



4435

SERIES B

**Self-Propelled
Hydraulic Crane**

40 Ton

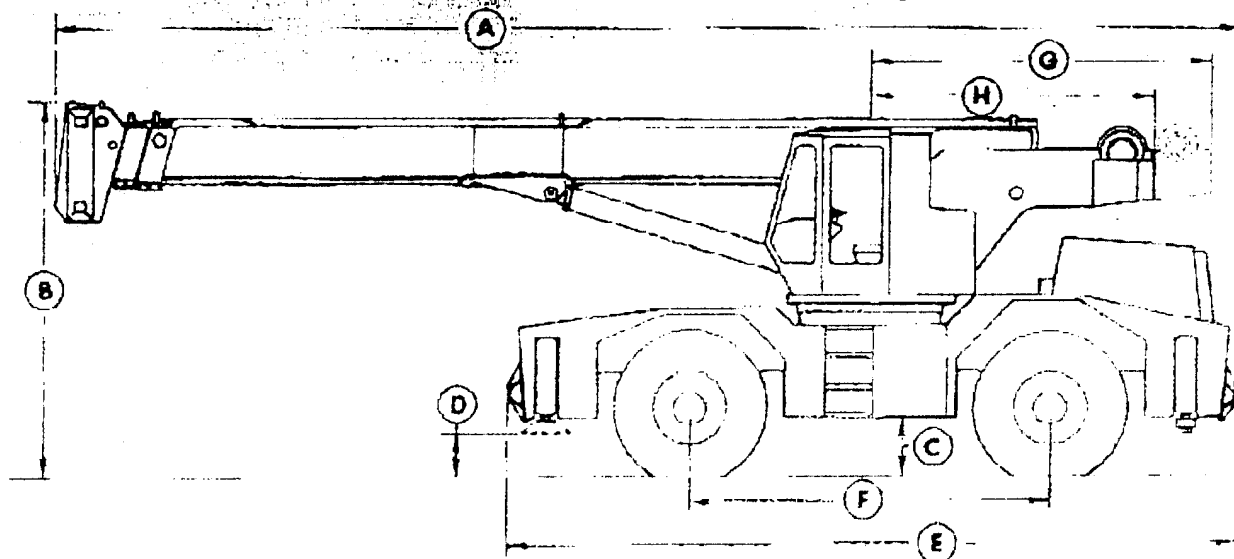
**Capacities
Specifications
Operating Ranges**



DIVISION OF BURRO-BADGER CORPORATION



WARNER & SWASEY CO. **435** DIMENSION F. 2/6 AXLE LOADS



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	7.6" (19.3 cm)	7.5" (19.0 cm)	7.5" (19.0 cm)
D - Clearance under outrigger floats, jacks retracted	8" (20.3 cm)	11" (28 cm)	13" (33 cm)
Overall width, travel position	10' (3 m)	10'7" (3.2 m)	10'10" (3.2 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)	42,500 (19,278)	32,500 (14,742)
	With 106' 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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THE WARNER & SWASEY CO.
 CONSTRUCTION EQUIPMENT

4/27-10980



105 BOOM — MODEL 4435 SERIES B CRANE LOAD CHART PCSA CLASS 10-152
40 TON CAPACITY FULLY HYDRAULIC SELF-PROPELLED CRANE
ON OUTRIGGERS FULLY EXTENDED—360° (a)

P. 3/6

ON OUTRIGGERS FULLY EXTENDED—360° (a)																									
RADIUS IN FEET	BOOM LENGTH												POWER PIN SECTION EXTENDED (d)	30 FOOT SIDELY PLUS 81.4 FT. BOOM	30 FOOT SIDELY PLUS 108 FT. BOOM	RADIUS IN FEET									
	32.8 FEET			40 FEET			48 FEET			56 FEET							64 FEET			72 FEET			81.4 FEET		
	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS					LBS	LBS	LBS	LBS	LBS	LBS	LBS	LBS	
10	63	60,000	68	74,000	72	72,100	75	71,000	75	69,000	75	48,300									10				
12	33	49,000	33	58,000	33	69,000	33	71,000	33	69,000	33	48,300									12				
15	33	58,000	33	69,000	33	71,000	33	71,000	33	69,000	33	48,300									15				
20	41	45,500	42	45,500	42	45,700	44	45,700	44	45,700	44	45,700	72	35,200	74	20,000	74	18,500			20				
25	25	34,300	29	34,700	32	34,800	34	34,900	36	34,900	36	34,900	68	30,700	71	19,900	71	18,300			25				
30																					30				
35			1	17,300	14	21,100	15	21,100	15	20,500	17	20,500	61	21,000	68	17,800	68	16,000	72	50,000	36				
40					21	15,200	27	15,200	27	15,200	27	15,200	57	16,100	65	17,200	78	19,550	78	19,550	40				
45							27	12,100	39	12,300	46	12,400	52	12,000	62	13,000	63	12,400	68	8,800	45				
50									11	9,470	31	9,470	40	9,470	39	11,900	60	11,100	48	7,500	50				
55											21	7,860	37	7,860	45	9,810	57	10,100	45	7,500	55				
60													14	4,860	31	5,840	48	5,840	48	5,840	60				
65															23	5,840	43	5,840	59	6,110	65				
70															11	4,800	41	4,800	54	5,240	70				
75																			53	5,240	75				
80																36	3,850	39	4,030	30	4,450	80			
85																31	3,130	35	3,020	47	3,400	85			
90																25	2,500	30	2,600	41	3,190	90			
95																							95		
100																10	1,900	25	2,080	11	2,650	100			
105																2	1,360	18	1,360	38	2,190	105			
110																							110		
115																							115		
																				31	1,370	110			
																				28	1,020	115			

ON OUTRIGGERS FULLY EXTENDED—OVER FRONT (a)

RADIUS IN FEET	BOOM LENGTH												POWER PIN SECTION EXTENDED (A)	30 FOOT SIDELY PLUS 81.4 FT. BOOM	30 FOOT SIDELY PLUS 108 FT. BOOM	RADIUS IN FEET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	32.8 FEET			40 FEET			48 FEET			56 FEET							64 FEET			72 FEET			81.4 FEET			108 FEET			111 FEET			115 FEET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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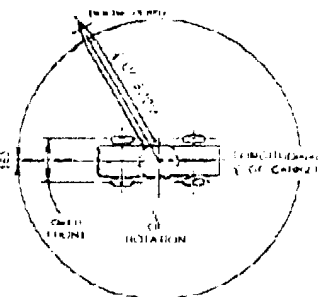
JIB CAPACITY			
30 FT	SIDELY PLUS 25 FT. COMBINATION (a)	JIB	
MAIN BOOM ANGLE	15° JIB OFFSET LBS.	30° JIB OFFSET LBS.	30° JIB OFFSET LBS.
77°	6,700	5,100	4,200
70°	4,670	4,070	3,600
65°	4,000	3,810	3,360
60°	3,380	3,310	3,120
55°	3,270	3,080	2,980

WEIGHT REDUCTIONS FOR BOOM EXTENSIONS	
30 FT	SIDELY BOOM EXTENSION
	(a) STORED—650 LBS.
	(b) ENLIFTED—1470 LBS.
25 FT	JIB
	(a) STORED—300 LBS.
	(b) ENLIFTED—1300 LBS.

TACKLE RECV'G MAIN WINCH	
NO. OF PARTS UP	MAX. HOIST 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 ROLLERS (b)					
RADIUS IN FEET	STATIONARY		PICK & CARRY (c)		
	OVER FRONT	360° ROTATION	CREEP SPEED (d)	2.5 MPH	3 MPH
10	44,100	34,000	43,000	34,000	27,600
12	38,000	28,900	37,100	29,900	23,400
15	32,300	19,700	30,400	24,200	18,900
20	24,800	11,400	22,600	17,600	13,100
25	17,000	7,000	17,000	13,000	9,210
30	12,100	4,870	12,100	9,850	6,800
35	8,470	2,870	8,470	6,270	4,480
40	6,490	1,680	6,490	4,850	3,100
45	4,000		4,000	3,210	1,910
50	3,420		3,420	2,800	
55	2,480		2,480	1,900	

MAXIMUM ALLOWABLE BOOM LENGTH—64 FEET

OF
TION

ON RUBBER

- (a) Refer to area of operation chart for defined working area.
 (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. sidely.
 (e) Reduction in main boom capacities.
 (f) Refer to site inflation chart.

**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/lower lever. Pushman 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 hand brake 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 light.

MAIN WINCH

(Model 34) Hydraulic powered up and down.

Speed — 1pm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
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)	10,180 (4,609)
4	375 (114.3)	450 (137.2)	9,610 (4,359)
5	383 (120.4)	473 (144.0)	9,120 (4,137)

Optional speed multipliers

High Speed — 1pm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	476 (148.1)	671 (174)	7,670 (3,479)
3	544 (165.8)	653 (199)	6,710 (3,044)
4	570 (172.2)	604 (274.6)	6,910 (3,132)
5	672 (206.5)	724 (272.7)	4,880 (2,214)

Low Speed — 1pm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	238 (72.8)	286 (87.2)	15,340 (6,958)
3	272 (82.9)	326 (99.4)	13,420 (6,087)
4	286 (88.1)	347 (105.7)	12,830 (5,799)
5	300 (93.3)	367 (111.8)	11,820 (5,407)

Either winch includes 450' (137 m) of 5/8" (15.9 mm) wire rope and optional wire rope main winch

AUXILIARY WINCH (Optional)

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

Speed — 1pm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	227 (69.2)	272 (82.9)	8,445 (3,823)
2	245 (74.7)	294 (89.6)	5,950 (2,699)
3	285 (80.8)	310 (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, double-braid, low stretch, steel core.

SWING

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

Speed — 3 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 cyl ohv, 4 cycle, 207 hp at 2,800 rpm, 555 cid (9.1 l), 4.5/6" bore x 4-1/8" stroke (117 mm x 105 mm), 17:1 compression ratio, 425 ft-lbs (58.0 mkg) max torque at 1800 rpm. Electric starter, 12-volt 60 amp alternator, 3 90-amp batteries.

Air compressor, 13.2 cfm (6.2 l/sec)

Alternator, 150 gal (492 l)

TRANSMISSION

Six-speed with rear axle disconnect. Electric Brad Posi-Lock range and directional shift with Brad Posi-Lock shift lever and rear axle disconnect.

Drive	Transmission Range	Rear Shift	Maximum Speed mph (km/hr)
4-wheel	Low	1st	1.6 (3.4)
4-wheel	Low	2nd	3.1 (4.9)
4-wheel	Low	3rd	6.2 (10.0)
2-wheel	High	1st	4.3 (6.9)
2-wheel	High	2nd	8.7 (14.1)

Gradeability: NOTE: All performance data is based on standard conditions, and may vary due to engine performance and optional equipment. Limitation due to engine lubrication design. ≤ 2

AXLES

Ratio 22.4:1. Planetary steering. Front axle rigidly mounted to frame. Rear axle mounted for navigation, automatic oscillation lockout, with manual override. Non-slip 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 wheels.

TIRES

18:00 x 25 32-ply, 13 x 24 mm

Optional:

26.5 x 25 20-ply, 22 x 25 rim

26.5 x 25 26-ply, 22 x 25 rim

28.5 x 25 22-ply, 25 x 25 rim

Source fire, tire inflation kit.

STEERING

Two independent systems. Front, hydrostatic controlled by CharLynn orbital unit. Rear, hydrostatic controlled by toggle switch on dash.

Turning radius:

Front-wheel steering: 38' (11.6 m)

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

OUTRIGGER

Beam type, hydraulic powered, 24" (61 cm) diameter floats, 21' (6.4 m) 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)	39,800 (17,963)
With 108' boom	76,100 (34,519)	42,800 (19,460)

STANDARD EQUIPMENT

Dual headlights, tail lights, brake lights, back-up lights, horn signals, parking lights; front and rear fenders, fuel tank, rear view mirror, electric handbrake, etc.

OPTIONAL EQUIPMENT

JIB: 25' (7.6 m) ballast only. Can only be used to the end of the Side Fly. Deluxe boom angle indicator; Electronic, with adjustable limit settings and audible warning.

boom, Side Fly, or Jib Stops boom lower, boom automatic, which can 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 windows.

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

15-ton single phase hook block, headcheat ball with 5-ton swivel hook, measuring unit with a SWING LOCK 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 glow plugs, electric heating element for hydraulic reservoir.

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

BADGER CONSTRUCTION EQUIPMENT CO.

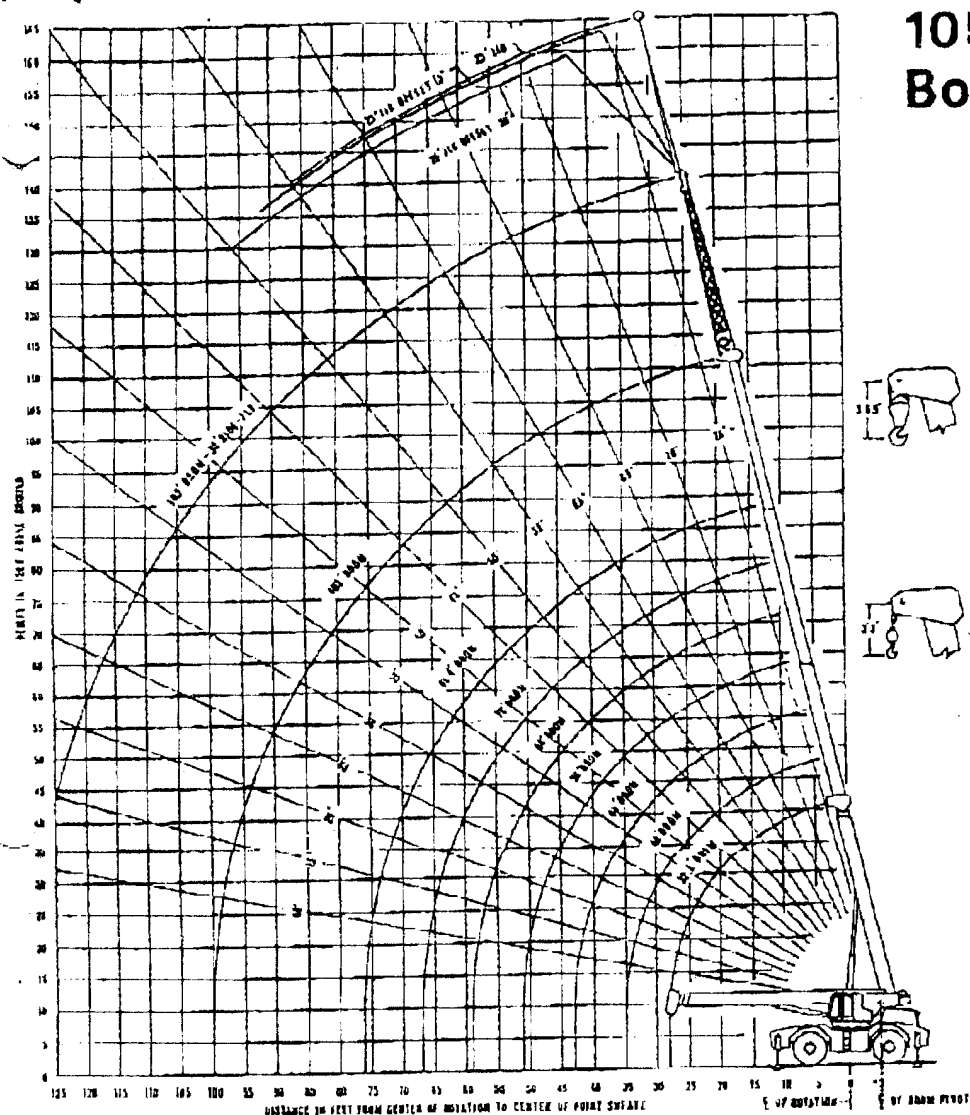
DIVISION OF BURRO-BADGER CORPORATION

Airport Industrial Park, P. O. Box 148

Form 7624

10/79-SM-WAC





105' Boom

OPERATING INSTRUCTIONS:

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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 of
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 with the full rated lifting load. Tipping capacities are based on machine's hydraulic or structural competence and not on the machine's stability. Tipping capacities do not exceed 65% of tipping loads for "on outrigger" capacities and 70% 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 use. The weights of all auxiliary handling devices such as beam attachments, hoist block, hooks, and slings, except hoist rope, 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 24.3 feet. The maximum powered boom load which may be developed 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.

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*On outriggers" capacities are based on outriggers being fully extended to a distance of 21 feet from cantilever of tower.
*On "rubber" capacities are based on the tire as specified in the table. Surface must be as 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 minimums shown, is not intended or approved.

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

WARNINGS:

WARNINGS:
1. Minimum working main boom angle for the fully extended boom plus sidely and jib is 35 degrees. **TIPPING** can occur rapidly without advance notice.

2. for other boom configurations, having powered sections not fully extended, but with or without sidelay; 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.