

Lifting Capacities

Telescopic Boom All Terrain Crane

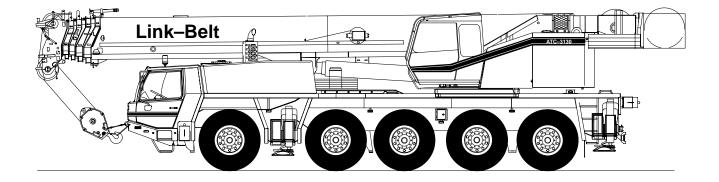
ATC-3130

130–ton (118 metric ton)

Boom and fly capacities for this machine are listed by the following sections:

Fully Extended Outriggers

- Working Range Diagram (55,115 lbs., Counterweight)
- 42' to 167' 4" (12.8 51.0 m) main boom capacities
- 31.1' to 53.2' (9.5 to 16.2 m) two-piece offset fly capacities
- 79.1' (24.1 m) offset fly plus 24.6' (7.5 m) tubular jib extension capacities
- 98.8' (30.1 m) offset fly plus 19.7' (6.0 m) and 24.6' (7.5 m) tubular jib extension capacities



CAUTION: This material is supplied for reference use only. Operator must refer to in-cab Crane Rating Manual to determine allowable machine lifting capacities and operating procedures.

Litho in U.S.A. 2/02 #6311





WARNING

READ AND UNDERSTAND THE OPERATOR'S AND SAFETY MANUALS AND THE FOLLOWING INSTRUCTIONS AND RATED LIFTING CAPACITIES BEFORE OPERATING THE CRANE. OPERATION WHICH DOES NOT FOLLOW THESE INSTRUCTIONS MAY RESULT IN AN ACCIDENT.

OPERATING INSTRUCTIONS

GENERAL:

- 1. Total rated loads shown on the LOAD RATING CHARTS apply only to the crane as originally manufactured and equipped. Modifications to the crane or use of optional equipment other than that specified can result in a reduction of capacity.
- Construction equipment can be dangerous if improperly operated or maintained. Operation and maintenance of this crane must be in compliance with the information in the Operation and Maintenance, Parts, and Safety manuals supplied with the crane. If any manual is missing, order replacements through the distributor.
- The operator and other personnel associated with this crane shall read and fully understand the latest applicable American National Standards ASME B30.5 safety standards for cranes.

SET UP:

- Total rated loads shown on the LOAD RATING CHARTS are the maximum allowable crane capacities and are based on the crane standing level on firm supporting surface under ideal job conditions. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger pontoons to spread the load to a larger bearing surface.
- For on outrigger operation, outriggers shall be extended to the dimension according to the LOAD RATING CHARTS and secured by pins with tires free of supporting surface, before operating crane.
- Lifting on tires and traveling with load is not allowed.
- The weight of the auxiliary winch is taken into account as a part of counterweight. Therefore the auxiliary winch, or equivalent counterweight, must always be attached at the upper for crane operation.

OPERATION:

- Total rated loads with outriggers fully extended do not exceed 85% of the tipping loads. Total rated loads with outriggers intermediate extended are determined from the 13. The 41.99 ft boom length capacities are based on the formula: total rated load = (tipping load -0.1 tip reaction) / 1.25. Tipping loads are determined by SAE crane stability test code J-765.
- The crane's structural steelwork is in accordance with DIN 15018, part 3. Design and construction of the crane comply with DIN 15018, part 2 and with F.E.M. regulations.
- Total rated loads above the bold lines in the LOAD RATING CHARTS are based on crane strength and have been tested to meet minimum requirements of SAE J-1063. 15. Rated loads below the bold lines are based on crane stability.
- Total rated loads include the weight of the main hook block, 16. auxiliary hook ball, slings, and other auxiliary lifting devices,

- and all their weights shall be subtracted from the listed capacities to obtain the net load to be lifted.
- Total rated loads are based on freely suspended loads and make no allowance for such factors as the effect of wind, sudden stopping of loads, supporting surface conditions, operating speeds, side loads, etc. Side pull on boom or fly jib is extremely dangerous.
- Total rated loads do not account for wind on lifted load or boom. Total rated loads and boom length shall be appropriately reduced, when wind velocity is above 18 mph (26 ft/sec.) for main boom operation and above 11 mph (16 ft/sec.) for fly jib operation.
- Total rated loads at load radius shall not be exceeded. Do not tip the crane to determine allowable loads.
- Do not operate at boom lengths beyond radii or boom angles where no capacities are shown. Crane may overturn without any load on the hook.
- Swinging of the upper is admissible only when the crane is supported on intermediate or fully extended outriggers.
- The lifting capacity ratings specified in the LOAD RATING CHARTS apply to the telescopic boom without extendable fly jib fixed in transport position or working position. If the extendible fly jib is secured to the telescopic boom in transport position or working position, the lifting capacities of the telescopic boom shall be reduced by the values specified, see Capacity Deductions. The weight of the extendible fly jib (3,650 lb) is detected in terms of a load, and the load moment limiter will shut off earlier.
- 11. For main boom capacities when either boom length or radius or both are between values listed, proceed as follows:
 - For boom lengths not listed, use rating for next longer boom length or next shorter boom length, whichever is smaller.
 - For load radii not listed, use rating for next larger radius.
- 12. The loaded boom angle combined with the boom length give only an approximation of the operating radius. The boom angle, before loading, should be greater to account for deflection.
- telescopic boom being fully retracted. If not fully retracted, use the total rated loads for the 57.41 ft boom length according to the telescoping sequence.
- 14. Extension or retraction of the telescopic boom with loads may be attempted within the limits of the LOAD RATING CHARTS. The ability to telescope loads is limited by hydraulic pressure, boom angle, boom length, crane maintenance, etc.
- When erecting or stowing the extendable fly jib, be sure to retain it by hand lines or by other means to prevent its free movement.
- Use the Anti-Two Block (OVERWIND CUTOUT) disable switch when erecting or stowing the extendable fly jib and



- stowing the hook block. While the switch is pushed, the hoist 21. Working with Single Top (Auxiliary Lifting Sheave) will not stop, even when an overwind condition occurs.
- 17. The working radius specified in the LOAD RATING CHARTS for the extendable fly jib apply only if the telescopic boom is extended according to the LOAD RATING CHARTS. If one or more elements of the telescopic boom are retracted partially or completely, the specified boom angles will be decisive in determining total rated lifting capacities.
- 18. When lifting a load using the extendable fly jib (auxiliary hoist) and telescopic boom (main hoist) simultaneously, do the following:
 - Select the correct program for the load moment device in accordance with fly jib length, fly jib offset angle, counterweight, and outrigger base.
 - Before starting operation, make sure that the weight of the load is within the total rated load for the extendible fly jib.
- 19. Safe Load Indicator (S.L.I.)
 - Before working with the telescopic boom or extendable fly jib, make sure that the S.L.I. code is set to match the desired telescoping sequence. In order to set or change the S.L.I. code number, the boom must be fully retracted.
- 20. Safe Load Indicator Program for Rigging Counterweight After setting the S.L.I. code 999, the S.L.I. rigging program is activated for lifting the counterweight parts from a trailer or from the ground. This rigging program is based on intermediate extended outriggers (= 16.40 ft), on a minimum counterweight of 0 lb, and up to a maximum boom length of 73.16 ft with extendable fly jib fixed in transport position. Therefore all parts of counterweight can be lifted by the crane on itself and placed on the carrier for rigging the counterweight.

Operation with the single top is allowed with the main winch

and the auxiliary winch (2nd winch). The maximum allowed capacity is limited by the selected S.L.I. code for main boom operation according to existing counterweight and outrigger base at one side and by the single line pull which is limited by hydraulic pressure at the other side.

For operations with the single top mounted, use the LOAD RATING CHARTS for the telescopic boom in accordance with existing counterweight and outrigger base to find the total rated lifting capacity and also select the correct S.L.I. code for the telescopic boom in accordance with the existing counterweight and outrigger base. Find the total rated lifting capacity based on boom length and working radius. From that value, subtract 1,100 lb and the weights of all lifting equipment used including hook block, slings, and other auxiliary lifting devices. The result (<total rated lifting capacity> - <1,100 lb> - lifting equipment>) is the total rated lifting capacity for a single top lift.

DEFINITIONS:

- Working Radius: Horizontal distance from a projection of the axis of rotation to supporting surface before loading to the center of the vertical hoist line or tackle with load applied. The deflection of the boom due to its own weight and the rated load are taken into account.
- Loaded Boom Angle: 🔏 ° The angle between the boom base section and horizontal, after lifting the total rated load at the working radius.
- Working Area: Area measured in a circular arc about the centerline of rotation.
- Freely Suspended Load: Load hanging free with no direct external force applied except by the hoist line.
- Side Load: Horizontal side force applied to the lifted load either on the ground or in the air.

SAFE LOAD INDICATOR (PAT PDC 350):

The Safe Load Indicator (PAT PDC 350) is intended as an aid to the operator. Under no condition should it be relied upon to replace use of LOAD RATING CHARTS and Operating Instructions. Sole reliance upon the Safe Load Indicator Aids in place of good operating practice can cause an accident. The operator must exercise caution to assure safety.



PONTOON LOADINGS

Maximum Pontoon Load:	Maximum Pontoon Ground Bearing Pressure:
163,000 lb	359 psi

WINCH PERFORMANCE

	Winch Line Pulls (Lb)	Drum Capacity (Ft.)				
Wire Rope Layer	Available (Low Speed & High Speed)	Layer	Total			
1	20,457	169	169			
2	18,996	182	351			
3	17,729	195	546			
4	16,621	208	754			
5	15,644	221	974			
6	14,775	234	1,208			
7	13,997	247	1,455			

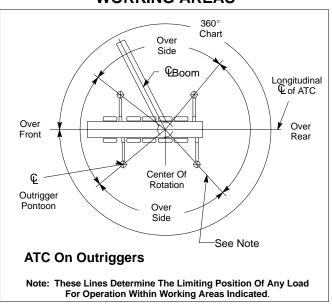
WIRE ROPE CAPACITY

Max	imum Lifting	Capacities Based On Wire Rope Strength
Parts Of Line	0.83" Rope (21mm)	Notes
1	16,680	Capacities shown are in pounds and
2	33,360	working loads must not exceed the
3	50,040	ratings on the capacity charts in the Crane
4	66,720	Rating Manual.
5	83,400	Capacity deducts for auxiliary lifting de-
6	100,080	vices do not apply for wire rope strength
7	116,760	capacities.
8	133,440	Study Operator's Manual for wire rope in-
9	150,120	spection procedures and single part of line
10	166,800	applications.
11	183,480	applications.
12	200,160	
13	216,840	
14	233,520	
15	250,200	
16	266,880	
35 X 7 RO	TATION RES	DESCRIPTION ISTANT – 1770 STRENGTH – RIGHT LANG LAY

HYDRAULIC CIRCUIT PRESSURE SETTINGS

Function	Pressure (psi)
Front And Rear Winch Hoisting	4,640
Front And Rear Winch Lowering	1,450
Boom Hoist Extend	4,640
Boom Hoist Retract	500
Telescope Extend	3,330
Telescope Retract	2,400
Counterweight Cylinder Rotate & Lift	3,620
Swing	4,060
Pilot Control	580
Outriggers / Suspension	3,620
Outrigger Beam Extend/Retract	1,740
Steering	1,890

WORKING AREAS



CAPACITY DEDUCTIONS

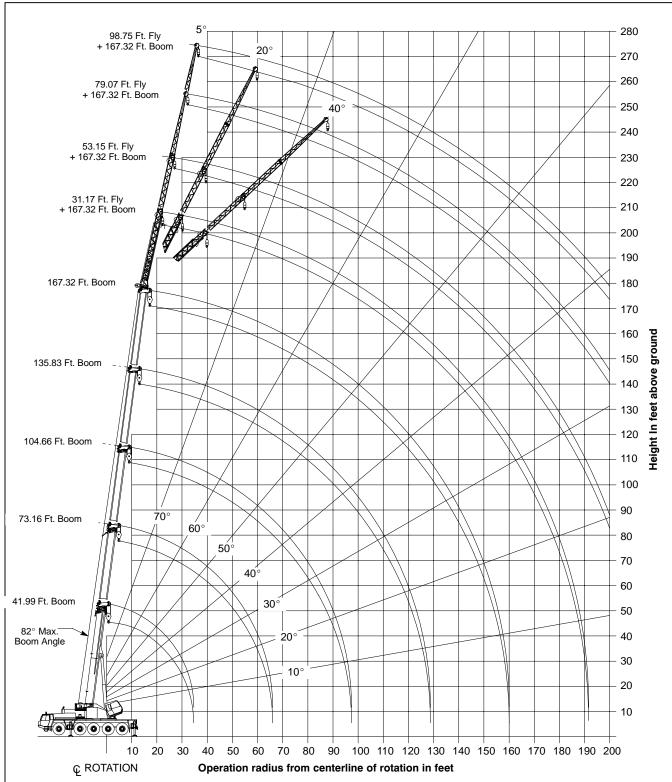
Load Handling Equipment	Weight (lb)
27.5 Ton Hook Block (See Hook Block For Actual Weight)	660
69.5 Ton Hook Block (See Hook Block For Actual Weight)	1,370
88.0 Ton Hook Block (See Hook Block For Actual Weight)	1,765
130.0 Ton Hook Block (See Hook Block For Actual Weight)	2,500
8.8 Ton Hook Ball (See Hook Ball For Actual Weight)	440

LOAD RATING REDUCTION FOR THE TELESCOPIC BOOM WITH MOUNTED FLY JIB

	Boom Length (ft)								
Position Of The Fly Jib	41.99	57.41	73.16	88.91	104.66	120.41	135.83	151.57	167.32
			-1	Load Ra	ting Reduct	ion (ton)			
31.17 ft / 53.15 ft fly jib, mounted in transport position	0.66	0.29	0.29	0.19	0.19	0.14	0.14	0.12	0.11
31.17 ft fly jib, mounted to the boom head	2.59	2.12	1.94	1.84	1.80	1.73	1.70	1.68	1.61
53.15 ft fly jib, mounted to the boom head	3.20	2.59	2.24	2.07	2.02	1.89	1.85	1.78	1.71
79.07 ft fly jib, mounted to the boom head	5.18	3.77	3.23	2.94	2.87	2.63	2.63	2.44	2.32
98.75 ft fly jib, mounted to the boom head	7.06	4.99	4.30	3.78	3.67	3.33	3.33	3.11	2.88



WORKING RANGE DIAGRAM



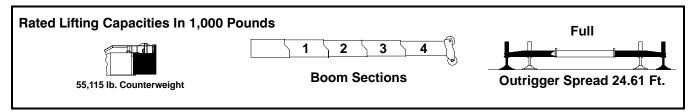
Note: Boom and fly geometry shown are for unloaded condition and crane standing level on firm supporting surface. Boom deflection, subsequent radius, and boom angle change must be accounted for when applying load to hook.



WARNING

Do Not Lower The Boom Below The Minimum Boom Angle For No Load Stability As Shown In The Lift Charts For The Boom Lengths Given. Loss Of Stability Will Occur Causing A Tipping Condition.





Set Up Code #015										
	41.99 Ft.									
Load Radius (Ft.)	×°	See Note 1								
10	68	260.0*								
12	65	222.5								
14	62	203.0								
16	59	180.5								
18	55	161.0								
20	51	143.0								
25	42	113.0								
30	28	91.5								
	Telescoping sequence %									
Tel. 1	0									
Tel. 2	0									
Tel. 3	0									
Tel. 4	0									

Notes:

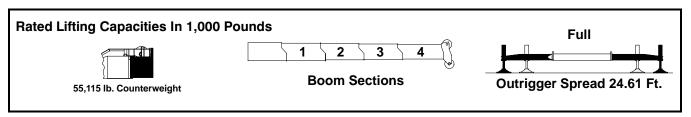
1. Over rear with superstructure pin engaged.

Set Up Code #010										
Load	41.9	9 Ft.	_	6 Ft.	88.9	1 Ft.	104.6	6 Ft.		
Radius (Ft.)	ヹ゜	360°	∡° 360°		ヹ゜	360°	×°	360°		
10	68	227.0								
12	65	193.5	77	145.5						
14	62	176.0	75	145.5	78	104.0				
16	59	160.5	73	145.5	77	104.0				
18	55	148.0	72	139.0	76	104.0	79	80.0		
20	51	136.5	71	130.5	75	104.0	78	80.0		
25	42	112.5	66	108.0	71	101.5	75	80.0		
30	28	91.5	62	86.7	68	86.9	72	77.2		
35			57	66.1	64	66.6	69	67.0		
40			51	52.6	60	53.2	66	53.2		
45			46	42.8	56	43.3	63	43.7		
50			40	35.4	52	35.8	60	36.3		
55			33	29.3	48	29.8	56	30.2		
60			24	23.9	43	24.8	52	25.0		
65					38	20.6	48	21.0		
70					31	17.3	45	17.6		
75					23	14.4	40	14.7		
80					14	11.7	36	12.2		
85							30	10.1		
90							23	8.2		
95							13	6.3		
		To	elescopi	ng seque	ence %					
Tel. 1	()	10	00	100		10	0		
Tel. 2	()	()	50		10	0		
Tel. 3	()	()	()	0	1		
Tel. 4	()	()	()	0	١		

* - With additional equipment.

Set Up Code #010										
Load	120.4	11 Ft.	135.8	33 Ft.	151.5	7 Ft.	167.3	2 Ft.		
Radius (Ft.)	X°	360°	×°	360°	ヹ゜	360°	ヹ゜	360°		
20	80	48.5								
25	77	48.5	80	48.5						
30	75	48.5	78	48.5	80	36.4	81	31.5		
35	72	48.5	75	48.5	77	36.4	79	31.5		
40	70	48.1	73	47.4	76	36.3	78	31.5		
45	67	44.7	70	45.9	73	35.8	76	31.1		
50	65	38.5	68	39.8	72	35.0	74	30.7		
55	61	32.4	66	33.5	70	33.1	72	30.0		
60	59	27.2	64	28.6	68	29.9	71	28.9		
65	56	23.0	61	24.5	65	25.9	68	26.5		
70	53	19.7	59	21.1	63	22.4	67	23.4		
75	50	16.8	56	18.2	61	19.4	65	20.4		
80	46	14.2	53	15.7	58	16.9	63	17.7		
85	42	12.0	50	13.4	56	14.7	61	15.6		
90	38	10.2	47	11.5	54	12.8	59	13.7		
95	34	8.4	44	9.9	52	11.1	57	12.0		
100	29	6.9	41	8.4	49	9.5	54	10.4		
110	13	4.5	33	5.9	43	7.0	50	7.9		
120			23	3.8	37	5.0	45	5.8		
130					28	3.1	39	4.1		
140					18	1.7	32	2.6		
150							24	1.2		
		Te	elescopi	ng seque	ence %					
Tel. 1	10	00	10	00	100		10	0		
Tel. 2	10	00	10	00	100		10	0		
Tel. 3	2	5	5	0	7	5	10	0		
Tel. 4	2	5	5	0	7	5	100			



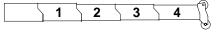


Set Up Code #110									Set Up	Code	#110		
Load	41.9	9 Ft.	57.4	1 Ft.	73.1	6 Ft.	Load	104.	66 Ft.	135.8	33 Ft.	151.	57 Ft.
Radius (Ft.)	ع °	360°	∡°	360°	ع °	360°	Radius (Ft.)	X°	360°	×°	360°	∡°	360°
10	68	227.0	75	193.5			10						
12	65	193.5	72	188.0	77	111.5	12						
14	62	176.0	70	173.5	75	111.5	14						
16	59	160.5	68	158.5	73	111.5	16						
18	55	148.0	66	146.0	72	111.5	18	79	48.5				
20	51	136.5	64	134.5	71	111.5	20	78	48.5				
25	42	112.5	58	110.0	66	106.5	25	75	48.5	80	40.1		
30	28	91.5	51	88.6	62	88.7	30	72	48.5	78	40.1	80	34.0
35			45	67.9	57	68.3	35	69	48.5	75	40.1	77	34.0
40			37	54.3	51	54.7	40	66	48.4	73	39.1	76	33.9
45			26	44.4	46	44.8	45	63	47.2	70	37.9	73	33.2
50					40	37.2	50	60	41.4	68	34.8	72	32.2
55					33	31.1	55	56	35.3	66	31.6	70	30.9
60					24	25.9	60	52	30.3	64	28.7	68	29.2
65							65	48	26.3	61	26.5	65	27.3
70							70	45	23.0	59	24.3	63	24.3
75							75	40	20.1	56	21.9	61	21.4
80							80	36	17.5	53	19.5	58	18.9
85							85	30	15.1	50	17.3	56	16.9
90							90	23	13.3	47	15.5	54	15.0
95							95	13	11.4	44	13.8	52	13.3
100							100			41	12.3	49	11.7
110							110			33	9.6	43	9.2
120							120			23	7.6	37	7.0
130							130					28	5.3
140							140					18	3.9
		Telescop	ing seque	nce %					Telescop	ing seque	nce %		
Tel. 1	()	5	0	5	0	Tel. 1	5	50	5	0	5	0
Tel. 2	()		0	5	0	Tel. 2	5	50	5	0	10	00
Tel. 3	()	(0	()	Tel. 3	5	50	10	00	10	00
Tel. 4	()	()	(0		5	50	10	00	10	00



Rated Lifting Capacities In 1,000 Pounds







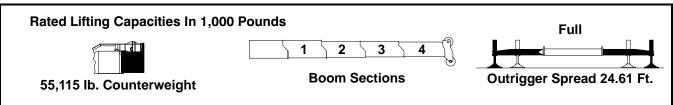
55,115 lb. Counterweight

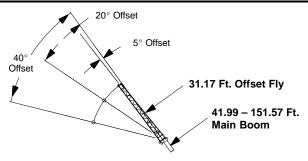
Boom Sections

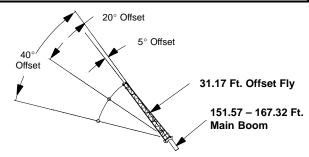
Outrigger	Spread	24 61	Fŧ
Outrigger	Spreau	24. 01	Гι

Set Up Code #210							Set Up Code #210				
Load	41.9	9 Ft.	73.1	6 Ft.	88.9	1 Ft.	Load	104.6	66 Ft.	135.8	33 Ft.
Radius (Ft.)	ع °	360°	ヹ゜	360°	∡°	360°	Radius (Ft.)	X °	360°	X °	360°
10	68	227.0					10				
12	65	193.5	77	48.5			12				
14	62	176.0	75	48.5	78	48.5	14				
16	59	160.5	73	48.5	77	48.5	16				
18	55	148.0	72	48.5	76	48.5	18	79	48.5		
20	51	136.5	71	48.5	75	48.5	20	78	48.5		
25	42	112.5	66	48.5	71	48.5	25	75	48.5	80	40.1
30	28	91.5	62	48.5	68	48.5	30	72	48.5	78	40.1
35			57	48.5	64	48.5	35	69	48.5	75	40.1
40			51	48.5	60	48.5	40	66	48.5	73	38.3
45			46	48.5	56	48.5	45	63	48.5	70	36.1
50			40	42.8	52	43.2	50	60	43.4	68	32.8
55			33	36.5	48	37.3	55	56	37.7	66	29.6
60			24	31.2	43	32.3	60	52	32.7	64	26.7
65					38	28.3	65	48	28.7	61	24.5
70					31	25.0	70	45	25.4	59	22.5
75					23	22.1	75	40	22.5	56	20.7
80					14	19.4	80	36	20.0	53	19.0
85							85	30	17.8	50	17.5
90							90	23	15.9	47	16.2
95							95	13	14.1	44	14.6
100							100			41	13.0
110							110			33	10.5
120							120			23	8.4
	Telescoping sequence %							Teles	coping sequen	ce %	
Tel. 1	()	((Tel. 1	()	()
Tel. 2)	3		5		Tel. 2	6	7	10	00
Tel. 3)	3		5		Tel. 3	6	7	10	00
Tel. 4	()	3	3	5	0	Tel. 4	6	7	10	00





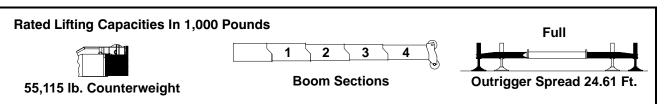


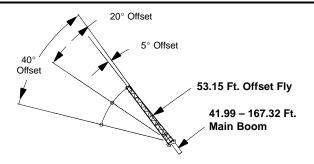


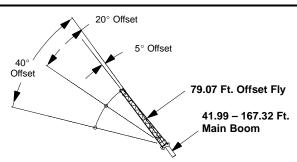
Load Radius (Ft.)	Set Up Code #410		Set Up Code #411		Set Up Code #412		
	5° Offset		20° Offset		40° Offset		
	×°	360°	ع °	360°	ع °	360°	
35	80	22.0					
40	79	22.0	81	18.2			
45	78	22.0	80	18.2			
50	77	21.6	79	17.7	80	12.6	
55	75	21.0	77	17.0	78	12.4	
60	74	20.4	76	16.3	77	12.1	
65	73	19.9	74	15.6	75	11.8	
70	72	19.4	73	15.0	74	11.5	
75	70	18.8	71	14.4	72	11.2	
80	68	17.7	69	14.0	71	11.0	
85	66	15.5	67	13.4	69	10.7	
90	64	13.5	66	12.9	67	10.5	
95	62	11.7	64	12.1	65	10.3	
100	60	10.1	62	10.9	63	10.1	
110	56	7.5	58	8.1	59	8.7	
120	51	5.4	53	5.9	54	6.4	
130	47	3.5	48	4.0	49	4.2	
140	41	2.0	43	2.3	44	2.4	
Telescoping sequence %							
Tel. 1	100						
Tel. 2		100					
Tel. 3	75						
Tel. 4	75						

Load Radius	Set Up Code #410		Set Up Code #411		Set Up Code #412		
	5° Offset		20° Offset		40° Offset		
(Ft.)	X°	360°	ع °	360°	ع °	360°	
35	81	17.0					
40	80	17.0	82	15.8			
45	79	17.0	81	15.8			
50	78	17.0	80	15.8			
55	77	17.0	79	15.8	80	12.7	
60	76	16.9	78	15.7	79	12.4	
65	75	16.7	76	15.5	77	12.1	
70	74	16.4	75	15.1	76	11.8	
75	72	16.1	73	14.8	74	11.5	
80	71	15.8	72	14.6	73	11.2	
85	69	15.5	70	14.1	71	11.0	
90	68	13.9	69	13.6	70	10.8	
95	66	12.2	67	12.8	68	10.6	
100	64	10.6	66	11.5	67	10.4	
110	60	8.0	62	8.7	63	9.2	
120	56	5.8	58	6.5	59	6.9	
130	52	4.0	54	4.5	55	4.9	
140	48	2.5	49	2.9	50	3.2	
150	43	1.1	44	1.4	45	1.6	
Telescoping sequence %							
Tel. 1	Tel. 1 100						
Tel. 2	100						
Tel. 3	100						
Tel. 4	100						





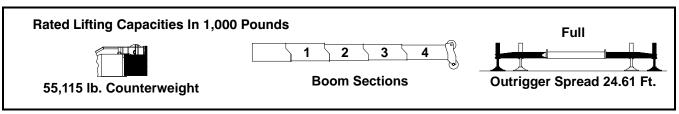


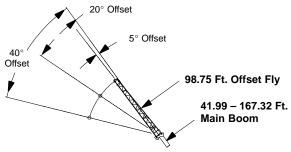


Load Radius	Set Up Code #510		Set Up Code #511		Set Up Code #512		
	5° Offset		20° Offset		40° Offset		
(Ft.)	X°	360°	X°	360°	X°	360°	
50	80	12.1					
55	79	12.1	82	10.1			
60	78	12.1	81	10.1			
65	77	11.9	79	9.9			
70	76	11.8	78	9.8	81	7.3	
75	75	11.5	77	9.5	79	7.2	
80	74	11.3	76	9.2	78	7.0	
85	72	11.1	74	8.7	76	6.8	
90	71	10.9	73	8.5	75	6.6	
95	70	10.5	72	8.2	74	6.5	
100	69	10.0	71	7.9	73	6.3	
110	65	9.3	67	7.4	69	6.1	
120	62	7.6	64	7.0	66	5.9	
130	59	5.7	61	6.5	63	5.7	
140	55	4.2	57	5.0	59	5.3	
150	51	2.8	53	3.5	55	4.0	
160	47	1.7	49	2.2	50	2.6	
170					45	1.3	
Telescoping sequence %							
Tel. 1	100						
Tel. 2		100					
Tel. 3	100						
Tel. 4	100						

Load Radius (Ft.)	Set Up Code #610		Set Up Code #611		Set Up Code #612		
	5° Offset		20° Offset		40° Offset		
	X°	360°	×°	360°	X°	360°	
60	80	8.0					
65	79	8.0					
70	78	7.8					
75	77	7.5	80	6.0			
80	76	7.3	79	5.8			
85	75	7.1	78	5.6	82	4.4	
90	74	6.9	77	5.3	81	4.2	
95	73	6.6	76	5.1	79	4.0	
100	72	6.2	75	4.9	78	3.9	
110	69	5.6	71	4.6	75	3.8	
120	67	5.1	69	4.2	72	3.6	
130	64	4.7	66	3.9	70	3.4	
140	61	4.3	64	3.7	67	3.3	
150	58	3.8	61	3.4	64	3.1	
160	55	2.6	58	3.3	60	2.8	
170	51	1.6	54	2.5	57	2.7	
180			51	1.3	53	2.2	
190					49	1.7	
Telescoping sequence %							
Tel. 1	100						
Tel. 2	100						
Tel. 3	100						
Tel. 4	100						







Load	Set Up Code #710		Set Up Code #711		Set Up Code #712		
Radius	5° Offset		20° Offset		40° Offset		
(Ft.)	×°	360°	×°	360°	X°	360°	
60	81	5.6					
65	80	5.6					
70	79	5.6					
75	79	5.5					
80	78	5.2	82	4.5			
85	77	5.1	80	4.3			
90	76	4.9	79	4.1			
95	75	4.7	78	3.9			
100	74	4.6	77	3.7	82	3.2	
110	71	4.0	75	3.4	79	2.9	
120	69	3.6	72	3.1	77	2.6	
130	67	3.2	70	2.8	74	2.4	
140	65	3.0	68	2.6	72	2.3	
150	62	2.7	65	2.3	69	2.2	
160	60	2.4	63	2.2	66	2.1	
170	57	2.1	60	2.0	63	1.9	
180	54	1.1	57	1.8	60	1.7	
190			53	1.2	56	1.6	
200					53	1.5	
	Telescoping sequence %						
Tel. 1	100						
Tel. 2	100						
Tel. 3	100						
Tel. 4	100						

