

WA180-3 *avance<sup>®</sup> plus*

**KOMATSU<sup>®</sup>**

**BUCKET CAPACITIES**

**2.1 – 2.9 yd<sup>3</sup>**

**1.6 – 2.2 m<sup>3</sup>**



**WA180-3**

[www.avanceplus.com](http://www.avanceplus.com)

*avance<sup>®</sup> plus*  
**WHEEL LOADER**

# WA180-3 *AVANCE<sup>plus</sup>* Wheel Loader Features:

## WALK-AROUND

**Komatsu-integrated design** offers the best value, reliability, and versatility. Hydraulics, 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.

*plus* **Quieter operator's environment.**

*plus* **Comfortable operator's seat** with optional air ride.

*plus* **New electrically heated rear window.**

*plus* **Increased engine horsepower**  
Komatsu S6D102E-1 diesel power provides greater productivity and reliability. See page 6.

*plus* **Optional tires**  
Michelin 555/70-R25-XLD70 low-profile tires for improved traction and flotation.

Underhood mounted muffler provides operator with great rearward vision.

Rear-mount battery box for easy checking and servicing.

**Easy access to engine for servicing.** Large gull-wing hood doors lock with cab key. Easy access to all engine and fuel filters.

**Large rear-mounted fuel tank** allows for ground level fueling.



*plus* **Improved Optional Electrically Controlled Suspension System.** Takes the bounce out of travel 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. Here's how it works. A switch in the operator's compartment initiates the electrical circuit that actuates the solenoid selector valve for the boom cylinders as well as a pressure switch for the accumulator. This allows the accumulator to absorb the shocks during roading.

# WA180-3

WHEEL LOADER

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

**NET HORSEPOWER**  
120 HP 90 kW @ 2400 rpm

**OPERATING WEIGHT**  
20,781 lb 9426 kg

**BUCKET CAPACITY**  
2.1 – 2.9 yd<sup>3</sup>  
1.6 – 2.2 m<sup>3</sup>



**New cab increases operator productivity.**

New operator's cab provides better visibility, increased comfort, see-at-a-glance console, rearward opening doors, tilt steering wheel, and fingertip shifting. See page 5.



**Externally mounted front worklights** for increased visibility.



**New pilot operated mono-lever loader controls** for increased productivity.



**New fuel strainer** with clear sediment trap for fast checking and servicing.



**Higher dumping clearance.**



**New larger 2.5 yd<sup>3</sup> stockpile bucket.**



**New automatic transmission** with kick-down switch. See page 7.



**Increased lifting capacity.**



**New spin-on transmission filter** for easy servicing.

Optional JRB Hydraulic Quick Coupler for added versatility.

Ground level greasing reduces and simplifies maintenance. See page 8.



Optional bucket teeth meet the demands of the toughest applications.



# OPERATOR'S COMPARTMENT

**Ask the man who runs one**—he will tell you the operator's cab sets the Komatsu Avance Plus 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.

*Cloth-covered, high-back bucket seat features:*

- Low frequency mechanical suspension, with helical springs and double-acting hydraulic dampers.
- An air suspension fabric seat is optional.
- Retractable seat belt.



The cab improvements on the WA180-3 Avance Plus go beyond providing a large cab with a comfortable seat. Improvements include these production-enhancing standard and optional features:

The WA180-3 Avance Plus has one of the largest cabs ever offered on a Komatsu wheel loader. A **large flat glass windshield** with externally mounted front worklights provides the operator an unobstructed view of the working area and attachment.

**Two-door walk-through cab.**

Rearward opening doors provide good ventilation as well as easy entry and exit from either side of the cab.

**Low-effort brake pedals** actuate full hydraulic brakes. Both the service and parking brakes are wet disc type.

**Steer with ease.** Komatsu's full hydraulic steering provides fast response with low effort, even at low engine rpm.

**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.



**Kick-down switch is conveniently located** on the mono-lever. A simple motion of the thumb actuates this valuable productivity feature.

**New automatic transmission.** Automatic shift control gives the operator maximum control with minimum effort. The transmission hold switch allows the operator to select either automatic or manual shifting. The unique combination of the hold and kick-down switches, located on the hydraulic mono-lever, offers the operator optimum control in all conditions.

**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.

## Increased Visibility and Comfort

- **Flat front windshield glass** and **externally mounted front worklights** provide greater visibility of the work area.
- **Improved five-mode air conditioner.** Nine strategically located vents direct cool air to the operator, keeping you comfortable even on the hottest days.
- Improved, easier to operate **mono-lever (joystick) loader controls** increase operator comfort and reduce operator fatigue.
- Optional **air ride seat** and **improved Electronically Controlled Suspension System (ECSS)** help take the bumps out of the work area.
- **Retractable seat belt** that increases the possibility of wearing a clean and dry seat belt.
- Optional automatic tuning **AM/FM Stereo with cassette player and digital clock** makes operation a pleasure.
- The **cool box** keeps your meal and beverages cold for a more refreshing lunch or break.

Air conditioner



Cool box





# KOMATSU DESIGNED POWER TRAIN

## Engine

The Komatsu S6D102E-1 delivers the power and efficiency to get the job done quickly and cost-effectively while meeting off-road emission requirements.

**Komatsu S6D102E-1** is a water-cooled, four-stroke cycle, six-cylinder in-line, turbocharged direct injection engine that produces high performance and excellent fuel economy.

The **gear pump-driven force lubrication** has full flow filtration while all fuel and oil filters are spin-on for easy maintenance.

Komatsu S6D102E-1 features include:

- Environmentally friendly emissions.  
Meets EPA and EU emission standards for NOX, CO, and HC.
- Large capacity, double-wrapped muffler mounted under the hood reduces noise and increases operator visibility.

- Automatic electric cold-weather heating system preheats incoming air according to engine water temperature. Provides for quick starts and reduces added wear of cold-weather starts made without this heating system.

- Dry, two-stage air cleaner.

**Large gull-wing doors** allow easy access to the engine and radiator for routine maintenance and cleaning.

**Spin-on filters** and easily accessible lubrication points reduce maintenance time and the chance of missing maintenance items.

*With a piston displacement of 359 in<sup>3</sup> 5.9 ltr, the Komatsu S6D102E-1 has a net flywheel horsepower of 120 HP 90 kW @ 2400 rpm.*

*Komatsu-integrated design means components are matched to provide most efficient use of power.*



## Four-Speed Automatic Transmission

Provides maximum speed of **21.4 mph** 34.5 km/h in forward and **21.7 mph** 35.0 km/h in reverse. The transmission is a full power shift, countershaft transmission.

### Other features include:

- **Automatic electric cold-weather heating system.** The preheating time of the engine is automatically set according to the engine water temperature. Provides for quick starts and reduces added wear of cold-weather starts made without this heating system.
- **Automatic gear selection** with a hold switch on the mono-lever control lever provides control with low effort.
- **Four forward and four reverse gears** help match cycle conditions, providing increased efficiency and fuel economy.
- **Fingertip shifting** from forward to reverse or from one gear to another.

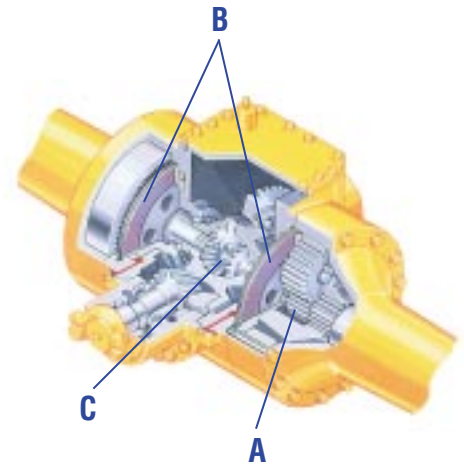
**Consider this valuable feature for added productivity.** With the touch of a finger, the kick-down switch automatically downshifts from second to first when beginning the digging cycle. It automatically upshifts from first to second when the direction control lever is placed in reverse. This results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

**Komatsu-designed axles and final drives** provide rugged reliability with low maintenance. Axle shafts are semi-floating. The front axle is fixed, while the rear axle 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, single-disc brakes (front and rear)** are fully sealed. Contaminants are kept out, reducing wear and maintenance. Brakes require no adjustments for wear, further reducing maintenance costs. There is no air system to bleed, which eliminates the condensation of water in the system that can lead to contamination and corrosion.

The parking brake is also an adjustment-free, wet, multi-disc with increased reliability and long life.



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





# 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 WA180-3 Avance Plus 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 WA180-3 Avance Plus:

- 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 strategic areas to reduce maintenance time.
- Full hydraulic service and parking brakes eliminate air system maintenance.
- Batteries are located inside the counterweight for ground level access.
- Large platforms provide easy access to cab windows.
- Sealed Loader Linkage Pins—designed to keep grease contained longer and prevent the entrance of dust, thereby lengthening greasing intervals.

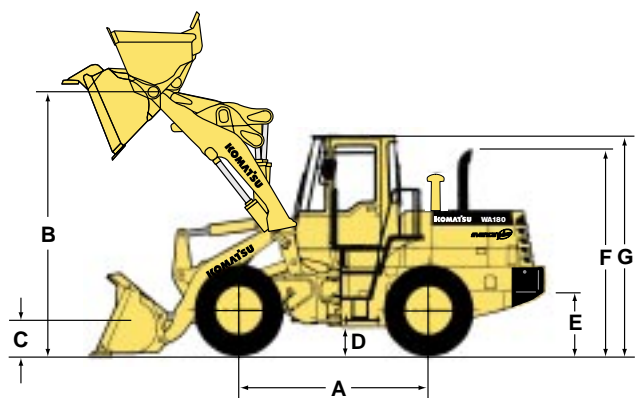








## DIMENSIONS



Standard tires	17.5/25-12PR (L2)
Tread	<b>6'0"</b> 1820 mm
Width over tires	<b>7'5"</b> 2260 mm
A Wheelbase	<b>8'10"</b> 2692 mm
B Hinge pin height, maximum height	<b>11'10"</b> 3595 mm
C Hinge pin height, carry position	<b>1'3"</b> 380 mm
D Ground clearance	<b>1'5"</b> 425 mm
E Hitch height	<b>2'8"</b> 815 mm
F Overall height, top of the stack	<b>9'10"</b> 2995 mm
G Overall height, ROPS cab	<b>10'2"</b> 3095 mm

Bucket		Stockpile Bucket with Bolt-on Cutting Edge		Excavating Bucket with Bolt-on Cutting Edge		Light Material Bucket with Bolt-on Cutting Edge	
Bucket capacity	SAE rated	<b>2.5 yd<sup>3</sup></b>	1.9 m <sup>3</sup>	<b>2.1 yd<sup>3</sup></b>	1.6 m <sup>3</sup>	<b>2.9 yd<sup>3</sup></b>	2.2 m <sup>3</sup>
	Struck	<b>2.1 yd<sup>3</sup></b>	1.6 m <sup>3</sup>	<b>1.7 yd<sup>3</sup></b>	1.3 m <sup>3</sup>	<b>2.5 yd<sup>3</sup></b>	1.9 m <sup>3</sup>
Bucket width		<b>8'10"</b>	2692 mm	<b>8'0"</b>	2440 mm	<b>8'0"</b>	2440 mm
Bucket weight		<b>2,060 lb</b>	935 kg	<b>1,600 lb</b>	725 kg	<b>1,760 lb</b>	800 kg
Static tipping load	Straight	<b>16,775 lb</b>	7600 kg	<b>17,565 lb</b>	7966 kg	<b>17,721 lb</b>	8037 kg
	Full turn (40°)	<b>14,573 lb</b>	6610 kg	<b>15,730 lb</b>	7134 kg	<b>15,411 lb</b>	6989 kg
Dump clearance, maximum height and 45° dump angle		<b>8'11"</b>	2720 mm	<b>9'2"</b>	2800 mm	<b>8'8"</b>	2645 mm
Reach at 7' 2130 mm and 45° dump angle		<b>4'9"</b>	1440 mm	<b>4'7"</b>	1395 mm	<b>4'10"</b>	1465 mm
Reach at maximum height and 45° dump angle		<b>3'3"</b>	990 mm	<b>3'5"</b>	1030 mm	<b>3'8"</b>	1110 mm
Reach with boom/bucket level		<b>6'11"</b>	2100 mm	<b>6'9"</b>	2060 mm	<b>7'9"</b>	2355 mm
Operating height	Fully raised	<b>15'10"</b>	4830 mm	<b>15'5"</b>	4700 mm	<b>16'2"</b>	4935 mm
Overall length	Bucket ground	<b>21'4"</b>	6510 mm	<b>20'11"</b>	6380 mm	<b>21'8"</b>	6600 mm
	Bucket at carry	<b>21'3"</b>	6470 mm	<b>21'0"</b>	6385 mm	<b>21'6"</b>	6540 mm
Turning radius*		<b>18'0"</b>	5490 mm	<b>17'8"</b>	5375 mm	<b>17'10"</b>	5435 mm
Digging depth	0°	<b>4"</b>	110 mm	<b>5"</b>	120 mm	<b>5"</b>	120 mm
	10°	<b>11"</b>	280 mm	<b>11"</b>	280 mm	<b>1'1"</b>	320 mm
Breakout force		<b>18,920 lb</b>	8581 kg	<b>21,475 lb</b>	9740 kg	<b>17,040 lb</b>	7730 kg
Operating weight		<b>20,781 lb</b>	9426 kg	<b>20,816 lb</b>	9442 kg	<b>20,915 lb</b>	9487 kg

● All dimensions, weights, and performance values based on SAE J732c and J742b standards. Static tipping load and operating weight shown include 17.5/25-12PR (L2) tires, additional counterweight, lubricant, coolant, full fuel tank, ROPS cab, and operator. Machine stability and operating weight are affected by counterweight, tire size, and other attachments. Do not use tire ballast with additional counterweight. Apply the following weight changes to operating weight and static tipping load.

\* Turning radius measured with bucket at carry position, outside corner of bucket.

## Weight Changes

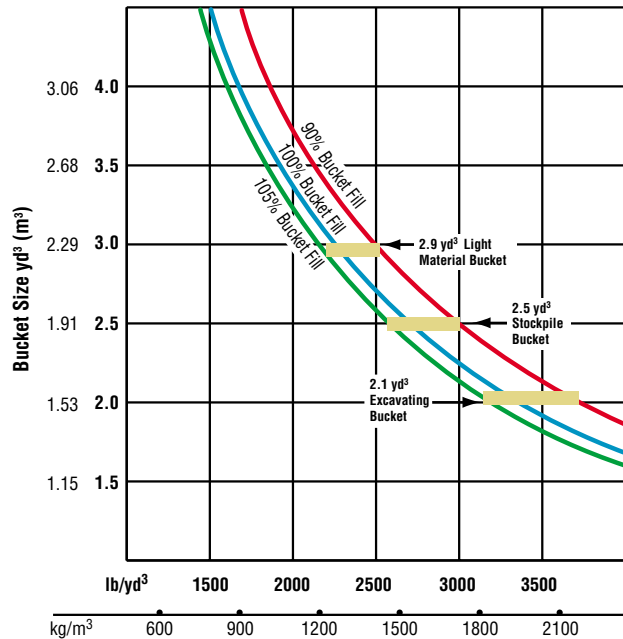
	Change in Operating Weight		Change in Tipping Load			
			Straight		Full Turn	
17.5/25-12PR (L3)	<b>88 lb</b>	40 kg	<b>66 lb</b>	30 kg	<b>55 lb</b>	25 kg
555/70-R25-XLD70 (L3)	<b>816 lb</b>	370 kg	<b>617 lb</b>	280 kg	<b>551 lb</b>	250 kg
Install ROPS canopy (instead of cab)	<b>-395 lb</b>	-180 kg	<b>-375 lb</b>	-170 kg	<b>-310 lb</b>	-140 kg
Deduct additional counterweight	<b>-620 lb</b>	-280 kg	<b>-1150 lb</b>	-520 kg	<b>-990 lb</b>	-450 kg





### BUCKET SELECTION GUIDE

#### WA180-3 Avance Plus



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 (loose weight)	lb/yd³	kg/m³
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, 50 A
- Back-up alarm
- Back-up light, rear
- Batteries, **2 x 12 V/110 Ah**, 950 CCA
- Bucket leveler, automatic
- Cigarette lighter, ashtray
- Counterweight, standard
- Differentials, torque proportioning
- Dome light, cab
- Engine, Komatsu S6D102E-1
- Engine shut-off system, electric
- Exhaust pipe, curved
- 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 outside cab)
- Maintenance monitor panel
- Mono-lever loader control
- Parking brake, wet, multi-disc
- Radiator mask, hinged
- Rearview mirror (2 inside, 2 outside)
- ROPS cab
- Seat belt, retractable, **3"** 76 mm wide
- Seat, cloth, suspension, reclining with armrests and headrest, and a document holder
- Service brakes, wet disc
- Speedometer (mph)
- Starting aid, intake manifold preheater
- Starting motor, **24 V/4.5 kW**
- Steering wheel, tiltable
- Sun visor
- Tires 17.5/25-12PR (L2), tubeless and rims
- Transmission (4F, 4R), automatic
- Transmission control, electric, two-lever type
- 2-spool mono-lever valve for boom and bucket controls with PPC
- Vandalism protection kit
- Window, rear, electrically heated
- Wiper/washer, front and rear



## OPTIONAL EQUIPMENT

- Additional counterweight
- Air conditioner with heater and defroster
- Air-ride seat
- Automatic boom kickout
- Auxiliary steering
- Bucket, excavating, **2.1 yd<sup>3</sup>** 1.6 m<sup>3</sup>
- Bucket, stockpile, **2.5 yd<sup>3</sup>** 1.9 m<sup>3</sup>
- Bucket, light material, **2.9 yd<sup>3</sup>** 2.2 m<sup>3</sup>
- Bucket teeth (ESCO bolt-on)
- 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 **48"** 1219 mm construction forks for use with coupler
- JRB **54"** 1372 mm utility pallet forks for use with coupler
- JRB extendable 3-section boom for use with coupler
- JRB Hydraulic Quick Coupler
- JRB **2.25 yd<sup>3</sup>** 1.72 m<sup>3</sup> general purpose bucket for use with coupler
- JRB **2.5 yd<sup>3</sup>** 1.9 m<sup>3</sup> general purpose bucket for use with coupler
- JRB **2.1 yd<sup>3</sup>** 1.6 m<sup>3</sup> multi-purpose bucket for use with coupler
- Mud guard, front fenders
- Radio, AM/FM stereo with cassette
- ROPS canopy
- Tires (bias ply)
  - 17.5/25-12PR (L3)
  - Rims only (for 17.5/25 or 555/70 tires)
- Tires (radial ply)
  - 17.5-R25-XLAT (L2) Michelin
  - 17.5-R25-XHAT (L3) Michelin
  - 555/70-R25-XLD70 (L3) Michelin
- Vinyl seat

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# KOMATSU®

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