KOMATSU

WE1850-3
wheel loader

Safety

Reliability

Productivity

Photo may include optional equipment

Bucket capacity

Standard lift	32.88 m^3	43 yd^3
High lift	30.58 m^3	40 yd^3

Operating payload

Standard lift	58 967 kg	130,000 lbs.
High lift	54 431 kg	120,000 lbs.

Operating weight

Standard lift	268 481 kg	592,000 lbs.
High lift	269 887 kg	595,000 lbs.

WE1850-3

Operating capacities, weights and dimensions - standard lift

Bucket capacity	32.88 m^3	43 yd^3
Operating payload	58 967 kg	130,000 lbs.
Static tipping loads		
Straight	TBD	TBD
Full 40° turn	TBD	TBD
Breakout force	1 271 kN	285,694 lbs.
Operating weight	268 481 kg	592,000 lbs.

Operating capacities, weights and dimensions - high-lift

Bucket capacity	30.58 m^3	40 yd^3
Operating payload	54 431 kg	120,000 lbs.
Static tipping loads		
Straight	147 211 kg	324,545 lbs.
Full 42° turn	128 996 kg	284,388 lbs.
Breakout force	1 322 kN	297,265 lbs.
Operating weight	269 887 kg	595,000 lbs.

Note: Standard rock bucket based on a material density of 1780 kg/m^3 (3000 lb/yd^3)

Working ranges

Engine	1 491 kW	2,000 hp
KESS*	1 268 kW	1,700 hp
Payload		
Standard	58 967 kg	130,000 lbs.
High-lift	54 331 kg	120,000 lbs.
Bucket capacity sized to material density		
Truck match	218-327 tonne	240-360 ton

***Kinetic Energy Storage System (KESS) has HP available for acceleration events and parasitic loads*

Power module

Diesel power options		
Cummins diesel engine		Tier 1, Tier 2 or Tier 4
Model		QSK 60 16 cylinders
Type		4-cycle turbocharged
Rated power		1 491 kW (2,000 hp) @ 1,800 rpm
MTU Detroit diesel engine	Tier 1, Tier 2	Tier 4
Model	16V series 4000 16 cylinders	12V series 4000 12 cylinders
Type		4-cycle turbocharged
Rated power		1 491 kW (2,000 hp) @ 1,800 rpm

The independent power module mounting system, consisting of the engine coupled to the SR generator, is cradled within the rear frame by a three-point isolation system.

Radiator/oil cooler module

- Replaceable tube type, side-by-side split flow
- Thermostatically controlled, variable speed hydraulic motor-driven, radiator-mounted fan

Exhaust system

Dual, low restriction mufflers with vertical, mid-hood discharge

Control system-LINCS II

LINCS II	Microprocessor based modular design Vehicle Control Unit (VCU) with monitoring and diagnostics including integrated data logging and storage. LINCS II uses a dash mounted full color, touch screen display as the operator interface. Out-of-range conditions will cause an audible alarm along with a message screen that is color coded to indicate severity. In addition, the touch-screen display provides repair technicians with operational data and fault messages.
LINCS II load weigh	Displays real-time load per pass, per truck and total loads • Memory capable of retaining months of production information • Capable of interfacing with radio dispatch systems for real-time monitoring

Steering and hoisting system

Steering	Steering function is controlled by a single joystick. Constant engine rpm assures full hydraulic steering response.	
Articulation angle		40°
Turning radius		
Standard-lift	16.10 m	52 ft 10 in
High-lift	17.06 m	55 ft 11 in
Hoist and bucket control	Hoist and bucket control functions are incorporated into a single joystick control. The proportional electro-hydraulic controlled hoist and bucket system is independent of the steering system.	
Standard/high-lift cycle times		
Hoist		12.6 seconds*
Dump		2.9 seconds*
Float		5 seconds*

** Estimated*

HPD gear box cooler module

Thermostatically controlled, variable speed 24 V electric motor-driven, radiator-mounted fan.

Propulsion system

SR Hybrid Drive switched reluctance (SR) technology propulsion system
- Digital microprocessor controlled traction drive
- SR Hybrid Drive advantages include:
  - No commutator, brushes or rotor windings on SR motors or generator
  - SR — Kinetic Energy Storage System KESS
  - Parts commonality - power conversion modules identical for motor and generator

Travel speed	Forward and reverse 0-19.31 km/h (0-12 mph)
Generator	G200 SR generator Switched reluctance (SR)
Traction motors	• B60A SR motor
Planetary gearing	Model 57
	• In-line gear train mounted within the rim of the tire, transmitting power from the traction motor through the tire/rim assembly • A four-stage planetary drive unit in each position • Total reduction 99:1

Hydraulic system

HPD drive box	• Pressurized, cooled, and filtered lubrication • Ratio 1:1		
Pumps (maximum flow rate at 1,800 rpm)			
Main	piston (5)	2,336 L/min	617 gpm
Steering	piston (2)	469 L/min	124 gpm
Fan	piston	170 L/min	45 gpm
Accessory	piston	83 L/min	22 gpm
Cooling system			
Circulating pump	vane	409 L/min	108 gpm
Valves			
Main	two (2)	1 168 L/min	309 gpm
	pump pressure	27 580 kPa	4,000 psi
Steering	one (1)	469 L/min	124 gpm
	pump pressure	27 580 kPa	4,000 psi
Cylinders	Double-acting, single-stage (diameter and stroke), standard and high-lift		
Hoist		381 mm x 2 108 mm	15 in x 83 in
Bucket		318 mm x 1 086 mm	12.5 in x 42.8 in
Steering		200 mm x 762 mm	7.88 in x 30 in

Braking system

Primary	Electric dynamic braking system is controlled from the accelerator pedal and can bring the loader to a full stop without application of mechanical brakes
Secondary	Air modulated traction motor speed disc brakes • Single disc and caliper on each traction motor (4) • Emergency fail safe brakes are spring applied in the event of air pressure loss
Parking brake	Spring applied, air release traction motor speed disc brakes

Power electronics cooler module

Thermostatically controlled, variable speed 24 V electric motor-driven, radiator-mounted fan.

General specifications

Air filtration

Primary	• Self cleaning KLENZ filtration system • Replaceable Filter Media meets the MERV15 rating • 5,000 hour filter life achievable • Filtered air for engine, drive system cooling and pressurized cab
Secondary	Dual safety filters for engine

Structural

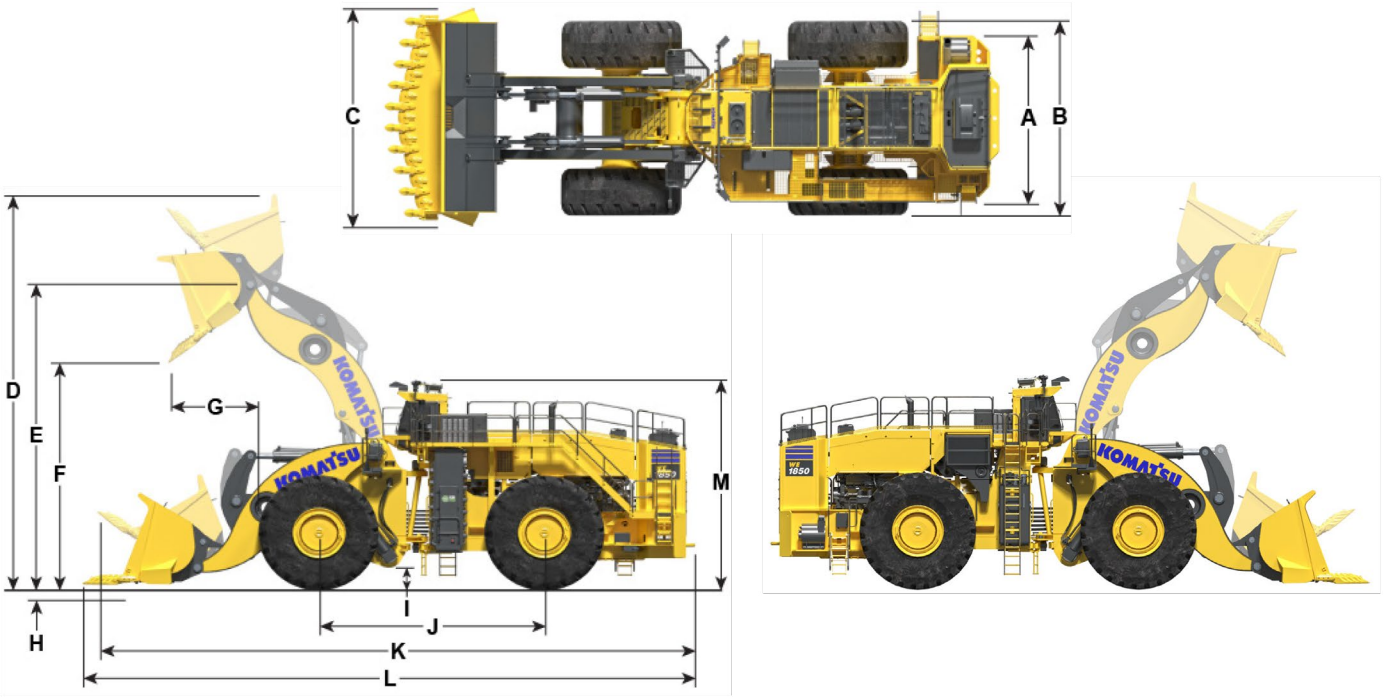
Frames are fabricated from high strength, low alloy steel with excellent weld characteristics and extreme low temperature properties. The front axle is an integral, fixed part of the front frame. The rear axle center oscillates 12.5 degrees.

Unique forged ball and socket joints are utilized in multiple pivot locations (lift arms, rear axle, frame articulation, hoist cylinders). These joints are superior in absorbing and distributing multi-directional stresses. Features easily replaceable brass liners for long life and easy maintenance.

High strength castings are used in key areas of fabricated structures to reduce stress and improve structural life.

Fluid capacities

Fuel	4 542 L	1,200 gal
Hydraulic	1 445 L	382 gal
SR converter cooling system	57 L	41 gal
Engine cooling system	490 L	130 gal
Crankcase (includes filters)		
Detroit	250 L	66 gal
Cummins	204 L	54 gal
Gearbox	27 L	7 gal
Planetaries (each)	151 L	40 gal



Overall dimensions

		Standard lift		High-lift	
A	Tread	4.57 m	15 ft 0 in	4.57 m	15 ft 0 in
B	Width outsole tires	6.04 m	19 ft 10 in	6.04 m	19 ft 10 in
C[1]	Rock bucket without deflectors	6.44 m	21 ft 0 in	6.44 m	21 ft 0 in
C[2]	Rock bucket with deflectors	6.71 m	22 ft 0 in	6.71 m	22 ft 0 in
C[3]	Coal bucket	7.44 m	24 ft 5 in	7.44 m	24 ft 5 in
D	Height - bucket fully raised	12.62 m	41 ft 5 in	13.39 m	43 ft 11 in
E	Hinge - pin height	9.40 m	30 ft 10 in	9.91 m	32 ft 6 in
F	Dump clearance	6.48 m	21 ft 3 in	7.57 m	24 ft 10 in
G	Reach at full lift	3.81 m	12 ft 6 in	3.43 m	11 ft 3 in
H	Digging depth	.10 m	0 ft 4 in	.10 m	0 ft 4 in
I	Ground clearance	.69 m	2 ft 3 in	.69 m	2 ft 3 in
J	Wheel base	7.47 m	24 ft 6 in	7.47 m	24 ft 6 in
K	Overall length - carry position	19.12 m	62 ft 9 in	19.81 m	65 ft 0 in
L	Overall length - bucket down	19.84 m	65 ft 2 in	20.24 m	65 ft 5 in
M	Height - over cab	6.73 m	22 ft 1 in	6.73 m	22 ft 1 in

Note: All dimensions are based on standard tires and standard rock bucket with GET unless otherwise noted.

Standard and optional equipment

120 V AC port	●
360 camera system	●
Accelerometer	●
Access ladder lights	●
Air conditioning / heater-defroster (filtered and pressurized)	●
Air dryer system	●
Air horn	●
Air tank bleed system	●
Adjustable automatic lift height cut off	●
Automatic bucket leveling control	●
Automatic electrical cabinet lights	●
Automatic lubrication system	●
Back-up alarm, audible	●
Battery disconnect switch	●
Brake lights	●
Central air regulator box	●
Central service with fast fuel	●
Data analysis and viewing software	●
Data logging – downloadable production and maintenance logs	●
Door interlock on electrical cabinet	●
Drawbar with tow points	●
Emergency stop buttons (cab and remote mounted)	●
Engine compartment lights	●
Fire extinguisher, manual, 9.07 kg (20 lbs.)	●
FOPS – falling object protection system	●
Idle timer	●
Inclinometer	●
Interior lights	●
Isolation monitor	●
Joystick hoist and bucket control	●
Joystick steering control	●
Jump start	●
Ladder walkway (rear access w/retracting ladder)	●
LED working lights (10 forward, 2 rear)	●
LINCS II alarms	●
LINCS II load weigh and monitoring	●
Mirrors, rearview, parabolic (2)	●
Operator seat (11-way adjustable)	●
Overspeed alarm	●
Parking brake	●
Retractable lap belt with shoulder harness	●
Rock deflectors (bucket)	●
ROPS – rollover protection structure	●
Selectable throttle switch	●
Starter disconnect switch	●
Tinted safety glass throughout	●
Turn signals	●
Twelve (12) volt power supply in cab	●
Twelve (12) volt power port	●
USB ports (2)	●
Walk around catwalk for cab	●
Windshield washer reservoir (2.6 gal)	●
Windshield wiper and washer (front and rear)	●
Auxiliary steering	○
Beacon light kit	○
Bucket GET options available	○
Cold weather package – including: - Battery heater - Engine heating system (oil and water) - Grease reservoir heater - Hydraulic tank heater	○
Exhaust discharge guard	○
Fire detection and suppression system (manual)	○
Fire suppression system (manual)	○
Fluid sampling kit	○
Lift arms – high-lift	○
Training seat (with lap belt)	○
Windshield protection kit	○

Standard equipment	●
Optional equipment	○

Tires

58/85-57 L-4	●
Rims - 47 x 57 with 6" flange	●
60/80R57	○
Rims - 47 x 57 with 5" flange	○

Buckets

Standard, ISO-rated capacity	58 967 kg / 130,000 lbs.
High-lift, ISO-rated capacity	54 331 kg / 120,000 lbs.

Rock and coal bucket configurations available. Buckets sized to material density

Bucket hardware options

Skid plates (replaceable)
Lip wear protection
Wear liner kits

For actual bucket configuration and sizing, consult your local representative.

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