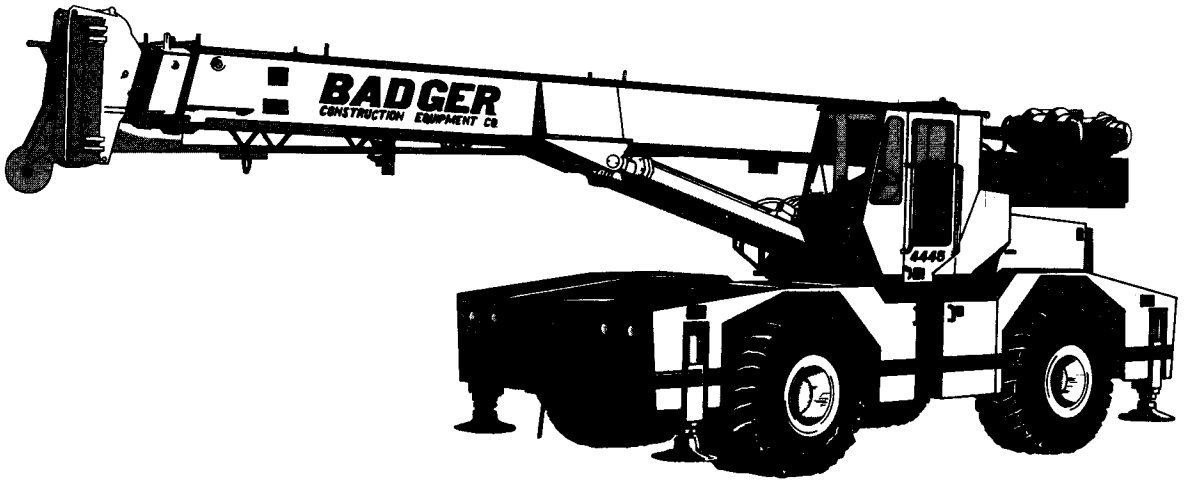
4445



Self-Propelled
45 Ton Hydraulic Crane

Capacities
Specifications
Operating Ranges

BADGER®
EQUIPMENT CO.

BADGER MODEL 4445 CRANE LOAD CHART PSCA CLASS 10-186

80.8' BOOM

45 TON CAPACITY FULLY HYDRAULIC SELF-PROPELLED CRANE

ON OUTRIGGERS FULLY EXTENDED-360°(a)

RADIUS IN FEET	BOOM LENGTH																RADIUS IN FEET
	32.3 FEET		40 FEET		48 FEET		56 FEET		64 FEET		72 FEET		80.8 FEET		30 FT SIDEFLY PLUS 80.8 FT. BOOM 110 FEET		
	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	
10	63	90 000	68	77 100	72	75 200	75	74 100									10
12	59	81 000	65	75 800	70	73 300	73	69 400	75	61 000							12
15	52	69 400	60	67 000	66	65 700	69	61 100	72	55 000	74	49 500					15
20	44	54 900	52	54 000	59	53 500	64	49 900	67	46 400	70	41 800	72	35 200			20
25	22	41 200	42	43 100	52	42 800	58	40 300	62	39 300	66	35 300	68	30 700	74	18 500	25
30			29	31 400	44	32 100	52	32 600	57	32 900	61	30 100	65	26 700	71	16 300	30
35			1	18 900	34	24 000	45	24 500	52	24 800	57	25 000	61	22 900	68	14 600	35
40					21	18 600	37	19 100	46	19 400	52	19 600	56	19 800	65	13 200	40
45							27	15 200	39	15 500	46	15 800	52	16 000	62	12 100	45
50							11	12 300	31	12 700	40	12 900	47	13 100	59	11 100	50
55									21	10 400	34	10 600	42	10 800	56	10 300	55
60											26	8 820	37	9 020	53	9 230	60
65											14	7 310	30	7 540	50	8 240	65
70													22	6 290	46	7 480	70
75													9	5 190	43	6 750	75
80															39	5 880	80
85															35	5 070	85
90															30	4 360	90
95															24	3 730	95
100															17	3 160	100
105															2	2 600	105

ON OUTRIGGERS FULLY EXTENDED-OVER FRONT (a)

RADIUS IN FEET	BOOM LENGTH																RADIUS IN FEET
	32.3 FEET		40 FEET		48 FEET		56 FEET		64 FEET		72 FEET		80.8 FEET		30 FT SIDEFLY PLUS 80.8 FT. BOOM 110 FEET		
	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	4°	LBS.	
10	63	90 000	68	77 100	72	75 200	75	74 100									10
12	59	81 000	65	75 800	70	73 300	73	69 400	75	61 000							12
15	52	69 400	60	67 000	66	65 700	69	61 100	72	55 000	74	49 500					15
20	44	54 900	52	54 000	59	53 500	64	49 900	67	46 400	70	41 800	72	35 200			20
25	22	41 200	42	43 100	52	42 800	58	40 300	62	39 300	66	35 300	68	30 700	74	18 500	25
30			29	31 600	44	32 200	52	32 600	57	33 000	61	30 100	65	26 700	71	16 300	30
35			1	18 900	34	24 100	45	24 500	52	24 800	57	25 000	61	22 900	68	14 600	35
40					21	18 700	37	19 100	46	19 400	52	19 600	56	19 900	65	13 200	40
45							27	15 300	39	15 600	46	15 800	52	16 000	62	12 100	45
50							11	12 500	31	12 800	40	13 000	47	13 200	59	11 100	50
55									21	10 600	34	10 800	42	11 000	56	10 300	55
60											26	9 070	37	9 250	53	9 230	60
65											14	7 610	30	7 820	50	8 240	65
70													22	6 620	46	7 480	70
75													9	5 560	43	6 750	75
80															39	6 180	80
85															35	5 400	85
90															30	4 710	90
95															24	4 100	95
100															17	3 550	100
105															2	3 010	105

ON RUBBER CAPACITIES (A)

FOR 21.0 x 25 - 24 PR TIRES (F)

RADIUS IN FEET	STATIONARY		PICK & CARRY (B)		
	OVER FRONT	360° ROTATION	CREEP SPEED(C)	2.5 MPH	5 MPH
10	48 000	38 300	46 800	38 900	31 300
12	42 200	32 300	40 600	33 600	26 800
15	35 500	22 000	33 500	27 500	21 700
20	27 700	13 200	25 200	20 400	15 700
25	18 600	8 580	18 600	15 600	11 600
30	13 800	6 220	13 800	12 500	9 130
35	10 100	4 110	10 100	9 710	6 720
40	8 120	3 140	8 120	8 100	5 440
45	6 540	2 280	6 540	6 540	4 260
50	5 030	1 390	5 030	5 030	3 050
55	4 110		4 110	4 110	2 280

MAXIMUM ALLOWABLE BOOM LENGTH - 64 FEET

JIB CAPACITY

30 FOOT SIDEFLY PLUS 25 FOOT JIB COMBINATION (d)

MAIN BOOM ANGLE	0° JIB OFFSET LBS.	15° JIB OFFSET LBS.	30° JIB OFFSET LBS.
77°	8 500	7 320	4 260
70°	7 220	6 020	3 660
65°	5 780	5 180	3 360
60°	4 740	4 400	3 130
55°	3 750	3 530	2 950

WEIGHT REDUCTIONS FOR BOOM EXTENSIONS (g)

30 FT. SIDEFLY BOOM EXTENSION
(e) STORED-650 LBS.
(e) ERECTED-1530 LBS.

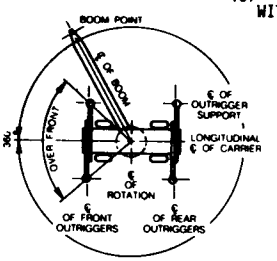
25 FT. JIB
(e) STORED-200 LBS.
(e) ERECTED-1670 LBS.

(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.
(g) DEDUCT 100 LBS. FROM RATED CAPACITIES FOR MACHINES EQUIPPED WITH AUXILIARY BOOM HEAD.

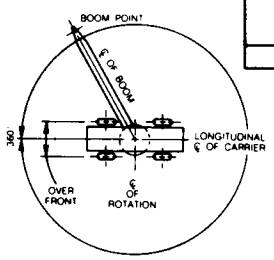
TACKLE REEVING MAIN WINCH

NO. OF PARTS OF HOIST TACKLE	MAX. HOOK LOAD LBS.
1	9 000
2	18 000
3	27 000
4	36 000
5	45 000
6	54 000
7	63 000
8	72 000
9	81 000
10	90 000



ON OUTRIGGERS

AREAS OF OPERATION



ON RUBBER

BADGER MODEL 4445 CRANE LOAD CHART PCSA CLASS 10-179

105' BOOM

45 TON CAPACITY FULLY HYDRAULIC SELF-PROPELLED CRANE

ON OUTRIGGERS FULLY EXTENDED-360° (A)

RADIUS IN FEET	BOOM LENGTH														POWER PIN SECTION EXTENDED (D)		SIDEFLY PLUS 81.4 FT. BOOM		SIDEFLY PLUS 105 FT. BOOM		RADIUS IN FEET
	32.85 FEET		40 FEET		48 FEET		56 FEET		64 FEET		72 FEET		81.45 FEET		105 FEET		110.66 FEET		134.31 FEET		
	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	
10	63	90 000	68	75 200	72	73 300	75	72 200													10
12	59	80 000	65	75 200	70	73 300	73	67 600	75	60 000											12
15	53	68 300	60	66 000	66	63 700	69	59 600	72	53 700	75	48 300									15
20	41	53 900	52	52 900	59	51 200	64	48 700	67	45 300	70	40 800	72	35 200							20
25	25	40 900	42	42 100	52	42 300	58	39 800	62	38 000	66	34 200	69	30 700	74	21 100	74	18 500			25
30			29	31 100	44	31 600	52	31 900	57	31 800	61	28 900	65	26 700	71	19 900	71	16 300			30
35			1	17 300	34	23 400	45	23 700	52	23 900	57	24 200	61	22 900	68	17 800	68	14 600	72	10 000	35
40					21	17 900	37	18 200	46	18 400	52	18 600	57	18 900	65	15 700	65	13 200	70	9 550	40
45							27	14 300	39	14 500	46	14 700	52	14 900	62	13 900	63	12 100	68	8 880	45
50							11	11 300	31	11 600	40	11 800	48	11 900	59	12 300	60	11 100	65	7 850	50
55									21	9 300	34	9 490	43	9 650	55	10 800	57	10 300	63	7 260	55
60											26	7 650	37	7 810	52	9 500	53	9 230	61	6 720	60
65											14	6 100	31	6 300	48	7 990	50	8 240	58	6 110	65
70													23	5 040	45	6 720	47	7 150	56	5 590	70
75													11	3 920	41	5 660	43	6 030	53	5 240	75
80															36	4 740	39	5 070	50	4 830	80
85															31	3 940	35	4 230	47	4 530	85
90															25	3 230	30	3 500	45	4 200	90
95															18	2 600	25	2 850	41	3 570	95
100															2	1 970	18	2 260	38	3 010	100
105																	6	1 710	35	2 510	105
110																			31	2 050	110
115																			26	1 640	115
120																			21	1 261	120

ON OUTRIGGERS FULLY EXTENDED-OVER FRONT (A)

RADIUS IN FEET	BOOM LENGTH														POWER PIN SECTION EXTENDED (D)		SIDEFLY PLUS 81.4 FT. BOOM		SIDEFLY PLUS 105 FT. BOOM		RADIUS IN FEET
	32.85 FEET		40 FEET		48 FEET		56 FEET		64 FEET		72 FEET		81.45 FEET		105 FEET		110.66 FEET		134.31 FEET		
	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	∠°	LBS.	
10	63	90 000	68	75 200	72	73 300	75	72 200													10
12	59	80 000	65	75 200	70	73 300	73	67 600	75	60 000											12
15	53	68 300	60	66 000	66	63 700	69	59 600	72	53 700	75	48 300									15
20	41	53 900	52	52 900	59	51 200	64	48 700	67	45 300	70	40 800	72	35 200							20
25	25	40 900	42	42 100	52	42 300	58	39 800	62	38 000	66	34 200	69	30 700	74	21 100	74	18 500			25
30			29	31 400	44	31 900	52	32 200	57	31 800	61	28 900	65	26 700	71	19 900	71	16 300			30
35			1	17 300	34	23 600	45	23 900	52	24 100	57	24 300	61	22 900	68	17 800	68	14 600	72	10 000	35
40					21	18 100	37	18 400	46	18 600	52	18 800	57	19 000	65	15 700	65	13 200	70	9 550	40
45							27	14 600	39	14 800	46	15 000	52	15 100	62	13 900	63	12 100	68	8 880	45
50							11	11 600	31	11 900	40	12 100	48	12 200	59	12 300	60	11 100	65	7 850	50
55									21	9 680	34	9 860	43	10 000	55	10 800	57	10 300	63	7 260	55
60											26	8 070	37	8 230	52	9 600	53	9 230	61	6 720	60
65											14	6 580	31	6 770	48	8 500	50	8 240	58	6 110	65
70													23	5 550	45	7 340	47	7 480	56	5 590	70
75													11	4 480	41	6 270	43	6 430	53	5 240	75
80															36	5 340	39	5 500	50	4 830	80
85															31	4 540	35	4 690	47	4 530	85
90															25	3 830	30	3 980	45	4 220	90
95															18	3 200	25	3 350	41	3 920	95
100															2	2 570	18	2 780	38	3 480	100
105																	6	2 240	35	2 990	105
110																			31	2 540	110
115																			26	2 130	115
120																			21	1 760	120
125																			14	1 410	125

ON RUBBER CAPACITIES (A)

FOR 21.0 x 25 - 24 PR TIRES (F)

RADIUS IN FEET	STATIONARY		PICK & CARRY (B)		
	OVER FRONT	360° ROTATION	CREEP SPEED(C)	2.5 MPH	5 MPH
10	47 500	37 800	46 000	38 200	30 500
12	41 500	31 700	39 800	32 900	26 000
15	34 800	22 200	24 400	26 700	20 900
20	26 900	13 100	18 700	19 600	14 900
25	18 500	8 350	14 900	14 700	10 700
30	13 300	5 700	11 600	11 400	8 010
35	9 500	3 530	9 500	8 560	5 570
40	7 380	2 420	7 380	6 800	4 140
45	5 670	1 470	5 670	5 250	2 840
50	4 140		4 140	3 810	1 620
55	3 130		3 130	2 770	

MAXIMUM ALLOWABLE BOOM LENGTH - 64 FEET

JIB CAPACITY

SIDEFLY PLUS JIB COMBINATION (D)

MAIN BOOM ANGLE	0° JIB OFFSET	15° JIB OFFSET	30° JIB OFFSET
77°	6 000	5 300	4 260
70°	4 670	4 070	3 660
65°	4 000	3 610	3 360
60°	3 580	3 310	3 130
55°	3 270	3 080	2 950

WEIGHT REDUCTIONS FOR BOOM EXTENSIONS

30 FOOT SIDEFLY BOOM EXTENSION
(e) STORED - 650 LBS.
(e) ERECTED - 1470 LBS.

25 FOOT JIB
(e) STORED - 200 LBS.
(e) ERECTED - 1500 LBS.

(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.
(G) DEDUCT 100 LBS. FROM RATED CAPACITIES FOR MACHINES EQUIPPED WITH AUXILIARY BOOM HEAD.

TACKLE REEVING MAIN WINCH

NO. OF PARTS OF HOIST TACKLE	MAX. HOOK LOAD
1	9 000
2	18 000
3	27 000
4	36 000
5	45 000
6	54 000
7	63 000
8	72 000
9	81 000
10	90 000

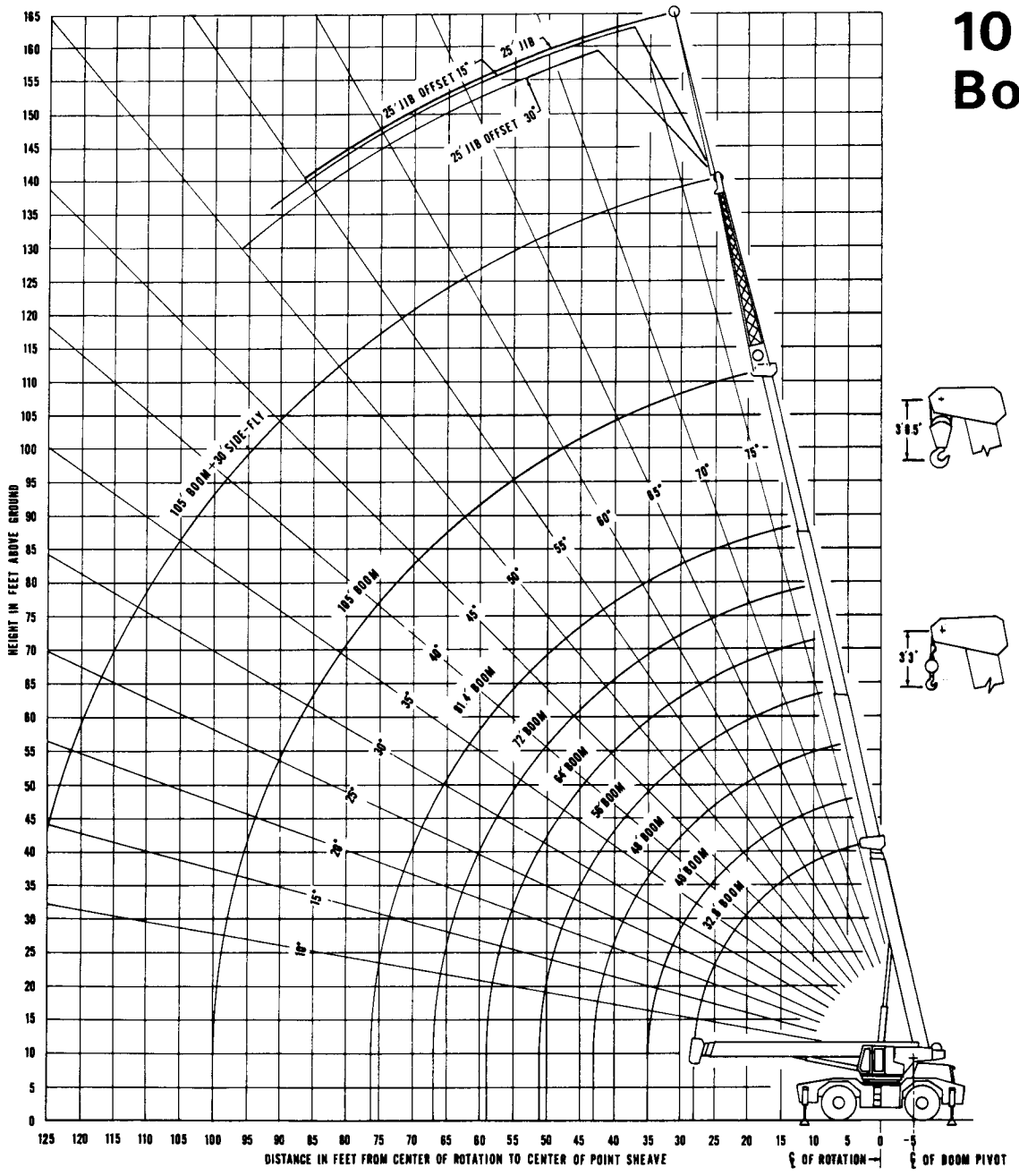
WARNINGS:

1. MINIMUM WORKING MAIN BOOM ANGLE FOR THE FULLY EXTENDED BOOM WITH POWER PIN EXTENDED PLUS SIDEFLY 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 POWER PIN EXTENDED OR RETRACTED; 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.

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, hazardous surroundings, experience of personnel, 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 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 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.

For 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 leveled 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 occur 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.

CAB
Fully-enclosed all steel cab with safety glass windows, removable front window, hinged skylight and sliding 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.

CONTROL
Five levers for all boom, winch, and swing movements. One foot pedal, linked to boom raise-and-lower lever. Dead-man 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 GH30) 2 speed hyraulic powered up and down.

High Speed: fpm				
	Max.Line Speed		Line Pull	
Layer	Full Load	No Load	(Lbs)	Storage
1	320	354	12,520	92 ft.
2	348	385	11,540	178 ft.
3	371	410	10,820	269 ft.
4	394	436	10,190	366 ft.
5	417	461	9,630	468 ft.
6	453	501	9,130	577 ft.

Low Speed: fpm				
	Max. Line Speed		Line Pull	
Layer	Full Load	No Load	(Lbs)	Storage
1	250	275	15,540	92 ft.
2	271	299	14,330	178 ft.
3	290	319	13,440	269 ft.
4	308	338	12,660	366 ft.
5	326	358	11,960	468 ft.
6	354	389	11,340	577 ft.

Winch includes 450' (137 m) of 5/8" (15.9 mm) cable. Free fall is optional.

AUXILIARY WINCH (Optional)
Model GH30) Single speed Hydraulic powered up and down. Optional free fall – consult factory.

Speed: fpm				
	Max. Line Speed		Line Pull	
Layer	Full Load	No Load	(Lbs)	Storage
1	160	172	12,520	92 ft.
2	174	193	11,540	178 ft.
3	186	205	10,820	269 ft.
4	197	218	10,190	366 ft.
5	209	232	9,630	468 ft.
6	227	252	9,130	577 ft.

Optional: 450' (137 m) of 5/8" (15.9 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 – 3 rpm

ENGINE
GM 6V-53N diesel, 6 cyl ohv, 2 cycle, 197 hp (147 kw) at 2800 rpm, 318 cid (5.2L), 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, 225 amp hour battery, 20-hour rate (975 cca).
Air compressor, 12 cfm (5.7 L/sec)
Fuel capacity: 130 gallons (492L)

TRANSMISSION
Six speed with rear axle disconnect. Electric three speed range and directional shift with electric over air high low shift and rear axle disconnect.

Drive	Range	Gear	Max. Speed mph	*km/hr*
4 wheel	Low	1st	1.5	*2.4*
4 wheel	Low	2nd	3.1	*4.9*
4 wheel	Low	3rd	8.3	*13.3*
2 wheel	High	1st	4.3	*6.9*
2 wheel	High	2nd	8.7	*14*
2 wheel	High	3rd	21.7	*34.9*

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

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 emergen- cy and parking brakes on all four wheels.

TIRES:
21.00 x 25-24-PR, 15 x 25 rim
Optional:
26.5 x 25-20-PR, 22 x 25 rim
26.5 x 25-26-PP, 22 x 25 rim
29.5 x 25-22-PR, 25 x 25 rim
29.5 x 25-28-PR, 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 panel, with rear-wheel centering indicator light.
Turning radius:
Front-wheel steering: 38' (11.6m)
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 *(WITH 80' BOOM)*			
	Total	Front Axle	Rear Axle
Lbs.	76,700	38,500	38,200
kg	*34,785*	*17,460*	*17,325*

WEIGHT *(WITH 105' BOOM)*			
	Total	Front Axle	Rear Axle
Lbs.	78,900	41,800	37,100
kg	*35,782*	*18,957*	*16,825*

STANDARD EQUIPMENT
Dual headlights, tail lights, brake lights, back-up lights, turn signals, parking lights; front and rear fenders, tow loops, rear view mirrors, electric back-up alarm, electronic boom angle indicator with adjustable limit settings and audible warning, electronic load moment indicating system. Anti-Two block system with audible and visual warning signals only, without automatic stop.

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

Anti-Two block system: Electric-hydraulic for boom, Side Fly, or jib. Stops boom lower, boom extended, winch up movements automatically; audible and visual warning signals in cab; manual override.

Working lights: On front of cab and on boom. Rotating amber beacon: On top of cab.
Vandalism protection package: Padlocks for access and storage doors, fuel tank; Lexan windows; tinted safety glass.
Tow winch: Mounted on front of frame, controlled from cab. Line pull 15,000 lbs. (680 kg).

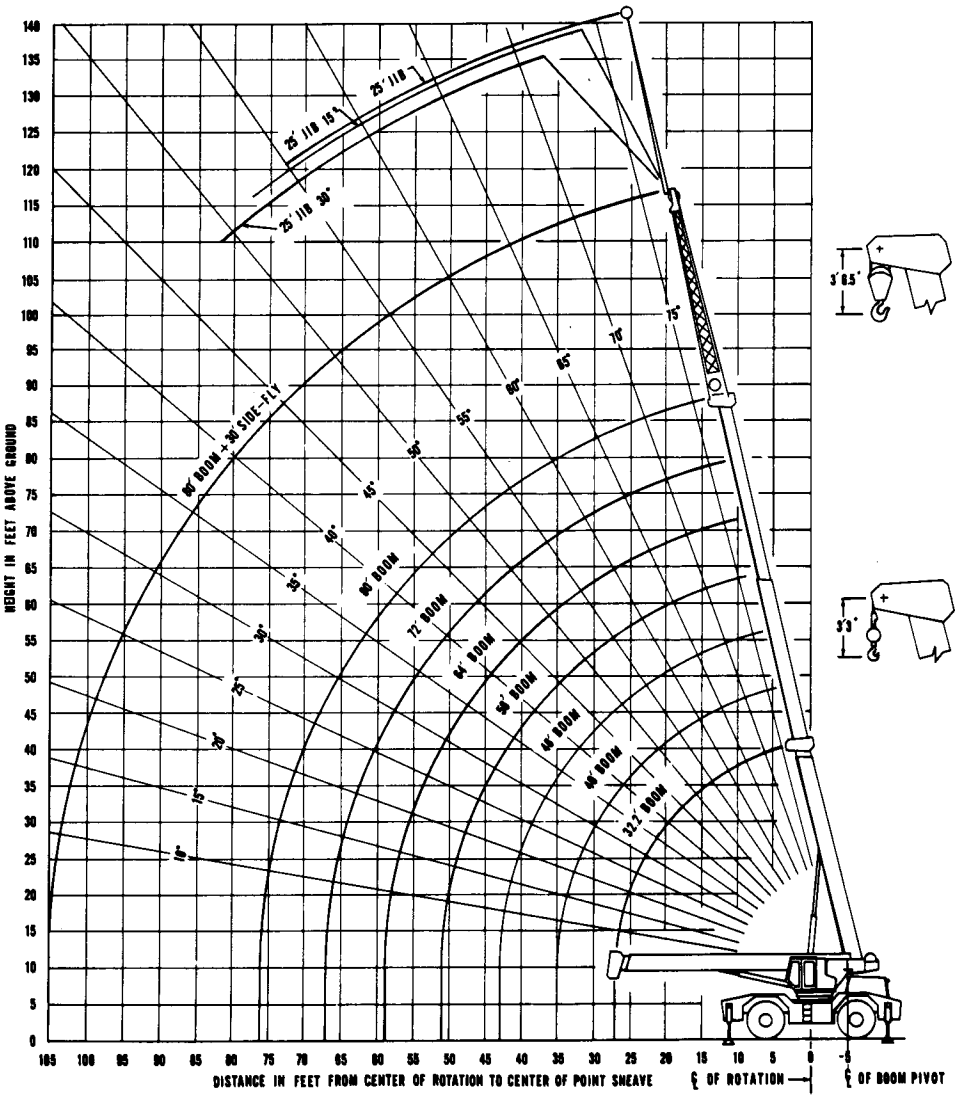
Rooster sheave, 45-ton 5-sheave hook block, 15-ton single sheave hook block, headache ball with 5-ton swivel hook, headache ball with 3-ton swivel hook for auxiliary winch, drum rotation indicators for main and auxiliary winches, front and rear pintle hooks, cold-weather starting kit with extra battery, electric heating element for hydraulic reservoir.

NIXON-EGLI EQUIPMENT CO.
24701 CLAWITER ROAD
HAYWARD, CA 94545
(510) 783-1711

Form 8073 (Replaces 8047)

BADGER EQUIPMENT CO.
Airport Industrial Park, P.O. Box 168
Winona, MN 55987 (507) 454-1563
FAX: (507) 454-3326

80′ Boom



WARNINGS:

1. Minimum working main boom angle for the fully extended boom with power pin extended plus sidefly 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 power pin extended or retracted; 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.

IMPORTANT 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 on the machine's stability.

Tipping capacities do not exceed 85% of tipping loads for "on outrigger" capacities or 75% of tipping loads for "on rubber" capacities as determined by tests in accordance with SAE recommended practice -- "Crane Load Stability Test Code SAE J-765 a."

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 handling devices such as boom attachments, hoist block, hooks, and slings, except hoist rope, shall be considered as part of the load ratings.

Powered boom sections are synchronized to be extended equally at all times. Each section extends to a maximum distance of 24 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 to centerline of vertical jack cylinders.

For boom lengths not shown, use load ratings for next longer boom. For load radii not shown, use load rating for next larger rated radius. 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 leveled when crane is out of service.

From main boom capacities, deduct: 650 lbs. when Side-Fly stowed; 1,530 lbs. when Side-Fly erected; 200 lbs. when jib stowed; 1,670 lbs. when jib erected.

Hoist reeving should be based on 9,000 lbs. per part of line.

HYDRAULIC SYSTEM

Two 2-section tandem pumps, 162 gpm (613 L/min) at 2470 rpm, mounted on torgue converter with clutch. Steering pump, 18 gpm (68 L/min).

12 double-acting cylinders:

2 boom hoist: 8″ (203 mm) ID
6.0″ OD x 5.0″ ID (152 mm x 127 mm) rod

2 boom telescoping: 6″ (152 mm) ID
5″ OD x 4″ ID (127 mm x 102 mm) rod

Outrigger cylinders:
4 telescoping: 2.5″ ID, 1.5″ rod
(64 mm x 38 mm)
4 jack: 6.5″ ID, 4.5″ rod
(165 mm x 114 mm)

Vane-type swing motor.

Operating pressure: 2500 psi (176 kg/cm²) max.

Pressurized reservoir.

Oil capacity: reservoir 182 gal (689 L), system 300 gal (1,136 L)

Filtration unit built into reservoir: 10-micron disposable-element filter with automatic safety relief, built-in magnets; visual indicator or filter housing, indicator lights in engine gauge cluster.

Fin and tube type oil cooler.

Main relief valves in all circuits. Holding valves on boom hoist, boom telescoping and jack cylinders; thermal relief protection in telescope and hoist circuits.

BOOM

80′ Boom — Three section. Base section plus two self proportioning hydraulically telescoping sections. Extends to 80′ (24.4 m), retracts to 32′6″ (9.9 m). Modified hexagon cross-section is self-aligning. Five-sheave head.

105′ Boom — Four-section, two self-proportioning hydraulically telescoping section, manually pinned end section. Extends to 105′ (32 m), retracts to 32′9″ (10 m). Modified hexagon cross-section is self-aligning. Five-sheave head.

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