

# AMERICAN



American 599C

## LIFT RATINGS

With 46S Angle Chord Boom and "D-E-F" Counterweight (20,400 Lbs.)

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
40 feet	10	80.9	80000	80000	45	6
	12	77.9	62790	80000	44	6
	15	73.5	44480	61280	44	5
	20	65.9	29580	38980	42	3
	25	57.7	21910	28290	39	2
	30	48.8	17220	22010	35	2
	35	38.4	14060	17880	30	2
50 feet	40	24.7	11780	14950	22	2
	12	80.4	62740	80000	54	6
	15	76.9	44390	61240	54	5
	20	70.9	29460	38890	52	3
	25	64.7	21770	28180	50	2
	30	58.2	17080	21890	48	2
	35	51.2	13910	17740	44	2
60 feet	40	43.4	11630	14810	39	2
	50	22.0	8550	10920	24	1
	14	80.1	49170	68970	64	5
	15	79.1	44310	61220	64	5
	20	74.2	29370	38830	63	3
	25	69.2	21660	28090	61	2
	30	63.9	16960	21790	59	2
70 feet	35	58.5	13800	17640	56	2
	40	52.7	11510	14700	53	2
	50	39.4	8440	10810	43	1
	60	20.1	6460	8340	26	1
	15	80.7	44170	61130	74	5
	20	76.5	29200	38700	73	3
	25	72.2	21490	27940	72	2
80 feet	30	67.9	16790	21630	70	2
	35	63.4	13620	17480	68	2
	40	58.7	11330	14530	65	2
	50	48.5	8260	10640	58	1
	60	36.4	6280	8170	47	1
	70	18.6	4900	6460	27	1
	90 feet	17	80.4	36620	49640	84
20		78.2	29050	38570	83	3
25		74.5	21330	27800	82	2
30		70.8	16620	21470	81	2
35		66.9	13440	17310	79	2
40		63.0	11160	14370	76	1
50		54.6	8080	10470	70	1
90 feet	60	45.2	6110	8000	62	1
	70	34.0	4730	6300	50	1
	80	17.4	3700	5040	29	1
	18	80.8	33550	45210	94	4
	20	79.5	28870	38420	94	3
	25	76.3	21140	27630	93	2
	30	73.0	16420	21300	91	2
90 feet	35	69.6	13250	17130	90	2
	40	66.2	10960	14180	87	1
	50	59.0	7880	10280	82	1
	60	51.2	5910	7810	75	1
	70	42.5	4530	6110	66	1
	80	32.0	3510	4850	53	1
	90	16.4	2720	3890	31	1

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line	
100 feet	20	80.6	28720	38290	104	3	
	25	77.7	20980	27490	103	2	
	30	74.7	16260	21150	102	2	
	35	71.7	13080	16970	100	2	
	40	68.7	10790	14020	98	1	
	50	62.4	7710	10110	94	1	
	60	55.7	5740	7640	88	1	
	70	48.4	4360	5940	80	1	
	80	40.2	3340	4690	70	1	
	90	30.3	2560	3730	56	1	
110 feet	100	15.5	1930	2970	32	1	
	21	80.9	26620	35410	114	3	
	25	78.8	20790	27320	113	2	
	30	76.1	16060	20970	112	2	
	35	73.4	12880	16790	111	2	
	40	70.7	10590	13830	109	1	
	50	65.1	7510	9920	105	1	
	60	59.2	5530	7450	100	1	
	70	52.9	4150	5740	93	1	
	80	46.0	3140	4490	84	1	
120 feet	90	38.3	2350	3530	73	1	
	100	28.8	1730	2770	58	1	
	110	14.8	1220	2150	33	1	
	23	80.7	23210	30730	124	3	
	25	79.7	20610	27150	123	2	
	30	77.3	15870	20790	122	2	
	35	74.9	12690	16610	121	2	
	40	72.4	10390	13650	120	1	
	50	67.3	7310	9730	116	1	
	60	62.0	5330	7250	111	1	
130 feet	70	56.4	3950	5550	105	1	
	80	50.5	2940	4300	98	1	
	90	44.0	2160	3340	88	1	
	100	36.6	1530	2580	77	1	
	110	27.6	1030	1970	61	1	
	120	14.2	-	1370	35	1	
	140 feet	24	81.0	21650	28680	134	2
		25	80.5	20410	26980	133	2
		30	78.3	15680	20610	132	2
		35	76.0	12480	16420	131	2
40		73.8	10190	13450	130	1	
50		69.1	7100	9530	127	1	
60		64.3	5120	7050	122	1	
70		59.3	3740	5340	117	1	
80		54.0	2730	4090	110	1	
90		48.4	1950	3130	102	1	
140 feet	100	42.2	1320	2380	92	1	
	110	35.1	-	1710	80	1	
	26	80.8	19110	25290	143	2	
	30	79.1	15500	20440	143	2	
	35	77.1	12300	16240	142	2	
	40	74.9	10000	13270	140	1	
	50	70.7	6910	9360	137	1	
	60	66.3	4930	6870	133	1	
	70	61.7	3550	5150	128	1	
	80	56.9	2540	3900	122	1	
140 feet	90	51.9	1760	2950	115	1	
	100	46.5	1130	2190	107	1	
	110	40.6	-	1470	96	1	

(Continued)

# LIFT RATINGS (cont.)

With 46S Angle Chord Boom and "D-E-F" Counterweight (20,400 Lbs.)

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
150 feet	28	80.7	16950	22470	153	2
	30	79.9	15300	20260	153	2
	35	77.9	12100	16060	152	2
	40	76.0	9800	13080	151	1
	50	72.0	6700	9150	148	1

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Ft. From Boom Point	Min. Load Line
150 feet cont.	60	67.9	4720	6660	144	1
	70	63.7	3340	4950	140	1
	80	59.4	2320	3700	134	1
	90	54.9	1540	2740	128	1
	100	50.0	-	1930	120	1

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# DUTY CYCLE RATINGS

With 46S Angle Chord Boom and "D" Counterweight (15,600 Lbs.)

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Duty Cycle Rating			Ft. From Boom Point
					Clamshell	Dragline	Magnet	
40 feet	10	80.9	76940	80000	14000	12000	11700	45
	12	77.9	56210	80000	14000	12000	11700	44
	15	73.5	39750	55290	14000	12000	11700	44
	20	65.9	26370	35100	14000	12000	11700	42
	25	57.7	19470	25420	14000	12000	11700	39
	30	48.8	15260	19730	14000	12000	11700	35
	35	38.4	12420	15990	14000	12000	11700	30
	40	24.7	10370	13330	11870	12000	11700	22
50 feet	12	80.4	56160	80000	14000	12000	11700	54
	15	76.9	39660	55260	14000	12000	11700	54
	20	70.9	26250	35010	14000	12000	11700	52
	25	64.7	19340	25310	14000	12000	11700	50
	30	58.2	15120	19610	14000	12000	11700	48
	35	51.2	12270	15860	14000	12000	11700	44
	40	43.4	10220	13200	11750	12000	11700	39
	45	34.2	8670	11210	9980	11210	9980	33
50	22.0	7460	9670	8610	9670	8610	24	
60 feet	14	80.1	43950	62250	14000	12000	11700	64
	15	79.1	39590	55230	14000	12000	11700	64
	20	74.2	26160	34950	14000	12000	11700	63
	25	69.2	19230	25220	14000	12000	11700	61
	30	63.9	15010	19510	14000	12000	11700	59
	35	58.5	12160	15760	14000	12000	11700	56
	40	52.7	10110	13090	11660	12000	11660	53
	45	46.4	8560	11110	9890	11110	9890	49
50	39.4	7340	9570	8520	9570	8520	43	
55	31.1	6370	8330	7420	8330	7420	36	
60	20.1	5560	7330	6520	7330	6520	26	
70 feet	15	80.7	39450	55140	14000	12000	11700	74
	20	76.5	25990	34820	14000	12000	11700	73
	25	72.2	19060	25070	14000	12000	11700	72
	30	67.9	14830	19350	14000	12000	11700	70
	35	63.4	11980	15590	13880	12000	11700	68
	40	58.7	9920	12920	11510	12000	11510	65
	45	53.8	8370	10930	9730	10930	9730	62
	50	48.5	7160	9390	8360	9390	8360	58
55	42.8	6180	8160	7270	8160	7270	53	
60	36.4	5380	7150	6370	7150	6370	47	
65	28.8	4710	6320	5620	6320	5620	39	
70	18.6	4130	5600	4990	5600	4990	27	
80 feet	17	80.4	32640	44720	14000	-	-	84
	20	78.2	25840	34690	14000	-	-	83
	25	74.5	18900	24930	14000	-	-	82
	30	70.8	14660	19200	14000	-	-	81
	35	66.9	11800	15430	13740	-	-	79
	40	63.0	9750	12760	11360	-	-	76
	45	58.9	8200	10770	9590	-	-	74
	50	54.6	6980	9220	8210	-	-	70
55	50.1	6010	7990	7120	-	-	66	
60	45.2	5210	6990	6220	-	-	62	
65	39.9	4530	6150	5470	-	-	56	
70	34.0	3960	5440	4840	-	-	41	
75	26.9	3470	4830	4300	-	-	41	
80	17.4	3040	4300	3830	-	-	29	

Boom Length (Feet)	Radius In Feet	Boom Angle Degrees	Side Frames Retracted	Side Frames Extended	Duty Cycle Ratings			Ft. From Boom Point
					Clamshell	Dragline	Magnet	
90 feet	18	80.8	29870	40700	14000	-	-	94
	20	79.5	25660	34540	14000	-	-	94
	25	76.3	18710	24760	14000	-	-	93
	30	73.0	14470	19020	14000	-	-	91
	35	69.6	11610	15250	13570	-	-	90
	40	66.2	9550	12570	11190	-	-	87
	45	62.6	8000	10580	9420	-	-	85
	50	59.0	6780	9030	8040	-	-	82
	55	55.2	5810	7800	6950	-	-	79
	60	51.2	5010	6790	6050	-	-	75
	65	47.0	4340	5960	5300	-	-	71
	70	42.5	3770	5250	4670	-	-	66
75	37.5	3270	4640	4130	-	-	60	
80	32.0	2850	4110	3660	-	-	53	
85	25.3	2470	3650	3250	-	-	44	
90	16.4	2130	3240	2880	-	-	31	
100 feet	20	80.6	25510	34410	14000	-	-	104
	25	77.7	18550	24620	14000	-	-	103
	30	74.7	14300	18870	14000	-	-	102
	35	71.7	11440	15090	13430	-	-	100
	40	68.7	9380	12410	11050	-	-	98
	45	65.6	7830	10410	9270	-	-	96
	50	62.4	6610	8870	7900	-	-	94
	55	59.1	5640	7630	6800	-	-	91
	60	55.7	4830	6630	5900	-	-	88
	65	52.2	4160	5790	5150	-	-	84
	70	48.4	3590	5080	4520	-	-	80
	75	44.5	3100	4470	3980	-	-	75
80	40.2	2680	3950	3510	-	-	70	
85	35.6	2300	3480	3100	-	-	63	
90	30.3	1970	3080	2740	-	-	56	
95	24.0	1670	2710	2410	-	-	46	
100	15.5	1400	2380	2120	-	-	32	
110 feet	21	80.9	23600	31780	14000	-	-	114
	25	78.8	18360	24450	14000	-	-	113
	30	76.1	14110	18690	14000	-	-	112
	35	73.4	11240	14900	13270	-	-	111
	40	70.7	9180	12220	10880	-	-	109
	45	67.9	7620	10220	9100	-	-	107
	50	65.1	6410	8670	7720	-	-	105
	55	62.2	5430	7440	6620	-	-	102
	60	59.2	4630	6430	5720	-	-	100
	65	56.1	3960	5590	4980	-	-	96
	70	52.9	3390	4880	4350	-	-	93
	75	49.6	2900	4270	3800	-	-	89
80	46.0	2470	3750	3340	-	-	84	
85	42.3	2100	3290	2920	-	-	79	
90	38.3	1770	2880	2560	-	-	73	
95	33.9	1470	2510	2240	-	-	66	
100	28.8	1200	2190	1950	-	-	58	
105	22.9	960	1890	1690	-	-	48	
110	14.8	-	1570	1450	-	-	33	

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# CRANE RATING DATA

Load ratings are in pounds and do not exceed 75% of tipping with crane standing level on firm uniformly supporting surface. Clamshell, dragline, and magnet ratings are in accordance with recommended industry standards and should not exceed the rating shown. Safe loads depend on ground conditions, boom length, radius of operation, and proper handling, all of which must be taken into consideration by user. Blocks, slings, buckets, and other load carrying devices are considered part of the load. Retractable A-frame must be fully raised position for all ratings.

Lifting is approved only in those areas for which ratings are shown in the rating chart. Ratings in shaded areas are based on structural limitations rather than stability.

"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. "Min. Load Line" pertains to Lift Rating only.

Boom suspension line is 5/8 inch diameter with minimum breaking strength of 35,800 lbs. Boom suspension pendants are 1-1/8 inch diameter with minimum breaking strength of 140,600 lbs.

Maximum boom length is 150 ft. for lift service, 110 ft. for clamshell, and 70 ft. for dragline or magent. Boom lengths and ratings available in 5 ft. increments.

Designed and rated to comply with ANSI Code B30.5

## LOAD HOISTING DATA\*

Maximum Lifting Capacity - Lbs.	Minimum Pts. of Line	Maximum Hoisting Distance - Ft.	
		Main - R.H.	Auxiliary - L.H.
80,000	6	134'	105'
72,500	5	160'	126'
58,000	4	200'	157'
43,500	3	265'	210'
29,000	2	400'	314'
14,500	1	800'	630'

\*With controlled load lowering on one drum. Main load line 3/4 inch diameter with minimum breaking strength of 51,200 lbs.

## BOOM AND JIB ERECTION\*

Boom Length	Maximum Jib Length	
	No. 6	No. 7HL
150'	0'	0'
140'	0'	0'
130'	30'	30'
125'	40'	40'
120'	40'	50'

\*self-erecting over the rear with "D-E-F" Counterweight.

## PERFORMANCE

TRAVEL SPEED	1.0 MPH
FRICITION SWING	3.5 RPM
HYDROSTATIC SWING	0 to 3.75 RPM
SINGLE LINE SPEED:	
Backhoe, Magnet - Hoist	200 FPM
Crane, Clam, Drag - Hoist	165 FPM
Backhoe, Drag - Pull in	140 FPM
Third Drum	212 FPM
SINGLE LINE PULL:	
Backhoe, Magnet - Hoist	16,600 lbs. SLP
Crane, Clam, Drag - Hoist	20,000 lbs. SLP
Backhoe, Drag - Pull in	23,100 lbs. SLP
Third Drum	15,000 lbs. SLP

Performance figures are based on machine equipped with standard engine.

## 46S BOOM COMPOSITION

Boom Length in Feet	20 Ft. 46S Inner	10 Ft. 46S Center	20 Ft. 46S Center	40 Ft. 46S Center	20 Ft. 46S Outer
40	1	-	-	-	1
50	1	1	-	-	1
60	1	-	1	-	1
70	1	1	1	-	1
80	1	-	-	1	1
90	1	1	-	1	1
100	1	-	-	1	1
110	1	1	1	1	1
120	1	-	-	2	1
130	1	1	-	2	1
140	1	-	-	2	1
150	1	1	1	2	1

## WEIGHTS

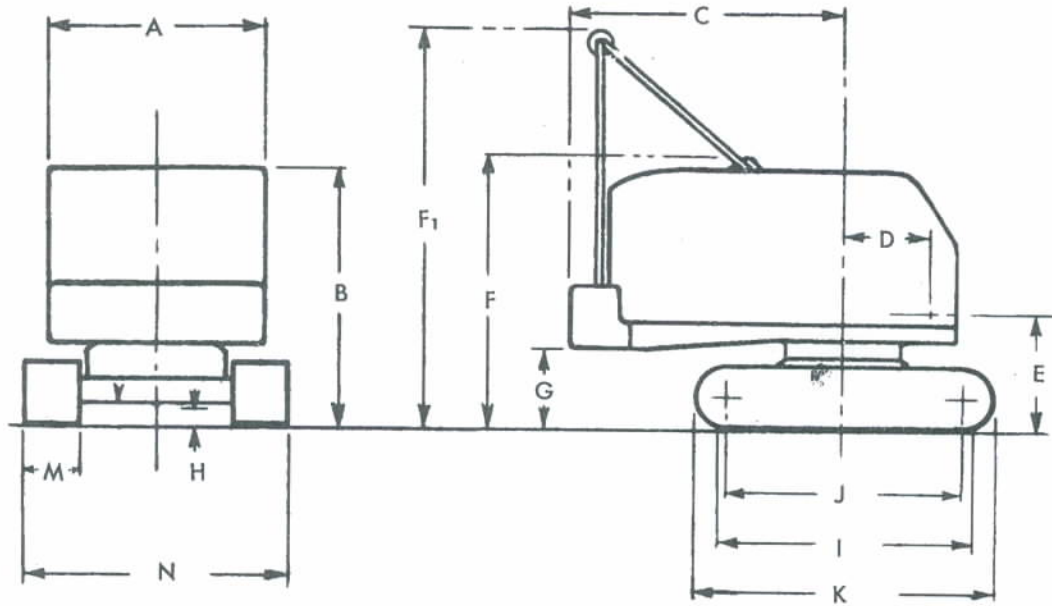
599C Crane with 40 ft. boom	87,765 lbs.
Counterweight	20,500 lbs.
Boom Outer	2,425 lbs.
Boom Inner	1,820 lbs.
Side Frames with 32" shoes (2)	18,800 lbs.
Crawler Axles (2)	4,800 lbs.
Axle extensions and torque tubes	1,500 lbs.
40 ton crane block	920 lbs.

### GROUND PRESSURES:

	28" Shoes	32" Shoes	36" Shoes
Crane w/40' boom	9.1 PSI	7.96 PSI	7.08 PSI

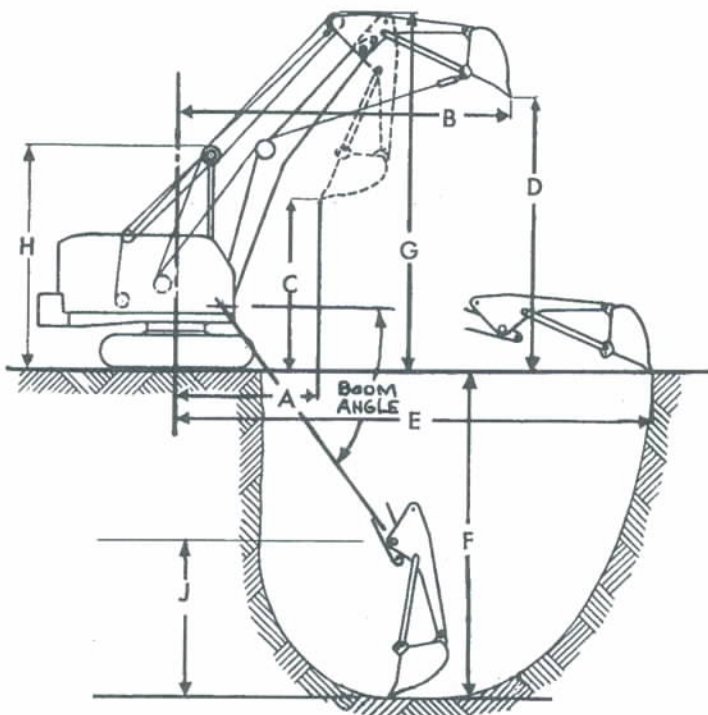
NOTE: In accordance with varying material situations and the Company's policy of constant product improvement these specifications subject to change without notice and without incurring responsibility to units previously sold.

# MODEL 599C GENERAL DIMENSIONS



- A. Width of cab . . . . . 9' 0"
- B. Height over cab . . . . . 10' 8-7/8"
- C. Tailswing . . . . . 11' 2"
- D. Center of pivot to center crane boom foot . . . 3' 7-3/4"
- E. Ground to center crane boom foot . . . . . 5' 1-3/4"
- F. Height over retractable A-frame (Retracted) . . . . . 11' 1-3/4"
- F<sub>1</sub>. Height over retractable A-frame (Raised) . . . . . 16' 9-3/4"
- G. Ground to bottom of counterweight . . . . . 3' 4-7/8"
- H. Minimum clearance under base . . . . . 1' 2-1/4"
- I. Crawler bearing length. . . . . 14' 4"

- J. Center to center crawler tumbler . . . . . 13' 5"
- K. Overall length of crawlers . . . . . 16' 0"
- M. Tread width, Standard . . . . . 32"
- Optional . . . . . 28"
- Optional . . . . . 36"
- N. Overall width over crawlers (Extended)
  - 28" Shoes . . . . . 13' 6"
  - 32" Shoes . . . . . 13' 10"
  - 36" Shoes . . . . . 14' 2"
- N. Overall width over crawlers (Retracted)
  - 28" Shoes . . . . . 10' 8"
  - 32" Shoes . . . . . 11' 0"
  - 36" Shoes . . . . . 11' 4"



## BACKHOE WORKING RANGES

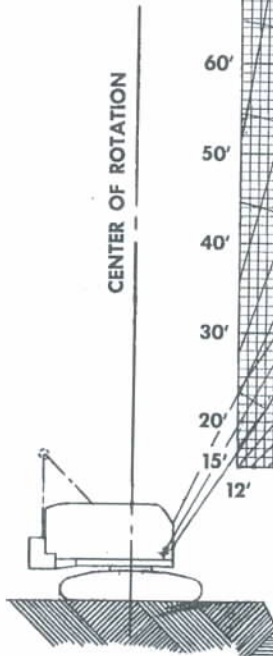
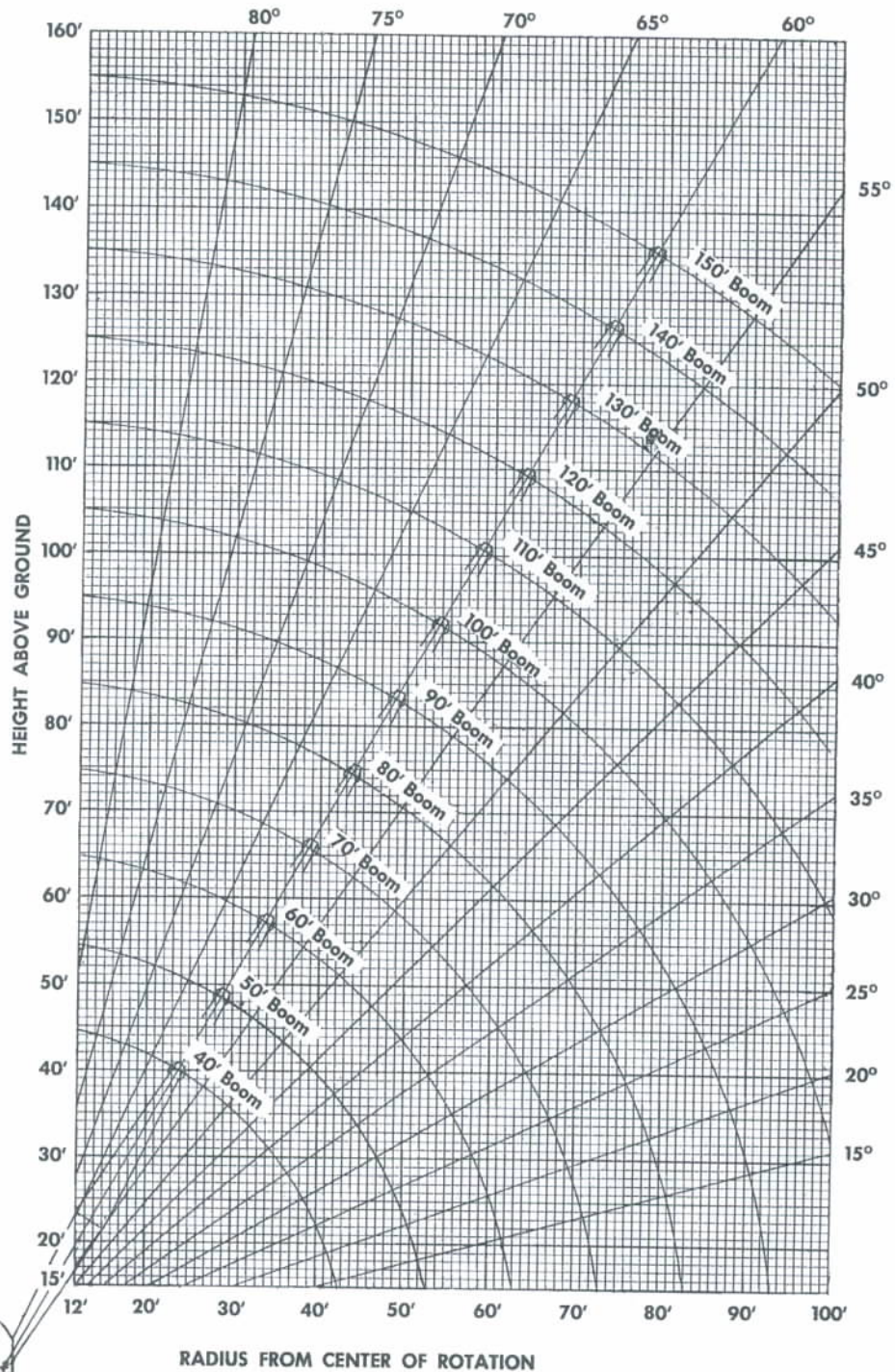
	STANDARD	LONG
Boom Length . . . . .	24' 0"	26' 6"
Dipper Stock Length . . . . .	8' 4 3/4"	8' 4 3/4"

	Standard Boom	Long Boom
A. Radius to Dipper beginning of dump	10' 11 1/2"	12' 8"
B. Radius to Dipper at end of dump . . .	27' 3 1/2"	29' 1"
C. Clearance under dipper beginning of dump	13' 10"	15' 9 1/2"
D. Clearance under dipper at end of dump	22' 7"	24' 6"
E. Maximum digging radius	39' 3"	41' 9"
F. Digging depth, boom at 45° depression	24' 11 1/2"	26' 8 1/2"
Length of level floor at this depth . . .	13' 7 1/2"	13' 7 1/2"
F <sub>1</sub> . Maximum dipper reach, boom at 55° depression . . . . .	27' 5 1/2"	29' 8"
G. Maximum clearance height at end of dump	29' 4"	31' 2 1/2"
H. Height over A-frame, Working . . . . .	18' 5"	18' 5"
J. Sweep Radius . . . . .	13' 1 1/2"	13' 1 1/2"

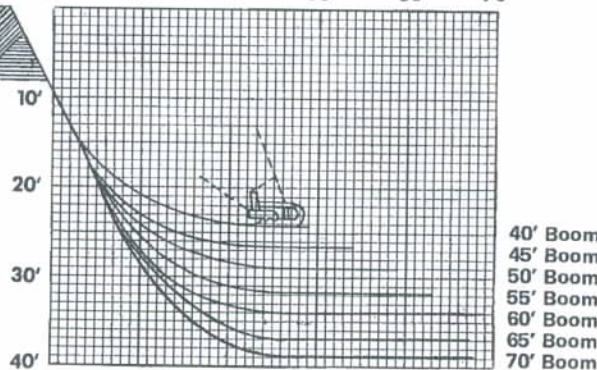
Actual ranges depend upon soil conditions.

# AMERICAN MODEL 599C WORKING RANGES

## BOOM ANGLE DIAGRAM



## DRAGLINE DIGGING DEPTH



The Casting Radius will exceed Dumping Radius by  $\frac{1}{8}$  to  $\frac{1}{2}$  the dumping height of the bucket, depending on the skill of the operator.



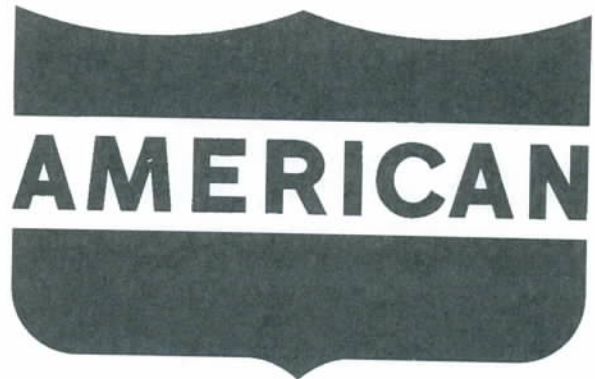
# Service

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