

# WA800-2 KOMATSU

**Operating Weight**

219,200 lb

99 410 kg

**Bucket Capacity**

13.7 yd<sup>3</sup>

10.5 m<sup>3</sup>

**Horsepower**

789 hp

588 kW



# WA800-2

SPECIFICATIONS

WHEEL LOADER

**The WA800-2 Wheel Loader... fulfilling Komatsu's commitment to deliver top performance, unsurpassed reliability, and sound economics.**

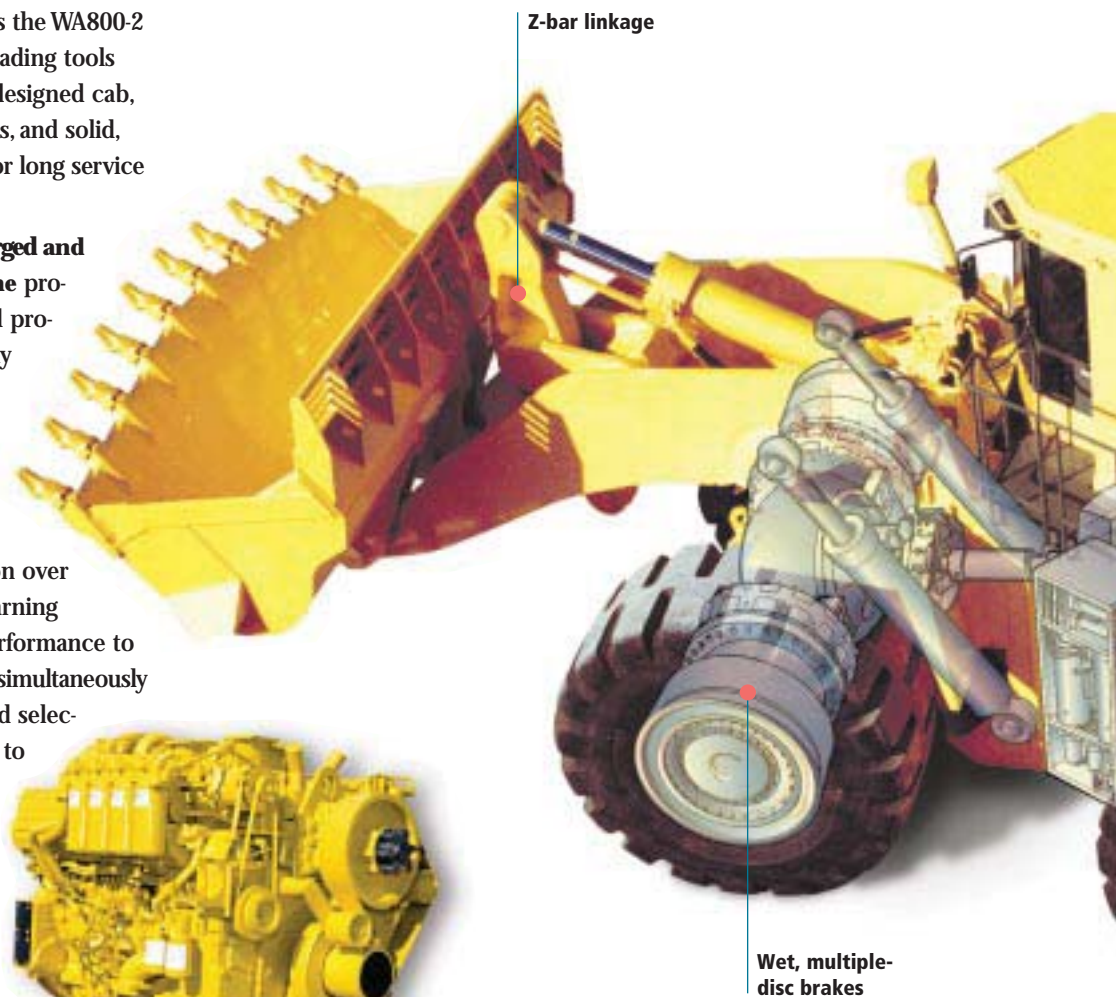
Proven Komatsu engineering makes the WA800-2 one of the most reliable, durable loading tools in the industry. An ergonomically designed cab, time-tested powertrain components, and solid, heavy-duty construction combine for long service life and low cost production.

**The Komatsu SA12V140Z-1 turbocharged and aftercooled direct injection engine** provides exceptional performance and productivity to get the job done quickly and cost-effectively. Full authority electronic controls and diagnostics provide the ability to set engine ratings to match job sites, download new calibrations and upgrades, monitor fuel consumption over time, and even monitor internal warning signals and progressively derate performance to prevent damage as the operator is simultaneously warned of the fault. Low idle speed selection capability enables the operator to match the engine's low idle speed to the application, maximizing fuel economy.

- Swirl Air Intake System – maximizes fuel/air mixing, reduces fuel consumption
- Tuftride-treated cylinder liners – maximum heat transfer for long component life
- Individual cylinder heads – reduce inspection and maintenance time and cost
- High torque rise – superior lugging ability and power
- Cast iron pistons – improve cylinder pressure capability and last longer than aluminum, eliminate cavitation problems

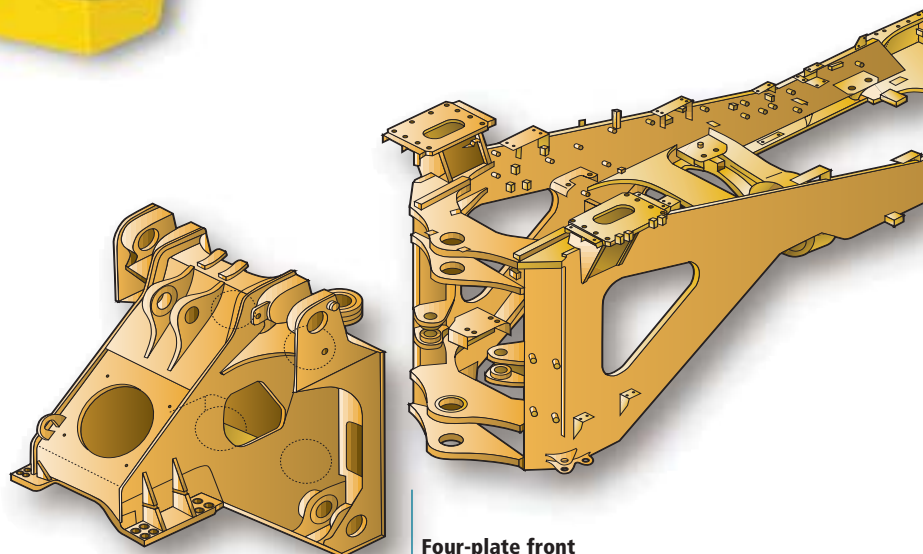
## Brakes

**Multiple oil-disc brakes** are completely sealed and adjustment-free. The brake circuit is divided into front and rear wheel systems with independent piping and brake fluid reservoirs. Should the brakes on one axle fail, the operator still has full braking power on the other axle to stop the machine.



Z-bar linkage

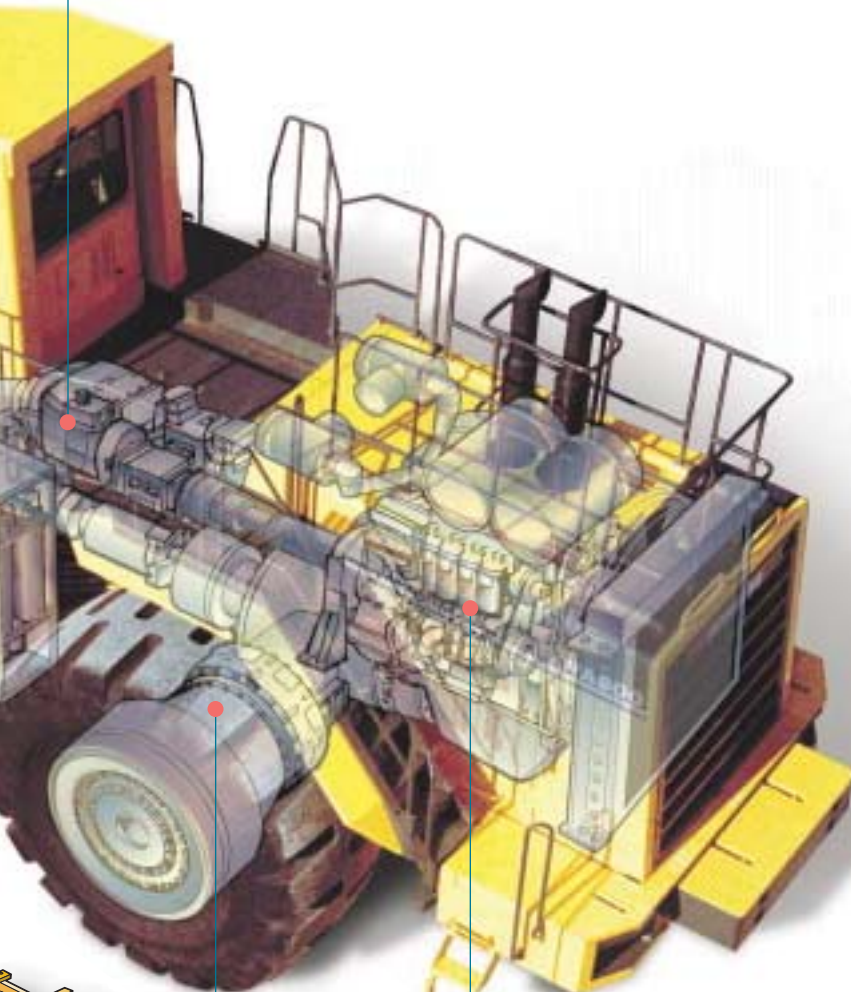
Wet, multiple-disc brakes



Four-plate front loader tower and box-section rear frame



Planetary power-shift transmission



Heavy-duty, full-floating axles

Komatsu turbocharged and aftercooled diesel engine

## Frame

**Box-section rear frame** is the “backbone” of the WA800-2. Steel castings used in critical high-stress areas help spread the load for long frame life. Box-section design absorbs shock and torsion loads, and provides a rigid structure for maintaining driveline alignment for long component life. Spread center hinge pin design reduces stress loads on hinge pins and roller bearings for long service life and provides easy access for maintenance.

## Transmission

**Komatsu’s planetary power-shift transmission**, with modulated electronic shifting, provides effortless fingertip control and smooth, consistent shifts. Large-diameter clutches and heat-resistant linings coupled with high-contact planetary gear sets provide substantial torque carrying capabilities for outstanding reliability and durability. The three-element, single-stage, single-phase torque converter automatically modulates engine power flow to the transmission, and acts as a fluid coupling to effectively absorb drivetrain shock loads.

## Axles

**Heavy-duty axles** are built to withstand the stresses encountered during severe digging conditions. Full-floating axle shafts carry torque but not the weight of the machine. Axles can be removed independently for quick servicing and easy maintenance.

## Loader Tower

**Four-plate loader tower** provides exceptional durability even under the roughest loading conditions. The lift arms and cross tube arrangement attach at both bucket sides to resist shock and corner loading stress. Solid plate lift arms and a single Z-bar linkage offer maximum strength and excellent visibility to the bucket for even load distribution. Cast-steel cross tube assures proper pin bore alignment, extending pin life.



## Operator's Compartment

**Comfortable, resiliently mounted, sound-suppressed cab** isolates the operator from noise and vibration. With 47% of the total cab area composed of tinted glass, glare is reduced and operator visibility to the work area is greatly enhanced. Fully adjustable suspension seat is ergonomically designed for maximum operator comfort during long shifts. Tilt steering wheel adjusts up to 4" (100 mm) for convenient, comfortable operation. Demand valve steering guarantees smooth, constant steering control regardless of engine speed. **Two-door walk-through design** provides entrance and exit from either side of the machine.

## Operator Controls

**Efficient control layout** puts critical control functions within easy reach for low-effort, fingertip operation. Speed and direction controls permit quick, easy shifting without removing your hand from the steering wheel. The **Komatsu kick-down switch**, conveniently located on top of the boom control lever, reduces operator effort while increasing production. Shift the transmission from F2 to F1 by depressing the switch as the bucket penetrates the pile. Moving the directional lever to reverse automatically shifts the transmission to R2 for fast reverse cycle times. **Komatsu's Proportional Pressure Control (PPC)** provides fine control over a wide range of lever stroke for superior work equipment response.



Speed and direction control levers



Boom and bucket controls with kick-down switch





## Display

**Electronic display and monitoring system** continuously monitors all operating systems and, in the event of a malfunction, warns the operator as to which system is experiencing trouble minimizing downtime and repair costs. Komatsu's exclusive pre-start check system identifies low brake oil, engine oil, and coolant levels before the engine is started. Gauges allow the operator to conveniently monitor coolant temperature, transmission oil temperature, fuel level, and read-out for service hours and speed.



## Joystick/Steering Wheel Control

**Komatsu's exclusive joystick/steering wheel control system** reduces operator fatigue and increases total productivity while achieving exceptional control in tight loading conditions. The seat-mounted controller allows a full range of adjustments for the most comfortable fit. The combination of a steering wheel and joystick provides a convenient, comfortable, efficient steering system for every operating condition. The steering wheel has full priority when used.



Tire shield

Spade nose rock bucket



Straight edge rock bucket

## Buckets

**Komatsu buckets** provide aggressive loading for exceptional productivity and long life in tough conditions. High-tensile-strength steel construction provides superior wear and resists twisting and distortion when under heavy loads. Bucket back is formed from a single 1" (25 mm) thick steel sheet for added rigidity and strength. Integral rock guard helps prevent spillage and maximize load retention. Replaceable wear plates on the bucket heel protect the bucket bottom. Replaceable bucket teeth and side and corner protectors protect bucket edge and increase bucket life. Tire shields on each side of the bucket protect tires from rock cuts.

A **13.7 yd<sup>3</sup> (10.5 m<sup>3</sup>) spade nose heavy-duty rock bucket** is recommended for mining applications.

A **13.7 yd<sup>3</sup> (10.5 m<sup>3</sup>) straight edge rock bucket** is also available.

Teeth and lip options are available for varying conditions. Ask your Komatsu distributor for details.



## High Lift Arrangement

An optional **high lift arrangement** provides a 17'1" (5210 mm) vertical dump clearance – sufficient clearance to load 150 ton (136 t) trucks. Longer lift arms get the load up higher without sacrificing digging force or cycle times.





## Engine

Make and model.....**Komatsu SA12V140Z-1**  
 Fuel.....Diesel  
 Number of cylinders.....12  
 Operating cycle.....4 cycle  
 \*Rated brake power.....**833 hp 621 kW @ 2000 rpm**  
 \*\*Flywheel power .....**789 hp 588 kW @ 2000 rpm**

\*Rated brake power is the output of the engine as installed in this machine, at governed rpm and with engine manufacturer's approved fuel setting. Accessory losses included are water pump, fuel pump and oil pump.  
 \*\*Flywheel power is the rated power at the engine flywheel minus the average accessory losses.  
 Accessories include fan and charging alternator. Rating(s) represent gross engine performance in accordance with SAE J1349 conditions.



## Transmission

Komatsu full power-shift planetary gear-type transmission. A modulating function assures shockless speed and direction changes without braking. An electrically controlled transmission allows fingertip control with speed and directional change levers. A neutral safety circuit allows starting only when the directional control lever is in neutral position.

Travel Speeds:

Gear	Forward		Reverse	
	mph	km/h	mph	km/h
1st	<b>0-4.3</b>	7.0	<b>0-4.4</b>	7.1
2nd	<b>0-7.6</b>	12.3	<b>0-7.7</b>	12.4
3rd	<b>0-17.4</b>	28.0	<b>0-17.6</b>	28.3



## Axles & Final Drives

Four-wheel drive system. Full-floating front axle is fixed to the front frame. Center-pin-supported, full-floating rear axle with a large oscillation of  $\pm 11^\circ$ . A spiral bevel gear for reduction, a straight bevel gear for differential, and a planetary gear for final reduction.



## Brakes

Axle-by-axle, air-over-hydraulic, wet, multiple-disc brakes actuate all four wheels. Two brake pedals provided: the right for normal braking; the left offers normal braking or neutralizes the transmission when the transmission cutoff switch is activated.



## Parking Brake

Dry disc-type, spring-applied, air-released on the front axle pinion shaft. Parking brake is automatically actuated when air pressure falls below rated **psi** mPa level.



## Tires & Rims

Select proper tires based on job requirements. (See Optional Equipment for available tires.)

Standard rim size .....36.00-45  
 Standard tire size .....45/65-45-38PR (L5)



## Steering System

Komatsu joystick/steering wheel control system featuring full hydraulic steering wheel plus joystick control. Steering wheel has full priority when used. Wide articulation angle of  $40^\circ$  to each side for a minimum turning radius of **36'1"** 10 990 mm at the outside corner of the bucket with teeth.



## Boom & Bucket

Z-bar loader linkage of high-tensile-strength steel provides maximum rigidity, fast cycle times, and superior breakout force. Rap-out loader linkage design enables shock dumping to remove sticky materials. Sealed loader linkage pins with dust seals and cord rings extend maintenance intervals. The bucket is also constructed of high-tensile-strength steel. Bucket corner teeth increase penetrating force and minimize bucket wear.

Cycle Times	Standard Boom	High Lift Boom
Raise	11.2 sec	11.6 sec
Lower	4.8 sec	4.8 sec
Dump	2.8 sec	2.9 sec
Total	18.8 sec	19.3 sec



## Bucket Controls

Proportional Pressure Control (PPC) system assures light-touch work equipment control. Little effort is required to operate the bucket and boom control levers, assuring smooth, responsive bucket/boom action. The bucket positioner and the boom kickout device facilitate repeated digging/loading operations.

**Control positions:**

Boom.....Raise, hold, lower, and float  
 Bucket .....Rollback, hold, and dump



## Hydraulic System

Two variable displacement piston pumps for loader control, four fixed-displacement pumps for switch and steering control, and one gear-type pump for pilot control.

**Pumps**

Loader .....Variable displacement piston pumps with output of **107 gpm** 405 liters/min @ 2000 rpm  
 Switch .....Fixed displacement pumps with output of **107 gpm** 405 liters/min @ 2000 rpm  
 Steering.....Fixed displacement pumps with output of **81 gpm** 307 liters/min @ 2000 rpm  
 Pilot .....Gear pump with output of **18 gpm** 68 liters/min @ 2000 rpm

**Relief valve setting** .....**4550 psi** 320 kg/cm<sup>2</sup>

**Control valves:** A double-spool-type control valve and steering valve with demand valve.

Hydraulic Cylinder	Number	Bore	Stroke
Boom	2	<b>10.2"</b> 260 mm	<b>53.9"</b> 1368 mm
Bucket	1	<b>11.8"</b> 300 mm	<b>35.7"</b> 906 mm
Steering	2	<b>6.3"</b> 160 mm	<b>19.8"</b> 503 mm





## Service Capacities

Cooling system.....	<b>81.9 U.S. gal</b>	310 L
Fuel tank .....	<b>376.5 U.S. gal</b>	1425 L
Crankcase*.....	<b>34.5 U.S. gal</b>	138 L
Brake oil .....	<b>4.8 U.S. gal</b>	18 L
Hydraulic system.....	<b>145.3 U.S. gal</b>	550 L
Differential, final drive case .....	<b>95.1 U.S. gal</b>	360 L
(each front and rear)		
Torque converter and transmission.....	<b>37.0 U.S. gal</b>	140 L

\*Includes lube oil filters



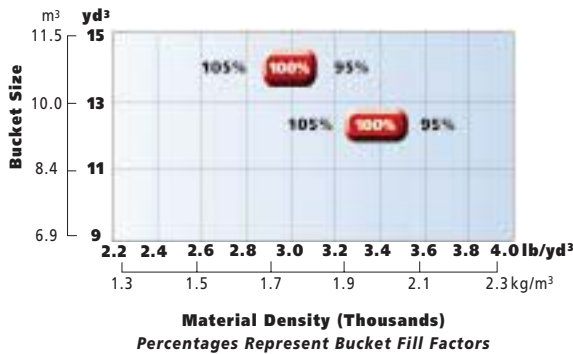
## Operating Weight

Includes rated capacity of lubricant, coolant, full fuel tank, 45/65-45-46PR (L5) tires, **13.7 yd<sup>3</sup>** 10.5 m<sup>3</sup> spade nose bucket with teeth, ROPS canopy, steel cab, additional counterweight, operator and other standard equipment.

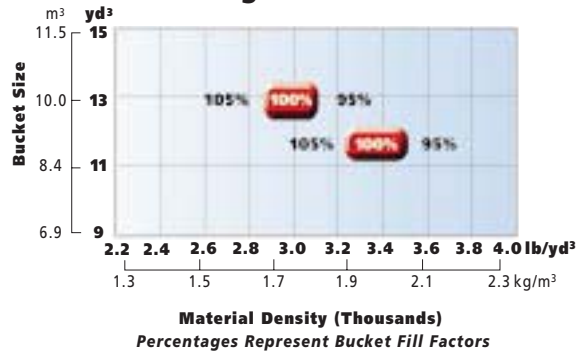
Operating weight.....**219,200 lb** 99 410 kg

## Bucket Selection

### Standard Boom



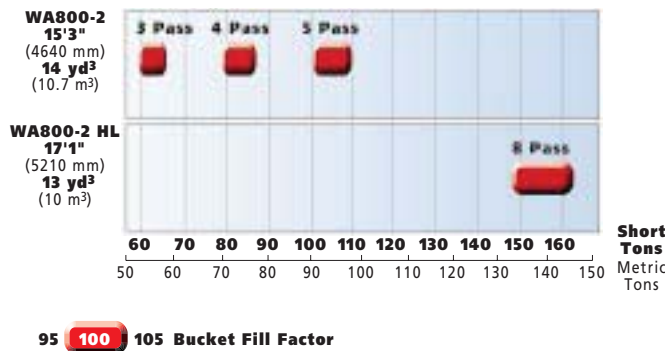
### High Lift Boom



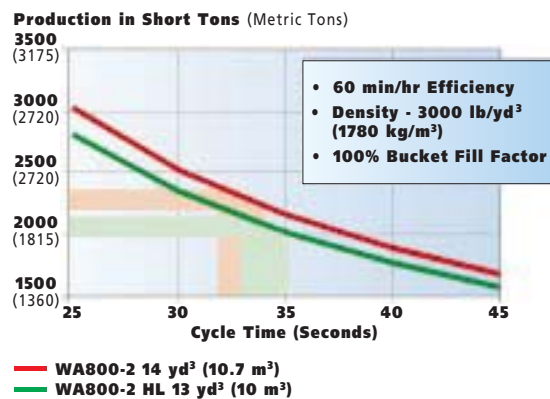
## Production

### Truck Payload

#### Machine Dump Clearance

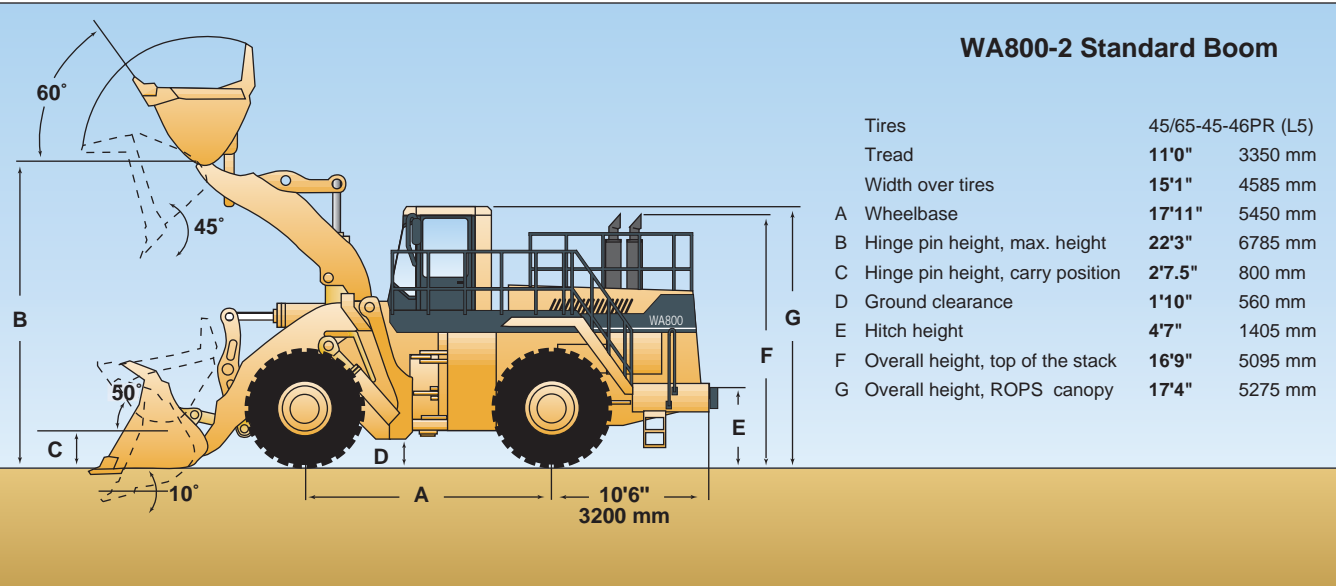


### Production Curves





## WA800-2 Standard Boom



Bucket Type		Standard Boom				High Lift Boom	
		Straight Edge Rock w/ teeth		Spade Nose Rock w/ teeth		Spade Nose Rock w/ teeth	
Bucket capacity	SAE rated	13.7 yd <sup>3</sup>	10.5 m <sup>3</sup>	13.7 yd <sup>3</sup>	10.5 m <sup>3</sup>	12.4 yd <sup>3</sup>	9.5 m <sup>3</sup>
	Struck	11.9 yd <sup>3</sup>	9.1 m <sup>3</sup>	11.9 yd <sup>3</sup>	9.1 m <sup>3</sup>	10.9 yd <sup>3</sup>	8.3 m <sup>3</sup>
Bucket width		15'7"	4760 mm	15'7"	4760 mm	15'7"	4760 mm
Bucket weight		21,907 lb	9935 kg	22,965 lb	10 415 kg	21,355 lb	9685 kg
Static tipping loads	Straight	141,054 lb	63 970 kg	140,006 lb	63 495 kg	123,745 lb	56 120 kg
	Full turn (40°)	123,789 lb	56 140 kg	122,874 lb	55 725 kg	108,607 lb	49 255 kg
Dumping clearance, max. height and 45° dump angle		16'0"	4865 mm	15'3"	4640 mm	17'1"	5210 mm
Reach @ 7'0" 2130 mm cutting edge clearance and 45° dump angle		11'4"	3445 mm	12'0"	3650 mm	12'3"	3735 mm
Reach at max. height and 45° dump angle		7'0"	2130 mm	7'8"	2345 mm	6'10"	2085 mm
Height to hinge pin (fully raised)		22'3"	6785 mm	22'3"	6785 mm	23'11"	7280 mm
Operating height (fully raised)		30'6"	9285 mm	30'6"	9285 mm	31'7"	9630 mm
Overall length	Bucket on ground	45'2"	13 775 mm	46'3"	14 090 mm	47'7"	14 495 mm
	Bucket at carry	44'9"	13 650 mm	45'4"	13 815 mm	47'1"	14 360 mm
Turning radius (bucket at carry, position, outside corner of bucket)		35'9"	10 910 mm	36'0"	10 990 mm	36'5"	11 100 mm
Digging depth	0°	6.7"	170 mm	6.7"	170 mm	6.7"	170 mm
	10°	22.0"	560 mm	24.2"	615 mm	22.8"	580 mm
Breakout force		179,928 lb	81 600 kg	152,145 lb	69 000 kg	157,878 lb	71 600 kg
Operating weight		218,140 lb	98 930 kg	219,200 lb	99 410 kg	219,375 lb	99 490 kg

Static tipping load and operating weight shown include lubricants, coolant, full fuel tank, ROPS cab (option), front and rear fenders, additional counterweight, 45/65-45-46PR (L5) tubeless tires and operator. Machine stability and operating weight are affected by counterweight, tire size and other attachments. Add the following weight changes to operating weight and static tipping loads. All dimensions, weights and performance values based on SAE J732c and J742b standards.

### Weight Changes (Standard Boom)

Tires and Options	Change in Operating Weight		Change in Static Tipping Load			
			Straight		Full Turn	
45/65-45-46PR (L5) tubeless tires	0		0		0	
45/65-45-38PR (L5) tubeless tires	-1,181 lb	-536 kg	-1,752 lb	-795 kg	-1,543 lb	-700 kg
Steel cab removed	-573 lb	-260 kg	-434 lb	-197 kg	-428 lb	-194 kg



## WA800-2

### Standard Equipment

- Alternator (24 V/75 A)
- Air conditioner with heater/defroster/pressurizer
- Air dryer
- Axles, full-floating
- Back-up alarm and light
- Batteries, 4 x 12 V/200 A/h
- Boom kickout, automatic
- Brakes, service, wet multiple-disc
- Bucket positioner, automatic
- Cab, steel, includes: windshield washer and wiper (front and rear), inside-mounted mirror, two cab-mounted working lights, dome light and floor mat
- Counterweight, additional
- Electric air horn
- Electronic display and monitoring system
- Fenders, front (LH & RH)
- Hitch
- Lights: stop and tail lights, turn signals with hazard switch (2F, 2R), work lights (2E, 2R)
- Mirror, rearview
- PPC hydraulic controls
- ROPS/FOPS cab
- Rims for 45/65-45 tires

- Seatbelt, 3" 76 mm
- Seat, suspension-type
- Stairs, rear access with handrails
- Starter, 24 V, 11 kW direct electric
- Steering, full hydraulic power
- Joystick/steering wheel control, with tiltable steering wheel
- Transmission, F3-R3, planetary
- Transmission control, electric w/ kickdown switch
- Vandalism protection kit

### Optional Equipment

- Auxiliary steering
- Guard, powertrain
- Lincoln Lube System
- Radiator core protective grid

### Tires:

- 45/65-45-46PR (L5)
- 45/65-R45-XRD1AT Michelin
- 45/65-R45-XRD2AT Michelin

### Work Equipment

- High lift boom arrangement
- 13.7 yd<sup>3</sup> 10.5 m<sup>3</sup> spade nose heavy-duty rock bucket
- 13.7 yd<sup>3</sup> 10.5 m<sup>3</sup> straight edge rock bucket
- 12.4 yd<sup>3</sup> 9.5 m<sup>3</sup> spade nose heavy-duty rock bucket (for high lift only)
- Teeth and lip options are available for varying conditions.

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