

# 110zII



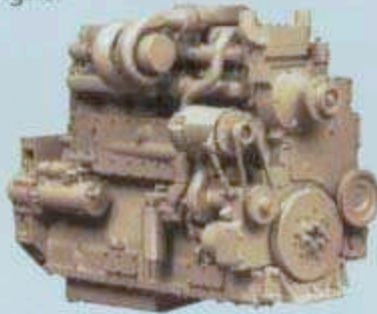
# 110zII

## SUMMARY OF FEATURES

- The reliable, fuel efficient Cummins KT-19-C turbocharged engine supplies a big 383 HP.
- Z-type linkage for high breakout force and easy digging in tough materials.
- Dual bucket cylinders for excellent visibility to the bucket plus distribution of loads evenly across the torque tube.
- Caliper disc brakes are self-cleaning, fade resistant and easy to change, for the lowest cost per hour.
- High tipping loads for excellent stability.
- Large 35/65 x 33 tire provides excellent flotation and high load capacity.
- Safety features include separate brake systems front and rear, emergency brake, major component monitor system, reverse alarm, neutral start and optional emergency-steering.
- Operator features include adjustable steering column, single twist grip transmission lever, fingertip hydraulic controls, isolated/sound suppressed cab, suspension seat, bucket leveler and boom kickout.
- Service features include sealed linkage pins, remote mounted grease fittings, tire inflation kit, SAE hydraulic hoses, multiple use of common hoses, hinged hood/sides and special tool kit.

## CUMMINS ENGINE

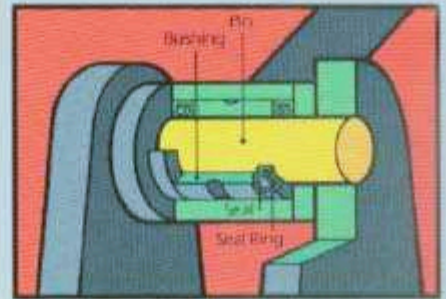
The state-of-the-art Cummins KT-19-C turbocharged diesel provides a big 383 flywheel horsepower. With outstanding torque characteristics; this engine also offers excellent fuel economy. The turbo-charger permits efficient operation at high altitude or high ambient conditions. Reliable Delco Remy electrical components make service easy. Ether cold start is standard. Resilient engine mounts reduce vibration and noise. Two stage Donaldson air cleaner protects the engine.



## OPERATOR COMFORT FEATURES

The roomy ROPS cab is rubber mounted to reduce vibration and sound levels. The cab is well appointed with tinted glass, sliding windows, front and rear wipers and washer, defroster fan, side mirrors and interior rear view mirrors. Operator comfort is further enhanced with the three-way adjustable, suspension seat and adjustable steering column. Bucket visibility is excellent because of the dual bucket cylinder design.

## SEALED DUAL Z-LINKAGE

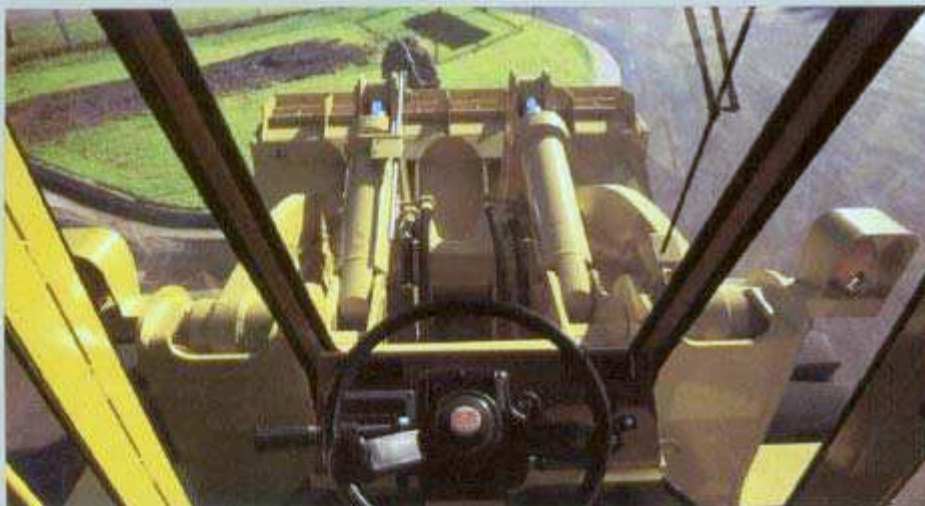


The Z-type bucket linkage provides high breakout force and digging power for the toughest jobs. Also, the bucket roll-back angle permits carrying the maximum load without spillage. The linkage pins are sealed to retain lubricant better. The two cylinder design spreads loads evenly along the torque tube to increase reliability.

## SOFT-SHIFT TRANSMISSION

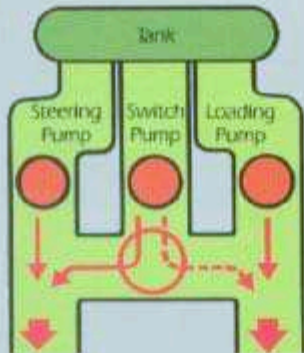


The tough planetary, 3-speed powershift transmission has a soft shift feature to reduce shift shock and increase operator comfort. The single twist grip lever is convenient for quicker cycles and less operator fatigue.



## SMOOTH, EASY STEERING AND FINGERTIP CONTROL

The demand hydraulic system assures smooth easy steering at any engine speed. The switch pump supplements the steering pump at low RPM and the loading pump at higher RPM.



Also the hoist and bucket control levers are servo assisted to reduce lever effort. This fingertip control, coupled with the standard bucket leveler and boom kick-out, speeds cycle times and provides positive control, while reducing operator fatigue. All of this adds up to greater productivity.

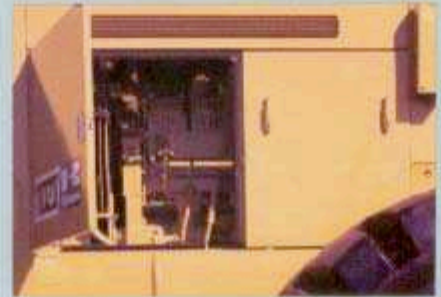


## FAST HYDRAULICS

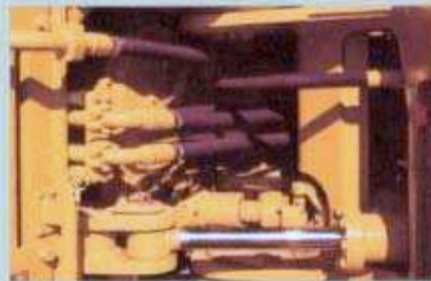
Cycle time is reduced due to fast hydraulic speeds. The Kawasaki 110ZII also has excellent dump and reach capabilities. It is an ideal match for 35-ton class haulers and can also effectively load out low profile 50-ton class haulers.

## SERVICEABILITY FEATURES

To insure proper efficient servicing, the Kawasaki 110ZII offers many features. All grease fittings are located for easy access. Convenient panels and hinged hood sides make routine service checks simple. All flange fittings use SAE threads.

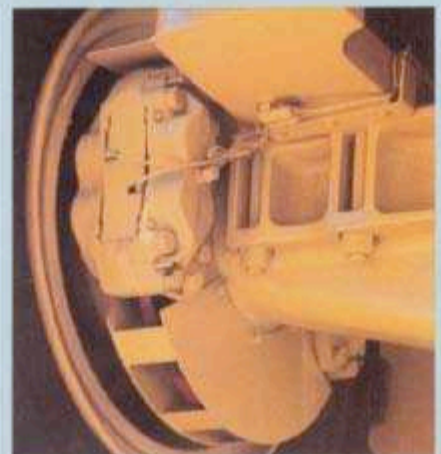


for easy, convenient replacement. Most of the hoses are used in several locations, allowing a minimal stock of hoses to support the entire machine. A tire inflator and special tool kit are standard.



## SIMPLE, EFFECTIVE CALIPER DISC BRAKES

The four-wheel, long life caliper disc brakes are self-cleaning, fade resistant and easy to service. Pad wear is easily monitored through inspection covers and pad removal is done quickly and easily. The front and rear brakes are completely separate to provide added safety. The emergency brake automatically applies in case of loss of air or oil pressure.





## KAWASAKI'S PDQ SYSTEM

Kawasaki understands the need for timely delivery of parts to any of its users. To provide an unsurpassed level of service in this area, Kawasaki maintains an extremely high level of parts availability and fast response from our parts distribution network and dealers.



## KAWASAKI HISTORY

The dependable Kawasaki loader is manufactured by Kawasaki Heavy Industries. Kawasaki is a large industrial manufacturer of ships, aircraft, locomotives, robots, plants, hydraulic components, and motorcycles, as well as a variety of construction equipment. The first Kawasaki articulated loader was manufactured in 1962, making Kawasaki a true pioneer in the loader market. The Kawasaki loaders are sold in over 100 countries. Kawasaki is one of the largest loader manufacturers in the world.



## OPERATING SPECIFICATIONS

# 110zII

### ENGINE

Make/Model/Fuel type	Cummins/KT19-C/Diesel
Type	4 cycle, watercooled, turbocharged, direct injection
Net flywheel horsepower	383HP/2100rpm
Number of cylinders	6
Bore and stroke	φ 6.25" × 6.25" (φ 159mm × 159mm)
Total displacement	1150in <sup>3</sup> (18.853cm <sup>3</sup> )
Alternator (Delco)	AC24V-1800W/75AMP
Starting motor	24V-11 kw (14.7HP)
Battery	12V-200Ah: 2 Units
Governor	All speed, mechanical type

### TORQUE CONVERTER AND TRANSMISSION SPECIFICATIONS

Torque converter	three elements, single stage, 1-phase
Torque stall ratio	2.9:1
Main clutch	wet hydraulic, multi-disk type
Cooling method	forced circulation type
Transmission	full power shift, 3 forward, 3 reverse
Max Speeds:	forward: 17.4 MPH (28.0 km/HR) reverse: 18.6 MPH (30.0 km/HR)

### SERVICE REFILL CAPACITY

LOCATION		gal (Lit)
Engine	Cooling water	26 (100)
Fuel tank	Diesel fuel	159 (600)
Engine (oil pan)	Engine oil	16 (59)
Front axle	Gear oil	35 (133)
Rear Axle	Gear oil	35 (133)
Gear box (steering)	Gear oil	0.4 (1.5)
Torque converter and transmission	Transmission fluid	21 (80)
Hydraulic system (including tank)	Hydraulic oil	159 (600)
Brake oil tank	Brake fluid	1.6 (6)

### HYDRAULIC AND STEERING SYSTEM

Type	articulated frame steering	
Steering mechanism	hydraulic power steering unit, mechanical follow-up	
Lift (boom) cylinder	two (2) double-acting piston type: φ8-13/16" × 3'7-3/8" (φ224mm × 1101mm)	
Tilt (bucket) cylinder	two (2) double-acting piston type: φ6-7/8" × 2'3-3/8" (φ175mm × 695mm)	
Steering cylinder	two (2) double-acting piston type: φ4-6/8" × 1'6-7/8" (φ120mm × 480mm)	
Steering pump	gear type: 50GPM/2490psi @ 1800rpm (190LPM/175kg/cm <sup>2</sup> @ 1800rpm)	
Main pump	gear type: 50GPM/2490psi @ 1800rpm (190LPM/175kg/cm <sup>2</sup> @ 1800rpm)	
Demand (switch) oil pump	gear type: 50GPM/2490psi @ 1800rpm (190LPM/175kg/cm <sup>2</sup> @ 1800rpm)	
Relief set pressure	Loading	2490psi (175kg/cm <sup>2</sup> )
	Steering	2490psi (175kg/cm <sup>2</sup> )
HYDRAULIC CYCLE TIME: *		
Lifting time (at full load)	9.1 sec.	
Lowering time (empty)	4.8 sec.	
Bucket dumping time	1.5 sec.	
TOTAL	15.4 sec.	
*Measured in accordance with SAE J732C.		

### AXLE SYSTEM

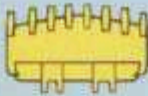
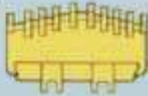

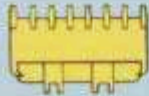

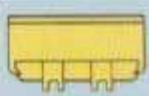
Drive system	4-wheel drive
Front and rear axle	full floating banjo type
Tires	Standard: 29.5-29-28PR (L-4) Optional: 29.5-29-28PR (L-3) 29.5-29-28PR (L-5) 35/65-33-24PR (L-4) 35/65-33-24PR (L-5)
Reduction and differential gear	Spiral bevel gear, 1 stage reduction
Final reduction gear	Outboard mounted, internal planetary gear
Oscillation	± 12° (total 24°)

### BRAKE SYSTEM

Service brakes	4 wheel air over hydraulic, disk brake
Parking brake	Spring applied air released type, located in rear drive shaft
Emergency brake	same as parking, applying on failure in air or brake fluid line

# OPERATING SPECIFICATIONS / BUCKET DATA

# 110zII

			Rock - V-Edge			Rock - Straight		General Purpose
			Spade Nose Edge With Teeth RTT	Spade Nose Zipper Lip RTZ	Spade Nose w/o teeth RTN	Straight Edge With Teeth RST	Straight Edge w/o Teeth RSN	Straight Edge With Bolt on Cutting Edge CSC
								
Capacity	Heaped	yd <sup>3</sup> (m <sup>3</sup> )	7.5 (5.7)	7.5 (5.7)	7.5 (5.7)	7.5 (5.7)	7.5 (5.7)	8.25 (6.3)
	Struck	yd <sup>3</sup> (m <sup>3</sup> )	6.5 (5.0)	6.5 (5.0)	6.5 (5.0)	6.5 (5.0)	6.5 (5.0)	7.0 (5.3)
Recommended Material Density		lb/yd <sup>3</sup> (kg/m <sup>3</sup> )	3,200 (1,900)	3,200 (1,900)	3,200 (1,900)	3,200 (1,900)	3,200 (1,900)	3,000 (1,780)
Maximum Dumping Clearance		ft-in (mm)	10'7 1/2" (3,240)	10'7 1/2" (3,240)	11'4 3/4" (3,470)	11'2 1/4" (3,410)	12'7 1/4" (3,680)	11'8 1/4" (3,560)
Dumping Reach (to front of bucket edge or teeth)		ft-in (mm)	6'3 1/4" (1,910)	6'3 1/4" (1,910)	5'6 1/4" (1,680)	5'8 1/2" (1,740)	4'9 1/4" (1,470)	5'3" (1,600)
Digging Depth		ft-in (mm)	4 1/2" (115)	4" (105)	1 3/4" (45)	4 1/2" (115)	1 3/4" (45)	3 1/2" (90)
Breakout Force		lb (kg)	58,250 (26,420)	58,250 (26,420)	58,250 (26,420)	70,790 (32,110)	70,790 (32,110)	62,660 (28,420)
Bucket tilt-back angle		(at ground level) degree	45°	45°	45°	45°	45°	45°
		(at carry position) degree	47°	47°	47°	47°	47°	47°
Overall	Length	ft-in (mm)	32'5" (9,880)	32'5" (9,880)	31'4" (9,550)	31'7 1/2" (9,640)	30'4 1/2" (9,260)	30'11 1/4" (9,440)
	Height	ft-in (mm)	13'6 1/2" (4,130)	13'6 1/2" (4,130)	13'6 1/2" (4,130)	13'6 1/2" (4,130)	13'6 1/2" (4,130)	13'6 1/2" (4,130)
	Width (Outside Tire)	ft-in (mm)	11'11 1/4" (3,640)	11'11 1/4" (3,640)	11'11 1/4" (3,640)	11'11 1/4" (3,640)	11'11 1/4" (3,640)	11'11 1/4" (3,640)
	Width (Outside Bucket)	ft-in (mm)	12'4 3/4" (3,770)	12'4 3/4" (3,770)	12'4 3/4" (3,770)	12'4 3/4" (3,770)	12'4 3/4" (3,770)	12'4 3/4" (3,770)
Wheel Base		ft-in (mm)	12'6 3/4" (3,820)	12'6 3/4" (3,820)	12'6 3/4" (3,820)	12'6 3/4" (3,820)	12'6 3/4" (3,820)	12'6 3/4" (3,820)
Min. Turning Radius	at outside bucket	ft-in (mm)	27'9 1/4" (8,475)	27'9 1/4" (8,475)	27'6 3/4" (8,400)	27'10 1/4" (8,490)	27'6 1/4" (8,385)	27'7 1/4" (8,430)
	at center of outside tire	ft-in (mm)	23'9 1/2" (7,250)	23'9 1/2" (7,250)	23'9 1/2" (7,250)	23'9 1/2" (7,250)	23'9 1/2" (7,250)	23'9 1/2" (7,250)
Min. Ground Clearance		ft-in (mm)	1'11" (585)	1'11" (585)	1'11" (585)	1'11" (585)	1'11" (585)	1'11" (585)
Full Articulation Angle		degree	36°	36°	36°	36°	36°	36°
Operating Weight (with ROPS Cab)		lb (kg)	93,920 (42,690)	94,140 (42,790)	93,190 (42,360)	93,500 (42,500)	92,750 (42,160)	92,950 (42,250)
Static Tipping Load (with ROPS Cab)	Straight	lb (kg)	61,025 (27,680)	60,810 (27,580)	61,760 (28,010)	61,450 (27,880)	62,180 (28,200)	61,980 (28,120)
	Full Turn	lb (kg)	53,580 (24,300)	53,360 (24,200)	54,310 (24,640)	54,000 (24,500)	54,730 (24,830)	54,530 (24,740)

The Weight and Load figure include Enclosed ROPS Cab, 35/65-33-24PR (L-4) Tires, full fuel tank and operator. Measured in accordance with SAE J732C and J742C.

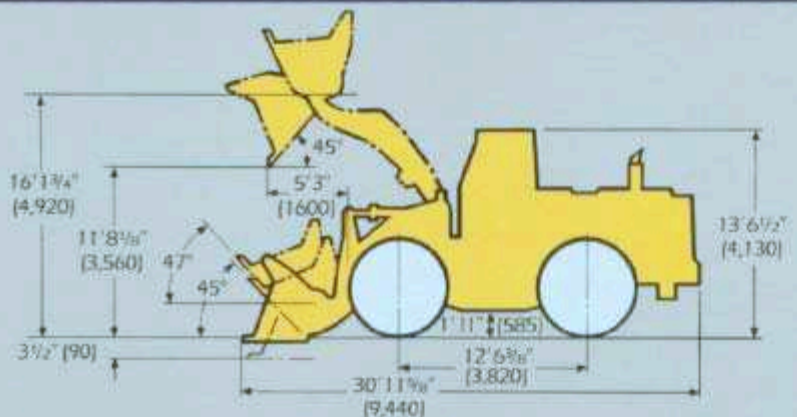
Courtesy of MachineMarket

## WEIGHTS AND DIMENSIONS (SUPPLEMENTAL DATA)

		Operating Weight	Tipping Load		Overall Width (Outside Tire)	Tread	Vertical Dimension	Overall Length
			Straight	Full Turn				
ROPS Canopy (Instead of ROPS Cab)	lb (kg)	-770 (-350)	-600 (-270)	-600 (-270)				
Remove ROPS Canopy and Cab	lb (kg)	-3,200 (-1,450)	-3,440 (-1,560)	-3,080 (-1,400)	in (mm)		-6 1/4 (-160)	
Counter Weight	lb (kg)	+1,980 (+900)	+4,410 (+2,000)	+3,750 (+1,700)	in (mm)			+5 1/4 (+135)
Tires: 35/65-33-24PR (L-5)	lb (kg)	+1,330 (+600)	+950 (+430)	+810 (+370)	in (mm)		+1 (+25)	
29.5-29-28PR(L-3)	lb (kg)	-4,070 (-1,850)	-2,850 (-1,290)	-2,530 (-1,150)	in (mm)	-8 1/4 (-210)	-3 1/2 (-90)	-3 1/8 (-80)
29.5-29-28PR(L-4)	lb (kg)	-2,200 (-1,000)	-1,540 (-700)	-1,370 (-620)	in (mm)	-8 1/4 (-210)	-3 1/2 (-90)	-1 1/2 (-40)
29.5-29-28PR(L-5)	lb (kg)	-1,210 (-550)	-830 (-380)	-750 (-340)	in (mm)	-8 1/4 (-210)	-3 1/2 (-90)	-1/4 (-20)
35/65-33-24PR(L-4) 75% CaCl <sub>2</sub>	lb (kg)	+5,950 (+2,700)	+8,400 (+3,810)	+7,600 (+3,450)				
35/65-33-24PR(L-5) 75% CaCl <sub>2</sub>	lb (kg)	+7,280 (+3,300)	+9,350 (+4,240)	+8,420 (+3,820)	in (mm)		+1 (+25)	
29.5-29-28PR(L-3) 75% CaCl <sub>2</sub>	lb (kg)	+550 (+250)	+3,700 (+1,680)	+3,400 (+1,540)	in (mm)	-8 1/4 (-210)	-3 1/2 (-90)	-3 1/8 (-80)
29.5-29-28PR(L-4) 75% CaCl <sub>2</sub>	lb (kg)	+2,430 (+1,100)	+5,000 (+2,270)	+4,560 (+2,070)	in (mm)	-8 1/4 (-210)	-3 1/2 (-90)	-1 1/2 (-40)
29.5-29-28PR(L-5) 75% CaCl <sub>2</sub>	lb (kg)	+3,420 (+1,550)	+5,710 (+2,590)	+5,180 (+2,350)	in (mm)	-8 1/4 (-210)	-3 1/2 (-90)	-1/4 (-20)
Air Conditioner	lb (kg)	+220 (+100)	+250 (+120)	+220 (+100)				
Belly Guard (Rear Frame)	lb (kg)	+310 (+140)	+440 (+200)	+400 (+180)				

Base: 35/65-33-24PR (L-4)

Tread . . . . . 8' 11 7/8" (2,740mm)  
 Width (Outside Tire)  
 . . . . . 11' 11 1/4" (3,640mm)  
 Width (Outside Bucket)  
 . . . . . 12' 4 3/8" (3,770mm)  
 Equipped with GSC bucket  
 with bolt on cutting edge  
 35/65-33-24 PR (L-4) TIRE,  
 and ROPS Cab.



# 110zII

## STANDARD EQUIPMENT

<p>Adjustable steering column Air cleaner (Donaldson; with pre-cleaner) Air compressor Alarms – Audible: air pressure engine oil pressure brake fluid parking brake w/transmission engaged (neutral check) Alarms – Visual: air filter air pressure battery discharge brake fluid brake pad converter oil temperature engine oil pressure</p>	<p>engine water temperature parking brake Alternator-24V, 75 amp Batteries two (2)-12V-200Ah Boom lift kick-out Bucket positioner Cold start ether system Draw bar Emergency brake Engine side panel Fan guard Fenders – (front and rear) Filtration system (replaceable elements) Frame lock Fuel gauge guard Fuel tank with water separator</p>	<p>Gauges: air pressure converter oil temperature engine water temperature fuel level hour meter hydraulic fluid level Horn (electric) Hydraulic servo-assisted control valve Indicator lights: working light, high beam Ladder (access at both sides) Lights: two (2) headlights, two (2) stop &amp; tail lights, two (2) rear lights Neutral safety start Parking brake (spring applied air-released type)</p>	<p>Reverse alarm ROPS cab, enclosed with sound suppression, front and rear windshield wiper and washer, front working lights, defroster fan and rear view mirrors Seat belt Seat (adjustable suspension type) Special tool kit Switches: cold start, lights – front &amp; rear, pilot light check, starter Tires - four (4) 29.5-29-28PR (L-4) Tire inflation kit Transmission declutch Vandalism protection</p>
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## OPTIONAL EQUIPMENT

<p>Air conditioner, with heater and defroster Air dryer Belly guard Bolt-on counterweight (instead of rear tire ballast) Bolt-on cutting edge Bolt-on wear plate</p>	<p>Bucket (see data chart) Emergency steering (special option) Heater: 16,000 BTU/hr rated-hot water Hydraulic system – three-spool valve, control lever, linkage and lines</p>	<p>No spin differential Rear working lights ROPS canopy Teeth, weld-on, bolt-on type Tires (set of four): 29.5-29-28PR (L-3) 29.5-29-28PR (L-5) 29.5-29-XRD1 (L-4)</p>	<p>29.5-29-XRD2 (L-5) 29.5-29-XMINE (L-5) 35/65-33-24PR (L-4) 35/65-33-24PR (L-5) 35/65R3 XRD1 (L-4) 35/65 R3 XRD2 (L-5)</p>
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Specifications are subject to change without notice.



2140 Barrett Park Drive • Suite 101  
P.O. Box 1657  
Kennesaw, Georgia 30144  
Tel: 770-499-7000  
Fax: 770-421-6842  
www.kawasakiloaders.com