

# 135ZV-2



**Kawasaki**  
KCM

# FEATURES

# 135ZV-2

## POWER & PERFORMANCE

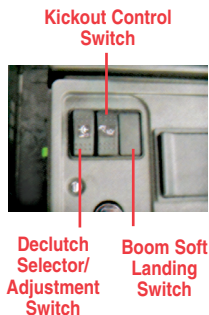
- NEW** Cummins QST30 Tier I Emissions Certified Engine, 760 Gross HP/720 Net HP
  - 3-mode switch (Normal, Heavy Duty, Load & Carry)
- NEW** Adjustable Declutch
- NEW** Efficient, versatile and productive
- Enhanced** LED Taillights

## ECONOMIC AND EFFICIENT SYSTEMS

- NEW** **ELS (Efficient Loading System)**
  - Increases rimpull power when digging while demanding less fuel. Increases productivity, and fuel efficiency.
  - Switch located on instrument control panel allows operator to activate from cab.

## COMFORT

- Enhanced** Brake and throttle pedals are re-positioned for increased leg room
- Enhanced** Dual boom kickout controls allow the operator to control raising and lowering of the boom. The operator can adjust the kickout position from the cab. Boom soft-landing feature is selectable via an OFF/ON switch.
- Enhanced** **Lock Up Clutch**  
Located in the torque converter, the standard lock up clutch reduces cycle times, increases fuel efficiency and increases production efficiency in load & carry applications and hill climbing. Smoother shifting, this operation engages automatically.



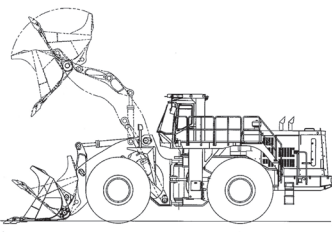
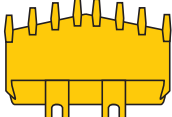

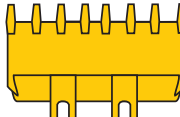
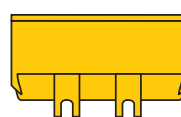
## SERVICEABILITY

- NEW** MODM (Machine Operations/Diagnostics Module) provides essential operations and diagnostic information in an easy to read LCD display.
  - Operations
    - Monitors fluids and filters
  - Diagnostics
    - Monitors engine codes, transmission codes, alarm signals
- Enhanced** Sealed universal joints only require greasing at 2,000 hour intervals extending the life expectancy of the drive shaft
- NEW** Engine PreLub Starter has been replaced with a stand alone pump for simplified maintenance of the starter.



# BUCKET DATA

# 135ZV-2

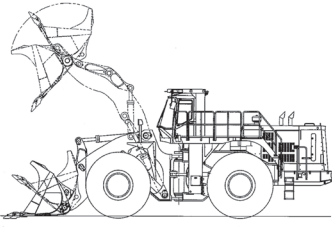
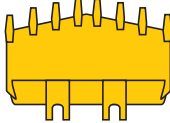
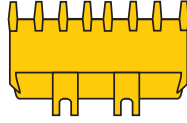
			Standard Boom			
			Rock-V-Edge		Rock-Straight-Edge	General Purpose
			With Teeth & Segments	Without Teeth	With Teeth & Segments	With Bolt-on Cutting Edge
						
Capacity	Heaped	yd <sup>3</sup> (m <sup>3</sup> )	12.8 (9.7)	12.4 (9.5)	12.8 (9.7)	13.5 (10.3)
	Struck	yd <sup>3</sup> (m <sup>3</sup> )	11.1 (8.5)	10.8 (8.25)	10.9 (8.3)	11.5 (8.8)
Maximum dumping clearance		ft-in (mm)	13 <sup>3</sup> / <sub>4</sub> " (3,980)	14 <sup>2</sup> / <sub>8</sub> " (4,340)	13 <sup>1</sup> / <sub>2</sub> " (4,230)	14 <sup>8</sup> / <sub>8</sub> " (4,480)
Dumping reach (to front of bucket edge or tooth)		ft-in (mm)	7 <sup>5</sup> / <sub>8</sub> " (2,265)	6 <sup>7</sup> / <sub>8</sub> " (2,010)	6 <sup>6</sup> / <sub>8</sub> " (1,990)	5 <sup>1</sup> / <sub>8</sub> " (1,825)
Bucket hinge pin height		ft-in (mm)	19 <sup>9</sup> / <sub>8</sub> " (6,040)	19 <sup>9</sup> / <sub>8</sub> " (6,040)	19 <sup>9</sup> / <sub>8</sub> " (6,040)	19 <sup>9</sup> / <sub>8</sub> " (6,040)
Digging depth		ft-in (mm)	6 <sup>1</sup> / <sub>4</sub> " (160)	3" (75)	6 <sup>7</sup> / <sub>8</sub> " (175)	5" (125)
Breakout force		lb (kg)	130,785 (59,323)	130,785 (59,323)	160,890 (72,980)	148,670 (67,435)
Bucket tilt-back angle	at ground level		41.0°	41.0°	41.0°	41.0°
	at carry position		49.2°	49.2°	49.2°	49.2°
Overall	Length	ft-in (mm)	42 <sup>7</sup> / <sub>4</sub> " (13,000)	41 <sup>2</sup> / <sub>8</sub> " (12,570)	41 <sup>5</sup> / <sub>8</sub> " (12,640)	40 <sup>6</sup> / <sub>8</sub> " (12,360)
	Height	ft-in (mm)	16 <sup>2</sup> / <sub>4</sub> " (4,945)	16 <sup>2</sup> / <sub>4</sub> " (4,945)	16 <sup>2</sup> / <sub>4</sub> " (4,945)	16 <sup>2</sup> / <sub>4</sub> " (4,945)
	Width (outside tire)	ft-in (mm)	13 <sup>7</sup> / <sub>16</sub> " (4,160)	13 <sup>7</sup> / <sub>16</sub> " (4,160)	13 <sup>7</sup> / <sub>16</sub> " (4,160)	13 <sup>7</sup> / <sub>16</sub> " (4,160)
	Width (outside bucket)	ft-in (mm)	14 <sup>1</sup> / <sub>0</sub> " (4,520)	14 <sup>1</sup> / <sub>0</sub> " (4,520)	14 <sup>1</sup> / <sub>0</sub> " (4,520)	14 <sup>1</sup> / <sub>0</sub> " (4,520)
Wheel base		ft-in (mm)	15 <sup>9</sup> " (4,800)	15 <sup>9</sup> " (4,800)	15 <sup>9</sup> " (4,800)	15 <sup>9</sup> " (4,800)
Minimum turning radius	at outside bucket	ft-in (mm)	31 <sup>1</sup> / <sub>2</sub> " (9,740)	31 <sup>7</sup> / <sub>2</sub> " (9,640)	32 <sup>1</sup> / <sub>4</sub> " (9,760)	31 <sup>1</sup> / <sub>0</sub> " (9,710)
	at center of outside tire	ft-in (mm)	26 <sup>7</sup> / <sub>16</sub> " (8,120)	26 <sup>7</sup> / <sub>16</sub> " (8,120)	26 <sup>7</sup> / <sub>16</sub> " (8,120)	26 <sup>7</sup> / <sub>16</sub> " (8,120)
Minimum ground clearance		ft-in (mm)	1 <sup>1</sup> / <sub>4</sub> " (590)	1 <sup>1</sup> / <sub>4</sub> " (590)	1 <sup>1</sup> / <sub>4</sub> " (590)	1 <sup>1</sup> / <sub>4</sub> " (590)
Full articulation angle		degree	40°	40°	40°	40°
Operating weight (with ROPS Canopy and Cabin)		lb (kg)	181,880 (82,500)	180,760 (81,990)	178,930 (81,160)	178,020 (80,750)
Static Tipping Load (with ROPS Canopy and Cabin)	Straight	lb (kg)	106,050 (48,105)	107,090 (48,575)	110,870 (50,290)	111,470 (50,560)
	Full turn	lb (kg)	93,330 (42,335)	94,260 (42,755)	97,580 (44,260)	98,090 (44,495)

Specifications based on counterweight, open ROPS and enclosed cab, 45/65-39 L5 tires, full fuel tank, and operator.

Materials and specifications are subject to change without notice and without obligation on the part of the manufacturer. The specifications supplied, while believed to be completely reliable, are not to be taken as warranty for which we assume legal responsibility.

# BUCKET DATA

# 135ZV-2

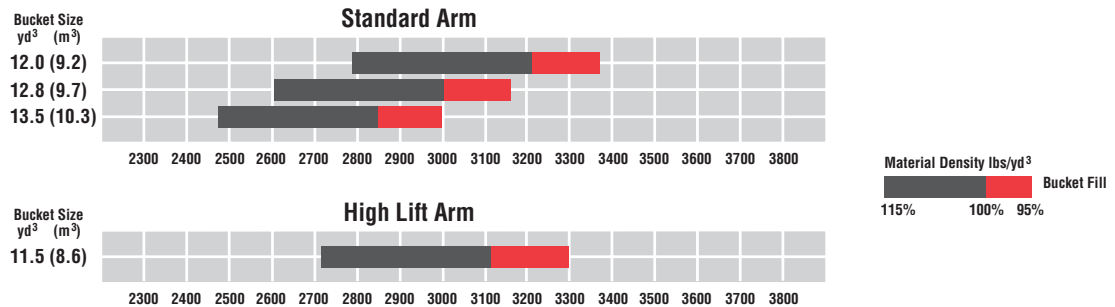
			High Lift Boom	
			Rock-V-Edge	Rock-Straight-Edge
			With Teeth	With Teeth
				
Capacity	Heaped	yd <sup>3</sup> (m <sup>3</sup> )	11.5 (8.6)	11.5 (8.6)
	Struck	yd <sup>3</sup> (m <sup>3</sup> )	10.2 (7.6)	10.2 (7.6)
Maximum dumping clearance		ft-in (mm)	15'5/8" (4,700)	17' (4,900)
Dumping reach (to front of bucket edge or tooth)		ft-in (mm)	7'1 1/16" (2,150)	6'4 13/16" (1,950)
Bucket hinge pin height		ft-in (mm)	21'8 5/16" (6,610)	21'8 5/16" (6,610)
Digging depth		ft-in (mm)	6 1/2" (165)	6 1/2" (165)
Breakout force		lb (kg)	145,725 (66,100)	171,740 (77,900)
Bucket tilt-back angle	at ground level		42°	42°
	at carry position		49°	49°
Overall	Length	ft-in (mm)	44'37/8" (13,510)	43'4 1/2" (13,220)
	Height	ft-in (mm)	16'2 3/4" (4,945)	16'2 3/4" (4,945)
	Width (outside tire)	ft-in (mm)	13'7 13/16" (4,160)	13'7 13/16" (4,160)
	Width (outside bucket)	ft-in (mm)	14'10" (4,520)	14'10" (4,520)
Wheel base		ft-in (mm)	15'9" (4,800)	15'9" (4,800)
Minimum turning radius	at outside bucket	ft-in (mm)	32'8 1/4" (9,960)	32'8 1/4" (9,960)
	at center of outside tire	ft-in (mm)	26'7 13/16" (8,120)	26'7 13/16" (8,120)
Minimum ground clearance		ft-in (mm)	1'11 1/4" (590)	1'11 1/4" (590)
Full articulation angle		degree	40°	40°
Operating weight (with ROPS canopy and cabin)		lb (kg)	180,290 (81,780)	179,610 (81,470)
Static tipping load (with ROPS canopy and cabin)	Straight	lb (kg)	106,350 (48,240)	107,475 (48,750)
	Full turn	lb (kg)	92,530 (41,970)	93,520 (42,240)

Specifications based on highlift counterweight, open ROPS and enclosed cab, 45/65-39 L5 tires, full fuel tank, and operator.

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# OPERATING SPECIFICATIONS **135ZV-2**

## BUCKET SELECTION CHARTS

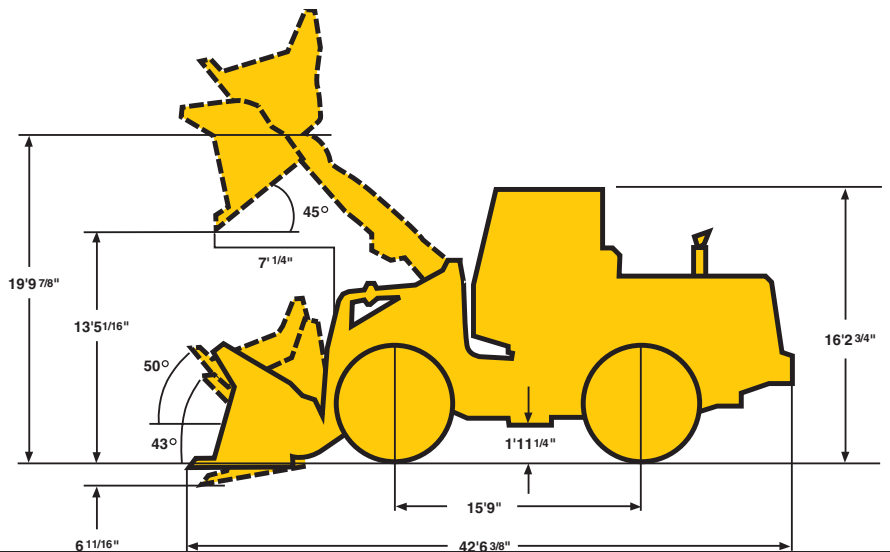


## WEIGHTS AND DIMENSIONS (SUPPLEMENTAL DATA)

	Operating Weight	Tipping Load			Overall Width (Outside Tire)	Tread	Vertical Dimensions	Overall Length
		Straight	Full Turn					
Tires: 41.25/70-39 PR34	lb (kg)	-880 (-400)	-650 (-295)	-575 (-260)	in (mm)	17/8" (-48)		

Tread . . . . . 10<sup>1</sup>/<sub>8</sub>" (3,050mm)  
 Width (outside tire) . . . . . 13<sup>7</sup>/<sub>16</sub>" (4,160mm)  
 Width (outside bucket) . . . . . 14'10" (4,520mm)

Equipped with Rock-V-Edge bucket with teeth,  
 45/65 R39 (L-5) Tire and ROPS Canopy and Cab



## TRUCK DESIGNATION

	35 Ton Height: 10' 4" Width: 11' 11"	40 Ton Height: 11' 2" Width: 11' 11"	50 Ton Height: 12' 5" Width: 16' 8"	65 Ton Height: 13' 1" Width: 16' 8"	85 Ton Height: 13' 8" Width: 17' 11"	100 Ton Height: 14' 1" Width: 19' 10"
Kawasaki 135ZV (18 T) 12.8 cu. yd. Spade Nose Rock Bucket Dump: 13' 3/4" Reach: 7' 5 1/8"	2 Pass	2-3 Pass	3 Pass	3-4 Pass	N/A	N/A
Kawasaki 135ZV (16.8 T) <b>Hi-Lift</b> 11.5 cu. yd. Spade Nose Rock Bucket Dump: 15' 5" Reach: 7' 11 1/16"	2-3 Pass	3 Pass	3-4 Pass	4 Pass	4-5 Pass	5-6 Pass

# OPERATING SPECIFICATIONS **135ZV-2**

## ENGINE

Gross Power (SAE J1995)	760 HP/2100 RPM
Net Power (SAE J1349)	720 HP/2100 RPM
Net Peak Torque	2400 lb.-ft./1300RPM
Make/Model/Fuel Type	Cummins QST30
Type	4-cycle, watercooled, in-line direct injection type with 2 turbo chargers and aftercooled
Number of cylinders	12
Bore and stroke	5.25" x 6.25" (190mm x 165mm)
Total displacement	1,861 in <sup>3</sup> (30,500 cm <sup>3</sup> )
Alternator	AC24V – 1800W (75amp)
Battery	12V – 140AH (900 CCA), 4 units

## TORQUE CONVERTER AND TRANSMISSION

Torque converter	3 elements, single stage with lock-up	
Torque stall ratio	2.53:1	
Main clutches	Wet hydraulic, multi-disc type	
Cooling method	Forced circulation type	
Transmission	Full power shift, 4 forward, 3 reverse with automatic mode (2nd – 3rd) with downshift switch for 2nd – 1st downshifting. Autobrake protects transmission from overspeeding	
Speeds	Forward	1st: 4.3 MPH (6.9 km/hr) 2nd: 8.0 MPH (12.8 km/hr) 3rd: 15.2 MPH (24.4 km/hr) Lock-up: 18.6 MPH (30.0 km/hr)
Speeds	Reverse	1st: 4.8 MPH (7.7 km/hr) 2nd: 8.9 MPH (14.3 km/hr) 3rd: 17.0 MPH (27.3 km/hr)

## SERVICE REFILL CAPACITY

LOCATION	Gallons	Liters
Engine (coolant)	71.3	(270)
Fuel tank (diesel fuel)	277.4	(1,050)
Engine oil (oil pan)	35.1	(133)
Front axle (gear oil)	83.7	(317)
Rear axle (gear oil)	83.7	(317)
Torque converter and transmission (engine oil)	52.8	(200)
Hydraulic system including tank (hydraulic oil)	190.2	(720)

## HYDRAULIC AND STEERING SYSTEM

Steering type	K-Lever+ hydraulic over hydraulic	
Steering mechanism	Hydraulic power steering unit, pilot operated type	
Lift (boom) cylinder	Two (2) double-acting piston type: 9.43" x 50" (240mm x 1270mm)	
Tilt (bucket) cylinder	Two (2) double-acting piston type: 7.31" x 35.37" (185mm x 898mm)	
Steering cylinder	Two (2) double-acting piston type: 5 <sup>1</sup> / <sub>8</sub> " x 26 <sup>1</sup> / <sub>8</sub> " (130mm x 671mm)	
Steering oil pump (double section)	Piston type: 120.5 GPM @ 2000 RPM (456 LPM @ 2000 RPM)	
Main oil pump	Piston type: 86.1 GPM @ 2000 RPM (321 LPM @ 2000 RPM)	
Pilot/Brake oil pump	Gear type: 25.9 GPM @ 2000 RPM (97 LPM @ 2000 RPM)	
Relief valve set pressure	Loading	4550 psi (320 kg/cm <sup>2</sup> )
	Steering	4500 psi (320 kg/cm <sup>2</sup> )
HYDRAULIC CYCLE TIME*		
Lifting time (at full load)	9.8 sec.	
Lowering time (empty)	4.3 sec.	
Bucket dumping time	1.4 sec.	
TOTAL	15.5 sec.	

\* Measured in accordance with SAE J732C

## AXLE SYSTEM

Drive system	4-wheel drive	
Front and rear axle	Full-floating banjo type	
Tires	Standard	45/65-39 (L-5) Radial
	Optional	45/65-39 (L-4) and 41/25-70-39PR34
Reduction and differential gear	Spiral bevel gear, 1 stage reduction	
Final reduction gear	Outboard mounted, Internal planetary gear	
Oscillation angle	±11° (total ±22°)	

## BRAKE SYSTEM

Service brakes	4 wheel adjustment-free, wet disc brake, Controlled by full hydraulic system, dual-circuit	
Parking/Emergency brake	Spring-applied, oil pressure-released. Enclosed wet disk type. Mounted in front driveline.	

## STANDARD EQUIPMENT

<p>Air cleaner Air conditioner (R134 refrigerant) Alarms (audible): Auto brake Brake pressure Brake oil temp. Engine oil pressure Parking brake with T/M engaged Alarms (Visual): Air filter Battery discharge Brake pressure Brake disc wear Brake oil temp. Central warning lamp Engine coolant temperature Engine oil pressure Engine warning (3 levels) Torque converter oil temperature Transmission control warning Transmission oil filter Alternator (75 amp) AM/FM CD radio with AUX input Auto brake Batteries: 12V-900CCA (4 units)</p>	<p>Boom kickout (2-position, adjustable, in cab) Boom, soft-landing Brake line protection Brake (parking) spring applied; oil pressure released, enclosed wet disc type Brakes (service), enclosed wet disc, dual system Bucket control lever (single, pilot assisted) Bucket leveler Coat hook Cold start aid (air heater) Converter, 12V/15Amp dash outlet Counterweight Cup holder Downshift button Drawbar Engine stop switch ELS (Efficient Loading System) Fan (blower) Fenders, front Gauges: Converter oil temperature Engine coolant temperature Fuel level</p>	<p>Hour meter Hydraulic oil level sight Tachometer Heater/Pressurizer Horn (electric) Hydraulic PowerBoost™ Indicators: Autobrake Engine pre-heater High beam K-Lever Parking brake Transmission declutch Transmission shift monitor Working light K-Lever steering Linkage (dual Z-type, sealed) Lights: 2 Headlights (Hi/Lo/Halogen) 4 Forward working lights 4 Rear working lights 2 Stop/Tail/Backup (LED) 2 Step lights Lock-up torque converter MODM (Machine Operation Diagnostic Module) Muffler (2) Neutral safety start Operator's manual box Operating mode selection</p>	<p>(Normal, Heavy Duty, Load &amp; Carry) PreLub® system Radiator: heavy duty plate fin type Radiator grille, steel Rear under-frame cover Reverse alarm ROPS canopy and enclosed cab: Enclosed cab with sound suppression, front and rear wipers and washers, two rear view and two side mirrors, tinted glass and roll-up side windows Safety articulation locking bar Seat, air ride Seat belt, retractable, 3" wide Shift control unit for auto- matic shift Traction control Transmission lock-up Transmission declutch Select/adjustment switch Wrist rest, adjustable</p>
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## OPTIONAL EQUIPMENT

<p>Autolube Bucket teeth Emergency steering</p>	<p>Ground-level fueling system HID lighting High lift arms</p>	<p>Belly guard, hinged, transmission K-LINK Quick-change oil system</p>	<p>Ride control Snap-on cutting edge shrouds Wing shrouds</p>
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