HORSEPOWER

Gross: 266 kW 357 HP @ 1900 rpm

Net: 263 kW 353 HP @ 1900 rpm

BUCKET CAPACITY 4.3-5.6 m<sup>3</sup> 5.6-7.3 yd<sup>3</sup>

# KOMATSU®

**WA500-6R** 







Photo may include optional equipment.

Wheel Loader

### WALK-AROUND

### High Productivity & Low Fuel Consumption

- High performance SAA6D140E-5 engine
- Low fuel consumption
- Dual-mode engine power select system
- Automatic transmission with shift timing select system
- Lock-up Torque Converter (Optional)
- · Variable displacement piston pump & CLSS

- Excellent Operator Environment
  - Automatic transmission with ECMV
  - Low-noise designed cab
  - Electronic controlled transmission lever
  - Variable transmission cut-off system
  - Engine RPM set system with auto decel
  - "EPC" (Electronic Pilot Control) levers
  - Pillar-less large ROPS/FOPS integrated cab
  - Easy entry/exit, rear-hinged door
  - Telescopic / tilt steering column

See pages 8 and 9.



Building on the technology and expertise Komatsu has accumulated since its establishment in 1921, GALEO presents customers worldwide with a strong, distinctive image of technological innovation and exceptional value. The GALEO brand will be employed for Komatsu's full lineup of advanced construction and mining equipment. Designed with high productivity, operator comfort and environmental considerations in mind, the machines in this line reflect Komatsu's commitment to contributing to the creation of a better world.

Genuine Answer for Land and Environment Optimization

### Harmony with Environment

- Low exterior noise
- Low fuel consumption

Cathion electrodeposition process

Powder coating process is used to

Sealed DT connectors for electrical

is used to apply primer paint

apply main structure paint

connections

#### HORSEPOWER

Gross: 266 kW 357 HP @ 1900 rpm Net: 263 kW 353 HP @ 1900 rpm

> **BUCKET CAPACITY** 4.3-5.6 m3 5.6-7.3 yd3

### 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



Photo may include optional equipment.

#### Easy Maintenance

- "EMMS" (Equipment Management Monitoring System) See page 7.
- Ease of radiator cleaning
- Modular radiator core system

# HIGH PRODUCTIVITY AND LOW FUEL CONSUMPTION



#### High Performance SAA6D140E-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: 263 kW 353 HP

#### 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.

#### **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. 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.

Shift mode selection switch

Lock up clutch switch (optional)

#### Lock-up Torque Converter (optional)

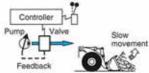
The Komatsu designed lock-up torque converter provides increased production efficiency, reduced cycle times and optimum fuel savings in load & carry or hill-climb operations. This optional feature allows the operator to activate the system on/off with a switch located on the right-side control panel.

#### Variable displacement piston pump & CLSS

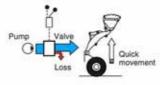
New design variable displacement piston pump combined with the Closed-center Load Sensing System delivers hydraulic flow just as the job requires preventing wasted hydraulic pressure. Minimized waste loss contributes to better fuel economy.

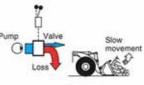
 New Variable Displacement Piston Pump: The pump delivers only necessary amounts minimizing waste loss.





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







### Increased Bucket Capacity matches with one class higher dump truck



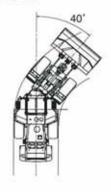
The WA500 enables loading onto 32t (40 Short ton) with the standard spec whereas WA500-6 necessitates the high lift boom with the 4.5m³ bucket for it. Operator can get good visibility because of high his eye point.

Dumping Clearance: 3295 mm 10'10" Dumping Reach: 1500 mm 4'11" (5.6 m³ 7.3 yd³ bucket with B.O.C.)

#### Long Wheelbase/Articulation Angle of 40°

The widest tread in class and the long wheelbase provide improved machine stability in both longitudinal and lateral directions. Since the articulation angle is 40°, the operator can work efficiently even in the tightest job sites.

Tread	2400 mm	7'10'
Wheelbase	3780 mm	12'5"
Minimum turning radius (center of outside tire)	6430 mm	21'1"



### 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 multi-disc brakes and fully hydraulic braking

system mean lower maintenance costs and higher reliability. Wet 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 multi-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.





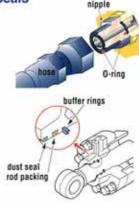
#### High-rigidity Frames and Loader Linkage

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.



#### 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.



#### Cathion Electrodeposition Primer Paint/ Powder Coating Final Paint

Cathion 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 DT Connectors

Main harnesses and controller connectors are equipped

with sealed DT connectors providing high reliability, water resistance and dust resistance.



### EASY MAINTENANCE



Photo may include optional equipment.

### EMMS (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 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.

#### Modular radiator core system

The modular radiator core is easy to replace without removing the entire radiator assembly.



#### 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 a switch on the control panel.

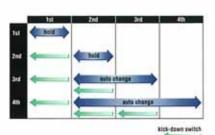
# **OPERATOR ENVIRONMENT**

### Easy Operation

#### Automatic Transmission with ECMV

Automatic transmission with ECMV automatically selects the proper gear speed based on travel speed, engine speed, and other travel conditions. The ECMV (Electronically 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.

 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.

#### Variable Transmission Cut-off System

The operator can continuoucly 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:Boom positioner switch
- 4:Bucket digging angle control switch
- 5:RPM set ON/OFF switch
- 6:RPM set adjustment switch
- 7:Semi-auto digging system
- 8:Fan reverse switch
- 9:Boom control 10:Bucket control
- Engine RPM Set System with Auto Decel

Engine Low idle RPM can be easily preset using a push button switch. The system provides auto desel for better fuel consumption.



#### **EPC (Electronic Pilot Control) levers**

The EPC work equipment control lever is a finger controlled lever having light operating effort and short stroke. The operator can operate easy and comfortable with full adjustable large



size arm rest. Combined with CLSS, this system allows following new functions for easy and efficient operation.

- Remote Boom Positioner with shockless stop function: The highest and lowest position of the bucket can be set from cab to match of any truck body. Once the posiononer is set, the bucket is smoothly stopped at desired position with no shock.
- Remote bucket digging angle control: The digging bucket angle can be easily set from cab to match of ground condition.
- Semi-auto digging system (option): Bucket tilt operation can be automatically done when digging.

#### Telescopic/Tilt Steering Column

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



### Comfortable Operation

#### Low-noise Design

Noise at operator's ear noise level : 76 dB(A)

Dynamic noise level (outside): 109 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**



Model
Type
Aspiration
Number of cylinders
Bore x stroke
Piston displacement
Governorall-speed, electroni
Horsepower
SAE J1995
ISO 9249/SAE J1349* Net 263 kW 353 Hi
Rated rpm
an drive method for radiator cooling
Eval evetom Direct injection
Fuel system
ubrication system:
Method
Filter Full-flow type
Air cleaner Dry type with double elements and
dust evacuator, plus dust indicato

\*Net horsepower at the maximum speed of radiator cooling fan is 248 kW 332 HP.



TF	RANSMISS	SION		
Torque conv	erter:			
Type		3-elemer	nt, single-stage	e, single-phase
Transmission	n:		= 0.50 H2	
Туре			ull-powershift,	planetary type
Travel speed				actions of the states
Measured	with 29.5-25 tir	es		
	1st	2nd	3rd	4th
Forward	7.7 4.8	12.5 7.8	22.3 13.9	34.9 21.7

	1st	2nd	3rd	4th			
Forward	7.7 4.8	12.5 7.8	22.3 13.9	34.9 21.7			
Reverse	8.6 5.3	13.0 8.1	24.8 15.4	36.5 22.7			



#### **AXLES AND FINAL DRIVES**

Drive system	Four-wheel drive
Front	
Rear	.Center-pin support, full-floating, 24° total oscillation
Reduction gear	Spiral bevel gear
Differential gear	



Service brakes	
Parking brake	
Emergency brake	.Parking brake is commonly used



#### STEERING SYSTEM

Туре	.Articulated	type,	full-hydraulic	power steering
Steering angle			40	each direction
Minimum turning radius	at			
the center of outside tire	9			6430 mm 21'1"



本	HYDRAULIC SYSTEM
Hydrau Capac Relief Hydrau Type Num	system: ulic pump
Capac Relief Hydrau Type Numi Boo Buc	control:  ulic pump
Contro Boon Buck Hydrau Raise Dum	I positions:  n

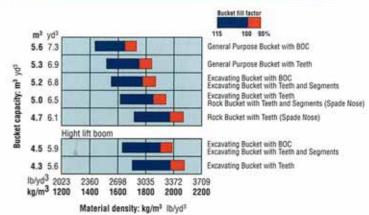


#### SERVICE REFILL CAPACITIES

Cooli	ng system .							,	, .			 .120	Itr	31.7 U.S. gal
Fuel	lank											 .473	Itr	124.9 U.S. gal
Engir	ie									909	į.	 45	Itr	11.9 U.S. gal
														89.0 U.S. gal
Axle	front				. ,					. ,		 87	Itr	22.9 U.S. gal
	rear										+	 81	ltr	21.4 U.S. gal
Torqu	e converter	and	tra	ins	m	iss	io	n	Ä		4	 76	Itr	20.0 U.S. gal

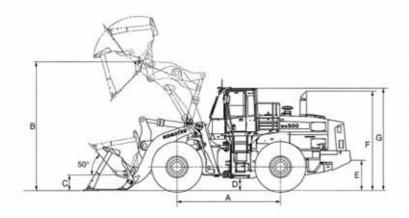


#### **BUCKET SELECTION GUIDE**





Measured with 29.5-25-22PR (L3) tires



	Tread	2400 mm	7'10"
	Width over tires	3190 mm	10'6'
Α	Wheelbase	3780 mm	12'5"
В	Hinge pin height, max. height	4755 mm	15'7"
C	Hinge pin height, carry position	575 mm	1'11'
D	Ground clearance	450 mm	1'6'
Ε	Hitch height	1115 mm	3'8'
F	Overall height, top of the stack	3665 mm	12'0'
G	Overall height, ROPS cab	3785 mm	12'5"

			S	tandard boo	m			High lift boom  Excavating Buckets			
	General Pur	pose Buckets	Exc	avating Buc	kets	Rock E	Buckets				
	Straight edge Bolt-on Cutting edges	Straight edge Teeth	Straight edge Bolt-on Cutting edges	Straight edge Teeth and Segments	Straight edge Teeth	Spade nose Teeth and Segments	Spade nose Teeth	Straight edge Bolt-on Cutting edges	Teeth and	Straight edge Teeth	
Bucket capacity: heaped	5.6 m <sup>3</sup>	5.3 m <sup>2</sup>	5.2 m <sup>3</sup>	5.2 m <sup>3</sup>	5.0 m <sup>3</sup>	5.0 m <sup>3</sup>	4.7 m³	4.5 m³	4.5 m <sup>3</sup>	4.3 m <sup>3</sup>	
	7.3 yd <sup>3</sup>	6.9 yd <sup>2</sup>	6.8 yd <sup>3</sup>	6.8 yd <sup>3</sup>	6.5 yd <sup>3</sup>	6.5 yd <sup>3</sup>	6.1 yd³	5.9 yd³	5.9 yd <sup>3</sup>	5.6 yd <sup>3</sup>	
struck	4.8 m <sup>2</sup> 6.3 yd <sup>3</sup>	<b>4.5 m³</b> 5.9 yd³	<b>4.2 m³</b> 5.5 yd³	4.2 m <sup>3</sup> 5.5 yd <sup>3</sup>	4.0 m <sup>3</sup> 5.2 yd <sup>3</sup>	<b>4.2 m³</b> 5.5 yd³	4.0 m <sup>3</sup> 5.2 yd <sup>3</sup>	3.7 m <sup>3</sup> 4.8 yd <sup>3</sup>	3.7 m <sup>3</sup> 4.8 yd <sup>3</sup>	3.5 m <sup>3</sup> 4.6 yd <sup>3</sup>	
Bucket width	3400 mm	3460 mm	3400 mm	3460 mm	3460 mm	3460 mm	3460 mm	3400 mm	3460 mm	3460 mm	
	11'2"	11'4"	11'2"	11'4"	11'4"	11'4"	11'4"	11'2"	11'4"	11'4"	
Bucket weight	3110 kg	2955 kg	3055 kg	3145 kg	2900 kg	3745 kg	3490 kg	2885 kg	2975 kg	2730 kg	
	6,855 lb	6,515 lb	6,735 lb	6,935 lb	6,395 lb	8,255 lb	7,695 lb	6,360 lb	6,560 lb	6,020 lb	
Dumping clearance, max. height and 45° dump angle*	3295 mm	3165 mm	3395 mm	3265 mm	3265 mm	3030 mm	3030 mm	3890 mm	3760 mm	3760 mm	
	10'10"	10'5"	11'2"	10'9"	10'9"	9'11"	9'11"	12'9"	12'4"	12'4"	
Reach at max. height and 45° dump angle *	1500 mm	1600 mm	1400 mm	1495 mm	1495 mm	1725 mm	1725 mm	1435 mm	1530 mm	1530 mm	
	4'11"	5'3"	4'7"	4'11"	4'11"	5'8"	5'8"	4'8"	5'0"	5'0"	
Reach at 2130 mm (7') clearance	2300 mm	2340 mm	2215 mm	2285 mm	2285 mm	2400 mm	2400 mm	2585 mm	2645 mm	2645 mm	
and 45° dump angle	7'7"	7'8"	7'3"	7'6"	7'6"	7'10"	7°10°	8'6"	8'8"	8'8"	
Reach with arm horizontal	3265 mm	3425 mm	3120 mm	3280 mm	3280 mm	3610 mm	3610 mm	3385 mm	3545 mm	3545 mm	
and bucket level	10'9"	11'3"	10'3"	10'9"	10'9"	11'10"	11'10"	11'1"	11'8"	11'8"	
Operating height (fully raised)	6430 mm	6430 mm	6415 mm	6415 mm	6415 mm	6630 mm	6630 mm	6715 mm	6715 mm	6715 mm	
	21'1"	21'1"	21°1°	21'1"	21'1"	21'9"	21'9"	22'0"	22'0"	22'0"	
Overall length	9815 mm	9975 mm	9670 mm	9790 mm	9790 mm	10155 mm	10155 mm	10030 mm	10190 mm	10190 mm	
	32'2"	32'9"	31°9°	32°1°	32°1°	33'4"	33'4"	32'11"	33'5"	33'5"	
Loader clearance circle (bucket at carry, outside corner of bucket)	15300 mm	15460 mm	15220 mm	15380 mm	15380 mm	15290 mm	15290 mm	15610 mm	15780 mm	15780 mm	
	50'2"	50'9"	49'11"	50'6"	50'6"	50'2"	50'2"	51'3"	51'9"	51'9"	
Digging depth: 0"	135 mm	155 mm	135 mm	155 mm	155 mm	165 mm	165 mm	210 mm	235 mm	235 mm	
	5°	6°	5"	6*	6°	6°	6°	8"	9*	9°	
10"	435 mm	485 mm	410 mm	460 mm	460 mm	<b>525 mm</b>	525 mm	470 mm	520 mm	520 mm	
	1'5"	1'7"	1'4"	1'6"	1'6"	1'9"	1'9"	1'7"	1'8°	1'8"	
Static tipping load: straight	24300 kg	24500 kg	24450 kg	24340 kg	24655 kg	23700 kg	24020 kg	22405 kg	22290 kg	22595 kg	
	53,570 lb	54,010 lb	53,900 lb	53,660 lb	54,355 lb	52,245 lb	52,955 lb	49,395 lb	49,140 lb	49,810 lb	
40° full turn	21000 kg	21170 kg	21130 kg	21035 kg	21305 kg	20480 kg	20755 kg	19360 kg	19260 kg	19525 kg	
	46,295 lb	46,670 lb	46,580 lb	46,370 lb	46,965 lb	45,150 lb	45,755 lb	42,680 lb	42,460 lb	43,045 lb	
Breakout force	245 kN	262 kN	268 kN	274 kN	288 kN	233 kN	243 kN	286 kN	294 kN	310 kN	
	25000 kgf	26750 kgf	27300 kgf	27950 kgf	29400 kgf	23800 kgf	24750 kgf	29140 kgf	30000 kgf	31620 kgf	
	55,115 lb	58,975 lb	60,185 lb	61,620 lb	64,815 lb	52,470 lb	54,565 lb	64,245 lb	66,140 lb	69,710 lb	
Operating weight	33360 kg	33205 kg	33305 kg	33395 kg	33150 kg	33995 kg	33740 kg	34380 kg	34470 kg	34225 kg	
	73,545 lb	73,200 lb	73,425 lb	73,620 lb	73,080 lb	75,945 lb	74,380 lb	75,795 lb	75,990 lb	75,450 lb	

<sup>\*</sup> At the end of tooth or B.O.C.

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, 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.

Tires or attachments		ating ight	Tippin strai	ight	Tippin full Standar	0.000	Wid		Grot clear	10000	Change in vertical dimensions		
	kg	Ib	kg	lb	kg	lb	mm	ft in	mm	ft in	mm	ft in	
29.5-25-22PR(L-3)	0	0	0	0	0	0	3190	10'6"	450	1'6"	0	0	
Install additional counterweight	+900	+1,985	+1865	+4,110	+1645	+3,625						- 1	
Air conditioner	+65	+145	+33	+75	+30	+240							
Emergency steering	+70	+155	+65	+145	+55	+120							
Lock-up clutch torque converter	+45	+100	+60	+130	+50	+110							
ECCS (Electronically Controlled Suspension System)	+120	+265	+13	+30	+11	+24							



#### STANDARD EQUIPMENT

- 2-spool valve for boom and bucket controls
- · Air conditioner
- Alternator, 75 A/24 V
- Auto shift transmission with mode select system
- · Back-up alarm
- Back-up lamp
- Batteries, 170 Ah/12 V x 2
- Counterweight
- · Directional signal
- Engine, Komatsu SAA6D140E-5 diesel
- · Engine shut-off system, electric

- EPC fingertip control levers with automatic leveler and positioner
- Floormat
- Front fender
- Hard water area arrangement (corrosion resister)
- · Hydraulic-driven fan with reverse rotation
- Lift cylinders and bucket cylinder
- Main monitor panel with EMMS (Equipment Management Monitoring System)
- · Radiator mask, lattice type
- · Rear under view mirror

- · Rearview mirror for cab
- · Rear window washer and wiper
- ROPS/FOPS cab
- · Seat, air-suspension type with reclining
- · Seat belt
- · Service brakes, wet disc type
- Starting motor, 11.0 kW/24 V
- Steering wheel, tiltable
- Sun visor
- Tires (29.5-25-22PR tubeless) and rims
- · Transmission, 4 forward and 4 reverse
- · Vandalism protection kit



- 12V converter
- · Additional counterweight
- Alternator, 90A/24V
- · AM/FM radio
- AM/FM stereo radio cassette
- Batteries, 220 Ah/12V x 2
- Battery disconnect switch
- · Brake cooling system
- · Bucket teeth (bolt-on type)
- · Bucket teeth (tip type)
- · Cab heater and defroster

- · Cutting edge (bolt-on type)
- ECSS (Electronically Controlled Suspension System)
- · Emergency steering (SAE)
- Fire extinguisher
- · FNR directional change switch
- · Fuel quick coupler
- · High lift boom
- In-line filter
- Joystick steering
- · Load meter, new type

- · Lock-up clutch torque converter
- Ordinary spare parts
- · Power train guard
- Seat, air suspension with automatic weight adjustment
- · Segment edges
- Tool kit
- · Limited slip differential (F&R)

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