

**BT3870 | Boom Truck Crane****BOOM TRUCK CRANE
BT3870**

(Units may be shown with optional equipment)

BT3870 FEATURES

- ▶ 19 US Ton, 38,000 lbs (17,240 kg) Maximum Lifting Capacity
- ▶ 80 ft. (24.4m) Maximum Main Boom Sheave Height
- ▶ 28-70' ft. (8.53-21.3 m) Fully Proportional 3-section Telescopic Keel Boom
- ▶ Optional Single Stage 24' (7.3 m) or 24-40' (7.3-12.2 m) Two Stage Jib
- ▶ 120 ft. (36.6m) Maximum Sheave Height with 40 ft. (12.2m) Jib
- ▶ Behind Cab Mounting Configuration
- ▶ Electronic Load Moment Indicator & Anti-Two-Block
- ▶ Planetary Winch With "In-Lever" 2-Speed Operation - 150/220 fpm (46/67 mpm)
Maximum Line Speed - 11,400 lb (5,171 kg) Maximum Line Pull
- ▶ 9/16" Wire Rope - Rotation Resistant - 39,000 lbs (17 690 kg) Breaking Strength
- ▶ Dual Operator Control Stations With Movable RCI & Outrigger Controls
- ▶ No Drilling or Welding Required to Install on to the Chassis
- ▶ Quick Reeving Dual Sheave Boom Head
- ▶ Electric Push Button Outrigger Controls



BOOM TRUCK CRANE BT3870S

BT3870S CAPACITIES IF INSTALLED ON A SINGLE REAR AXLE CHASSIS

LOAD RATINGS

⚠ CAUTION Do not use this specification sheet as a load rating chart. The format of data is not consistent with the machine chart and may be subject to change.

CAPACITIES FOR BT3870S

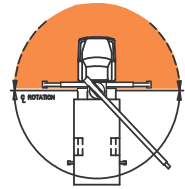
SINGLE REAR AXLE CHASSIS

Maximum Load Chart in pounds (lbs) with fully extended outriggers												
OPERATING RADIUS (FT)	27 FT		35 FT		44 FT		53 FT		62 FT		70 FT	
	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)
5	78	38,000*										
8	71	26,400*										
10	67	22,200*	72	21,200*	76	20,500*						
12	62	19,300*	69	18,400*	73	17,700*	76	17,200*				
15	55	16,200*	63	15,400*	69	14,700*	73	14,300*	75	13,900*	77	12,000*
20	40	12,600*	53	12,100*	62	11,600*	67	11,100*	70	10,800*	73	10,500*
25	16	9,200	42	9,700	54	9,500*	61	9,100*	65	8,800*	69	8,600*
30			27	6,700	45	7,100	54	7,200	60	7,300*	64	7,200*
35					35	5,200	47	5,400	55	5,500	59	5,600
40					20	4,000	39	4,200	49	4,300	55	4,400
45							29	3,300	42	3,400	49	3,500
50							14	2,600	34	2,700	44	2,800
55									25	2,200	37	2,300
60									7	1,800	30	1,900
65											20	1,500
	0	6,900*	0	5,100*	0	3,500*	0	2,400	0	1,700	0	1,300

NOTE: STRUCTURAL STRENGTH RATINGS IN CHART ARE INDICATED WITH AN ASTERISK *

AREA OF OPERATION

DO NOT OPERATE IN SHADED AREA WITHOUT OPTIONAL FRONT STABILIZER



Deductions from rate loads for load handling devices BT

Overhaul Ball	125 lbs
1 Sheave Load Block	200 lbs
2 Sheave Load Block	260 lbs

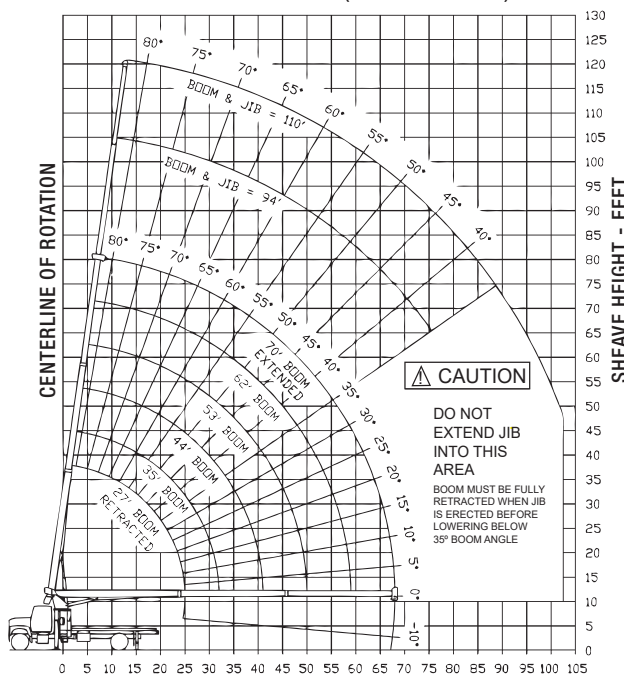
← LEVEL BOOM CAPACITIES

JIB CAPACITIES FOR ALL BOOM LENGTHS

VERIFY OPERATIONAL MODE SETTING ON LMI DISPLAY BEFORE LIFTING WITH JIB

Loaded Boom Angle	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°
Retracted 24 ft Jib	900	1,100	1,400	1,700 *	1,900 *	2,100 *	2,500 *	3,200 *	3,600 *	3,900 *
Extended 40 ft Jib	600	800	900 *	1,100 *	1,300 *	1,500 *	1,900 *	2,000 *	2,100 *	2,200 *

RANGE DIAGRAM (28 - 70 FT BOOM)



GENERAL NOTES

- The operator must read and understand the Owner's Manual before operating this crane.
- Positioning or operation of crane beyond areas shown on this chart is not intended or approved except where specified in Owner's Manual.
- Loaded boom angles at specified boom lengths give only an approximation of the operating radius. The boom angle before loading should be greater to account for deflections. Do not exceed the operating radius for rated loads.
- Use rating of next longer boom for boom lengths not shown. Use rating of next greater radius for load radii not shown.
- Boom must be fully retracted when jib is erected before lowering below minimum angle. Retracted jib has no lifting capacity below a 50° boom angle.
- Use rating of next lower boom angle for boom angles not shown on jib load rating chart.
- Lifting off the main boom point while the swing around jib is erected is not intended or approved.
- Do not lower boom into this area, as hydraulic pressure will not allow raising the boom without retracting boom first.
- Crane Load Ratings are based on outriggers being fully extended and set, freely suspended loads with the machine leveled and standing on a firm uniform supporting surface. No attempt shall be made to move a load horizontally on the ground in any direction.
- Practical working loads depend on supporting surface, wind and other factors affecting stability such as hazardous surroundings, experience of personnel, and proper handling, must all be taken into account by the operator.
- The maximum load which may be telescoped is limited by hydraulic pressure, boom angle, and boom lubrication. It is safe to attempt to telescope any load within the limits of the load rating chart.

INFORMATION

- Deductions must be made from rated loads for stowed jib, optional attachments, hooks and loadblocks (see deduction chart). Weights of slings and other load handling devices shall be considered a part of the load.
- Crane load ratings with outriggers are based on outriggers and stabilizers extended and set with all load removed from the carrier wheels.
- Load ratings do not exceed 85% of tipping load.

DEFINITIONS

- Operating radius is the horizontal distance from the axis of rotation to the center of the vertical hoist line or load hook with load suspended.
- Loaded boom angle as shown in the Load Ratings Chart is the included angle between the horizontal and longitudinal axes of the boom base after lifting rated load at rated radius.

BT3870T CAPACITIES IF INSTALLED ON A TANDEM REAR AXLE CHASSIS

LOAD RATINGS

CAUTION Do not use this specification sheet as a load rating chart. The format of data is not consistent with the machine chart and may be subject to change.

CAPACITIES FOR BT3870T

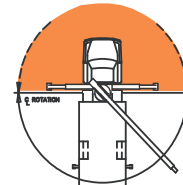
ON TANDEM REAR AXLE CHASSIS

BOOM LENGTH													Maximum Load Chart in pounds (lbs) with fully extended outriggers	
OPERATING RADIUS (FT)	27 FT		35 FT		44 FT		53 FT		62 FT		70 FT			
	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)	LOADED BOOM ANGLE (DEG)	LOAD RATING (LB)		
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75											0	1,900*		
80														
85														
90														
95														
100														
105														
110														
115														
120														
125														
130														

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AREA OF OPERATION

DO NOT OPERATE IN SHADED AREA WITHOUT OPTIONAL FRONT STABILIZER



Deductions from rate loads for load handling devices BT

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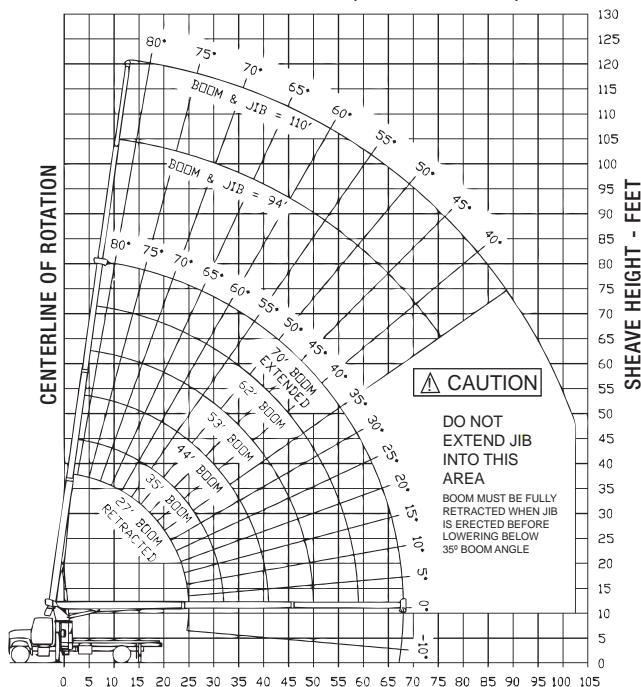
← LEVEL BOOM CAPACITIES

JIB CAPACITIES FOR ALL BOOM LENGTHS

VERIFY OPERATIONAL MODE SETTING ON LMI DISPLAY BEFORE LIFTING WITH JIB

Loaded Boom Angle	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°
Retracted 24 ft Jib	1300 *	1,400 *	1,500 *	1,700 *	1,900 *	2,100 *	2,500 *	3,200 *	3,600 *	3,900 *
Extended 40 ft Jib	700 *	800 *	900 *	1,100 *	1,300 *	1,500 *	1,900 *	2,000 *	2,100 *	2,200 *

RANGE DIAGRAM (28 - 70 FT BOOM)



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BOOM TRUCK CRANE BT3870

BT3870

WINCH DATA

Winch	Cable Supplied	1 Part Line	2 Part Line	3 Part Line	4 Part Line
Standard Rope	9/16" Diam 6 x 25 Standard Rope	9,700 lb 150 fpm	19,400 lb 110 fpm	29,100 lb 73 fpm	38,000 lb 55 fpm
Optional Rope	9/16" Diam WRCA XLT4 Rotation Resistant	9,700 lb 150 fpm	19,400 lb 110 fpm	29,100 lb 73 fpm	38,000 lb 55 fpm

BLOCK TYPE

Overhaul Ball Standard Rope	7 ton (6.4 mt)
Overhaul Ball Optional Rope	125 lbs (56.7 kg)
1 Sheave Block	200 lbs (91 kg)
2 Sheave Block	260 lbs (118 kg)

CAUTION

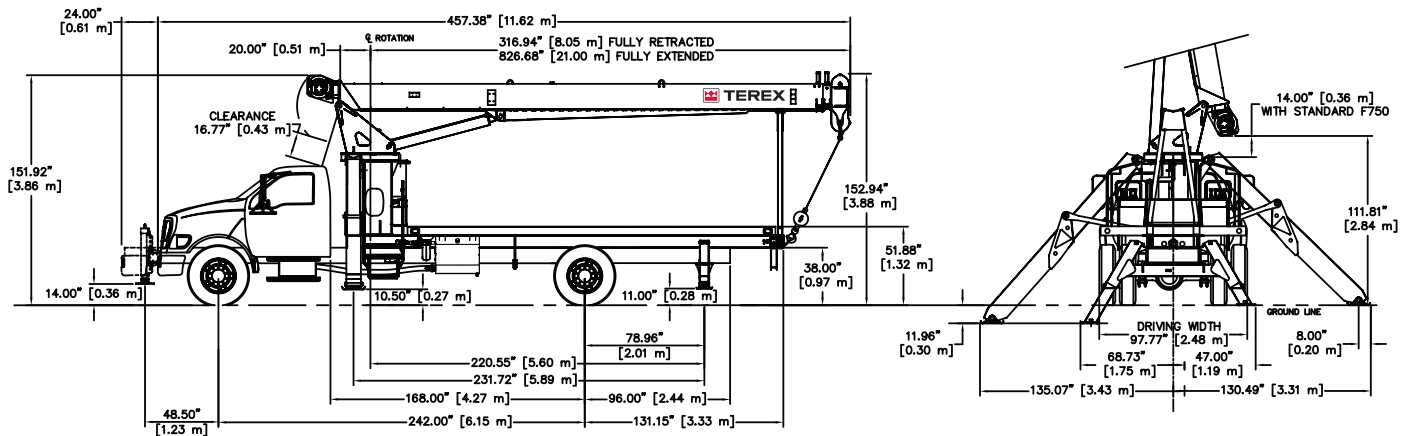
Overload and anti-two-block systems must be in good operating condition before operating crane. Refer to Owners Manual.

Keep at least 3 wraps of loadline on drum at all times.

Use only 9/16" diameter cable with 44,600 lbs. breaking strength on this machine.

MOUNTING CONFIGURATION

BEHIND CAB MOUNT - STANDARD CRANE WEIGHT IS 16,300 LB (7,394 kg)



SINGLE REAR AXLE CHASSIS RECOMMENDATIONS

BT3870S

▶ Combined Axle Weight Rating	33,000 lb (14 969 kg)
▶ Front Axle Weight Rating	12,000 lb (5 443 kg)
▶ Rear Axle Weight Rating	21,000 lb (9 525 kg)
▶ Wheel base	242" (6.15 m)
▶ Cab to Axle	168" (4.27 m)
▶ Afterframe	100" (2.54 m)
▶ Frame Section Modulus	16.98 in ³ (278 cm ³)
▶ RBM per Frame Rail	1,800,000 lb-in (2,440,000 n-m)
▶ Frame Height (Unloaded)	40" (1.02 m)
▶ Exhaust Position	Left Side Under Cab -

*Call factory for detailed recommendations

TANDEM REAR AXLE CHASSIS RECOMMENDATIONS

BT3870T

▶ Combined Axle Weight Rating	52,000 lb (23 586 kg)
▶ Front Axle Weight Rating	12,000 lb (5 443 kg)
▶ Rear Axle Weight Rating	40,000 lb (18 143 kg)
▶ Wheel base	254" (6.45 m)
▶ Cab to Axle	180" (4.57 m)
▶ Afterframe	100" (2.54 m)
▶ Frame Section Modulus	16.98 in ³ (278 cm ³)
▶ RBM per Frame Rail	1,800,000 lb-in (2,440,000 n-m)
▶ Frame Height (Unloaded)	40" (1.02 m)
▶ Exhaust Position	Right Side Under Cab -

*Call factory for detailed recommendations

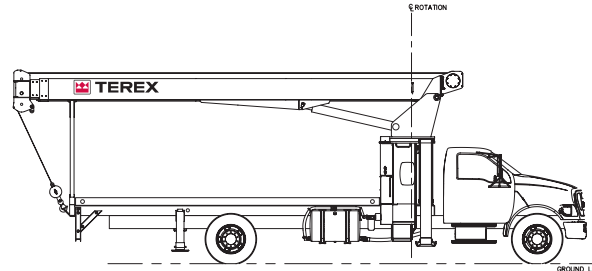
IF FRONT STABILIZER IS SELECTED - CHASSIS MUST HAVE EXTENDED FRONT FRAME RAILS



BOOM TRUCK CRANE BT3870

BT3870

SPECIFICATIONS



BOOM

- ▶ 28-70' (8.53-21.3 m) three-section full power fully synchronized boom. Patented keel boom design utilizes a keel shaped base plate combined with a deep, four plate boom section to optimize strength / rigidity-to-height ratio. Maximum tip height with three-section 28-70' (8.93-21.3 m) boom is 80' (24.4 m). Maximum tip height with optional two-stage 24-40' (7.31-12.19 m) jib is 120' (36.6 m).

WINCH

- ▶ Hydraulic winch with gear motor and planetary reduction gearing provides 2-speed operation. First layer winch pull is 11,400 lb (5,170 kg). Wire rope size is 9/16" (14 mm) with 39,000 lb (17,690 kg) breaking strength.

OPERATING SPEEDS

- ▶ Mainframe / turret assembly planetary gear rotation provides 180° rotation (370° with optional front bumper outrigger). Swing rotation is 55 seconds. Boom up/down is 25/16 seconds and boom extend/retract is 61/29 seconds.

HYDRAULICS

- ▶ Three-section pump allows the operator to perform simultaneous crane operations (winch, boom and swing). Capacities are 32, 17 and 8 gpm (122, 64 and 30 L/m). Hydraulic tank capacity is 63 gal (238 L).
- ▶ Return filter mounted to hydraulic tank eliminates return plumbing.
- ▶ Oil temp warning light in dash.
- ▶ Internal suction filter screen in reservoir.

CONTROLS

- ▶ Fully proportional, excellent metering characteristics for precise boom movements. Independent outrigger controls allow the crane to be stable and level in rigorous working conditions. Load Moment Indication System has audio alarm and functional shut down when operator encounters an overload situation.

OUTRIGGERS

- ▶ Front outriggers are Link-Type. The maximum width over main outrigger pad is 22' (6.71 m), main outrigger spread at maximum ground penetration is 21' 6" (6.58 m).
- ▶ Rear outriggers are A-Frame type. The maximum width over auxiliary outrigger pads is 10' 2" (3.09 m).

SUBFRAME

- ▶ Single fabricated, closed-box style subframe yields greater strength and rigidity. Wheelbase for standard truck crane mounting configuration is 242" (6.15 m).

OPTIONS AND ACCESSORIES

- ▶ 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
- ▶ Winch drum tensioner
- ▶ Continuous rotation
- ▶ Oil cooler
- ▶ Single front bumper outrigger (required for 370° or continuous rotation)
- ▶ Hydraulic hose reel
- ▶ Tool Box
- ▶ Inching Control for winch operation at rear of subframe, for one man hook ball stowage and deploy

Boom Truck Crane BT3870**Typical BT3870S on Ford F750 Chassis**

