

ONE FOCUS. COMPLETE SOLUTIONS



90Z^v

 **Kawasaki**



A PRODUCTION POWERHOUSE

A COMPLETE SOLUTION

- Emissions-compliant 275 HP Cummins diesel engine
- 5.0 to 5.9 cu. yard buckets available
- Dual Z-linkage arms—heaviest in its class
- Redesigned integrated ROPS/FOPS cab optimizes productivity and visibility
- Increased width of cab by 20% for operator comfort
- Transmission redesigned with helical gears, reducing noise level and vibration
- Air Conditioner and heater standard
- Automatic powershift transmission with four forward and four reverse speeds
- Outboard-mounted, four-wheel, dual circuit sealed wet disc brakes for reliability and long service life
- Torque-proportioning differentials extend brake and tire life and improve traction in sand or mud
- Easy access to drains, filters and fittings
- Ride Control provides stable load handling, optional
- K-Lever provides one-hand steering and transmission control, optional

THE POWER TO PERFORM!

The **90Z^v** loader is a versatile, high productivity wheel loader for applications from quarries to bulk material handling. Featuring a Cummins QSM11 diesel engine producing 275 flywheel horsepower, a 5.2 cu. yard bucket, a certified ROPS cab and a host of other features that provide high operating efficiency, ease of maintenance and safety, the **90Z^v** eats up the work.

OPERATOR PRODUCTIVITY AND SAFETY

The **90Z^v** features a completely redesigned ROPS cab with an operator's compartment that offers unmatched comfort and is designed to maximize efficiency and productivity. The cab is accessible by ladders on both sides, features a gasket-mounted flat tinted glass windshield, has front and rear wipers and includes many other features which contribute to improved safety, visibility and comfort. The **90Z^v** comes standard with an AM/FM cassette player, air-ride seat, and a 27,000 BTU air conditioner.





Kawasaki and their dealer organization offer comprehensive support and service programs designed to keep you on the job.

PUTTING THE **90Z** TO WORK

Like all Kawasaki loaders, the **90Z** has a 40-year heritage of strength and reliability. With dual pilot-assisted hydraulic controls, automatic powershift transmission and low-effort steering, the **90Z** is designed to turn out the work.

Kawasaki's optional K-Lever Steering system increases operator productivity and dramatically reduces fatigue in wheel loader cycling applications. Located on the left armrest, K-Lever provides fast, proportional steering and transmission control with one hand convenience.

The **90Z** is available with a 5.2 cubic yard bucket with a bolt-on cutting edge. Simultaneous roll-back and lift operations can be performed with the bucket control lever for smooth, efficient bucket loading. Ride Control, optional, significantly reduces vibration for improved stability while reducing operator fatigue.

The outboard-mounted, four-wheel sealed wet disc brakes are designed for long life and easy access and overhaul. Standard spin-on filters, remote mounted grease fittings and oil drain simplify maintenance. The standard 26.5-25-20PR (L-3) tires and optional 26.5-25-20PR (L-2, L-4, L-5) and 26.5-R25 (Radial) tires use heavy duty three-piece rims for easy servicing in the field.



UNMATCHED SUPPORT

Kawasaki maintains a large inventory of new components to ensure outstanding parts availability and minimal downtime. In addition, a predictive oil analysis program helps eliminate unnecessary maintenance and helps find problems before they occur. Kawasaki also stocks an array of cost-effective rebuilt components.

BUILT TO STAY ON THE JOB

Kawasaki loaders are designed with the durability to provide years of service. Backed by a dealer network of heavy equipment experts and a dedicated support staff in the Kawasaki parts and service organization, your investment in a Kawasaki loader is an excellent choice that will pay dividends for years to come.



POWER AND PERFORMANCE PROVIDE UNMATCHED PRODUCTIVITY

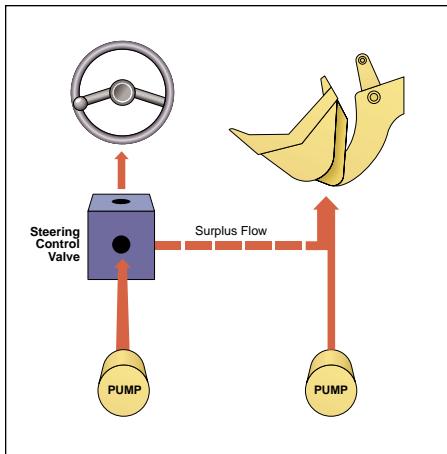


The Kawasaki **90Z[®]** means business. It incorporates the best in design and technology, giving your operators the tool they need to get the job done.

Because Kawasaki specializes in the design and manufacture of articulated wheel loaders, you get a machine with a 40-year heritage of successful innovations. The power and productivity that the **90Z[®]** brings to the job is a result of that experience.

WORLD-CLASS ENGINES

- 275 HP emissions-compliant Cummins QSM11 diesel
- Complies with tough new tier 2 emissions standards
- Engineered for longer service life
- High torque and fuel efficient
- Extensive distribution system
- 24 volt battery system for reserve power
- Reliable and fuel efficient
- Turbocharger with aftercooler



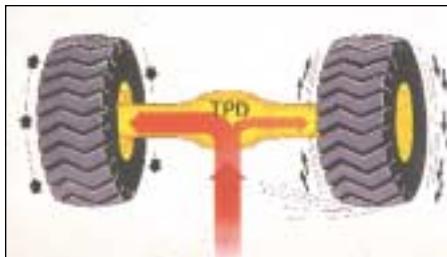
HIGH EFFICIENCY HYDRAULIC SYSTEM

- Dry, reliable
- Cast iron gear pump
- Light-touch steering is maintained, even at low engine speeds. When steering is not required, oil flow control routes full steering pump discharge to supplement the loading circuit.
- Easy access to two-spool control valve
- Large oil reservoir keeps oil cooler



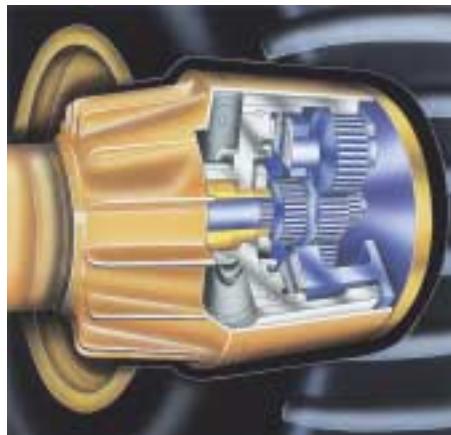
TRANSMISSION

- Automatic transmission selects optimum speed from second to fourth gear
- Heavy-duty design increases reliability
- Large standard SAE universal joints
- Single lever control
- Switch activates transmission declutch
- Downshift button speeds cycle times and reduces operator fatigue
- Helical gears reduce noise and vibration



AXLES/BRAKES

- Heavy-duty torque proportioning differential
- 26.5-25-20PR (L-3) tires standard
- 26.5-25-20PR (L-2, L-4, L-5) and 26.5-R25 (Radial) tires available
- 3-piece wheel rims standard
- Outboard-mounted, four-wheel, dual-circuit wet disc brakes
- Auto adjuster maintains brake feel
- High capacity
- Easy maintenance
- Long life



LIFT ARMS/BUCKETS

- Z-linkage
- High breakout force
- Heaviest in its class
- Optional high lift arms available
- 5.0 to 5.9 cu. yd. buckets available
- Excellent load retention
- Full assortment of edges and teeth
- Complete array of attachments available
- Bolt-on heel plates extend bucket life
- Bucket leveler and boom kick-out standard



STRONG, RUGGED BOX FRAME

- Massive center pins and bearings
- High strength loader tower
- Heavy box frame rear chassis

THE COMFORT ZONE

Kawasaki has taken a from-the-ground-up approach to create a cab designed with the operator in mind—including a 20% increase in width. The cab focuses on providing the ultimate environment for productivity, comfort and safety. The high visibility, quiet, temperature controlled cab offers the operator ideal surroundings for putting the Kawasaki loader through its paces.



New 90Z[®] Features

- Flat glass windows for easy replacement
- Cab offers easy entry from either side of cab
- Sliding side windows
- Automotive door locks
- Halogen headlights improve nighttime visibility
- Reduced noise level
- Cab interior increased 20% in size for operator comfort
- Telescoping and tilting steering wheel
- New flooring configuration reduces sound levels and allows easy cleaning
- Increased storage
- Climate controlled storage box for food & beverage storage

Standard Features

- Air ride seat, standard, with adjustable arms, lumbar support and headrest
- All systems monitored with lights and alarms
- Single twist grip transmission lever redesigned for easy gripping and smoother shifting
- Dual, pilot-assisted hydraulic controls—fingertip control
- Adjustable wrist rest
- One rearview and two side mirrors
- AM/FM cassette radio
- Rear lights added to ROPS cab
- Viscous isolation-mounted to reduce vibration
- Personal storage space and coat hook
- 27,000 BTU air conditioner and 40,000 BTU heater, standard
- Cold start feature
- Pressurized air control
- Switch activates transmission declutch on both brake pedals
- Front and rear wipers and washers
- Intermittent front wiper

Options

- K-Lever steering and transmission control
- Turn signal with four-way flasher

EASY ACCESS SIMPLIFIES SERVICING

- Engine side covers open wide for optimum access
- Filters positioned within easy reach
- Easy access to drains, filters and fittings
- Grease fittings are grouped for easy lubrication
- Readily available Fleetguard and Donaldson filters
- Starters and alternators available through Cummins national distribution network
- 3-piece wheel rims standard for easy field service
- Double pre-cleaner, standard
- Cooling system engineered to allow easy access to radiator and hydraulic coolers from side compartments
- Ladders on both sides of the machine
- Pressurized air control reduces dust in cab
- Trunnion grease fittings located near axle
- Sealed universal joints (only require greasing at 2000 hour intervals)
- Electric wiring color-coded and numbered for ease of service
- Deutsch electric connectors throughout wiring harness



OPTIONS

K-LINK

- On demand reports provide machine location, hours, operating status
- Alarm notification by phone or pager can indicate equipment failure, geo-fence break
- Worldwide satellite coverage
- Customize reports and alerts
- Internet access to all reports and alerts

EMERGENCY STEERING

- Allows the machine to be steered in the event of an unexpected engine shut-off

K-LEVER STICK STEERING

- Increases productivity and reduces fatigue
- Electric-over-hydraulic system
- Forward, neutral, reverse and downshift buttons for one-hand steering/transmission control
- Positive, well modulated steering
- Fully adjustable for maximum operator comfort



Photo representative of similar models.

RIDE CONTROL

- Stable load handling
- Reduces operator fatigue
- Cuts vibration and equipment wear
- Improves safety and productivity
- Less spillage
- Faster travel speed

Without Ride Control

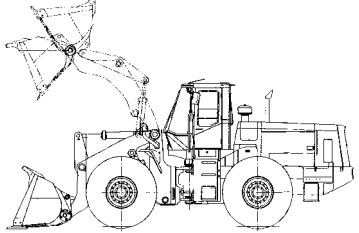


With Ride Control



Illustration representative of similar models.

BUCKET DATA

		Standard Boom			High Lift Boom		
		General Purpose		Material Handling	General Purpose		Material Handling
		Straight Edge With Bolt-on Cutting Edge	Straight Edge With Teeth	Straight Edge With Bolt-on Cutting Edge	With Bolt-on Cutting Edge	With Teeth	With Bolt-on Cutting Edge
Capacity	Heaped	yd ³ (m ³)	5.2 (4.0)	5.0 (3.8)	5.9 (4.5)	4.6 (3.5)	4.3 (3.3)
	Struck	yd ³ (m ³)	4.4 (3.4)	4.2 (3.2)	5.1 (3.9)	3.9 (3.0)	3.6 (2.8)
Maximum dumping clearance		ft-in (mm)	10'3 ¹ / ₄ " (3130)	9'10 ⁵ / ₁₆ " (3005)	9'11 ⁷ / ₈ " (3045)	12'2 ¹ / ₄ " (3715)	11'9 ⁹ / ₁₆ " (3595)
Dumping reach (to front of bucket edge or tooth)		ft-in (mm)	3'10 ⁷ / ₁₆ " (1180)	4'1 ⁵ / ₈ " (1260)	4'1 ⁵ / ₈ " (1260)	3'8 ¹¹ / ₁₆ " (1135)	4'1 ¹ / ₁₆ " (1220)
Bucket hinge pin height		ft-in (mm)	14'3 ⁵ / ₈ " (4360)	14'3 ⁵ / ₈ " (4360)	14'3 ⁵ / ₈ " (4360)	16'1 ¹ / ₈ " (4880)	16'1 ¹ / ₈ " (4880)
Digging depth		ft-in (mm)	2 ⁹ / ₁₆ " (65)	3 ³ / ₄ " (95)	2 ⁹ / ₁₆ " (65)	2 ⁹ / ₁₆ " (65)	3 ³ / ₄ " (95)
Breakout force		lb (kg)	46,300 (21,000)	50,090 (22,720)	42,620 (19,330)	49,960 (22,660)	54,430 (24,690)
Bucket tilt-back angle	at ground level		41°	41°	41°	41°	41°
	at carry position		50°	50°	50°	48°	48°
Overall	Length	ft-in (mm)	28'6 ¹ / ₂ " (8700)	29 ¹ / ₄ " (8845)	28'11 ¹ / ₁₆ " (8815)	29'10 ⁷ / ₈ " (9115)	30'4 ⁹ / ₁₆ " (9260)
	Height	ft-in (mm)	11'7 ³ / ₁₆ " (3535)	11'7 ³ / ₁₆ " (3535)	11'7 ³ / ₁₆ " (3535)	11'7 ³ / ₁₆ " (3535)	11'7 ³ / ₁₆ " (3535)
	Width (outside tire)	ft-in (mm)	9'7 ³ / ₈ " (2930)	9'7 ³ / ₈ " (2930)	9'7 ³ / ₈ " (2930)	9'7 ³ / ₈ " (2930)	9'7 ³ / ₈ " (2930)
	Width (outside bucket)	ft-in (mm)	10'2 ¹ / ₁₆ " (3100)	10'2 ¹³ / ₁₆ " (3120)	10'2 ¹ / ₁₆ " (3100)	10'2 ¹ / ₁₆ " (3100)	10'2 ¹ / ₁₆ " (3100)
Wheel base		ft-in (mm)	11'1 ⁷ / ₈ " (3400)	11'1 ⁷ / ₈ " (3400)	11'1 ⁷ / ₈ " (3400)	11'1 ⁷ / ₈ " (3400)	11'1 ⁷ / ₈ " (3400)
Minimum turning radius	at outside bucket	ft-in (mm)	22'5 ⁵ / ₁₆ " (6840)	22'7 ¹ / ₄ " (6890)	22'6 ¹¹ / ₁₆ " (6875)	23'3 ¹ / ₄ " (7030)	23'2 ¹⁵ / ₁₆ " (7085)
	at center of outside tire	ft-in (mm)	19 ³ / ₈ " (5800)	19 ³ / ₈ " (5800)	19 ³ / ₈ " (5800)	19 ³ / ₈ " (5800)	19 ³ / ₈ " (5800)
Minimum ground clearance		ft-in (mm)	20 ¹ / ₄ " (515)	20 ¹ / ₄ " (515)	20 ¹ / ₄ " (515)	20 ¹ / ₄ " (515)	20 ¹ / ₄ " (515)
Full articulation angle		degree	40°	40°	40°	40°	40°
Operating weight (with ROPS Cab)		lb (kg)	51,320 (23,280)	51,010 (23,140)	51,760 (23,480)	51,810 (23,500)	51,500 (23,360)
Static Tipping Load (with ROPS cab)	Straight	lb (kg)	39,980 (18,135)	40,390 (18,320)	39,280 (17,815)	33,380 (15,140)	33,770 (15,320)
	Full turn	lb (kg)	34,250 (15,535)	34,600 (15,695)	33,650 (15,265)	28,590 (12,970)	28,950 (13,130)

The weight and load figure includes optional counterweight, enclosed ROPS Cab, air conditioner, 26.5 x 25-20PR (L-3) tires, full fuel tank and operator.

90^{ZV}

OPERATING SPECIFICATIONS

WEIGHTS AND DIMENSIONS (SUPPLEMENTAL DATA)

	Operating Weight	Tipping Load		Overall Width (Outside Tire)	Tread	Vertical Dimensions	Overall Length
		Straight	Full Turn				
Remove ROPS Cab (for transport only)	lb (kg)	-1100 (-500)	-990 (-450)	-860 (-390) in (mm)		-6 ⁷ / ₈ " (-175)	
Remove Optional Counterweight	lb (kg)	-790 (-360)	-2030 (-920)	-1740 (-790) in (mm)			-3 ¹⁵ / ₁₆ " (-100)
Tires: 26.5-25-20PR (L-2)	lb (kg)	-400 (-180)	-310 (-140)	-265 (-120) in (mm)			
26.5-25-20PR (L-4)	lb (kg)	+1060 (+480)	+790 (+360)	+670 (+305) in (mm)			
26.5-25-20PR (L-5)	lb (kg)	+1850 (+840)	+1380 (+625)	+1180 (+535) in (mm)			
26.5-25 (75% CaCl ₂)	lb (kg)	+3220 (+1460)	+4810 (+2180)	+4120 (+1870) in (mm)			
Air conditioner—Deletion	lb (kg)	-220 (-100)	-240 (-110)	-220 (-100) in (mm)			
Belly Guard (rear frame)	lb (kg)	+410 (+185)	+600 (+270)	+510 (+230) in (mm)			

Base Tire 26.5-25-20PR (L-3)

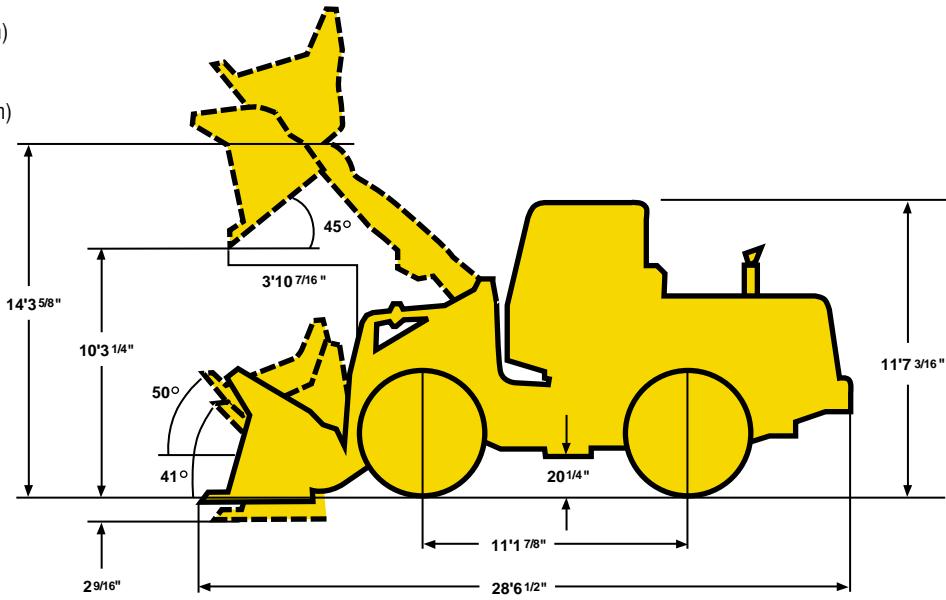
Tread 7'3¹³/₁₆" (2230mm)

Width (outside tire) 9'7³/₈" (2930mm)

Width (outside bucket) 10'2¹/₁₆" (3100mm)

Equipped with GSC bucket with bolt-on cutting edge, optional counterweight

26.5-25-20PR (L-3) Tire and ROPS Cab





OPERATING SPECIFICATIONS

ENGINE

Make/Model/Fuel Type	Cummins/QSM11/Diesel
Type	4-cycle, watercooled, direct injection type with turbo charger and air-cooled intercooler
Net flywheel horsepower	275HP/2100 RPM
Maximum torque	919 ft/lb @ 1400 RPM
Number of cylinders	6
Bore and stroke	4.921" x 5.787" (125mm x 147.1mm)
Total displacement	660 in³ (10,830 cm³)
Alternator	AC24V-1800W (75 amp)
Starting motor	24V-7.3kw (9.8HP)
Battery	12V-150AH, 2 units
Governor	All-speed, electrical type

TORQUE CONVERTER AND TRANSMISSION

Torque converter	3 elements, single stage, 1-phase
Torque stall ratio	3.16:1
Main clutches	Wet hydraulic, multi-disk type
Cooling method	Forced circulation type
Transmission	Full powershift, 4 forward, 4 reverse with automatic mode (2nd-4th) with downshift switch for 2nd-1st downshifting.
Speeds Forward	1st: 4.4 MPH (7.1 km/hr) 2nd: 7.7 MPH (12.4 km/hr) 3rd: 13.5 MPH (21.8 km/hr) 4th: 21.1 MPH (34.0 km/hr)
Speeds Reverse	1st: 4.8 MPH (7.8 km/hr) 2nd: 8.3 MPH (13.4 km/hr) 3rd: 14.6 MPH (23.5 km/hr) 4th: 21.7 MPH (35.0 km/hr)

SERVICE REFILL CAPACITY

LOCATION	CAPACITY:	Gallons	Liters
Engine (coolant)		15.9	(60)
Fuel tank (diesel fuel)		87.2	(330)
Engine oil (oil pan)		9.0	(34)
Front axle (gear oil)		19.5	(74)
Rear axle (gear oil)		21.1	(80)
Torque converter and transmission (engine oil)		15.9	(60)
Hydraulic system (including tank hydraulic oil)		68.7	(260)

HYDRAULIC AND STEERING SYSTEM

Steering type	Articulated frame steering	
Steering mechanism	Hydraulic power steering unit, pilot operated type	
Lift (boom) cylinder	Two (2) double-acting piston type: 6.69" x 34.02" (170mm x 864mm)	
Tilt (bucket) cylinder	Two (2) double-acting piston type: 5.51" x 24.57" (140mm x 624mm)	
Steering cylinder	Two (2) double-acting piston type: 3.94" x 17.72" (100mm x 450mm)	
Steering oil pump	Gear type: 59.7 GPM @ 2100 RPM (226 LPM @ 2100 RPM)	
Main oil pump	Gear type: 37.8 GPM @ 2100 RPM (143 LPM @ 2100 RPM)	
Pilot oil pump	Gear type: 27.2 GPM @ 2100 RPM (103 LPM @ 2100 RPM)	
Relief valve set pressure	Loading	3000 psi (210 kg/cm²)
	Steering	3000 psi (210 kg/cm²)
HYDRAULIC CYCLE TIME*		
Lifting time (at full load)	6.1 sec.	
Lowering time (empty)	3.0 sec.	
Bucket dumping time	1.6 sec.	
TOTAL	10.7 sec.	

* Measured in accordance with SAE J732C

AXLE SYSTEM

Drive system	4-wheel drive	
Front and rear axle	Full floating banjo type	
Tires	Standard	26.5 x 25-20PR (L-3)
	Optional	26.5 x 25-20PR (L-2) (L-4) (L-5) 26.5 x R25 (Radial)
Reduction and differential gear		Spiral bevel/gear, 1 stage reduction torque proportioning
Final reduction gear		Outboard mounted, internal planetary gear
Oscillation angle		±12° (total 24°)

BRAKE SYSTEM

Service brakes	4 wheel, adjustment free, wet multiple disk brake. Controlled by full hydraulic system Dual circuit.
Parking/Emergency brake	Spring applied oil released type, located in front driveline.



EQUIPMENT DATA

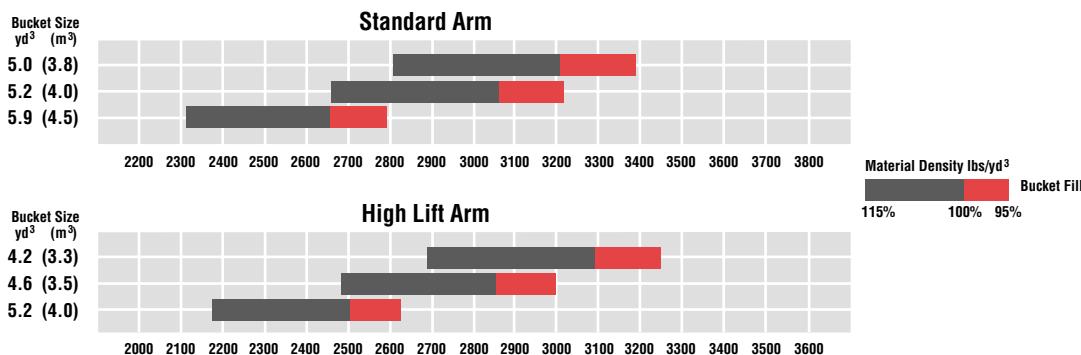
STANDARD EQUIPMENT

Air Cleaner (Double Element Donaldson with Pre-cleaner)	Brakes (Service) Enclosed Wet Disc, Dual System Full Hydraulic System	Heater/Pressurizer (40,000 BTU) Hoodsides (Hinged) Horn (Electric) Hydraulic Fan (Blower)	Radiator Grille, Hinged Reverse Alarm
Air Conditioner (R134 Refrigerant)	Bucket Control Lever, Dual, Pilot Assisted	Indicators: High Beam Parking Brake Transmission Declutch Transmission Shift Monitor Working Light	ROPS Cab: Enclosed cab with sound suppression, front lights, front and rear wipers and washers, one rear view and two side mirrors, tinted glass, sliding side windows, and rear lights
Alarms (Audible): Brake Oil Pressure Engine Oil Pressure	Bucket Leveler Boom Kickout Coat Hook Cold Start Aid Cup Holder	Linkage (Dual Z-type, Sealed)	Safety Articulation Locking Bar
Alarms (Visual): Air Filter Battery Discharge Brake Oil Pressure Converter Oil Temperature Engine Oil Pressure Engine Coolant Temperature Parking Brake	Downshift Button Drawbar Electrical System (24 volt) Fenders (Front and Rear)	Lights: 2 Headlights (Halogen) Working Lights 4 Front 4 Rear 2 Stop/Tail 2 Backup	Seat, Air Ride Seat Belt, Retractable, 3" wide
Alternator (75 amp) AM/FM Cassette Radio Batteries: 12V-150AH (2 units)	Gauges: Converter Oil Temperature Engine Coolant Temperature Fuel Level Hour Meter Hydraulic Oil Level Tachometer	Muffler Neutral Safety Start Operator's Manual Box Radiator: Heavy Duty Plate Fin Type	Shift Control Unit for Automatic Shift Telescopic and Tilt Steering Torque Proportioning Differentials Transmission Declutch Selector Switch Vandalism Protection Wrist Rest, Adjustable
Brake Line Protection (Front) Brake (Parking) Spring applied; Oil pressure released, Drum type			

OPTIONAL EQUIPMENT

Belly Guard, Hinged Transmission Bolt-On Cutting Edge Segments Bucket Teeth	Converter, 12V Counterweight, Bucket Cushion Dump Valve Emergency Steering	High Lift Arm Hydraulic System, 3-Spool Valve K-Lever Stick Steering K-Link	No Spin Differential Radiator, Wide Fin Spacing Ride Control Turn Signal With Four-Way Flasher
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BUCKET SELECTION CHARTS



KAWASAKI LOADERS

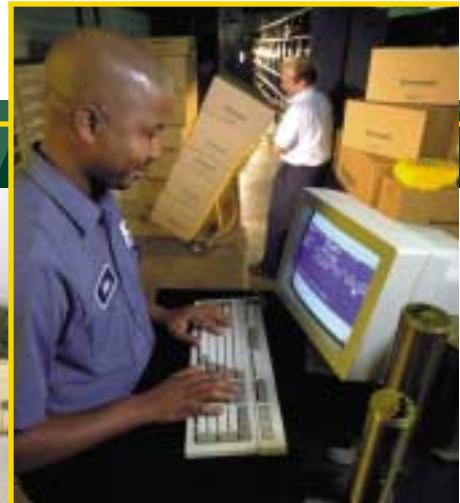
More Than A Machine, A Complete Solution

Kawasaki Construction Machinery Corp. of America, a division of Kawasaki Heavy Industries, is a leading supplier of a full range of high quality wheel loaders. In fact, Kawasaki is the oldest on-going manufacturer of articulated, rubber-tired wheel loaders in the world. Since 1962, Kawasaki wheel loaders have continuously evolved to bring you the best in equipment and support services, backed by a carefully selected dealer network.

Kawasaki articulated wheel loaders incorporate innovative design features coupled with extensive knowledge and experience gained from real-world applications. Kawasaki pioneered Z-Link design to provide unmatched utility, high breakout force and efficiency in its machines. Powered by proven emissions-compliant Cummins diesel engines, durability and serviceability are designed into every Kawasaki loader.

Kawasaki loaders are assembled at the company's modern facilities in Newnan, GA. Service and support operations are headquartered in Kennesaw, GA.

A state-of-the-art parts distribution system links dealers with the main parts warehouse, allowing them to order parts directly. Qualified craftsmen rebuild components for all Kawasaki models at our fully-equipped rebuild center, making component exchange easier and faster. An independent oil analysis



program allows monitoring of critical systems to reduce unscheduled downtime.

The independent dealers that represent and support Kawasaki loaders are experts in their markets and are

dedicated to providing you with the best service available. Together, we are committed to making your investment in a Kawasaki loader a sound business decision that will pay dividends for years to come.

 **Kawasaki**
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