

AMERILAN MUDEL YZ/U LIFTING CRANE KATINGS - HAMMERHEAD TIP

11 11 11			Side Frames Referited	Parties Parties
70'	16 20 30 30 30 50 60 70	83 80 75 71 67 62 52 41 26	272,010 189,820 137,030 106,690 86,980 73,140 54,970 43,560 35,700*	300,000 231,070 162,500 124,730 100,810 84,290 62,940 49,730 40,720*
80'	17 20 30 30 40 50 60 70 80	83 81 77 70 66 58 38 24 38	245,390 189,570 136,750 106,390 86,670 72,830 54,660 43,260 35,420 29,670*	300,000 230,890 162,270 124,470 100,530 84,000 62,650 49,440 40,450 33,910*
90'	18 20 25 30 35 40 50 60 70 80 90	83 82 79 75 72 69 62 54 46 36 22	223,330 189,320 136,460 106,080 * 86,350 72,500 54,330 42,920 35,090 29,360 24,980*	276,920 230,690 162,010 124,180 100,230 83,690 62,330 49,120 40,130 33,610 28,190*
100'	19 20 30 30 40 50 60 70 80 90 100	83 83 80 77 74 71 65 58 51 43 34 21	204,720 189,070 136,160 105,760 86,020 72,160 53,980 42,570 34,740 29,020 24,650 21,190*	251,570 230,500 161,750 123,890 99,910 83,360 61,990 48,780 39,800 33,280 28,330 23,460*
110'	21 25 30 35 40 50 60 70 80 90 100 110	83 81 78 75 73 67 61 55 49 41 32 20	175,300 135,860 105,430 85,670 71,800 53,620 42,210 34,380 28,660 24,300 20,860 18,050*	212,380 161,490 123,590 99,590 83,030 61,650 48,430 39,440 32,930 27,980 27,980 24,090 19,550*
120'	22 25 30 35 40 50 70 80 90 100 110 120	83 81 79 77 74 69 64 59 53 46 39 31	163,250 135,550 105,100 85,330 71,450 53,250 41,840 34,000 28,290 23,930 20,500 17,700 15,390*	196,740 161,220 123,290 99,270 82,690 61,290 48,070 39,080 32,560 27,620 23,740 20,600* 17,990*
130'	23 25 30 35 40 60 70 80 90 100 110 120 130	83 82 80 78 75 71 66 61 56 61 56 44 38 30 18	152,600 135,250 104,770 84,980 71,090 52,880 41,460 33,630 27,910 23,560 20,120 17,340 15,030 13,080*	183,100 160,950 122,980 98,940 82,350 60,930 47,700 38,700 32,190 27,250 23,370 20,230 17,640* 15,460*

Room	Rodius in Feel	Room Angle Degrees	Side Promos Ratroched	Side Promos Estended
140'*	24 25 30 50 60 70 80 90 100 120 120 140	83 81 77 68 59 43 63 9 59 43 28	143,130 134,940 104,430 84,630 70,730 52,500 41,080 33,240 27,530 23,170 19,740 16,960 14,660 12,720 11,050	171,080 160,680 122,680 98,610 82,000 60,570 47,330 38,330 31,810 26,870 22,990 19,860 17,270 15,100 13,240
150'*	26 30 35 40 50 60 70 80 90 100 110 120 130 140 150	83 81 77 73 69 65 61 57 52 41 35 27 17	127,270 104,100 84,270 70,360 52,120 40,690 32,850 27,130 22,780 19,350 16,570 14,270 12,340 10,690 9,240	151,130 122,370 98,280 81,660 60,200 46,950 37,950 31,430 26,480 22,600 19,470 16,890 14,730 12,880 11,270
160'*	27 30 35 40 50 80 70 80 90 100 110 120 130 140 150 160	83 82 88 78 75 71 63 55 50 40 34 27 17	120,310 103,760 83,920 70,000 51,740 40,300 32,460 26,740 22,380 18,950 16,170 13,880 11,950 10,300 8,870 7,610	142,530 122,060 97,950 81,310 59,840 46,580 37,570 31,040 26,090 26,090 22,210 19,080 16,500 14,340 12,500 10,900 9,500
170'*	28 30 35 40 50 60 70 80 90 100 110 120 130 140 150 160 170	83 81 79 75 665 65 57 53 48 439 33 26 16	113,960 103,430 83,570 69,630 39,910 32,060 26,340 21,980 18,550 15,770 13,480 11,550 13,480 11,550 9,910 8,490 7,240 6,130	134,740 121,750 97,620 80,960 59,470 46,200 37,180 30,650 25,700 21,820 18,690 16,110 13,950 12,110 10,520 9,130 7,890
180'*	29 30 40 50 60 70 80 90 100 120 130 140 150 180	83 83 80 76 70 66 59 55 51 47 25 51 47 25 16	108,130 103,090 83,210 69,260 39,520 31,660 25,940 21,580 18,150 15,370 13,080 11,150 9,510 8,090 6,850 5,750 4,760	127,640 121,440 97,280 80,610 59,100 45,820 36,790 30,260 25,300 21,580 15,370 13,080 11,150 15,370 13,080 11,150 8,090 6,850 5,750

Boom	Redius in Feet	Angla	Side Fremes Retrocted	The second
190'*	30 35 40 50 60 70 80 90 100 110 120 130 140 150 150 150 190	83 82 80 77 4 68 64 61 57 54 64 57 54 64 31 31 24 55	102,750 82,860 68,900 39,130 31,270 25,540 21,170 17,740 14,960 12,670 9,100 7,690 6,450 5,350 4,380 3,500	121,130 96,950 80,260 58,730 45,430 36,400 29,860 24,910 21,020 17,890 15,310 13,150 11,310 9,730 8,340 7,120 6,040 5,060
200'*	32 35 40 50 70 80 90 100 110 120 130 140 150 160 170 180 190 200	832185296296284405045	93,510 82,500 68,530 50,210 38,730 20,770 17,330 14,550 12,260 10,340 8,700 7,280 6,040 4,950 3,980 3,110 2,310	109,940 96,620 79,910 58,360 45,050 36,010 29,460 24,510 20,620 17,490 14,910 12,750 10,910 9,320 7,940 6,730 5,856 4,680 3,790
210'*	33 35 40 50 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210	83 82 81 75 73 70 64 61 58 64 51 58 51 43 39 329 329 14	89,220 82,150 68,160 49,830 38,340 30,470 24,730 20,360 16,920 14,140 11,850 8,290 6,870 5,630 3,580 2,710 1,930 1,200	104,820 96,280 79,560 57,990 44,660 35,620 29,070 24,100 20,210 17,080 14,500 12,340 10,500 8,920 7,540 6,320 5,240 4,280 3,400 2,600
220'*	34 35 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 220	83 81 79 76 77 68 65 55 62 56 55 62 55 65 55 62 55 62 55 62 55 62 55 62 55 62 55 62 55 62 55 62 55 62 55 62 55 62 54 62 54 62 54 62 54 62 54 62 54 62 54 62 54 62 54 62 54 62 54 62 54 62 54 62 55 55 55 55 55 55 55 55 55 55 55 55 55	85,200 81,790 67,790 49,440 37,950 30,060 24,320 19,950 16,510 13,730 11,440 9,510 7,870 6,460 5,220 4,130 3,170 2,300 1,520	100,060 95,950 79,210 57,620 44,280 28,670 28,670 23,700 19,800 16,670 14,090 16,670 14,090 11,930 10,090 8,500 7,130 5,920 4,840 3,880 3,000 2,220 1,200

Boom Langth	Radius in Feet	Angle	Sta Perman	Side Fromas Educated	Been	Radius I	Angle	Side Frames Reference	Side Promoted Extended	1	121	Angle	Side Fromes References
230'*	35 40 50 60 70 80 90	83 82 79 77 74 72 69	81,440 67,420 49,060 37,550 29,660 23,920 19,540	95,610 78,860 57,240 43,890 34,830 28,270 23,300	230'*	160 170 180 190 200 210 220	48 45 41 37 33 28 22	4,800 3,720 2,760 1,890 1,120	6,720 5,500 4,430 3,470 2,600 1,820 1,100	240'*	90 100 110 120 130 140 150	70 67 65 62 59 56 54	19,130 15,690 12,900 10,610 8,680 7,040 5,630
230	100 110 120 130 140 150	66 63 61 58 55 52	16,100 13,320 11,020 9,100 7,460 6,040	19,400 16,260 13,680 11,520 9,680 8,100	240'*	36 40 50 60 70 80	83 82 80 77 75 72	77,890 67,050 48,670 37,150 29,260 23,500	91,450 78,500 56,870 43,510 34,430 27,870		160 170 180 190 200 210	50 47 44 40 37 32	4,390 3,310 2,340 1,480

Load ratings do not exceed 75% of tipping with crane standing level on firm, uniformly supporting surface. Safe loads depend on ground conditions, boom length, radius of operation and proper handling, all of which must be taken into consideration of user. "Radius in feet" is the horizontal distance at crane base level from center pin to a vertical line through the center of gravity of the suspended load. Blocks, slings, buckets and other load-carrying devices are considered part of the load.

240 ft. Boom plus 20 ft. No. 9 jib 240 ft. Boom plus 30 ft. No. 9 jib 230 ft. Boom plus 40 ft. No. 9 jib 220 ft. Boom plus 50 ft. No. 9 Jih

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240 ft. Boom plus 20 ft. No. 15 jib 240 ft. Boom plus 30 ft. No. 15 jib 230 ft. Boom plus 40 ft. No. 15 jib Ratings indicated in *italic* represent boom positions which, without load, provide less than standard backward stability. Machine should be on firm level ground when working in these boom positions.

Ratings marked (*) require retractable A-frame in fully raised position. Crane, with side frames extended and G-D-E-F counterweight, will self erect 240 ft, main boom with hammerhead less jib or:

220 ft, Boom plus 50 ft, No, 15 jib 240 ft, Boom plus 40 ft, No, 9 HL jib 240 ft, Boom plus 50 ft, No, 9 HL jib 230 ft, Boom plus 60 ft, No. 9 HL jib 230 ft, Boom plus 70 ft, No. 9 HL jib 220 ft, Boom plus 80 ft, No. 9 HL jib

22,890 18,990 15,850 13,270 11,100 9,270 7,680 6,300 5,090 4,020 3,060 2,190 1,410

AMERICAN MODEL 9270 LIFTING CRANE RATINGS-TAPERED TIP

	hoom	Test	Beam Angle			Room	tedies .	Angle	and the second	and a second	14	Ladius A Feet	Angle	No.	1
100		21 25 30	81 78 76 70	178,070 138,700 108,330 88,610	194,000 164,250 126,430	130'	100 110 120	43 36 28 16	23,090 20,310 18,010 16,070	26,330 23,200 20,620 18,440*	160'	140 150 160	33 25 14	13,580 12,160 10,900	15,770 14,180 12,790
	100'	40 70 7 50 63 5 60 57 4 70 50 3 80 40 3 90 32 2 100 18 2	74,760 56,600 45,210 37,390 31,680 27,320 23,870	85,950 64,600 51,400 42,430 35,930 30,990 27,090*		27 30 35 40 50 60	7 81 123,870 146,000 80 107,370 125,600 5 78 87,590 101,570 0 76 73,710 84,980 0 71 55,510 63,580 0 67 44,100 50,350 1 40,000		32 35 40 50 60 70 80	81 80 78 75 71 68 64	97,770 86,800 72,890 54,650 43,230 35,390 29,680	114,120 100,850 84,220 62,770 49,510 40,510 33,990			
	110'	22 25 30 35 40 50 60 70	81 80 77 74 71 66 60 54	166,130 138,490 108,100 88,360 74,510 56,340 44,950 37,130	194,000 164,080 126,230 102,260 85,720 64,360 51,160 42,180	140'*	70 80 90 100 110 120 130 140	62 58 53 47 41 35 27 15	36,260 30,570 26,230 22,800 20,030 17,730 15,800 14,140	41,370 34,860 29,920 26,050 22,930 20,350 18,180 16,330	170'	90 100 110 120 130 140 150 160 170	60 56 52 47 43 37 32 24 14	25,330 21,900 19,130 16,840 14,920 13,280 11,860 10,620 9,520	29,030 25,170 22,050 19,480 17,320 15,480 13,900 12,510 11,280
		90 100 110	47 39 30 17	31,420 27,070 23,630 20,840	35,680 30,740 26,860 23,710*		29 30 35 40	81 80 78 77	112,140 107,130 87,330 73,440	131,550 125,380 101,330 84,730		33 35 40	81 80 79	93,580 86,540 72,620	109,110 100,610 83,970
	120'	24 25 30 35 40 50 60 70 80 90	81 80 78 76 73 68 63 57 51 45 38	146,440 138,270 107,860 88,110 74,250 56,070 44,670 36,850 31,150 26,800 23,370	174,280 163,900 126,020 102,030 85,480 64,100 50,900 41,920 35,410 30,480 26,400	150'*	50 60 70 80 90 100 110 120 130 140 150	73 69 64 50 51 46 40 34 26 15	55,230 43,820 35,990 22,500 19,730 17,440 15,520 13,870 12,430	63,310 50,080 41,080 34,570 29,640 25,760 22,640 20,060 17,900 16,060 14,460	180'	50 60 70 80 90 100 120 130 140	76 72 69 65 62 58 54 50 46 41 36	54,360 42,930 25,090 25,020 21,590 18,820 16,540 14,610 12,980 11,560	62,490 49,220 40,210 33,690 28,750 24,870 21,750 19,170 17,020 15,180 13,600
		110	29 17	20,580 18,270	28,800 23,470 20,870*		30	81 79	106,880 87,070	125,170 101,090		160 170 180	31 24 14	10,320 9,230 8,250	12,220 11,000 9,910
	130'	23 30 35 40 50 80 70 80 90	81 79 77 74 65 60 55 49	138,060 107,620 87,853 73,980 55,800 44,390 36,570 30,860 26,520	163,730 125,810 101,800 85,230 63,840 50,630 41,650 35,140 30,200	160'*	50 60 70 80 90 100 110 120 130	74 70 66 62 58 54 49 44 39	54,940 43,520 35,690 29,980 25,630 22,200 19,430 17,150 15,220	63,480 63,040 49,790 34,280 29,340 25,470 22,350 19,770 17,610	190''	33 40 50 60 70 80 90 100	81 79 76 73 70 67 63 60 56	86,270 72,340 54,070 42,630 34,780 29,060 24,710 21,280 18,510	100,370 83,710 62,210 48,940 39,920 33,390 28,450 24,570 21,440

Bosm Langth	Roffin	Boom Angle Degrees	Side Frames Lancada	a line	Boom	Redius in Feet	Angle	Side Fremos Barrachad	San	Ream	Rodius In Free	Angle	Side Fromas Refracted	Side Frames Extended	
190'*	120 130 140 150 160 170 180 190	53 49 45 40 35 30 23 13	16,230 14,300 12,670 11,250 10,020 8,930 7,960 7,080	18,870 16,710 14,880 13,300 11,920 10,700 9,620 8,650	230'*	90 100 110 120 130 140 150 160	68 66 63 60 57 54 51 48	23,460 20,020 17,250 14,960 13,040 11,400 9,990 8,760 8,760	27,220 23,330 20,200 17,620 15,470 13,630 12,050 10,670 6,470	260'*	170 180 190 200 210 220 230 240	51 48 45 41 38 34 30 25	6,710 5,751 4,890 4,120 3,430 2,790 2,210 1,680	8,510 7,440 6,480 5,630 4,850 4,140 3,500 2,900	1
	36 40 50 60 70 80	81 80 77 74 71 68	82,840 72,060 53,780 42,330 34,480 28,750 24,400	96,320 83,450 61,940 48,650 39,620 33,090 28,140		180 190 200 210 220 230	40 36 32 27 21 12	6,720 5,860 5,080 4,380 3,740 3,140	8,390 7,440 6,570 5,790 5,080 4,420		47 50 60 70 80 90	81 80 76 74 72	55,020 51,720 40,200 32,310 26,560 22,190	55,020 53,630 46,610 37,530 30,960 25,980	
200'*	100 110 120 130 140 150 160 170 180 190 200	62 58 55 51 48 44 39 34 29 22 13	20,970 18,200 15,910 13,990 12,350 10,940 9,710 8,620 7,660 6,790 6,000	24,260 21,130 18,560 16,400 14,570 12,990 11,610 10,400 9,320 8,360 7,480	240'* 43 81 64,390 74, 50 79 52,610 60, 60 77 41,120 47, 70 74 33,240 38, 80 72 27,510 31, 90 69 23,140 26, 100 67 19,700 23, 110 64 16,930 19, 120 61 14,640 17, 130 59 12,720 15, 140 56 11,080 13, 150 53 9,670 11	74,660 60,820 47,490 38,430 31,880 26,910 23,020 19,890 17,310 15,150 13,310	270'*	110 120 130 140 150 160 170 180 190 200 210	67 65 62 60 58 55 52 50 47 44 41	15,960 13,670 11,750 10,110 8,700 7,470 6,390 5,430 4,570 3,800 3,100 2,470	18,940 16,360 14,190 12,360 10,770 9,400 8,190 7,120 6,160 5,300 4,530				
210'*	38 40 50 60 70 80 90 100 110	81 80 78 75 72 69 66 63 60	76,830 71,780 53,490 42,030 34,170 28,440 24,090 20,660 17,880	89,210 83,200 61,660 48,360 39,330 32,790 27,840 23,950 20,820		160 170 180 200 210 220 230 240	50 47 43 40 36 31 26 20	8,440 7,360 6,400 5,540 4,770 4,070 3,430 2,840 2,290	10,360 9,150 8,080 7,120 6,260 5,480 4,770 4,120 3,520		230 240 49 50 60 70 80 90	37 34 30 81 81 79 77 74 72	1,890 1,360 50,190 49,550 39,900 32,000 26,240 21,870	3,180 2,590 50,190 49,550 43,940 37,230 30,650 25,670	
	120 130 140 150 160 170 180 190 200 210	57 53 50 46 42 38 34 28 22 13	15,600 13,680 12,040 9,400 8,310 7,350 6,490 5,700 4,990	18,250 16,090 14,260 12,680 11,300 10,090 9,020 8,060 7,190 6,390		44 50 60 70 80 90 100 110 120	81 80 77 75 73 70 68 65 63	62,150 52,310 40,810 32,930 27,190 22,820 19,380 16,610 14,320	67,240 60,540 47,190 38,130 31,570 26,600 22,710 19,570 16,990	280'*	100 110 120 130 140 150 160 170 180	70 68 66 63 61 59 56 54 51 49	18,420 15,640 13,350 11,420 9,780 8,370 7,140 6,060 5,100 4,240	21,770 18,620 16,040 13,870 12,030 10,450 9,070 7,870 6,790 5,840	
	39 40 50 60 70	81 81 78 76 73	73,950 71,500 53,190 41,720 33,860	85,850 82,940 61,380 48,070 39,030	250'*	130 140 150 160 170	60 57 55 52 49	12,390 10,760 9,350 8,120 7,040	14,830 13,000 11,410 10,040 8,830 7,740		200 210 220 230 240	46 43 40 37 33	3,470 2,780 2,140 1,570 1,030	4,980 4,200 3,500 2,860 2,270	
220'*	80 90 100 110 120 130 140	70 67 64 62 59 55 55 52	28,130 23,770 20,340 17,570 15,280 13,360 11,720	32,490 27,530 23,640 20,510 17,940 15,780 13,950		190 200 210 220 230 240	42 39 35 31 26 20	5,220 4,450 3,750 3,110 2,530 1,990	6,800 5,940 5,170 4,460 3,810 3,220		50 60 70 80 90 100	81 79 77 75 73 71	45,250 39,590 31,690 25,930 21,550 18,100	45,250 40,550 36,340 30,340 25,360 21,450	
	150 160 170 180 190 200 210 220	49 45 41 37 33 28 21 12	10,310 9,080 8,000 7,030 6,170 5,400 4,690 4,040	12,370 10,990 9,780 8,710 7,750 6,880 6,100 5,380	260'*	46 50 60 70 80 90	81 80 78 76 73 71 69	58,250 52,020 40,510 32,620 26,880 22,500 19,060	61,170 60,260 46,900 37,830 31,260 26,290 22,390	290'*	120 130 140 150 160 170 180	67 64 62 60 58 55 53	13,020 11,100 9,460 8,040 6,810 5,730 4,770	15,720 13,550 11,710 10,130 8,750 7,540 6,470	
	41 50 60 70 80	81 79 76 74 71	68,910 52,900 41,420 33,550 27,820	79,940 61,100 47,780 38,730 32,180		120 130 140 150	64 61 59 56 53	13,990 12,070 10,430 9,020 7,790	16,680 14,510 12,680 11,090 9,720		200 210 220 230 240	50 48 45 42 39 36	3,920 3,150 2,450 1,820 1,240	5,510 4,660 3,880 3,180 2,540 1,950	

WS3-IAFEKED IIF (CONTINUED) AMERICAN MUVEL

Load ratings do not exceed 75% of tipping with crane standing level on uni-formly supporting surface. Safe loads depend on ground conditions, boom length, radius of operation and proper handling, all of which must be taken into consideration of user. "Radius in fert" is the horizontal distance at crane base level from center pin to a vertical line through the center of gravity of the suspended load. Blocks, slings, buckets and other load-carrying devices are considered part of the load.

Ratings indicated in italic represent boom positions which without load, provide

280 ft. Boom plus 20 ft. No. 9 Jib 280 ft. Boom plus 30 ft. No. 9 Jib 270 ft. Boom plus 40 ft. No. 9 Jib 270 ft. Boom plus 50 ft. No. 9 Jib

280 ft. Boom plus 20 ft. No. 15 Jih 280 ft. Boom plus 30 ft. No. 15 Jib 270 ft. Boom plus 40 ft. No. 15 Jib

less than standard backward stability. Machine should be on firm level ground when working in these boom positions.

Hanger block is required for ratings over \$5,000 lbs, Deduct 800 lbs, from above ratings when hanger block is in place.

Ratings marked (*) require retractable A-frame in fully raised position.

Crane, with side frames extended and G-D-E-F counterweight, will self-erect 290 ft. main boom with tapered tip less jib, or:

270 ft, Boom plus 50 ft, No. 15 Jib 290 ft, Boom plus 40 ft, No. 9HL Jib 280 ft, Boom plus 50 ft, No. 9HL Jib

280 ft. Boom plus 60 ft. No. 9HL Jib 270 ft. Boom plus 70 ft. No. 9HL Jib 270 ft. Boom plus 80 ft. No. 9HL Jib

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JID KAIINGS

JIB OFFSET "A"

MAXIMUM JIB RATING IN POUNDS

NO. 9 JIB RATINGS											
0 to 6 ft 9 ft 12 ft 15 ft 18 ft	20 ft. Jib 18,000 18,000 18,000	30 ft. Jib 18,000 17,300 15,300 13,500	40 ft. Jib 14,500 14,100 12,400 10,750 10,000	50 ft. Jib 10,500 10,250 10,000 8,800 8,150							
21 ft. Effective Jib Weight at	-	-		7,750							
Boom Point	1,550	2,100	2,800	3,600							

No. 9 Jih ratings are hated on 100 ft, minimum boom length with tubular chord boom with hammerhead and 130 ft, minimum boom length with tubular chord boom with tapered tip.

NO. 15 JIB RATINGS										
0 to 6 ft. 9 ft. 12 ft. 15 ft. 18 ft. 21 ft. Effective Jib Weight at	20 fr. Jib 30,000 30,000 	30 ft. Jib 30,000 28,250 23,400 18,500 	40 ft. Jib 21,000 21,000 17,500 15,000 13,250	50 ft. Jib 16,500 16,500 14,000 12,000 11,000 10,000						

No. 15 jib ratings are based on 120 ft, minimum boom length with tubular chord boom with hammerhead and 150 ft, minimum boom length with tubular chord boom with tapered tip.

NO. 9HL JIB RATINGS										
0 to 8 ft. 12 ft. 16 ft. 20 ft. 24 ft. 28 ft. 32 ft. Effective Jib Weight at Boom Point	40 ft. Jib 19,000 16,600 14,400 12,000 1,850	50 ft. Jib 17,000 14,800 12,800 11,000 2,350	60 ft. Jib 14,500 12,600 11,600 10,300 9,000 8,000 2,750	70 ft. Jib 12,500 11,300 10,100 9,000 8,000 7,000 	80 ft. Jib 10,500 9,600 8,600 8,000 7,000 6,200 5,400 4,300					

No. 9HL Jib ratings are based on 160 ft, minimum boom length with tubular shord boom with tapered tip or hammerhead.



Jib ratings are based on the minimum boom length specified above. For ratings on shorter booms consult factory. The jib load rating is the lesser of: (a) the maximum jib rating, or (b) the main boom rating at the jib working radius, reduced by the effective jib weight and by the weight of all suspended loadcarrying devices. The main boom rating with jib in place must be reduced by the effective jib weight, the weight of main fall blocks and slings, and twice the weight of jib tackle.



GENERAL DIMENSIONS

Α		Width of Cab
AL	-	Width over Counterweight
B	_	Height Over Cab
C	-	Tailswing
D		Center of Pivot to Center of Boom Foot
E	_	Ground to Center Boom Foot
Ē	_	Height Over A-Frame, Lowered
F ₁	_	Height Over A-Frame, Raised 24' 614"
G	_	Ground to Bottom of Counterweight 4' 436"
н		Minimum Ground Clearance Under
÷		Crawler Base
	-	Crawler Bearing Length
1	-	Center to Center Crawler Tumblers 19' 8"
ĸ	-	Overall Length of Crawlers
м	-	Width of Tread Shoes (Standard)44"
M_1	-	Width of Tread Shoes (Optional)
M_2	-	Width of Tread Shoes (Optional)50"
N	-	Overall Width Over Crawlers
		Overall Width Over Crawlers
		Overall Width Over Crawlers
Nı	-	Overall Width Over Crawlers
		Overall Width Over Crawlers Retracted (with 44" shoes)
		Overall Width Over Crawlers
		, , , , , , , , , , , , , , , , , , , ,

MODEL 72/0 GENERAL SPECIFICATIONS

UPPER MACHINERY

STANDARD ENGINE:

CUMMINS MODEL NT-855-P-310 diesel engine with three stage torque converter; six cylinder, 5½" bore, 6" stroke, 855 cu in. displacement, rated 289 hp @ 2100 rpm converter input; 24 volt electric starting; battery charging alternator, variable speed engine and torque converter governor; glow plug starting; heavy duty dry type air cleaner.

ALTERNATE ENGINES RECOMMENDED FOR EXCA-VATOR OR LIFT CRANE SERVICE.

Alternate Engines with Single Stage Torque Converter: (Delete Controlled Load Lowering)

CUMMINS Model NT-855-P-310 diesel engine with single stage torque converter; six cylinder, 51/2" bore, 6" stroke, 855 cu in. displacement, rated 289 hp @ 2100 rpm converter input; 24 volt electric starting; battery charging alternator; variable speed engine and torque converter governor; glow plug starting; heavy duty dry type air cleaner.

CATERPILLAR Model D-343-A diesel engine with single stage torque converter; six cylinder, turbo-charged, 5.4" bore, 6.5" stroke, 893 cu in. displacement; rated 305 hp @ 2050 rpm converter input; 24 volt electric starting; battery charging generator; variable speed engine and torque converter governor; heavy duty dry type air cleaner.

Alternate Engines with Three Stage Torque Converter:

CATERPILLAR Model D-343-A diesel engine with three stage torque converter; six cylinder, turbo-charged 5.4" bore, 6.5" stroke, 893 cu in. displacement; rated 289 hp @ 2000 rpm converter input; 24 volt electric starting; battery charging generator; variable speed engine and torque converter governor; heavy duty dry type air cleaner.

GENERAL MOTORS Model 12V-71 diesel engine with three stage torque converter; twelve cylinder, 4¼4" bore, 5" stroke, 852 cu in. displacement, two valve; two cycle; rated 310 hp @ 2000 rpm converter input; 24 volt electric starting; battery charging alternator; variable speed engine and torque converter governor; ether starting kit; heavy duty dry type air cleaner.

ALTERNATE ENGINE RECOMMENDED FOR LIFT CRANE SERVICE ONLY.

GENERAL MOTORS Model 8V-71-N diesel engine with three stage torque converter; eight cylinder, 4¼4" bore, 5" stroke, 568 cu in. displacement; four valve; two cycle; rated 284 hp @ 2100 rpm converter input; 24 volt electric starting; battery charging alternator; variable speed engine and torque converter governor; ether starting kit; heavy duty dry type air cleaner.

ALTERNATE ELECTRIC POWER:

(Delete Controlled Load Lowering)

150 hp, 220/440 volt, 3-phase, 60 cycle, 1800 rpm, open, squirrel cage electric motor with control equipment (across-the-line start); connection for outside power supply; collector rings at center pin.

FUEL TANK: 190 gallon capacity.

POWER TRANSMISSION: Multiple roller chain transmits power from engine to operating machinery; completely enclosed, running in oil for long trouble-free service. COUNTERWEIGHT: "G-D-E-F," 96,000 lbs made up of basic hollow casting with inserts and overlays; securely bolted to machinery base; reduced for duty cycle service (drag, clam, grapple, hoe, magnet) to 59,000 lbs by removal of D₂, E₁ and E₂ overlays and F counterweight insert.

ROTATING MACHINERY BASE: Tapered deep girder construction extending straight through from boom foot to engine base and counterweight support; boom foot, shaft pillow blocks, A-frame and counterweight connections fall directly over girder for utmost simplicity and strength; girders wide spaced for wide boom foot and wide drum laggings; electric welded steel plate construction with bored and drilled holes located by jigs and fixtures to insure proper alignment.

LOAD AND HOOK ROLLERS: Large tapered load rollers transmit downward loads to machined upper roller path on carbody; tapered hook rollers transmit uplift loads to lower roller path on carbody; two sets double equalizing load rollers and two sets double equalizing hook rollers in front; two sets double equalizing hook rollers and two single load rollers in rear; rollers mounted on anti-friction bearings; adjustment for wear by means of eccentric hook roller axle.

DRIVE SHAFT ASSEMBLY: Independent primary drive shaft consists of forged alloy steel shaft with integral cut steel pinion; ductile iron roller chain sprocket with steel hub insert splined to shaft; shaft mounted in pressure grease lubricated anti-friction bearings. This shaft assembly has a single purpose of speed reduction and is not compromised by mounting clutches for other functions.

TRAVEL/SWING ASSEMBLY: Main clutch shaft is heattreated alloy steel mounted in anti-friction bearings and splined to clutch spiders and cut tooth driving spur gear; bevel pinions are cut tooth hardened alloy steel, oil lubricated; bevel pinions on anti-friction bearings mounted in case; air controlled, tandem band, internal reversing clutches have extra thick moulded liners for long service life and stable operation; smooth operation for swing and travel assured by high responsive variable pressure air control. Vertical swing shaft is heat-treated alloy steel, mounted on bronze bushings in machinery base cover casting and gear case lower casting; swing pinion is cut tooth alloy steel, accurately matched with revolving bullgear; alloy cast iron brake wheel and cast steel jaw clutch are mounted on accurately cut splines; horizontal cut tooth spur gear is bronze bushed, running in oil; air controlled shifter for swing-travel jaw clutches. Vertical reverse shaft is heat-treated alloy steel, pressed into main swing clutch housing with lower end supported by bore in machinery base; hardened alloy steel integral cut tooth bevel gear and spur pinion is mounted on tapered roller bearings and running in oil; design insures permanent accurate alignment of mating bevel and spur gears; easily removed as a unit with main swing clutch shaft assembly.

INDEPENDENT SWING - AIR CONTROLLED

FOR ERECTION CRANE SERVICE ONLY:

Smaller, moderate speed, internal air controlled tandem band clutches; all gears mounted in anti-friction bearings and running in oil; independent swing clutches connected to swing gearing at all times; main swing clutches may be used for independent travel when this arrangement is provided or may also be used for heavy duty swinging by operation of swing-travel shifter; foot operated contracting band swing brake on independent swing clutch ring.

INDEPENDENT SWING - HYDROSTATIC: (Optional)

Variable displacement hydraulic swing motor supplied with constantly available high pressure oil by hydraulic accumulator system; swing torque control in direct relation to swing lever; completely independent of other operations and engine speed; no slippage, hence no heat loss; plugging energy is stored in accumulator and used for accelerating in next cycle; as accumulator system stores swinging energy only a small pump is required; leaving more horsepower available for hoisting operation; hydraulic motor is flange-mounted at top of an inclined drive structure housing a double cut spur reduction and external air-controlled swing brake; ties into same lower bevel gear set as air-controlled independent swing; hydraulic motor is servocontrolled and feel of the load is built in through springs in control linkage.

MAIN DRUM ASSEMBLY: Twin alloy cast iron drums with integral brake and clutch surfaces, drums mounted in anti-friction bearings; drums skeleton type with split cast steel laggings bolted in place; alloy steel drum shaft mounted in anti-friction bearings in machinery base; clutch spiders and spur gear splined to drum shaft; air controlled clutches with tandem internal expanding bands with thick moulded liners; smooth operation assured by high responsive variable pressure air controls; large external contracting band drum brakes with extra thick moulded liners; raised cooling flange on brake drum for efficient, even dissipation of heat; brake foot pedal operated from operator's position; fully compensated air booster cylinder begins to energize at moderate brake pedal force to reduce effort without affecting the sensitive feel required for slipping loads; brake shafts and pins mounted on anti-friction bearings for responsive operation with minimum effort; brake and clutch surfaces stress relieved for smooth operation without scoring.

CONTROLLED LOAD LOWERING: Available for either or both main drums; drum is roller chain driven from clutch shaft forward of and below main drums; air operated internal expanding tandem band clutches controlled by forward motion of drum clutch lever; clutches and clutch shaft mounted on anti-friction bearings; in combination with three-stage torque converter permits lowering loads continuously under full control by engine throttle; can be used in combination with third drum with all controls completely independent whether one or both drums are equipped with load lowering. Controlled load lowering for one drum included as standard equipment; optional on second drum.

THIRD DRUM: (Optional) Mounted on dead shaft at shovel boom foot location forward of cab; roller chain driven from clutch shaft forward of and below main drum shaft; air operated internal expanding tandem band clutch and manual contracting band brake; clutch and clutch shaft mounted in anti-friction bearings; involute splines; may be used in combination with controlled load lowering with controls completely independent.

TUBULAR CHORD CRANE BOOM: Lightweight, pin-connected, deep section crane boom with chords of tubular T-1 steel and with tubular lattice; boom is 77" cross section and can be extended to 290 feet; the basic inner section is 30 ft long; a 40 ft long tapered intermediate section can be fitted either with a five sheave pin-connected hammerhead or with a 30 ft two sheave pin-connected outer section; the hammerhead is for heavy lifts; the tapered outer section is for long boom operations and has a second sheave for an auxiliary load line or for clamshell service; tapered tip is closed throat design; a hanger block is included for multiple reeving of the load line with the tapered tip; center sections are available in 20 ft and 50 ft lengths, pinconnected; boom sections have built-in camber and belly lines are not required for long booms; boom suspension arrangement consists of two double 1 1/6 " diameter pendant suspension cables extending from the outer bail to the boom point with thirteen part boom hoist line; pendants are added or removed for boom length changes; boom lengths of 250 ft or more require not less than three 50 ft center sections.

JIBS: Three different jibs are offered for single load line operation; the No. 9 and No. 15 jibs are basic 20 ft, two piece alloy steel chord angle construction with tubular lattice; both can be extended to 50 ft maximum length with the addition of 10 ft inserts; the lightweight No. 9HL jib is constructed with T-1 tubular chords and tubular lattice; basic length is 40 ft two piece which can be extended to 80 ft with the addition of 10 ft and 20 ft inserts.

SAFETY BOOM STOPS: Telescoping pipe safety boom stops for any length boom prevent overhoisting and backward boom motion due to failure of hoisting line or hoisting tackle; standard on all machines.

BOOM HOIST SAFETY SHUT OFF: Prevents the operator from over hoisting the boom; located at the bottom of boom and actuated when the boom reaches a predetermined angle; when actuated this valve cuts off air supply to boom hoist clutch and sets the boom hoist brake.

RETRACTABLE A-FRAME: Is raised or lowered by means of bail rigging with no special equipment required; standard on all machines, the counterweight is easily removed without outside assistance.

INDEPENDENT BOOM HOIST: Cast steel drum and integral cut steel spur gear operate on bronze bushings; boom hoist drum shaft is high carbon steel, mounted in bored holes in machinery base; single boom hoist drum with spring set, air released locking pawl provided to hold boom during operation or when machine is standing idle; integral cut tooth spur gear and clutch ring are mounted on anti-friction bearings on clutch shaft; shaft is high carbon steel and operates in bronze bushings pressed into machinery deck; clutch spider and pinion splined to clutch shaft. Boom hoist clutch is air controlled, internal expanding band; alloy cast iron brake wheel is keyed to shaft to facilitate removal; brake is spring set and air released with single valve control for both hoisting and lowering.

CONTROLLED BOOM LOWERING: Boom lowering speed limited by speed of engine; rapid, safe boom handling; slower boom lowering by reduced engine speed; overrunning sprag clutch mechanism mounted on independent shaft engages positively and smoothly; disconnect provided for reversed gear operations; shifter interlocked with boom brake to prevent "live boom."

CAB: Fully enclosed with glazed doors and windows; all safety glass windows mounted in rubber; removable windows in operator's cab; operator's compartment totally enclosed, shielding him from engine and machinery noise; door at rear of operator's compartment provides direct access to machinery; sliding doors on sides and rear; hinged door on operator's cab roof for vision; ladder to roof at left front; running boards standard; elevated operator's cab optional.

LOWER MACHINERY

CARBODY: Heavy duty cast alloy steel carbody of deep box construction; through-bored for accurate alignment of crawler axles and horizontal travel shaft; alloy cast steel bullgear and roller path welded to machined top of carbody; double tapered roller path is accurately machined to roller contour.

CENTER PIVOT TUBE: Cast steel center pivot tube integral with carbody; pressure lubricated bronze pivot bushings in rotating machinery base; horizontal load only --- no uplift. TRAVEL AND STEERING: Three section horizontal travel shaft for easy assembly and removal; bevel gearing and sliding jaw clutches fully enclosed and running in oil; single lever air control provides engaged, neutral and locked position of each multiple jaw clutch permitting straight ahead, long radius and short radius turns; interlock keeps one clutch engaged at all times eliminating danger of machine running away on a grade.

TRAVEL LOCK: Ratchet arrangement, air controlled from operator's position; permits travel in one direction while preventing movement in opposite direction; lock may also be set to prevent travel in either direction.

CRAWLER SIDE FRAMES: Cast steel tumbler yokes and axle sleeves electrically welded to rolled steel shapes form rigid crawler side frames; axle sleeves accurately bored for mounting to crawler axle.

CRAWLER ROLLERS: Large hardened cast steel crawler rollers mounted on heavy bronze bushings; spaced close together to prevent any possibility of tread shoes buckling up between rollers; axles drilled for pressure grease lubrication.

CRAWLER SHOES: Heavy, double wall, box section alloy steel castings for maximum strength and long wear; selfcleaning design prevents shoe breakage; 45 shoes on each side frame: 44" width standard; 38" or 50" width optional; through hardened pins, loaded in multiple shear.

CRAWLER DRIVE: Heavy cast steel drive tumblers, splined to drive sprocket axles; self-cleaning design; self-cleaning idler tumblers bronze bushed with pressure grease lubrication; stationary shafts mounted in side frames; alloy steel drive sprocket axles, splined to drive tumblers and sprockets; axles mounted in pressure grease lubricated bronze bushings; crawler chain is heavy alloy roller chain; cast steel self-cleaning sprockets, mounted outside crawler side frames for easy maintenance; unnecessary to brake chain when removing side frames.

CRAWLER DRIVE ADJUSTMENT: Drive chain and crawler shoe adjustment by means of hydraulic jack; rigid holding and positioning by shims; motion and wear between sprocket and crawler side frame eliminated; positive alignment of sprockets; hydraulic jack carried in tool box.

CRAWLER WIDTH ADJUSTMENT: Removable cast steel jaw clutch torque tubes are furnished between the carbody and side frames; in retracted position the side frame jaw clutch directly engages the jaw clutch at side of carbody; machine can be operated in narrow position under restricted conditions or in extended position with full crane ratings.

GENERAL

CONTROLS: Graduated air controls, pioneered by AMERI-CAN, put "feel" at every operator's finger-tips, insure higher production, more accurate control; air line alcohol dispenser, to absorb excess moisture in air system due to condensation.

MATERIALS: Gear and pinions are heat-treated alloy or high carbon steel; cut teeth on all gears except rotating ring gear which has accurately moulded teeth.

Involute splines are used throughout machine for maximum tooth strength through minimum diameter where needed; self centering; equalized bearing and stresses among all teeth; smooth tooth surface; easy interchangeability of parts.

Anti-friction bearings are used on all main or high speed shafts and wherever practical to provide friction-free, smooth operation with minimum maintenance.

LUBRICATION: All anti-friction bearings and bronze bushings requiring short period lubrication are provided with pressure grease fittings; swing deck gears are provided with oil bath lubrication; drum gear train and the swing bullgear are arranged for grease lubrication.

ATTACHMENTS: Attachments for duty cycle work in combination with lift crane service are available for 9270. Counterweight must he reduced to 59,000 lbs.

Dragline attachment includes full revolving fairlead, dirtguard under dragline drum, drum lagging, 114" hoist line and 13%" dragline.

Clamshell attachment for clam or grapple work includes Rud-O-Matic tagline winder mounted in boom, drum lagging, 11/6" holding line and 11/6" closing line.

PERFORMANCE

Rated Travel Speed:	0.8	MPH
Rated Swing Speed:	2.28	RPM
Single Line Speed:		
Crane-Clam Hoist	165	FPM
Magnet, Drag Hoist	200	FPM
Drag Pull-In	145	FPM
Third Drum	192	FPM
OR	142	FPM
Line Pull:		
Crane-Clam Hoist 40,000	LBS	S SLP
Magnet, Drag Hoist 33,000	LBS	S SLP
Drag Pull-In 45,000	LBS	S SLP
Third Drum 15,000	LBS	S SLP
OR 21,000	LBS	S SLP
Weight: Basic 9270 Lift Crane (70 FT Boom With Hammerhead)	9,600) LBS
Ground Pressure 13	5 PS	1
Components removable for shipment:		
Counterweight 9	6,000	LBS
Crane block	3,025	5 LBS
Hammerhead	4,600	LBS
Boom outer	2,325	LBS
Boom inner	4,000	LBS
Telescopic boom stops	300	LBS
Outer bail assembly	2,450	LBS
A-frame	3,900	LBS
Side frames (2)	3 761	The

Counterweight	96,000	LBS
Crane block	3,025	LBS
Hammerhead	4,600	LBS
Boom outer	2,325	LBS
Boom inner	4,000	LBS
Telescopic boom stops	300	LBS
Outer bail assembly	2,450	LBS
A-frame	3,900	LBS
Side frames (2)	63,760	LBS
Crawler axles (4)	11,680	LBS
Torque tubes (2)	920	LBS
Carbody	24,200	LBS

NOTE: In accordance with varying material situations and the Company's policy of constant product improvement these specifications subject to change without notice and without incurring responsibility to units previously sold.

MUDEL 74/ U	DUII VILLE	COMINAN	AAIIL D.	7,UUU LI	D. COUNTER WEIGHT
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Beem Length	Radius in Feet	Beom Angle Degrees	Lifting Crane Rating	Clamshell & Magnet Rating	Dragline Rating
	21	81	168,270	28,000	27,000
100'	25	78	128,320	28,000	27,000
	30	76	98,580	28,000	27,000
	35	73	79,740	28,000	27,000
	40	70	66,730	28,000	27,000
	50	63	49,930	28,000	27,000
	60	57	39,540	28,000	27,000
	70	50	32,480	28,000	27,000
	80	41	27,350	24,620	27,000
	90	32	23,450	21,110	23,450
	100	18	20,370	18,330	20,370
110'	23	81	145,530	28,000	27,000
	25	80	128,150	28,000	27,000
	30	77	98,380	28,000	27,000
	35	74	79,520	28,000	27,000
	40	71	66,500	28,000	27,000
	50	66	49,690	28,000	27,000
	60	60	39,290	28,000	27,000
	70	54	32,220	28,000	27,000
	80	47	27,100	24,390	27,000
	90	39	23,200	20,880	23,200
	100	30	20,140	18,130	20,140
	110	17	17,650	15,890	17,650
	24	81	136,140	28,000	27,000
	25	80	127,980	28,000	27,000
120'	30	78	98,170	28,000	27,000
	35	76	79,290	28,000	27,000
	40	73	66,260	28,000	27,00
	50	68	49,440	28,000	27,00
	60	63	39,030	28,000	27,00
	70	57	31,960	28,000	27,00
	80	51	26,830	23,740	26,83
	90	45	22,940	20,650	22,94
	100	38	19,880	17,890	19,88
	110	29	17,410	15,670	17,41
	120	17	15,350	13,820	15,35
Lateration	26	81	120,530	28,000	
130'	30	79	97,960	28,000	
	35	77	79,060	28,000	

	40 50 60	74 70	66,020		
	50 60	70		28,000	
	60		49,170	28,000	
- 1	70	65	38,770	28,000	
	/0	60	31,690	28,000	
130′	80	55	26,560	23,900	
	90	49	22,670	20,400	
	100	43	19,610	17,650	
	110	36	17,140	15,430	
	120	28	15,100	13,590	
	130	16	13,370	12,030	
	27	81	113,810	28,000	
	30	80	97,750	28,000	
	35	78	78,830	28,000	
140'*	40	76	65,770	28,000	
	50	71	48,910	28,000	
	60	67	38,490	28,000	
	70	62	31,410	28,000	
	80	58	26,280	23,650	
	90	53	22,390	20,150	
	100	47	19,330	17,400	
	110	41	16,860	15,140	
	120	35	14,830	13,350	
	130	27	13,110	11,800	
	140	15	11,640	10,480	
150'*	29	81	102.390		
	30	80	97.530		
	35	78	78,590		
	40	77	65.520		
	50	73	48,640		
	60	69	38,210	-	
	70	64	31,130		
	80	60	25,990		
	90	56	22,100		
	100	51	19.040		
	110	46	16,580		
	120	40	14,540		
	130	34	12,830		
	140	26	11,370		
	150	15	10,100		

Rating marked (*) require retractable A-Frame in fully raised position,

Crane ratings do not exceed 75% of tipping load with side frames extended.

Maximum recommended dragline boom length is 100 ft. For duty cycle service (dragline, clamshell, grapple, backhoe, magnet, etc.) counterweight must be reduced to 59,000 lb, by removing D₃, E₁ and E₂ overlays and F counterweight insert.