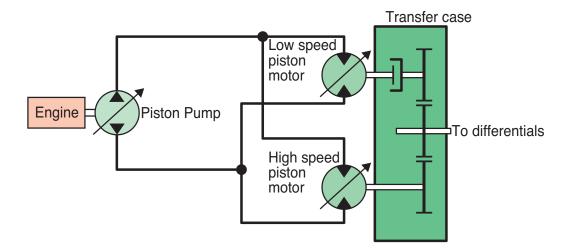
## **Low Fuel Consumption**

The fuel consumption is reduced up to 20% due to the hightorque engine and Hydrostatic Transmission (HST) with maximum efficiency in the low-speed range.

# Electronically-Controlled HST Using a 1-Pump, 2-Motor System

- The 1-pump, 2-motor system allows for high-efficiency and high tractive effort. Engine power is transmitted hydraulically to a transfer case, then manually out to the differentials and out to the four driving wheels.
- HST provides quick travel response and aggressive drive into the pile. The variable displacement system automatically adjusts to the tractive effort demand to provide maximum power and efficiency.
- Full auto-shifting eliminates any gear shifting and kickdown operation to allow the operator to concentrate on digging and loading.

- When high drive torque is needed for digging, climbing or initiating movement, the pump feeds both motors. This combination makes the loader very aggressive and quick.
- Under deceleration, the HST system acts as a dynamic brake on the mechanical drive system. The dynamic brake can hold the loader in position on most workable slopes. This can be an advantage in stockpiling and ramp loading.
- As the machine moves and gains ground speed, the torque demand decreases and the low speed motor is effectively removed from the drive system by a clutch. At this point, the flow is going to the high-speed motor and the low-speed motor is not causing a drag on the system.
- An inching pedal provides excellent simultaneous control of travel and equipment hydraulic speeds. By depressing the inching pedal, drive pump flow to the motors will decrease, reducing ground speed and allowing the operator to use the accelerator to increase flow to the equipment hydraulics. Depressing the inching pedal further will activate the service brakes.



# Electronically-Controlled HST with Variable Shift Control System

The operator can choose between four speed settings by dialing the speed range selector switch.

For V-cycles, the operator can set the speed control switch to 1 or 2, which provides aggressive digging, quick response

and fast hydraulics. For load and carry, select 3 or 4 which still provides aggressive digging but with much faster travel speed.

The variable shift switch allows the operator to adjust machine speed in confined V-loading applications. When in 1, the operator can adjust travel speed using the variable shift switch to



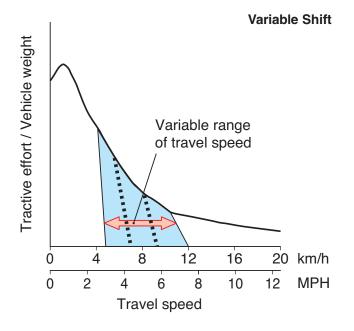
match machine speed and hydraulics to the travel distance. This feature will also be an advantage when powering a broom.

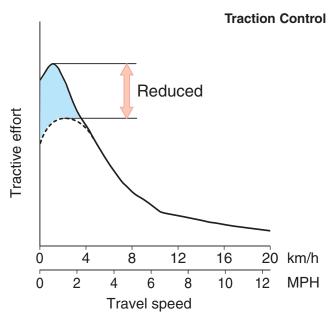
# **Traction Control System**

The traction control system reduces tire slippage in limited traction situations (such as sandy or wet surface operations). Placing the traction control switch in the "ON" position automatically reduces tire slippage by limiting the maximum amount of tractive effort to 50%. Traction control

will be an advantage in certain applications such as transfer stations where the loader may be working on slippery concrete. The traction control operates in 2nd, 3rd and 4th speed.







# WA250PT-5 PARALLEL TOOL CARRIER

# INCREASED RELIABILITY AND SERVICEABILITY

# Main Monitor - EMMS (Equipment Management Monitoring System)

Komatsu's new main monitor keeps the operator informed of all machine functions at a glance. The monitor is located behind the steering wheel and displays 28 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 light symbols or LCD readouts.



# **Swing-Out Cooling Fan**

The new Komatsu cooling system is isolated from the engine to provide more efficient cooling and low noise. The swing-out hydraulic fan allows the operator to quickly clean out the cooling system.



The radiator, air-to-air cooler and oil cooler are mounted side-by-side for more efficient cooling and easy cleaning. A fully-opening, gas spring assisted rear grill gives the operator excellent access to the swing-out fan and coolers.

# 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.



### **Extended Service Interval**

# Extended engine oil service interval:

250 H → 500 H

Extended drive shaft greasing interval:

1,000 H → 4,000 H



# **Overrun Prevention System**

When the machine descends a slope of six degrees or less, maximum travel speed is automatically restricted to approximately 38 km/h 24 MPH, for protection against damage of power train components and brakes by sensing the travel speed and controlling the discharge amount of the HST pump and motor. When the machine descends a steep slope and the travel speed reaches 36 km/h 24 MPH, the caution lamp lights up to inform the operator to reduce the travel speed.

Note: When the machine descends a steep slope, the use of the service brake is necessary to limit travel speed.

# **Fully Hydraulic Wet Multi-Disc Service Brakes**

The dual wet disc brakes at each wheel are fully sealed and adjustment free to reduce contamination, wear and maintenance. The result is lower maintenance costs and higher reliability.

Added dependability is designed into the braking system by the use of two independent hydraulic circuits, providing hydraulic backup should one of the circuits fail.

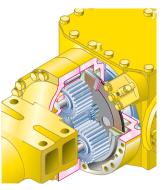
If the brake oil pressure drops, the warning lamp flashes and the warning buzzer sounds intermittently.

The parking brake is also wet multi-disc (it is fully sealed and adjustment free), acting on the output shafts of the transfer case. The parking brake is mechanically controlled by a lever in the cab.

**Parking Brake** 



**Service Brakes** 



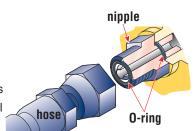
# **High-Rigidity Frames**

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. The structure is similar to those of large sized loaders and the reinforced loader linkage ensures high strength.



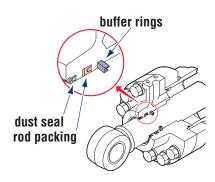
# Flat Face-to-Face O-Ring Seals

Flat face-to-face O-ring seals are used to securely seal all hydraulic hose connections and to prevent oil leakage.



# Cylinder Buffer Rings

Buffer rings are installed to the head-side of the hydraulic cylinders to lower the load on the rod seals, prolonging cylinder life by



30% and maximizing overall reliability.

# Cathion Electrodeposition Primer Paint/Powder Coating Final Paint

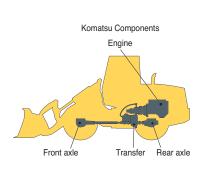
Cathion electrodeposition paint is applied as a primer paint and powder coating is applied as a topcoat to the exterior metal sheet parts. This process results in a durable rust-free machine, even in the most severe environments. Some external parts are made of plastic to provide long life and high impact resistance.

### **Sealed DT Connectors**

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

### **Komatsu Powertrain Components**

Komatsu manufactures the engine, transfer case, differentials and electric parts on this wheel loader. Komatsu loaders are manufactured with an integrated production system under a strict quality control system.



# **OPERATOR COMFORT**

# **New Cab Layout**

Komatsu's new cab layout provides the operator with a roomy, quiet and efficient work environment. The low noise level inside the cab leads the industry at 70 dB(A) and loader controls are ergonomically designed to reduce operator fatigue and increase productivity.

# **Two Door Walk-Through Cab**

Entry and exit into the new Komatsu cab starts with sloped staircase type steps and large diameter handrails for added comfort. The large cab doors are rear-hinged to open 130 degrees offering easy entry/exit and will not hamper visibility when operating the machine with the doors latched open. A wide pillar-less flat glass windshield provides for excellent visibility. The wiper arm covers a large area to provide great visibility even on rainy days.

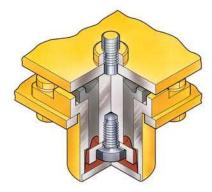


# **Low-Noise Design**

Operator noise: 70 dB(A)

Dynamic noise
(outside): 104 dB(A)
The large cab is
mounted with
Komatsu's unique
ROPS/FOPS viscous
mounts. The lownoise 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 keeps dirt out further enhancing the operator's comfort.

# Multi-Function Loader Control Lever With Forward & Reverse Switch

A new multi-function control lever integrated with forward and reverse switch allows the operator to easily operate the work equipment, to reduce operator fatigue and to increase controllability. The adjustable wrist rest provides the operator with a variety of comfortable operating positions.



# **Electronically Controlled Directional Lever**

The solid state electronic transmission shift control provides easy directional changes. The steering column mounted control lever can be operated without removing the operator's hand from the steering wheel, allowing improved comfort and control. The operator can use either the transmission directional control lever on the steering column or the transmission forward and reverse switch on the Multi-function Loader Control Lever.



### **Tiltable Steering Column**

The operator can tilt the steering column for maximum comfort and control. The two-spoke steering wheel allows maximum visibility of the monitor panel and forward work environment.



# **SPECIFICATIONS**



### **ENGINE**

Model         Komatsu SAA6D102E-2           Type         Water-cooled, 4-cycle           Aspiration         Turbocharged, and air-to-air aftercooled           Number of cylinders         6           Bore x stroke         102 mm x 120 mm 4.0" x 4.7"           Piston displacement         5.98 ltr 359 in³           Governor         Mechanical, all-speed control           Horsepower rating @ 2000 rpm (SAE J1349)           Gross horsepower         104 kW 139 HP           Net horsepower         100 kW 134 HP
Tier 2, EU and Japan emissions certified
Fuel system Direct injection Lubrication system  Method Gear pump, force-lubrication Filter Full-flow
Air cleaner Dry-type with double radial-sealed elements and dust evacuator, plus dust indicator



### **TRANSMISSION**

Travel Speed*	Forward		Rev	verse
1st**	4.0 - 13.0 km/h	2.5 - 8.1 mph	4.0 -13.0 km/h	2.5 - 8.1 mph
2nd	13.0 km/h	8.1 mph	13.0 km/h	8.1 mph
3rd	18.0 km/h	11.2 mph	18.0 km/h	11.2 mph
4th	38.0 km/h	23.6 mph	38.0 km/h	23.6 mph

<sup>\*</sup>Measured with 20.5/25 (L2) tires

<sup>\*\*1</sup>st speed can be set variably



# **AXLES AND FINAL DRIVES**

Drive system	Four-wheel drive
Front	Fixed, semi-floating
Rear	. Center-pin support, semi-floating
	30° total oscillation
Reduction gear	Spiral bevel gear
Differential gear	Torque proportioning
Final reduction gear	Planetary gear, single reduction



### BRAKES

Service brakes
Parking brake $\ \ldots \ \ldots$ Wet, multi-disc brake on transfer output shaft
Emergency brake Independent service brake system (front and rear)



### STEERING SYSTEM

Туре	Orbital, full-hydraulic power
	steering independent of engine rpm
Steering angle	40° each direction
Minimum turning radius at the	
center of outside tire	



# PARALLEL LIFT LINKAGE

The 6-segment, parallelogram-style linkage is designed to keep the attachment level while lifting. Sealed linkage pins with dust seals extend greasing intervals. The Hydraulic Quick Coupler allows the operator to rapidly interchange attachments. Single bucket cylinder allows fewer greasing points and good visibility.



# **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 makes it easy to operate in the work environment.

Transmission F/R switch is integrated on the lever.

### **Control positions**

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



# HYDRAULIC SYSTEM

### Capacity (discharge flow) @ engine-rated rpm

(Gear-type pumps)

Relief valve setting

### Hydraulic cylinders

Loader and steering . . . . . . . . . . . . Double-acting, piston

Hydraulic Cylinders	Number of Cylinders	Во	re	Str	oke
Boom	2	130 mm	5.1"	717 mm	28.2"
Bucket	1	180 mm	7.1"	600 mm	23.6"
Steering	2	70 mm	2.8"	453 mm	17.8"

# Hydraulic cycle time (rated load in bucket)

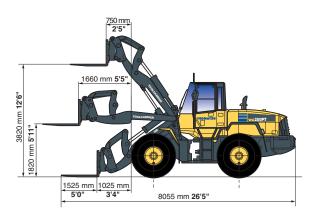
Raise	ес
Dump	ес
Lower (empty)	ес
Total cycle time 11.3 se	<u>ес</u>



### **SERVICE REFILL CAPACITIES**

Cooling system	4.6 U.S. gal
Fuel tank	48.6 U.S. gal
Engine	5.2 U.S. gal
Hydraulic system 67.0 ltr	17.7 U.S. gal
Axle (each, front and rear)18.0 ltr	4.8 U.S. gal
Transfer	1.5 U.S. gal





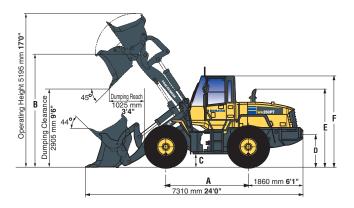
Standard tire	)
Tread	11
Width over tires	11
<b>A</b> Wheelbase	11
B Hinge pin height, maximum height 3965 mm 13'0'	Ш

# **Fork**

Static tipping load—boom level			
Fork level, 610 mm <b>24"</b> load center Straight		6855 kg	15,113 lb
	Full turn (40°)	5963 kg	13,146 lb
Operating weight		12061 kg	26,590 lb
Fork tine length		1525 mm	60"
Ground to top of tine at maximum lift		3820 mm	12'6"
Reach at maximum lift		750 mm	2'5"
Ground to top of tine— boom and tine level		1820 mm	5'11"
Reach boom and tine level		1660 mm	5'5"
Overall length—tine level on ground		8055 mm	26'5"
Operating load		2982 kg	6,574 lb

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

Static tipping load and operating weight shown include lubricants, coolant, full fuel tank, ROPS cab, 20.5/25-12PR (L2) tires, front fenders, and operator. Machine stability and operating weight are affected by counterweight, tire size, and other attachments. Note the following weight changes to operating weight and static tipping loads.



<b>C</b> Ground clearance	
<b>D</b> Hitch height	
E Overall height, top of stack	
F Overall height, ROPS cab3251 mm 10'8'	

# **Bucket**

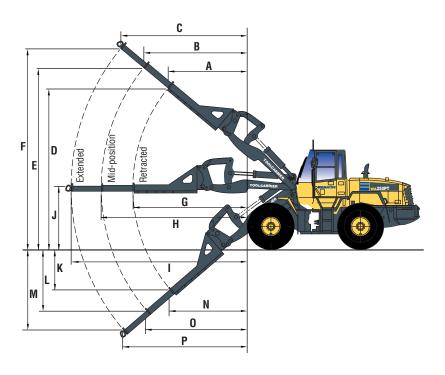
Bucket type with bolt-o	Stockpile			
Bucket capacity	Heaped	1.9 m <sup>3</sup>	2.5 yd <sup>3</sup>	
Ducket capacity	Struck	1.6 m <sup>3</sup>	2.1 yd³	
Bucket width	2685 mm	8'10"		
Static tipping load	Straight	8800 kg	19,417 lb	
Static tipping load	Full turn (40°)	7750 kg	17,086 lb	
Operating weight	12455 kg	27,459		
Bucket weight	981 kg	2,163 lb		
Dumping clearance, ma and 45° dump angle	2905 mm	9'6"		
Reach at 2130 mm <b>7'</b> and 45° dump angle	1632 mm	5'4"		
Reach with boom/buck	2469 mm	8'1"		
Operating height fully r	5195 mm	17'0"		
Overall length	Bucket on ground	7310 mm	24'0"	
Overall length	Bucket at carry	7255 mm	23'10"	
Digging depth	0°	112 mm	4.4"	
	10°	325 mm	1'1"	
Breakout force		109 kN	24,581 lb	

All dimensions, weights, and performance values based on SAE J-732c and J742b standards (bucket only).

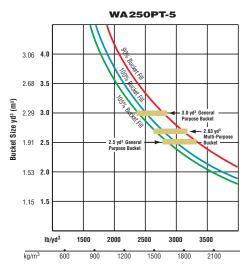
# **Weight Changes**

	Chang	, -			Tipping Lo		Widt		Grou		Change	
	Operatin	g Weight	Straig	jht	Full	Turn	Over 1	ire	Cleara	nce	Vertical Dim	ensions
17.5/25-12PR (L3)	–290 kg	-641 lb	–205 kg	452 lb	–178 kg	-393 lb	2380 mm	7'10"	395 mm	1'4"	–70 mm	3"
20.5/25-12PR (L3)	90 kg	199 lb	64 kg	–141 lb	56 kg	123 lb	2470 mm	8'1"	465 mm	1'6"	0 mm	0"
Install ROPS canopy (instead of cab)	-331 kg	-730 lb	-234 kg	-516 lb	-203 kg	-449 lb				·		





# BUCKET SELECTION GUIDE



This guide, representing bucket sizes not necessarily manufactured by Komatsu, will help you select the proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. Bucket fill factors represent the approximate amount of material as a percent of rated bucket capacity. Fill factors are primarily affected by material, ground conditions, breakout force, bucket profile, and the cutting edge of the bucket used.

# **Material Handling Arm**

Boom Position		Retrac	ted		Mid-pos	ition		Exten	ded
Reach, fully raised	Α	1990 mm	6'6"	В	2745 mm	9'0"	C	3245 mm	10'8"
Height, fully raised	D	5910 mm	19'5"	E	6770 mm	22'3"	F	7345 mm	24'1"
Maximum reach	G	3780 mm	12'5"	Н	4925 mm	16'2"	Ι	5685 mm	18'8"
Height, maximum reach	J	1965 mm	6'5"	J	1965 mm	6'5"	J	1965 mm	6'5"
Depth, below ground	K	1665 mm	5'5"	L	2455 mm	8'1"	M	2985 mm	9'10"
Reach, below ground	N	2320 mm	7'7"	0	3145 mm	10'4"	Р	3695 mm	12'2"
Operating load	1	916 kg	4,224 lb	1	530 kg	3,373 lb	1	349 kg	2,974 lb
Tipping load, straight	4	1404 kg	9,709 lb	3	3516 kg	7,751 lb	3	100 kg	6,834 lb
Tipping load, 40° full turn	3	8831 kg	8,446 lb	3	3059 kg	6,744 lb	2	.697 kg	5,946 lb
Operating weight	12	2182 kg	26,857 lb	12	2182 kg	26,857 lb	12	182 kg	26,857 lb

### **Versatile Work Equipment**

Coupler system: The versatile, factory-supplied coupler system provides fast, efficient tool changes without leaving the cab. Your Komatsu tool carrier allows interchangeability between models as well as several major manufacturers. This design also allows superior visibility of the work equipment.

Full line of attachments: Ask your Komatsu distributor about the availability of work equipment for your particular job.



Material (loose weight)	kg/m³	lb/yd³
Caliche	1250	2,100
Cinders	590	1,000
Clay and gravel, dry	1420	2,400
Clay and gravel, wet	1540	2,600
Clay, dry	1480	2,500
Clay, natural bed	1660	2,800
Clay, wet	1660	2,800
Coal, anthracite, broken	1100	1,850
Coal, bituminous, broken	830	1,400
Earth, dry, packed	1510	2,550
Earth, loam	1250	2,100
Earth, wet, excavated	1600	2,700
Granite, broken or large crushed	1660	2,800
Gravel, dry	1510	2,550
Gravel, dry 13 to 50 mm 1/2" to 2"	1690	2,850
Gravel, pit run (graveled sand)	1930	3,250
Gravel, wet 13 to 50 mm 1/2" to 2"	2020	3,400
Gypsum, crushed	1600	2,700
Limestone, broken or crushed	1540	2,600
Magnetite, iron ore	2790	4,700
Phosphate rock	1280	2,160
Pyrite, iron ore	2580	4,350
Sand and gravel, dry	1720	2,900
Sand and gravel, wet	2020	3,400
Sand, dry	1420	2,400
Sand, wet	1840	3,100
Sandstone, broken	1510	2,550
Shale	1250	2,100
Slag, broken	1750	2,950
Stone, crushed	1600	2,700
Topsoil	950	1,600



- Air conditioner with heater/defroster/ pressurizer
- Air ride seat
- Alternator, 60A, 24 volt
- Automatic boom kickout
- Axles, semi floating with torque proportioning
- Back-up alarm
- Back-up light, rear
- Batteries, 110 Ah/2 x 12 V, 950 CCA
- Bucket positioner, automatic, 2-position
- Cab (ROPS/FOPS) with adjustable wrist rest, cigarette lighter/ash tray, dome light, electrically heated rear window, floor mat, front (intermittent) and rear wiper/washer, rear view mirrors (2 outside, 2 inside), right hand and left hand door access with steps, sun visor
- · Counterweight, standard and additional
- Differentials, torque proportioning
- Dump speed, 2 mode select
- EMMS (Equipment Management Monitoring System)
  - —Gauges, (speedometer, engine water temperature, fuel level, HST oil temperature)

- —LCD displays, (filter/oil replacement time, HST selection, odometer, service meter, trouble shooting)
- —Lights (axle oil temperature, battery charge, brake oil pressure, central warning, directional indicator, engine oil pressure, engine pre-heater, HST oil filter clogging, high beam, maintenance, parking brake reminder, parking brake warning, steering oil pressure, transmission speed range, turn signals)
- Engine, Komatsu SAA6D102E-2
- Engine shut-off system, electric
- Fan, hydraulic driven, swing out
- Fenders, full front, partial rear
- Fuel water separator
- · Horn, electric
- Hydraulic quick coupler
- Lift cylinders and bucket cylinder
- Lifting eyes
- Lights
  - -Stop and tail
  - -Turn signal (2 front, 2 rear)
  - -Working (2 front, 2 rear, 2 outside cab)
- Loader linkage with standard lift boom
- Maintenance monitor panel

- Mono-lever loader control with transmission F/R switch
- Parking brake, wet disc
- Radiator mask, hinged
- Seat belt, retractable, 76 mm 3" wide
- Seat, cloth, suspension, reclining with armrests and headrest, and a document holder
- Service brakes, hydraulic, wet multi-disc, inboard
- Speedometer (mph)
- · Starting aid, intake manifold preheater
- Starting motor, 4.5 kW/24 V
- Steering wheel, tiltable
- Tires 20.5/25-12PR (L2), tubeless and rims
- Transmission (Hydrostatic with speed range select), automatic
- Transmission control, electric, steering column/loader control lever selectable
- 2-spool valve for boom and bucket controls with PPC
- 3-spool valve hydraulic adaptor kit with PPC; includes valve, lever and piping
- Vandalism protection kit



- Auxiliary steering
- ECSS (Electronically Controlled Suspension System)
- Fenders, rear full
- Heater and defroster
- JRB bucket, general purpose, for use with coupler with BOCE 1.9 m<sup>3</sup> 2.5 vd<sup>3</sup>
- JRB bucket, general purpose, for use with coupler with BOCE 2.3 m<sup>3</sup> 3.0 yd<sup>3</sup>
- JRB construction forks for use with coupler, 1524 mm 60"

- JRB utility pallet forks for use with coupler, 1372 mm 54"
- JRB extendable boom, 3-section, for use with coupler
- Limited-slip differential, front and rear
- Radio, AM/FM stereo with cassette
- Rims only, less tires
- -Fits 20.5/25, and 555/65 tires
- ROPS canopy
- Tires (bias ply)
  - ---17.5/25-12PR (L3)
  - -20.5/25-12PR (L3)
  - Brand preference, Goodyear

- Tires (radial ply)
  - -20.5-R25 VUT (L2) Bridgestone
  - -20.5-R25 XTLA (L2) Michelin
  - -20.5-R25 XHA (L3) Michelin
  - -550/65 R25 XTLA (L2) Michelin
  - --550/65 R25 XLD (L3) Michelin
- Vinyl seat

AESS628-04

©2006 Komatsu America Corp. Printed in USA

K11(2.5M) C

11/06 (EV-1)





www.KomatsuAmerica.com

Komatsu America Corp. is an authorized licensee of Komatsu Ltd. Materials and specifications are subject to change without notice **KOMATSU** is a trademark of Komatsu Ltd., Japan