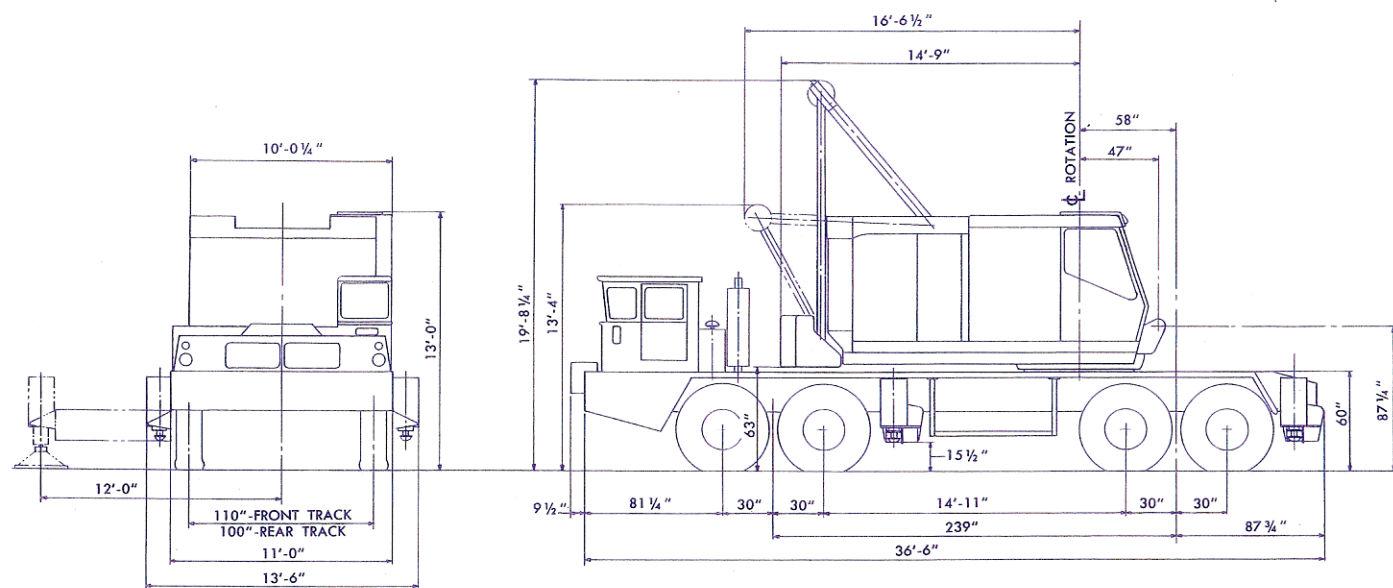


**B**

BUCYRUS-ERIE

**E**

®

**110-T****110 TON TRUCK CRANE  
SPECIFICATIONS**

861099

**CRANE****Front Shaft:**

Main hoist drum, smooth .....16 1/2 in. Pitch Diameter  
 Hoist rope .....3/4 in. or 7/8 in. Diameter  
 Auxiliary hoist rope .....3/4 in. or 7/8 in. Diameter  
 Auxiliary hoist drum, smooth .....16 1/2 in. Pitch Diameter

**Rear Shaft:**

Boom hoist drum, smooth .....15 in. Pitch Diameter  
 Boom hoist rope .....3/4 in. Diameter  
 Third drum, smooth .....12 in. Pitch Diameter  
 Third drum rope .....5/8 in. Diameter

Boom point sheaves (6) .....18 in. Pitch Diameter

3/4 in. diameter rope required for loads over 200,000 pounds.

**LINE PULLS AND SPEEDS**

Drum Pitch Diameter	1-Part Line		2-Part Line	
	Pull in Pounds	Speed (Feet/Minute)	Pull in Pounds	Speed (Feet/Minute)
16 1/2 in.	21,100	157	41,600	78.5

**Swing Speed:**

Standard .....2.25 revolutions/minute  
 Micro-Swing .....0.65 revolutions/minute

Speeds and line pulls based on engine with torque converter drive operating at full load speed of the output shaft. When torque converter is operating at full stall, line pulls are approximately 220 per cent of those shown in table.

**WEIGHTS IN POUNDS**

Crane  
40 Ft. Boom

Net weight domestic, approx. 130,150  
 Working weight, approx. 135,800  
 Export shipping weight, approx. 135,450  
 Ship option tons 139

Hook block included in working weight and export shipping weight for lifting crane, but not in domestic net weight.

**POWER SPECIFICATIONS**

Make - Model Type	Cummins N-855P Diesel
Type of drive	Torque Converter
Cylinders	6
Bore x stroke, inches	5 1/2 x 6
Displacement, cubic inches	855
H.P. net @ full load speed	149
Full load speed (R.P.M.)	2,000
Fuel tank capacity, gallons	75
Starting	Elec. - 12 volt
Altitude range, feet	0-9,000



# 110 TON TRUCK CRANE

## UPPER WORKS

### Revolving Frame:

All welded construction with integral machinery side frames, lugs and engine mounting plates. Parts subject to high stress concentration are fabricated from alloy steel.

### Main Machinery:

Two main shafts with drums, clutches, brakes, and gears on each. Main and auxiliary hoists are on front shaft. Third drum and boom hoist are on rear shaft. Swing shaft, with clutches and brake is mounted forward of the front shaft. Shafts and all parts turning on the shaft are mounted on anti-friction bearings. Power load lowering for main and auxiliary hoist is standard.

### Transmission:

Fully enclosed, multiple strand chain drive, running in oil.

### Clutches:

Clutches for boom hoist, third drum, main hoist, auxiliary hoist and swing are internal expanding shoe type. Clutches are air controlled.

Clutches for power load lowering, boom hoist lowering and Micro-Swing are internal expanding band type, air controlled.

### Drum Brakes:

External contracting band type brakes with single point adjustment. Main and auxiliary hoist brakes are mechanically operated by foot pedals. Positive brake locking device is standard. Third drum brake is spring set — air released. Air cooling of main hoist brake is optional. Blower is chain driven from transmission sprocket.

### Controls:

All functions air controlled except main and auxiliary drum brakes, swing lock, engine and torque converter governors. Graduated type control valves actuate clutches for main hoist, auxiliary hoist, third drum, boom hoist and swing. Swing brake and engine clutch controlled by poppet type valves. Air control console is standard. 12 cubic feet per minute air compressor supplies air for the controls.

Foot throttle and twist type throttle on swing lever are standard.

Rotation sensing device for main hoist drum is optional and is manually engaged or disengaged.

### Swing Brake:

Friction swing brake with external contracting dual bands on right swing clutch housing is standard. Provides braking in either direction.

### House Lock:

An independent positive house lock manually controlled from the operator's station is standard. Upper works may be locked in place facing either the rear or front.

### Micro-Swing:

Optional Micro-Swing available for very slow swing speed. Micro-Swing clutches mounted on extensions of the front and swing shafts. Chain drive connects clutches with intermediate shaft. Pinion on end of intermediate shaft mates with swing machinery. A transfer valve is used to select either standard swing or Micro-Swing. The same graduated type control valve is used for either standard or Micro-Swing.

### Boom Hoist:

Independent power controlled lowering boom hoist with positive control of boom both up and down by air controlled clutches. Boom hoist brake is spring set — air released. Single lever control for clutches and brake. Air operated locking pawl that engages a ratchet on the boom hoist drum is provided.

### Third Drum:

Third drum is standard. A single lever controls the clutch and brake. Single line pull and speed based on engine operating at full load speed, 12,500 pounds at 114 feet per minute.

### Rope Drums:

Cast steel, split type bolt on drum laggings for front shaft. Cast steel solid drums on rear shaft. Barrel and flanges of the laggings and drums are machined smooth.

### Lowerable A-Frame:

Rear hitch type lowerable A-frame is standard. Power raised or lowered with boom hoist tackle.

### Power Unit:

Diesel engine — torque converter drive with twin lever control is standard. Optional diesel altitude engine available.

### Lubrication:

All gears are exposed and lubricated with gear compound. Adequate guards and shields are provided.

All bearings and other parts requiring lubrication have easily accessible fittings.

### Counterweight:

One-piece unit, pin connected to the revolving frame.

### Counterweight Removal Device:

Hydraulic counterweight removal device is optional. Consists of two hydraulic cylinders mounted on the carrier frame for lowering counterweight to the carrier. Includes one sheave in lower boom section for auxiliary hoist line to handle counterweight.

### Cab:

Machinery and operator are completely enclosed and protected. Rope drums are outside of cab. Access doors are provided for servicing. Full tempered or duplate glass is used in all windows. Fully adjustable contour seat is standard.

### Swing Circle:

The swing circle consists of two independent rows of precision balls and spacers. It is permanently adjusted at the factory and requires only occasional lubrication from easily accessible fittings. Swing gear has hardened internal cut teeth.

## CARRIER

### Chassis: 8 x 4 (4 axle) type

Specially designed and built by Crane Carrier Co. to Bucyrus-Erie Company specifications. Frame is all-welded box type construction, fabricated from alloy steel plates and shapes, adequately braced and reinforced. Standard equipment includes front grille, top frame decking, full length running boards, towing hooks at front and rear, front bumper, steps, grab handles and storage boxes. An 80 gallon safety type fuel tank is mounted on side of the frame. Open utility compartment adjacent to the engine.

Standard carrier 11 feet overall width with vertical outrigger cylinders removed.

### Outriggers:

Front and rear double box type removable, with two reinforced beams per box. Outrigger beams are alloy steel I-beams that slide in the outrigger box. Hydraulic outriggers with hydraulic horizontal and vertical movement, and aluminum floats are standard. Vertical cylinders are equipped with safety interlock — "pilot operated check valves" lock outriggers pistons in set position. Vertical cylinders pin connected to beams for easy removal.

Dual controls located on both sides of carrier frame near rear of cab are standard.

### Axles:

Front Axles: Two Shuler FTC axles in tandem, 110 in. track. Dynamic capacity of tandem 44,000 pounds.

Rear Axles: Clark Planetary BD-91,000, double reduction with final reduction in hub, full floating spiral bevel gears and cast housings. 100 in. track. Dynamic capacity of tandem, 110,000 pounds.

### Suspension:

Front and Rear: C.C.C. cast alloy steel equalizer beams with four torque rods.

**WARNING:** The information contained in this specification is to be used only as a guide in evaluating the performance of a machine. For operation of a machine always refer to the capacity plate on the machine (since specifications may apply to a different model or series).





110 TON TRUCK CRANE

MAXIMUM ALLOWABLE LOADS IN POUNDS — CRANE SERVICE												
Boom Length In Feet	Radius In Feet	Boom Angle In Degrees	Boom Point Pin Height (Ft.—In.)	Outriggers Sett Over Side or Rear	Without Outriggers On Tires		Boom Length In Feet	Radius In Feet	Boom Angle In Degrees	Boom Point Pin Height (Ft.—In.)	Outriggers Sett Over Side or Rear	
					Over Side	Over Rear						
40	12	78	46-6	*220,000	96,900	139,700	150	35	78	154-0	65,600	
	16	74	45-9	*185,000	68,600	97,400		40	76	152-9	52,800	
	20	66	44-0	*149,000	45,900	64,600		50	72	150-0	37,200	
	25	58	41-3	118,900	34,100	47,900		60	68	146-6	28,200	
	30	49	37-6	86,700	26,900	37,800		70	64	142-0	22,200	
	35	39	22-6	67,900	22,100	31,100		80	60	136-6	18,000	
60	15	79	66-3	*180,000	67,900	97,000		90	55	130-0	14,900	
	20	74	65-0	*147,000	45,200	63,900		100	50	122-6	12,500	
	25	69	63-6	118,500	33,400	47,200		110	45	113-3	10,600	
	30	64	61-3	86,200	26,200	37,100		120	39	102-3	9,050	
	35	59	58-6	67,400	21,400	30,300		130	33	88-6	7,750	
	40	53	55-3	54,700	17,900	25,500	160	35	80	164-3	65,300	
50	40	45-9	39,400	13,200	19,100	40		77	163-3	52,600		
80	20	78	96-9	*145,000	44,600	63,300		50	73	160-6	37,000	
	25	75	84-6	118,200	32,800	46,600		60	69	157-0	27,900	
	30	71	83-0	85,900	25,600	36,500		70	66	153-0	22,000	
	35	67	81-0	67,000	20,800	29,700		80	62	148-0	17,700	
	40	63	78-9	54,300	17,300	24,900		90	57	142-3	14,600	
	50	55	72-9	38,900	12,600	18,500		100	53	135-3	12,200	
90	60	45	64-2	29,900	9,550	14,300		110	48	127-0	10,300	
	70	34	52-3	24,000	7,550	11,500		120	43	117-6	8,750	
	100	20	80	96-9	*143,000	44,300		63,100	130	38	105-9	7,450
		25	76	94-9	*117,200	32,500	46,300	40	78	173-6	52,400	
		30	73	93-6	85,700	25,300	36,200	50	74	171-0	36,800	
		40	66	89-9	54,100	17,000	24,600	60	71	167-9	27,700	
50		59	84-6	38,600	12,300	18,200	70	67	164-0	21,700		
60		51	77-9	29,600	9,250	14,100	80	63	159-3	17,500		
110	70	43	68-3	23,800	7,200	11,200	90	60	153-9	14,400		
	80	32	56-3	19,600	5,650	9,150	100	56	147-6	11,900		
	120	25	78	105-0	*116,000	32,200	46,100	110	51	140-0	10,000	
		30	75	103-9	85,500	25,000	36,000	120	47	131-6	8,450	
		40	69	100-6	53,900	16,700	24,400	130	42	121-3	7,150	
		50	63	96-0	38,400	10,600	17,900	40	78	183-6	52,200	
60		56	90-0	29,400	7,950	13,800	50	75	180-3	36,500		
70		49	82-3	23,500	6,100	11,000	60	72	178-3	27,400		
130	80	41	72-3	19,400	4,650	8,900	70	68	174-9	21,500		
	90	31	56-3	16,300	3,700	7,300	80	65	170-6	17,200		
	140	25	80	115-3	*115,000	31,900	45,700	90	61	165-3	14,100	
		30	76	114-3	85,300	24,700	35,600	100	58	159-6	11,700	
		40	71	111-3	53,600	16,400	24,000	110	54	152-6	9,800	
		50	65	107-3	38,200	11,700	17,600	120	50	144-9	8,200	
60		59	102-0	29,100	8,650	13,500	130	46	136-9	6,900		
70		53	96-3	23,200	6,550	10,600	140	41	125-0	5,800		
150	80	46	86-9	19,100	5,000	8,550	40	79	193-9	51,900		
	90	39	75-9	16,000	3,850	6,950	50	76	191-6	36,300		
	100	29	60-9	13,600	2,900	5,650	60	73	188-9	27,100		
	160	25	80	125-6	*114,000	31,600	45,500	70	70	185-6	21,200	
		30	77	124-6	85,100	24,400	35,400	80	66	181-3	16,900	
		40	73	121-9	53,400	16,100	23,800	90	63	176-9	13,800	
50		67	118-9	38,000	11,400	17,300	100	60	171-3	11,400		
60		62	113-3	28,900	8,400	13,200	110	56	165-0	9,450		
70		57	107-6	23,000	6,300	10,300	120	52	157-9	7,900		
170	80	51	100-0	18,800	4,750	8,300	130	48	149-6	6,600		
	90	44	90-9	15,700	3,600	6,650	140	44	139-9	5,500		
	100	37	79-3	13,300	2,650	5,400	50	77	201-9	36,100		
	110	28	63-3	11,400	1,900	4,400	60	74	199-3	26,900		
	180	30	78	134-6	84,900	24,100	35,100	70	71	196-0	20,900	
		40	74	132-3	53,200	15,800	23,500	80	68	192-3	16,700	
50		69	128-9	37,700	11,100	17,000	90	65	187-9	13,600		
60		64	124-6	28,700	8,100	12,900	100	61	182-9	11,100		
70		59	119-3	22,800	6,000	10,000	110	58	176-9	9,250		
80		54	112-6	18,600	4,450	8,000	120	55	170-3	7,650		
190	90	49	104-0	15,500	3,300	6,400	130	51	162-6	6,350		
	100	42	94-9	13,000	2,350	5,100	140	47	153-9	5,250		
	110	35	82-6	11,100	1,600	4,100	50	77	212-3	35,800		
	120	27	65-9	9,600	950	3,250	60	75	209-9	26,700		
	200	30	79	144-9	84,700	23,900	34,800	70	72	206-6	20,700	
		40	75	142-6	53,000	15,500	23,200	80	69	203-0	16,500	
50		71	139-6	37,500	10,800	16,800	90	66	198-9	13,300		
60		66	135-6	28,500	7,850	12,700	100	63	194-0	10,900		
70		62	130-9	22,500	5,750	9,800	110	60	188-6	8,950		
80		57	124-9	18,300	4,200	7,700	120	56	182-3	7,400		
210	90	52	117-9	15,200	3,000	6,100	130	53	175-3	6,050		
	100	47	108-0	12,800	2,100	4,850	140	50	167-3	4,950		
	110	41	98-9	10,900	1,350	3,850	50	78	222-3	35,600		
	120	34	85-6	9,350	—	3,000	60	75	220-0	26,500		
	130	26	68-3	8,050	—	2,250	70	73	217-0	20,500		
	220	80	70	193-9	51,900	36,300	27,100	80	70	213-9	16,200	
90		66	181-3	16,900	13,800	11,400	90	67	209-9	13,100		
100		63	176-9	13,800	11,400	9,450	100	64	206-3	10,600		
110		56	165-0	9,450	7,900	6,600	110	61	200-0	8,700		
120		52	157-9	7,900	6,600	5,500	120	58	194-3	7,150		
130		48	149-6	6,600	5,500	4,950	130	55	187-6	5,850		
140		44	139-9	5,500	4,950	4,700	140	52	180-3	4,700		
150		40	136-9	4,700	4,100	3,800	150	48	171-9	3,800		
160		35	133-6	3,800	3,250	2,950	160	45	162-3	2,950		
170		30	130-3	2,950	2,250	2,250						

The above ratings apply to machines that are level and standing on hard, level uniform supporting surfaces. Loads must be freely suspended. The radii specified are loaded radii. Ratings include blocks, hooks, slings or other equipment used in handling loads. Proper care must be exercised by the operator at all times to avoid shock or side loadings on the boom. Ratings apply only to machines having booms in first class condition built and recommended by Bucyrus-Erie Company.

†Entire machine supported on both outriggers with rear tires clear of ground.

\*Indicates that maximum allowable load is limited by factors other than tipping.





# 110 TON TRUCK CRANE



## BUCYRUS-ERIE COMPANY

General Offices: South Milwaukee, Wisconsin, U. S. A.

It is the policy of Bucyrus-Erie Company to improve its products continually. The right is reserved to make changes in specifications or design which in the opinion of this company are in accord with this policy, or which are necessitated by the unavailability of materials. The description herein is for the purpose of identifying the type of machine, and does not limit or extend the express warranty provisions in any contract of sale.



Spec. No. 110-T-480

7.5M-HB

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