

# **4450**

**SERIES B**

## **Self-Propelled Hydraulic Crane**

**55-Ton**

**Capacities  
Specifications  
Operating Ranges**



**DIVISION OF BURRO-BADGER CORPORATION**

**80' BOOM — 445D SERIES B CRANE LOAD CHART PCSA CLASS 10-100**

**55 TON CAPACITY FULLY HYDRAULIC SELF-PROPELLED CRANE**

**ON OUTRIGGERS FULLY EXTENDED—360° (a)**

RADIUS IN FEET	BOOM LENGTH										40' ± 50' ± 60' ± 70' ± 80' ± 90' ± 100' ± 110' ± 120' ± 130' ± 140' ± 150' ± 160' ± 170' ± 180' ± 190' ± 200' ±	RADIUS IN FEET				
	22 FEET		40 FEET		48 FEET		56 FEET		72 FEET				84 FEET		110 FEET	
	NET LBS	GROSS LBS	NET LBS	GROSS LBS	NET LBS	GROSS LBS	NET LBS	GROSS LBS	NET LBS	GROSS LBS			NET LBS	GROSS LBS	NET LBS	GROSS LBS
12	170,000	190,000	27,000	29,000	27,000	29,000	27,000	29,000	27,000	29,000	27,000	29,000	27,000	29,000		
15	130,000	145,000	20,000	22,000	20,000	22,000	20,000	22,000	20,000	22,000	20,000	22,000	20,000	22,000		
20	90,000	100,000	14,000	16,000	14,000	16,000	14,000	16,000	14,000	16,000	14,000	16,000	14,000	16,000		
25	70,000	78,000	11,000	12,000	11,000	12,000	11,000	12,000	11,000	12,000	11,000	12,000	11,000	12,000		
30	55,000	62,000	8,500	9,500	8,500	9,500	8,500	9,500	8,500	9,500	8,500	9,500	8,500	9,500		
35	45,000	50,000	7,000	7,500	7,000	7,500	7,000	7,500	7,000	7,500	7,000	7,500	7,000	7,500		
40	38,000	42,000	6,000	6,500	6,000	6,500	6,000	6,500	6,000	6,500	6,000	6,500	6,000	6,500		
45	32,000	35,000	5,200	5,500	5,200	5,500	5,200	5,500	5,200	5,500	5,200	5,500	5,200	5,500		
50	27,000	29,000	4,500	4,800	4,500	4,800	4,500	4,800	4,500	4,800	4,500	4,800	4,500	4,800		
55	23,000	24,000	3,900	4,100	3,900	4,100	3,900	4,100	3,900	4,100	3,900	4,100	3,900	4,100		
60	19,000	20,000	3,400	3,600	3,400	3,600	3,400	3,600	3,400	3,600	3,400	3,600	3,400	3,600		
65	16,000	17,000	2,900	3,100	2,900	3,100	2,900	3,100	2,900	3,100	2,900	3,100	2,900	3,100		
70	13,000	14,000	2,500	2,600	2,500	2,600	2,500	2,600	2,500	2,600	2,500	2,600	2,500	2,600		
75	11,000	12,000	2,100	2,200	2,100	2,200	2,100	2,200	2,100	2,200	2,100	2,200	2,100	2,200		
80	9,500	10,000	1,800	1,900	1,800	1,900	1,800	1,900	1,800	1,900	1,800	1,900	1,800	1,900		
85	8,200	8,800	1,600	1,700	1,600	1,700	1,600	1,700	1,600	1,700	1,600	1,700	1,600	1,700		
90	7,200	7,800	1,400	1,500	1,400	1,500	1,400	1,500	1,400	1,500	1,400	1,500	1,400	1,500		
95	6,400	6,900	1,200	1,300	1,200	1,300	1,200	1,300	1,200	1,300	1,200	1,300	1,200	1,300		
100	5,800	6,300	1,000	1,100	1,000	1,100	1,000	1,100	1,000	1,100	1,000	1,100	1,000	1,100		
105	5,300	5,800	900	950	900	950	900	950	900	950	900	950	900	950		
110	4,900	5,400	800	850	800	850	800	850	800	850	800	850	800	850		
115	4,500	5,000	750	800	750	800	750	800	750	800	750	800	750	800		
120	4,200	4,700	700	750	700	750	700	750	700	750	700	750	700	750		
125	3,900	4,400	650	700	650	700	650	700	650	700	650	700	650	700		
130	3,600	4,100	600	650	600	650	600	650	600	650	600	650	600	650		
135	3,400	3,900	550	600	550	600	550	600	550	600	550	600	550	600		
140	3,200	3,700	500	550	500	550	500	550	500	550	500	550	500	550		
145	3,000	3,500	450	500	450	500	450	500	450	500	450	500	450	500		
150	2,800	3,300	400	450	400	450	400	450	400	450	400	450	400	450		
155	2,600	3,100	350	400	350	400	350	400	350	400	350	400	350	400		
160	2,400	2,900	300	350	300	350	300	350	300	350	300	350	300	350		
165	2,200	2,700	250	300	250	300	250	300	250	300	250	300	250	300		
170	2,000	2,500	200	250	200	250	200	250	200	250	200	250	200	250		
175	1,800	2,300	150	200	150	200	150	200	150	200	150	200	150	200		
180	1,600	2,100	100	150	100	150	100	150	100	150	100	150	100	150		
185	1,400	1,900	75	100	75	100	75	100	75	100	75	100	75	100		
190	1,200	1,700	50	75	50	75	50	75	50	75	50	75	50	75		
195	1,000	1,500	25	50	25	50	25	50	25	50	25	50	25	50		
200	800	1,300	10	25	10	25	10	25	10	25	10	25	10	25		

**ON OUTRIGGERS FULLY EXTENDED—OVER FRONT (a)**

RADIUS IN FEET	BOOM LENGTH										RADIUS IN FEET				
	22 FEET		40 FEET		48 FEET		56 FEET		72 FEET			84 FEET		110 FEET	
	NET LBS	GROSS LBS	NET LBS	GROSS LBS	NET LBS	GROSS LBS	NET LBS	GROSS LBS	NET LBS	GROSS LBS		NET LBS	GROSS LBS	NET LBS	GROSS LBS
12	170,000	190,000	27,000	29,000	27,000	29,000	27,000	29,000	27,000	29,000	27,000	29,000	27,000	29,000	
15	130,000	145,000	20,000	22,000	20,000	22,000	20,000	22,000	20,000	22,000	20,000	22,000	20,000	22,000	
20	90,000	100,000	14,000	16,000	14,000	16,000	14,000	16,000	14,000	16,000	14,000	16,000	14,000	16,000	
25	70,000	78,000	11,000	12,000	11,000	12,000	11,000	12,000	11,000	12,000	11,000	12,000	11,000	12,000	
30	55,000	62,000	8,500	9,500	8,500	9,500	8,500	9,500	8,500	9,500	8,500	9,500	8,500	9,500	
35	45,000	50,000	7,000	7,500	7,000	7,500	7,000	7,500	7,000	7,500	7,000	7,500	7,000	7,500	
40	38,000	42,000	6,000	6,500	6,000	6,500	6,000	6,500	6,000	6,500	6,000	6,500	6,000	6,500	
45	32,000	35,000	5,200	5,500	5,200	5,500	5,200	5,500	5,200	5,500	5,200	5,500	5,200	5,500	
50	27,000	29,000	4,500	4,800	4,500	4,800	4,500	4,800	4,500	4,800	4,500	4,800	4,500	4,800	
55	23,000	24,000	3,900	4,100	3,900	4,100	3,900	4,100	3,900	4,100	3,900	4,100	3,900	4,100	
60	19,000	20,000	3,400	3,600	3,400	3,600	3,400	3,600	3,400	3,600	3,400	3,600	3,400	3,600	
65	16,000	17,000	2,900	3,100	2,900	3,100	2,900	3,100	2,900	3,100	2,900	3,100	2,900	3,100	
70	13,000	14,000	2,500	2,600	2,500	2,600	2,500	2,600	2,500	2,600	2,500	2,600	2,500	2,600	
75	11,000	12,000	2,100	2,200	2,100	2,200	2,100	2,200	2,100	2,200	2,100	2,200	2,100	2,200	
80	9,500	10,000	1,800	1,900	1,800	1,900	1,800	1,900	1,800	1,900	1,800	1,900	1,800	1,900	
85	8,200	8,800	1,600	1,700	1,600	1,700	1,600	1,700	1,600	1,700	1,600	1,700	1,600	1,700	
90	7,200	7,800	1,400	1,500	1,400	1,500	1,400	1,500	1,400	1,500	1,400	1,500	1,400	1,500	
95	6,400	6,900	1,200	1,300	1,200	1,300	1,200	1,300	1,200	1,300	1,200	1,300	1,200	1,300	
100	5,800	6,300	1,000	1,100	1,000	1,100	1,000	1,100	1,000	1,100	1,000	1,100	1,000	1,100	
105	5,300	5,800	900	950	900	950	900	950	900	950	900	950	900	950	
110	4,900	5,400	800	850	800	850	800	850	800	850	800	850	800	850	
115	4,500	5,000	750	800	750	800	750	800	750	800	750	800	750	800	
120	4,200	4,700	700	750	700	750	700	750	700	750	700	750	700	750	
125	3,900	4,400	650	700	650	700	650	700	650	700	650	700	650	700	
130	3,600	4,100	600	650	600	650	600	650	600	650	600	650	600	650	
135	3,400	3,900	550	600	550	600	550	600	550	600	550	600	550	600	
140	3,200	3,700	500	550	500	550	500	550	500	550	500	550	500	550	
145	3,000	3,500	450	500	450	500	450	500	450	500	450	500	450	500	
150	2,800	3,300	400	450	400	450	400	450	400	450	400	450	400	450	
155	2,600	3,100	350	400	350	400	350	400	350	400	350	400	350	400	
160	2,400	2,900	300	350	300	350	300	350	300	350	300	350	300	350	
165	2,200	2,700	250												

25-extended all steel and with safety glass windows; removable front window, hinged right and rear window, electric windshield wiper and washer, cellulose fan, dome light, fire extinguisher, fully adjustable air cushioned seat, steel.

Engine diesel heater optional.

#### CONTROLS

Two levers for all boom, winch, and swing movements. One foot pedal, linked to boom up and lower lever. Dead-man type levers and winch are self-centering when controls are released, machine movements stop automatically. Long brake, with free swing. Machine braking stage, electric horn, mechanical house lock, emergency brake, parking brake.

Key operated ignition switch with indicator light, start button, fuel in reserve, fuel gauge, voltmeter, oil water gauges for engine oil pressure, transmission oil pressure, transmission oil temperature, engine coolant temperature, air pressure. Hydraulic filter and low air warning light.

#### WINDING

Model 25 Hydraulic powered up and down.

Dead-man type winch.

Cable	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	260 (119.2)	312 (141.1)	13,930 (6,321)
2	208 (94.7)	234 (107.1)	13,100 (5,942)
3	145 (65.8)	154 (70.3)	12,350 (5,602)
4	112 (50.8)	114 (51.7)	11,610 (5,271)
5	79 (35.8)	79 (35.8)	11,070 (5,021)

Optional 2-speed main winch.

3rd Speed—1pm (1/min)

Cable	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	176 (79.8)	171 (77.4)	7,670 (3,479)
2	113 (51.4)	112 (50.8)	7,160 (3,246)
3	64 (29.0)	63 (28.6)	5,710 (2,584)
4	47 (21.3)	46 (20.9)	5,310 (2,402)
5	31 (14.1)	30 (13.6)	5,060 (2,292)

3rd Speed—1pm (1/min)

Cable	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	271 (123.5)	266 (120.7)	15,340 (6,952)
2	215 (97.7)	208 (94.3)	14,270 (6,479)
3	142 (64.5)	136 (61.7)	13,470 (6,087)
4	109 (49.4)	107 (48.8)	12,530 (5,722)
5	76 (34.5)	74 (33.6)	11,990 (5,459)

Other winch includes 400 (181 m) of 5/8" (15.9 mm) cable. Free fall optional with other winch.

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

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

Cable	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	227 (102.9)	272 (123.8)	6,445 (2,922)
2	145 (65.8)	191 (86.8)	5,950 (2,695)
3	103 (46.7)	138 (62.6)	5,530 (2,505)
4	73 (33.1)	100 (45.4)	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, BPS, steel core.

#### SWING

Planetary, with internal brake. Spring set. Hydraulic release. Free swing or automatic brake. Speed—1pm.

#### ENGINE

GM 6V-53N diesel, 8 cyl, 4 cyl, 2 cycle, 197 hp @ 2600 rpm, 318 cid (5.2), 3.875" bore x 4.5" stroke (98 mm x 114 mm) 21:1 compression ratio, 43:1 lbs (58.8 kg) max torque at 1500 rpm.

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

Air compressor, 12 cfm (5.7 l/sec).

Optional engine: Cummins V-555C 230 cc, 4 cyl, 8 cyl, 4 cycle, 207 hp @ 2900 rpm, 255 cid (9.1 l) 4-5/8" bore x 4-1/8" stroke (117 mm x 105 mm), 17:1 compression ratio, 425 lbs (193 kg) 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).

Fuel capacity, either engine 130 gal (492 l).

#### TRANSMISSION

Six-speed with rear side disconnect. Electric three speed range and directional shift with electric over air high low unit and rear side disconnect.

Drive	Transmission Range	Gear	Maximum Speed mph (km/hr)
4-wheel	Low	1st	7.6 (31.1)
4-wheel	Low	2nd	13.4 (54.3)
4-wheel	Low	3rd	18.8 (74.5)
2-wheel	High	1st	4.3 (17.2)
2-wheel	High	2nd	9.2 (36.5)
2-wheel	High	3rd	22.7 (90.5)

GRABABILITY: NOTE: All performance data is based on standard machines, and may vary due to engine performance and optional equipment. Machine should be operated within a 30° slope limit due to engine lubrication design.

#### AXLES

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

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

#### TIRES

26.5 x 25 26-ply, 22.25 in.

Optional:

29.5 x 25 22-ply, 25 x 25 in.

Spare tire, lug, aluminum kit.

#### STEERING

Two independent systems. Front hydraulic controlled by Char-Lynn approx unit. Rear hydraulic controlled by toggle switch on dash panel, with rear wheel steering indicator light. Turning radius:

Front-wheel steering: 38' (11.6 m).

Four wheel coordinated 21' 6" (6.6 m).

#### OUTRIGGERS

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

Optional: 30" (76 cm) floats.

WINDYKT — Lbs (kg)	Front Axle		Rear Axle	
	10' boom	105' boom	10' boom	105' boom
10' boom	77,500 (35,154)	40,200 (18,235)	37,300 (16,915)	18,420 (8,352)
105' boom	29,700 (13,472)	43,500 (19,732)	26,200 (11,881)	18,420 (8,352)

#### STANDARD EQUIPMENT

Over headlights, tail lights, brake lights, hook-up lights, turn signals, parking lights, front and rear fenders, tow loops, rear view mirror, steering, boom angle indicator.

#### OPTIONAL EQUIPMENT

Job 25' (7.6 m) cell-storing. Can only be erected to the end of the Side Fly.

Optional boom angle indicator (Electronic with adjustable limit setting) and audible warning.

Anti-two block system. Electric-hydraulic, for boom, Side Fly, or job. Stops boom lower boom extend, which up movements automatically audible and visual warning signals in cab, manual override. Also available with audible and visual warning signals only, without automatic stop.

Working lights: On front of cab and on boom.

Rotating amber beacon. On top of cab.

Vandalism protection package. Padlocks to access and storage doors, fuel tank, lock windows.

Tow winch: Model PD-15, mounted on front of frame, controlled from cab. Line pull 15,000 lbs (680 kg).

Rooster sheave, 55-ton 5-sheave hook block, 15 ton single sheave hook block, heidsieck ball with 6-ton swivel hook, heidsieck ball with 3-ton swivel hook for auxiliary winch, drum rotation indicators for main and auxiliary winches, front and rear phone hooks, electronic back-up alarm, cold-weather starting kit with extra batteries, electric heating element for hydraulic reservoir.

## BADGER CONSTRUCTION EQUIPMENT CO.

DIVISION OF BUREAU-BADGER CORPORATION

Airport Industrial Park, P. O. Box 165

Form 7325

(Replaces 7810)

10/78 5M4100

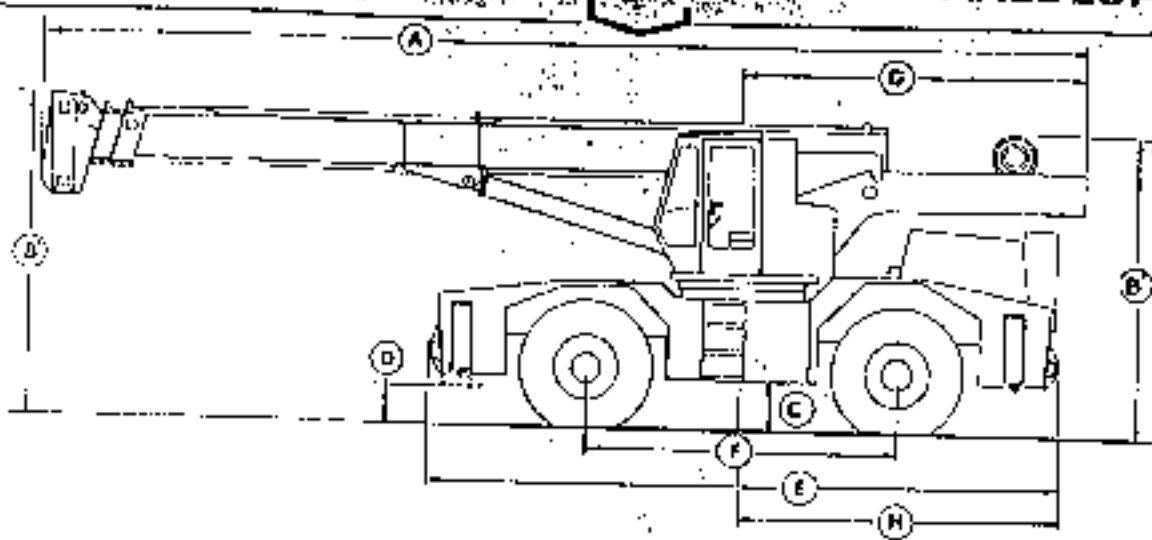
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TOTAL P. 05

# BADGER 4450

## DIMENSIONS, AXLE LOADS



A - Overall length, travel position - With 80' (24.4m) 41' 11" (12.77m)  
 With 105' (32 m) 42' 6" (12.95m)

B1-Overall height, boom at 0°	26.5 x 25 tires	29.5 x 25 tires
B2-Overall height, travel position	12' 7" (3.81 m)	12' 8.5" (3.87 m)
C-Ground clearance	12' 2" (3.66 m)	12' 3.5" (3.75 m)
D-Clearance under outrigger floats, jacks retracted	20 1/2" (67 cm)	20 1/2" (75 cm)
Overall width, travel position	11" (28 cm)	13" (33 cm)
	10' 7" (3.2 m)	10' 10" (3.3 m)

E-Overall length of undercarriage: 26' 5" (8.05 m)  
 F-Wheelbase: 150" (3.8 m)  
 G-Tail swing: 13' 11" (4.24 m)  
 H-12' 7" (3.83 m)  
 Outrigger spread, center-to-center of jacks: 21' (6.4 m)  
 Overall width with floats installed, outrigger beams retracted: 11' 3 1/2" (3.4 m)

**AXLE LOADS - lbs. (kg)**

	Weight	Front Axle	Rear Axle
Standard Machine	77,500 (35,154)	40,200 (19,235)	37,300 (16,919)
With 80' Boom	79,700 (36,152)	43,500 (19,732)	36,200 (16,420)
With 105' Boom			
Main winch w/tree fall	+300 (+136)	-118 (-54)	+418 (+190)
Main winch w/2 spd	+120 (+54)	-47 (-21)	+167 (+76)
Main winch w/2spd & H	+420 (+191)	-165 (-75)	+585 (+265)
Aux winch	+625 (+284)	-340 (-158)	+973 (+441)
Aux winch w/tree fall	+875 (+397)	-487 (-221)	+1362 (+618)
30' Sidely	+1300 (+590)	-2302 (+1044)	-978 (-444)
25' Jib	+1020 (+463)	+1264 (+573)	-274 (-102)
Aux boom head	+100 (+45)	+280 (+127)	-180 (-82)
Five sheave hook block	+620 (+281)	+620 (+281)	
Single sheave block	+60 (+27)	+60 (+27)	
Headache ball, 5 ton block	-250 (+113)	+250 (+113)	
Headache ball, 3 ton block	+200 (+91)	-200 (-91)	
Front pintle hook	+35 (+16)	+51 (+23)	-16 (-7)
Rear Pintle hook	+35 (+16)	-16 (-7)	-51 (-23)
Tow winch w/o rope	+400 (+181)	+600 (+272)	-200 (-91)
26.5x25 26P (1500# ea)		STD	STD
29.5x25 27P (1750# ea)		STD	STD
	+2800 (+1270)	+500 (+227)	-500 (+227)

NOTE: Standard machine includes 6,800 lbs counterweight.  
 Weight distribution for hook blocks and headache balls are with these items in storage compartment.  
 All weights are estimated.

### BADGER CONSTRUCTION EQUIPMENT CO

DIVISION OF BURRO-BADGER CORPORATION

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Printed in U.S.A.

**105' BOOM — MODEL 4450 SERIES B CRANE LOAD CHART PCSA CLASS 10-173  
55 TON CAPACITY FULLY HYDRAULIC SELF-PROPELLED CRANE**

**ON OUTRIGGERS FULLY EXTENDED—360° (a)**

RADIUS IN FEET	BOOM LENGTH												POWER SW SECTION EXTENDED IN	30 FOOT SOCKET PLUS BOOM	30 FOOT SOCKET PLUS BOOM	RADIUS IN FEET		
	27.6 FEET		40 FEET		47 FEET		56 FEET		64 FEET		72 FEET						81 FEET	
	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS					SW LBS	SW LBS
10																	10	
15																	15	
20																	20	
25																	25	
30																	30	
35																	35	
40																	40	
45																	45	
50																	50	
55																	55	
60																	60	
65																	65	
70																	70	
75																	75	
80																	80	
85																	85	
90																	90	
95																	95	
100																	100	

**ON OUTRIGGERS FULLY EXTENDED—OVER FRONT (a)**

RADIUS IN FEET	BOOM LENGTH												POWER SW SECTION EXTENDED IN	30 FOOT SOCKET PLUS BOOM	30 FOOT SOCKET PLUS BOOM	RADIUS IN FEET		
	27.6 FEET		40 FEET		47 FEET		56 FEET		64 FEET		72 FEET						81 FEET	
	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS	SW LBS					SW LBS	SW LBS
10																	10	
15																	15	
20																	20	
25																	25	
30																	30	
35																	35	
40																	40	
45																	45	
50																	50	
55																	55	
60																	60	
65																	65	
70																	70	
75																	75	
80																	80	
85																	85	
90																	90	
95																	95	
100																	100	

**JIB CAPACITY**

SW	30 FT SOCKET PLUS BOOM	30 FT SOCKET PLUS BOOM	SW
10	4,000	4,000	1,000
15	3,000	3,000	1,000
20	2,000	2,000	1,000
25	1,500	1,500	1,000
30	1,000	1,000	1,000
35	750	750	1,000
40	500	500	1,000
45	300	300	1,000
50	200	200	1,000
55	150	150	1,000
60	100	100	1,000
65	75	75	1,000
70	50	50	1,000
75	30	30	1,000
80	20	20	1,000
85	15	15	1,000
90	10	10	1,000
95	5	5	1,000
100	5	5	1,000

**WEIGHT REDUCTIONS FOR BOOM EXTENSIONS**

SW	WEIGHT REDUCTIONS IF STORED IN ERECTED POSITION
10	1,000
15	1,000
20	1,000
25	1,000
30	1,000
35	1,000
40	1,000
45	1,000
50	1,000
55	1,000
60	1,000
65	1,000
70	1,000
75	1,000
80	1,000
85	1,000
90	1,000
95	1,000
100	1,000

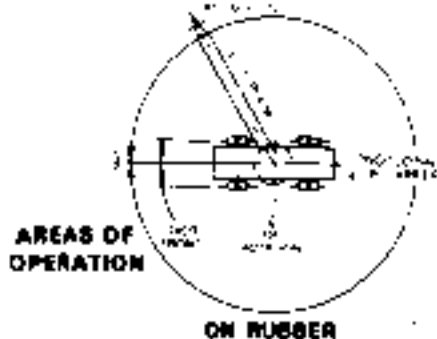
**TACKLE REEVING  
MAIN WINCH**

NO. OF POINTS OF HOLD TACKLE	MAX. LOAD LBS
1	11,000
2	5,500
3	3,667
4	2,750
5	2,200
6	1,833
7	1,571
8	1,375
9	1,222
10	1,100

**ON RUBBER CAPACITY (a)**

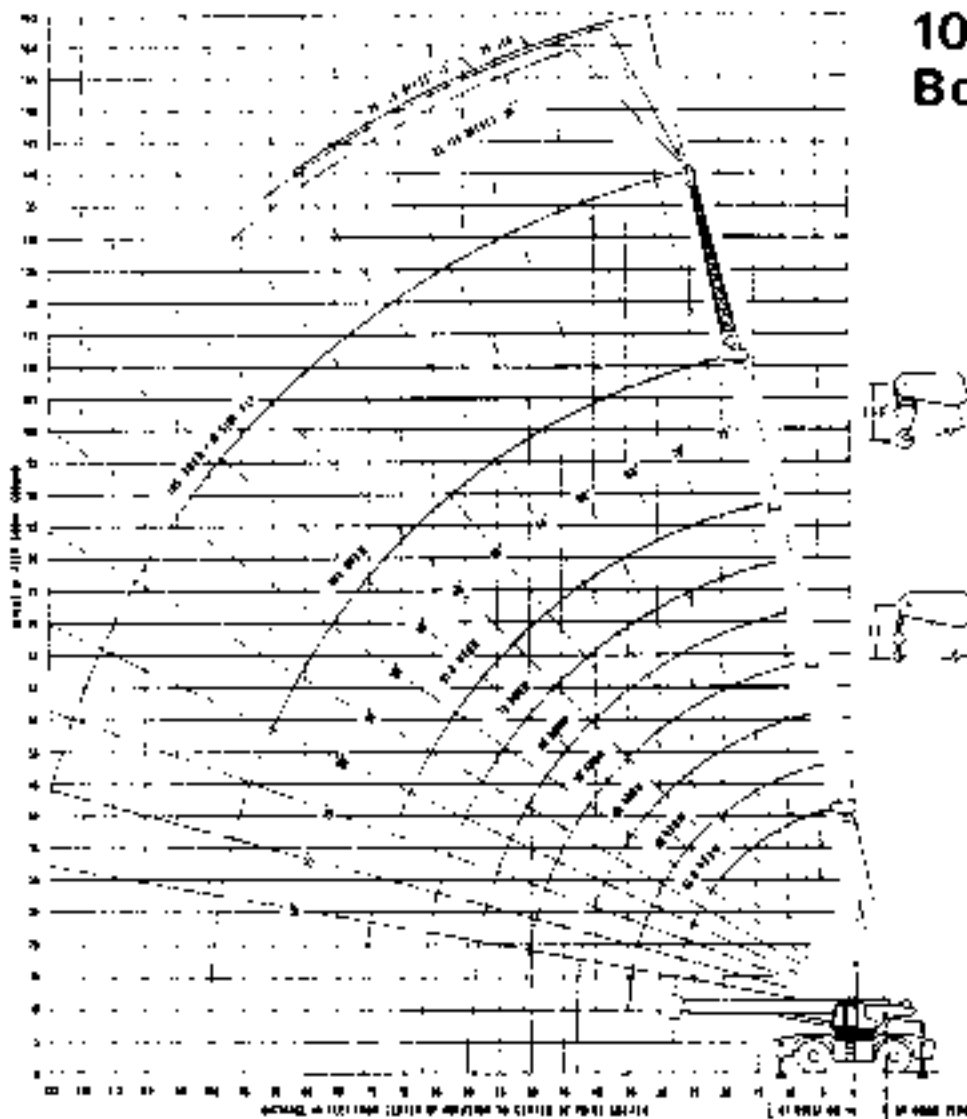
Radius in Feet	STATIONARY		PICK & CARRY (b)	
	SW LBS	SW LBS	SW LBS	SW LBS
10	4,000	4,000	3,000	3,000
15	3,000	3,000	2,000	2,000
20	2,000	2,000	1,500	1,500
25	1,500	1,500	1,000	1,000
30	1,000	1,000	750	750
35	750	750	500	500
40	500	500	300	300
45	300	300	200	200
50	200	200	150	150
55	150	150	100	100
60	100	100	75	75
65	75	75	50	50
70	50	50	30	30
75	30	30	20	20
80	20	20	15	15
85	15	15	10	10
90	10	10	7	7
95	7	7	5	5
100	5	5	3	3

MAXIMUM ALLOWABLE BOOM LENGTH— 54 FEET



- (a) Refer to area of operation chart for defined working area.
- (b) Mechanical levels lock pin must be fully engaged.
- (c) Towed working in net area less than 300 ft. covered in a 20' radius circle.
- (d) Boom must be fully extended when lifting with extended power pin section or with 20 ft. slightly.
- (e) Reduction in main boom capacities.
- (f) Refer to the reference chart.

# 105' Boom



## OPERATING INSTRUCTIONS

Radius of the load is the horizontal distance from a plumbline at the axis of rotation before loading, to the center of vertical hoist line at hook with load applied.

Beam angle which represents the unloaded beam angle, are to be used for reference only. These beam angles must be adjusted to maintain the proper load radius while the load is being pulled. Load ratings in shaded areas are based on machine's hydraulic or structural capacities and not on the machine's stability. Tipping capacities do not exceed 85% of tipping loads for "no outrigger" capacities and 75% of tipping loads for "on outrigger" capacities as determined by tests in accordance with SAE recommended practice—Crane Load Stability Test Code SAE J785a.

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. Hazardous surroundings, experience of personnel, and proper handling, all of which must be taken into account by the operator. The weights of all auxiliary hoisting devices such as beam spreaders, base blocks, hooks, and slings, except hook rope, shall be considered as part of the load being lifted.

All powered boom sections are synchronized to be extended equally at all times. Each section extends to a maximum distance of 14.5 feet. The maximum powered boom load which may be extended is limited by hydraulic pressure, boom angle, and boom capacity. It is safe to attempt to telescope any load within the normal 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 post cylinder.

"On rubber" capacities are based on the use of specified tire type. Machine must be on a firm and level surface.

For beam lengths not shown, use load ratings for next longer beam. Limiting of operation at radii and beam lengths beyond the maximums shown is not intended or approved.

The boom naturally shall be fully retracted and leveled when crane is not in service.

## WARNINGS

1. Minimum working main boom angle for the fully extended boom plus offset and jib is 51 degrees. TIPPING can occur rapidly without advance notice.
2. For other boom configurations, having powered sections not fully extended, but with or without sluffs; and with or without the jib, the rated loads are found in the column 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.

# BADGER 4450 SELF-PROPELLED HYDRAULIC CRANE

## SERIES B

# ON RUBBER CAPACITIES 29.5x25 - 22 PR TIRES

RATED LIFTING CAPACITIES IN POUNDS

### 80.8' BOOM

ON RUBBER CAPACITIES (a)					
FOR 29.5 x 25 - 22 PR TIRES (c)					
RADIUS IN FEET	STATIONARY		PICK & CARRY (b)		
	0° IN FRONT	360° ROTATION	130° ROTATION	2.5 MPH	5 MPH
10	58,000	46,400	48,000	48,000	31,700
15	51,000	39,400	41,000	41,000	27,000
20	44,000	32,400	34,000	34,000	22,300
25	37,000	25,400	27,000	27,000	17,600
30	30,000	18,400	20,000	20,000	12,900
35	23,000	11,400	13,000	13,000	8,200
40	16,000	4,400	6,000	6,000	3,500
45	9,000	-	1,000	1,000	-
50	2,000	-	-	-	-
55	-	-	-	-	-

MAXIMUM SLEWABLE BOOM LENGTH - 64 FEET

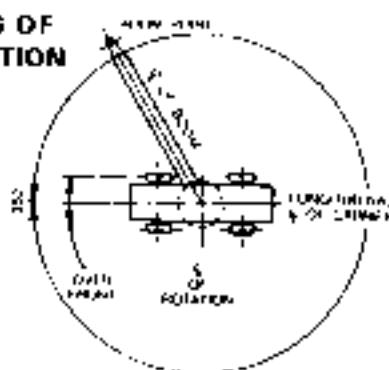
### 105' BOOM

ON RUBBER CAPACITIES (a)					
FOR 29.5 x 25 - 22 PR TIRES (c)					
RADIUS IN FEET	STATIONARY		PICK & CARRY (b)		
	0° IN FRONT	360° ROTATION	16.1° ROTATION	2.5 MPH	5 MPH
10	58,000	46,400	48,000	48,000	31,700
15	51,000	39,400	41,000	41,000	27,000
20	44,000	32,400	34,000	34,000	22,300
25	37,000	25,400	27,000	27,000	17,600
30	30,000	18,400	20,000	20,000	12,900
35	23,000	11,400	13,000	13,000	8,200
40	16,000	4,400	6,000	6,000	3,500
45	9,000	-	1,000	1,000	-
50	2,000	-	-	-	-
55	-	-	-	-	-

MAXIMUM SLEWABLE BOOM LENGTH - 64 FEET

- (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. section.
- (e) Reductions in main boom capacities.
- (f) Refer to tire inflation chart.
- \*Refer to job capacity chart
- \*\*Refer to weight reductions chart

### AREAS OF OPERATION



ON RUBBER

### TIRE INFLATION

Tire Size	Static Creep	2.5 M.P.H. 3 M.P.H.	Hi-Way
29.5x25 - 26 Ply.	80 P.S.I.	65 P.S.I.	50 P.S.I.
29.5x25 - 22 Ply.	60 P.S.I.	50 P.S.I.	35 P.S.I.

**BADGER CONSTRUCTION EQUIPMENT CO.**

DIVISION OF BURRO-BADGER CORPORATION

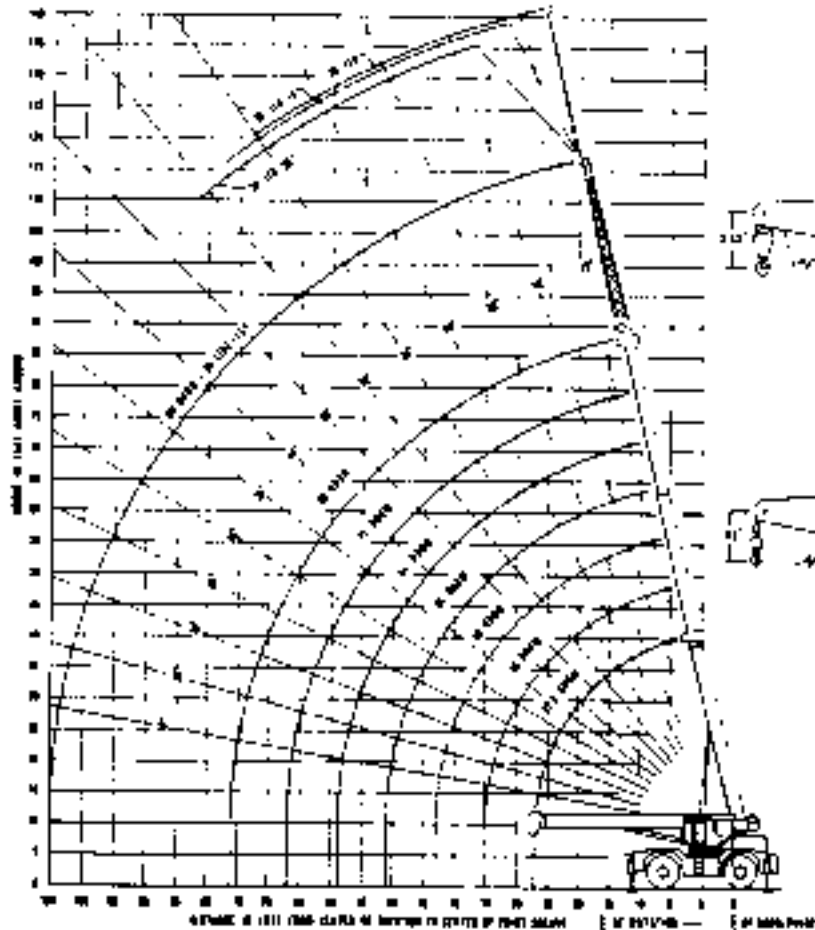
Airport Industrial Park, P.O. Box 168

WINDNA, MN 55987 <https://cranemanuals.com>

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# 80' Boom



## IMPORTANT INSTRUCTIONS

Radius of the load is the maximum distance from a projection of the axis of rotation before loading. The center of gravity must fall on the circle with load jacked.

Boom angles which represent the unladen boom angles are only used for reference only. These boom angles must be adjusted to meet with the crane load radius while the load is being jacked.

Lifted ratings in shaded areas are based on the crane's hydraulic and structural competence and not on the machine's stability.

Lifting capacity do not exceed 85% of the rated load for an out-put capacity of 25% of rated load for the boom. Capacity is determined by tests in accordance with SAE recommended practice "Crane Load Stability Test Code SAE J 287-4".

Crane load radius has are based on tests, as detailed on it. They are the maximum allowed for the manufacturer and are not to be exceeded for training and starting of a lift supporting a load.

Prohibit working with cranes with supporting surface wind and the limits of lifting stability. Hazardous conditions, presence of personnel and proper marking of all work shall be taken into account by the operator.

The weight of all auxiliary hoisting devices such as boom attachments, hoist, cable hooks, and other accessories must be included and accounted for in the lift rating.

Maximum boom length is limited by the weight of the boom. Boom length is limited by the maximum allowed boom length and the maximum boom length. The maximum boom length is limited by the maximum boom length and the maximum boom length. The maximum boom length is limited by the maximum boom length and the maximum boom length.

The maximum boom length is limited by the maximum boom length and the maximum boom length. The maximum boom length is limited by the maximum boom length and the maximum boom length.

For boom lengths that exceed the maximum boom length, the maximum boom length is limited by the maximum boom length and the maximum boom length. The maximum boom length is limited by the maximum boom length and the maximum boom length.

Crane boom boom capacity is limited to 150 lbs when Side Fly is used. 150 lbs when Side Fly is used. 150 lbs when Side Fly is used. 150 lbs when Side Fly is used.

Level jacking should be based on 1" (25.4 mm) per foot of lift.

## HYDRAULIC SYSTEM

Two 2-section tandem pumps, 162 gpm (613 l/min) at 2470 rpm, mounted on frame concrete with clutch. (Flow rate: 1.8 gpm / .68 l/min)

12 double acting cylinders

2 boom hoist: 9" (229 mm) ID  
5.5" OD x 3.5" ID x 140 mm x 89 mm rod

2 boom telescoping: 6" (152 mm) ID  
5" OD x 4" ID x 1127 mm x 102 mm rod

Outrigger cylinders

4 telescoping: 2.5" ID x 1.5" rod  
164 mm x 38 mm

4 jacks: 8.5" ID x 5" rod  
165 mm x 116 mm

Variable Flow Motor

Operating pressure: 2500 psi (172 kg/cm<sup>2</sup>) max.

Pressurized reservoir

Oil capacity reservoir 162 gal (609 l) system 300 gal (1136 l)

Exhaustion unit built into reservoir. 10 matched spooling element filter with automatic safety relief, built in gauges, 4-1/2" inlet for on filter housing, indicator lights in engine gauge cover.

Pin and tube type on couler.

Main relief valves in all circuits. Rolling valves on boom hoist boom telescoping and jack cylinders. Thermal relief protection in HOIST and hoist circuits.

## BOOM

80' Boom - Three sections. Base section plus two self-aligning hydraulic telescoping sections. Extends to 80' (24.4 m), retracts to 32'6" (10.0 m). Modified hexagon cross section is self-aligning. Free draw head.

100' Boom - Four sections. Base section plus self-aligning hydraulic telescoping section. Manually limited and section. Extends to 100' (30.5 m), retracts to 32'6" (10.0 m). Modified hexagon cross-section is self-aligning. Free draw head.

Side Fly (optional) - 30' (9.1 m) self-storing boom section hinged to boom head.



## CAB

Fully enclosed air-steel cab with safety glass windows, removable front window, heated right and rear windows, electric windshield wiper and washer, defroster fan, dome light, air conditioner, fully adjustable air conditioned seat, seat belt.

Optional air-diesel heater optional.

## CONTROLS

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

Key operated ignition switch with indicator light, starter/puller, fuel handle, fuel gauge, oil meter, fuel meter, gauges for engine oil pressure, transmission oil pressure, temperature of temperature, engine coolant temperature, air pressure, hydraulic filter and oil air warning lights.

## MAIN WINCH

Model 20 Hydraulic powered up and down.

Speed—fpm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	260 (79.2)	312 (95.1)	12,550 (5,123)
2	278 (84.7)	334 (101.8)	13,400 (5,942)
3	285 (89.9)	351 (107.9)	12,250 (5,600)
4	312 (95.1)	374 (114)	11,500 (5,224)
5	325 (100.3)	395 (112.4)	11,200 (5,021)

Optional 2-speed main winch.

High Speed—fpm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	476 (145.1)	571 (174)	7,600 (3,425)
2	510 (155.4)	612 (186.5)	7,150 (3,248)
3	544 (165.8)	653 (199)	6,700 (3,044)
4	578 (176.2)	694 (211.5)	6,200 (2,822)
5	612 (186.5)	734 (223.7)	5,950 (2,733)

Low Speed—fpm (m/min)

Wrap	Maximum Line Speed		Line Pull Lbs (kg)
	Full Load	No Load	
1	158 (48.5)	266 (81.2)	11,240 (5,058)
2	175 (53.7)	306 (93.2)	14,310 (6,491)
3	212 (64.3)	326 (96.4)	13,470 (6,062)
4	229 (69.7)	347 (105.8)	12,630 (5,723)
5	246 (74.9)	367 (111.9)	11,920 (5,401)

Either winch includes 450' (137 m) of 5/8" (15.9 mm) cable. Free fall distance with either winch.

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

## 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	275 (83.7)	332 (102.9)	6,400 (2,901)
2	294 (89.7)	344 (109.6)	5,950 (2,699)
3	305 (93.8)	361 (106.9)	5,600 (2,539)
4	322 (98.3)	380 (113.5)	5,175 (2,345)

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

## WIRE ROPE

40-wire, 1/2" (12.7 mm) diameter wire rope, 6x25 strand, right lay, galvanized, ENR sheath rope.

## SWING

Panetary, with internal brake. Spring set hydraulic release. Free swing or automatic brake. Speed—2 fpm.

## ENGINE

GM 6V 53H diesel, 6-cylinder, 4 cycle, 187 hp at 2100 rpm, 715 cc (15.2) 3.875" bore x 4.5" stroke, 98 mm x 114 mm, 21:1 compression ratio, 4.1" (104.8) 50.5" (1282 mm) torque at 1500 rpm.

Electric starter, 12-volt 65 amp alternator, 225 amp-hour battery, 20 hour rate (975 cc); 60 amp alternator, 12 volt (57.1) sec.

Optional engine, Cummins 6 55AC27 diesel, 6-cylinder, 4 cycle, 207 hp at 2500 rpm, 155 cc (19.1) 4.4" (111.8) bore x 4.1" (104.1) stroke, 11.7 mm x 105 mm, 17:1 compression ratio, 425 ft-lb (578 mkg) max torque at 1800 rpm, electric starter, 12 volt 60 amp alternator, 225 amp-hour battery, 20 hour rate (975 cc); Air compressor, 10.2 cfm (362" sec); Fuel capacity, 60 gal (227 l); 140 gal (527 l).

## TRANSMISSION

6th speed with rear axle disconnect. Electric three speed range and discharge shift with electric over-ride high, low shift and rear axle disconnect.

Drive	Final Drive Range	Gear Shift	Maximum Speed Rpm (km/hr)
4 wheel	Low	1st	612 (51)
4 wheel	Low	2nd	715 (53)
4 wheel	Low	3rd	814 (61)
2 wheel	High	1st	457 (21)
2 wheel	High	2nd	521 (44)
2 wheel	High	3rd	577 (50)

GRADEABILITY: NOTE: All performance data is based on standard machinery and may vary due to engine performance and optional equipment. Machine should be calibrated with a 10% slope. Intentional for engine lubrication design.

## AXLES

Ratio 22:1. Panetary steering. Front axle rigidly mounted to frame. Rear axle pinned for oscillation, automatic disc brake, turnoff with manual override. Non-slip differential control.

## 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

20.5" x 25.25" ply, 72/25 mm.

## Optional:

20.5" x 25.25" ply, 25 x 22 mm. Spare tire, tire inflator kit.

## STEERING

Two independent systems. Front hydraulic controlled by Char-Lynn control unit. Rear hydrostatic controlled by toggle switch on dash panel with rear wheel steering indicator light. Turn radius:

Front wheel steering 38' (11.6 m).

Rear wheel controlled 21' (6.5 m).

## OUTRIGGERS

Beam type hydraulic powered 24 (811 mm) diameter posts, 21" (534 mm) spread center to center of posts.

Optional 30" (762 mm) posts.

WEIGHT = Lbs (kg)	Front Axle		Rear Axle
	Axle		
60 beam	27,530 (12,475)	40,700 (18,225)	37,300 (16,919)
10s beam	29,700 (13,475)	43,500 (19,732)	38,200 (17,220)

## STANDARD EQUIPMENT

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

## OPTIONAL EQUIPMENT

40' (12.2 m) self-storing. Can only be erected to line and at the Side Fly.

Display boom angle indicator. Electronic with adjustable limit settings and audible warning.

Anti-two block system. Electric hydraulic for boom. Side Fly or job. Stops boom lower down extend when up movements automatically audible and visual warning signals to 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. Padslocks for access and storage doors, fuel tank, door windows.

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

Hooper sheave. 55-mm 5-sheave hook block. 15 ton single sheave hook block. Headache ball with 5 bar swivel hook, headache ball with 3-bar swivel hook for auxiliary winch, drum rotation indicators for main and auxiliary winches, front and rear probe hooks, electronic back up alarm, cold-weather starting kit with water battery, electric heating element for hydraulic reservoir.

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