

WA120-3 WHEEL LOADER

KOMATSU

BUCKET CAPACITIES

1.7 - 2.25 yd³

1.3 - 1.7 m³



WA120-3

WHEEL LOADER
WA120-3

WA120-3 Wheel Loader

WALK-AROUND

Designed for better value through improved reliability and enhanced versatility.

That's why the WA120-3 means VALUE, and anything less is just another Wheel Loader.

Komatsu-integrated design for the best value, reliability, and versatility. Engine, power train, 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.

Optional coupler system. The versatile coupler system provides fast, efficient tool changes without leaving the cab. This new design also allows superior visibility of the work equipment. An optional third spool valve is available for additional hydraulic functions.

ECSS value-option for better productivity. Electrically Controlled Suspension System (ECSS) absorbs pitching and bouncing. See page 5.

New sealed, wet disc parking brake for better reliability and less maintenance cost. See page 7.

Quick kick-down transmission switch is another standard feature. See page 7.

New cab for increased operator productivity. New operator's cab provides better visibility, increased comfort, see-at-a-glance console, two-door walk-through and finger-touch shifting. See page 4.

New special rubber-mounted cab for productivity. Special rubber-mounted cab reduces vibration and noise that can fatigue the operator and reduce his efficiency. See page 4.

Komatsu diesel power for productivity and reliability. See page 6.

New easier access to engine for servicing. Pneumatic cylinders assure the gull-wing side covers and rear grill open with an easy touch. See page 8.

Ground level greasing reduces maintenance time. See page 8.

Komatsu torque proportioning differentials are standard. See page 7.

Sight gauges for hydraulic tank and transmission case.

Ground level fueling.

Check battery and clean radiator easily. The rear grill also uses pneumatic cylinders for easy access to the radiator and battery.

New Komatsu four-speed transmission better matches all applications for reliability, productivity, and versatility. See page 7.

It all adds up to more value and better return for your investment. It's what you expect when you select Komatsu.



WHEEL LOADER
WA120-3

WHEEL LOADER	WA120-3	FLYWHEEL HORSEPOWER	OPERATING WEIGHT	BUCKET CAPACITY
		100 hp 67 kW	18,110 lb 8213 kg	1.7-2.25 yd ³ 1.3-1.7 m ³

OPERATOR'S COMPARTMENT

Ask the man who runs one—he will tell you the operator's cab sets the Komatsu Wheel Loader apart from the others. That's a productivity feature you can't ignore. No matter how a machine specs out, or how much is promised for productivity, unless the operator can work a full shift without becoming fatigued, you will never get the full measure of promised productivity.

The cab improvements on the Wheel Loaders go beyond providing a large cab with a comfortable seat. Improvements include these production-enhancing standard and optional features:

- **Large curved glass front window** provides the operator an unobstructed view of the working area and attachment.
- **Two-door walk-through cab.** Good for ventilation as well as easy entry and exit from either side of the cab.
- **Rubber mounts dampen noise and vibration,** reduces fatigue caused by noise. Helps keep the operator productive, longer.
- **Low-effort brake pedals** actuate fully hydraulic brakes. Parking brake provides effective braking with light foot pressure.
- **Steer with ease.** Komatsu's fully hydraulic steering provides fast response with low effort, at low engine rpm.
- **Kick-down switch is conveniently located** on the boom control lever. A simple motion of the thumb actuates this valuable productivity feature, which enables the operator to downshift easily.
- **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.
- **At-a-glance instrument monitor.** Monitor is mounted in front of the operator and is tilted for easy view, allowing the operator to easily check gauges and warning lights.
- **See the monitor through the steering wheel, not around it.** A specially designed two-spoke steering wheel allows the operator to easily see the instrument panel.



Value Options

Value options for productivity and those little added touches that make work a little easier.

- **Keep cool, keep productive with a five-mode air conditioner.** Thirteen strategically-located vents direct cool air to the operator, keeping him productive on the hottest days.
- **There's nothing more refreshing than a cold drink on a hot day.** The cool box located behind the seat will help keep your lunch and beverage cool. That's something to look forward to at lunch or break-time.
- **Make the time go faster** with an auto-tuning AM/FM cassette radio. Includes a digital clock and access to a weather station. Removable control head minimizes vandalism.
- **Optional Electrically Controlled Suspension System (ECSS).** Takes the bounce out of the ride on rough ground surfaces. Provides greater comfort and confidence for the operator as well as increased travel speed and steering stability, while improving the material retention in the bucket. A switch in the operator's compartment initiates the electrical circuit that actuates solenoid selector valves for the boom cylinders as well as pressure switches for the accumulators. This allows the accumulators to absorb the shocks during roading.

KOMATSU DESIGNED POWER TRAIN

Komatsu integrated design means components are matched to provide most efficient use of power whether you're working the face of a material bank or travelling with a loaded bucket.

The WA120-3 Wheel Loader is designed to effectively match the engine, four-speed transmission, torque proportioning differentials, axles, and brakes to the most severe applications.

KOMATSU EMISSIONIZED S4D102E-1 DIESEL ENGINE

Four-cycle, water-cooled, turbo-charged, four-cylinder engine that is not only fuel efficient, but meets North American emission requirements.

With a piston displacement of **239 cubic inches** 3.92 liter, the Komatsu S4D102E-1 has 100 net flywheel horsepower at 2400 rpm.

Other engine features include:

- **Automatic electric cold-weather starting system.** This cold-weather starting system electrically preheats the intake manifold. Provides for quick starts and reduces added wear of cold weather starts made without this heating system.
- **Large capacity, double-wrapped and insulated muffler** is mounted under the hood for lower engine noise and better operator visibility.
- **Simple, rugged design** for dependability and low service requirements.
- **Gull-wing doors** use pneumatic cylinders to allow easy access to the engine and radiator for routine maintenance.
- **Spin-on filters** and easily accessible lubrication points mean reduced maintenance time and less chance of missing these important maintenance items.
- **Sealed wet disc service brakes.** Resistant to contaminants even when working in hostile environments.
- **Maintenance-free parking brake** is located in the transmission case and is a wet multi-disc brake.

Transmission



NEW KOMATSU FOUR-SPEED TRANSMISSION REPLACES THREE-SPEED TRANSMISSION

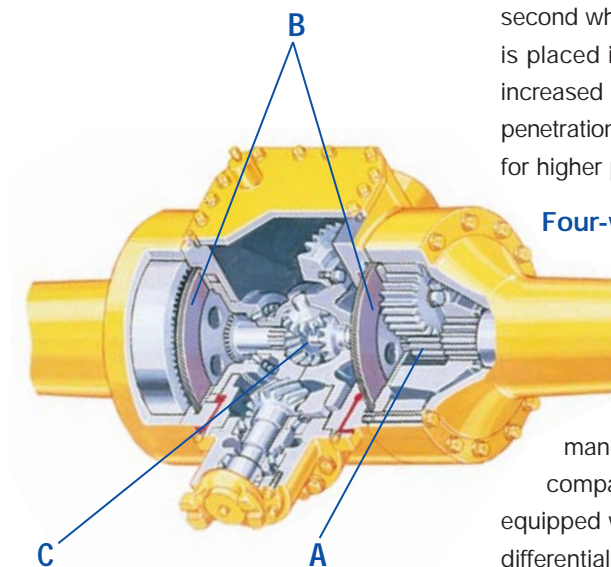
Provides maximum forward speed in fourth gear of up to **22.1 mph** 35.6 km/h and **22.4 mph** 36.1 km/h in reverse. The countershaft transmission is full power shift and soft-shift.

Other features include:

- Solid state electronic shifting control that reduces wear, increases reliability, and provides easy directional shifts.
- Fingertip-shifting from forward to reverse or from one gear to another.
- Four forward and four reverse gears to better match the cycle conditions. You get higher efficiency and better fuel economy.

Consider this valuable feature for added productivity.

Kick-down switch automatically downshifts with the touch of a finger from second to first when beginning the digging cycle. Automatically upshifts from first to second when direction control lever is placed in reverse. The result is increased rim pull for better bucket penetration and reduced cycle times for higher productivity.



Four-wheel drive with torque proportioning differentials

for reduced slippage and longer tire life. This improves the ability of the WA120-3 to maneuver in unstable conditions compared to a similar machine equipped with conventional differentials.

- A) planetary reduction
- B) wet, enclosed brakes
- C) torque proportioning differential

Komatsu designed axles and final drives for rugged reliability and low maintenance.

Axle shafts are semi-floating, the front axle housing is fixed. The rear axle housing is a center-pin support design that provides a total oscillation of up to 24 degrees.

The differential reduction gear is a heavy-duty spiral bevel gear for strength and reliable performance.

Rugged, inboard planetary final drives carry the total gear reduction of the drive train to the wheel which is mounted to the axle hub.

Wet 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 resulting maintenance. Brakes require no adjustments for wear, meaning even lower maintenance. The new parking brake is also 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 back-up in case one of the circuits fail.

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



EASY MAINTENANCE

SERVICING WITH A SMILE

It would be better if most of us approached routine maintenance and service as something that made us smile. That's why Komatsu designed the WA120-3 Wheel Loader to make servicing as easy as possible. We know by doing this, routine maintenance and servicing are less likely to be skipped, which can mean a reduction in costly downtime later on. Here are some of the many service features found on the WA120-3.

.....
Komatsu design means more value

- Large gull-wing service doors provide easy access to the engine compartment.
- Ground Level Greasing—all grease points are easily reached from ground level and grease banks are provided in some areas to reduce maintenance time.
- Batteries are located in the counterweight for ground-level access.
- Sealed Loader Linkage Pins—designed to keep grease contained longer and prevent the entrance of dust, thereby lengthening greasing intervals.

WHEEL LOADER

WA120-3



WA120-3 Wheel Loader

SPECIFICATIONS

ENGINE

Model Komatsu S4D102E-1
 Type Water-cooled, 4-cycle
 Aspiration Turbocharged
 No. of cylinders 4
 Bore x stroke 4.0" x 4.7" 102 mm x 120 mm
 Piston displacement 239 in³ 3.92 ltr
 Governor Mechanical, all-speed control
 Horsepower Rating @ 2400 rpm (SAE J1349)
 Gross power 105 hp 70 kW
 Net power 100 hp 67 kW
 Meets 1997 EPA emissions regulations

Fuel system Direct injection
 Lubrication system
 Method Gear pump, force-lubrication
 Filter Full-flow
 Air cleaner Dry with double elements and dust evacuator, plus dust indicator

TRANSMISSION

Torque converter 3-element, single-stage, single-phase
 Transmission Full power shift, countershaft, electrically shifted

Travel Speed*	Forward		Reverse	
	mph	km/h	mph	km/h
1st	4.5	7.2	4.7	7.6
2nd	7.5	12.1	7.8	12.6
3rd	13.6	21.9	14.1	22.7
4th	22.1	35.6	22.4	36.1

*Measured with 17.5/25-12PR (L2) tires

AXLES AND FINAL DRIVES

Drive system 4-wheel drive
 Front Fixed, semi-floating
 Rear Center-pin support, semi-floating
 24° total oscillation

Reduction gear Spiral bevel gear
 Differential gear Torque proportioning
 Final reduction gear Planetary gear, single reduction

BRAKES

Service brakes: Hydraulically-actuated, wet disc brakes actuate on four wheels.

Parking brake: Wet multiple-disc brake on transmission output shaft.

STEERING SYSTEM

Type Full-hydraulic power steering independent of engine rpm.
 Steering angle 40° each direction
 Minimum turning radius at the center of outside tire 14'8" 4470 mm

BUCKET CONTROLS

Control positions
 Boom Raise, hold, lower, and float
 Bucket Rollback, hold, and dump

HYDRAULIC SYSTEM

Capacity (discharge flow) @ engine rated rpm
 Loader Pump 30.4 gal/min 115 ltr/min
 Steering Pump 30.4 gal/min 115 ltr/min (Gear Pumps)

Relief valve setting
 Loader 3,000 psi 210 kg/cm²
 Steering 2,700 psi 190 kg/cm²

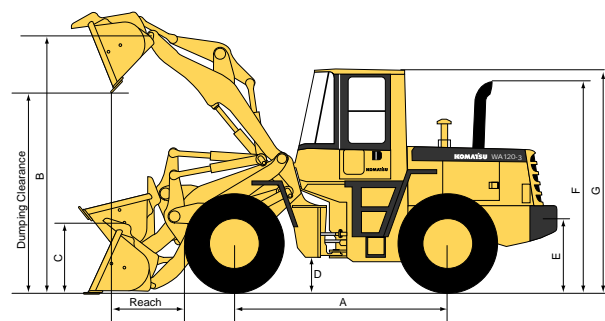
Control valve
 2-spool open center

Hydraulic cylinders	Number of cylinders	Bore	Stroke
Boom	2	3.9" 100 mm	23.9" 606 mm
Bucket	1	4.3" 120 mm	16.7" 423 mm
Steering	2	2.4" 60 mm	13.4" 340 mm

Hydraulic cycle time (rated load in bucket) = 8.8 sec
 Raise . . . 5.2 sec/Dump . . . 1.1 sec/Lower (empty) . . . 2.5 sec

SERVICE REFILL CAPACITIES

Cooling system 4.8 gal 18 ltr
 Fuel tank 35.1 gal 133 ltr
 Engine 2.8 gal 10.5 ltr
 Hydraulic system 10.8 gal 41 ltr
 Axle (each front and rear) 3.7 gal 14 ltr
 Torque converter and transmission 6.2 gal 23.5 ltr



Tires	17.5/25	
Tread	5'10"	1780 mm
Width over tires	7'4"	2225 mm
A Wheelbase	8'6"	2600 mm
B Hinge pin height, maximum height	11'5"	3475 mm
C Hinge pin height, carry position	1'2"	355 mm
D Ground clearance	1'5"	425 mm
E Hitch height	2'8"	805 mm
F Overall height, top of the stack	9'10"	2995 mm
G Overall height, ROPS cab	10'2"	3100 mm

Bucket	General Purpose with Bolt-on Cutting Edge		General purpose with Bolt-on Teeth		
	SAE Rated				
Bucket Capacity	SAE Rated	1.85 yd ³	1.4 m ³	1.7 yd ³	1.3 m ³
	Struck	1.58 yd ³	1.2 m ³	1.3 yd ³	1.0 m ³
Bucket Width		7'10"	2390 mm	7'10"	2390 mm
Bucket Weight		1,320 lb	600 kg	1,210 lb	550 kg
Static Tipping Load	Straight	15,430 lb	6998 kg	15,550 lb	7052 kg
	40° full turn	13,420 lb	6086 kg	13,540 lb	6141 kg
Dumping Clearance, maximum height and 45° dump angle		8'11"	2725 mm	8'9"	2665 mm
Reach at 7' 2130 mm cut edge clearance and 45° dump angle		4'6"	1365 mm	4'7"	1385 mm
Reach at maximum height and 45° dump angle		3'2"	955 mm	3'4"	1005 mm
Reach with arm horizontal and bucket level		6'6"	1985 mm	6'9"	2060 mm
Operating Height	Fully raised	15'0"	4570 mm	15'0"	4570 mm
Overall Length	Bucket ground	19'6"	5950 mm	19'9"	6030 mm
	Bucket at carry	19'8"	6000 mm	19'6"	5955 mm
Turning Radius*		16'11"	5170 mm	17'0"	5182 mm
Digging Depth	0°	2.2"	55 mm	2.4"	60 mm
	10°	8.3"	210 mm	9.1"	230 mm
Breakout Force (Bucket Cylinder)		16,280 lb	7383 kg	17,777 lb	8062 kg
Operating Weight		18,110 lb	8213 kg	17,990 lb	8159 kg

Static tipping load and operating weight shown include 17.5/25-12 ply L2 tires additional CWT, lubricant, coolant, fuel tank, ROPS cab, and operator. Machine stability and operating weight are affected by counterweight, tire size, and other attachments. Apply the following weight changes to the operating weight and tipping load.

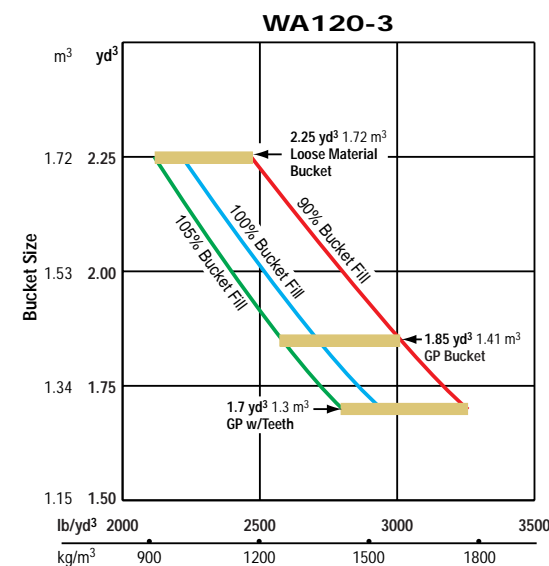
Weight Changes

	Change in Operating Weight		Change in Tipping Load			
			Straight		Full Turn	
Install ROPS Canopy	400 lb	180 kg	-375 lb	-170 kg	-330 lb	-150 kg
Deduct Additional Counterweight	-620 lb	-280 kg	-1,170 lb	-530 kg	-1,010 lb	-460 kg

* All dimensions, weights, and performance values based on SAE J732c and J742b standards.
* Turning radius measured with bucket at carry position, outside corner of bucket.

WA120-3 Wheel Loader

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. The 90% bucket fill line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The 105% bucket fill condition on this guide is sometimes utilized when operating on firm ground and level surfaces.

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

STANDARD EQUIPMENT

- Alternator, 50A
- Back-up alarm
- Back-up lamp
- Batteries, 2x12V/110 Ah
- Bucket positioner, automatic
- Counterweight, standard
- Differentials, torque proportioning
- Engine, Komatsu S4D102E-1
- Engine shut-off system, electric
- Fenders, full front, partial rear
- Floor mat
- Horn, electric
- Lights
 - Stop and tail
 - Turn signal (2 front, 2 rear)
 - Working (2 front, 2 rear, 2 in cab)
- Mono lever loader control
- Radiator mask, hinged
- Rearview mirror
- ROPS cab
- Seat belt, 3"
- Seat, cloth, suspension, reclining with armrests and headrest
- Service brakes, wet disc
- Speedometer (mph)
- Starting aid, intake manifold preheater
- Starting motor, 24V/4.5 kW
- Sun visor
- Tires (17.5/25-12PR (L2) tubeless) and rims
- Transmission (4F, 4R)
- Transmission control, electric
- Two-spool valve for boom and bucket controls
- Vandalism protection kit
- Wiper/washer, front and rear

OPTIONAL EQUIPMENT

- Air conditioner with heater and defroster
- Auxiliary steering
- Boom kickout, automatic
- Brand preference, Goodyear
- Bucket, 2.25 yd³ loose material
- Bucket teeth (Esco bolt-on)
- Counterweight, additional, 594 lb
- Cutting edge, bolt-on, reversible
- ECSS (Electronically Controlled Suspension System)
- Fenders, rear full
- Heater and defroster
- Hydraulic adapter kit, includes valve, lever, and piping
- JRB Hydraulic quick coupler
- JRB 48" construction forks for use with coupler
- JRB 1.75 yd³ general purpose bucket for use with coupler
- Mud guard, front fenders
- Radio, AM/FM with stereo cassette
- ROPS canopy
- Third valve, lever, piping
- Tires (bias ply)
 - 15.5/25-12PR (L2)
 - 15.5/25-12PR (L3)
 - 17.5/25-12PR (L2)
 - 17.5/25-12PR (L3)
- Tires (radial ply)
 - 15.5/R25 XTLAT (L2) Michelin
 - 15.5/R25 XHAT (L3) Michelin
 - 17.5/R25 XTLAT (L2) Michelin
 - 17.5/R25 XHAT (L3) Michelin
- Tool kit

SUPPORT

Count on Komatsu and your local distributor for the support you deserve. Our success depends on satisfying your need for productive equipment and supporting that equipment. That's why we have one of the largest and strongest heavy-equipment distributor organizations in North America. Their personnel are not only trained to help you select the equipment that is best-matched for your business but to support that equipment.



Finance Through its finance company, Komatsu can offer you a wide variety of financing alternatives designed to meet your needs. Programs include municipal leases for governmental agencies, conditional sales contracts, and leases with \$1 purchase options for customers interested in owning their equipment. Ask your distributor about Komatsu leasing. We offer finance and operating leases and the unique *Advantage Lease* which offers you predetermined purchase, return, and renewal options.



Parts Three computer-linked parts distribution centers provide fast access to anywhere in the U.S. and Canada. Most parts are available overnight. Plus, Komatsu distributors keep a large assortment of commonly used parts in stock for immediate access.



Remanufactured parts Save money and still have the same warranty as new parts at a fraction of the cost with like-new remanufactured parts.



Maintenance Take advantage of the experience we have gained and ask your distributor about our factory-supported programs including: regular scheduled maintenance, oil and wear analysis, diagnostic inspections, undercarriage inspections, training, special service tools, parts programs, and even a special software program to help your distributor keep track of and manage service-related data.

KOMATSU

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