



## BOOM TRUCK CRANE BT 3870

DATA SHEET - IMPERIAL

# BT 3870



### Features:

- ▶ Capacity at rated distance from center of rotation:  
19 T @ 5 ft
- ▶ Maximum boom length:  
70 ft
- ▶ Maximum tip height:  
80 ft
- ▶ Optional Single Stage 24 ft or 24-40 ft Jib
- ▶ 120 ft Maximum Sheave Height with 40 ft Jib
- ▶ Behind Cab Mounting with Enhanced Dual Operator Console
- ▶ Electronic Load Moment Indicator with Work Area Definition
- ▶ Quick Reeving Dual Sheave Boom Head

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# CONTENTS

Page:

**Key** ..... 3

## **Dimensions**























**Crane Dimensions** ..... 4  
**Mounting Configurations** ..... 5  
**Area of Operation** ..... 5  
**General Notes** ..... 5

## **Load Charts**

**Range Diagram – BT 3870S** ..... 6  
**Load Charts – BT 3870S** ..... 7  
**Range Diagram – BT 3870T** ..... 8  
**Load Charts – BT 3870T** ..... 9

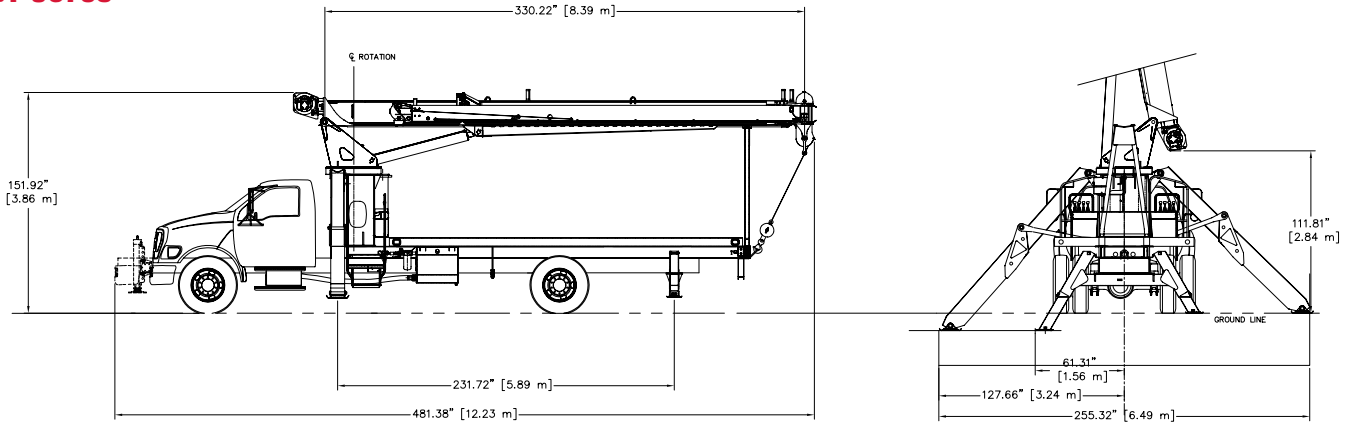
## **Technical Description**

**Boom, Jib and Rotation** ..... 10  
**Hoist, Rope and Hook Block** ..... 10  
**Operator Controls, Operator Aids and Load Limiter/Load Indicator** ..... 11  
**Understructure and Hydraulic System** ..... 11  
**Optional Features** ..... 11

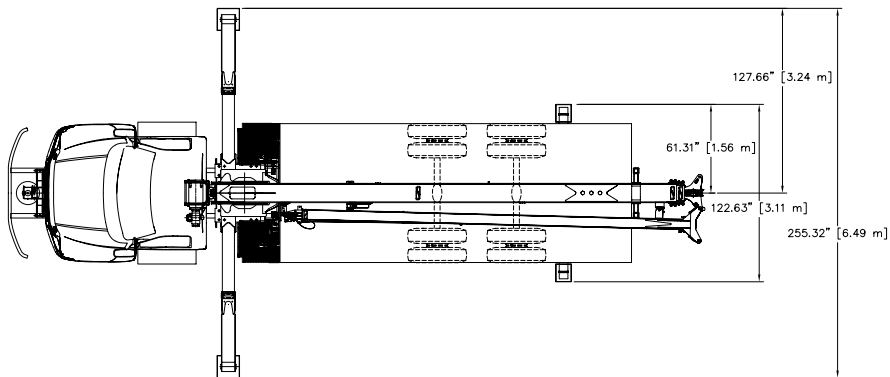
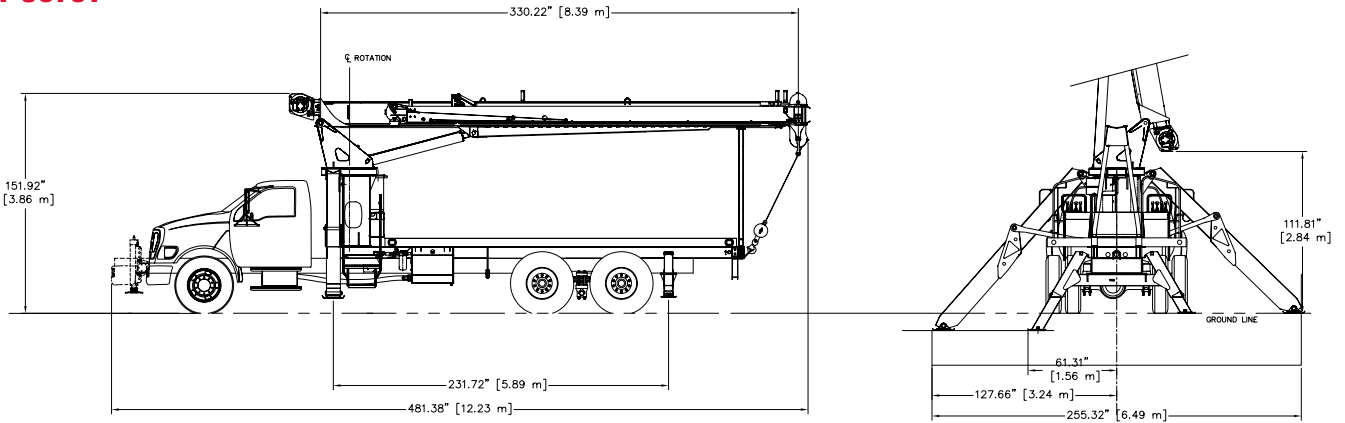
	Main boom		Hook block
	Boom length		Operator aids / Load limiter / Load indicator
	Tip height		Hydraulics
	Boom with extension		Telescoping mode
	Main boom with aux head		Boom elevation angle
	Slewing / Allowable slewing range		Working radius
	Outriggers / Lifting on outriggers (100% / 50% / 0% extended)		Minimum distance from the hook to the head sheave pin
	Main hoist		Rope length
	Hoist speed		Line pull
	Rope - Standard / Optional		Controls
	Rope diameter		Working temperature

# DIMENSIONS

## BT 3870S



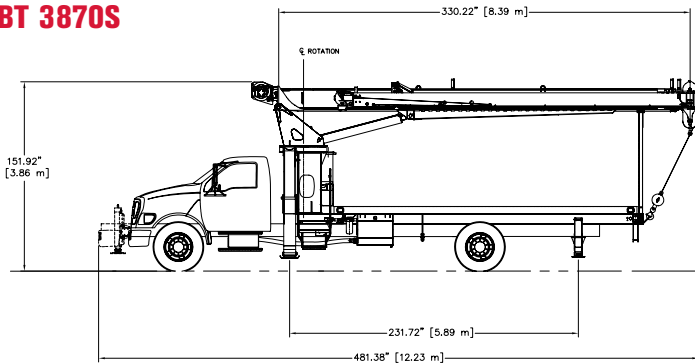
## BT 3870T



# MOUNTING CONFIGURATIONS

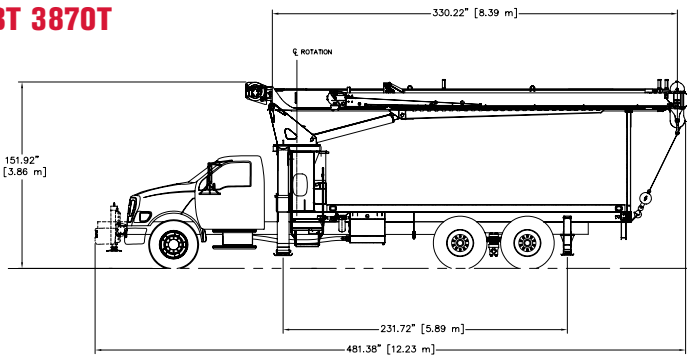
**BT 3870**

**BT 3870S**



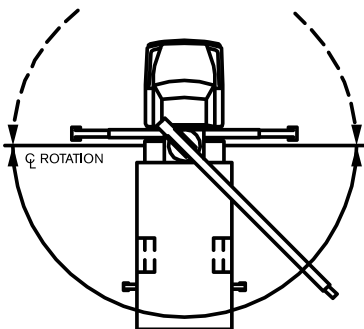
Gross Vehicle Weight Rating	33,000 lb
Front Axle Weight Rating	12,000 lb
Rear Axle Weigh Rating	21,000 lb
Wheelbase	242 in
Cab to Axle	168 in
Afterframe	100 in
Frame Section Modulus	16.98 in <sup>3</sup>
RBM per Frame Rail	1,800,000 lb-in
Frame Height (Unloaded)	40 in
Exhaust Position	Left Side Under Cab

**BT 3870T**



Gross Vehicle Weight Rating	33,000 lb
Front Axle Weight Rating	12,000 lb
Rear Axle Weigh Rating	21,000 lb
Wheelbase	242 in
Cab to Axle	168 in
Afterframe	100 in
Frame Section Modulus	16.98 in <sup>3</sup>
RBM per Frame Rail	1,800,000 lb-in
Frame Height (Unloaded)	40 in
Exhaust Position	Left Side Under Cab

**Area of Operation**



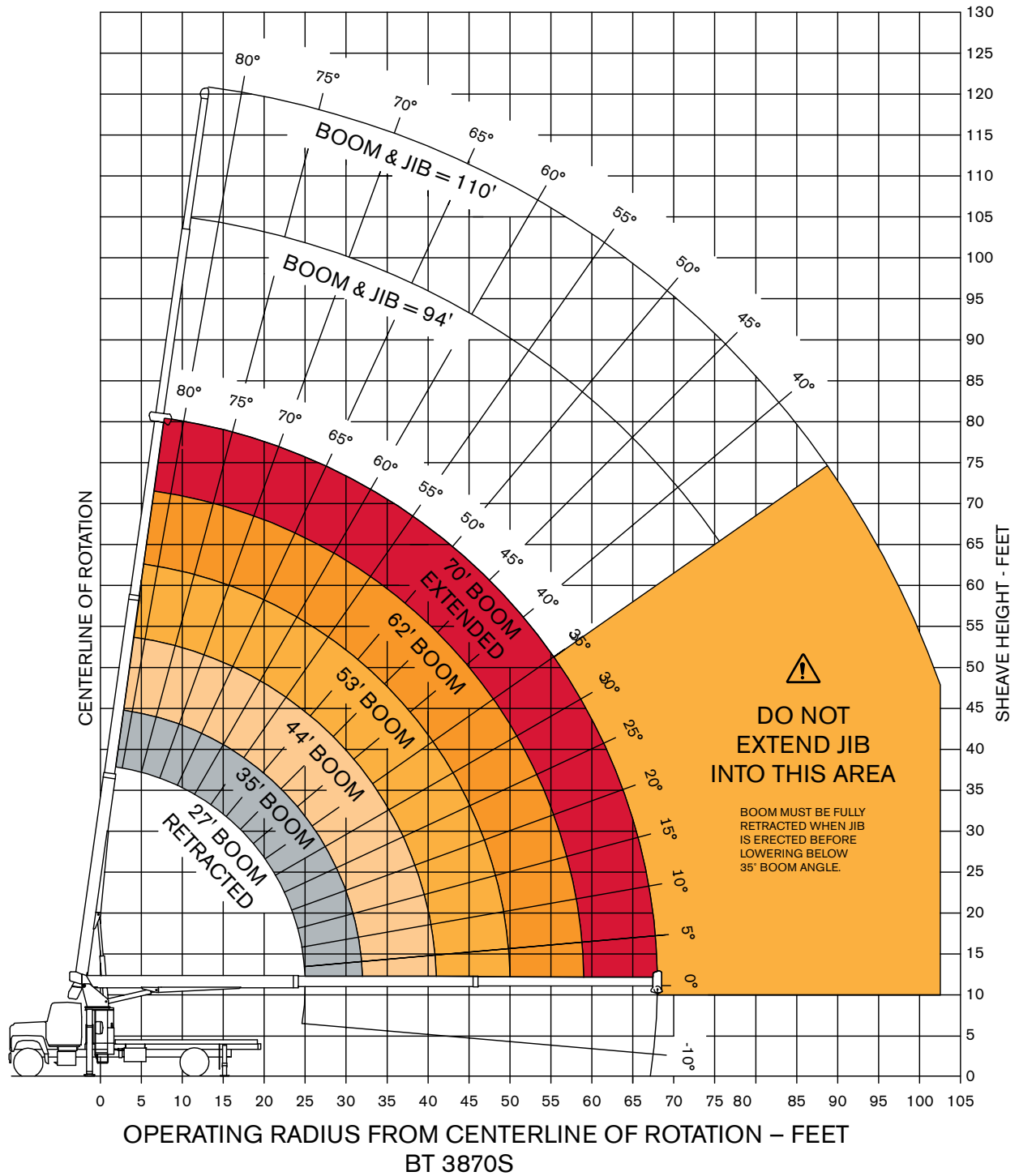
**DEDUCTIONS FROM RATED LOADS FOR LOAD HANDLING DEVICES**

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**OVERHAUL BALL:**  
 125 LBS STD WIRE ROPE  
 250 LBS OPT WIRE ROPE  
**1 SHEAVE LOAD BLOCK:**  
 200 LBS.  
**2 SHEAVE LOAD BLOCK:**  
 260 LBS.

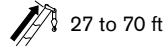
# RANGE DIAGRAM

**BT 3870**





# LOAD CHARTS


## BT 3870S



ASME Standard  
B 30.5

	Boom Length (ft)						
	27	35	44	53	62	70	
ft	lb	lb	lb	lb	lb	lb	ft
5	38,000						5
8	26,400						8
10	22,200	21,200	20,500				10
12	19,300	18,400	17,700	17,200			12
15	16,200	15,400	14,700	14,300	13,900	12,000	15
20	12,600	12,100	11,600	11,100	10,800	10,500	20
25	9,200	9,700	9,500	9,100	8,800	8,600	25
30		6,700	7,100	7,200	7,300	7,200	30
35			5,200	5,400	5,500	5,600	35
40			4,000	4,200	4,300	4,400	40
45				3,300	3,400	3,500	45
50				2,600	2,700	2,800	50
55					2,200	2,300	55
60					1,800	1,900	60
65						1,500	65
Level Boom Capacities	6,900	5,100	3,500	2,400	1,700	1,300	Level Boom Capacities

## BT 3870S

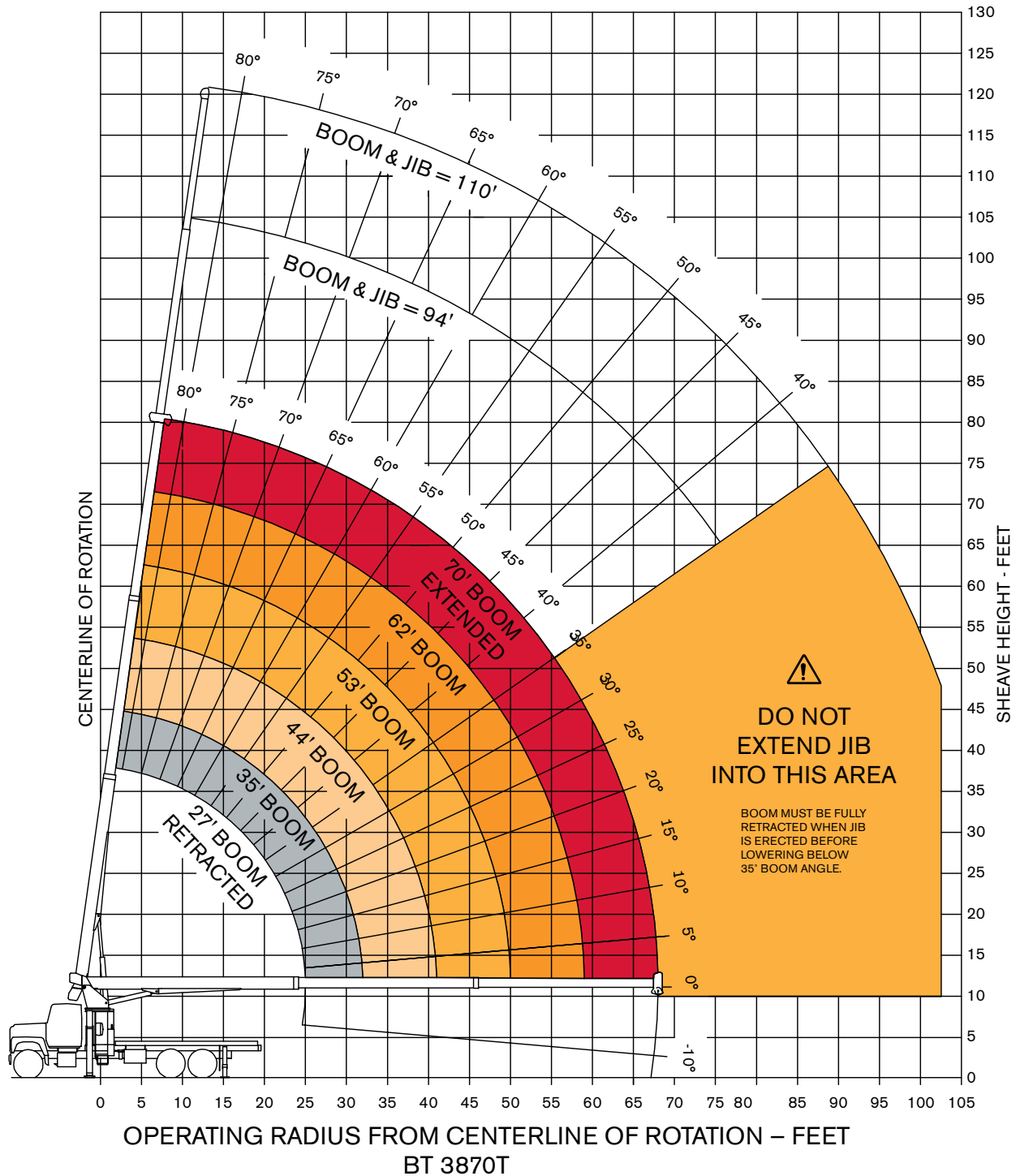
	Jib Capacities for all Boom Lengths									
	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°
	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb
24 ft Jib	900	1,100	1,400	1,700	1,900	2,100	2,500	3,200	3,600	3,900
40 ft Jib	600	800	900	1,100	1,300	1,500	1,900	2,000	2,100	2,200

Lifting capacities do not exceed 85% of tipping load. Weight of hook blocks and slings is part of the load, and is to be deducted from the capacity ratings. Consult crane operation manual for additional details.

Data published herein is intended as a guide only and shall not be construed to warrant applicability for lifting purposes.

# RANGE DIAGRAM

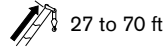
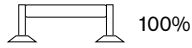
**BT 3870**







# LOAD CHARTS


## BT 3870T



ASME Standard  
B 30.5

	Boom Length (ft)						
	27	35	44	53	62	70	
ft	lb	lb	lb	lb	lb	lb	ft
5	38,000						5
8	26,400						8
10	22,200	21,200	20,500				10
12	19,300	18,400	17,700	17,200			12
15	16,200	15,400	14,700	14,300	13,900	12,000	15
20	12,600	12,100	11,600	11,100	10,800	10,500	20
25	9,200	9,900	9,500	9,100	8,800	8,600	25
30		8,000	8,000	7,700	7,400	7,200	30
35			6,800	6,600	6,400	6,200	35
40			5,400	5,700	5,600	5,400	40
45				4,600	4,800	4,800	45
50				3,800	3,900	3,900	50
55					3,200	3,300	55
60					2,600	2,800	60
65						2,400	65
Level Boom Capacities	6,900	5,100	4,000	3,100	2,400	1,900	Level Boom Capacities

## BT 3870T








	Jib Capacities for all Boom Lengths									
	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°
	lb	lb	lb	lb	lb	lb	lb	lb	lb	lb
24 ft Jib	1,300	1,400	1,500	1,700	1,900	2,100	2,500	3,200	3,600	3,900
40 ft Jib	700	800	900	1,100	1,300	1,500	1,900	2,000	2,100	2,200

Lifting capacities do not exceed 85% of tipping load. Weight of hook blocks and slings is part of the load, and is to be deducted from the capacity ratings. Consult crane operation manual for additional details.





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# TECHNICAL DESCRIPTION

## Boom, Jib and Rotation

	Three-section full power fully synchronized telescopic keel boom	70 ft
	Boom length	28-70 ft
	Boom maximum tip height	80 ft
	Boom elevation angle range (min / max). Boom up/down time Boom extension / retraction time.	-10 to 80° 25/16 seconds 61/29 seconds
	Boom head	Quick reeving dual sheave boom head
	Maximum tip height: boom with optional single stage 24 ft jib Maximum tip height: boom with optional two stage 24-40 ft jib	104 ft 120 ft
	180 degree standard rotation 370 degree or continuous rotation (optional - requires single front bumper outrigger)	

## Hoist, Rope and Hook Block

	Planetary winch with "in-lever" 2-speed operation	150/220 ft/min
	Hoist speed 2-speed operation	150/220 ft/min
	Rotation-resistant rope	
	Rope diameter	
	Breaking strength (use only 9/16 in diameter cable) Permissible line pull	46,000 lbs 11,400 lbs
	Minimum breaking strength Permissible line pull	
	Overhaul ball 1 Sheave block 2 Sheave block	7 T 17.5 T 25 T
	1 part line 2 part line 3 part line 4 part line	9,700 lbs/220 ft/min 19,400 lbs/110 ft/min 29,100 lbs/73 ft/min 38,000 lbs/55 ft/min

## Operator Controls, Operator Aids and Load Limiter/Load Indicator



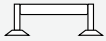
Fully proportional, excellent metering characteristics for precise boom movements. Independent outrigger controls allow the crane to be stable and level in rigorous working conditions.

Foot pedals (in both operator station) for engine throttle and service brake. System has audio alarm and functional shut down when operator encounters an overload situation.



Electronic load indicator and limiter and work area definition to setup working space limits.

## Understructure and Hydraulic System



Front outriggers are Link-Type

Maximum width over the main outrigger pad

22 ft

Main outrigger spread at maximum ground penetration

21 ft 6 in

Rear outriggers are A-Frame type

Maximum width over auxiliary outrigger pads

10 ft 2 in



Hydraulic hoist with gear motor and planetary reduction gearing provides

2-speed operation

Winch capacity

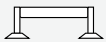
32 gal/min

Boom capacity

17 gal/min

Swing capacity

8 gal/min



Dual outrigger controls on both sides of the carrier.

## Optional Features

- Single and two-stage jibs
- Multi-part load blocks
- Main winch with 2 speed motor
- Heavy duty wood flatbeds
- Extra heavy duty wood flatbeds
- Extra heavy duty steel flatbeds
- Radio remote controls
- One-man or two-man baskets
- Self-leveling work platform
- Hoist drum tensioner
- Continuous rotation
- Oil cooler
- Single front bumper outrigger (required for 370° or continuous rotation)
- Hydraulic hose reel
- Tool box
- Inching control for hoist operation at rear of subframe, for one man hook ball stowage and deploy

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TC-DS-I-E-BT 3870-10/10



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