4435 SERIES B

Self-Propelled Hydraulic Crane

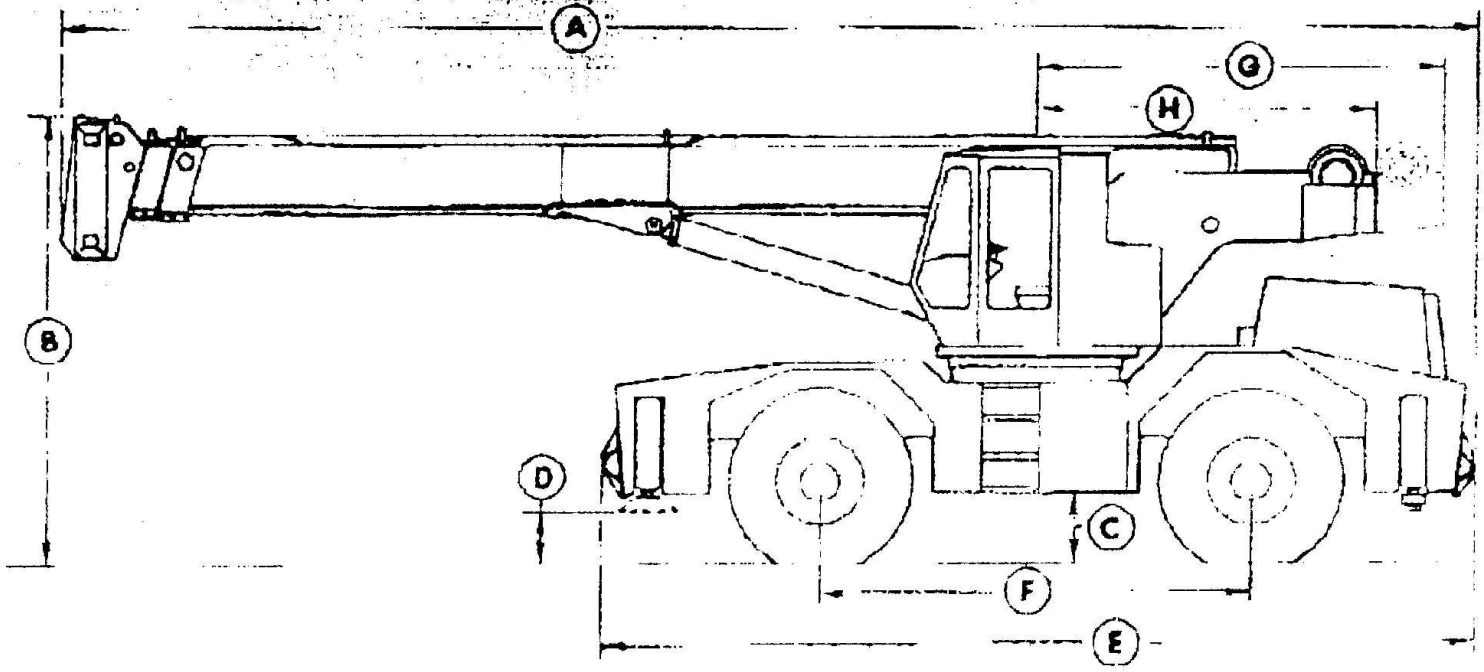
40-Ton

Capacities
Specifications
Operating Ranges

BADGER®
CONSTRUCTION EQUIPMENT CO.

DIVISION OF BURRO-BADGER CORPORATION

Courtesy of Crane.Market



A – Overall length, travel position – With 80' (24.4 m) boom: 40'3" (12.3 m)
With 105' (32 m) boom: 40'10" (12.4 m)

	18.00 x 25 tires	26.5 x 25 tires	29.5 x 25 tires
B – Overall height, travel position	11'8" (3.6 m)	11'10" (3.6 m)	11'11" (3.6 m)
C – Ground clearance	18" (46 cm)	20½" (52 cm)	23" (58 cm)
D – Clearance under outrigger floats, jacks retracted	8" (23 cm)	11" (28 cm)	13" (33 cm)
Overall width, travel position	10' (3 m)	10'7" (3.2 m)	10'10" (3.3 m)

E – Overall length of undercarriage: 24'2" (7.4 m)
F – Wheelbase: 150" (3.8 m)
G – Tail swing, with auxiliary winch: 11'10" (3.6 m)
H – Tail swing, without auxiliary winch: 9'10" (3 m)

Outrigger spread, center-to-center of jacks: 21' (6.4 m)
Overall width with floats installed, outrigger beams retracted 11'3" (3.4 m)

AXLE LOADS – lbs (kg)		Weight	Front Axle	Rear Axle
Standard Machine	With 80' Boom	75,000 (34,020)	42,600 (19,278)	32,500 (14,742)
	With 105' Boom	77,200 (35,018)	45,800 (20,775)	31,400 (14,243)
Side-Fly		+1300 (+590)	+2260 (+1025)	-960 (-435)
Jib		+1020 (+463)	+1240 (+562)	-220 (-100)
Four-sheave hook block		+500 (+227)	+500 (+227)	– –
Single-sheave hook block		+60 (+27)	+60 (+27)	– –
Headache ball, 5-ton hook		+250 (+113)	+250 (+113)	– –
Headache ball, 3-ton hook		+200 (+91)	+200 (+91)	– –
Front-mounted winch		+400 (+181)	+600 (+272)	-200 (-91)

NOTE: Standard machine includes 4,450 lbs (2,019 kg) counterweight. This is removed from machine when auxiliary winch is installed.

Weight distribution for hook blocks and headache balls are with these items in storage compartment.

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105' BOOM — MODEL 4465 SERIES B CRANE LOAD CHART PCSA CLASS 10-152

40 TON CAPACITY FULLY HYDRAULIC SELF—PROPELLED CRANE

ON OUTRIGGERS FULLY EXTENDED—360° (a)

RADIUS IN FEET	BOOM LENGTH														POWER PIN SECTION EXTENDED (d)		30 FOOT SIDEFLY PLUS 81.4 FT. BOOM		30 FOOT SIDEFLY PLUS 105 FT. BOOM		RADIUS IN FEET
	32.8 FEET		40 FEET		48 FEET		56 FEET		64 FEET		72 FEET		81.4 FEET		105 FEET		111 FEET		135 FEET		
	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	
10	63	80,000	68	74,000	72	72,100	75	71,000													10
12	58	69,600	65	69,700	70	69,800	73	67,800	75	60,000											12
15	53	58,500	60	58,600	66	58,600	69	58,700	72	53,700	75	48,300									15
20	41	45,500	52	45,600	60	45,700	64	45,700	67	45,300	70	40,800	72	35,200							20
25	25	34,300	42	34,700	52	34,800	58	34,900	62	34,900	66	34,200	68	30,700	74	20,000	74	18,500			25
30			29	20,000	44	27,300	52	27,400	57	27,500	61	27,500	65	27,500	71	19,900	71	16,300			30
35			1	17,300	34	20,000	45	20,800	52	20,500	57	20,700	61	21,000	68	17,600	68	14,600	72	10,000	35
40					21	15,200	37	15,500	46	15,700	52	15,900	57	16,100	65	15,700	65	13,200	78	9,550	40
45							27	12,100	39	12,300	46	12,400	52	12,600	62	13,900	63	12,100	68	8,880	45
50							11	9,420	31	9,660	40	9,650	48	10,000	59	11,900	60	11,100	65	7,950	50
55									21	7,650	33	7,840	43	7,980	55	9,810	57	10,100	63	7,360	55
60											14	6,360	37	6,480	52	8,240	54	8,540	61	6,720	60
65													31	5,840	48	6,770	50	7,010	58	6,110	65
70													23	5,450	45	5,640	47	5,850	56	5,560	70
75													11	5,340	41	4,680	43	4,870	53	5,240	75
80															36	3,860	39	4,030	50	4,480	80
85															31	3,130	35	3,000	47	3,800	85
90															25	2,500	30	2,860	45	3,190	90
95															10	1,930	25	2,080	41	2,650	95
100															2	1,360	18	1,360	38	2,180	100
105																	6	1,060	26	1,750	105
110																			31	1,370	110
115																			28	1,090	115

ON OUTRIGGERS FULLY EXTENDED—OVER FRONT (a)

RADIUS IN FEET	BOOM LENGTH														POWER PIN SECTION EXTENDED (d)		30 FOOT SIDEFLY PLUS 81.4 FT. BOOM		30 FOOT SIDEFLY PLUS 105 FT. BOOM		RADIUS IN FEET
	32.8 FEET		40 FEET		48 FEET		56 FEET		64 FEET		72 FEET		81.4 FEET		105 FEET		111 FEET		135 FEET		
	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	∠°	LBS	
10	63	80,000	68	74,000	72	72,100	75	71,000													10
12	58	69,600	65	69,700	70	69,800	73	67,800	75	60,000											12
15	53	58,500	60	58,600	66	58,600	69	58,700	72	53,700	75	48,300									15
20	41	45,500	52	45,600	60	45,700	64	45,700	67	45,300	70	40,800	72	35,200							20
25	25	34,300	42	34,700	52	34,800	58	34,900	62	34,900	66	34,200	68	30,700	74	20,000	74	18,500			25
30			29	27,100	44	27,300	52	27,400	57	27,500	61	27,500	65	27,500	71	19,900	71	16,300			30
35			1	17,300	34	22,000	45	22,100	52	22,200	57	22,200	61	22,200	68	17,600	68	14,600	72	10,000	35
40					21	17,700	37	18,000	46	18,100	52	18,200	57	18,200	65	15,700	65	13,200	78	9,550	40
45							27	14,100	30	14,300	46	14,500	52	14,700	62	13,900	63	12,100	68	8,880	45
50							11	11,600	31	11,800	40	11,800	48	11,900	59	11,900	60	11,100	65	7,950	50
55									21	9,660	33	9,810	43	9,980	55	9,810	57	10,100	63	7,360	55
60											14	7,620	37	7,780	52	9,340	54	9,250	61	6,720	60
65													31	6,120	48	7,470	50	7,820	58	6,110	65
70													23	5,680	45	6,650	47	6,870	56	5,560	70
75													11	5,620	41	5,620	43	5,630	53	5,240	75
80															36	4,740	39	4,760	50	4,480	80
85															31	3,970	35	4,020	47	4,550	85
90															25	3,290	30	3,560	45	4,220	90
95															18	2,680	25	2,770	41	3,700	95
100															2	2,080	18	2,240	38	3,150	100
105																	6	1,740	35	2,650	105
110																			31	2,210	110
115																			26	1,800	115
120																			21	1,430	120
125																			14	1,080	125

JIB CAPACITY

30 FT.	SIDEFLY PLUS 25 FT. COMBINATION (a)		JIB
MAIN BOOM ANGLE	0° JIB OFFSET LBS.	15° JIB OFFSET LBS.	30° JIB OFFSET LBS.
77°	6 000	6 300	4 260
70°	4 670	4 070	3 650
65°	4 000	3 810	3 360
60°	3 380	3 310	3 130
55°	3 270	3 680	2 950

WEIGHT REDUCTIONS FOR BOOM EXTENSIONS

30 FT.	SIDEFLY BOOM EXTENSION (a) STORED-650 LBS. (c) ERECTED-1470 LBS.
25 FT.	JIB (c) STORED-300 LBS. (c) ERECTED-1500 LBS.

TACKLE REEVING MAIN WINCH

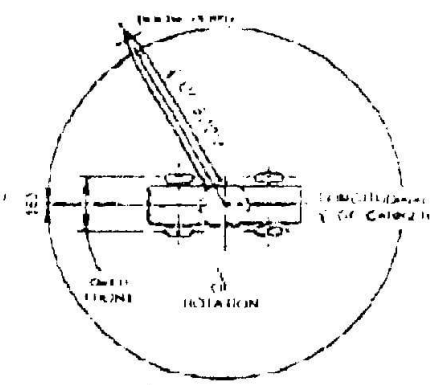
NO. OF PARTS OF HOIST TACKLE	MAX. HOOK LOAD LBS.
1	10 000
2	20 000
3	30 000
4	40 000
5	50 000
6	60 000
7	70 000
8	80 000

ON RUBBER CAPACITIES (a)

FOR 18 x 25 - 32 PR TIRES (f)

RADIUS IN FEET	STATIONARY		PICK & CARRY (b)		
	OVER FRONT	360° ROTATION	CREEP SPEED (c)	2.5 MPH	5 MPH
10	44 100	34 600	43 000	34 600	27 600
12	38 600	28 500	37 100	29 900	23 400
15	32 500	19 700	30 400	24 200	18 900
20	24 900	11 400	22 600	17 800	13 100
25	17 000	7 060	17 000	13 000	9 210
30	12 100	4 870	12 100	9 850	6 660
35	8 470	2 870	8 470	7 270	4 480
40	6 480	1 680	6 480	5 650	3 100
45	4 660		4 660	4 210	1 910
50	3 420		3 420	2 860	
55	2 480		2 480	1 900	

MAXIMUM ALLOWABLE BOOM LENGTH - 64 FEET



ON RUBBER

(a) Refer to area of operation chart for defined working arc.
(b) Mechanical house lock pin must be fully engaged.
(c) Travel resulting in not more than 200 ft. covered in a 30 minute period.
(d) Boom must be fully extended when lifting with extended power pin section or with 30 ft. sidefly.
(e) Reduction in main boom capacities.
(f) Refer to tire inflation chart.

Courtesy of Crane.Market

CAB

Fully-enclosed all steel cab with safety glass windows, removable front window, hinged skylight and rear window, electric windshield wiper and washer, defroster fan, dome light, fire extinguisher, fully adjustable air cushioned seat, seat belt. Propane or diesel heater optional.

CONTROLS

Five levers for all boom, winch, and swing movements. One foot pedal, linked to boom raise-and-lower lever. Pantman type (except swing) are self-centering: when controls are released, machine movements stop automatically. Swing brake, with free swing. Machine leveling gauge, electric horn, mechanical house lock, emergency brake, parking brake.

Key-operated ignition switch with indicator light, starter button, foot throttle, fuel gauge, voltmeter, hour meter. Gauges for engine oil pressure, transmission oil pressure, transmission oil temperature, engine coolant temperature, air pressure. Hydraulic filter and low air warning lights.

MAIN WINCH

(Model 34) Hydraulic powered up and down.

Speed — fpm (m/min)

Wrap	Maximum Line Speed Full Load	Maximum Line Speed No Load	Line Pull Lbs (kg)
1	312 (95.4)	375 (114.3)	11,490 (5,212)
2	334 (101.8)	400 (121.9)	10,780 (4,894)
3	354 (107.9)	425 (129.5)	10,160 (4,609)
4	375 (114.3)	450 (137.2)	9,610 (4,359)
5	393 (120.4)	473 (144.0)	9,120 (4,137)

Optional 4-speed main winch:

High Speed — fpm (m/min)

Wrap	Maximum Line Speed Full Load	Maximum Line Speed No Load	Line Pull Lbs (kg)
1	478 (145.1)	571 (174)	7,670 (3,479)
3	544 (165.8)	653 (199)	6,710 (3,044)
4	570 (173.7)	684 (208.5)	6,410 (2,882)
5	612 (186.5)	734 (223.7)	5,990 (2,764)

Low Speed — fpm (m/min)

Wrap	Maximum Line Speed Full Load	Maximum Line Speed No Load	Line Pull Lbs (kg)
1	238 (72.5)	286 (87.2)	15,340 (6,958)
3	272 (82.9)	326 (99.4)	13,420 (6,087)
4	289 (88.1)	347 (105.8)	12,630 (5,729)
5	306 (93.3)	367 (111.9)	11,920 (5,407)

Either winch includes 450' (137 m) of 5/8" (15.9 mm) cable. Class 18 optional with either main winch.

AUXILIARY WINCH (Optional)

(Model 25) Hydraulic powered up and down, with optional free fall.

Speed — fpm (m/min)

Wrap	Maximum Line Speed Full Load	Maximum Line Speed No Load	Line Pull Lbs (kg)
1	227 (69.2)	272 (82.9)	6,445 (2,923)
2	245 (74.7)	294 (89.6)	5,950 (2,699)
3	265 (80.8)	318 (96.9)	5,530 (2,508)
4	283 (86.3)	340 (103.6)	5,170 (2,345)

Optional: 450' (137 m) of 1/2" (12.7 mm) cable.

WIRE ROPE

All winch cable is preformed wire rope, 6x25 strands right-regular lay EIPS steel core.

SWING

Planetary, with internal brake. Spring set, hydraulic release. Free swing or automatic brake.

Speed — 9 rpm.

ENGINE

GM 6V-53N diesel, 6 cyl ohv, 2 cycle, 197 hp at 2800 rpm, 318 cid (5.2 l), 3.875" bore x 4.5" stroke (98 mm x 114 mm), 21:1 compression ratio, 431 ft-lbs (59.6 mkg) max torque at 1500 rpm.

Electric starter, 12-volt 65 amp alternator, 3 90-amp batteries.

Air compressor, 12 cfm (6.7 l/sec)

Optional engine: Cummins V-555C230 diesel, 6 cy ohv, 4 cycle, 207 hp at 2,800 rpm, 555 cid (9.1 l), 4-5/8" bore x 4-1/8" stroke (117 mm x 105 mm), 17:1 compression ratio, 425 ft-lbs (58.8 mkg) max torque at 1500 rpm, electric starter, 12-volt 60 amp alternator, 3 80-amp batteries

Air compressor, 13.2 cfm (6.2 l/sec)

Fuel capacity, either engine: 150 gal (452.6

TRANSMISSION

Six-speed with rear axle disconnect. Electric shift, 2-speed range and directional shift with electric over air high low shift and rear axle disconnect.

Drive	Transmission Range	Rear Shift	Maximum Speed mph (km/hr)
4-wheel	Low	1st	1.5 (2.4)
4-wheel	Low	2nd	3.1 (4.9)
4-wheel	Low	3rd	5.3 (8.5)
2-wheel	High	1st	4.3 (6.9)
2-wheel	High	2nd	8.7 (14)
2-wheel	High	3rd	15 (24)

Gradeability: NOTE: All performance data is based on standard machines, and may vary due to engine performance and optional equipment. Maximum speed may be limited by tire size. Axle ratio limitation due to engine lubrication design. 6x 7

AXLES

Ratio 22.4:1. Planetary steering. Front axle rigidly mounted to frame. Rear axle pinned for oscillation, automatic oscillation lockout, with manual override. Non-spin differential optional.

BRAKES

Four-wheel air service brakes. Drums 20.25" x 4" (514 mm x 102 mm). Spring-set emergency and parking brakes on all four wheels.

TIRES:

18.00 x 25 32-ply, 13 x 25 rim.

Optional:

26.5 x 25 20-ply, 22 x 25 rim

26.5 x 25 26-ply, 22 x 25 rim

29.5 x 25 22-ply, 25 x 25 rim

Spare tire, tire inflation kit.

STEERING

Two independent systems. Front, hydrostatic controlled by Char-Lynn orbitrol unit. Rear, hydrostatic controlled by toggle switch on dash for oscillation lockout. Steering indicator lights.

Turning radius:

Front-wheel steering: 38' (11.6 m)

Four-wheel coordinated: 21'6" (6.6m)

OUTRIGGERS

Beam type, hydraulic powered, 24" (61cm) diameter floats, 21' (6.4m) spread center-to-center of jacks.

Optional — 30" (76 cm) floats.

WEIGHT—Lbs (kg)	Front Axle	Rear Axle
With 80' boom	73,900 (33,521)	39,600 (17,963)
With 105' boom	76,100 (34,519)	42,900 (19,460)	33,200 (15,060)

STANDARD EQUIPMENT

Dual headlights, tail lights, brake lights, back-up lights, turn signals, parking lights; front and rear fenders, tow hooks, rear view mirrors, electronic boom angle indicator.

OPTIONAL EQUIPMENT

Jib: 25' (7.6 m) self-storing. Can only be erected to the end of the Side Fly.

Deluxe boom angle indicator: Electronic, with adjustable limit settings and audible warning.

Load limit system: Automatically senses load on boom, Side Fly, or jib. Stops boom lower, boom extend, winch up movements automatically; audible and visual warning signals in cab; manual override. Also available with audible and visual warning signals only, without automatic stop.

Warning lights on front of cab and on boom.

Rotating amber beacon: On top of cab.

Vandalism protection package: Padlocks for doors and access doors, tow hooks, boom windows.

Tow winch: Model PD-15, mounted on front of frame, controlled from cab. Line pull 15,000 lbs (6800 kg).

Tagline winch, 100' (30.5 m) of 3/8" (9.5 mm) cable.

15-ton single sheave hook block, headache ball with 5-ton swivel hook, lubricating ball with 5-ton swivel hook for auxiliary winch, drum rotation indicators for main and auxiliary winches, front and rear pintle hooks, electronic back-up alarm, cold-weather starting aid with wick batteries, electric heating element for hydraulic reservoir.

Fluid capacities in U.S. gallons. Specifications subject to change without notice.

BADGER CONSTRUCTION EQUIPMENT CO.

DIVISION OF BURRO-BADGER CORPORATION

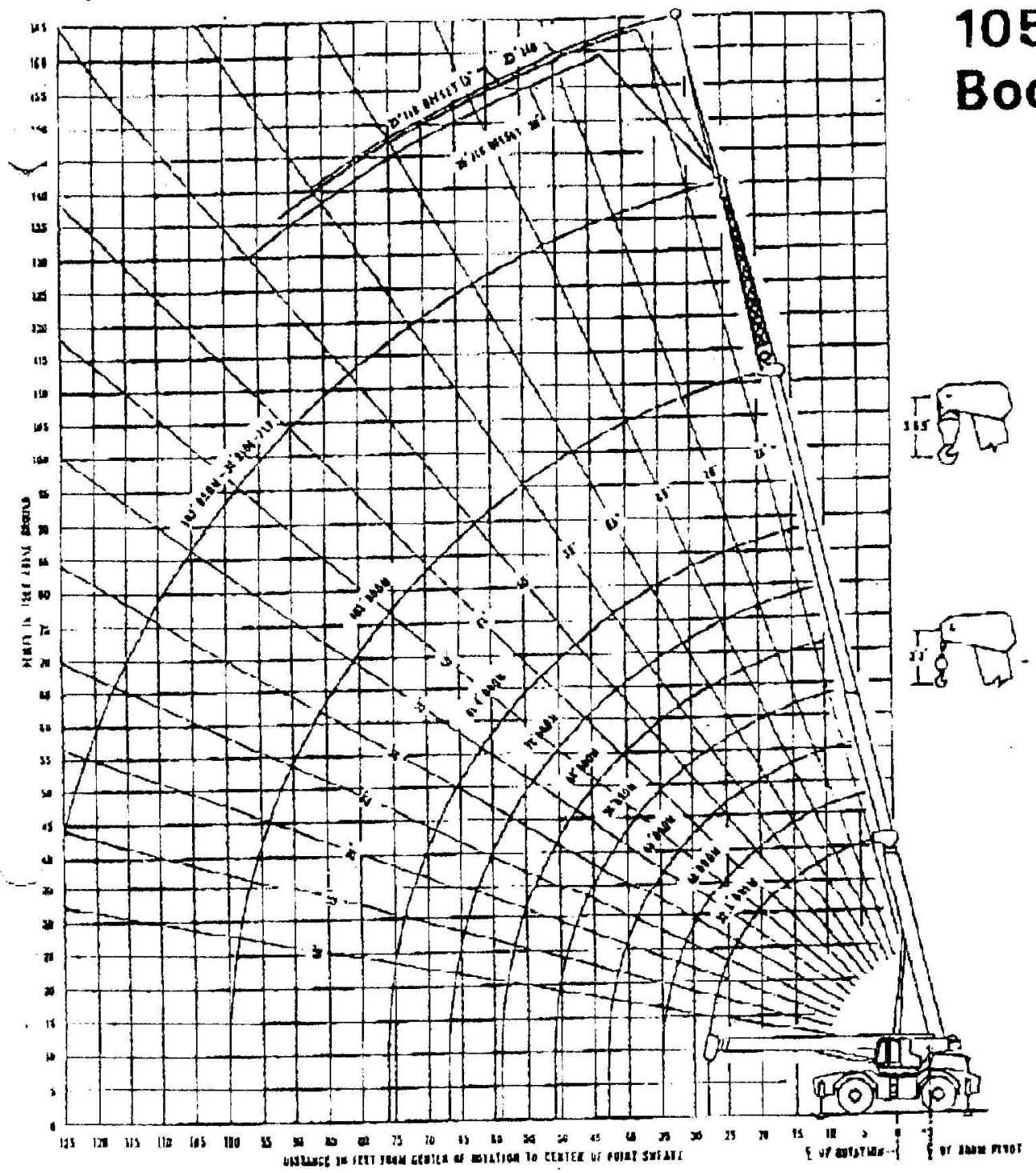
Airport Industrial Park, P. O. Box 168

Form 7624

10/79-5M-W2C

Courtesy of Crane.Market

105' Boom



OPERATING INSTRUCTIONS:

Radius of the load is the horizontal distance from a projection of the axis of rotation before loading, to the center of vertical hoist line or tackle with load applied.

Boom angles, which represent the unloaded boom angles, are to be used for reference only. These boom angles must be adjusted to maintain the proper load radius while the load is being picked. Load ratings in shaded areas are based on machine's hydraulic or structural competence and not of the machine's stability. Tipping capacities do not exceed 85% of tipping loads for "on outrigger capacities" and 75% of tipping loads for "on rubber" capacities as determined by tests in accordance with SAE recommended practice—"Crane Load Stability Test Code SAE J765a".

Crane load capacities are based on freely suspended loads. They are the maximum covered by the manufacturer's warranty with the machine leveled and standing on a firm supporting surface. Practical working loads depend upon supporting surface, wind, and other factors affecting stability, experience of operator, condition of equipment and proper handling, all of which must be taken into account by the operator. The weights of all auxiliary handling devices such as boom attachments, hoist block, hooks, and slings, except hook rejog, shall be considered as part of the load ratings.

All powered boom sections are synchronized to be extended equally at all times. Each section extends to a maximum distance of 24.2 feet. The maximum powered boom load which may be telescoped is limited by hydraulic pressure, boom angle, and boom capacity. It is safe to attempt to telescope any load within the stated conditions of the rating chart.

"On outriggers" capacities are based on outriggers being fully extended to a distance of 21 feet from centerline of vertical jack cylinders. "On rubber" capacities are based on the tire as specified in the table. Machine must be on a firm and smooth, level surface.

Boom lengths not shown, use load ratings for next longer boom. Positioning or operation at radii and boom lengths beyond the maximums or minimums shown, is not intended or approved.

The boom assembly shall be fully retracted and lowered when crane is out of service.

WARNINGS:

1. Minimum working main boom angle for the fully extended boom plus sidefly and jib is 55 degrees. TIPPING can occure rapidly without advance notice.
2. For other boom configurations, having powered sections not fully extended, but with or without sidefly; and with or without the jib, the rated loads are found in the columns headed by the maximum length of their respective boom configurations. The boom angle must be used to determine the particular rated load. For boom angles not provided, use the rating of the next lower boom angle.

Courtesy of Crane.Market