

CD4430R

ROUGH TERRAIN CRANE



Optional equipment shown and subject to change

SPECIFICATION GUIDE

LOW PROFILE. HIGH CAPACITY.

The Badger CD4430R Rough Terrain Crane features:





- Integrated High Rail System
- Built to tough railroad standards
- Rated capacity: 30 Ton (27,2 mT) at 10 ft. (3,0 m) working radius
- Maximum boom length: 53 ft. (16,2 m)
- Maximum load radius: 48 ft. (14,6 m)

CD4430R ROUGH TERRAIN CRANE

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KEY

	Gross vehicle weight		Weight on rear axle
	Standard (without hook block)		Gradeability
	Weight on front axle		Swing on jib stowed
	Lifting on wheels / Pick & carry		Outriggers / Lifting on outriggers
	Hook block		Mechanical transmission
	Boom head / Hook block dimension		Steering
	Working radius		Speed
	Boom length		Tire
	Tip height		Engine
	Full power mechanically synchronized		Cab
	Boom elevation angle		Heating / Air conditioning
	1 - Main hoist 3 - Recovery winch 2 - Auxiliary winch		Controls
	Operator aids / Load limiter / Indicator		Hydraulics
	Rope length		Fuel capacity
	Rope - Standard / Optional		Electrical system
	Slewing locked / locked at specified position		Counterweight
	Slewing gears		Telescoping mode
	Slewing brake		Max. boom length with extension
	Slewing / Allowable slewing range		Boom with extension
	Hoist speed		Rope diameter
	Maximum line pull		Hook and ball

Constant improvements and engineering progress make it necessary that Badger Equipment Company reserves the right to change designs, specifications and price without notice or obligation.

Drawings and/or photographs in this document are for illustrative purposes only and may include optional equipment and accessories and may not include all standard equipment. This document is non-contractual.

NOTES

1. *All operators and support personnel shall read and fully understand manufacturer furnished operator's manual, latest applicable American National Standards Institute (ANSI) Safety Standards for Cranes, and any applicable federal, state, or local safety regulations before operating machine. Crane and load ratings comply with ANSI and Power Crane & Shovel Association (PCSA) Standards.*
2. *All "ON OUTRIGGER" lifts shall be made with outrigger arms fully extended to fully support and level machine (tires off supporting surface). Additional structural blocking or cribbing may be required for some applications.*
3. *All ratings where reversed text appears are based on 85% of tipping load "ON OUTRIGGERS" and 75% of tipping "ON TIRES" with machine stable on firm level ground. Ratings where text is not reversed are based on structural competence. Boom angles are undeflected boom angles.*
4. *DO NOT EXCEED crane load ratings. When load radius or boom angle are between listed values, use the smaller load rating. DO NOT ATTEMPT TO TIP MACHINE TO DETERMINE ALLOWABLE LOADS.*
5. *Weights of hook blocks, bucket, slings, and all other load handling devices are not accounted for in the load chart. The load handling devices must be considered as part of the load.*
6. *Reduce ratings appropriately for wind conditions, speed of operation, soft or uneven supporting surfaces, etc.*

WARNING: IN WIND OVER 30 MPH, CEASE OPERATION; POSITION BOOM AWAY FROM WIND AND LOWER BOOM BELOW 60°. IN WIND OVER 50 MPH, LOWER BOOM TO GROUND, OR, SECURE IN POSITION.

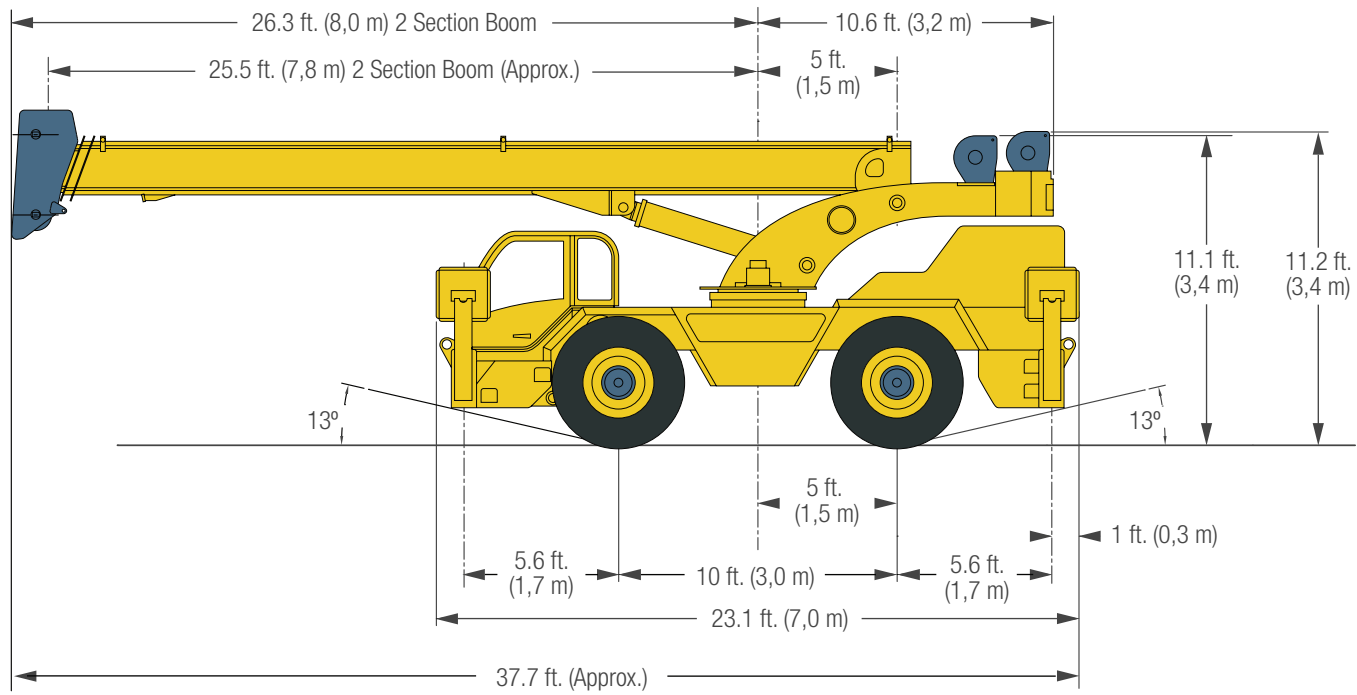
7. *Load ratings apply to this machine only as originally manufactured and equipped. Unauthorized modification or optional equipment may reduce load capacity. Please consult Badger Equipment BEFORE modification or use of optional equipment not covered in this chart.*
8. *DO NOT lift over operator cab.*
9. *WARNING - These load ratings are for lift service only.*
10. *Pick and carry load ratings are shown in load chart for on tires. Boom must be above 0°.*
11. *Load shall be restrained from swinging and shall be positioned as close to the ground as possible over the front along the carrier's lengthwise centerline. DO NOT exceed 2.5 MPH (4 Km/h) travel speed using smooth starts and stops. "Creep" is movement not to exceed 200 ft. in a 30 min. period. Other crane operations SHALL NOT be permitted when transporting a load.*

OPTIONAL – Foam Filled Tires

RECOMMENDATIONS: 5/8" – 6 x 19 Class – 6 x 25 FW, PRF, RRL, XIP, IWRC Wire Rope

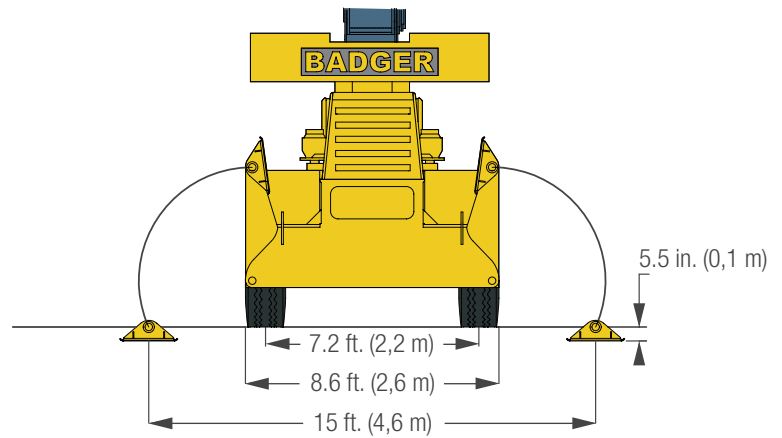
CD4430R ROUGH TERRAIN CRANE

DIMENSIONS









NOTE: CD4430R

Tire Size	16.00 x 25-32PLY
Track width	7.2 ft. (2,2 m)
Overall width	8.6 ft. (2,6 m)



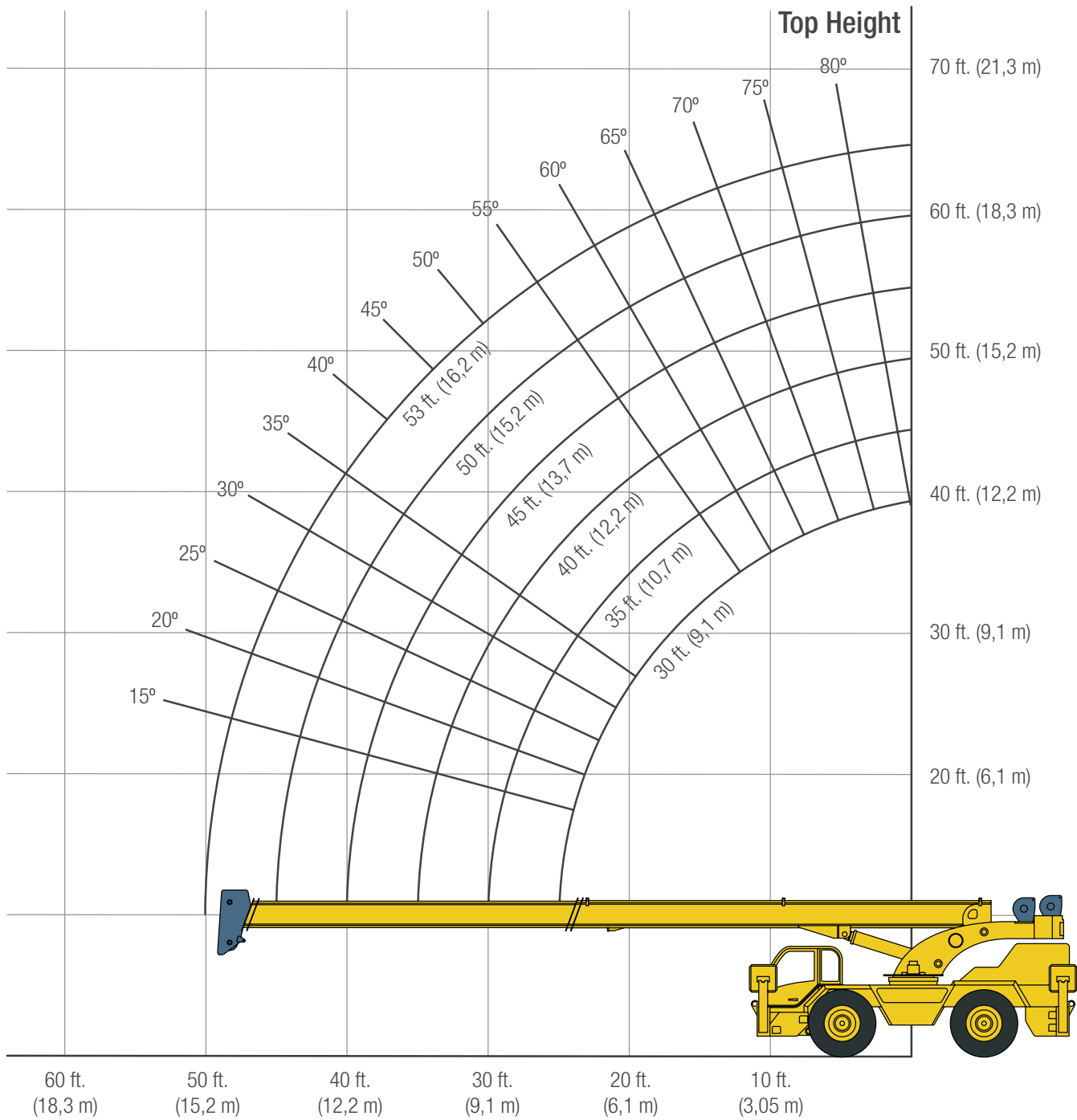
CRANE WEIGHTS

			
 CD4430R Standard (without hook block)	59,750 lb. (27,102 kg)	29,562 lb. (13,409 kg)	30,188 lb. (13,693 kg)
 30T (27,2 mT) 3 sheave hook block	+415 lb. (+188 kg)	-	-
 7T (6,4 mT) hook & ball	+232 lb. (+105 kg)	-	-



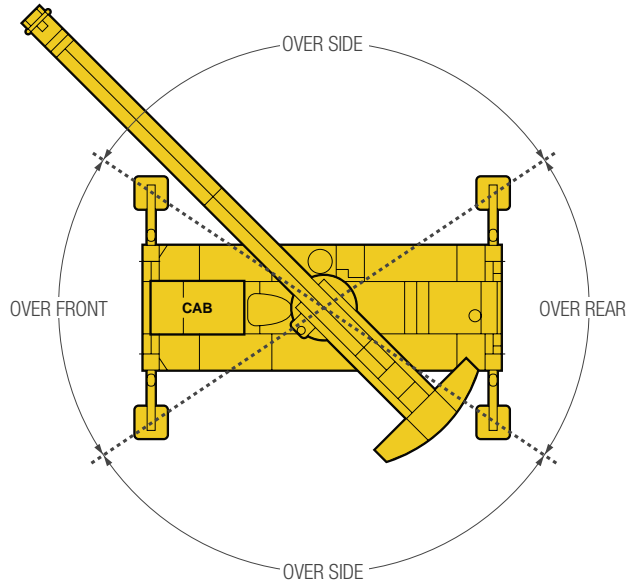
Note: Values are subject to 2% variation

RANGE DIAGRAM

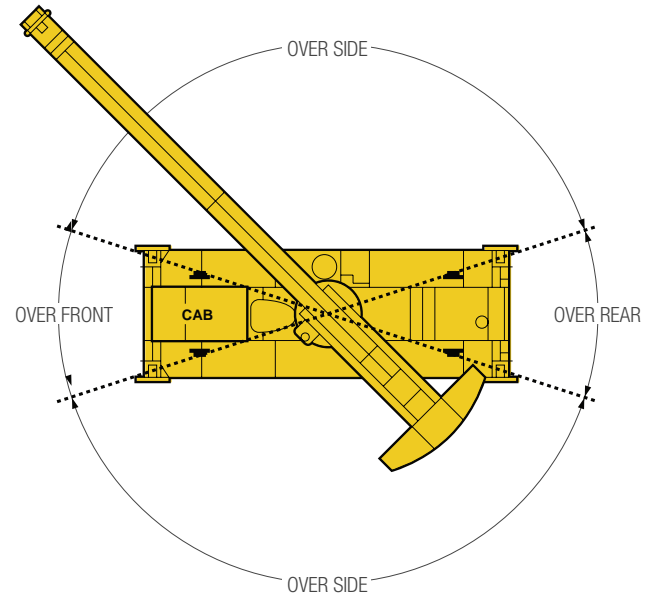


AREA OF OPERATION

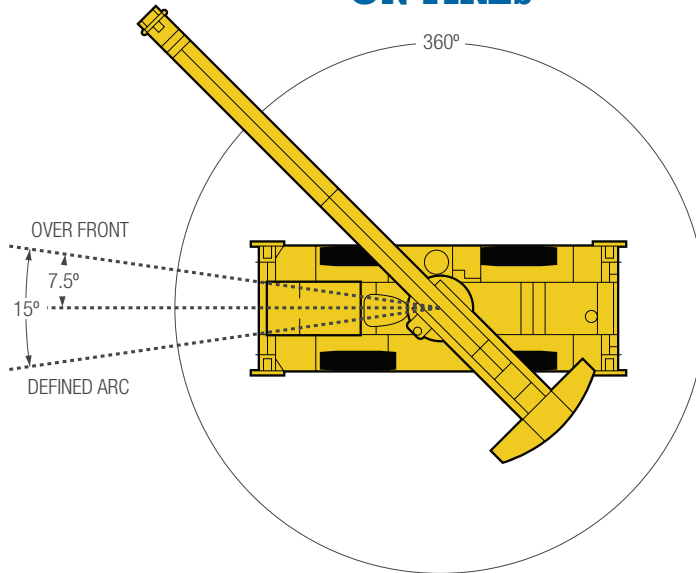
ON OUTRIGGERS



ON RAIL



ON TIRES



CD4430R ROUGH TERRAIN CRANE

CD4430R LOAD CHART: Main Boom - On Outriggers

Lifting Capacities 3 Section Boom 30.5 ft. (9,3 m) - 53 ft. (16,2 m)

 9,000 lb. (4,082 kg)

 15 ft. (4,6 m) (100%)

 360°

Boom Length (ft.)	31 ft. Boom			35 ft. Boom			40 ft. Boom			45 ft. Boom			50 ft. Boom			53 ft. Boom		
	Boom Angle (deg)	Over Front (lbs.)	360° (lbs.)	Boom Angle (deg)	Over Front (lbs.)	360° (lbs.)	Boom Angle (deg)	Over Front (lbs.)	360° (lbs.)	Boom Angle (deg)	Over Front (lbs.)	360° (lbs.)	Boom Angle (deg)	Over Front (lbs.)	360° (lbs.)	Boom Angle (deg)	Over Front (lbs.)	360° (lbs.)
10 ft.	61°	60,000	60,000	65°	55,000	55,000	68°	55,000	55,000	71°	55,000	55,000						
12 ft.	57°	50,000	50,000	61°	50,000	50,000	65°	50,000	50,000	68°	50,000	50,000	70°	45,000	45,000	71°	42,000	42,000
15 ft.	50°	40,000	40,000	55°	40,000	40,000	60°	40,000	40,000	64°	40,000	40,000	66°	40,000	40,000	68°	33,600	33,600
20 ft.	36°	30,000	30,000	44°	30,000	30,000	51°	30,000	30,000	56°	30,000	30,000	60°	30,000	30,000	62°	30,000	25,200
25 ft.	15°	24,000	22,800	31°	24,000	22,800	41°	24,000	22,800	48°	24,000	22,800	53°	22,000	20,000	56°	20,000	20,000
30 ft.				0°	20,000	16,900	29°	20,000	16,900	39°	20,000	16,900	46°	18,000	15,000	49°	16,000	15,000
35 ft.							0°	17,100	13,100	27°	17,100	11,000	37°	14,000	11,000	41°	14,000	11,000
40 ft.										0°	14,000	8,500	26°	12,000	8,500	32°	12,000	8,500
45 ft.													0°	10,000	7,800	19°	10,000	7,800
48 ft.																0°	9,000	6,700

On Rail

50 Max Boom Length (ft.)	360° Stationary					15° Defined Arc Cover Front					Max No Load Load Boom (deg)
	Superelevation					Creep (Superelevation)					
	0 (mph)	< 2 (in.)	2 < 4 (in.)	4 < 6 (in.)		0 (mph)	< 2 (in.)	2 < 4 (in.)	4 < 6 (in.)		
10 ft.	30.5	18,000				39,750					61°
12 ft.	30.5	16,100				35,250	28,200				56°
15 ft.	30.5	13,500	10,800	9,000	7,200	30,000	24,000	20,000	16,000		49°
20 ft.	35	9,150	7,320	6,100	4,880	22,500	18,000	15,000	12,000		44°
25 ft.	37	5,250	4,200	3,500	2,800	17,400	13,920	11,600	9,280		36°
30 ft.	40	4,300	3,456	2,880	2,304	13,425	10,740	8,950	7,160		29°
35 ft.	45	3,500	2,805	2,338	1,870	10,500	8,400	7,000	5,600		27°
40 ft.	50	2,700	2,220	1,850	1,480	8,475	6,780	5,650	4,520		26°
45 ft.	53	2,000	1,620	1,350	1,080	7,050	5,640	4,700	3,760		19°
48 ft.	53	1,700	1,356	1,130	904	6,450	5,160	4,300	3,440		0°

On Tires*

Max Boom Length (ft.)	Pick and Carry			
	Stationary	Creep	2.5 MPH	
	360° (lbs.)	Over Front Defined Arc (lbs.)	Straight Over Front (lbs.)	
10 ft.	18,000	33,000	25,000	21,000
12 ft.	15,000	29,000	22,000	18,000
15 ft.	11,000	23,000	17,500	15,000
20 ft.	7,000	15,000	13,000	11,000
25 ft.	5,000	11,000	9,000	8,000
30 ft.	3,000	7,000	7,000	6,000
35 ft.	2,000	6,000	6,000	5,000
40 ft.	1,500	5,000	5,000	4,000
45 ft.		3,500	3,500	3,500
48 ft.		3,000	3,000	3,000

*Tires (16.00x25-32PLY)

Recommended Tire Pressure

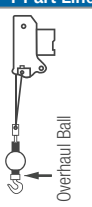
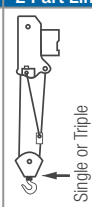
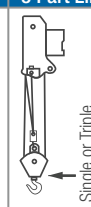
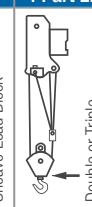
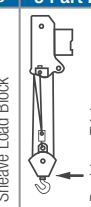
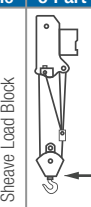
Tire Size	Stationary	Creep	2.5 MPH	Travel
16.00 x 25-32 PLY	125 psi	125 psi	95 psi	95 psi

Winch Data

5/8 Wire Rope, 39.6 gpm, 3200 psi Pressure Drop

Layer	Capacity (ft.)	Low Speed		High Speed	
		Lift (lbs.)	Speed (fpm)	Lift (lbs.)	Speed (fpm)
1	80	12,708	159	7,786	260
2	168	11,437	177	7,008	289
3	265	10,398	194	6,371	317
4	372	9,531	212	5,840	346
5	487	8,798	230	5,391	375
6	611	8,170	248	5,006	404

Allowable Line Pull (Lbs)

1 Part Line	2 Part Line	3 Part Line	4 Part Line	5 Part Line	6 Part Line
					
10,000	20,000	30,000	40,000	50,000	60,000

TECHNICAL DESCRIPTION

Boom

Standard Configuration:



Fully synchronized, two (2) section boom (30 ft. to 53 ft. in length) of six sided box type construction. Consists of one (1) double acting telescopic cylinder. The cylinder is equipped with integral holding valves. Accessible wear pads for both vertical and horizontal forces support boom sections. Made of formed and welded high-tensile steel plate for maximum strength and weight ratio.



Full power mechanically synchronized



Boom (min. / max.): 31 ft. / 53 ft. (9,5 m / 16,2 m)



Boom elevation angle range (min. / max.): 0° / 71°

Hoist, Rope and Hook

Standard Configuration:



Grooved drum storage capacity: 611 ft. (186,2 m)



Max high speed: 404 fpm (123,1 m/min)
 Max low speed: 248 fpm (75,6 m/min)
 See chart on page 8 for layer capacity and lift speed



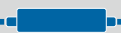
6 x 19 IWRC XIPS, Right regular lay, preformed



Rope diameter: .625 in. (15,9 mm)



Rope length: 433 ft. (132 m)



Max. line pull: 1st layer low-range 12,510 lb. (5,674 kg)
 Max. line pull permissible: 10,000 lb. (4,536 kg)



7 Ton hook and ball: 232 lb. (105 kg)

Optional Configuration:

- + Auxiliary Winch - grooved storage capacity: 611 ft. (186,2 m)
- + 35 Ton (31,8 mT) Easy Reeve® hook block 1-6 parts line
- + 30 Ton (27,2 mT) hook block 1-6 parts line
- + Hook block assembly

CD4430R ROUGH TERRAIN CRANE

Superstructure

Standard Configuration:



Continuous 360°

Maximum rotation speed without load:

3 rpm



Hydraulic motor

Planetary reducer

Spring applied hydraulic released brakes



Swing brake is heavy duty multiple disc actuated automatically from the operator's cab.

Two (2) position swing lock for pick and carry as well as travel modes.

Cab, Controls, Operator Aids and Load Limiter/Indicator

Standard Configuration:



Fully enclosed one (1) person high visibility pressurized cab, mounted on the front center of the carrier. All steel construction; has two (2) hinged entry doors with tinted safety glass windows, shatter resistant windshield and roof glass.

Cab Features:

- Air conditioning, automotive dash style
- Lockable exit doors (2) (right and left side with pneumatic spring design)
- Sliding windows in doors
- Mirrors
- Fire extinguisher
- Adjustable sun visor
- Windshield wiper
- Heater and defroster - 12000 btu hot water
- Eleven (11) way adjustable, cloth cushioned seat with seat belt



Fuel level

Tachometer

Speedometer

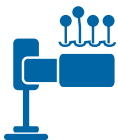
6.5" LCD CANbus display

Engine oil pressure

Hydraulic oil pressure, temp and level

Engine water temperature and level

Torque converter oil temperature



Armrest mounted dual axis electro-proportional joysticks

Steering wheel column with gear selector on the right and directional light selector on the left

Dashboard mounted switches for outrigger operation

Optional Configuration:



- + Safety rail
- + Cab vandal and protection screen (all windows)
- + Front windshield protection screen (required with recovery winch)
- + Slow moving vehicle sign
- + Rear view camera with color monitor in cab dash (1 camera)
- + Extra mirrors to view outriggers
- + Telematics
- + AM/FM radio

LMI System

Standard Configuration:



Graphic interface with load indicator and control joystick cutout function

CD4430R ROUGH TERRAIN CRANE

Carrier, Engine, Drive-line and Hydraulic System

Standard Configuration:



Hydraulic independent extension, Cantilever style outriggers

Outrigger pad size:

16 in. x 16 in. (406 mm x 406 mm)

Area of outrigger pads:

256 in.² (1,652 cm²)



Cummins® QSB 6.7, 6-cylinders

Rated power:

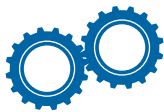
160 hp (119.31 kw) @ 2,500 rpm

Intake:

Turbocharger with intercooler

Fuel type:

Diesel



6 x 6 powershift transmission with integral torque converter

- 3 forward speeds, high range
- 3 forward speeds, low range
- Rear axle disconnect

Auto centering axles



Hydraulic four wheel power steering with tilt steering column

Hydraulic type steering with 4 steering modes:

- 2 wheel front - 4 wheel coordinated
- 2 wheel rear - 4 wheel crab

Front: Rigid, front planetary type steer axle

Rear: Oscillating, rear planetary type steer axle

Suspension: Oscillation with hydraulic lockout device

Synchronized auto centering is standard



Hydraulic Pump:

3 variable piston pumps for all crane functions

Hydraulic oil reservoir capacity (with oil level and temperature indicator):

110 gal. (416.4 L)

Hydraulic oil return filter:

10 micron with bypass protection

Optional Configuration:



- ⊕ Hydraulic tool ports and hose reel

Optional Configuration:



- ⊕ Recovery winch (windshield protection screen required)

Electrical

Standard Configuration:



24 volt charging system with weather proof electrical harness

Alternator:

70 amp

Batteries:

Two (2)

CD4430R ROUGH TERRAIN CRANE

Vehicle Performance

Standard Configuration:



Maximum gradeability:

Up to 61.5%



Maximum speed (6th gear)
Cummins® Engine on wheels:
On track:

25 mph (40 kph)
25 mph (40 kph)

Lighting

Standard Configuration:



The following lights are furnished and installed:
- Two (2) brake/turn taillights
- Two (2) sealed beam headlights with turn signals

Optional Configuration:



- + Four (4) work lights
- + Strobe lights
- + LED work lights
- + Perimeter lighting

Fuel Capacity

Standard Configuration:



Capacity:
All steel construction with steel side plate to guard against side impact

75 gal. (73 L)

Optional Configuration:



- + 110 gal. (73 L) fuel tank
All steel construction with steel side plate to guard against side impact

Notes:



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