

4435

**Self-Propelled
Hydraulic Crane**

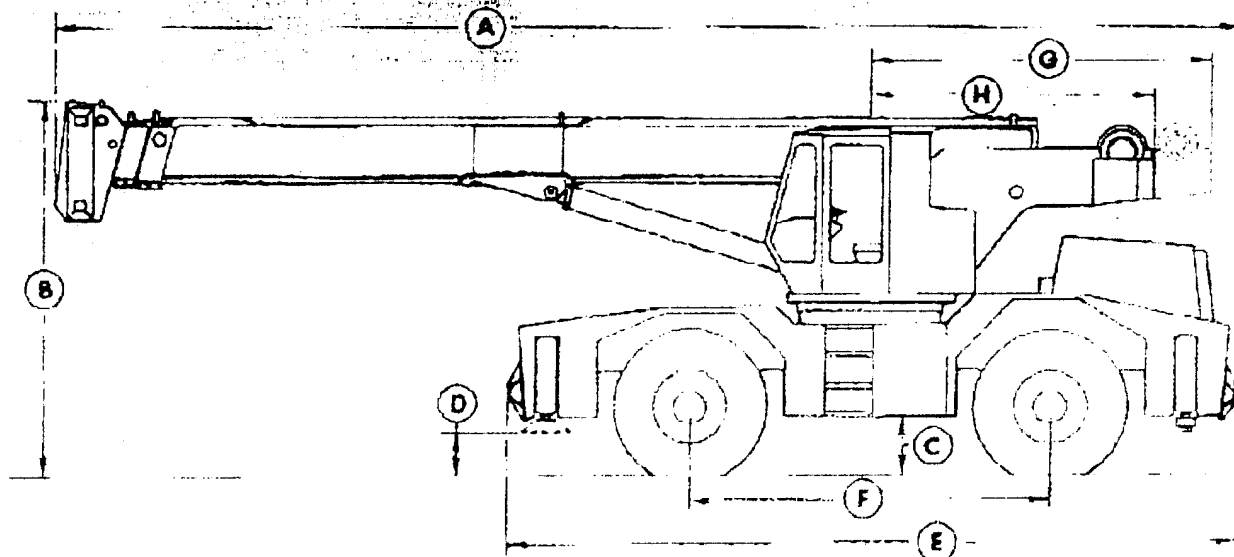
SERIES B

40-Ton

**Capacities
Specifications
Operating Ranges**



DIVISION OF BURRO-BADGER CORPORATION



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 1/2" (19.0 cm)	7 1/2" (19.0 cm)	7 1/2" (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)	+2760 (+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.

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 SIDELY PLUS 81.4 FT. BOOM	30 FOOT SIDELY PLUS 105 FT. BOOM	RADIUS IN FEET		
	32 FEET		40 FEET		48 FEET		56 FEET		64 FEET		72 FEET		81.4 FEET						
	LBS	TONS	LBS	TONS	LBS	TONS	LBS	TONS	LBS	TONS	LBS	TONS	LBS					TONS	
10	63	80,000	68	74,000	72	72,100	75	71,000	77	69,000	79	67,800	81	66,500				10	
12	58	69,600	63	65,700	70	63,800	73	62,600	75	61,300	78	60,100	81	58,900				12	
15	53	58,300	58	58,600	66	56,900	69	55,700	72	54,500	75	53,300	78	52,100				15	
20	41	45,500	52	45,600	56	45,700	64	45,700	67	45,800	70	45,900	72	46,000	74	20,000	74	18,500	20
25	29	34,300	42	34,700	44	34,800	52	34,900	55	35,000	58	35,100	61	35,200	65	19,900	71	18,300	25
30			29	27,100	34	27,100	43	27,100	46	27,100	51	27,100	54	27,100	58	17,800	63	16,800	30
35			1	17,300	21	17,300	27	17,300	33	17,300	39	17,300	45	17,300	51	16,100	57	15,100	35
40					14	21,100	17	21,100	21	21,100	25	21,100	29	21,100	33	19,900	37	18,900	40
45					11	15,200	14	15,200	17	15,200	21	15,200	25	15,200	29	13,900	33	12,900	45
50																			50
55																			55
60																			60
65																			65
70																			70
75																			75
80																			80
85																			85
90																			90
100																			100
105																			105
110																			110
115																			115

ON OUTRIGGERS FULLY EXTENDED—OVER FRONT (a)

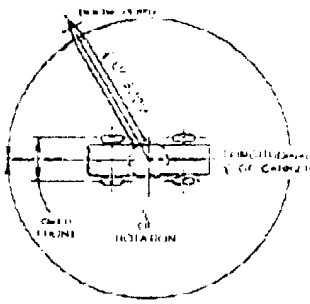
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	32 FEET		40 FEET		48 FEET		56 FEET		64 FEET		72 FEET		81.4 FEET						
	LBS	TONS	LBS	TONS	LBS	TONS	LBS	TONS	LBS	TONS	LBS	TONS	LBS					TONS	
10	63	80,000	68	74,000	72	72,100	75	71,000	77	69,000	79	67,800	81	66,500				10	
12	58	69,600	63	65,700	70	63,800	73	62,600	75	61,300	78	60,100	81	58,900				12	
15	53	58,300	58	58,600	66	56,900	69	55,700	72	54,500	75	53,300	78	52,100				15	
20	41	45,500	52	45,600	56	45,700	64	45,700	67	45,800	70	45,900	72	46,000	74	20,000	74	18,500	20
25	29	34,300	42	34,700	44	34,800	52	34,900	55	35,000	58	35,100	61	35,200	65	19,900	71	18,300	25
30			29	27,100	34	27,100	43	27,100	46	27,100	51	27,100	54	27,100	58	17,800	63	16,800	30
35			1	17,300	21	17,300	27	17,300	33	17,300	39	17,300	45	17,300	51	16,100	57	15,100	35
40					14	21,100	17	21,100	21	21,100	25	21,100	29	21,100	33	19,900	37	18,900	40
45					11	15,200	14	15,200	17	15,200	21	15,200	25	15,200	29	13,900	33	12,900	45
50																			50
55																			55
60																			60
65																			65
70																			70
75																			75
80																			80
85																			85
90																			90
100																			100
105																			105
110																			110
115																			115
120																			120

JIB CAPACITY			
30 FT. MAIN BOOM ANGLE	30 FT. SIDELY PLUS 25 FT. COMBINATION (a)	JIB OFFSET LBS.	JIB OFFSET LBS.
71°	6,000	5,300	4,200
70°	4,670	4,070	3,600
65°	4,000	3,810	3,360
60°	3,500	3,310	3,130
55°	3,270	3,000	2,900

WEIGHT REDUCTIONS FOR BOOM EXTENSIONS	
30 FT.	50 FT.
30 FT. SIDELY BOOM EXTENSION (a) STORED-650 LBS. (c) ERRECTED-1410 LBS.	50 FT. JIB (a) STORED-300 LBS. (c) ERRECTED-1300 LBS.

TACKLE RECEIVING MAIN WINCH	
NO. OF PAWS UP HOIST TACKLE	MAX. HOIST LOAD LBS.
1	10,000
2	25,000
3	30,000
4	40,000
5	30,000
6	20,000
7	10,000
8	8,000

ON RUBBER CAPACITIES (1)					
RADIUS IN FEET	FOR 75 & 25-32 RATINGS (1)				
	STATIONARY		PICK & CARRY (L)		
	OVER FRONT	360° ROTATION	CREEP SPEED (c)	2.5 MPH	5 MPH
10	44,100	34,600	43,000	34,000	27,600
12	38,800	29,500	37,100	29,200	23,400
15	32,500	19,700	30,800	24,200	18,900
20	24,800	11,400	22,600	17,800	13,100
25	17,000	7,000	17,000	13,000	9,200
30	12,100	4,870	12,500	9,500	6,600
35	8,470	2,870	8,870	7,270	5,480
40	6,480	1,680	6,480	5,150	3,910
45	4,680	1,000	4,680	3,650	2,710
50	3,420	600	3,420	2,650	1,910
55	2,480	300	2,480	1,900	1,310



- (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. 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. Deadman 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 horn, 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		Line Pull Lbs (kg)
	Full Load	No Load	
1	313 (95.4)	375 (114.3)	11,490 (5,212)
2	334 (101.8)	400 (121.9)	10,780 (4,894)
3	354 (107.8)	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)	9,129 (4,137)

Optional speed main winch

High Speed — fpm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	476 (145.1)	671 (174)	7,670 (3,479)
3	544 (165.8)	653 (199)	6,710 (3,044)
4	570 (172.5)	604 (274.6)	6,300 (2,862)
5	672 (205.5)	724 (207.7)	4,800 (2,181)

Low Speed — fpm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	238 (72.5)	286 (87.2)	15,340 (6,958)
3	272 (82.9)	326 (99.4)	13,420 (6,087)
4	286 (88.7)	317 (105.7)	12,830 (5,729)
5	300 (93.3)	307 (111.8)	11,320 (5,141)

Either winch includes 450' (137 m) of 5/8" (15.9 mm) steel cable. Optional cable with other main winch.

AUXILIARY WINCH (Optional)

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

Speed — fpm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
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)	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, independent lay, EPB 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, 187 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-55C230 diesel, 6 cyl. 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 (58.0 mkg) max torque at 1800 rpm. Electric starter, 12-volt 60 amp alternator, 3 90-amp batteries.

Air compressor, 13.2 cfm (8.2 l/sec)

Optional engine: 130 cid (4.2 l)

TRANSMISSION

Six-speed with rear axle disconnect. Electric hand-brake range and directional shift with electric over-ride. Low gear and low axle disconnect.

Drive	Transmission Range	Rear Shift	Maximum Speed mph (km/hr)
4-wheel	Low	1st	5.6 (9.4)
4-wheel	Low	2nd	9.1 (14.9)
2-wheel	Low	1st	10.0 (16.4)
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. The maximum speed is limited by the engine's design.

AXLES

Ratio 22.4:1, Planetary steering. Front axle rigidly mounted to frame. Rear axle phased for oscillation, 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

Secure tire, 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" (6.6m)

OUTRIGGER

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)	39,800 (17,963)
With 106' boom	76,100 (34,519)	42,800 (19,460)
	34,300 (15,559)	33,200 (15,060)

STANDARD EQUIPMENT

Dual headlights, tail lights, brake lights, back-up lights, horn signals, parking lights; front and rear loaders, four lane rear view mirrors, electric back-up alarm.

OPTIONAL EQUIPMENT

JIB: 25' (7.6 m) ballasture. Can only be attached 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 retract, which are automatically assembled; 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 all doors and windows.

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

15-ton single overhead hook block, headache ball with 5-ton swivel hook, measuring tool, mirror, SWIND LOCK for auxiliary winch, drum rotation indicators for main and auxiliary winches, front and rear pintle hooks, electronic back-up alarm, cold-weather starting kit with glow plugs, electric heating element for hydraulic reservoir.

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

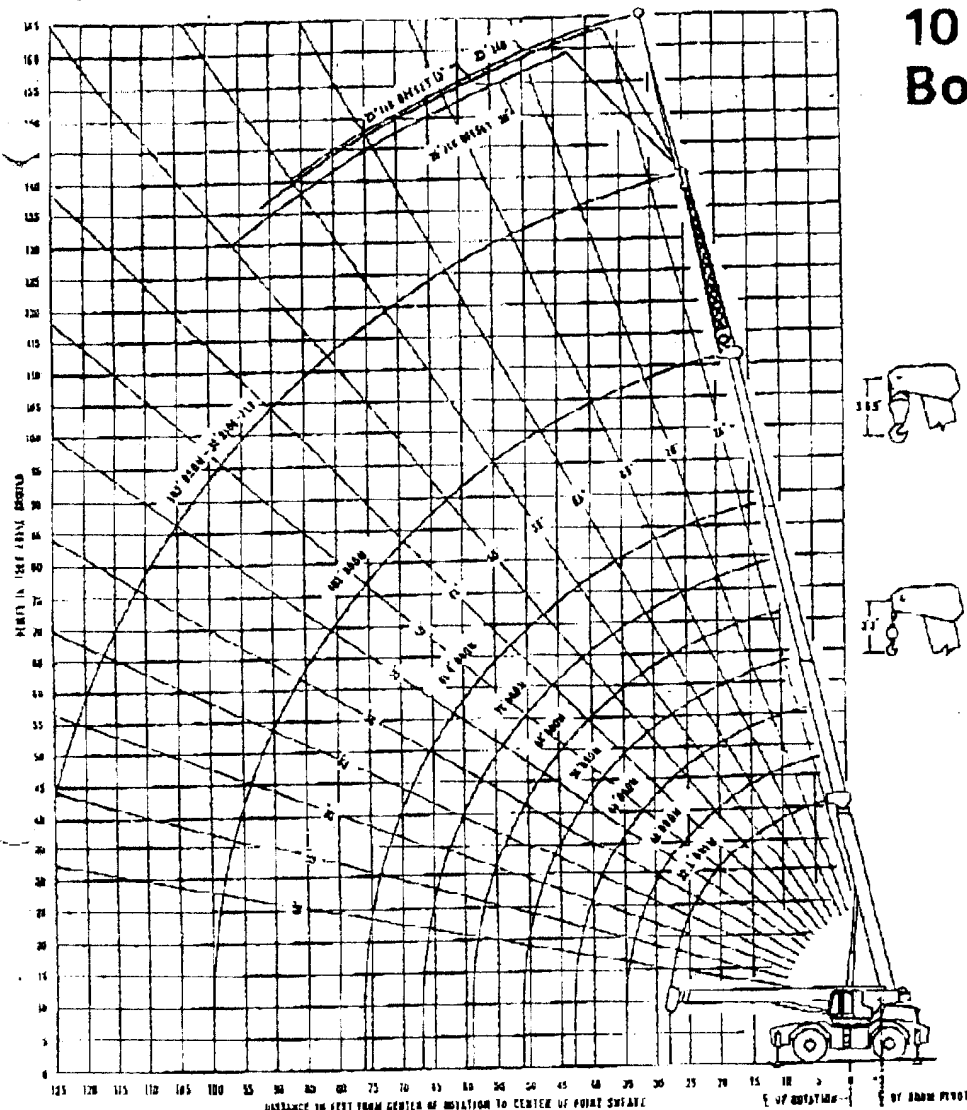
BADGER CONSTRUCTION EQUIPMENT CO.

DIVISION OF BURRO-BADGER CORPORATION

Airport Industrial Park, P. O. Box 148



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. Tipping capacities in shaded areas are based on machine's hydraulic or structural competence and not on the machine's stability. Tipping capacities do not exceed 85% of tipping loads for "on outrigger" capacities and 90% of tipping loads for "on rubber" capacities as determined by tests in accordance with SAE recommended practice—"Crane Load Stability Test Code SAE J765".

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, manufacturer's recommendations as to personnel and power handling, all of which must be taken into account by the operator. The weights of all auxiliary handling devices such as boom attachments, hoist blocks, hooks, and slings, except hoist ropes, must 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 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 outrigger" 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. OPERATION 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 maximum minimums shown, is not intended or approved.

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

WARNINGS:

1. Minimum working main boom angle for the fully extended boom plus sidely and jib is 55 degrees. TIPPING can occur rapidly without advance notice.
2. For other boom configurations, having powered sections not fully extended, but with or without sidely; 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.